Pace Analytical Services, Inc.
1000 Riverbend Blvd. Suite F
St. Rose, LA 70087
(504) 469-0333

October 15, 2012

Sandy Wackett
DEQ LABORATORY
602 N. Fifth St.
Baton Rouge, LA 70802

RE: Project 20144605
Project ID: TEXAS BRINE WELL

Dear Sandy Wackett:

Enclosed are the analytical results for sample(s) received by the laboratory on September 25, 2012. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerly,

Cindy Olavesen
cindy.olavesen@pacelabs.com

REPORT OF LABORATORY ANALYSIS

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PACE Project 20144605
Fingerprint Analysis

Two samples and a comparison product were provided for analysis by GCFID (modified 8015), PIANO and Alkylated PAH. The chromatograms from each of these analyses were compared with each other and a histogram of the Alkylated PAH concentrations was prepared.

The combined chromatograms in Diagram 1 are the comparison of samples 041-092212-01, 041-092212-02 and the Standard from the Alkylated PAH analysis. Samples 041-092212-01 and 041-092212-02 have the same chemical pattern and are contaminated with the same organic compounds. They contain components of the comparison standard but are also contaminated with another lighter hydrocarbon component that is not in the comparison standard. Samples 041-092212-01 and 041-092212-02 have a number of compounds present at retention time 4 to 7 minutes but the comparison standard does not,

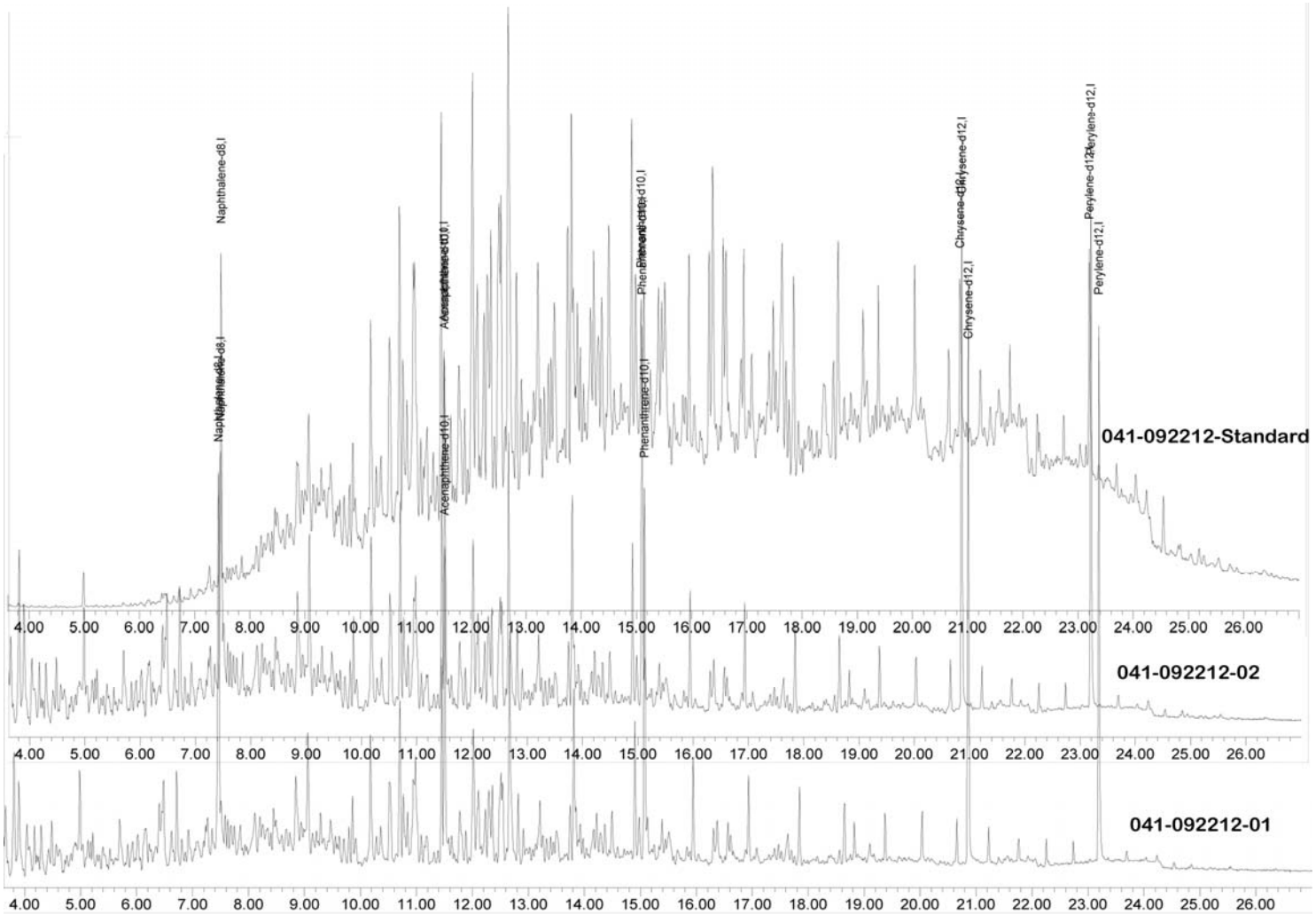
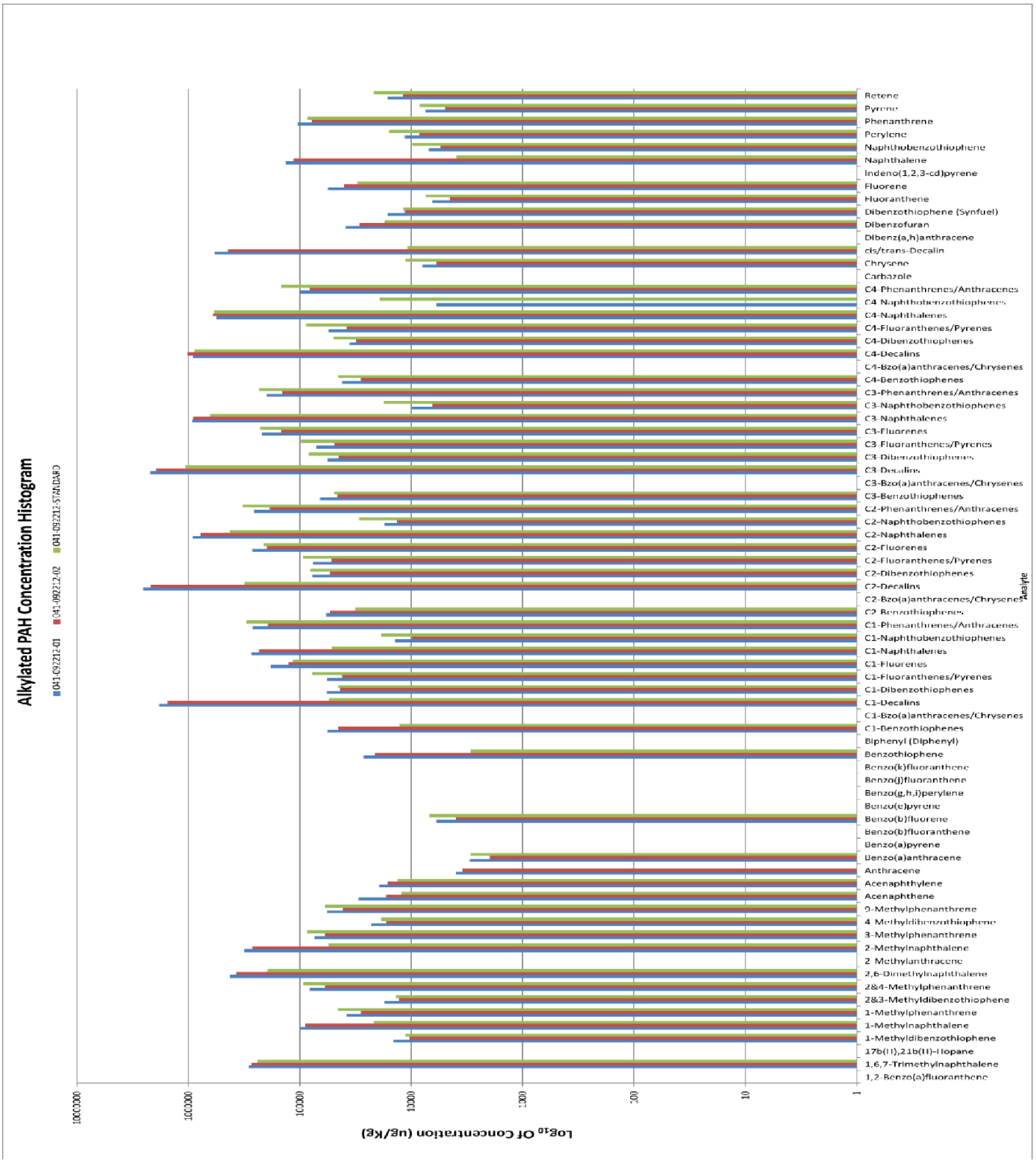


Diagram 1. Alkylated PAH Comparison

Diagram 2. Histogram of the Alkylated PAH's.



The comparison chromatograms from the GCFID (modified 8015) again show that there are no light hydrocarbons in the comparison standard but both sample 041-092212-01 and 041-092212-02 do have similar heavy hydrocarbons as the comparison standard. Diagram 3 is the GCFID chromatographic comparison.

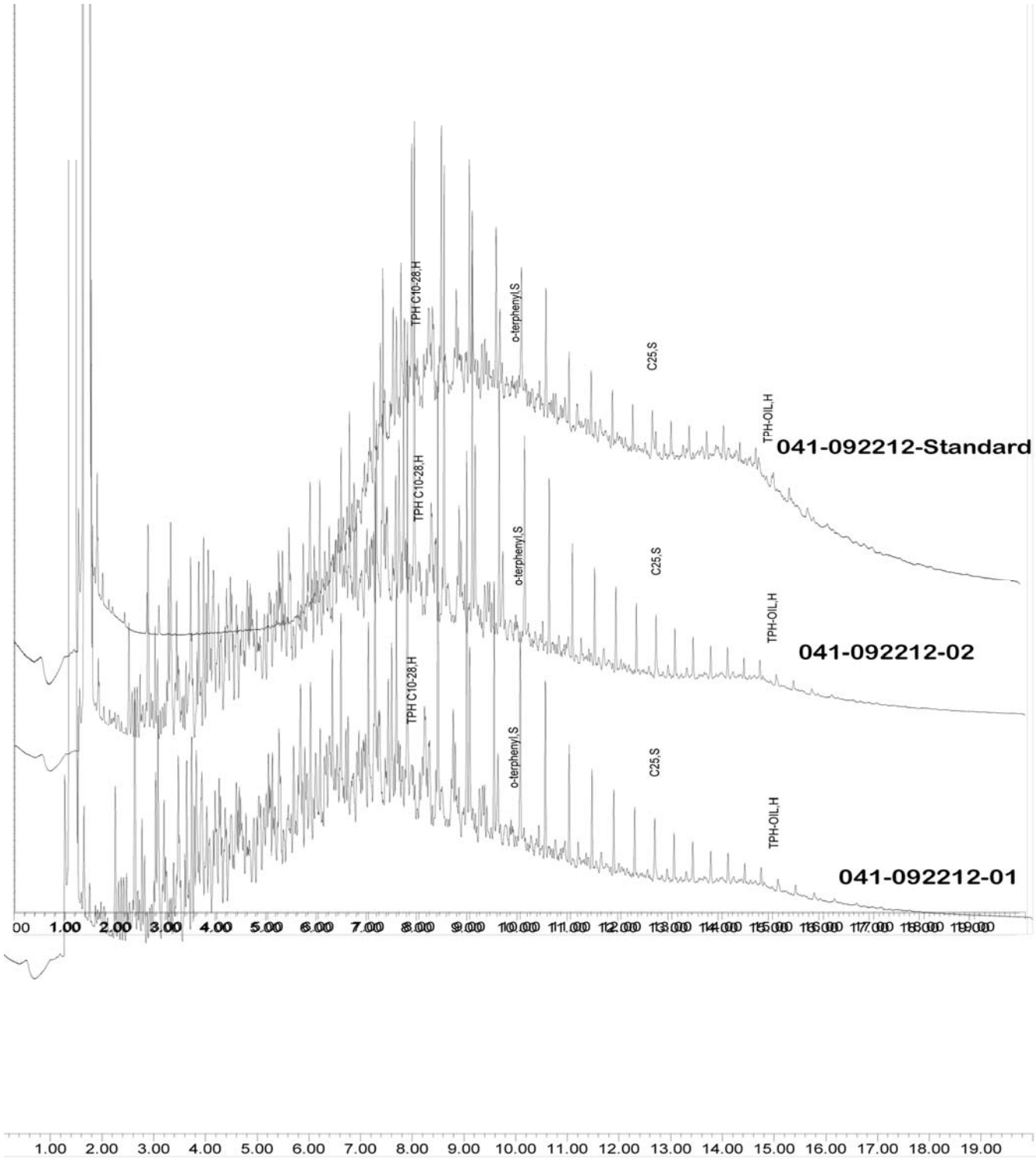


Diagram 3. GCFID Comparison

The PIANO analysis confirms that the samples 041-092212-01 and 041-092212-02 have light hydrocarbons and the comparison standard does not (Diagram 4). This is represented by the flat base line for 041-092212-Standard.

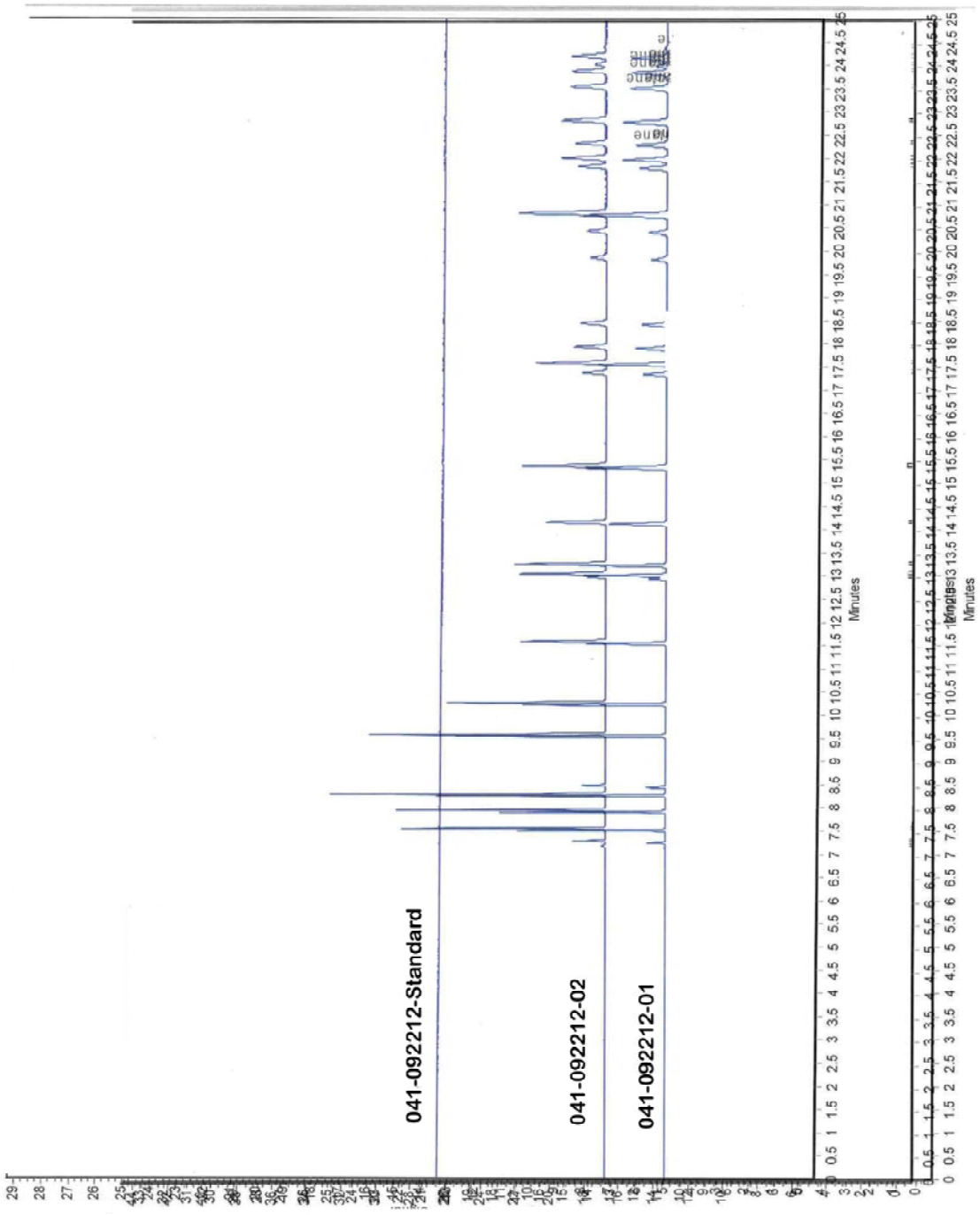


Diagram 4. PIANO Chromatogram light fraction (0 to 25 minutes

The PIANO fraction chromatogram (Diagram 5) shows that the samples 041-092212-01 and 041-092212-02 and the comparison standard have the same heavy hydrocarbons from 100 to 125 minutes.

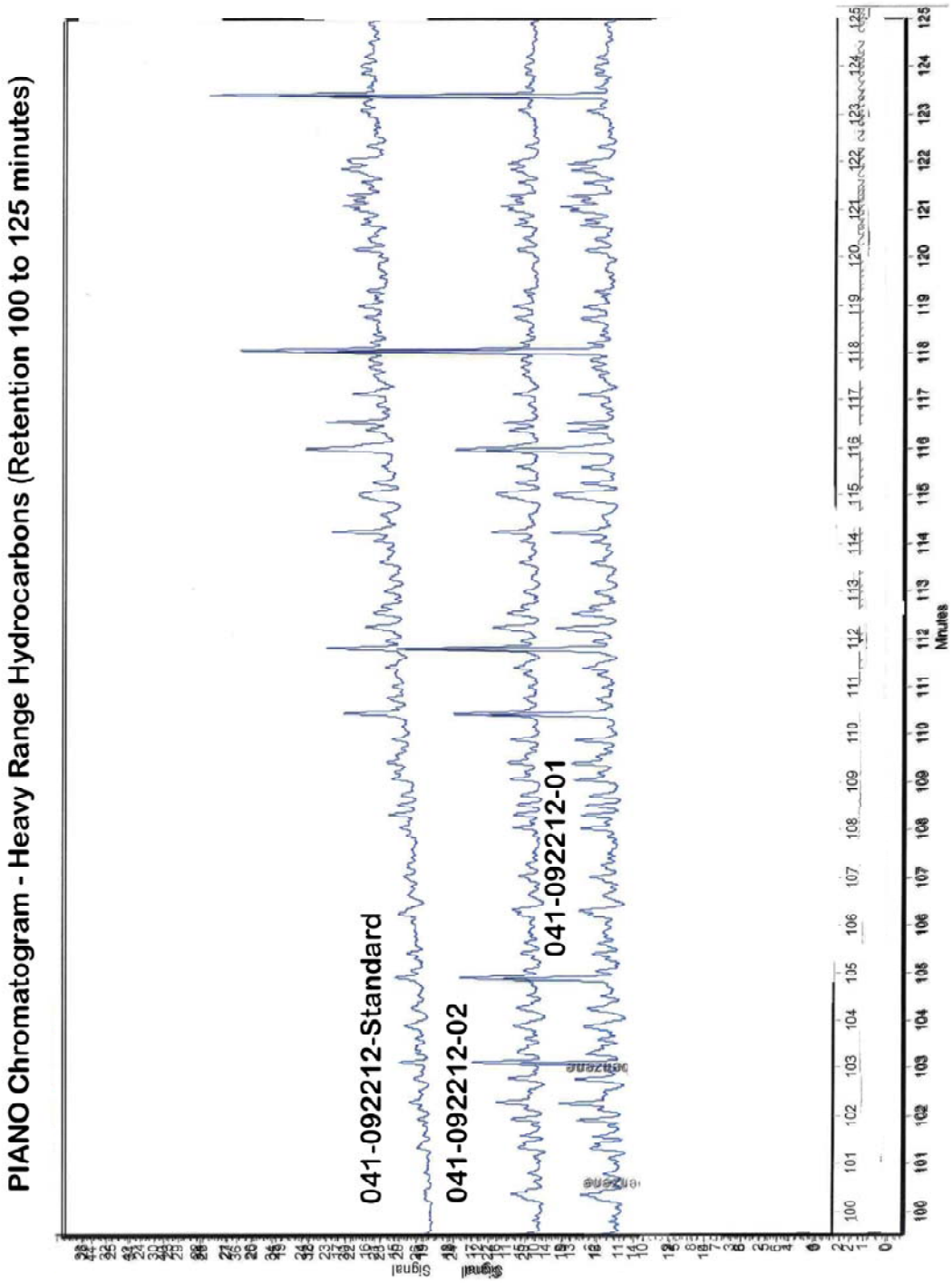


Diagram 5: PIANO Chromatogram of heavy Hydrocarbons

Samples 041-092212-01 and 041-092212-02 are contaminated with similar hydrocarbons that are present in the comparison standard. However, samples 041-092212-01 and 041-092212-02 are also contaminated by other hydrocarbons that are not in the comparison standard. These lighter hydrocarbons need to be further identified to determine source.

B. Chris Weathington
Laboratory Director

Laboratory Certifications

Pace Analytical Services, Inc.
1000 Riverbend Blvd. Suite F
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(504) 469-0333

Project: 20144605

Client: DEQ LABORATORY

Project ID: TEXAS BRINE WELL

Washington Department of Ecology C2078
Oregon Environmental Laboratory Accreditation - LA200001
U.S. Dept. of Agriculture Foreign Soil Import P330-10-00119
Pennsylviania Dept. of Env Protection (NELAC) 68-04202
Texas Commission on Env. Quality (NELAC) T104704405-09-TX
Kansas Department of Health and Environment (NELAC) E-10266
Florida Department of Health (NELAC) E87595
Oklahoma Department of Environmental Quality - 2010-139
Illinois Environmental Protection Agency - 0025721
California Env. Lab Accreditation Program Branch - 11277CA
Louisiana Dept. of Environmental Quality (NELAC/LELAP) 02006

Sample Cross Reference

Pace Analytical Services, Inc.
1000 Riverbend Blvd. Suite F
St. Rose, LA 70087
(504) 469-0333

Project: 20144605

Client: DEQ LABORATORY

Project ID: TEXAS BRINE WELL

Client Sample ID	Lab ID	Matrix	Collection Date/Time	Received Date/Time
041-092212-01	201025367	Other	22-Sep-12 22:50	25-Sep-12 13:35
041-092212-02	201025368	Other	22-Sep-12 22:55	25-Sep-12 13:35
041-092212-STANDARD	201025369	Other	22-Sep-12 00:00	25-Sep-12 13:35

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Project: 20144605

Narrative detail for GC/MS semi-volatiles analyses:

Samples were extracted at reduced volume due to the matrix and could not be concentrated to final method volume. In addition, samples were diluted prior to analysis.

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Sample Receipt Condition:

All samples were received in accordance with EPA protocol.

Holding Times:

All holding times were met.

Blanks:

All blank results were below reporting limits.

Laboratory Control Samples:

All LCS recoveries were within QC limits.

Matrix Spikes and Duplicates:

MS or MSD recoveries outside of QC limits are qualified in the Report of Quality Control section.

Surrogates:

Surrogate recoveries outside of QC limits are qualified in the surrogate results section.

Regulatory, Permit or Client Specified Limits:

Results were found that exceeded regulatory, permit or client specified limits:

Method EPA 8015 Mod Ext sample 201025367 Diesel Range Organics (C10-28) result 469000mg/kg is greater than 65mg/kg lim

Method EPA 8015 Mod Ext sample 201025368 Diesel Range Organics (C10-28) result 560000mg/kg is greater than 65mg/kg lim

Method EPA 8015 Mod Ext sample 201025369 Diesel Range Organics (C10-28) result 470000mg/kg is greater than 65mg/kg lim

Method EPA 8015 Mod Ext sample 201025367 Oil Range Organics (>C28-40) reporting limit 124000mg/kg is greater than 180m

Method EPA 8015 Mod Ext sample 201025368 Oil Range Organics (>C28-40) reporting limit 125000mg/kg is greater than 180m

Method EPA 8015 Mod Ext sample 201025369 Oil Range Organics (>C28-40) result 185000mg/kg is greater than 180mg/kg limi

QC Cross Reference

Pace Analytical Services, Inc.
1000 Riverbend Blvd. Suite F
St. Rose, LA 70087
(504) 469-0333

Project: 20144605

Analytical Method	Batch	Sample used for QC
EPA 8015 Mod Ext	193376	Project sample 041-092212-01
EPA 8270	193374	Project sample 041-092212-01

For the sample used as the original for the DUP or MS/MSD for the batch:

Project sample means a sample from this project was used.
Client sample means a sample from the same client but in a different project was used.
Batch sample means a sample from a different client was used.

Definitions/Qualifiers

Pace Analytical Services, Inc.
1000 Riverbend Blvd. Suite F
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(504) 469-0333

Project: 20144605

Value	Description
D1	The analysis was performed at a dilution due to the high analyte concentration.
N	See narrative for a detailed explanation.
P12	A reduced sample aliquot was prepared because of the observed nature of the sample matrix.
Q1	The matrix spike recoveries are poor. Acceptable method performance for this analyte has been demonstrated by the laboratory control sample recovery.
Q3	The matrix spike recoveries are poor due to the presence of this analyte in the sample at a concentration greater than 4 times the spiked amount. Acceptable method performance for this analyte has been demonstrated by the laboratory control sample.
Q7	The sample used for matrix spike analyses required extensive dilution such that matrix spike analytes were diluted beyond their reporting limit. Acceptable method performance for this analyte has been demonstrated by the laboratory control sample.
J	This estimated value for the analyte is below the adjusted reporting limit but above the instrument reporting limit.
U	The analyte was analyzed for but not detected at the reporting limit or method detection limit indicated.
B	This analyte was detected in the method blank.
E	The sample concentration is above the linear calibrated range of the analysis.
LCS	Laboratory Control Sample.
MS(D)	Matrix Spike (Duplicate).
DUP	Sample Duplicate.
RPD	Relative Percent Difference.

Sample Results

Pace Analytical Services, Inc.
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St. Rose, LA 70087
(504) 469-0333

Client: DEQ LABORATORY

Client ID: 041-092212-01
Project: 20144605
Project ID: TEXAS BRINE WELL
Site: None
Lab ID: 201025367
Matrix: Other
% Moisture: n/a
Description: None
Prep Level: Soil
Batch: 193374
Method: EPA 8270
GCMS Alkylated PAHs Soil
Collected: 22-Sep-12
Received: 25-Sep-12
Prepared: 27-Sep-12

Units: ug/kg

CAS No.	Analyte	Dilution	Result	Qu	Reporting Limit	Reg Limit	Analysis
none	cis/trans-Decalin	100	579000	D1	9890		09-Oct-12 21:03 JAM
none	C1-Decalins	100	1830000	D1	9890		09-Oct-12 21:03 JAM
none	C2-Decalins	100	2550000	D1	9890		09-Oct-12 21:03 JAM
none	C3-Decalins	100	2210000	D1	9890		09-Oct-12 21:03 JAM
none	C4-Decalins	100	906000	D1	9890		09-Oct-12 21:03 JAM
91-20-3	Naphthalene	100	134000	D1	9890		09-Oct-12 21:03 JAM
none	C1-Naphthalenes	100	272000	D1	9890		09-Oct-12 21:03 JAM
none	C2-Naphthalenes	100	911000	D1	9890		09-Oct-12 21:03 JAM
none	C3-Naphthalenes	100	921000	D1	9890		09-Oct-12 21:03 JAM
none	C4-Naphthalenes	100	559000	D1	9890		09-Oct-12 21:03 JAM
91-57-6	2-Methylnaphthalene	100	317000	D1	9890		09-Oct-12 21:03 JAM
90-12-0	1-Methylnaphthalene	100	99000	D1	9890		09-Oct-12 21:03 JAM
581-42-0	2,6-Dimethylnaphthalene	100	421000	D1	9890		09-Oct-12 21:03 JAM
2245-38-7	1,6,7-Trimethylnaphthalene	100	287000	D1	9890		09-Oct-12 21:03 JAM
95-15-8	Benzothiophene	10	26700	N	989.		11-Oct-12 12:10 JAM
none	C1-Benzothiophenes	10	56400	N	989.		11-Oct-12 12:10 JAM
none	C2-Benzothiophenes	10	57900	N	989.		11-Oct-12 12:10 JAM
none	C3-Benzothiophenes	10	65800	N	989.		11-Oct-12 12:10 JAM
none	C4-Benzothiophenes	10	41600	N	989.		11-Oct-12 12:10 JAM
92-52-4	Biphenyl (Diphenyl)	10	ND	N	989.		11-Oct-12 12:10 JAM
208-96-8	Acenaphthylene	10	19300	N	989.		11-Oct-12 12:10 JAM
83-32-9	Acenaphthene	10	29700	N	989.		11-Oct-12 12:10 JAM
132-64-9	Dibenzofuran	10	38600	N	989.		11-Oct-12 12:10 JAM
86-73-7	Fluorene	10	55900	N	989.		11-Oct-12 12:10 JAM
none	C1-Fluorenes	10	182000	N	989.		11-Oct-12 12:10 JAM
none	C2-Fluorenes	10	267000	N	989.		11-Oct-12 12:10 JAM
none	C3-Fluorenes	10	219000	N	989.		11-Oct-12 12:10 JAM
132-65-0	Dibenzothiophene (Synfuel)	10	16300	N	989.		11-Oct-12 12:10 JAM
31317-07-4	1-Methyldibenzothiophene	10	14400	N	989.		11-Oct-12 12:10 JAM
none	2&3-Methyldibenzothiophene	10	17300	N	989.		11-Oct-12 12:10 JAM
7372-88-5	4-Methyldibenzothiophene	10	22800	N	989.		11-Oct-12 12:10 JAM
none	C1-Dibenzothiophenes	10	57400	N	989.		11-Oct-12 12:10 JAM
none	C2-Dibenzothiophenes	10	77200	N	989.		11-Oct-12 12:10 JAM
none	C3-Dibenzothiophenes	10	56400	N	989.		11-Oct-12 12:10 JAM

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Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

Sample Results

Pace Analytical Services, Inc.
1000 Riverbend Blvd. Suite F
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(504) 469-0333

Client: DEQ LABORATORY

Client ID: 041-092212-01
Project: 20144605
Project ID: TEXAS BRINE WELL
Site: None
Lab ID: 201025367
Matrix: Other
% Moisture: n/a
Description: None
Prep Level: Soil
Batch: 193374
Method: EPA 8270
GCMS Alkylated PAHs Soil
Collected: 22-Sep-12
Received: 25-Sep-12
Prepared: 27-Sep-12

Units: ug/kg

CAS No.	Analyte	Dilution	Result	Qu	Reporting Limit	Reg Limit	Analysis
none	C4-Dibenzothiophenes	10	35600	N	989.		11-Oct-12 12:10 JAM
86-74-8	Carbazole	10	ND	N	989.		11-Oct-12 12:10 JAM
85-01-8	Phenanthrene	10	104000	N	989.		11-Oct-12 12:10 JAM
120-12-7	Anthracene	10	3960	N	989.		11-Oct-12 12:10 JAM
613-12-7	2-Methylanthracene	10	ND	N	989.		11-Oct-12 12:10 JAM
832-69-9	1-Methylphenanthrene	10	38100	N	989.		11-Oct-12 12:10 JAM
none	2&4-Methylphenanthrene	10	81700	N	989.		11-Oct-12 12:10 JAM
832-71-3	3-Methylphenanthrene	10	73300	N	989.		11-Oct-12 12:10 JAM
883-20-5	9-Methylphenanthrene	10	56900	N	989.		11-Oct-12 12:10 JAM
none	C1-Phenanthrenes/Anthracenes	10	266000	N	989.		11-Oct-12 12:10 JAM
none	C2-Phenanthrenes/Anthracenes	10	256000	N	989.		11-Oct-12 12:10 JAM
none	C3-Phenanthrenes/Anthracenes	10	198000	N	989.		11-Oct-12 12:10 JAM
none	C4-Phenanthrenes/Anthracenes	10	100000	N	989.		11-Oct-12 12:10 JAM
206-44-0	Fluoranthene	10	6440	N	989.		11-Oct-12 12:10 JAM
129-00-0	Pyrene	10	7430	N	989.		11-Oct-12 12:10 JAM
243-17-4	Benzo(b)fluorene	10	5940	N	989.		11-Oct-12 12:10 JAM
none	C1-Fluoranthenes/Pyrenes	10	56900	N	989.		11-Oct-12 12:10 JAM
none	C2-Fluoranthenes/Pyrenes	10	75700	N	989.		11-Oct-12 12:10 JAM
none	C3-Fluoranthenes/Pyrenes	10	71300	N	989.		11-Oct-12 12:10 JAM
none	C4-Fluoranthenes/Pyrenes	10	55400	N	989.		11-Oct-12 12:10 JAM
none	Naphthobenzothiophene	10	6930	N	989.		11-Oct-12 12:10 JAM
none	C1-Naphthobenzothiophenes	10	13900	N	989.		11-Oct-12 12:10 JAM
none	C2-Naphthobenzothiophenes	10	17300	N	989.		11-Oct-12 12:10 JAM
none	C3-Naphthobenzothiophenes	10	9900	N	989.		11-Oct-12 12:10 JAM
none	C4-Naphthobenzothiophenes	10	5940	N	989.		11-Oct-12 12:10 JAM
56-55-3	Benzo(a)anthracene	10	2970	N	989.		11-Oct-12 12:10 JAM
218-01-9	Chrysene	10	7920	N	989.		11-Oct-12 12:10 JAM
none	C1-Bzo(a)anthracenes/Chrysenes	10	ND	N	989.		11-Oct-12 12:10 JAM
none	C2-Bzo(a)anthracenes/Chrysenes	10	ND	N	989.		11-Oct-12 12:10 JAM
none	C3-Bzo(a)anthracenes/Chrysenes	10	ND	N	989.		11-Oct-12 12:10 JAM
none	C4-Bzo(a)anthracenes/Chrysenes	10	ND	N	989.		11-Oct-12 12:10 JAM
205-99-2	Benzo(b)fluoranthene	10	ND	N	989.		11-Oct-12 12:10 JAM
207-08-9	Benzo(k)fluoranthene	10	ND	N	989.		11-Oct-12 12:10 JAM
192-97-2	Benzo(e)pyrene	10	ND	N	989.		11-Oct-12 12:10 JAM

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Sample Results

Pace Analytical Services, Inc.
1000 Riverbend Blvd. Suite F
St. Rose, LA 70087
(504) 469-0333

Client: DEQ LABORATORY

Client ID: 041-092212-01
Project: 20144605
Project ID: TEXAS BRINE WELL
Site: None
Lab ID: 201025367
Matrix: Other
% Moisture: n/a
Description: None
Prep Level: Soil
Batch: 193374
Method: EPA 8270
GCMS Alkylated PAHs Soil
Collected: 22-Sep-12
Received: 25-Sep-12
Prepared: 27-Sep-12

Units: ug/kg

CAS No.	Analyte	Dilution	Result	Qu	Reporting Limit	Reg Limit	Analysis
50-32-8	Benzo(a)pyrene	10	ND	N	989.		11-Oct-12 12:10 JAM
53-70-3	Dibenz(a,h)anthracene	10	ND	N	989.		11-Oct-12 12:10 JAM
191-24-2	Benzo(g,h,i)perylene	10	ND	N	989.		11-Oct-12 12:10 JAM
198-55-0	Perylene	10	11400	N	989.		11-Oct-12 12:10 JAM
193-39-5	Indeno(1,2,3-cd)pyrene	10	ND	N	989.		11-Oct-12 12:10 JAM
483-65-8	Retene	10	16300	N	989.		11-Oct-12 12:10 JAM
none	17b(H),21b(H)-Hopane	10	ND	N	989.		11-Oct-12 12:10 JAM
203-33-8	1,2-Benzo(a)fluoranthene	10	ND	N	989.		11-Oct-12 12:10 JAM
205-82-3	Benzo(j)fluoranthene	10	ND	N	989.		11-Oct-12 12:10 JAM

77 compound(s) reported

Protocol 10/15/2012 13:49:19

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Sample Results

Pace Analytical Services, Inc.
1000 Riverbend Blvd. Suite F
St. Rose, LA 70087
(504) 469-0333

Client: DEQ LABORATORY

Client ID: 041-092212-01
Project: 20144605
Project ID: TEXAS BRINE WELL
Site: None
Lab ID: 201025367
Matrix: Other
% Moisture: n/a
Description: None
Prep Level: Soil
Batch: 193376
Method: EPA 8015 Mod Ext
8015 TPH Extractables Soil
Collected: 22-Sep-12
Received: 25-Sep-12
Prepared: 27-Sep-12

Units: mg/kg

CAS No.	Analyte	Dilution	Result	Qu	Reporting Limit	Reg Limit	Analysis
none	Diesel Range Organics (C10-28)	50	469000	D1,P12	24800	65.0	09-Oct-12 17:50 SNP1
none	Oil Range Organics (>C28-40)	50	ND	D1,P12	124000	180.	09-Oct-12 17:50 SNP1

2 compound(s) reported

Protocol 10/15/2012 13:49:19

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Sample Results

Pace Analytical Services, Inc.
1000 Riverbend Blvd. Suite F
St. Rose, LA 70087
(504) 469-0333

Client: DEQ LABORATORY

Client ID: 041-092212-02
Project: 20144605
Project ID: TEXAS BRINE WELL
Site: None
Lab ID: 201025368
Matrix: Other
% Moisture: n/a
Description: None
Prep Level: Soil
Batch: 193374
Method: EPA 8270
GCMS Alkylated PAHs Soil
Collected: 22-Sep-12
Received: 25-Sep-12
Prepared: 27-Sep-12

Units: ug/kg

CAS No.	Analyte	Dilution	Result	Qu	Reporting Limit	Reg Limit	Analysis
none	cis/trans-Decalin	100	441000	D1	9890		09-Oct-12 19:58 JAM
none	C1-Decalins	100	1530000	D1	9890		09-Oct-12 19:58 JAM
none	C2-Decalins	100	2180000	D1	9890		09-Oct-12 19:58 JAM
none	C3-Decalins	100	1940000	D1	9890		09-Oct-12 19:58 JAM
none	C4-Decalins	100	1020000	D1	9890		09-Oct-12 19:58 JAM
91-20-3	Naphthalene	100	114000	D1	9890		09-Oct-12 19:58 JAM
none	C1-Naphthalenes	100	233000	D1	9890		09-Oct-12 19:58 JAM
none	C2-Naphthalenes	100	782000	D1	9890		09-Oct-12 19:58 JAM
none	C3-Naphthalenes	100	901000	D1	9890		09-Oct-12 19:58 JAM
none	C4-Naphthalenes	100	604000	D1	9890		09-Oct-12 19:58 JAM
91-57-6	2-Methylnaphthalene	100	267000	D1	9890		09-Oct-12 19:58 JAM
90-12-0	1-Methylnaphthalene	100	89100	D1	9890		09-Oct-12 19:58 JAM
581-42-0	2,6-Dimethylnaphthalene	100	371000	D1	9890		09-Oct-12 19:58 JAM
2245-38-7	1,6,7-Trimethylnaphthalene	100	272000	D1	9890		09-Oct-12 19:58 JAM
95-15-8	Benzothiophene	10	21300	N	989.		11-Oct-12 12:43 JAM
none	C1-Benzothiophenes	10	45000	N	989.		11-Oct-12 12:43 JAM
none	C2-Benzothiophenes	10	53500	N	989.		11-Oct-12 12:43 JAM
none	C3-Benzothiophenes	10	46000	N	989.		11-Oct-12 12:43 JAM
none	C4-Benzothiophenes	10	28200	N	989.		11-Oct-12 12:43 JAM
92-52-4	Biphenyl (Diphenyl)	10	ND	N	989.		11-Oct-12 12:43 JAM
208-96-8	Acenaphthylene	10	16300	N	989.		11-Oct-12 12:43 JAM
83-32-9	Acenaphthene	10	16800	N	989.		11-Oct-12 12:43 JAM
132-64-9	Dibenzofuran	10	29200	N	989.		11-Oct-12 12:43 JAM
86-73-7	Fluorene	10	40100	N	989.		11-Oct-12 12:43 JAM
none	C1-Fluorenes	10	126000	N	989.		11-Oct-12 12:43 JAM
none	C2-Fluorenes	10	196000	N	989.		11-Oct-12 12:43 JAM
none	C3-Fluorenes	10	148000	N	989.		11-Oct-12 12:43 JAM
132-65-0	Dibenzothiophene (Synfuel)	10	11400	N	989.		11-Oct-12 12:43 JAM
31317-07-4	1-Methyldibenzothiophene	10	10400	N	989.		11-Oct-12 12:43 JAM
none	2&3-Methyldibenzothiophene	10	12900	N	989.		11-Oct-12 12:43 JAM
7372-88-5	4-Methyldibenzothiophene	10	16800	N	989.		11-Oct-12 12:43 JAM
none	C1-Dibenzothiophenes	10	43600	N	989.		11-Oct-12 12:43 JAM
none	C2-Dibenzothiophenes	10	53500	N	989.		11-Oct-12 12:43 JAM
none	C3-Dibenzothiophenes	10	44600	N	989.		11-Oct-12 12:43 JAM

Protocol 10/15/2012 13:49:19

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Sample Results

Pace Analytical Services, Inc.
1000 Riverbend Blvd. Suite F
St. Rose, LA 70087
(504) 469-0333

Client: DEQ LABORATORY

Client ID: 041-092212-02
Project: 20144605
Project ID: TEXAS BRINE WELL
Site: None
Lab ID: 201025368
Matrix: Other
% Moisture: n/a
Description: None
Prep Level: Soil
Batch: 193374
Method: EPA 8270
GCMS Alkylated PAHs Soil
Collected: 22-Sep-12
Received: 25-Sep-12
Prepared: 27-Sep-12

Units: ug/kg

CAS No.	Analyte	Dilution	Result	Qu	Reporting Limit	Reg Limit	Analysis
none	C4-Dibenzothiophenes	10	31200	N	989.		11-Oct-12 12:43 JAM
86-74-8	Carbazole	10	ND	N	989.		11-Oct-12 12:43 JAM
85-01-8	Phenanthrene	10	78200	N	989.		11-Oct-12 12:43 JAM
120-12-7	Anthracene	10	3470	N	989.		11-Oct-12 12:43 JAM
613-12-7	2-Methylanthracene	10	ND	N	989.		11-Oct-12 12:43 JAM
832-69-9	1-Methylphenanthrene	10	28200	N	989.		11-Oct-12 12:43 JAM
none	2&4-Methylphenanthrene	10	59400	N	989.		11-Oct-12 12:43 JAM
832-71-3	3-Methylphenanthrene	10	59400	N	989.		11-Oct-12 12:43 JAM
883-20-5	9-Methylphenanthrene	10	41100	N	989.		11-Oct-12 12:43 JAM
none	C1-Phenanthrenes/Anthracenes	10	193000	N	989.		11-Oct-12 12:43 JAM
none	C2-Phenanthrenes/Anthracenes	10	185000	N	989.		11-Oct-12 12:43 JAM
none	C3-Phenanthrenes/Anthracenes	10	143000	N	989.		11-Oct-12 12:43 JAM
none	C4-Phenanthrenes/Anthracenes	10	81200	N	989.		11-Oct-12 12:43 JAM
206-44-0	Fluoranthene	10	4460	N	989.		11-Oct-12 12:43 JAM
129-00-0	Pyrene	10	4950	N	989.		11-Oct-12 12:43 JAM
243-17-4	Benzo(b)fluorene	10	3960	N	989.		11-Oct-12 12:43 JAM
none	C1-Fluoranthenes/Pyrenes	10	41600	N	989.		11-Oct-12 12:43 JAM
none	C2-Fluoranthenes/Pyrenes	10	52000	N	989.		11-Oct-12 12:43 JAM
none	C3-Fluoranthenes/Pyrenes	10	48500	N	989.		11-Oct-12 12:43 JAM
none	C4-Fluoranthenes/Pyrenes	10	38100	N	989.		11-Oct-12 12:43 JAM
none	Naphthobenzothiophene	10	5450	N	989.		11-Oct-12 12:43 JAM
none	C1-Naphthobenzothiophenes	10	9900	N	989.		11-Oct-12 12:43 JAM
none	C2-Naphthobenzothiophenes	10	13400	N	989.		11-Oct-12 12:43 JAM
none	C3-Naphthobenzothiophenes	10	6440	N	989.		11-Oct-12 12:43 JAM
none	C4-Naphthobenzothiophenes	10	ND	N	989.		11-Oct-12 12:43 JAM
56-55-3	Benzo(a)anthracene	10	1980	N	989.		11-Oct-12 12:43 JAM
218-01-9	Chrysene	10	5940	N	989.		11-Oct-12 12:43 JAM
none	C1-Bzo(a)anthracenes/Chrysenes	10	ND	N	989.		11-Oct-12 12:43 JAM
none	C2-Bzo(a)anthracenes/Chrysenes	10	ND	N	989.		11-Oct-12 12:43 JAM
none	C3-Bzo(a)anthracenes/Chrysenes	10	ND	N	989.		11-Oct-12 12:43 JAM
none	C4-Bzo(a)anthracenes/Chrysenes	10	ND	N	989.		11-Oct-12 12:43 JAM
205-99-2	Benzo(b)fluoranthene	10	ND	N	989.		11-Oct-12 12:43 JAM
207-08-9	Benzo(k)fluoranthene	10	ND	N	989.		11-Oct-12 12:43 JAM
192-97-2	Benzo(e)pyrene	10	ND	N	989.		11-Oct-12 12:43 JAM

Protocol 10/15/2012 13:49:19

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Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
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Sample Results

Pace Analytical Services, Inc.
1000 Riverbend Blvd. Suite F
St. Rose, LA 70087
(504) 469-0333

Client: DEQ LABORATORY

Client ID: 041-092212-02
Project: 20144605
Project ID: TEXAS BRINE WELL
Site: None
Lab ID: 201025368
Matrix: Other
% Moisture: n/a
Description: None
Prep Level: Soil
Batch: 193374
Method: EPA 8270
GCMS Alkylated PAHs Soil
Collected: 22-Sep-12
Received: 25-Sep-12
Prepared: 27-Sep-12

Units: ug/kg

CAS No.	Analyte	Dilution	Result	Qu	Reporting Limit	Reg Limit	Analysis
50-32-8	Benzo(a)pyrene	10	ND	N	989.		11-Oct-12 12:43 JAM
53-70-3	Dibenz(a,h)anthracene	10	ND	N	989.		11-Oct-12 12:43 JAM
191-24-2	Benzo(g,h,i)perylene	10	ND	N	989.		11-Oct-12 12:43 JAM
198-55-0	Perylene	10	8420	N	989.		11-Oct-12 12:43 JAM
193-39-5	Indeno(1,2,3-cd)pyrene	10	ND	N	989.		11-Oct-12 12:43 JAM
483-65-8	Retene	10	11900	N	989.		11-Oct-12 12:43 JAM
none	17b(H),21b(H)-Hopane	10	ND	N	989.		11-Oct-12 12:43 JAM
203-33-8	1,2-Benzo(a)fluoranthene	10	ND	N	989.		11-Oct-12 12:43 JAM
205-82-3	Benzo(j)fluoranthene	10	ND	N	989.		11-Oct-12 12:43 JAM

77 compound(s) reported

Protocol 10/15/2012 13:49:19

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Sample Results

Pace Analytical Services, Inc.
1000 Riverbend Blvd. Suite F
St. Rose, LA 70087
(504) 469-0333

Client: DEQ LABORATORY

Client ID: 041-092212-02
Project: 20144605
Project ID: TEXAS BRINE WELL
Site: None
Lab ID: 201025368
Matrix: Other
% Moisture: n/a
Description: None
Prep Level: Soil
Batch: 193376
Method: EPA 8015 Mod Ext
8015 TPH Extractables Soil
Collected: 22-Sep-12
Received: 25-Sep-12
Prepared: 27-Sep-12

Units: mg/kg

CAS No.	Analyte	Dilution	Result	Qu	Reporting Limit	Reg Limit	Analysis
none	Diesel Range Organics (C10-28)	50	560000	D1,P12	25000	65.0	09-Oct-12 19:08 SNP1
none	Oil Range Organics (>C28-40)	50	ND	D1,P12	125000	180.	09-Oct-12 19:08 SNP1

2 compound(s) reported

Protocol 10/15/2012 13:49:19

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Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

Sample Results

Pace Analytical Services, Inc.
1000 Riverbend Blvd. Suite F
St. Rose, LA 70087
(504) 469-0333

Client: DEQ LABORATORY

Client ID: 041-092212-STANDARD
Project: 20144605
Project ID: TEXAS BRINE WELL
Site: None
Lab ID: 201025369
Matrix: Other
% Moisture: n/a
Description: None
Prep Level: Soil
Batch: 193374
Method: EPA 8270
GCMS Alkylated PAHs Soil
Collected: 22-Sep-12
Received: 25-Sep-12
Prepared: 27-Sep-12

Units: ug/kg

CAS No.	Analyte	Dilution	Result	Qu	Reporting Limit	Reg Limit	Analysis
none	cis/trans-Decalin	10	10800	N	979.		11-Oct-12 13:16 JAM
none	C1-Decalins	10	54900	N	979.		11-Oct-12 13:16 JAM
none	C2-Decalins	10	314000	N	979.		11-Oct-12 13:16 JAM
none	C3-Decalins	10	1070000	N	979.		11-Oct-12 13:16 JAM
none	C4-Decalins	10	884000	N	979.		11-Oct-12 13:16 JAM
91-20-3	Naphthalene	10	3920	N	979.		11-Oct-12 13:16 JAM
none	C1-Naphthalenes	10	51500	N	979.		11-Oct-12 13:16 JAM
none	C2-Naphthalenes	10	424000	N	979.		11-Oct-12 13:16 JAM
none	C3-Naphthalenes	10	637000	N	979.		11-Oct-12 13:16 JAM
none	C4-Naphthalenes	10	588000	N	979.		11-Oct-12 13:16 JAM
91-57-6	2-Methylnaphthalene	10	55400	N	979.		11-Oct-12 13:16 JAM
90-12-0	1-Methylnaphthalene	10	21600	N	979.		11-Oct-12 13:16 JAM
581-42-0	2,6-Dimethylnaphthalene	10	194000	N	979.		11-Oct-12 13:16 JAM
2245-38-7	1,6,7-Trimethylnaphthalene	10	242000	N	979.		11-Oct-12 13:16 JAM
95-15-8	Benzothiophene	10	2940	N	979.		11-Oct-12 13:16 JAM
none	C1-Benzothiophenes	10	12700	N	979.		11-Oct-12 13:16 JAM
none	C2-Benzothiophenes	10	31900	N	979.		11-Oct-12 13:16 JAM
none	C3-Benzothiophenes	10	49000	N	979.		11-Oct-12 13:16 JAM
none	C4-Benzothiophenes	10	45100	N	979.		11-Oct-12 13:16 JAM
92-52-4	Biphenyl (Diphenyl)	10	ND	N	979.		11-Oct-12 13:16 JAM
208-96-8	Acenaphthylene	10	13200	N	979.		11-Oct-12 13:16 JAM
83-32-9	Acenaphthene	10	12300	N	979.		11-Oct-12 13:16 JAM
132-64-9	Dibenzofuran	10	17200	N	979.		11-Oct-12 13:16 JAM
86-73-7	Fluorene	10	30400	N	979.		11-Oct-12 13:16 JAM
none	C1-Fluorenes	10	115000	N	979.		11-Oct-12 13:16 JAM
none	C2-Fluorenes	10	212000	N	979.		11-Oct-12 13:16 JAM
none	C3-Fluorenes	10	227000	N	979.		11-Oct-12 13:16 JAM
132-65-0	Dibenzothiophene (Synfuel)	10	11800	N	979.		11-Oct-12 13:16 JAM
31317-07-4	1-Methyldibenzothiophene	10	11300	N	979.		11-Oct-12 13:16 JAM
none	2&3-Methyldibenzothiophene	10	13700	N	979.		11-Oct-12 13:16 JAM
7372-88-5	4-Methyldibenzothiophene	10	18600	N	979.		11-Oct-12 13:16 JAM
none	C1-Dibenzothiophenes	10	45100	N	979.		11-Oct-12 13:16 JAM
none	C2-Dibenzothiophenes	10	80400	N	979.		11-Oct-12 13:16 JAM
none	C3-Dibenzothiophenes	10	82800	N	979.		11-Oct-12 13:16 JAM

Protocol 10/15/2012 13:49:19

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Sample Results

Pace Analytical Services, Inc.
1000 Riverbend Blvd. Suite F
St. Rose, LA 70087
(504) 469-0333

Client: DEQ LABORATORY

Client ID: 041-092212-STANDARD
Project: 20144605
Project ID: TEXAS BRINE WELL
Site: None
Lab ID: 201025369
Matrix: Other
% Moisture: n/a
Description: None
Prep Level: Soil
Batch: 193374
Method: EPA 8270
GCMS Alkylated PAHs Soil
Collected: 22-Sep-12
Received: 25-Sep-12
Prepared: 27-Sep-12

Units: ug/kg

CAS No.	Analyte	Dilution	Result	Qu	Reporting Limit	Reg Limit	Analysis
none	C4-Dibenzothiophenes	10	50000	N	979.		11-Oct-12 13:16 JAM
86-74-8	Carbazole	10	ND	N	979.		11-Oct-12 13:16 JAM
85-01-8	Phenanthrene	10	85800	N	979.		11-Oct-12 13:16 JAM
120-12-7	Anthracene	10	ND	N	979.		11-Oct-12 13:16 JAM
613-12-7	2-Methylanthracene	10	ND	N	979.		11-Oct-12 13:16 JAM
832-69-9	1-Methylphenanthrene	10	45600	N	979.		11-Oct-12 13:16 JAM
none	2&4-Methylphenanthrene	10	93100	N	979.		11-Oct-12 13:16 JAM
832-71-3	3-Methylphenanthrene	10	86300	N	979.		11-Oct-12 13:16 JAM
883-20-5	9-Methylphenanthrene	10	59300	N	979.		11-Oct-12 13:16 JAM
none	C1-Phenanthrenes/Anthracenes	10	302000	N	979.		11-Oct-12 13:16 JAM
none	C2-Phenanthrenes/Anthracenes	10	325000	N	979.		11-Oct-12 13:16 JAM
none	C3-Phenanthrenes/Anthracenes	10	233000	N	979.		11-Oct-12 13:16 JAM
none	C4-Phenanthrenes/Anthracenes	10	148000	N	979.		11-Oct-12 13:16 JAM
206-44-0	Fluoranthene	10	7350	N	979.		11-Oct-12 13:16 JAM
129-00-0	Pyrene	10	8330	N	979.		11-Oct-12 13:16 JAM
243-17-4	Benzo(b)fluorene	10	6860	N	979.		11-Oct-12 13:16 JAM
none	C1-Fluoranthenes/Pyrenes	10	77500	N	979.		11-Oct-12 13:16 JAM
none	C2-Fluoranthenes/Pyrenes	10	93600	N	979.		11-Oct-12 13:16 JAM
none	C3-Fluoranthenes/Pyrenes	10	98000	N	979.		11-Oct-12 13:16 JAM
none	C4-Fluoranthenes/Pyrenes	10	87300	N	979.		11-Oct-12 13:16 JAM
none	Naphthobenzothiophene	10	9800	N	979.		11-Oct-12 13:16 JAM
none	C1-Naphthobenzothiophenes	10	18600	N	979.		11-Oct-12 13:16 JAM
none	C2-Naphthobenzothiophenes	10	29400	N	979.		11-Oct-12 13:16 JAM
none	C3-Naphthobenzothiophenes	10	17600	N	979.		11-Oct-12 13:16 JAM
none	C4-Naphthobenzothiophenes	10	19100	N	979.		11-Oct-12 13:16 JAM
56-55-3	Benzo(a)anthracene	10	2940	N	979.		11-Oct-12 13:16 JAM
218-01-9	Chrysene	10	11300	N	979.		11-Oct-12 13:16 JAM
none	C1-Bzo(a)anthracenes/Chrysenes	10	ND	N	979.		11-Oct-12 13:16 JAM
none	C2-Bzo(a)anthracenes/Chrysenes	10	ND	N	979.		11-Oct-12 13:16 JAM
none	C3-Bzo(a)anthracenes/Chrysenes	10	ND	N	979.		11-Oct-12 13:16 JAM
none	C4-Bzo(a)anthracenes/Chrysenes	10	ND	N	979.		11-Oct-12 13:16 JAM
205-99-2	Benzo(b)fluoranthene	10	ND	N	979.		11-Oct-12 13:16 JAM
207-08-9	Benzo(k)fluoranthene	10	ND	N	979.		11-Oct-12 13:16 JAM
192-97-2	Benzo(e)pyrene	10	ND	N	979.		11-Oct-12 13:16 JAM

Protocol 10/15/2012 13:49:19

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Sample Results

Pace Analytical Services, Inc.
1000 Riverbend Blvd. Suite F
St. Rose, LA 70087
(504) 469-0333

Client: DEQ LABORATORY

Client ID: 041-092212-STANDARD
Project: 20144605
Project ID: TEXAS BRINE WELL
Site: None
Lab ID: 201025369
Matrix: Other
% Moisture: n/a
Description: None
Prep Level: Soil
Batch: 193374
Method: EPA 8270
GCMS Alkylated PAHs Soil
Collected: 22-Sep-12
Received: 25-Sep-12
Prepared: 27-Sep-12

Units: ug/kg

CAS No.	Analyte	Dilution	Result	Qu	Reporting Limit	Reg Limit	Analysis
50-32-8	Benzo(a)pyrene	10	ND	N	979.		11-Oct-12 13:16 JAM
53-70-3	Dibenz(a,h)anthracene	10	ND	N	979.		11-Oct-12 13:16 JAM
191-24-2	Benzo(g,h,i)perylene	10	ND	N	979.		11-Oct-12 13:16 JAM
198-55-0	Perylene	10	15700	N	979.		11-Oct-12 13:16 JAM
193-39-5	Indeno(1,2,3-cd)pyrene	10	ND	N	979.		11-Oct-12 13:16 JAM
483-65-8	Retene	10	21600	N	979.		11-Oct-12 13:16 JAM
none	17b(H),21b(H)-Hopane	10	ND	N	979.		11-Oct-12 13:16 JAM
203-33-8	1,2-Benzo(a)fluoranthene	10	ND	N	979.		11-Oct-12 13:16 JAM
205-82-3	Benzo(j)fluoranthene	10	ND	N	979.		11-Oct-12 13:16 JAM

77 compound(s) reported

Protocol 10/15/2012 13:49:19

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Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

Sample Results

Pace Analytical Services, Inc.
1000 Riverbend Blvd. Suite F
St. Rose, LA 70087
(504) 469-0333

Client: DEQ LABORATORY

Client ID: 041-092212-STANDARD
Project: 20144605
Project ID: TEXAS BRINE WELL
Site: None
Lab ID: 201025369
Matrix: Other
% Moisture: n/a
Description: None
Prep Level: Soil
Batch: 193376
Method: EPA 8015 Mod Ext
8015 TPH Extractables Soil
Collected: 22-Sep-12
Received: 25-Sep-12
Prepared: 27-Sep-12

Units: mg/kg

CAS No.	Analyte	Dilution	Result	Qu	Reporting Limit	Reg Limit	Analysis
none	Diesel Range Organics (C10-28)	50	470000	D1,P12	24800	65.0	09-Oct-12 19:34 SNP1
none	Oil Range Organics (>C28-40)	50	185000	D1,P12	124000	180.	09-Oct-12 19:34 SNP1

2 compound(s) reported

Protocol 10/15/2012 13:49:19

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Surrogate Recovery

Pace Analytical Services, Inc.
1000 Riverbend Blvd. Suite F
St. Rose, LA 70087
(504) 469-0333

Batch: 193374 **Project:** 20144605

Method: Soil GC/MS Semivolatile Organics

Lab ID	Sample ID	Qu	Sur 1 %Rec	Sur 2 %Rec	Sur 3 %Rec	Sur 4 %Rec	Sur 5 %Rec	Sur 6 %Rec	Sur 7 %Rec	Sur 8 %Rec
201025367	041-092212-01		0 D	0 D						
201026290	041-092212-01 MS 1		0 D	0 D						
201026291	041-092212-01 MSD 1		0 D	0 D						
201025368	041-092212-02		0 D	0 D						
201025369	041-092212-STANDARD		0 D	0 D						
201026288	193374 BLANK 1		76	80						
201026289	193374 LCS 1		81	87						
	QC limits:		34-117	24-133						

Sur 1: 2-Fluorobiphenyl (S)
Sur 2: Terphenyl-d14 (S)

*** denotes surrogate recovery outside of QC limits.**
D denotes surrogate recovery is outside of QC limits due to sample dilution, and is not considered an excursion.

Surrogate Recovery

Pace Analytical Services, Inc.
1000 Riverbend Blvd. Suite F
St. Rose, LA 70087
(504) 469-0333

Batch: 193376 **Project:** 20144605

Method: Soil GC Semivolatile Organics

Lab ID	Sample ID	Qu	Sur 1 %Rec	Sur 2 %Rec	Sur 3 %Rec	Sur 4 %Rec	Sur 5 %Rec	Sur 6 %Rec	Sur 7 %Rec	Sur 8 %Rec
201025367	041-092212-01		0 D	0 D						
201026294	041-092212-01 MS 1		0 D	0 D						
201026295	041-092212-01 MSD 1		0 D	0 D						
201025368	041-092212-02		0 D	0 D						
201025369	041-092212-STANDARD		0 D	0 D						
201026292	193376 BLANK 1		59	50						
201026293	193376 LCS 1		118	105						
	QC limits:		16-147	16-127						

Sur 1: n-Pentacosane (S)
Sur 2: o-Terphenyl (S)

*** denotes surrogate recovery outside of QC limits.**
D denotes surrogate recovery is outside of QC limits due to sample dilution, and is not considered an excursion.

Quality Control

Pace Analytical Services, Inc.
1000 Riverbend Blvd. Suite F
St. Rose, LA 70087
(504) 469-0333

Batch: 193374 **Project:** 20144605 **LCS:** 20102628 09-Oct-12 19:26

Method: Soil GC/MS Semivolatile Organics **MS:** 20102629 11-Oct-12 13:48

Units: ug/kg **MSD:** 20102629 11-Oct-12 14:21

Original for MS: Client Sample 201025367

Parameter Name	LCS Spike	LCS Found	LCS %Rec	MS Spike	Sample Found	MS Found	MSD Found	MS %Rec	MSD %Rec	RPD	QC Limits LCS	QC Limits MS/MSD	Max RPD	Qu
Naphthalene	2000	1660	83	1960	134000	133000	147000	0 *	667 *	10	50-120	30-120	20	N,Q7,Q
2-Methylnaphthalene	2000	1650	83	1960	317000	331000	359000	717 *	2083 *	8	50-120	30-120	20	N,Q7,Q
1-Methylnaphthalene	2000	1650	83	1960	99000	102000	114000	151 *	725 *	11	50-120	30-120	20	N,Q7,Q
Acenaphthylene	2000	1720	86	1960	19300	17700	19500	0 *	10 *	10	50-120	40-120	20	N,Q7,Q
Acenaphthene	2000	1490	75	1960	29700	24500	29500	0 *	0 *	18	50-120	40-120	20	N,Q7,Q
Fluorene	2000	1490	75	1960	55900	49500	52500	0 *	0 *	6	50-120	40-120	20	N,Q7,Q
Phenanthrene	2000	1520	76	1960	104000	90700	97500	0 *	0 *	7	50-120	40-120	20	N,Q7,Q
Anthracene	2000	1840	92	1960	3960	5390	6000	73	102	11	50-120	40-120	20	N,Q7
Fluoranthene	2000	1730	87	1960	6440	6370	7500	0 *	53	16	50-120	40-120	20	N,Q7,Q
Pyrene	2000	1710	86	1960	7430	12800	14500	271 *	354 *	13	50-120	40-120	20	N,Q7,Q
Benzo(a)anthracene	2000	1640	82	1960	2970	4410	4500	74	77	2	50-120	40-120	20	N,Q7
Chrysene	2000	1580	79	1960	7920	8330	9000	21 *	54	8	50-120	40-120	20	N,Q7,Q
Benzo(b)fluoranthene	2000	1590	80	1960		3920	2500	200 *	125 *	44 *	50-120	40-120	20	N,Q7,Q
Benzo(k)fluoranthene	2000	1600	80	1960		980.	1500	50	75	42 *	50-120	40-120	20	N,Q7
Benzo(a)pyrene	2000	1680	84	1960		1960	2500	100	125 *	24 *	50-120	40-120	20	N,Q7
Dibenz(a,h)anthracene	2000	1650	83	1960		980.	1500	50	75	42 *	50-120	40-120	20	N,Q7
Benzo(g,h,i)perylene	2000	1630	82	1960		1470	1500	75	75	2	50-120	40-120	20	N,Q7
Indeno(1,2,3-cd)pyrene	2000	1660	83	1960		1470	1500	75	75	2	50-120	40-120	20	N,Q7

18 compound(s) reported

*** denotes recovery outside of QC limits.**
MS/MSD RPD is calculated via SW-846 rules on the basis of spiked sample concentrations rather than spike recoveries.

Quality Control

Pace Analytical Services, Inc.
1000 Riverbend Blvd. Suite F
St. Rose, LA 70087
(504) 469-0333

Batch: 193376 **Project:** 20144605 **LCS:** 20102629 09-Oct-12 17:24

Method: Soil GC Semivolatile Organics **MS:** 20102629 09-Oct-12 18:16

Units: mg/kg **MSD:** 20102629 09-Oct-12 18:42

Original for MS: Client Sample 201025367

Parameter Name	LCS Spike	LCS Found	LCS %Rec	MS Spike	Sample Found	MS Found	MSD Found	MS %Rec	MSD %Rec	RPD	QC Limits LCS	QC Limits MS/MSD	Max RPD	Qu
Diesel Range Organics (C10-2	400.	271.	68	392.	469000	444000	636000	0 *	42060 *	35 *	36-129	10-167	20	Q3

1 compound(s) reported

*** denotes recovery outside of QC limits.**
MS/MSD RPD is calculated via SW-846 rules on the basis of spiked sample concentrations rather than spike recoveries.

QC Protocol 10/15/2012 13:49:22

Blank Results

Pace Analytical Services, Inc.
1000 Riverbend Blvd. Suite F
St. Rose, LA 70087
(504) 469-0333

Blank ID: 193374 BLANK 1 **Project:** 20144605

Lab ID: 201026288

Prep Level: Soil **Batch:** 193374

Method: Soil GC/MS Semivolatile Organics

Prepared: 27-Sep-12

Units: ug/kg

CAS Numb	Analyte	Dilution	Result	Qu	Reporting Limit	Analysis
none	cis/trans-Decalin	1	ND		20.0	09-Oct-12 18:53 JAM
none	C1-Decalins	1	ND		20.0	09-Oct-12 18:53 JAM
none	C2-Decalins	1	ND		20.0	09-Oct-12 18:53 JAM
none	C3-Decalins	1	ND		20.0	09-Oct-12 18:53 JAM
none	C4-Decalins	1	ND		20.0	09-Oct-12 18:53 JAM
91-20-3	Naphthalene	1	ND		20.0	09-Oct-12 18:53 JAM
none	C1-Naphthalenes	1	ND		20.0	09-Oct-12 18:53 JAM
none	C2-Naphthalenes	1	ND		20.0	09-Oct-12 18:53 JAM
none	C3-Naphthalenes	1	ND		20.0	09-Oct-12 18:53 JAM
none	C4-Naphthalenes	1	ND		20.0	09-Oct-12 18:53 JAM
91-57-6	2-Methylnaphthalene	1	ND		20.0	09-Oct-12 18:53 JAM
90-12-0	1-Methylnaphthalene	1	ND		20.0	09-Oct-12 18:53 JAM
581-42-0	2,6-Dimethylnaphthalene	1	ND		20.0	09-Oct-12 18:53 JAM
2245-38-7	1,6,7-Trimethylnaphthalene	1	ND		20.0	09-Oct-12 18:53 JAM
95-15-8	Benzothiophene	1	ND		20.0	09-Oct-12 18:53 JAM
none	C1-Benzothiophenes	1	ND		20.0	09-Oct-12 18:53 JAM
none	C2-Benzothiophenes	1	ND		20.0	09-Oct-12 18:53 JAM
none	C3-Benzothiophenes	1	ND		20.0	09-Oct-12 18:53 JAM
none	C4-Benzothiophenes	1	ND		20.0	09-Oct-12 18:53 JAM
92-52-4	Biphenyl (Diphenyl)	1	ND		20.0	09-Oct-12 18:53 JAM
208-96-8	Acenaphthylene	1	ND		20.0	09-Oct-12 18:53 JAM
83-32-9	Acenaphthene	1	ND		20.0	09-Oct-12 18:53 JAM
132-64-9	Dibenzofuran	1	ND		20.0	09-Oct-12 18:53 JAM
86-73-7	Fluorene	1	ND		20.0	09-Oct-12 18:53 JAM
none	C1-Fluorenes	1	ND		20.0	09-Oct-12 18:53 JAM
none	C2-Fluorenes	1	ND		20.0	09-Oct-12 18:53 JAM
none	C3-Fluorenes	1	ND		20.0	09-Oct-12 18:53 JAM
132-65-0	Dibenzothiophene (Synfuel)	1	ND		20.0	09-Oct-12 18:53 JAM
31317-07-4	1-Methyldibenzothiophene	1	ND		20.0	09-Oct-12 18:53 JAM
none	2&3-Methyldibenzothiophene	1	ND		20.0	09-Oct-12 18:53 JAM
7372-88-5	4-Methyldibenzothiophene	1	ND		20.0	09-Oct-12 18:53 JAM
none	C1-Dibenzothiophenes	1	ND		20.0	09-Oct-12 18:53 JAM
none	C2-Dibenzothiophenes	1	ND		20.0	09-Oct-12 18:53 JAM
none	C3-Dibenzothiophenes	1	ND		20.0	09-Oct-12 18:53 JAM

Protocol Blank 10/15/2012 13:49:2

ND denotes the analyte was analyzed for but not detected at the reporting limit or method detection limit indicated.

Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

Blank Results

Pace Analytical Services, Inc.
1000 Riverbend Blvd. Suite F
St. Rose, LA 70087
(504) 469-0333

Blank ID: 193374 BLANK 1 **Project:** 20144605

Lab ID: 201026288

Prep Level: Soil **Batch:** 193374

Method: Soil GC/MS Semivolatile Organics

Prepared: 27-Sep-12

Units: ug/kg

CAS Numb	Analyte	Dilution	Result	Qu	Reporting Limit	Analysis
none	C4-Dibenzothiophenes	1	ND		20.0	09-Oct-12 18:53 JAM
86-74-8	Carbazole	1	ND		20.0	09-Oct-12 18:53 JAM
85-01-8	Phenanthrene	1	ND		20.0	09-Oct-12 18:53 JAM
120-12-7	Anthracene	1	ND		20.0	09-Oct-12 18:53 JAM
613-12-7	2-Methylanthracene	1	ND		20.0	09-Oct-12 18:53 JAM
832-69-9	1-Methylphenanthrene	1	ND		20.0	09-Oct-12 18:53 JAM
none	2&4-Methylphenanthrene	1	ND		20.0	09-Oct-12 18:53 JAM
832-71-3	3-Methylphenanthrene	1	ND		20.0	09-Oct-12 18:53 JAM
883-20-5	9-Methylphenanthrene	1	ND		20.0	09-Oct-12 18:53 JAM
none	C1-Phenanthrenes/Anthracenes	1	ND		20.0	09-Oct-12 18:53 JAM
none	C2-Phenanthrenes/Anthracenes	1	ND		20.0	09-Oct-12 18:53 JAM
none	C3-Phenanthrenes/Anthracenes	1	ND		20.0	09-Oct-12 18:53 JAM
none	C4-Phenanthrenes/Anthracenes	1	ND		20.0	09-Oct-12 18:53 JAM
206-44-0	Fluoranthene	1	ND		20.0	09-Oct-12 18:53 JAM
129-00-0	Pyrene	1	ND		20.0	09-Oct-12 18:53 JAM
243-17-4	Benzo(b)fluorene	1	ND		20.0	09-Oct-12 18:53 JAM
none	C1-Fluoranthenes/Pyrenes	1	ND		20.0	09-Oct-12 18:53 JAM
none	C2-Fluoranthenes/Pyrenes	1	ND		20.0	09-Oct-12 18:53 JAM
none	C3-Fluoranthenes/Pyrenes	1	ND		20.0	09-Oct-12 18:53 JAM
none	C4-Fluoranthenes/Pyrenes	1	ND		20.0	09-Oct-12 18:53 JAM
none	Naphthobenzothiophene	1	ND		20.0	09-Oct-12 18:53 JAM
none	C1-Naphthobenzothiophenes	1	ND		20.0	09-Oct-12 18:53 JAM
none	C2-Naphthobenzothiophenes	1	ND		20.0	09-Oct-12 18:53 JAM
none	C3-Naphthobenzothiophenes	1	ND		20.0	09-Oct-12 18:53 JAM
none	C4-Naphthobenzothiophenes	1	ND		20.0	09-Oct-12 18:53 JAM
56-55-3	Benzo(a)anthracene	1	ND		20.0	09-Oct-12 18:53 JAM
218-01-9	Chrysene	1	ND		20.0	09-Oct-12 18:53 JAM
none	C1-Bzo(a)anthracenes/Chrysenes	1	ND		20.0	09-Oct-12 18:53 JAM
none	C2-Bzo(a)anthracenes/Chrysenes	1	ND		20.0	09-Oct-12 18:53 JAM
none	C3-Bzo(a)anthracenes/Chrysenes	1	ND		20.0	09-Oct-12 18:53 JAM
none	C4-Bzo(a)anthracenes/Chrysenes	1	ND		20.0	09-Oct-12 18:53 JAM
205-99-2	Benzo(b)fluoranthene	1	ND		20.0	09-Oct-12 18:53 JAM
207-08-9	Benzo(k)fluoranthene	1	ND		20.0	09-Oct-12 18:53 JAM
192-97-2	Benzo(e)pyrene	1	ND		20.0	09-Oct-12 18:53 JAM

Protocol Blank 10/15/2012 13:49:2

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Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

Blank Results

Pace Analytical Services, Inc.
1000 Riverbend Blvd. Suite F
St. Rose, LA 70087
(504) 469-0333

Blank ID: 193374 BLANK 1 **Project:** 20144605

Lab ID: 201026288

Prep Level: Soil **Batch:** 193374

Method: Soil GC/MS Semivolatile Organics

Prepared: 27-Sep-12

Units: ug/kg

CAS Numb	Analyte	Dilution	Result	Qu	Reporting Limit	Analysis
50-32-8	Benzo(a)pyrene	1	ND		20.0	09-Oct-12 18:53 JAM
53-70-3	Dibenz(a,h)anthracene	1	ND		20.0	09-Oct-12 18:53 JAM
191-24-2	Benzo(g,h,i)perylene	1	ND		20.0	09-Oct-12 18:53 JAM
198-55-0	Perylene	1	ND		20.0	09-Oct-12 18:53 JAM
193-39-5	Indeno(1,2,3-cd)pyrene	1	ND		20.0	09-Oct-12 18:53 JAM
483-65-8	Retene	1	ND		20.0	09-Oct-12 18:53 JAM
none	17b(H),21b(H)-Hopane	1	ND		20.0	09-Oct-12 18:53 JAM
203-33-8	1,2-Benzo(a)fluoranthene	1	ND		20.0	09-Oct-12 18:53 JAM
205-82-3	Benzo(j)fluoranthene	1	ND		20.0	09-Oct-12 18:53 JAM

77 compound(s) reported

ND denotes the analyte was analyzed for but not detected at the reporting limit or method detection limit indicated.

Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

Blank Results

Pace Analytical Services, Inc.
1000 Riverbend Blvd. Suite F
St. Rose, LA 70087
(504) 469-0333

Blank ID: 193376 BLANK 1 **Project:** 20144605

Lab ID: 201026292

Prep Level: Soil **Batch:** 193376

Method: Soil GC Semivolatile Organics

Prepared: 27-Sep-12

Units: mg/kg

CAS Numb	Analyte	Dilution	Result	Qu	Reporting Limit	Analysis
none	Diesel Range Organics (C10-28)	1	ND		100.	09-Oct-12 16:58 SNP1
none	Oil Range Organics (>C28-40)	1	ND		500.	09-Oct-12 16:58 SNP1

2 compound(s) reported

Protocol Blank 10/15/2012 13:49:2

ND denotes the analyte was analyzed for but not detected at the reporting limit or method detection limit indicated.

Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

Pace Analytical Services, Inc.
1000 Riverbend Blvd. Suite F
St. Rose, LA 70087
(504) 469-0333

Sample Preparation Forms

Sample Preparation MSSV

Pace Analytical Services, Inc.
1000 Riverbend Blvd. Suite F
St. Rose, LA 70087
(504) 469-0333

Method: EPA 3520
GCMS Alkylated PAHs Soil

Project: 20144605
Batch: 193374

	Type	Lab ID	Client ID	Matrix	Analyst	Date	Intial Sample Size	Final Sample Size	Moisture
1	BLANK	201026288	193374 BLANK 1		CHW1	09/27/2012	ND	ND	
2	LCS	201026289	193374 LCS 1		CHW1	09/27/2012	ND	ND	
3	MS	201026290	041-092212-01 MS	Other	CHW1	09/27/2012	ND	ND	
4	MSD	201026291	041-092212-01 MS	Other	CHW1	09/27/2012	ND	ND	
5	PS	201025369	041-092212-STAN	Other	CHW1	09/27/2012	ND	ND	
6	PS	201025368	041-092212-02	Other	CHW1	09/27/2012	ND	ND	
7	PS	201025367	041-092212-01	Other	CHW1	09/27/2012	ND	ND	

Sample Preparation GCSV

Pace Analytical Services, Inc.
1000 Riverbend Blvd. Suite F
St. Rose, LA 70087
(504) 469-0333

Method: EPA 3546 **Project:** 20144605

TPH Extractables Soil, BLK **Batch:** 193376

	Type	Lab ID	Client ID	Matrix	Analyst	Date	Intial Sample Size	Final Sample Size	Moisture
1	BLANK	201026292	193376 BLANK 1		CHW1	09/27/2012	ND	ND	
2	LCS	201026293	193376 LCS 1		CHW1	09/27/2012	ND	ND	
3	MS	201026294	041-092212-01 MS	Other	CHW1	09/27/2012	ND	ND	
4	MSD	201026295	041-092212-01 MS	Other	CHW1	09/27/2012	ND	ND	
5	PS	201025369	041-092212-STAN	Other	CHW1	09/27/2012	ND	ND	
6	PS	201025368	041-092212-02	Other	CHW1	09/27/2012	ND	ND	
7	PS	201025367	041-092212-01	Other	CHW1	09/27/2012	ND	ND	

Quantitation Report

Data File : Q:\DATAN\100912\1009N21.D Vial: 21
Acq On : 9 Oct 2012 9:03 pm Operator:
Sample : 201025367 Inst : 20MSSVN
Misc : 193374 1:100 LOW/500000 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 12 14:17 2012 Quant Results File: NZ091312.RES

Quant Method : Q:\DATAN\NZ091312.M (RTE Integrator)
Title : Alk PAH SIM - wat/soils
Last Update : Tue Oct 09 10:45:00 2012
Response via : Initial Calibration
DataAcq Meth : NALKGC
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Naphthalene-d8	7.46	136	105229	2.00	ppm	-0.05 NA%
23) Acenaphthene-d10	11.50	164	57901	2.00	ppm	-0.06 NA%
37) Phenanthrene-d10	15.07	188	109937	2.00	ppm	-0.06 NA%
65) Chrysene-d12	20.86	240	126748	2.00	ppm	-0.06 NA%
79) Perylene-d12	23.19	264	143617	2.00	ppm	-0.06 NA%

System Monitoring Compounds

24) 2-Fluorobiphenyl	0.00	172	0d	0.00	ppm	
Spiked Amount 2.000	Range 30 - 114		Recovery = 0.00%#			
67) Terphenyl-d14	0.00	244	0d	0.00	ppm	
Spiked Amount 2.000	Range 30 - 114		Recovery = 0.00%#			

Target Compounds						Qvalue
2) Decalin 1	5.70	138	10406	2.16	ppm	# 22
3) Decalin 2	6.34	138	1728	0.31	ppm	# 1
4) Decalin TOTAL	5.70	138	12134m	1.17	ppm	# 29
5) C1-Decalins	6.48	152	38236m	3.70	ppm	100
6) C2-Decalins	7.27	166	53345m	5.16	ppm	100
7) C3-Decalins	8.87	180	46155m	4.47	ppm	100
8) C4-Decalins	10.20	194	18918m	1.83	ppm	100
9) Naphthalene	7.50	128	14875	0.27	ppm	91
10) 2Methylnaphthalene	9.06	142	21667	0.64	ppm	94
11) 1Methylnaphthalene	9.29	142	6585	0.20	ppm	93
12) 2,6-Dimethylnaphthalene	10.51	156	25056	0.85	ppm	99
13) 2,3,5-Trimethylnaphthalene	12.51	170	15541m	0.58	ppm	69
14) C1-Naphthalenes	9.06	142	29710m	0.55	ppm	# 98
15) C2-Naphthalenes	10.70	156	99519m	1.84	ppm	# 92
16) C3-Naphthalenes	12.02	170	100781m	1.86	ppm	# 73
17) C4-Naphthalenes	13.75	184	60920m	1.13	ppm	# 1
18) Benzothiophene	7.67	134	2012m	0.05	ppm	# 44
19) C1-Benzothiophenes	8.74	148	4367m	0.10	ppm	2
20) C2-Benzothiophenes	10.31	162	5217m	0.12	ppm	1
21) C3-Benzothiophenes	11.98	176	4832m	0.11	ppm	100
25) Biphenyl (Diphenyl)	10.15	154	1540m	0.03	ppm	# 86
26) Acenaphthylene	11.18	152	1267m	0.03	ppm	67
27) Acenaphthene	11.58	153	1322m	0.04	ppm	67
28) Dibenzofuran	11.99	168	3285	0.06	ppm	# 1
29) Fluorene	12.82	166	3252	0.08	ppm	# 78
30) C1-Fluorenes	14.22	180	10390m	0.27	ppm	# 86
31) C2-Fluorenes	15.39	194	17797m	0.46	ppm	# 79
32) C3-Fluorenes	16.61	208	13744m	0.36	ppm	# 8
38) Dibenzothiophene	14.82	184	1122	0.02	ppm	# 48
39) 4-Methyldibenzothiophene	15.89	198	1684	0.03	ppm	89
40) 2/3-Methyldibenzothiophene	16.04	198	1288m	0.03	ppm	73
41) 1-Methyldibenzothiophene	16.09	198	1159m	0.02	ppm	1
42) C1-Dibenzothiophenes	15.89	198	4433m	0.09	ppm	# 89
43) C2-Dibenzothiophenes	16.89	212	5872m	0.12	ppm	55

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : Q:\DATAN\100912\1009N21.D Vial: 21
Acq On : 9 Oct 2012 9:03 pm Operator:
Sample : 201025367 Inst : 20MSSVN
Misc : 193374 1:100 LOW/500000 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 12 14:17 2012 Quant Results File: NZ091312.RES

Quant Method : Q:\DATAN\NZ091312.M (RTE Integrator)
Title : Alk PAH SIM - wat/soils
Last Update : Tue Oct 09 10:45:00 2012
Response via : Initial Calibration
DataAcq Meth : NALKGC

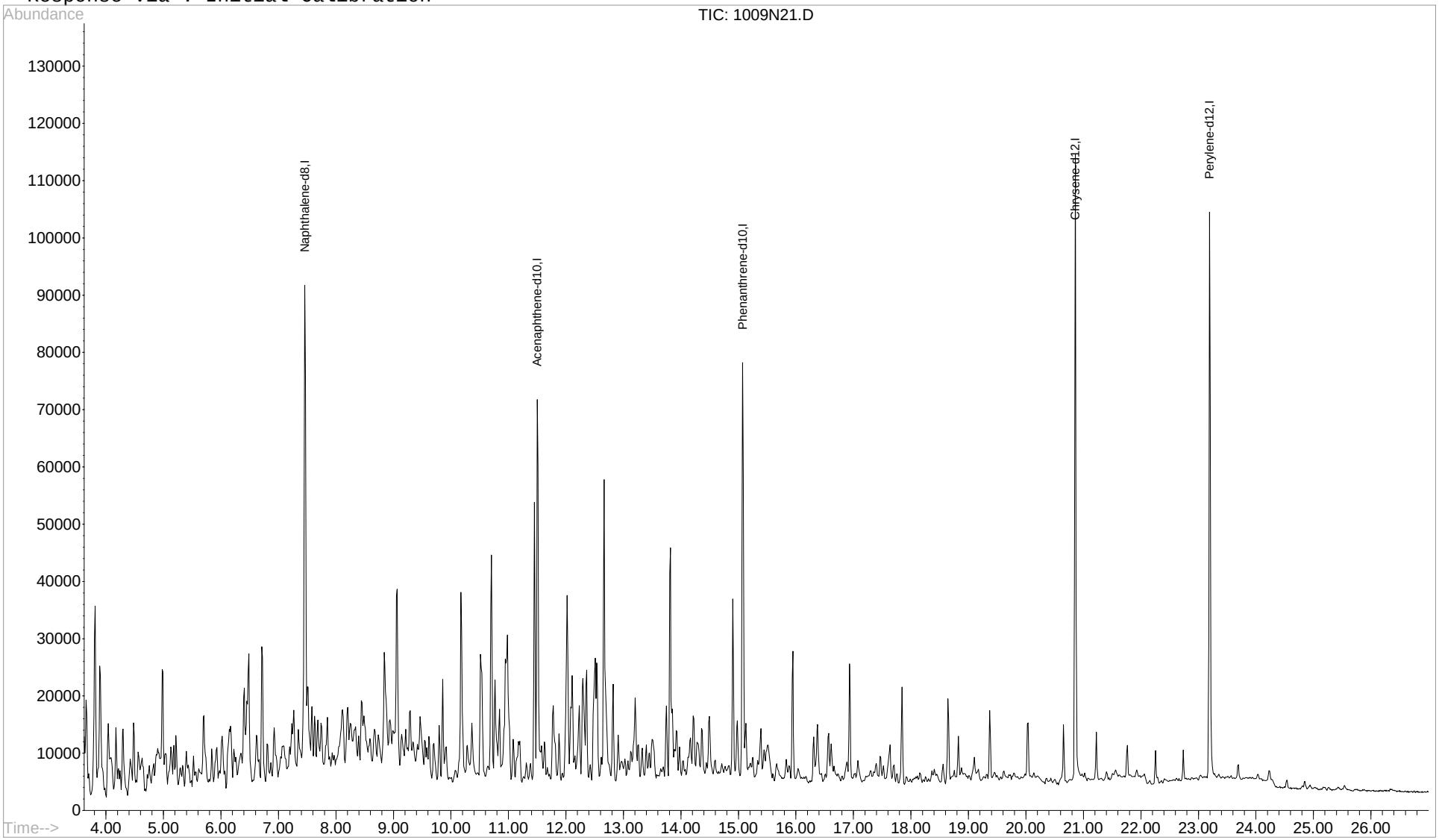
	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
44)	C3-Dibenzothiophenes	17.92	226	5365m	0.11	ppm	#	93
47)	Phenanthrene	15.13	178	11181	0.17	ppm		99
48)	Anthracene	15.25	178	621	0.01	ppm	#	1
49)	3-Methylphenanthrene	16.31	192	7403m	0.11	ppm		97
50)	2/4-Methylphenanthrene	16.38	192	7807m	0.12	ppm	#	96
52)	9-Methylphenanthrene	16.56	192	5357m	0.08	ppm	#	53
53)	1-Methylphenanthrene	16.63	192	3812m	0.06	ppm	#	23
54)	Retene	19.10	234	2051	0.03	ppm		75
55)	C1-Phenanthrene/Anthracene	16.31	192	25166m	0.39	ppm	#	95
56)	C2-Phenanthrene/Anthracene	17.64	206	23473m	0.36	ppm	#	13
57)	C3-Phenanthrene/Anthracene	18.64	220	18951m	0.29	ppm	#	43
58)	C4-Phenanthrene/Anthracene	19.10	234	11035m	0.17	ppm	#	26
59)	Fluoranthene	17.96	202	852	0.02	ppm	#	100
60)	Benzo(b)fluorene	19.31	216	499	0.01	ppm		92
61)	C1-Fluoranthene/Pyrene	19.17	216	4293m	0.08	ppm	#	46
62)	C2-Fluoranthene/Pyrene	20.86	230	6304m	0.11	ppm	#	1
63)	C3-Fluoranthene/Pyrene	20.35	244	6556m	0.12	ppm	#	94
64)	C4-Fluoranthene/Pyrene	21.57	258	4298m	0.08	ppm	#	19
66)	Pyrene	18.46	202	1334	0.02	ppm	#	100
68)	Benzo(a)anthracene	20.84	228	980	0.02	ppm		99
69)	Chrysene	20.90	228	887	0.01	ppm		63
70)	C1-Chrysenes	21.56	242	8474m	0.11	ppm	#	1
71)	C2-Chrysenes	22.15	256	6994m	0.09	ppm	#	22
72)	C3-Chrysenes	22.96	270	3314m	0.04	ppm	#	21
74)	Naphthobenzothiophene	20.40	234	631	0.01	ppm	#	76
80)	Bzo(b)fluoranthene	22.62	252	736	0.01	ppm	#	8
81)	Bzo(k)fluoranthene	22.66	252	385m	0.01	ppm	#	8
83)	Benzo(e)pyrene	23.04	252	366m	0.01	ppm		92
84)	Benzo(a)pyrene	23.10	252	365	0.01	ppm	#	1
85)	Perylene	23.23	252	1250m	0.02	ppm	#	75
86)	Indeno(123-cd)pyre	24.94	276	888	0.01	ppm		85
87)	Dibz(ah)anthracene	24.94	278	732	0.01	ppm		84
88)	Bzo(g,h,i)perylene	25.44	276	848	0.01	ppm		96

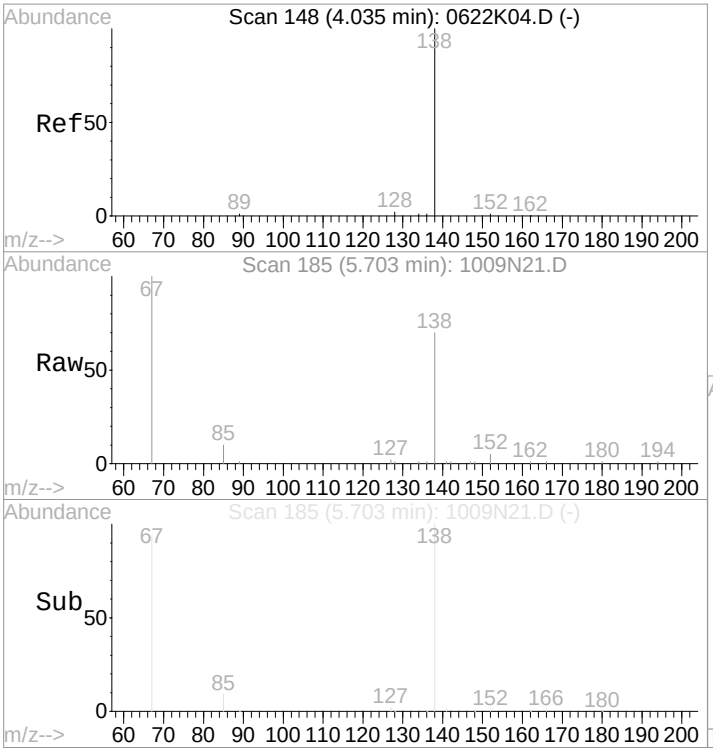
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : Q:\DATAN\100912\1009N21.D Vial: 21
Acq On : 9 Oct 2012 9:03 pm Operator:
Sample : 201025367 Inst : 20MSSVN
Misc : 193374 1:100 LOW/500000 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 12 14:17 2012 Quant Results File: NZ091312.RES

Method : Q:\DATAN\NZ091312.M (RTE Integrator)
Title : Alk PAH SIM - wat/soils
Last Update : Fri Oct 12 10:21:33 2012
Response via : Initial Calibration

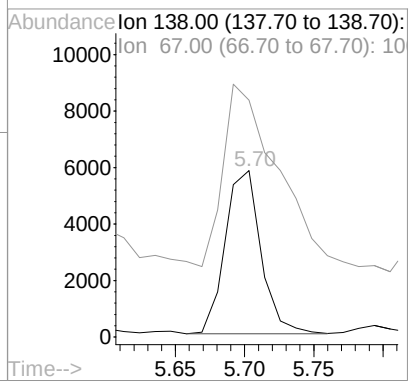


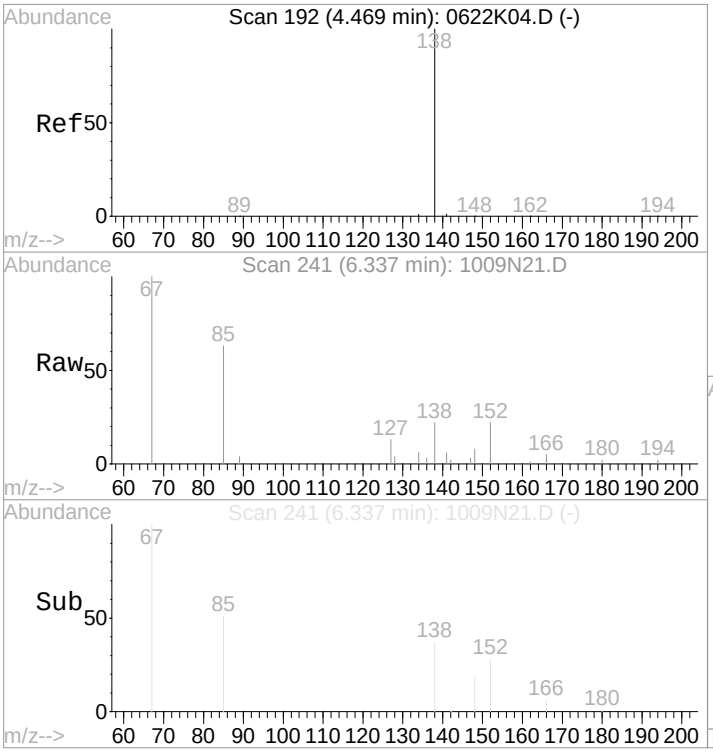


#2
Decalin 1
Concen: 2.16 ppm
RT: 5.70 min Scan# 185
Delta R.T. -0.04 min
Lab File: 1009N21.D
Acq: 9 Oct 2012 9:03 pm

Tgt Ion:138 Resp: 10406

Ion	Ratio	Lower	Upper
138	100		
67	167.8	72.9	112.9#

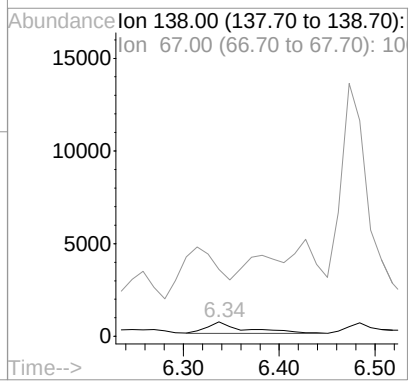


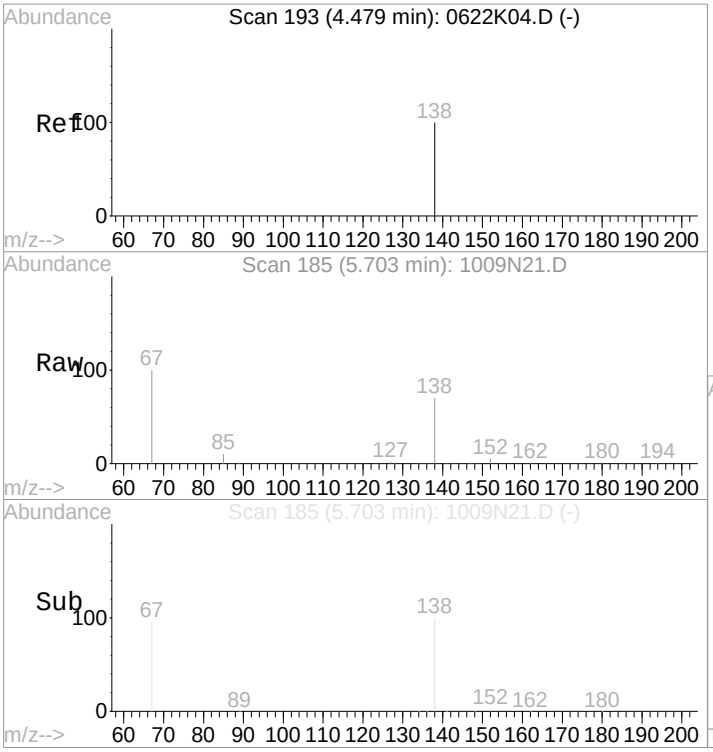


#3
Decalin 2
Concen: 0.31 ppm
RT: 6.34 min Scan# 241
Delta R.T. -0.05 min
Lab File: 1009N21.D
Acq: 9 Oct 2012 9:03 pm

Tgt Ion:138 Resp: 1728

Ion	Ratio	Lower	Upper
138	100		
67	433.4	104.9	144.9#

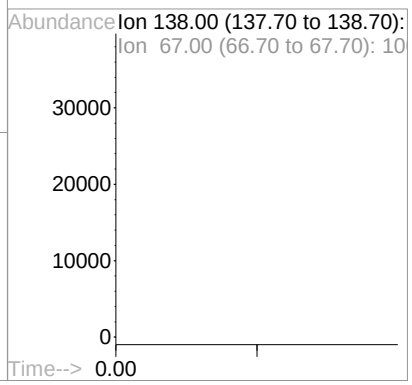


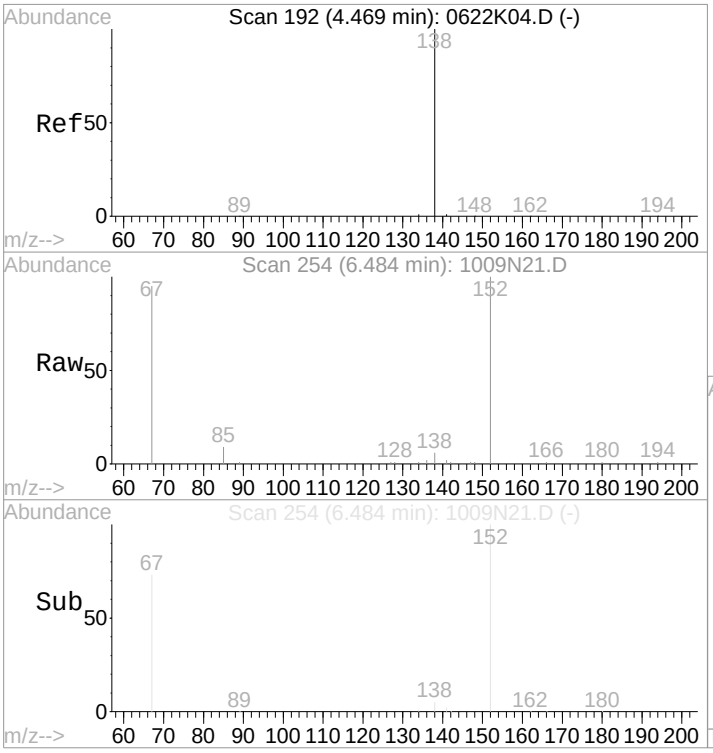


#4
Decalin TOTAL
Concen: 1.17 ppm m
RT: 5.70 min Scan# 185
Delta R.T. -0.43 min
Lab File: 1009N21.D
Acq: 9 Oct 2012 9:03 pm

Tgt Ion:138 Resp: 12134

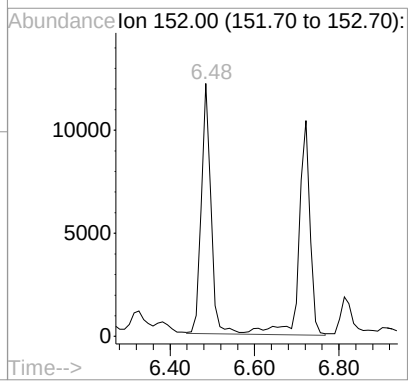
Ion	Ratio	Lower	Upper
138	100		
67	143.9	78.0	118.0#

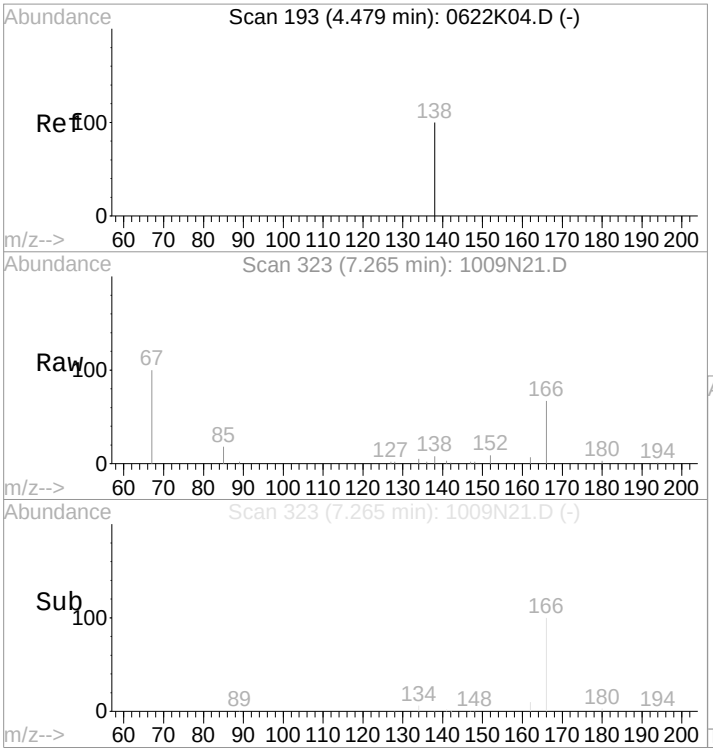




#5
C1-Decalins
Concen: 3.70 ppm m
RT: 6.48 min Scan# 254
Delta R.T. -0.19 min
Lab File: 1009N21.D
Acq: 9 Oct 2012 9:03 pm

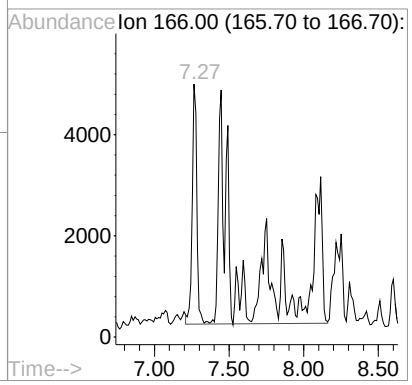
Tgt Ion:152 Resp: 38236

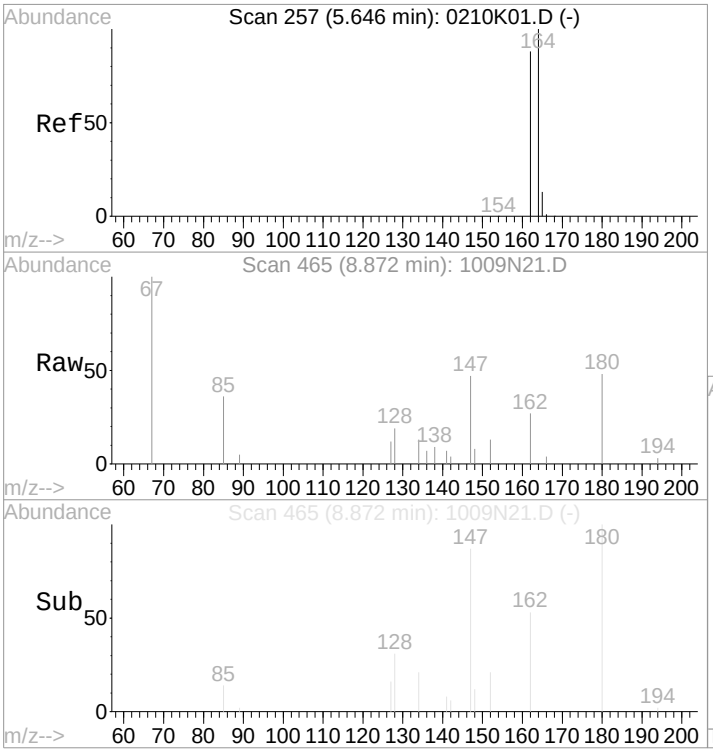




#6
C2-Decalins
Concen: 5.16 ppm m
RT: 7.27 min Scan# 323
Delta R.T. -0.03 min
Lab File: 1009N21.D
Acq: 9 Oct 2012 9:03 pm

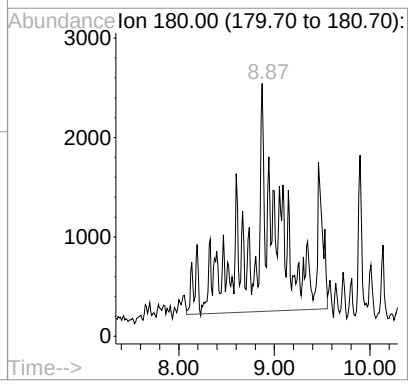
Tgt Ion:166 Resp: 53345

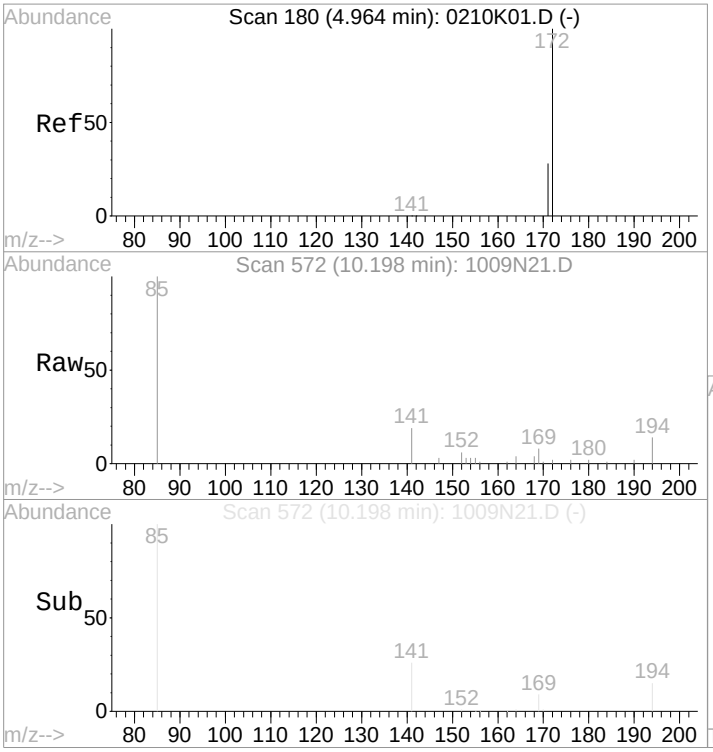




#7
C3-Decalins
Concen: 4.47 ppm m
RT: 8.87 min Scan# 465
Delta R.T. -0.23 min
Lab File: 1009N21.D
Acq: 9 Oct 2012 9:03 pm

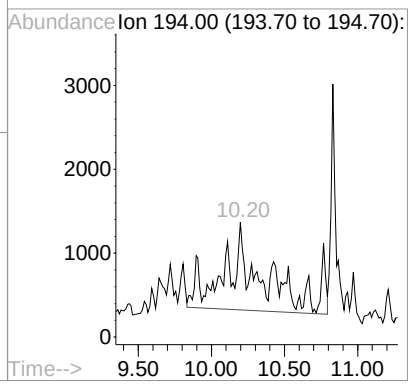
Tgt Ion:180 Resp: 46155

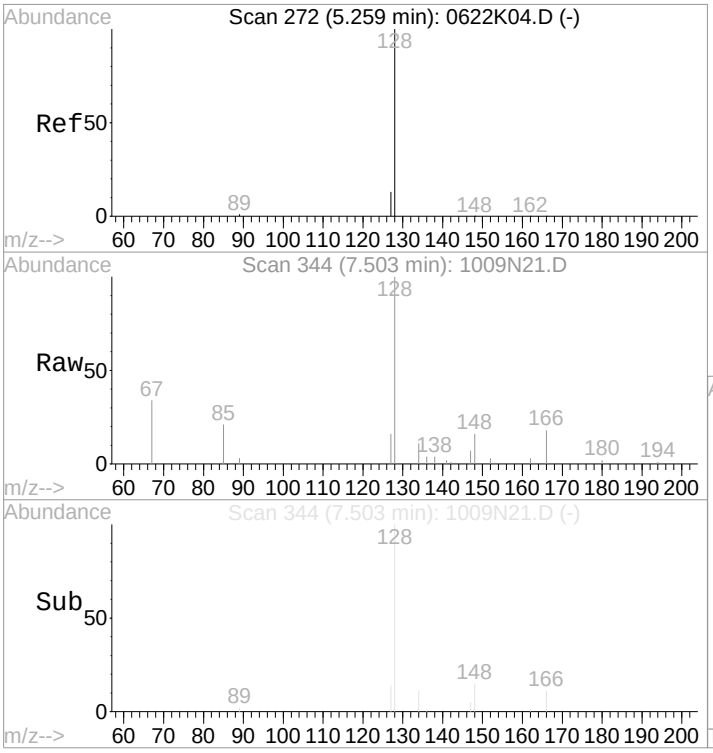




#8
C4-Decalins
Concen: 1.83 ppm m
RT: 10.20 min Scan# 572
Delta R.T. -1.09 min
Lab File: 1009N21.D
Acq: 9 Oct 2012 9:03 pm

Tgt Ion:194 Resp: 18918

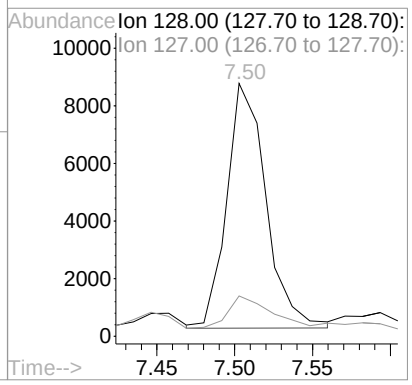


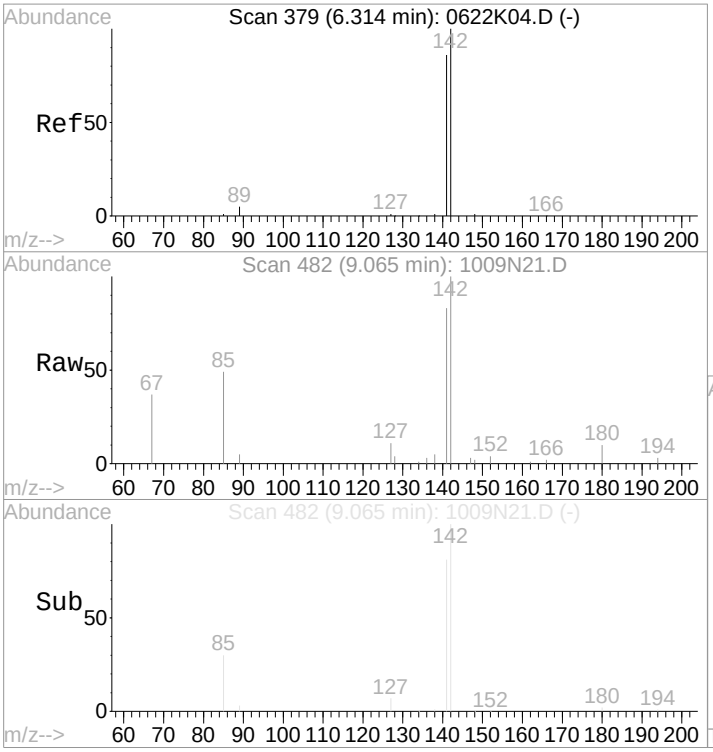


#9
Naphthalene
Concen: 0.27 ppm
RT: 7.50 min Scan# 344
Delta R.T. -0.06 min
Lab File: 1009N21.D
Acq: 9 Oct 2012 9:03 pm

Tgt Ion:128 Resp: 14875

Ion	Ratio	Lower	Upper
128	100		
127	15.6	0.0	32.1

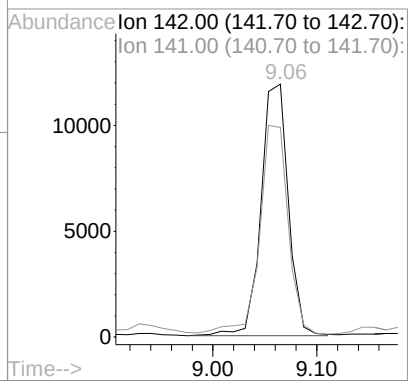


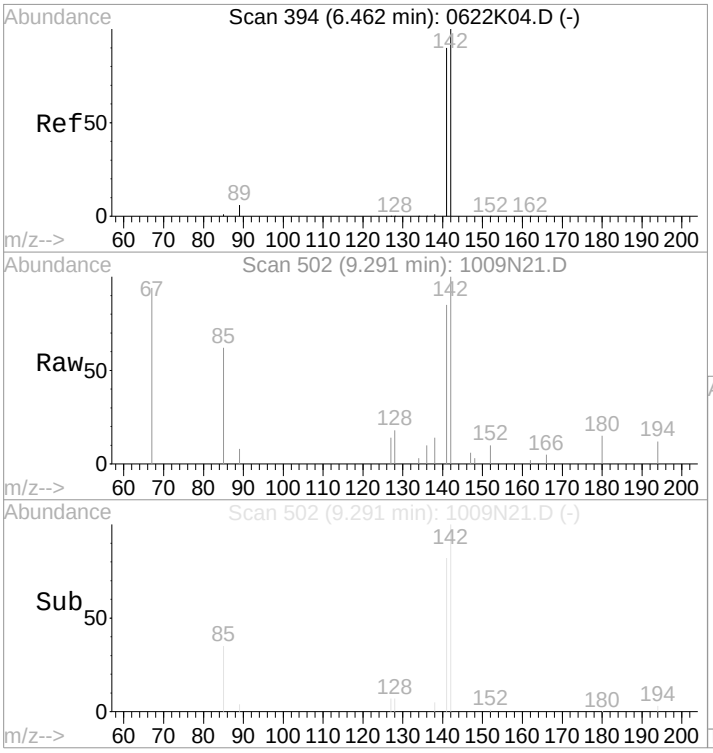


#10
2Methylnaphthalene
Concen: 0.64 ppm
RT: 9.06 min Scan# 482
Delta R.T. -0.05 min
Lab File: 1009N21.D
Acq: 9 Oct 2012 9:03 pm

Tgt Ion:142 Resp: 21667

Ion	Ratio	Lower	Upper
142	100		
141	86.6	61.2	101.2

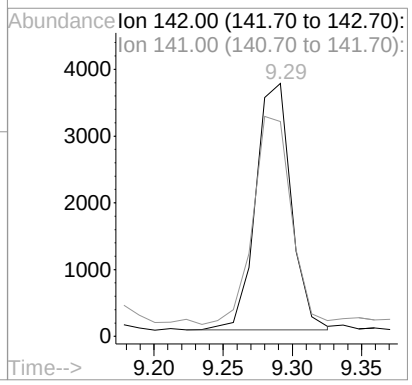


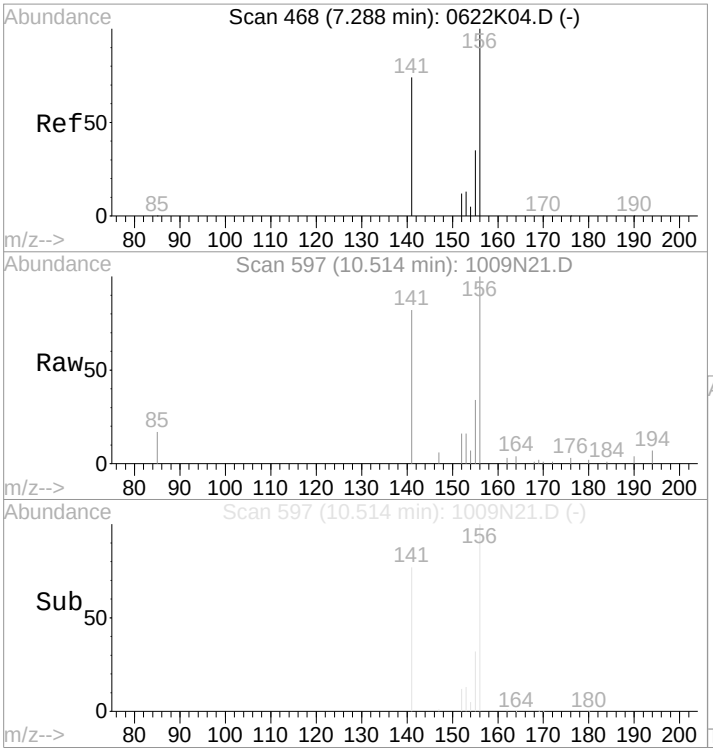


#11
1Methylnaphthalene
Concen: 0.20 ppm
RT: 9.29 min Scan# 502
Delta R.T. -0.05 min
Lab File: 1009N21.D
Acq: 9 Oct 2012 9:03 pm

Tgt Ion:142 Resp: 6585

Ion	Ratio	Lower	Upper
142	100		
141	91.2	64.8	104.8

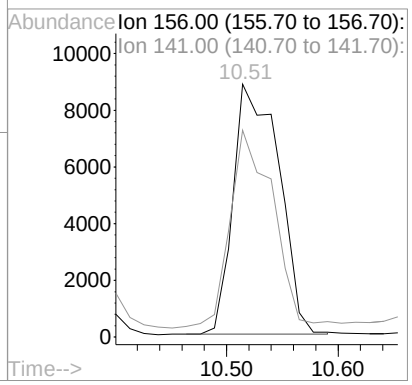


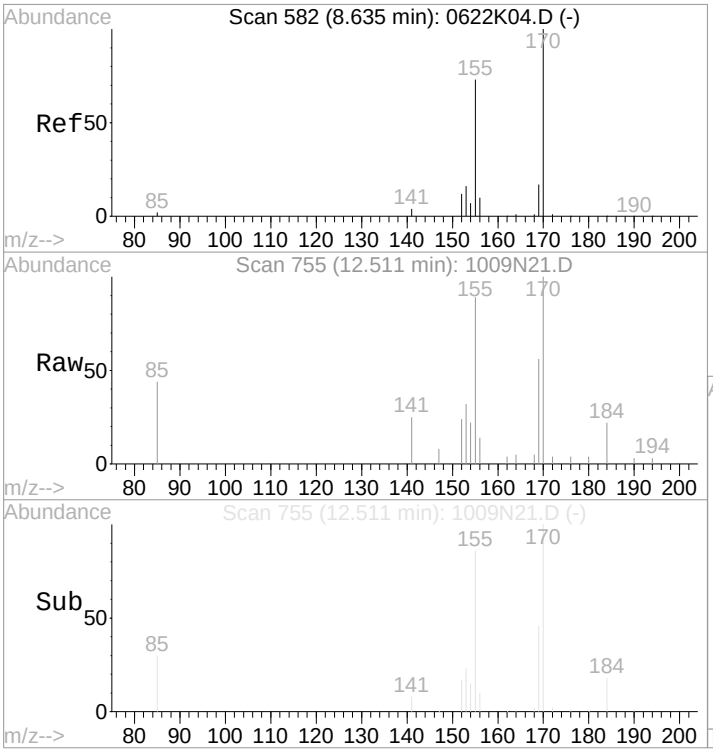


#12
2,6-Dimethylnaphthalene
Concen: 0.85 ppm
RT: 10.51 min Scan# 597
Delta R.T. -0.05 min
Lab File: 1009N21.D
Acq: 9 Oct 2012 9:03 pm

Tgt Ion:156 Resp: 25056

Ion	Ratio	Lower	Upper
156	100		
141	74.0	54.7	94.7

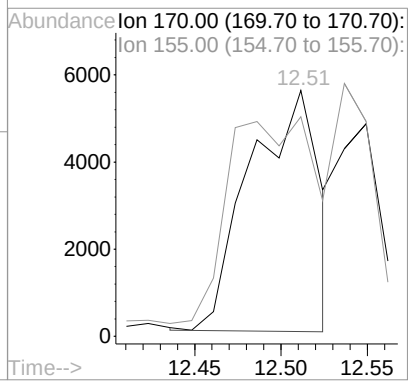


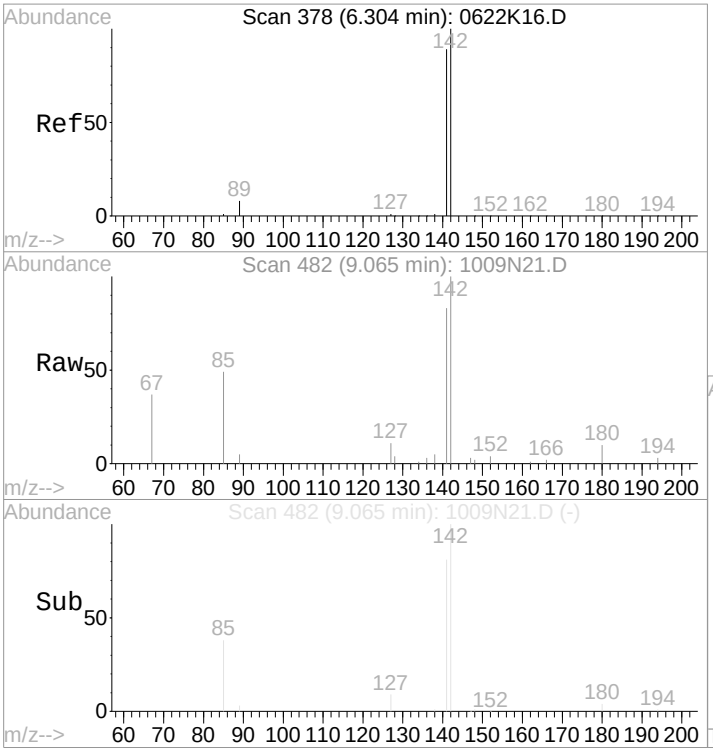


#13
2,3,5-Trimethylnaphthalene
Concen: 0.58 ppm m
RT: 12.51 min Scan# 755
Delta R.T. -0.05 min
Lab File: 1009N21.D
Acq: 9 Oct 2012 9:03 pm

Tgt Ion:170 Resp: 15541

Ion	Ratio	Lower	Upper
170	100		
155	106.9	81.6	121.6

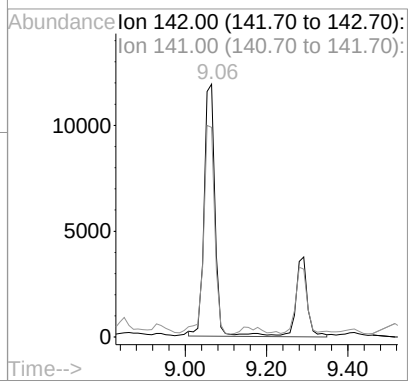


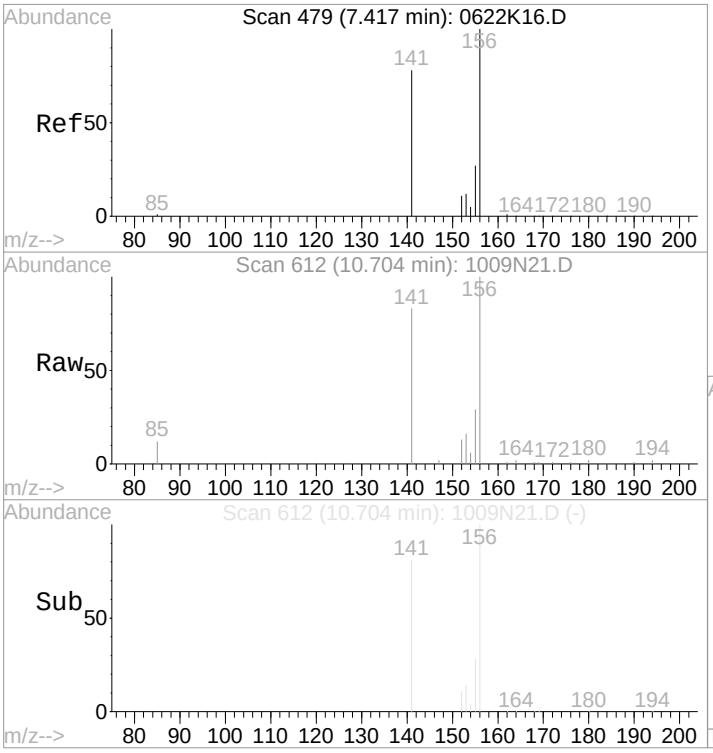


#14
C1-Naphthalenes
Concen: 0.55 ppm m
RT: 9.06 min Scan# 482
Delta R.T. -0.24 min
Lab File: 1009N21.D
Acq: 9 Oct 2012 9:03 pm

Tgt Ion:142 Resp: 29710

Ion	Ratio	Lower	Upper
142	100		
141	63.1	68.1	108.1#

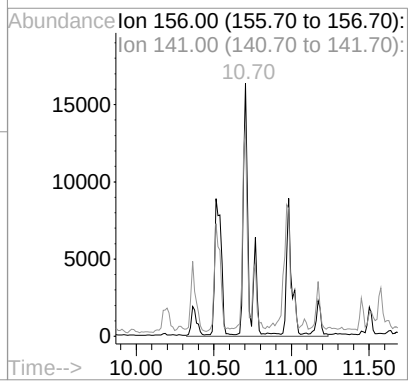


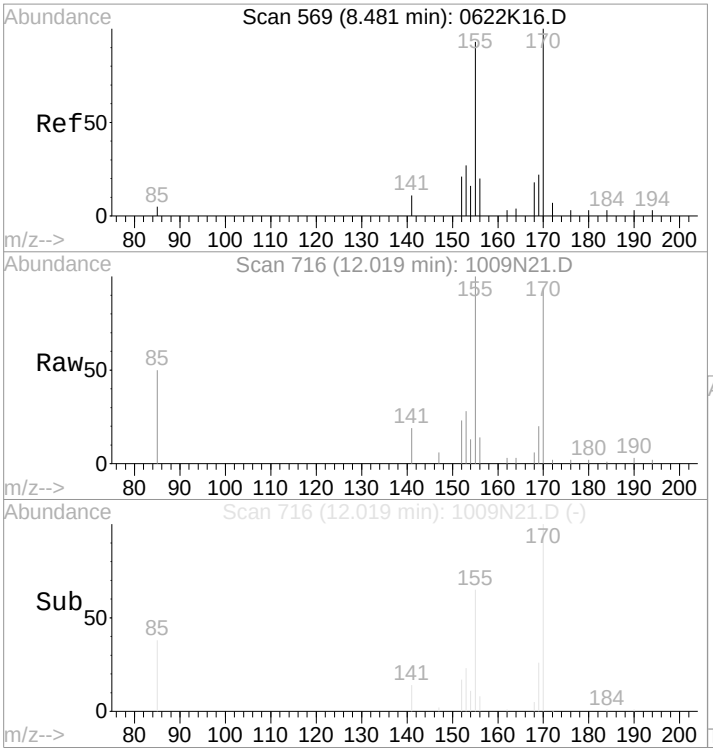


#15
C2-Naphthalenes
Concen: 1.84 ppm m
RT: 10.70 min Scan# 612
Delta R.T. -0.47 min
Lab File: 1009N21.D
Acq: 9 Oct 2012 9:03 pm

Tgt Ion:156 Resp: 99519

Ion	Ratio	Lower	Upper
156	100		
141	26.8	75.6	115.6#

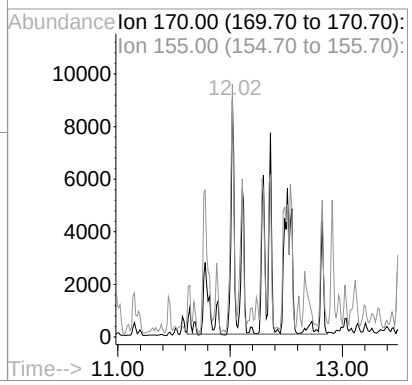


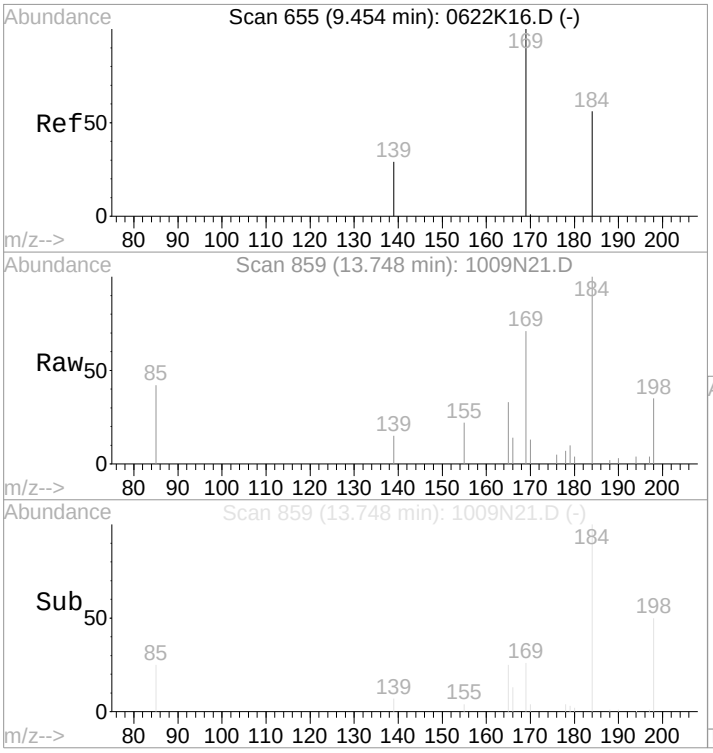


#16
C3-Naphthalenes
Concen: 1.86 ppm m
RT: 12.02 min Scan# 716
Delta R.T. -0.76 min
Lab File: 1009N21.D
Acq: 9 Oct 2012 9:03 pm

Tgt Ion:170 Resp: 100781

Ion	Ratio	Lower	Upper
170	100		
155	16.5	76.6	116.6#

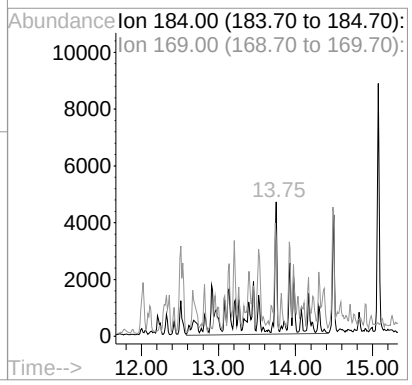


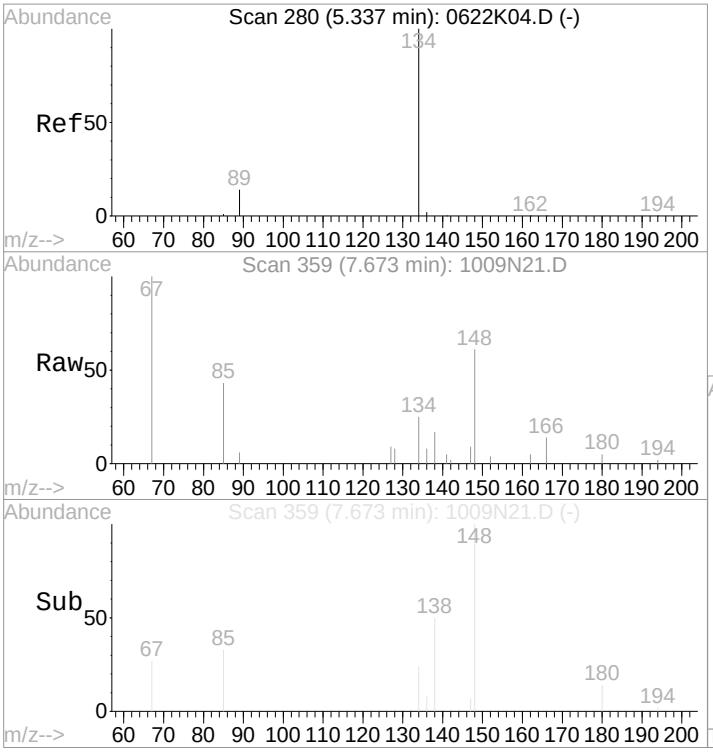


#17
C4-Naphthalenes
Concen: 1.13 ppm m
RT: 13.75 min Scan# 859
Delta R.T. -0.89 min
Lab File: 1009N21.D
Acq: 9 Oct 2012 9:03 pm

Tgt Ion:184 Resp: 60920

Ion	Ratio	Lower	Upper
184	100		
169	0.0	109.4	149.4#

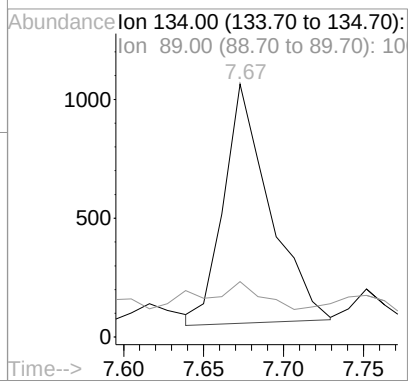


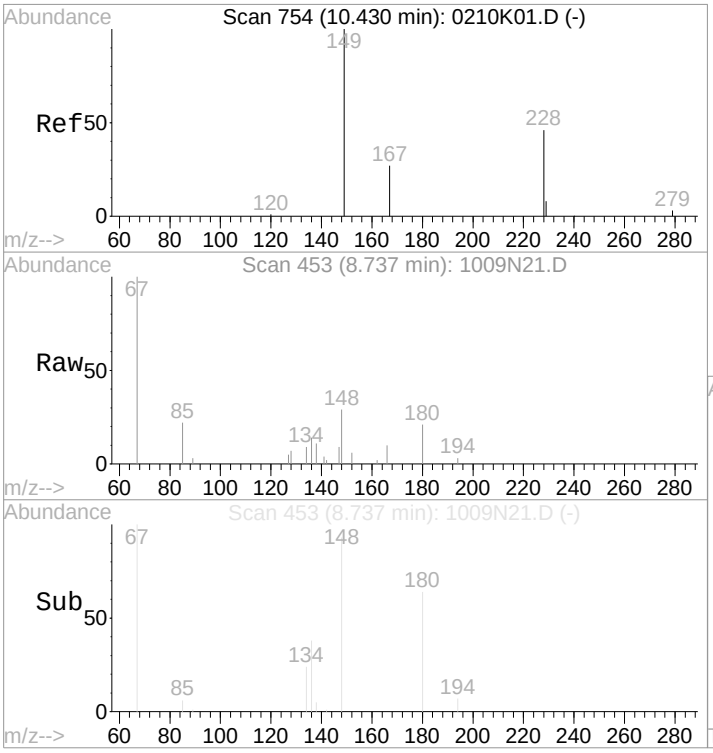


#18
Benzothiophene
Concen: 0.05 ppm m
RT: 7.67 min Scan# 359
Delta R.T. 0.02 min
Lab File: 1009N21.D
Acq: 9 Oct 2012 9:03 pm

Tgt Ion:134 Resp: 2012

Ion	Ratio	Lower	Upper
134	100		
89	38.0	2.3	22.3#

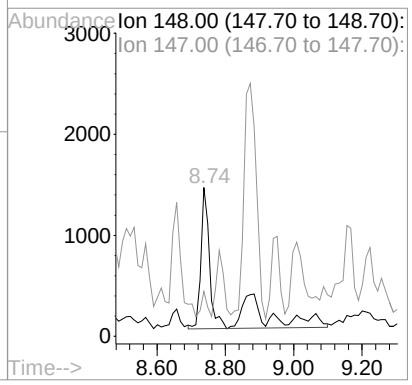


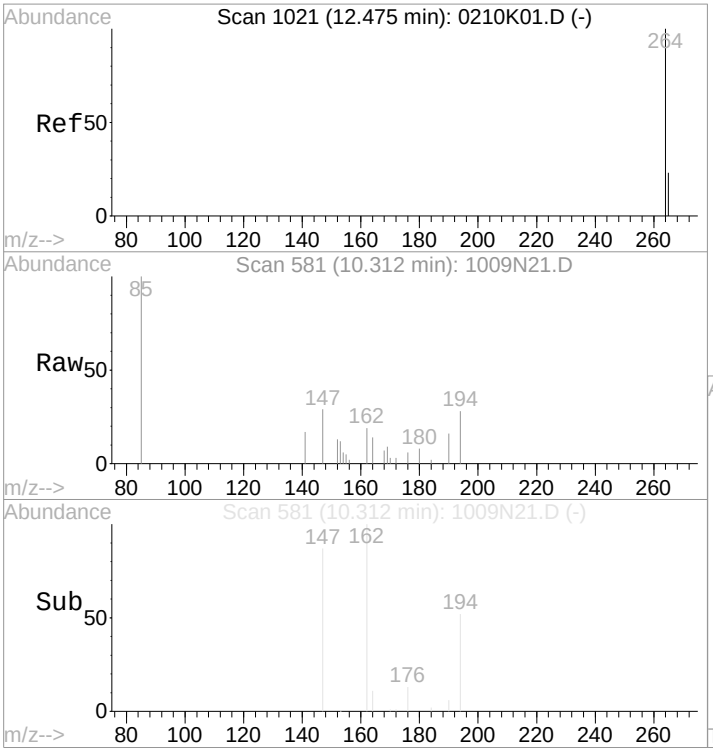


#19
C1-Benzothiophenes
Concen: 0.10 ppm m
RT: 8.74 min Scan# 453
Delta R.T. -0.02 min
Lab File: 1009N21.D
Acq: 9 Oct 2012 9:03 pm

Tgt Ion:148 Resp: 4367

Ion	Ratio	Lower	Upper
148	100		
147	99.1	60.0	100.0

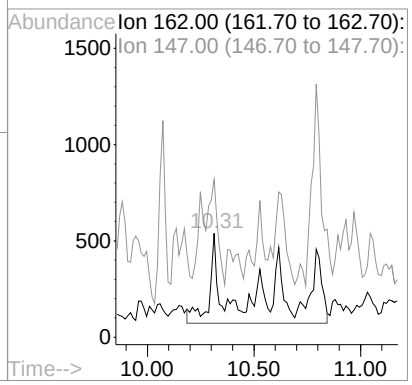


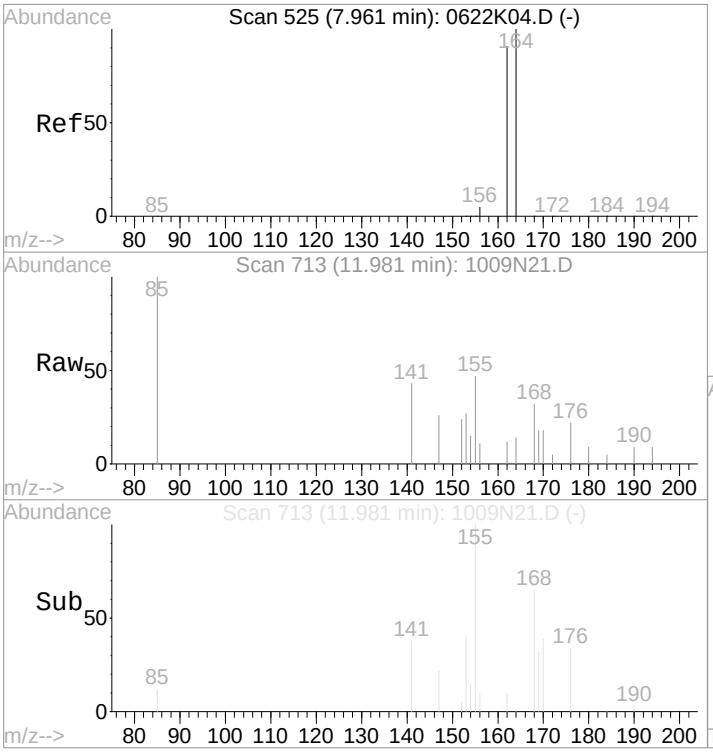


#20
C2-Benzothiophenes
Concen: 0.12 ppm m
RT: 10.31 min Scan# 581
Delta R.T. -0.75 min
Lab File: 1009N21.D
Acq: 9 Oct 2012 9:03 pm

Tgt Ion:162 Resp: 5217

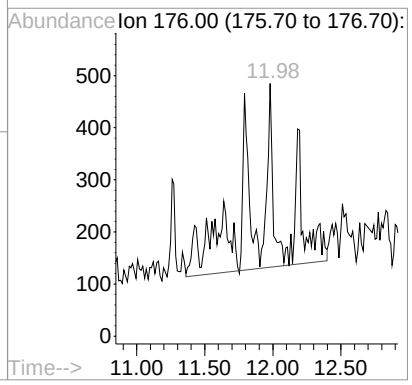
Ion	Ratio	Lower	Upper
162	100		
147	65.6	60.0	100.0

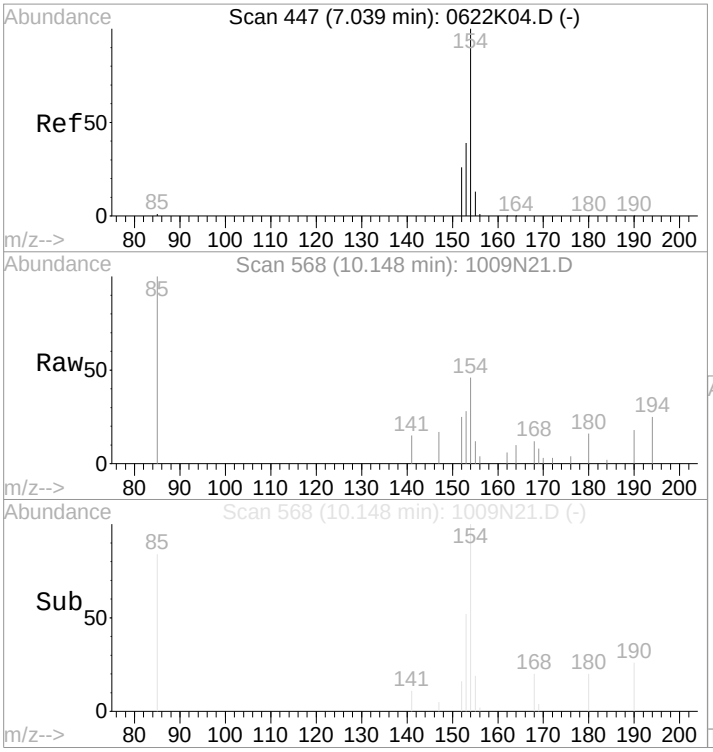




#21
C3-Benzothiophenes
Concen: 0.11 ppm m
RT: 11.98 min Scan# 713
Delta R.T. -0.63 min
Lab File: 1009N21.D
Acq: 9 Oct 2012 9:03 pm

Tgt Ion:176 Resp: 4832

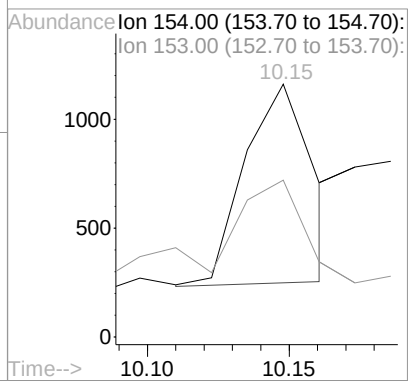


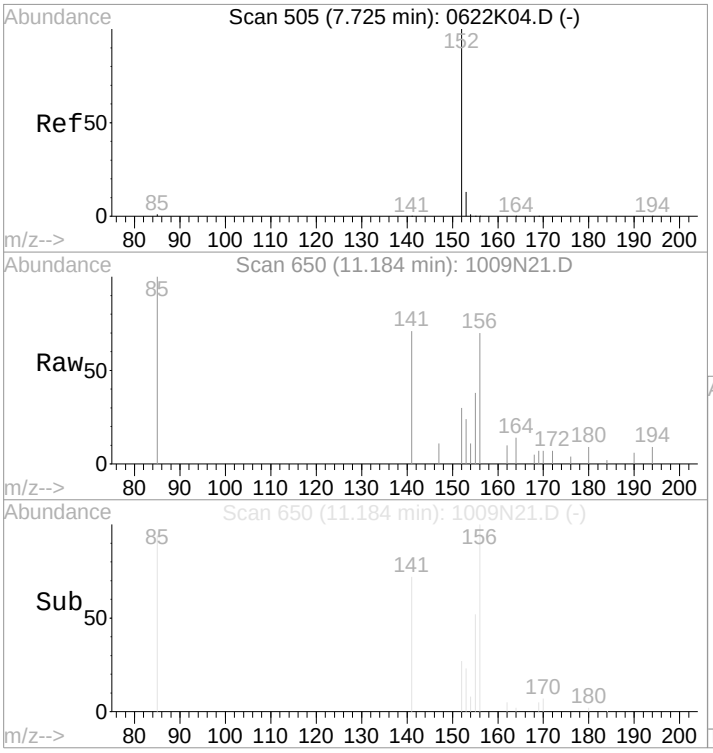


#25
Biphenyl (Diphenyl)
Concen: 0.03 ppm m
RT: 10.15 min Scan# 568
Delta R.T. -0.05 min
Lab File: 1009N21.D
Acq: 9 Oct 2012 9:03 pm

Tgt Ion:154 Resp: 1540

Ion	Ratio	Lower	Upper
154	100		
153	105.5	17.5	57.5#

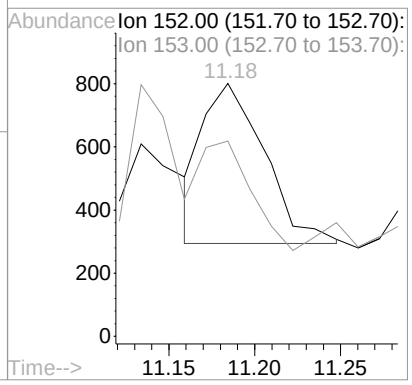


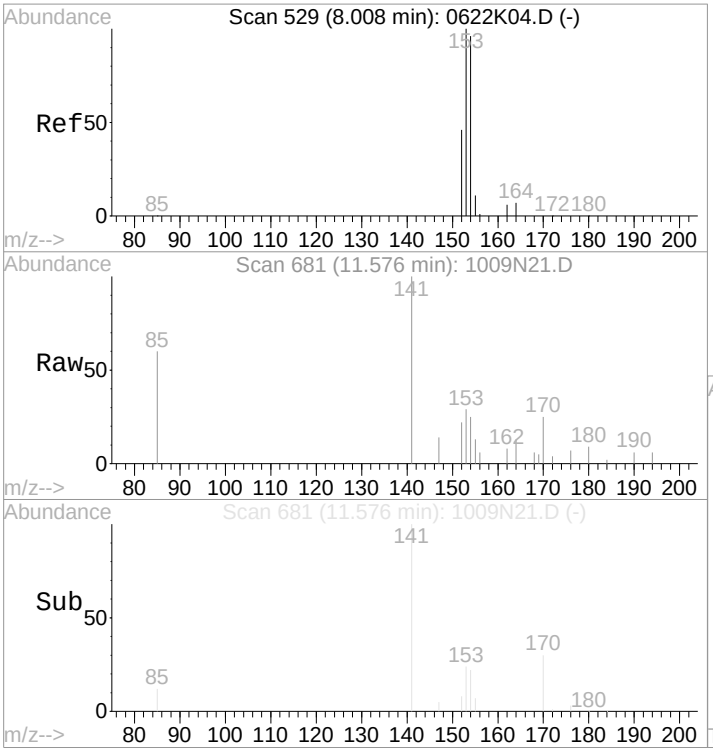


#26
Acenaphthylene
Concen: 0.03 ppm m
RT: 11.18 min Scan# 650
Delta R.T. -0.02 min
Lab File: 1009N21.D
Acq: 9 Oct 2012 9:03 pm

Tgt Ion:152 Resp: 1267

Ion	Ratio	Lower	Upper
152	100		
153	0.0	0.0	33.0

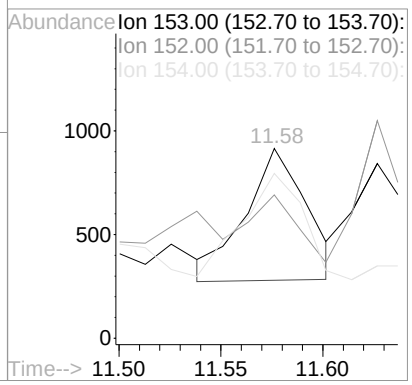


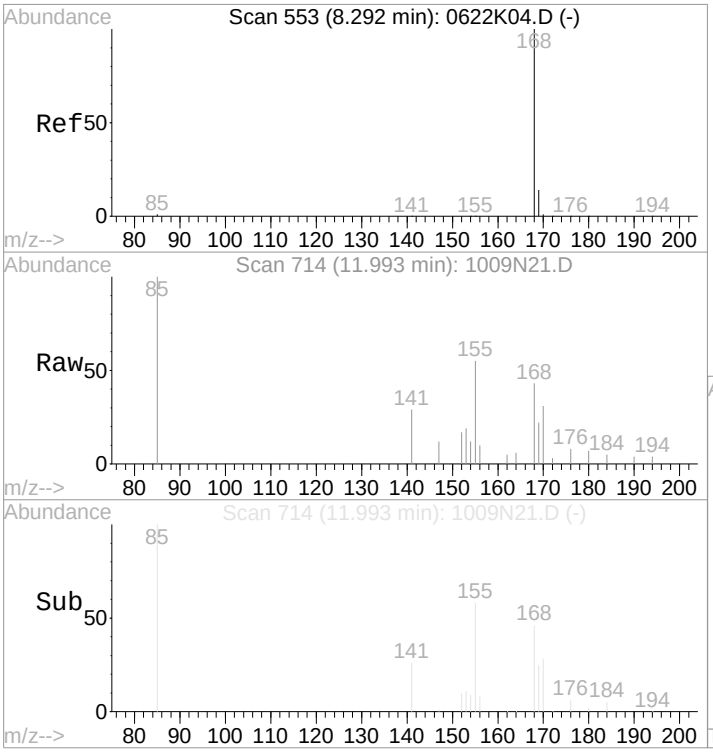


#27
Acenaphthene
Concen: 0.04 ppm m
RT: 11.58 min Scan# 681
Delta R.T. -0.06 min
Lab File: 1009N21.D
Acq: 9 Oct 2012 9:03 pm

Tgt Ion:153 Resp: 1322

Ion	Ratio	Lower	Upper
153	100		
152	39.1	26.2	66.2
154	82.1	77.9	117.9

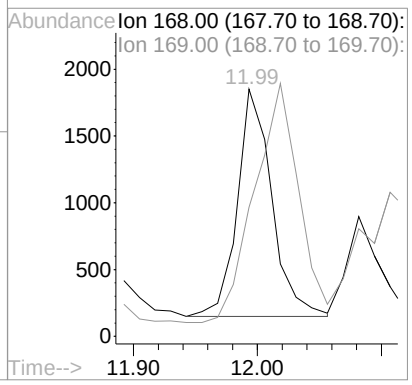


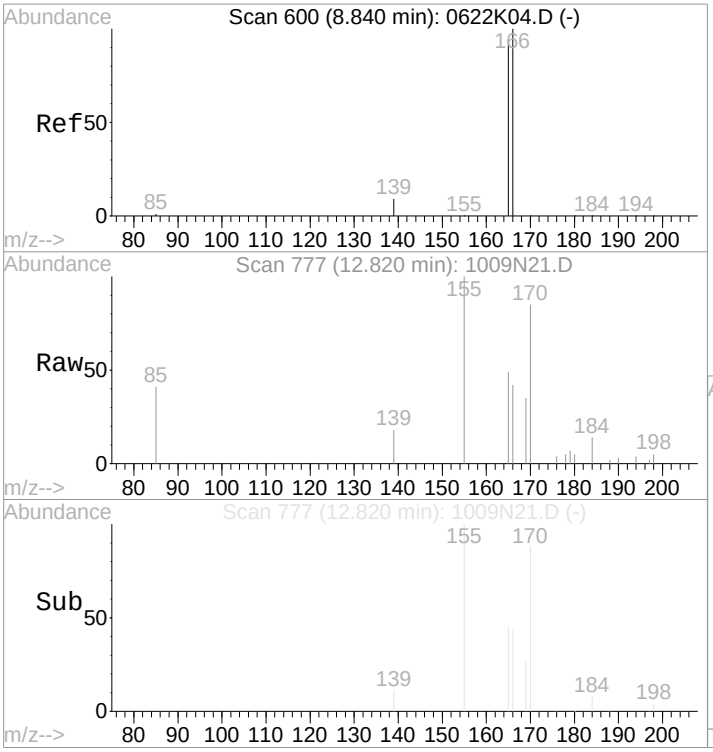


#28
Dibenzofuran
Concen: 0.06 ppm
RT: 11.99 min Scan# 714
Delta R.T. -0.06 min
Lab File: 1009N21.D
Acq: 9 Oct 2012 9:03 pm

Tgt Ion:168 Resp: 3285

Ion	Ratio	Lower	Upper
168	100		
169	135.9	0.0	33.3#

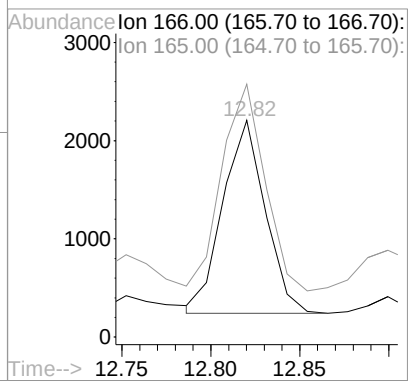


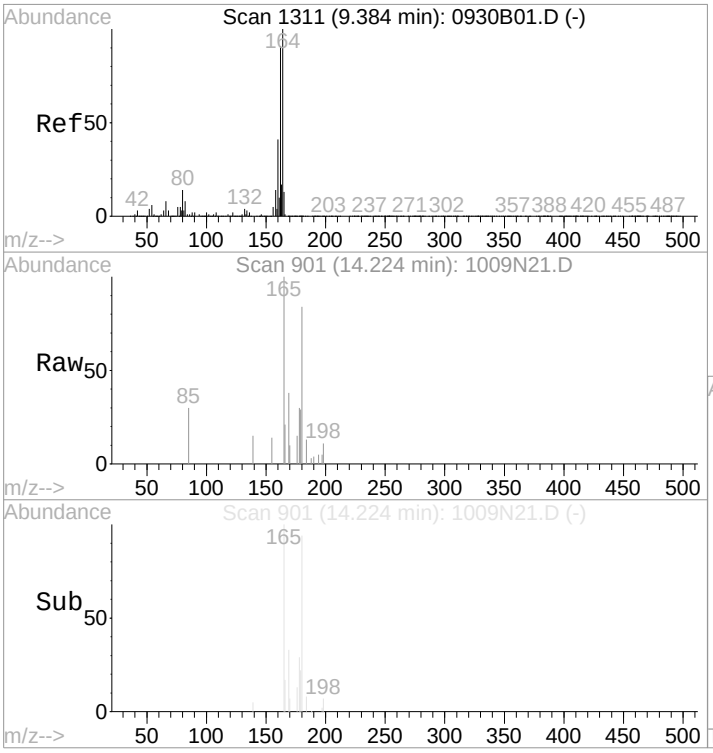


#29
Fluorene
Concen: 0.08 ppm
RT: 12.82 min Scan# 777
Delta R.T. -0.06 min
Lab File: 1009N21.D
Acq: 9 Oct 2012 9:03 pm

Tgt Ion:166 Resp: 3252

Ion	Ratio	Lower	Upper
166	100		
165	108.3	67.8	107.8#

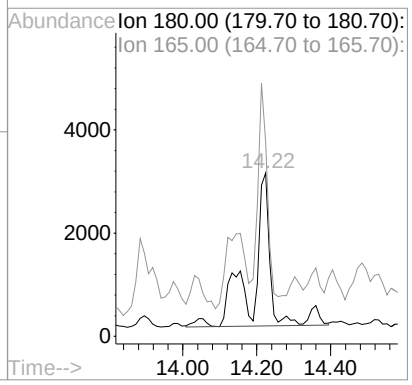


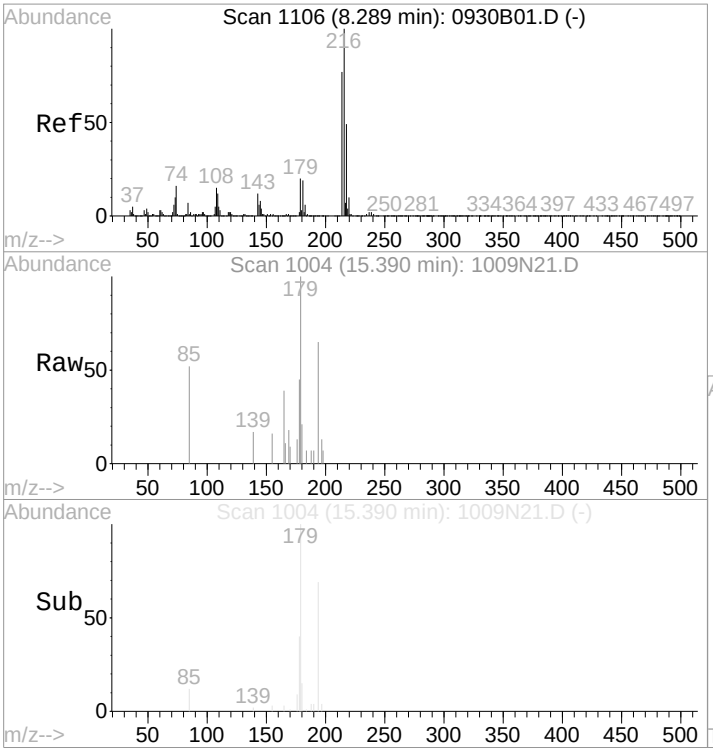


#30
C1-Fluorenes
Concen: 0.27 ppm m
RT: 14.22 min Scan# 901
Delta R.T. -0.25 min
Lab File: 1009N21.D
Acq: 9 Oct 2012 9:03 pm

Tgt Ion:180 Resp: 10390

Ion	Ratio	Lower	Upper
180	100		
165	74.4	113.4	153.4#

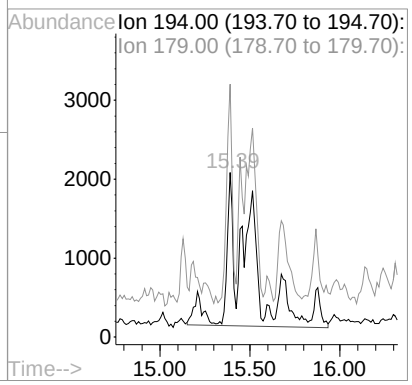


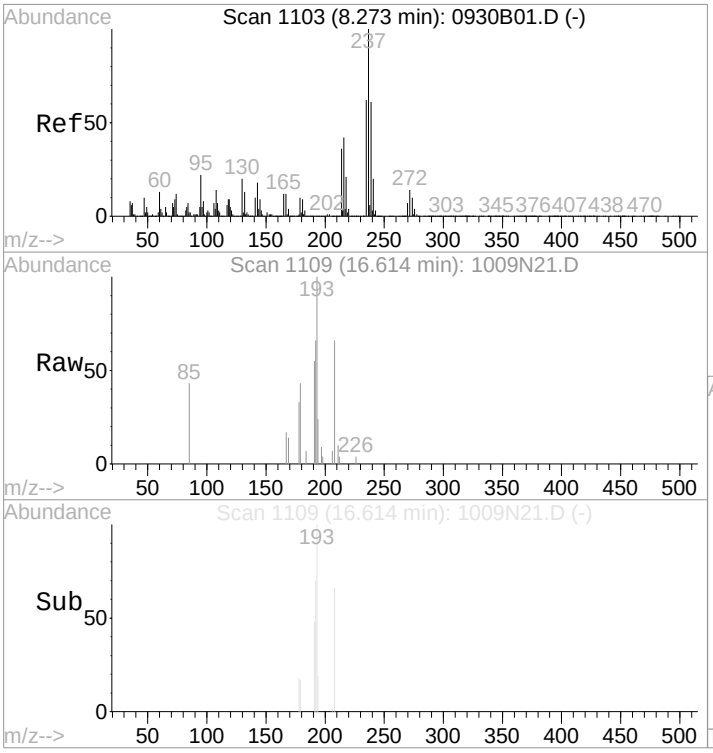


#31
C2-Fluorenes
Concen: 0.46 ppm m
RT: 15.39 min Scan# 1004
Delta R.T. -0.57 min
Lab File: 1009N21.D
Acq: 9 Oct 2012 9:03 pm

Tgt Ion:194 Resp: 17797

Ion	Ratio	Lower	Upper
194	100		
179	42.6	92.9	132.9#

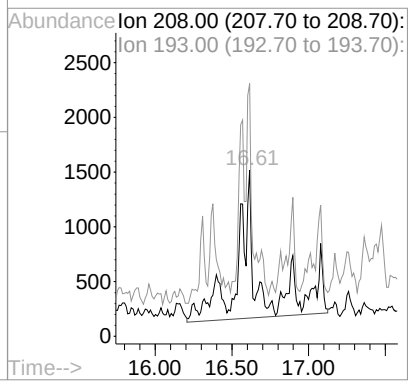


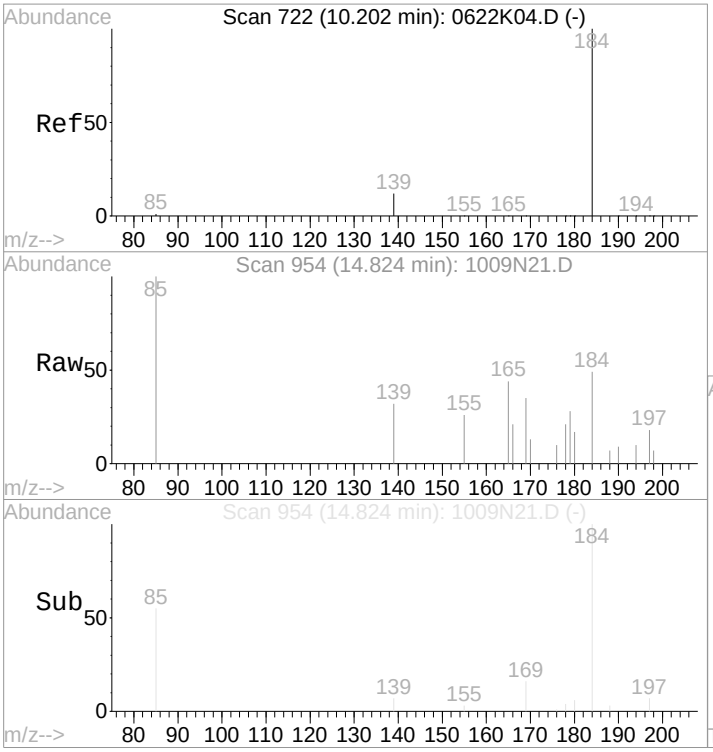


#32
C3-Fluorenes
Concen: 0.36 ppm m
RT: 16.61 min Scan# 1109
Delta R.T. -1.05 min
Lab File: 1009N21.D
Acq: 9 Oct 2012 9:03 pm

Tgt Ion:208 Resp: 13744

Ion	Ratio	Lower	Upper
208	100		
193	19.6	284.9	324.9#

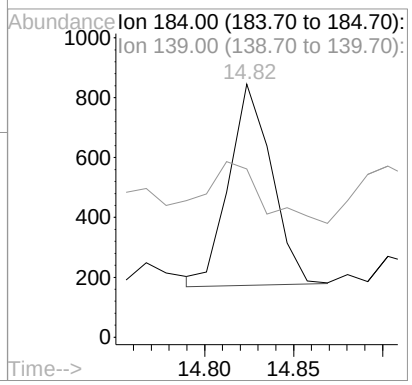


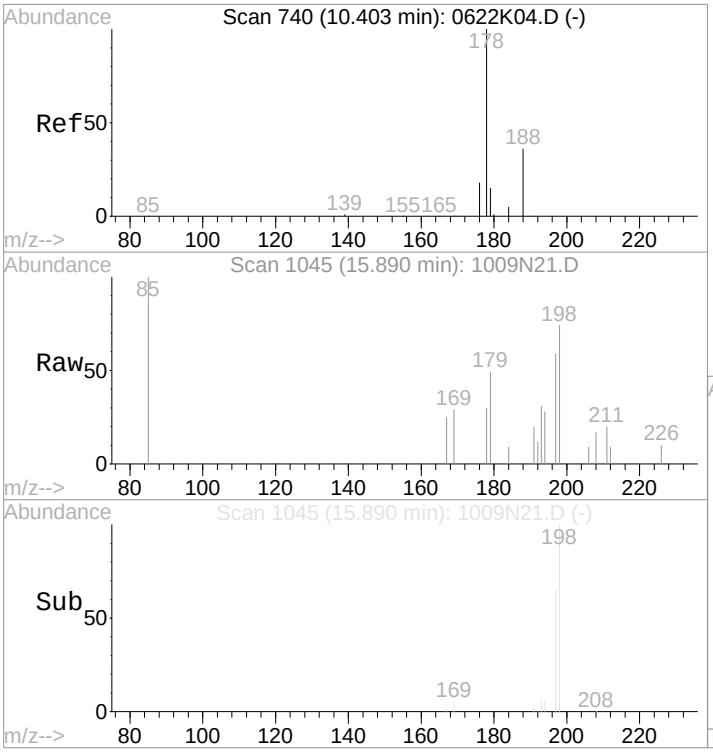


#38
Dibenzothiophene
Concen: 0.02 ppm
RT: 14.82 min Scan# 954
Delta R.T. -0.06 min
Lab File: 1009N21.D
Acq: 9 Oct 2012 9:03 pm

Tgt Ion:184 Resp: 1122

Ion	Ratio	Lower	Upper
184	100		
139	40.6	0.0	37.7#

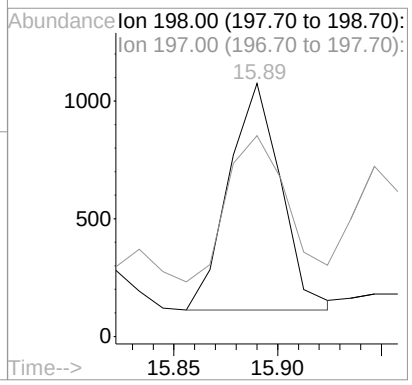


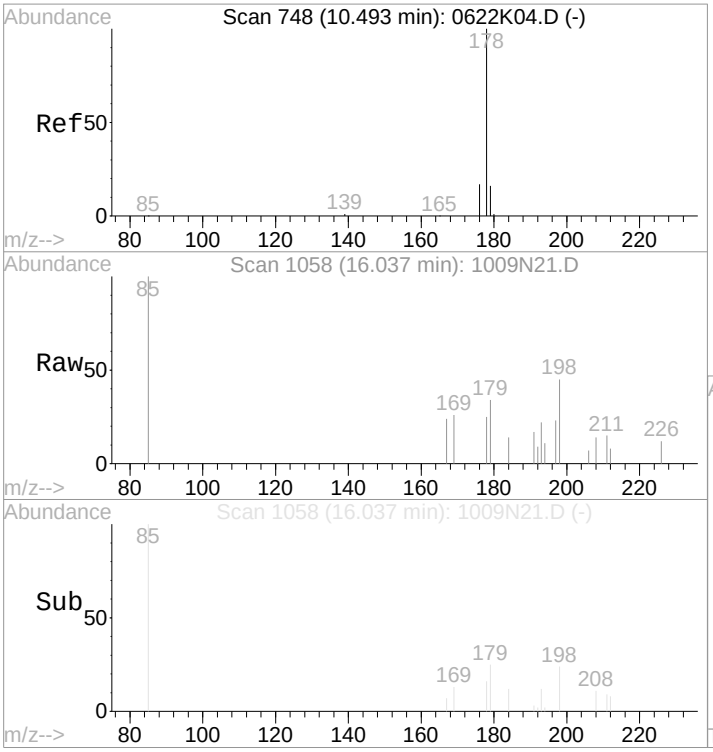


#39
4-Methyldibenzothiophene
Concen: 0.03 ppm
RT: 15.89 min Scan# 1045
Delta R.T. -0.12 min
Lab File: 1009N21.D
Acq: 9 Oct 2012 9:03 pm

Tgt Ion:198 Resp: 1684

Ion	Ratio	Lower	Upper
198	100		
197	74.2	45.4	85.4

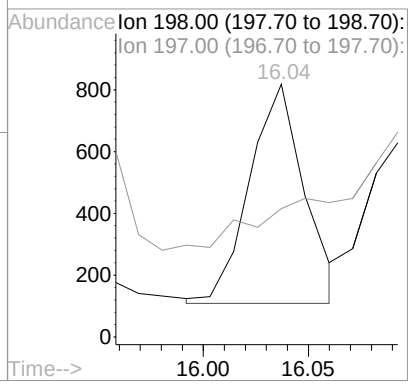


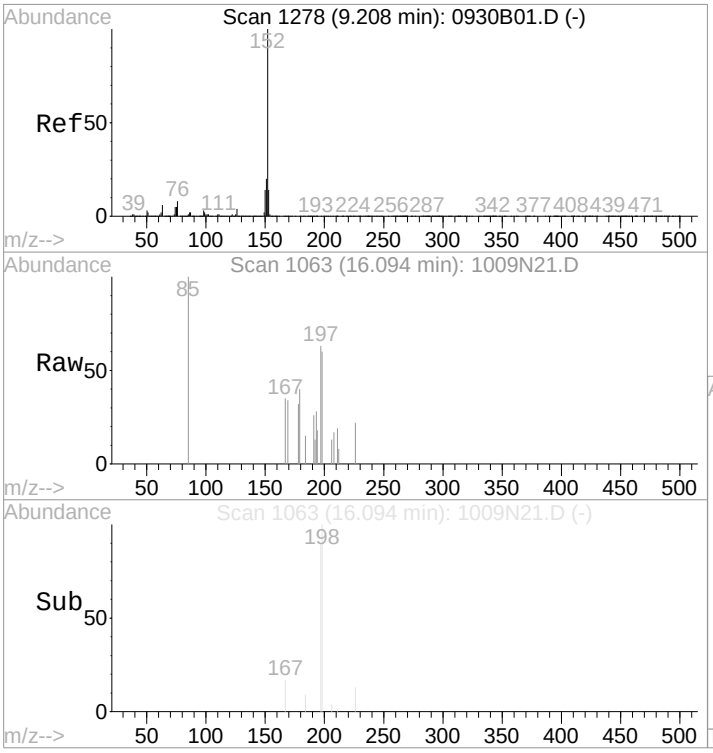


#40
2/3-Methyldibenzothiophene
Concen: 0.03 ppm m
RT: 16.04 min Scan# 1058
Delta R.T. -0.20 min
Lab File: 1009N21.D
Acq: 9 Oct 2012 9:03 pm

Tgt Ion:198 Resp: 1288

Ion	Ratio	Lower	Upper
198	100		
197	72.7	40.9	80.9

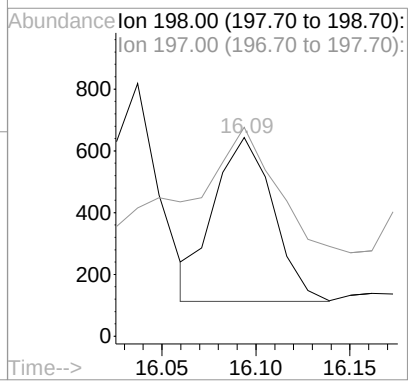


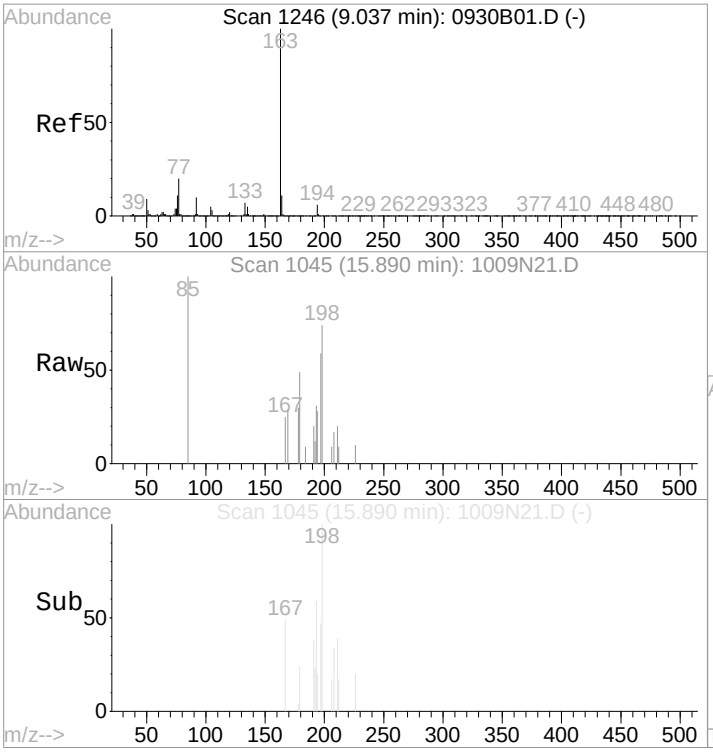


#41
1-Methyldibenzothiophene
Concen: 0.02 ppm m
RT: 16.09 min Scan# 1063
Delta R.T. -0.38 min
Lab File: 1009N21.D
Acq: 9 Oct 2012 9:03 pm

Tgt Ion:198 Resp: 1159

Ion	Ratio	Lower	Upper
198	100		
197	75.3	43.6	83.6

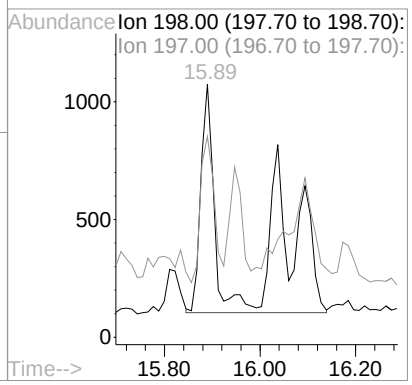


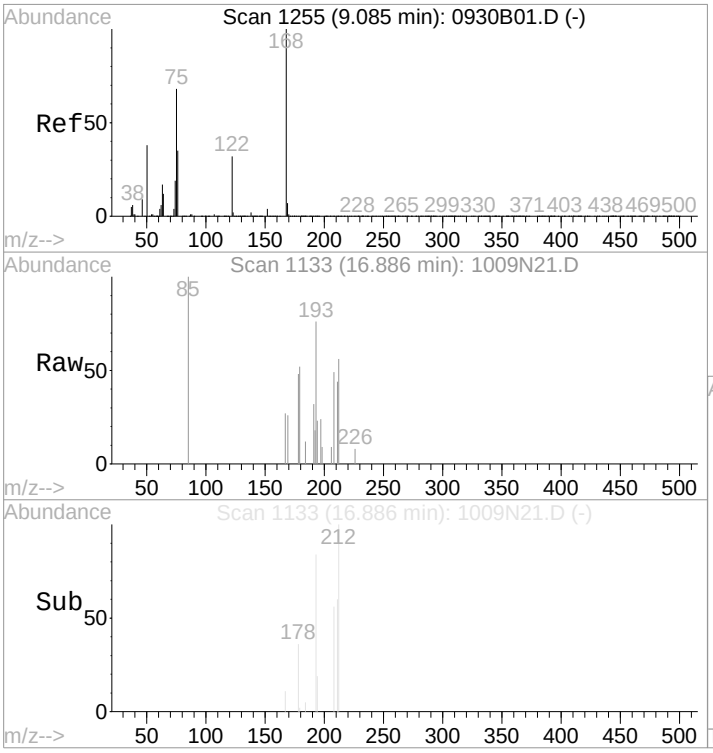


#42
C1-Dibenzothiophenes
Concen: 0.09 ppm m
RT: 15.89 min Scan# 1045
Delta R.T. -0.12 min
Lab File: 1009N21.D
Acq: 9 Oct 2012 9:03 pm

Tgt Ion:198 Resp: 4433

Ion	Ratio	Lower	Upper
198	100		
197	28.2	45.4	85.4#

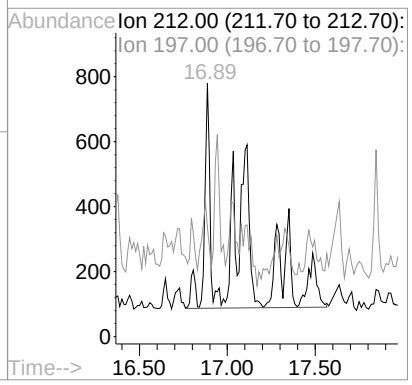


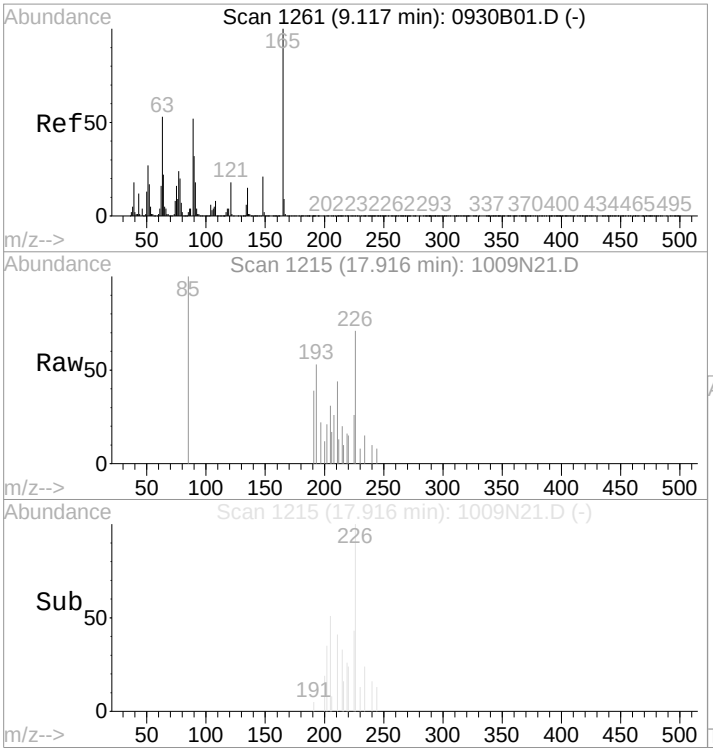


#43
C2-Dibenzothiophenes
Concen: 0.12 ppm m
RT: 16.89 min Scan# 1133
Delta R.T. -0.44 min
Lab File: 1009N21.D
Acq: 9 Oct 2012 9:03 pm

Tgt Ion:212 Resp: 5872

Ion	Ratio	Lower	Upper
212	100		
197	12.3	2.8	42.8

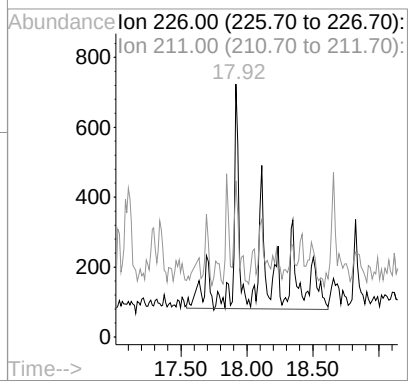


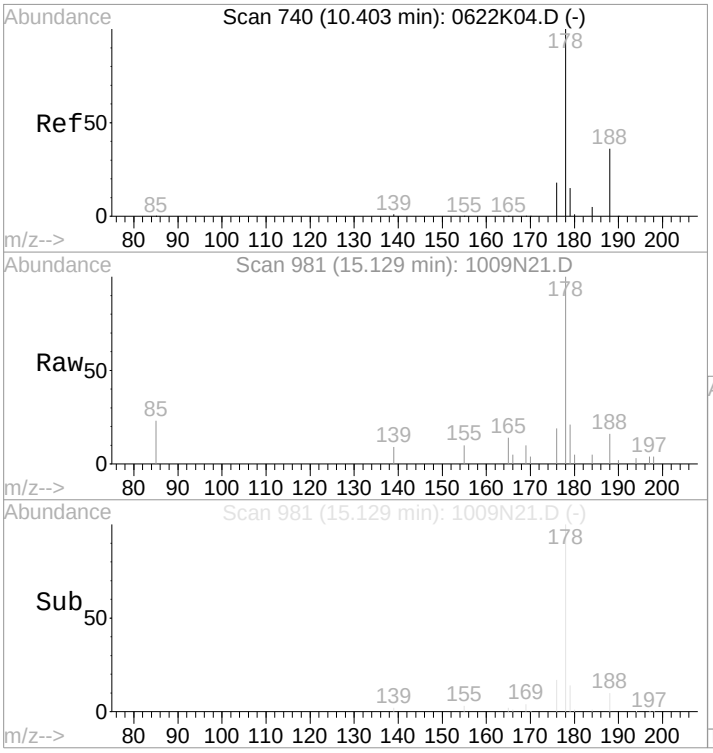


#44
C3-Dibenzothiophenes
Concen: 0.11 ppm m
RT: 17.92 min Scan# 1215
Delta R.T. -0.34 min
Lab File: 1009N21.D
Acq: 9 Oct 2012 9:03 pm

Tgt Ion:226 Resp: 5365

Ion	Ratio	Lower	Upper
226	100		
211	13.6	44.5	84.5#

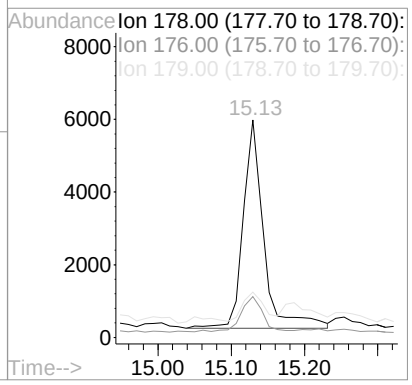


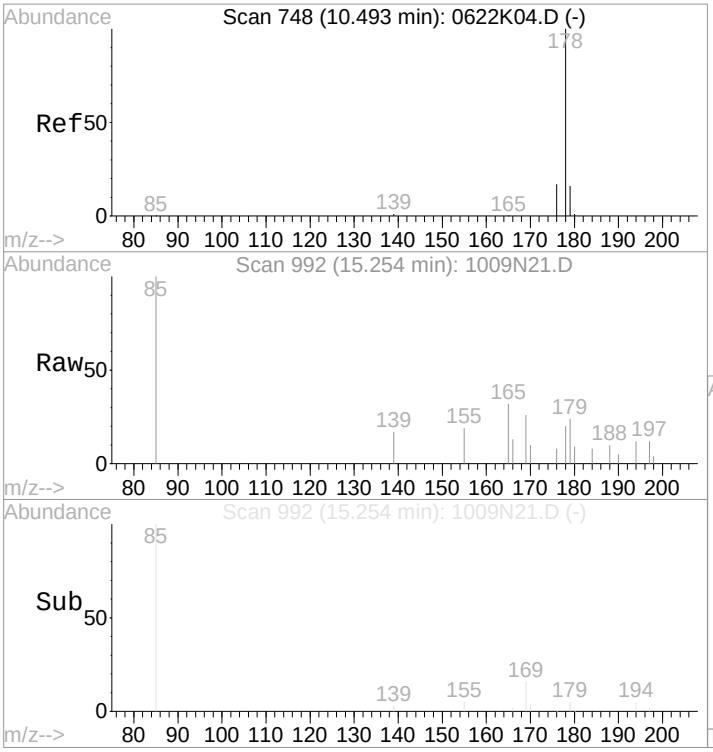


#47
Phenanthrene
Concen: 0.17 ppm
RT: 15.13 min Scan# 981
Delta R.T. -0.06 min
Lab File: 1009N21.D
Acq: 9 Oct 2012 9:03 pm

Tgt Ion:178 Resp: 11181

Ion	Ratio	Lower	Upper
178	100		
176	18.5	0.0	38.3
179	14.4	0.0	35.0

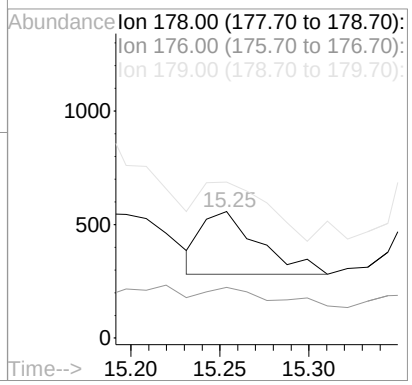


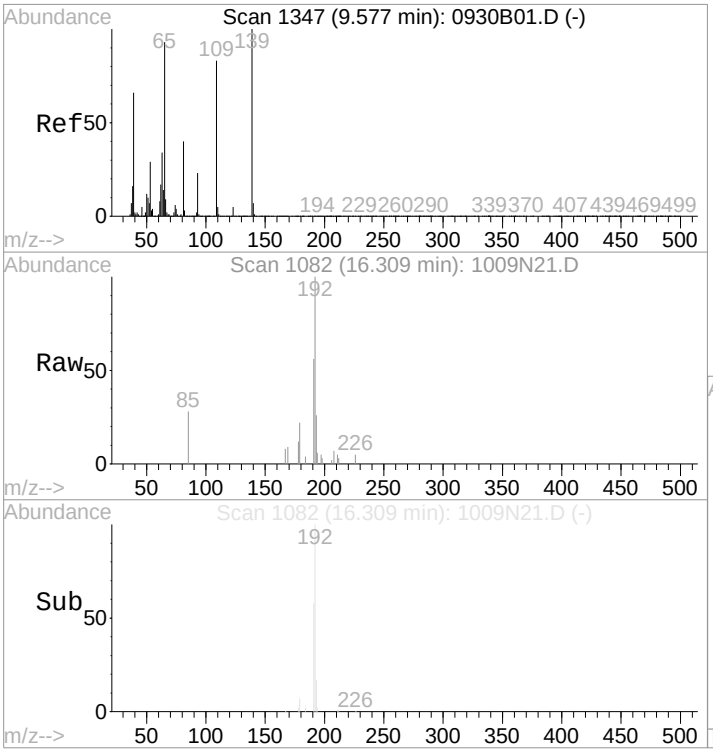


#48
Anthracene
Concen: 0.01 ppm
RT: 15.25 min Scan# 992
Delta R.T. -0.06 min
Lab File: 1009N21.D
Acq: 9 Oct 2012 9:03 pm

Tgt Ion:178 Resp: 621

Ion	Ratio	Lower	Upper
178	100		
176	0.0	0.0	37.8
179	107.9	0.0	35.2#

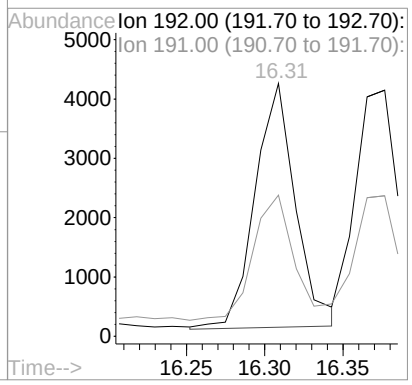


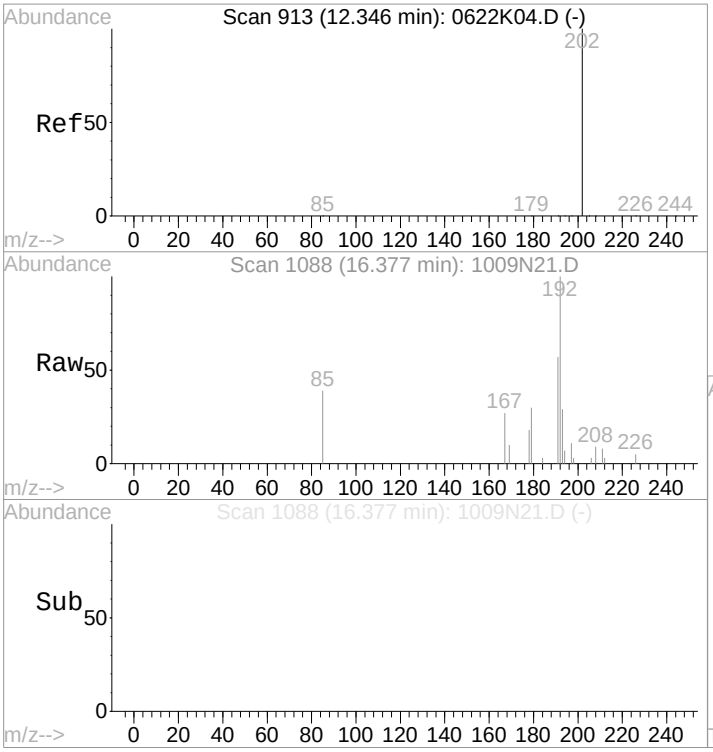


#49
3-Methylphenanthrene
Concen: 0.11 ppm m
RT: 16.31 min Scan# 1082
Delta R.T. -0.16 min
Lab File: 1009N21.D
Acq: 9 Oct 2012 9:03 pm

Tgt Ion:192 Resp: 7403

Ion	Ratio	Lower	Upper
192	100		
191	59.7	34.6	74.6

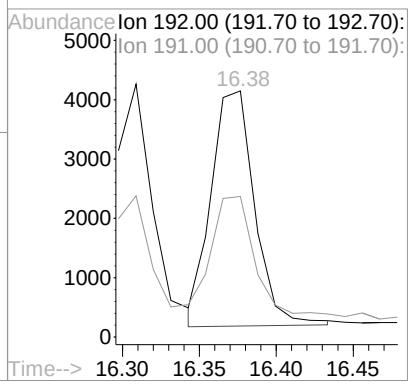


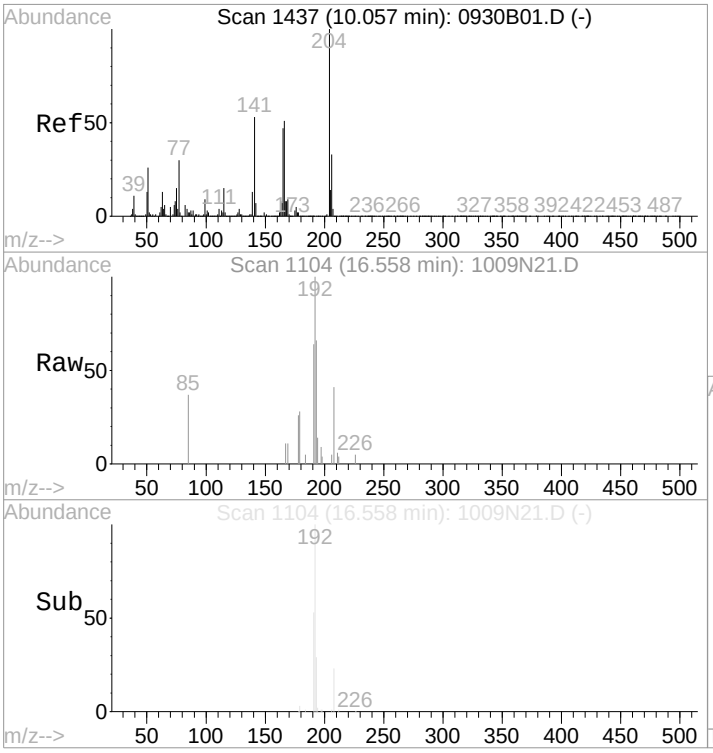


#50
2/4-Methylphenanthrene
Concen: 0.12 ppm m
RT: 16.38 min Scan# 1088
Delta R.T. -0.15 min
Lab File: 1009N21.D
Acq: 9 Oct 2012 9:03 pm

Tgt Ion:192 Resp: 7807

Ion	Ratio	Lower	Upper
192	100		
191	32.2	39.1	79.1#

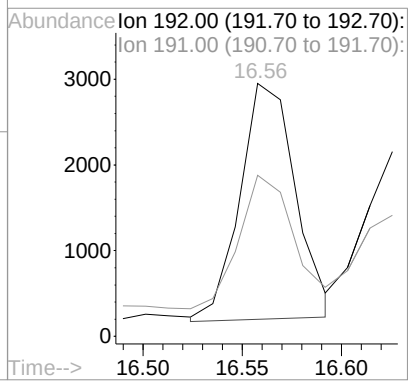


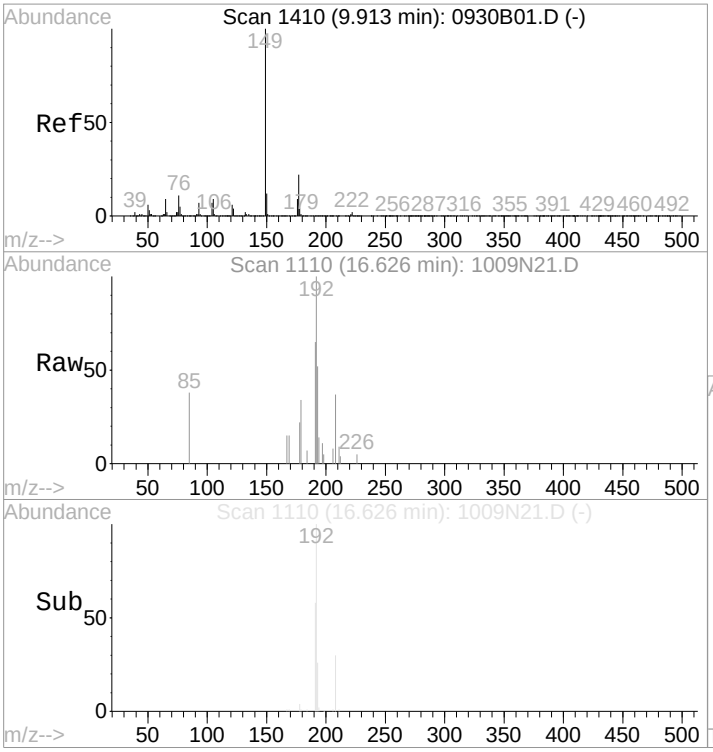


#52
9-Methylphenanthrene
Concen: 0.08 ppm m
RT: 16.56 min Scan# 1104
Delta R.T. -0.18 min
Lab File: 1009N21.D
Acq: 9 Oct 2012 9:03 pm

Tgt Ion:192 Resp: 5357

Ion	Ratio	Lower	Upper
192	100		
191	36.5	77.0	117.0#

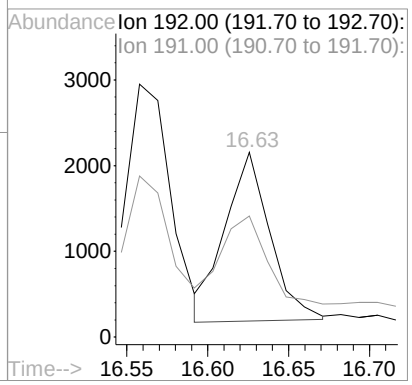


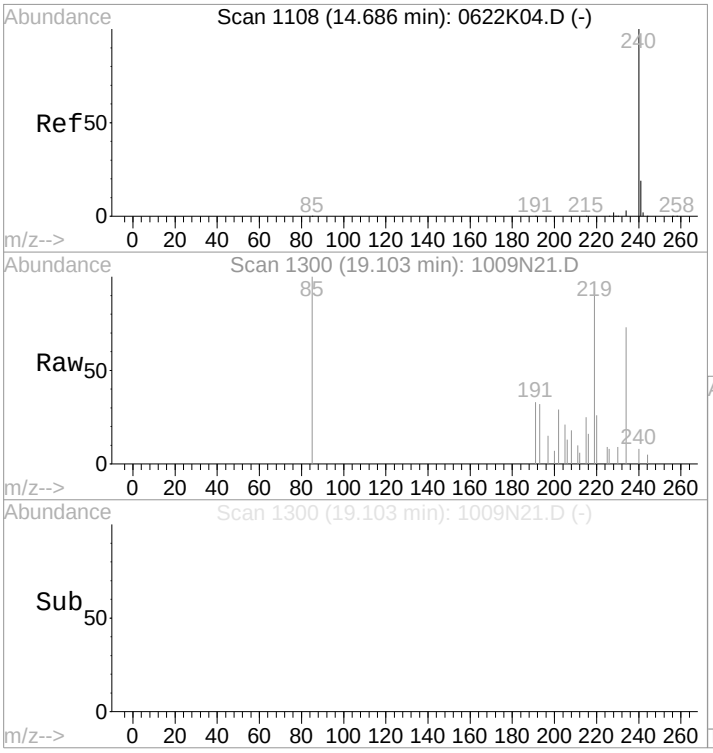


#53
1-Methylphenanthrene
Concen: 0.06 ppm m
RT: 16.63 min Scan# 1110
Delta R.T. -0.18 min
Lab File: 1009N21.D
Acq: 9 Oct 2012 9:03 pm

Tgt Ion:192 Resp: 3812

Ion	Ratio	Lower	Upper
192	100		
191	0.0	36.4	76.4#

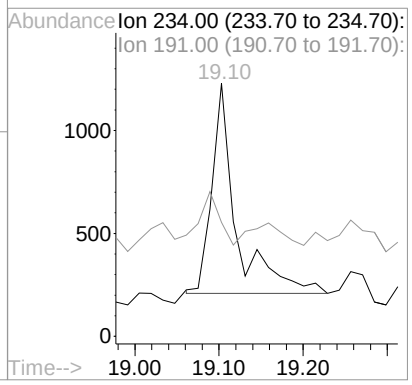


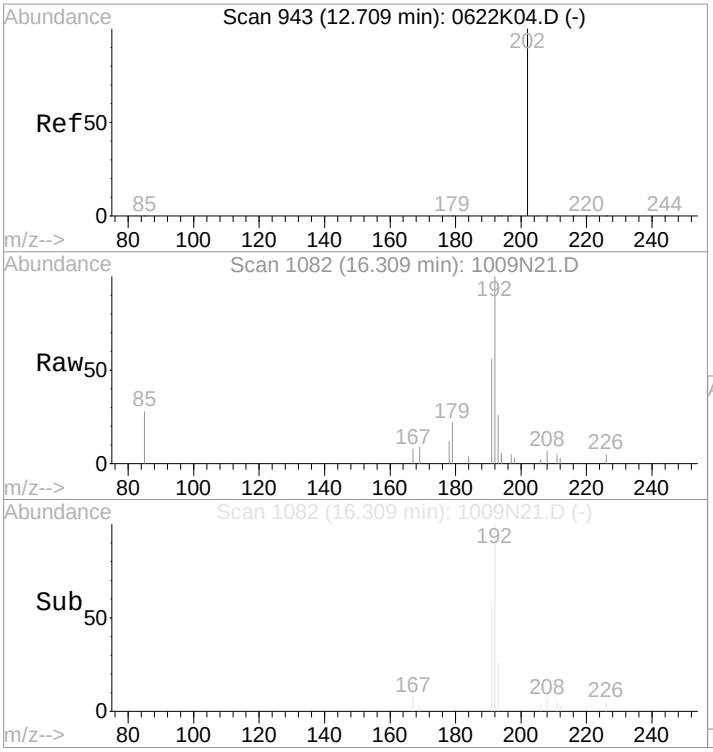


#54
Retene
Concen: 0.03 ppm
RT: 19.10 min Scan# 1300
Delta R.T. -0.50 min
Lab File: 1009N21.D
Acq: 9 Oct 2012 9:03 pm

Tgt Ion:234 Resp: 2051

Ion	Ratio	Lower	Upper
234	100		
191	19.4	0.0	20.4

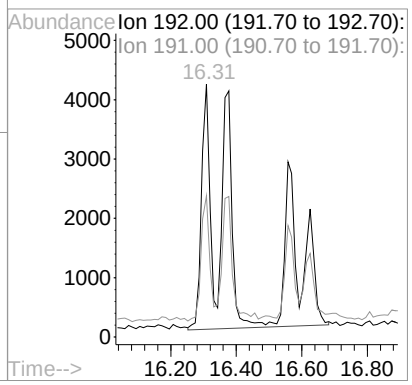


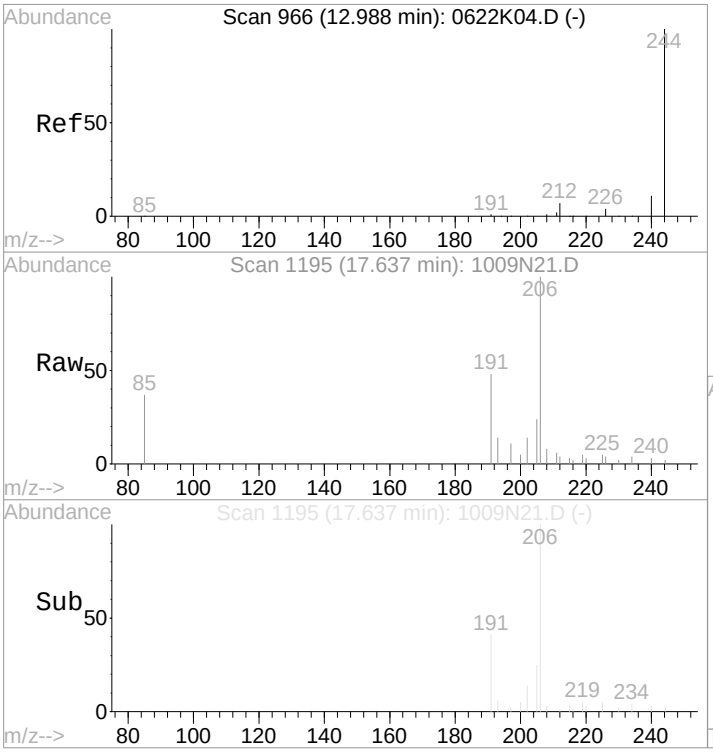


#55
C1-Phenanthrene/Anthracene
Concen: 0.39 ppm m
RT: 16.31 min Scan# 1082
Delta R.T. -0.22 min
Lab File: 1009N21.D
Acq: 9 Oct 2012 9:03 pm

Tgt Ion:192 Resp: 25166

Ion	Ratio	Lower	Upper
192	100		
191	17.9	39.1	79.1#

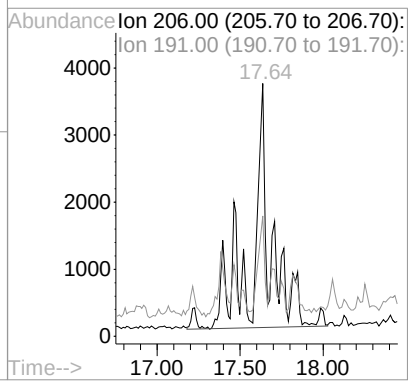


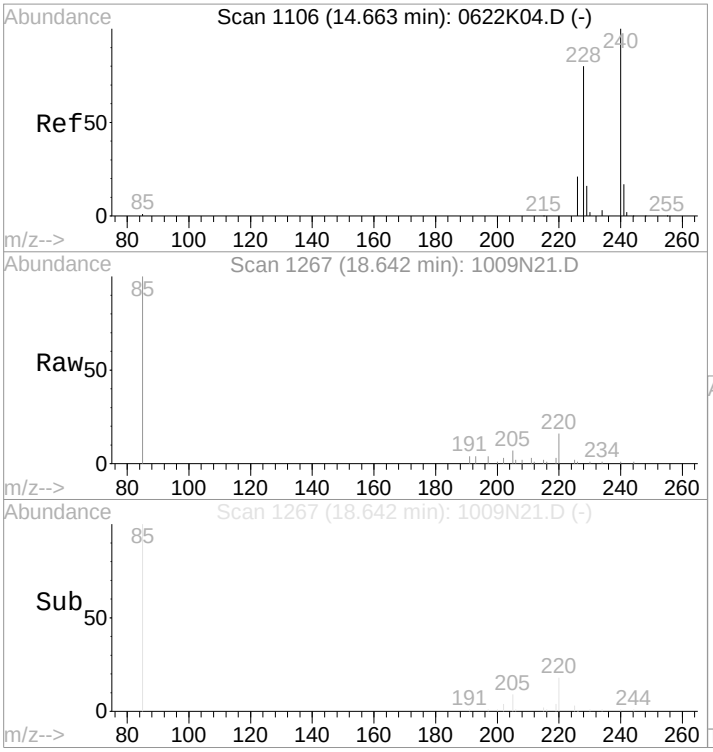


#56
C2-Phenanthrene/Anthracene
Concen: 0.36 ppm m
RT: 17.64 min Scan# 1195
Delta R.T. -0.28 min
Lab File: 1009N21.D
Acq: 9 Oct 2012 9:03 pm

Tgt Ion:206 Resp: 23473

Ion	Ratio	Lower	Upper
206	100		
191	11.5	118.9	158.9#

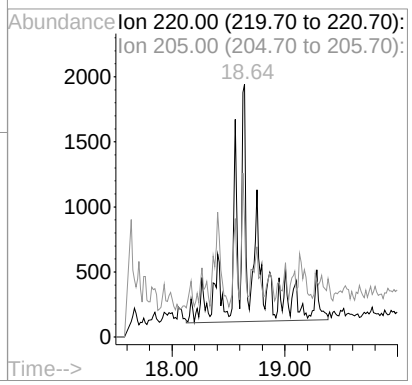


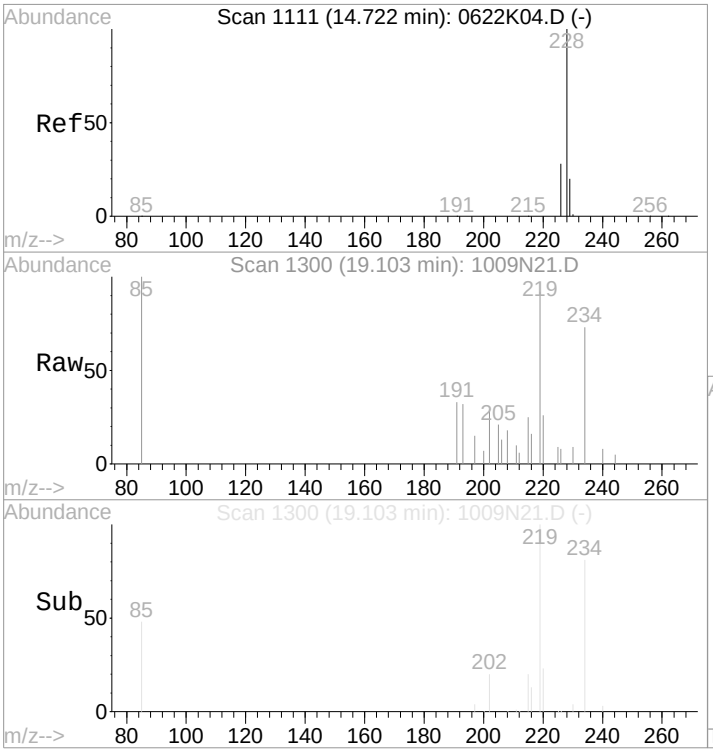


#57
C3-Phenanthrene/Anthracene
Concen: 0.29 ppm m
RT: 18.64 min Scan# 1267
Delta R.T. -0.43 min
Lab File: 1009N21.D
Acq: 9 Oct 2012 9:03 pm

Tgt Ion:220 Resp: 18951

Ion	Ratio	Lower	Upper
220	100		
205	9.5	86.4	126.4#

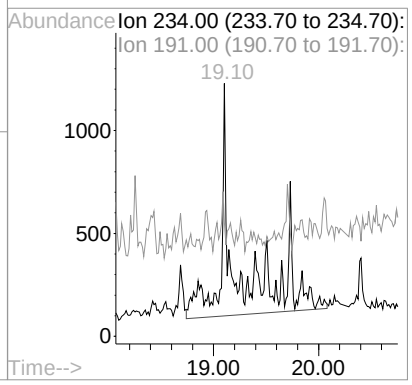


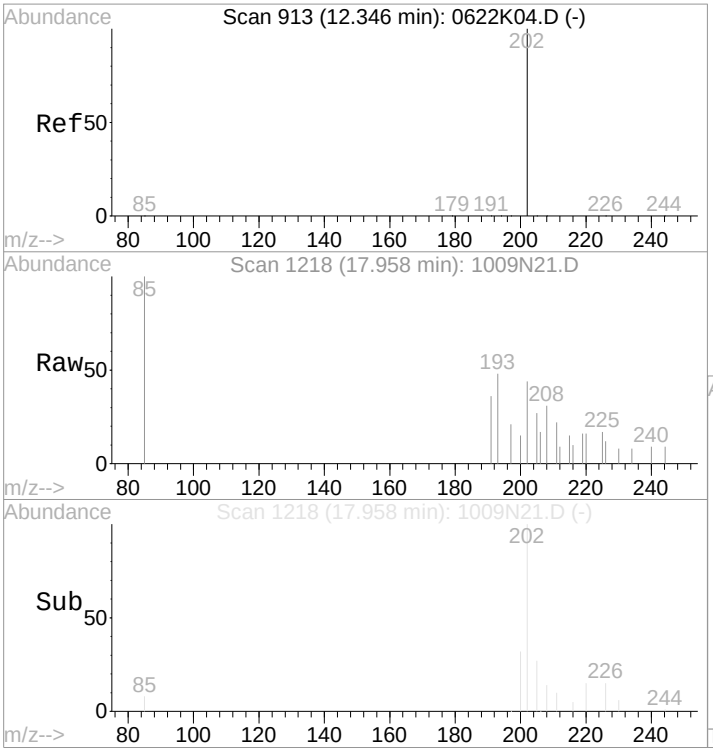


#58
C4-Phenanthrene/Anthracene
Concen: 0.17 ppm m
RT: 19.10 min Scan# 1300
Delta R.T. -0.61 min
Lab File: 1009N21.D
Acq: 9 Oct 2012 9:03 pm

Tgt Ion:234 Resp: 11035

Ion	Ratio	Lower	Upper
234	100		
191	4.0	60.0	100.0#

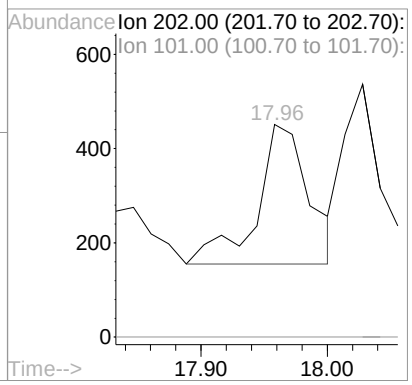


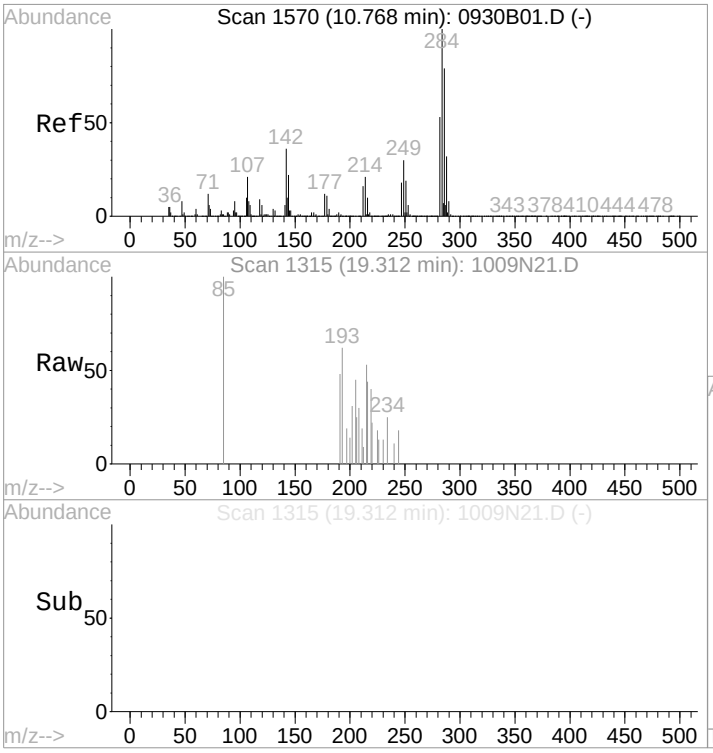


#59
Fluoranthene
Concen: 0.02 ppm
RT: 17.96 min Scan# 1218
Delta R.T. -0.07 min
Lab File: 1009N21.D
Acq: 9 Oct 2012 9:03 pm

Tgt Ion:202 Resp: 852

Ion	Ratio	Lower	Upper
202	100		
101	0.0	0.0	20.0

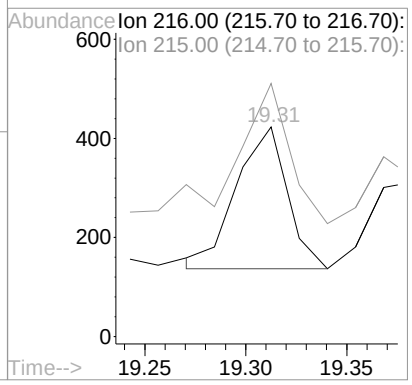


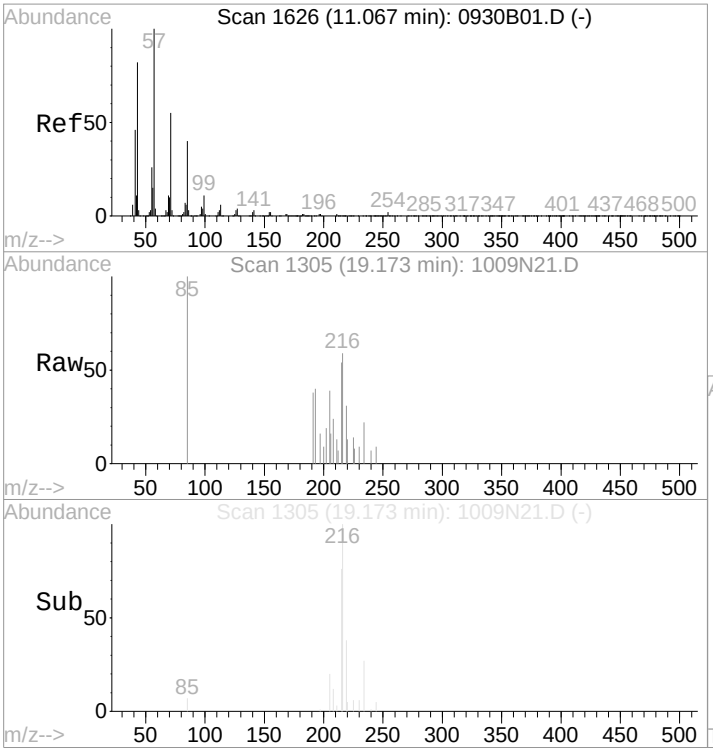


#60
Benzo(b)fluorene
Concen: 0.01 ppm
RT: 19.31 min Scan# 1315
Delta R.T. -0.51 min
Lab File: 1009N21.D
Acq: 9 Oct 2012 9:03 pm

Tgt Ion:216 Resp: 499

Ion	Ratio	Lower	Upper
216	100		
215	86.8	60.0	100.0

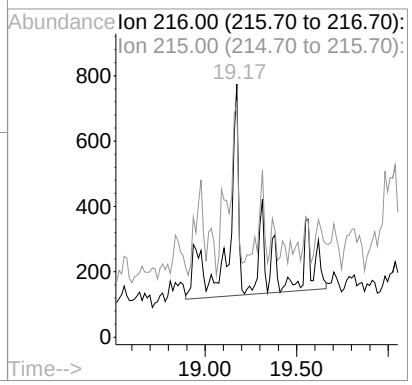


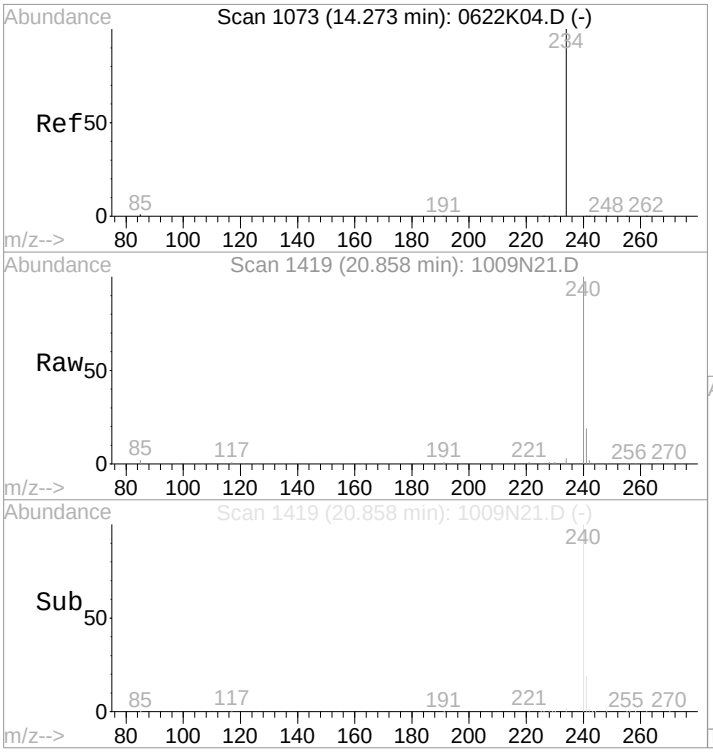


#61
C1-Fluoranthene/Pyrene
Concen: 0.08 ppm m
RT: 19.17 min Scan# 1305
Delta R.T. -0.65 min
Lab File: 1009N21.D
Acq: 9 Oct 2012 9:03 pm

Tgt Ion:216 Resp: 4293

Ion	Ratio	Lower	Upper
216	100		
215	25.2	127.1	167.1#

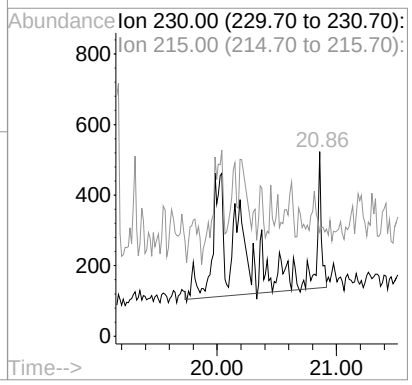


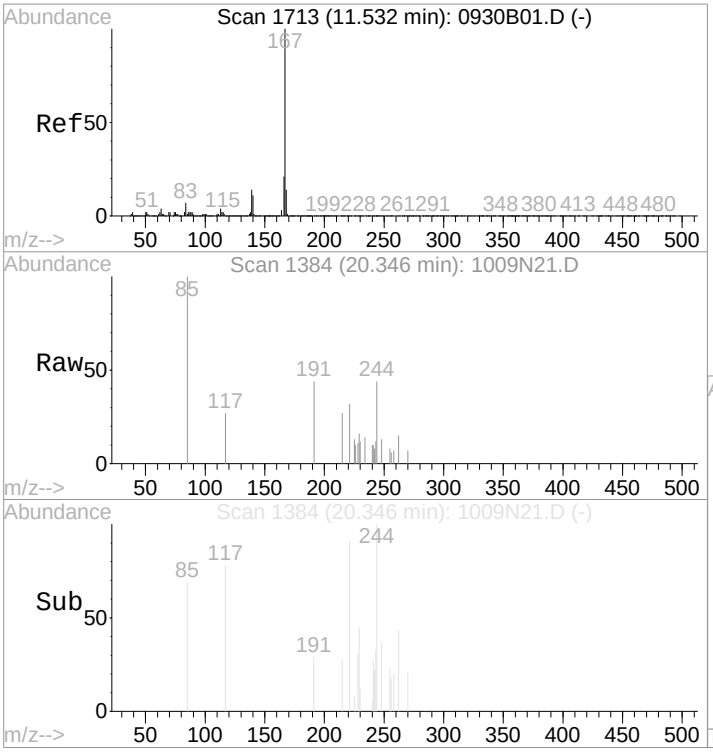


#62
C2-Fluoranthene/Pyrene
Concen: 0.11 ppm m
RT: 20.86 min Scan# 1419
Delta R.T. -0.31 min
Lab File: 1009N21.D
Acq: 9 Oct 2012 9:03 pm

Tgt Ion:230 Resp: 6304

Ion	Ratio	Lower	Upper
230	100		
215	0.0	146.1	186.1#

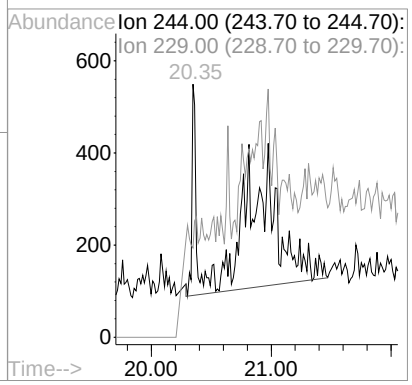


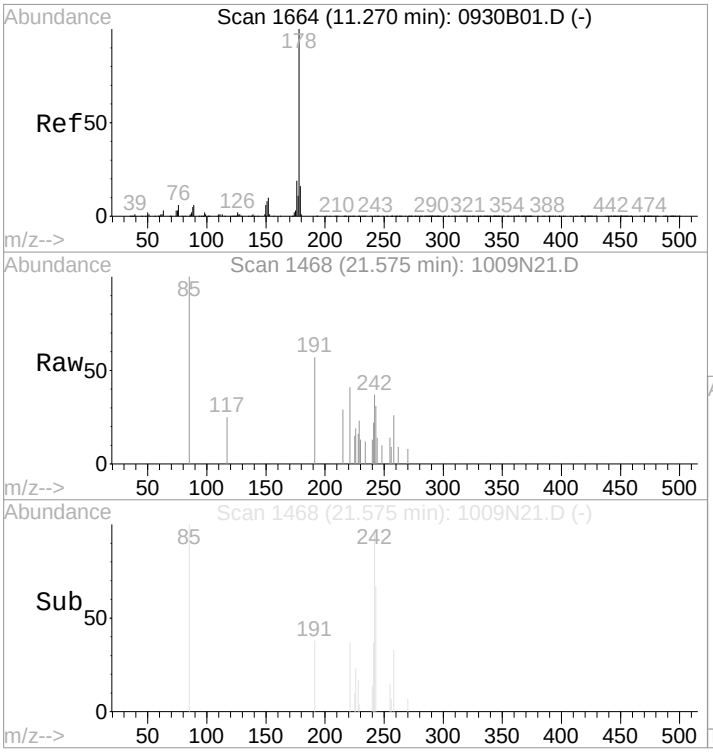


#63
C3-Fluoranthene/Pyrene
Concen: 0.12 ppm m
RT: 20.35 min Scan# 1384
Delta R.T. -1.40 min
Lab File: 1009N21.D
Acq: 9 Oct 2012 9:03 pm

Tgt Ion:244 Resp: 6556

Ion	Ratio	Lower	Upper
244	100		
229	9.0	59.1	99.1#

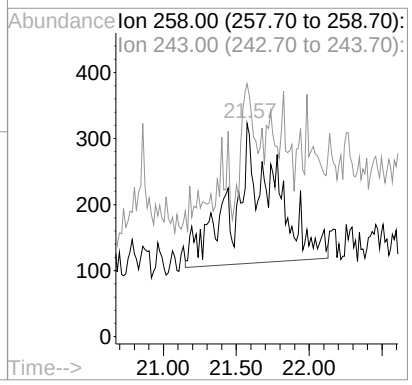


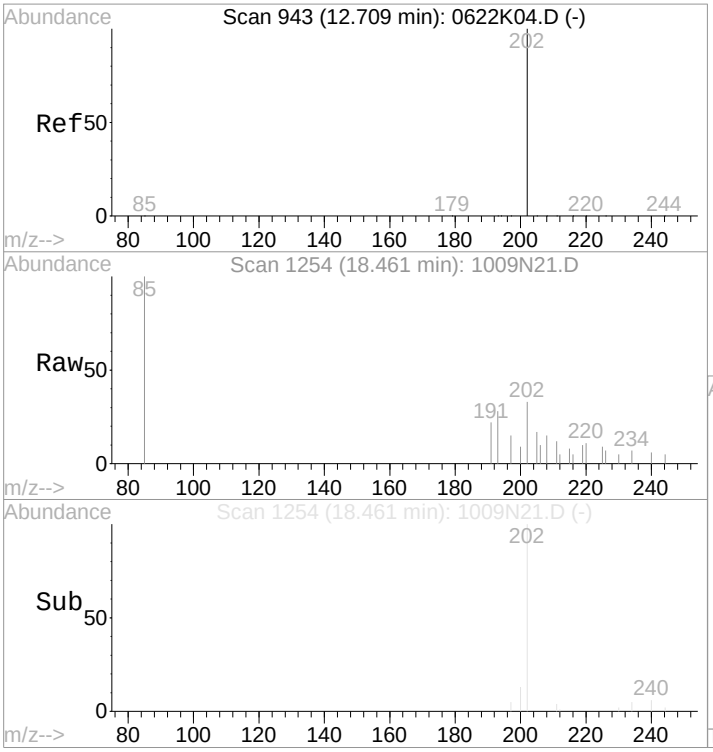


#64
C4-Fluoranthene/Pyrene
Concen: 0.08 ppm m
RT: 21.57 min Scan# 1468
Delta R.T. -0.80 min
Lab File: 1009N21.D
Acq: 9 Oct 2012 9:03 pm

Tgt Ion:258 Resp: 4298

Ion	Ratio	Lower	Upper
258	100		
243	5.4	60.0	100.0#

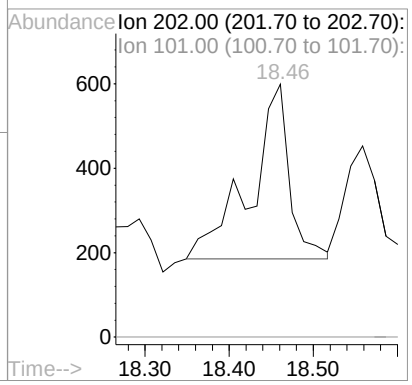


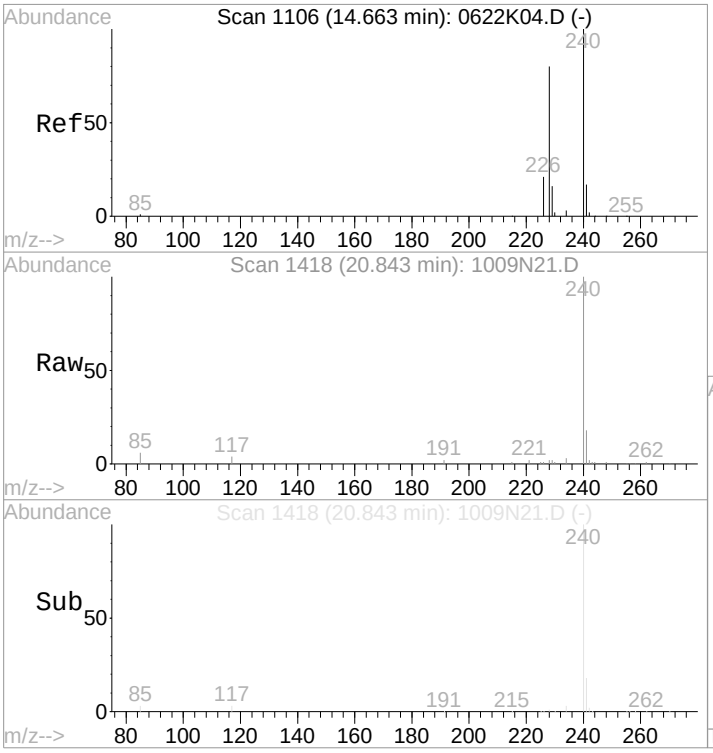


#66
Pyrene
Concen: 0.02 ppm
RT: 18.46 min Scan# 1254
Delta R.T. -0.06 min
Lab File: 1009N21.D
Acq: 9 Oct 2012 9:03 pm

Tgt Ion:202 Resp: 1334

Ion	Ratio	Lower	Upper
202	100		
101	0.0	0.0	20.0

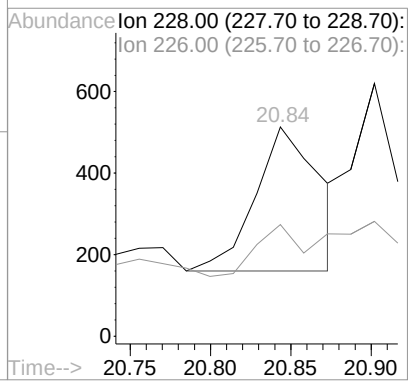


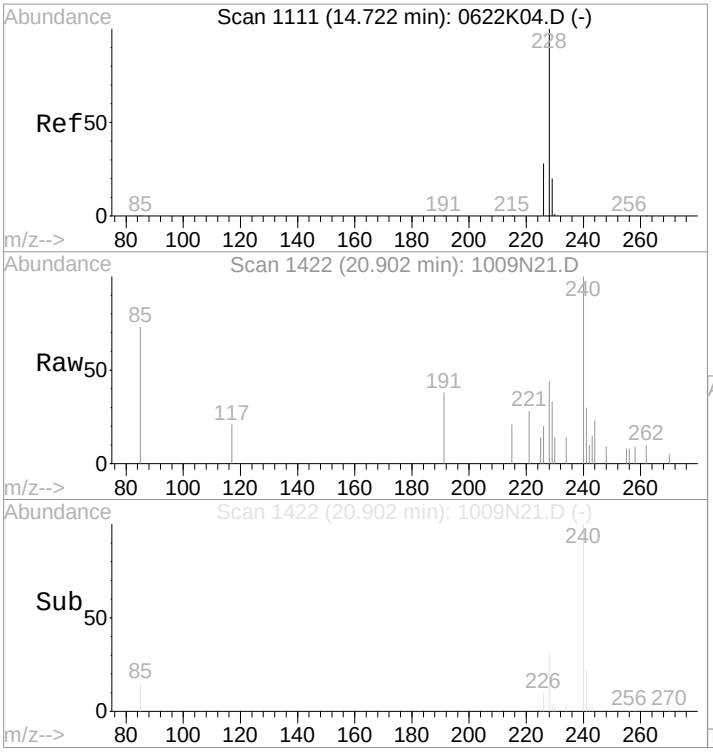


#68
Benzo(a)anthracene
Concen: 0.02 ppm
RT: 20.84 min Scan# 1418
Delta R.T. -0.06 min
Lab File: 1009N21.D
Acq: 9 Oct 2012 9:03 pm

Tgt Ion:228 Resp: 980

Ion	Ratio	Lower	Upper
228	100		
226	24.1	3.7	43.7

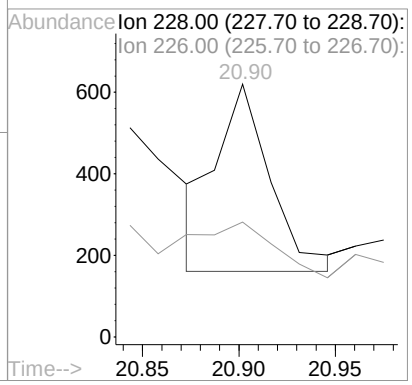


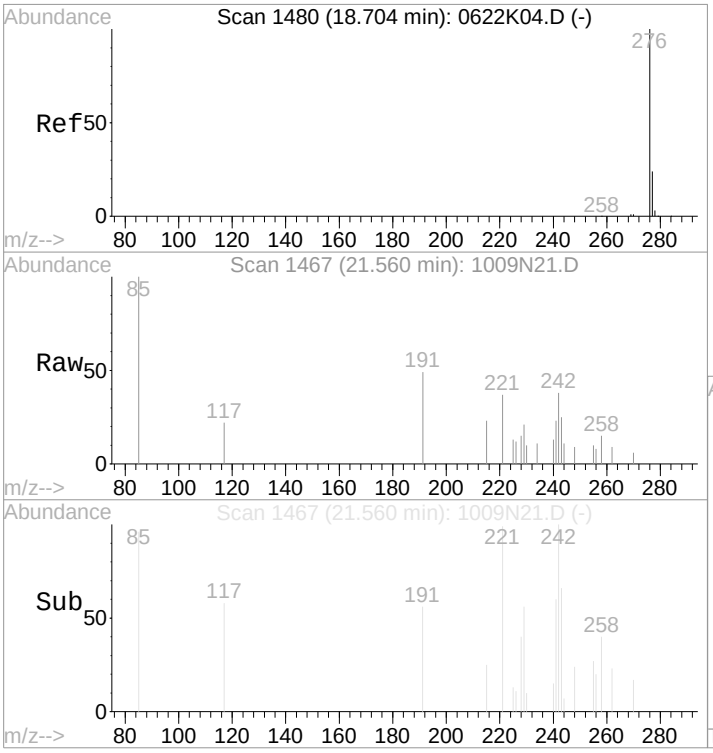


#69
Chrysene
Concen: 0.01 ppm
RT: 20.90 min Scan# 1422
Delta R.T. -0.06 min
Lab File: 1009N21.D
Acq: 9 Oct 2012 9:03 pm

Tgt Ion:228 Resp: 887

Ion	Ratio	Lower	Upper
228	100		
226	46.0	6.8	46.8

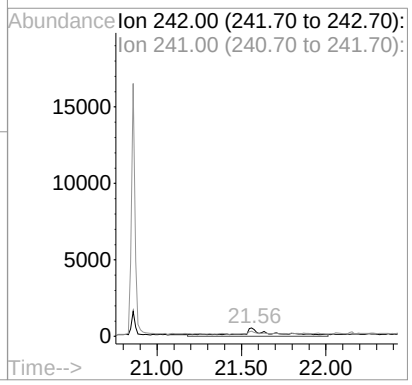


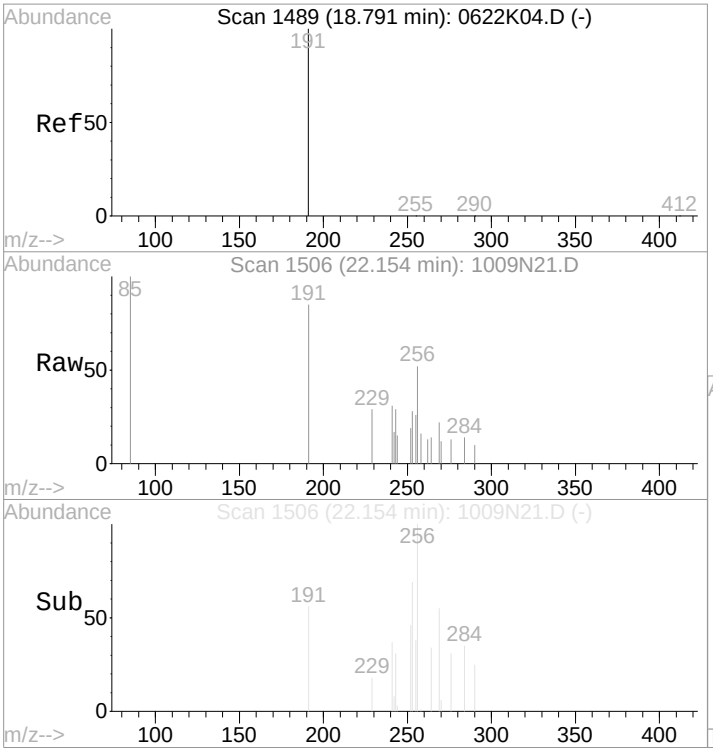


#70
C1-Chrysenes
Concen: 0.11 ppm m
RT: 21.56 min Scan# 1467
Delta R.T. -0.19 min
Lab File: 1009N21.D
Acq: 9 Oct 2012 9:03 pm

Tgt Ion:242 Resp: 8474

Ion	Ratio	Lower	Upper
242	100		
241	283.8	9.6	49.6#

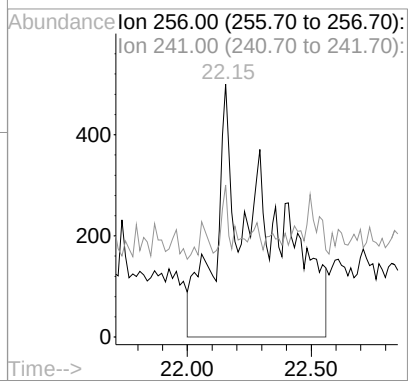


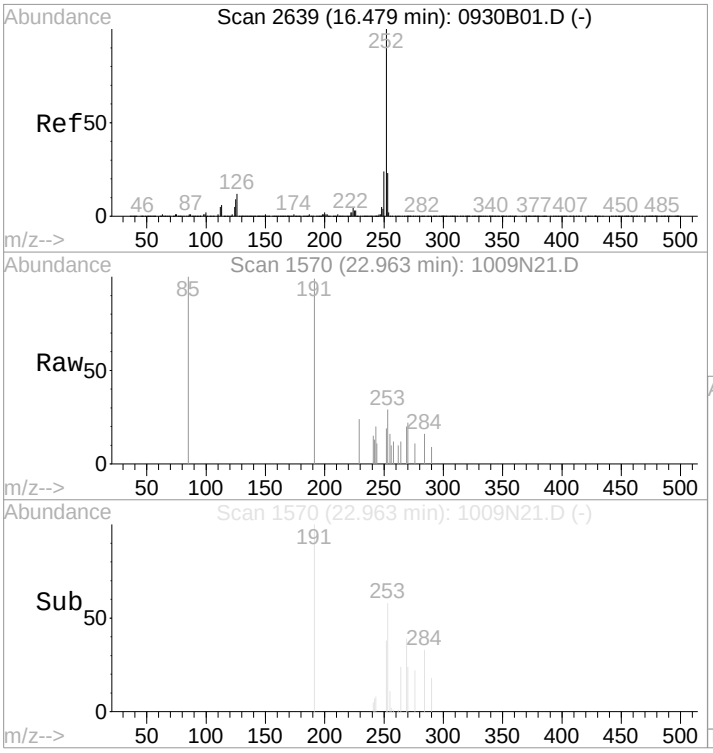


#71
C2-Chrysenes
Concen: 0.09 ppm m
RT: 22.15 min Scan# 1506
Delta R.T. -0.32 min
Lab File: 1009N21.D
Acq: 9 Oct 2012 9:03 pm

Tgt Ion:256 Resp: 6994

Ion	Ratio	Lower	Upper
256	100		
241	0.0	38.4	78.4#

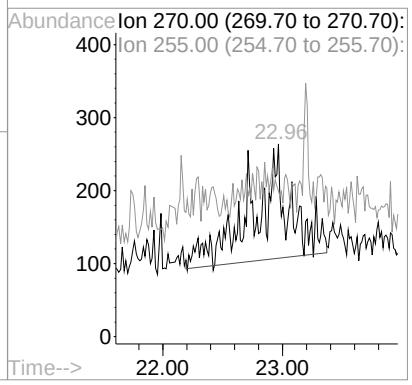


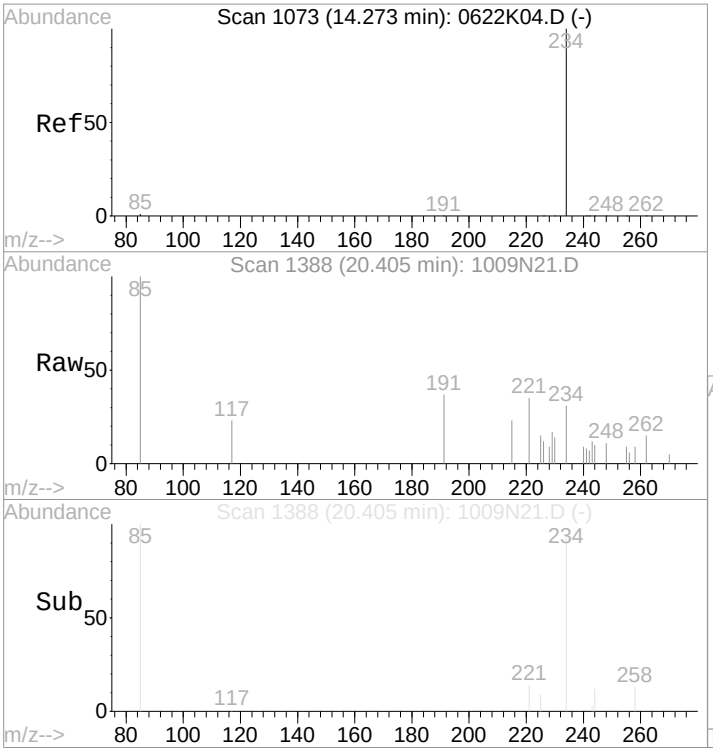


#72
C3-Chrysenes
Concen: 0.04 ppm m
RT: 22.96 min Scan# 1570
Delta R.T. -0.25 min
Lab File: 1009N21.D
Acq: 9 Oct 2012 9:03 pm

Tgt Ion:270 Resp: 3314

Ion	Ratio	Lower	Upper
270	100		
255	0.0	40.0	80.0#

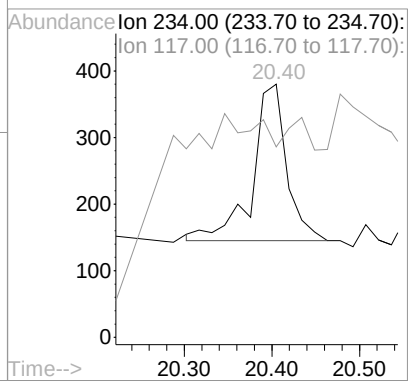


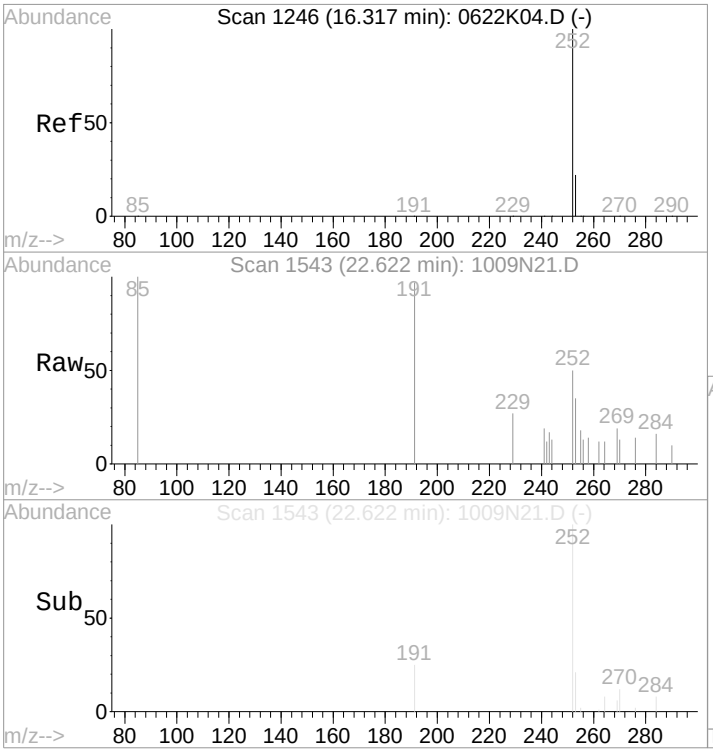


#74
Naphthobenzothiophene
Concen: 0.01 ppm
RT: 20.40 min Scan# 1388
Delta R.T. -0.04 min
Lab File: 1009N21.D
Acq: 9 Oct 2012 9:03 pm

Tgt Ion:234 Resp: 631

Ion	Ratio	Lower	Upper
234	100		
117	0.0	0.0	28.6

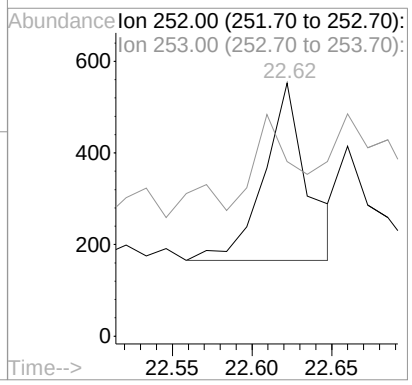


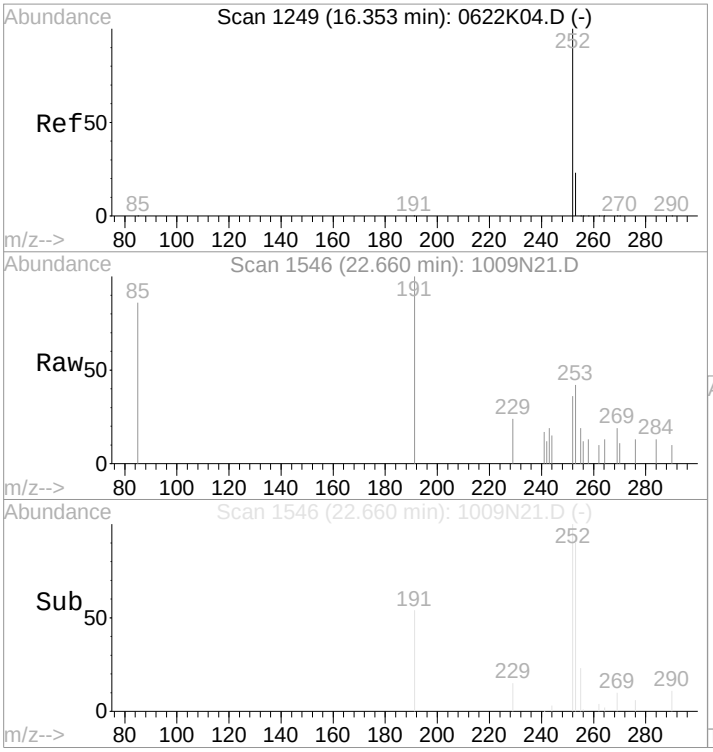


#80
Bzo(b)fluoranthene
Concen: 0.01 ppm
RT: 22.62 min Scan# 1543
Delta R.T. -0.01 min
Lab File: 1009N21.D
Acq: 9 Oct 2012 9:03 pm

Tgt Ion:252 Resp: 736

Ion	Ratio	Lower	Upper
252	100		
253	66.4	2.4	42.4#

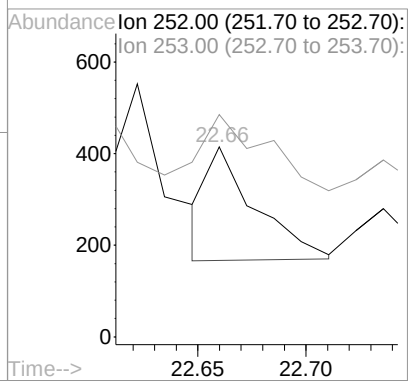


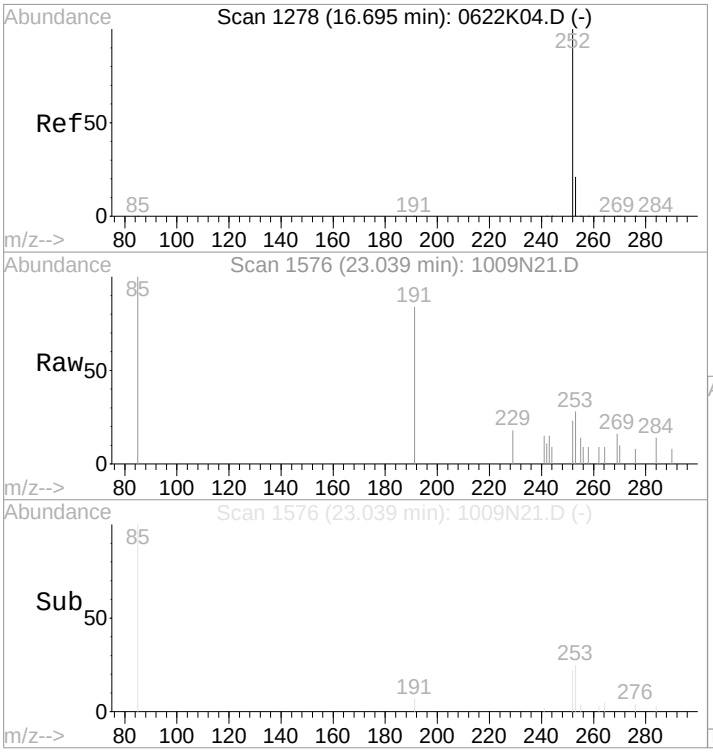


#81
Bzo(k)fluoranthene
Concen: 0.01 ppm m
RT: 22.66 min Scan# 1546
Delta R.T. -0.01 min
Lab File: 1009N21.D
Acq: 9 Oct 2012 9:03 pm

Tgt Ion:252 Resp: 385

Ion	Ratio	Lower	Upper
252	100		
253	127.0	2.3	42.3#

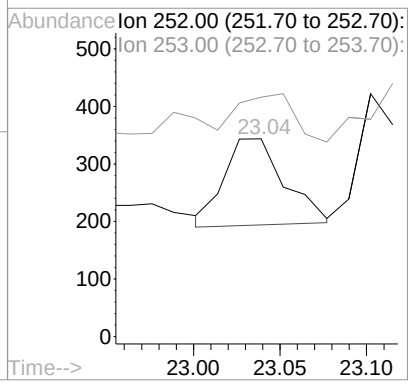


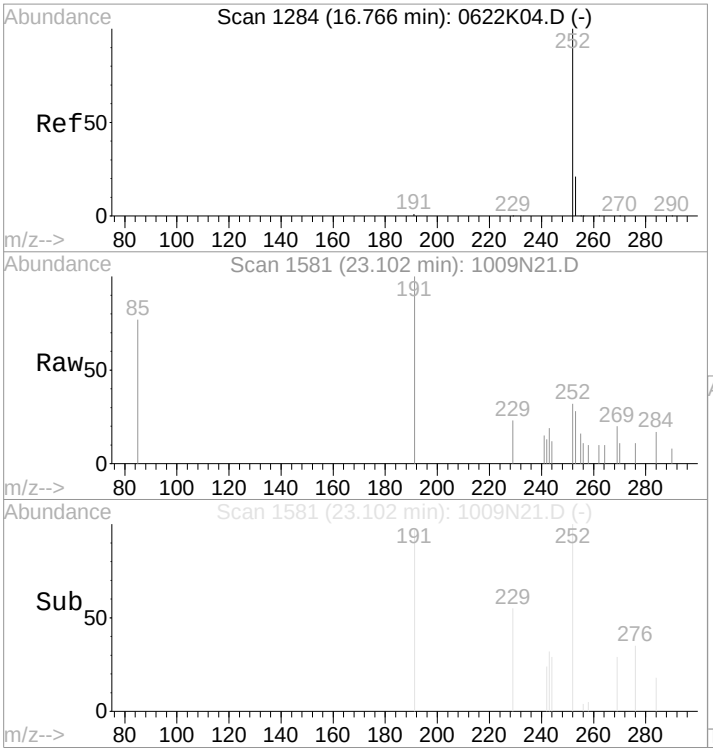


#83
Benzo(e)pyrene
Concen: 0.01 ppm m
RT: 23.04 min Scan# 1576
Delta R.T. -0.05 min
Lab File: 1009N21.D
Acq: 9 Oct 2012 9:03 pm

Tgt Ion:252 Resp: 366

Ion	Ratio	Lower	Upper
252	100		
253	20.2	2.0	42.0

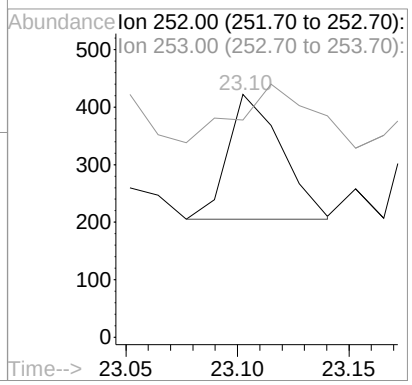


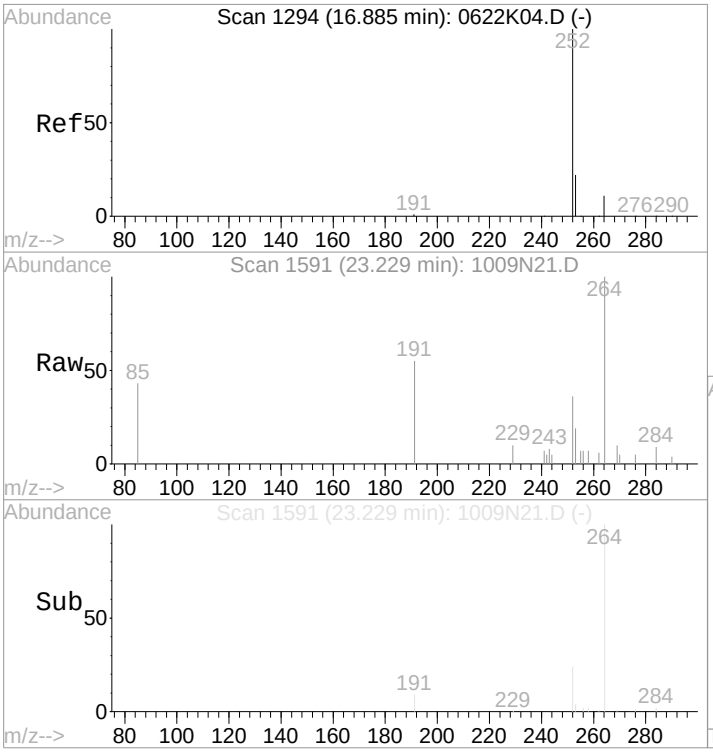


#84
Benzo(a)pyrene
Concen: 0.01 ppm
RT: 23.10 min Scan# 1581
Delta R.T. -0.06 min
Lab File: 1009N21.D
Acq: 9 Oct 2012 9:03 pm

Tgt Ion:252 Resp: 365

Ion	Ratio	Lower	Upper
252	100		
253	71.0	1.6	41.6#

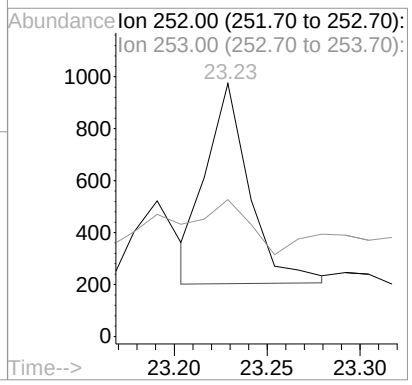


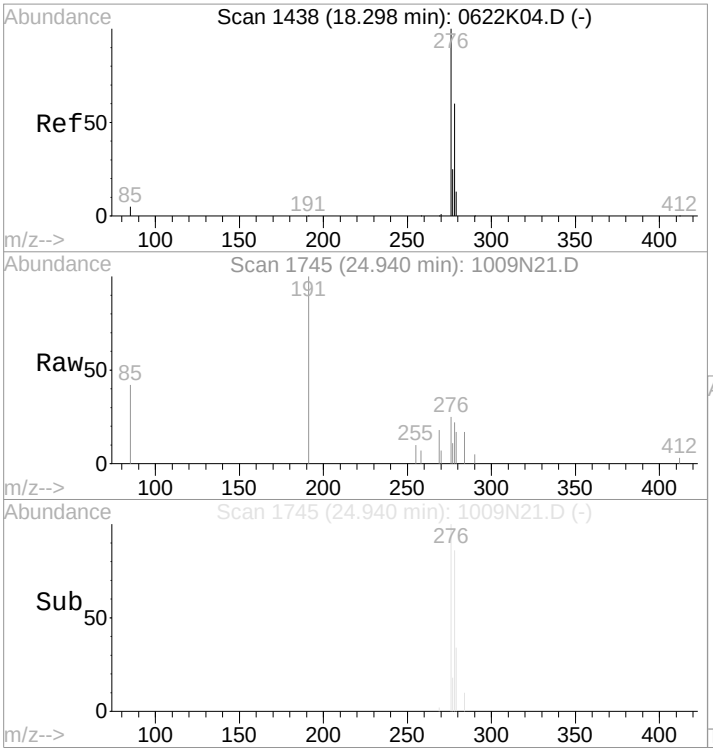


#85
Perylene
Concen: 0.02 ppm m
RT: 23.23 min Scan# 1591
Delta R.T. -0.06 min
Lab File: 1009N21.D
Acq: 9 Oct 2012 9:03 pm

Tgt Ion:252 Resp: 1250

Ion	Ratio	Lower	Upper
252	100		
253	52.2	2.3	42.3#

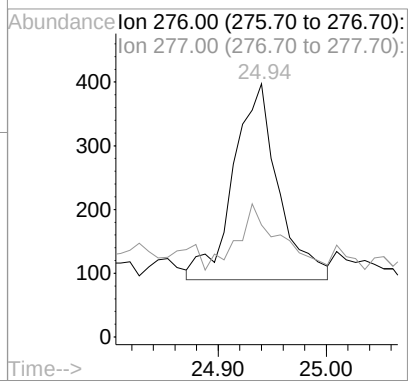


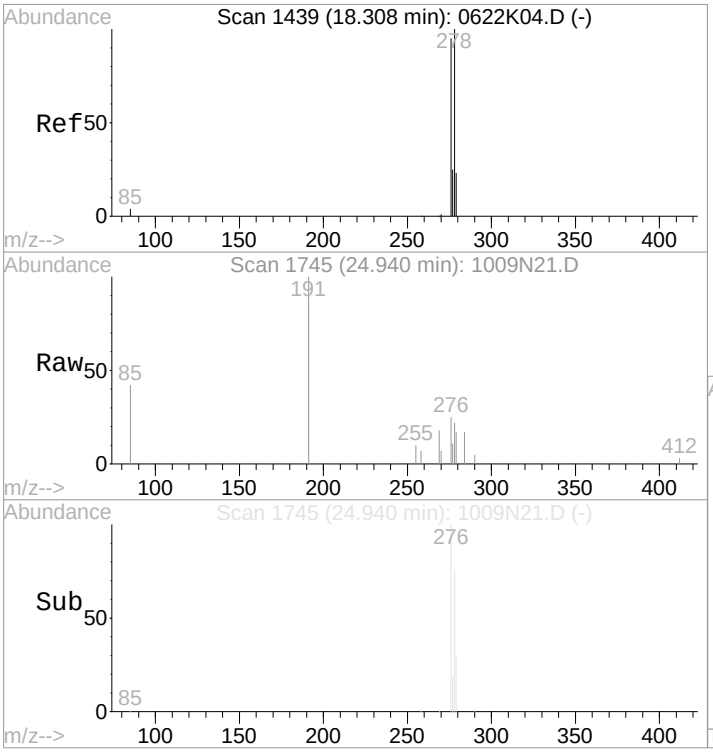


#86
Indeno(123-cd)pyre
Concen: 0.01 ppm
RT: 24.94 min Scan# 1745
Delta R.T. -0.07 min
Lab File: 1009N21.D
Acq: 9 Oct 2012 9:03 pm

Tgt Ion:276 Resp: 888

Ion	Ratio	Lower	Upper
276	100		
277	31.6	4.0	44.0

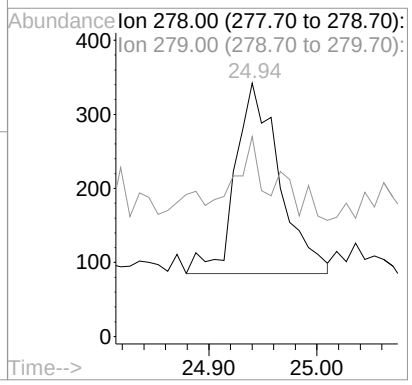


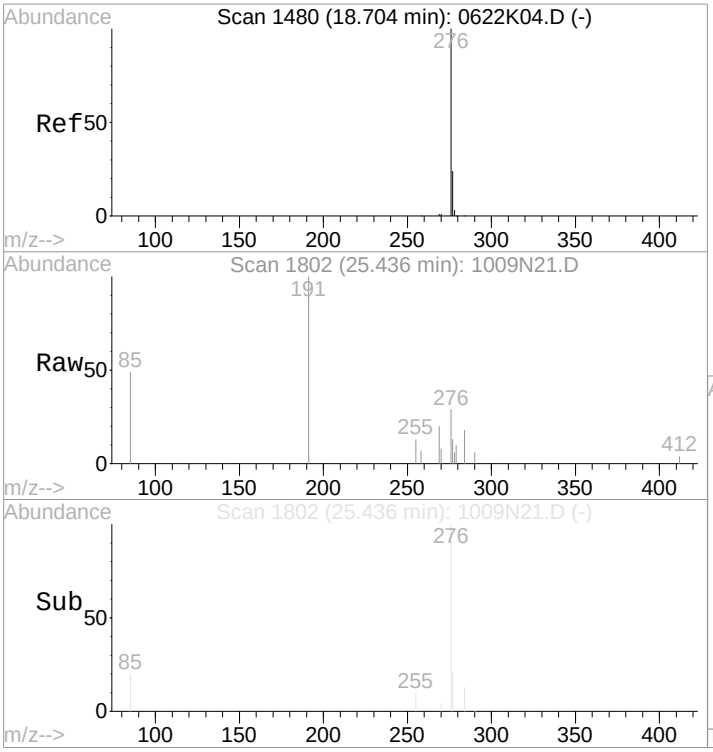


#87
Dibz(ah)anthracene
Concen: 0.01 ppm
RT: 24.94 min Scan# 1745
Delta R.T. -0.09 min
Lab File: 1009N21.D
Acq: 9 Oct 2012 9:03 pm

Tgt Ion:278 Resp: 732

Ion	Ratio	Lower	Upper
278	100		
279	16.1	3.8	43.8

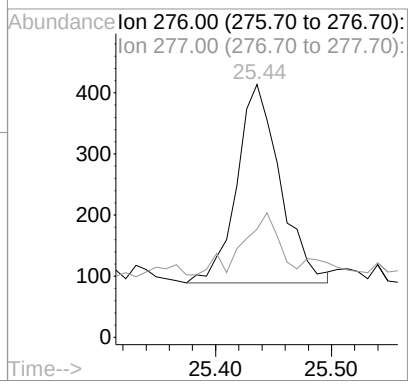




#88
Bzo(g,h,i)perylene
Concen: 0.01 ppm
RT: 25.44 min Scan# 1802
Delta R.T. -0.09 min
Lab File: 1009N21.D
Acq: 9 Oct 2012 9:03 pm

Tgt Ion:276 Resp: 848

Ion	Ratio	Lower	Upper
276	100		
277	26.1	3.9	43.9



Quantitation Report

Data File : Q:\DATAN\101112\1011N02.D Vial: 2
Acq On : 11 Oct 2012 12:10 pm Operator:
Sample : 201025367 Inst : 20MSSVN
Misc : 193374 1:10 LOW/50000 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 12 12:30 2012 Quant Results File: NZ091312.RES

Quant Method : Q:\DATAN\NZ091312.M (RTE Integrator)
Title : Alk PAH SIM - wat/soils
Last Update : Thu Oct 11 12:20:33 2012
Response via : Initial Calibration
DataAcq Meth : NALKGC
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Naphthalene-d8	7.47	136	94711	2.00	ppm	-0.04 NA%
23) Acenaphthene-d10	11.51	164	54948	2.00	ppm	-0.05 NA%
37) Phenanthrene-d10	15.08	188	100889	2.00	ppm	-0.05 NA%
65) Chrysene-d12	20.86	240	114019	2.00	ppm	-0.06 NA%
79) Perylene-d12	23.20	264	131654	2.00	ppm	-0.05 NA%

System Monitoring Compounds

24) 2-Fluorobiphenyl	0.00	172	0d	0.00	ppm	
Spiked Amount 2.000	Range 30 - 114		Recovery = 0.00%#			
67) Terphenyl-d14	0.00	244	0d	0.00	ppm	
Spiked Amount 2.000	Range 30 - 114		Recovery = 0.00%#			

Target Compounds						Qvalue
2) Decalin 1	5.70	138	97592	22.47	ppm	# 2
3) Decalin 2	6.35	138	11250	2.27	ppm	# 1
4) Decalin TOTAL	5.70	138	108842m	11.70	ppm	# 10
5) C1-Decalins	6.49	152	379477m	40.79	ppm	100
6) C2-Decalins	7.27	166	555436m	59.70	ppm	100
7) C3-Decalins	8.88	180	496612m	53.38	ppm	100
8) C4-Decalins	10.21	194	233070m	25.05	ppm	100
9) Naphthalene	7.51	128	143684	2.95	ppm	88
10) 2Methylnaphthalene	9.06	142	233634	7.70	ppm	91
11) 1Methylnaphthalene	9.29	142	70087	2.33	ppm	95
12) 2,6-Dimethylnaphthalene	10.53	156	283153	10.64	ppm	99
13) 2,3,5-Trimethylnaphthalene	12.52	170	199841m	8.33	ppm	# 96
14) C1-Naphthalenes	9.06	142	309125m	6.35	ppm	# 99
15) C2-Naphthalenes	10.72	156	1083464m	22.25	ppm	# 92
16) C3-Naphthalenes	12.03	170	1257403m	25.82	ppm	# 90
17) C4-Naphthalenes	13.75	184	748096m	15.36	ppm	# 59
18) Benzothiophene	7.68	134	20666m	0.54	ppm	89
19) C1-Benzothiophenes	8.75	148	43918m	1.14	ppm	14
20) C2-Benzothiophenes	10.81	162	44972m	1.17	ppm	1
21) C3-Benzothiophenes	11.80	176	51010m	1.33	ppm	100
22) C4-Benzothiophenes	13.24	190	32248m	0.84	ppm	100
25) Biphenyl (Diphenyl)	10.15	154	22240	0.49	ppm	# 22
26) Acenaphthylene	11.20	152	15471m	0.39	ppm	67
27) Acenaphthene	11.59	153	19875	0.60	ppm	# 78
28) Dibenzofuran	12.01	168	37570	0.78	ppm	# 1
29) Fluorene	12.82	166	41200	1.13	ppm	80
30) C1-Fluorenes	14.22	180	133999m	3.67	ppm	# 97
31) C2-Fluorenes	15.40	194	196998m	5.40	ppm	# 68
32) C3-Fluorenes	16.61	208	161587m	4.43	ppm	# 8
38) Dibenzothiophene	14.84	184	15580	0.33	ppm	72
39) 4-Methyldibenzothiophene	15.90	198	21351	0.46	ppm	98
40) 2/3-Methyldibenzothiophene	16.04	198	16370m	0.35	ppm	74
41) 1-Methyldibenzothiophene	16.11	198	13772m	0.29	ppm	1
42) C1-Dibenzothiophenes	15.90	198	54538m	1.16	ppm	# 99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : Q:\DATAN\101112\1011N02.D Vial: 2
Acq On : 11 Oct 2012 12:10 pm Operator:
Sample : 201025367 Inst : 20MSSVN
Misc : 193374 1:10 LOW/50000 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 12 12:30 2012 Quant Results File: NZ091312.RES

Quant Method : Q:\DATAN\NZ091312.M (RTE Integrator)
Title : Alk PAH SIM - wat/soils
Last Update : Thu Oct 11 12:20:33 2012
Response via : Initial Calibration
DataAcq Meth : NALKGC

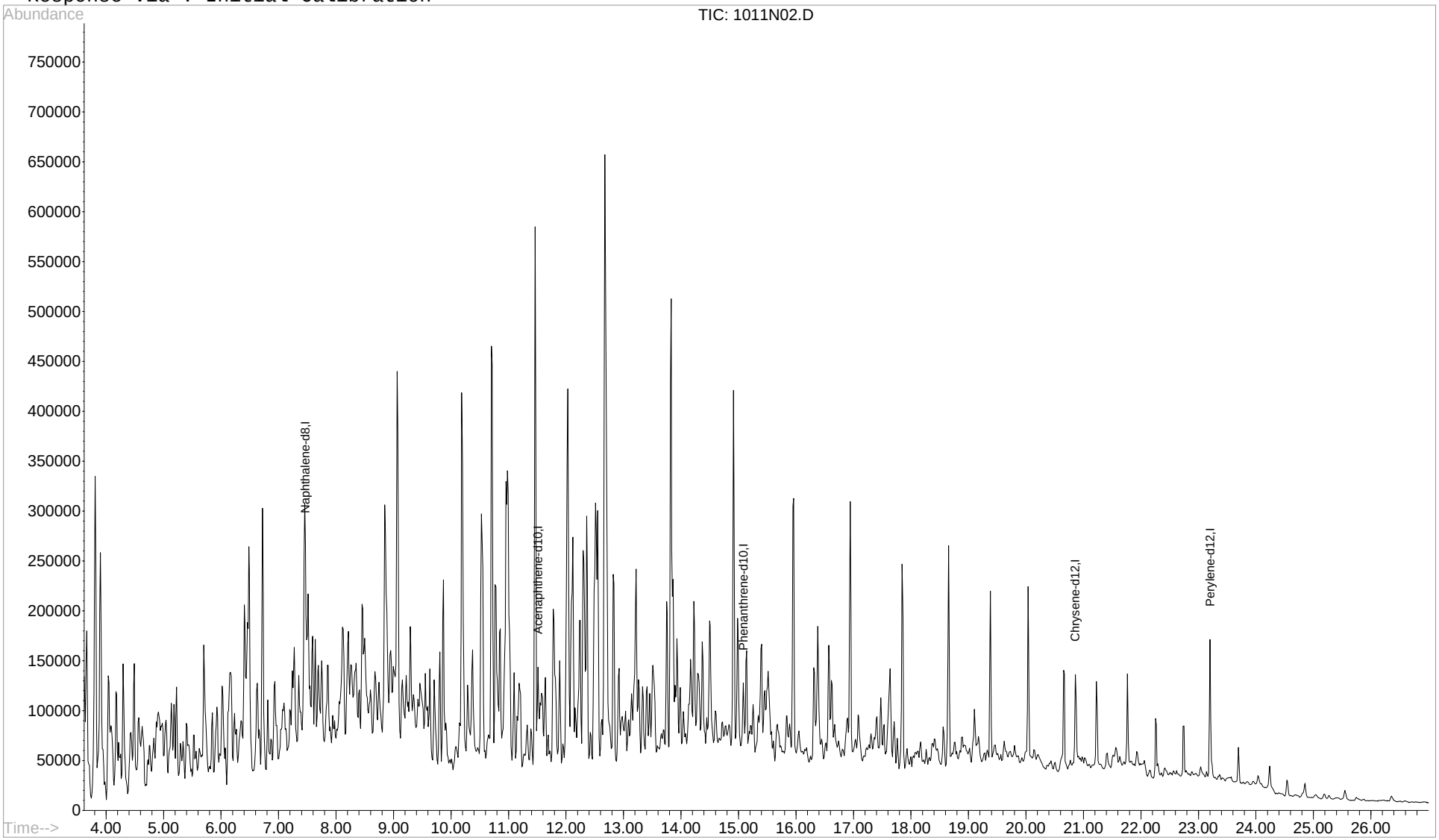
	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
43)	C2-Dibenzothiophenes	16.90	212	73102m	1.56	ppm	#	53
44)	C3-Dibenzothiophenes	17.93	226	53584m	1.14	ppm	#	87
45)	C4-Dibenzothiophenes	18.82	240	33530m	0.72	ppm	#	29
47)	Phenanthrene	15.14	178	124830	2.10	ppm		98
48)	Anthracene	15.25	178	3217	0.08	ppm	#	1
49)	3-Methylphenanthrene	16.31	192	87689m	1.48	ppm		100
50)	2/4-Methylphenanthrene	16.38	192	97789m	1.65	ppm	#	99
52)	9-Methylphenanthrene	16.57	192	68107m	1.15	ppm	#	65
53)	1-Methylphenanthrene	16.64	192	45806m	0.77	ppm	#	1
54)	Retene	19.10	234	19604m	0.33	ppm		80
55)	C1-Phenanthrene/Anthracene	16.38	192	319493m	5.38	ppm	#	97
56)	C2-Phenanthrene/Anthracene	17.64	206	307471m	5.18	ppm	#	18
57)	C3-Phenanthrene/Anthracene	18.64	220	237825m	4.00	ppm	#	42
58)	C4-Phenanthrene/Anthracene	19.10	234	120321m	2.03	ppm	#	30
59)	Fluoranthene	17.97	202	6749	0.13	ppm	#	100
60)	Benzo(b)fluorene	19.31	216	6185	0.12	ppm		85
61)	C1-Fluoranthene/Pyrene	19.17	216	59253m	1.15	ppm	#	38
62)	C2-Fluoranthene/Pyrene	20.04	230	78342m	1.53	ppm	#	21
63)	C3-Fluoranthene/Pyrene	20.98	244	74059m	1.44	ppm	#	94
64)	C4-Fluoranthene/Pyrene	21.59	258	57405m	1.12	ppm	#	80
66)	Pyrene	18.46	202	8233m	0.15	ppm		100
68)	Benzo(a)anthracene	20.84	228	2905m	0.06	ppm	#	86
69)	Chrysene	20.90	228	10886m	0.16	ppm		98
70)	C1-Chrysenes	21.56	242	34387m	0.52	ppm		84
71)	C2-Chrysenes	22.15	256	38453m	0.58	ppm	#	49
72)	C3-Chrysenes	22.92	270	35345m	0.53	ppm	#	21
73)	C4-Chrysenes	23.11	284	22228m	0.34	ppm	#	7
74)	Naphthobenzothiophene	20.40	234	7059	0.14	ppm	#	76
75)	C1-Naphthobenzothiophenes	21.03	248	13907m	0.28	ppm	#	9
76)	C2-Naphthobenzothiophenes	21.71	262	17464m	0.35	ppm		100
77)	C3-Naphthobenzothiophenes	22.58	276	10023m	0.20	ppm		100
78)	C4-Naphthobenzothiophenes	22.90	290	6160m	0.12	ppm		100
85)	Perylene	23.24	252	16009	0.23	ppm		81

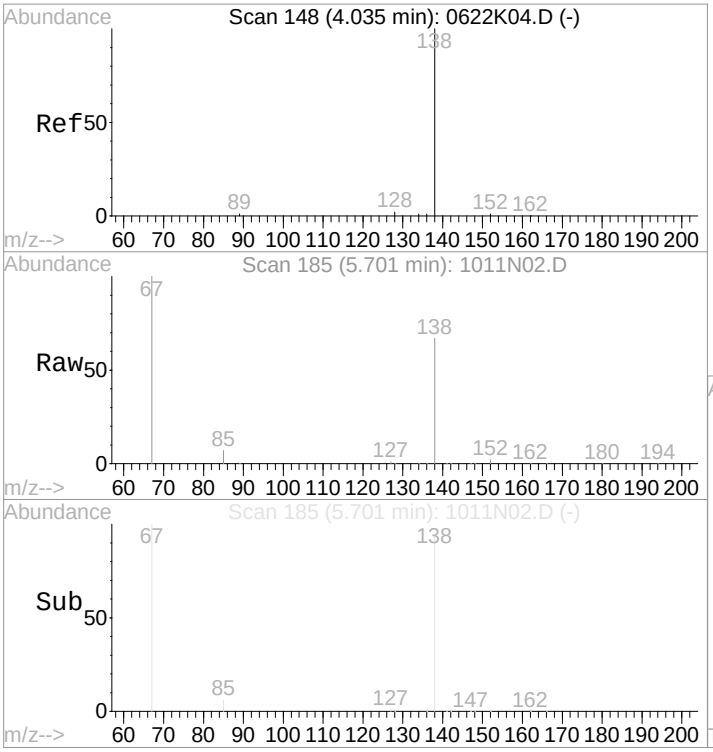
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : Q:\DATAN\101112\1011N02.D Vial: 2
Acq On : 11 Oct 2012 12:10 pm Operator:
Sample : 201025367 Inst : 20MSSVN
Misc : 193374 1:10 LOW/50000 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 12 12:30 2012 Quant Results File: NZ091312.RES

Method : Q:\DATAN\NZ091312.M (RTE Integrator)
Title : Alk PAH SIM - wat/soils
Last Update : Fri Oct 12 10:21:33 2012
Response via : Initial Calibration

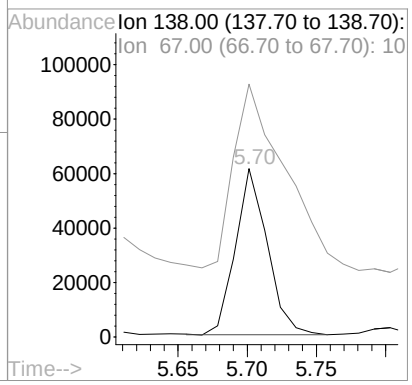


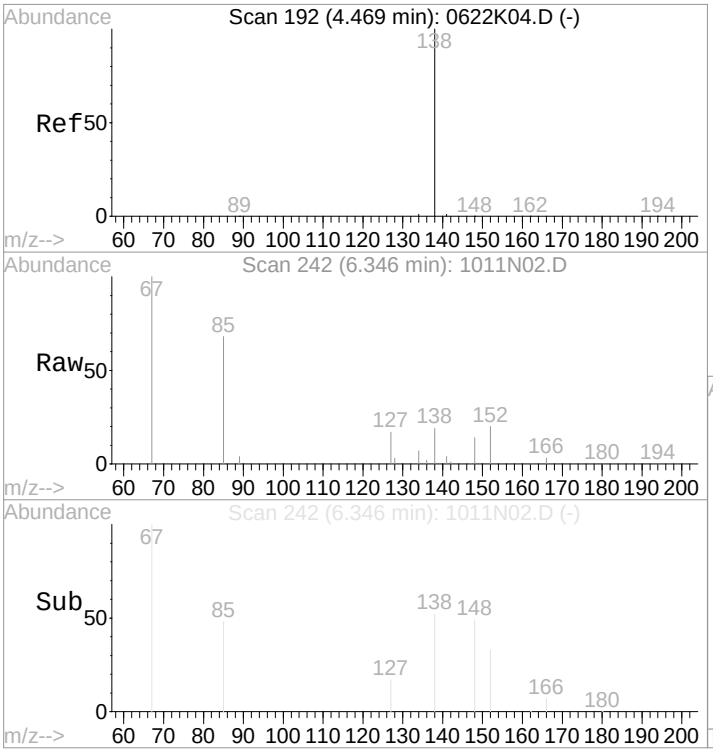


#2
Decalin 1
Concen: 22.47 ppm
RT: 5.70 min Scan# 185
Delta R.T. -0.04 min
Lab File: 1011N02.D
Acq: 11 Oct 2012 12:10 pm

Tgt Ion:138 Resp: 97592

Ion	Ratio	Lower	Upper
138	100		
67	187.3	72.9	112.9#

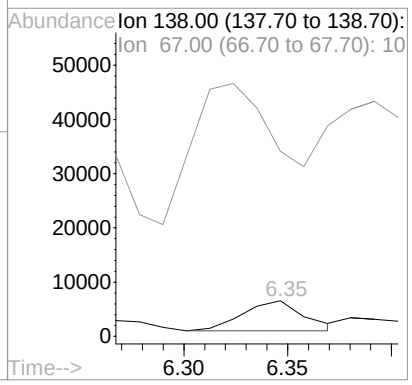


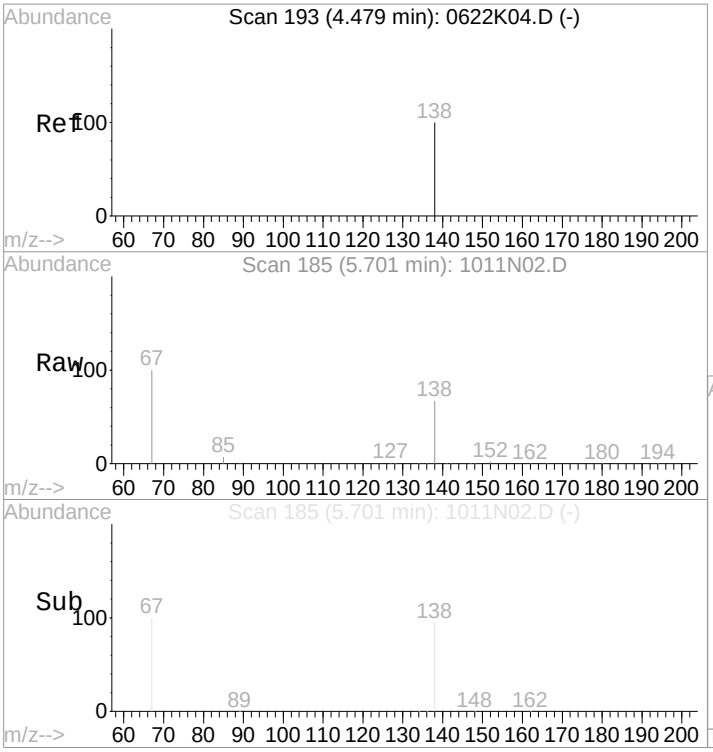


#3
Decalin 2
Concen: 2.27 ppm
RT: 6.35 min Scan# 242
Delta R.T. -0.04 min
Lab File: 1011N02.D
Acq: 11 Oct 2012 12:10 pm

Tgt Ion:138 Resp: 11250

Ion	Ratio	Lower	Upper
138	100		
67	659.4	104.9	144.9#

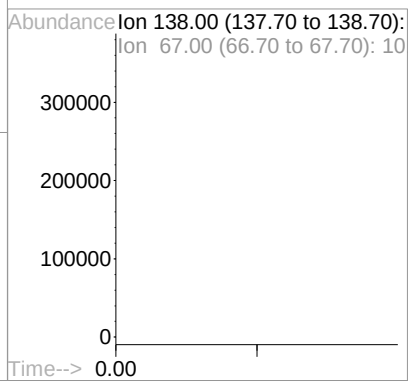


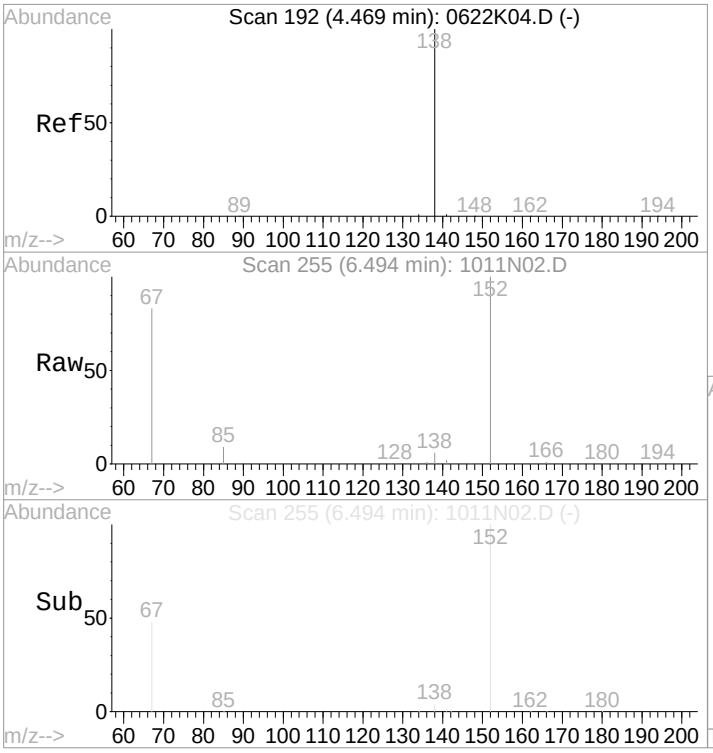


#4
Decalin TOTAL
Concen: 11.70 ppm m
RT: 5.70 min Scan# 185
Delta R.T. -0.44 min
Lab File: 1011N02.D
Acq: 11 Oct 2012 12:10 pm

Tgt Ion:138 Resp: 108842

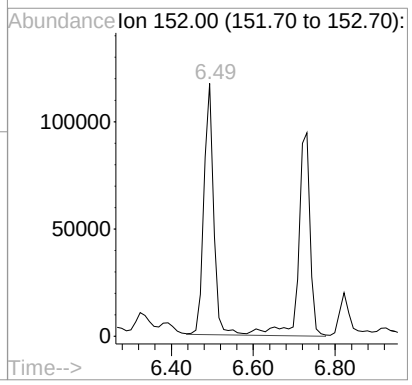
Ion	Ratio	Lower	Upper
138	100		
67	167.9	78.0	118.0#

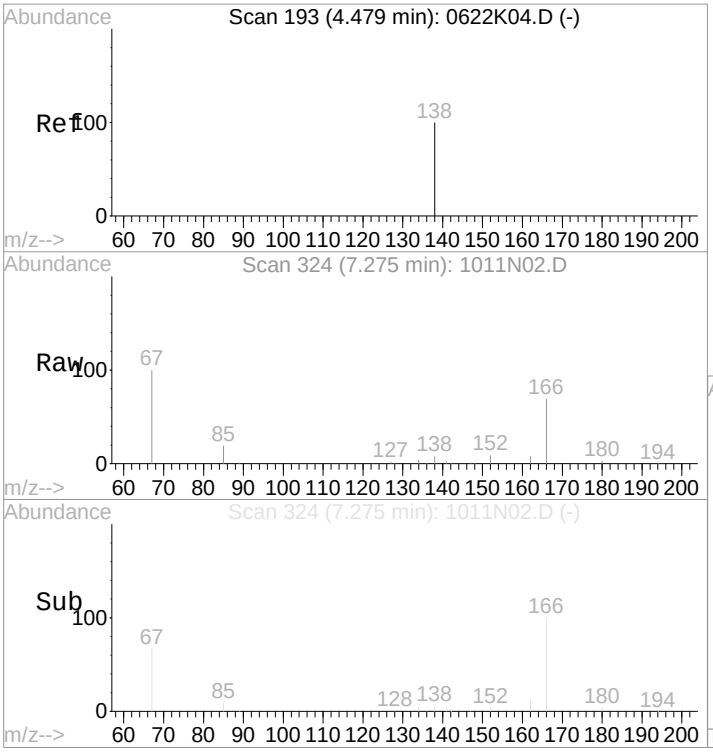




#5
C1-Decalins
Concen: 40.79 ppm m
RT: 6.49 min Scan# 255
Delta R.T. -0.19 min
Lab File: 1011N02.D
Acq: 11 Oct 2012 12:10 pm

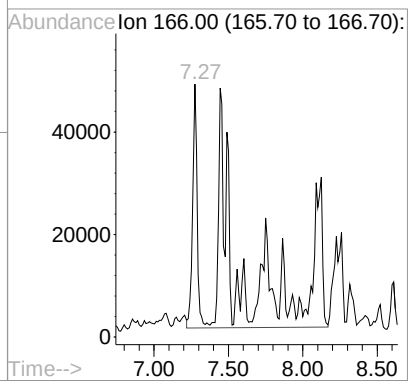
Tgt Ion:152 Resp: 379477

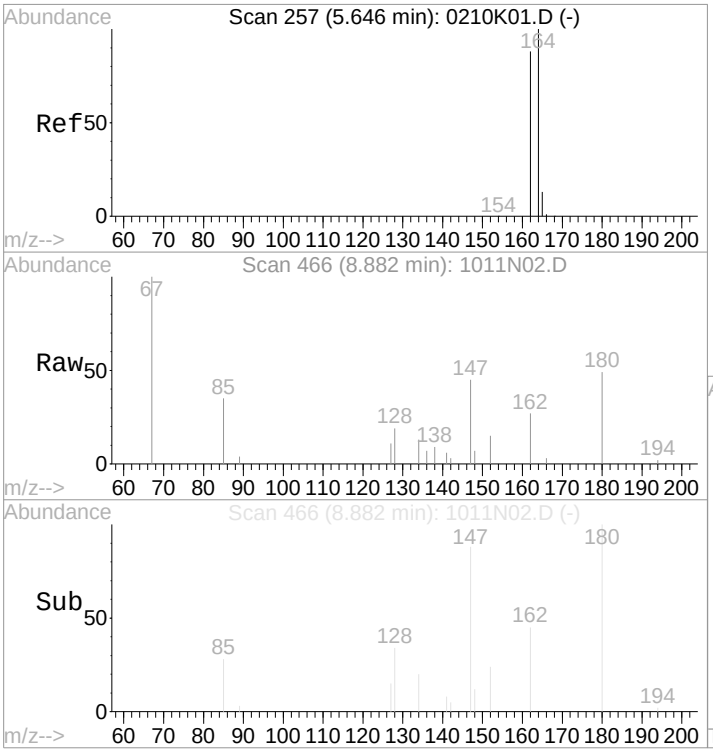




#6
C2-Decalins
Concen: 59.70 ppm m
RT: 7.27 min Scan# 324
Delta R.T. -0.02 min
Lab File: 1011N02.D
Acq: 11 Oct 2012 12:10 pm

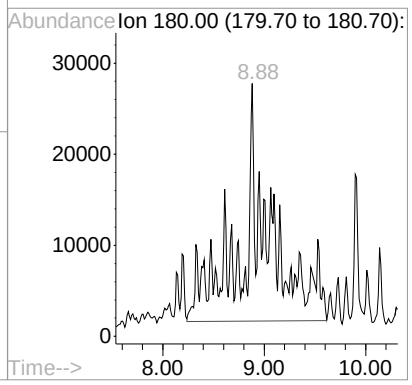
Tgt Ion:166 Resp: 555436

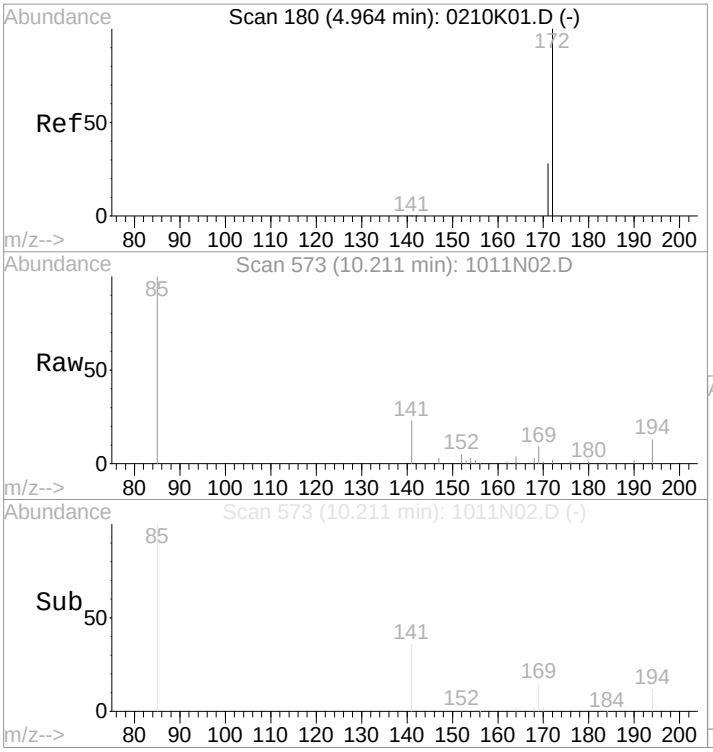




#7
C3-Decalins
Concen: 53.38 ppm m
RT: 8.88 min Scan# 466
Delta R.T. -0.22 min
Lab File: 1011N02.D
Acq: 11 Oct 2012 12:10 pm

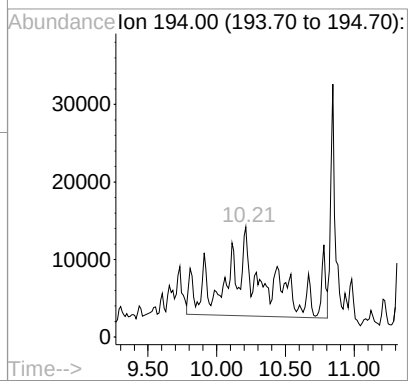
Tgt Ion:180 Resp: 496612

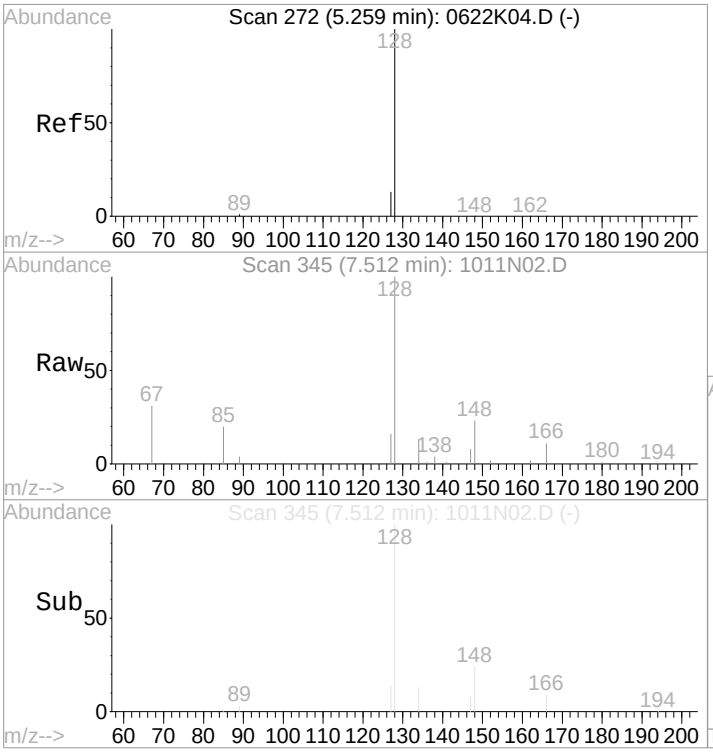




#8
C4-Decalins
Concen: 25.05 ppm m
RT: 10.21 min Scan# 573
Delta R.T. -1.08 min
Lab File: 1011N02.D
Acq: 11 Oct 2012 12:10 pm

Tgt Ion:194 Resp: 233070

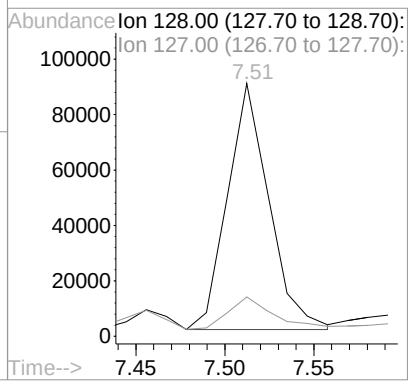


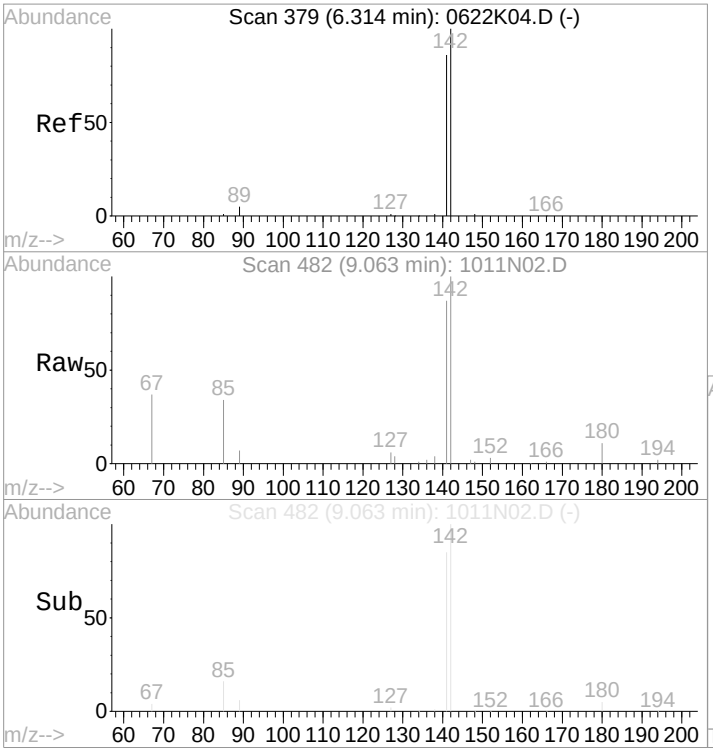


#9
Naphthalene
Concen: 2.95 ppm
RT: 7.51 min Scan# 345
Delta R.T. -0.05 min
Lab File: 1011N02.D
Acq: 11 Oct 2012 12:10 pm

Tgt Ion:128 Resp: 143684

Ion	Ratio	Lower	Upper
128	100		
127	16.9	0.0	32.1

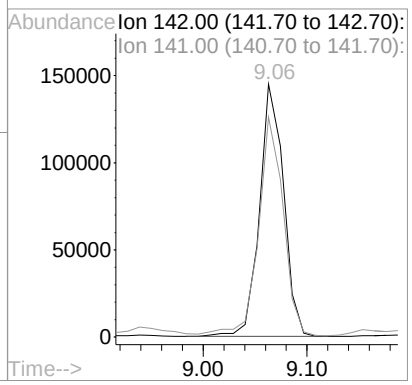


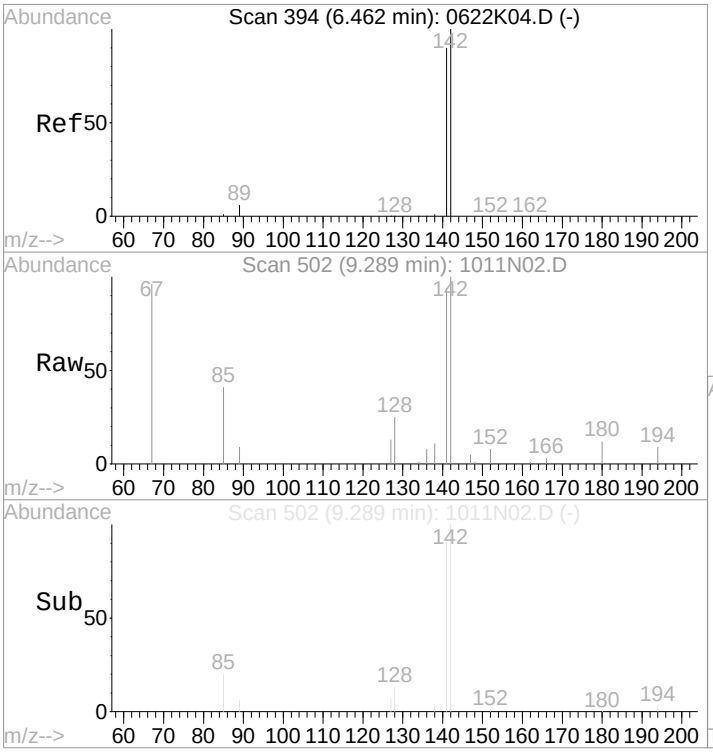


#10
2Methylnaphthalene
Concen: 7.70 ppm
RT: 9.06 min Scan# 482
Delta R.T. -0.05 min
Lab File: 1011N02.D
Acq: 11 Oct 2012 12:10 pm

Tgt Ion:142 Resp: 233634

Ion	Ratio	Lower	Upper
142	100		
141	88.9	61.2	101.2

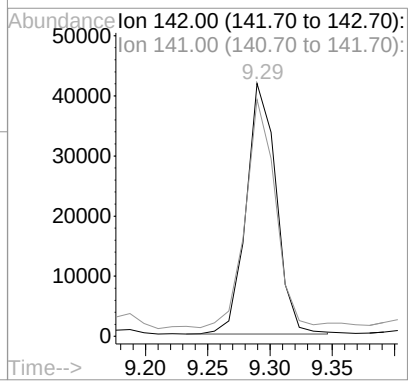


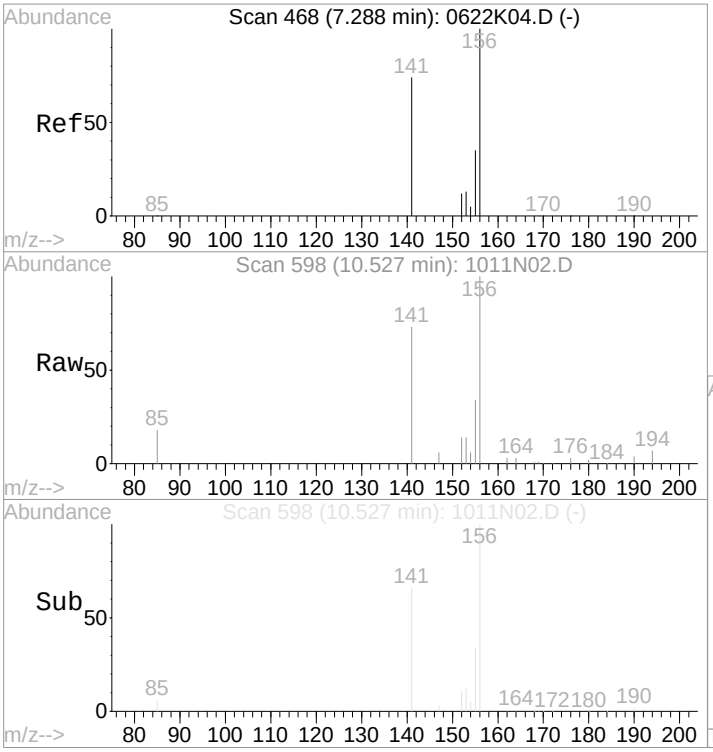


#11
1Methylnaphthalene
Concen: 2.33 ppm
RT: 9.29 min Scan# 502
Delta R.T. -0.05 min
Lab File: 1011N02.D
Acq: 11 Oct 2012 12:10 pm

Tgt Ion:142 Resp: 70087

Ion	Ratio	Lower	Upper
142	100		
141	89.0	64.8	104.8

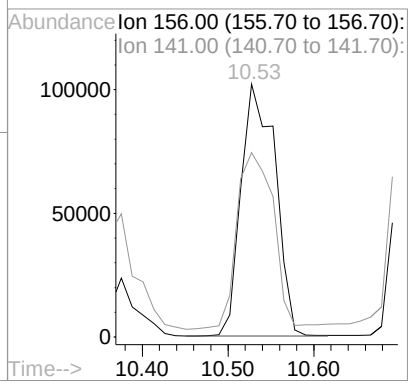


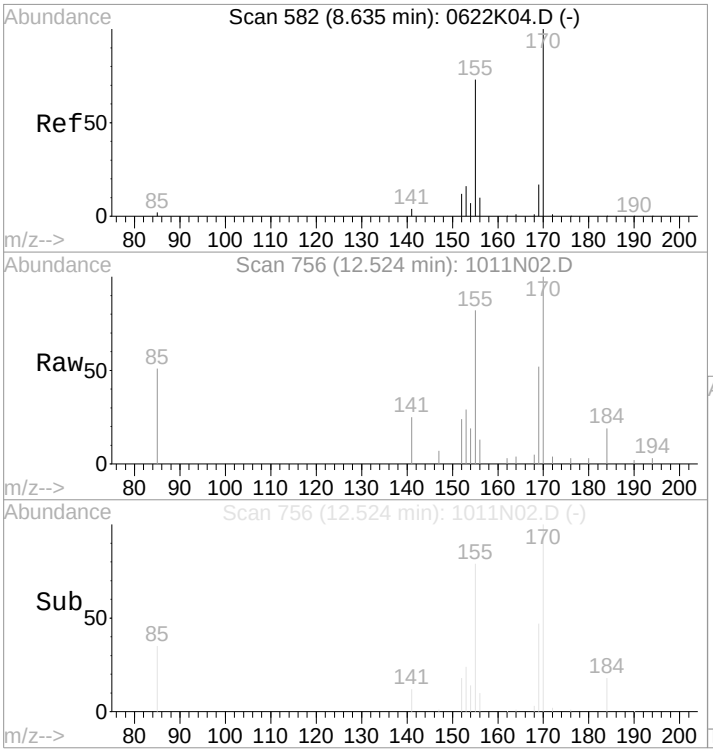


#12
2,6-Dimethylnaphthalene
Concen: 10.64 ppm
RT: 10.53 min Scan# 598
Delta R.T. -0.04 min
Lab File: 1011N02.D
Acq: 11 Oct 2012 12:10 pm

Tgt Ion:156 Resp: 283153

Ion	Ratio	Lower	Upper
156	100		
141	75.1	54.7	94.7

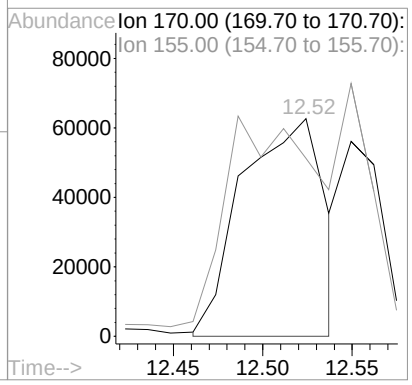


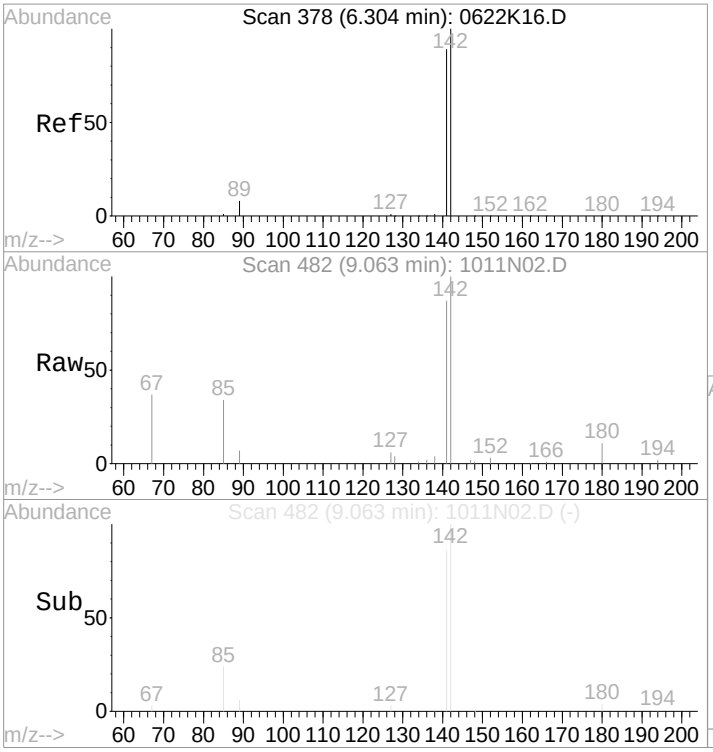


#13
2,3,5-Trimethylnaphthalene
Concen: 8.33 ppm m
RT: 12.52 min Scan# 756
Delta R.T. -0.04 min
Lab File: 1011N02.D
Acq: 11 Oct 2012 12:10 pm

Tgt Ion:170 Resp: 199841

Ion	Ratio	Lower	Upper
170	100		
155	150.4	81.6	121.6#

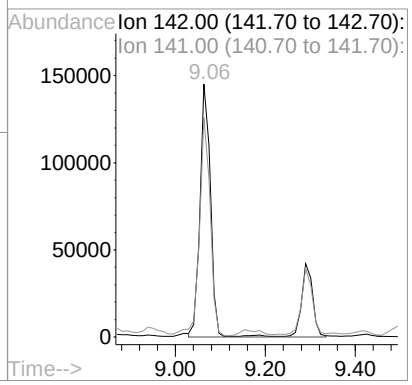


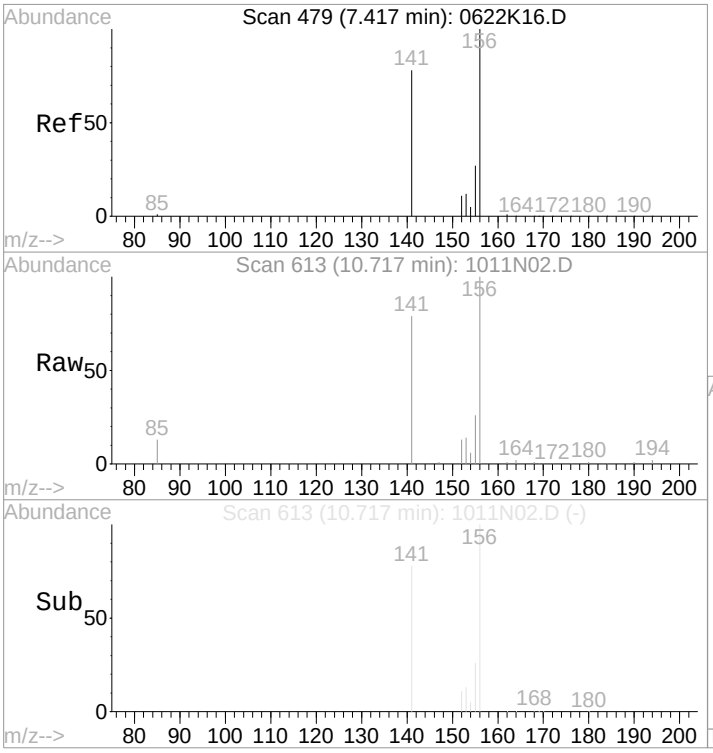


#14
C1-Naphthalenes
Concen: 6.35 ppm m
RT: 9.06 min Scan# 482
Delta R.T. -0.24 min
Lab File: 1011N02.D
Acq: 11 Oct 2012 12:10 pm

Tgt Ion:142 Resp: 309125

Ion	Ratio	Lower	Upper
142	100		
141	67.2	68.1	108.1#

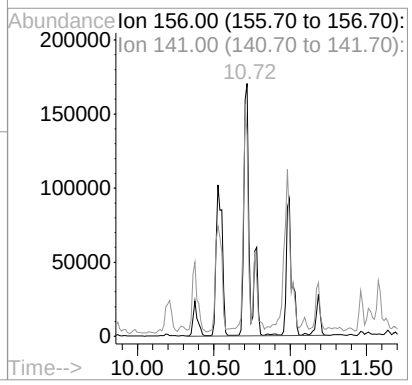


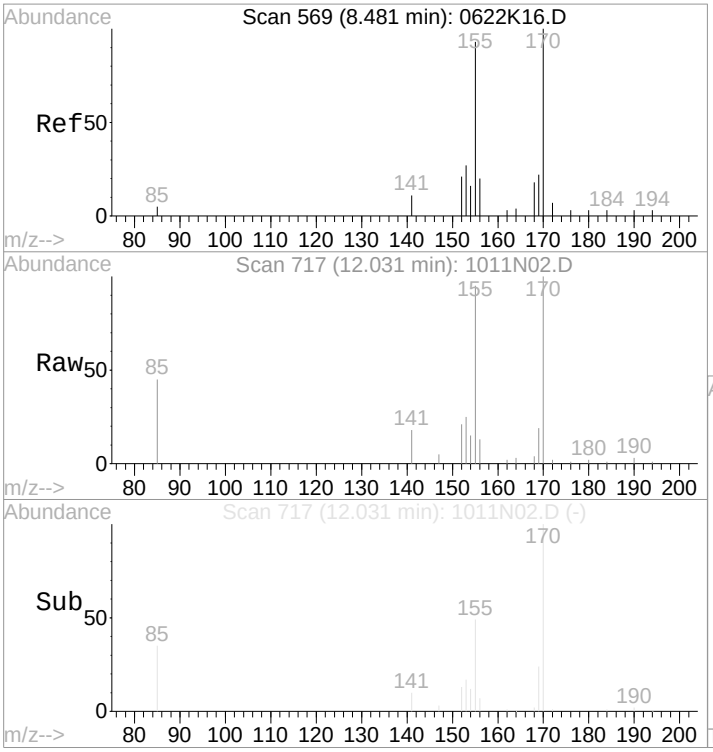


#15
C2-Naphthalenes
Concen: 22.25 ppm m
RT: 10.72 min Scan# 613
Delta R.T. -0.46 min
Lab File: 1011N02.D
Acq: 11 Oct 2012 12:10 pm

Tgt Ion:156 Resp: 1083464

Ion	Ratio	Lower	Upper
156	100		
141	27.8	75.6	115.6#

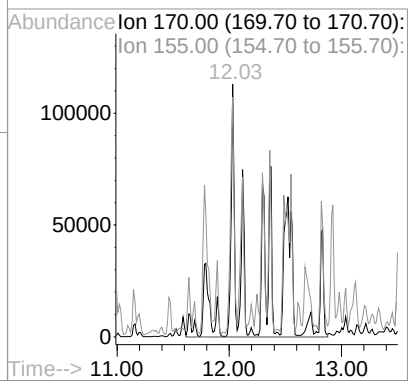


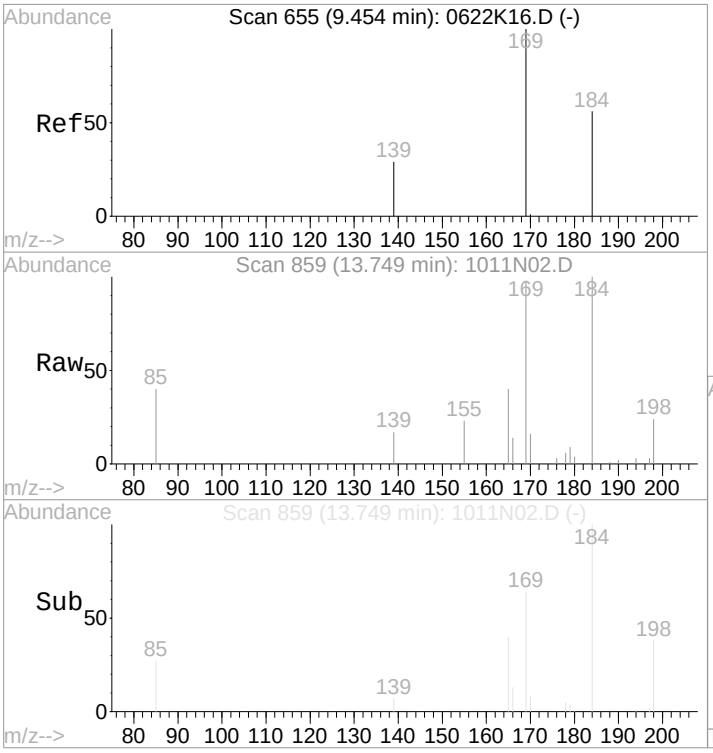


#16
C3-Naphthalenes
Concen: 25.82 ppm m
RT: 12.03 min Scan# 717
Delta R.T. -0.75 min
Lab File: 1011N02.D
Acq: 11 Oct 2012 12:10 pm

Tgt Ion:170 Resp: 1257403

Ion	Ratio	Lower	Upper
170	100		
155	24.0	76.6	116.6#

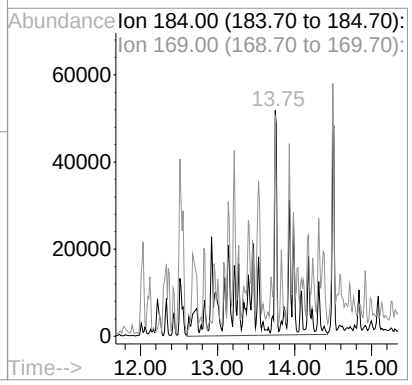


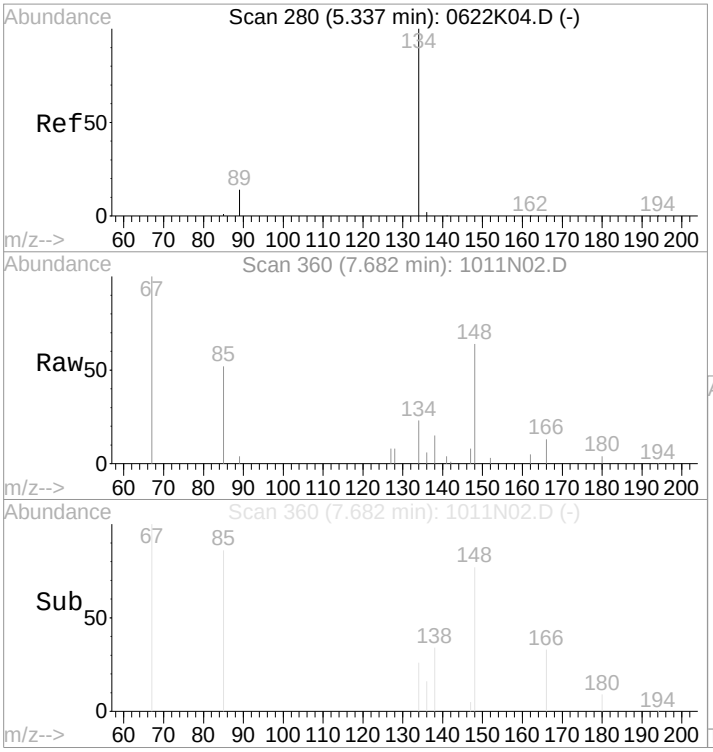


#17
C4-Naphthalenes
Concen: 15.36 ppm m
RT: 13.75 min Scan# 859
Delta R.T. -0.89 min
Lab File: 1011N02.D
Acq: 11 Oct 2012 12:10 pm

Tgt Ion:184 Resp: 748096

Ion	Ratio	Lower	Upper
184	100		
169	10.8	109.4	149.4#

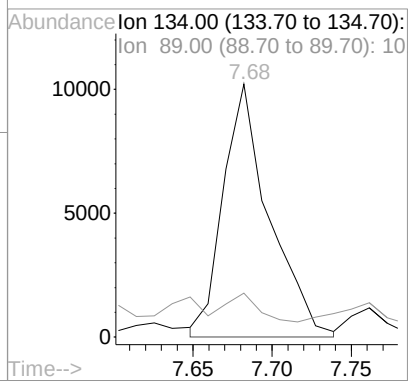


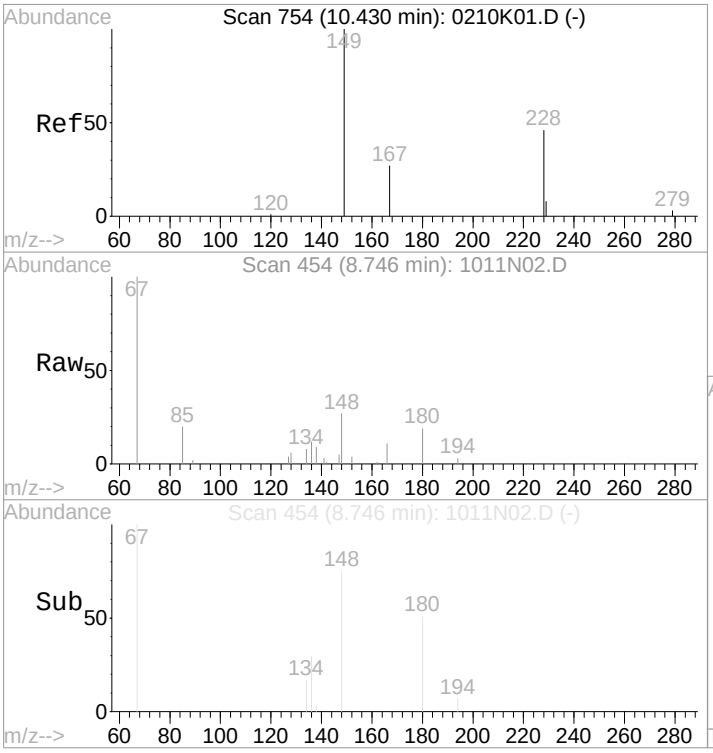


#18
Benzothiophene
Concen: 0.54 ppm m
RT: 7.68 min Scan# 360
Delta R.T. 0.03 min
Lab File: 1011N02.D
Acq: 11 Oct 2012 12:10 pm

Tgt Ion:134 Resp: 20666

Ion	Ratio	Lower	Upper
134	100		
89	7.8	2.3	22.3

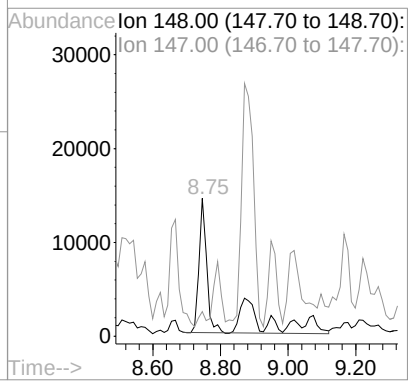


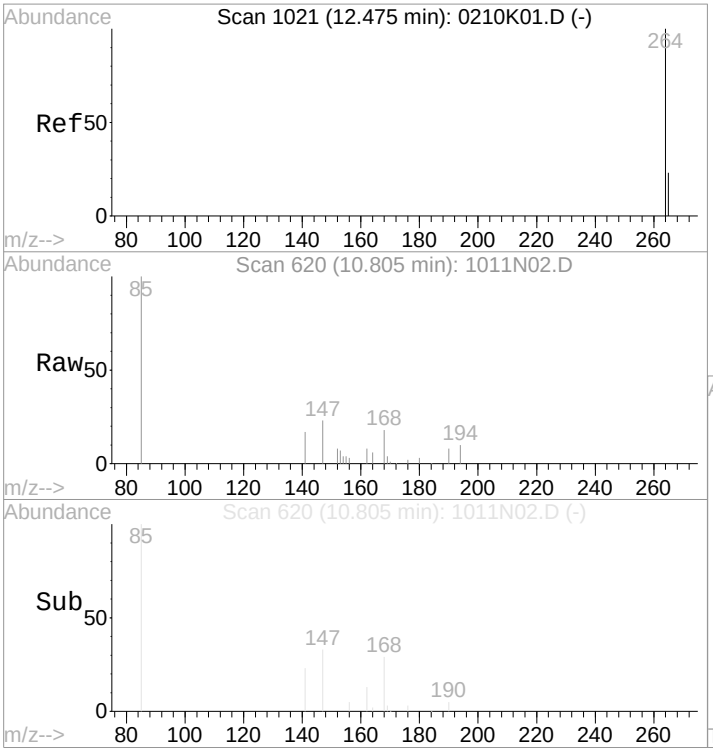


#19
C1-Benzothiophenes
Concen: 1.14 ppm m
RT: 8.75 min Scan# 454
Delta R.T. -0.01 min
Lab File: 1011N02.D
Acq: 11 Oct 2012 12:10 pm

Tgt Ion:148 Resp: 43918

Ion	Ratio	Lower	Upper
148	100		
147	95.5	60.0	100.0

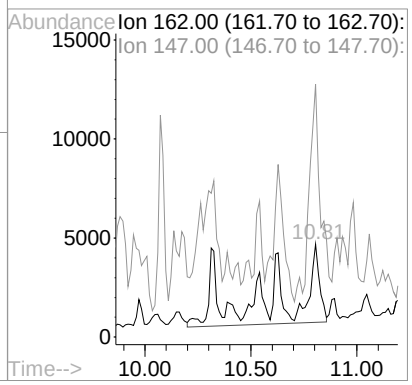


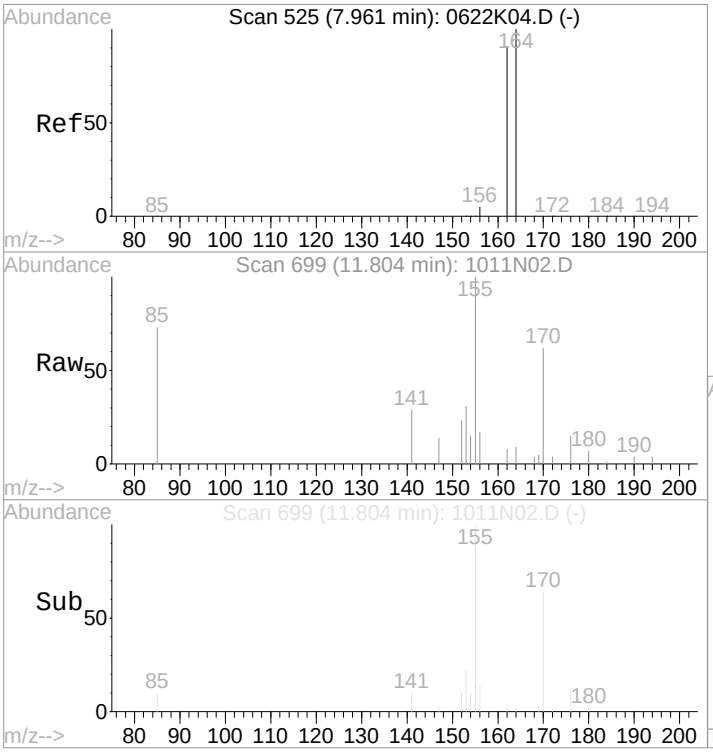


#20
C2-Benzothiophenes
Concen: 1.17 ppm m
RT: 10.81 min Scan# 620
Delta R.T. -0.26 min
Lab File: 1011N02.D
Acq: 11 Oct 2012 12:10 pm

Tgt Ion:162 Resp: 44972

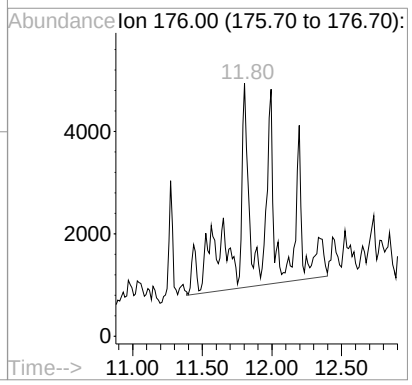
Ion	Ratio	Lower	Upper
162	100		
147	91.4	60.0	100.0

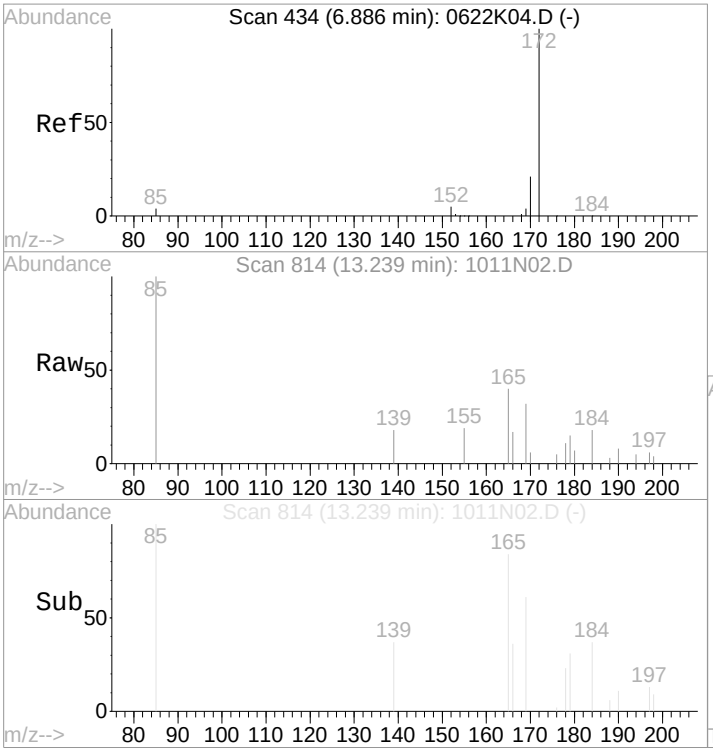




#21
C3-Benzothiophenes
Concen: 1.33 ppm m
RT: 11.80 min Scan# 699
Delta R.T. -0.81 min
Lab File: 1011N02.D
Acq: 11 Oct 2012 12:10 pm

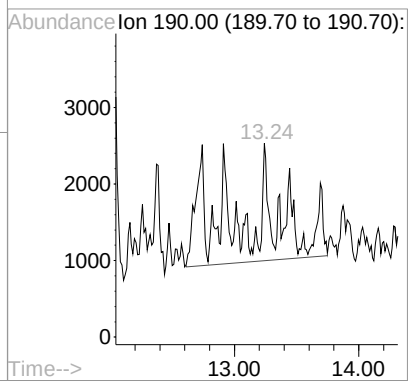
Tgt Ion:176 Resp: 51010

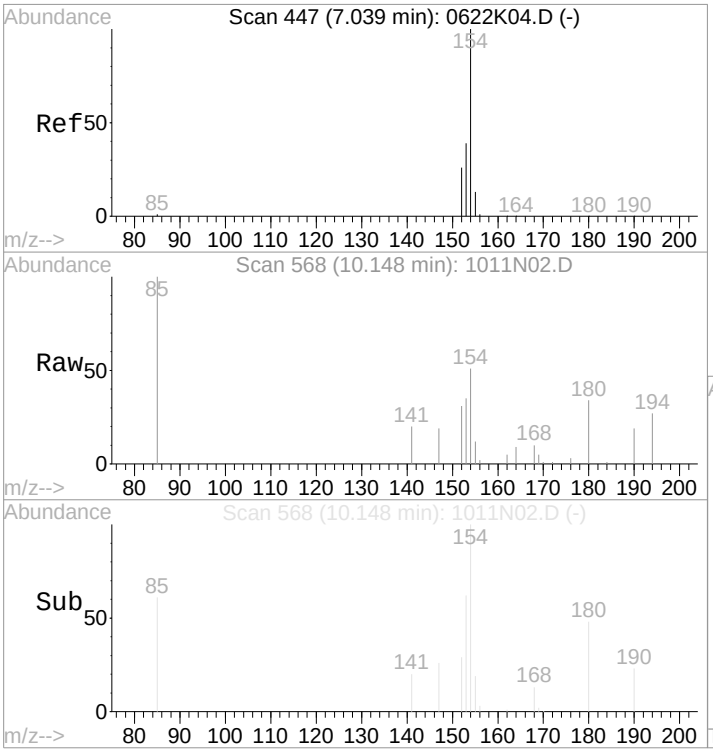




#22
C4-Benzothiophenes
Concen: 0.84 ppm m
RT: 13.24 min Scan# 814
Delta R.T. 0.17 min
Lab File: 1011N02.D
Acq: 11 Oct 2012 12:10 pm

Tgt Ion:190 Resp: 32248

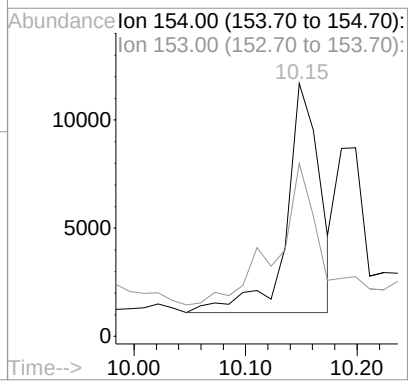


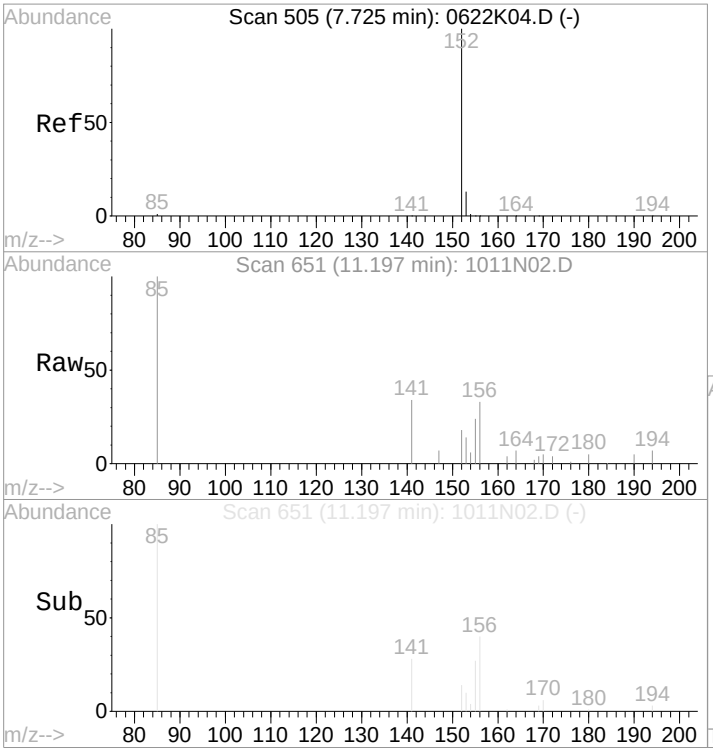


#25
Biphenyl (Diphenyl)
Concen: 0.49 ppm
RT: 10.15 min Scan# 568
Delta R.T. -0.05 min
Lab File: 1011N02.D
Acq: 11 Oct 2012 12:10 pm

Tgt Ion:154 Resp: 22240

Ion	Ratio	Lower	Upper
154	100		
153	84.4	17.5	57.5#

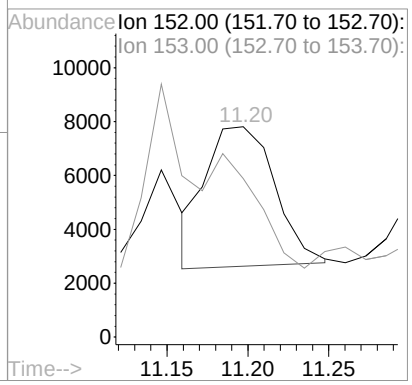


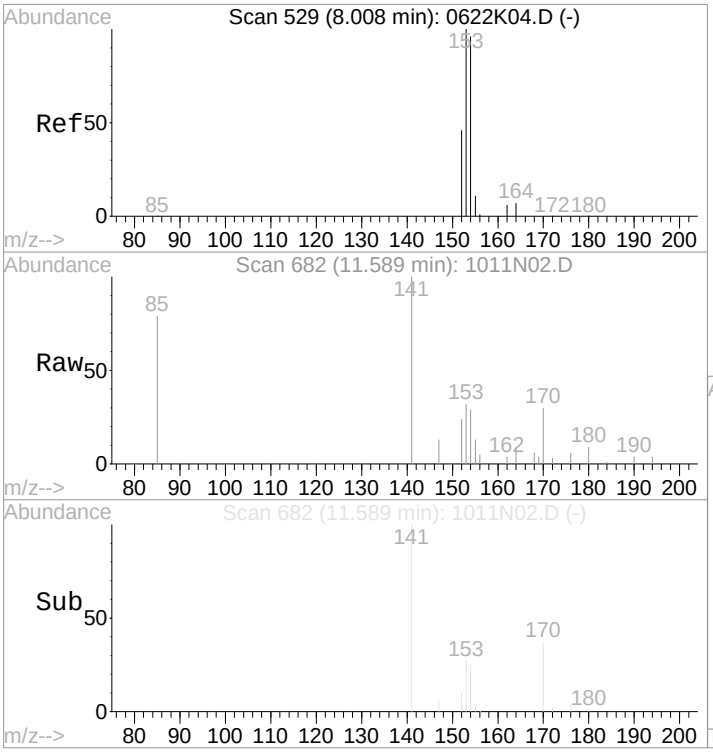


#26
Acenaphthylene
Concen: 0.39 ppm m
RT: 11.20 min Scan# 651
Delta R.T. -0.01 min
Lab File: 1011N02.D
Acq: 11 Oct 2012 12:10 pm

Tgt Ion:152 Resp: 15471

Ion	Ratio	Lower	Upper
152	100		
153	0.0	0.0	33.0

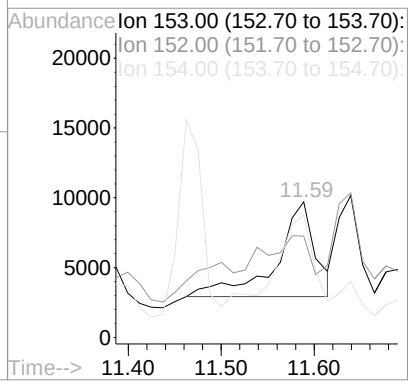


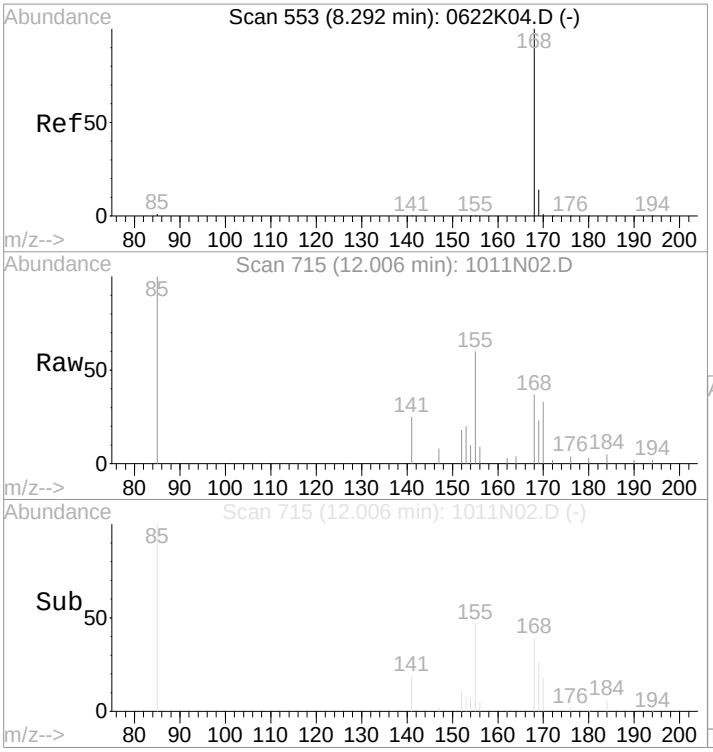


#27
Acenaphthene
Concen: 0.60 ppm
RT: 11.59 min Scan# 682
Delta R.T. -0.05 min
Lab File: 1011N02.D
Acq: 11 Oct 2012 12:10 pm

Tgt Ion:153 Resp: 19875

Ion	Ratio	Lower	Upper
153	100		
152	45.6	26.2	66.2
154	129.6	77.9	117.9#

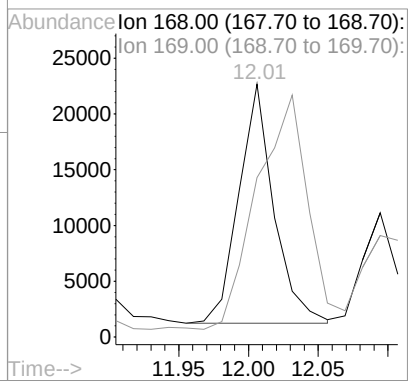


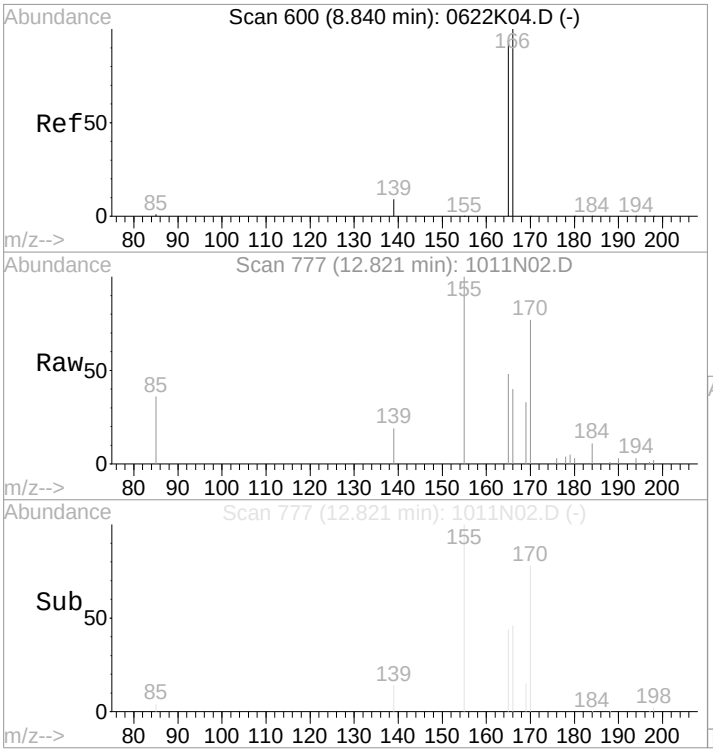


#28
Dibenzofuran
Concen: 0.78 ppm
RT: 12.01 min Scan# 715
Delta R.T. -0.05 min
Lab File: 1011N02.D
Acq: 11 Oct 2012 12:10 pm

Tgt Ion:168 Resp: 37570

Ion	Ratio	Lower	Upper
168	100		
169	145.5	0.0	33.3#

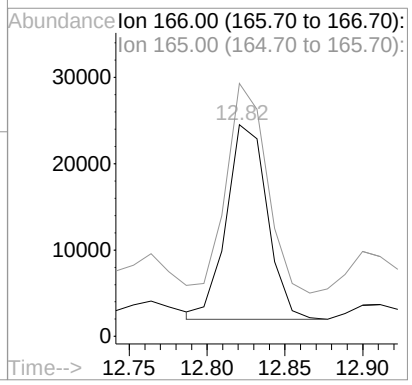


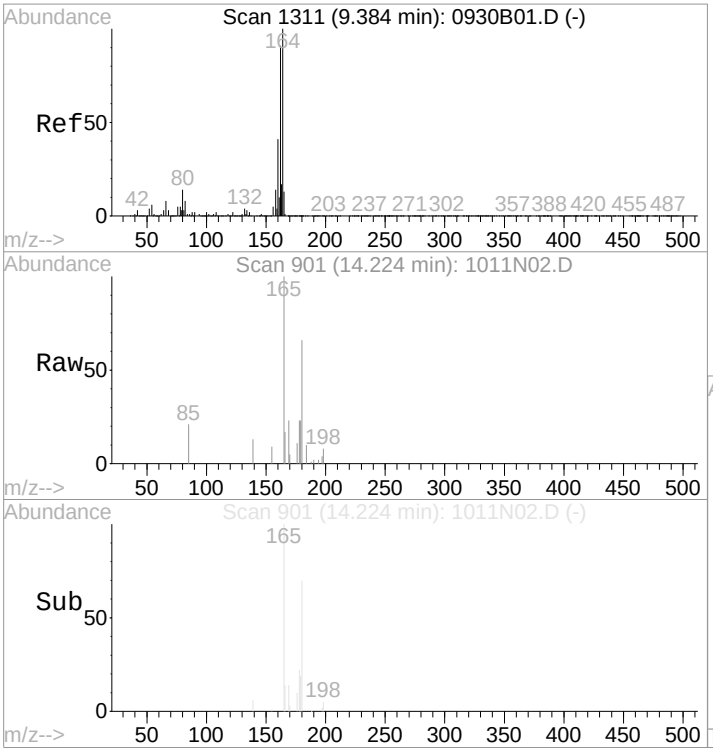


#29
Fluorene
Concen: 1.13 ppm
RT: 12.82 min Scan# 777
Delta R.T. -0.06 min
Lab File: 1011N02.D
Acq: 11 Oct 2012 12:10 pm

Tgt Ion:166 Resp: 41200

Ion	Ratio	Lower	Upper
166	100		
165	106.1	67.8	107.8

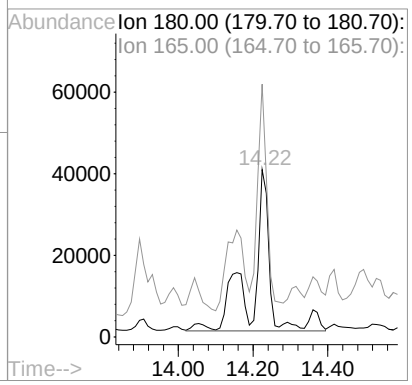


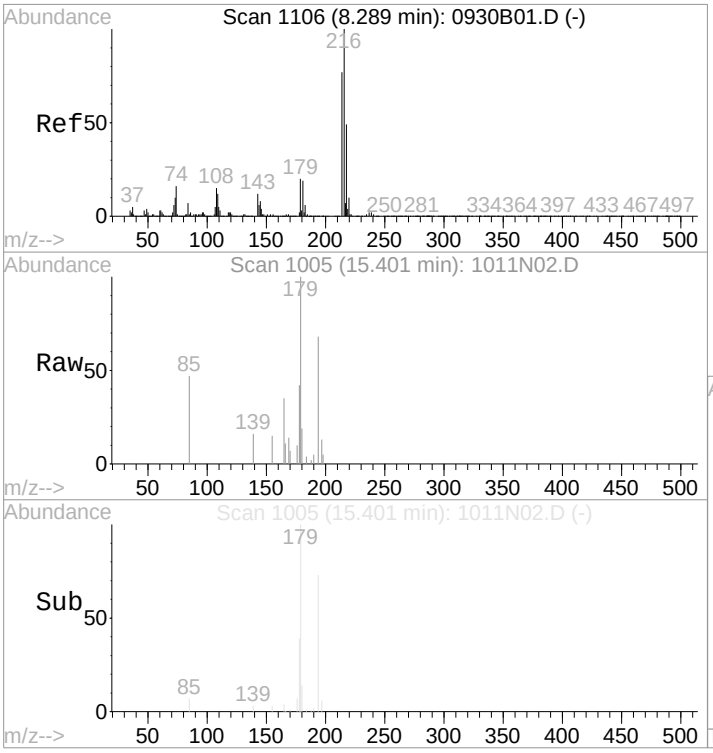


#30
C1-Fluorenes
Concen: 3.67 ppm m
RT: 14.22 min Scan# 901
Delta R.T. -0.25 min
Lab File: 1011N02.D
Acq: 11 Oct 2012 12:10 pm

Tgt Ion:180 Resp: 133999

Ion	Ratio	Lower	Upper
180	100		
165	66.1	113.4	153.4#

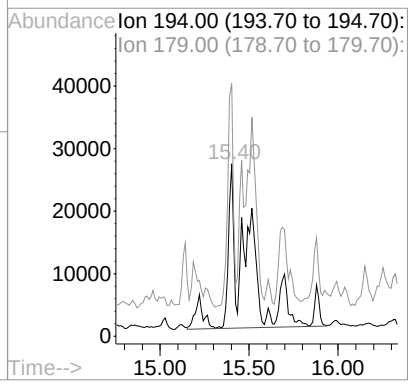


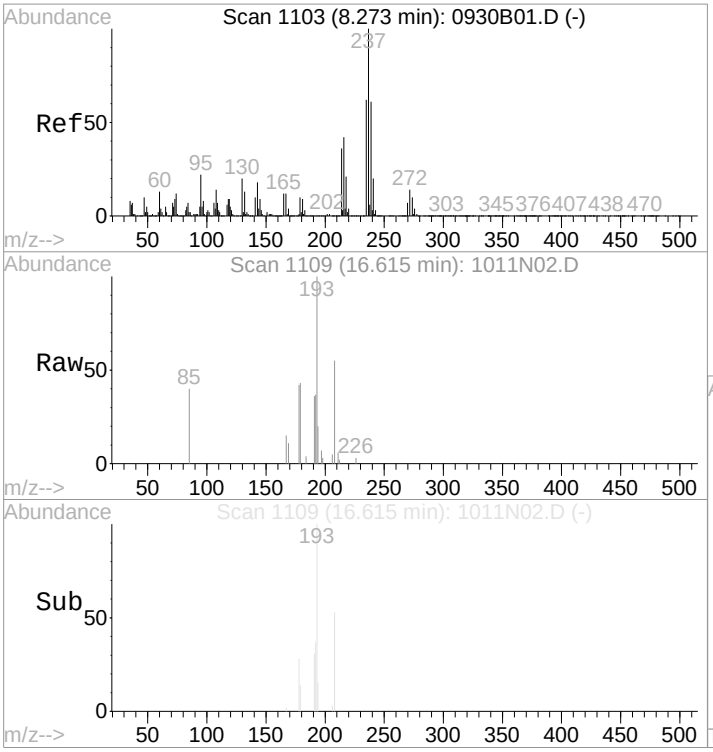


#31
C2-Fluorenes
Concen: 5.40 ppm m
RT: 15.40 min Scan# 1005
Delta R.T. -0.56 min
Lab File: 1011N02.D
Acq: 11 Oct 2012 12:10 pm

Tgt Ion:194 Resp: 196998

Ion	Ratio	Lower	Upper
194	100		
179	39.9	92.9	132.9#

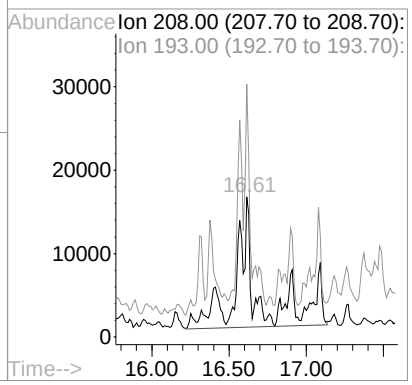


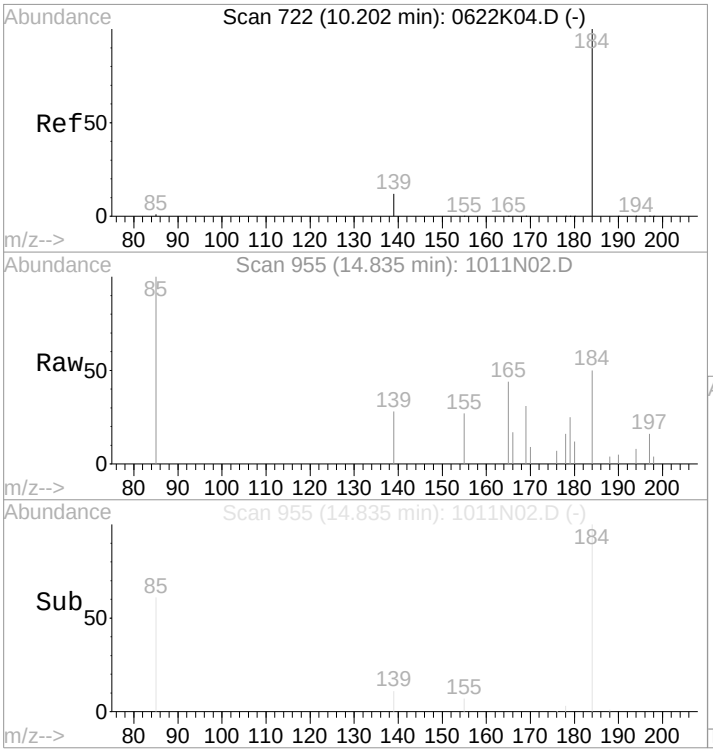


#32
C3-Fluorenes
Concen: 4.43 ppm m
RT: 16.61 min Scan# 1109
Delta R.T. -1.05 min
Lab File: 1011N02.D
Acq: 11 Oct 2012 12:10 pm

Tgt Ion:208 Resp: 161587

Ion	Ratio	Lower	Upper
208	100		
193	21.3	284.9	324.9#

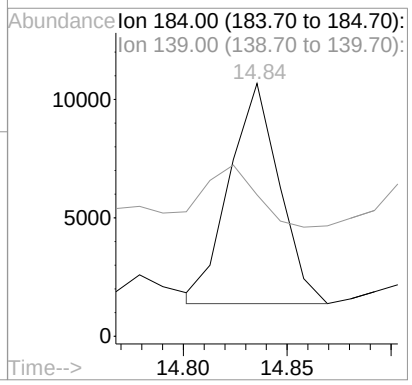


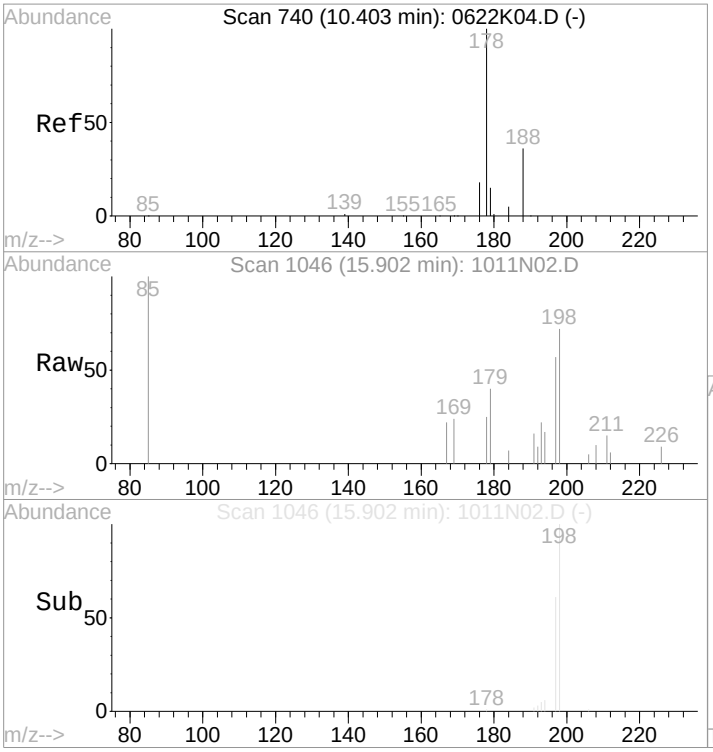


#38
Dibenzothiophene
Concen: 0.33 ppm
RT: 14.84 min Scan# 955
Delta R.T. -0.05 min
Lab File: 1011N02.D
Acq: 11 Oct 2012 12:10 pm

Tgt Ion:184 Resp: 15580

Ion	Ratio	Lower	Upper
184	100		
139	29.8	0.0	37.7

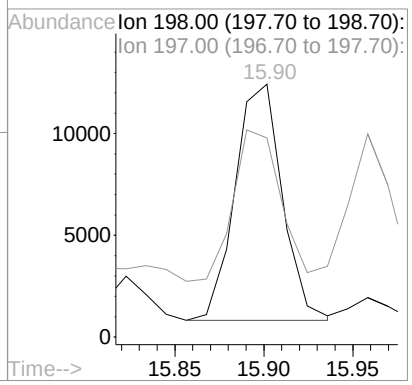


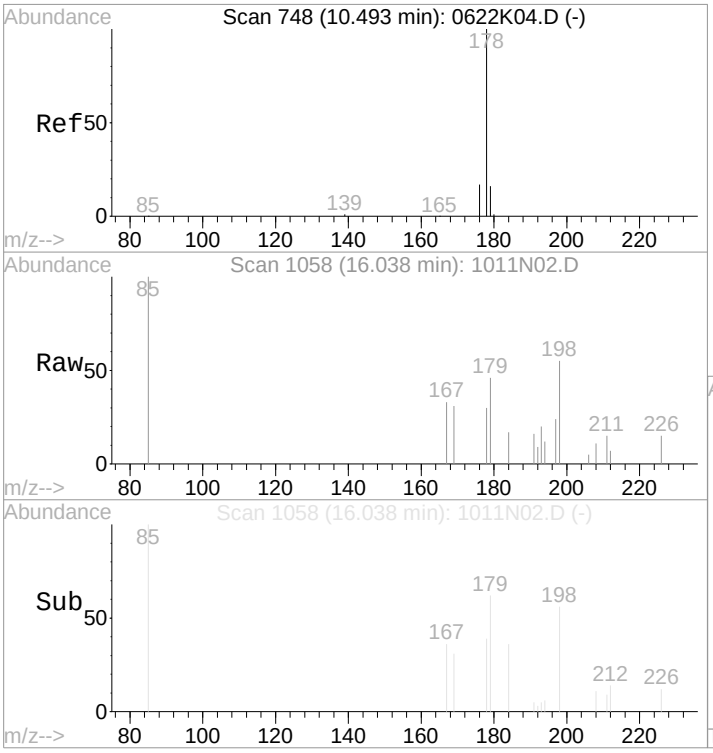


#39
4-Methyldibenzothiophene
Concen: 0.46 ppm
RT: 15.90 min Scan# 1046
Delta R.T. -0.11 min
Lab File: 1011N02.D
Acq: 11 Oct 2012 12:10 pm

Tgt Ion:198 Resp: 21351

Ion	Ratio	Lower	Upper
198	100		
197	64.1	45.4	85.4

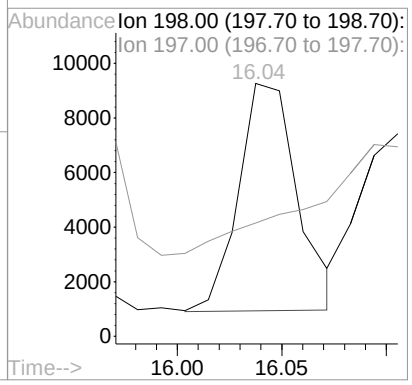


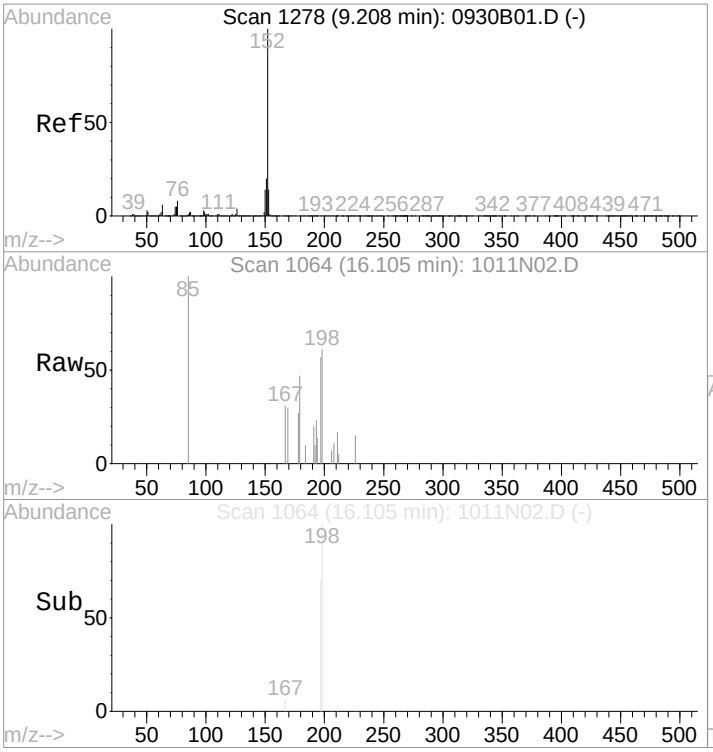


#40
2/3-Methyldibenzothiophene
Concen: 0.35 ppm m
RT: 16.04 min Scan# 1058
Delta R.T. -0.20 min
Lab File: 1011N02.D
Acq: 11 Oct 2012 12:10 pm

Tgt Ion:198 Resp: 16370

Ion	Ratio	Lower	Upper
198	100		
197	68.9	40.9	80.9

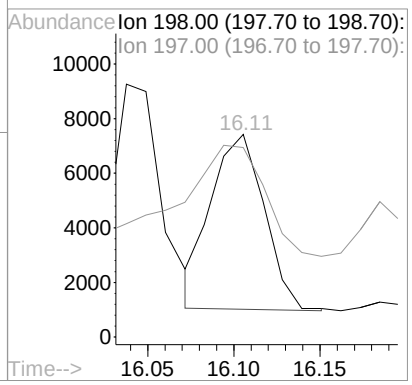


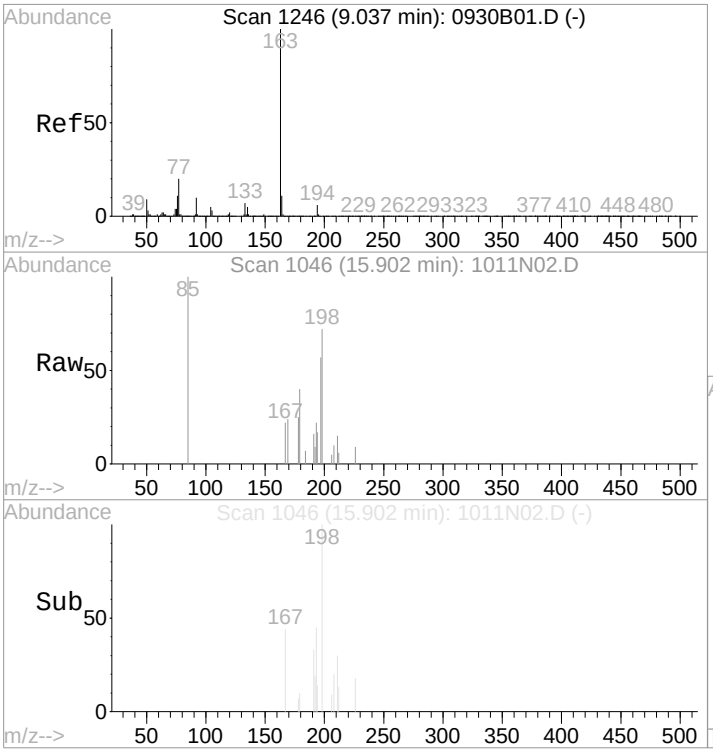


#41
1-Methyldibenzothiophene
Concen: 0.29 ppm m
RT: 16.11 min Scan# 1064
Delta R.T. -0.37 min
Lab File: 1011N02.D
Acq: 11 Oct 2012 12:10 pm

Tgt Ion:198 Resp: 13772

Ion	Ratio	Lower	Upper
198	100		
197	57.1	43.6	83.6

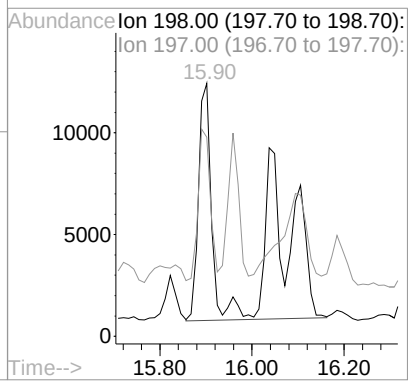


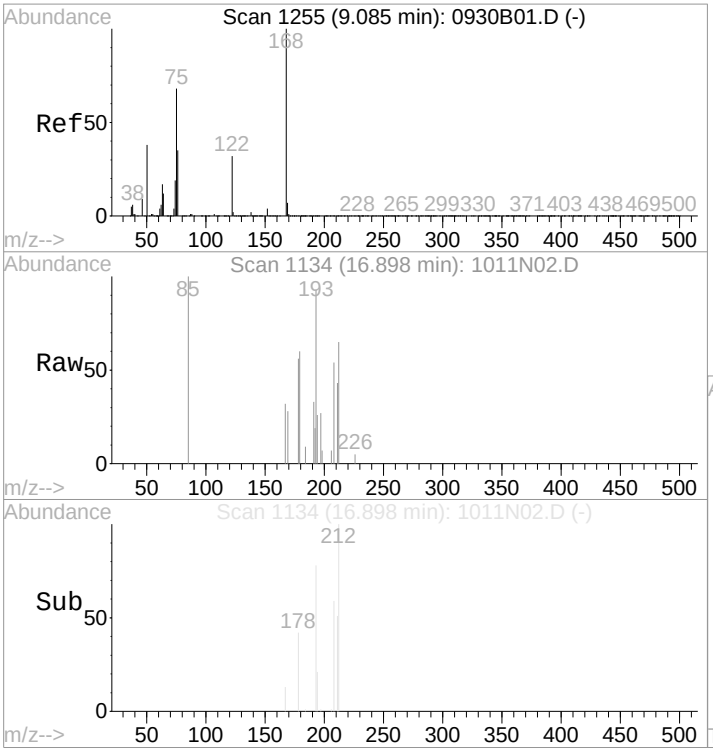


#42
C1-Dibenzothiophenes
Concen: 1.16 ppm m
RT: 15.90 min Scan# 1046
Delta R.T. -0.11 min
Lab File: 1011N02.D
Acq: 11 Oct 2012 12:10 pm

Tgt Ion:198 Resp: 54538

Ion	Ratio	Lower	Upper
198	100		
197	26.1	45.4	85.4#

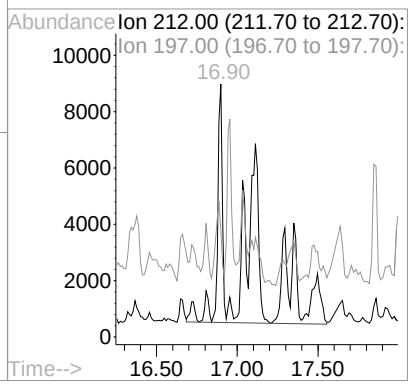


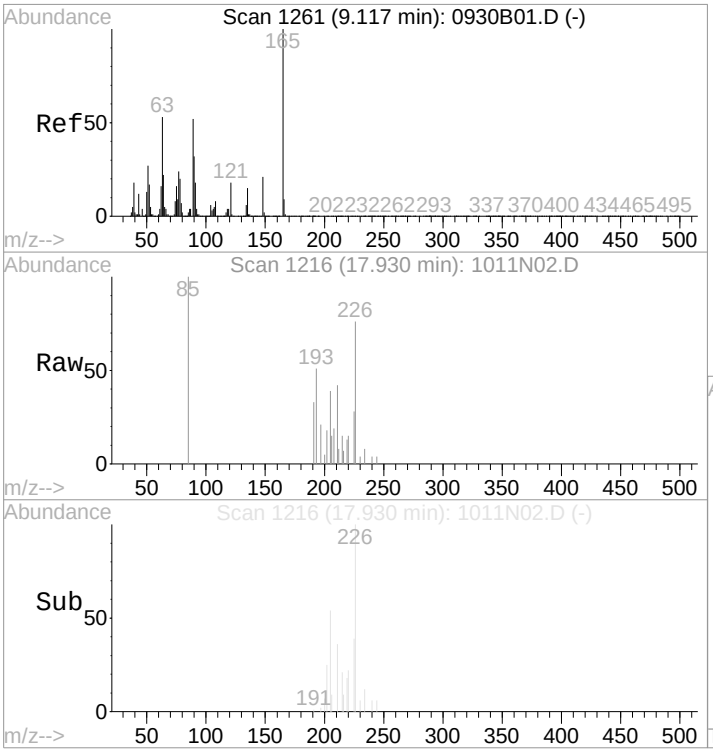


#43
C2-Dibenzothiophenes
Concen: 1.56 ppm m
RT: 16.90 min Scan# 1134
Delta R.T. -0.43 min
Lab File: 1011N02.D
Acq: 11 Oct 2012 12:10 pm

Tgt Ion:212 Resp: 73102

Ion	Ratio	Lower	Upper
212	100		
197	0.0	2.8	42.8#

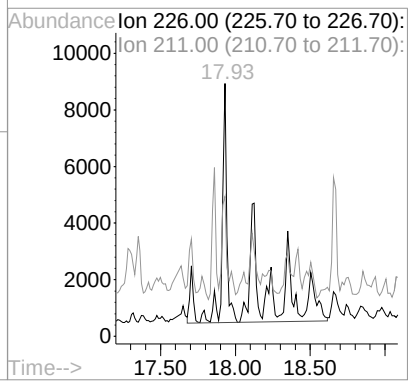


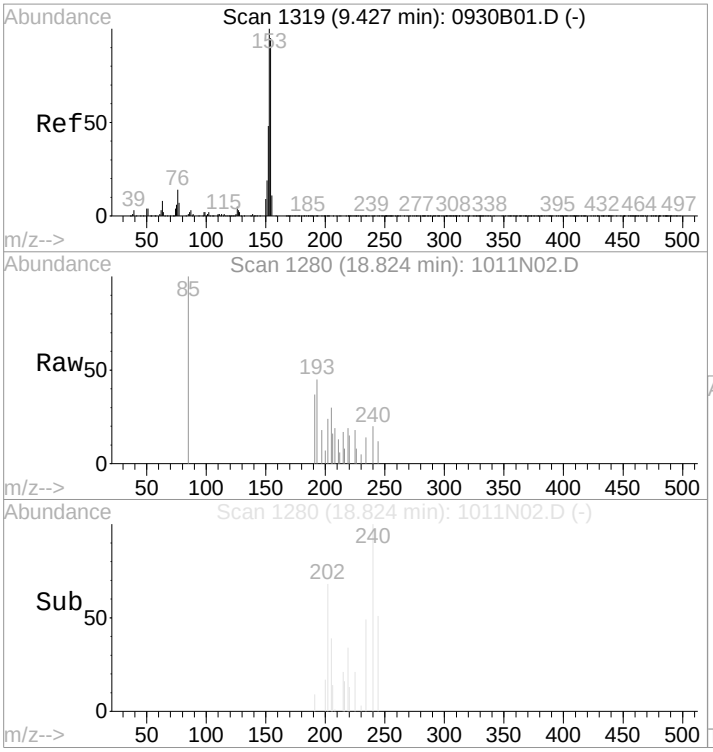


#44
C3-Dibenzothiophenes
Concen: 1.14 ppm m
RT: 17.93 min Scan# 1216
Delta R.T. -0.32 min
Lab File: 1011N02.D
Acq: 11 Oct 2012 12:10 pm

Tgt Ion:226 Resp: 53584

Ion	Ratio	Lower	Upper
226	100		
211	15.8	44.5	84.5#

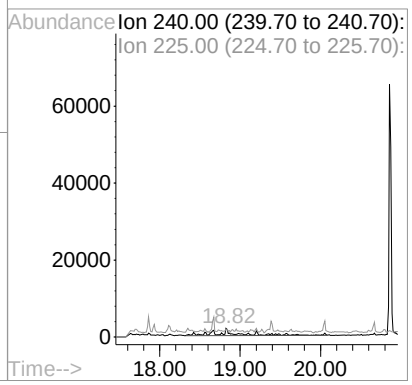


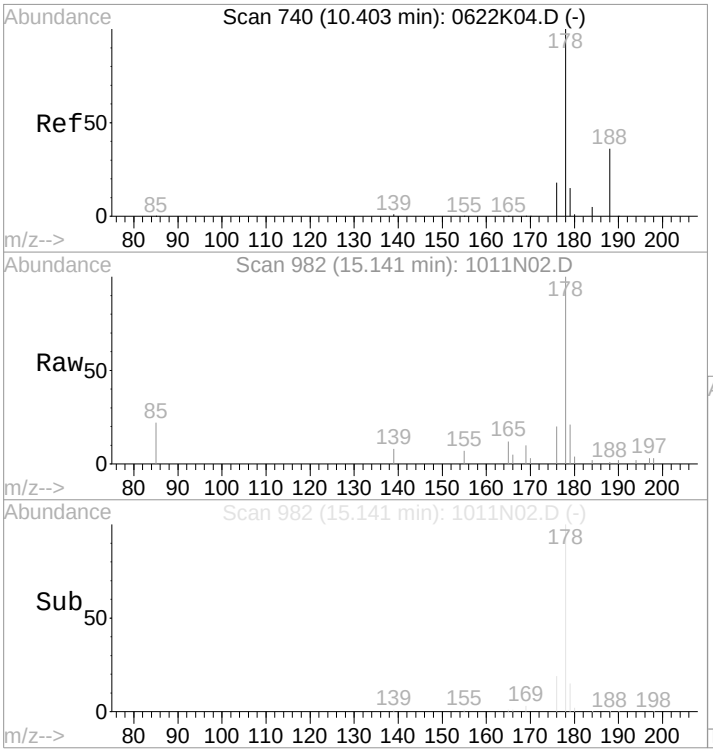


#45
C4-Dibenzothiophenes
Concen: 0.72 ppm m
RT: 18.82 min Scan# 1280
Delta R.T. -1.31 min
Lab File: 1011N02.D
Acq: 11 Oct 2012 12:10 pm

Tgt Ion:240 Resp: 33530

Ion	Ratio	Lower	Upper
240	100		
225	2.7	30.0	70.0#

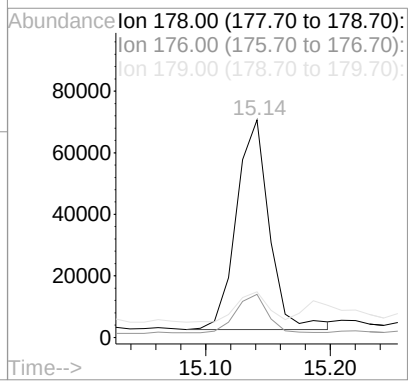


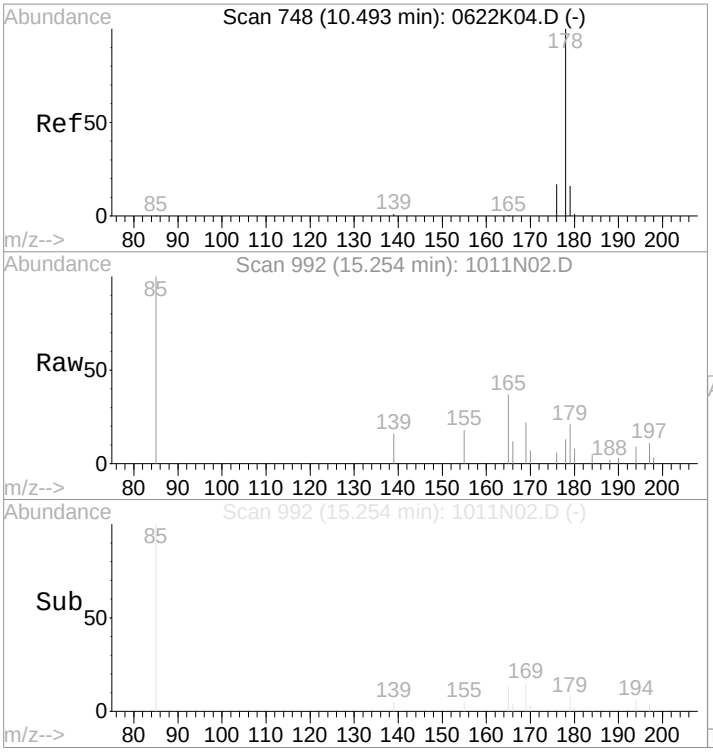


#47
Phenanthrene
Concen: 2.10 ppm
RT: 15.14 min Scan# 982
Delta R.T. -0.05 min
Lab File: 1011N02.D
Acq: 11 Oct 2012 12:10 pm

Tgt Ion:178 Resp: 124830

Ion	Ratio	Lower	Upper
178	100		
176	18.0	0.0	38.3
179	13.7	0.0	35.0

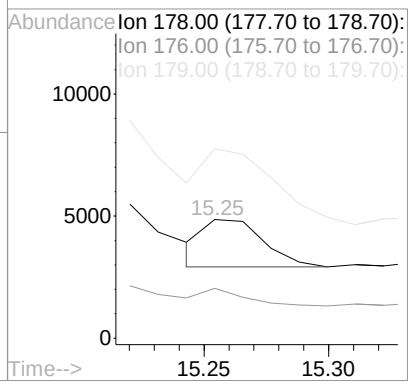


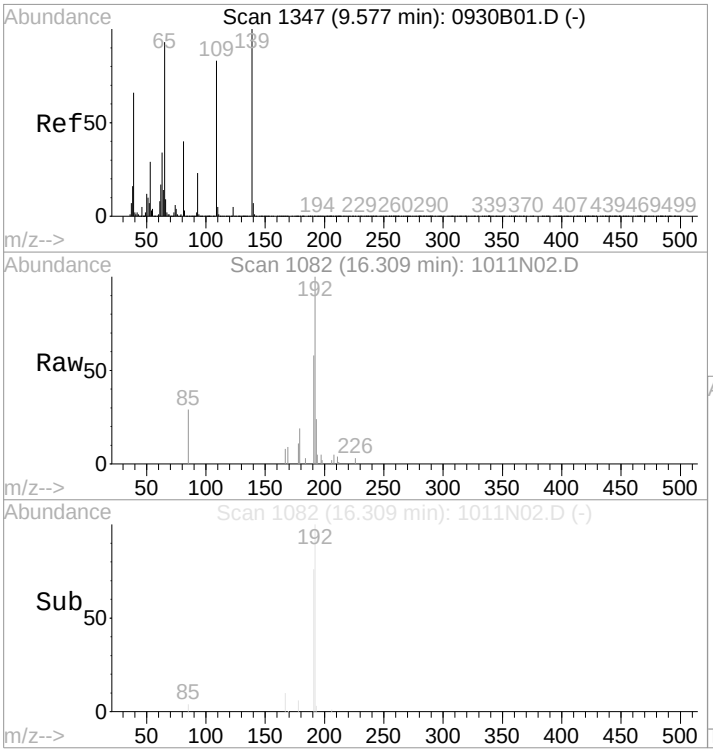


#48
Anthracene
Concen: 0.08 ppm
RT: 15.25 min Scan# 992
Delta R.T. -0.06 min
Lab File: 1011N02.D
Acq: 11 Oct 2012 12:10 pm

Tgt Ion:178 Resp: 3217

Ion	Ratio	Lower	Upper
178	100		
176	0.0	0.0	37.8
179	191.6	0.0	35.2#

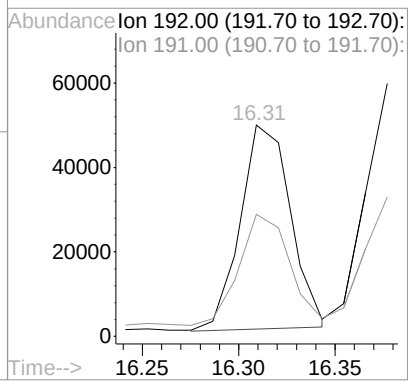


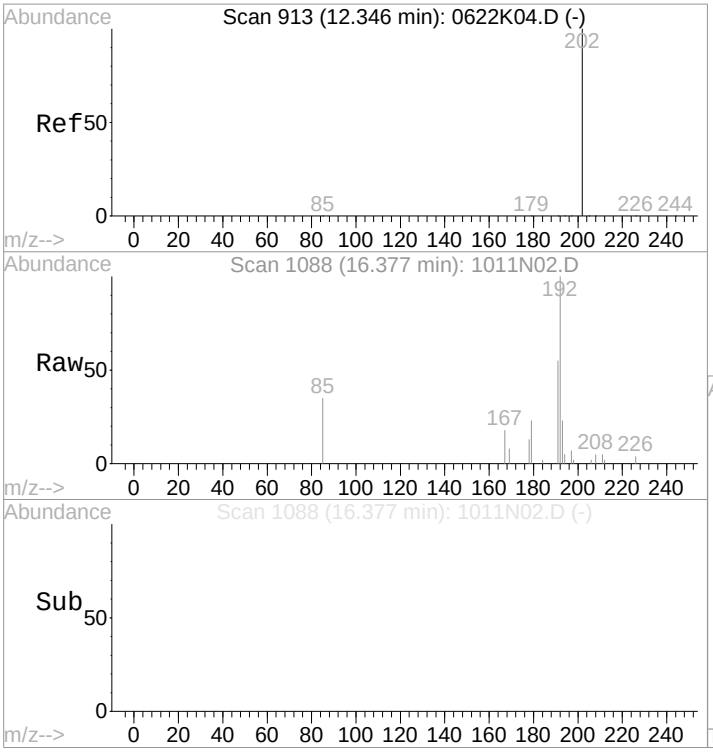


#49
3-Methylphenanthrene
Concen: 1.48 ppm m
RT: 16.31 min Scan# 1082
Delta R.T. -0.16 min
Lab File: 1011N02.D
Acq: 11 Oct 2012 12:10 pm

Tgt Ion:192 Resp: 87689

Ion	Ratio	Lower	Upper
192	100		
191	60.3	34.6	74.6

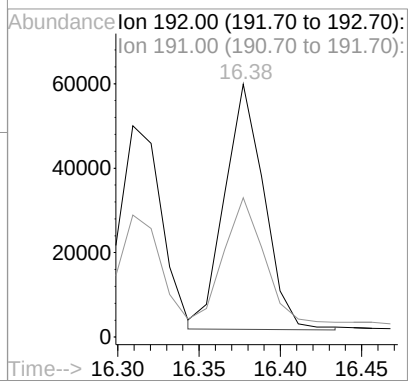


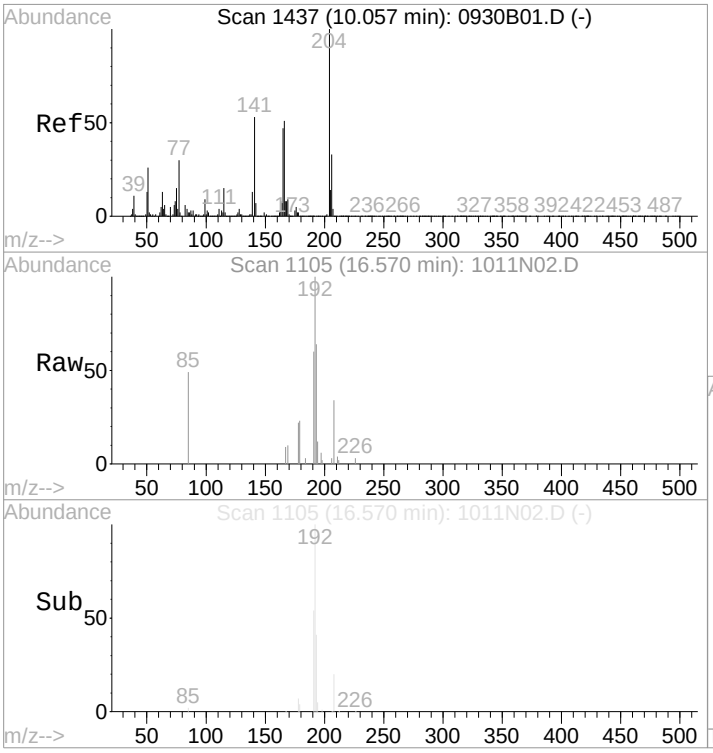


#50
2/4-Methylphenanthrene
Concen: 1.65 ppm m
RT: 16.38 min Scan# 1088
Delta R.T. -0.15 min
Lab File: 1011N02.D
Acq: 11 Oct 2012 12:10 pm

Tgt Ion:192 Resp: 97789

Ion	Ratio	Lower	Upper
192	100		
191	39.1	39.1	79.1#

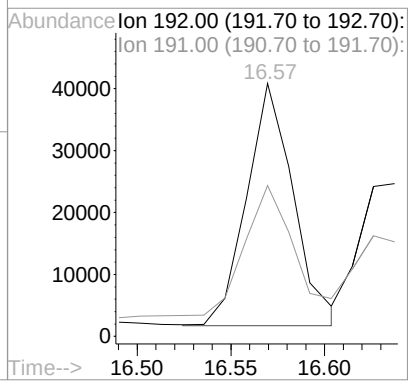


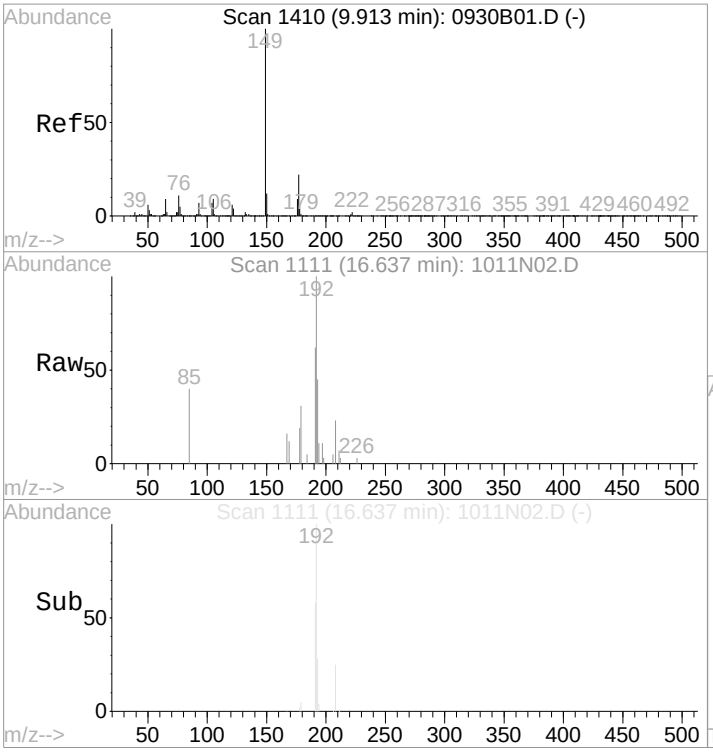


#52
9-Methylphenanthrene
Concen: 1.15 ppm m
RT: 16.57 min Scan# 1105
Delta R.T. -0.17 min
Lab File: 1011N02.D
Acq: 11 Oct 2012 12:10 pm

Tgt Ion:192 Resp: 68107

Ion	Ratio	Lower	Upper
192	100		
191	42.8	77.0	117.0#

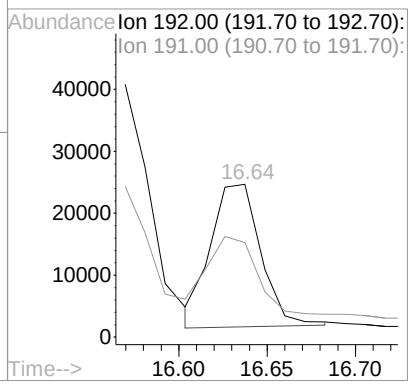


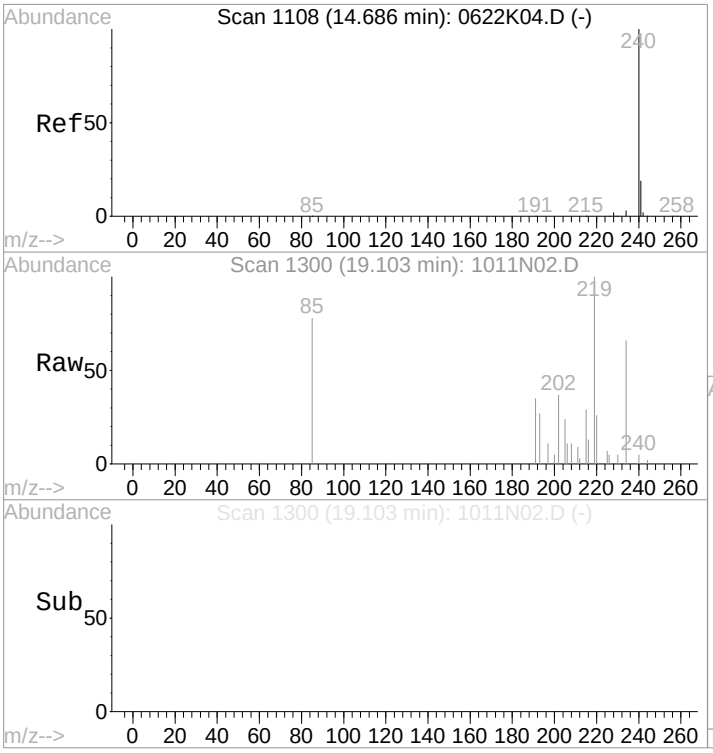


#53
1-Methylphenanthrene
Concen: 0.77 ppm m
RT: 16.64 min Scan# 1111
Delta R.T. -0.16 min
Lab File: 1011N02.D
Acq: 11 Oct 2012 12:10 pm

Tgt Ion:192 Resp: 45806

Ion	Ratio	Lower	Upper
192	100		
191	3.3	36.4	76.4#

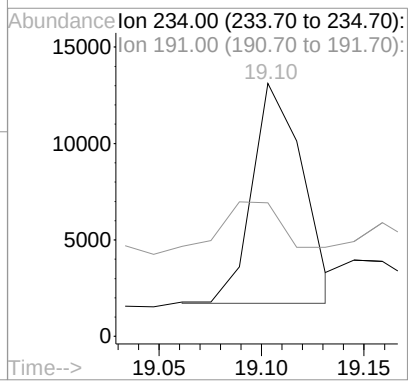


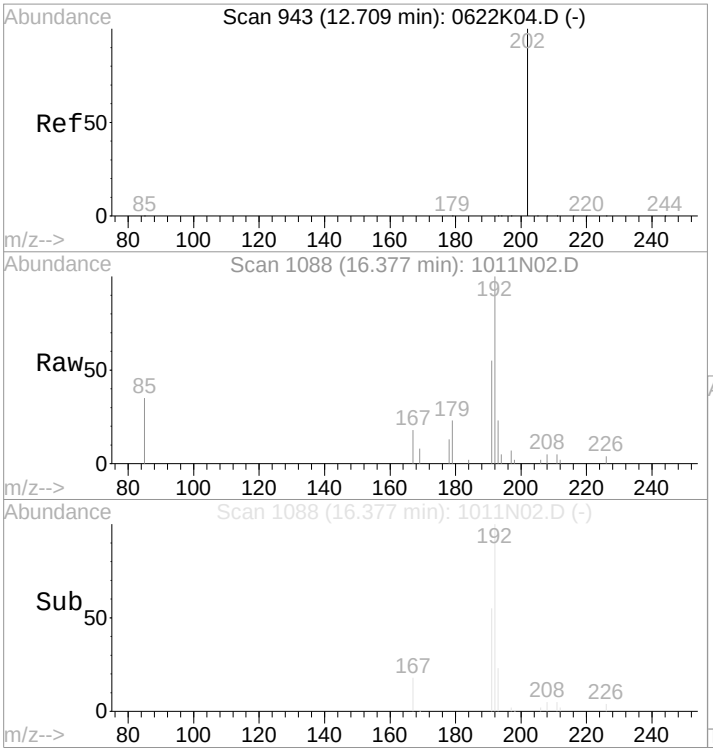


#54
Retene
Concen: 0.33 ppm m
RT: 19.10 min Scan# 1300
Delta R.T. -0.50 min
Lab File: 1011N02.D
Acq: 11 Oct 2012 12:10 pm

Tgt Ion:234 Resp: 19604

Ion	Ratio	Lower	Upper
234	100		
191	20.0	0.0	20.4

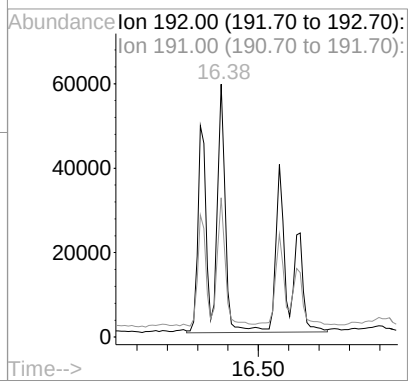


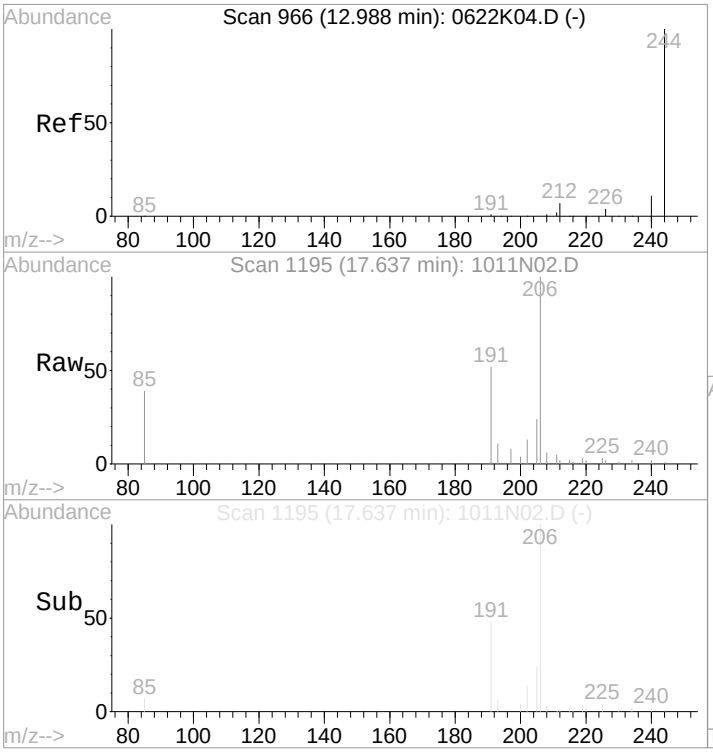


#55
C1-Phenanthrene/Anthracene
Concen: 5.38 ppm m
RT: 16.38 min Scan# 1088
Delta R.T. -0.15 min
Lab File: 1011N02.D
Acq: 11 Oct 2012 12:10 pm

Tgt Ion:192 Resp: 319493

Ion	Ratio	Lower	Upper
192	100		
191	17.5	39.1	79.1#

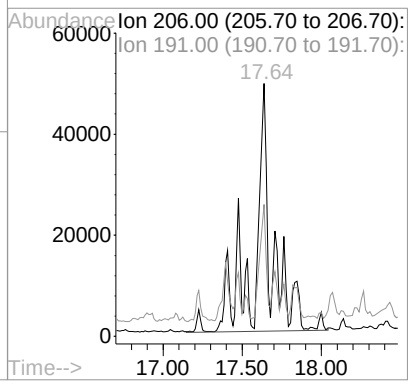


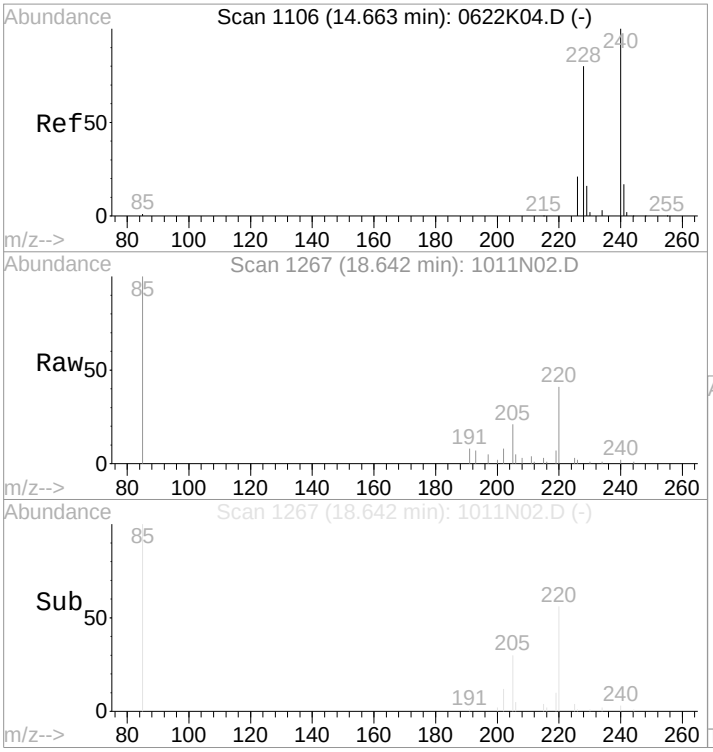


#56
C2-Phenanthrene/Anthracene
Concen: 5.18 ppm m
RT: 17.64 min Scan# 1195
Delta R.T. -0.28 min
Lab File: 1011N02.D
Acq: 11 Oct 2012 12:10 pm

Tgt Ion:206 Resp: 307471

Ion	Ratio	Lower	Upper
206	100		
191	16.0	118.9	158.9#

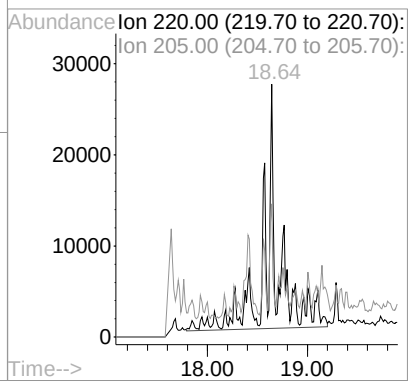


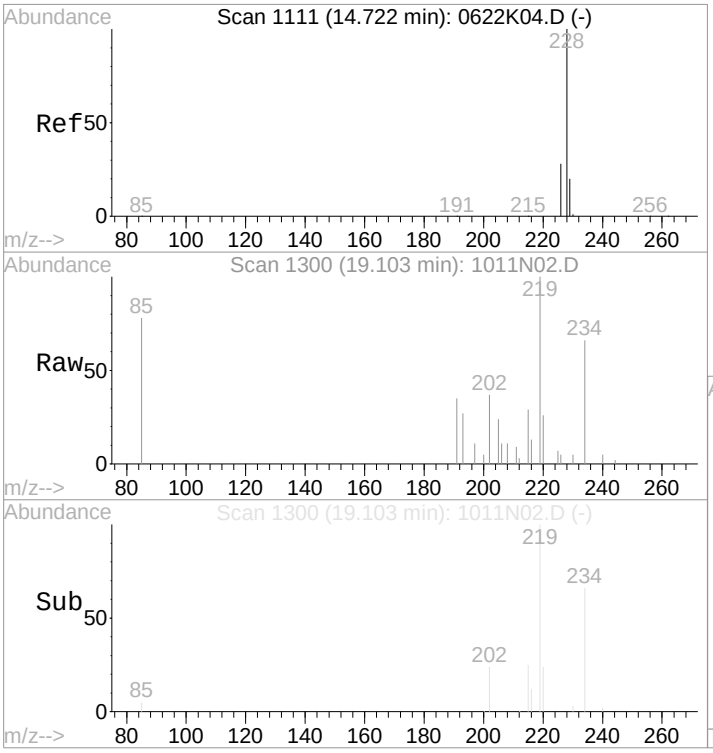


#57
C3-Phenanthrene/Anthracene
Concen: 4.00 ppm m
RT: 18.64 min Scan# 1267
Delta R.T. -0.43 min
Lab File: 1011N02.D
Acq: 11 Oct 2012 12:10 pm

Tgt Ion:220 Resp: 237825

Ion	Ratio	Lower	Upper
220	100		
205	9.7	86.4	126.4#

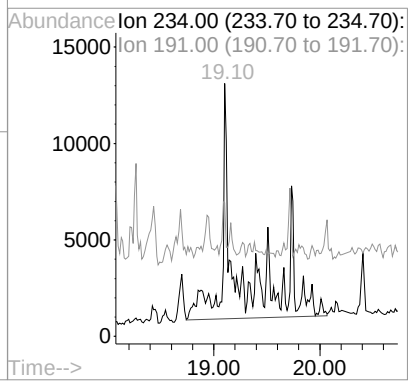


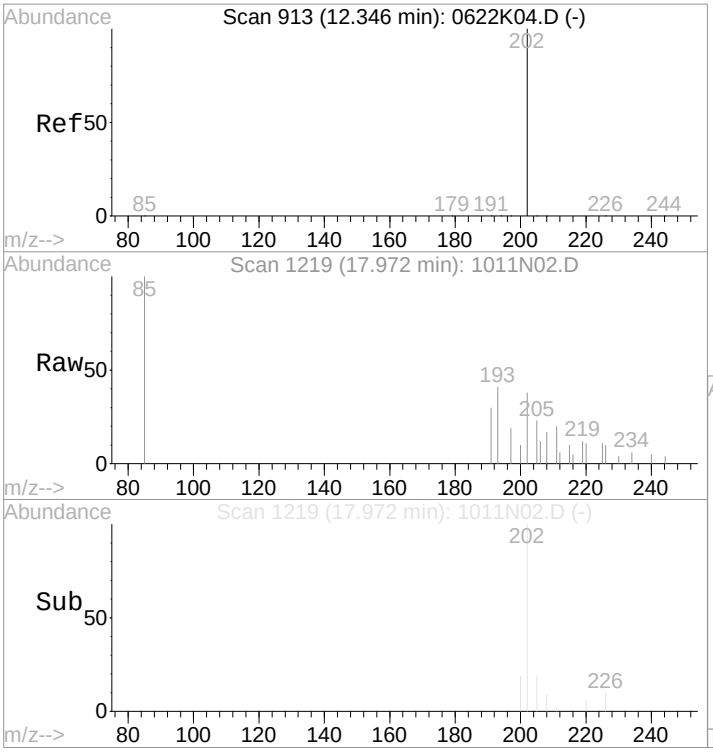


#58
C4-Phenanthrene/Anthracene
Concen: 2.03 ppm m
RT: 19.10 min Scan# 1300
Delta R.T. -0.61 min
Lab File: 1011N02.D
Acq: 11 Oct 2012 12:10 pm

Tgt Ion:234 Resp: 120321

Ion	Ratio	Lower	Upper
234	100		
191	5.1	60.0	100.0#

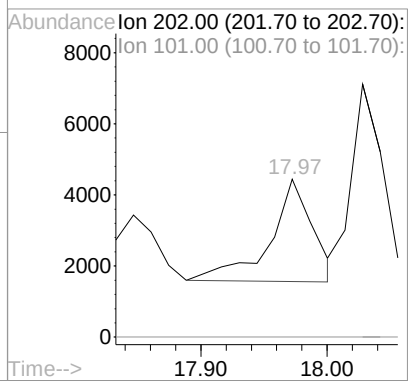


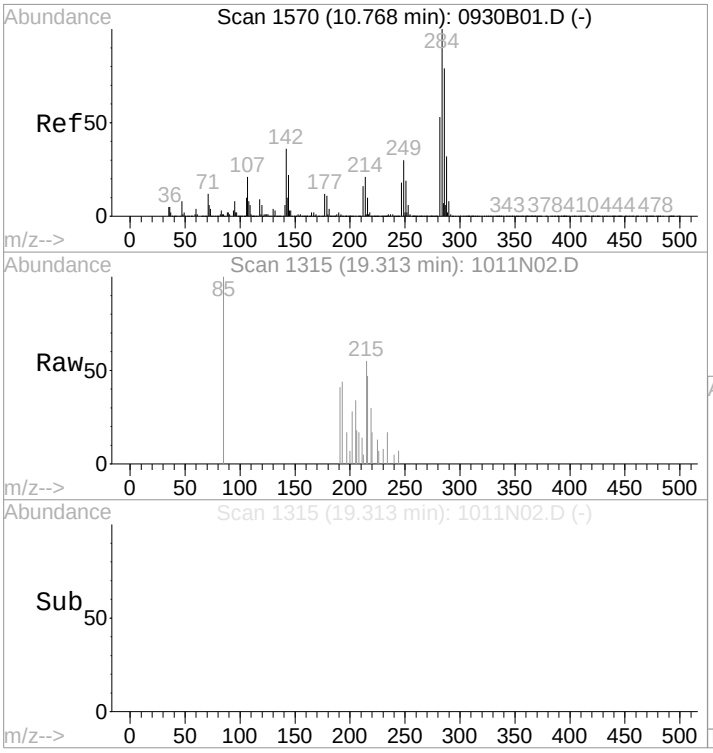


#59
Fluoranthene
Concen: 0.13 ppm
RT: 17.97 min Scan# 1219
Delta R.T. -0.05 min
Lab File: 1011N02.D
Acq: 11 Oct 2012 12:10 pm

Tgt Ion:202 Resp: 6749

Ion	Ratio	Lower	Upper
202	100		
101	0.0	0.0	20.0

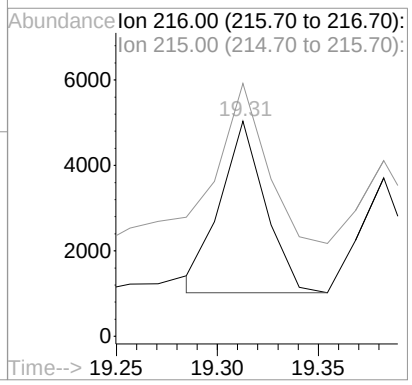


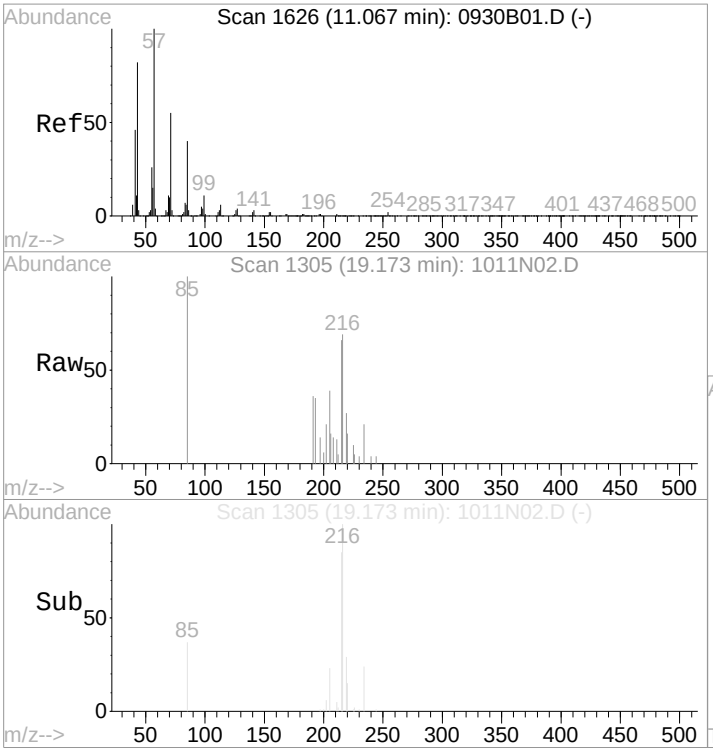


#60
Benzo(b)fluorene
Concen: 0.12 ppm
RT: 19.31 min Scan# 1315
Delta R.T. -0.51 min
Lab File: 1011N02.D
Acq: 11 Oct 2012 12:10 pm

Tgt Ion:216 Resp: 6185

Ion	Ratio	Lower	Upper
216	100		
215	92.9	60.0	100.0

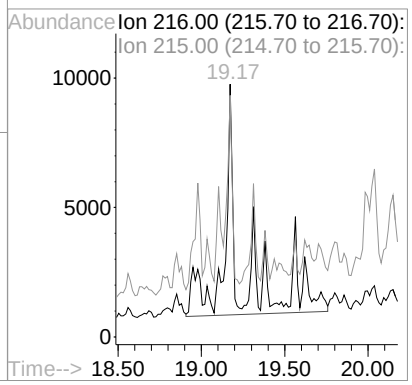


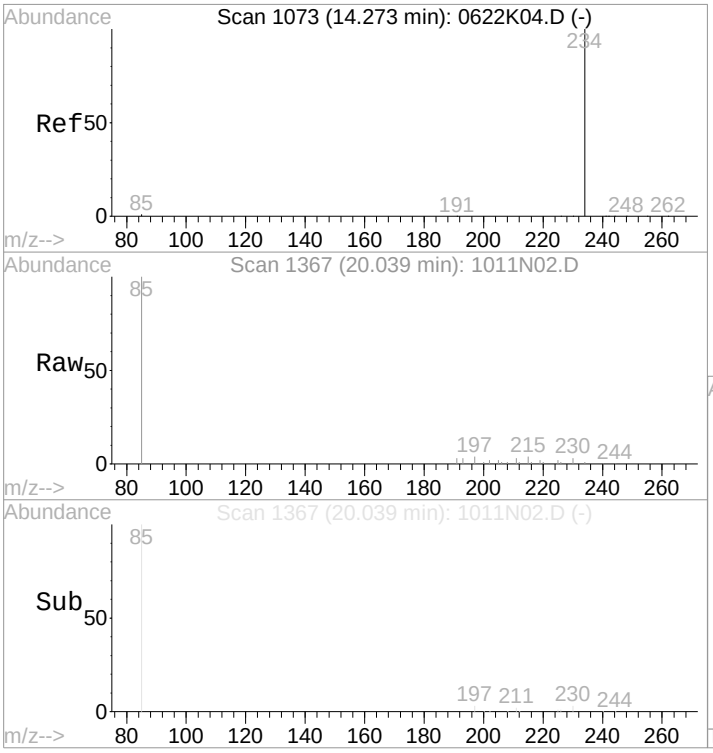


#61
C1-Fluoranthene/Pyrene
Concen: 1.15 ppm m
RT: 19.17 min Scan# 1305
Delta R.T. -0.65 min
Lab File: 1011N02.D
Acq: 11 Oct 2012 12:10 pm

Tgt Ion:216 Resp: 59253

Ion	Ratio	Lower	Upper
216	100		
215	24.9	127.1	167.1#

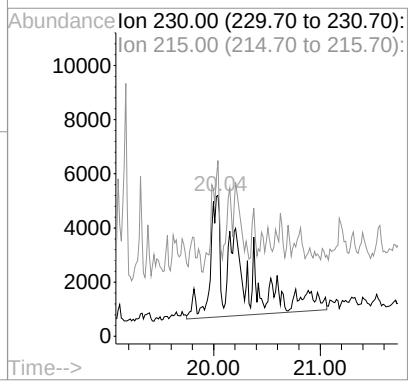


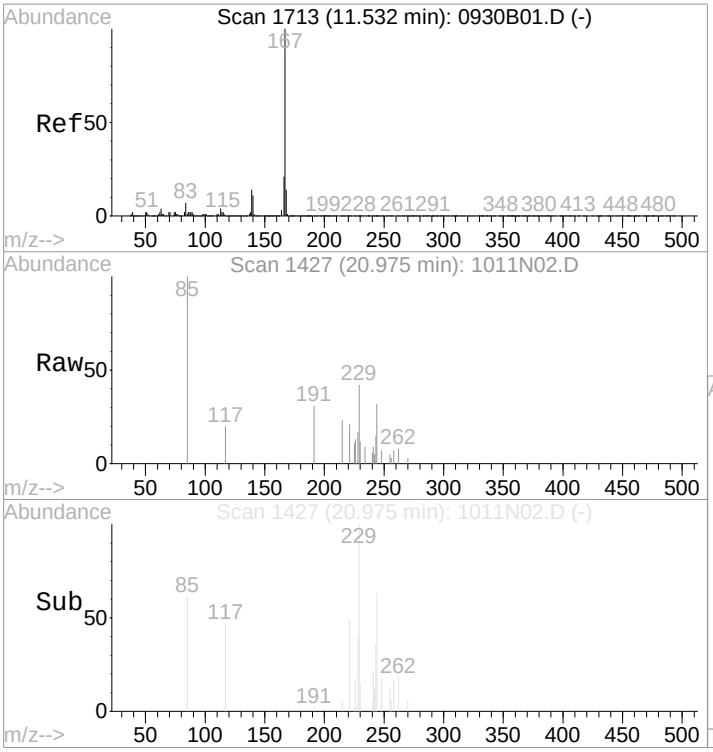


#62
C2-Fluoranthene/Pyrene
Concen: 1.53 ppm m
RT: 20.04 min Scan# 1367
Delta R.T. -1.13 min
Lab File: 1011N02.D
Acq: 11 Oct 2012 12:10 pm

Tgt Ion:230 Resp: 78342

Ion	Ratio	Lower	Upper
230	100		
215	6.6	146.1	186.1#

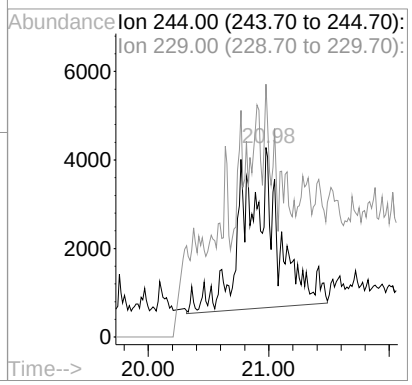


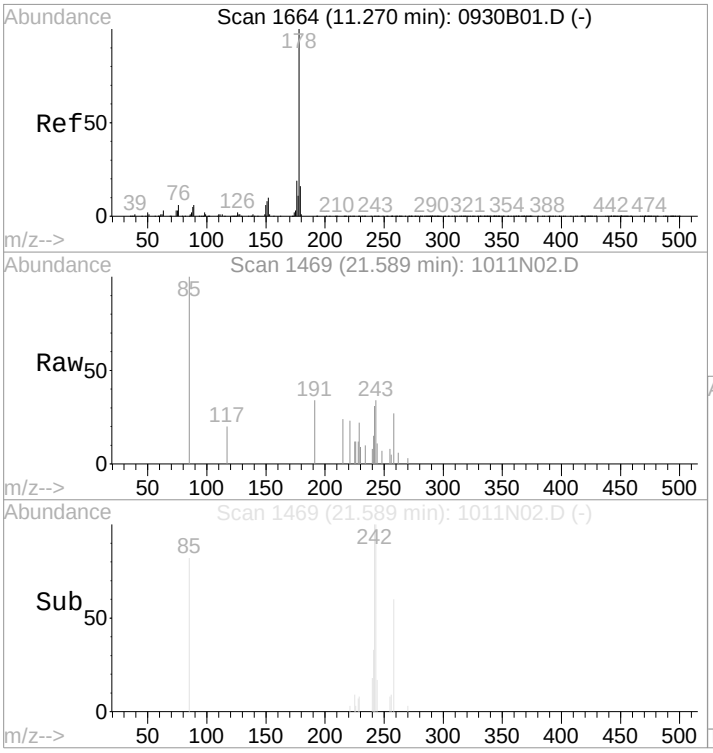


#63
C3-Fluoranthene/Pyrene
Concen: 1.44 ppm m
RT: 20.98 min Scan# 1427
Delta R.T. -0.77 min
Lab File: 1011N02.D
Acq: 11 Oct 2012 12:10 pm

Tgt Ion:244 Resp: 74059

Ion	Ratio	Lower	Upper
244	100		
229	11.4	59.1	99.1#

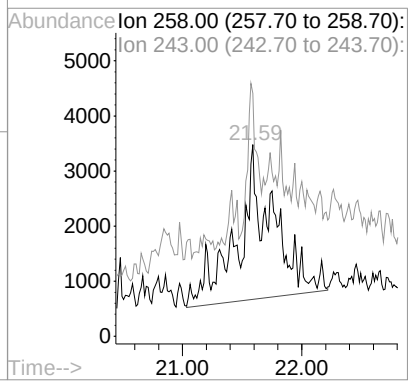


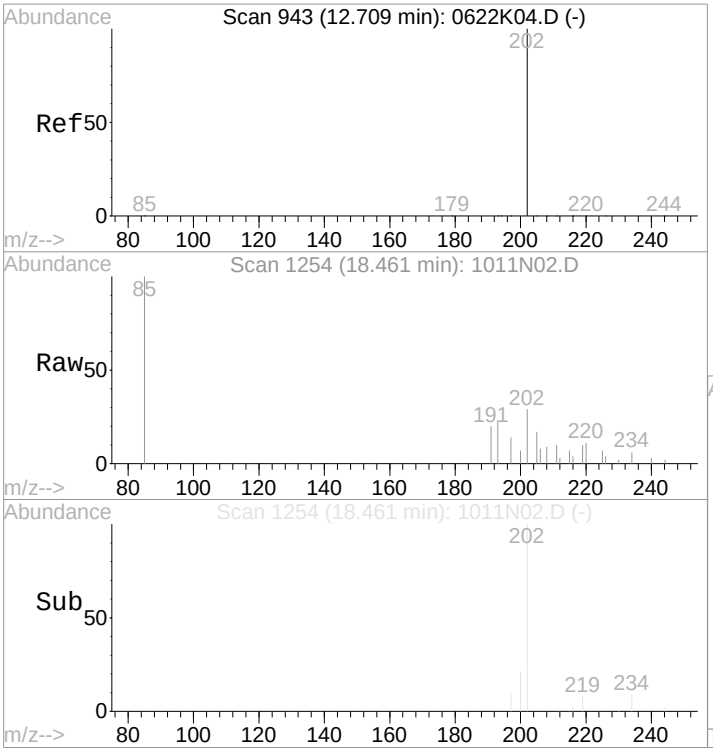


#64
C4-Fluoranthene/Pyrene
Concen: 1.12 ppm m
RT: 21.59 min Scan# 1469
Delta R.T. -0.78 min
Lab File: 1011N02.D
Acq: 11 Oct 2012 12:10 pm

Tgt Ion:258 Resp: 57405

Ion	Ratio	Lower	Upper
258	100		
243	25.0	60.0	100.0#

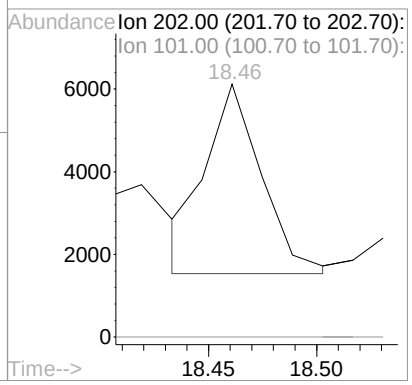


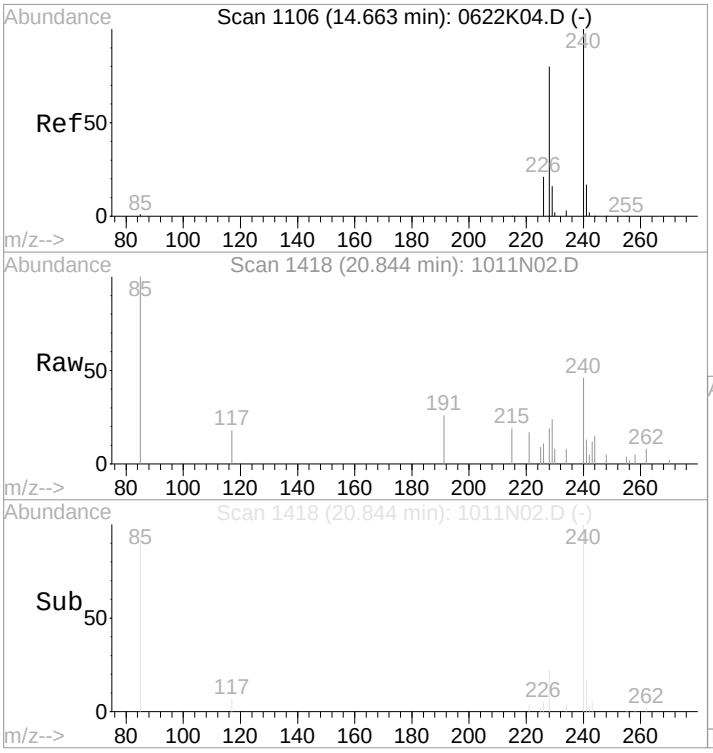


#66
Pyrene
Concen: 0.15 ppm m
RT: 18.46 min Scan# 1254
Delta R.T. -0.06 min
Lab File: 1011N02.D
Acq: 11 Oct 2012 12:10 pm

Tgt Ion:202 Resp: 8233

Ion	Ratio	Lower	Upper
202	100		
101	0.0	0.0	20.0

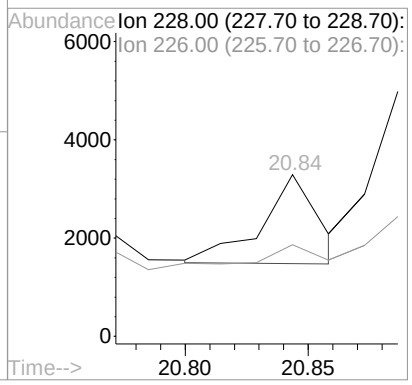


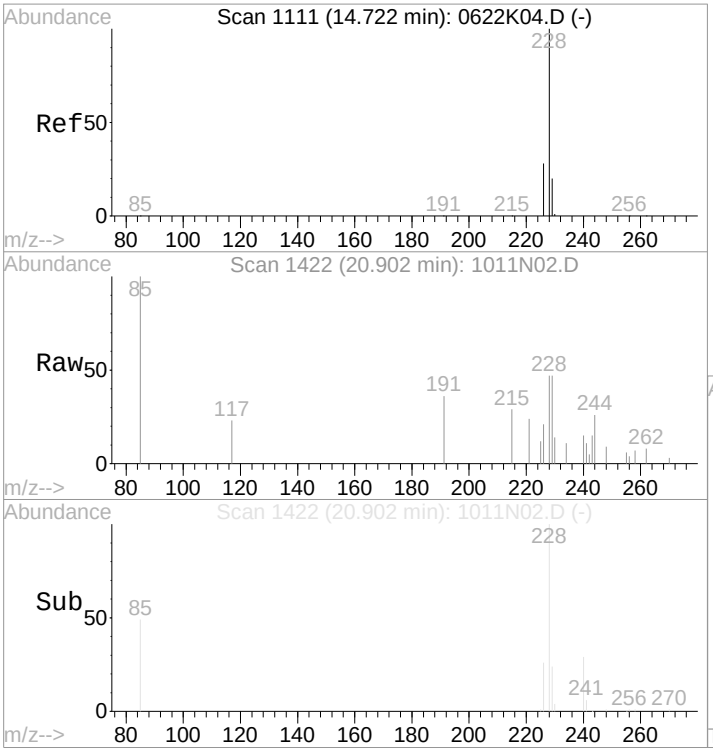


#68
Benzo(a)anthracene
Concen: 0.06 ppm m
RT: 20.84 min Scan# 1418
Delta R.T. -0.06 min
Lab File: 1011N02.D
Acq: 11 Oct 2012 12:10 pm

Tgt Ion:228 Resp: 2905

Ion	Ratio	Lower	Upper
228	100		
226	142.6	3.7	43.7#

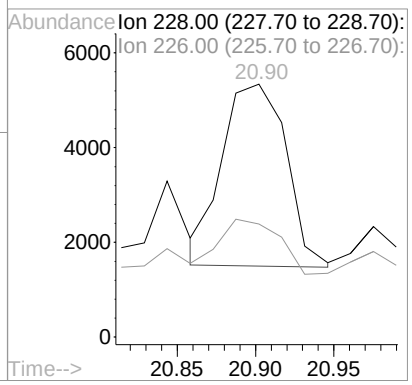


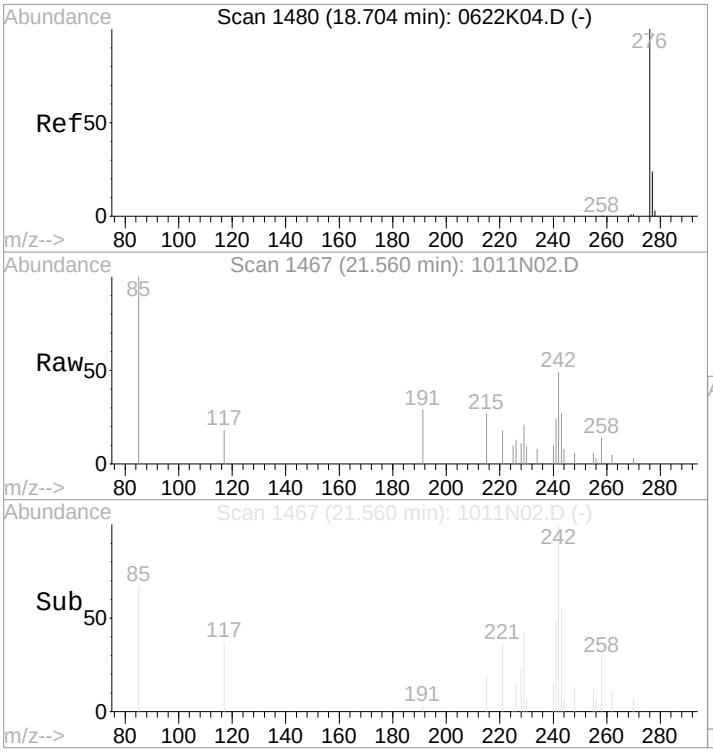


#69
Chrysene
Concen: 0.16 ppm m
RT: 20.90 min Scan# 1422
Delta R.T. -0.06 min
Lab File: 1011N02.D
Acq: 11 Oct 2012 12:10 pm

Tgt Ion:228 Resp: 10886

Ion	Ratio	Lower	Upper
228	100		
226	34.8	6.8	46.8

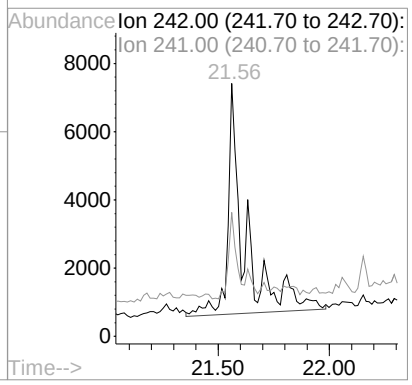


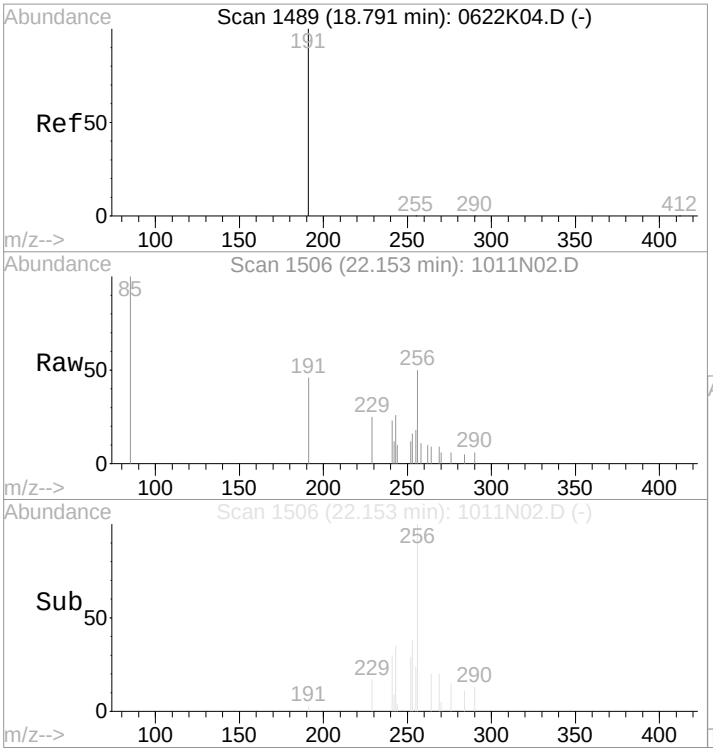


#70
C1-Chrysenes
Concen: 0.52 ppm m
RT: 21.56 min Scan# 1467
Delta R.T. -0.19 min
Lab File: 1011N02.D
Acq: 11 Oct 2012 12:10 pm

Tgt Ion:242 Resp: 34387

Ion	Ratio	Lower	Upper
242	100		
241	18.5	9.6	49.6

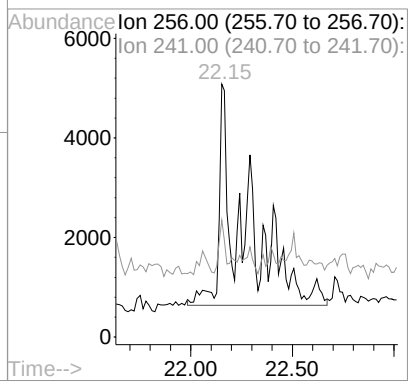


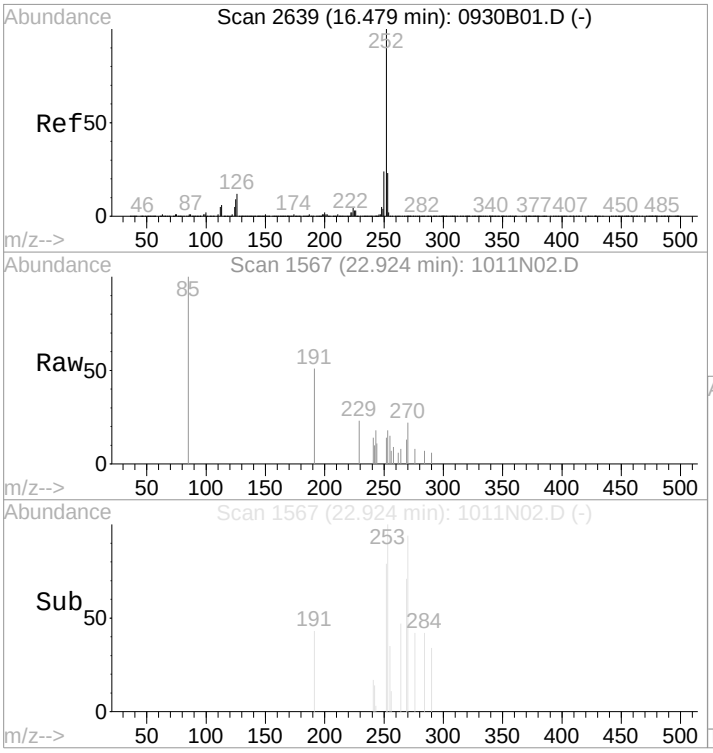


#71
C2-Chrysenes
Concen: 0.58 ppm m
RT: 22.15 min Scan# 1506
Delta R.T. -0.32 min
Lab File: 1011N02.D
Acq: 11 Oct 2012 12:10 pm

Tgt Ion:256 Resp: 38453

Ion	Ratio	Lower	Upper
256	100		
241	5.6	38.4	78.4#

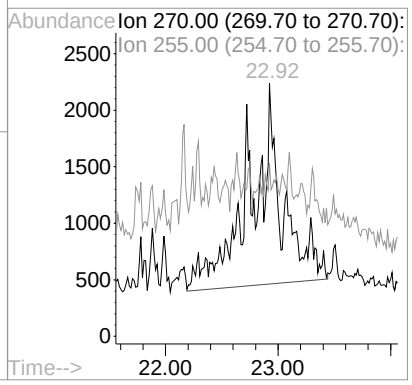


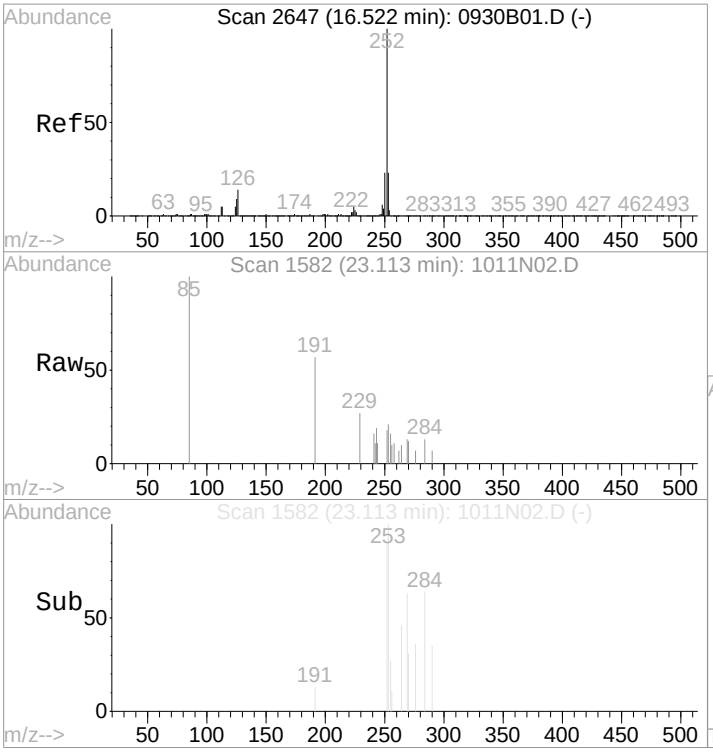


#72
C3-Chrysenes
Concen: 0.53 ppm m
RT: 22.92 min Scan# 1567
Delta R.T. -0.29 min
Lab File: 1011N02.D
Acq: 11 Oct 2012 12:10 pm

Tgt Ion:270 Resp: 35345

Ion	Ratio	Lower	Upper
270	100		
255	0.0	40.0	80.0#

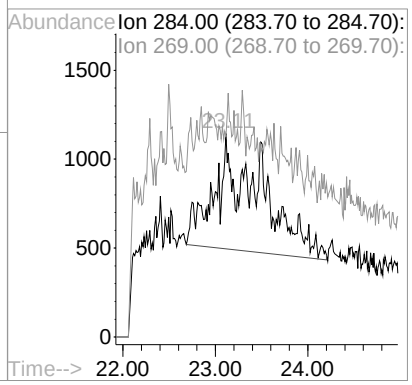


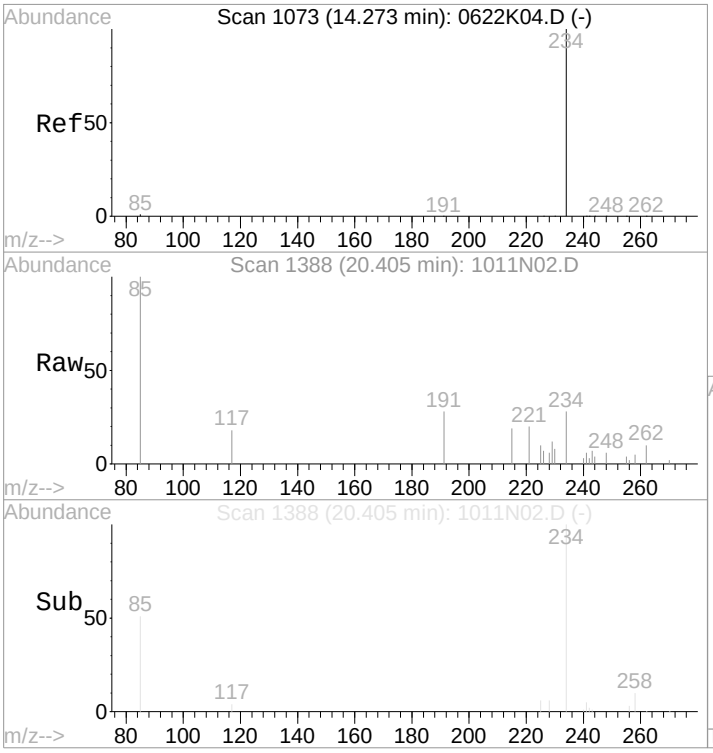


#73
C4-Chrysenes
Concen: 0.34 ppm m
RT: 23.11 min Scan# 1582
Delta R.T. -0.68 min
Lab File: 1011N02.D
Acq: 11 Oct 2012 12:10 pm

Tgt Ion:284 Resp: 22228

Ion	Ratio	Lower	Upper
284	100		
269	0.0	65.3	105.3#

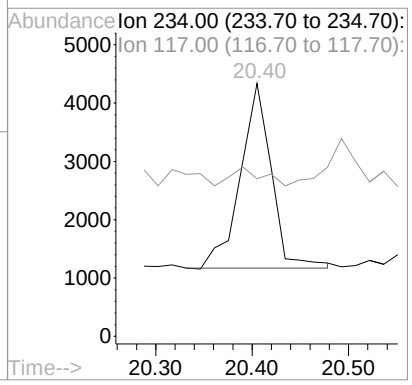


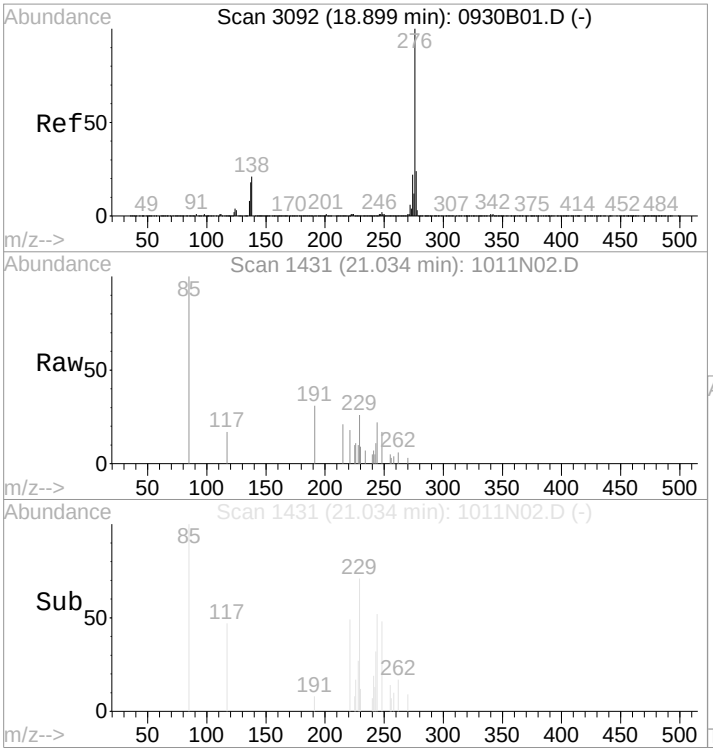


#74
Naphthobenzothiophene
Concen: 0.14 ppm
RT: 20.40 min Scan# 1388
Delta R.T. -0.04 min
Lab File: 1011N02.D
Acq: 11 Oct 2012 12:10 pm

Tgt Ion:234 Resp: 7059

Ion	Ratio	Lower	Upper
234	100		
117	0.0	0.0	28.6

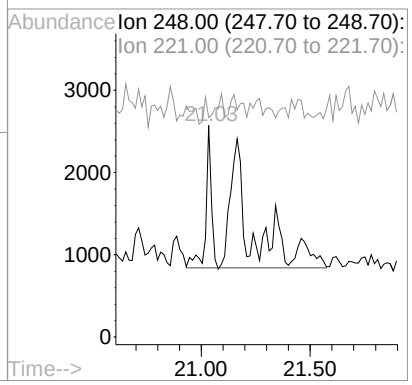


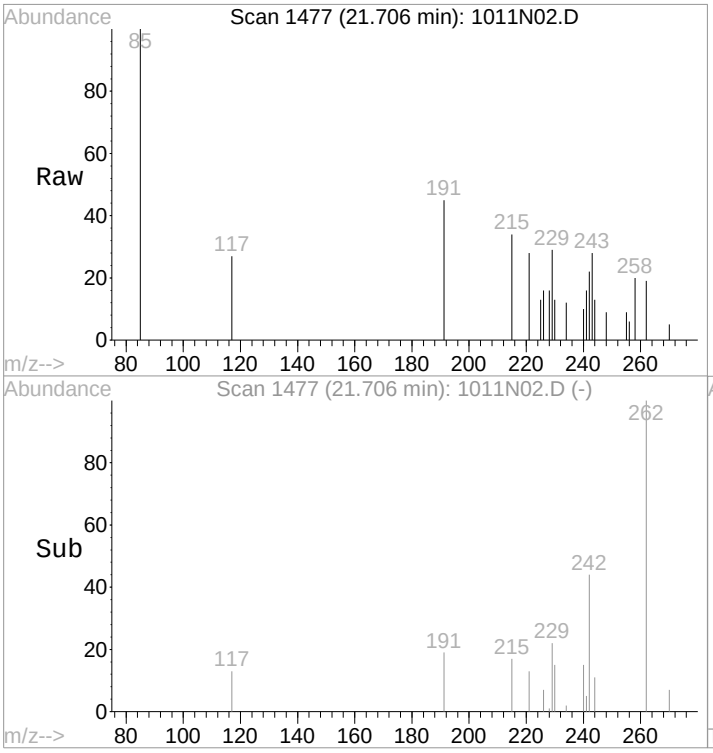


#75
C1-Naphthobenzothiophenes
Concen: 0.28 ppm m
RT: 21.03 min Scan# 1431
Delta R.T. -0.27 min
Lab File: 1011N02.D
Acq: 11 Oct 2012 12:10 pm

Tgt Ion:248 Resp: 13907

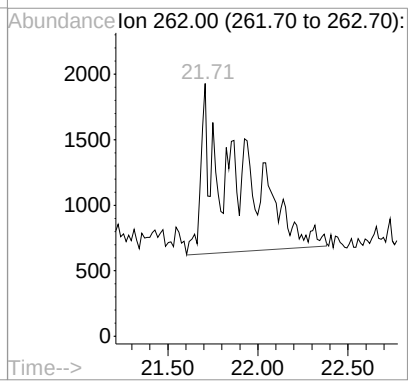
Ion	Ratio	Lower	Upper
248	100		
221	0.0	60.0	100.0#

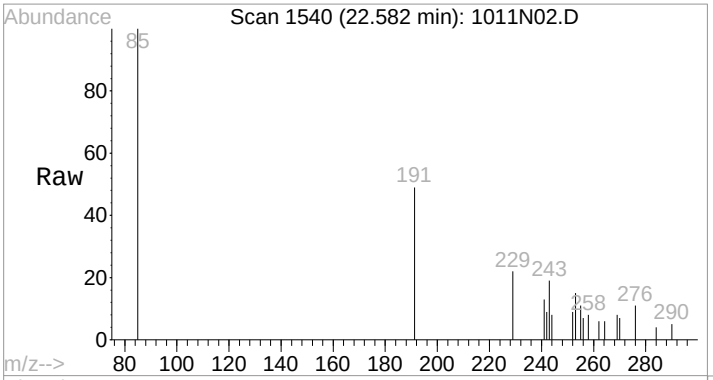




#76
C2-Naphthobenzothiophenes
Concen: 0.35 ppm m
RT: 21.71 min Scan# 1477
Delta R.T. -0.40 min
Lab File: 1011N02.D
Acq: 11 Oct 2012 12:10 pm

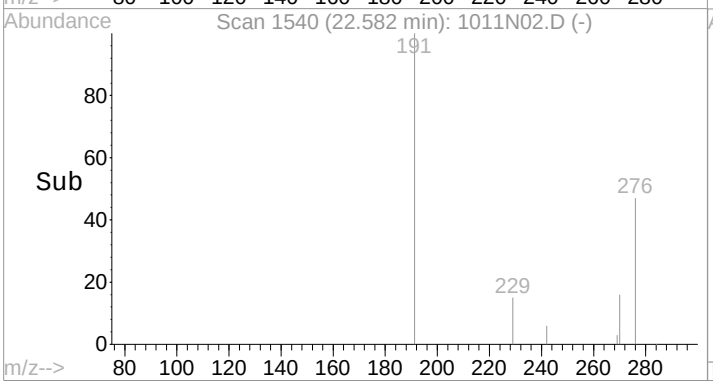
Tgt Ion:262 Resp: 17464

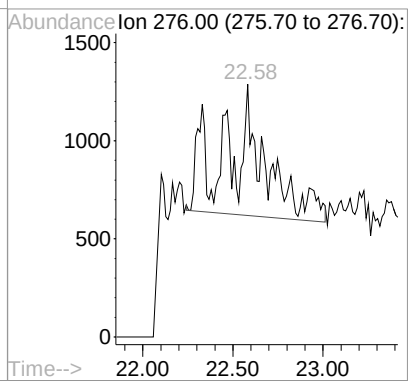


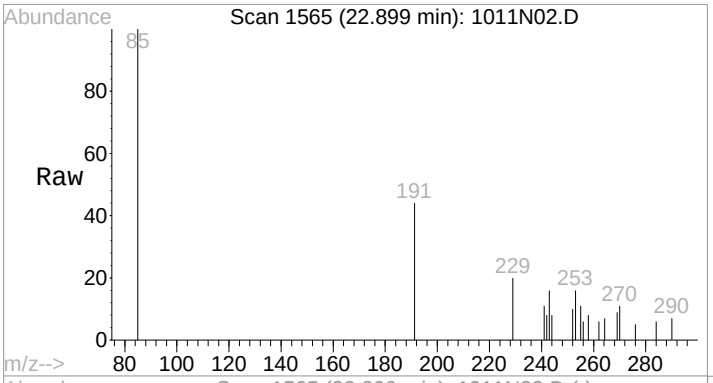


#77
C3-Naphthobenzothiophenes
Concen: 0.20 ppm m
RT: 22.58 min Scan# 1540
Delta R.T. -0.26 min
Lab File: 1011N02.D
Acq: 11 Oct 2012 12:10 pm

Tgt Ion:276 Resp: 10023

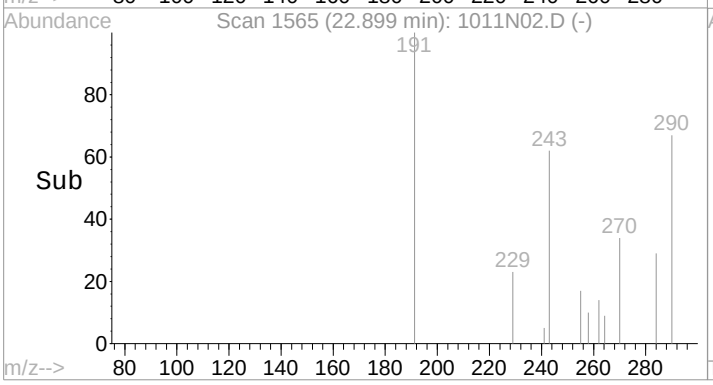


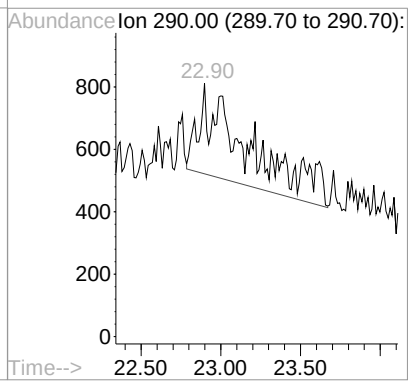


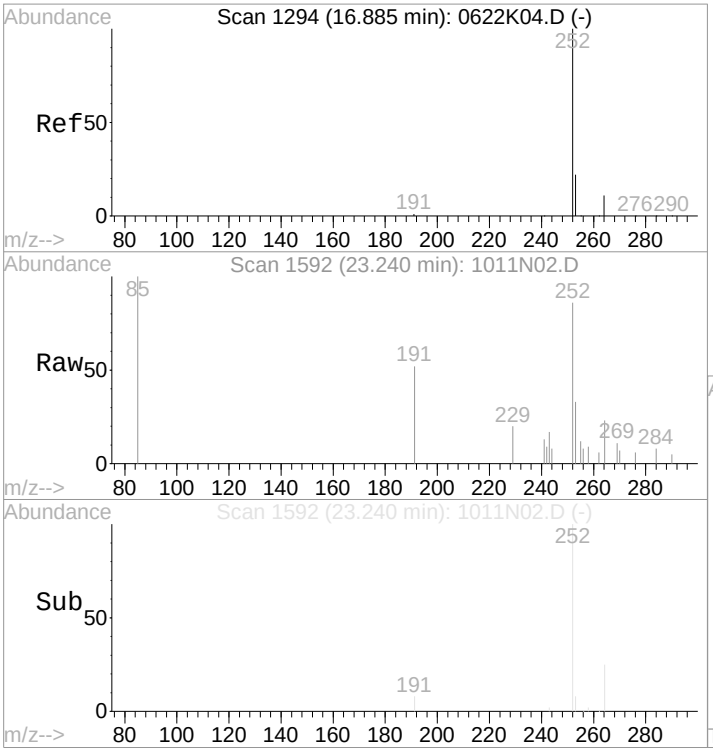


#78
C4-Naphthobenzothiophenes
Concen: 0.12 ppm m
RT: 22.90 min Scan# 1565
Delta R.T. -0.72 min
Lab File: 1011N02.D
Acq: 11 Oct 2012 12:10 pm

Tgt Ion:290 Resp: 6160



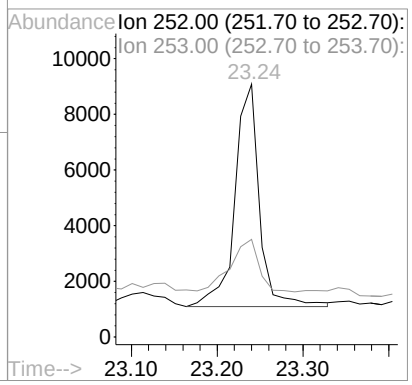




#85
Perylene
Concen: 0.23 ppm
RT: 23.24 min Scan# 1592
Delta R.T. -0.05 min
Lab File: 1011N02.D
Acq: 11 Oct 2012 12:10 pm

Tgt Ion:252 Resp: 16009

Ion	Ratio	Lower	Upper
252	100		
253	31.5	2.3	42.3



Quantitation Report

Data File : Q:\DATAN\100912\1009N19.D Vial: 19
Acq On : 9 Oct 2012 7:58 pm Operator:
Sample : 201025368 Inst : 20MSSVN
Misc : 193374 1:100 LOW/500000 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 12 13:49 2012 Quant Results File: NZ091312.RES

Quant Method : Q:\DATAN\NZ091312.M (RTE Integrator)
Title : Alk PAH SIM - wat/soils
Last Update : Tue Oct 09 10:45:00 2012
Response via : Initial Calibration
DataAcq Meth : NALKGC
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Naphthalene-d8	7.46	136	76448	2.00	ppm	-0.05 NA%
23) Acenaphthene-d10	11.50	164	45419	2.00	ppm	-0.06 NA%
37) Phenanthrene-d10	15.07	188	92774	2.00	ppm	-0.06 NA%
65) Chrysene-d12	20.86	240	112906	2.00	ppm	-0.06 NA%
79) Perylene-d12	23.19	264	130822	2.00	ppm	-0.06 NA%

System Monitoring Compounds

24) 2-Fluorobiphenyl	0.00	172	0d	0.00	ppm	
Spiked Amount 2.000	Range 30 - 114		Recovery = 0.00%#			
67) Terphenyl-d14	0.00	244	0d	0.00	ppm	
Spiked Amount 2.000	Range 30 - 114		Recovery = 0.00%#			

Target Compounds						Qvalue
2) Decalin 1	5.69	138	6072	1.73	ppm	# 1
3) Decalin 2	6.34	138	640m	0.16	ppm	# 1
4) Decalin TOTAL	5.69	138	6712m	0.89	ppm	# 1
5) C1-Decalins	6.49	152	23196m	3.09	ppm	100
6) C2-Decalins	7.45	166	33108m	4.41	ppm	100
7) C3-Decalins	8.87	180	29467m	3.92	ppm	100
8) C4-Decalins	10.11	194	15473m	2.06	ppm	100
9) Naphthalene	7.50	128	9134	0.23	ppm	94
10) 2Methylnaphthalene	9.06	142	13299	0.54	ppm	90
11) 1Methylnaphthalene	9.28	142	4436	0.18	ppm	95
12) 2,6-Dimethylnaphthalene	10.53	156	16056	0.75	ppm	97
13) 2,3,5-Trimethylnaphthalene	12.51	170	10697m	0.55	ppm	68
14) C1-Naphthalenes	9.06	142	18276m	0.47	ppm	# 98
15) C2-Naphthalenes	10.70	156	62217m	1.58	ppm	# 94
16) C3-Naphthalenes	12.02	170	71401m	1.82	ppm	# 71
17) C4-Naphthalenes	13.75	184	47772m	1.22	ppm	# 1
18) Benzothiophene	7.67	134	1222m	0.04	ppm	94
19) C1-Benzothiophenes	8.74	148	2820m	0.09	ppm	16
20) C2-Benzothiophenes	10.31	162	6326m	0.20	ppm	# 1
21) C3-Benzothiophenes	11.98	176	3036m	0.10	ppm	100
22) C4-Benzothiophenes	13.23	190	2301m	0.07	ppm	100
25) Biphenyl (Diphenyl)	10.15	154	965m	0.03	ppm	# 69
26) Acenaphthylene	11.18	152	1019m	0.03	ppm	# 47
27) Acenaphthene	11.58	153	822	0.03	ppm	# 75
28) Dibenzofuran	11.99	168	2380	0.06	ppm	# 1
29) Fluorene	12.82	166	2052	0.07	ppm	# 70
30) C1-Fluorenes	14.22	180	7388m	0.24	ppm	# 90
31) C2-Fluorenes	15.39	194	11310m	0.38	ppm	# 45
32) C3-Fluorenes	16.61	208	9466m	0.31	ppm	# 47
38) Dibenzothiophene	14.82	184	931	0.02	ppm	# 36
39) 4-Methyldibenzothiophene	15.89	198	1371m	0.03	ppm	93
40) 2/3-Methyldibenzothiophene	16.04	198	865m	0.02	ppm	# 74
41) 1-Methyldibenzothiophene	16.09	198	905m	0.02	ppm	1
42) C1-Dibenzothiophenes	15.89	198	3315m	0.08	ppm	# 97

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : Q:\DATAN\100912\1009N19.D Vial: 19
Acq On : 9 Oct 2012 7:58 pm Operator:
Sample : 201025368 Inst : 20MSSVN
Misc : 193374 1:100 LOW/500000 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 12 13:49 2012 Quant Results File: NZ091312.RES

Quant Method : Q:\DATAN\NZ091312.M (RTE Integrator)
Title : Alk PAH SIM - wat/soils
Last Update : Tue Oct 09 10:45:00 2012
Response via : Initial Calibration
DataAcq Meth : NALKGC

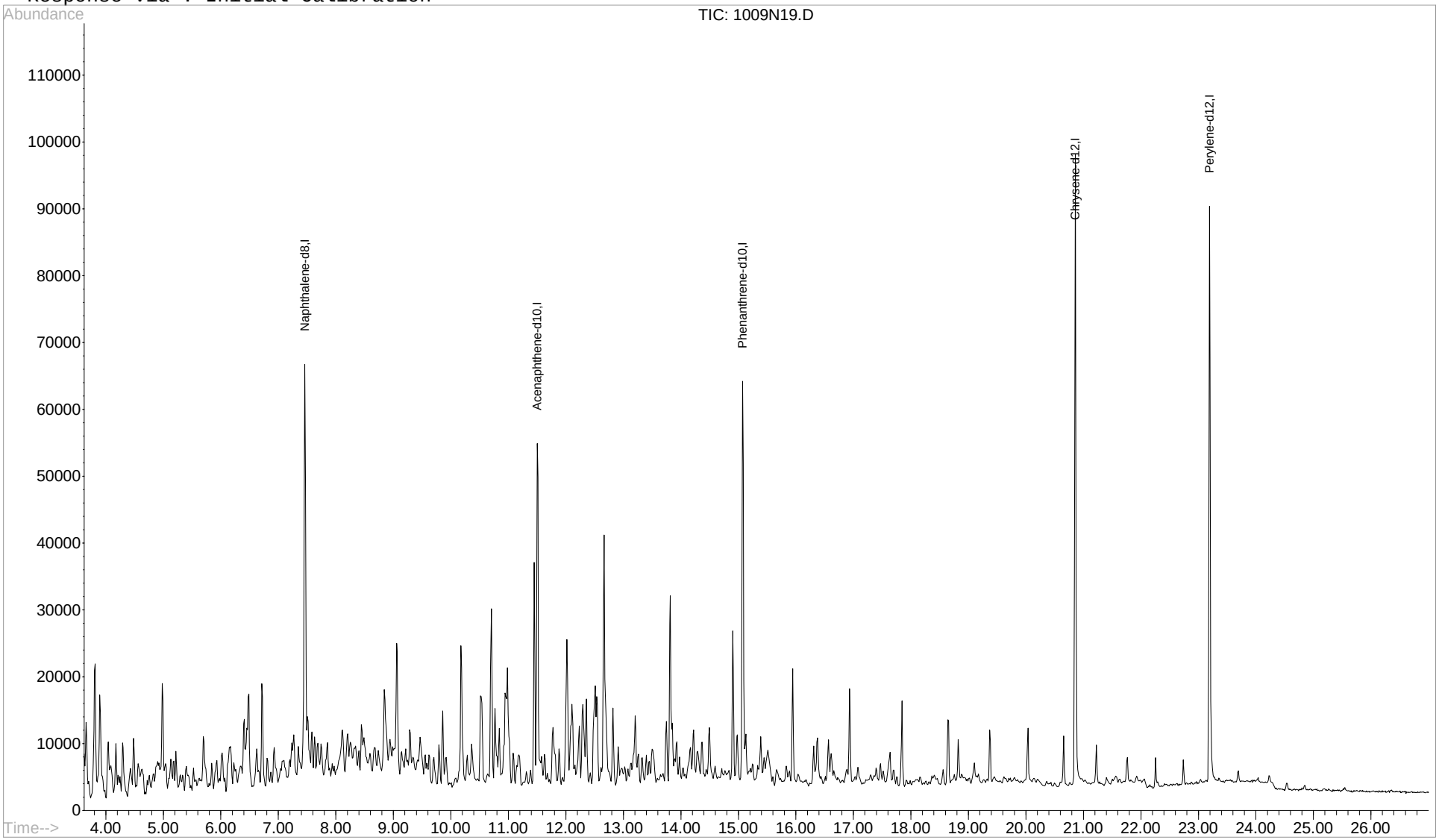
	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
43)	C2-Dibenzothiophenes	16.89	212	4200m	0.10	ppm	#	53
44)	C3-Dibenzothiophenes	17.92	226	3738m	0.09	ppm	#	91
47)	Phenanthrene	15.13	178	8120	0.15	ppm		97
48)	Anthracene	15.24	178	291	0.01	ppm	#	60
49)	3-Methylphenanthrene	16.31	192	5128m	0.09	ppm		99
50)	2/4-Methylphenanthrene	16.38	192	5547	0.10	ppm		94
52)	9-Methylphenanthrene	16.57	192	4030m	0.07	ppm	#	69
53)	1-Methylphenanthrene	16.63	192	2751m	0.05	ppm	#	23
54)	Retene	19.10	234	1077m	0.02	ppm	#	76
55)	C1-Phenanthrene/Anthracene	16.31	192	17872m	0.33	ppm	#	92
56)	C2-Phenanthrene/Anthracene	17.64	206	17411m	0.32	ppm	#	20
57)	C3-Phenanthrene/Anthracene	18.64	220	13903m	0.25	ppm	#	40
58)	C4-Phenanthrene/Anthracene	19.10	234	7601m	0.14	ppm	#	58
59)	Fluoranthene	17.97	202	502	0.01	ppm	#	100
60)	Benzo(b)fluorene	19.31	216	399m	0.01	ppm		87
61)	C1-Fluoranthene/Pyrene	19.17	216	3696m	0.08	ppm	#	35
62)	C2-Fluoranthene/Pyrene	20.04	230	4925m	0.10	ppm	#	1
63)	C3-Fluoranthene/Pyrene	20.98	244	4343m	0.09	ppm	#	85
64)	C4-Fluoranthene/Pyrene	21.58	258	3660m	0.08	ppm	#	20
66)	Pyrene	18.46	202	1016	0.02	ppm	#	100
68)	Benzo(a)anthracene	20.86	228	912m	0.02	ppm		86
69)	Chrysene	20.90	228	347m	0.01	ppm	#	87
70)	C1-Chrysenes	21.56	242	5611m	0.09	ppm	#	1
71)	C2-Chrysenes	22.15	256	4858m	0.07	ppm	#	22
74)	Naphthobenzothiophene	20.39	234	557	0.01	ppm	#	76
85)	Perylene	23.23	252	1368	0.02	ppm		99

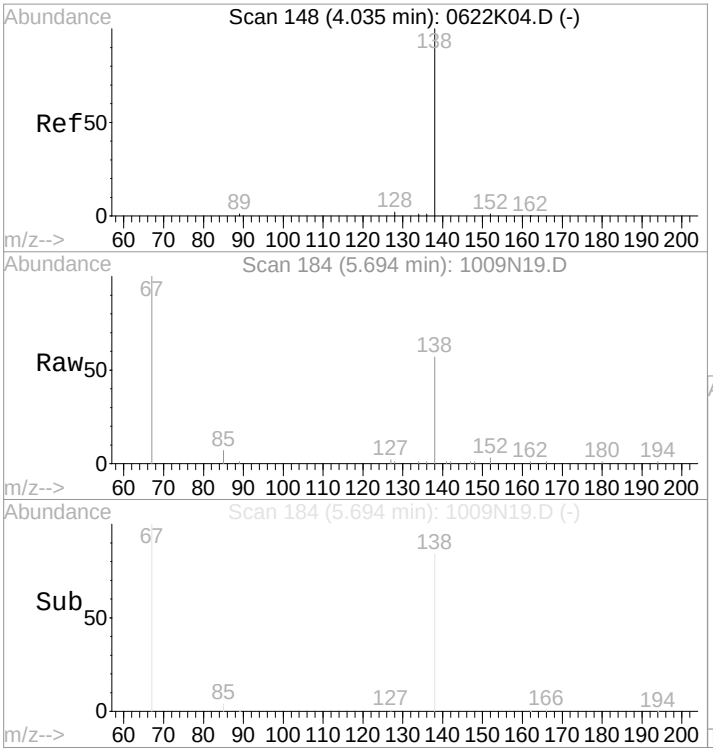
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : Q:\DATAN\100912\1009N19.D Vial: 19
Acq On : 9 Oct 2012 7:58 pm Operator:
Sample : 201025368 Inst : 20MSSVN
Misc : 193374 1:100 LOW/500000 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 12 13:49 2012 Quant Results File: NZ091312.RES

Method : Q:\DATAN\NZ091312.M (RTE Integrator)
Title : Alk PAH SIM - wat/soils
Last Update : Fri Oct 12 10:21:33 2012
Response via : Initial Calibration

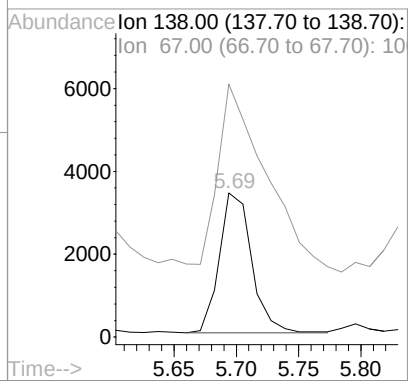


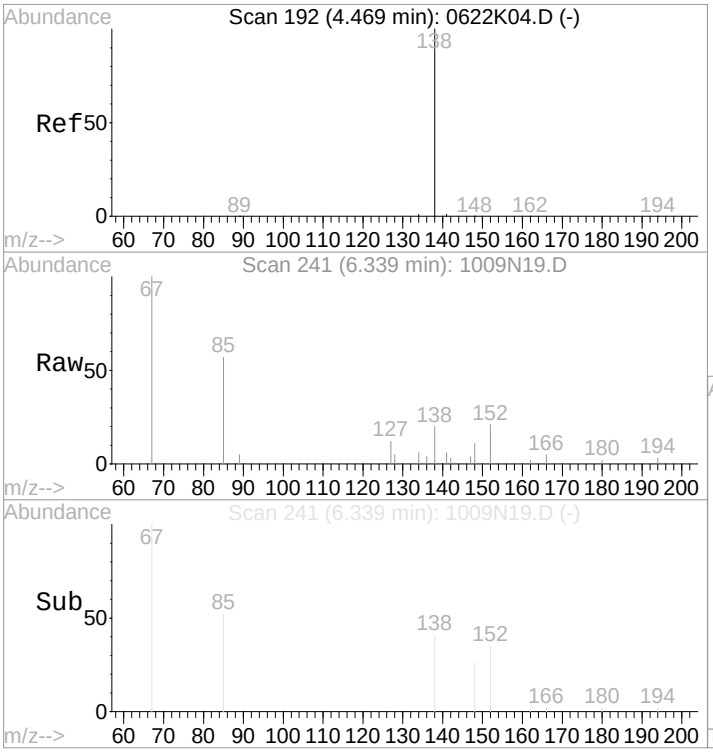


#2
Decalin 1
Concen: 1.73 ppm
RT: 5.69 min Scan# 184
Delta R.T. -0.05 min
Lab File: 1009N19.D
Acq: 9 Oct 2012 7:58 pm

Tgt Ion:138 Resp: 6072

Ion	Ratio	Lower	Upper
138	100		
67	201.2	72.9	112.9#

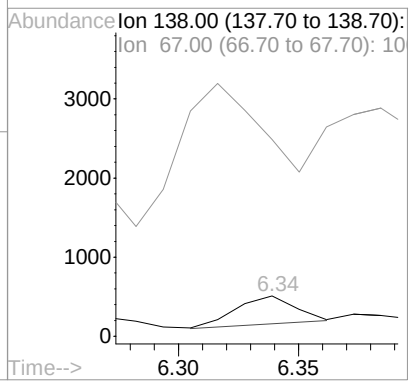


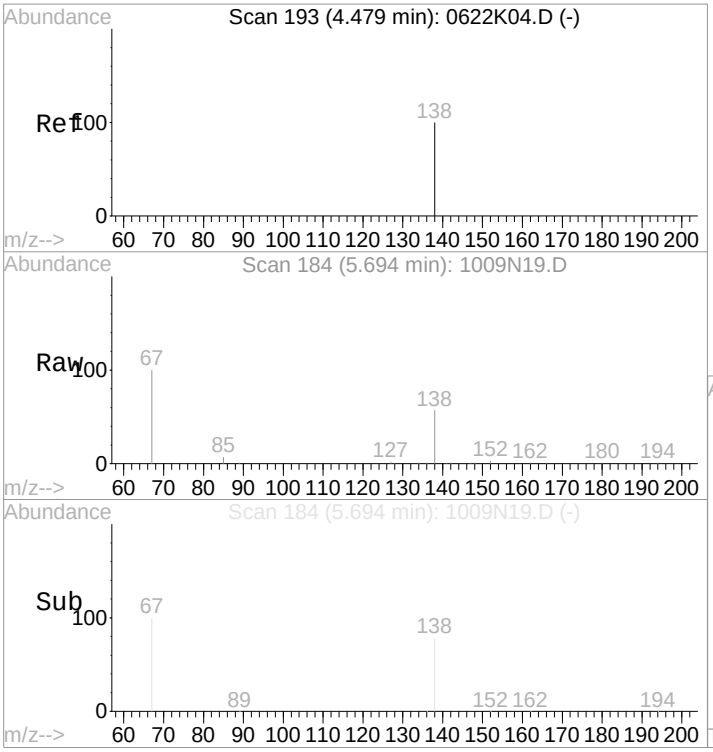


#3
Decalin 2
Concen: 0.16 ppm m
RT: 6.34 min Scan# 241
Delta R.T. -0.05 min
Lab File: 1009N19.D
Acq: 9 Oct 2012 7:58 pm

Tgt Ion:138 Resp: 640

Ion	Ratio	Lower	Upper
138	100		
67	742.8	104.9	144.9#

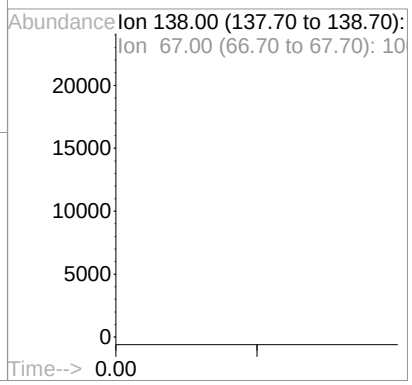


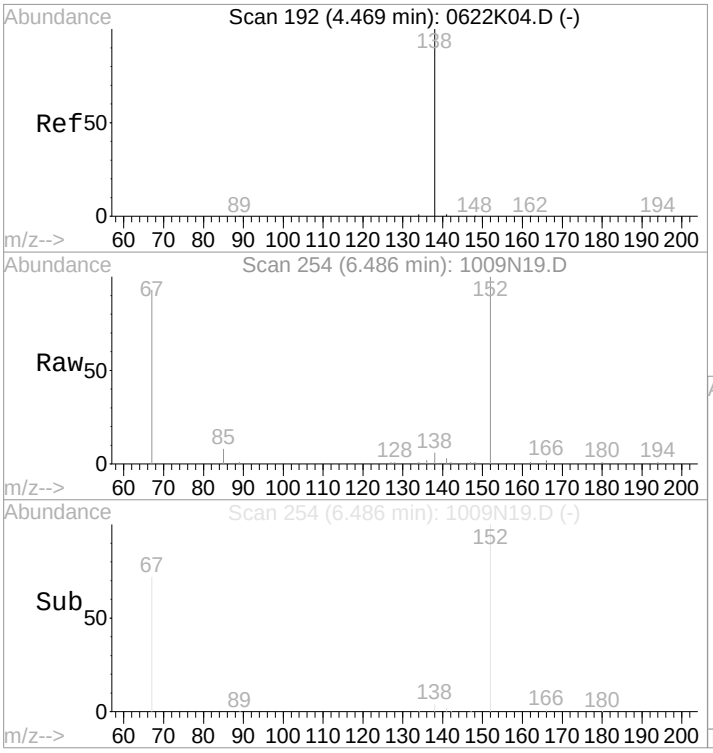


#4
Decalin TOTAL
Concen: 0.89 ppm m
RT: 5.69 min Scan# 184
Delta R.T. -0.44 min
Lab File: 1009N19.D
Acq: 9 Oct 2012 7:58 pm

Tgt Ion:138 Resp: 6712

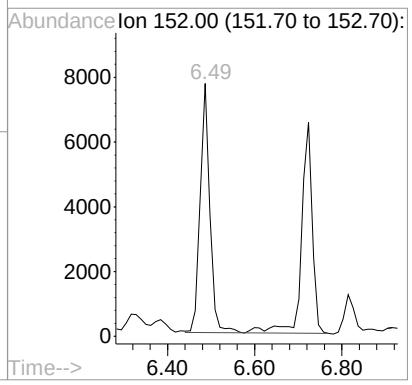
Ion	Ratio	Lower	Upper
138	100		
67	182.0	78.0	118.0#

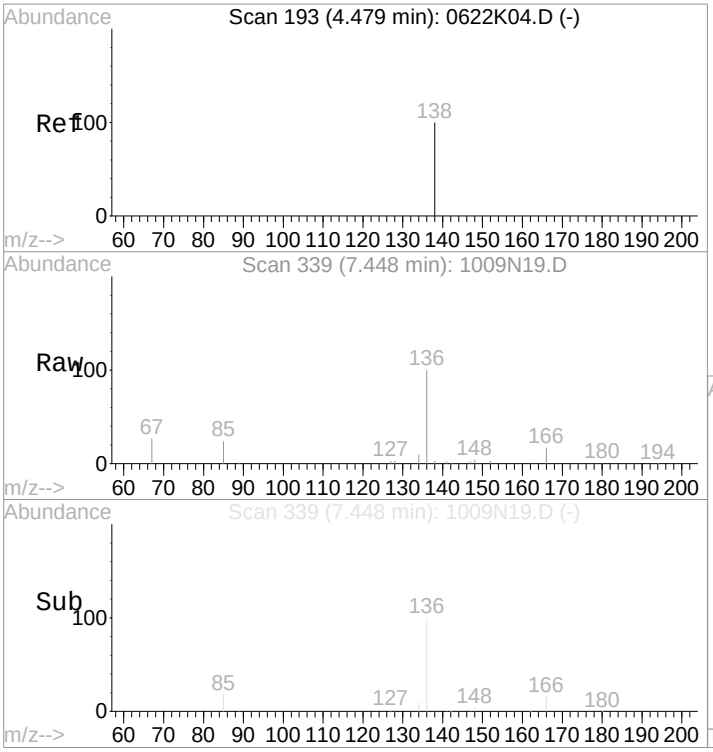




#5
C1-Decalins
Concen: 3.09 ppm m
RT: 6.49 min Scan# 254
Delta R.T. -0.19 min
Lab File: 1009N19.D
Acq: 9 Oct 2012 7:58 pm

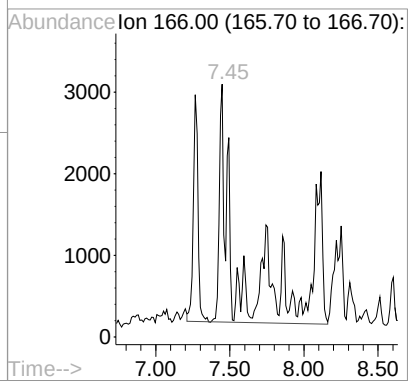
Tgt Ion:152 Resp: 23196

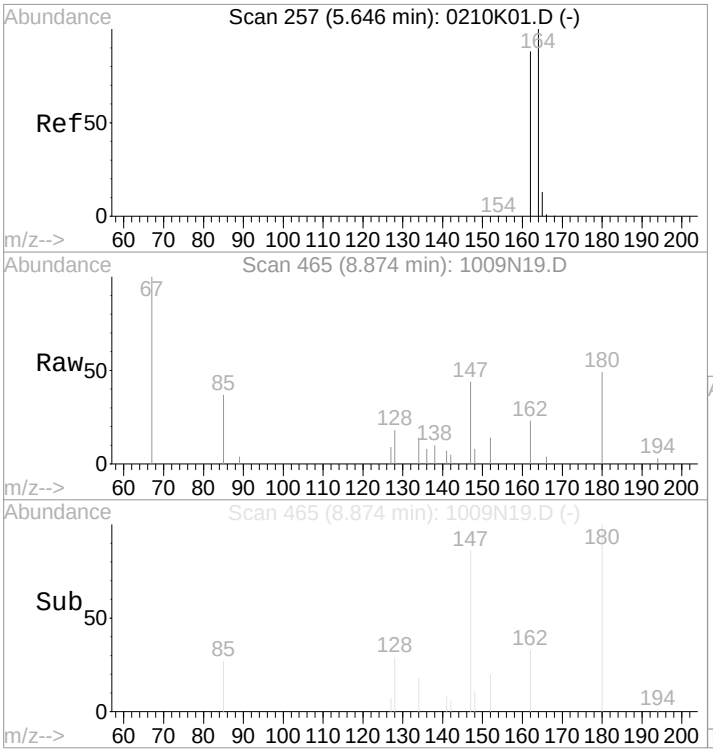




#6
C2-Decalins
Concen: 4.41 ppm m
RT: 7.45 min Scan# 339
Delta R.T. 0.15 min
Lab File: 1009N19.D
Acq: 9 Oct 2012 7:58 pm

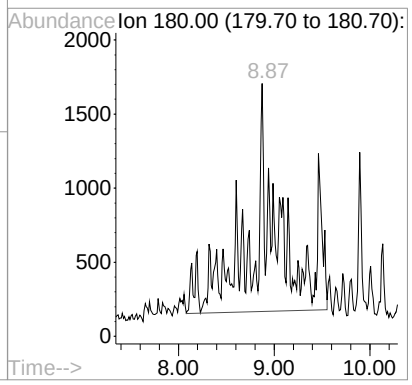
Tgt Ion:166 Resp: 33108

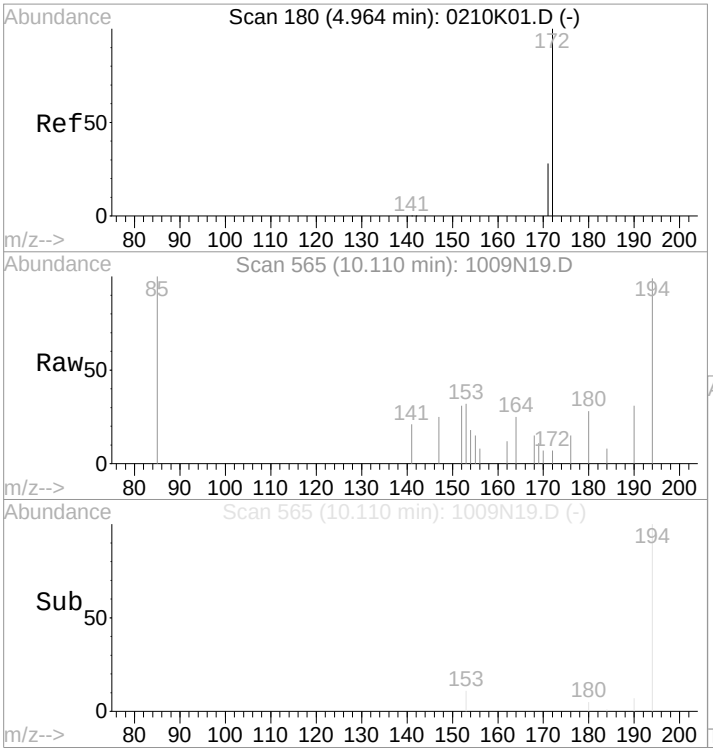




#7
C3-Decalins
Concen: 3.92 ppm m
RT: 8.87 min Scan# 465
Delta R.T. -0.23 min
Lab File: 1009N19.D
Acq: 9 Oct 2012 7:58 pm

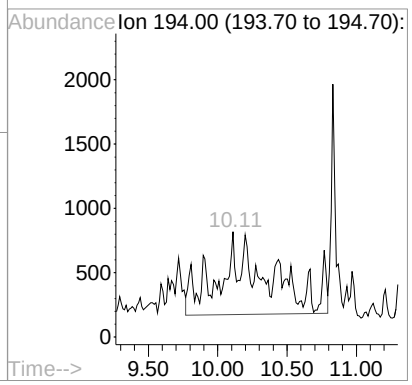
Tgt Ion:180 Resp: 29467

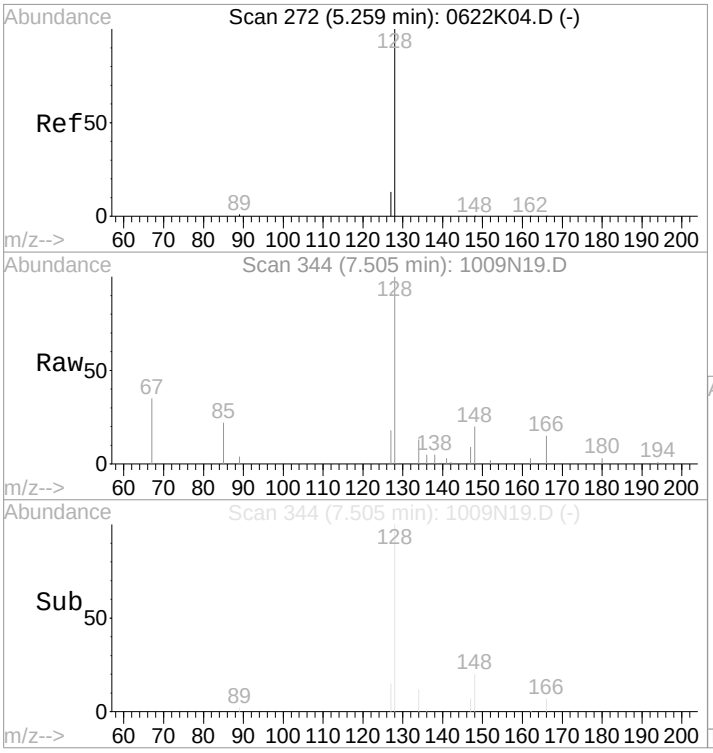




#8
C4-Decalins
Concen: 2.06 ppm m
RT: 10.11 min Scan# 565
Delta R.T. -1.18 min
Lab File: 1009N19.D
Acq: 9 Oct 2012 7:58 pm

Tgt Ion:194 Resp: 15473

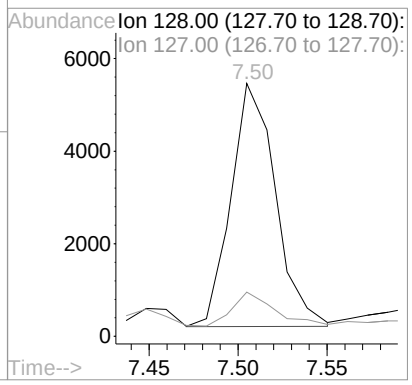


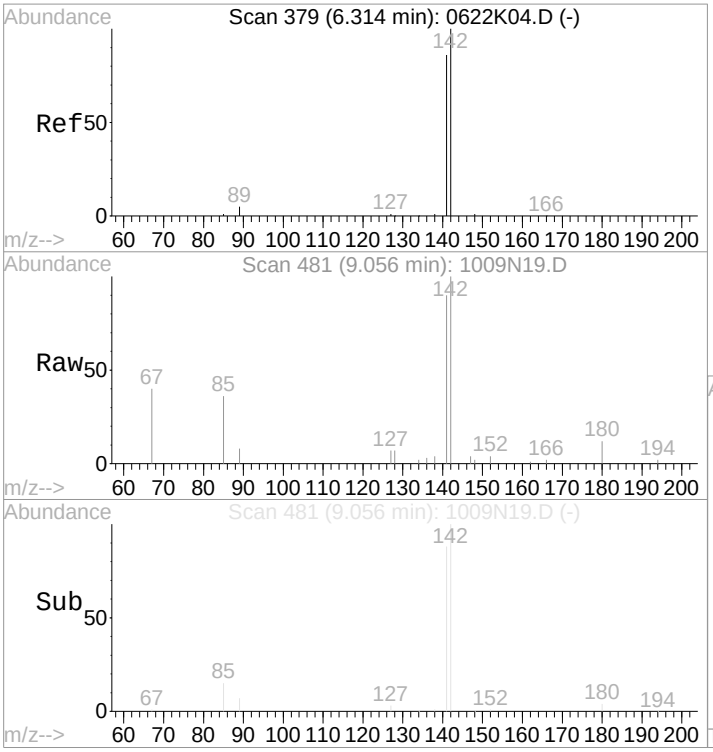


#9
Naphthalene
Concen: 0.23 ppm
RT: 7.50 min Scan# 344
Delta R.T. -0.06 min
Lab File: 1009N19.D
Acq: 9 Oct 2012 7:58 pm

Tgt Ion:128 Resp: 9134

Ion	Ratio	Lower	Upper
128	100		
127	14.4	0.0	32.1

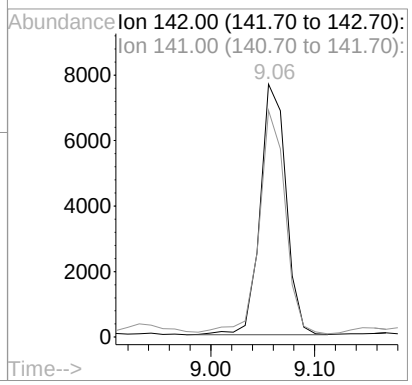


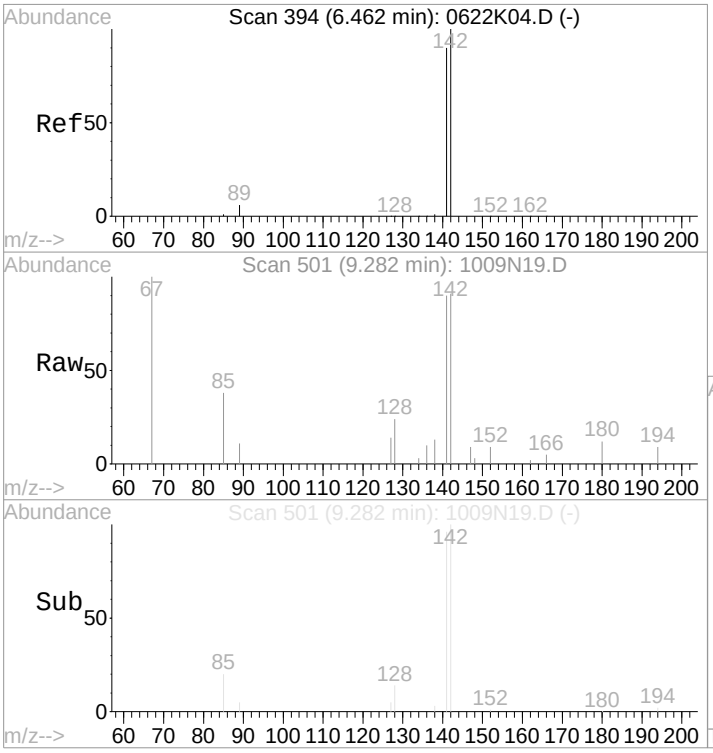


#10
2Methylnaphthalene
Concen: 0.54 ppm
RT: 9.06 min Scan# 481
Delta R.T. -0.06 min
Lab File: 1009N19.D
Acq: 9 Oct 2012 7:58 pm

Tgt Ion:142 Resp: 13299

Ion	Ratio	Lower	Upper
142	100		
141	89.8	61.2	101.2

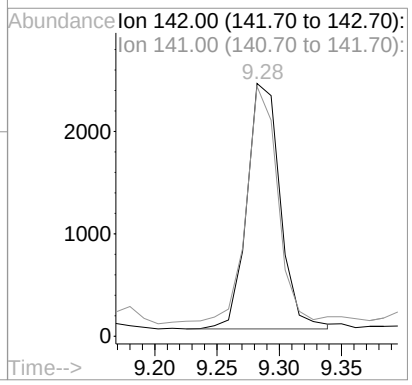


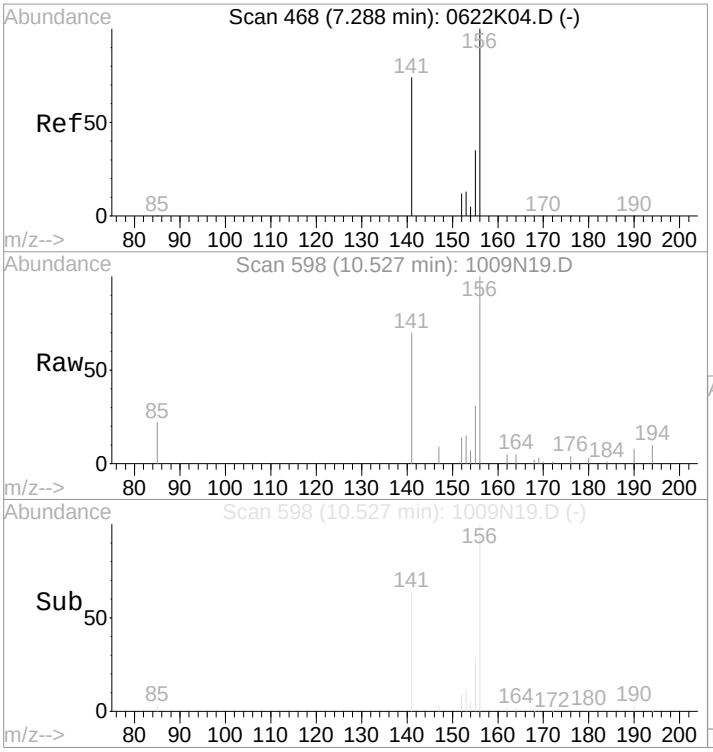


#11
1Methylnaphthalene
Concen: 0.18 ppm
RT: 9.28 min Scan# 501
Delta R.T. -0.06 min
Lab File: 1009N19.D
Acq: 9 Oct 2012 7:58 pm

Tgt Ion:142 Resp: 4436

Ion	Ratio	Lower	Upper
142	100		
141	89.4	64.8	104.8

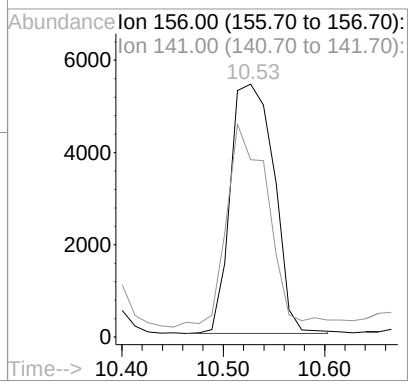


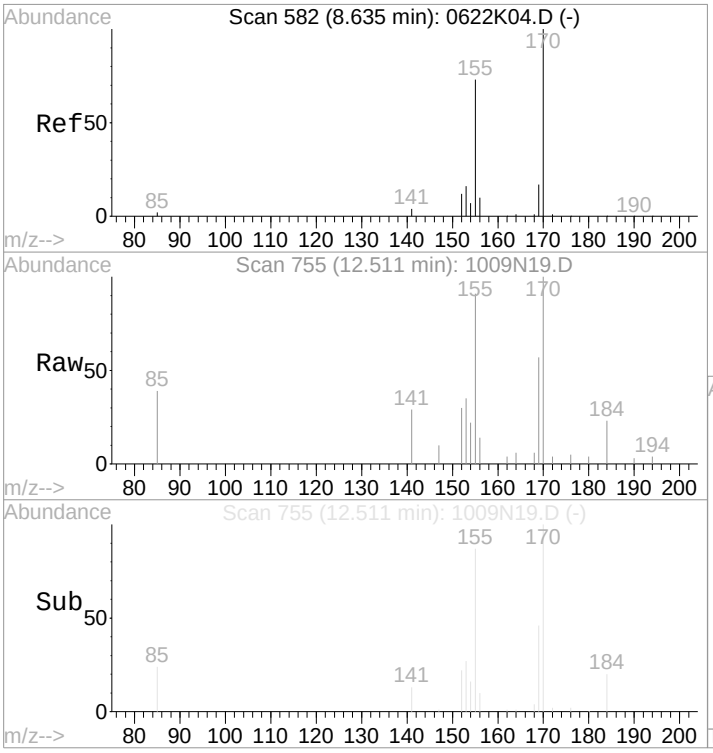


#12
2,6-Dimethylnaphthalene
Concen: 0.75 ppm
RT: 10.53 min Scan# 598
Delta R.T. -0.04 min
Lab File: 1009N19.D
Acq: 9 Oct 2012 7:58 pm

Tgt Ion:156 Resp: 16056

Ion	Ratio	Lower	Upper
156	100		
141	77.4	54.7	94.7

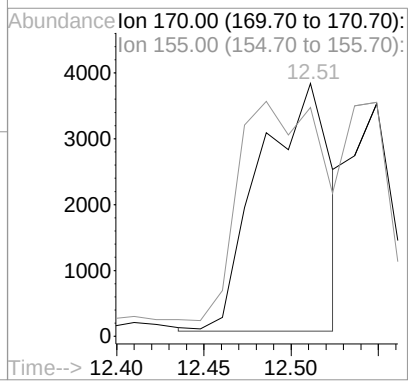


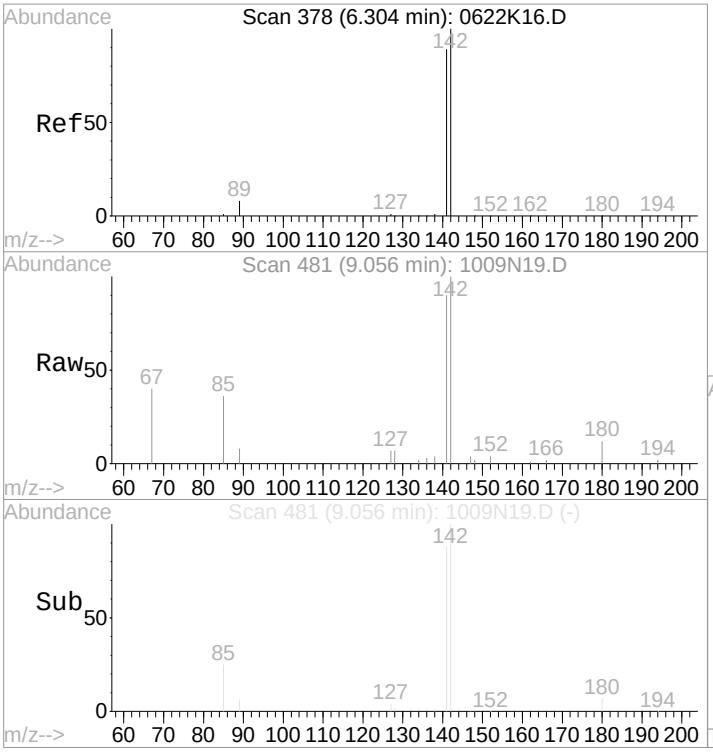


#13
2,3,5-Trimethylnaphthalene
Concen: 0.55 ppm m
RT: 12.51 min Scan# 755
Delta R.T. -0.05 min
Lab File: 1009N19.D
Acq: 9 Oct 2012 7:58 pm

Tgt Ion:170 Resp: 10697

Ion	Ratio	Lower	Upper
170	100		
155	103.9	81.6	121.6

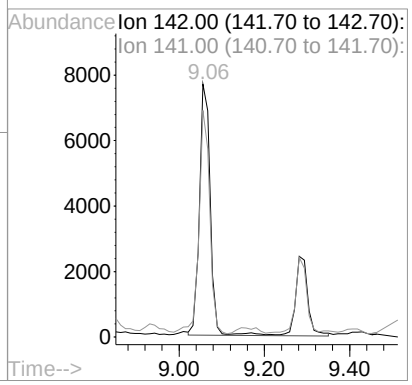


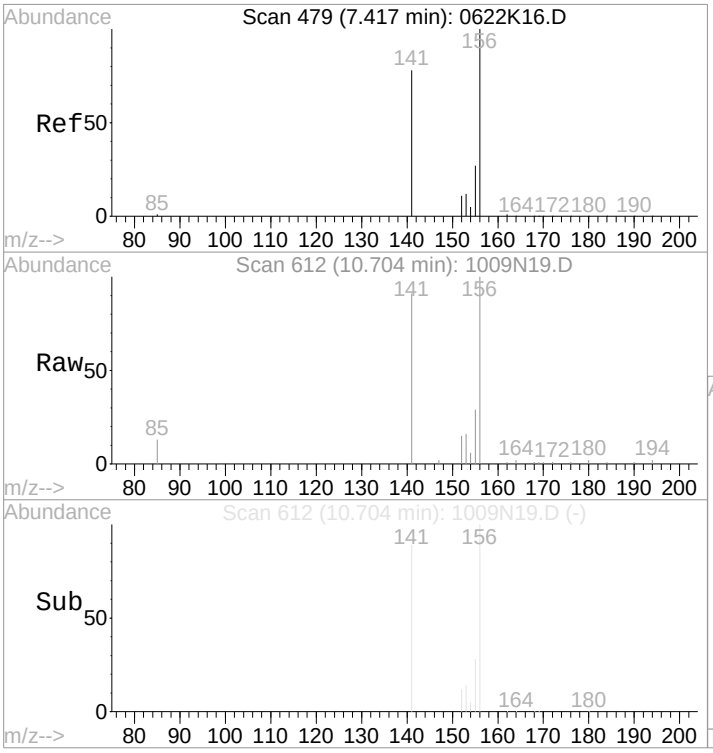


#14
C1-Naphthalenes
Concen: 0.47 ppm m
RT: 9.06 min Scan# 481
Delta R.T. -0.25 min
Lab File: 1009N19.D
Acq: 9 Oct 2012 7:58 pm

Tgt Ion:142 Resp: 18276

Ion	Ratio	Lower	Upper
142	100		
141	65.4	68.1	108.1#

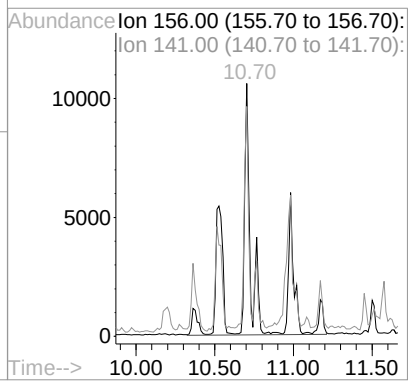


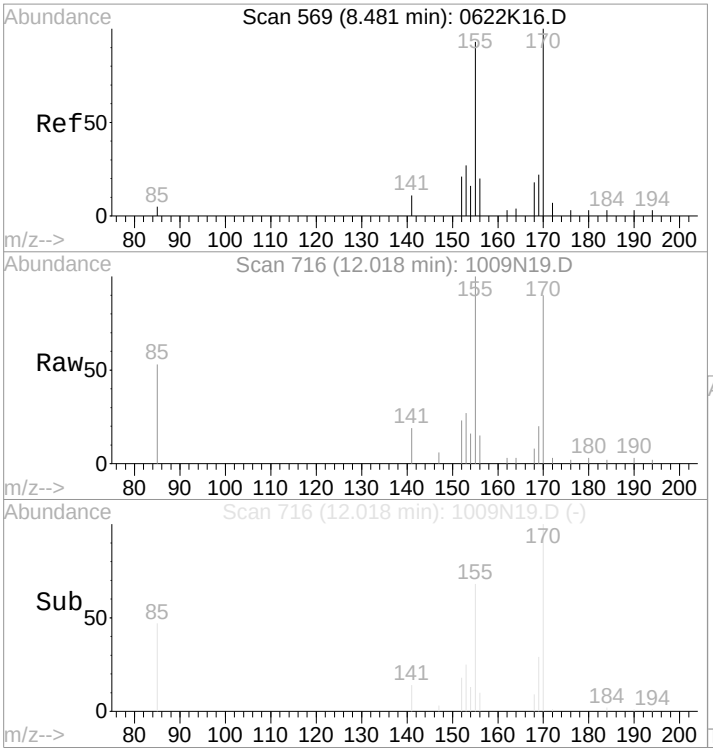


#15
C2-Naphthalenes
Concen: 1.58 ppm m
RT: 10.70 min Scan# 612
Delta R.T. -0.47 min
Lab File: 1009N19.D
Acq: 9 Oct 2012 7:58 pm

Tgt Ion:156 Resp: 62217

Ion	Ratio	Lower	Upper
156	100		
141	28.4	75.6	115.6#

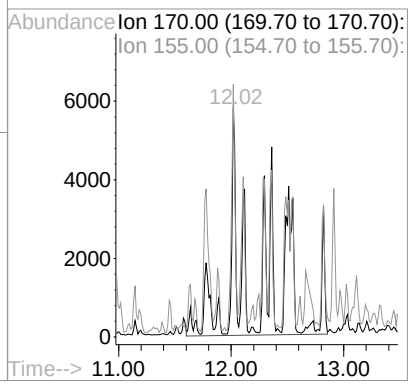


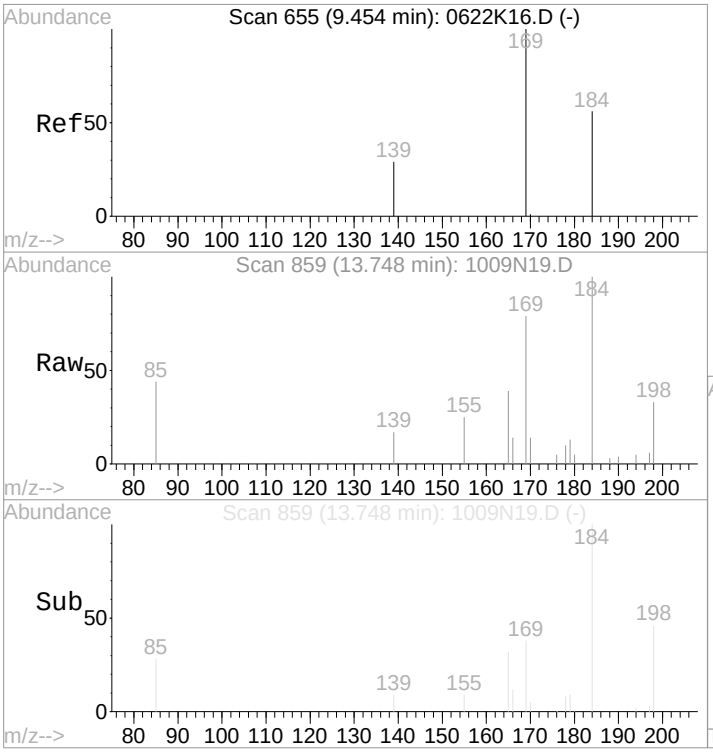


#16
C3-Naphthalenes
Concen: 1.82 ppm m
RT: 12.02 min Scan# 716
Delta R.T. -0.76 min
Lab File: 1009N19.D
Acq: 9 Oct 2012 7:58 pm

Tgt Ion:170 Resp: 71401

Ion	Ratio	Lower	Upper
170	100		
155	15.6	76.6	116.6#

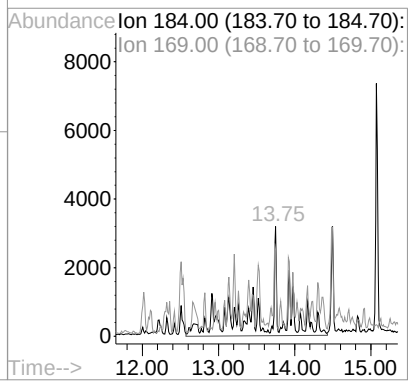


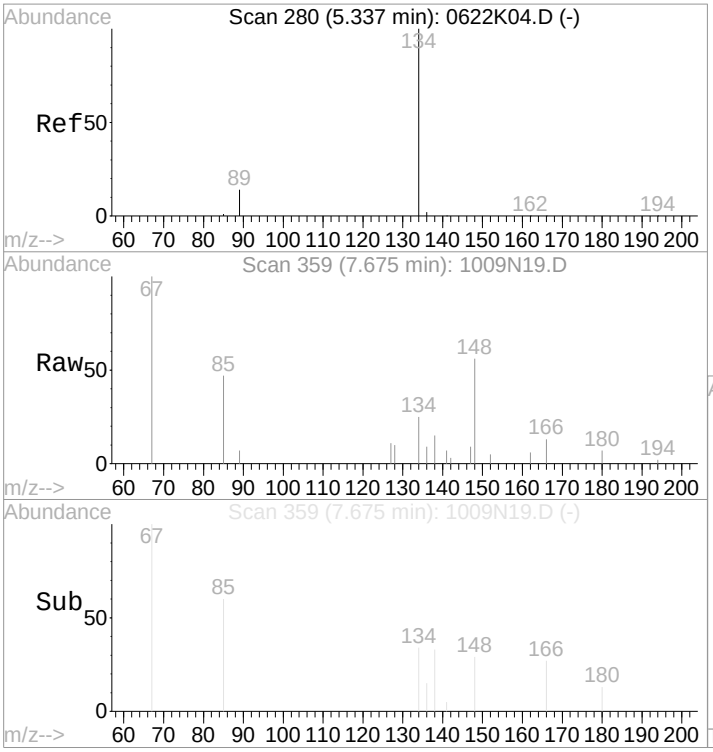


#17
C4-Naphthalenes
Concen: 1.22 ppm m
RT: 13.75 min Scan# 859
Delta R.T. -0.89 min
Lab File: 1009N19.D
Acq: 9 Oct 2012 7:58 pm

Tgt Ion:184 Resp: 47772

Ion	Ratio	Lower	Upper
184	100		
169	0.0	109.4	149.4#

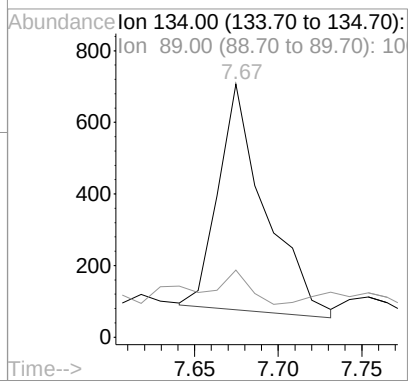


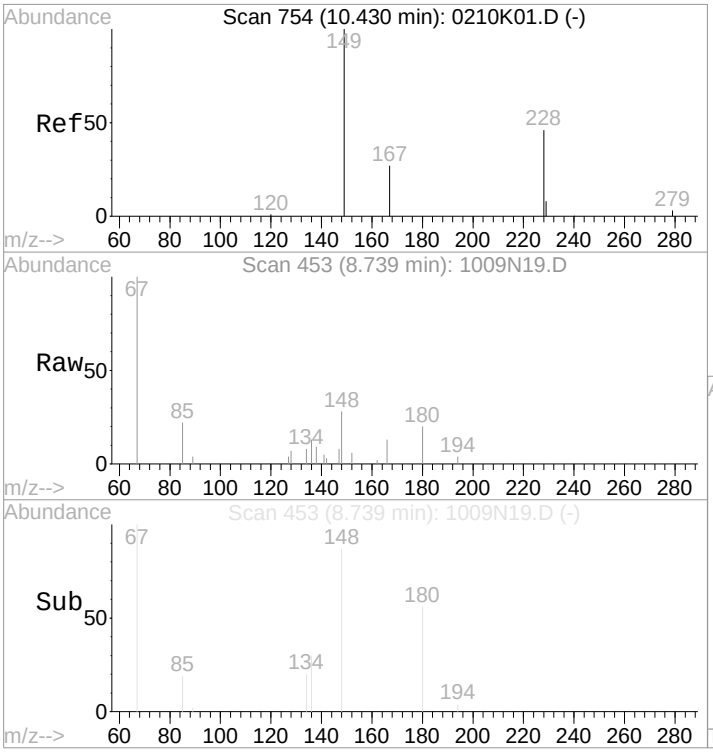


#18
Benzothiophene
Concen: 0.04 ppm m
RT: 7.67 min Scan# 359
Delta R.T. 0.02 min
Lab File: 1009N19.D
Acq: 9 Oct 2012 7:58 pm

Tgt Ion:134 Resp: 1222

Ion	Ratio	Lower	Upper
134	100		
89	9.1	2.3	22.3

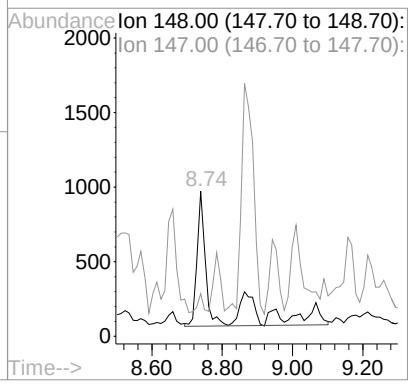


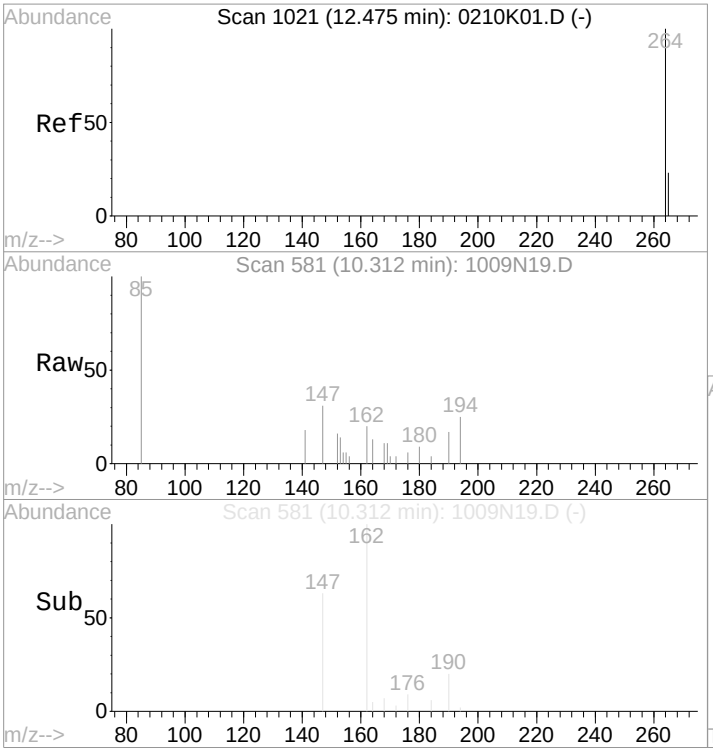


#19
C1-Benzothiophenes
Concen: 0.09 ppm m
RT: 8.74 min Scan# 453
Delta R.T. -0.02 min
Lab File: 1009N19.D
Acq: 9 Oct 2012 7:58 pm

Tgt Ion:148 Resp: 2820

Ion	Ratio	Lower	Upper
148	100		
147	97.2	60.0	100.0

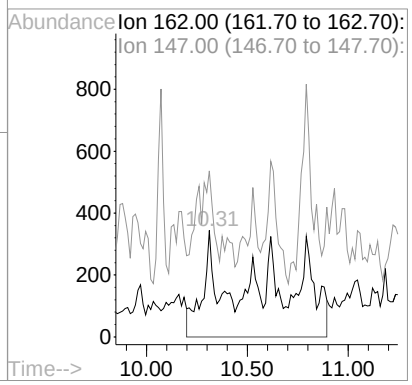


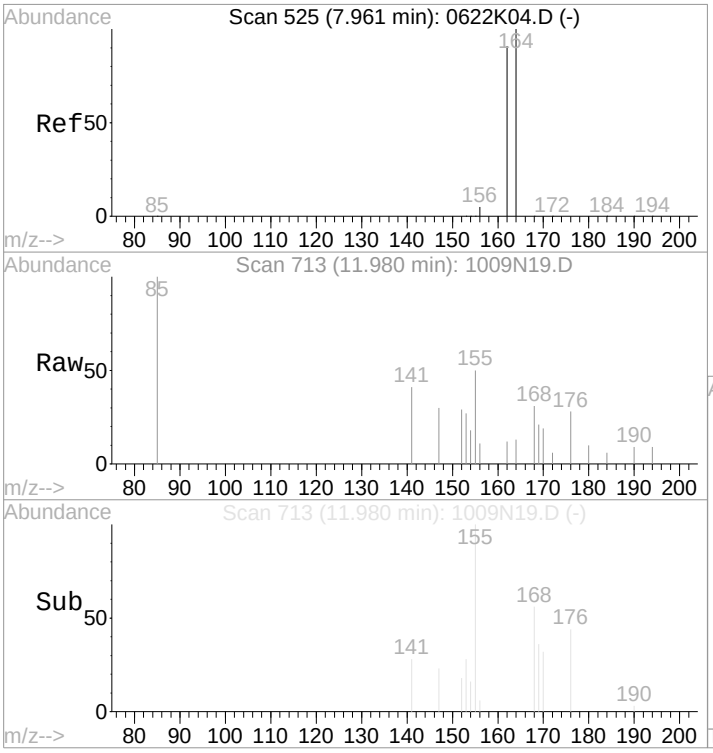


#20
C2-Benzothiophenes
Concen: 0.20 ppm m
RT: 10.31 min Scan# 581
Delta R.T. -0.75 min
Lab File: 1009N19.D
Acq: 9 Oct 2012 7:58 pm

Tgt Ion:162 Resp: 6326

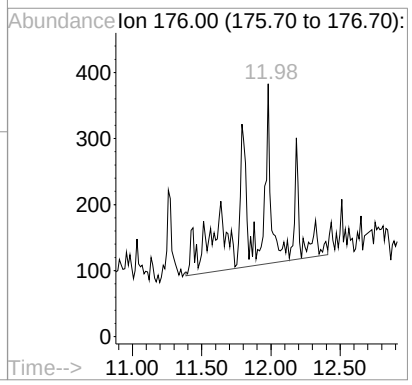
Ion	Ratio	Lower	Upper
162	100		
147	38.3	60.0	100.0#

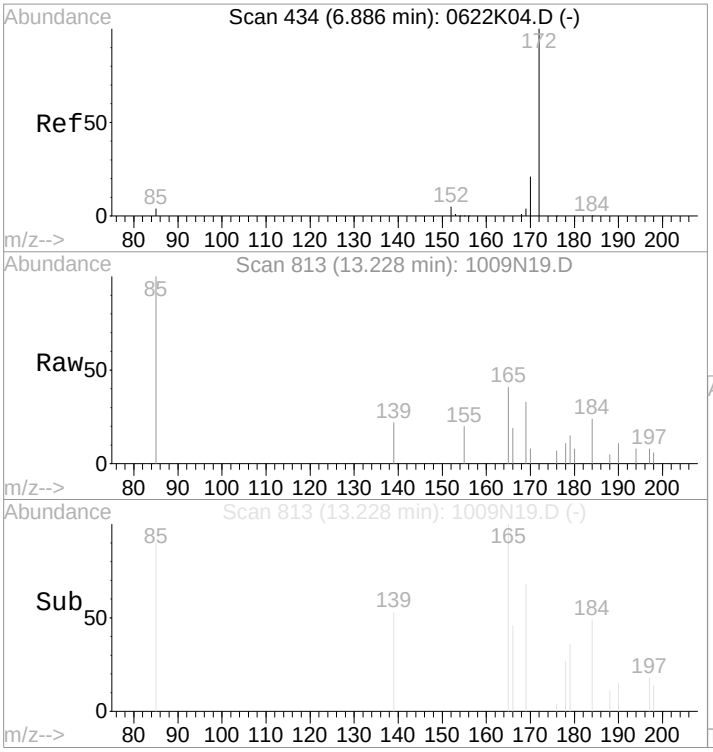




#21
C3-Benzothiophenes
Concen: 0.10 ppm m
RT: 11.98 min Scan# 713
Delta R.T. -0.63 min
Lab File: 1009N19.D
Acq: 9 Oct 2012 7:58 pm

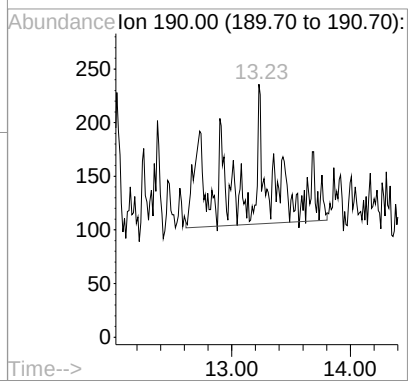
Tgt Ion:176 Resp: 3036

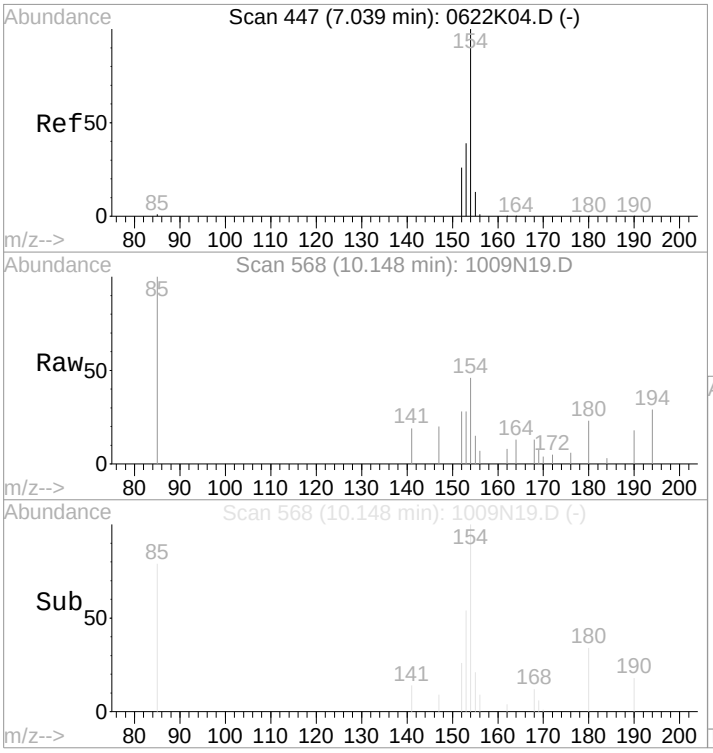




#22
C4-Benzothiophenes
Concen: 0.07 ppm m
RT: 13.23 min Scan# 813
Delta R.T. 0.16 min
Lab File: 1009N19.D
Acq: 9 Oct 2012 7:58 pm

Tgt Ion:190 Resp: 2301

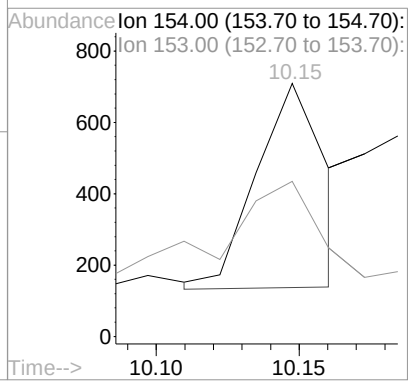


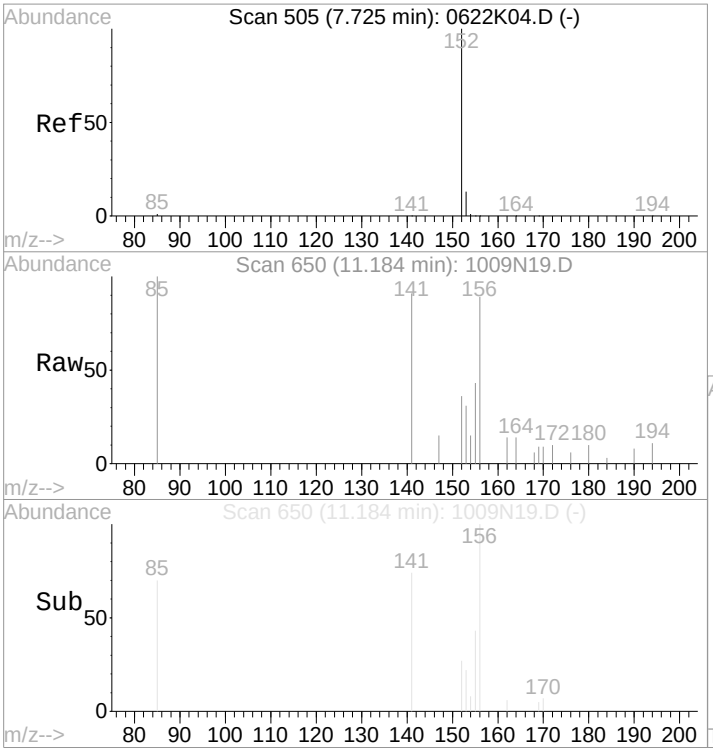


#25
Biphenyl (Diphenyl)
Concen: 0.03 ppm m
RT: 10.15 min Scan# 568
Delta R.T. -0.05 min
Lab File: 1009N19.D
Acq: 9 Oct 2012 7:58 pm

Tgt Ion:154 Resp: 965

Ion	Ratio	Lower	Upper
154	100		
153	111.7	17.5	57.5#

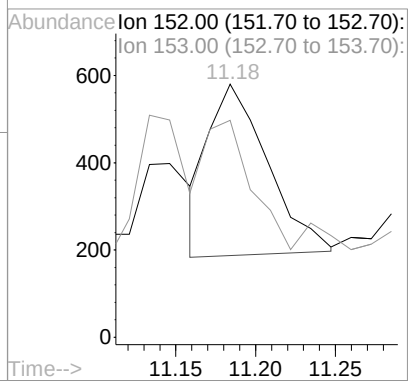


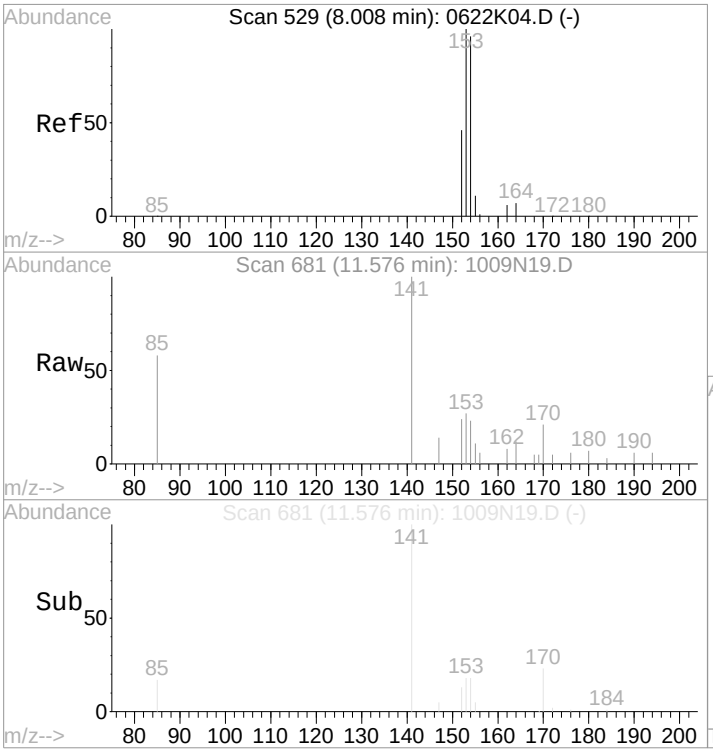


#26
Acenaphthylene
Concen: 0.03 ppm m
RT: 11.18 min Scan# 650
Delta R.T. -0.03 min
Lab File: 1009N19.D
Acq: 9 Oct 2012 7:58 pm

Tgt Ion:152 Resp: 1019

Ion	Ratio	Lower	Upper
152	100		
153	55.3	0.0	33.0#

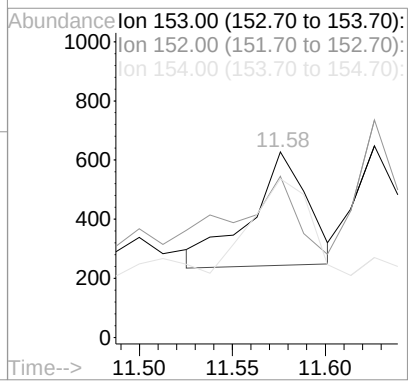


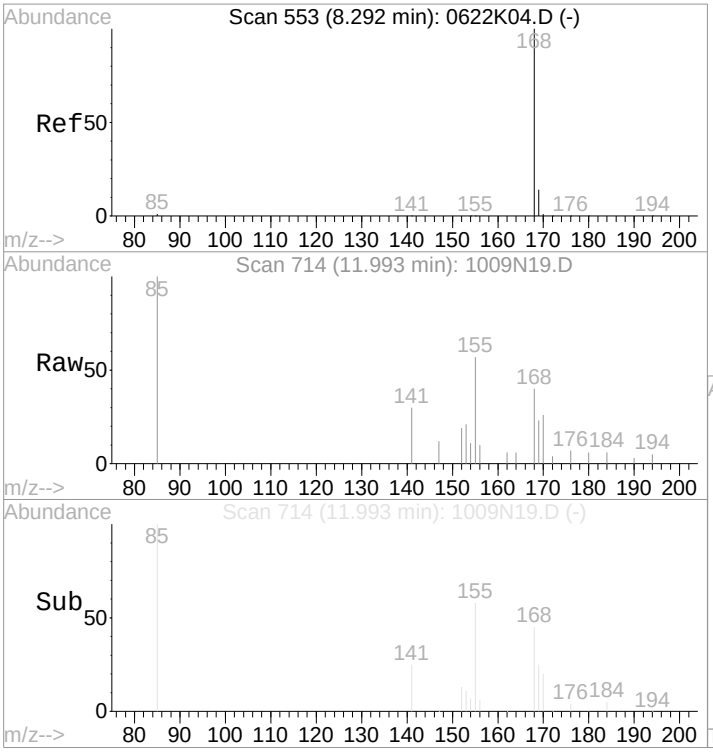


#27
Acenaphthene
Concen: 0.03 ppm
RT: 11.58 min Scan# 681
Delta R.T. -0.06 min
Lab File: 1009N19.D
Acq: 9 Oct 2012 7:58 pm

Tgt Ion:153 Resp: 822

Ion	Ratio	Lower	Upper
153	100		
152	83.9	26.2	66.2#
154	88.0	77.9	117.9

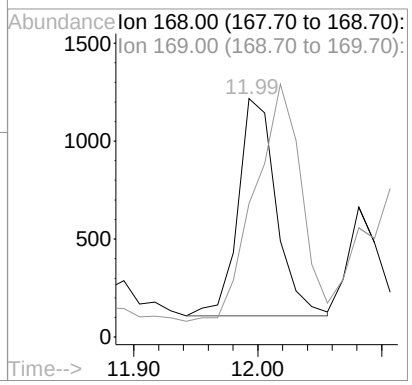


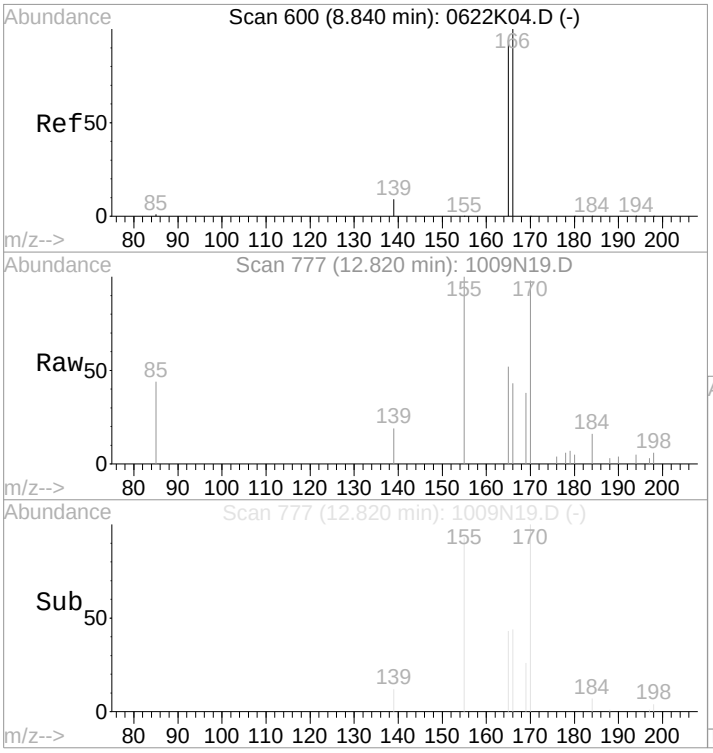


#28
Dibenzofuran
Concen: 0.06 ppm
RT: 11.99 min Scan# 714
Delta R.T. -0.06 min
Lab File: 1009N19.D
Acq: 9 Oct 2012 7:58 pm

Tgt Ion:168 Resp: 2380

Ion	Ratio	Lower	Upper
168	100		
169	132.6	0.0	33.3#

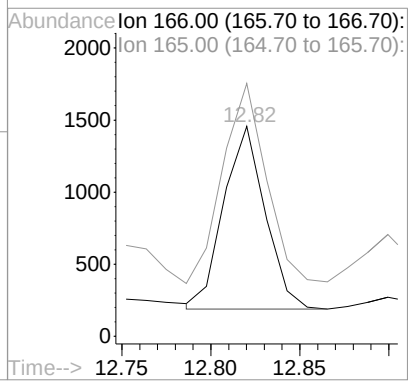


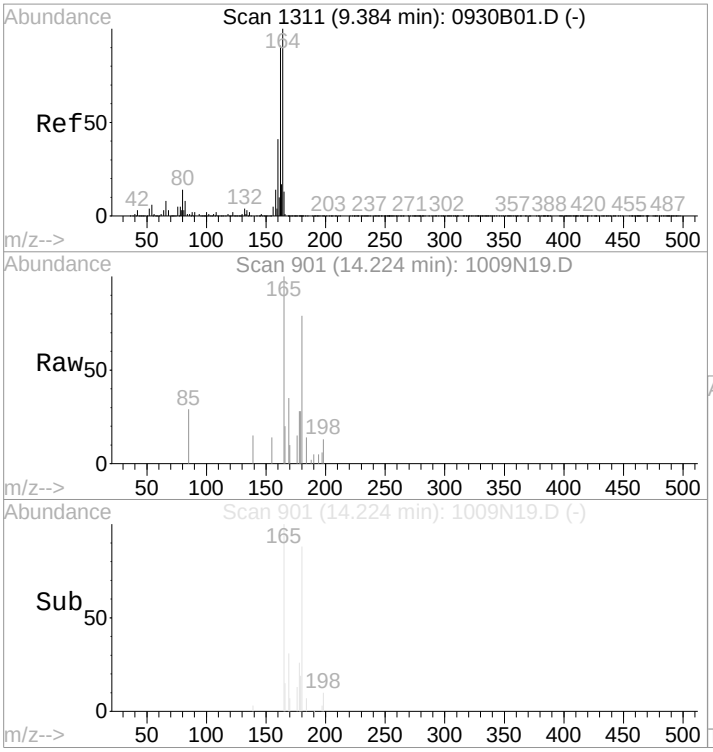


#29
Fluorene
Concen: 0.07 ppm
RT: 12.82 min Scan# 777
Delta R.T. -0.06 min
Lab File: 1009N19.D
Acq: 9 Oct 2012 7:58 pm

Tgt Ion:166 Resp: 2052

Ion	Ratio	Lower	Upper
166	100		
165	115.7	67.8	107.8#

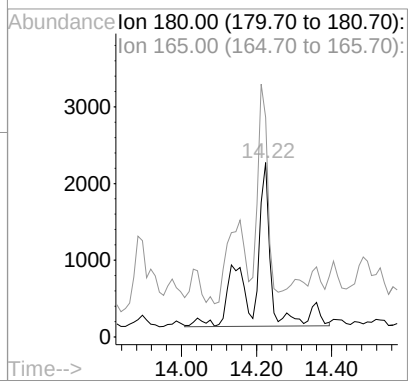


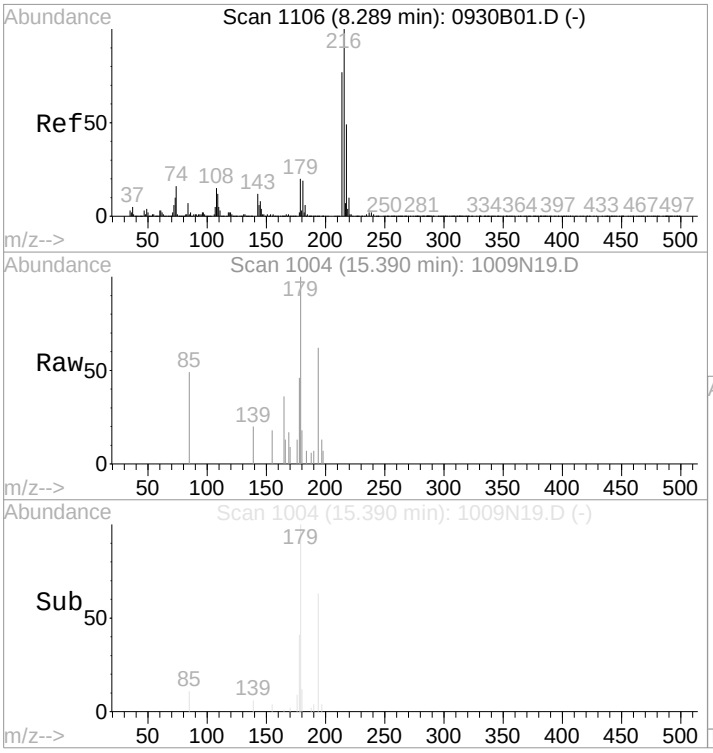


#30
C1-Fluorenes
Concen: 0.24 ppm m
RT: 14.22 min Scan# 901
Delta R.T. -0.25 min
Lab File: 1009N19.D
Acq: 9 Oct 2012 7:58 pm

Tgt Ion:180 Resp: 7388

Ion	Ratio	Lower	Upper
180	100		
165	8.0	113.4	153.4#

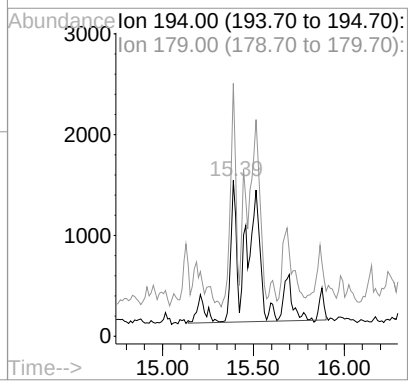


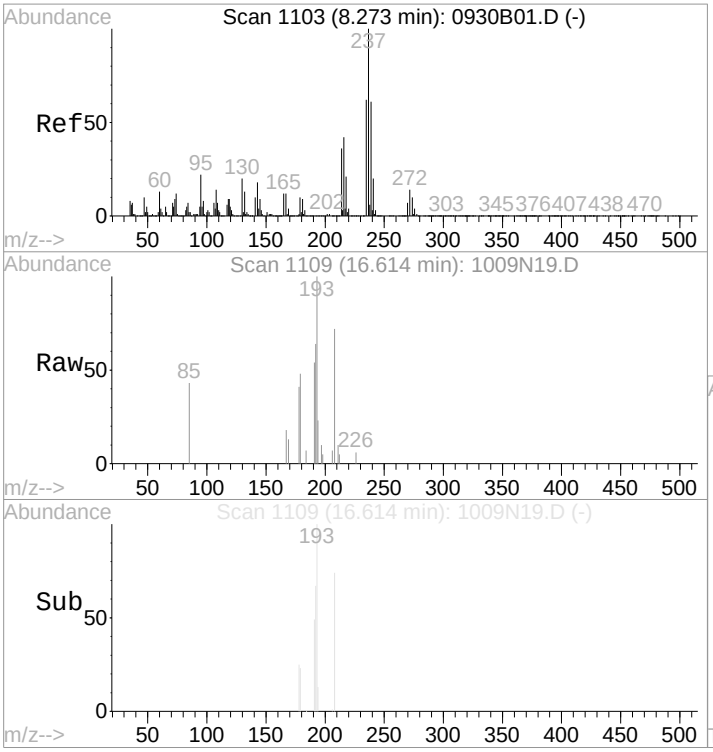


#31
C2-Fluorenes
Concen: 0.38 ppm m
RT: 15.39 min Scan# 1004
Delta R.T. -0.57 min
Lab File: 1009N19.D
Acq: 9 Oct 2012 7:58 pm

Tgt Ion:194 Resp: 11310

Ion	Ratio	Lower	Upper
194	100		
179	54.3	92.9	132.9#

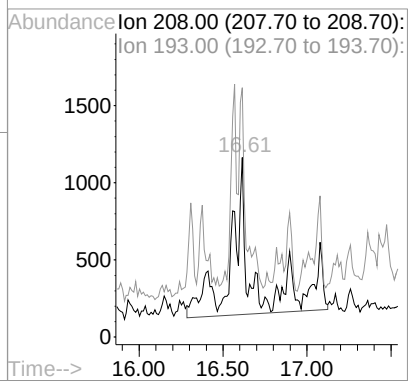


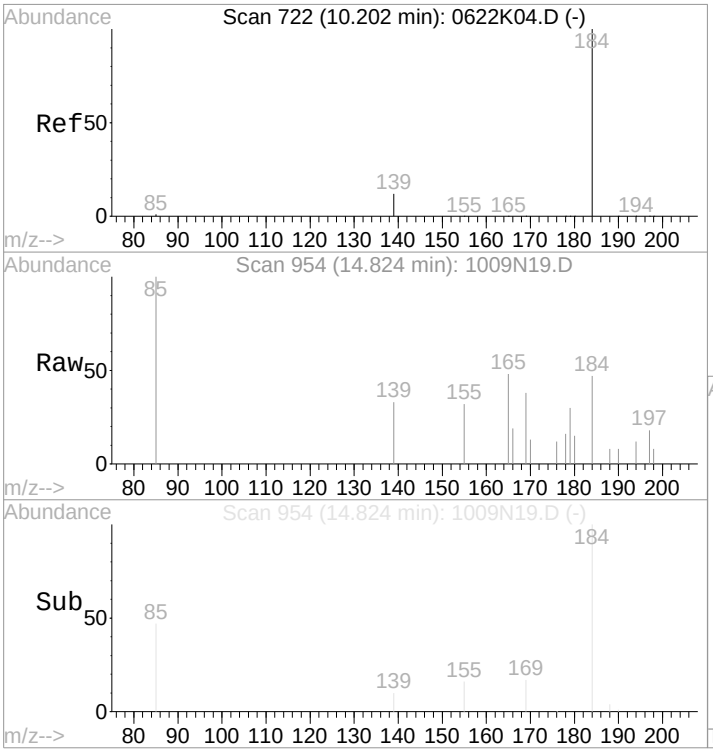


#32
C3-Fluorenes
Concen: 0.31 ppm m
RT: 16.61 min Scan# 1109
Delta R.T. -1.05 min
Lab File: 1009N19.D
Acq: 9 Oct 2012 7:58 pm

Tgt Ion:208 Resp: 9466

Ion	Ratio	Lower	Upper
208	100		
193	34.4	284.9	324.9#

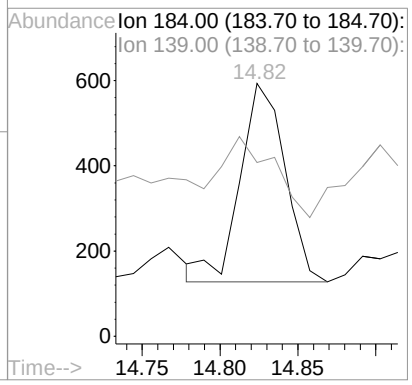


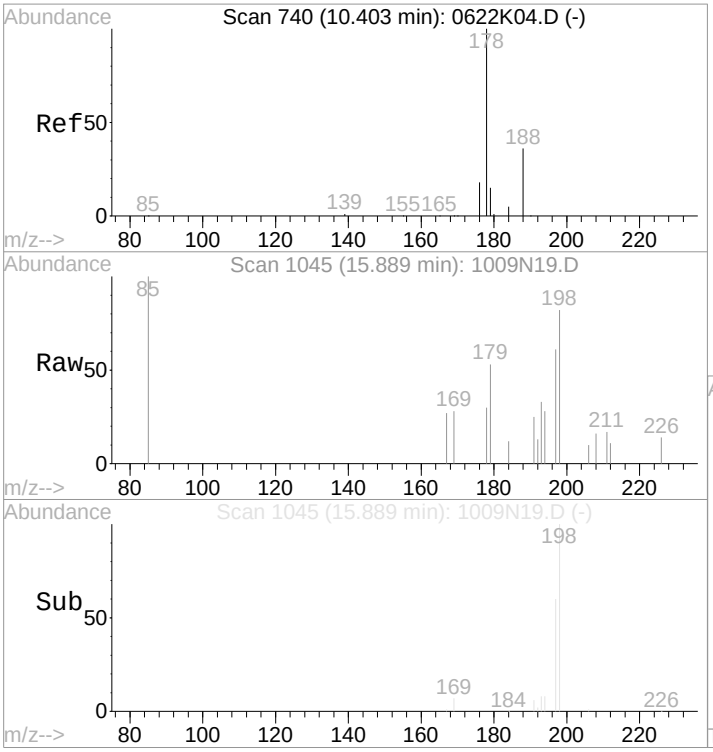


#38
Dibenzothiophene
Concen: 0.02 ppm
RT: 14.82 min Scan# 954
Delta R.T. -0.06 min
Lab File: 1009N19.D
Acq: 9 Oct 2012 7:58 pm

Tgt Ion:184 Resp: 931

Ion	Ratio	Lower	Upper
184	100		
139	45.8	0.0	37.7#

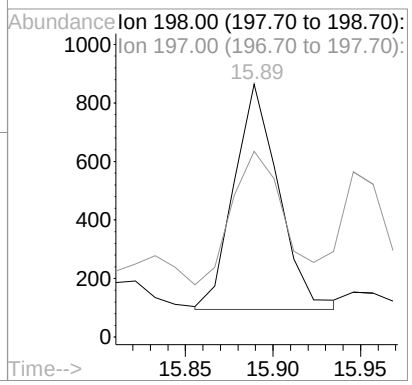


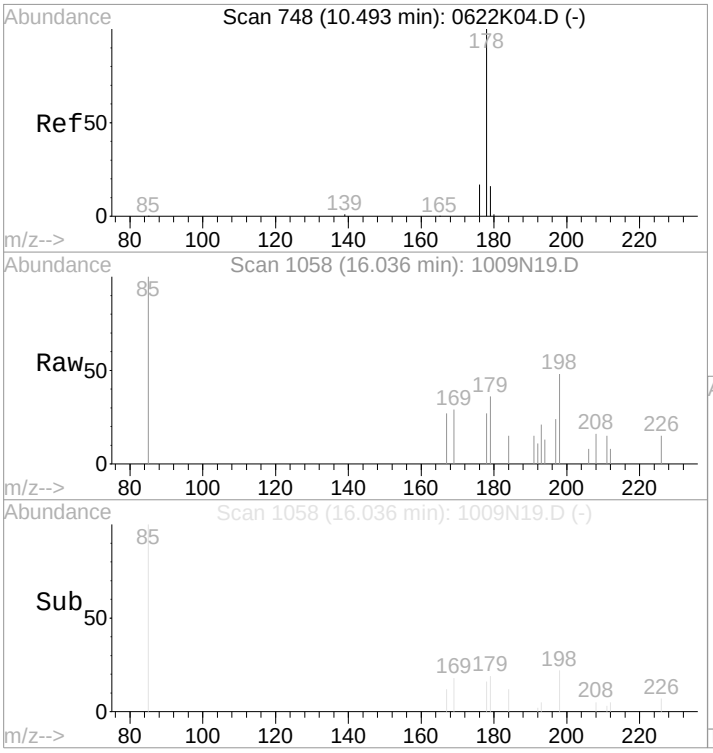


#39
4-Methyldibenzothiophene
Concen: 0.03 ppm m
RT: 15.89 min Scan# 1045
Delta R.T. -0.12 min
Lab File: 1009N19.D
Acq: 9 Oct 2012 7:58 pm

Tgt Ion:198 Resp: 1371

Ion	Ratio	Lower	Upper
198	100		
197	68.1	45.4	85.4

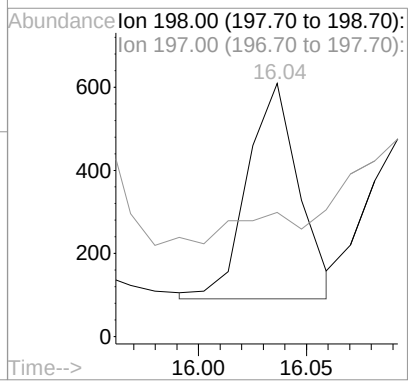


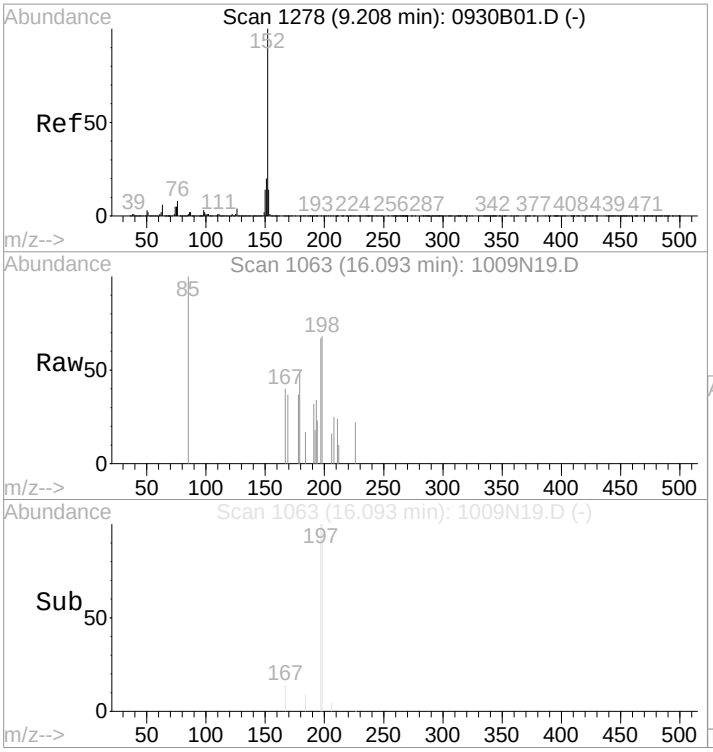


#40
2/3-Methyldibenzothiophene
Concen: 0.02 ppm m
RT: 16.04 min Scan# 1058
Delta R.T. -0.20 min
Lab File: 1009N19.D
Acq: 9 Oct 2012 7:58 pm

Tgt Ion:198 Resp: 865

Ion	Ratio	Lower	Upper
198	100		
197	82.5	40.9	80.9#

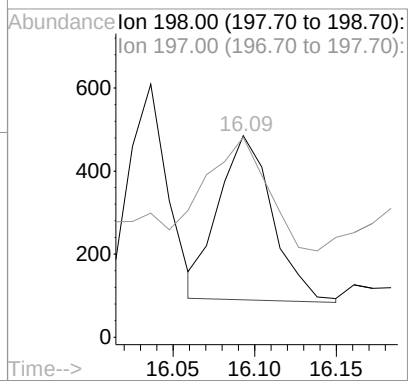


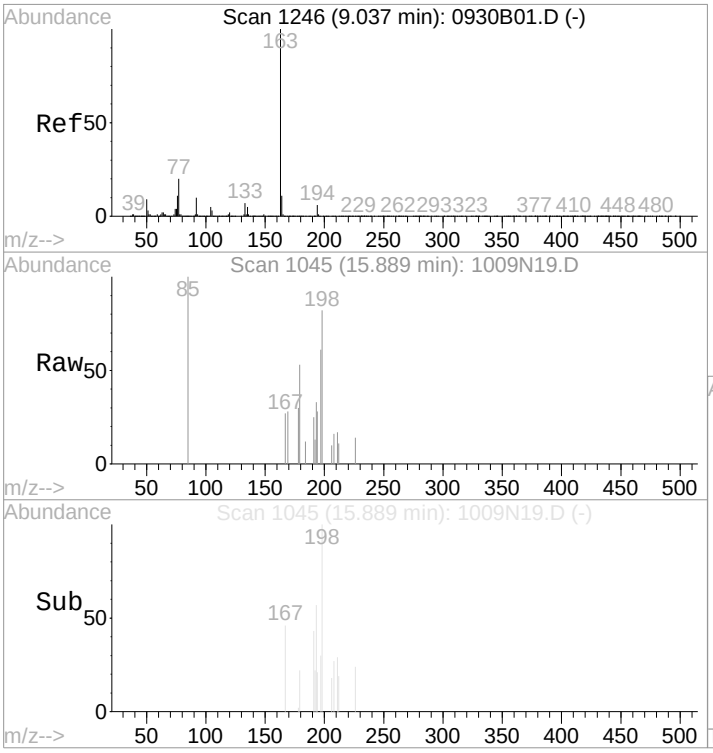


#41
1-Methyldibenzothiophene
Concen: 0.02 ppm m
RT: 16.09 min Scan# 1063
Delta R.T. -0.38 min
Lab File: 1009N19.D
Acq: 9 Oct 2012 7:58 pm

Tgt Ion:198 Resp: 905

Ion	Ratio	Lower	Upper
198	100		
197	66.9	43.6	83.6

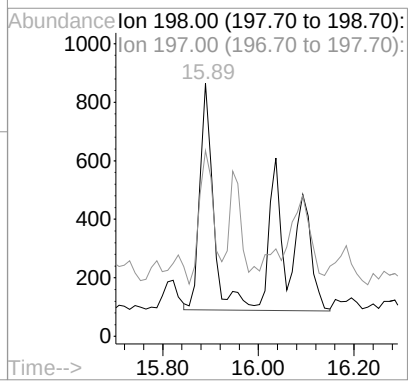


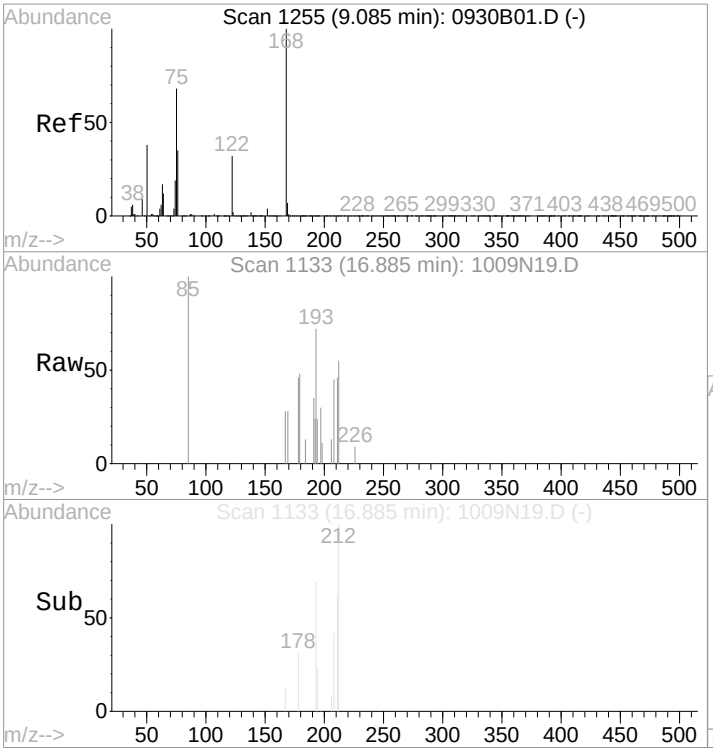


#42
C1-Dibenzothiophenes
Concen: 0.08 ppm m
RT: 15.89 min Scan# 1045
Delta R.T. -0.12 min
Lab File: 1009N19.D
Acq: 9 Oct 2012 7:58 pm

Tgt Ion:198 Resp: 3315

Ion	Ratio	Lower	Upper
198	100		
197	28.2	45.4	85.4#

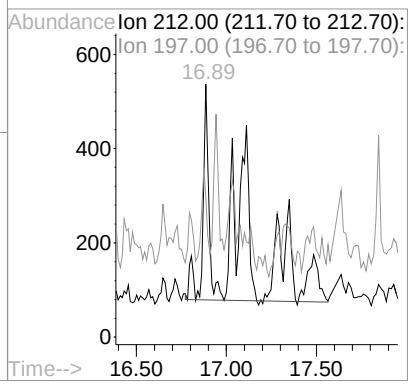


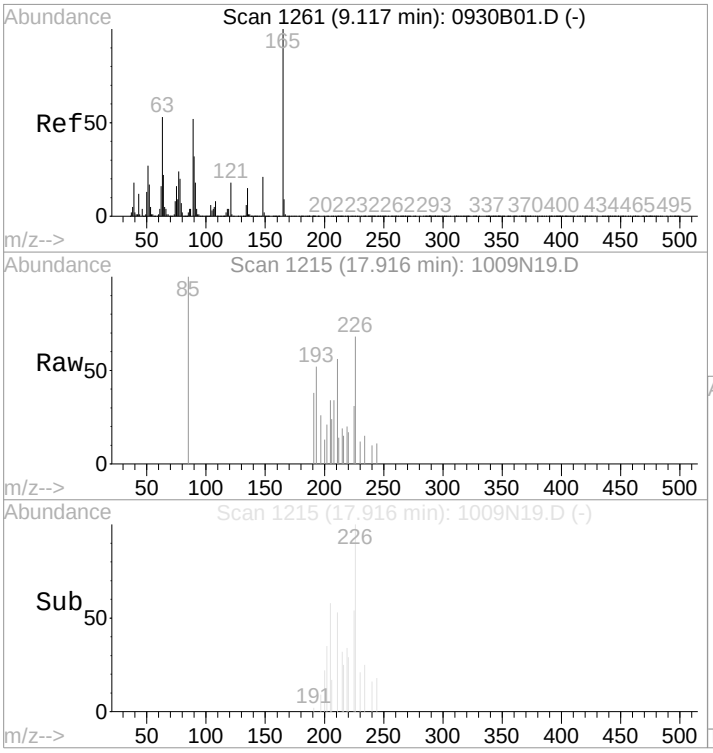


#43
C2-Dibenzothiophenes
Concen: 0.10 ppm m
RT: 16.89 min Scan# 1133
Delta R.T. -0.44 min
Lab File: 1009N19.D
Acq: 9 Oct 2012 7:58 pm

Tgt Ion:212 Resp: 4200

Ion	Ratio	Lower	Upper
212	100		
197	0.0	2.8	42.8#

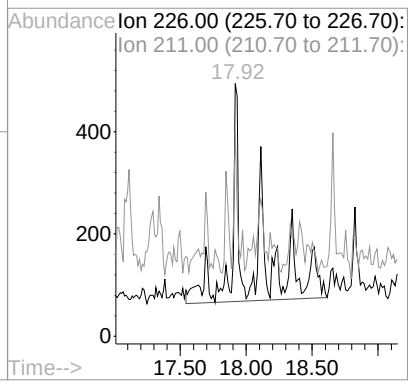


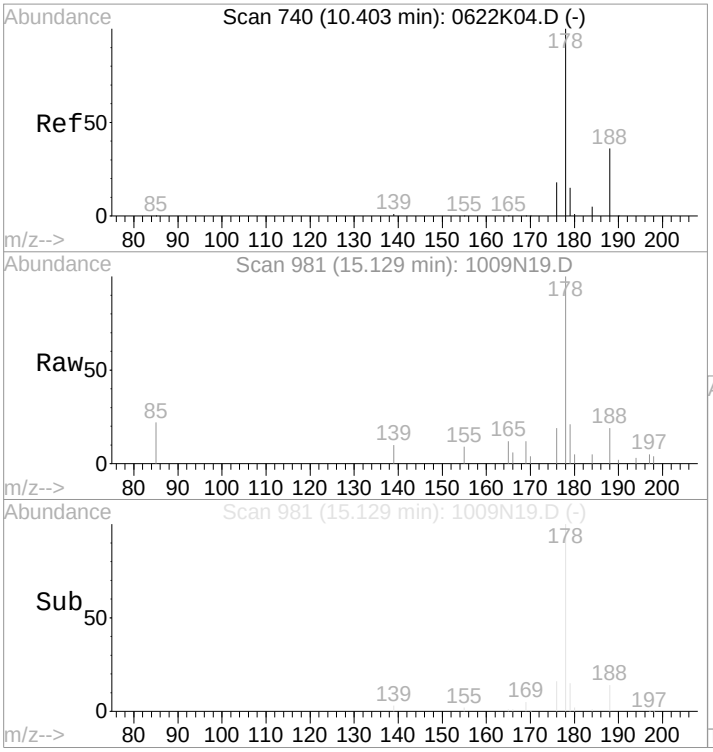


#44
C3-Dibenzothiophenes
Concen: 0.09 ppm m
RT: 17.92 min Scan# 1215
Delta R.T. -0.34 min
Lab File: 1009N19.D
Acq: 9 Oct 2012 7:58 pm

Tgt Ion:226 Resp: 3738

Ion	Ratio	Lower	Upper
226	100		
211	13.6	44.5	84.5#

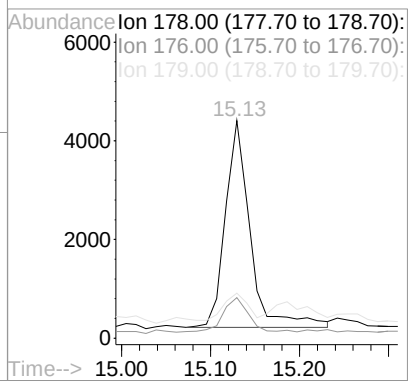


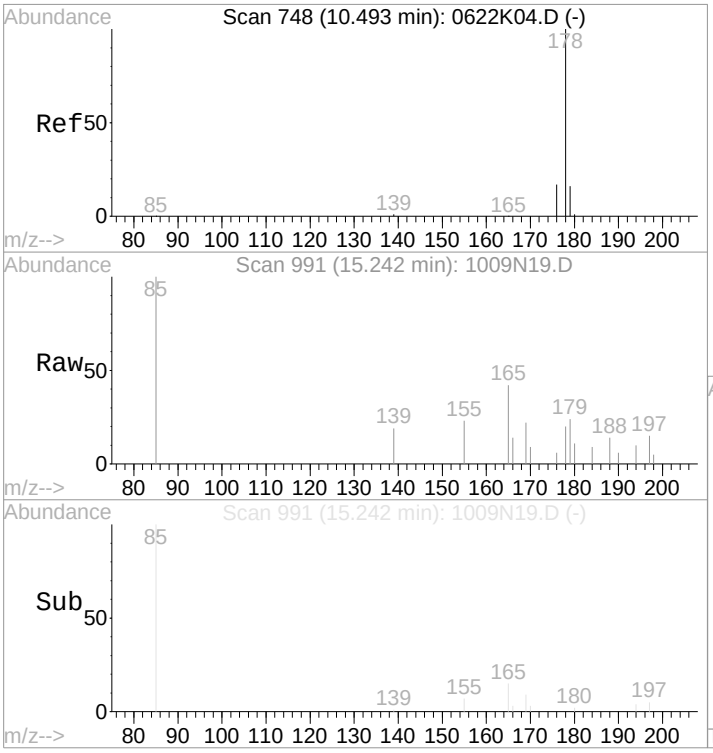


#47
Phenanthrene
Concen: 0.15 ppm
RT: 15.13 min Scan# 981
Delta R.T. -0.06 min
Lab File: 1009N19.D
Acq: 9 Oct 2012 7:58 pm

Tgt Ion:178 Resp: 8120

Ion	Ratio	Lower	Upper
178	100		
176	17.7	0.0	38.3
179	12.9	0.0	35.0

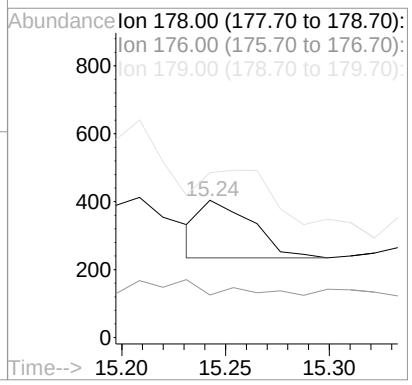


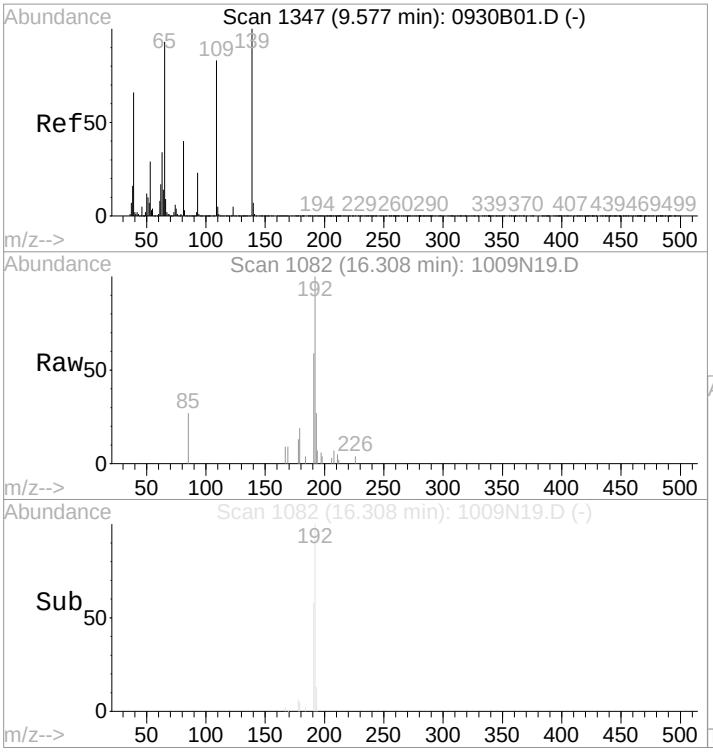


#48
Anthracene
Concen: 0.01 ppm
RT: 15.24 min Scan# 991
Delta R.T. -0.07 min
Lab File: 1009N19.D
Acq: 9 Oct 2012 7:58 pm

Tgt Ion:178 Resp: 291

Ion	Ratio	Lower	Upper
178	100		
176	37.1	0.0	37.8
179	0.0	0.0	35.2

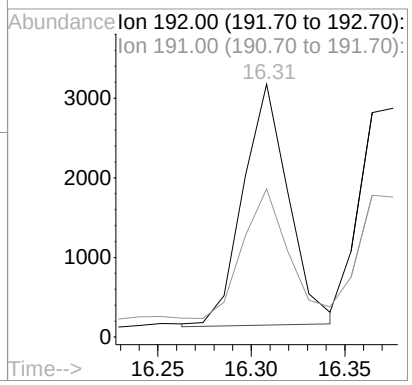


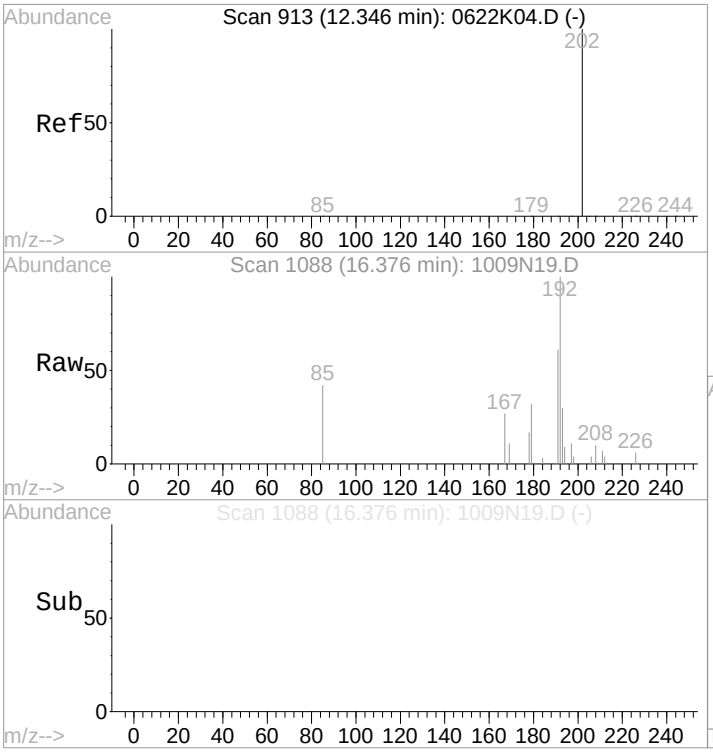


#49
3-Methylphenanthrene
Concen: 0.09 ppm m
RT: 16.31 min Scan# 1082
Delta R.T. -0.16 min
Lab File: 1009N19.D
Acq: 9 Oct 2012 7:58 pm

Tgt Ion:192 Resp: 5128

Ion	Ratio	Lower	Upper
192	100		
191	59.7	34.6	74.6

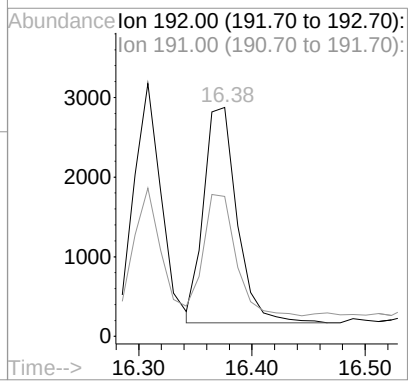


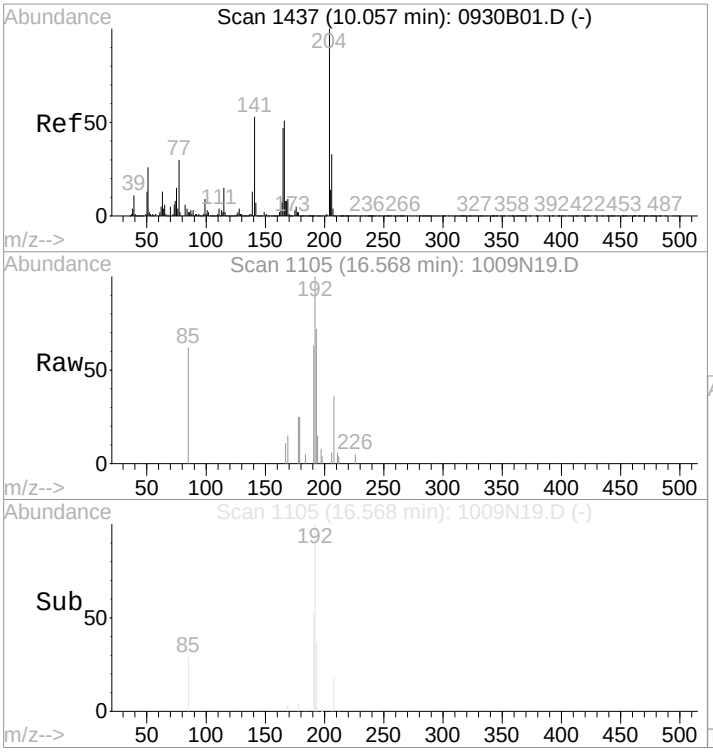


#50
2/4-Methylphenanthrene
Concen: 0.10 ppm
RT: 16.38 min Scan# 1088
Delta R.T. -0.16 min
Lab File: 1009N19.D
Acq: 9 Oct 2012 7:58 pm

Tgt Ion:192 Resp: 5547

Ion	Ratio	Lower	Upper
192	100		
191	54.4	39.1	79.1

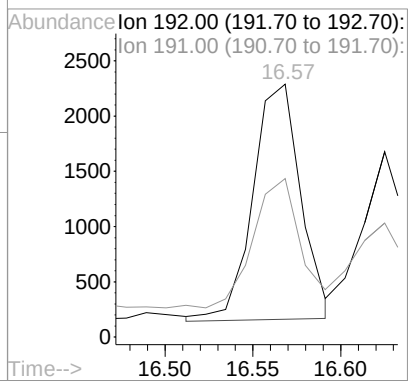


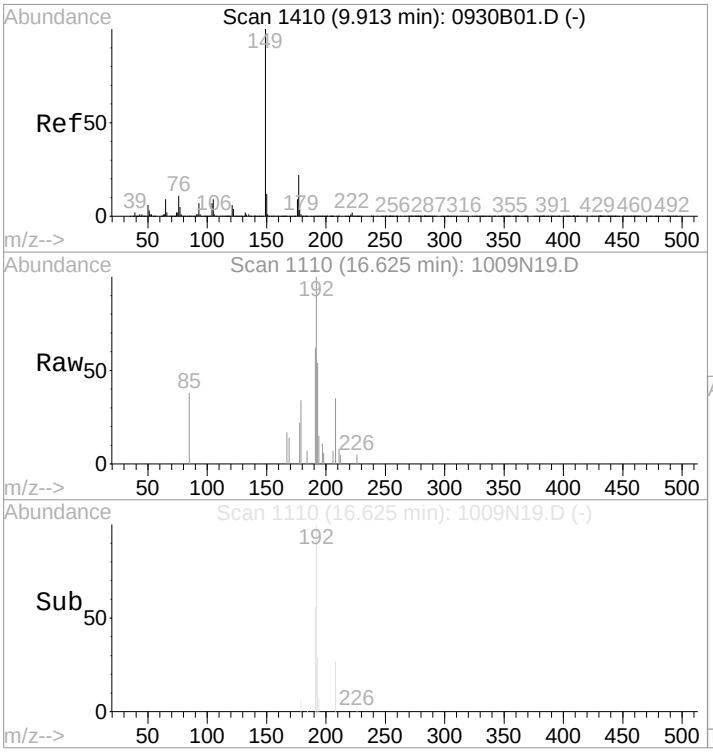


#52
9-Methylphenanthrene
Concen: 0.07 ppm m
RT: 16.57 min Scan# 1105
Delta R.T. -0.17 min
Lab File: 1009N19.D
Acq: 9 Oct 2012 7:58 pm

Tgt Ion:192 Resp: 4030

Ion	Ratio	Lower	Upper
192	100		
191	45.4	77.0	117.0#

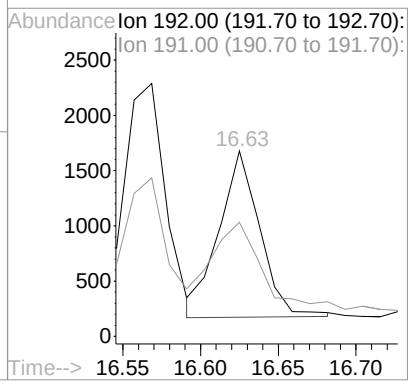


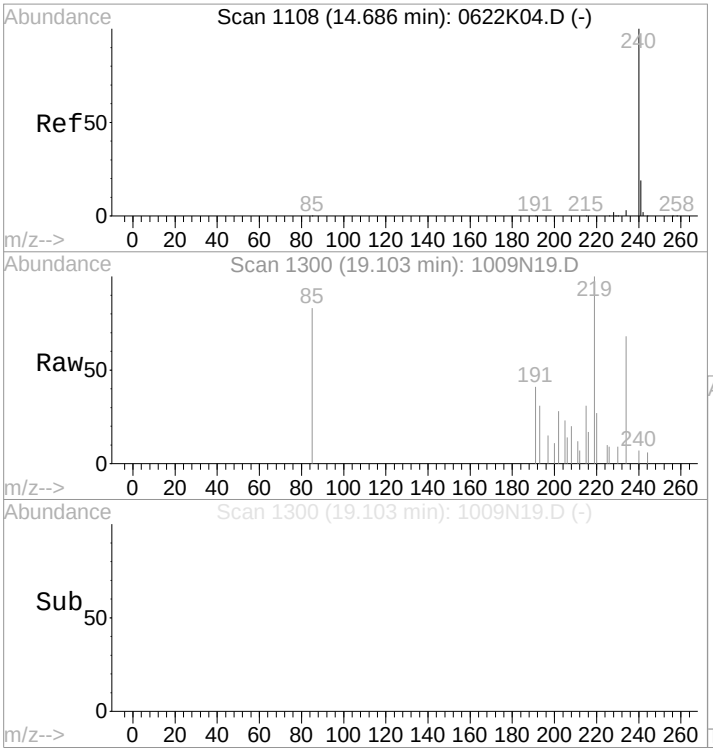


#53
1-Methylphenanthrene
Concen: 0.05 ppm m
RT: 16.63 min Scan# 1110
Delta R.T. -0.18 min
Lab File: 1009N19.D
Acq: 9 Oct 2012 7:58 pm

Tgt Ion:192 Resp: 2751

Ion	Ratio	Lower	Upper
192	100		
191	0.0	36.4	76.4#

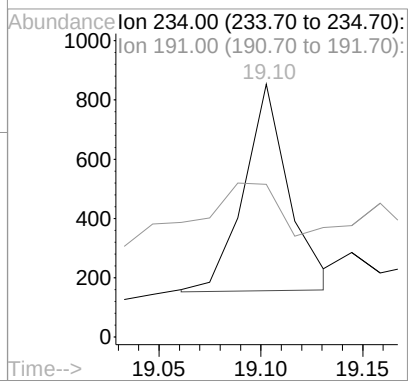


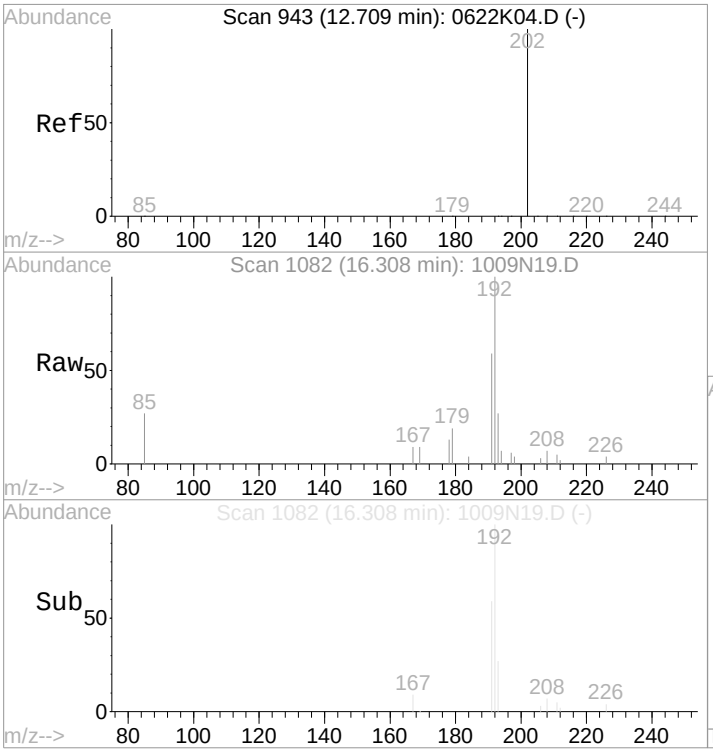


#54
Retene
Concen: 0.02 ppm m
RT: 19.10 min Scan# 1300
Delta R.T. -0.50 min
Lab File: 1009N19.D
Acq: 9 Oct 2012 7:58 pm

Tgt Ion:234 Resp: 1077

Ion	Ratio	Lower	Upper
234	100		
191	23.4	0.0	20.4#

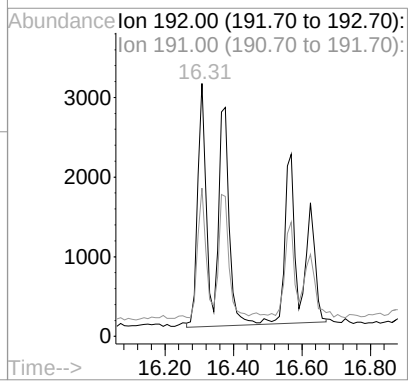


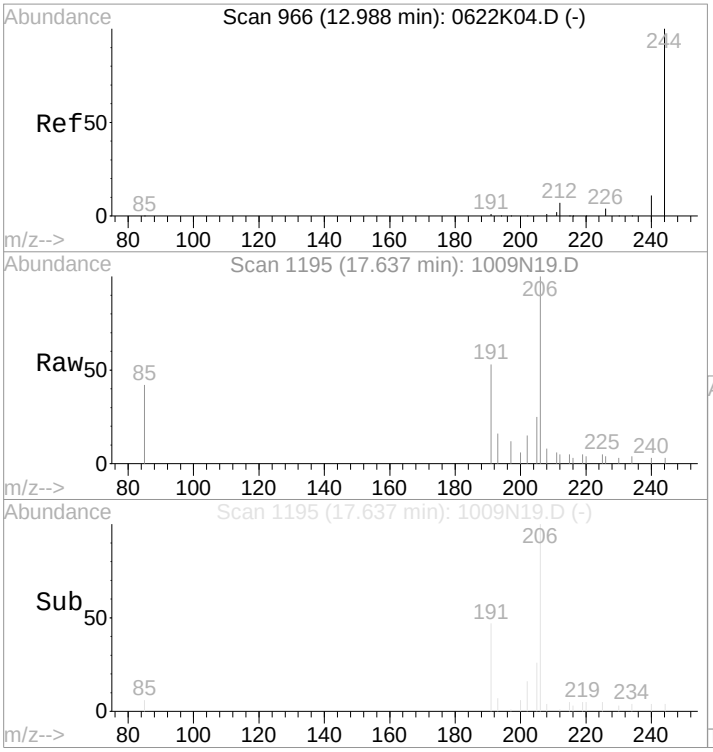


#55
C1-Phenanthrene/Anthracene
Concen: 0.33 ppm m
RT: 16.31 min Scan# 1082
Delta R.T. -0.22 min
Lab File: 1009N19.D
Acq: 9 Oct 2012 7:58 pm

Tgt Ion:192 Resp: 17872

Ion	Ratio	Lower	Upper
192	100		
191	17.1	39.1	79.1#

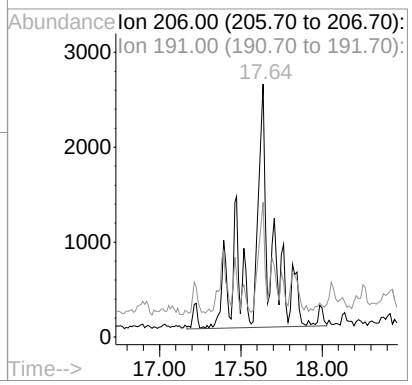


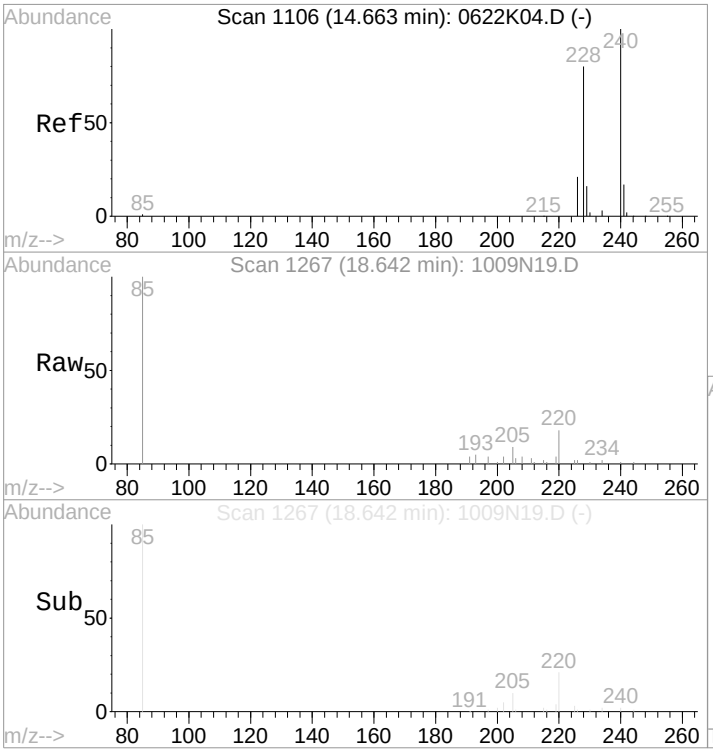


#56
C2-Phenanthrene/Anthracene
Concen: 0.32 ppm m
RT: 17.64 min Scan# 1195
Delta R.T. -0.28 min
Lab File: 1009N19.D
Acq: 9 Oct 2012 7:58 pm

Tgt Ion:206 Resp: 17411

Ion	Ratio	Lower	Upper
206	100		
191	14.4	118.9	158.9#

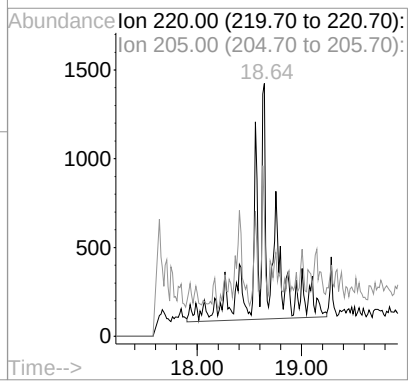


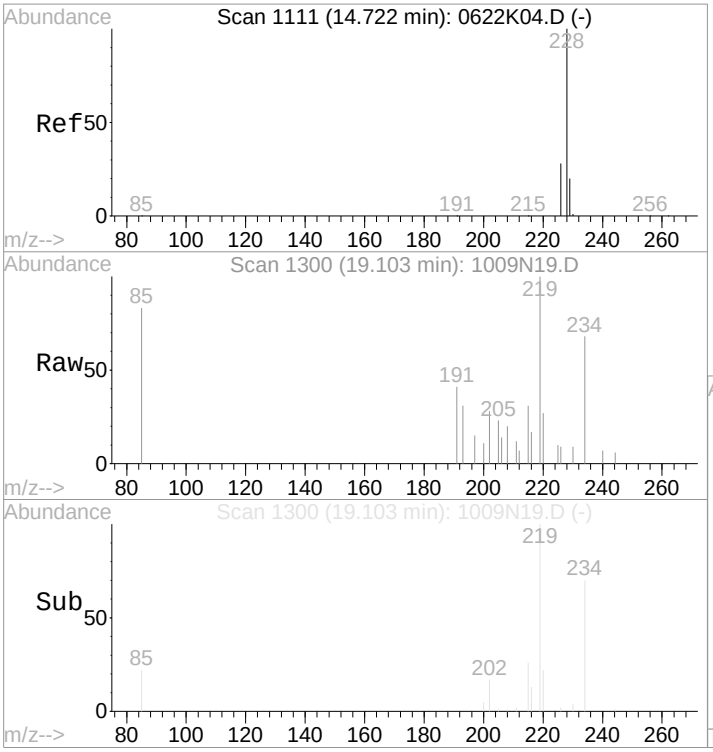


#57
C3-Phenanthrene/Anthracene
Concen: 0.25 ppm m
RT: 18.64 min Scan# 1267
Delta R.T. -0.43 min
Lab File: 1009N19.D
Acq: 9 Oct 2012 7:58 pm

Tgt Ion:220 Resp: 13903

Ion	Ratio	Lower	Upper
220	100		
205	9.4	86.4	126.4#

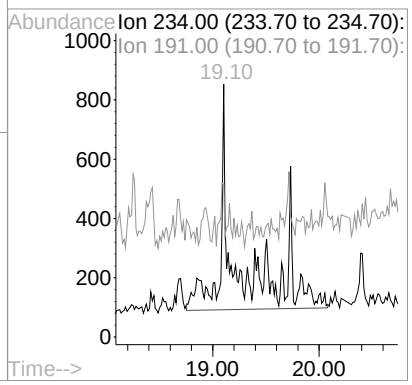


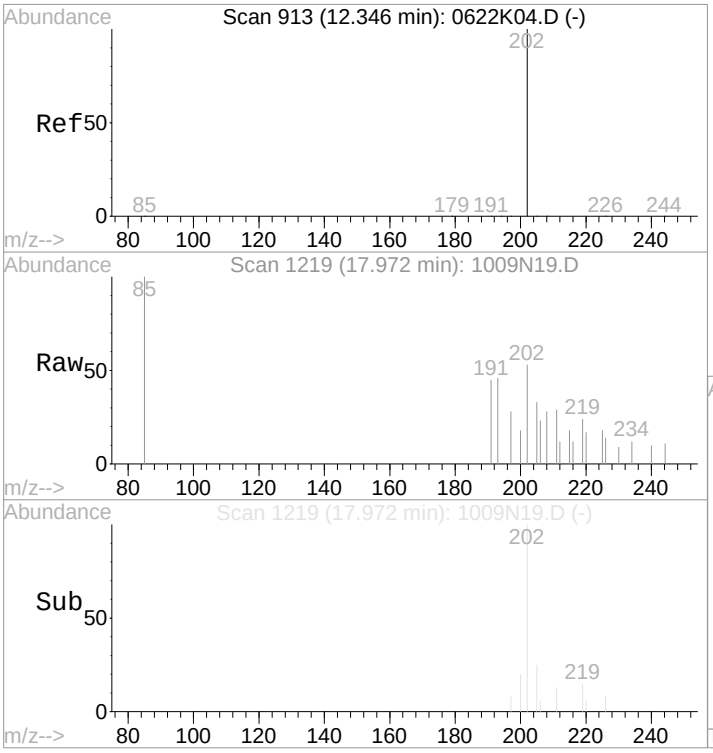


#58
C4-Phenanthrene/Anthracene
Concen: 0.14 ppm m
RT: 19.10 min Scan# 1300
Delta R.T. -0.61 min
Lab File: 1009N19.D
Acq: 9 Oct 2012 7:58 pm

Tgt Ion:234 Resp: 7601

Ion	Ratio	Lower	Upper
234	100		
191	8.5	60.0	100.0#

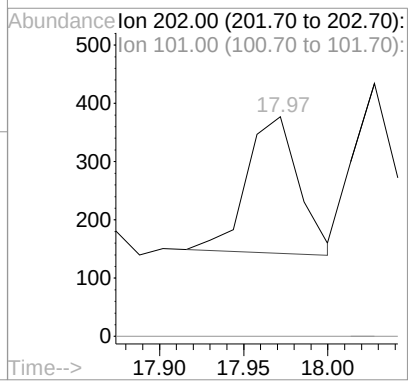


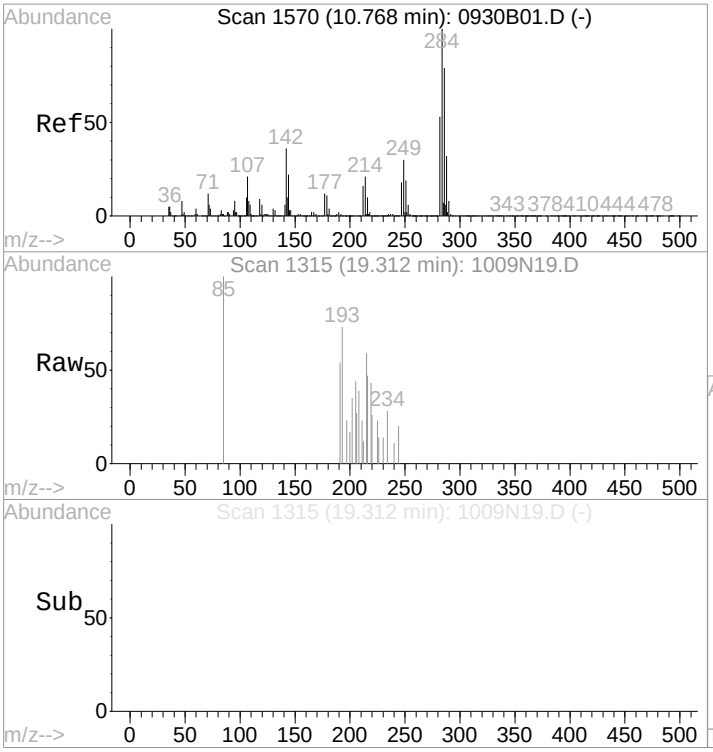


#59
Fluoranthene
Concen: 0.01 ppm
RT: 17.97 min Scan# 1219
Delta R.T. -0.06 min
Lab File: 1009N19.D
Acq: 9 Oct 2012 7:58 pm

Tgt Ion:202 Resp: 502

Ion	Ratio	Lower	Upper
202	100		
101	0.0	0.0	20.0

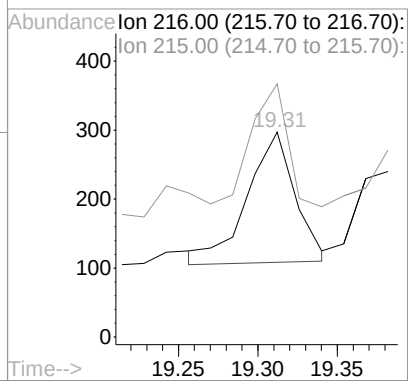


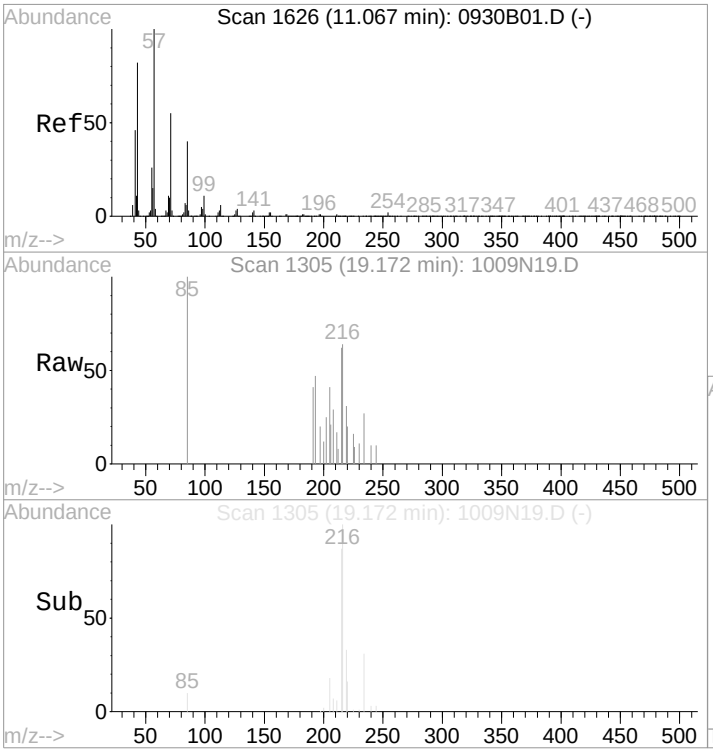


#60
Benzo(b)fluorene
Concen: 0.01 ppm m
RT: 19.31 min Scan# 1315
Delta R.T. -0.51 min
Lab File: 1009N19.D
Acq: 9 Oct 2012 7:58 pm

Tgt Ion:216 Resp: 399

Ion	Ratio	Lower	Upper
216	100		
215	70.2	60.0	100.0

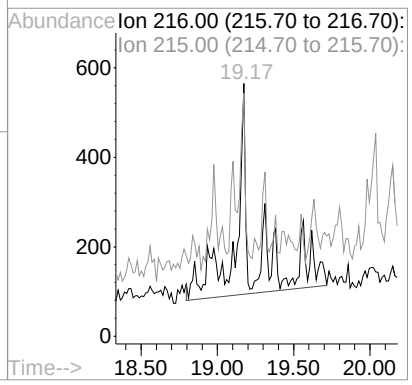


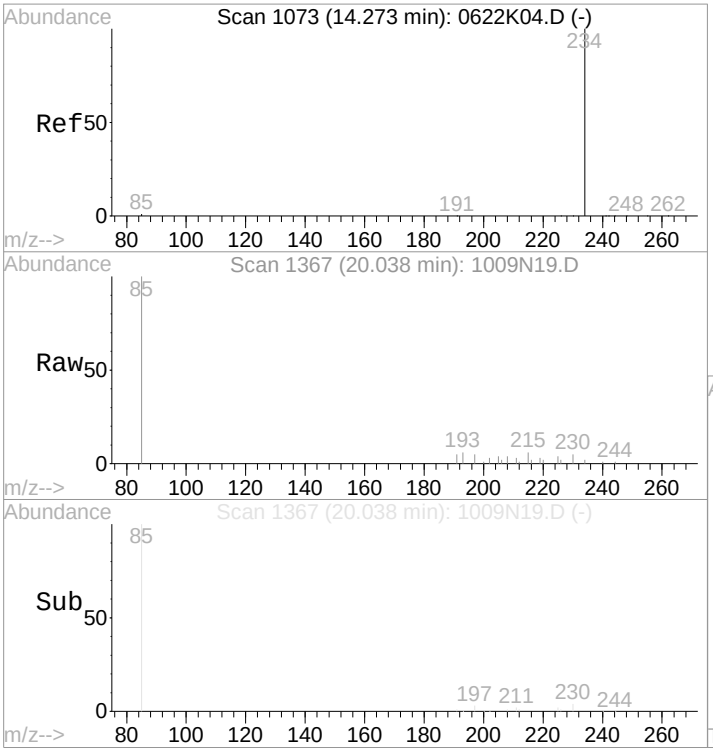


#61
C1-Fluoranthene/Pyrene
Concen: 0.08 ppm m
RT: 19.17 min Scan# 1305
Delta R.T. -0.65 min
Lab File: 1009N19.D
Acq: 9 Oct 2012 7:58 pm

Tgt Ion:216 Resp: 3696

Ion	Ratio	Lower	Upper
216	100		
215	21.4	127.1	167.1#

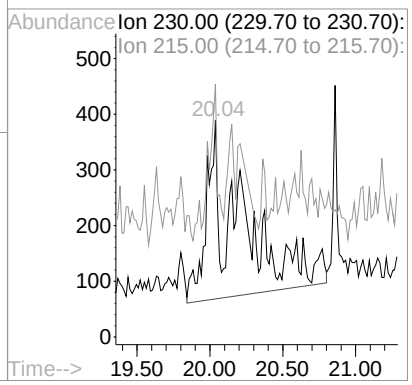


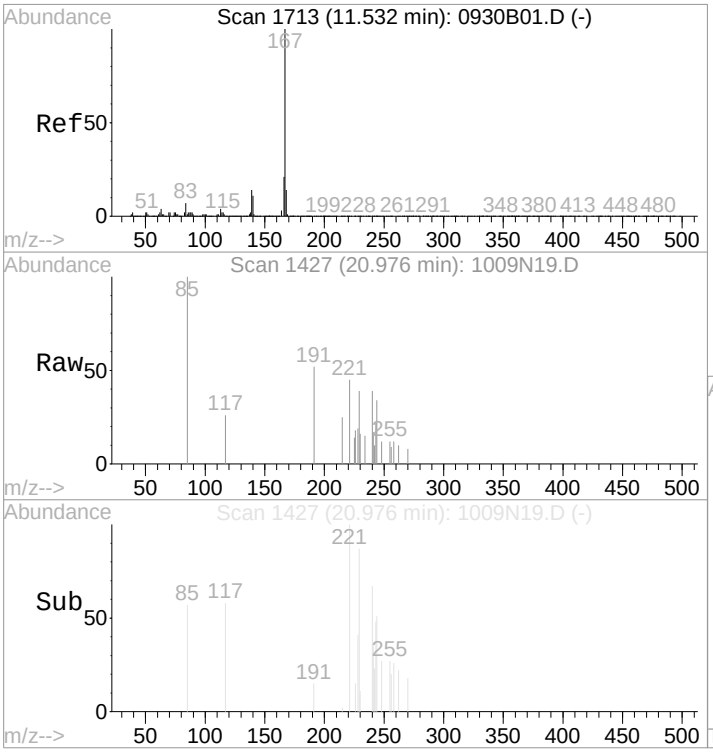


#62
C2-Fluoranthene/Pyrene
Concen: 0.10 ppm m
RT: 20.04 min Scan# 1367
Delta R.T. -1.13 min
Lab File: 1009N19.D
Acq: 9 Oct 2012 7:58 pm

Tgt Ion:230 Resp: 4925

Ion	Ratio	Lower	Upper
230	100		
215	0.0	146.1	186.1#

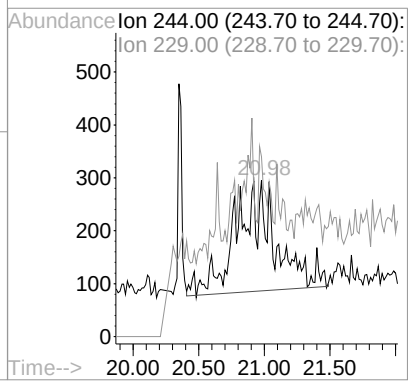


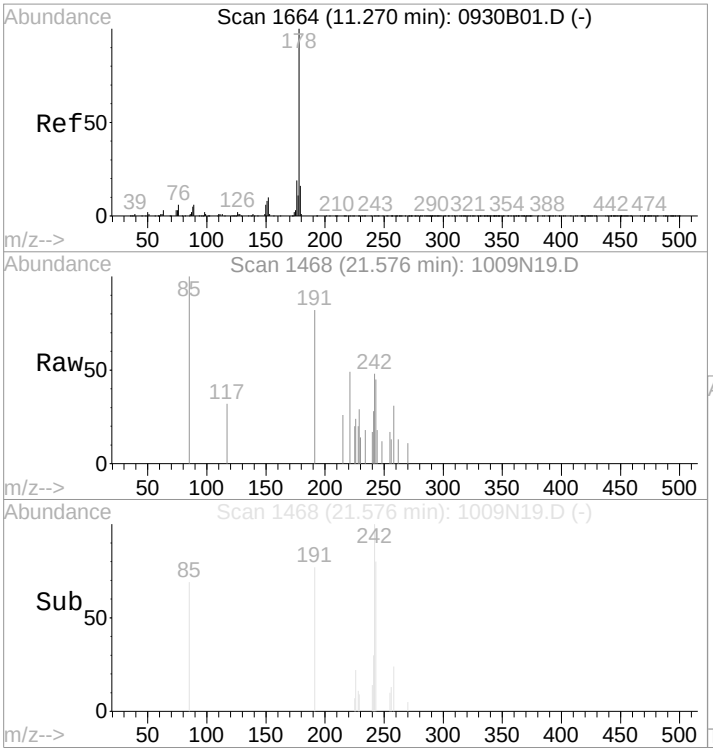


#63
C3-Fluoranthene/Pyrene
Concen: 0.09 ppm m
RT: 20.98 min Scan# 1427
Delta R.T. -0.77 min
Lab File: 1009N19.D
Acq: 9 Oct 2012 7:58 pm

Tgt Ion:244 Resp: 4343

Ion	Ratio	Lower	Upper
244	100		
229	7.6	59.1	99.1#

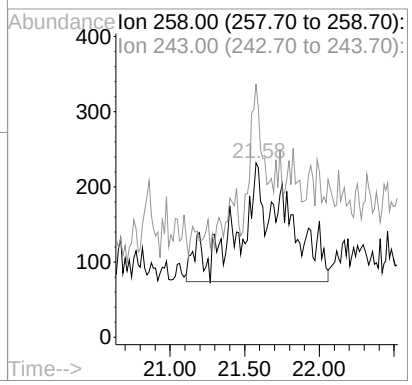


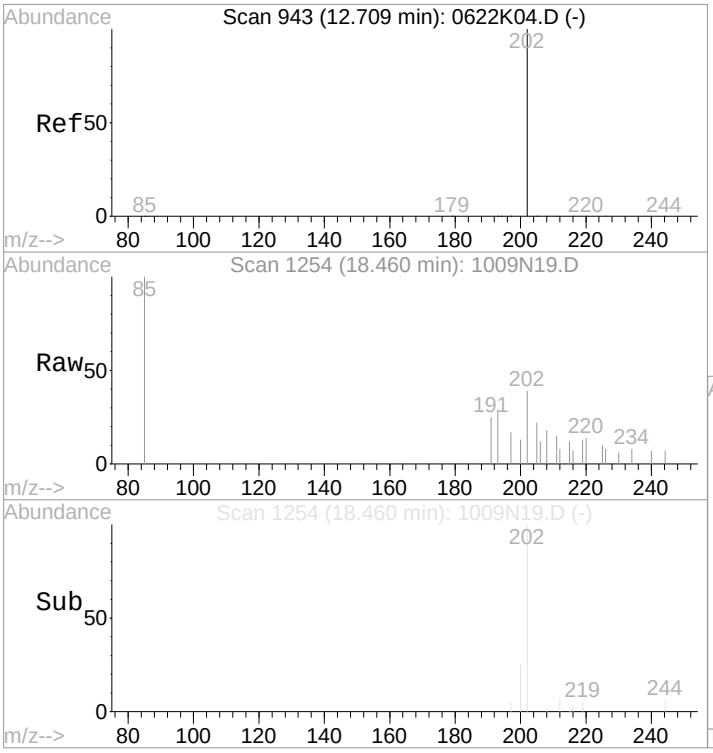


#64
C4-Fluoranthene/Pyrene
Concen: 0.08 ppm m
RT: 21.58 min Scan# 1468
Delta R.T. -0.80 min
Lab File: 1009N19.D
Acq: 9 Oct 2012 7:58 pm

Tgt Ion:258 Resp: 3660

Ion	Ratio	Lower	Upper
258	100		
243	6.6	60.0	100.0#

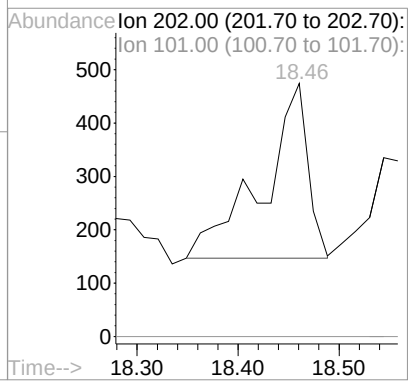


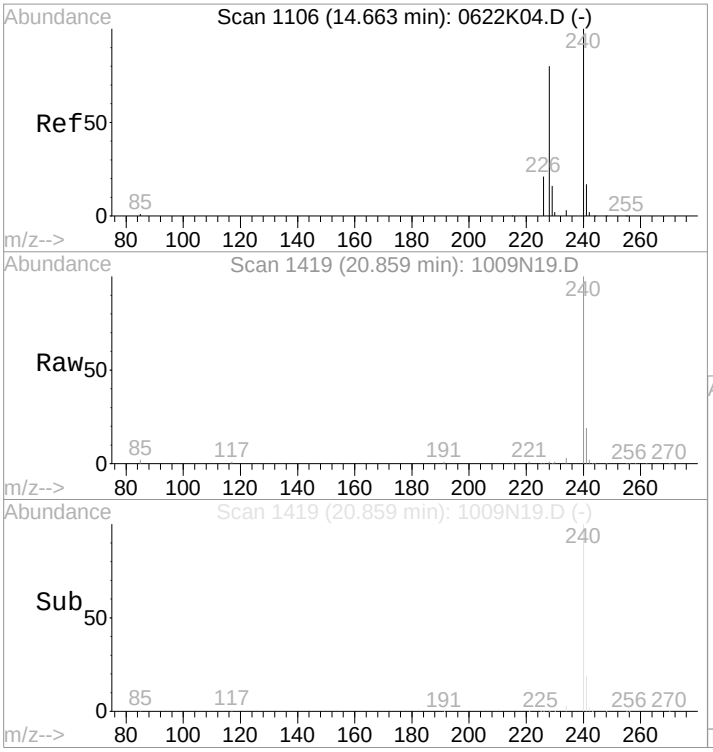


#66
Pyrene
Concen: 0.02 ppm
RT: 18.46 min Scan# 1254
Delta R.T. -0.06 min
Lab File: 1009N19.D
Acq: 9 Oct 2012 7:58 pm

Tgt Ion:202 Resp: 1016

Ion	Ratio	Lower	Upper
202	100		
101	0.0	0.0	20.0

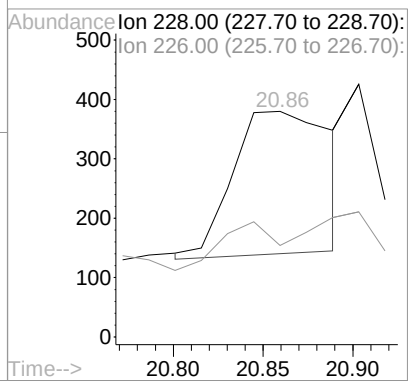


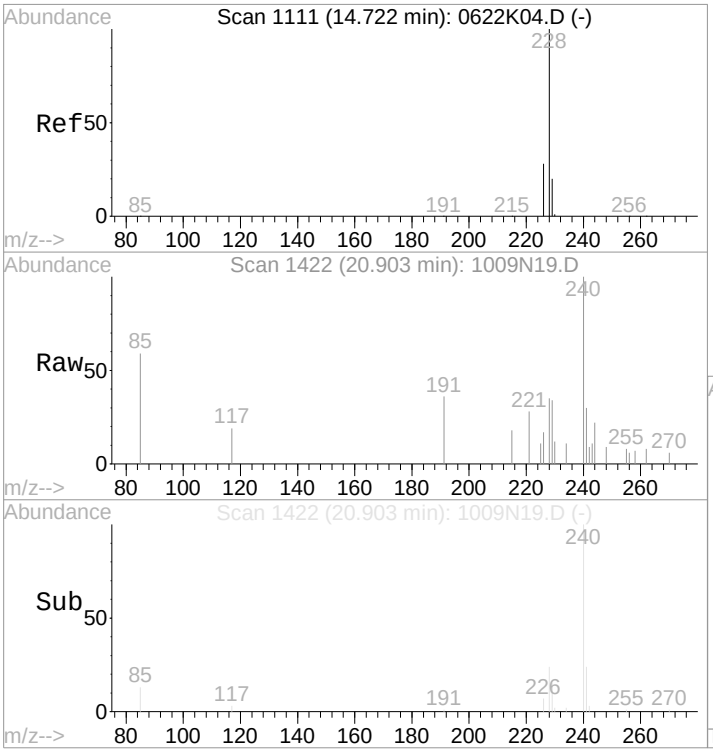


#68
Benzo(a)anthracene
Concen: 0.02 ppm m
RT: 20.86 min Scan# 1419
Delta R.T. -0.04 min
Lab File: 1009N19.D
Acq: 9 Oct 2012 7:58 pm

Tgt Ion:228 Resp: 912

Ion	Ratio	Lower	Upper
228	100		
226	24.6	3.7	43.7

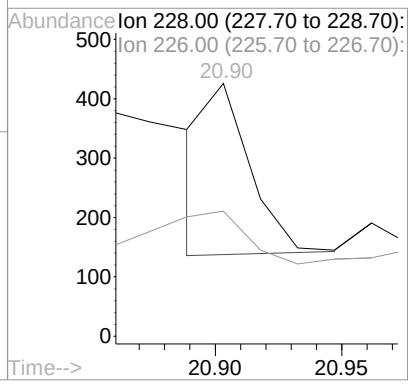


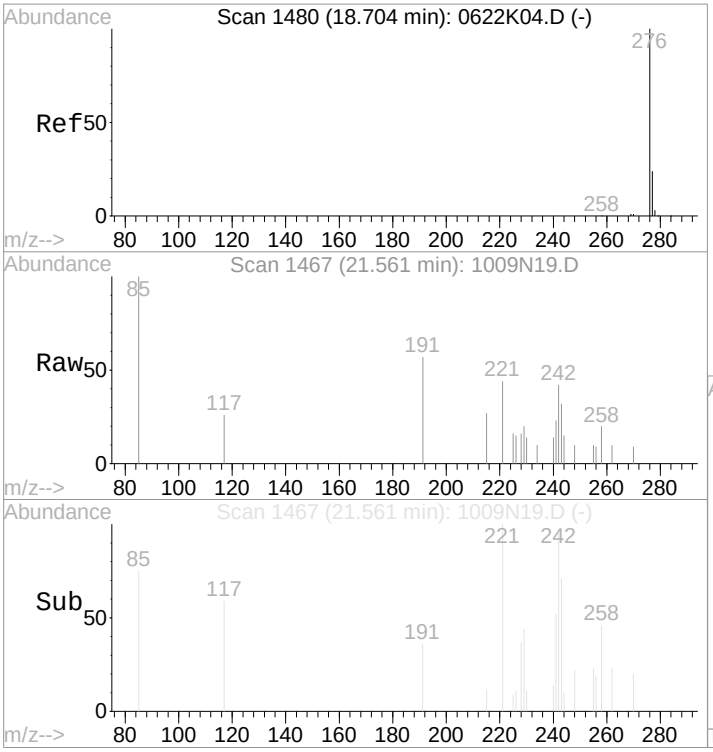


#69
Chrysene
Concen: 0.01 ppm m
RT: 20.90 min Scan# 1422
Delta R.T. -0.06 min
Lab File: 1009N19.D
Acq: 9 Oct 2012 7:58 pm

Tgt Ion:228 Resp: 347

Ion	Ratio	Lower	Upper
228	100		
226	75.2	6.8	46.8#

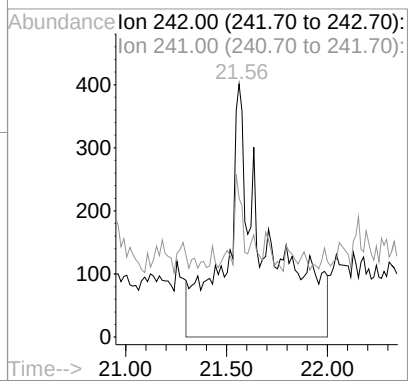


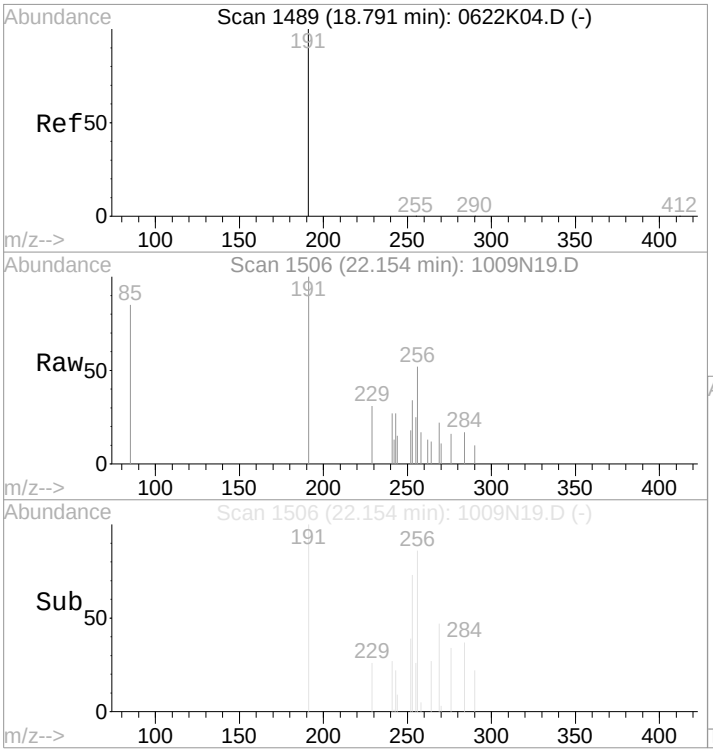


#70
C1-Chrysenes
Concen: 0.09 ppm m
RT: 21.56 min Scan# 1467
Delta R.T. -0.19 min
Lab File: 1009N19.D
Acq: 9 Oct 2012 7:58 pm

Tgt Ion:242 Resp: 5611

Ion	Ratio	Lower	Upper
242	100		
241	388.3	9.6	49.6#

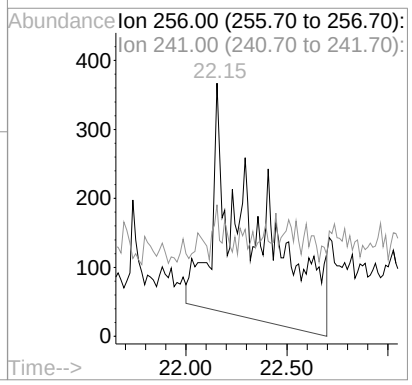


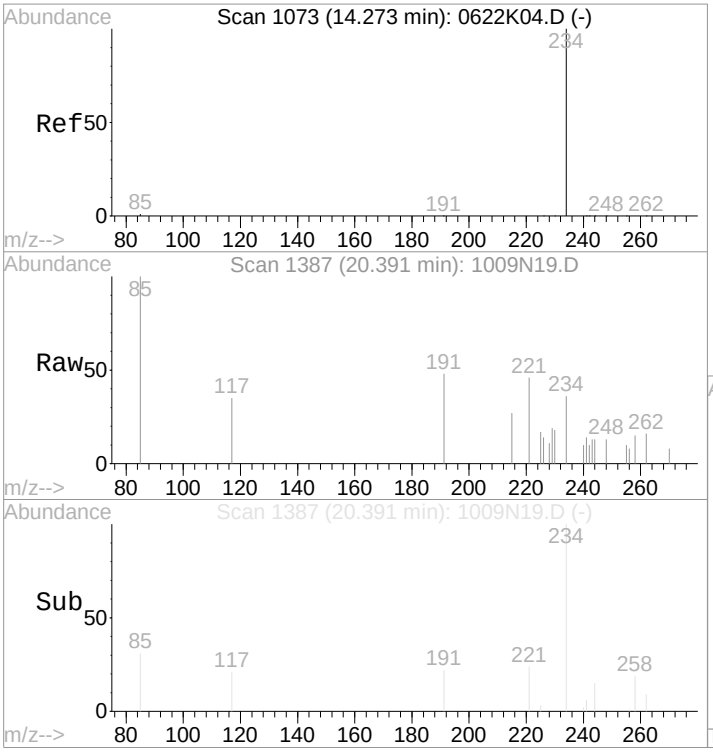


#71
C2-Chrysenes
Concen: 0.07 ppm m
RT: 22.15 min Scan# 1506
Delta R.T. -0.32 min
Lab File: 1009N19.D
Acq: 9 Oct 2012 7:58 pm

Tgt Ion:256 Resp: 4858

Ion	Ratio	Lower	Upper
256	100		
241	0.0	38.4	78.4#

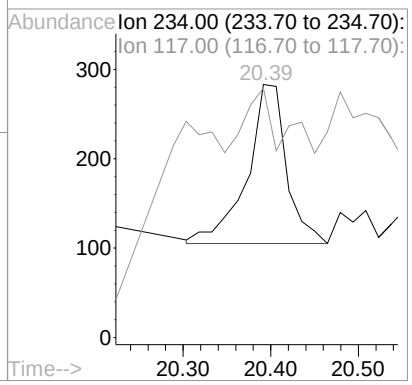


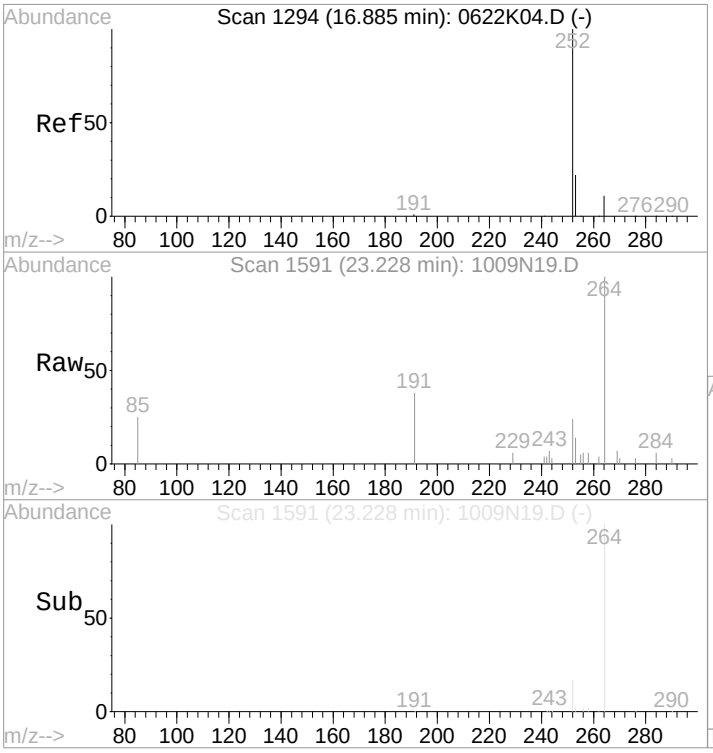


#74
Naphthobenzothiophene
Concen: 0.01 ppm
RT: 20.39 min Scan# 1387
Delta R.T. -0.06 min
Lab File: 1009N19.D
Acq: 9 Oct 2012 7:58 pm

Tgt Ion:234 Resp: 557

Ion	Ratio	Lower	Upper
234	100		
117	0.0	0.0	28.6

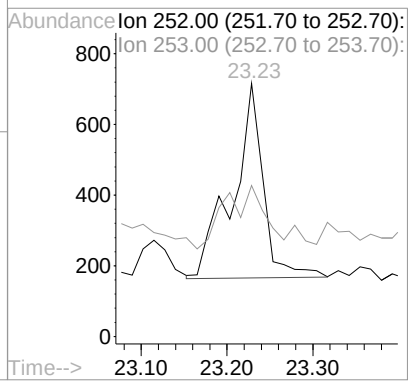




#85
Perylene
Concen: 0.02 ppm
RT: 23.23 min Scan# 1591
Delta R.T. -0.06 min
Lab File: 1009N19.D
Acq: 9 Oct 2012 7:58 pm

Tgt Ion:252 Resp: 1368

Ion	Ratio	Lower	Upper
252	100		
253	21.7	2.3	42.3



Quantitation Report

Data File : Q:\DATAN\101112\1011N03.D Vial: 3
Acq On : 11 Oct 2012 12:43 pm Operator:
Sample : 201025368 Inst : 20MSSVN
Misc : 193374 1:10 LOW/50000 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 12 12:46 2012 Quant Results File: NZ091312.RES

Quant Method : Q:\DATAN\NZ091312.M (RTE Integrator)
Title : Alk PAH SIM - wat/soils
Last Update : Thu Oct 11 12:20:33 2012
Response via : Initial Calibration
DataAcq Meth : NALKGC
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Naphthalene-d8	7.47	136	114888	2.00	ppm	-0.03 NA%
23) Acenaphthene-d10	11.51	164	60445	2.00	ppm	-0.05 NA%
37) Phenanthrene-d10	15.08	188	104484	2.00	ppm	-0.04 NA%
65) Chrysene-d12	20.86	240	108730	2.00	ppm	-0.06 NA%
79) Perylene-d12	23.20	264	123061	2.00	ppm	-0.05 NA%

System Monitoring Compounds

24) 2-Fluorobiphenyl	0.00	172	0d	0.00	ppm	
Spiked Amount 2.000	Range 30 - 114		Recovery = 0.00%#			
67) Terphenyl-d14	0.00	244	0d	0.00	ppm	
Spiked Amount 2.000	Range 30 - 114		Recovery = 0.00%#			

Target Compounds						Qvalue
2) Decalin 1	5.70	138	96654	18.35	ppm	# 15
3) Decalin 2	6.34	138	11954	1.99	ppm	# 1
4) Decalin TOTAL	5.70	138	108608m	9.62	ppm	# 23
5) C1-Decalins	6.49	152	372170m	32.98	ppm	100
6) C2-Decalins	7.45	166	531813m	47.13	ppm	100
7) C3-Decalins	8.88	180	477895m	42.35	ppm	100
8) C4-Decalins	10.20	194	190653m	16.89	ppm	100
9) Naphthalene	7.52	128	140589	2.38	ppm	92
10) 2Methylnaphthalene	9.07	142	207994	5.65	ppm	91
11) 1Methylnaphthalene	9.29	142	64889	1.78	ppm	93
12) 2,6-Dimethylnaphthalene	10.53	156	247213	7.66	ppm	98
13) 2,3,5-Trimethylnaphthalene	12.52	170	166504m	5.72	ppm	# 96
14) C1-Naphthalenes	9.07	142	281932m	4.77	ppm	# 99
15) C2-Naphthalenes	10.70	156	938505m	15.89	ppm	# 93
16) C3-Naphthalenes	12.03	170	1031933m	17.47	ppm	# 91
17) C4-Naphthalenes	13.75	184	610025m	10.33	ppm	# 58
18) Benzothiophene	7.69	134	20112m	0.43	ppm	87
19) C1-Benzothiophenes	8.75	148	42381m	0.91	ppm	16
20) C2-Benzothiophenes	10.31	162	50441m	1.08	ppm	1
21) C3-Benzothiophenes	11.99	176	43194m	0.93	ppm	100
22) C4-Benzothiophenes	13.24	190	26506m	0.57	ppm	100
25) Biphenyl (Diphenyl)	10.15	154	18993	0.38	ppm	# 14
26) Acenaphthylene	11.20	152	14261m	0.33	ppm	67
27) Acenaphthene	11.59	153	12472	0.34	ppm	# 41
28) Dibenzofuran	12.01	168	31464	0.59	ppm	# 1
29) Fluorene	12.82	166	32612	0.81	ppm	# 76
30) C1-Fluorenes	14.22	180	102123m	2.54	ppm	# 96
31) C2-Fluorenes	15.40	194	158487m	3.95	ppm	# 73
32) C3-Fluorenes	16.62	208	119943m	2.99	ppm	# 5
38) Dibenzothiophene	14.84	184	11391	0.23	ppm	83
39) 4-Methyldibenzothiophene	15.89	198	16697	0.34	ppm	96
40) 2/3-Methyldibenzothiophene	16.04	198	12566m	0.26	ppm	70
41) 1-Methyldibenzothiophene	16.11	198	10244m	0.21	ppm	1
42) C1-Dibenzothiophenes	15.89	198	42548m	0.88	ppm	# 95

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : Q:\DATAN\101112\1011N03.D Vial: 3
Acq On : 11 Oct 2012 12:43 pm Operator:
Sample : 201025368 Inst : 20MSSVN
Misc : 193374 1:10 LOW/50000 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 12 12:46 2012 Quant Results File: NZ091312.RES

Quant Method : Q:\DATAN\NZ091312.M (RTE Integrator)
Title : Alk PAH SIM - wat/soils
Last Update : Thu Oct 11 12:20:33 2012
Response via : Initial Calibration
DataAcq Meth : NALKGC

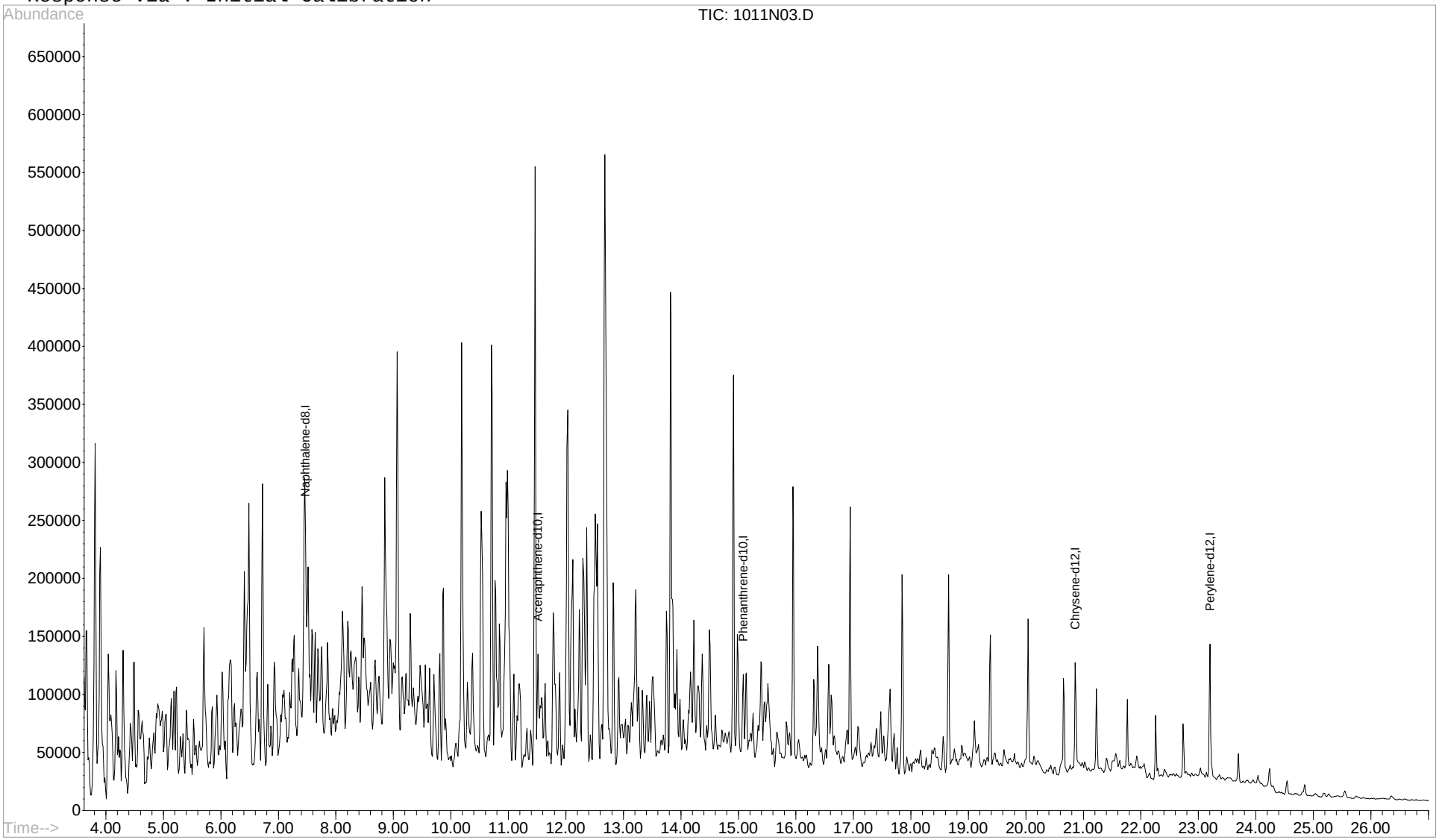
	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
43)	C2-Dibenzothiophenes	16.90	212	52209m	1.08	ppm		90
44)	C3-Dibenzothiophenes	17.93	226	43753m	0.90	ppm	#	86
45)	C4-Dibenzothiophenes	18.82	240	30340m	0.63	ppm	#	29
47)	Phenanthrene	15.14	178	96910	1.58	ppm		98
48)	Anthracene	15.25	178	2854	0.07	ppm	#	1
49)	3-Methylphenanthrene	16.38	192	73524	1.20	ppm		99
50)	2/4-Methylphenanthrene	16.38	192	73855m	1.20	ppm	#	98
52)	9-Methylphenanthrene	16.57	192	51165m	0.83	ppm	#	64
53)	1-Methylphenanthrene	16.63	192	34974m	0.57	ppm	#	86
54)	Retene	19.10	234	14578m	0.24	ppm		82
55)	C1-Phenanthrene/Anthracene	16.38	192	239727m	3.90	ppm	#	97
56)	C2-Phenanthrene/Anthracene	17.64	206	230149m	3.74	ppm	#	21
57)	C3-Phenanthrene/Anthracene	18.64	220	177621m	2.89	ppm	#	46
58)	C4-Phenanthrene/Anthracene	19.10	234	100932m	1.64	ppm	#	34
59)	Fluoranthene	17.97	202	4852	0.09	ppm	#	100
60)	Benzo(b)fluorene	19.31	216	4275	0.08	ppm	#	77
61)	C1-Fluoranthene/Pyrene	19.17	216	44542m	0.84	ppm	#	38
62)	C2-Fluoranthene/Pyrene	20.02	230	55856m	1.05	ppm	#	59
63)	C3-Fluoranthene/Pyrene	20.98	244	52065m	0.98	ppm	#	66
64)	C4-Fluoranthene/Pyrene	21.59	258	40758m	0.77	ppm	#	70
66)	Pyrene	18.46	202	5584m	0.10	ppm		100
68)	Benzo(a)anthracene	20.84	228	2136m	0.04	ppm	#	84
69)	Chrysene	20.90	228	7586m	0.12	ppm		91
70)	C1-Chrysenes	21.56	242	25985m	0.41	ppm		76
71)	C2-Chrysenes	22.15	256	28865m	0.46	ppm	#	44
72)	C3-Chrysenes	22.92	270	24936m	0.39	ppm	#	21
73)	C4-Chrysenes	23.10	284	18539m	0.29	ppm	#	7
74)	Naphthobenzothiophene	20.41	234	5372	0.11	ppm	#	76
75)	C1-Naphthobenzothiophenes	21.03	248	9440m	0.20	ppm	#	9
76)	C2-Naphthobenzothiophenes	21.71	262	12711m	0.27	ppm		100
77)	C3-Naphthobenzothiophenes	22.33	276	6172m	0.13	ppm		100
85)	Perylene	23.23	252	11368	0.17	ppm		79

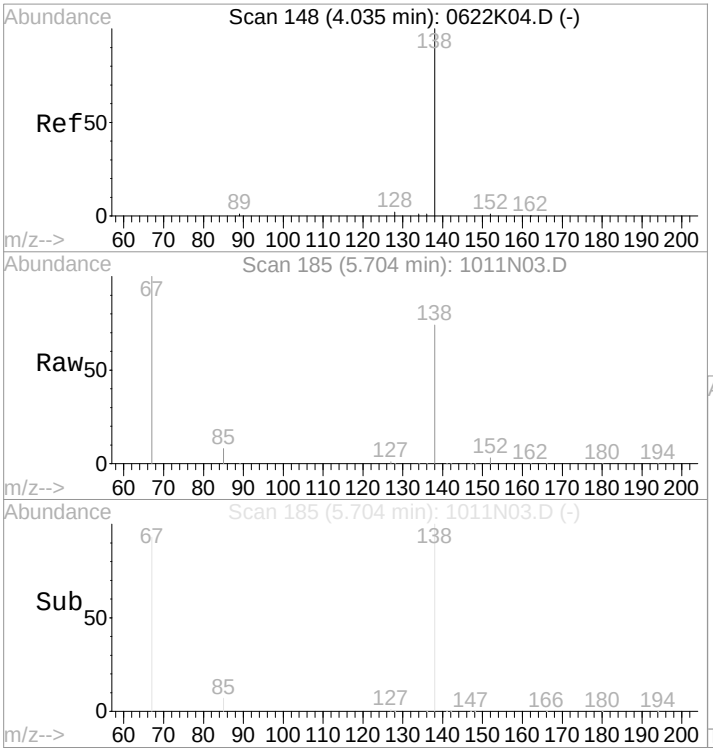
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : Q:\DATAN\101112\1011N03.D Vial: 3
Acq On : 11 Oct 2012 12:43 pm Operator:
Sample : 201025368 Inst : 20MSSVN
Misc : 193374 1:10 LOW/50000 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 12 12:46 2012 Quant Results File: NZ091312.RES

Method : Q:\DATAN\NZ091312.M (RTE Integrator)
Title : Alk PAH SIM - wat/soils
Last Update : Fri Oct 12 10:21:33 2012
Response via : Initial Calibration

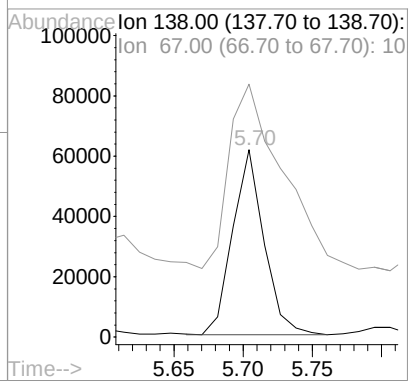


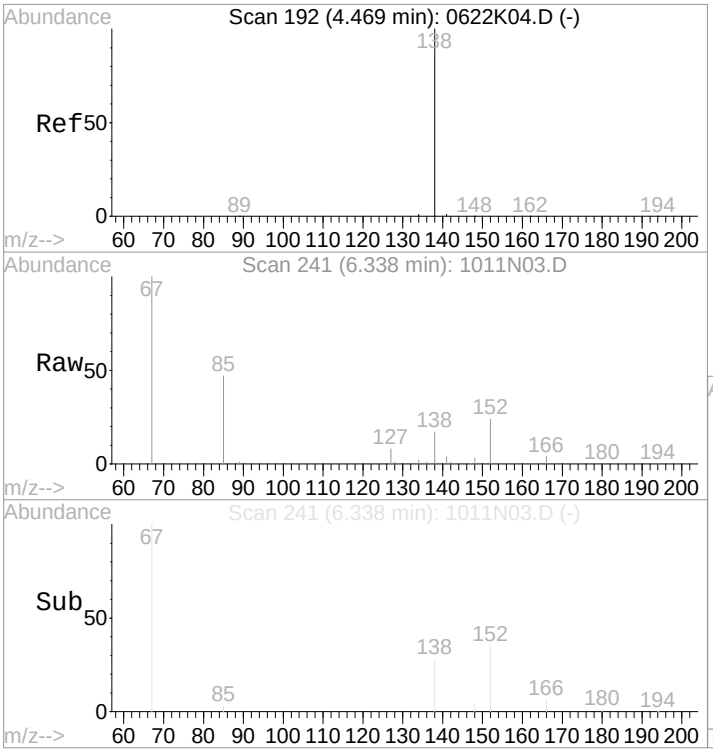


#2
Decalin 1
Concen: 18.35 ppm
RT: 5.70 min Scan# 185
Delta R.T. -0.03 min
Lab File: 1011N03.D
Acq: 11 Oct 2012 12:43 pm

Tgt Ion:138 Resp: 96654

Ion	Ratio	Lower	Upper
138	100		
67	174.3	72.9	112.9#

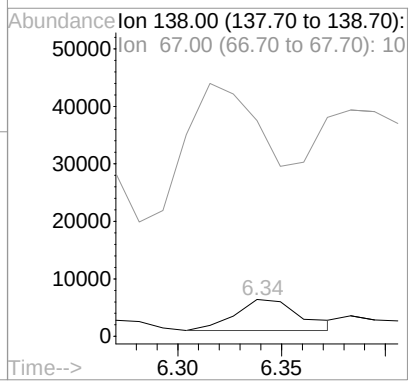


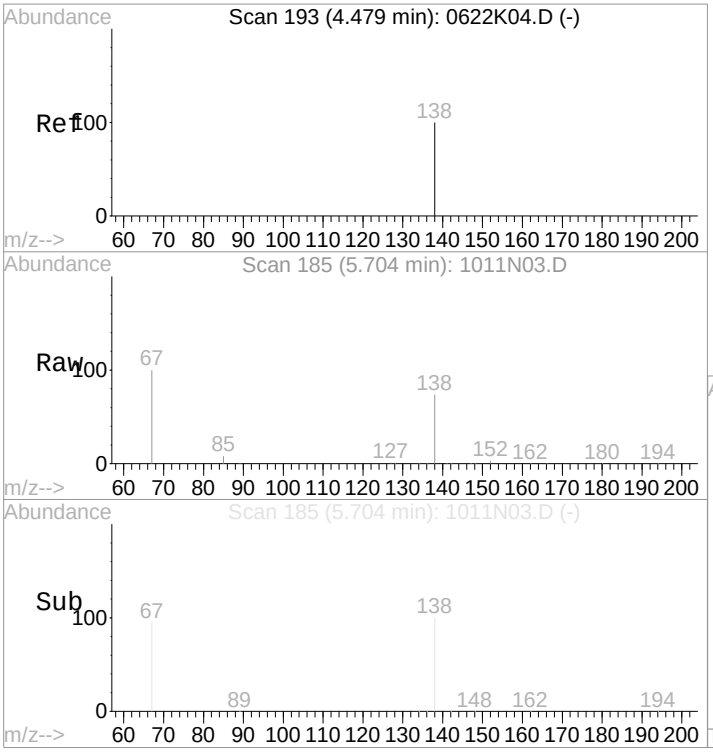


#3
Decalin 2
Concen: 1.99 ppm
RT: 6.34 min Scan# 241
Delta R.T. -0.05 min
Lab File: 1011N03.D
Acq: 11 Oct 2012 12:43 pm

Tgt Ion:138 Resp: 11954

Ion	Ratio	Lower	Upper
138	100		
67	516.9	104.9	144.9#

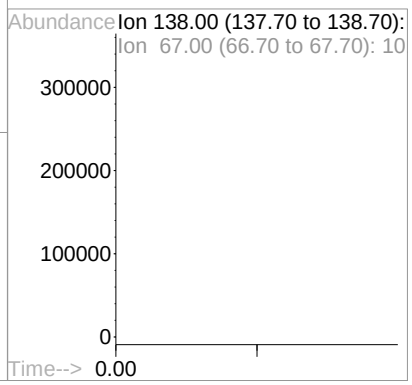


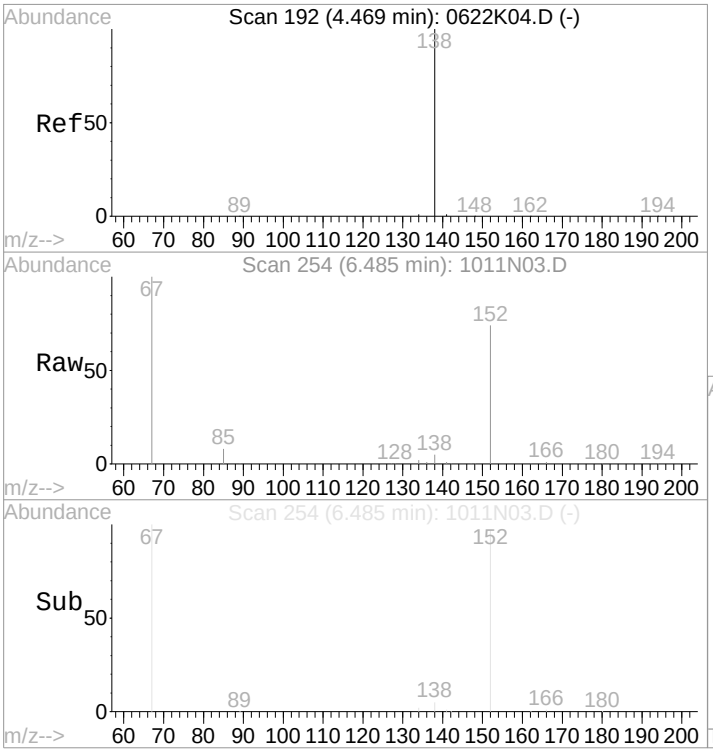


#4
Decalin TOTAL
Concen: 9.62 ppm m
RT: 5.70 min Scan# 185
Delta R.T. -0.43 min
Lab File: 1011N03.D
Acq: 11 Oct 2012 12:43 pm

Tgt Ion:138 Resp: 108608

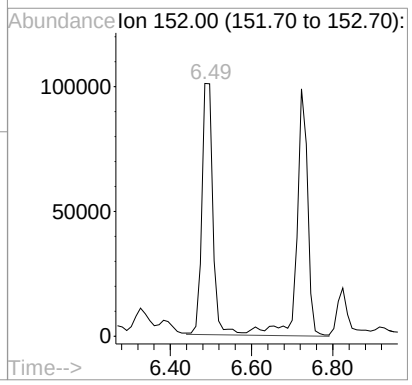
Ion	Ratio	Lower	Upper
138	100		
67	155.1	78.0	118.0#

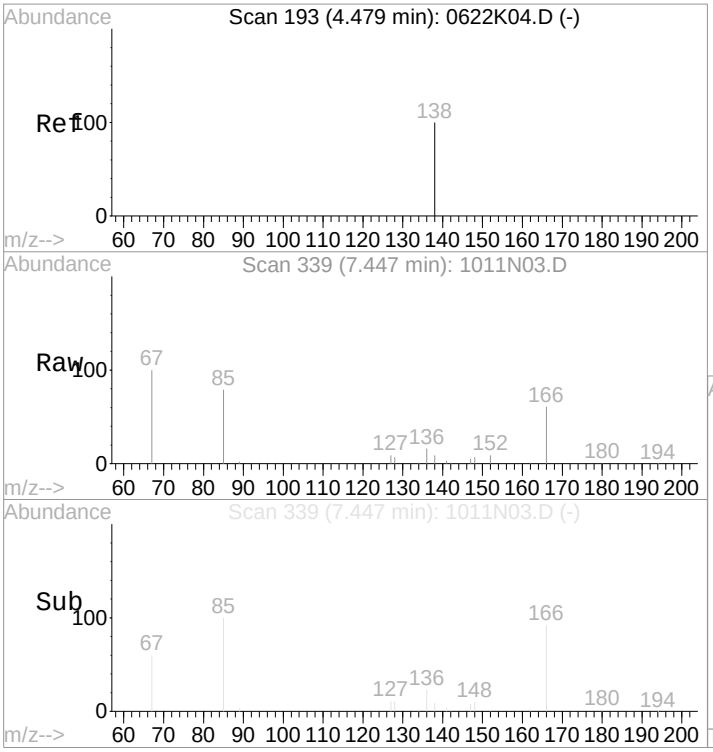




#5
C1-Decalins
Concen: 32.98 ppm m
RT: 6.49 min Scan# 254
Delta R.T. -0.19 min
Lab File: 1011N03.D
Acq: 11 Oct 2012 12:43 pm

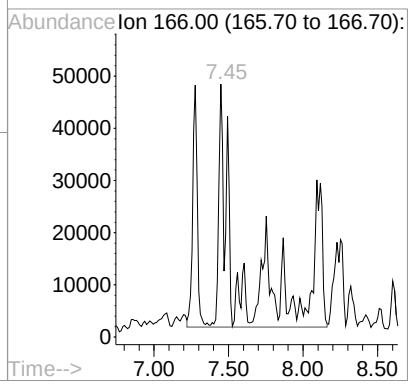
Tgt Ion:152 Resp: 372170

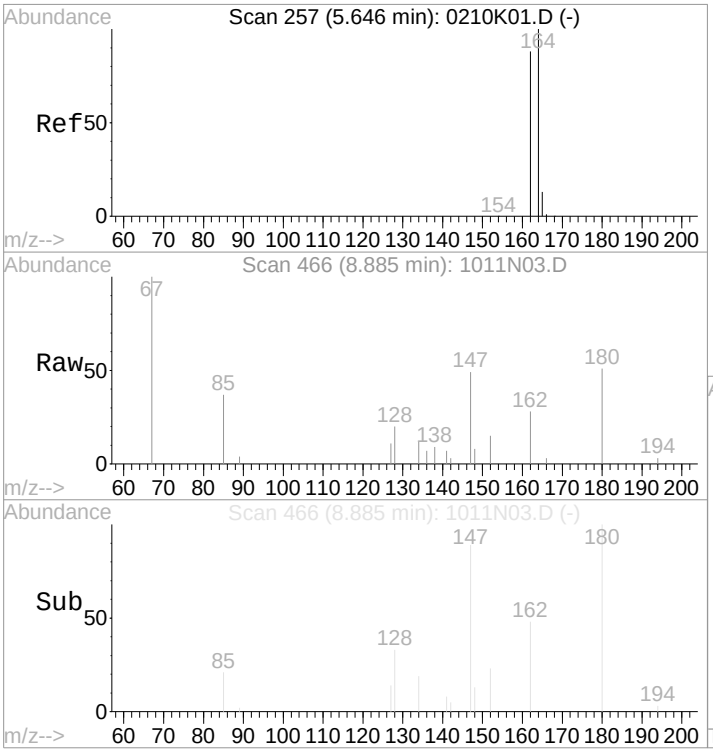




#6
C2-Decalins
Concen: 47.13 ppm m
RT: 7.45 min Scan# 339
Delta R.T. 0.15 min
Lab File: 1011N03.D
Acq: 11 Oct 2012 12:43 pm

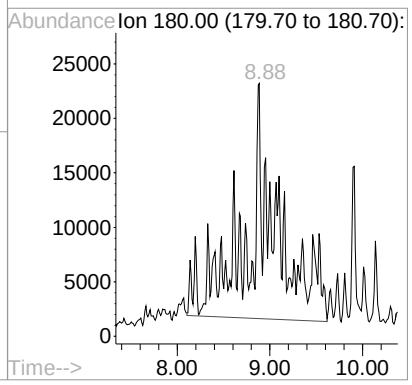
Tgt Ion:166 Resp: 531813

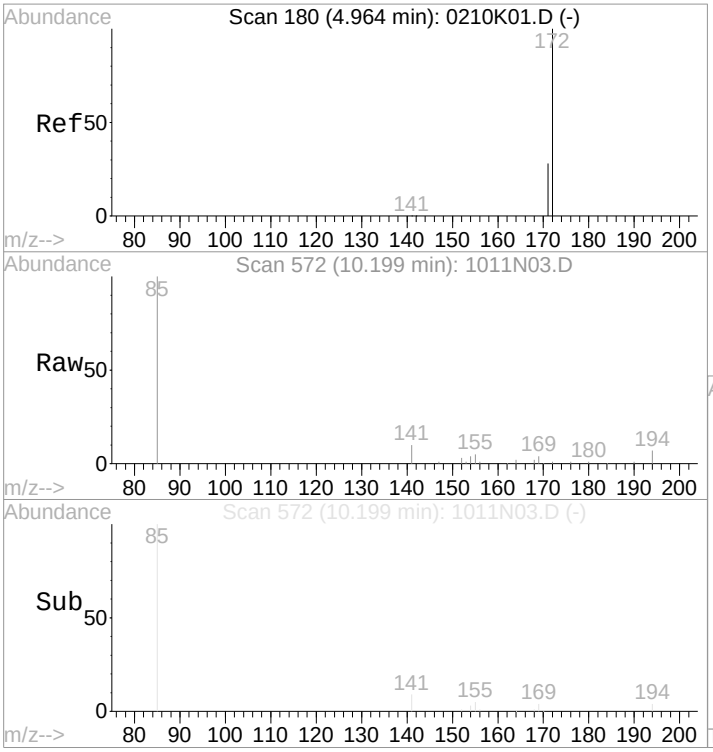




#7
C3-Decalins
Concen: 42.35 ppm m
RT: 8.88 min Scan# 466
Delta R.T. -0.22 min
Lab File: 1011N03.D
Acq: 11 Oct 2012 12:43 pm

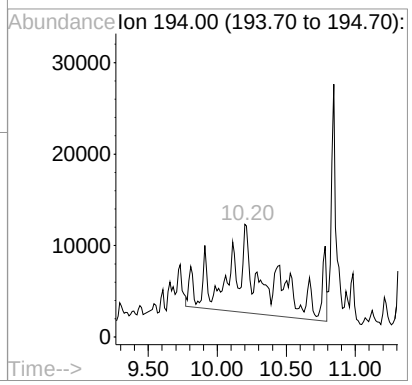
Tgt Ion:180 Resp: 477895

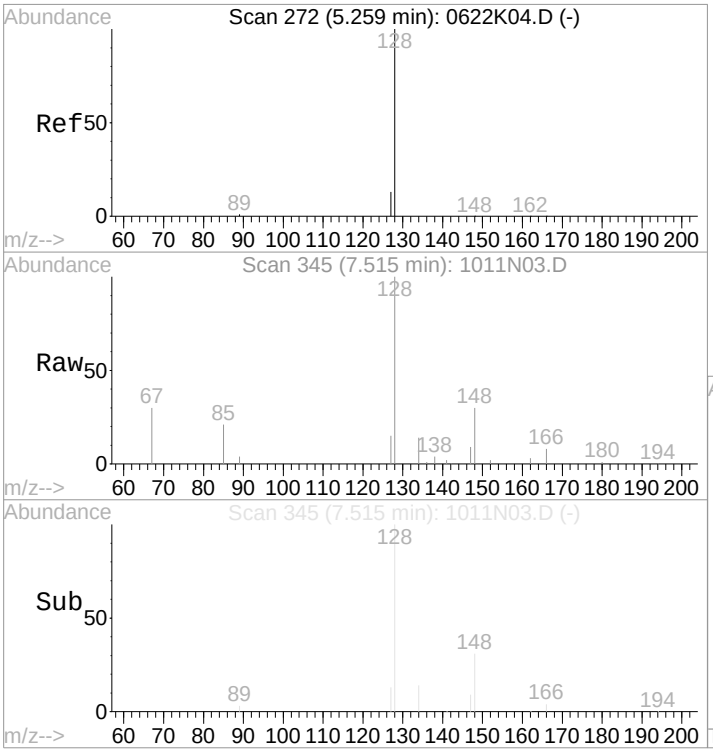




#8
C4-Decalins
Concen: 16.89 ppm m
RT: 10.20 min Scan# 572
Delta R.T. -1.09 min
Lab File: 1011N03.D
Acq: 11 Oct 2012 12:43 pm

Tgt Ion:194 Resp: 190653

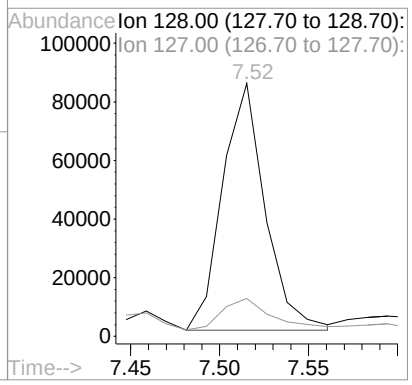


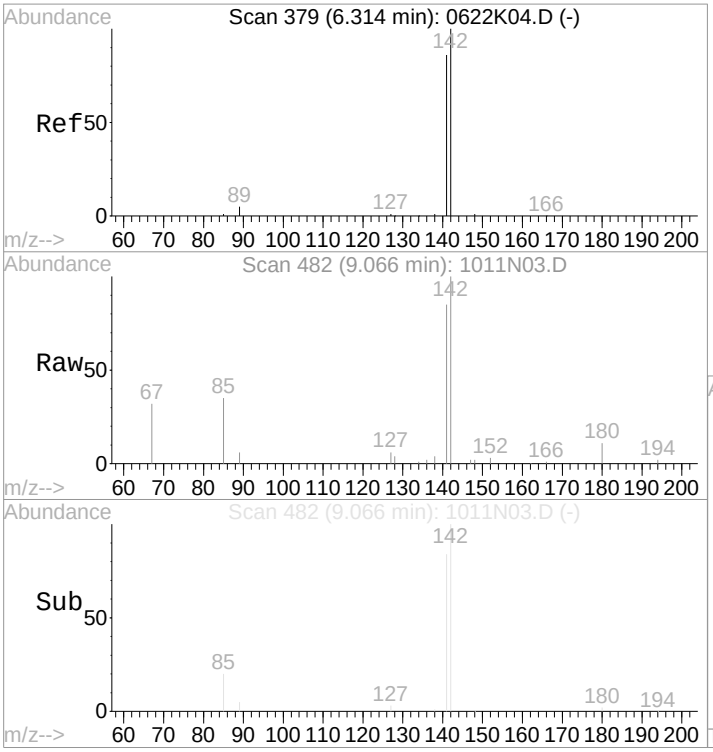


#9
Naphthalene
Concen: 2.38 ppm
RT: 7.52 min Scan# 345
Delta R.T. -0.05 min
Lab File: 1011N03.D
Acq: 11 Oct 2012 12:43 pm

Tgt Ion:128 Resp: 140589

Ion	Ratio	Lower	Upper
128	100		
127	15.0	0.0	32.1

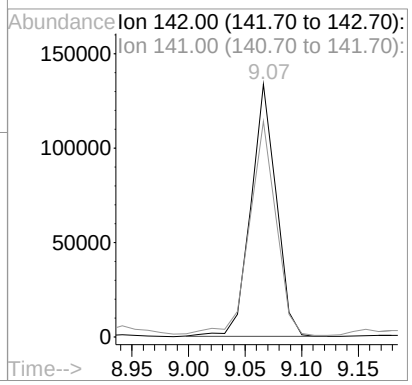


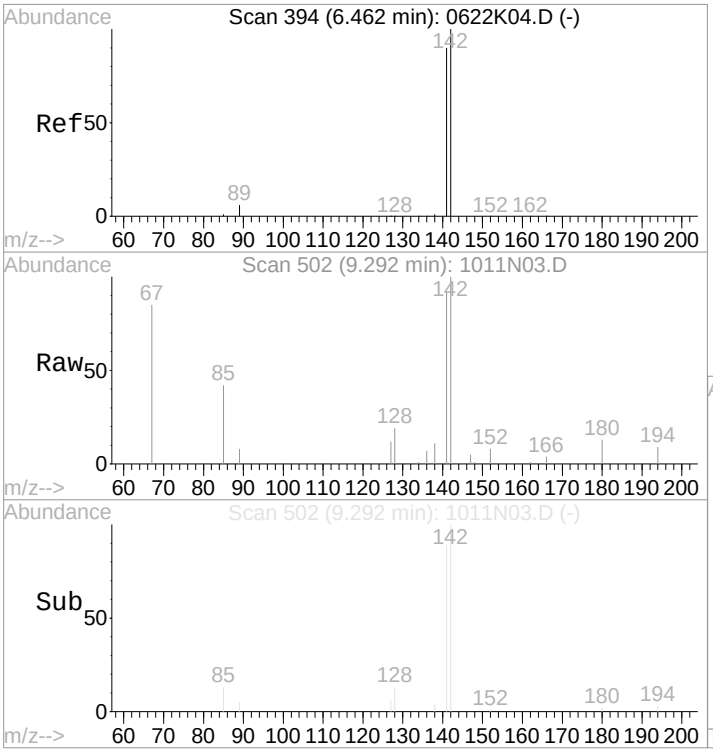


#10
2Methylnaphthalene
Concen: 5.65 ppm
RT: 9.07 min Scan# 482
Delta R.T. -0.05 min
Lab File: 1011N03.D
Acq: 11 Oct 2012 12:43 pm

Tgt Ion:142 Resp: 207994

Ion	Ratio	Lower	Upper
142	100		
141	89.3	61.2	101.2

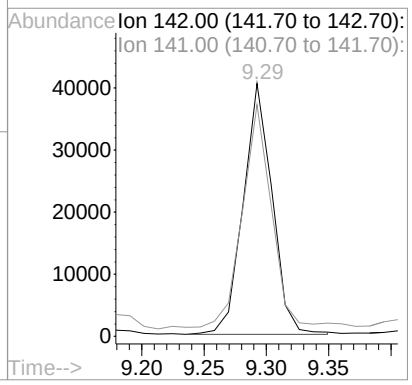


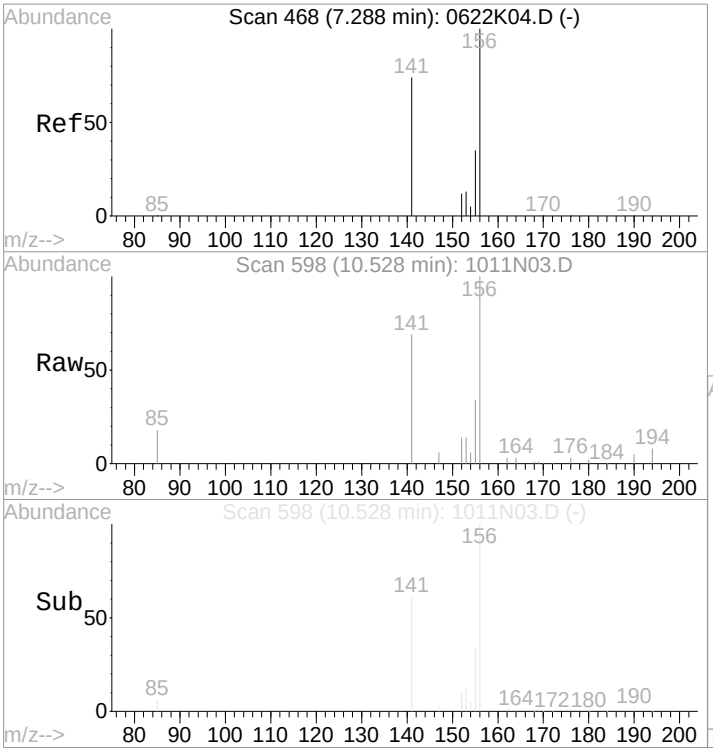


#11
1Methylnaphthalene
Concen: 1.78 ppm
RT: 9.29 min Scan# 502
Delta R.T. -0.05 min
Lab File: 1011N03.D
Acq: 11 Oct 2012 12:43 pm

Tgt Ion:142 Resp: 64889

Ion	Ratio	Lower	Upper
142	100		
141	91.6	64.8	104.8

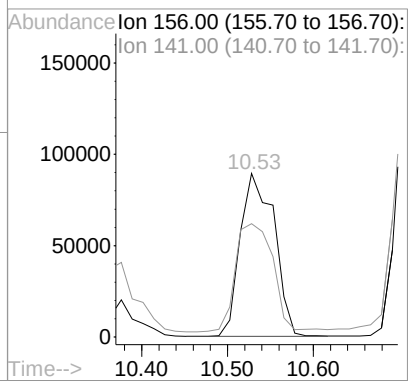


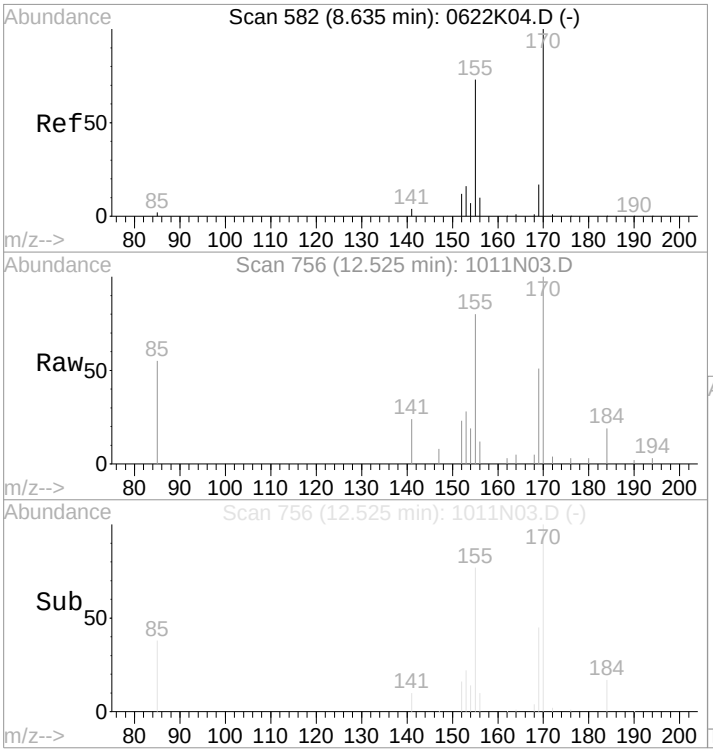


#12
2,6-Dimethylnaphthalene
Concen: 7.66 ppm
RT: 10.53 min Scan# 598
Delta R.T. -0.04 min
Lab File: 1011N03.D
Acq: 11 Oct 2012 12:43 pm

Tgt Ion:156 Resp: 247213

Ion	Ratio	Lower	Upper
156	100		
141	72.7	54.7	94.7

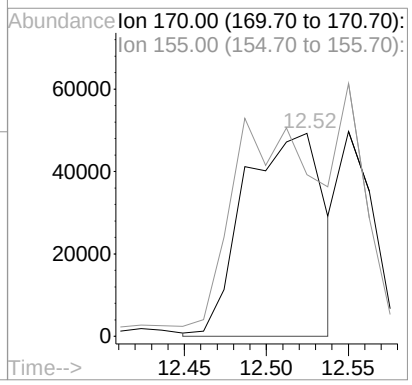


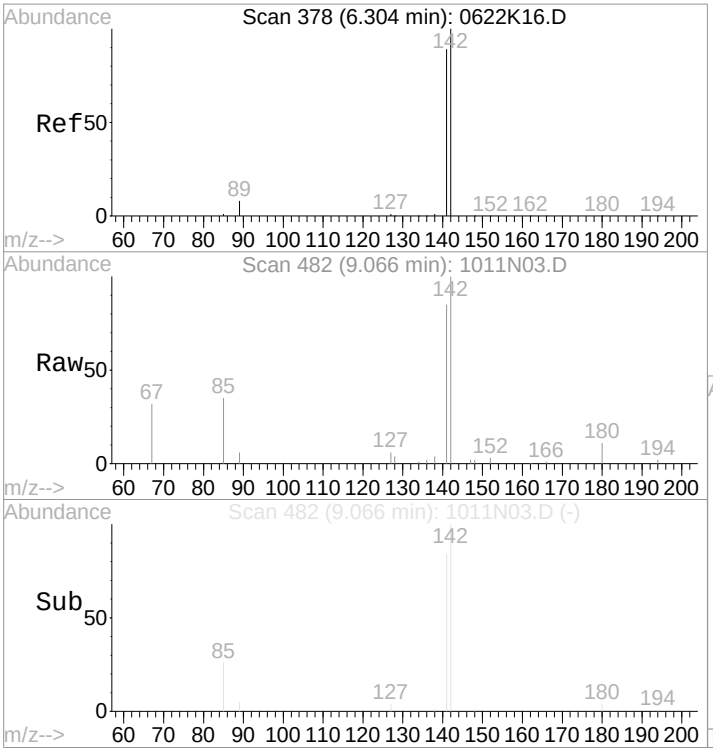


#13
2,3,5-Trimethylnaphthalene
Concen: 5.72 ppm m
RT: 12.52 min Scan# 756
Delta R.T. -0.04 min
Lab File: 1011N03.D
Acq: 11 Oct 2012 12:43 pm

Tgt Ion:170 Resp: 166504

Ion	Ratio	Lower	Upper
170	100		
155	146.7	81.6	121.6#

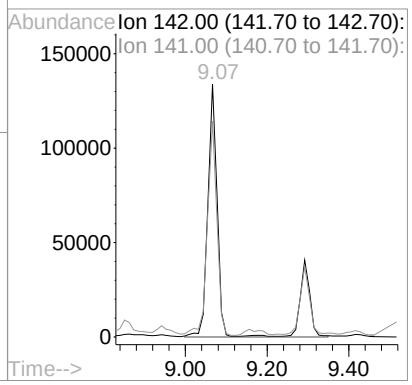


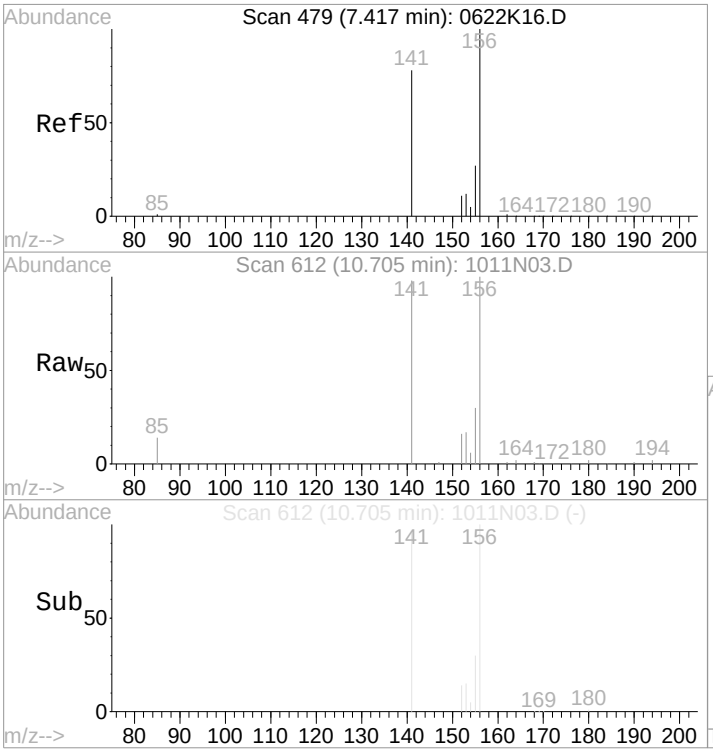


#14
C1-Naphthalenes
Concen: 4.77 ppm m
RT: 9.07 min Scan# 482
Delta R.T. -0.24 min
Lab File: 1011N03.D
Acq: 11 Oct 2012 12:43 pm

Tgt Ion:142 Resp: 281932

Ion	Ratio	Lower	Upper
142	100		
141	66.1	68.1	108.1#

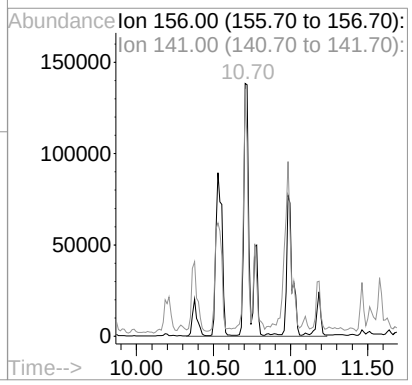


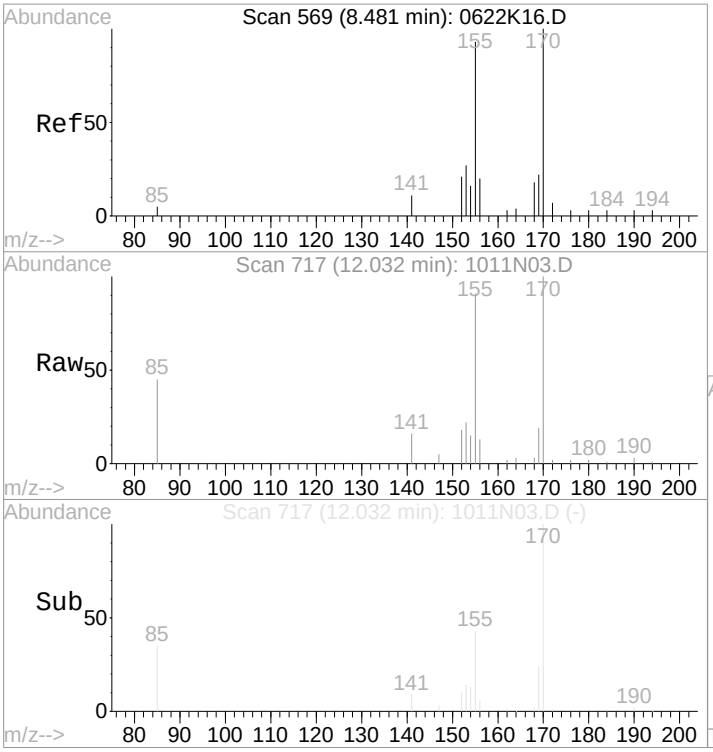


#15
C2-Naphthalenes
Concen: 15.89 ppm m
RT: 10.70 min Scan# 612
Delta R.T. -0.47 min
Lab File: 1011N03.D
Acq: 11 Oct 2012 12:43 pm

Tgt Ion:156 Resp: 938505

Ion	Ratio	Lower	Upper
156	100		
141	27.2	75.6	115.6#

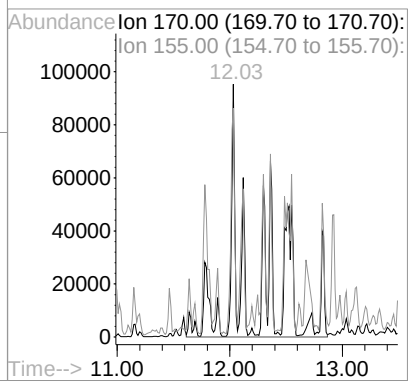


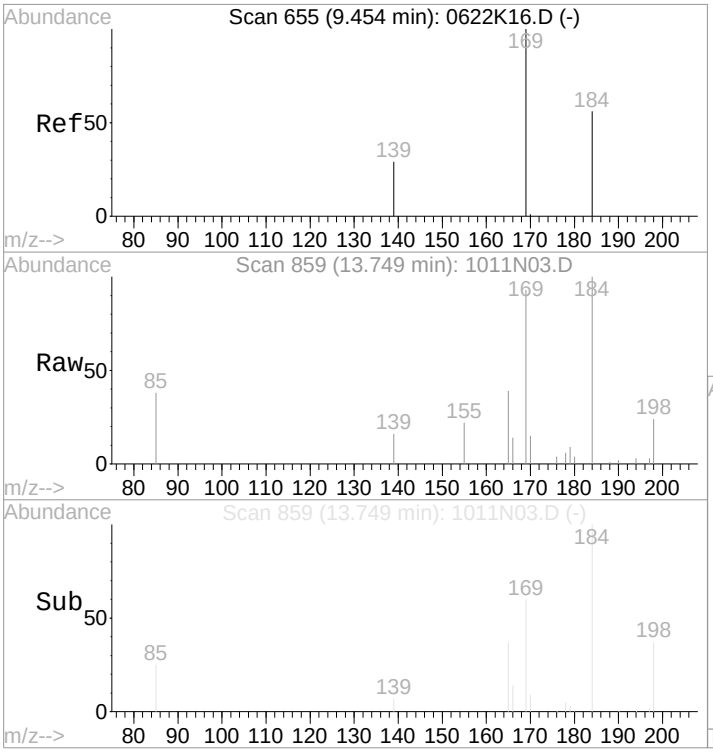


#16
C3-Naphthalenes
Concen: 17.47 ppm m
RT: 12.03 min Scan# 717
Delta R.T. -0.75 min
Lab File: 1011N03.D
Acq: 11 Oct 2012 12:43 pm

Tgt Ion:170 Resp: 1031933

Ion	Ratio	Lower	Upper
170	100		
155	23.7	76.6	116.6#

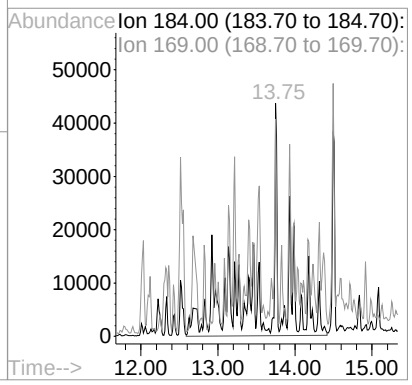


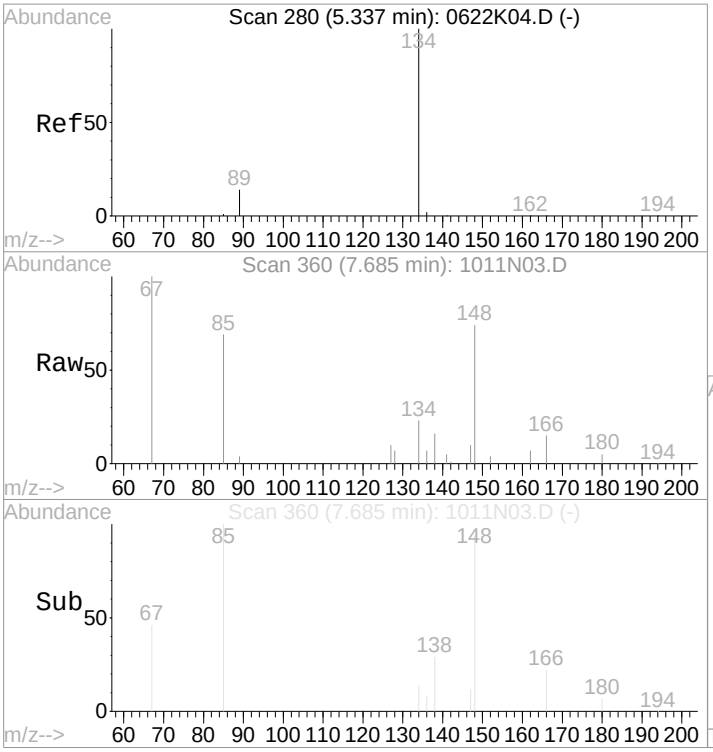


#17
C4-Naphthalenes
Concen: 10.33 ppm m
RT: 13.75 min Scan# 859
Delta R.T. -0.89 min
Lab File: 1011N03.D
Acq: 11 Oct 2012 12:43 pm

Tgt Ion:184 Resp: 610025

Ion	Ratio	Lower	Upper
184	100		
169	10.6	109.4	149.4#

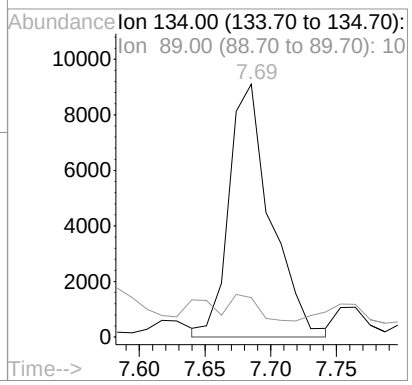


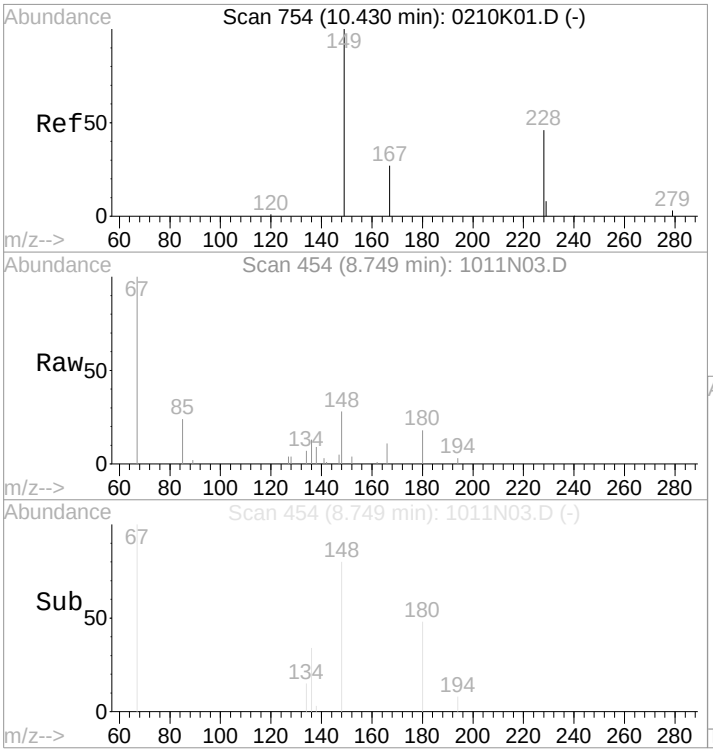


#18
Benzothiophene
Concen: 0.43 ppm m
RT: 7.69 min Scan# 360
Delta R.T. 0.03 min
Lab File: 1011N03.D
Acq: 11 Oct 2012 12:43 pm

Tgt Ion:134 Resp: 20112

Ion	Ratio	Lower	Upper
134	100		
89	6.4	2.3	22.3

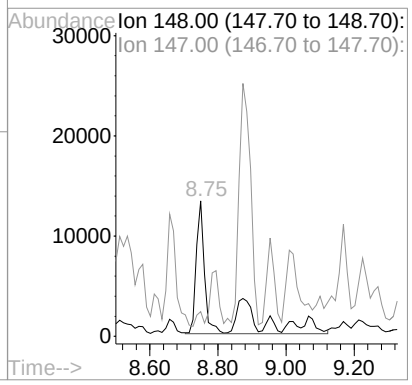


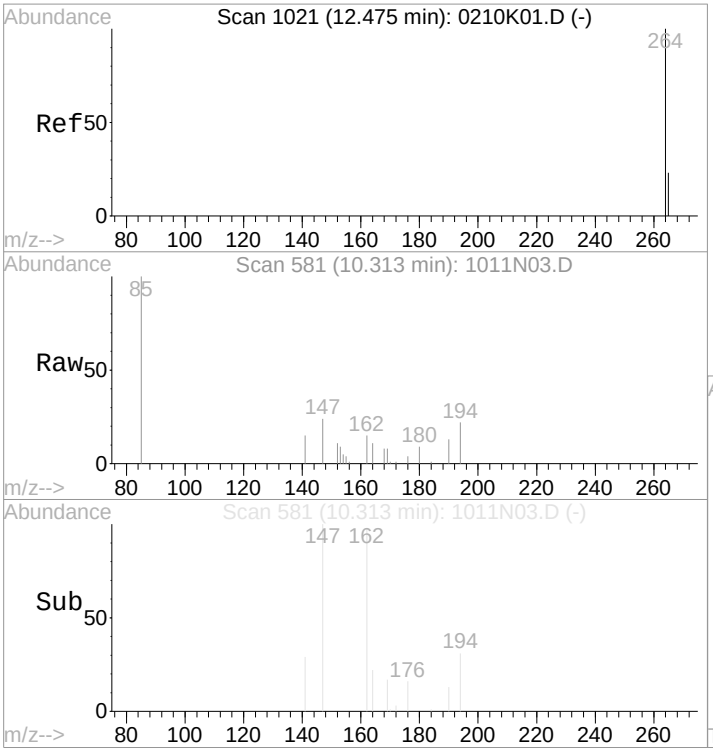


#19
C1-Benzothiophenes
Concen: 0.91 ppm m
RT: 8.75 min Scan# 454
Delta R.T. -0.01 min
Lab File: 1011N03.D
Acq: 11 Oct 2012 12:43 pm

Tgt Ion:148 Resp: 42381

Ion	Ratio	Lower	Upper
148	100		
147	97.5	60.0	100.0

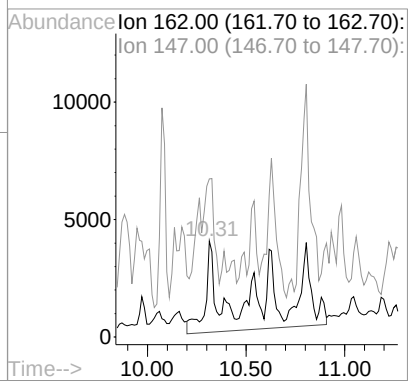


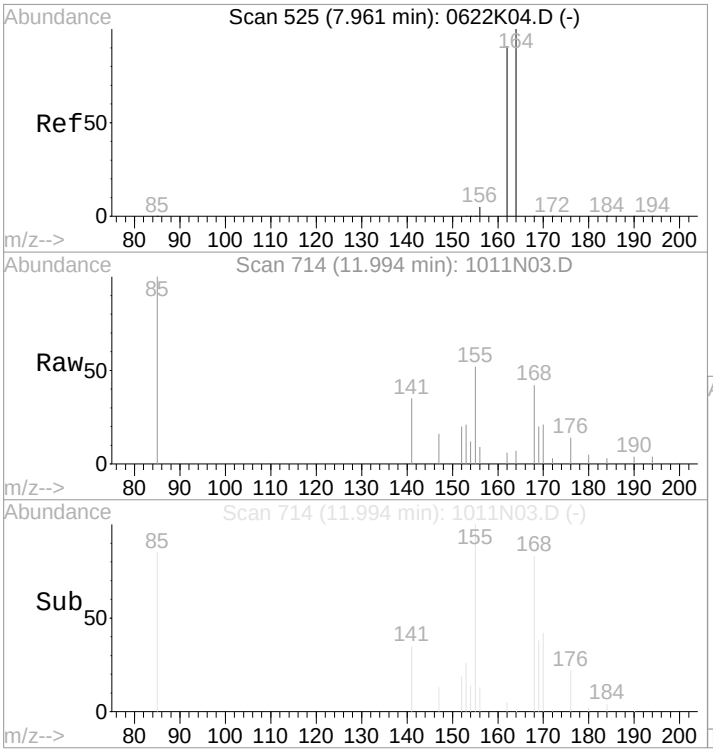


#20
C2-Benzothiophenes
Concen: 1.08 ppm m
RT: 10.31 min Scan# 581
Delta R.T. -0.75 min
Lab File: 1011N03.D
Acq: 11 Oct 2012 12:43 pm

Tgt Ion:162 Resp: 50441

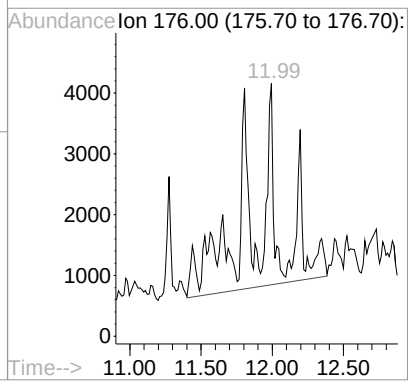
Ion	Ratio	Lower	Upper
162	100		
147	63.9	60.0	100.0

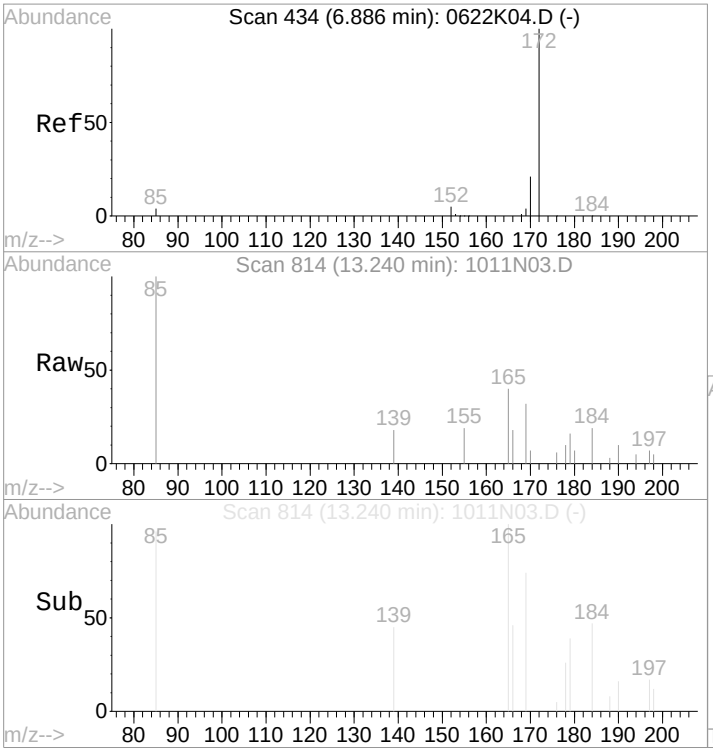




#21
C3-Benzothiophenes
Concen: 0.93 ppm m
RT: 11.99 min Scan# 714
Delta R.T. -0.62 min
Lab File: 1011N03.D
Acq: 11 Oct 2012 12:43 pm

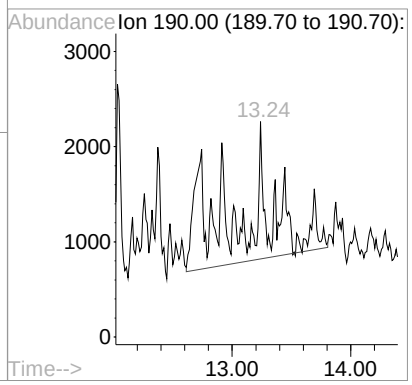
Tgt Ion:176 Resp: 43194

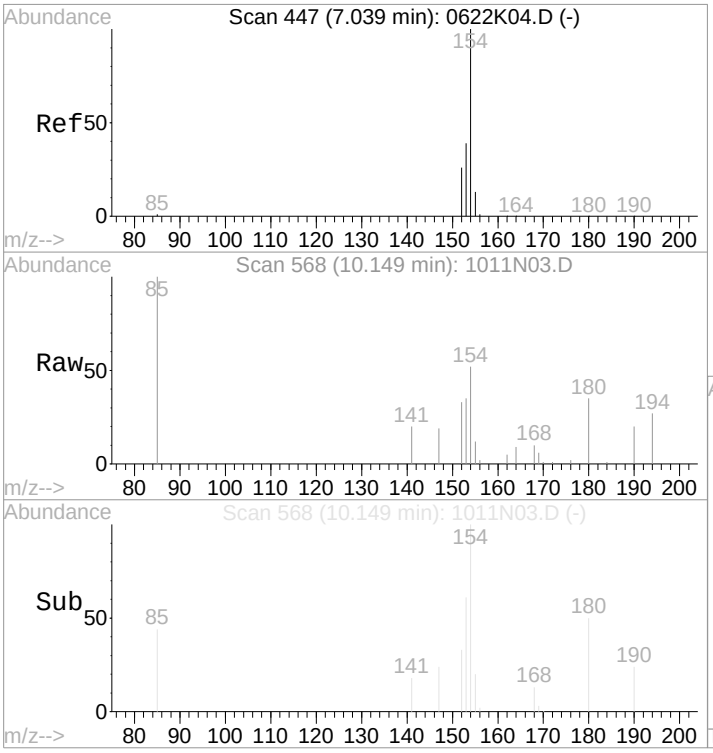




#22
C4-Benzothiophenes
Concen: 0.57 ppm m
RT: 13.24 min Scan# 814
Delta R.T. 0.17 min
Lab File: 1011N03.D
Acq: 11 Oct 2012 12:43 pm

Tgt Ion:190 Resp: 26506

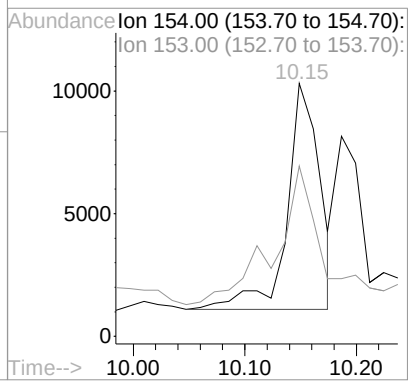


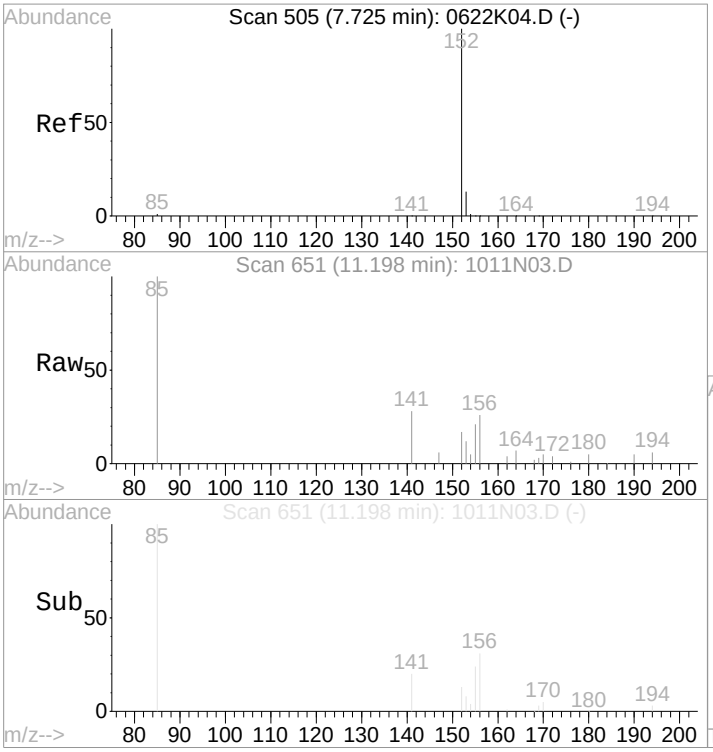


#25
Biphenyl (Diphenyl)
Concen: 0.38 ppm
RT: 10.15 min Scan# 568
Delta R.T. -0.05 min
Lab File: 1011N03.D
Acq: 11 Oct 2012 12:43 pm

Tgt Ion:154 Resp: 18993

Ion	Ratio	Lower	Upper
154	100		
153	89.3	17.5	57.5#

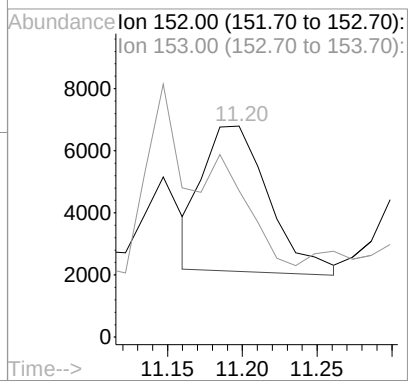


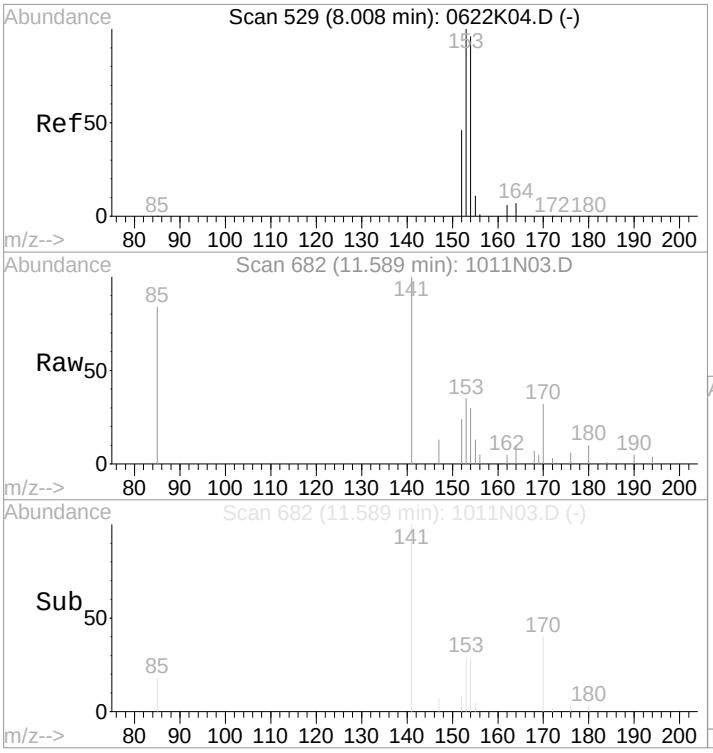


#26
Acenaphthylene
Concen: 0.33 ppm m
RT: 11.20 min Scan# 651
Delta R.T. -0.01 min
Lab File: 1011N03.D
Acq: 11 Oct 2012 12:43 pm

Tgt Ion:152 Resp: 14261

Ion	Ratio	Lower	Upper
152	100		
153	0.0	0.0	33.0

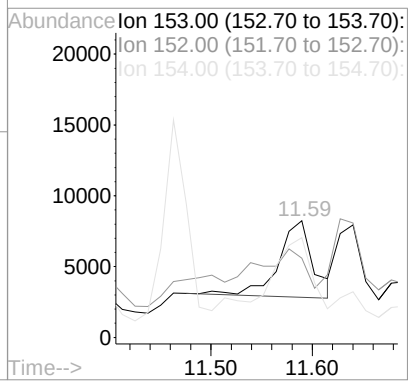


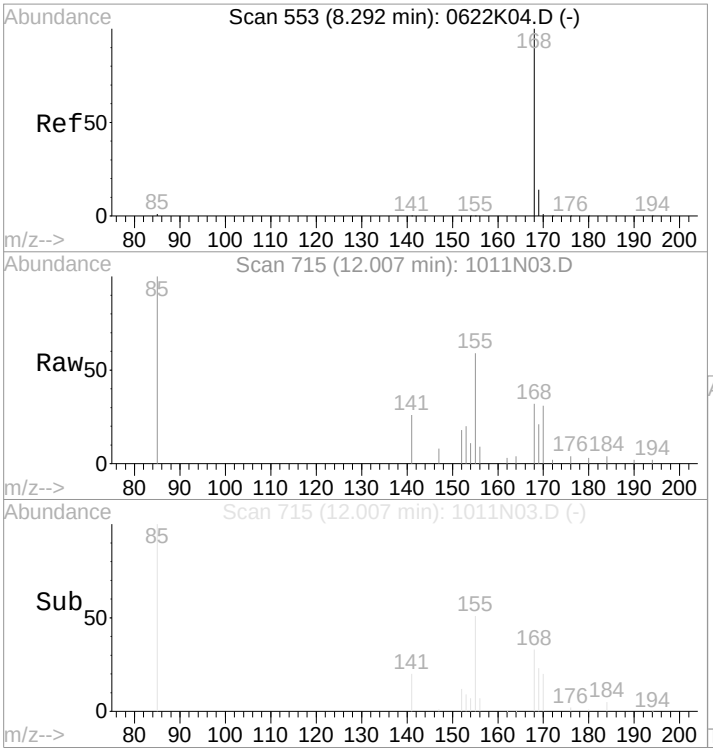


#27
Acenaphthene
Concen: 0.34 ppm
RT: 11.59 min Scan# 682
Delta R.T. -0.05 min
Lab File: 1011N03.D
Acq: 11 Oct 2012 12:43 pm

Tgt Ion:153 Resp: 12472

Ion	Ratio	Lower	Upper
153	100		
152	81.5	26.2	66.2#
154	159.0	77.9	117.9#

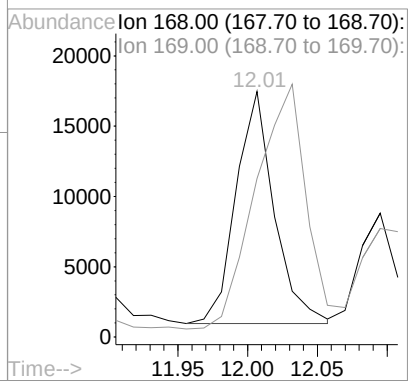


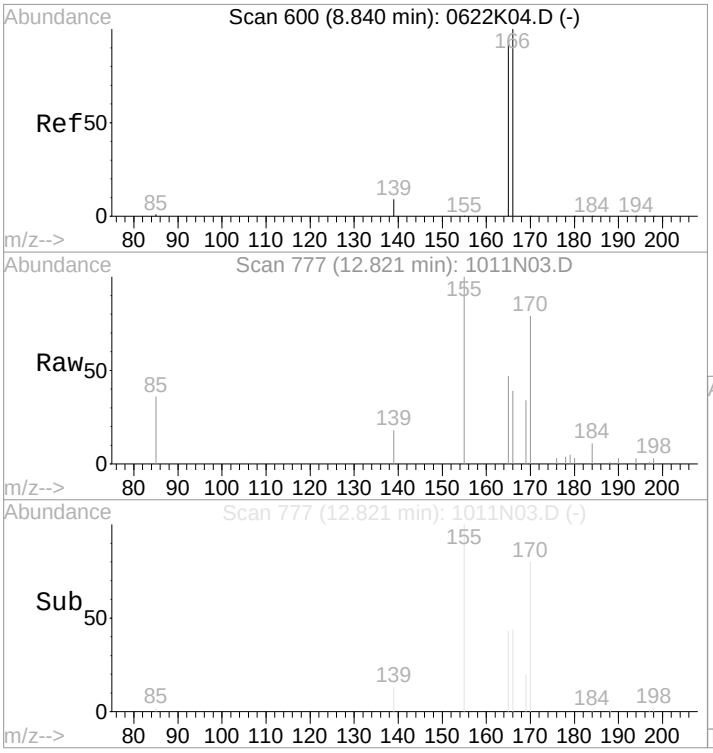


#28
Dibenzofuran
Concen: 0.59 ppm
RT: 12.01 min Scan# 715
Delta R.T. -0.05 min
Lab File: 1011N03.D
Acq: 11 Oct 2012 12:43 pm

Tgt Ion:168 Resp: 31464

Ion	Ratio	Lower	Upper
168	100		
169	142.6	0.0	33.3#

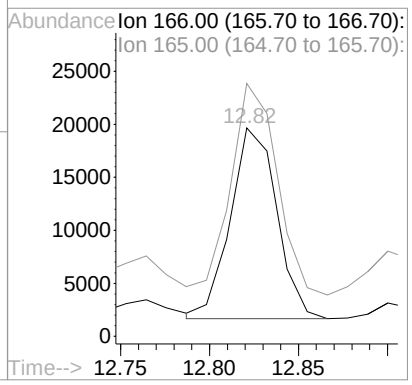


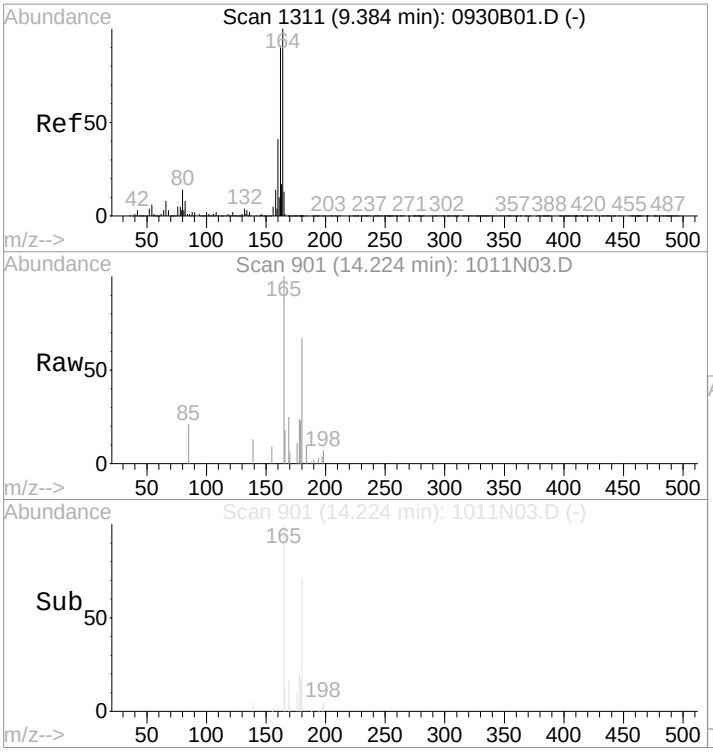


#29
Fluorene
Concen: 0.81 ppm
RT: 12.82 min Scan# 777
Delta R.T. -0.06 min
Lab File: 1011N03.D
Acq: 11 Oct 2012 12:43 pm

Tgt Ion:166 Resp: 32612

Ion	Ratio	Lower	Upper
166	100		
165	110.0	67.8	107.8#

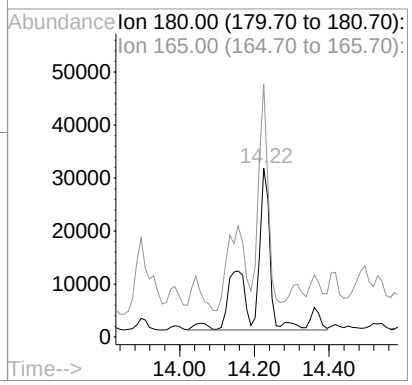


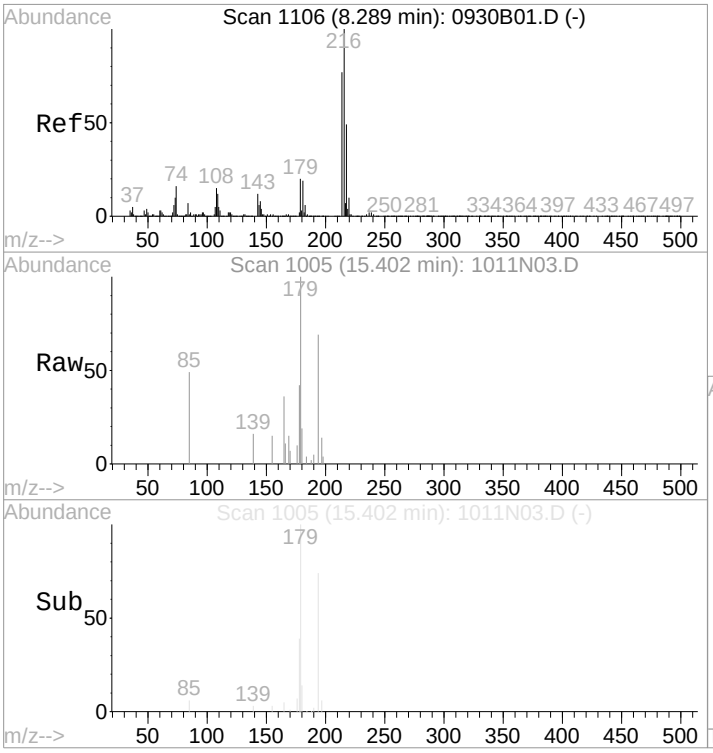


#30
C1-Fluorenes
Concen: 2.54 ppm m
RT: 14.22 min Scan# 901
Delta R.T. -0.25 min
Lab File: 1011N03.D
Acq: 11 Oct 2012 12:43 pm

Tgt Ion:180 Resp: 102123

Ion	Ratio	Lower	Upper
180	100		
165	67.3	113.4	153.4#

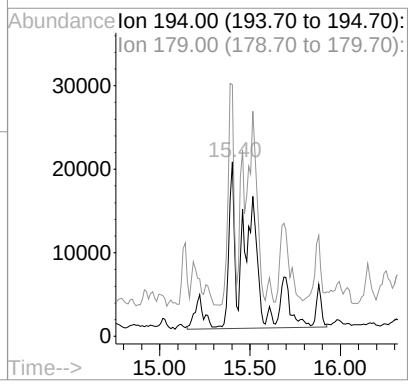


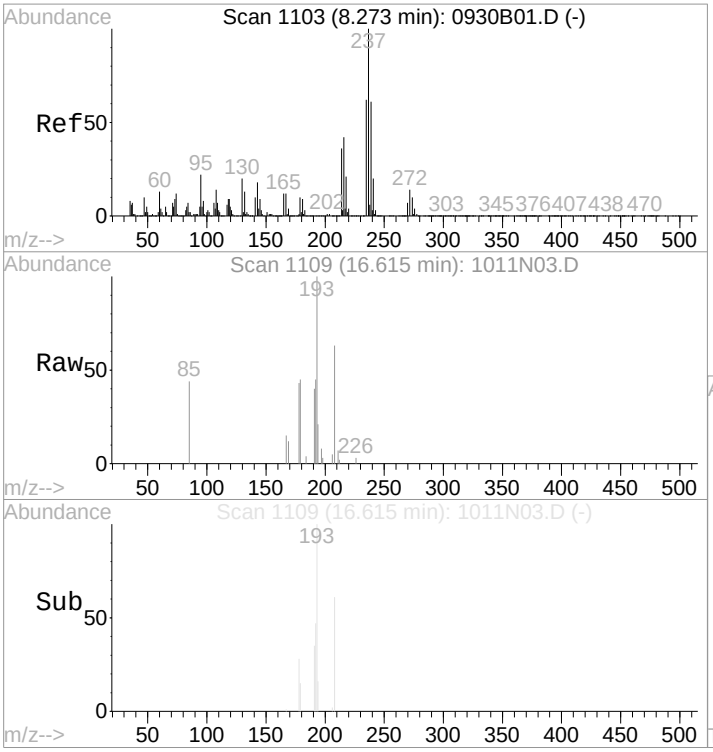


#31
C2-Fluorenes
Concen: 3.95 ppm m
RT: 15.40 min Scan# 1005
Delta R.T. -0.56 min
Lab File: 1011N03.D
Acq: 11 Oct 2012 12:43 pm

Tgt Ion:194 Resp: 158487

Ion	Ratio	Lower	Upper
194	100		
179	37.2	92.9	132.9#

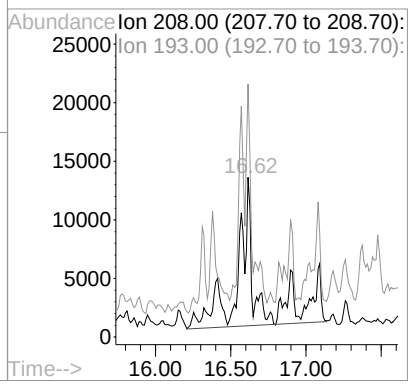


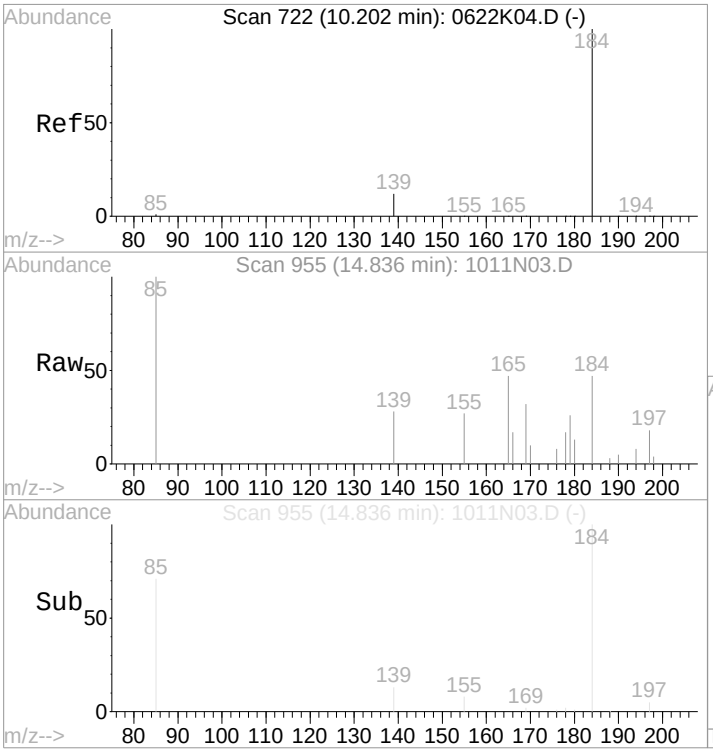


#32
C3-Fluorenes
Concen: 2.99 ppm m
RT: 16.62 min Scan# 1109
Delta R.T. -1.05 min
Lab File: 1011N03.D
Acq: 11 Oct 2012 12:43 pm

Tgt Ion:208 Resp: 119943

Ion	Ratio	Lower	Upper
208	100		
193	21.3	284.9	324.9#

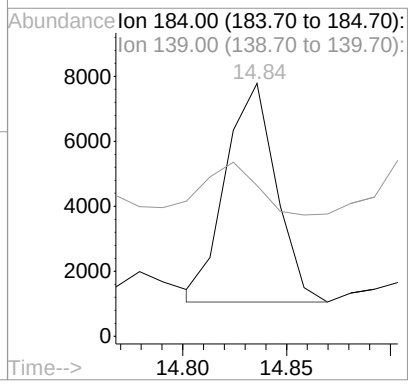


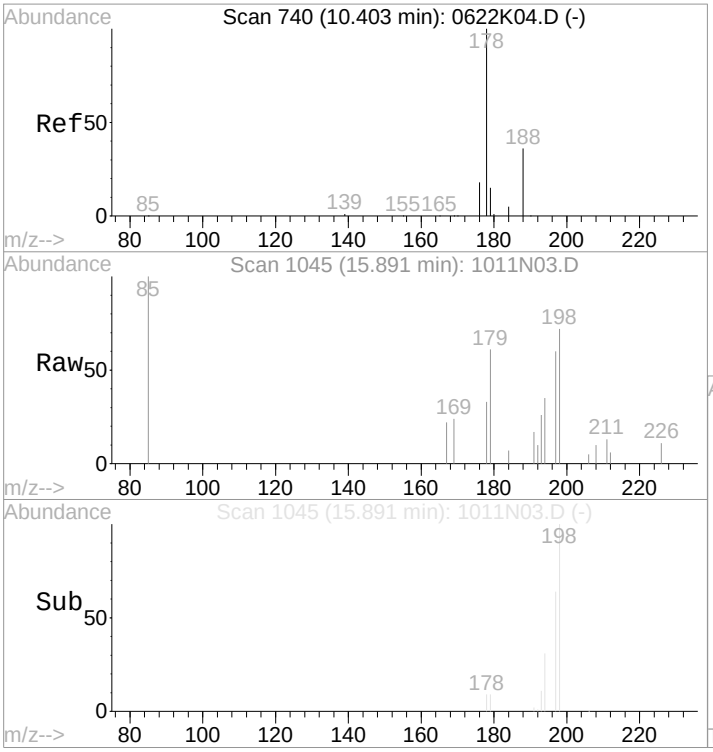


#38
Dibenzothiophene
Concen: 0.23 ppm
RT: 14.84 min Scan# 955
Delta R.T. -0.04 min
Lab File: 1011N03.D
Acq: 11 Oct 2012 12:43 pm

Tgt Ion:184 Resp: 11391

Ion	Ratio	Lower	Upper
184	100		
139	25.3	0.0	37.7

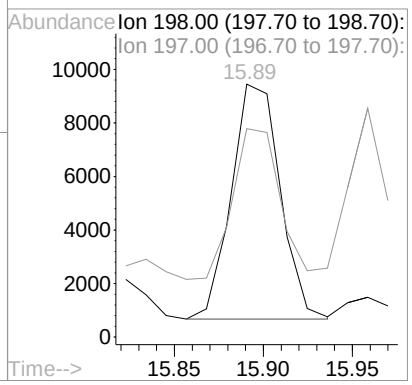


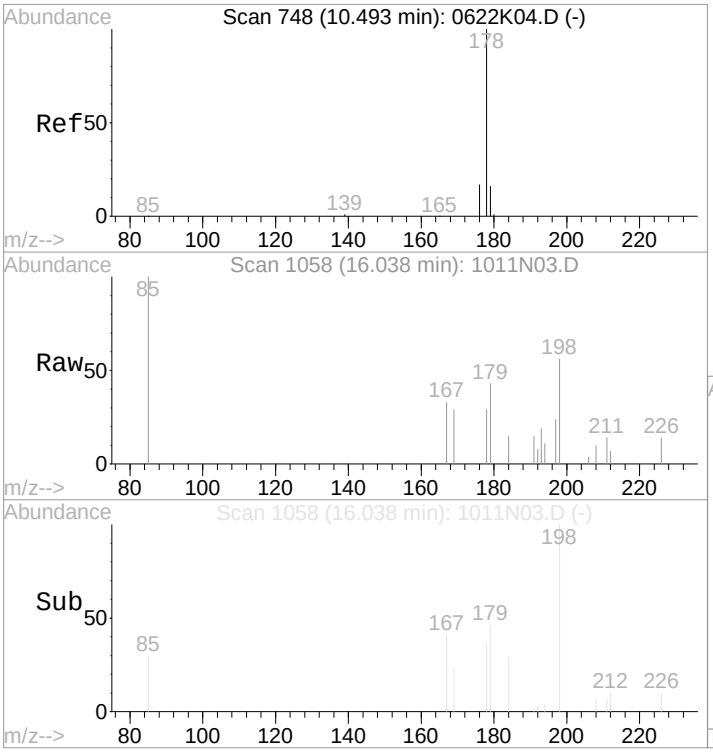


#39
4-Methyldibenzothiophene
Concen: 0.34 ppm
RT: 15.89 min Scan# 1045
Delta R.T. -0.12 min
Lab File: 1011N03.D
Acq: 11 Oct 2012 12:43 pm

Tgt Ion:198 Resp: 16697

Ion	Ratio	Lower	Upper
198	100		
197	62.0	45.4	85.4

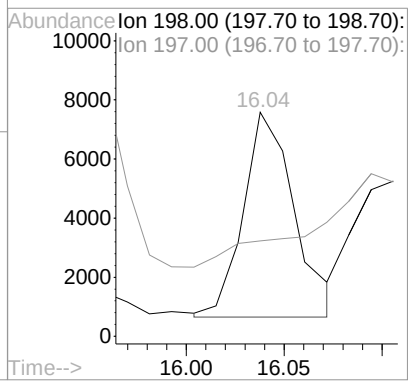


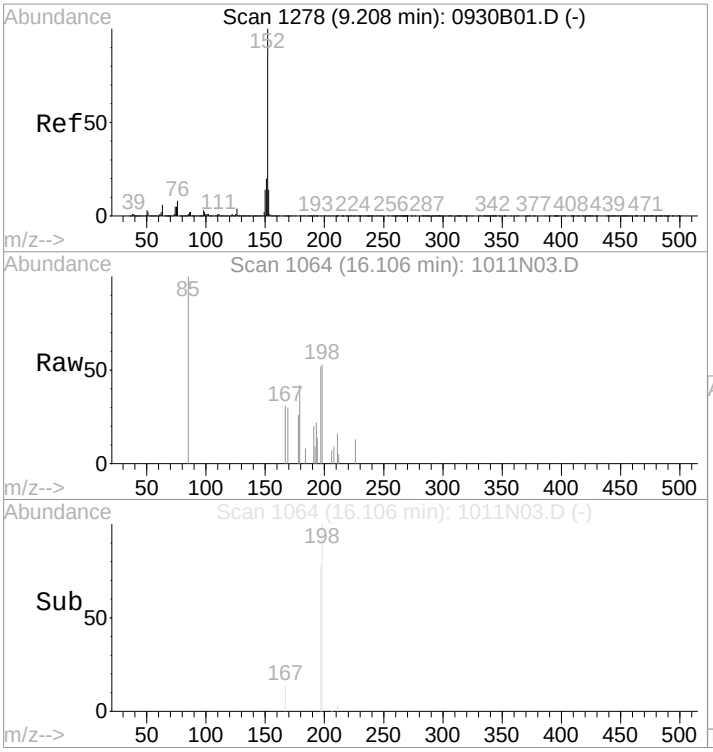


#40
2/3-Methyldibenzothiophene
Concen: 0.26 ppm m
RT: 16.04 min Scan# 1058
Delta R.T. -0.20 min
Lab File: 1011N03.D
Acq: 11 Oct 2012 12:43 pm

Tgt Ion:198 Resp: 12566

Ion	Ratio	Lower	Upper
198	100		
197	69.5	40.9	80.9

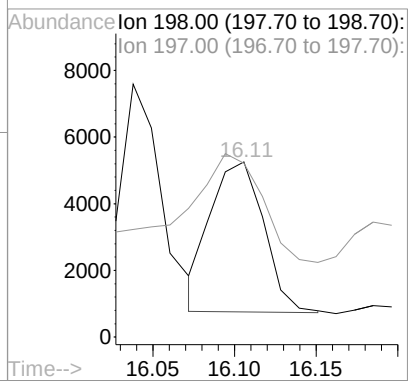


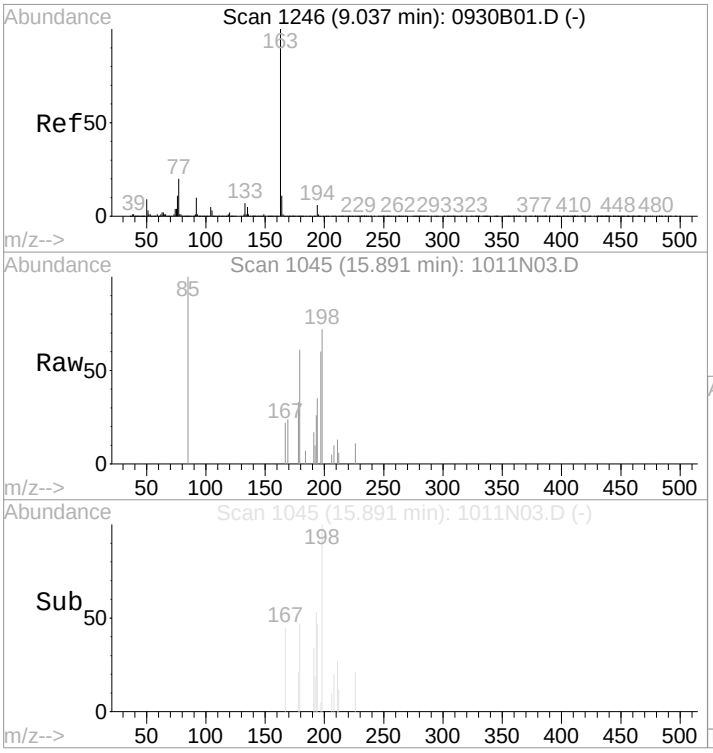


#41
1-Methyldibenzothiophene
Concen: 0.21 ppm m
RT: 16.11 min Scan# 1064
Delta R.T. -0.37 min
Lab File: 1011N03.D
Acq: 11 Oct 2012 12:43 pm

Tgt Ion:198 Resp: 10244

Ion	Ratio	Lower	Upper
198	100		
197	68.5	43.6	83.6

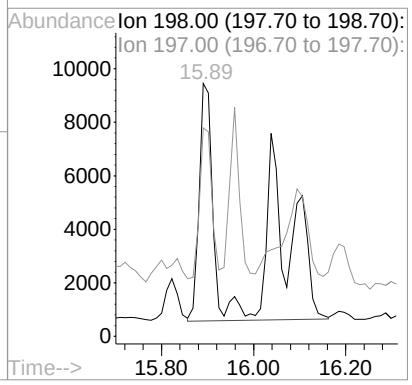


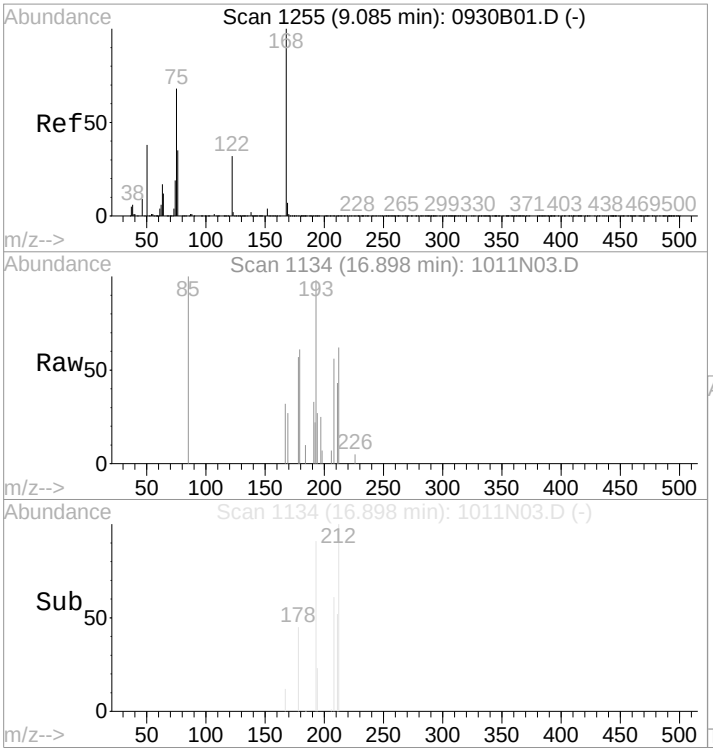


#42
C1-Dibenzothiophenes
Concen: 0.88 ppm m
RT: 15.89 min Scan# 1045
Delta R.T. -0.12 min
Lab File: 1011N03.D
Acq: 11 Oct 2012 12:43 pm

Tgt Ion:198 Resp: 42548

Ion	Ratio	Lower	Upper
198	100		
197	27.8	45.4	85.4#

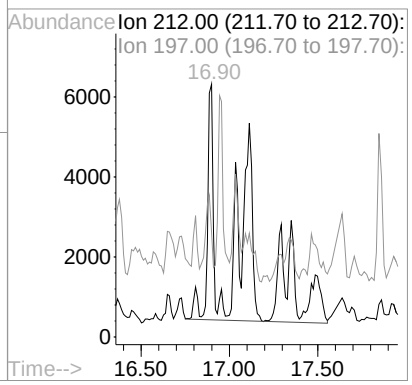


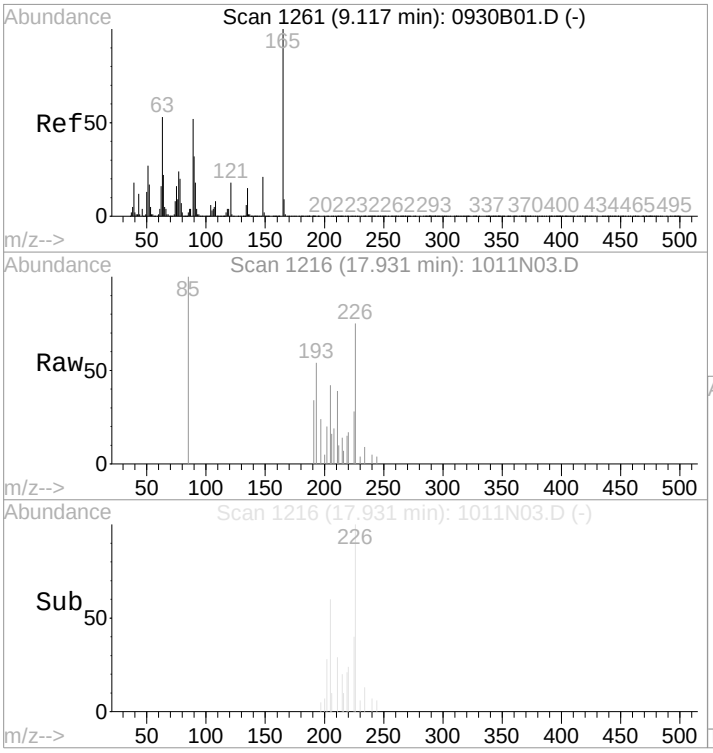


#43
C2-Dibenzothiophenes
Concen: 1.08 ppm m
RT: 16.90 min Scan# 1134
Delta R.T. -0.43 min
Lab File: 1011N03.D
Acq: 11 Oct 2012 12:43 pm

Tgt Ion:212 Resp: 52209

Ion	Ratio	Lower	Upper
212	100		
197	7.7	2.8	42.8

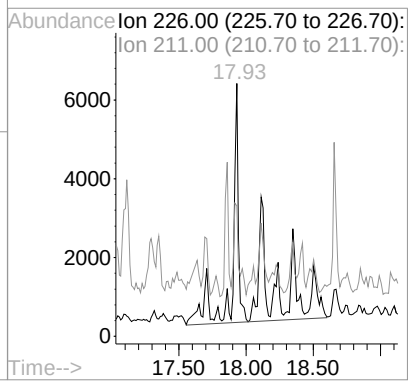


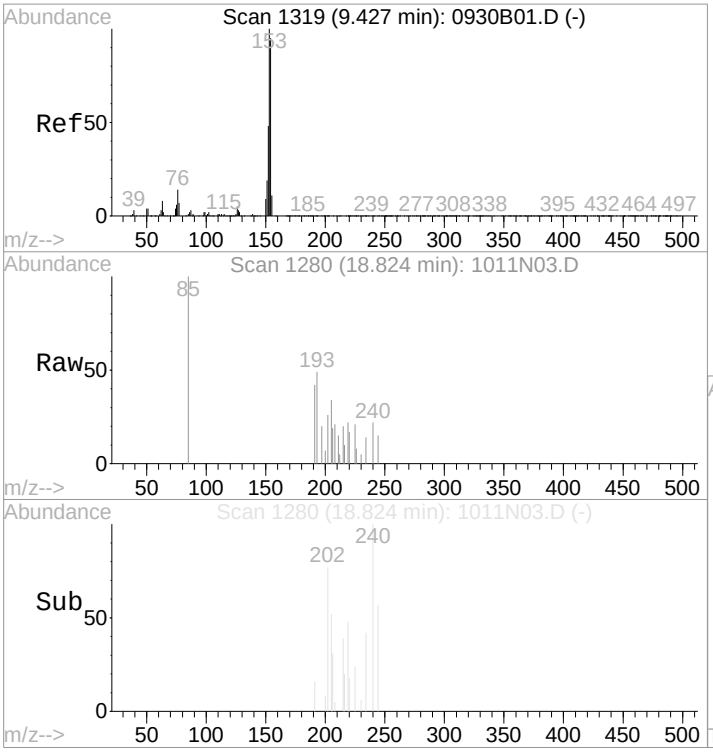


#44
C3-Dibenzothiophenes
Concen: 0.90 ppm m
RT: 17.93 min Scan# 1216
Delta R.T. -0.32 min
Lab File: 1011N03.D
Acq: 11 Oct 2012 12:43 pm

Tgt Ion:226 Resp: 43753

Ion	Ratio	Lower	Upper
226	100		
211	14.2	44.5	84.5#

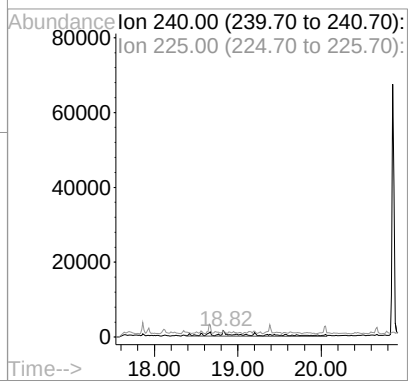


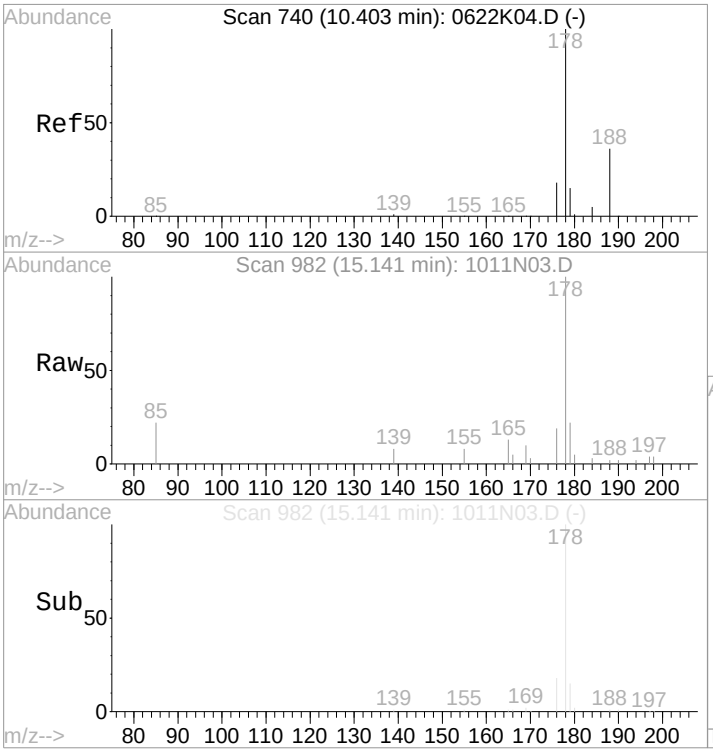


#45
C4-Dibenzothiophenes
Concen: 0.63 ppm m
RT: 18.82 min Scan# 1280
Delta R.T. -1.31 min
Lab File: 1011N03.D
Acq: 11 Oct 2012 12:43 pm

Tgt Ion:240 Resp: 30340

Ion	Ratio	Lower	Upper
240	100		
225	2.8	30.0	70.0#

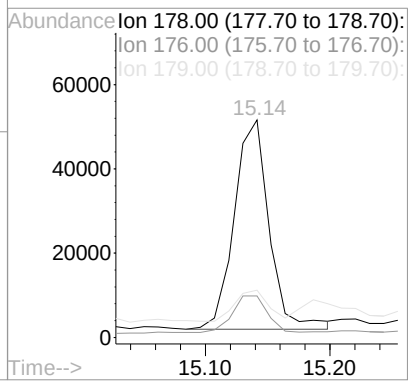


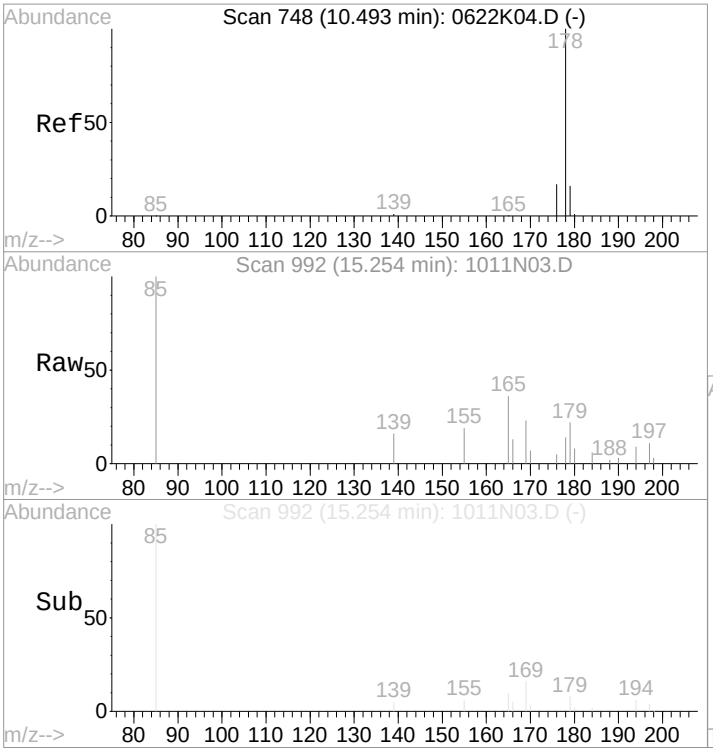


#47
Phenanthrene
Concen: 1.58 ppm
RT: 15.14 min Scan# 982
Delta R.T. -0.04 min
Lab File: 1011N03.D
Acq: 11 Oct 2012 12:43 pm

Tgt Ion:178 Resp: 96910

Ion	Ratio	Lower	Upper
178	100		
176	19.2	0.0	38.3
179	14.0	0.0	35.0

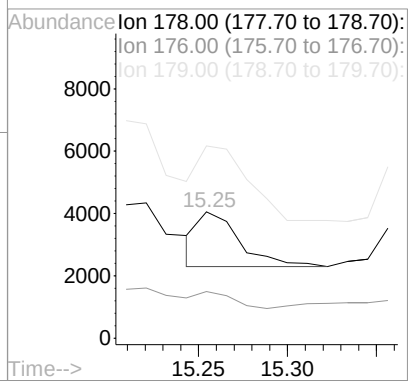


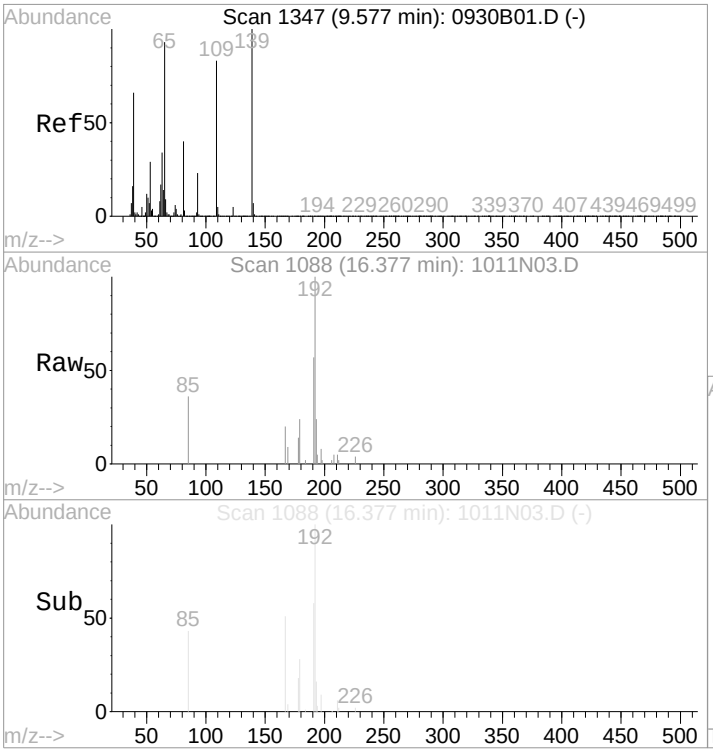


#48
Anthracene
Concen: 0.07 ppm
RT: 15.25 min Scan# 992
Delta R.T. -0.06 min
Lab File: 1011N03.D
Acq: 11 Oct 2012 12:43 pm

Tgt Ion:178 Resp: 2854

Ion	Ratio	Lower	Upper
178	100		
176	16.6	0.0	37.8
179	159.4	0.0	35.2#

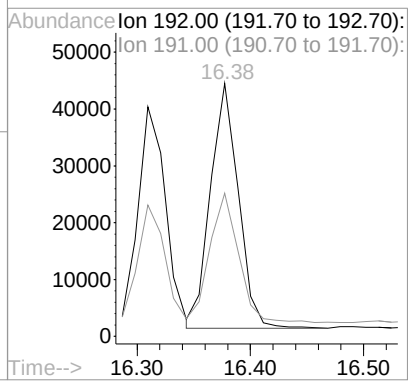


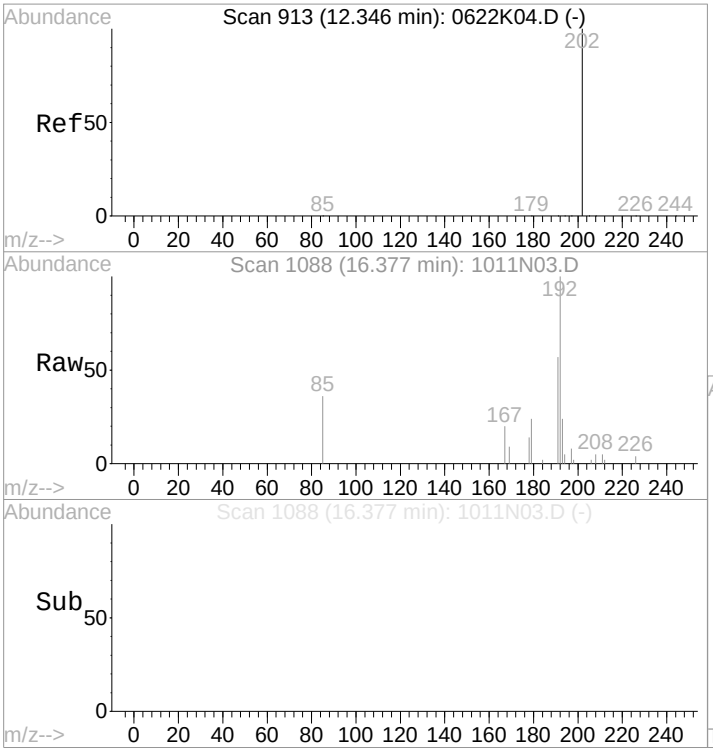


#49
3-Methylphenanthrene
Concen: 1.20 ppm
RT: 16.38 min Scan# 1088
Delta R.T. -0.09 min
Lab File: 1011N03.D
Acq: 11 Oct 2012 12:43 pm

Tgt Ion:192 Resp: 73524

Ion	Ratio	Lower	Upper
192	100		
191	54.1	34.6	74.6

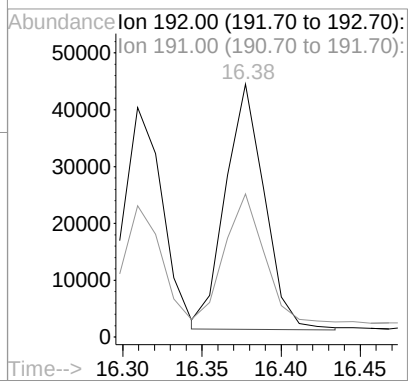


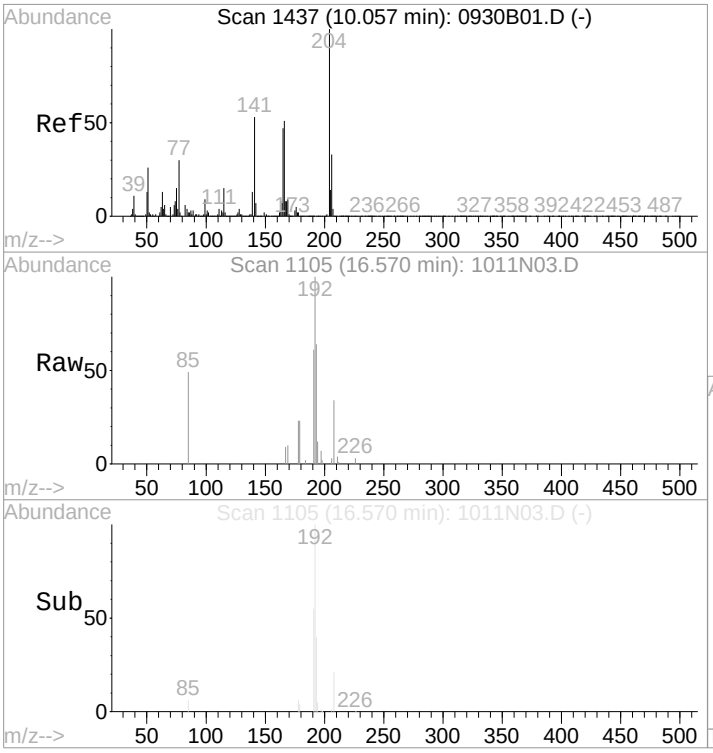


#50
2/4-Methylphenanthrene
Concen: 1.20 ppm m
RT: 16.38 min Scan# 1088
Delta R.T. -0.15 min
Lab File: 1011N03.D
Acq: 11 Oct 2012 12:43 pm

Tgt Ion:192 Resp: 73855

Ion	Ratio	Lower	Upper
192	100		
191	38.2	39.1	79.1#

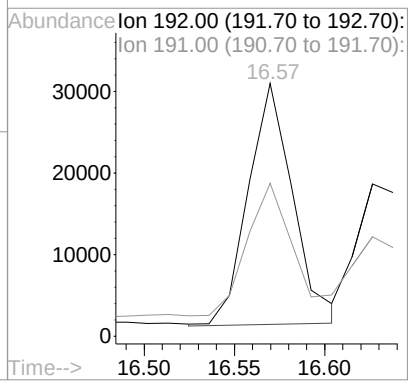


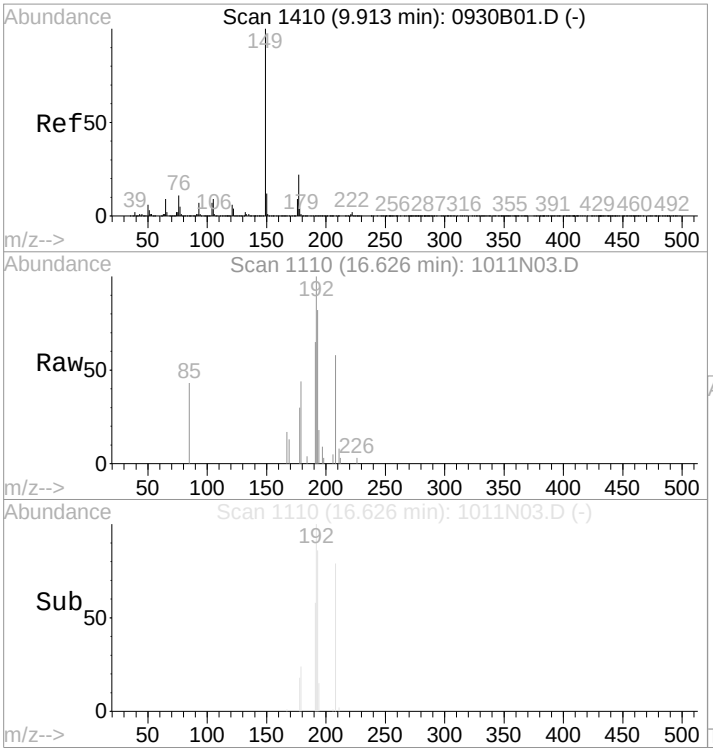


#52
9-Methylphenanthrene
Concen: 0.83 ppm m
RT: 16.57 min Scan# 1105
Delta R.T. -0.17 min
Lab File: 1011N03.D
Acq: 11 Oct 2012 12:43 pm

Tgt Ion:192 Resp: 51165

Ion	Ratio	Lower	Upper
192	100		
191	41.8	77.0	117.0#

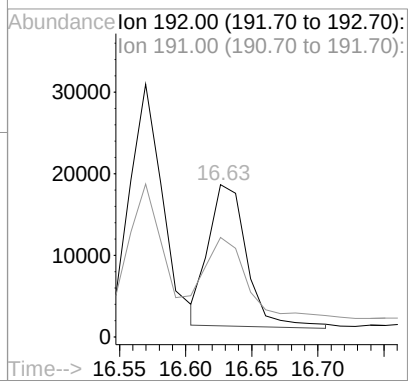


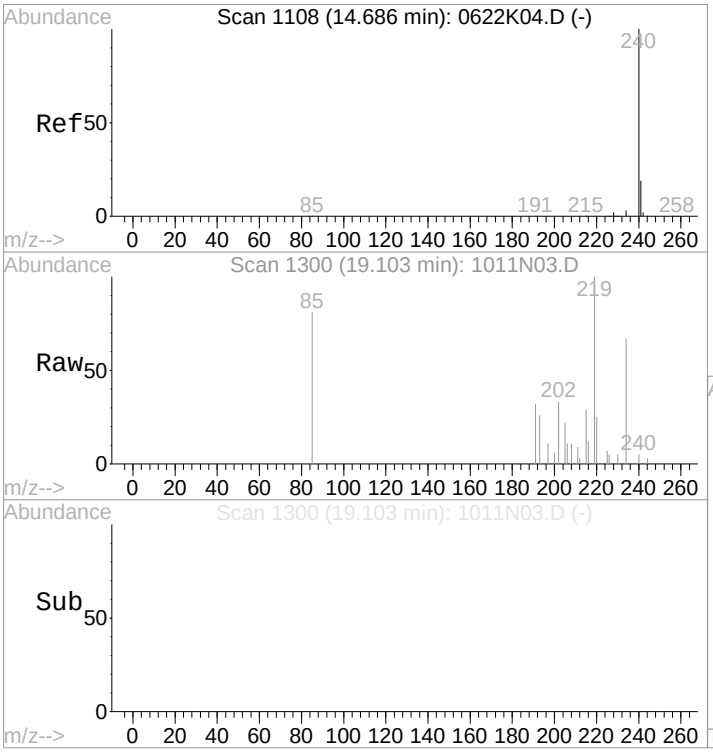


#53
1-Methylphenanthrene
Concen: 0.57 ppm m
RT: 16.63 min Scan# 1110
Delta R.T. -0.18 min
Lab File: 1011N03.D
Acq: 11 Oct 2012 12:43 pm

Tgt Ion:192 Resp: 34974

Ion	Ratio	Lower	Upper
192	100		
191	1.0	36.4	76.4#

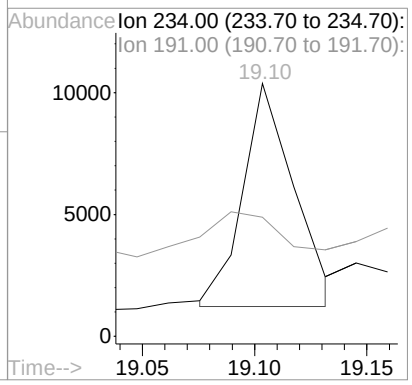


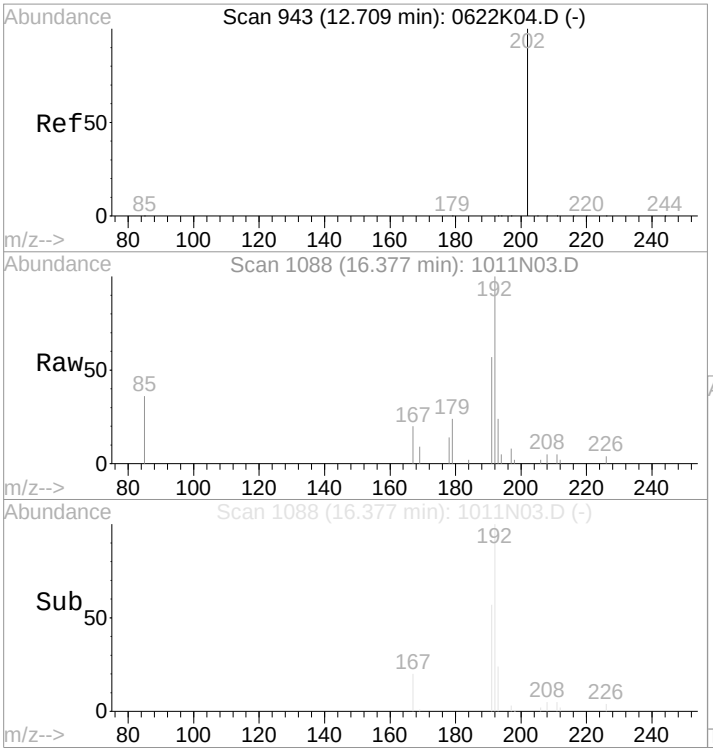


#54
Retene
Concen: 0.24 ppm m
RT: 19.10 min Scan# 1300
Delta R.T. -0.50 min
Lab File: 1011N03.D
Acq: 11 Oct 2012 12:43 pm

Tgt Ion:234 Resp: 14578

Ion	Ratio	Lower	Upper
234	100		
191	17.4	0.0	20.4

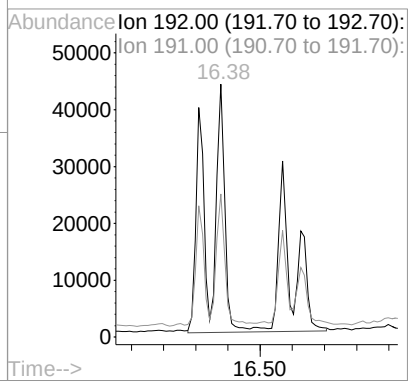


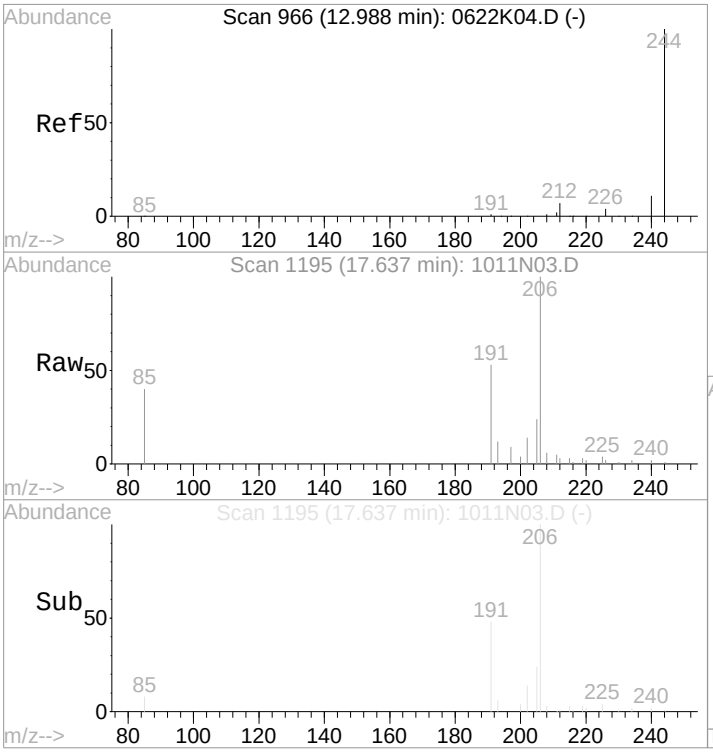


#55
C1-Phenanthrene/Anthracene
Concen: 3.90 ppm m
RT: 16.38 min Scan# 1088
Delta R.T. -0.15 min
Lab File: 1011N03.D
Acq: 11 Oct 2012 12:43 pm

Tgt Ion:192 Resp: 239727

Ion	Ratio	Lower	Upper
192	100		
191	17.7	39.1	79.1#

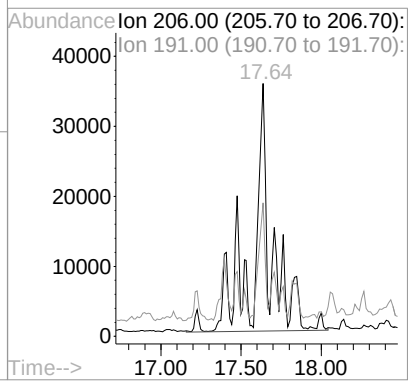


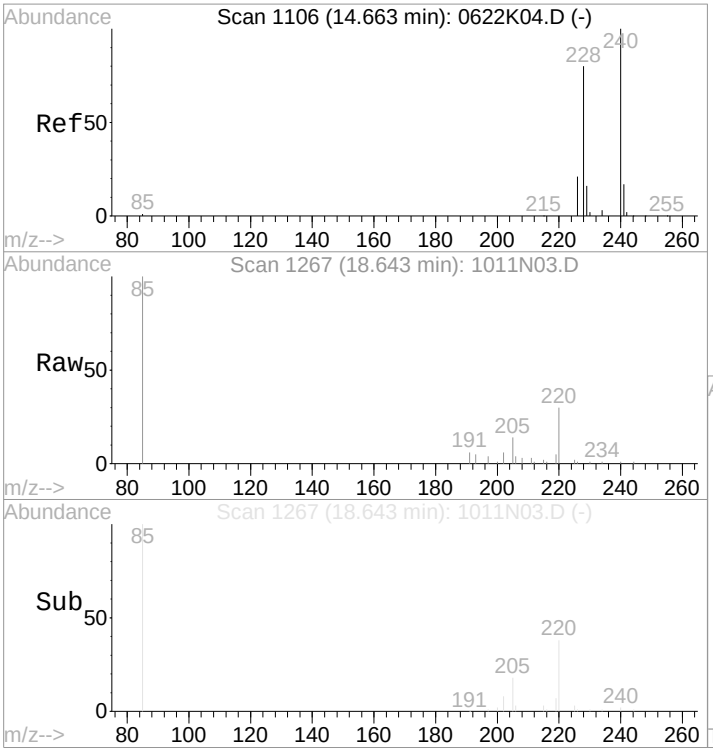


#56
C2-Phenanthrene/Anthracene
Concen: 3.74 ppm m
RT: 17.64 min Scan# 1195
Delta R.T. -0.28 min
Lab File: 1011N03.D
Acq: 11 Oct 2012 12:43 pm

Tgt Ion:206 Resp: 230149

Ion	Ratio	Lower	Upper
206	100		
191	15.3	118.9	158.9#

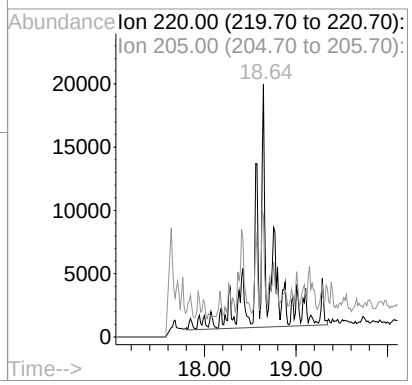


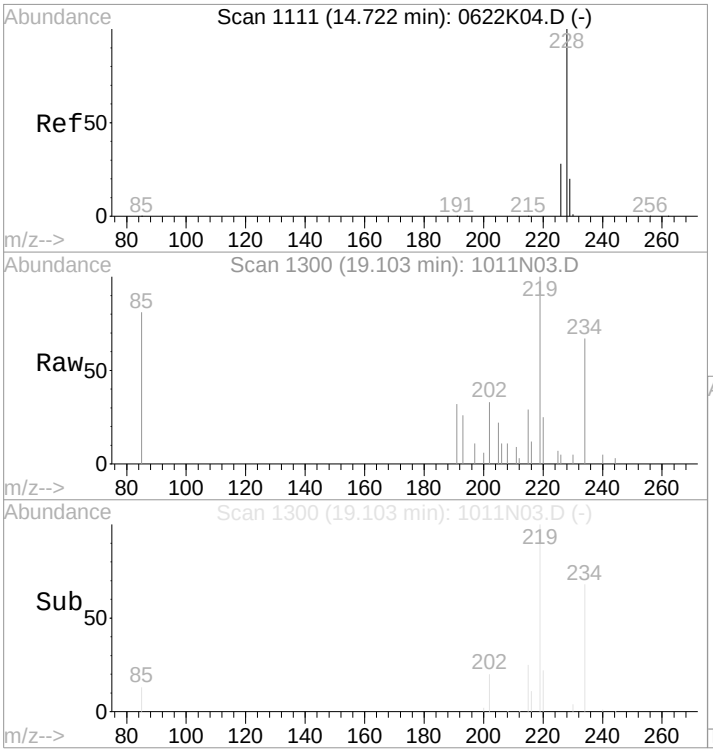


#57
C3-Phenanthrene/Anthracene
Concen: 2.89 ppm m
RT: 18.64 min Scan# 1267
Delta R.T. -0.43 min
Lab File: 1011N03.D
Acq: 11 Oct 2012 12:43 pm

Tgt Ion:220 Resp: 177621

Ion	Ratio	Lower	Upper
220	100		
205	10.7	86.4	126.4#

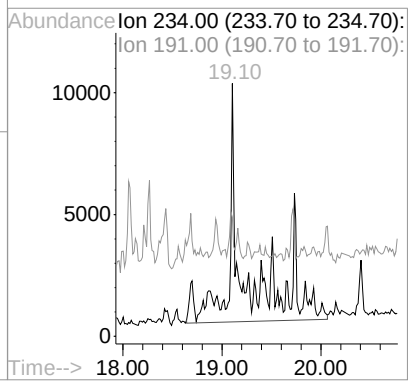


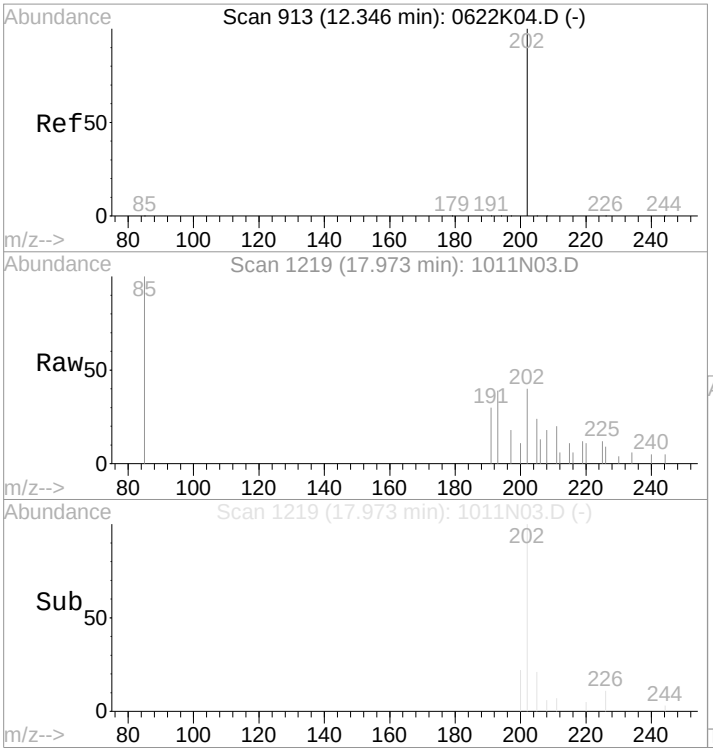


#58
C4-Phenanthrene/Anthracene
Concen: 1.64 ppm m
RT: 19.10 min Scan# 1300
Delta R.T. -0.61 min
Lab File: 1011N03.D
Acq: 11 Oct 2012 12:43 pm

Tgt Ion:234 Resp: 100932

Ion	Ratio	Lower	Upper
234	100		
191	4.5	60.0	100.0#

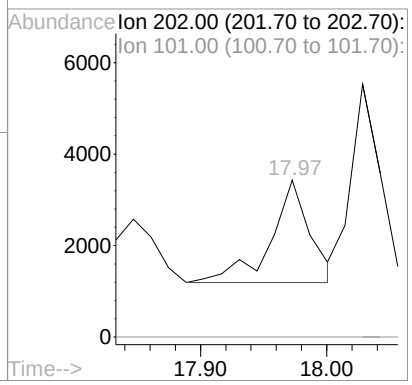


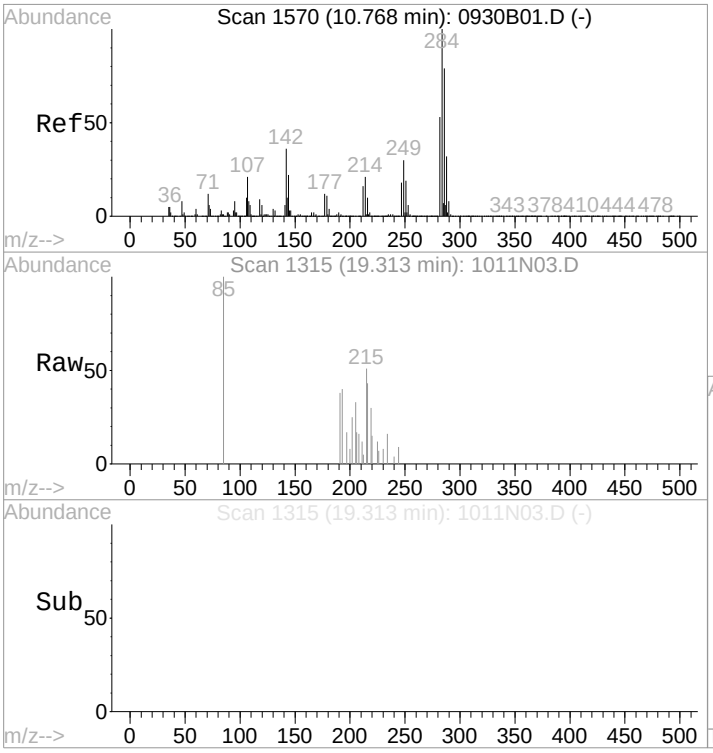


#59
Fluoranthene
Concen: 0.09 ppm
RT: 17.97 min Scan# 1219
Delta R.T. -0.05 min
Lab File: 1011N03.D
Acq: 11 Oct 2012 12:43 pm

Tgt Ion:202 Resp: 4852

Ion	Ratio	Lower	Upper
202	100		
101	0.0	0.0	20.0

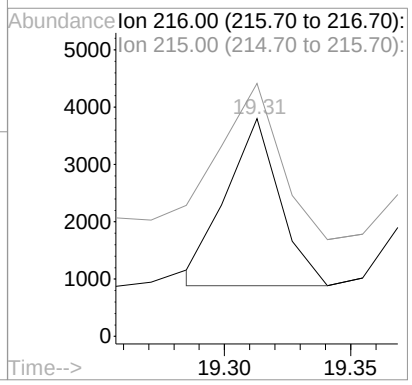


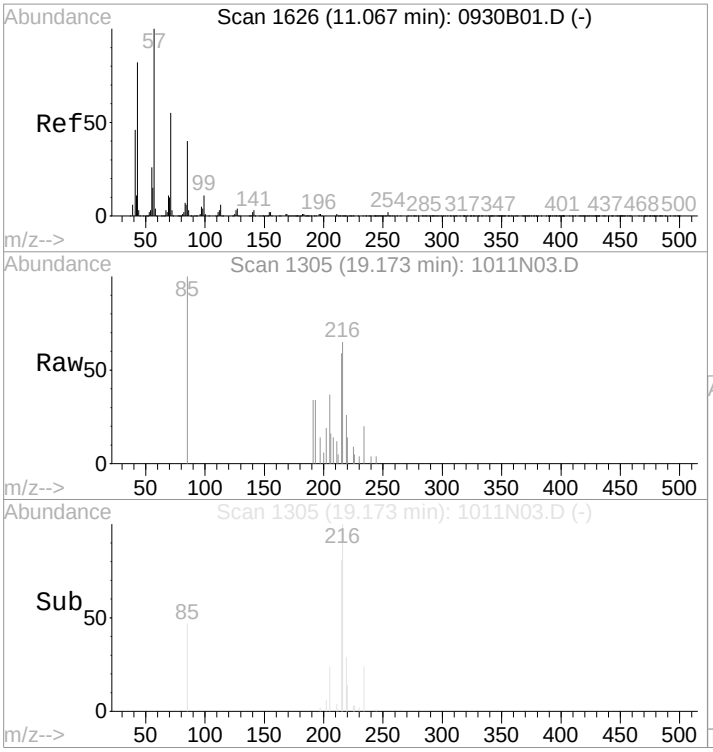


#60
Benzo(b)fluorene
Concen: 0.08 ppm
RT: 19.31 min Scan# 1315
Delta R.T. -0.51 min
Lab File: 1011N03.D
Acq: 11 Oct 2012 12:43 pm

Tgt Ion:216 Resp: 4275

Ion	Ratio	Lower	Upper
216	100		
215	100.7	60.0	100.0#

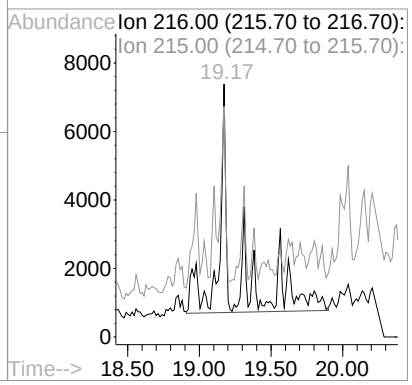


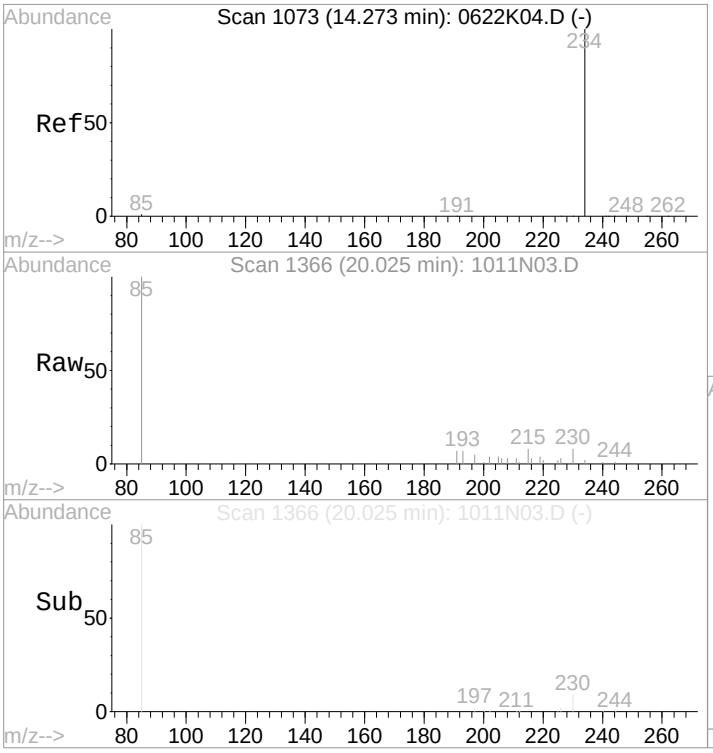


#61
C1-Fluoranthene/Pyrene
Concen: 0.84 ppm m
RT: 19.17 min Scan# 1305
Delta R.T. -0.65 min
Lab File: 1011N03.D
Acq: 11 Oct 2012 12:43 pm

Tgt Ion:216 Resp: 44542

Ion	Ratio	Lower	Upper
216	100		
215	23.5	127.1	167.1#

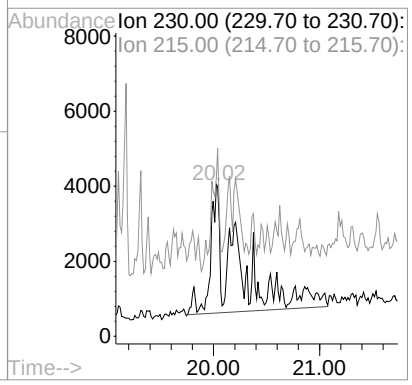


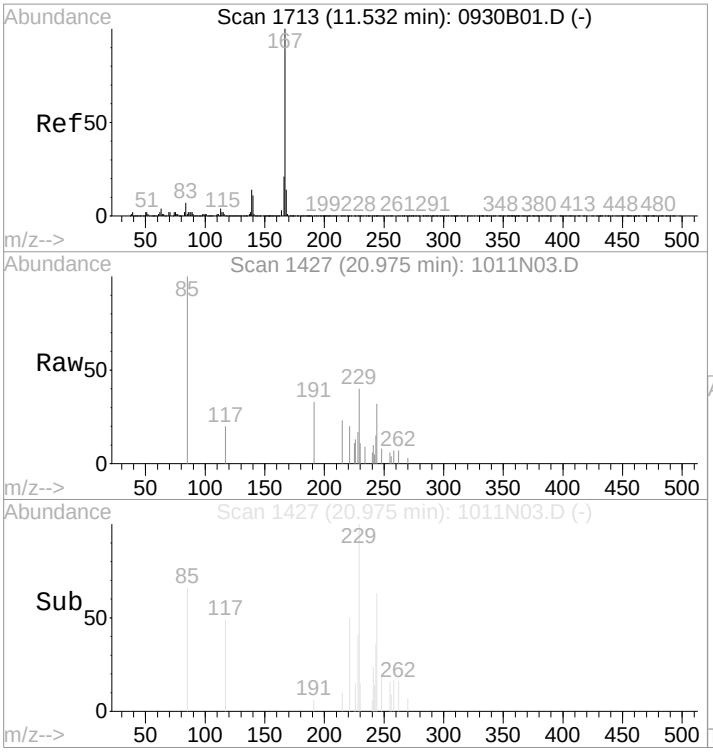


#62
C2-Fluoranthene/Pyrene
Concen: 1.05 ppm m
RT: 20.02 min Scan# 1366
Delta R.T. -1.14 min
Lab File: 1011N03.D
Acq: 11 Oct 2012 12:43 pm

Tgt Ion:230 Resp: 55856

Ion	Ratio	Lower	Upper
230	100		
215	10.8	146.1	186.1#

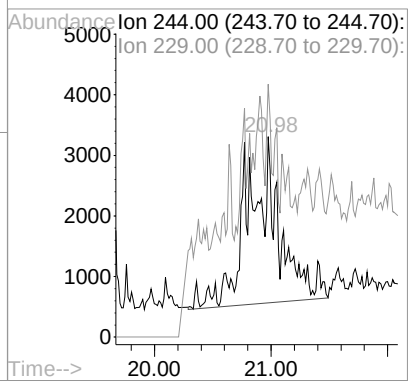


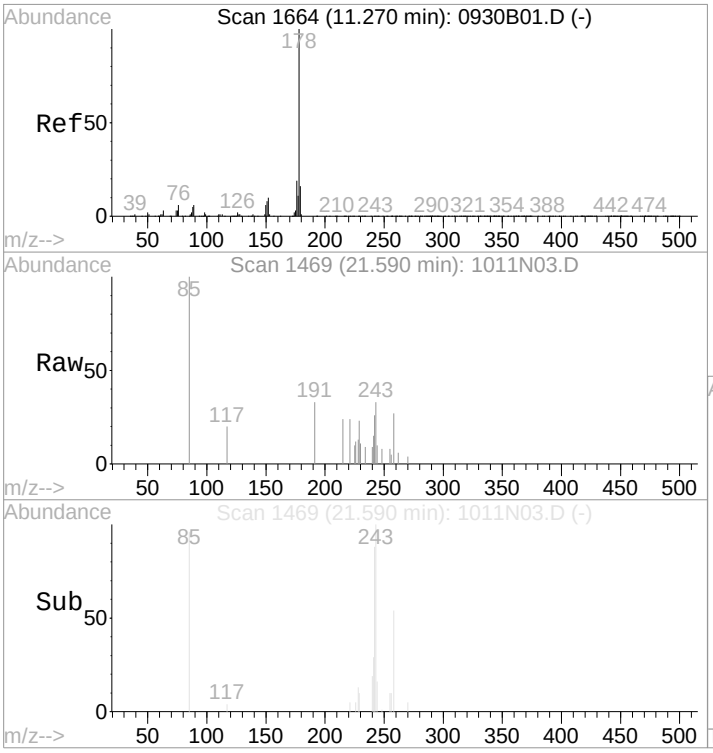


#63
C3-Fluoranthene/Pyrene
Concen: 0.98 ppm m
RT: 20.98 min Scan# 1427
Delta R.T. -0.77 min
Lab File: 1011N03.D
Acq: 11 Oct 2012 12:43 pm

Tgt Ion:244 Resp: 52065

Ion	Ratio	Lower	Upper
244	100		
229	15.3	59.1	99.1#

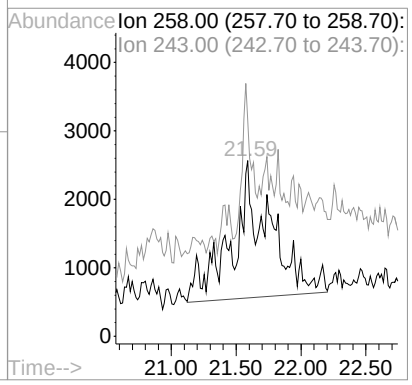


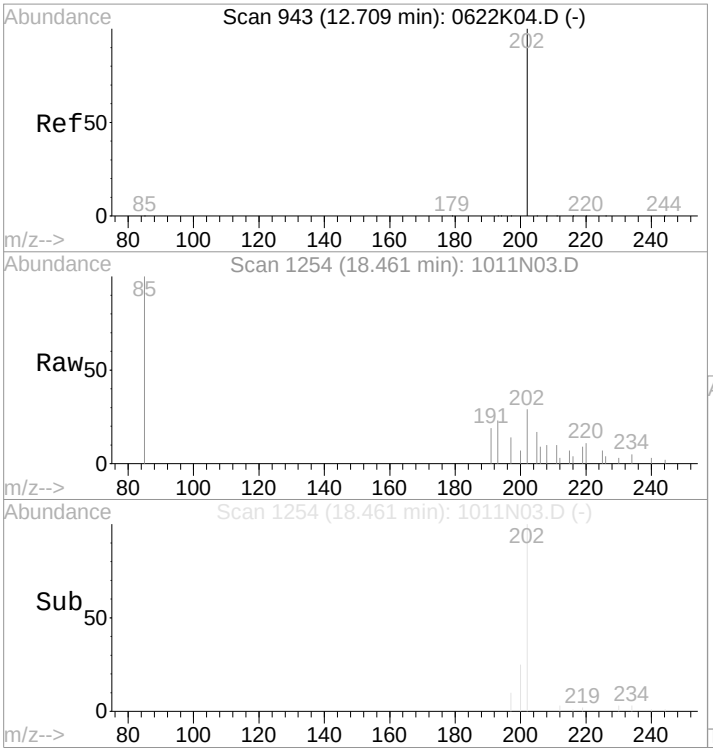


#64
C4-Fluoranthene/Pyrene
Concen: 0.77 ppm m
RT: 21.59 min Scan# 1469
Delta R.T. -0.78 min
Lab File: 1011N03.D
Acq: 11 Oct 2012 12:43 pm

Tgt Ion:258 Resp: 40758

Ion	Ratio	Lower	Upper
258	100		
243	26.5	60.0	100.0#

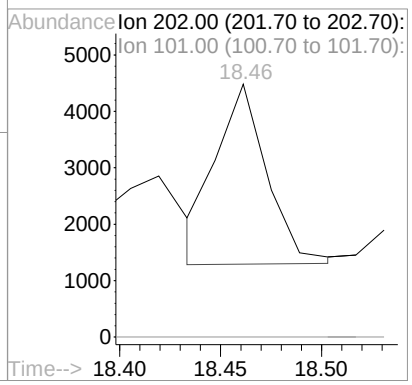


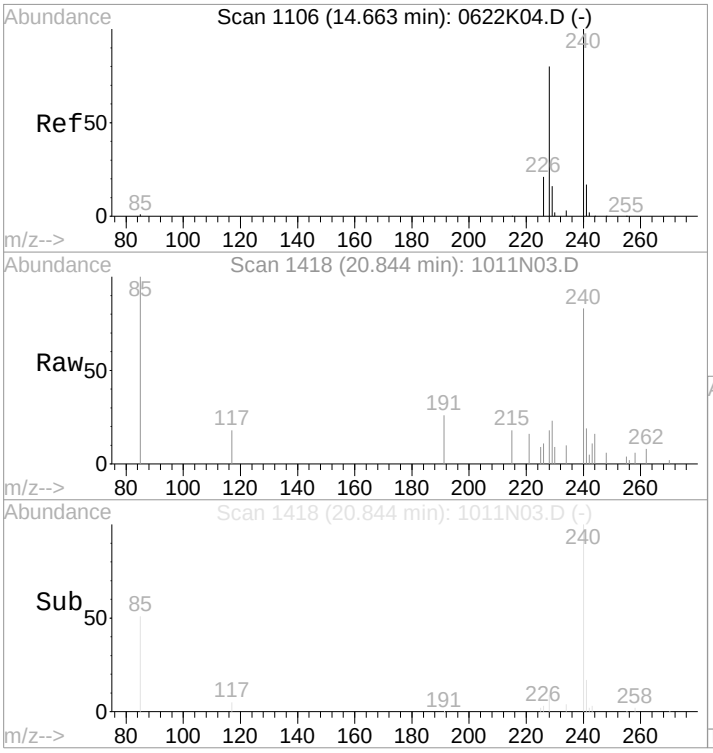


#66
Pyrene
Concen: 0.10 ppm m
RT: 18.46 min Scan# 1254
Delta R.T. -0.05 min
Lab File: 1011N03.D
Acq: 11 Oct 2012 12:43 pm

Tgt Ion:202 Resp: 5584

Ion	Ratio	Lower	Upper
202	100		
101	0.0	0.0	20.0

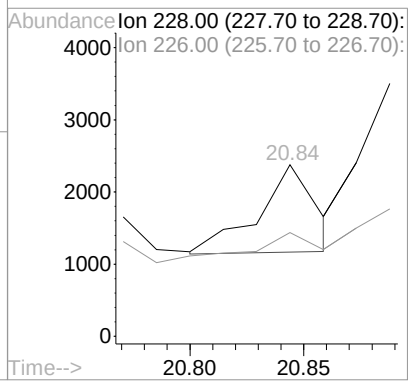


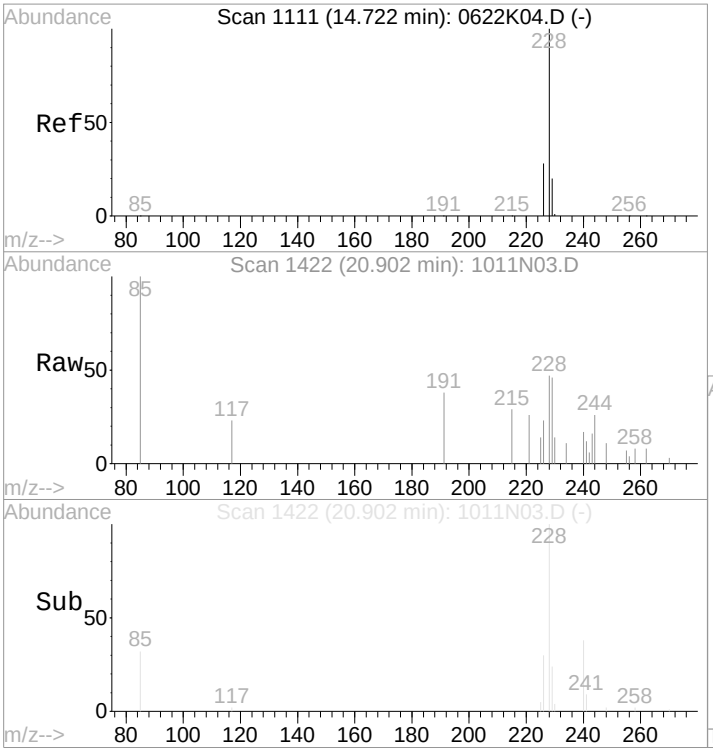


#68
Benzo(a)anthracene
Concen: 0.04 ppm m
RT: 20.84 min Scan# 1418
Delta R.T. -0.06 min
Lab File: 1011N03.D
Acq: 11 Oct 2012 12:43 pm

Tgt Ion:228 Resp: 2136

Ion	Ratio	Lower	Upper
228	100		
226	137.9	3.7	43.7#

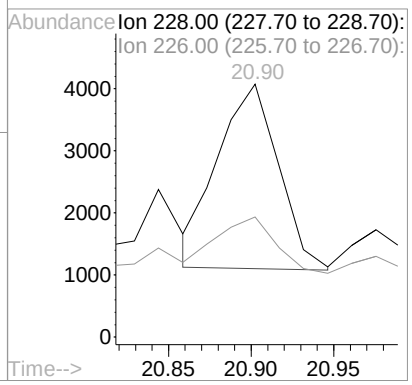


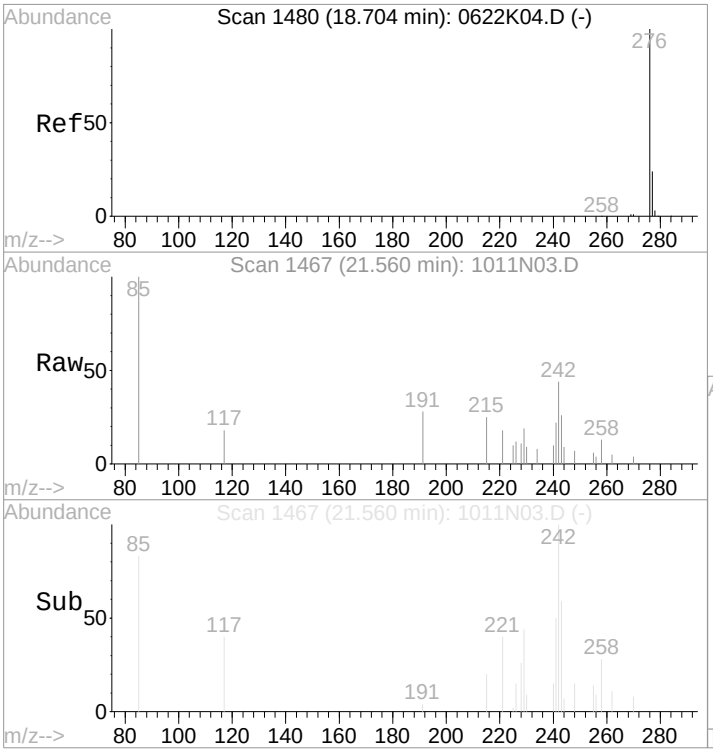


#69
Chrysene
Concen: 0.12 ppm m
RT: 20.90 min Scan# 1422
Delta R.T. -0.06 min
Lab File: 1011N03.D
Acq: 11 Oct 2012 12:43 pm

Tgt Ion:228 Resp: 7586

Ion	Ratio	Lower	Upper
228	100		
226	40.1	6.8	46.8

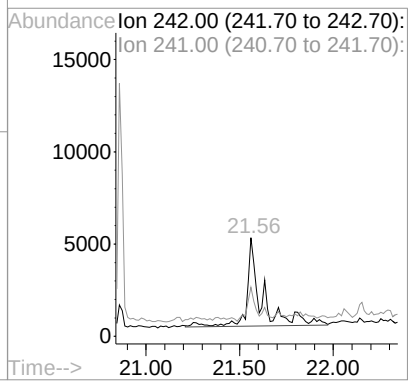


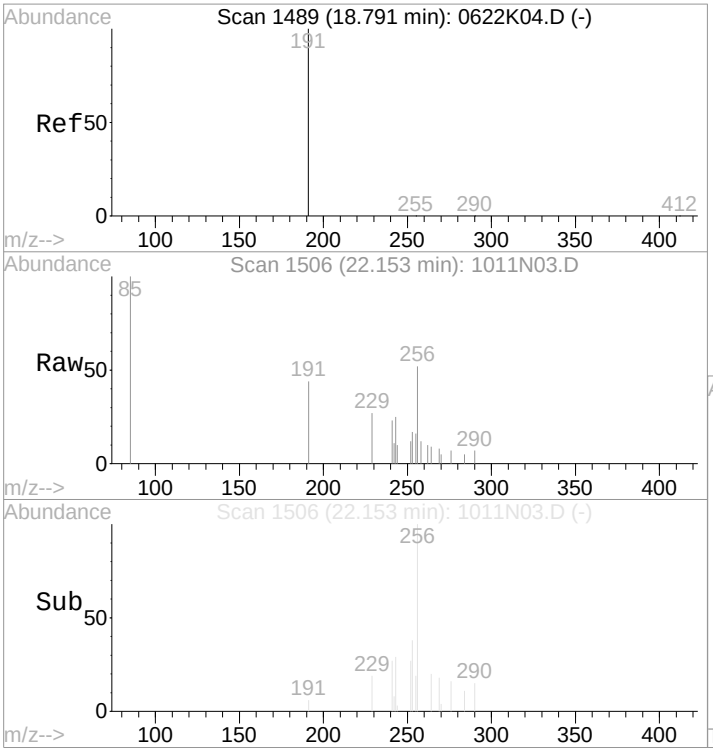


#70
C1-Chrysenes
Concen: 0.41 ppm m
RT: 21.56 min Scan# 1467
Delta R.T. -0.19 min
Lab File: 1011N03.D
Acq: 11 Oct 2012 12:43 pm

Tgt Ion:242 Resp: 25985

Ion	Ratio	Lower	Upper
242	100		
241	19.8	9.6	49.6

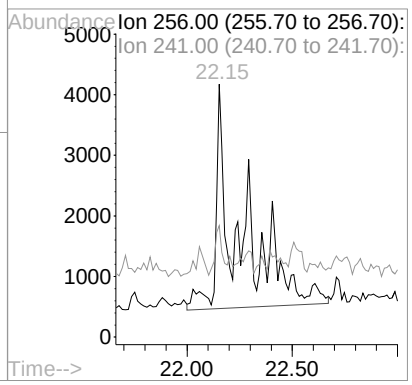


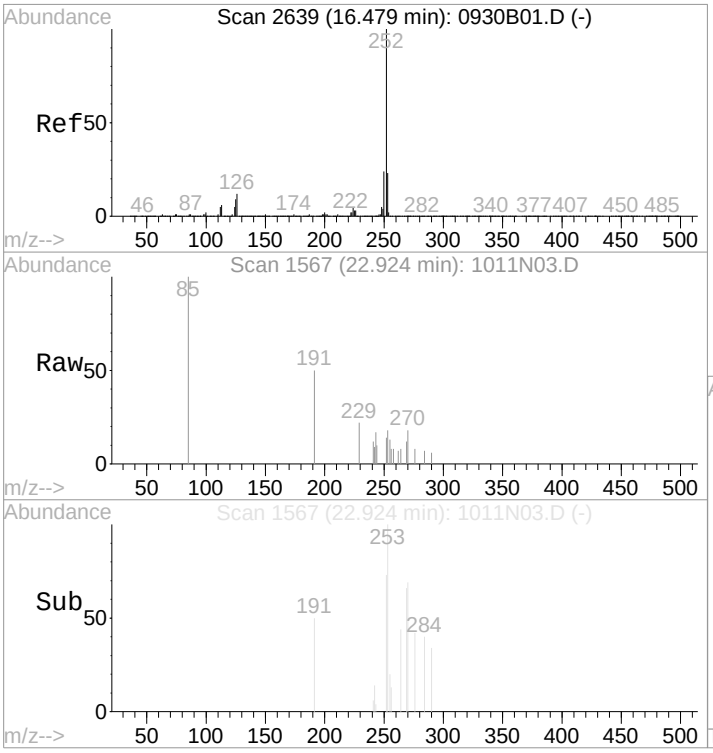


#71
C2-Chrysenes
Concen: 0.46 ppm m
RT: 22.15 min Scan# 1506
Delta R.T. -0.32 min
Lab File: 1011N03.D
Acq: 11 Oct 2012 12:43 pm

Tgt Ion:256 Resp: 28865

Ion	Ratio	Lower	Upper
256	100		
241	4.9	38.4	78.4#

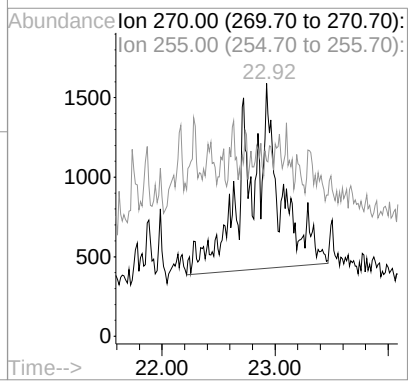


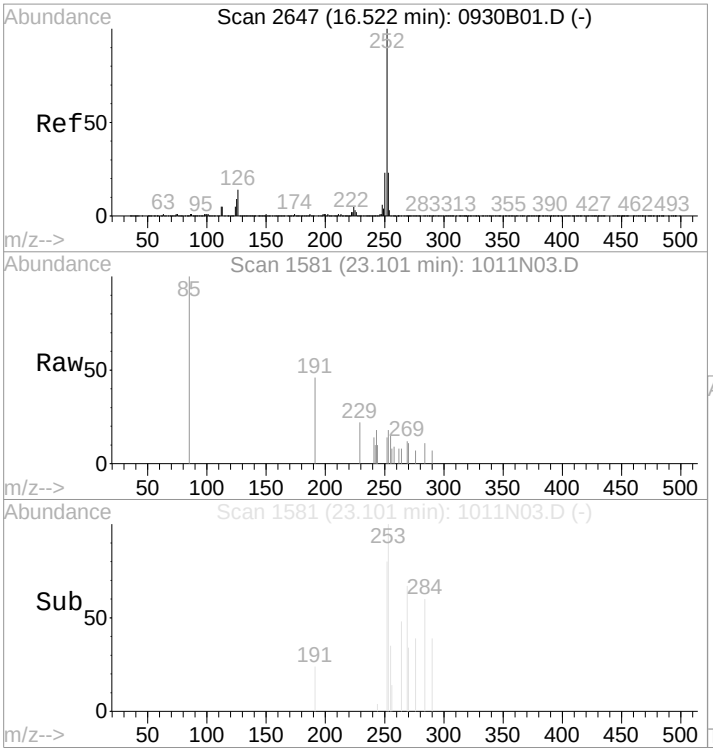


#72
C3-Chrysenes
Concen: 0.39 ppm m
RT: 22.92 min Scan# 1567
Delta R.T. -0.29 min
Lab File: 1011N03.D
Acq: 11 Oct 2012 12:43 pm

Tgt Ion:270 Resp: 24936

Ion	Ratio	Lower	Upper
270	100		
255	0.0	40.0	80.0#

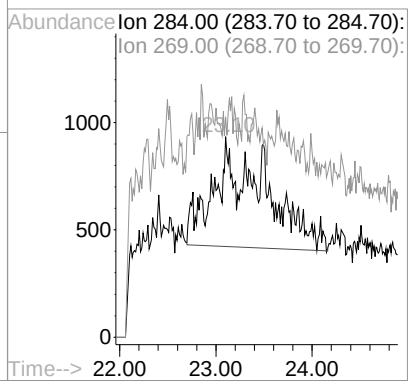


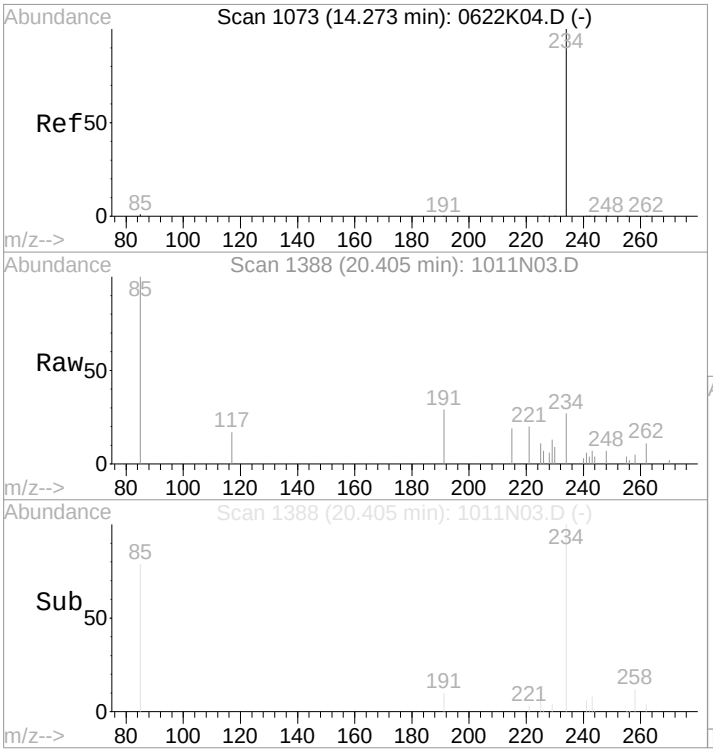


#73
C4-Chrysenes
Concen: 0.29 ppm m
RT: 23.10 min Scan# 1581
Delta R.T. -0.70 min
Lab File: 1011N03.D
Acq: 11 Oct 2012 12:43 pm

Tgt Ion:284 Resp: 18539

Ion	Ratio	Lower	Upper
284	100		
269	0.0	65.3	105.3#

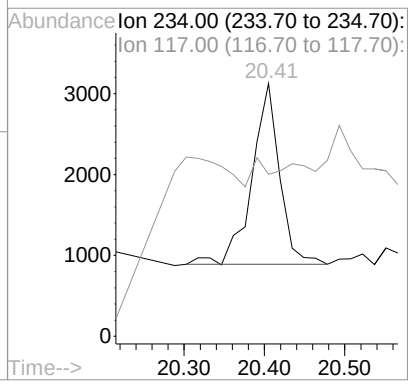


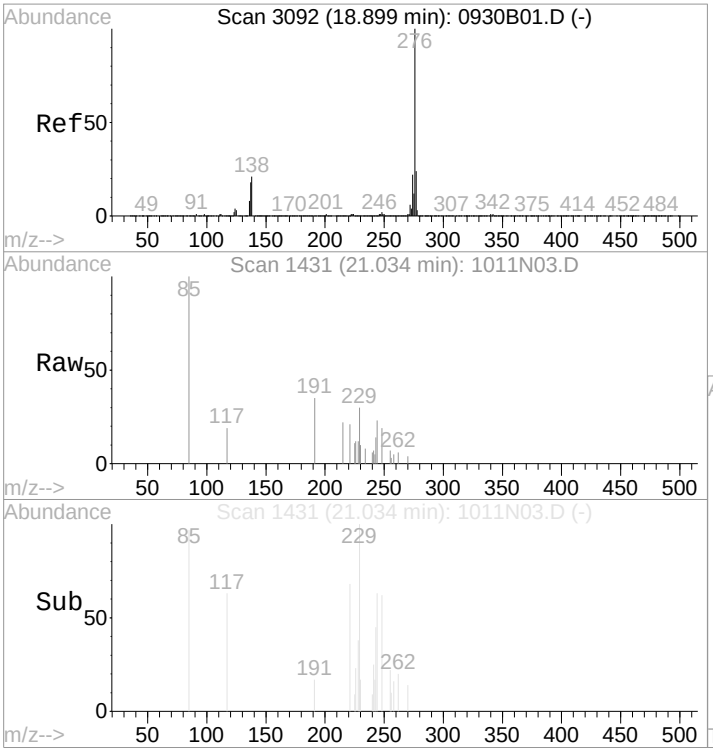


#74
Naphthobenzothiophene
Concen: 0.11 ppm
RT: 20.41 min Scan# 1388
Delta R.T. -0.04 min
Lab File: 1011N03.D
Acq: 11 Oct 2012 12:43 pm

Tgt Ion:234 Resp: 5372

Ion	Ratio	Lower	Upper
234	100		
117	0.0	0.0	28.6

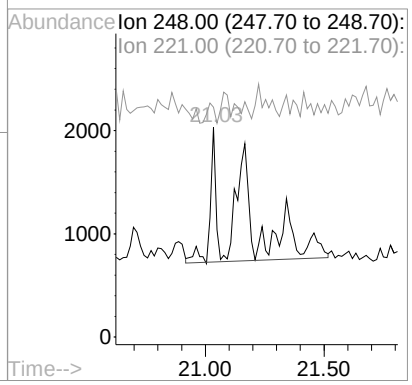


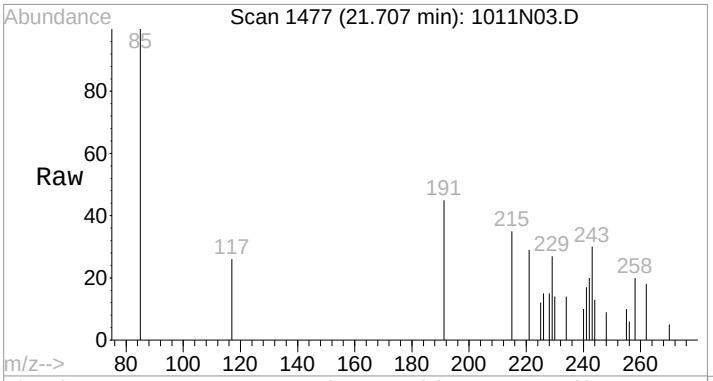


#75
C1-Naphthobenzothiophenes
Concen: 0.20 ppm m
RT: 21.03 min Scan# 1431
Delta R.T. -0.27 min
Lab File: 1011N03.D
Acq: 11 Oct 2012 12:43 pm

Tgt Ion:248 Resp: 9440

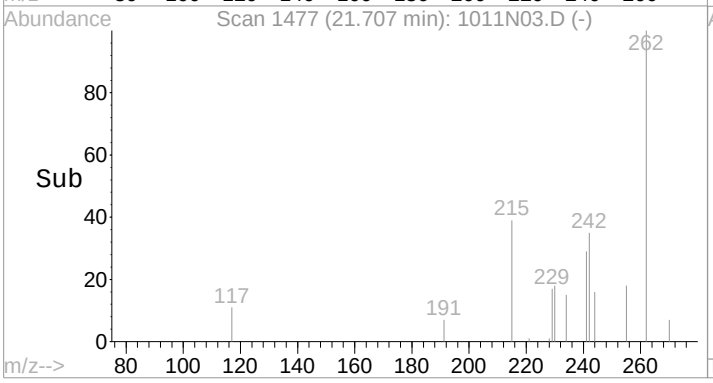
Ion	Ratio	Lower	Upper
248	100		
221	0.0	60.0	100.0#

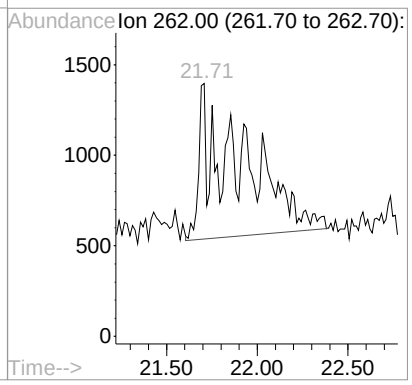


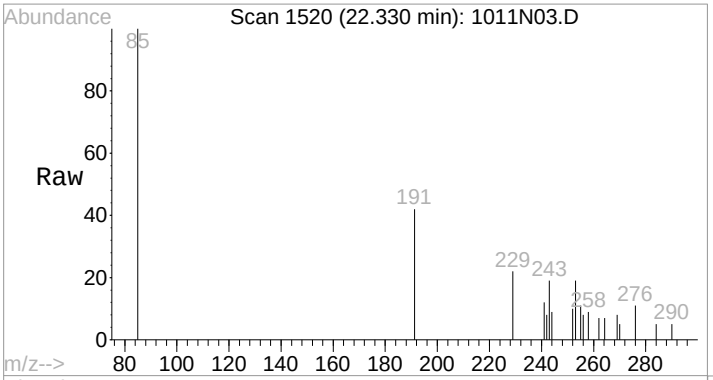


#76
C2-Naphthobenzothiophenes
Concen: 0.27 ppm m
RT: 21.71 min Scan# 1477
Delta R.T. -0.40 min
Lab File: 1011N03.D
Acq: 11 Oct 2012 12:43 pm

Tgt Ion:262 Resp: 12711

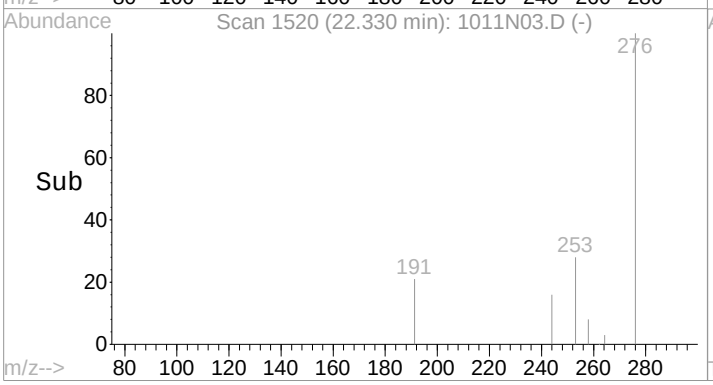


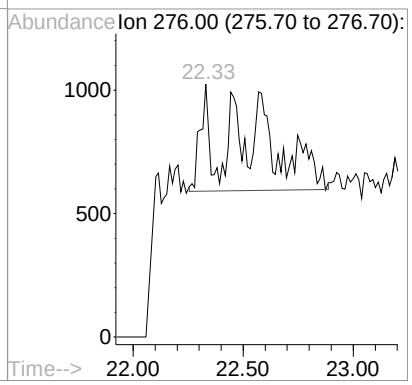


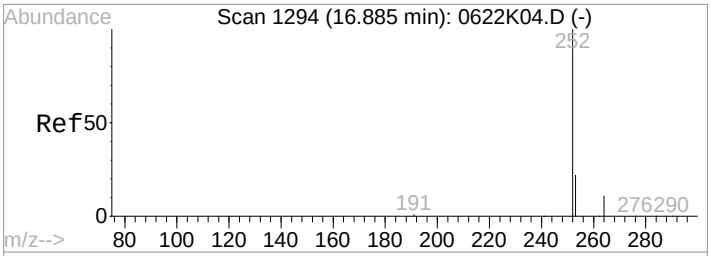


#77
C3-Naphthobenzothiophenes
Concen: 0.13 ppm m
RT: 22.33 min Scan# 1520
Delta R.T. -0.52 min
Lab File: 1011N03.D
Acq: 11 Oct 2012 12:43 pm

Tgt Ion:276 Resp: 6172



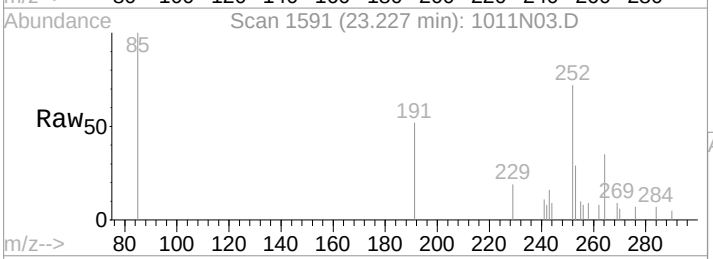


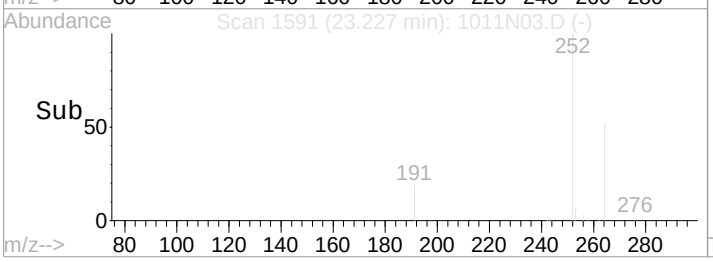


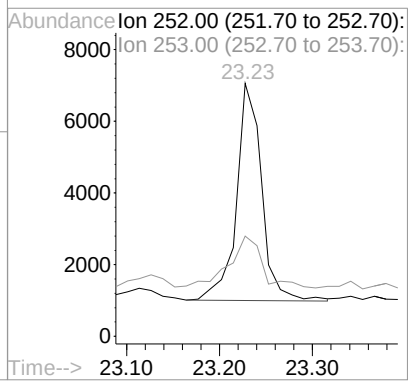
#85
Perylene
Concen: 0.17 ppm
RT: 23.23 min Scan# 1591
Delta R.T. -0.06 min
Lab File: 1011N03.D
Acq: 11 Oct 2012 12:43 pm

Tgt Ion:252 Resp: 11368

Ion	Ratio	Lower	Upper
252	100		
253	32.2	2.3	42.3







Quantitation Report

Data File : Q:\DATAN\101112\1011N04.D Vial: 4
Acq On : 11 Oct 2012 1:16 pm Operator:
Sample : 201025369 Inst : 20MSSVN
Misc : 193374 1:10 LOW/50000 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 12 13:12 2012 Quant Results File: NZ091312.RES

Quant Method : Q:\DATAN\NZ091312.M (RTE Integrator)
Title : Alk PAH SIM - wat/soils
Last Update : Thu Oct 11 12:20:33 2012
Response via : Initial Calibration
DataAcq Meth : NALKGC
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Naphthalene-d8	7.47	136	104976	2.00	ppm	-0.04 NA%
23) Acenaphthene-d10	11.51	164	63132	2.00	ppm	-0.05 NA%
37) Phenanthrene-d10	15.08	188	109366	2.00	ppm	-0.05 NA%
65) Chrysene-d12	20.86	240	118309	2.00	ppm	-0.06 NA%
79) Perylene-d12	23.20	264	137075	2.00	ppm	-0.05 NA%

System Monitoring Compounds

24) 2-Fluorobiphenyl	0.00	172	0d	0.00	ppm	
Spiked Amount 2.000	Range 30 - 114		Recovery = 0.00%#			
67) Terphenyl-d14	0.00	244	0d	0.00	ppm	
Spiked Amount 2.000	Range 30 - 114		Recovery = 0.00%#			

Target Compounds						Qvalue
2) Decalin 1	5.70	138	1836	0.38	ppm	# 1
3) Decalin 2	6.38	138	443	0.08	ppm	# 7
4) Decalin TOTAL	5.70	138	2279m	0.22	ppm	# 1
5) C1-Decalins	6.72	152	11569m	1.12	ppm	100
6) C2-Decalins	7.28	166	66134m	6.41	ppm	100
7) C3-Decalins	8.87	180	225944m	21.91	ppm	100
8) C4-Decalins	10.20	194	185866m	18.03	ppm	100
9) Naphthalene	7.51	128	4556	0.08	ppm	52
10) 2Methylnaphthalene	9.07	142	38010	1.13	ppm	86
11) 1Methylnaphthalene	9.29	142	14706	0.44	ppm	88
12) 2,6-Dimethylnaphthalene	10.53	156	116383	3.95	ppm	99
13) 2,3,5-Trimethylnaphthalene	12.52	170	131462m	4.94	ppm	# 94
14) C1-Naphthalenes	9.07	142	56627m	1.05	ppm	# 94
15) C2-Naphthalenes	10.70	156	467010m	8.65	ppm	# 92
16) C3-Naphthalenes	12.03	170	701358m	13.00	ppm	# 89
17) C4-Naphthalenes	13.76	184	647211m	11.99	ppm	# 88
18) Benzothiophene	7.67	134	2491m	0.06	ppm	96
19) C1-Benzothiophenes	8.75	148	11240m	0.26	ppm	# 1
20) C2-Benzothiophenes	10.63	162	27766m	0.65	ppm	1
21) C3-Benzothiophenes	11.80	176	42783m	1.00	ppm	100
22) C4-Benzothiophenes	13.44	190	39426m	0.92	ppm	100
25) Biphenyl (Diphenyl)	10.15	154	8815	0.17	ppm	# 1
26) Acenaphthylene	11.20	152	12433m	0.27	ppm	# 1
27) Acenaphthene	11.59	153	9611	0.25	ppm	# 69
28) Dibenzofuran	12.01	168	19693	0.35	ppm	# 1
29) Fluorene	12.82	166	26059	0.62	ppm	# 72
30) C1-Fluorenes	14.22	180	98285m	2.34	ppm	# 86
31) C2-Fluorenes	15.46	194	181689m	4.33	ppm	# 47
32) C3-Fluorenes	16.63	208	194188m	4.63	ppm	# 19
38) Dibenzothiophene	14.84	184	12394	0.24	ppm	73
39) 4-Methyldibenzothiophene	15.90	198	19338	0.38	ppm	84
40) 2/3-Methyldibenzothiophene	16.05	198	13975m	0.28	ppm	58
41) 1-Methyldibenzothiophene	16.11	198	11815m	0.23	ppm	1
42) C1-Dibenzothiophenes	15.90	198	46891m	0.92	ppm	# 84

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : Q:\DATAN\101112\1011N04.D Vial: 4
Acq On : 11 Oct 2012 1:16 pm Operator:
Sample : 201025369 Inst : 20MSSVN
Misc : 193374 1:10 LOW/50000 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 12 13:12 2012 Quant Results File: NZ091312.RES

Quant Method : Q:\DATAN\NZ091312.M (RTE Integrator)
Title : Alk PAH SIM - wat/soils
Last Update : Thu Oct 11 12:20:33 2012
Response via : Initial Calibration
DataAcq Meth : NALKGC

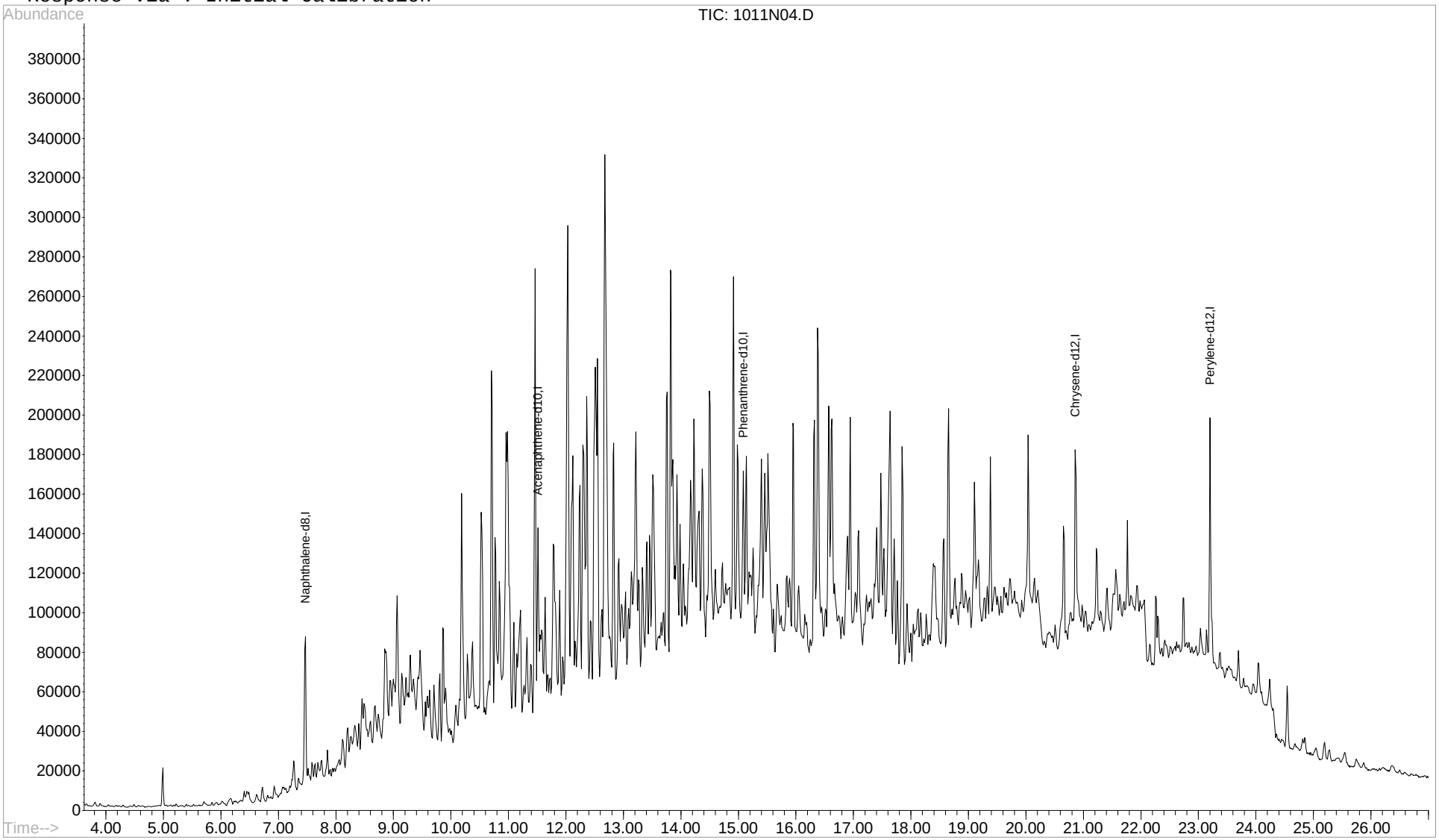
	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
43)	C2-Dibenzothiophenes	16.90	212	83103m	1.64	ppm		80
44)	C3-Dibenzothiophenes	17.93	226	85688m	1.69	ppm	#	80
45)	C4-Dibenzothiophenes	18.84	240	51919m	1.02	ppm	#	30
47)	Phenanthrene	15.14	178	112699	1.75	ppm		97
49)	3-Methylphenanthrene	16.32	192	113043m	1.76	ppm		100
50)	2/4-Methylphenanthrene	16.38	192	122092m	1.90	ppm	#	97
52)	9-Methylphenanthrene	16.57	192	78156m	1.21	ppm	#	65
53)	1-Methylphenanthrene	16.64	192	59550m	0.93	ppm	#	1
54)	Retene	19.10	234	28548m	0.44	ppm		82
55)	C1-Phenanthrene/Anthracene	16.38	192	396663m	6.16	ppm	#	96
56)	C2-Phenanthrene/Anthracene	17.64	206	426600m	6.63	ppm	#	19
57)	C3-Phenanthrene/Anthracene	18.64	220	306585m	4.76	ppm	#	44
58)	C4-Phenanthrene/Anthracene	19.10	234	194100m	3.02	ppm	#	30
59)	Fluoranthene	17.97	202	8609	0.15	ppm	#	100
60)	Benzo(b)fluorene	19.31	216	7839	0.14	ppm		85
61)	C1-Fluoranthene/Pyrene	19.17	216	87840m	1.58	ppm	#	36
62)	C2-Fluoranthene/Pyrene	20.02	230	106207m	1.91	ppm	#	1
63)	C3-Fluoranthene/Pyrene	20.99	244	111223m	2.00	ppm	#	97
64)	C4-Fluoranthene/Pyrene	21.59	258	98928m	1.78	ppm	#	79
66)	Pyrene	18.46	202	9849	0.17	ppm	#	100
68)	Benzo(a)anthracene	20.84	228	3124m	0.06	ppm	#	89
69)	Chrysene	20.90	228	15687m	0.23	ppm	#	76
70)	C1-Chrysenes	21.56	242	46067m	0.67	ppm		97
71)	C2-Chrysenes	22.17	256	60723m	0.88	ppm	#	47
72)	C3-Chrysenes	22.72	270	61767m	0.90	ppm	#	21
73)	C4-Chrysenes	23.11	284	36353m	0.53	ppm	#	7
74)	Naphthobenzothiophene	20.40	234	10465	0.20	ppm	#	76
75)	C1-Naphthobenzothiophenes	21.03	248	19583m	0.38	ppm	#	9
76)	C2-Naphthobenzothiophenes	21.71	262	30894m	0.60	ppm		100
77)	C3-Naphthobenzothiophenes	22.58	276	18420m	0.36	ppm		100
78)	C4-Naphthobenzothiophenes	22.90	290	20084m	0.39	ppm		100
85)	Perylene	23.24	252	23533	0.32	ppm		77

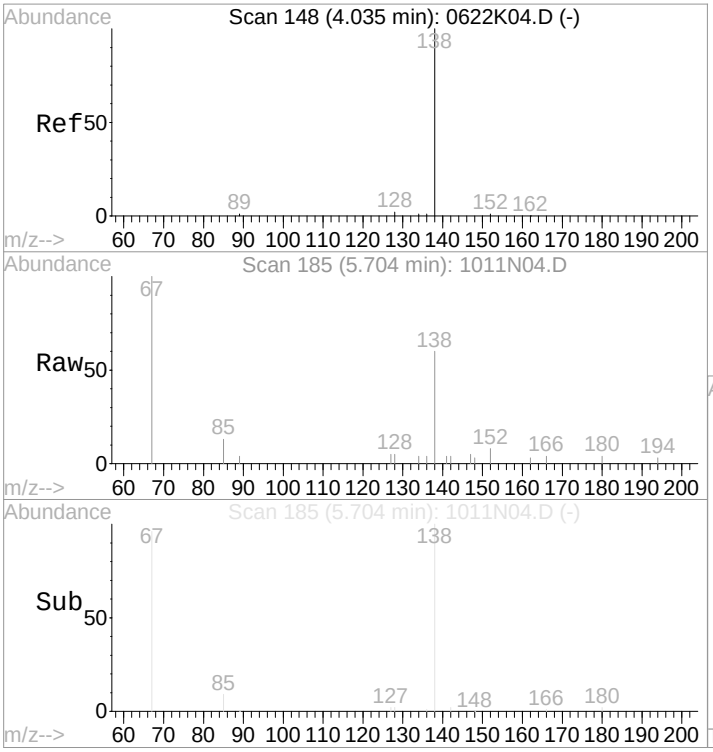
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : Q:\DATAN\101112\1011N04.D Vial: 4
Acq On : 11 Oct 2012 1:16 pm Operator:
Sample : 201025369 Inst : 20MSSVN
Misc : 193374 1:10 LOW/50000 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 12 13:12 2012 Quant Results File: NZ091312.RES

Method : Q:\DATAN\NZ091312.M (RTE Integrator)
Title : Alk PAH SIM - wat/soils
Last Update : Fri Oct 12 10:21:33 2012
Response via : Initial Calibration

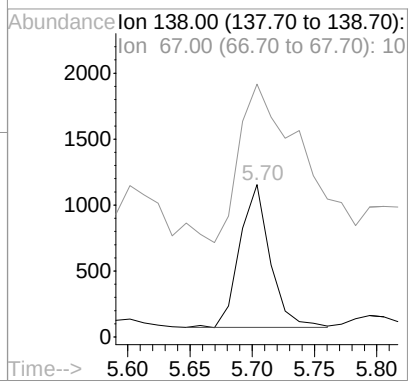


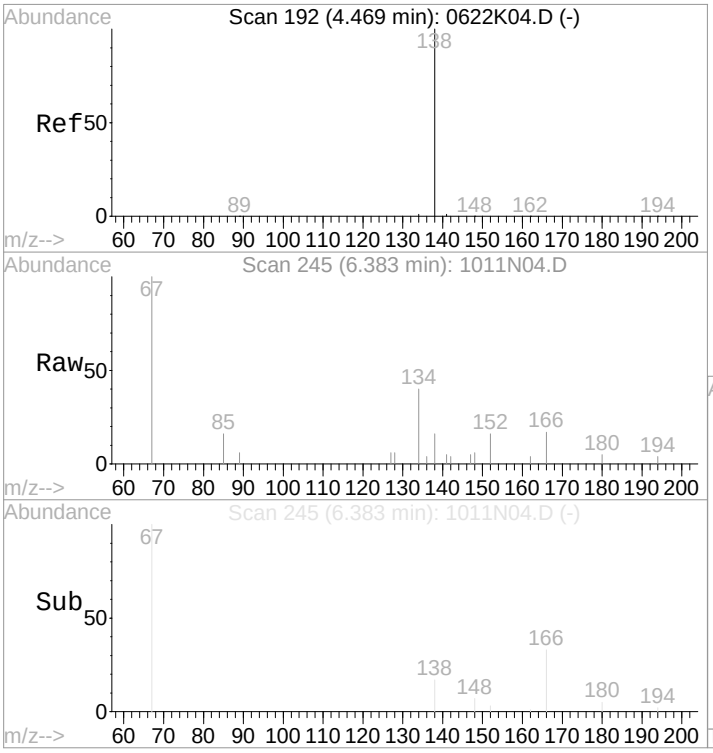


#2
Decalin 1
Concen: 0.38 ppm
RT: 5.70 min Scan# 185
Delta R.T. -0.04 min
Lab File: 1011N04.D
Acq: 11 Oct 2012 1:16 pm

Tgt Ion:138 Resp: 1836

Ion	Ratio	Lower	Upper
138	100		
67	228.3	72.9	112.9#

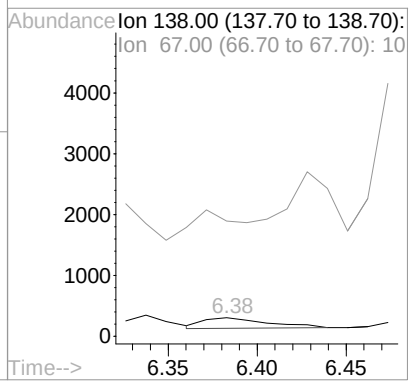


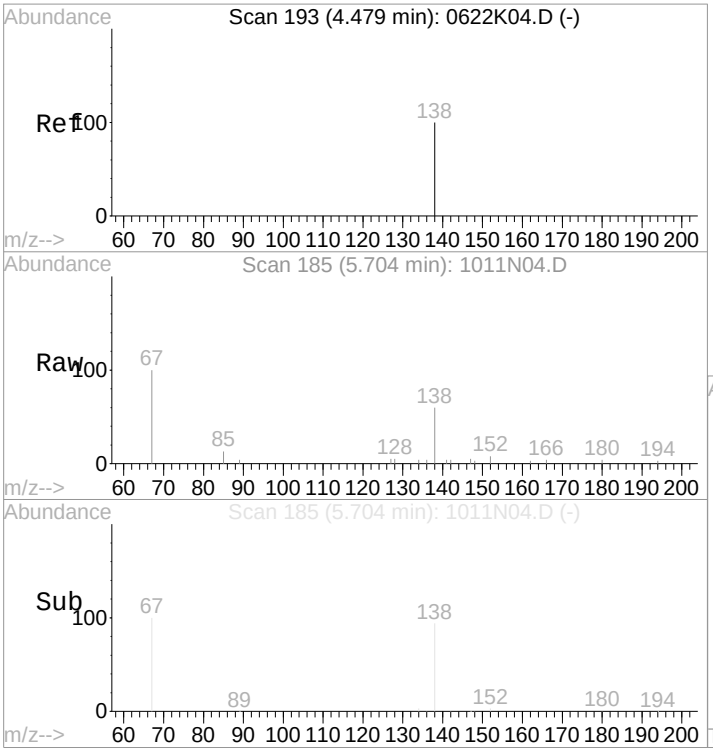


#3
Decalin 2
Concen: 0.08 ppm
RT: 6.38 min Scan# 245
Delta R.T. -0.00 min
Lab File: 1011N04.D
Acq: 11 Oct 2012 1:16 pm

Tgt Ion:138 Resp: 443

Ion	Ratio	Lower	Upper
138	100		
67	230.2	104.9	144.9#

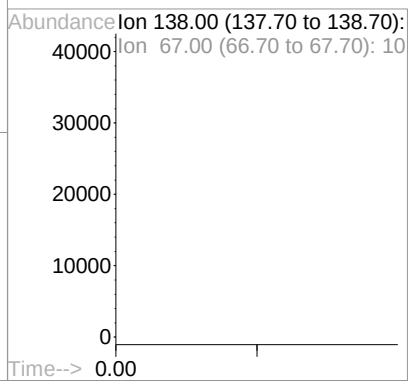


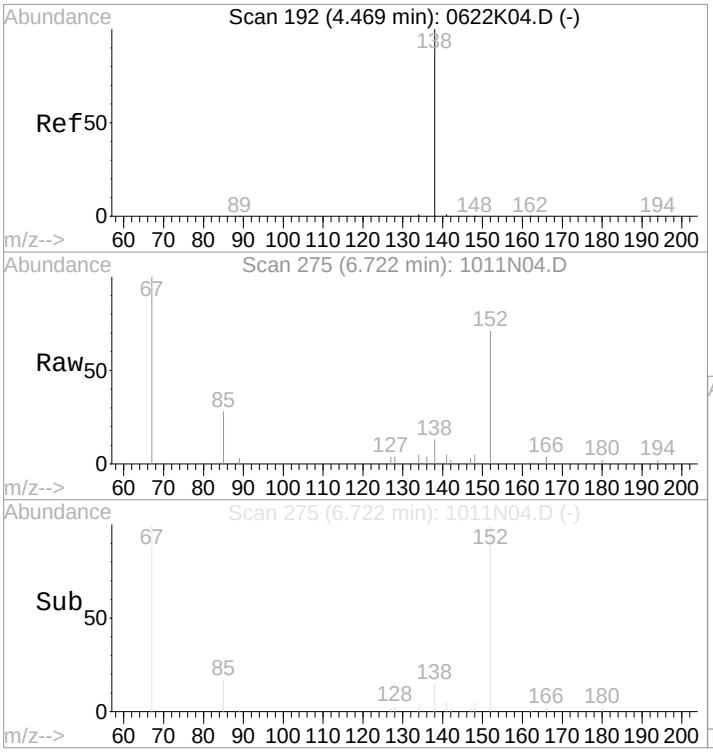


#4
Decalin TOTAL
Concen: 0.22 ppm m
RT: 5.70 min Scan# 185
Delta R.T. -0.43 min
Lab File: 1011N04.D
Acq: 11 Oct 2012 1:16 pm

Tgt Ion:138 Resp: 2279

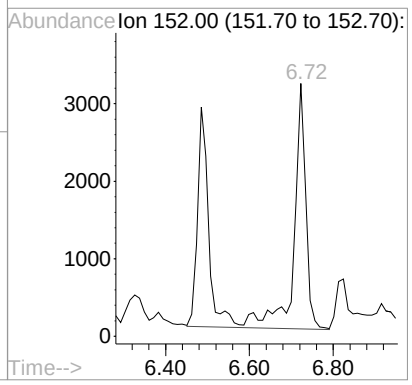
Ion	Ratio	Lower	Upper
138	100		
67	183.9	78.0	118.0#

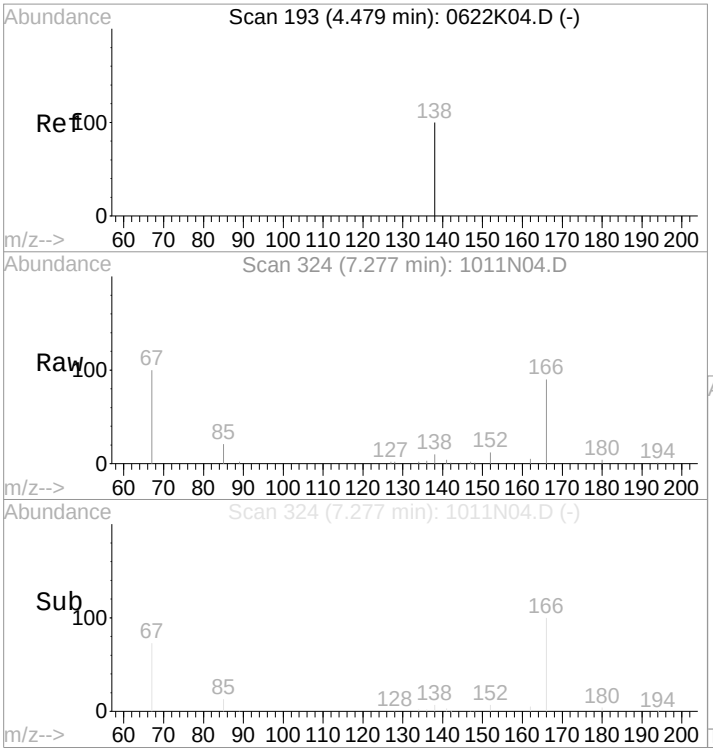




#5
C1-Decalins
Concen: 1.12 ppm m
RT: 6.72 min Scan# 275
Delta R.T. 0.04 min
Lab File: 1011N04.D
Acq: 11 Oct 2012 1:16 pm

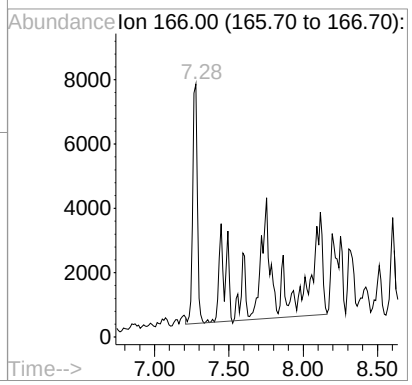
Tgt Ion:152 Resp: 11569

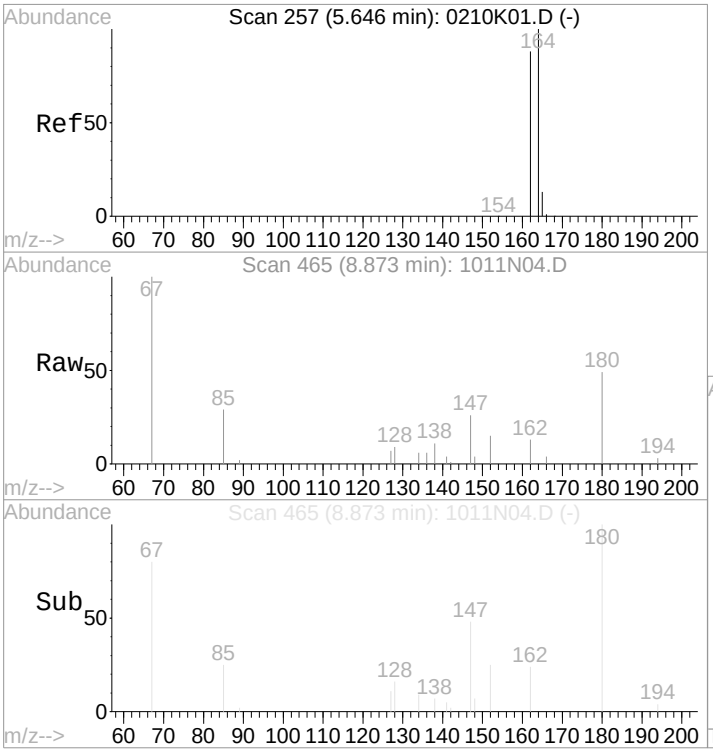




#6
C2-Decalins
Concen: 6.41 ppm m
RT: 7.28 min Scan# 324
Delta R.T. -0.02 min
Lab File: 1011N04.D
Acq: 11 Oct 2012 1:16 pm

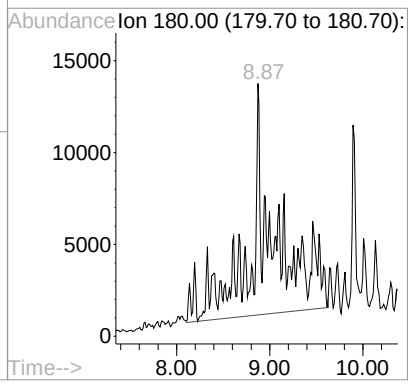
Tgt Ion:166 Resp: 66134

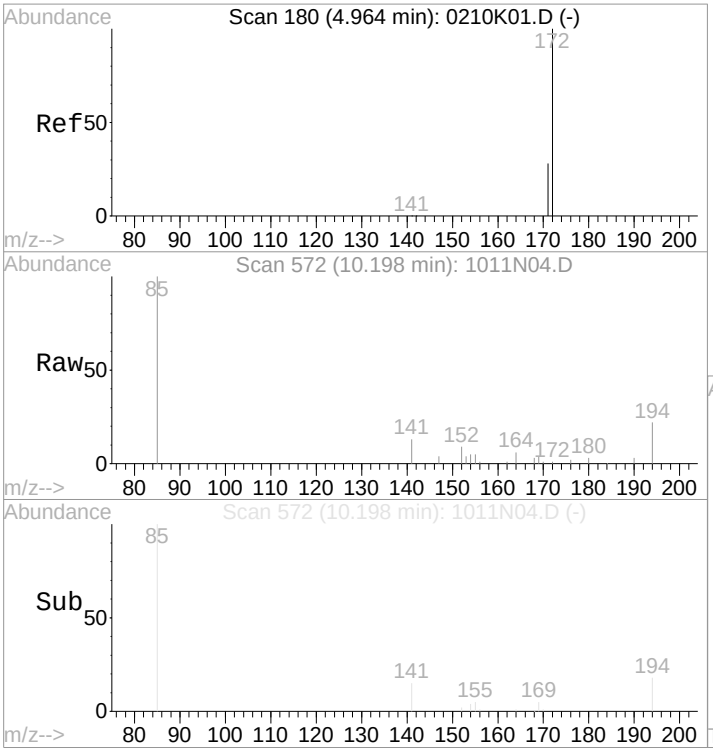




#7
C3-Decalins
Concen: 21.91 ppm m
RT: 8.87 min Scan# 465
Delta R.T. -0.23 min
Lab File: 1011N04.D
Acq: 11 Oct 2012 1:16 pm

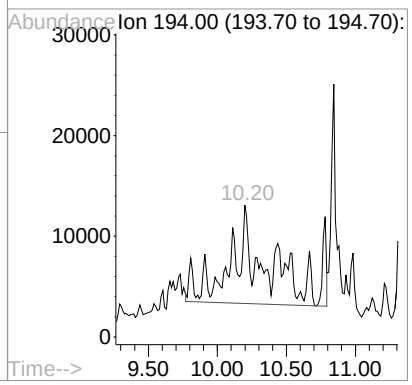
Tgt Ion:180 Resp: 225944

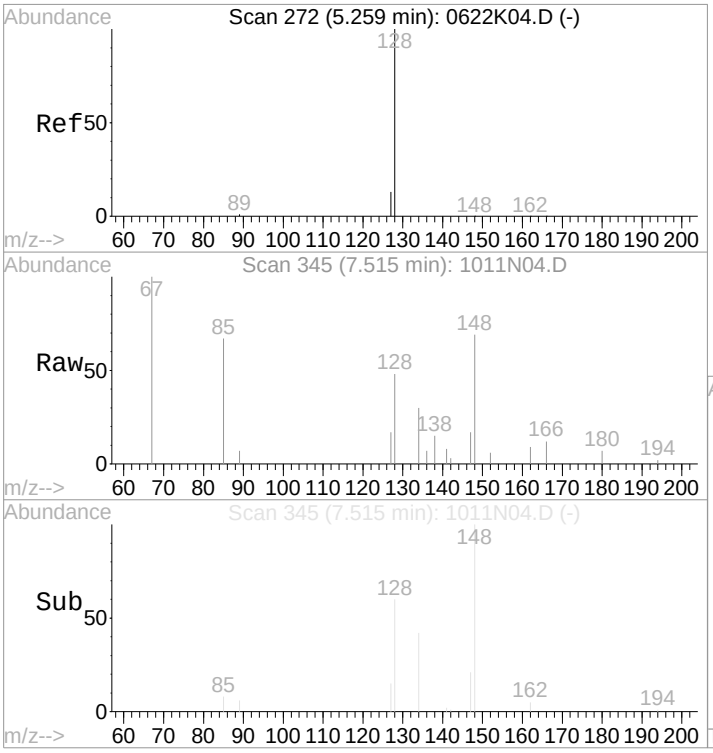




#8
C4-Decalins
Concen: 18.03 ppm m
RT: 10.20 min Scan# 572
Delta R.T. -1.09 min
Lab File: 1011N04.D
Acq: 11 Oct 2012 1:16 pm

Tgt Ion:194 Resp: 185866

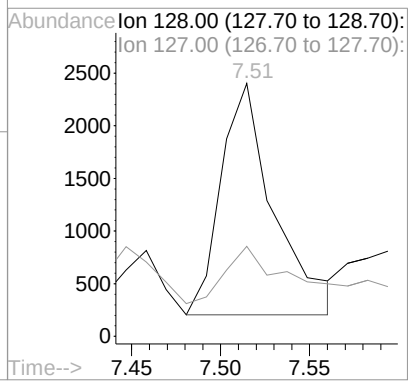


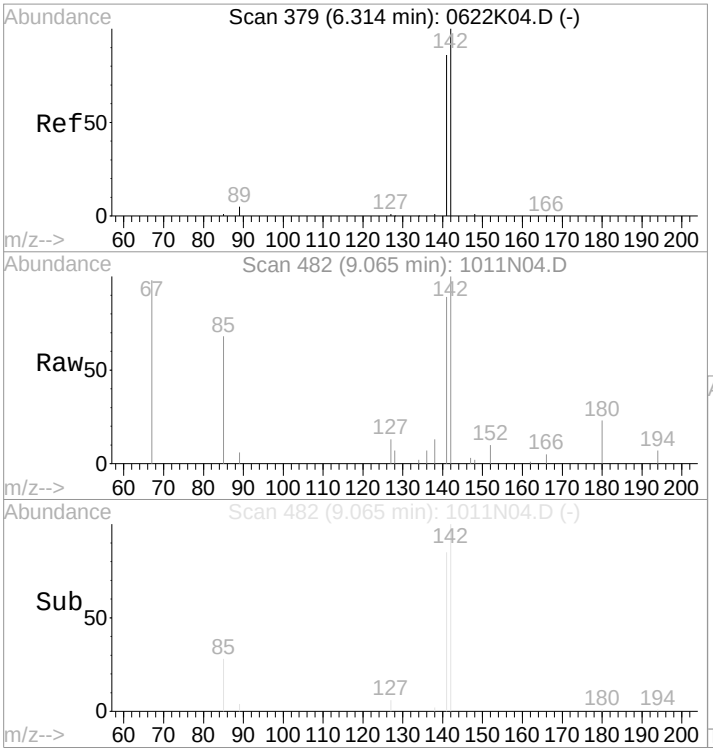


#9
Naphthalene
Concen: 0.08 ppm
RT: 7.51 min Scan# 345
Delta R.T. -0.05 min
Lab File: 1011N04.D
Acq: 11 Oct 2012 1:16 pm

Tgt Ion:128 Resp: 4556

Ion	Ratio	Lower	Upper
128	100		
127	30.8	0.0	32.1

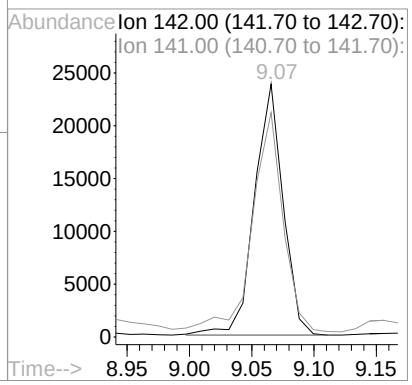


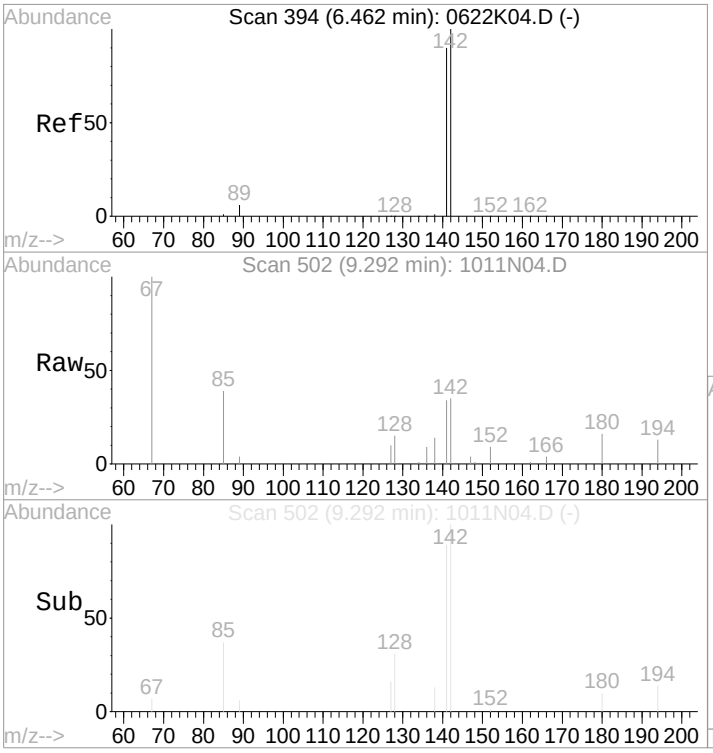


#10
2Methylnaphthalene
Concen: 1.13 ppm
RT: 9.07 min Scan# 482
Delta R.T. -0.05 min
Lab File: 1011N04.D
Acq: 11 Oct 2012 1:16 pm

Tgt Ion:142 Resp: 38010

Ion	Ratio	Lower	Upper
142	100		
141	93.8	61.2	101.2

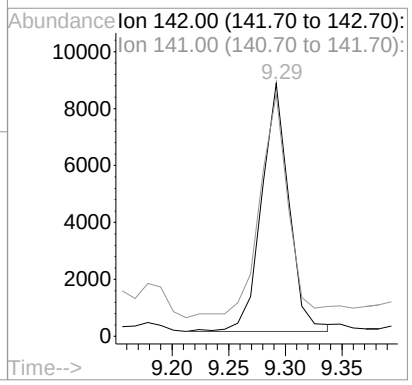


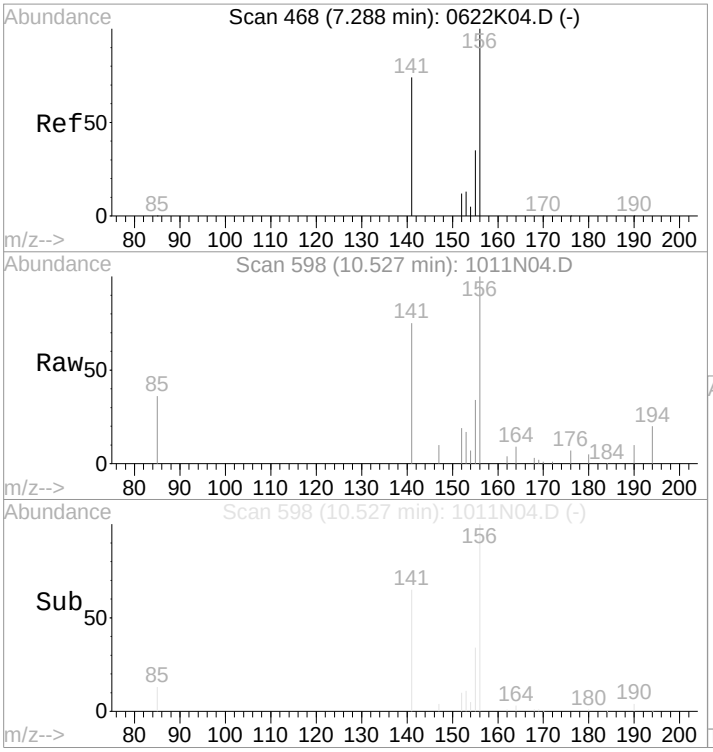


#11
1Methylnaphthalene
Concen: 0.44 ppm
RT: 9.29 min Scan# 502
Delta R.T. -0.05 min
Lab File: 1011N04.D
Acq: 11 Oct 2012 1:16 pm

Tgt Ion:142 Resp: 14706

Ion	Ratio	Lower	Upper
142	100		
141	95.8	64.8	104.8

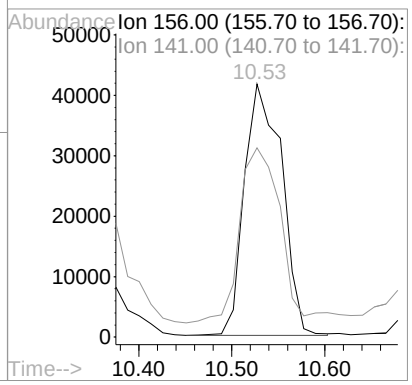


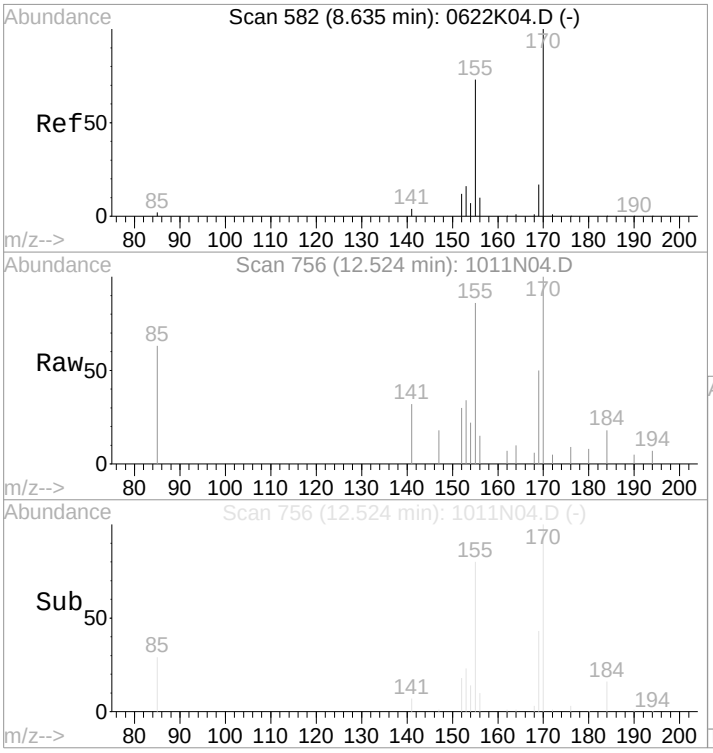


#12
2,6-Dimethylnaphthalene
Concen: 3.95 ppm
RT: 10.53 min Scan# 598
Delta R.T. -0.04 min
Lab File: 1011N04.D
Acq: 11 Oct 2012 1:16 pm

Tgt Ion:156 Resp: 116383

Ion	Ratio	Lower	Upper
156	100		
141	75.4	54.7	94.7

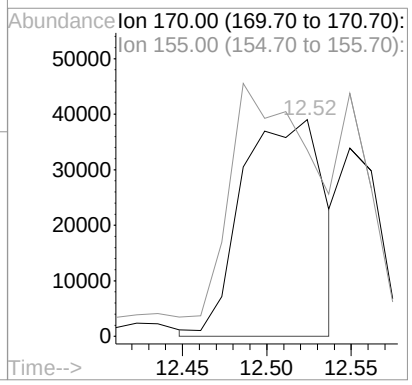


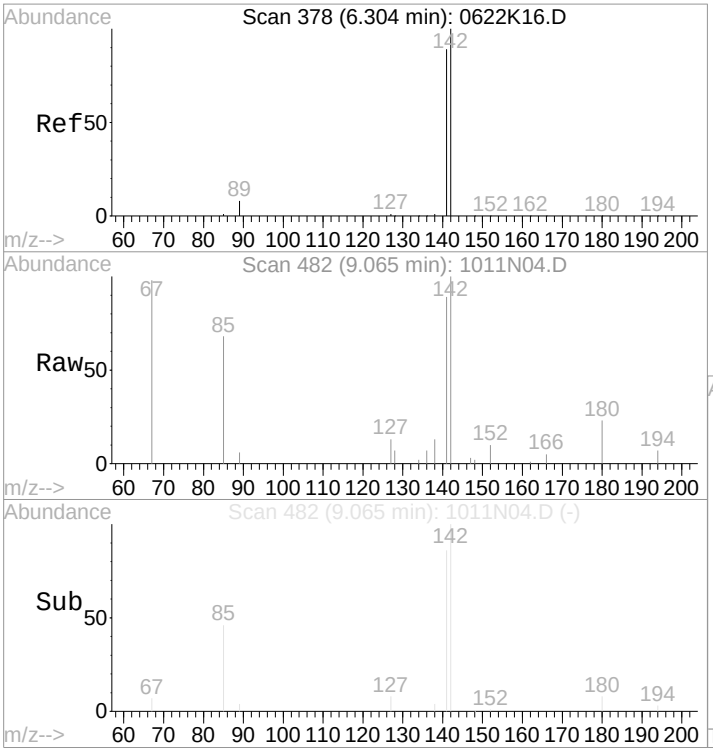


#13
2,3,5-Trimethylnaphthalene
Concen: 4.94 ppm m
RT: 12.52 min Scan# 756
Delta R.T. -0.04 min
Lab File: 1011N04.D
Acq: 11 Oct 2012 1:16 pm

Tgt Ion:170 Resp: 131462

Ion	Ratio	Lower	Upper
170	100		
155	147.0	81.6	121.6#

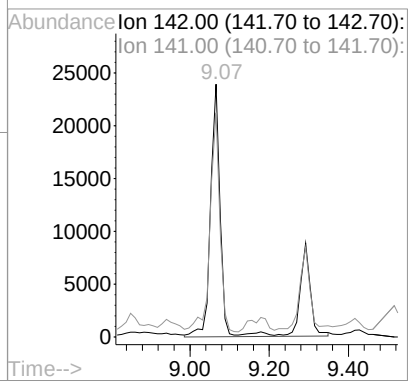


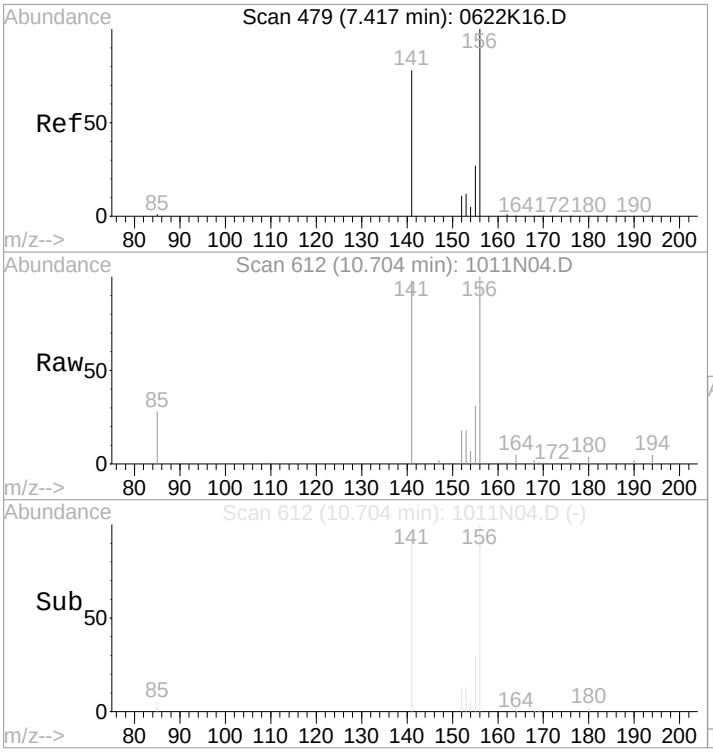


#14
C1-Naphthalenes
Concen: 1.05 ppm m
RT: 9.07 min Scan# 482
Delta R.T. -0.24 min
Lab File: 1011N04.D
Acq: 11 Oct 2012 1:16 pm

Tgt Ion:142 Resp: 56627

Ion	Ratio	Lower	Upper
142	100		
141	63.4	68.1	108.1#

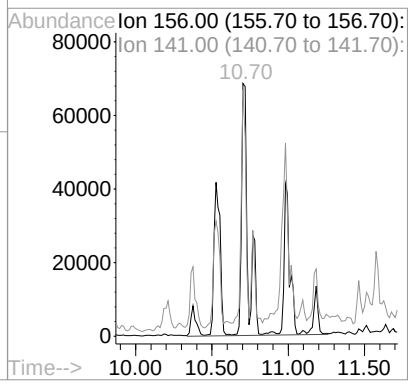


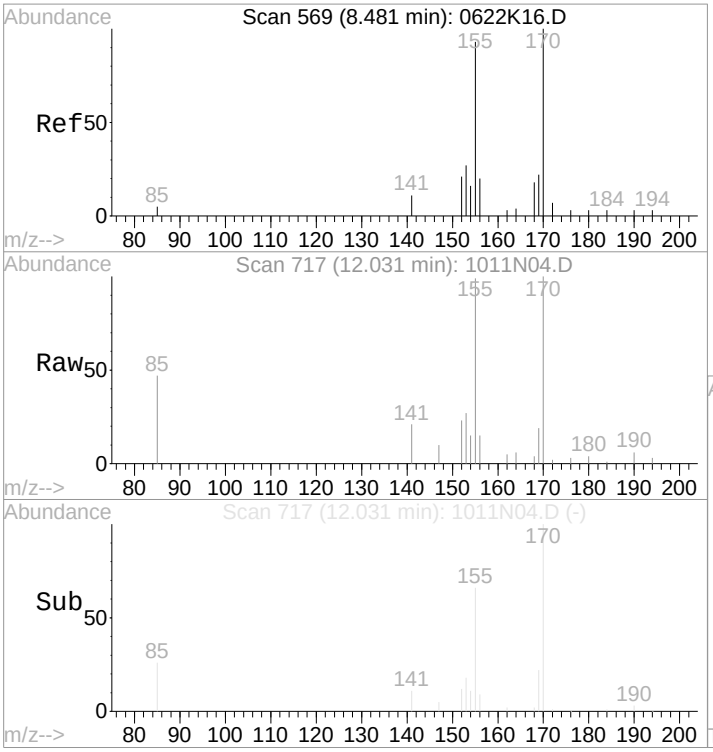


#15
C2-Naphthalenes
Concen: 8.65 ppm m
RT: 10.70 min Scan# 612
Delta R.T. -0.47 min
Lab File: 1011N04.D
Acq: 11 Oct 2012 1:16 pm

Tgt Ion:156 Resp: 467010

Ion	Ratio	Lower	Upper
156	100		
141	26.8	75.6	115.6#

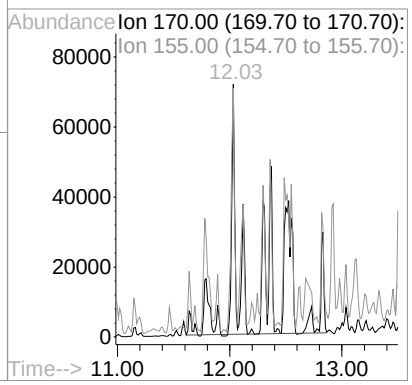


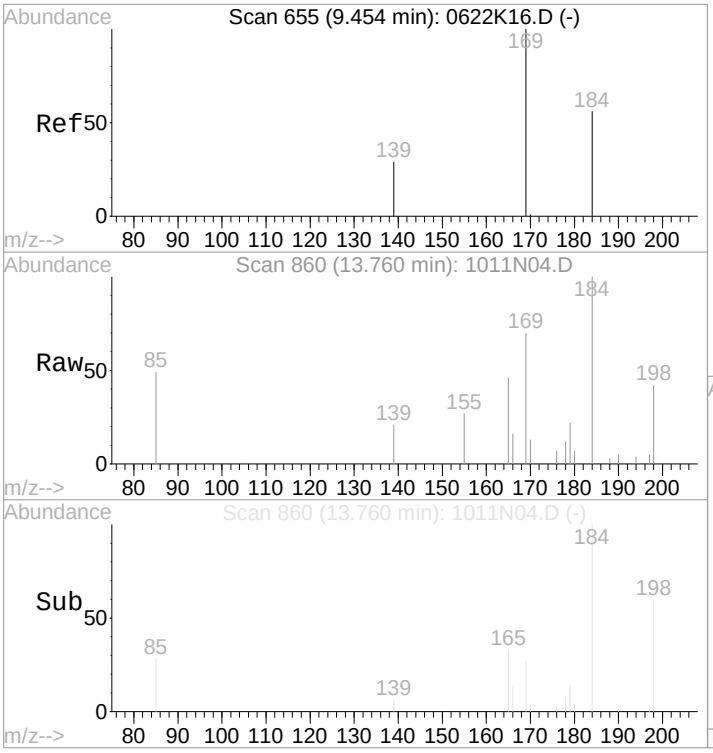


#16
C3-Naphthalenes
Concen: 13.00 ppm m
RT: 12.03 min Scan# 717
Delta R.T. -0.75 min
Lab File: 1011N04.D
Acq: 11 Oct 2012 1:16 pm

Tgt Ion:170 Resp: 701358

Ion	Ratio	Lower	Upper
170	100		
155	27.6	76.6	116.6#

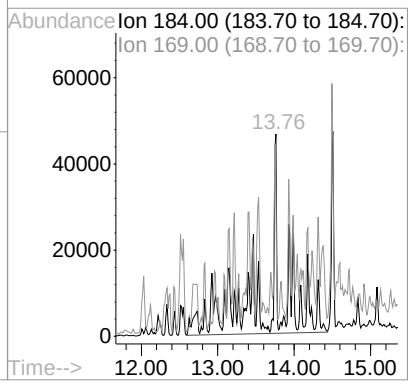


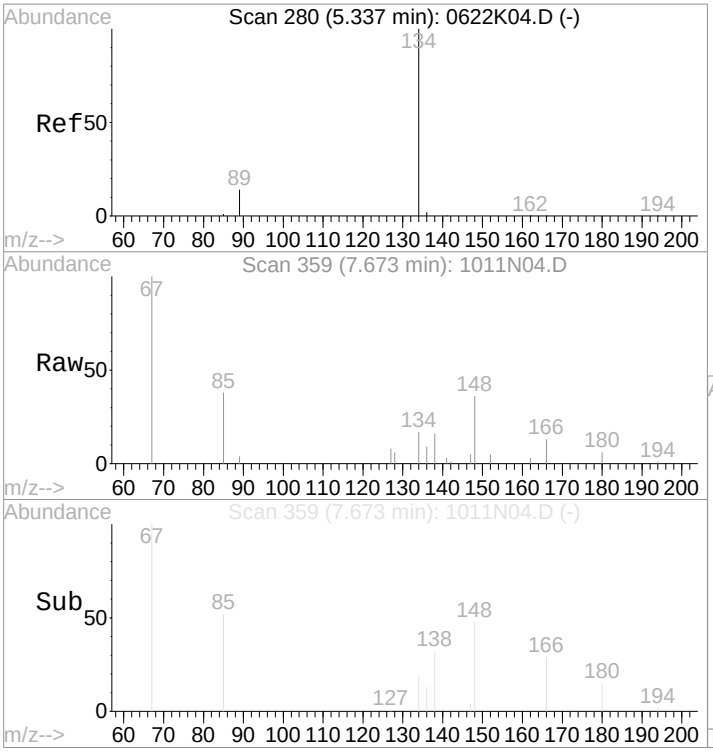


#17
C4-Naphthalenes
Concen: 11.99 ppm m
RT: 13.76 min Scan# 860
Delta R.T. -0.88 min
Lab File: 1011N04.D
Acq: 11 Oct 2012 1:16 pm

Tgt Ion:184 Resp: 647211

Ion	Ratio	Lower	Upper
184	100		
169	16.7	109.4	149.4#

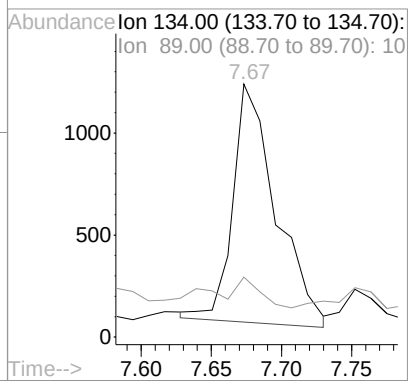


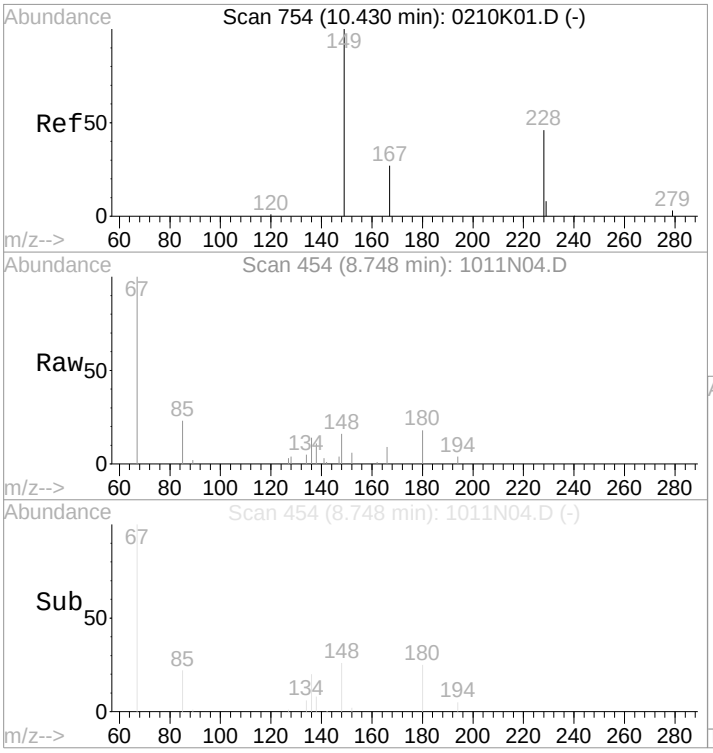


#18
Benzothiophene
Concen: 0.06 ppm m
RT: 7.67 min Scan# 359
Delta R.T. 0.02 min
Lab File: 1011N04.D
Acq: 11 Oct 2012 1:16 pm

Tgt Ion:134 Resp: 2491

Ion	Ratio	Lower	Upper
134	100		
89	13.8	2.3	22.3

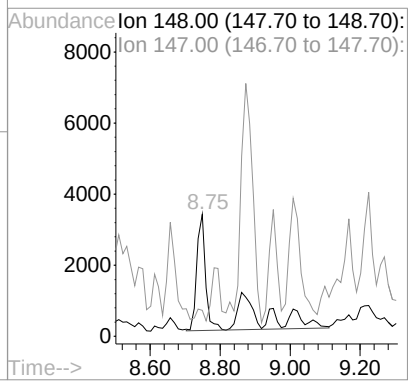


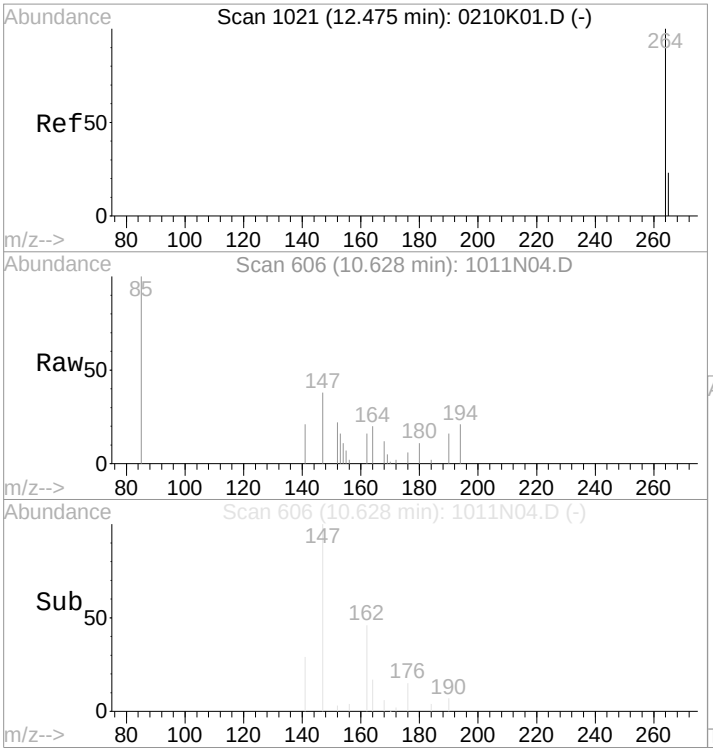


#19
C1-Benzothiophenes
Concen: 0.26 ppm m
RT: 8.75 min Scan# 454
Delta R.T. -0.01 min
Lab File: 1011N04.D
Acq: 11 Oct 2012 1:16 pm

Tgt Ion:148 Resp: 11240

Ion	Ratio	Lower	Upper
148	100		
147	212.8	60.0	100.0#

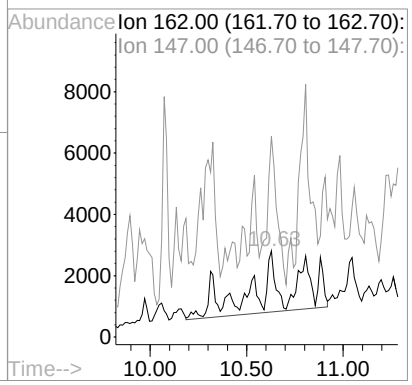


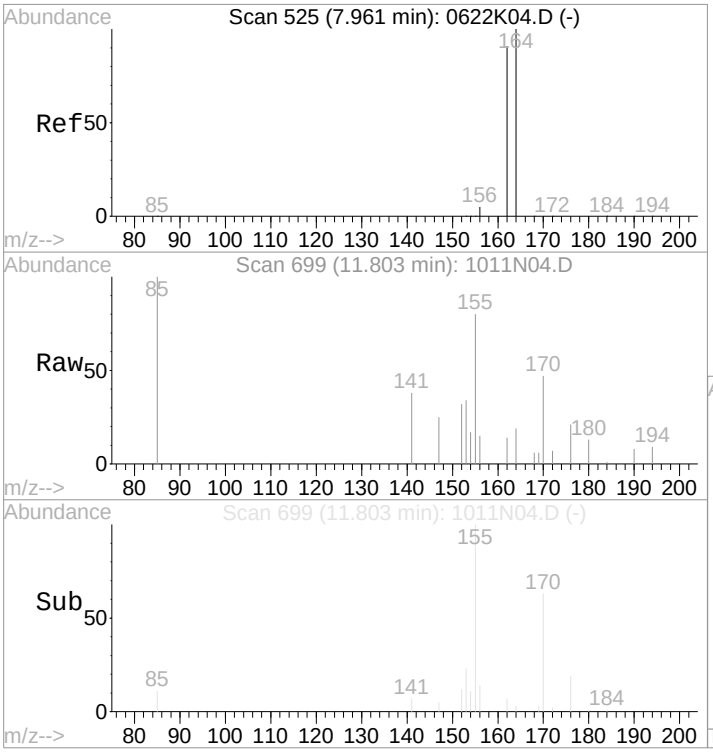


#20
C2-Benzothiophenes
Concen: 0.65 ppm m
RT: 10.63 min Scan# 606
Delta R.T. -0.44 min
Lab File: 1011N04.D
Acq: 11 Oct 2012 1:16 pm

Tgt Ion:162 Resp: 27766

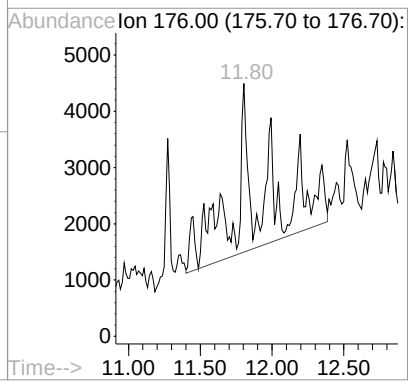
Ion	Ratio	Lower	Upper
162	100		
147	73.0	60.0	100.0

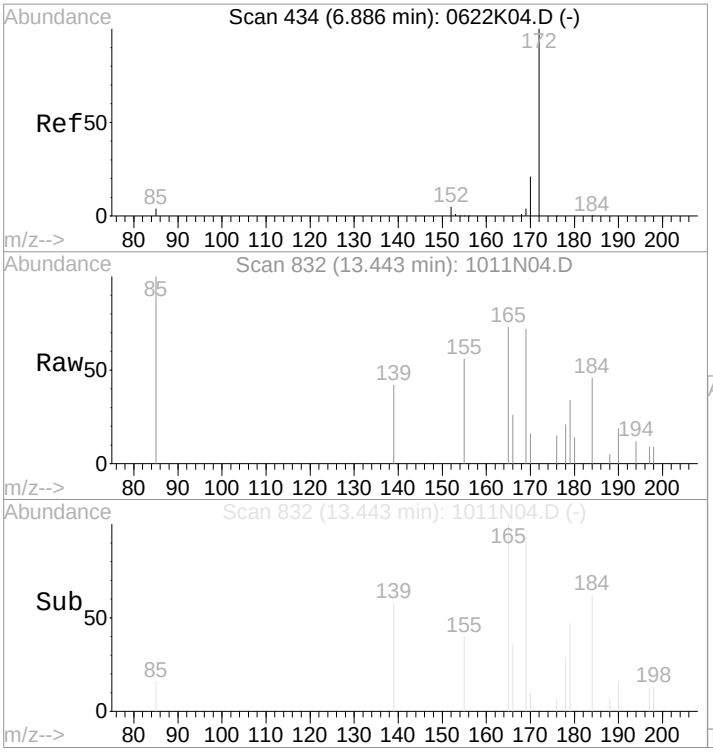




#21
C3-Benzothiophenes
Concen: 1.00 ppm m
RT: 11.80 min Scan# 699
Delta R.T. -0.81 min
Lab File: 1011N04.D
Acq: 11 Oct 2012 1:16 pm

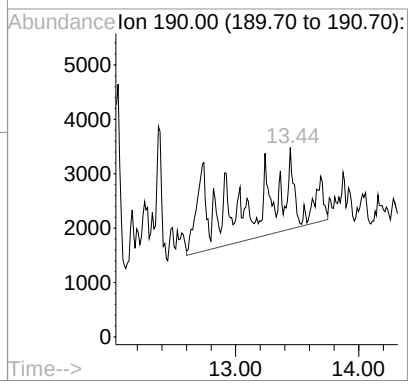
Tgt Ion:176 Resp: 42783

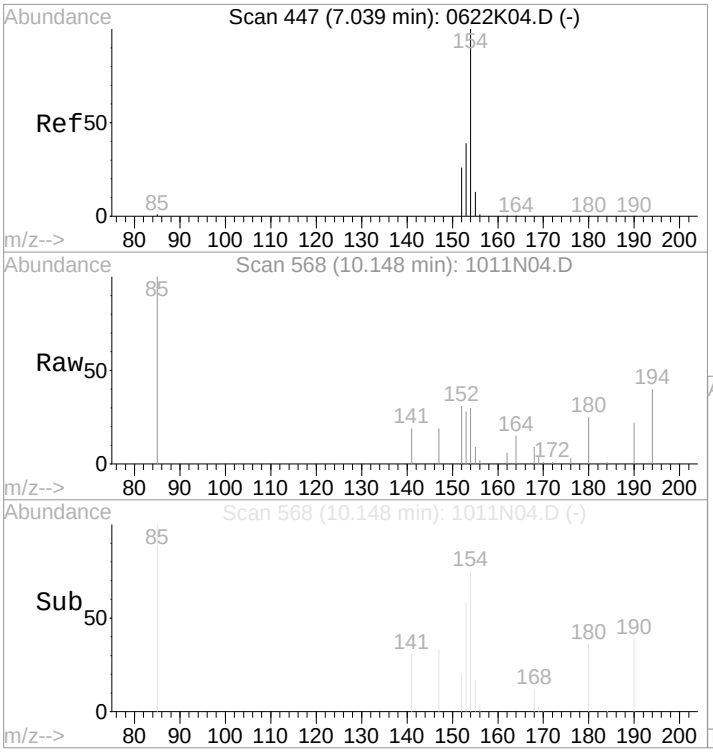




#22
C4-Benzothiophenes
Concen: 0.92 ppm m
RT: 13.44 min Scan# 832
Delta R.T. 0.37 min
Lab File: 1011N04.D
Acq: 11 Oct 2012 1:16 pm

Tgt Ion:190 Resp: 39426

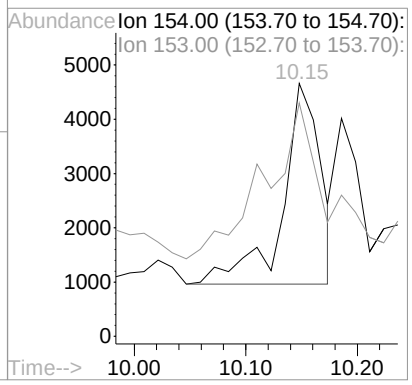


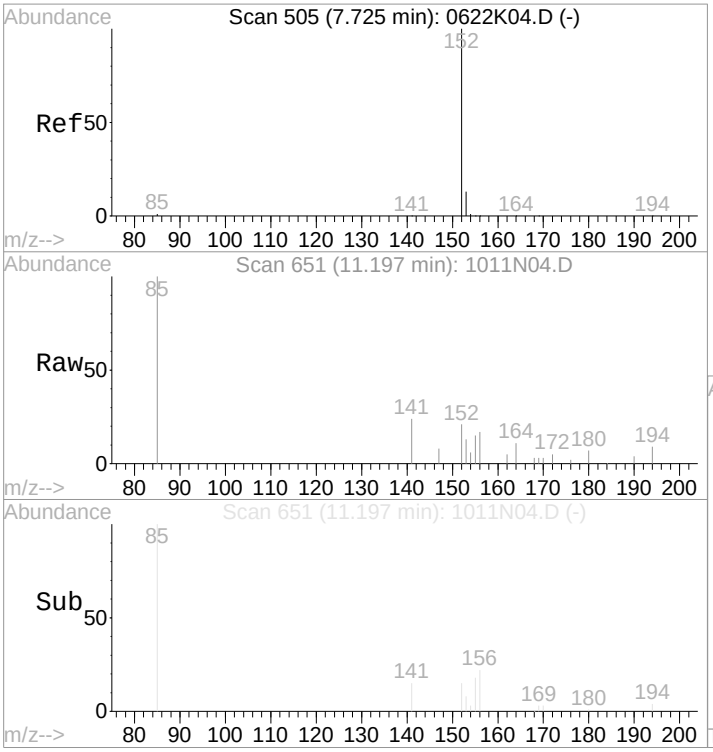


#25
Biphenyl (Diphenyl)
Concen: 0.17 ppm
RT: 10.15 min Scan# 568
Delta R.T. -0.05 min
Lab File: 1011N04.D
Acq: 11 Oct 2012 1:16 pm

Tgt Ion:154 Resp: 8815

Ion	Ratio	Lower	Upper
154	100		
153	125.4	17.5	57.5#

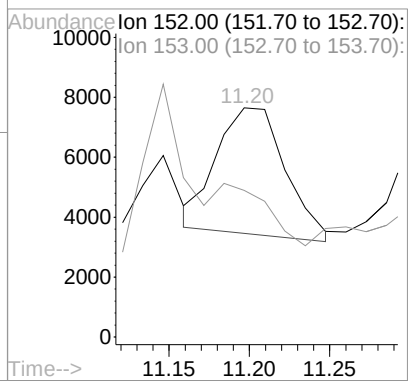


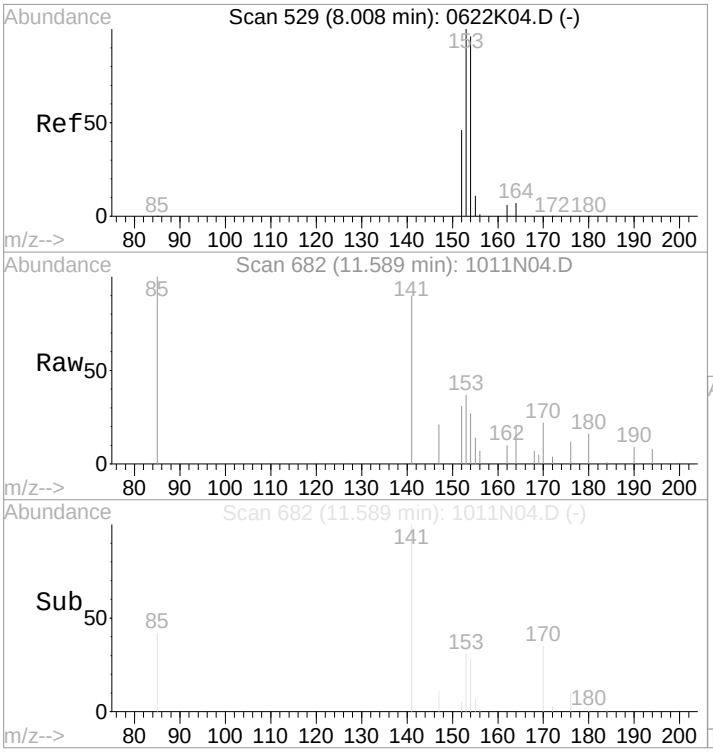


#26
Acenaphthylene
Concen: 0.27 ppm m
RT: 11.20 min Scan# 651
Delta R.T. -0.01 min
Lab File: 1011N04.D
Acq: 11 Oct 2012 1:16 pm

Tgt Ion:152 Resp: 12433

Ion	Ratio	Lower	Upper
152	100		
153	83.3	0.0	33.0#

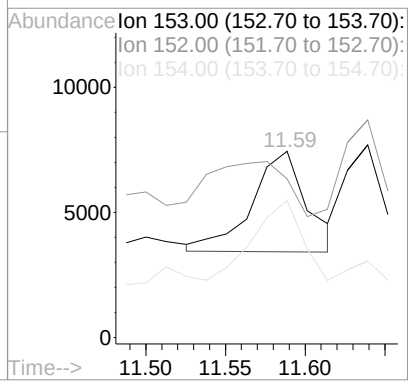


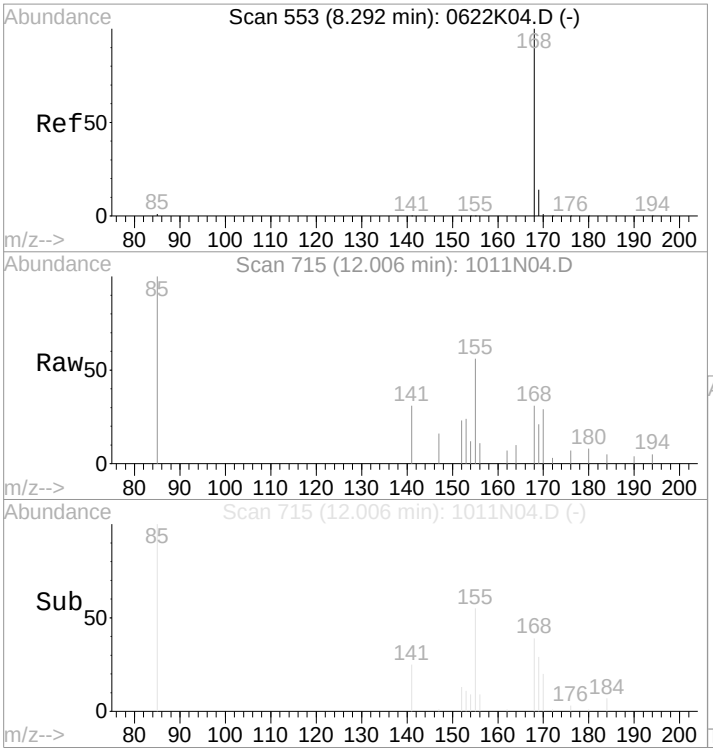


#27
Acenaphthene
Concen: 0.25 ppm
RT: 11.59 min Scan# 682
Delta R.T. -0.05 min
Lab File: 1011N04.D
Acq: 11 Oct 2012 1:16 pm

Tgt Ion:153 Resp: 9611

Ion	Ratio	Lower	Upper
153	100		
152	79.7	26.2	66.2#
154	119.1	77.9	117.9#

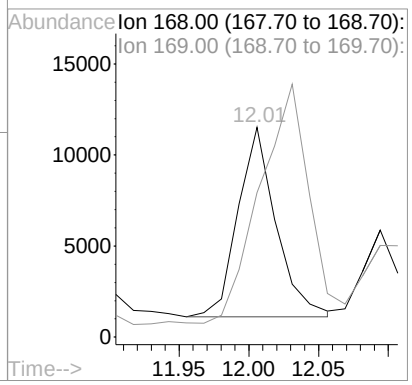


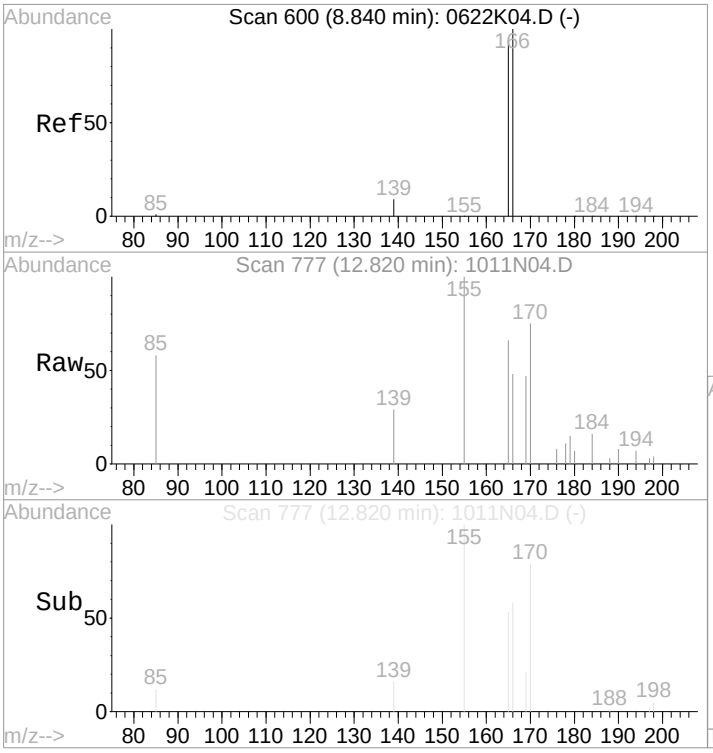


#28
Dibenzofuran
Concen: 0.35 ppm
RT: 12.01 min Scan# 715
Delta R.T. -0.05 min
Lab File: 1011N04.D
Acq: 11 Oct 2012 1:16 pm

Tgt Ion:168 Resp: 19693

Ion	Ratio	Lower	Upper
168	100		
169	168.2	0.0	33.3#

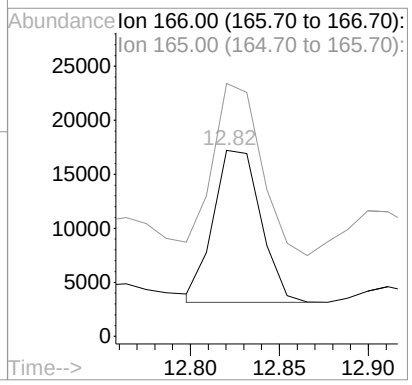


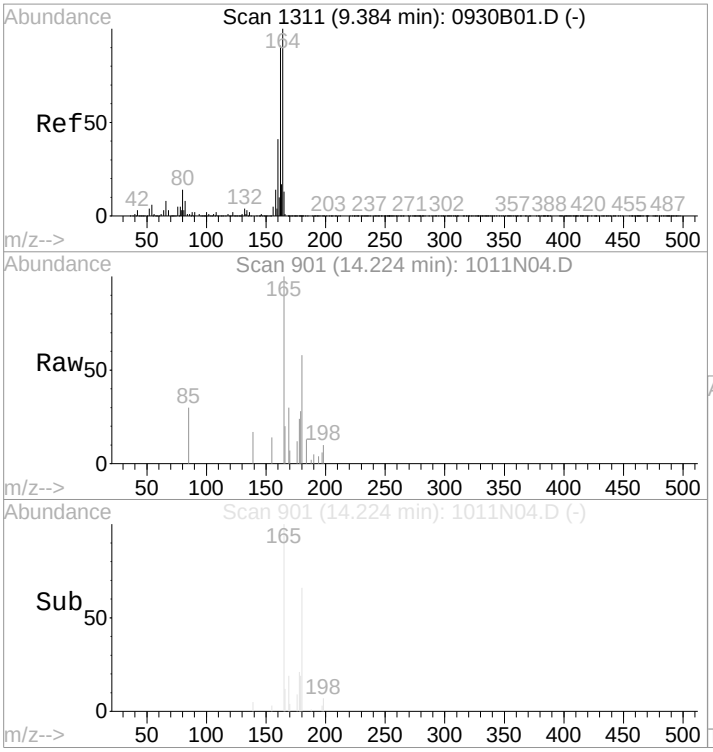


#29
Fluorene
Concen: 0.62 ppm
RT: 12.82 min Scan# 777
Delta R.T. -0.06 min
Lab File: 1011N04.D
Acq: 11 Oct 2012 1:16 pm

Tgt Ion:166 Resp: 26059

Ion	Ratio	Lower	Upper
166	100		
165	114.3	67.8	107.8#

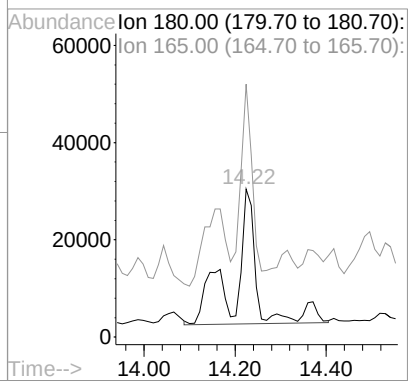


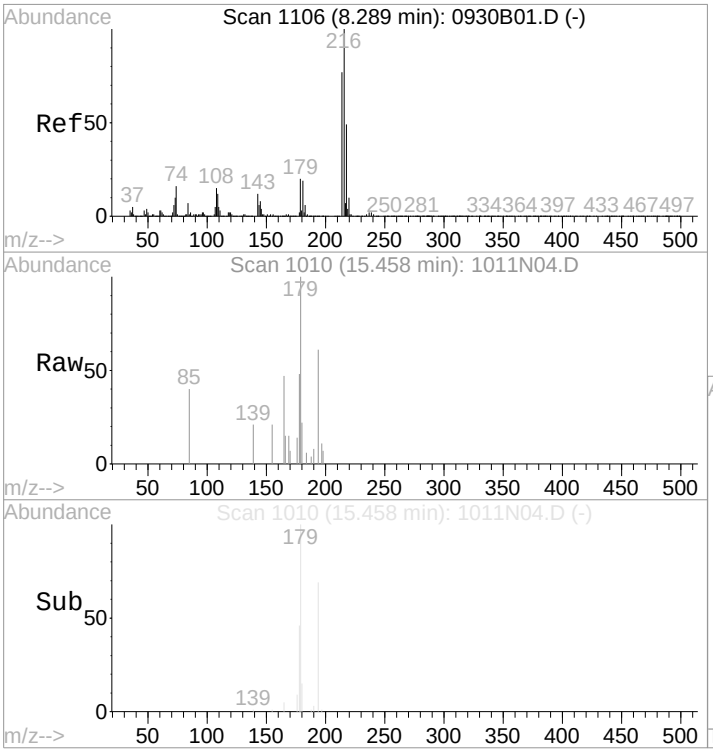


#30
C1-Fluorenes
Concen: 2.34 ppm m
RT: 14.22 min Scan# 901
Delta R.T. -0.25 min
Lab File: 1011N04.D
Acq: 11 Oct 2012 1:16 pm

Tgt Ion:180 Resp: 98285

Ion	Ratio	Lower	Upper
180	100		
165	8.6	113.4	153.4#

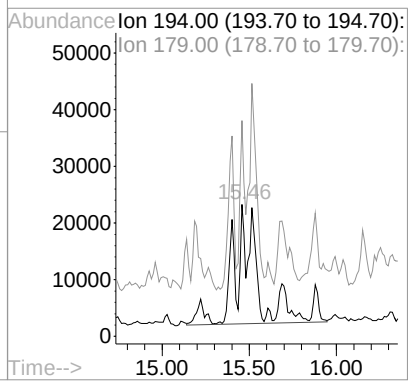


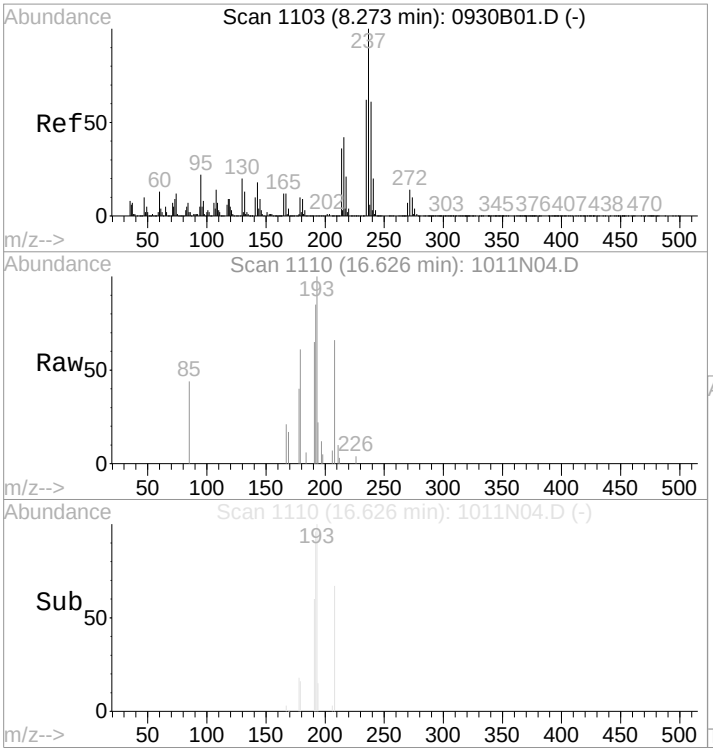


#31
C2-Fluorenes
Concen: 4.33 ppm m
RT: 15.46 min Scan# 1010
Delta R.T. -0.50 min
Lab File: 1011N04.D
Acq: 11 Oct 2012 1:16 pm

Tgt Ion:194 Resp: 181689

Ion	Ratio	Lower	Upper
194	100		
179	44.8	92.9	132.9#

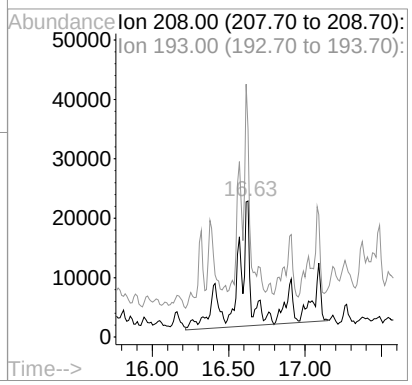


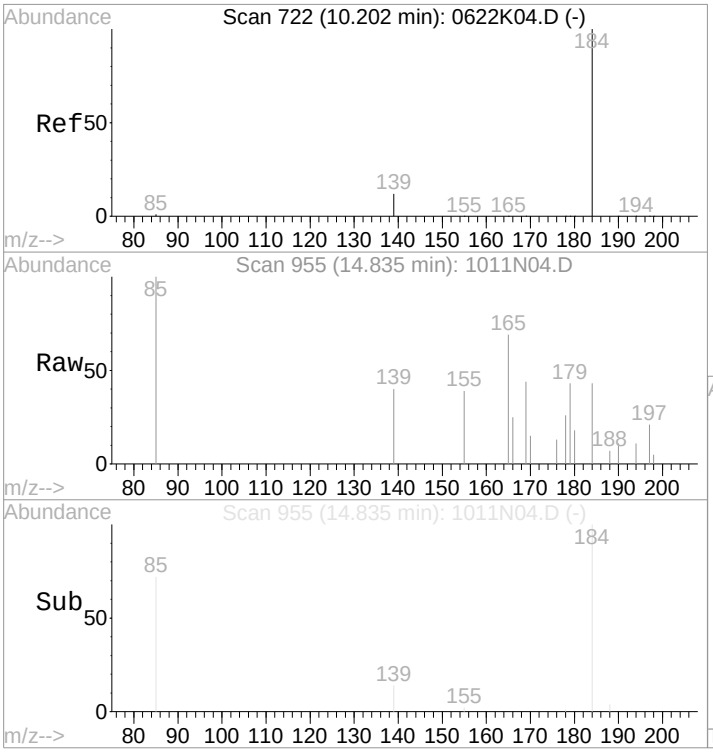


#32
C3-Fluorenes
Concen: 4.63 ppm m
RT: 16.63 min Scan# 1110
Delta R.T. -1.04 min
Lab File: 1011N04.D
Acq: 11 Oct 2012 1:16 pm

Tgt Ion:208 Resp: 194188

Ion	Ratio	Lower	Upper
208	100		
193	30.3	284.9	324.9#

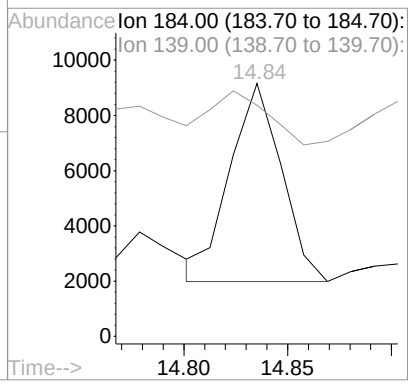


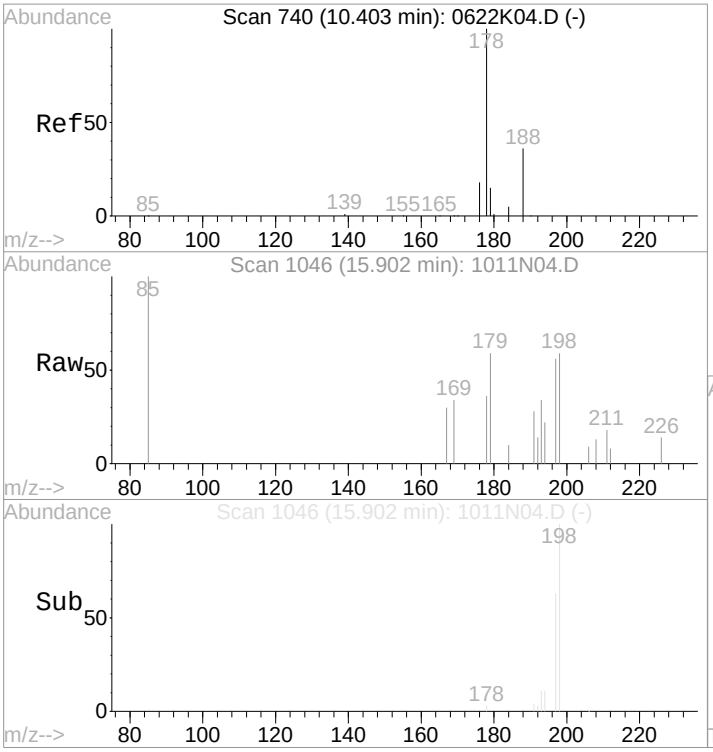


#38
Dibenzothiophene
Concen: 0.24 ppm
RT: 14.84 min Scan# 955
Delta R.T. -0.05 min
Lab File: 1011N04.D
Acq: 11 Oct 2012 1:16 pm

Tgt Ion:184 Resp: 12394

Ion	Ratio	Lower	Upper
184	100		
139	29.7	0.0	37.7

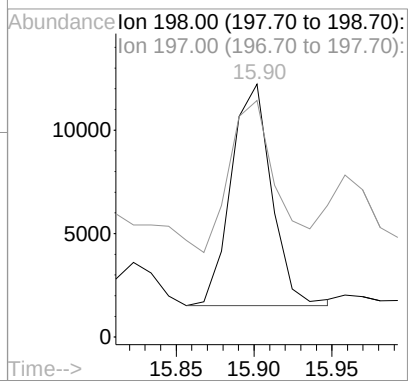


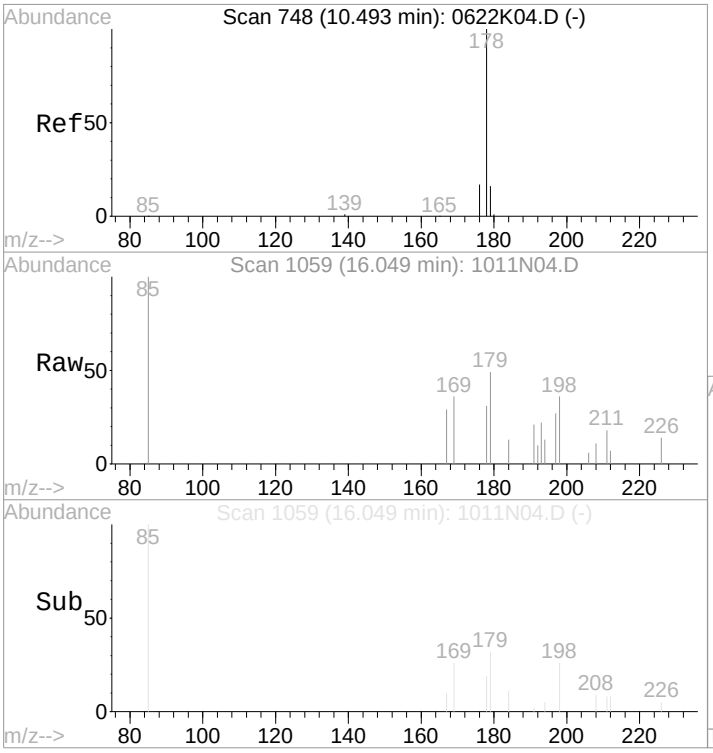


#39
4-Methyldibenzothiophene
Concen: 0.38 ppm
RT: 15.90 min Scan# 1046
Delta R.T. -0.11 min
Lab File: 1011N04.D
Acq: 11 Oct 2012 1:16 pm

Tgt Ion:198 Resp: 19338

Ion	Ratio	Lower	Upper
198	100		
197	77.7	45.4	85.4

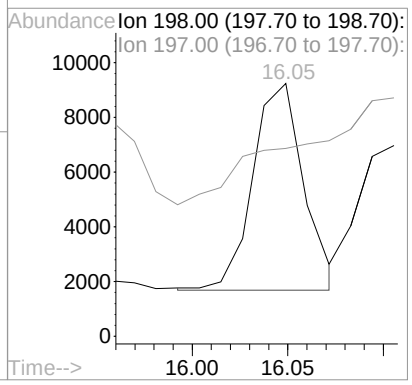


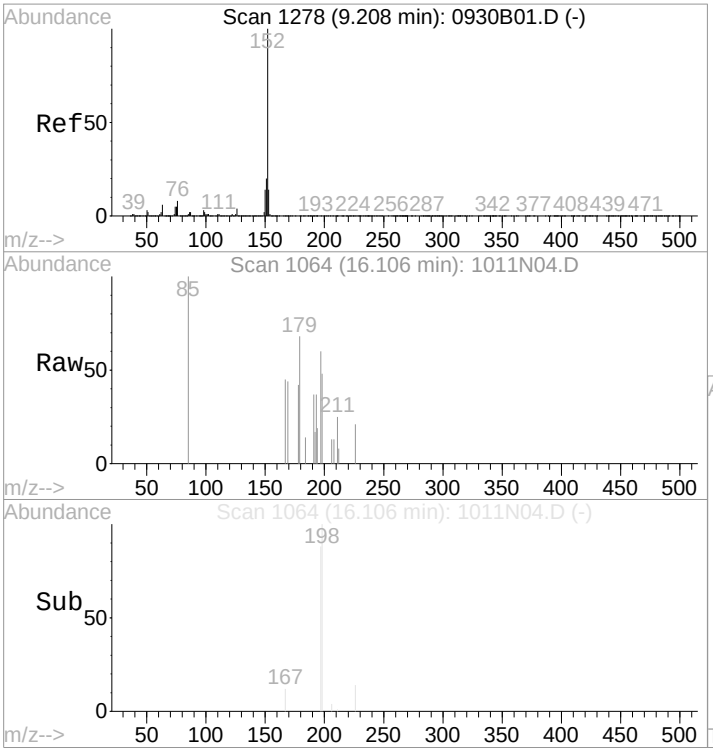


#40
2/3-Methyldibenzothiophene
Concen: 0.28 ppm m
RT: 16.05 min Scan# 1059
Delta R.T. -0.19 min
Lab File: 1011N04.D
Acq: 11 Oct 2012 1:16 pm

Tgt Ion:198 Resp: 13975

Ion	Ratio	Lower	Upper
198	100		
197	75.4	40.9	80.9

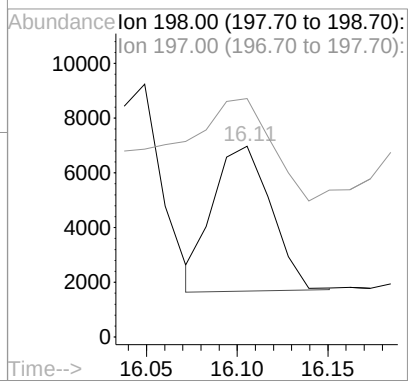


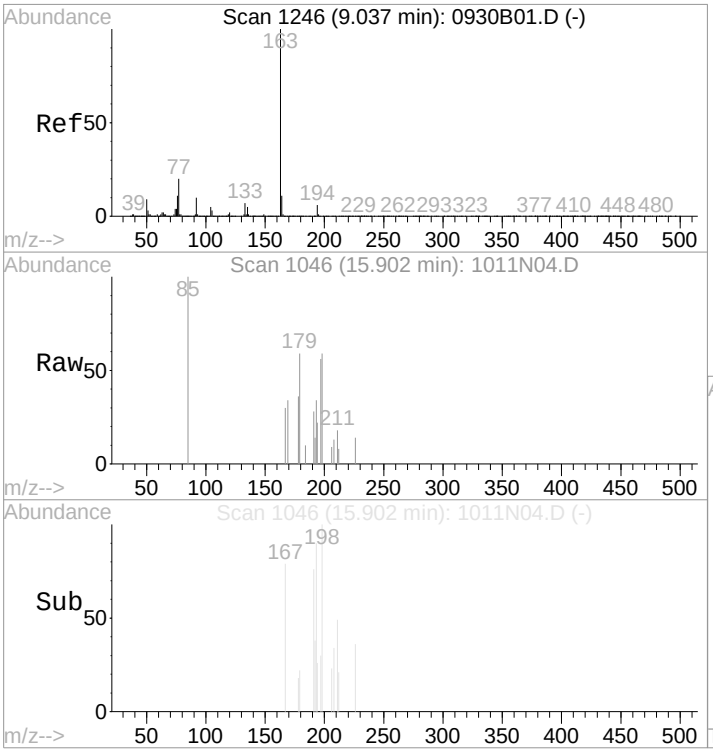


#41
1-Methyldibenzothiophene
Concen: 0.23 ppm m
RT: 16.11 min Scan# 1064
Delta R.T. -0.37 min
Lab File: 1011N04.D
Acq: 11 Oct 2012 1:16 pm

Tgt Ion:198 Resp: 11815

Ion	Ratio	Lower	Upper
198	100		
197	82.1	43.6	83.6

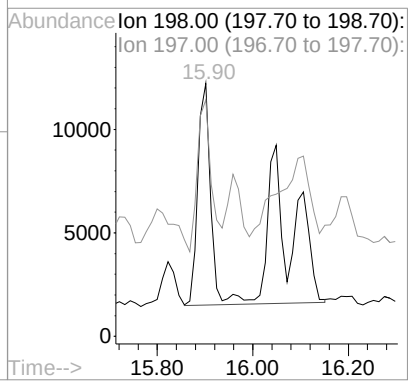


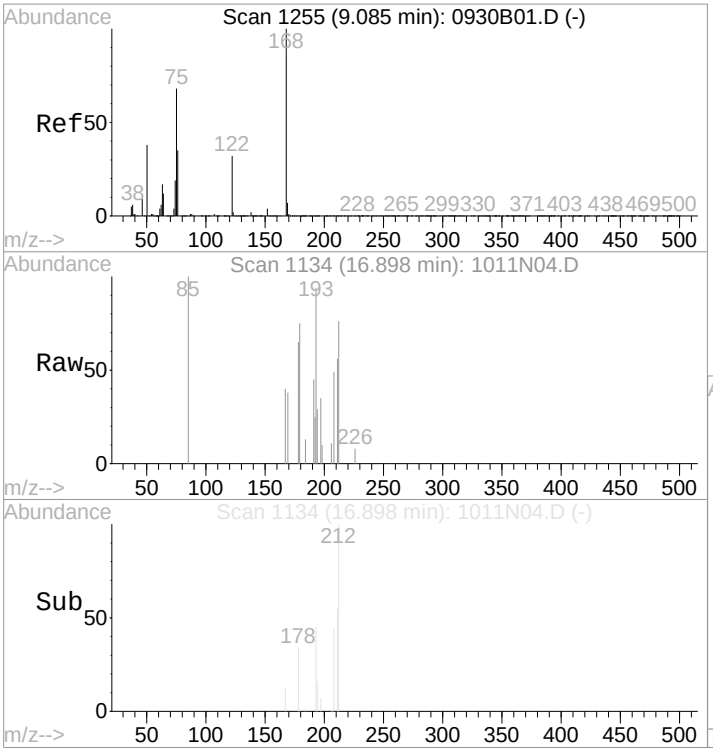


#42
C1-Dibenzothiophenes
Concen: 0.92 ppm m
RT: 15.90 min Scan# 1046
Delta R.T. -0.11 min
Lab File: 1011N04.D
Acq: 11 Oct 2012 1:16 pm

Tgt Ion:198 Resp: 46891

Ion	Ratio	Lower	Upper
198	100		
197	32.0	45.4	85.4#

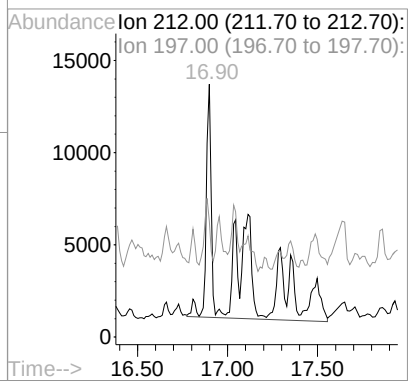


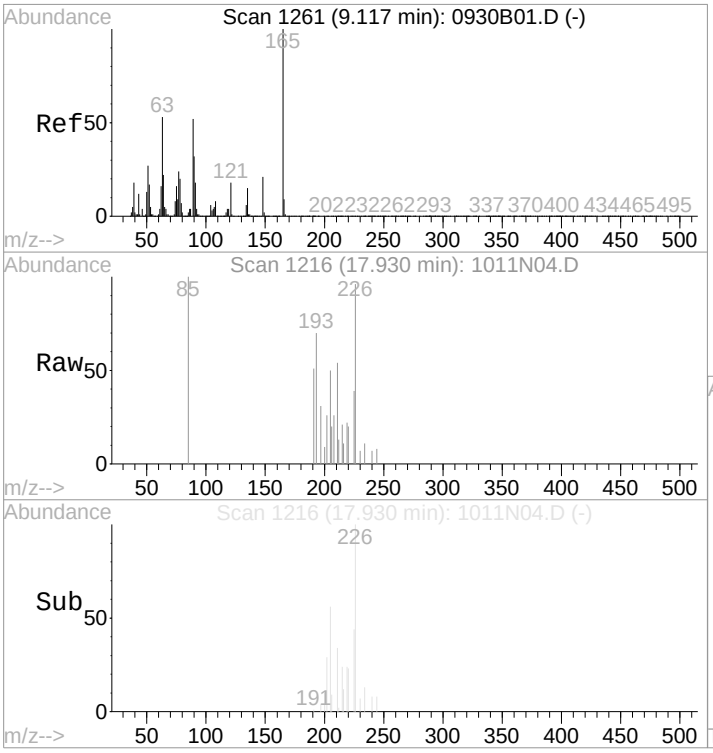


#43
C2-Dibenzothiophenes
Concen: 1.64 ppm m
RT: 16.90 min Scan# 1134
Delta R.T. -0.43 min
Lab File: 1011N04.D
Acq: 11 Oct 2012 1:16 pm

Tgt Ion:212 Resp: 83103

Ion	Ratio	Lower	Upper
212	100		
197	8.8	2.8	42.8

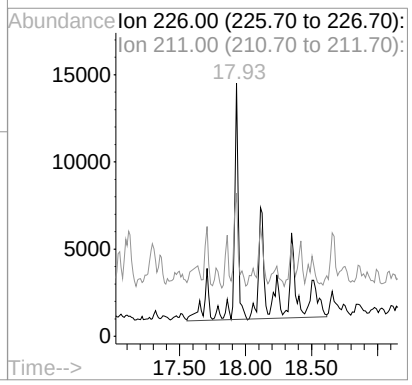


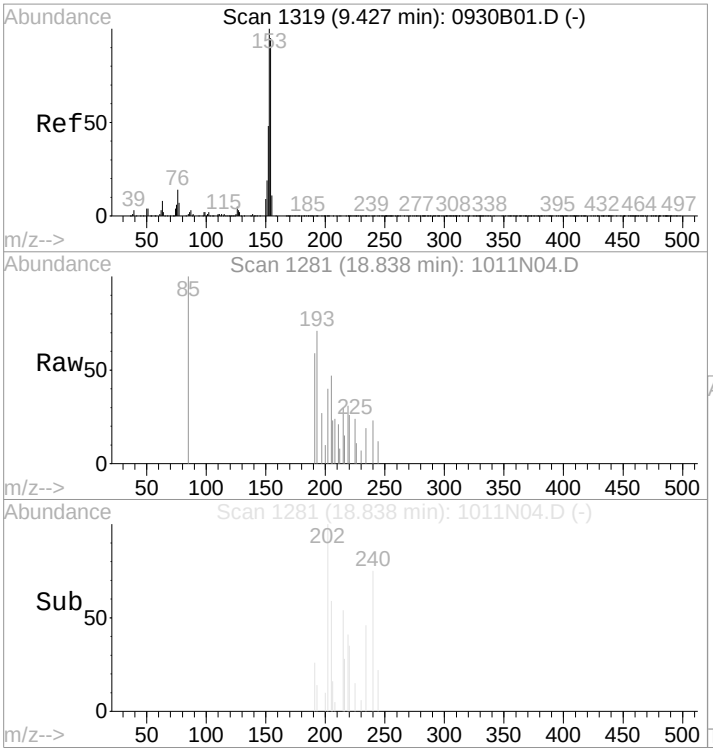


#44
C3-Dibenzothiophenes
Concen: 1.69 ppm m
RT: 17.93 min Scan# 1216
Delta R.T. -0.32 min
Lab File: 1011N04.D
Acq: 11 Oct 2012 1:16 pm

Tgt Ion:226 Resp: 85688

Ion	Ratio	Lower	Upper
226	100		
211	13.7	44.5	84.5#

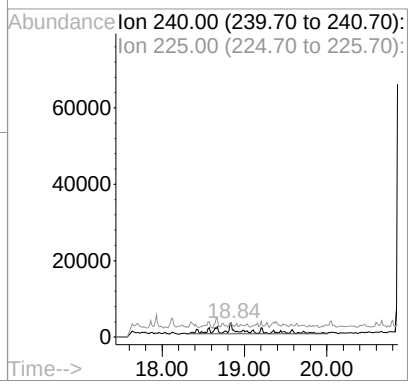


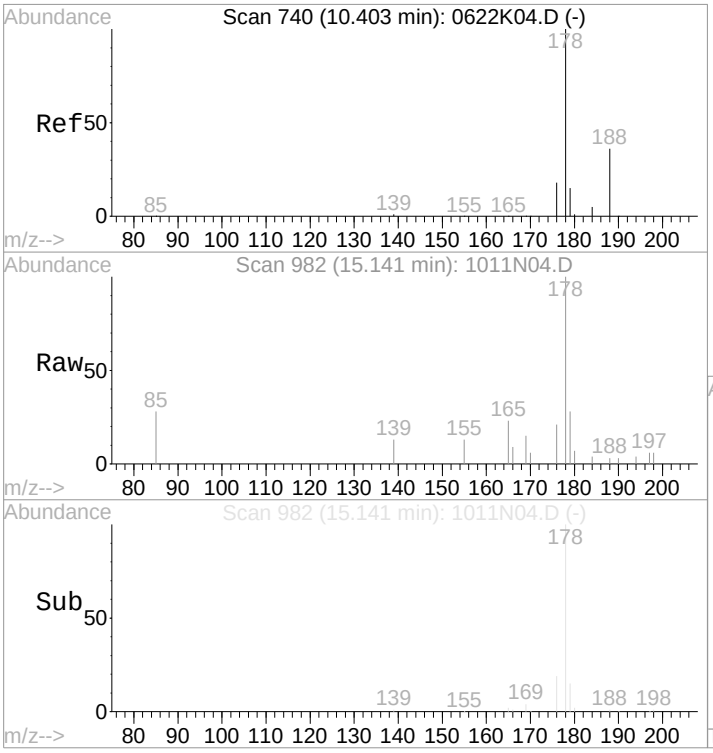


#45
C4-Dibenzothiophenes
Concen: 1.02 ppm m
RT: 18.84 min Scan# 1281
Delta R.T. -1.30 min
Lab File: 1011N04.D
Acq: 11 Oct 2012 1:16 pm

Tgt Ion:240 Resp: 51919

Ion	Ratio	Lower	Upper
240	100		
225	3.4	30.0	70.0#

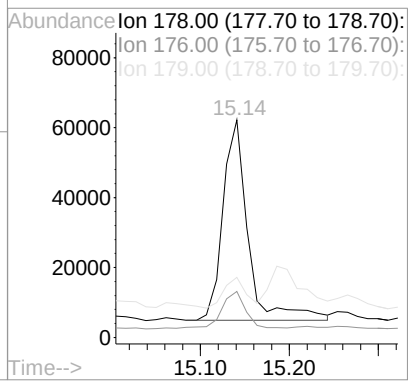


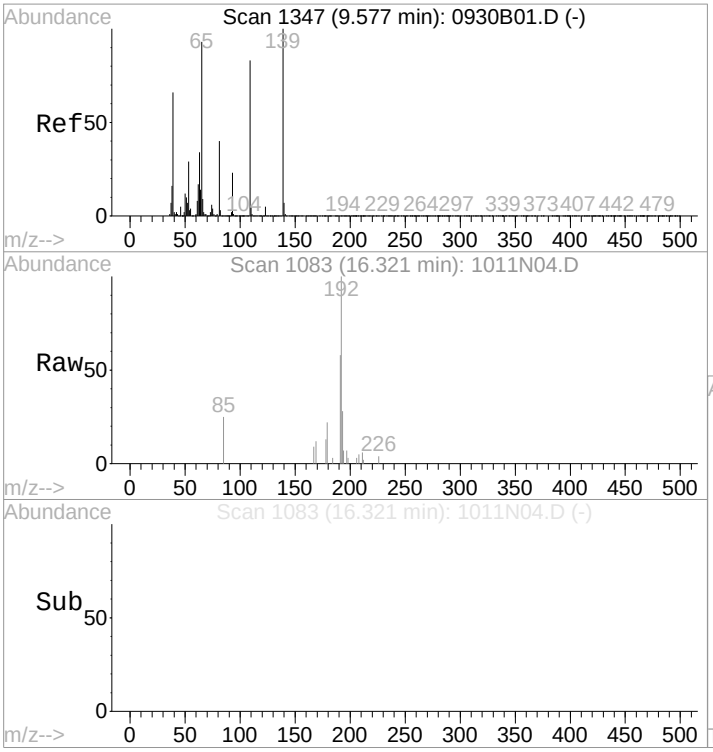


#47
Phenanthrene
Concen: 1.75 ppm
RT: 15.14 min Scan# 982
Delta R.T. -0.05 min
Lab File: 1011N04.D
Acq: 11 Oct 2012 1:16 pm

Tgt Ion:178 Resp: 112699

Ion	Ratio	Lower	Upper
178	100		
176	19.0	0.0	38.3
179	13.3	0.0	35.0

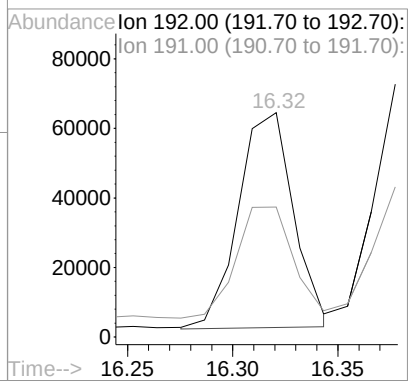


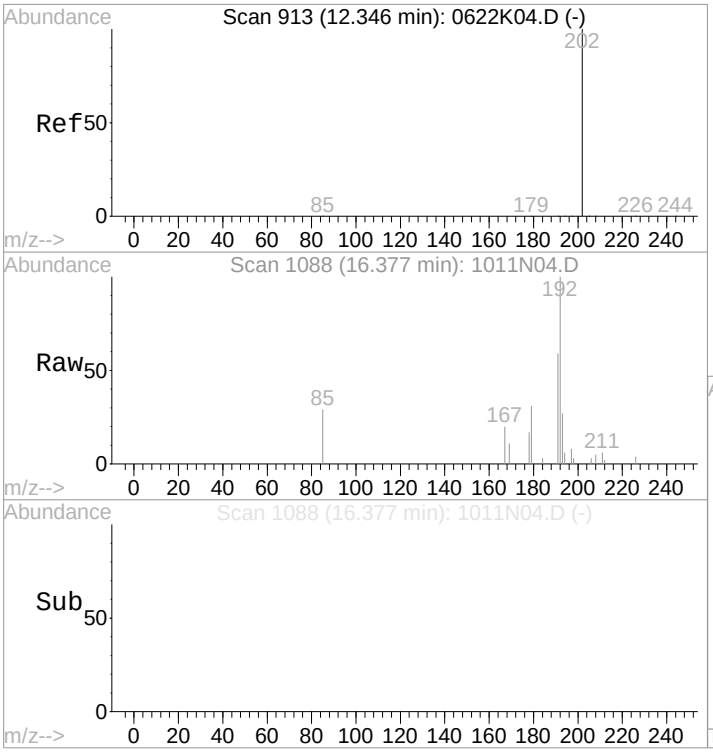


#49
3-Methylphenanthrene
Concen: 1.76 ppm m
RT: 16.32 min Scan# 1083
Delta R.T. -0.15 min
Lab File: 1011N04.D
Acq: 11 Oct 2012 1:16 pm

Tgt Ion:192 Resp: 113043

Ion	Ratio	Lower	Upper
192	100		
191	59.3	34.6	74.6

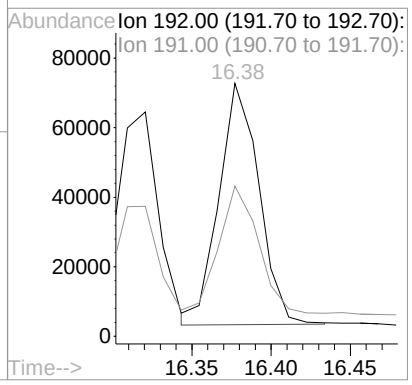


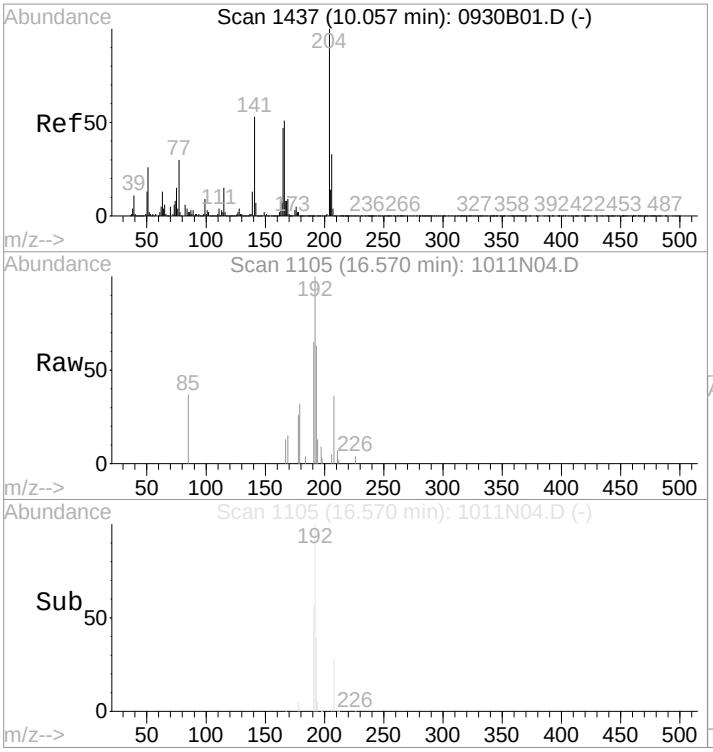


#50
2/4-Methylphenanthrene
Concen: 1.90 ppm m
RT: 16.38 min Scan# 1088
Delta R.T. -0.15 min
Lab File: 1011N04.D
Acq: 11 Oct 2012 1:16 pm

Tgt Ion:192 Resp: 122092

Ion	Ratio	Lower	Upper
192	100		
191	32.1	39.1	79.1#

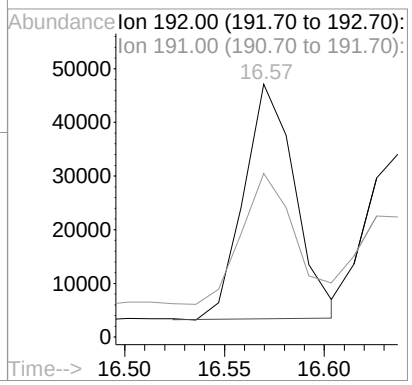


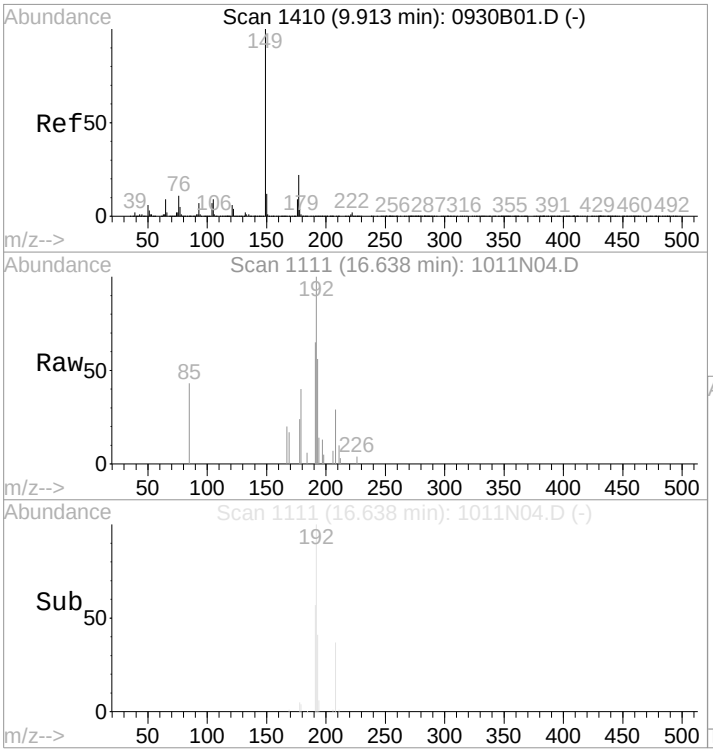


#52
9-Methylphenanthrene
Concen: 1.21 ppm m
RT: 16.57 min Scan# 1105
Delta R.T. -0.17 min
Lab File: 1011N04.D
Acq: 11 Oct 2012 1:16 pm

Tgt Ion:192 Resp: 78156

Ion	Ratio	Lower	Upper
192	100		
191	46.5	77.0	117.0#

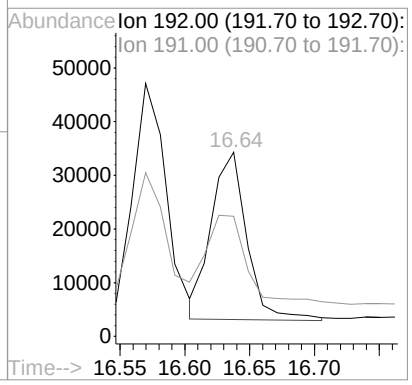


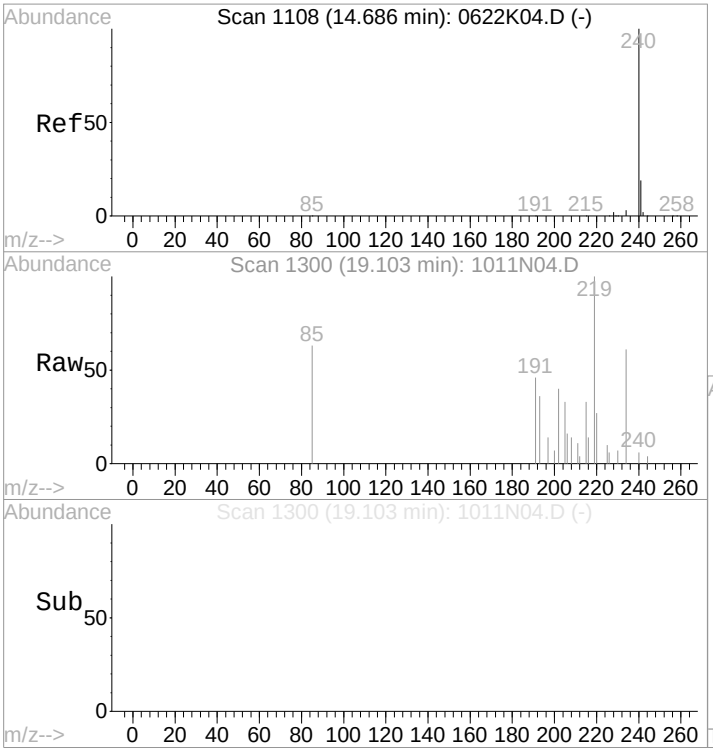


#53
1-Methylphenanthrene
Concen: 0.93 ppm m
RT: 16.64 min Scan# 1111
Delta R.T. -0.16 min
Lab File: 1011N04.D
Acq: 11 Oct 2012 1:16 pm

Tgt Ion:192 Resp: 59550

Ion	Ratio	Lower	Upper
192	100		
191	3.1	36.4	76.4#

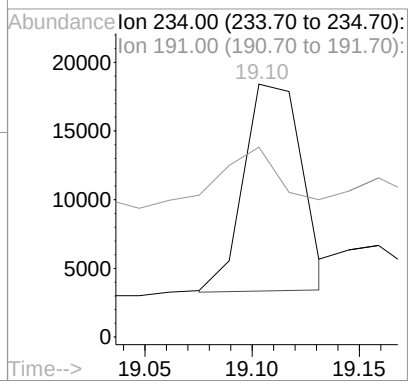


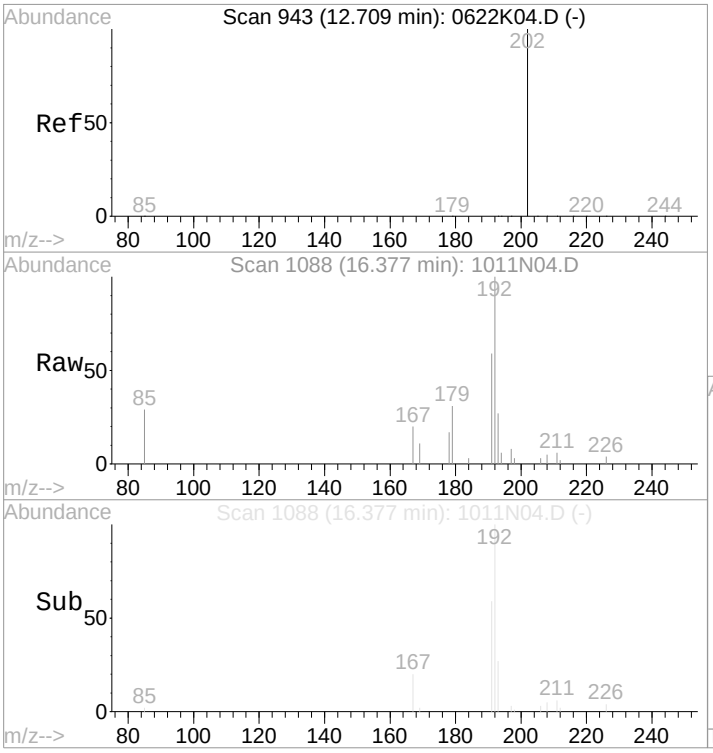


#54
Retene
Concen: 0.44 ppm m
RT: 19.10 min Scan# 1300
Delta R.T. -0.50 min
Lab File: 1011N04.D
Acq: 11 Oct 2012 1:16 pm

Tgt Ion:234 Resp: 28548

Ion	Ratio	Lower	Upper
234	100		
191	20.1	0.0	20.4

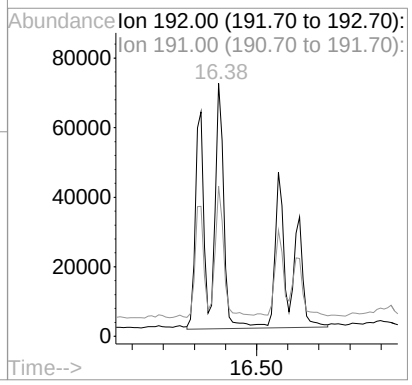


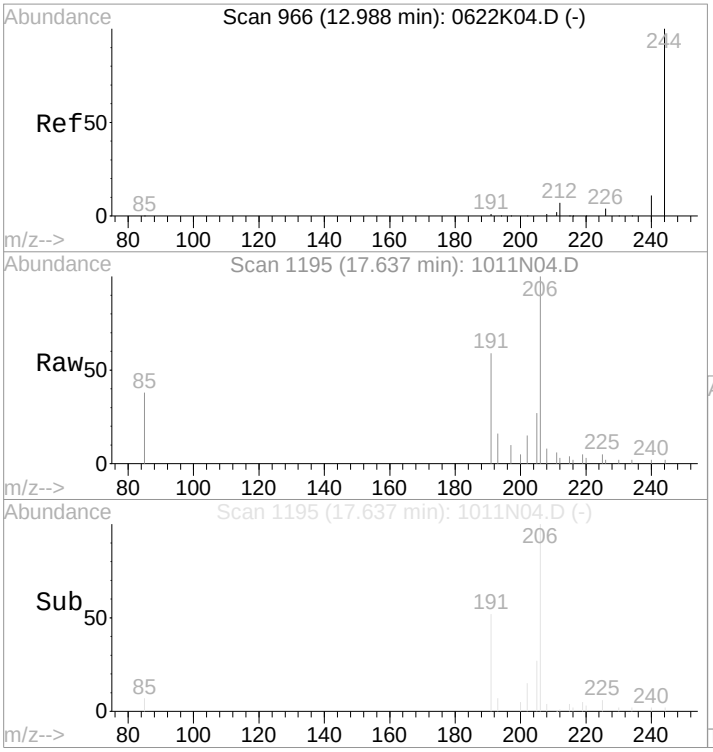


#55
C1-Phenanthrene/Anthracene
Concen: 6.16 ppm m
RT: 16.38 min Scan# 1088
Delta R.T. -0.15 min
Lab File: 1011N04.D
Acq: 11 Oct 2012 1:16 pm

Tgt Ion:192 Resp: 396663

Ion	Ratio	Lower	Upper
192	100		
191	17.9	39.1	79.1#

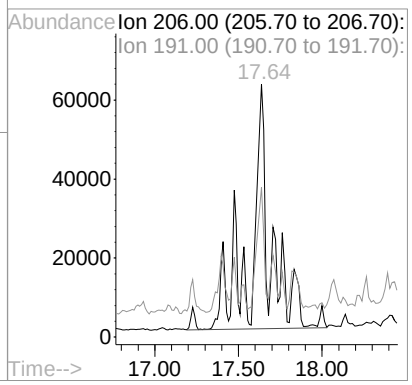


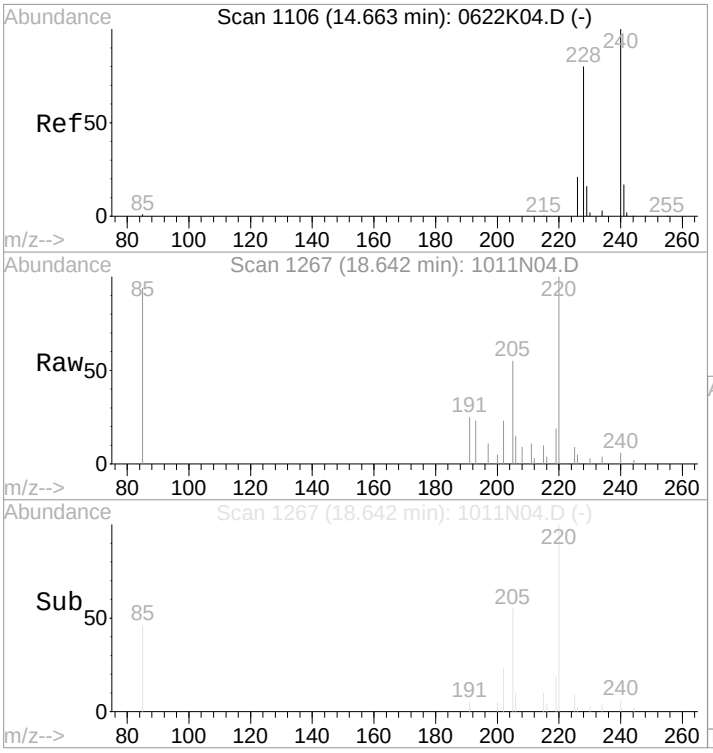


#56
C2-Phenanthrene/Anthracene
Concen: 6.63 ppm m
RT: 17.64 min Scan# 1195
Delta R.T. -0.28 min
Lab File: 1011N04.D
Acq: 11 Oct 2012 1:16 pm

Tgt Ion:206 Resp: 426600

Ion	Ratio	Lower	Upper
206	100		
191	16.5	118.9	158.9#

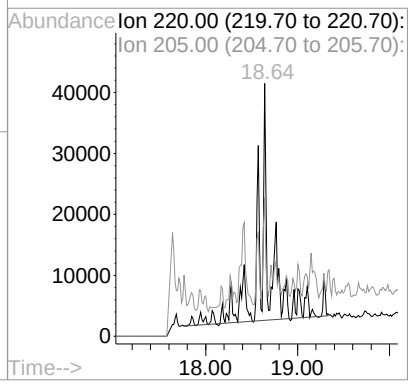


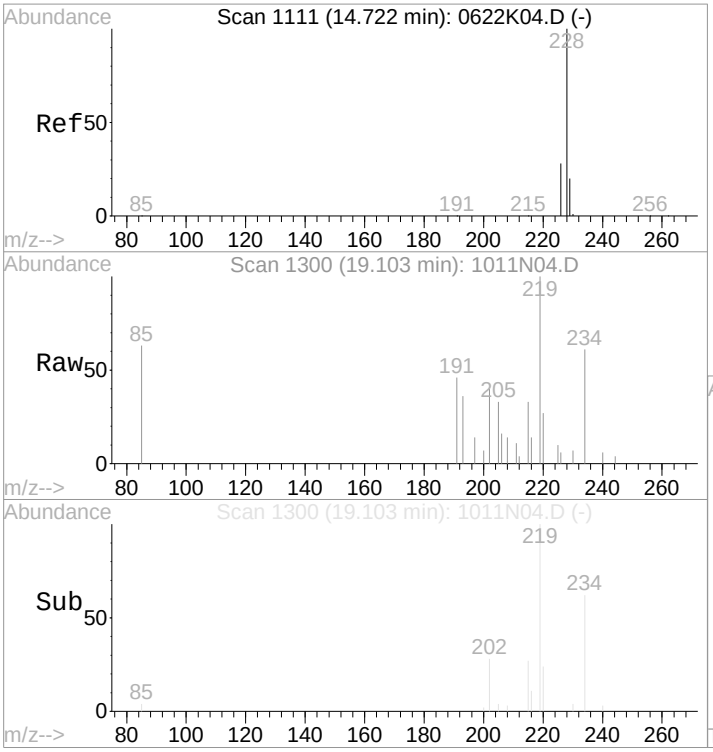


#57
C3-Phenanthrene/Anthracene
Concen: 4.76 ppm m
RT: 18.64 min Scan# 1267
Delta R.T. -0.43 min
Lab File: 1011N04.D
Acq: 11 Oct 2012 1:16 pm

Tgt Ion:220 Resp: 306585

Ion	Ratio	Lower	Upper
220	100		
205	10.2	86.4	126.4#

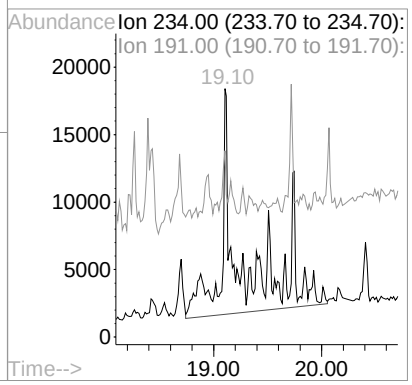


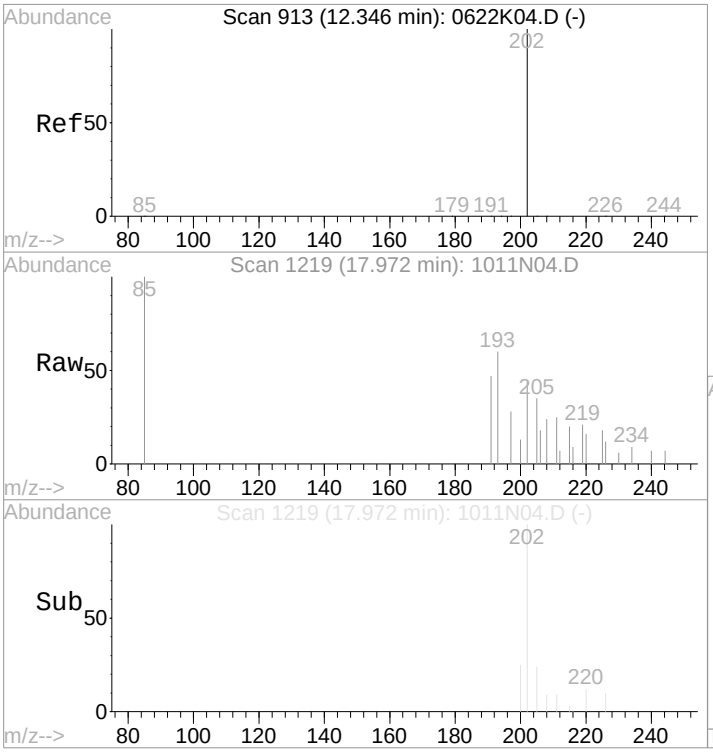


#58
C4-Phenanthrene/Anthracene
Concen: 3.02 ppm m
RT: 19.10 min Scan# 1300
Delta R.T. -0.61 min
Lab File: 1011N04.D
Acq: 11 Oct 2012 1:16 pm

Tgt Ion:234 Resp: 194100

Ion	Ratio	Lower	Upper
234	100		
191	5.2	60.0	100.0#

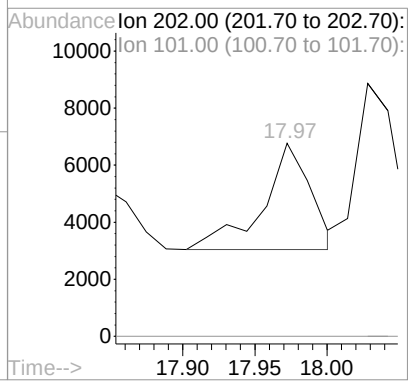


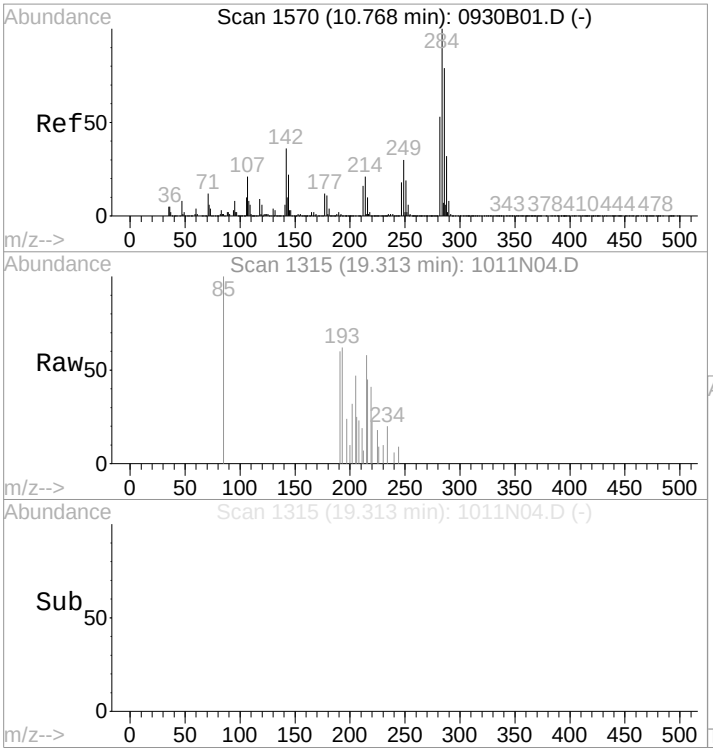


#59
Fluoranthene
Concen: 0.15 ppm
RT: 17.97 min Scan# 1219
Delta R.T. -0.05 min
Lab File: 1011N04.D
Acq: 11 Oct 2012 1:16 pm

Tgt Ion:202 Resp: 8609

Ion	Ratio	Lower	Upper
202	100		
101	0.0	0.0	20.0

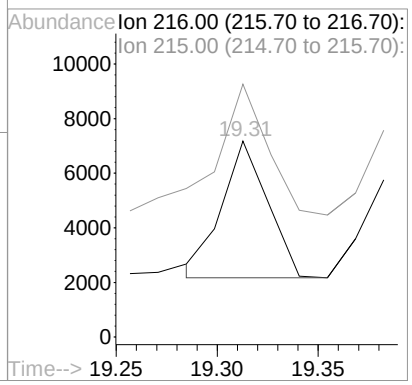


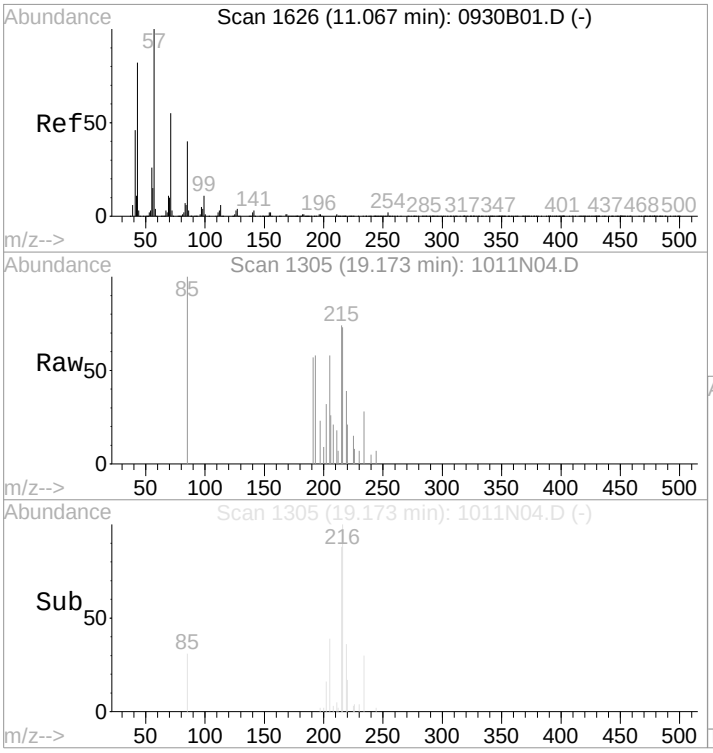


#60
Benzo(b)fluorene
Concen: 0.14 ppm
RT: 19.31 min Scan# 1315
Delta R.T. -0.51 min
Lab File: 1011N04.D
Acq: 11 Oct 2012 1:16 pm

Tgt Ion:216 Resp: 7839

Ion	Ratio	Lower	Upper
216	100		
215	93.6	60.0	100.0

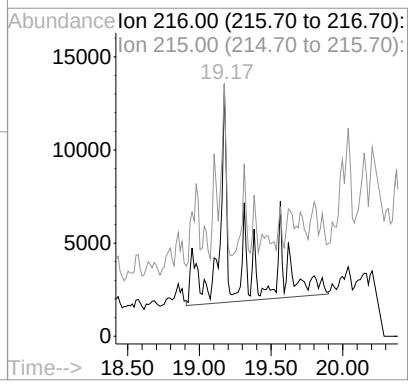


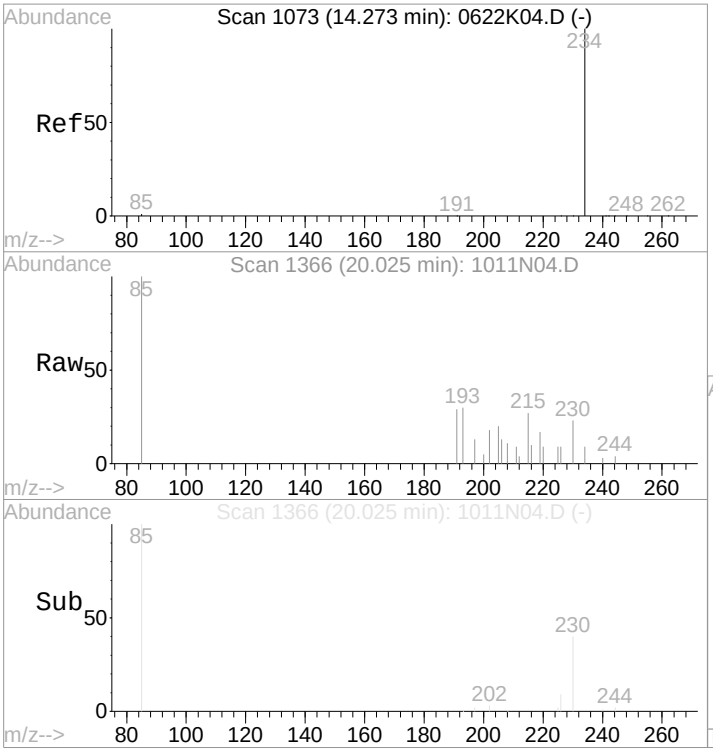


#61
C1-Fluoranthene/Pyrene
Concen: 1.58 ppm m
RT: 19.17 min Scan# 1305
Delta R.T. -0.65 min
Lab File: 1011N04.D
Acq: 11 Oct 2012 1:16 pm

Tgt Ion:216 Resp: 87840

Ion	Ratio	Lower	Upper
216	100		
215	22.2	127.1	167.1#

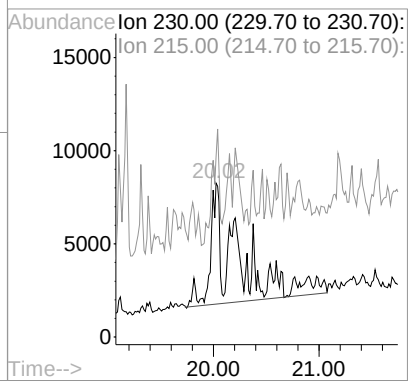


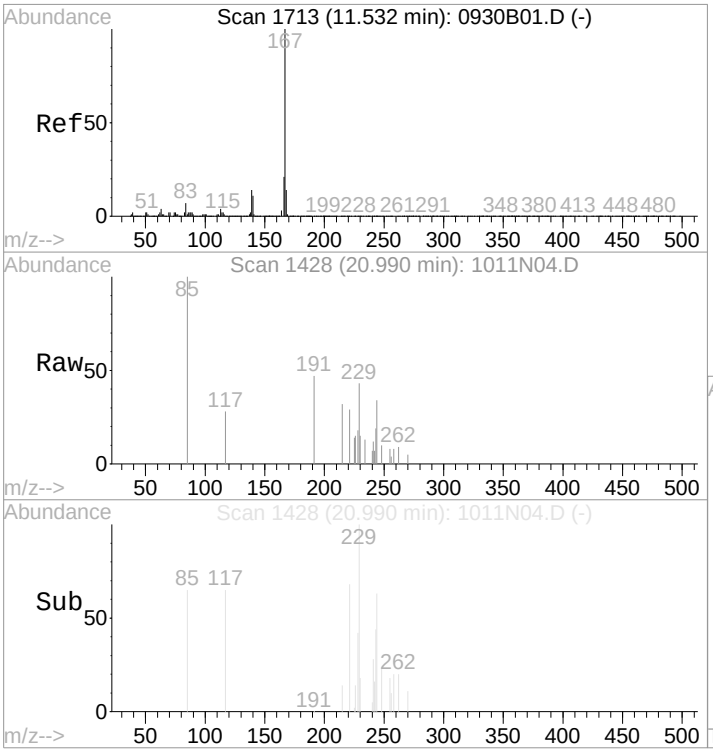


#62
C2-Fluoranthene/Pyrene
Concen: 1.91 ppm m
RT: 20.02 min Scan# 1366
Delta R.T. -1.14 min
Lab File: 1011N04.D
Acq: 11 Oct 2012 1:16 pm

Tgt Ion:230 Resp: 106207

Ion	Ratio	Lower	Upper
230	100		
215	0.0	146.1	186.1#

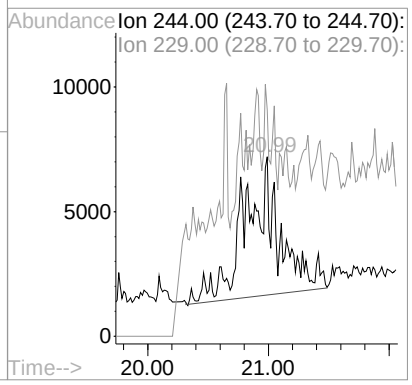


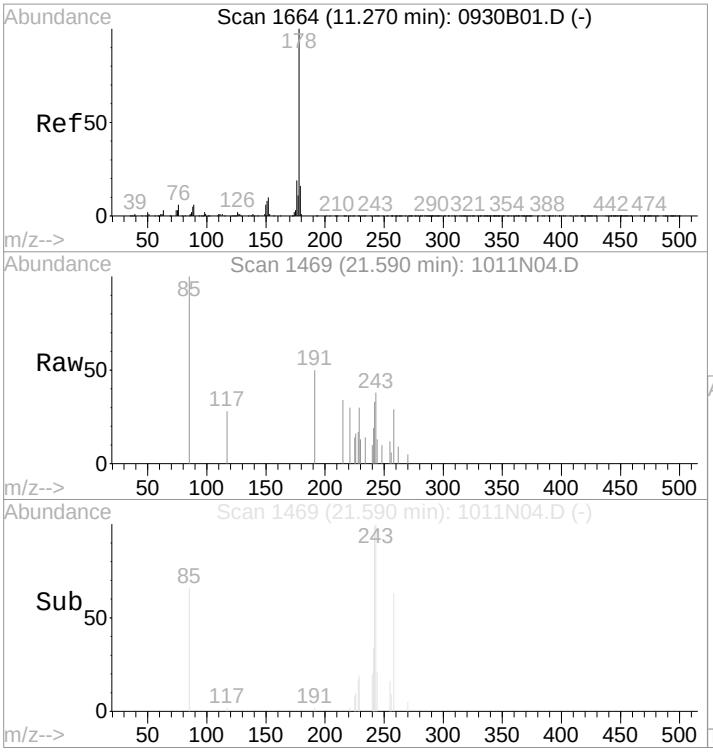


#63
C3-Fluoranthene/Pyrene
Concen: 2.00 ppm m
RT: 20.99 min Scan# 1428
Delta R.T. -0.75 min
Lab File: 1011N04.D
Acq: 11 Oct 2012 1:16 pm

Tgt Ion:244 Resp: 111223

Ion	Ratio	Lower	Upper
244	100		
229	10.5	59.1	99.1#

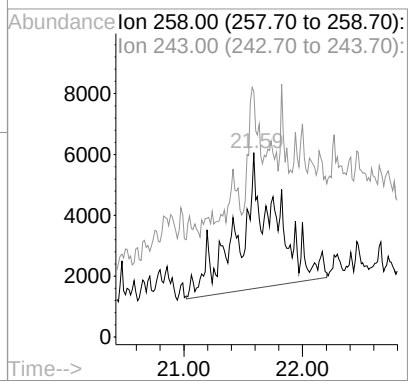


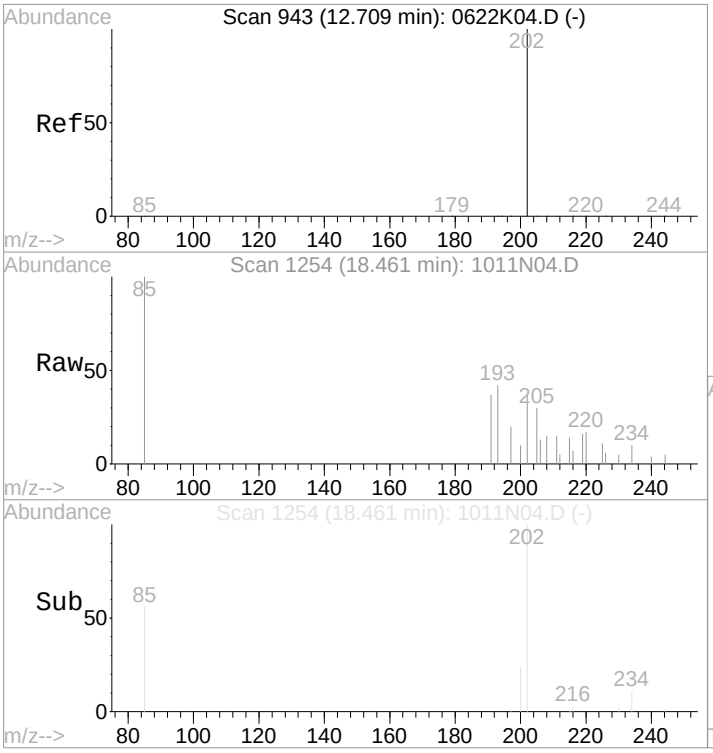


#64
C4-Fluoranthene/Pyrene
Concen: 1.78 ppm m
RT: 21.59 min Scan# 1469
Delta R.T. -0.78 min
Lab File: 1011N04.D
Acq: 11 Oct 2012 1:16 pm

Tgt Ion:258 Resp: 98928

Ion	Ratio	Lower	Upper
258	100		
243	25.2	60.0	100.0#

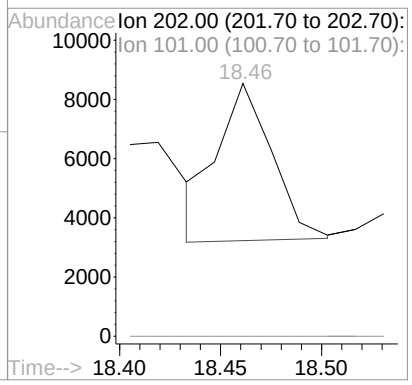


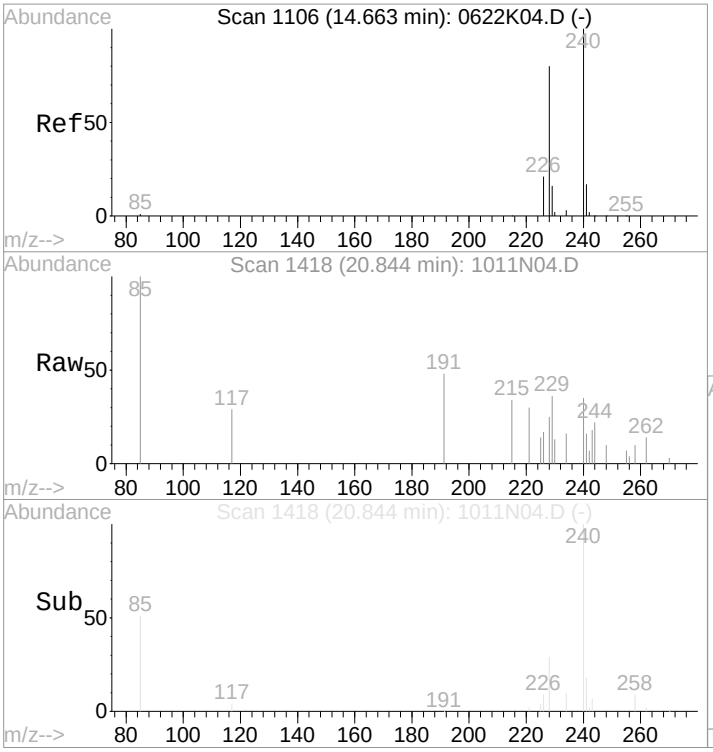


#66
Pyrene
Concen: 0.17 ppm
RT: 18.46 min Scan# 1254
Delta R.T. -0.06 min
Lab File: 1011N04.D
Acq: 11 Oct 2012 1:16 pm

Tgt Ion:202 Resp: 9849

Ion	Ratio	Lower	Upper
202	100		
101	0.0	0.0	20.0

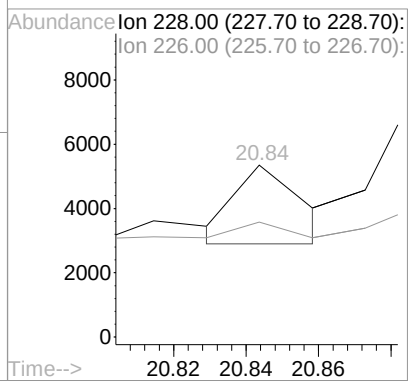


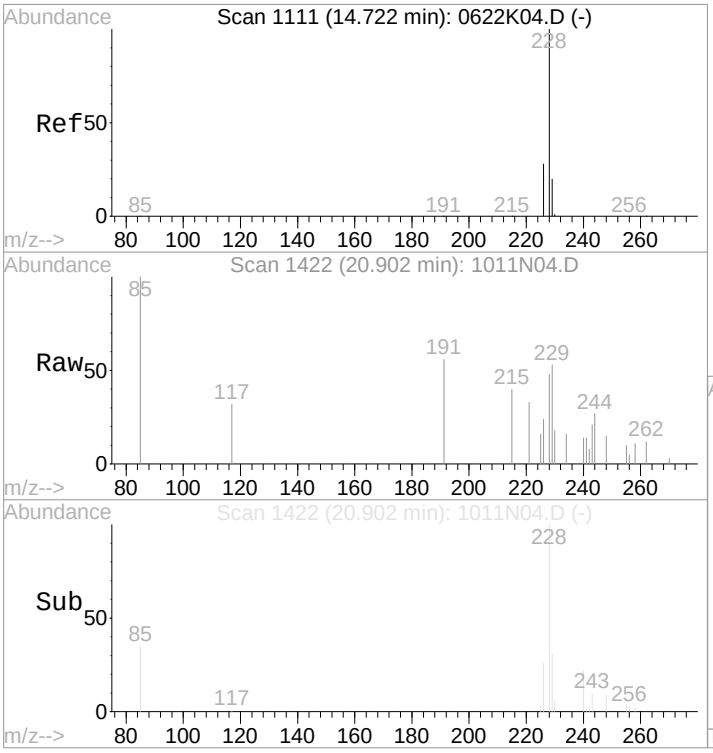


#68
Benzo(a)anthracene
Concen: 0.06 ppm m
RT: 20.84 min Scan# 1418
Delta R.T. -0.06 min
Lab File: 1011N04.D
Acq: 11 Oct 2012 1:16 pm

Tgt Ion:228 Resp: 3124

Ion	Ratio	Lower	Upper
228	100		
226	181.8	3.7	43.7#

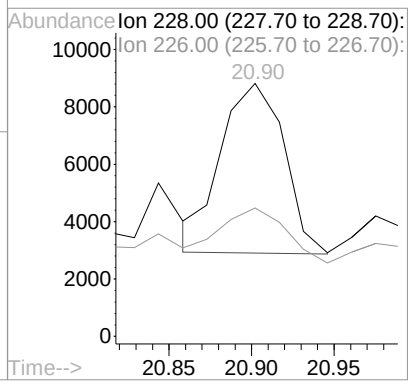


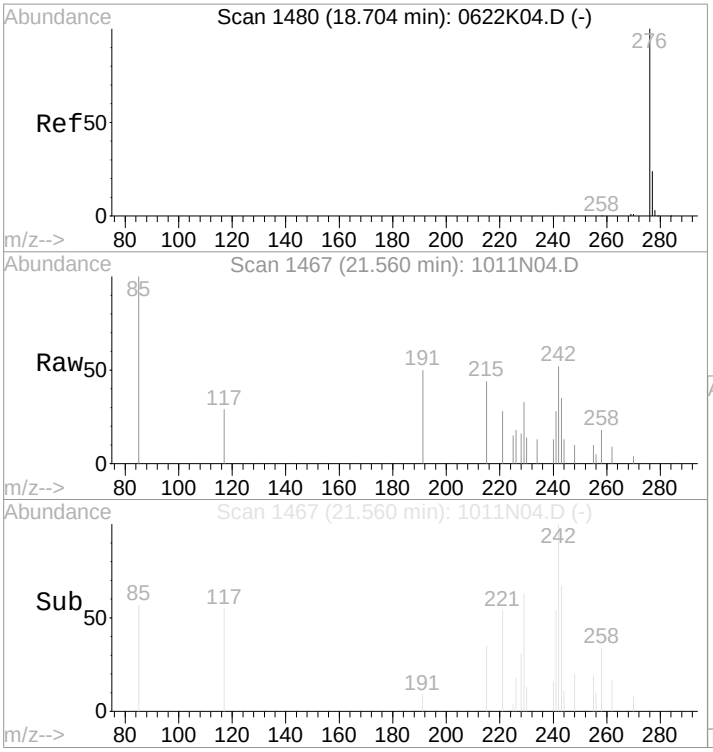


#69
Chrysene
Concen: 0.23 ppm m
RT: 20.90 min Scan# 1422
Delta R.T. -0.06 min
Lab File: 1011N04.D
Acq: 11 Oct 2012 1:16 pm

Tgt Ion:228 Resp: 15687

Ion	Ratio	Lower	Upper
228	100		
226	49.3	6.8	46.8#

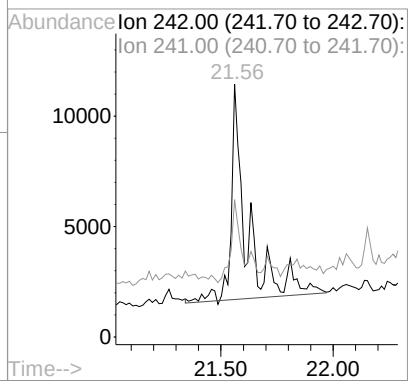


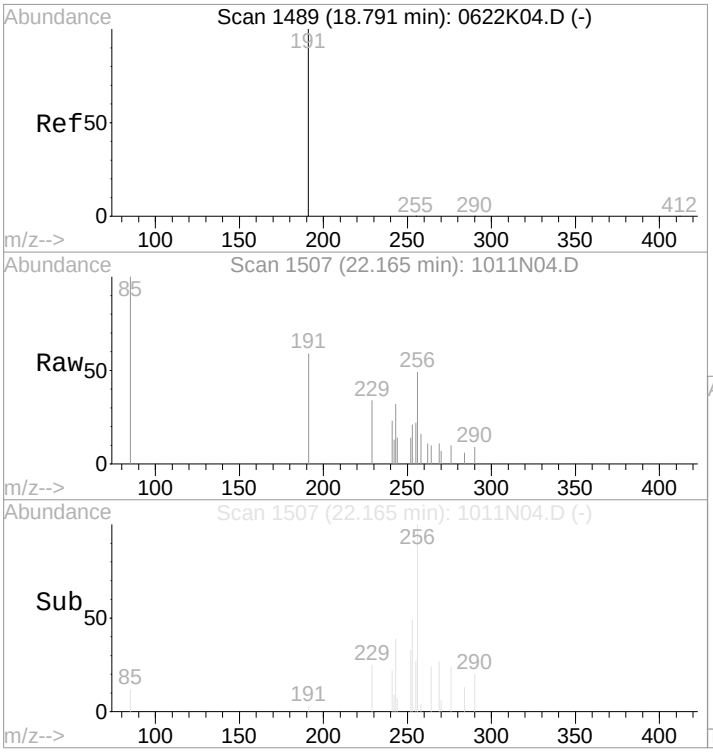


#70
C1-Chrysenes
Concen: 0.67 ppm m
RT: 21.56 min Scan# 1467
Delta R.T. -0.19 min
Lab File: 1011N04.D
Acq: 11 Oct 2012 1:16 pm

Tgt Ion:242 Resp: 46067

Ion	Ratio	Lower	Upper
242	100		
241	19.2	9.6	49.6

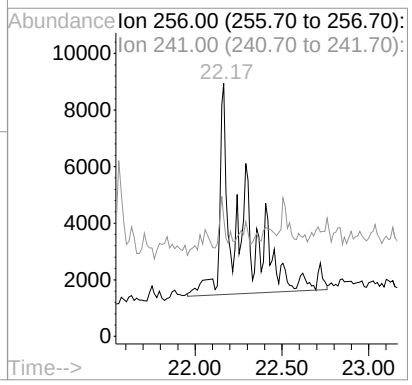


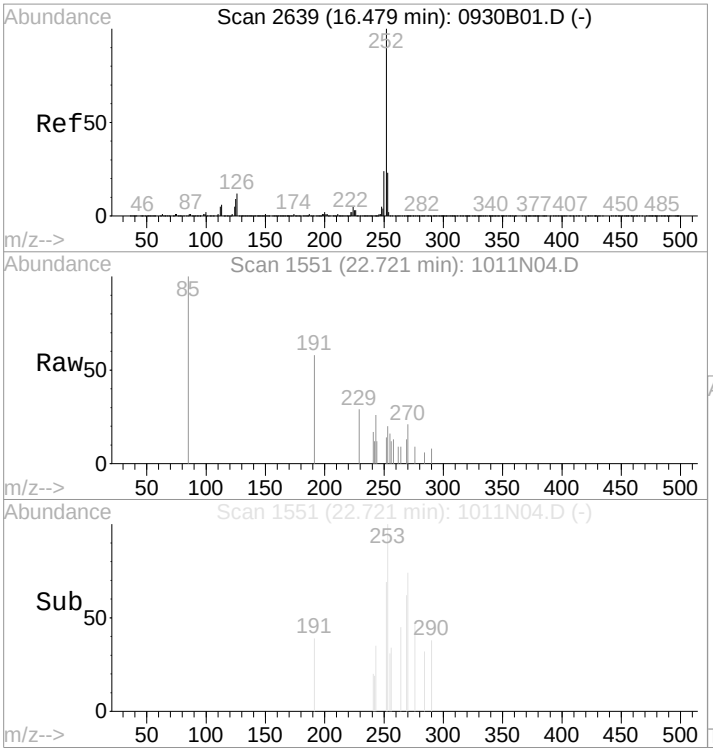


#71
C2-Chrysenes
Concen: 0.88 ppm m
RT: 22.17 min Scan# 1507
Delta R.T. -0.31 min
Lab File: 1011N04.D
Acq: 11 Oct 2012 1:16 pm

Tgt Ion:256 Resp: 60723

Ion	Ratio	Lower	Upper
256	100		
241	5.6	38.4	78.4#

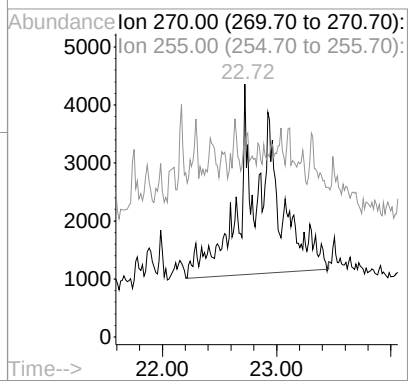


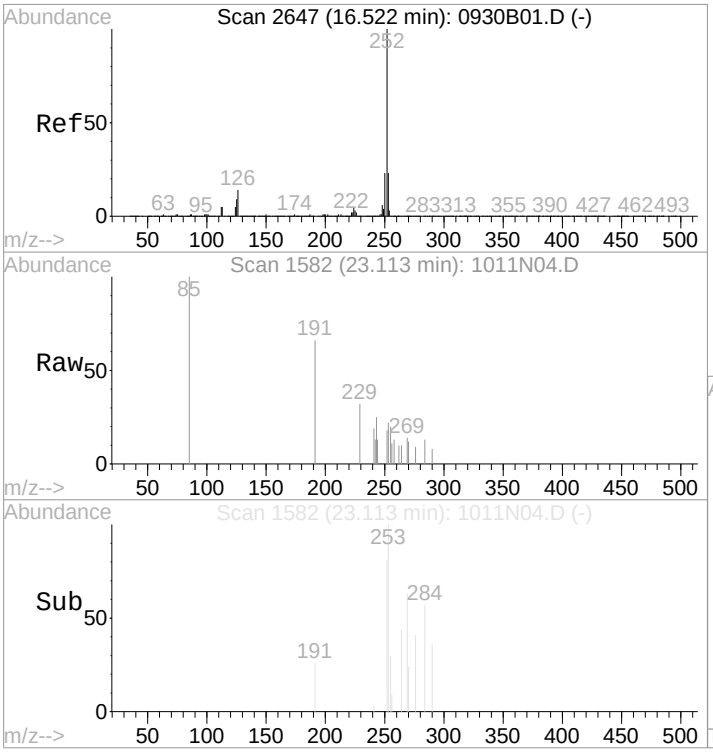


#72
C3-Chrysenes
Concen: 0.90 ppm m
RT: 22.72 min Scan# 1551
Delta R.T. -0.49 min
Lab File: 1011N04.D
Acq: 11 Oct 2012 1:16 pm

Tgt Ion:270 Resp: 61767

Ion	Ratio	Lower	Upper
270	100		
255	0.0	40.0	80.0#

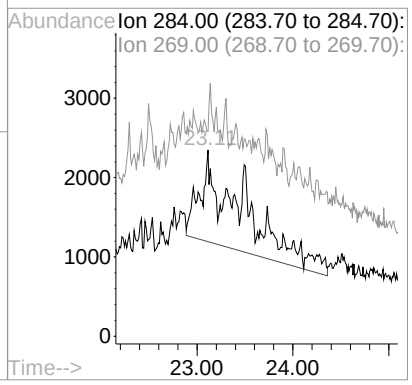


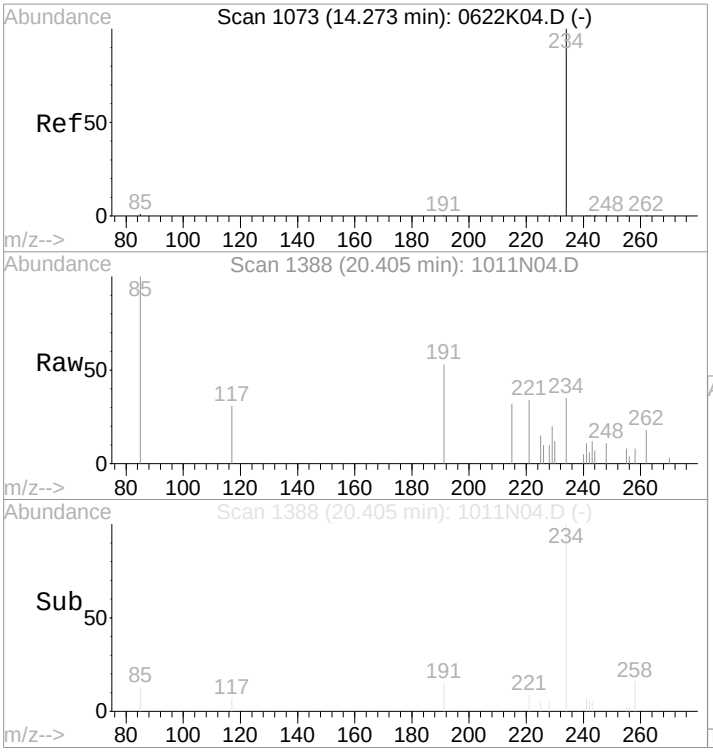


#73
C4-Chrysenes
Concen: 0.53 ppm m
RT: 23.11 min Scan# 1582
Delta R.T. -0.68 min
Lab File: 1011N04.D
Acq: 11 Oct 2012 1:16 pm

Tgt Ion:284 Resp: 36353

Ion	Ratio	Lower	Upper
284	100		
269	0.0	65.3	105.3#

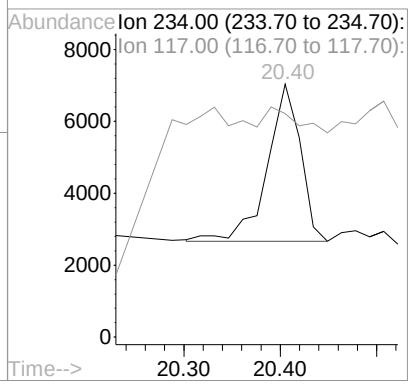


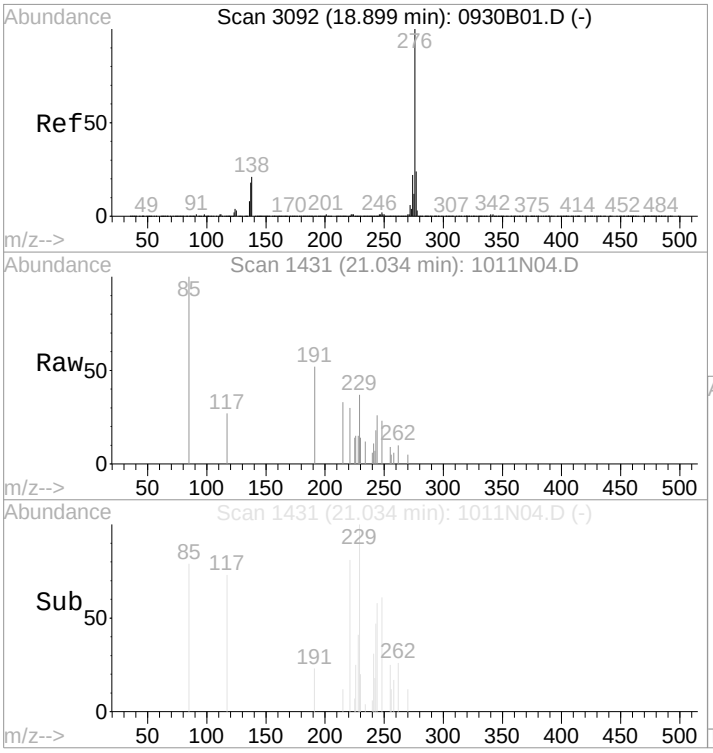


#74
Naphthobenzothiophene
Concen: 0.20 ppm
RT: 20.40 min Scan# 1388
Delta R.T. -0.04 min
Lab File: 1011N04.D
Acq: 11 Oct 2012 1:16 pm

Tgt Ion:234 Resp: 10465

Ion	Ratio	Lower	Upper
234	100		
117	0.0	0.0	28.6

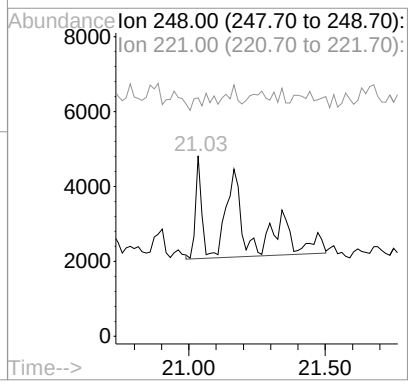


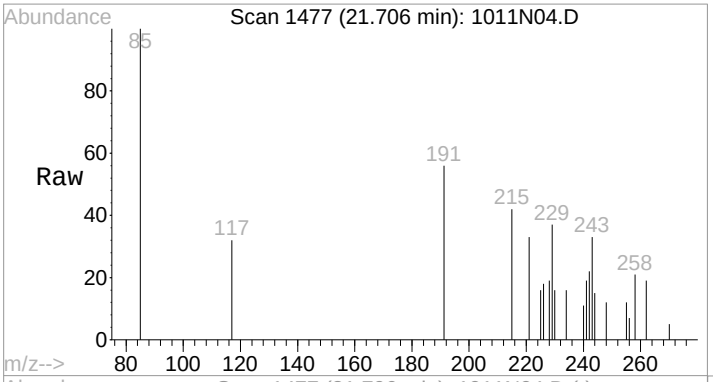


#75
C1-Naphthobenzothiophenes
Concen: 0.38 ppm m
RT: 21.03 min Scan# 1431
Delta R.T. -0.27 min
Lab File: 1011N04.D
Acq: 11 Oct 2012 1:16 pm

Tgt Ion:248 Resp: 19583

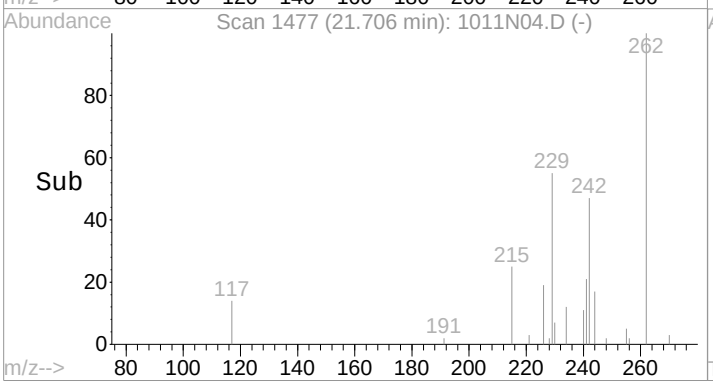
Ion	Ratio	Lower	Upper
248	100		
221	0.0	60.0	100.0#

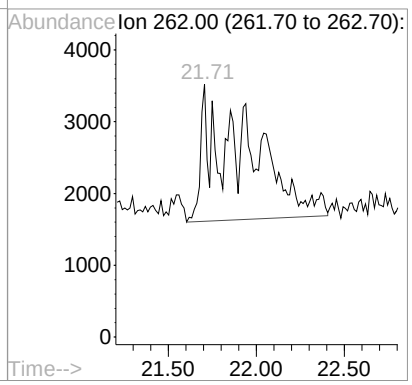


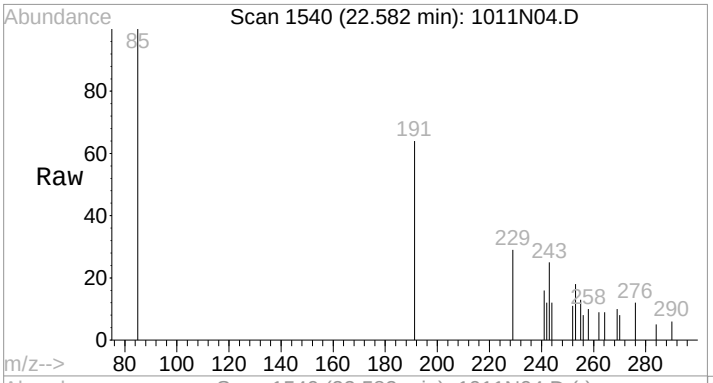


#76
C2-Naphthobenzothiophenes
Concen: 0.60 ppm m
RT: 21.71 min Scan# 1477
Delta R.T. -0.40 min
Lab File: 1011N04.D
Acq: 11 Oct 2012 1:16 pm

Tgt Ion:262 Resp: 30894

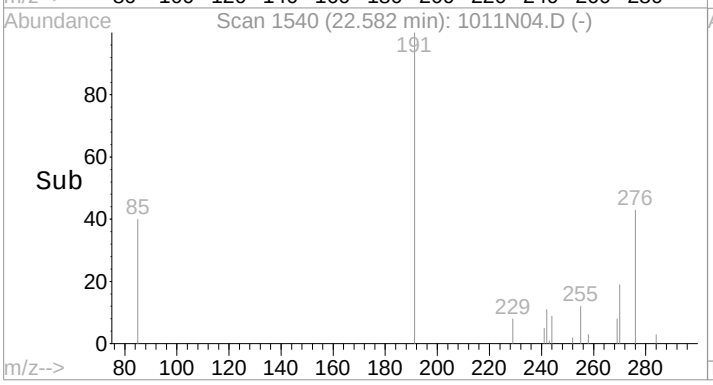


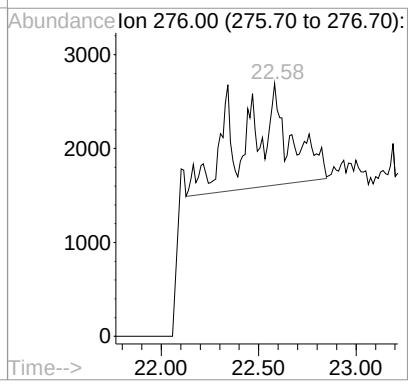


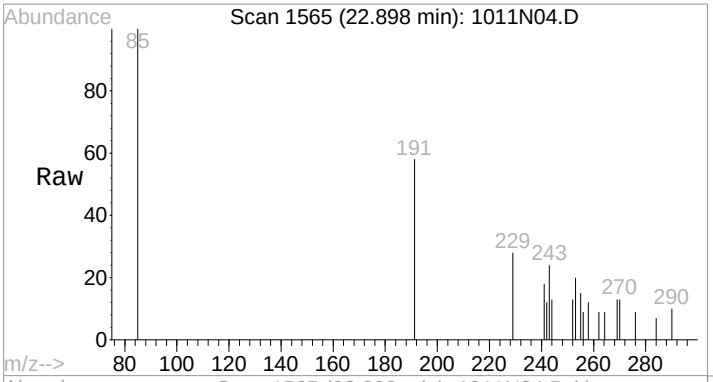


#77
C3-Naphthobenzothiophenes
Concen: 0.36 ppm m
RT: 22.58 min Scan# 1540
Delta R.T. -0.26 min
Lab File: 1011N04.D
Acq: 11 Oct 2012 1:16 pm

Tgt Ion:276 Resp: 18420

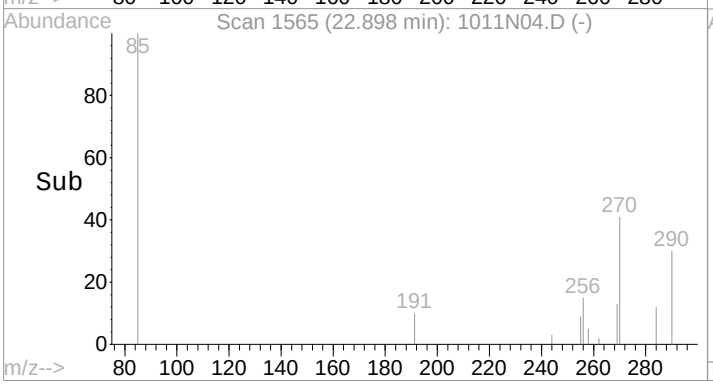


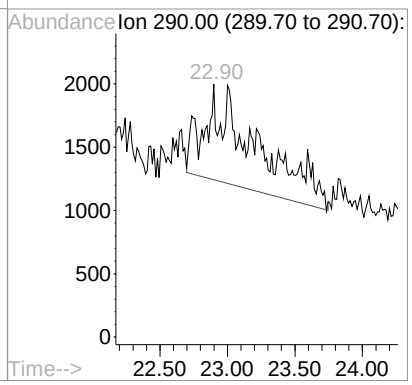


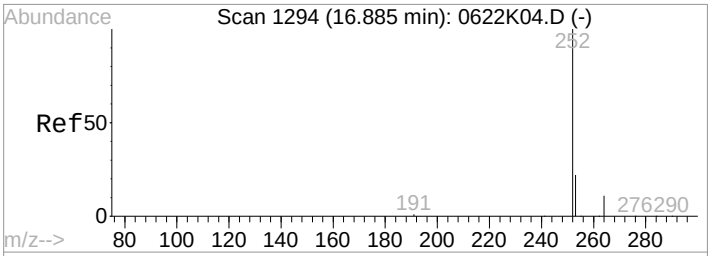


#78
C4-Naphthobenzothiophenes
Concen: 0.39 ppm m
RT: 22.90 min Scan# 1565
Delta R.T. -0.72 min
Lab File: 1011N04.D
Acq: 11 Oct 2012 1:16 pm

Tgt Ion:290 Resp: 20084



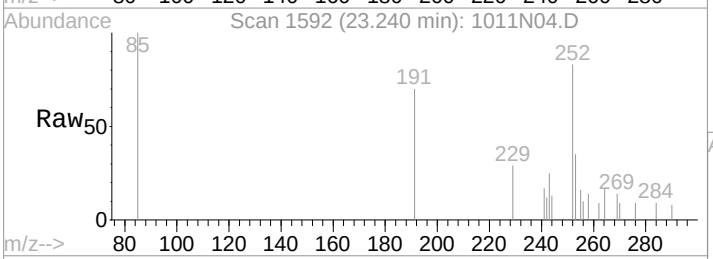


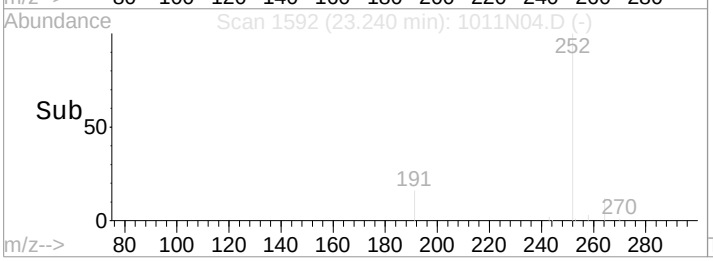


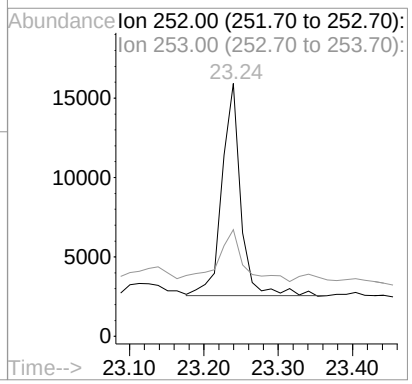
#85
Perylene
Concen: 0.32 ppm
RT: 23.24 min Scan# 1592
Delta R.T. -0.05 min
Lab File: 1011N04.D
Acq: 11 Oct 2012 1:16 pm

Tgt Ion:252 Resp: 23533

Ion	Ratio	Lower	Upper
252	100		
253	33.3	2.3	42.3







Quantitation Report

Data File : U:\DATAW\100912WA\1009012A.D Vial: 9
Acq On : 9 Oct 2012 5:50 pm Operator:
Sample : 201025367 Inst : 20gcsvw
Misc : 193376 1:50 Multiplr: 1.00
MS Integration Params: SURR1.E
Quant Time: Oct 10 10:30 2012 Quant Results File: WA090612.RES

Quant Method : U:\DATAW\WA090612.M (Chemstation Integrator)
Title : GC TPH Method B
Last Update : Wed Oct 10 10:22:50 2012
Response via : Initial Calibration
DataAcq Meth : TPH.M
IS QA File : File name for IS QA unknown

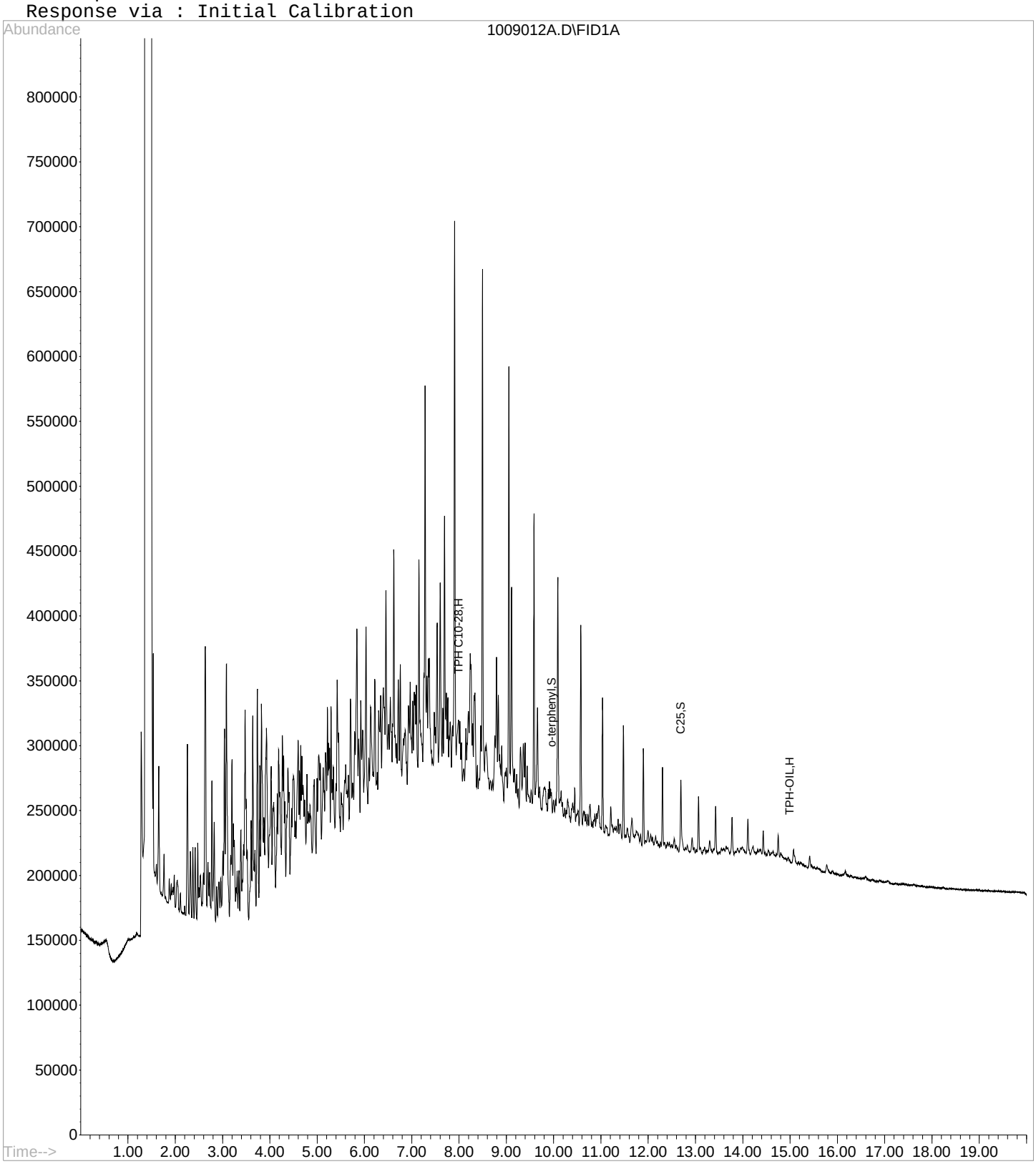
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
System Monitoring Compounds						
1) o-terphenyl	9.95	TIC	203714m	0.68	PPM	0.00
2) C25	12.69	TIC	998434m	3.88	PPM	0.00
Target Compounds						Qvalue
3) TPH C10-28	8.00	TIC	537675277m	1895.66	PPM	100
4) TPH-OIL	15.00	TIC	62492438m	348.74	PPM	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : U:\DATAW\100912WA\1009012A.D Vial: 9
Acq On : 9 Oct 2012 5:50 pm Operator:
Sample : 201025367 Inst : 20gcsvw
Misc : 193376 1:50 Multiplr: 1.00
MS Integration Params: SURR1.E
Quant Time: Oct 10 10:30 2012 Quant Results File: WA090612.RES

Method : U:\DATAW\WA090612.M (Chemstation Integrator)
Title : GC TPH Method B
Last Update : Thu Oct 11 09:05:49 2012
Response via : Initial Calibration



Quantitation Report

Data File : U:\DATAW\100912WA\1009015A.D Vial: 12
Acq On : 9 Oct 2012 7:08 pm Operator:
Sample : 201025368 Inst : 20gcsvw
Misc : 193376 1:50 Multiplr: 1.00
MS Integration Params: SURR1.E
Quant Time: Oct 10 10:40 2012 Quant Results File: WA090612.RES

Quant Method : U:\DATAW\WA090612.M (Chemstation Integrator)
Title : GC TPH Method B
Last Update : Wed Oct 10 10:22:50 2012
Response via : Initial Calibration
DataAcq Meth : TPH.M
IS QA File : File name for IS QA unknown

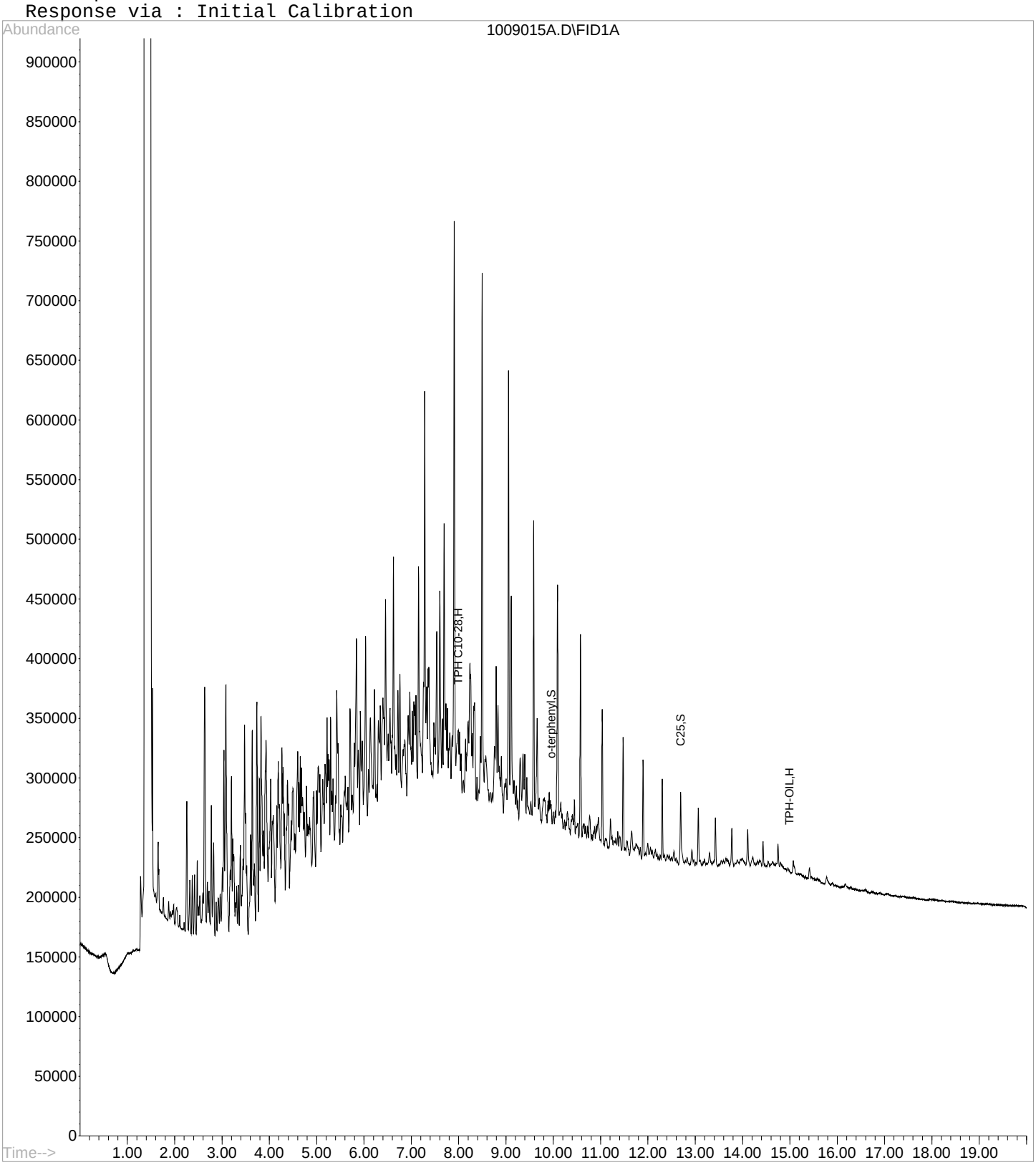
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
System Monitoring Compounds						
1) o-terphenyl	9.96	TIC	219989m	0.73	PPM	0.00
2) C25	12.69	TIC	1084141m	4.22	PPM	0.00
Target Compounds						Qvalue
3) TPH C10-28	8.00	TIC	636010686m	2242.36	PPM	100
4) TPH-OIL	15.00	TIC	70733173m	394.73	PPM	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : U:\DATAW\100912WA\1009015A.D Vial: 12
Acq On : 9 Oct 2012 7:08 pm Operator:
Sample : 201025368 Inst : 20gcsvw
Misc : 193376 1:50 Multiplr: 1.00
MS Integration Params: SURR1.E
Quant Time: Oct 10 10:40 2012 Quant Results File: WA090612.RES

Method : U:\DATAW\WA090612.M (Chemstation Integrator)
Title : GC TPH Method B
Last Update : Thu Oct 11 09:05:49 2012
Response via : Initial Calibration



Quantitation Report

Data File : U:\DATAW\100912WA\1009016A.D Vial: 13
Acq On : 9 Oct 2012 7:34 pm Operator:
Sample : 201025369 Inst : 20gcsvw
Misc : 193376 1:50 Multiplr: 1.00
MS Integration Params: SURR1.E
Quant Time: Oct 10 10:37 2012 Quant Results File: WA090612.RES

Quant Method : U:\DATAW\WA090612.M (Chemstation Integrator)
Title : GC TPH Method B
Last Update : Wed Oct 10 10:22:50 2012
Response via : Initial Calibration
DataAcq Meth : TPH.M
IS QA File : File name for IS QA unknown

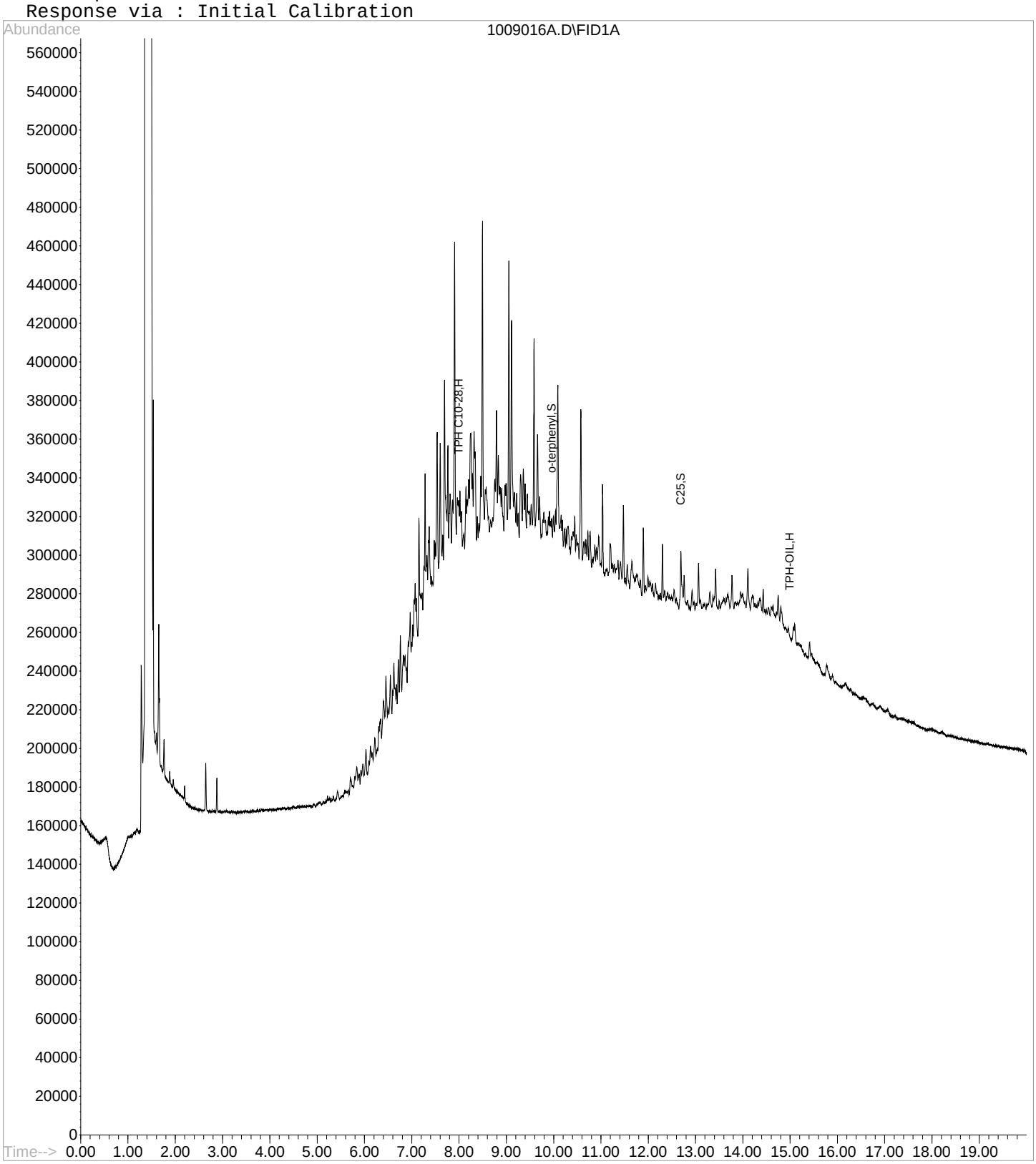
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
System Monitoring Compounds					
1) o-terphenyl	9.96	TIC	152360m	0.51 PPM	0.00
2) C25	12.69	TIC	638902m	2.49 PPM	0.00
Target Compounds					Qvalue
3) TPH C10-28	8.00	TIC	538282888m	1897.80 PPM	100
4) TPH-OIL	15.00	TIC	134119747m	748.46 PPM	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : U:\DATAW\100912WA\1009016A.D Vial: 13
Acq On : 9 Oct 2012 7:34 pm Operator:
Sample : 201025369 Inst : 20gcsvw
Misc : 193376 1:50 Multiplr: 1.00
MS Integration Params: SURR1.E
Quant Time: Oct 10 10:37 2012 Quant Results File: WA090612.RES

Method : U:\DATAW\WA090612.M (Chemstation Integrator)
Title : GC TPH Method B
Last Update : Thu Oct 11 09:05:49 2012
Response via : Initial Calibration



Pace Analytical Services, In
1000 Riverbend Blvd. Suite F
St. Rose, LA 7008
(504) 469-033

Chains of Custody

Pace Analytical™

INTERNAL CHAIN OF CUSTODY

EPN/SDG #: 20144605

Client: DEQ

Analytical Fraction: aPoep

PACE ID	CLIENT ID	PACE ID	CLIENT ID
20102536	041-092212-01		
368	041-092212-02		
369	041-092212-Standard		

DATE	RELINQUISHED BY	RECEIVED BY	COMMENTS
9-25-12	Printed Name: J Miller Signature: J Miller	Printed Name: Shelley Antoine Signature: Shelley Antoine	
	Printed Name: Signature:	Printed Name: Signature:	
	Printed Name: Signature:	Printed Name: Signature:	
	Printed Name: Signature:	Printed Name: Signature:	
	Printed Name: Signature:	Printed Name: Signature:	
	Printed Name: Signature:	Printed Name: Signature:	
	Printed Name: Signature:	Printed Name: Signature:	
	Printed Name: Signature:	Printed Name: Signature:	
	Printed Name: Signature:	Printed Name: Signature:	

2 20144605 20-DEQ LAB

DEQ LOUISIANA

...ment of Environmental Quality
...f Custody Record

FOR PACE
20144605

Page ___ of ___

AI: 182981 Site: Texas Brine

Location Name: Texas Brine Well

Address: Hwy 70 Bayou Corne

Sample Collector(s): Bob Crain
Terry Dedon

Sample ID	Location ID	Collection Date	Collection Time	Matrix	Sample Type	Filtered – Yes or No	# of Containers	Grab or Composite	Parameters Requested with Method Reference and Preservative								Remarks
041-092212-01		9.22.12	2250				1	G									20102536 7
041-092212-02		9.22.12	2255				1	G									368
																	369
Std																	

Additional Comments: Just fingerprint the samples

Relinquished by:	Date:	Time:	Received by:		
Terry L Dedon	9.24.12	1434	Melissa Thomas	9/25/12	1015
Melissa Thomas	9/25/12	1335	D Miller	2.7	

12/17/2009

2 20144605 20-DEQ LAB

Pace Analytical

1000 Riverbend. Blvd., Suite F
St. Rose, LA 70087

Sample Condi

Project #: 20

Courier: ☑ Pace Courier ☐ Hackbarth ☐ Fed X ☐ UPS ☐ DHL ☐ USPS ☐ Customer ☐ Other

Custody Seal on Cooler/Box Present: [see COC]

Custody Seals intact: ☐Yes ☑No

Therometer Used: ☑ Therm Fisher IR 1 ☐ Therm Fisher IR 2 ☐ Therm Fisher IR 4

Type of Ice: (Wet) Blue None

Samples on ice: [see COC]

Cooler Temperature: [see COC]

Temp should be above freezing to 6°C

Date and Initials of person examining contents: 9-25-12

Temp must be measured from Temperature blank when present

				Comments:
Temperature Blank Present"?	☐Yes	☑No	☐N/A	1
Chain of Custody Present:	☑Yes	☐No	☐N/A	2
Chain of Custody Complete:	☑Yes	☐No	☐N/A	3
Chain of Custody Relinquished:	☑Yes	☐No	☐N/A	4
Sampler Name & Signature on COC:	☑Yes	☐No	☐N/A	5
Samples Arrived within Hold Time:	☑Yes	☐No	☐N/A	6
Sufficient Volume:	☑Yes	☐No	☐N/A	7
Correct Containers Used:	☑Yes	☐No	☐N/A	8
Filtered vol. Rec. for Diss. tests	☐Yes	☑No	☐N/A	9
Sample Labels match COC:	☑Yes	☐No	☐N/A	10
All containers received within manafacture's precautionary and/or expiration dates.	☑Yes	☐No	☐N/A	11
All containers needing preservation have been checked (except VOA, coliform, & O&G).	☐Yes	☐No	☑N/A	12
All containers preservation checked found to be in compliance with EPA recommendation.	☐Yes	☐No	☑N/A	13 If No, was preserative added? ☐Yes ☐No If added record lot no.: HNO3 _____ H2SO4 _____
Samples checked for dechlorination:	☐Yes	☐No	☑N/A	14
Headspace in VOA Vials (>6mm):	☐Yes	☐No	☑N/A	14
Trip Blank Present:	☐Yes	☐No	☑N/A	16
Trip Blank Custody Seals Present	☐Yes	☐No	☑N/A	17
Pace Trip Blank Lot # (if purchased): N/A				18

Client Notification/ Resolution:

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Pace Analytical Services, In
1000 Riverbend Blvd. Suite F
St. Rose, LA 7008
(504) 469-033

Subcontract Data/Reports

Certificate of Analysis

HOUSTON LABORATORIES
8820 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

Analysis Number:	**2012100094-001A**		
Sample ID:	041-092212-01	**Date of Sample:**	09/22/12
Pace ID:	201025367	**Time Sampled:**	10:50 PM
Project Location:		**Date Sample Analyzed:**	10/09/12

Client	Pace Analytical Services		**Contact(s):**	Cindy Olavesen	
Address	1000 River Bend Blvd.				
Suite / Department	Suite F				
City	St.Rose		**State**	LA	**Zip** 70087
Phone	504-305-3628	**Ext**	**E-Mail**	cindy.olavesen	
Fax	504-469-0555				

Color:	Dark	**Odor:**	Aromatic
Specific Gravity @ 60° F.	0.8546	**API @ 60° F.**	34.07
Carbon Range	C2 - C29	**Major Range**	C8 - C18

Paraffin	12.7710	wt%	**N-Hexane**	0.268	wt%
Isoparaffins	63.8622	wt%	**Benzene**	0.058	wt%
Naphthenics	11.0407	wt%	**Ethyl Benzene**	0.220	wt%
Aromatics	12.3261	wt%	**Toluene**	0.172	wt%
Olefins	N/D	wt%	**Meta-Xylene**	0.054	wt%
Unknowns	N/D	wt%	**Para-Xylene**	N/D	wt%
2,2,4-Tri Methylpentane	0.010	wt%	**Ortho-Xylene**	0.142	wt%
			Xylenes	0.196	wt%
Calculated Research Octane	N/A		**EDB**	N/A	wt%
Lead / Manganese	N/A		**EDC**	N/A	wt%
Oxygnates	N/D	wt%	**Ethanol**	N/D	wt%
C_{17}	1.185	wt%	**C_{18}**	0.904	wt%
Pristane	0.663	wt%	**Phytane**	0.367	wt%
Naphthalene	0.078	wt%	**2-Methyl Naphthalene**	0.521	wt%
1-Methyl Naphthalene	0.387	wt%			

Gasoline Range:	C_4-C_{13} Indicators:	2,2,4-TMP, Olefins
Diesel Range:	C_7-C_{20} Indicators:	Pristane, Phytane
Condensate Range:	C_2-C_{25}+ Indicators:	No Olefins, Light & Heavies
Heavy Oil:	C_{20+}	

Comments: **N/A Not Applicable N/D None Detected**

Chris Staley
Hydrocarbon Laboratory Manager

Pace-100094-001A.xls / 001A

Detailed Hydrocarbon Analysis Detail Report -

Report Date: 10/9/2012 10:38:33 AM

RawFile: M:\ExtendedGas Results\CDF\2012100094-001Adat-Detector 1.cdf
Sample: 2012100094-001A JL
Processed 580 Peaks
Reference File: H:\DHA Application Software\References\DHA REF1210 JL_10052012.DHA
Comments:

Acquired: 10/02/12 14:43:32
Analyzed: 10/9/2012 10:37:04 AM

Normalized to 100.0000%

Oxygenates

Compound	Mass%	Mass% Oxygen	Vol%
No Oxy Compounds Found	0.00	0.00	0.00

Molecular Weight and Relative Density Data

Group	Avg Mw.	Avg Rel. Density
C1	0.000	0.000
C2	30.070	0.340
C3	44.097	0.500
C4	58.124	0.570
C5	72.033	0.627
C6	85.225	0.695
C7	98.656	0.731
C8	112.623	0.763
C9	125.340	0.769
C10	138.134	0.796
C11	148.741	0.834
C12	160.308	0.846
C13	161.724	0.867
C14	185.876	0.757
C15	199.369	0.793
C16	208.939	0.959
C17	229.563	0.774
C18	243.479	0.778
C19	258.728	0.777
C20	273.443	0.781
C21	286.539	0.790
C22	301.646	0.793
C23	315.551	0.795
C24	331.561	0.798
C25	349.429	0.800
C26	367.260	0.800
C27	384.000	0.805
C28	398.000	0.805

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Normalized to 100.0000%
Comments:

C29	412.000	0.808
Total Sample:	158.00	0.80

Octane Number

Research Octane Number: 88.40
(Calculated from Individual Component Values)

Contribution to Total by:

Paraffins:	10.90
Iso-Paraffins:	56.90
Aromatics:	11.20
Napthenes:	9.35
Olefins:	0.15
Oxygenates:	0.00

Detailed Hydrocarbon Analysis Detail Report -

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Comments:

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Normalized to 100.0000%

Totals by Group Type & Carbon Number (in Mass Percent)

	Paraffins	I-Paraffins	Olefins	Napthenes	Aromatics	Unknowns	Total
C1	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
C2	0.03086	0.00000	0.00000	0.00000	0.00000	0.00000	0.03086
C3	0.22372	0.00000	0.00000	0.00000	0.00000	0.00000	0.22372
C4	0.37051	0.25835	0.00000	0.00000	0.00000	0.00000	0.62886
C5	0.30072	0.44310	0.00000	0.04501	0.00000	0.00000	0.78883
C6	0.26846	0.87894	0.00000	0.58822	0.05777	0.00000	1.79340
C7	0.10716	1.05695	0.00000	1.22603	0.17204	0.00000	2.56218
C8	0.31495	0.96992	0.00000	3.06013	0.63220	0.00000	4.97720
C9	0.18156	3.10363	0.00000	3.41880	1.27120	0.00000	7.97519
C10	0.15861	6.16665	0.00000	2.62164	3.78536	0.00000	12.73226
C11	0.11441	4.90509	0.00000	0.08083	3.49103	0.00000	8.59136
C12	0.39682	4.29793	0.00000	0.00000	2.91646	0.00000	7.61121
C13	0.80758	6.70793	0.00000	0.00000	0.00000	0.00000	7.51552
C14	1.11298	8.59344	0.00000	0.00000	0.00000	0.00000	9.70642
C15	1.49437	8.32305	0.00000	0.00000	0.00000	0.00000	9.81742
C16	1.41000	5.67488	0.00000	0.00000	0.00000	0.00000	7.08489
C17	1.18523	3.91476	0.00000	0.00000	0.00000	0.00000	5.09999
C18	0.90434	3.14242	0.00000	0.00000	0.00000	0.00000	4.04676
C19	0.86078	1.89563	0.00000	0.00000	0.00000	0.00000	2.75641
C20	0.64804	1.14286	0.00000	0.00000	0.00000	0.00000	1.79090
C21	0.41826	1.00662	0.00000	0.00000	0.00000	0.00000	1.42488
C22	0.33422	0.56580	0.00000	0.00000	0.00000	0.00000	0.90002
C23	0.27964	0.49220	0.00000	0.00000	0.00000	0.00000	0.77184
C24	0.24544	0.24167	0.00000	0.00000	0.00000	0.00000	0.48711
C25	0.18945	0.05514	0.00000	0.00000	0.00000	0.00000	0.24459
C26	0.14089	0.02526	0.00000	0.00000	0.00000	0.00000	0.16615
C27	0.12127	0.00000	0.00000	0.00000	0.00000	0.00000	0.12127
C28	0.08628	0.00000	0.00000	0.00000	0.00000	0.00000	0.08628
C29	0.06447	0.00000	0.00000	0.00000	0.00000	0.00000	0.06447
Total:	12.77105	63.86222	0.00000	11.04067	12.32607	0.00000	100.00000

Oxygenates 0.00000 Total C30+: 0.00000
Total Unknowns: 0.00000 Grand Total: 100.00000

Totals by Group Type & Carbon Number (in Volume Percent)

	Paraffins	I-Paraffins	Olefins	Napthenes	Aromatics	Unknowns	Total
C1	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
C2	0.07239	0.00000	0.00000	0.00000	0.00000	0.00000	0.07239
C3	0.35641	0.00000	0.00000	0.00000	0.00000	0.00000	0.35641
C4	0.51042	0.36970	0.00000	0.00000	0.00000	0.00000	0.88012
C5	0.38292	0.57234	0.00000	0.04815	0.00000	0.00000	1.00341
C6	0.32463	1.06711	0.00000	0.61270	0.05241	0.00000	2.05685
C7	0.12498	1.22650	0.00000	1.28446	0.15822	0.00000	2.79417
C8	0.35747	1.06600	0.00000	3.16044	0.61464	0.00000	5.19855

Detailed Hydrocarbon Analysis Detail Report -

Report Date: 10/9/2012 10:38:33 AM

RawFile: M:\ExtendedGas Results\CDF\2012100094-001Adat-Detector 1.cdf
Sample: 2012100094-001A JL
Processed 580 Peaks
Reference File: H:\DHA Application Software\References\DHA REF1210 JL_10052012.DHA

Acquired: 10/02/12 14:43:32
Analyzed: 10/9/2012 10:37:04 AM

Normalized to 100.0000%

Comments:

C9	0.20174	3.41896	0.00000	3.48203	1.16174	0.00000	8.26448
C10	0.17325	6.57904	0.00000	2.60579	3.39857	0.00000	12.75666
C11	0.12262	5.00919	0.00000	0.08056	3.00033	0.00000	8.21270
C12	0.42020	4.13742	0.00000	0.00000	2.61330	0.00000	7.17092
C13	0.85132	6.06144	0.00000	0.00000	0.00000	0.00000	6.91276
C14	1.16341	9.05881	0.00000	0.00000	0.00000	0.00000	10.22222
C15	1.16819	8.70016	0.00000	0.00000	0.00000	0.00000	9.86835
C16	1.45388	4.43621	0.00000	0.00000	0.00000	0.00000	5.89009
C17	1.21473	4.03657	0.00000	0.00000	0.00000	0.00000	5.25130
C18	0.92828	3.22063	0.00000	0.00000	0.00000	0.00000	4.14891
C19	0.88289	1.94581	0.00000	0.00000	0.00000	0.00000	2.82870
C20	0.65524	1.17221	0.00000	0.00000	0.00000	0.00000	1.82745
C21	0.42125	1.01781	0.00000	0.00000	0.00000	0.00000	1.43906
C22	0.33547	0.56985	0.00000	0.00000	0.00000	0.00000	0.90532
C23	0.27981	0.49403	0.00000	0.00000	0.00000	0.00000	0.77384
C24	0.24490	0.24181	0.00000	0.00000	0.00000	0.00000	0.48672
C25	0.18883	0.05502	0.00000	0.00000	0.00000	0.00000	0.24385
C26	0.14042	0.02518	0.00000	0.00000	0.00000	0.00000	0.16560
C27	0.12012	0.00000	0.00000	0.00000	0.00000	0.00000	0.12012
C28	0.08546	0.00000	0.00000	0.00000	0.00000	0.00000	0.08546
C29	0.06360	0.00000	0.00000	0.00000	0.00000	0.00000	0.06360
Total:	13.24483	64.48180	0.00000	11.27414	10.99923	0.00000	100.00000

Oxygenates	0.00000	Total C30+:	0.00000
Total Unknowns:	0.00000	Grand Total:	100.00000

Detailed Hydrocarbon Analysis Detail Report -

Report Date: 10/9/2012 10:38:33 AM

RawFile: M:\ExtendedGas Results\CDF\2012100094-001Adat-Detector 1.cdf
Sample: 2012100094-001A JL
Processed 580 Peaks
Reference File: H:\DHA Application Software\References\DHA REF1210 JL_10052012.DHA
Comments:

Acquired: 10/02/12 14:43:32
Analyzed: 10/9/2012 10:37:04 AM

Normalized to 100.0000%

Totals by Group Type & Carbon Number (in Mol Percent)

	Paraffins	I-Paraffins	Olefins	Napthenes	Aromatics	Unknowns	Total
C1	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
C2	0.16245	0.00000	0.00000	0.00000	0.00000	0.00000	0.16245
C3	0.80311	0.00000	0.00000	0.00000	0.00000	0.00000	0.80311
C4	1.00909	0.70360	0.00000	0.00000	0.00000	0.00000	1.71269
C5	0.65978	0.97217	0.00000	0.10160	0.00000	0.00000	1.73354
C6	0.49313	1.61452	0.00000	1.10639	0.11708	0.00000	3.33111
C7	0.16929	1.66972	0.00000	1.97659	0.29557	0.00000	4.11117
C8	0.43644	1.34927	0.00000	4.31684	0.89324	0.00000	6.99579
C9	0.22409	3.88712	0.00000	4.28693	1.67420	0.00000	10.07234
C10	0.17646	6.93203	0.00000	2.95863	4.52386	0.00000	14.59099
C11	0.11587	5.18240	0.00000	0.08293	3.76229	0.00000	9.14349
C12	0.36877	4.30200	0.00000	0.00000	2.84507	0.00000	7.51584
C13	0.69339	6.66301	0.00000	0.00000	0.00000	0.00000	7.35640
C14	0.88807	7.37831	0.00000	0.00000	0.00000	0.00000	8.26638
C15	1.15394	6.64114	0.00000	0.00000	0.00000	0.00000	7.79508
C16	0.98566	4.38211	0.00000	0.00000	0.00000	0.00000	5.36777
C17	0.78020	2.73661	0.00000	0.00000	0.00000	0.00000	3.51680
C18	0.56248	2.06855	0.00000	0.00000	0.00000	0.00000	2.63103
C19	0.50744	1.17904	0.00000	0.00000	0.00000	0.00000	1.68648
C20	0.36305	0.67372	0.00000	0.00000	0.00000	0.00000	1.03677
C21	0.22324	0.56394	0.00000	0.00000	0.00000	0.00000	0.78718
C22	0.17033	0.30199	0.00000	0.00000	0.00000	0.00000	0.47232
C23	0.13636	0.25084	0.00000	0.00000	0.00000	0.00000	0.38720
C24	0.11472	0.11784	0.00000	0.00000	0.00000	0.00000	0.23257
C25	0.08503	0.02577	0.00000	0.00000	0.00000	0.00000	0.11081
C26	0.06028	0.01134	0.00000	0.00000	0.00000	0.00000	0.07161
C27	0.04999	0.00000	0.00000	0.00000	0.00000	0.00000	0.04999
C28	0.03432	0.00000	0.00000	0.00000	0.00000	0.00000	0.03432
C29	0.02477	0.00000	0.00000	0.00000	0.00000	0.00000	0.02477
Total:	11.45175	59.60705	0.00000	14.82990	14.11130	0.00000	100.00000

Oxygenates 0.00000
Total Unknowns: 0.00000
Total C30+: 0.00000
Grand Total 100.00000

Detailed Hydrocarbon Analysis Detail Report -

Report Date: 10/9/2012 10:38:33 AM

RawFile: M:\ExtendedGas Results\CDF\2012100094-001Adat-Detector 1.cdf
Sample: 2012100094-001A JL
Processed 580 Peaks
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Comments:

Acquired: 10/02/12 14:43:32
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Normalized to 100.0000%

Hold

Components Listed in Chromatographic Order

Page: 7

Minutes	Index	Group	Component	Mass %	Volume %	Mol %
7.327	200.000	P2	ethane	0.031	0.072	0.162
7.587	300.000	P3	propane	0.224	0.356	0.803
7.990	365.900	I4	i-butane	0.258	0.370	0.704
8.340	400.000	P4	n-butane	0.371	0.510	1.009
8.517	414.340	I5	2,2-dimethylpropane	0.034	0.046	0.075
9.617	474.980	I5	i-pentane	0.409	0.526	0.898
10.303	500.000	P5	n-pentane	0.301	0.383	0.660
11.613	536.210	I6	2,2-dimethylbutane	0.202	0.249	0.372
12.997	564.280	N5	cyclopentane	0.045	0.048	0.102
13.077	565.690	I6	2,3-dimethylbutane	0.240	0.289	0.441
13.297	569.470	I6	2-methylpentane	0.255	0.311	0.468
14.190	583.550	I6	3-methylpentane	0.182	0.218	0.334
15.400	600.000	P6	n-hexane	0.268	0.325	0.493
17.410	626.710	I7	2,2-dimethylpentane	0.088	0.104	0.139
17.627	629.270	N6	methylcyclopentane	0.250	0.266	0.470
17.967	633.190	I7	2,4-dimethylpentane	0.122	0.145	0.193
18.477	638.830	I7	2,2,3-trimethylbutane	0.102	0.118	0.161
19.883	653.160	A6	benzene	0.058	0.052	0.117
20.460	658.580	I7	3,3-dimethylpentane	0.080	0.093	0.127
20.843	662.050	N6	cyclohexane	0.338	0.346	0.636
21.850	670.730	I7	2-methylhexane	0.117	0.137	0.184
22.033	672.250	I7	2,3-dimethylpentane	0.194	0.223	0.307
22.340	674.740	N7	1,1-dimethylcyclopentane	0.135	0.143	0.218
22.840	678.710	I7	3-methylhexane	0.196	0.227	0.309
23.570	684.270	N7	1c,3-dimethylcyclopentane	0.160	0.171	0.257
23.900	686.700	N7	1t,3-dimethylcyclopentane	0.154	0.164	0.249
24.060	687.870	N7	1t,2-dimethylcyclopentane	0.050	0.053	0.081
24.227	689.060	I7	3-ethylpentane	0.157	0.180	0.248
24.417	690.420	I8	2,2,4-trimethylpentane	0.010	0.011	0.013
25.823	700.000	P7	n-heptane	0.107	0.125	0.169
28.347	721.670	N7	methylcyclohexane	0.727	0.753	1.171
28.770	725.050	N8	1,1,3-trimethylcyclopentane	0.318	0.339	0.448
29.933	734.010	I8	2,2,3-trimethylpentane	0.086	0.096	0.120
30.127	735.460	N8	1c,2t,4-trimethylcyclopentane	0.072	0.075	0.101
30.250	736.370	I8	C8-Iso-Paraffin	0.033	0.034	0.046
30.380	737.330	I8	3,3-dimethylhexane	0.174	0.196	0.241
31.133	742.790	N8	1t,2c,3-trimethylcyclopentane	0.227	0.235	0.320
31.340	744.260	I8	2,3,4-trimethylpentane	0.070	0.077	0.097

Detailed Hydrocarbon Analysis Detail Report -

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Hold

Components Listed in Chromatographic Order

Page: 8

Minutes	Index	Group	Component	Mass %	Volume %	Mol %
32.153	749.910	I8	I1	0.276	0.307	0.383
32.547	752.580	I8	2,3,3-trimethylpentane	0.049	0.053	0.067
33.093	756.220	A7	toluene	0.172	0.158	0.296
34.173	763.190	N8	1,1,2-trimethylcyclopentane	0.210	0.216	0.296
34.307	764.030	I8	2-methyl-3-ethylpentane	0.039	0.044	0.054
34.653	766.200	I8	4-methylheptane	0.007	0.008	0.010
35.020	768.460	I8	2-methylheptane	0.050	0.058	0.070
35.237	769.790	N8	1c,2c,4-trimethylcyclopentane	0.078	0.081	0.110
35.453	771.100	N8	1c,3-dimethylcyclohexane	0.072	0.075	0.102
35.810	773.240	N8	1c,2t,3-trimethylcyclopentane	0.034	0.035	0.048
36.137	775.180	N8	1t,4-dimethylcyclohexane	0.080	0.084	0.113
36.310	776.200	N8	1,1-dimethylcyclohexane	0.857	0.875	1.209
36.607	777.930	I9	2,2,5-trimethylhexane	0.541	0.610	0.667
37.470	782.870	N8	3c-ethylmethylcyclopentane	0.167	0.174	0.236
37.837	784.920	I8	C8-Iso-Paraffin	0.045	0.047	0.063
38.053	786.120	N8	3t-ethylmethylcyclopentane	0.063	0.066	0.089
38.400	788.030	N8	2t-ethylmethylcyclopentane	0.057	0.059	0.081
38.610	789.170	I8	C8-Iso-Paraffin	0.131	0.135	0.184
38.953	791.030	I9	2,2,4-trimethylhexane	0.046	0.049	0.056
39.413	793.480	N8	1t,2-dimethylcyclohexane	0.375	0.386	0.530
40.553	799.420	N8	1c,2c,3-trimethylcyclopentane	0.134	0.137	0.189
40.667	800.000	P8	n-octane	0.315	0.357	0.436
41.993	807.700	N8	i-propylcyclopentane	0.082	0.085	0.116
42.447	810.270	I9	2,4,4-trimethylhexane	0.008	0.008	0.010
42.650	811.410	I9	C9-Iso-Paraffin	0.007	0.008	0.009
43.083	813.820	N8	N1	0.064	0.066	0.091
43.533	816.290	I9	C9-Iso-Paraffin	0.045	0.046	0.064
43.873	818.140	I9	2,3,4-trimethylhexane	0.019	0.021	0.024
44.237	820.100	N8	N2	0.081	0.083	0.114
45.060	824.460	I9	C9-Iso-Paraffin	0.236	0.241	0.333
45.240	825.400	I9	2,3,5-trimethylhexane	0.027	0.030	0.034
45.430	826.390	N8	1c,2-dimethylcyclohexane	0.025	0.025	0.036
45.633	827.440	I9	C9-Iso-Paraffin	0.012	0.013	0.018
46.123	829.950	I9	2,2-dimethylheptane	0.627	0.704	0.774
46.450	831.610	N8	N4	0.035	0.036	0.050
46.840	833.570	I9	C9-Iso-Paraffin	0.027	0.028	0.038
47.273	835.720	N9	1,1,4-trimethylcyclohexane	0.581	0.600	0.729
47.830	838.460	I9	2,4-dimethylheptane	0.392	0.437	0.484

Detailed Hydrocarbon Analysis Detail Report -

Report Date: 10/9/2012 10:38:33 AM

RawFile: M:\ExtendedGas Results\CDF\2012100094-001Adat-Detector 1.cdf
Sample: 2012100094-001A JL
Processed 580 Peaks
Reference File: H:\DHA Application Software\References\DHA REF1210 JL_10052012.DHA
Comments:

Acquired: 10/02/12 14:43:32
Analyzed: 10/9/2012 10:37:04 AM

Normalized to 100.0000%

Hold

Components Listed in Chromatographic Order

Minutes	Index	Group	Component	Mass %	Volume %	Mol %
48.200	840.260	N9	*1c,3c,5-trimethylcyclohexane	0.128	0.133	0.161
48.427	841.350	I9	4,4-dimethylheptane	0.033	0.036	0.040
48.707	842.690	I9	C9-Iso-Paraffin	0.086	0.096	0.106
49.067	844.410	N8	n-propylcyclopentane	0.028	0.029	0.040
50.340	850.350	A8	ethylbenzene	0.220	0.203	0.328
50.733	852.150	N9	1,1,3-trimethylcyclohexane	0.412	0.417	0.516
51.697	856.490	I9	I3	0.019	0.020	0.023
52.260	858.990	A8	m-xylene	0.054	0.064	0.068
52.783	861.280	I9	I4	0.261	0.285	0.323
53.260	863.340	N9	N12	0.037	0.038	0.047
53.570	864.670	A8	1,3-dimethylbenzene	0.142	0.131	0.212
54.063	866.770	A8	1,4-dimethylbenzene	0.073	0.068	0.109
54.873	870.170	I9	3,4 -dimethylheptane	0.041	0.044	0.050
55.153	871.330	N9	N14	0.022	0.023	0.028
55.677	873.480	I9	4-ethylheptane	0.126	0.140	0.156
56.357	876.240	N9	N15	0.162	0.165	0.203
56.753	877.840	I9	3-ethylheptane	0.092	0.100	0.113
57.190	879.580	I9	C9-Iso-Paraffin	0.025	0.027	0.031
57.383	880.340	I9	3-methyloctane	0.047	0.053	0.059
57.767	881.850	A8	o-xylene	0.142	0.149	0.175
58.027	882.870	N9	1,1,2-trimethylcyclohexane	0.026	0.026	0.032
58.587	885.040	I9	I6	0.039	0.042	0.048
59.053	886.840	I9	I7	0.210	0.229	0.259
59.307	887.800	N9	N18	0.447	0.457	0.561
59.770	889.560	N9	N19	0.384	0.393	0.482
59.993	890.400	I9	I8	0.055	0.060	0.068
60.380	891.850	I9	I9	0.023	0.026	0.029
60.957	893.990	N9	N21	0.011	0.011	0.014
61.700	896.710	N9	N23	0.177	0.181	0.222
62.230	898.630	I9	I10	0.060	0.065	0.074
62.610	900.000	P9	n-nonane	0.182	0.202	0.224
63.097	903.560	N9	N24	0.511	0.516	0.641
63.477	906.330	N9	N25	0.122	0.123	0.152
63.607	907.270	N9	N26	0.054	0.055	0.068
64.433	913.210	A9	i-propylbenzene	0.057	0.053	0.076
64.910	916.600	I10	I11	0.345	0.377	0.384
65.167	918.410	I10	C10-Iso-Paraffin	0.056	0.062	0.063
65.330	919.560	N9	i-propylcyclohexane	0.187	0.186	0.234

Detailed Hydrocarbon Analysis Detail Report -

Report Date: 10/9/2012 10:38:33 AM

RawFile: M:\ExtendedGas Results\CDF\2012100094-001Adat-Detector 1.cdf
Sample: 2012100094-001A JL
Processed 580 Peaks
Reference File: H:\DHA Application Software\References\DHA REF1210 JL_10052012.DHA
Comments:

Acquired: 10/02/12 14:43:32
Analyzed: 10/9/2012 10:37:04 AM

Normalized to 100.0000%

Hold

Components Listed in Chromatographic Order

Minutes	Index	Group	Component	Mass %	Volume %	Mol %
65.493	920.700	I10	I12	0.015	0.017	0.017
65.770	922.630	I10	2,2-dimethyloctane	0.085	0.094	0.095
66.037	924.490	I10	2,4-dimethyloctane	0.392	0.431	0.436
66.347	926.630	I10	C10-Iso-Paraffin	0.093	0.102	0.104
66.470	927.480	N9	N28	0.067	0.067	0.084
66.810	929.820	N9	N29	0.091	0.092	0.114
67.200	932.480	I10	2,6-dimethyloctane	0.449	0.492	0.499
67.347	933.480	I10	2,5-dimethyloctane	0.401	0.438	0.446
68.043	938.180	N10	N30	0.086	0.086	0.097
68.220	939.360	I10	C10-Iso-Paraffin	0.165	0.165	0.187
68.470	941.030	I10	I14	0.142	0.155	0.158
68.650	942.230	I10	C10-Iso-Paraffin	0.120	0.131	0.134
68.797	943.200	I10	3,3-dimethyloctane	0.152	0.164	0.169
68.907	943.930	I10	C10-Iso-Paraffin	0.088	0.095	0.098
69.050	944.880	N10	N31	0.236	0.235	0.266
69.200	945.870	A9	n-propylbenzene	0.092	0.085	0.121
69.333	946.740	I10	C10-Iso-Paraffin	0.185	0.171	0.243
69.607	948.530	I10	3-methyl-5-ethylheptane	0.109	0.120	0.122
69.860	950.190	N10	N32	0.368	0.367	0.415
70.240	952.660	I10	C10-Iso-Paraffin	0.262	0.261	0.296
70.610	955.050	A9	1,3-methylethylbenzene	0.296	0.273	0.390
70.827	956.440	A9	1,4-methylethylbenzene	0.082	0.075	0.107
71.020	957.680	N10	N33	0.015	0.015	0.016
71.320	959.590	I10	C10-Iso-Paraffin	0.178	0.177	0.200
71.700	962.000	A9	1,3,5-trimethylbenzene	0.142	0.131	0.188
71.903	963.290	I10	I15	0.282	0.304	0.314
72.040	964.150	N10	N34	0.172	0.172	0.194
72.283	965.680	I10	I16	0.148	0.159	0.165
72.390	966.350	I10	C10-Iso-Paraffin	0.079	0.085	0.088
72.760	968.660	I10	5-methylnonane	0.055	0.060	0.061
72.937	969.750	A9	1,2-methylethylbenzene	0.186	0.169	0.245
73.103	970.790	I10	C10-Iso-Paraffin	0.101	0.091	0.133
73.340	972.250	I10	2-methylnonane	0.109	0.120	0.122
73.457	972.970	I10	C10-Iso-Paraffin	0.086	0.095	0.096
73.627	974.020	I10	3-ethyloctane	0.225	0.243	0.250
73.853	975.410	N10	N35	0.246	0.245	0.277
74.000	976.300	I10	C10-Iso-Paraffin	0.049	0.049	0.056
74.123	977.060	I10	C10-Iso-Paraffin	0.124	0.124	0.140

Detailed Hydrocarbon Analysis Detail Report -

Report Date: 10/9/2012 10:38:33 AM

RawFile: M:\ExtendedGas Results\CDF\2012100094-001Adat-Detector 1.cdf
Sample: 2012100094-001A JL
Processed 580 Peaks
Reference File: H:\DHA Application Software\References\DHA REF1210 JL_10052012.DHA
Comments:

Acquired: 10/02/12 14:43:32
Analyzed: 10/9/2012 10:37:04 AM

Normalized to 100.0000%

Hold

Components Listed in Chromatographic Order

Minutes	Index	Group	Component	Mass %	Volume %	Mol %
74.273	977.970	I10	3-methylnonane	0.257	0.280	0.286
74.653	980.280	I10	I18	0.108	0.117	0.120
75.030	982.550	A9	1,2,4-trimethylbenzene	0.246	0.224	0.324
75.297	984.150	N10	i-butylcyclohexane	0.359	0.359	0.405
75.653	986.290	I10	I20	0.444	0.479	0.494
75.893	987.710	I10	I21	0.162	0.174	0.180
76.133	989.140	I10	I23	0.249	0.268	0.277
76.330	990.300	N10	N37	0.067	0.066	0.075
76.467	991.110	I10	C10-Iso-Paraffin	0.032	0.032	0.037
76.813	993.140	I10	I24	0.169	0.182	0.188
77.010	994.300	N10	1t-methyl-2-n-propylcyclohexane	0.380	0.379	0.429
77.280	995.870	A10	i-butylbenzene	0.058	0.054	0.068
77.457	996.900	I10	I25	0.127	0.137	0.141
77.530	997.330	I10	C10-Iso-Paraffin	0.120	0.129	0.133
77.733	998.500	A10	sec-butylbenzene	0.185	0.171	0.218
78.007	1000.150	P10	n-decane	0.159	0.173	0.176
78.267	1002.790	N10	N38	0.169	0.169	0.191
78.500	1005.140	I11	C11-Iso-Paraffin	0.247	0.246	0.279
78.807	1008.230	A9	1,2,3-trimethylbenzene	0.170	0.151	0.224
78.947	1009.640	A10	1,3-methyl-i-propylbenzene	0.023	0.021	0.027
79.050	1010.670	I11	C11-Iso-Paraffin	0.056	0.052	0.066
79.137	1011.540	N11	N39	0.081	0.081	0.083
79.260	1012.770	A10	1,4-methyl-i-propylbenzene	0.057	0.053	0.067
79.640	1016.550	I11	I28	0.145	0.156	0.147
79.853	1018.670	A10	2-3-dihydroindene	0.251	0.207	0.336
80.103	1021.140	I11	C11-Iso-Paraffin	0.148	0.123	0.198
80.320	1023.270	N10	sec-butylcyclohexane	0.525	0.514	0.593
80.683	1026.840	A10	1,2-methyl-i-propylbenzene	0.330	0.300	0.390
80.933	1029.280	I11	C11-Iso-Paraffin	0.102	0.093	0.121
81.187	1031.750	I11	3-ethylnonane	0.653	0.700	0.661
81.697	1036.690	I11	I32	0.235	0.234	0.241
81.893	1038.590	I11	C11-Iso-Paraffin	0.137	0.136	0.140
81.987	1039.490	A10	1,3-diethylbenzene	0.086	0.079	0.101
82.073	1040.320	I11	C11-Iso-Paraffin	0.117	0.108	0.138
82.453	1043.960	I11	I33	0.345	0.372	0.350
82.593	1045.300	A10	1,4-diethylbenzene	0.073	0.067	0.086
82.697	1046.280	A10	1,4-methyl-n-propylbenzene	0.115	0.107	0.135
82.800	1047.270	I11	C11-Iso-Paraffin	0.089	0.082	0.105

RawFile: M:\ExtendedGas Results\CDF\2012100094-001Adat-Detector 1.cdf
Sample: 2012100094-001A JL
Processed 580 Peaks
Reference File: H:\DHA Application Software\References\DHA REF1210 JL_10052012.DHA
Comments:

Acquired: 10/02/12 14:43:32
Analyzed: 10/9/2012 10:37:04 AM

Normalized to 100.0000%

Hold

Components Listed in Chromatographic Order **Page: 12**

Minutes	Index	Group	Component	Mass %	Volume %	Mol %
82.950	1048.690	A10	n-butylbenzene	0.116	0.108	0.137
83.043	1049.580	I11	C11-Iso-Paraffin	0.049	0.045	0.058
83.137	1050.460	A10	1,3-dimethyl-5-ethylbenzene	0.049	0.044	0.058
83.327	1052.260	A10	1,2-diethylbenzene	0.135	0.123	0.160
83.433	1053.270	I11	C11-Iso-Paraffin	0.236	0.214	0.278
83.803	1056.750	A10	1,2-methyl-n-propylbenzene	0.240	0.219	0.283
83.993	1058.530	I11	I35	0.106	0.114	0.107
84.173	1060.220	I11	I36	0.097	0.104	0.098
84.290	1061.310	I11	I37	0.050	0.054	0.051
84.707	1065.180	I11	I38	0.176	0.189	0.178
84.917	1067.130	A10	A3	0.208	0.193	0.245
85.093	1068.760	A10	1,3-dimethyl-4-ethylbenzene	0.166	0.154	0.196
85.303	1070.700	I11	I39	0.157	0.170	0.159
85.480	1072.320	I11	C11-Iso-Paraffin	0.023	0.024	0.023
85.613	1073.550	I11	C11-Iso-Paraffin	0.108	0.116	0.109
85.730	1074.620	I11	I40	0.109	0.118	0.111
85.800	1075.260	A10	1,2-dimethyl-4-ethylbenzene	0.081	0.074	0.096
85.900	1076.170	I11	C11-Iso-Paraffin	0.146	0.133	0.172
86.110	1078.090	I11	I41	0.278	0.299	0.281
86.257	1079.430	I11	C11-Iso-Paraffin	0.336	0.362	0.340
86.600	1082.540	I11	I42	0.136	0.147	0.138
86.793	1084.290	I11	C11-Iso-Paraffin	0.079	0.085	0.080
86.907	1085.320	I11	I43	0.119	0.128	0.120
87.047	1086.580	I11	C11-Iso-Paraffin	0.117	0.126	0.119
87.300	1088.860	A12	1,3-di-n-propylbenzene	0.197	0.177	0.193
87.487	1090.530	I11	C11-Iso-Paraffin	0.179	0.160	0.175
87.703	1092.470	A11	1,4-methyl-t-butylbenzene	0.263	0.247	0.281
87.867	1093.930	A10	1,2-dimethyl-3-ethylbenzene	0.080	0.072	0.095
88.193	1096.830	A11	1,2-ethyl-i-propylbenzene	0.630	0.565	0.673
88.400	1098.670	I11	C11-Iso-Paraffin	0.132	0.118	0.141
88.550	1100.000	P11	n-undecane	0.114	0.123	0.116
88.797	1102.970	A11	1,4-ethyl-i-propylbenzene	0.151	0.136	0.162
88.903	1104.250	A10	1,2,4,5-tetramethylbenzene	0.288	0.259	0.340
89.227	1108.120	A11	1,2-methyl-n-butylbenzene	0.210	0.188	0.224
89.343	1109.520	A10	1,2,3,5-tetramethylbenzene	0.335	0.300	0.395
89.490	1111.270	I12	C12-Iso-Paraffin	0.118	0.106	0.139
89.810	1115.070	A11	1,2-methyl-t-butylbenzene	0.352	0.315	0.376
90.010	1117.440	I12	C12-Iso-Paraffin	0.080	0.072	0.086

Detailed Hydrocarbon Analysis Detail Report -

Report Date: 10/9/2012 10:38:33 AM

RawFile: M:\ExtendedGas Results\CDF\2012100094-001Adat-Detector 1.cdf
Sample: 2012100094-001A JL
Processed 580 Peaks
Reference File: H:\DHA Application Software\References\DHA REF1210 JL_10052012.DHA
Comments:

Acquired: 10/02/12 14:43:32
Analyzed: 10/9/2012 10:37:04 AM

Normalized to 100.0000%

Hold

Components Listed in Chromatographic Order

Page: 13

Minutes	Index	Group	Component	Mass %	Volume %	Mol %
90.130	1118.870	I12	C12-Iso-Paraffin	0.045	0.041	0.048
90.260	1120.400	I12	C12-Iso-Paraffin	0.142	0.127	0.152
90.340	1121.350	I12	C12-Iso-Paraffin	0.147	0.131	0.157
90.880	1127.700	A10	5-methylindan	0.532	0.476	0.637
91.030	1129.450	I12	C12-Iso-Paraffin	0.124	0.111	0.149
91.213	1131.600	I12	I44	0.299	0.317	0.278
91.413	1133.930	A10	4-methylindan	0.130	0.116	0.156
91.643	1136.610	A11	1,2-ethyl-n-propylbenzene	0.399	0.357	0.426
91.993	1140.660	A11	1,3-methyl-n-butylbenzene	0.086	0.077	0.092
92.107	1141.970	I12	C12-Iso-Paraffin	0.104	0.093	0.111
92.200	1143.050	A12	1,3-di-i-propylbenzene	0.032	0.029	0.032
92.363	1144.930	A11	s-pentylbenzene	0.103	0.092	0.110
92.530	1146.850	I12	C12-Iso-Paraffin	0.077	0.069	0.082
92.700	1148.800	I12	C12-Iso-Paraffin	0.229	0.205	0.245
92.827	1150.260	A11	n-pentylbenzene	0.036	0.032	0.038
93.023	1152.510	A12	1,2-di-i-propylbenzene	0.186	0.166	0.181
93.163	1154.110	I12	C12-Iso-Paraffin	0.120	0.107	0.117
93.407	1156.880	I12	C12-Iso-Paraffin	0.141	0.126	0.138
93.487	1157.790	I12	C12-Iso-Paraffin	0.092	0.082	0.089
93.560	1158.620	I12	C12-Iso-Paraffin	0.096	0.086	0.094
93.667	1159.830	A12	1,4-di-i-propylbenzene	0.101	0.090	0.098
93.807	1161.420	I12	C12-Iso-Paraffin	0.086	0.077	0.084
93.960	1163.160	A10	tetrahydronaphthalene	0.169	0.139	0.203
94.113	1164.890	I12	C12-Iso-Paraffin	0.231	0.190	0.276
94.273	1166.690	I12	C12-Iso-Paraffin	0.080	0.066	0.096
94.353	1167.590	A10	naphthalene	0.078	0.061	0.096
94.530	1169.580	A12	1-t-butyl-3,5-dimethylbenzene	0.240	0.215	0.234
94.617	1170.550	I12	C12-Iso-Paraffin	0.123	0.110	0.120
94.737	1171.900	I12	C12-Iso-Paraffin	0.047	0.042	0.046
94.917	1173.910	A12	1,4-ethyl-t-butylbenzene	0.224	0.201	0.219
95.050	1175.400	I12	C12-Iso-Paraffin	0.045	0.041	0.044
95.260	1177.750	I12	I45	0.350	0.371	0.325
95.513	1180.560	I12	I46	0.102	0.108	0.095
95.703	1182.670	I12	C12-Iso-Paraffin	0.477	0.505	0.444
95.890	1184.740	I12	I47	0.214	0.227	0.199
96.007	1186.030	I12	C12-Iso-Paraffin	0.055	0.059	0.052
96.193	1188.090	I12	I48	0.402	0.426	0.374
96.393	1190.290	A12	A5	0.223	0.200	0.218

Detailed Hydrocarbon Analysis Detail Report -

Report Date: 10/9/2012 10:38:33 AM

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Comments:

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Analyzed: 10/9/2012 10:37:04 AM

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Hold

Components Listed in Chromatographic Order

Minutes	Index	Group	Component	Mass %	Volume %	Mol %
96.610	1192.670	A12	A6	0.374	0.335	0.364
96.837	1195.160	I12	C12-Iso-Paraffin	0.067	0.060	0.065
97.050	1197.490	I12	C12-Iso-Paraffin	0.204	0.183	0.199
97.280	1200.000	P12	n-dodecane	0.397	0.420	0.369
97.430	1202.050	I13	C13-Iso-Paraffin	0.350	0.370	0.325
97.613	1204.550	I13	C13-Iso-Paraffin	0.123	0.130	0.114
97.900	1208.450	I13	C13-Iso-Paraffin	0.450	0.477	0.418
98.107	1211.250	I13	C13-Iso-Paraffin	0.114	0.121	0.106
98.323	1214.190	I13	C13-Iso-Paraffin	0.161	0.171	0.150
98.557	1217.340	A12	1,3,5-triethylbenzene	0.475	0.426	0.463
98.687	1219.090	I13	C13-Iso-Paraffin	0.086	0.077	0.084
98.857	1221.380	I13	C13-Iso-Paraffin	0.170	0.153	0.166
99.067	1224.200	I13	C13-Iso-Paraffin	0.195	0.175	0.191
99.240	1226.520	I13	C13-Iso-Paraffin	0.331	0.296	0.323
99.493	1229.910	I13	C13-Iso-Paraffin	0.382	0.342	0.372
99.697	1232.620	I13	C13-Iso-Paraffin	0.103	0.092	0.101
99.807	1234.090	I13	C13-Iso-Paraffin	0.121	0.109	0.118
99.927	1235.690	A12	1,2,4-triethylbenzene	0.134	0.120	0.130
100.117	1238.210	I13	C13-Iso-Paraffin	0.086	0.077	0.084
100.377	1241.650	A12	1,4-methyl-n-pentylbenzene	0.562	0.504	0.549
100.640	1245.130	I13	C13-Iso-Paraffin	0.149	0.134	0.146
100.820	1247.500	I13	C13-Iso-Paraffin	0.250	0.224	0.244
101.023	1250.180	I13	C13-Iso-Paraffin	0.086	0.077	0.084
101.140	1251.710	I13	C13-Iso-Paraffin	0.129	0.116	0.126
101.347	1254.420	I13	C13-Iso-Paraffin	0.235	0.210	0.229
101.443	1255.680	A12	n-hexylbenzene	0.168	0.151	0.164
101.593	1257.640	I13	C13-Iso-Paraffin	0.283	0.254	0.276
101.817	1260.550	I13	C13-Iso-Paraffin	0.112	0.100	0.109
101.947	1262.250	I13	C13-Iso-Paraffin	0.279	0.250	0.273
102.167	1265.110	I13	C13-Iso-Paraffin	0.203	0.182	0.198
102.297	1266.790	I13	C13-Iso-Paraffin	0.430	0.385	0.419
102.410	1268.260	I13	C13-Iso-Paraffin	0.158	0.141	0.154
102.540	1269.940	I13	I50	0.183	0.193	0.157
102.793	1273.210	A11	1,2,3,4,5-pentamethylbenzene	0.352	0.281	0.376
102.937	1275.060	I13	C13-Iso-Paraffin	0.104	0.083	0.111
103.123	1277.460	A11	2-methylnaphthalene	0.521	0.408	0.576
103.317	1279.940	A11	1-methylnaphthalene	0.387	0.303	0.428
103.483	1282.080	I13	C13-Iso-Paraffin	0.125	0.098	0.138

Detailed Hydrocarbon Analysis Detail Report -

Report Date: 10/9/2012 10:38:33 AM

RawFile: M:\ExtendedGas Results\CDF\2012100094-001Adat-Detector 1.cdf
Sample: 2012100094-001A JL
Processed 580 Peaks
Reference File: H:\DHA Application Software\References\DHA REF1210 JL_10052012.DHA
Comments:

Acquired: 10/02/12 14:43:32
Analyzed: 10/9/2012 10:37:04 AM

Normalized to 100.0000%

Hold

Components Listed in Chromatographic Order

Minutes	Index	Group	Component	Mass %	Volume %	Mol %
103.633	1284.000	I13	C13-Iso-Paraffin	0.177	0.138	0.195
103.737	1285.320	I13	C13-Iso-Paraffin	0.072	0.056	0.080
103.900	1287.400	I13	C13-Iso-Paraffin	0.421	0.329	0.466
104.267	1292.060	I13	C13-Iso-Paraffin	0.422	0.330	0.467
104.533	1295.440	I13	C13-Iso-Paraffin	0.216	0.169	0.239
104.893	1300.000	P13	n-tridecane	0.808	0.851	0.693
105.060	1302.490	I14	C14-Iso-Paraffin	0.221	0.232	0.189
105.193	1304.490	I14	C14-Iso-Paraffin	0.060	0.064	0.052
105.320	1306.380	I14	C14-Iso-Paraffin	0.131	0.138	0.113
105.427	1307.970	I14	C14-Iso-Paraffin	0.214	0.225	0.183
105.650	1311.290	I14	C14-Iso-Paraffin	0.254	0.268	0.218
105.773	1313.130	I14	C14-Iso-Paraffin	0.124	0.131	0.107
105.863	1314.470	I14	C14-Iso-Paraffin	0.202	0.213	0.173
106.060	1317.380	I14	C14-Iso-Paraffin	0.182	0.192	0.157
106.227	1319.850	I14	C14-Iso-Paraffin	0.250	0.264	0.215
106.323	1321.280	I14	C14-Iso-Paraffin	0.301	0.317	0.258
106.640	1325.950	I14	C14-Iso-Paraffin	0.279	0.294	0.240
106.813	1328.500	I14	C14-Iso-Paraffin	0.089	0.094	0.077
107.040	1331.830	I14	C14-Iso-Paraffin	0.387	0.408	0.332
107.287	1335.440	I14	C14-Iso-Paraffin	0.247	0.260	0.212
107.427	1337.490	I14	C14-Iso-Paraffin	0.104	0.109	0.089
107.527	1338.950	I14	C14-Iso-Paraffin	0.152	0.160	0.131
107.773	1342.550	I14	C14-Iso-Paraffin	0.109	0.115	0.094
107.883	1344.150	I14	C14-Iso-Paraffin	0.133	0.141	0.114
108.053	1346.620	I14	C14-Iso-Paraffin	0.265	0.280	0.228
108.173	1348.360	I14	C14-Iso-Paraffin	0.134	0.141	0.115
108.320	1350.490	I14	C14-Iso-Paraffin	0.272	0.286	0.233
108.530	1353.520	I14	C14-Iso-Paraffin	0.280	0.295	0.240
108.733	1356.460	I14	C14-Iso-Paraffin	0.314	0.331	0.270
109.073	1361.360	I14	C14-Iso-Paraffin	0.341	0.360	0.293
109.213	1363.370	I14	C14-Iso-Paraffin	0.215	0.226	0.184
109.417	1366.280	I14	C14-Iso-Paraffin	0.346	0.364	0.297
109.557	1368.290	I14	C14-Iso-Paraffin	0.219	0.231	0.188
109.707	1370.430	I14	C14-Iso-Paraffin	0.141	0.149	0.121
109.890	1373.050	I14	C14-Iso-Paraffin	0.341	0.360	0.293
110.163	1376.940	I14	C14-Iso-Paraffin	0.177	0.187	0.152
110.447	1380.970	I14	C14-Iso-Paraffin	0.917	0.967	0.787
110.773	1385.600	I14	C14-Iso-Paraffin	0.272	0.287	0.234

RawFile: M:\ExtendedGas Results\CDF\2012100094-001Adat-Detector 1.cdf
Acquired: 10/02/12 14:43:32
Sample: 2012100094-001A JL
Analyzed: 10/9/2012 10:37:04 AM
Processed 580 Peaks
Reference File: H:\DHA Application Software\References\DHA REF1210 JL_10052012.DHA
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Hold

Components Listed in Chromatographic Order **Page: 16**

Minutes	Index	Group	Component	Mass %	Volume %	Mol %
110.880	1387.100	I14	C14-Iso-Paraffin	0.071	0.075	0.061
111.003	1388.840	I14	C14-Iso-Paraffin	0.157	0.166	0.135
111.270	1392.600	I14	C14-Iso-Paraffin	0.273	0.288	0.235
111.407	1394.520	I14	C14-Iso-Paraffin	0.418	0.440	0.359
111.797	1400.000	P14	C14	1.113	1.163	0.888
111.960	1402.650	I15	C15-Iso-Paraffin	0.224	0.235	0.179
112.260	1407.520	I15	C15-Iso-Paraffin	0.686	0.717	0.547
112.550	1412.210	I15	C15-Iso-Paraffin	0.385	0.402	0.307
112.683	1414.360	I15	C15-Iso-Paraffin	0.241	0.252	0.193
112.850	1417.050	I15	C15-Iso-Paraffin	0.073	0.076	0.058
112.987	1419.250	I15	C15-Iso-Paraffin	0.276	0.289	0.220
113.260	1423.640	I15	C15-Iso-Paraffin	0.183	0.191	0.146
113.400	1425.880	I15	C15-Iso-Paraffin	0.057	0.060	0.046
113.590	1428.930	I15	C15-Iso-Paraffin	0.226	0.237	0.181
113.703	1430.740	I15	C15-Iso-Paraffin	0.179	0.188	0.143
113.913	1434.090	I15	C15-Iso-Paraffin	0.139	0.145	0.111
114.067	1436.540	I15	C15-Iso-Paraffin	0.229	0.239	0.183
114.250	1439.450	I15	C15-Iso-Paraffin	0.495	0.517	0.395
114.453	1442.680	I15	C15-Iso-Paraffin	0.082	0.086	0.066
114.593	1444.900	I15	C15-Iso-Paraffin	0.263	0.275	0.210
115.037	1451.910	I15	C15-Iso-Paraffin	0.770	0.805	0.614
115.270	1455.590	I15	C15-Iso-Paraffin	0.260	0.271	0.207
115.427	1458.060	I15	C15-Iso-Paraffin	0.067	0.070	0.053
115.620	1461.090	I15	C15-Iso-Paraffin	0.330	0.345	0.263
115.777	1463.550	I15	C15-Iso-Paraffin	0.061	0.064	0.049
115.983	1466.790	I15	C15-Iso-Paraffin	0.987	1.032	0.788
116.380	1472.980	I15	C15-Iso-Paraffin	0.401	0.419	0.320
116.540	1475.480	I15	C15-Iso-Paraffin	0.340	0.356	0.272
116.740	1478.590	I15	C15-Iso-Paraffin	0.107	0.112	0.085
116.920	1481.380	I15	C15-Iso-Paraffin	0.170	0.178	0.136
117.127	1484.580	I15	C15-Iso-Paraffin	0.356	0.372	0.284
117.530	1490.820	I15	C15-Iso-Paraffin	0.288	0.301	0.229
117.707	1493.540	I15	C15-Iso-Paraffin	0.240	0.251	0.191
117.870	1496.050	I15	C15-Iso-Paraffin	0.208	0.218	0.166
118.050	1498.820	P15	C15	1.494	1.168	1.154
118.217	1501.720	I16	C16-Iso-Paraffin	0.211	0.165	0.163
118.380	1504.850	I16	C16-Iso-Paraffin	0.122	0.095	0.094
118.483	1506.820	I16	C16-Iso-Paraffin	0.129	0.100	0.099

Detailed Hydrocarbon Analysis Detail Report -

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Processed 580 Peaks
Reference File: H:\DHA Application Software\References\DHA REF1210 JL_10052012.DHA
Comments:

Acquired: 10/02/12 14:43:32
Analyzed: 10/9/2012 10:37:04 AM

Normalized to 100.0000%

Hold

Components Listed in Chromatographic Order

Minutes	Index	Group	Component	Mass %	Volume %	Mol %
118.730	1511.530	I16	C16-Iso-Paraffin	0.330	0.258	0.255
118.980	1516.290	I16	C16-Iso-Paraffin	0.358	0.280	0.277
119.203	1520.540	I16	C16-Iso-Paraffin	0.155	0.121	0.119
119.307	1522.500	I16	C16-Iso-Paraffin	0.144	0.113	0.111
119.473	1525.660	I16	C16-Iso-Paraffin	0.060	0.047	0.046
119.590	1527.870	I16	C16-Iso-Paraffin	0.064	0.050	0.050
119.760	1531.080	I16	C16-Iso-Paraffin	0.130	0.102	0.100
119.880	1533.350	I16	C16-Iso-Paraffin	0.072	0.056	0.055
120.167	1538.750	I16	C16-Iso-Paraffin	0.283	0.221	0.218
120.393	1543.020	I16	C16-Iso-Paraffin	0.203	0.158	0.156
120.510	1545.210	I16	C16-Iso-Paraffin	0.103	0.081	0.080
120.700	1548.770	I16	C16-Iso-Paraffin	0.214	0.167	0.165
120.807	1550.770	I16	C16-Iso-Paraffin	0.191	0.149	0.147
121.003	1554.450	I16	C16-Iso-Paraffin	0.280	0.219	0.216
121.087	1556.000	I16	C16-Iso-Paraffin	0.297	0.232	0.229
121.207	1558.240	I16	C16-Iso-Paraffin	0.194	0.152	0.150
121.307	1560.110	I16	C16-Iso-Paraffin	0.251	0.196	0.194
121.580	1565.200	I16	C16-Iso-Paraffin	0.275	0.215	0.212
121.840	1570.030	I16	C16-Iso-Paraffin	0.410	0.320	0.316
121.977	1572.560	I16	C16-Iso-Paraffin	0.415	0.324	0.320
122.340	1579.280	I16	C16-Iso-Paraffin	0.136	0.107	0.105
122.547	1583.100	I16	C16-Iso-Paraffin	0.086	0.068	0.067
122.687	1585.680	I16	C16-Iso-Paraffin	0.051	0.040	0.040
122.783	1587.460	I16	C16-Iso-Paraffin	0.048	0.038	0.037
123.087	1593.030	I16	C16-Iso-Paraffin	0.325	0.254	0.251
123.197	1595.050	I16	C16-Iso-Paraffin	0.137	0.107	0.106
123.397	1598.710	P16	C16	1.410	1.454	0.986
123.573	1602.360	I17	C17-Iso-Paraffin	0.181	0.186	0.126
123.737	1605.990	I17	C17-Iso-Paraffin	0.063	0.065	0.044
123.853	1608.580	I17	C17-Iso-Paraffin	0.120	0.124	0.084
123.983	1611.450	I17	C17-Iso-Paraffin	0.230	0.237	0.161
124.213	1616.540	I17	C17-Iso-Paraffin	0.200	0.206	0.140
124.503	1622.940	I17	C17-Iso-Paraffin	0.142	0.146	0.099
124.633	1625.800	I17	C17-Iso-Paraffin	0.058	0.060	0.040
124.793	1629.320	I17	C17-Iso-Paraffin	0.080	0.082	0.056
124.913	1631.950	I17	C17-Iso-Paraffin	0.079	0.081	0.055
125.120	1636.490	I17	C17-Iso-Paraffin	0.097	0.100	0.067
125.213	1638.530	I17	C17-Iso-Paraffin	0.087	0.090	0.061

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Comments:
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Hold

Components Listed in Chromatographic Order **Page: 18**

Minutes	Index	Group	Component	Mass %	Volume %	Mol %
125.437	1643.420	I17	C17-Iso-Paraffin	0.081	0.084	0.057
125.597	1646.920	I17	C17-Iso-Paraffin	0.243	0.250	0.170
125.757	1650.410	I17	C17-Iso-Paraffin	0.133	0.137	0.093
125.920	1653.960	I17	C17-Iso-Paraffin	0.510	0.526	0.357
126.250	1661.140	I17	C17-Iso-Paraffin	0.434	0.447	0.303
126.453	1665.550	I17	C17-Iso-Paraffin	0.167	0.172	0.117
126.567	1668.000	I17	C17-Iso-Paraffin	0.149	0.154	0.104
126.820	1673.480	I17	C17-Iso-Paraffin	0.195	0.201	0.136
126.943	1676.150	I17	C17-Iso-Paraffin	0.077	0.080	0.054
127.067	1678.810	I17	C17-Iso-Paraffin	0.044	0.045	0.030
127.153	1680.680	I17	C17-Iso-Paraffin	0.024	0.024	0.016
127.267	1683.120	I17	C17-Iso-Paraffin	0.055	0.057	0.039
127.433	1686.700	I17	C17-Iso-Paraffin	0.134	0.138	0.093
127.580	1689.850	I17	C17-Iso-Paraffin	0.093	0.096	0.065
127.663	1691.640	I17	C17-Iso-Paraffin	0.088	0.090	0.061
127.930	1697.360	I17	C17-Iso-Paraffin	0.153	0.158	0.107
128.053	1700.000	P17	C17	1.185	1.215	0.780
128.193	1703.420	I18	C18-Iso-Paraffin	0.101	0.103	0.066
128.397	1708.400	I18	C18-Iso-Paraffin	0.147	0.151	0.097
128.520	1711.410	I18	C18-Iso-Paraffin	0.663	0.680	0.437
128.653	1714.660	I18	C18-Iso-Paraffin	0.085	0.087	0.056
128.787	1717.910	I18	C18-Iso-Paraffin	0.104	0.107	0.069
128.863	1719.780	I18	C18-Iso-Paraffin	0.037	0.038	0.025
128.973	1722.460	I18	C18-Iso-Paraffin	0.102	0.105	0.067
129.063	1724.650	I18	C18-Iso-Paraffin	0.070	0.072	0.046
129.190	1727.720	I18	C18-Iso-Paraffin	0.058	0.059	0.038
129.377	1732.250	I18	C18-Iso-Paraffin	0.134	0.137	0.088
129.490	1735.000	I18	C18-Iso-Paraffin	0.024	0.025	0.016
129.630	1738.390	I18	C18-Iso-Paraffin	0.087	0.090	0.058
129.760	1741.530	I18	C18-Iso-Paraffin	0.020	0.020	0.013
129.947	1746.040	I18	C18-Iso-Paraffin	0.130	0.133	0.085
130.017	1747.730	I18	C18-Iso-Paraffin	0.104	0.106	0.068
130.123	1750.300	I18	C18-Iso-Paraffin	0.129	0.132	0.085
130.287	1754.230	I18	C18-Iso-Paraffin	0.074	0.076	0.049
130.453	1758.240	I18	C18-Iso-Paraffin	0.190	0.194	0.125
130.547	1760.480	I18	C18-Iso-Paraffin	0.112	0.115	0.074
130.643	1762.800	I18	C18-Iso-Paraffin	0.059	0.060	0.039
130.787	1766.240	I18	C18-Iso-Paraffin	0.202	0.207	0.133

Detailed Hydrocarbon Analysis Detail Report -

Report Date: 10/9/2012 10:38:33 AM

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Processed 580 Peaks
Reference File: H:\DHA Application Software\References\DHA REF1210 JL_10052012.DHA
Comments:

Acquired: 10/02/12 14:43:32
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Normalized to 100.0000%

Hold

Components Listed in Chromatographic Order

Minutes	Index	Group	Component	Mass %	Volume %	Mol %
130.913	1769.270	I18	C18-Iso-Paraffin	0.059	0.060	0.039
131.103	1773.820	I18	C18-Iso-Paraffin	0.140	0.143	0.092
131.320	1778.990	I18	C18-Iso-Paraffin	0.070	0.071	0.046
131.410	1781.140	I18	C18-Iso-Paraffin	0.036	0.036	0.023
131.500	1783.280	I18	C18-Iso-Paraffin	0.040	0.041	0.026
131.590	1785.430	I18	C18-Iso-Paraffin	0.029	0.029	0.019
131.790	1790.190	I18	C18-Iso-Paraffin	0.138	0.141	0.091
132.203	1800.000	P18	C18	0.904	0.928	0.562
132.320	1803.080	I19	C19-Iso-Paraffin	0.048	0.049	0.030
132.460	1806.790	I19	C19-Iso-Paraffin	0.076	0.078	0.047
132.653	1811.890	I19	C19-Iso-Paraffin	0.147	0.151	0.091
132.780	1815.230	I19	C19-Iso-Paraffin	0.367	0.377	0.228
133.063	1822.690	I19	C19-Iso-Paraffin	0.100	0.103	0.062
133.163	1825.320	I19	C19-Iso-Paraffin	0.045	0.046	0.028
133.243	1827.430	I19	C19-Iso-Paraffin	0.063	0.064	0.039
133.460	1833.110	I19	C19-Iso-Paraffin	0.031	0.031	0.019
133.620	1837.300	I19	C19-Iso-Paraffin	0.061	0.063	0.038
133.740	1840.440	I19	C19-Iso-Paraffin	0.086	0.088	0.053
133.867	1843.760	I19	C19-Iso-Paraffin	0.074	0.076	0.046
133.947	1845.850	I19	C19-Iso-Paraffin	0.044	0.045	0.027
134.053	1848.630	I19	C19-Iso-Paraffin	0.070	0.072	0.043
134.227	1853.150	I19	C19-Iso-Paraffin	0.068	0.069	0.042
134.480	1859.750	I19	C19-Iso-Paraffin	0.112	0.115	0.070
134.677	1864.860	I19	C19-Iso-Paraffin	0.116	0.119	0.072
134.873	1869.960	I19	C19-Iso-Paraffin	0.095	0.098	0.059
134.980	1872.730	I19	C19-Iso-Paraffin	0.064	0.066	0.040
135.187	1878.080	I19	C19-Iso-Paraffin	0.038	0.039	0.024
135.343	1882.130	I19	C19-Iso-Paraffin	0.067	0.069	0.042
135.427	1884.280	I19	C19-Iso-Paraffin	0.021	0.021	0.013
135.547	1887.380	I19	C19-Iso-Paraffin	0.032	0.033	0.020
135.700	1891.330	I19	C19-Iso-Paraffin	0.071	0.072	0.044
135.973	1898.370	P19	C19	0.861	0.883	0.507
136.210	1905.040	I20	C20-Iso-Paraffin	0.073	0.074	0.043
136.323	1908.340	I20	C20-Iso-Paraffin	0.053	0.055	0.031
136.530	1914.350	I20	C20-Iso-Paraffin	0.108	0.111	0.064
136.670	1918.410	I20	C20-Iso-Paraffin	0.076	0.078	0.045
136.800	1922.180	I20	C20-Iso-Paraffin	0.028	0.029	0.017
136.903	1925.170	I20	C20-Iso-Paraffin	0.015	0.015	0.009

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Components Listed in Chromatographic Order **Page: 20**

Minutes	Index	Group	Component	Mass %	Volume %	Mol %
137.107	1931.060	I20	C20-Iso-Paraffin	0.065	0.067	0.038
137.343	1937.890	I20	C20-Iso-Paraffin	0.041	0.042	0.024
137.460	1941.260	I20	C20-Iso-Paraffin	0.083	0.086	0.049
137.567	1944.330	I20	C20-Iso-Paraffin	0.028	0.029	0.017
137.670	1947.310	I20	C20-Iso-Paraffin	0.067	0.069	0.040
137.830	1951.910	I20	C20-Iso-Paraffin	0.021	0.022	0.012
138.063	1958.610	I20	C20-Iso-Paraffin	0.052	0.054	0.031
138.240	1963.680	I20	C20-Iso-Paraffin	0.093	0.096	0.055
138.393	1968.070	I20	C20-Iso-Paraffin	0.039	0.040	0.023
138.587	1973.600	I20	C20-Iso-Paraffin	0.134	0.137	0.079
138.820	1980.260	I20	C20-Iso-Paraffin	0.041	0.042	0.024
138.960	1984.260	I20	C20-Iso-Paraffin	0.055	0.056	0.032
139.073	1987.490	I20	C20-Iso-Paraffin	0.070	0.071	0.041
139.453	1998.290	P20	C20	0.648	0.655	0.363
139.677	2005.090	I21	C21-Iso-Paraffin	0.026	0.026	0.014
139.873	2011.200	I21	C21-Iso-Paraffin	0.083	0.084	0.047
140.057	2016.900	I21	C21-Iso-Paraffin	0.067	0.068	0.037
140.237	2022.490	I21	C21-Iso-Paraffin	0.053	0.053	0.030
140.367	2026.510	I21	C21-Iso-Paraffin	0.028	0.028	0.015
140.457	2029.300	I21	C21-Iso-Paraffin	0.010	0.010	0.006
140.663	2035.690	I21	C21-Iso-Paraffin	0.062	0.062	0.034
140.800	2039.920	I21	C21-Iso-Paraffin	0.082	0.083	0.046
140.913	2043.410	I21	C21-Iso-Paraffin	0.045	0.046	0.025
141.010	2046.400	I21	C21-Iso-Paraffin	0.036	0.036	0.020
141.167	2051.220	I21	C21-Iso-Paraffin	0.052	0.053	0.029
141.397	2058.300	I21	C21-Iso-Paraffin	0.050	0.051	0.028
141.570	2063.620	I21	C21-Iso-Paraffin	0.063	0.064	0.036
141.673	2066.790	I21	C21-Iso-Paraffin	0.017	0.017	0.010
141.853	2072.310	I21	C21-Iso-Paraffin	0.084	0.085	0.047
141.937	2074.860	I21	C21-Iso-Paraffin	0.019	0.019	0.010
142.120	2080.470	I21	C21-Iso-Paraffin	0.145	0.146	0.081
142.280	2085.360	I21	C21-Iso-Paraffin	0.054	0.055	0.030
142.463	2090.960	I21	C21-Iso-Paraffin	0.031	0.032	0.018
142.697	2098.070	P21	C21	0.418	0.421	0.223
142.860	2103.300	I22	C22-Iso-Paraffin	0.011	0.012	0.006
143.190	2114.200	I22	C22-Iso-Paraffin	0.024	0.024	0.013
143.367	2120.020	I22	C22-Iso-Paraffin	0.033	0.033	0.018
143.927	2138.430	I22	C22-Iso-Paraffin	0.162	0.163	0.086

Detailed Hydrocarbon Analysis Detail Report -

Report Date: 10/9/2012 10:38:33 AM

RawFile: M:\ExtendedGas Results\CDF\2012100094-001Adat-Detector 1.cdf
Sample: 2012100094-001A JL
Processed 580 Peaks
Reference File: H:\DHA Application Software\References\DHA REF1210 JL_10052012.DHA
Comments:

Acquired: 10/02/12 14:43:32
Analyzed: 10/9/2012 10:37:04 AM

Normalized to 100.0000%

Hold

Components Listed in Chromatographic Order

Minutes	Index	Group	Component	Mass %	Volume %	Mol %
144.067	2143.020	I22	C22-Iso-Paraffin	0.017	0.017	0.009
144.173	2146.510	I22	C22-Iso-Paraffin	0.032	0.033	0.017
144.323	2151.420	I22	C22-Iso-Paraffin	0.016	0.016	0.009
144.530	2158.170	I22	C22-Iso-Paraffin	0.046	0.046	0.024
144.683	2163.180	I22	C22-Iso-Paraffin	0.050	0.051	0.027
144.820	2167.630	I22	C22-Iso-Paraffin	0.026	0.027	0.014
145.020	2174.150	I22	C22-Iso-Paraffin	0.059	0.060	0.032
145.273	2182.380	I22	C22-Iso-Paraffin	0.089	0.089	0.047
145.753	2197.940	P22	C22	0.334	0.335	0.170
146.117	2209.750	I23	C23-Iso-Paraffin	0.020	0.020	0.010
146.310	2216.020	I23	C23-Iso-Paraffin	0.025	0.025	0.013
146.460	2220.890	I23	C23-Iso-Paraffin	0.025	0.025	0.013
146.593	2225.200	I23	C23-Iso-Paraffin	0.047	0.047	0.024
146.920	2235.760	I23	C23-Iso-Paraffin	0.046	0.046	0.023
147.080	2240.930	I23	C23-Iso-Paraffin	0.109	0.110	0.056
147.347	2249.520	I23	C23-Iso-Paraffin	0.018	0.018	0.009
147.560	2256.380	I23	C23-Iso-Paraffin	0.044	0.045	0.023
147.723	2261.630	I23	C23-Iso-Paraffin	0.041	0.041	0.021
147.907	2267.510	I23	C23-Iso-Paraffin	0.042	0.042	0.021
148.027	2271.360	I23	C23-Iso-Paraffin	0.024	0.024	0.012
148.177	2276.160	I23	C23-Iso-Paraffin	0.017	0.017	0.009
148.473	2285.650	I23	C23-Iso-Paraffin	0.022	0.023	0.011
148.577	2288.950	I23	C23-Iso-Paraffin	0.011	0.011	0.006
148.853	2297.770	P23	C23	0.280	0.280	0.136
149.547	2318.260	I24	C24-Iso-Paraffin	0.011	0.011	0.006
149.680	2322.160	I24	C24-Iso-Paraffin	0.039	0.039	0.019
150.093	2334.210	I24	C24-Iso-Paraffin	0.033	0.033	0.016
150.223	2338.000	I24	C24-Iso-Paraffin	0.023	0.023	0.011
150.450	2344.590	I24	C24-Iso-Paraffin	0.035	0.035	0.017
150.583	2348.460	I24	C24-Iso-Paraffin	0.012	0.012	0.006
151.020	2361.110	I24	C24-Iso-Paraffin	0.048	0.048	0.023
151.330	2370.070	I24	C24-Iso-Paraffin	0.015	0.015	0.007
151.617	2378.340	I24	C24-Iso-Paraffin	0.013	0.013	0.006
151.987	2388.990	I24	C24-Iso-Paraffin	0.013	0.013	0.007
152.287	2397.610	P24	C24	0.245	0.245	0.115
153.653	2432.590	I25	C25-Iso-Paraffin	0.010	0.010	0.005
154.757	2460.390	I25	C25-Iso-Paraffin	0.016	0.016	0.007
155.173	2470.830	I25	C25-Iso-Paraffin	0.013	0.013	0.006

Detailed Hydrocarbon Analysis Detail Report -

Report Date: 10/9/2012 10:38:33 AM

RawFile: M:\ExtendedGas Results\CDF\2012100094-001Adat-Detector 1.cdf
Sample: 2012100094-001A JL
Processed 580 Peaks
Reference File: H:\DHA Application Software\References\DHA REF1210 JL_10052012.DHA
Comments:

Acquired: 10/02/12 14:43:32
Analyzed: 10/9/2012 10:37:04 AM

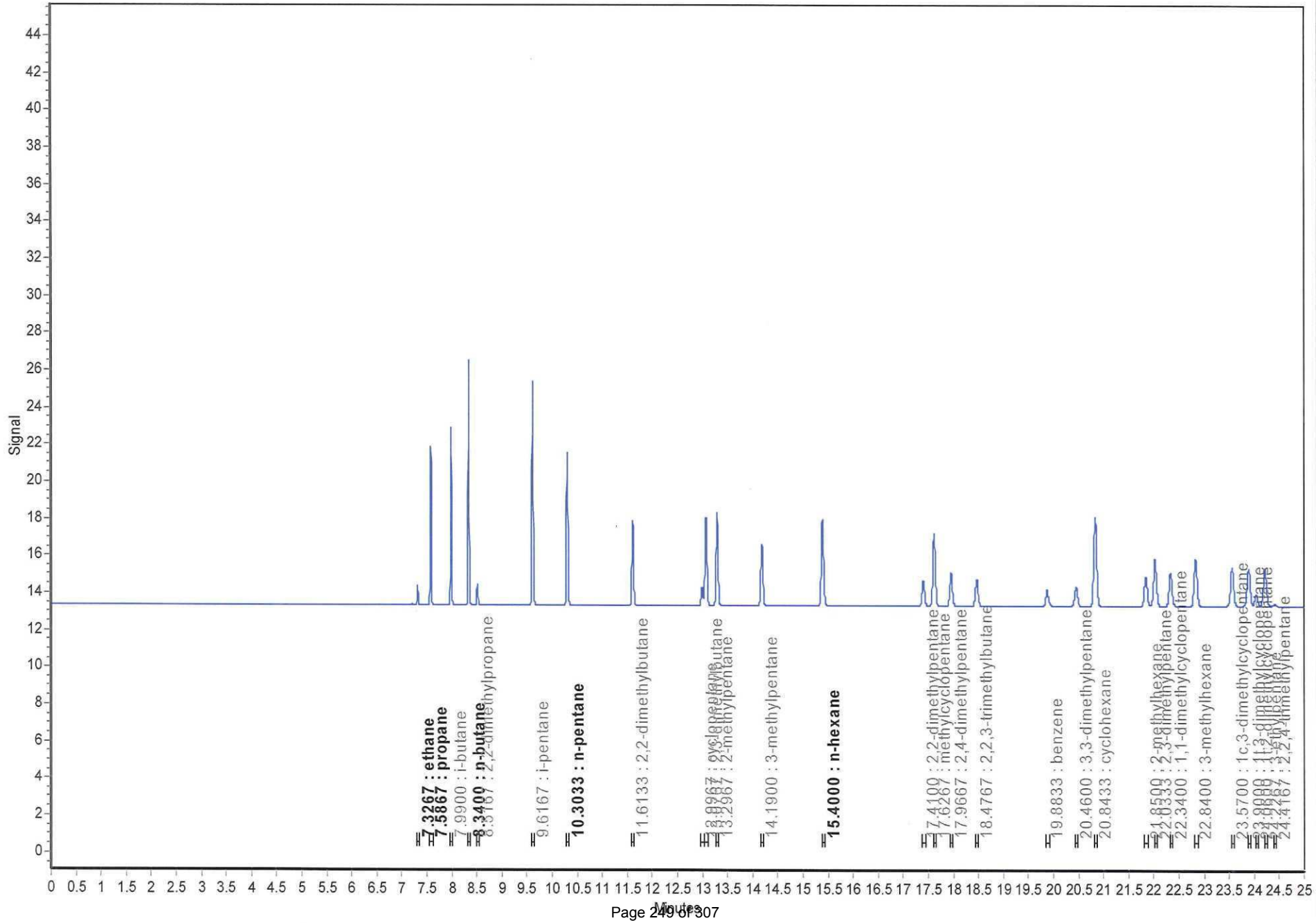
Normalized to 100.0000%

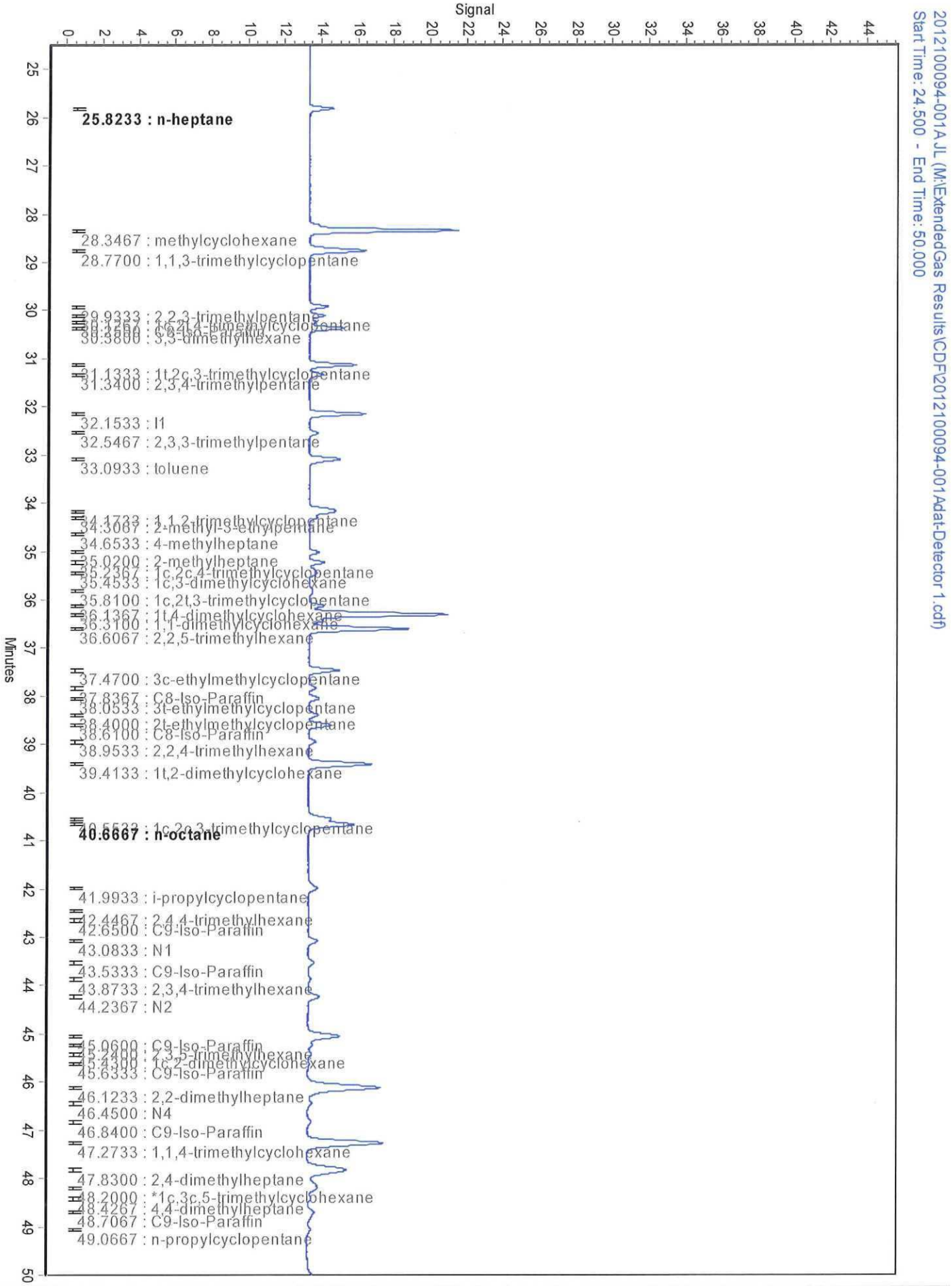
Hold

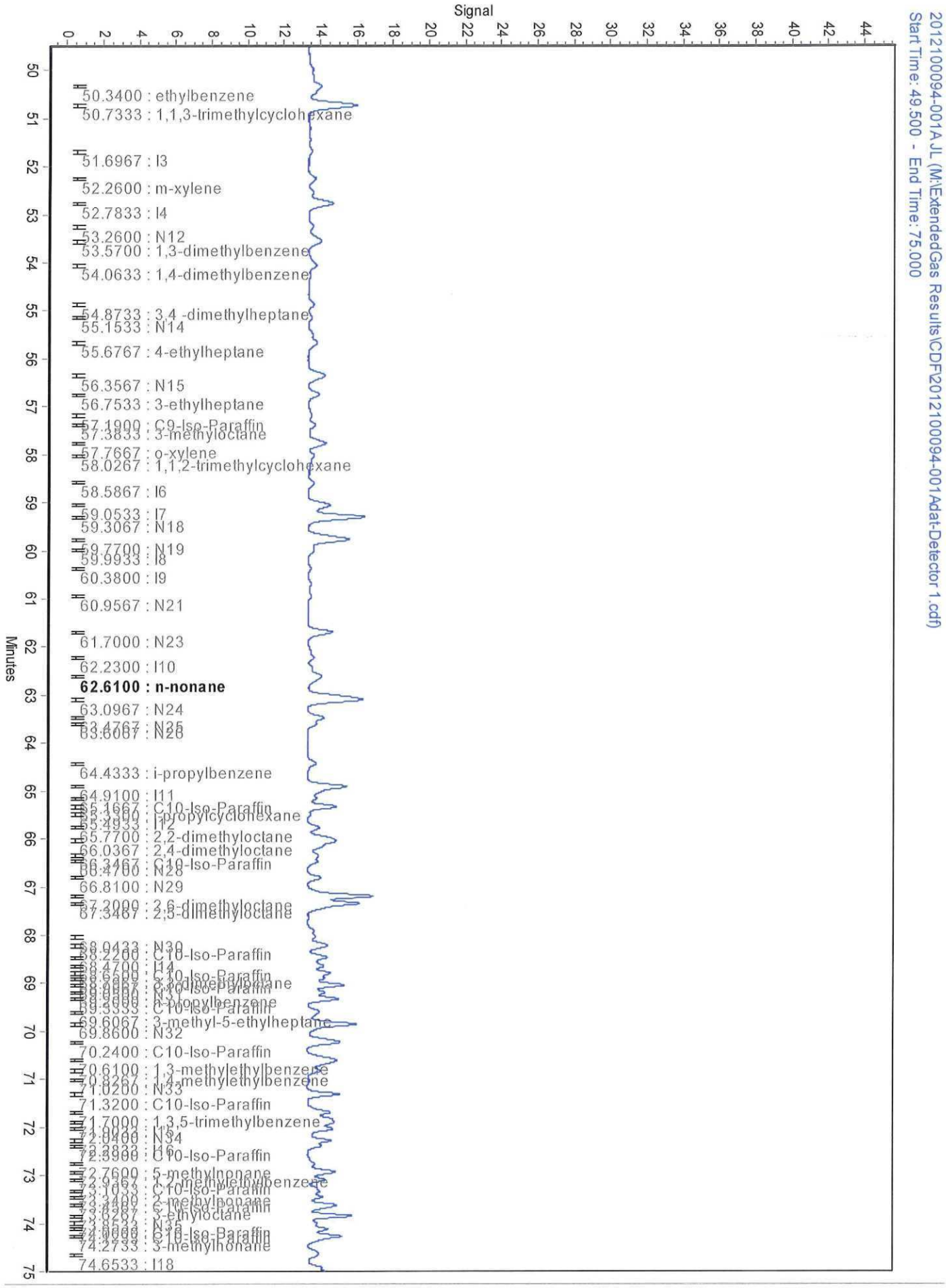
Components Listed in Chromatographic Order

Minutes	Index	Group	Component	Mass %	Volume %	Mol %
156.043	2492.540	I25	C25-Iso-Paraffin	0.016	0.016	0.007
156.247	2497.590	P25	C25	0.189	0.189	0.085
157.807	2531.440	I26	C26-Iso-Paraffin	0.013	0.013	0.006
159.143	2559.900	I26	C26-Iso-Paraffin	0.013	0.012	0.006
160.923	2597.410	P26	C26	0.141	0.140	0.060
166.590	2697.350	P27	C27	0.121	0.120	0.050
173.520	2797.280	P28	C28	0.086	0.085	0.034
182.073	2897.310	P29	C29	0.064	0.064	0.025

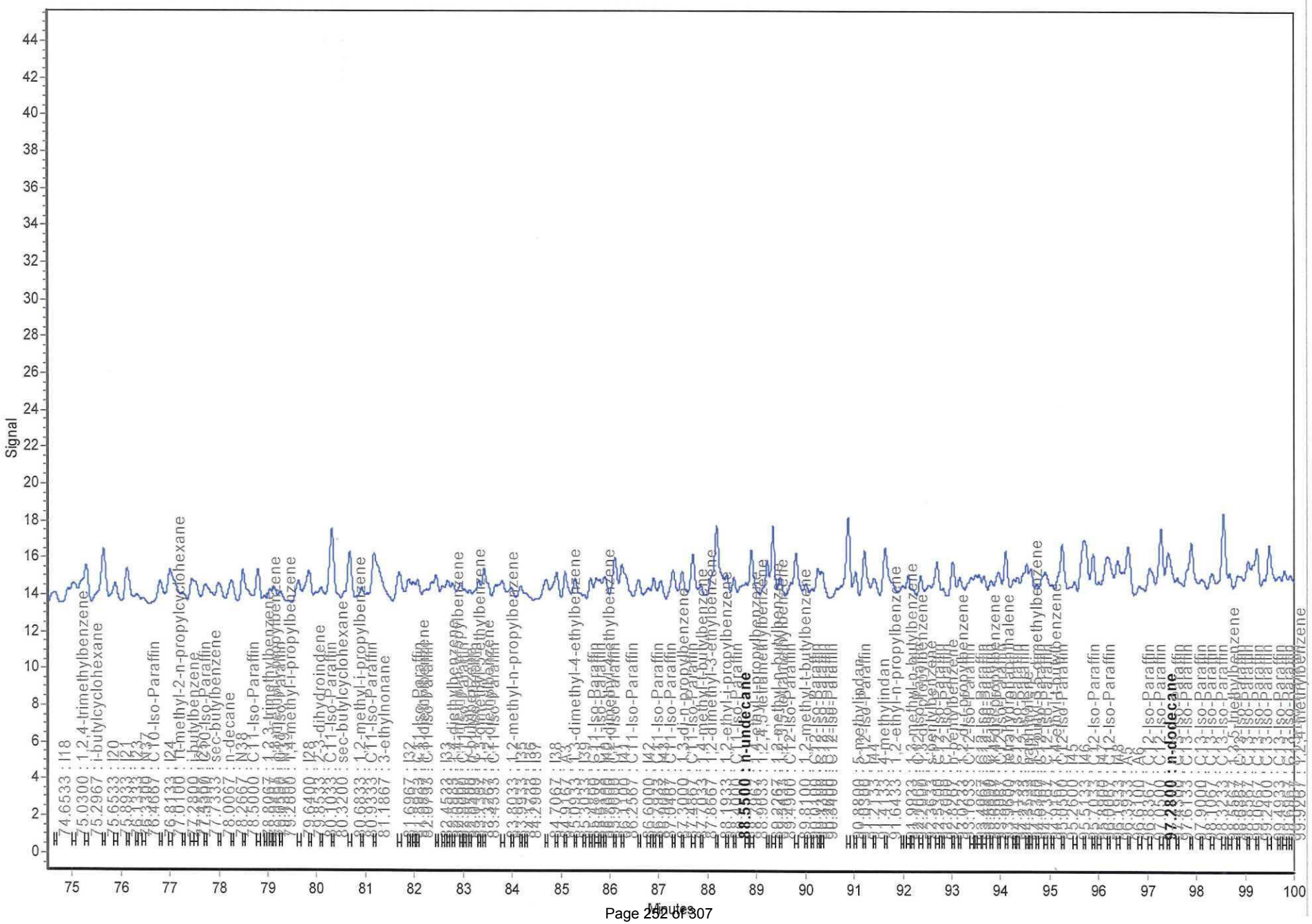
2012100094-001A JL (M:\ExtendedGas Results\CDF\2012100094-001Adat-Detector 1.cdf)
Start Time: 0.000 - End Time: 25.000

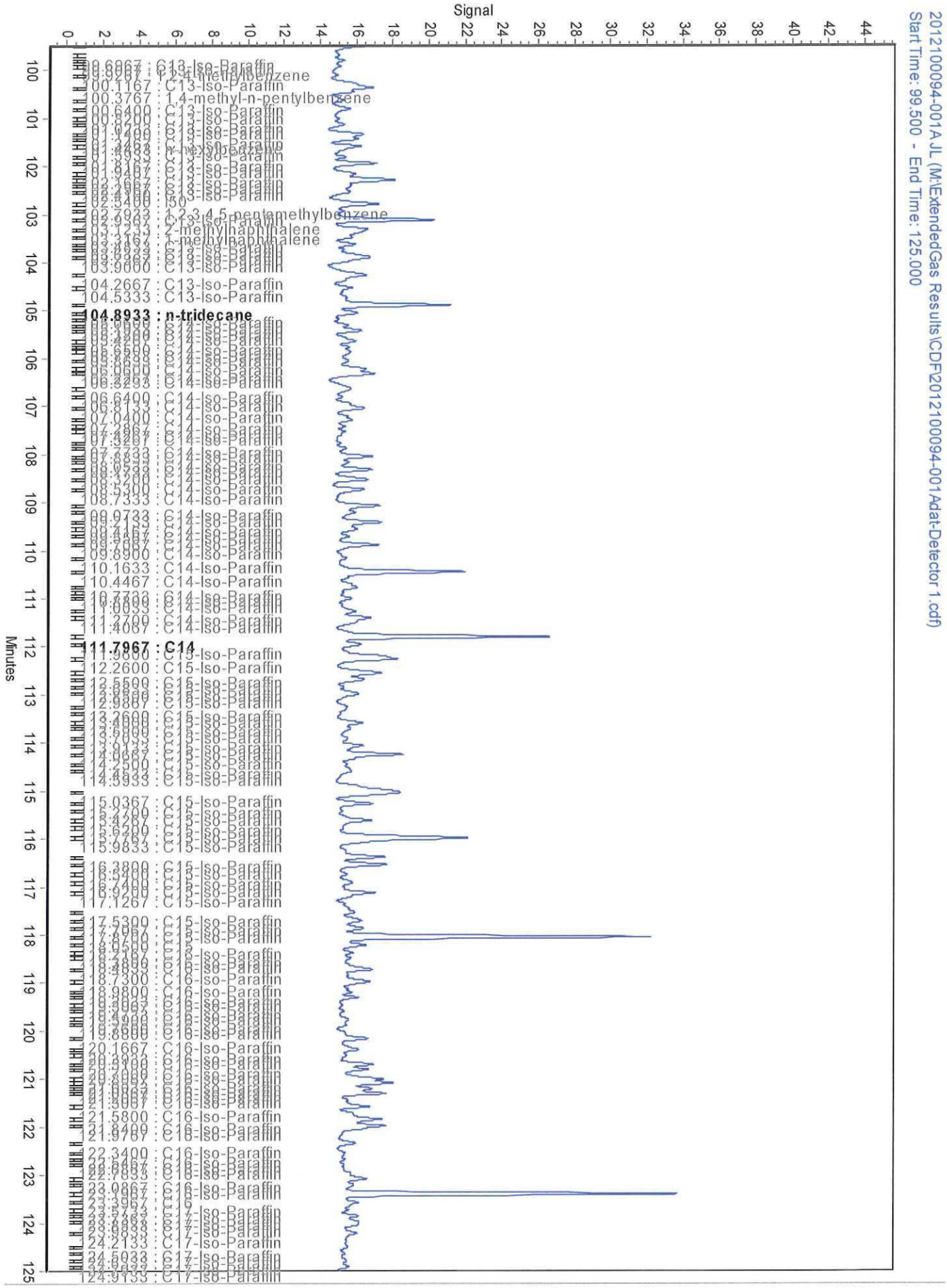



2012100094-001A JL (M:\ExtendedGas Results\CDF\2012100094-001A\dat-Detector 1.cdf)
Start Time: 24.500 - End Time: 50.000
Signal
Minutes
25.8233 : n-heptane
28.3467 : methylcyclohexane
28.7700 : 1,1,3-trimethylcyclopentane
29.9333 : 2,2,3-trimethylpentane
30.1267 : 1c,2t,4-trimethylcyclopentane
30.4500 : C8-Iso-Paraffin
30.3800 : 3,3-dimethylhexane
31.1333 : 1t,2c,3-trimethylcyclopentane
31.3400 : 2,3,4-trimethylpentane
32.1533 : I1
32.5467 : 2,3,3-trimethylpentane
33.0933 : toluene
34.1733 : 1,1,2-trimethylcyclopentane
34.3067 : 2-methyl-3-ethylpentane
34.6533 : 4-methylheptane
35.0200 : 2-methylheptane
35.2367 : 1c,2c,4-trimethylcyclopentane
35.4533 : 1c,3-dimethylcyclohexane
35.8100 : 1c,2t,3-trimethylcyclopentane
36.1367 : 1t,4-dimethylcyclohexane
36.3100 : 1,1-dimethylcyclohexane
36.6067 : 2,2,5-trimethylhexane
37.4700 : 3c-ethylmethylcyclopentane
37.8367 : C8-Iso-Paraffin
38.0533 : 3t-ethylmethylcyclopentane
38.4000 : 2t-ethylmethylcyclopentane
38.6100 : C8-Iso-Paraffin
38.9533 : 2,2,4-trimethylhexane
39.4133 : 1t,2-dimethylcyclohexane
40.5533 : 1c,2c,3-trimethylcyclopentane
40.6667 : n-octane
41.9933 : i-propylcyclopentane
42.4467 : 2,4,4-trimethylhexane
42.6500 : C9-Iso-Paraffin
43.0833 : N1
43.5333 : C9-Iso-Paraffin
43.8733 : 2,3,4-trimethylhexane
44.2367 : N2
45.0600 : C9-Iso-Paraffin
45.2400 : 2,3,5-trimethylhexane
45.4300 : 1c,2-dimethylcyclohexane
45.6333 : C9-Iso-Paraffin
46.1233 : 2,2-dimethylheptane
46.4500 : N4
46.8400 : C9-Iso-Paraffin
47.2733 : 1,1,4-trimethylcyclohexane
47.8300 : 2,4-dimethylheptane
48.2000 : *1c,3c,5-trimethylcyclohexane
48.4267 : 4,4-dimethylheptane
48.7067 : C9-Iso-Paraffin
49.0667 : n-propylcyclopentane

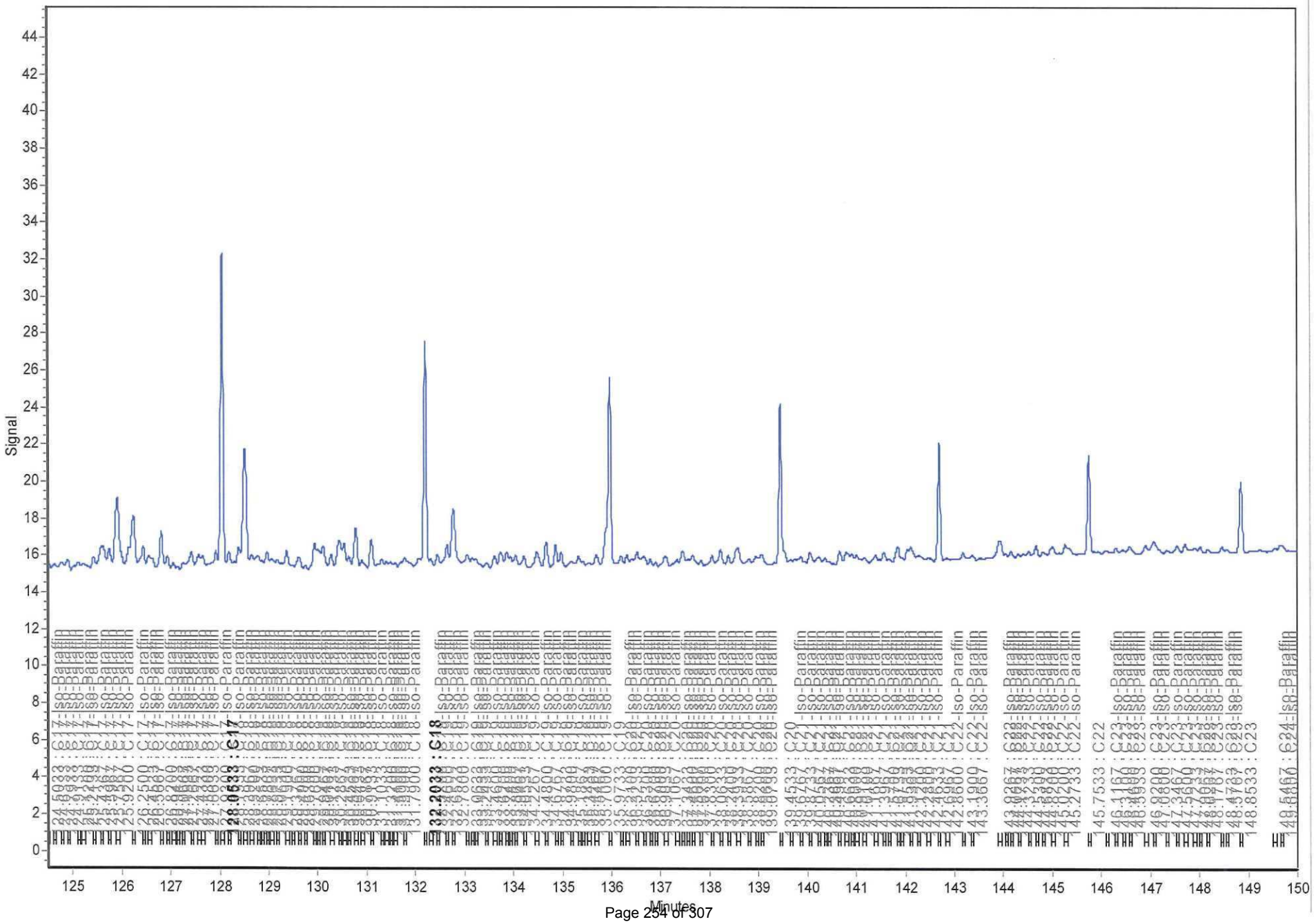

2012100094-001A JL (M:\ExtendedGas Results\CDF\2012100094-001A\dat-Detector 1.cdf)
Start Time: 49.500 - End Time: 75.000
Signal
Minutes
50.3400 : ethylbenzene
50.7333 : 1,1,3-trimethylcyclohexane
51.6967 : I3
52.2600 : m-xylene
52.7833 : I4
53.2600 : N12
53.5700 : 1,3-dimethylbenzene
54.0633 : 1,4-dimethylbenzene
54.8733 : 3,4 -dimethylheptane
55.1533 : N14
55.6767 : 4-ethylheptane
56.3567 : N15
56.7533 : 3-ethylheptane
57.1900 : C9-Iso-Paraffin
57.3833 : 3-methyloctane
57.7667 : o-xylene
58.0267 : 1,1,2-trimethylcyclohexane
58.5867 : I6
59.0533 : I7
59.3067 : N18
59.7700 : N19
59.9933 : I8
60.3800 : I9
60.9567 : N21
61.7000 : N23
62.2300 : I10
62.6100 : n-nonane
63.0967 : N24
63.4767 : N25
63.6067 : N26
64.4333 : i-propylbenzene
64.9100 : I11
65.1667 : C10-Iso-Paraffin
65.3300 : i-propylcyclohexane
65.4933 : I12
65.7700 : 2,2-dimethyloctane
66.0367 : 2,4-dimethyloctane
66.3467 : C10-Iso-Paraffin
66.4700 : N28
66.8100 : N29
67.2000 : 2,6-dimethyloctane
67.3467 : 2,5-dimethyloctane
68.0433 : N30
68.2200 : C10-Iso-Paraffin
68.4700 : I14
68.6200 : C10-Iso-Paraffin
68.8067 : 2,3-dimethyloctane
68.9800 : N31
69.0900 : n-propylbenzene
69.3333 : C10-Iso-Paraffin
69.6067 : 3-methyl-5-ethylheptane
69.8600 : N32
70.2400 : C10-Iso-Paraffin
70.6100 : 1,3-methylethylbenzene
70.8267 : 1,4-methylethylbenzene
71.0200 : N33
71.3200 : C10-Iso-Paraffin
71.7000 : 1,3,5-trimethylbenzene
71.9033 : I15
72.0400 : N34
72.3833 : I16
72.5900 : C10-Iso-Paraffin
72.7600 : 5-methylnonane
72.9367 : 1,2-methylethylbenzene
73.1033 : C10-Iso-Paraffin
73.3400 : 2-methylnonane
73.4867 : C10-Iso-Paraffin
73.6267 : 3-ethyloctane
73.8533 : N35
74.0033 : C10-Iso-Paraffin
74.2733 : 3-methylnonane
74.6533 : I18

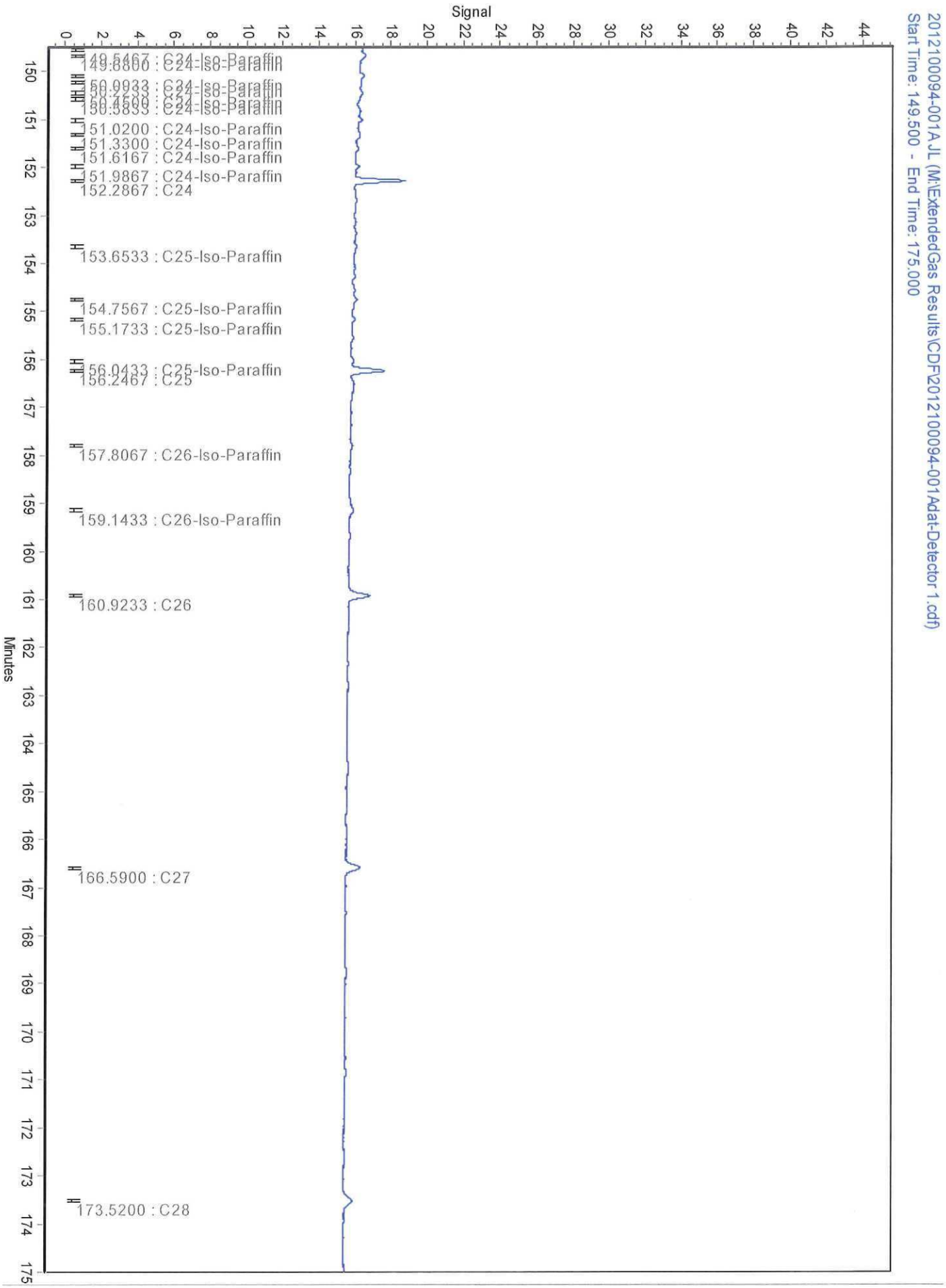
2012100094-001A JL (M:\ExtendedGas Results\CDF\2012100094-001Adat-Detector 1.cdf)
Start Time: 74.500 - End Time: 100.000

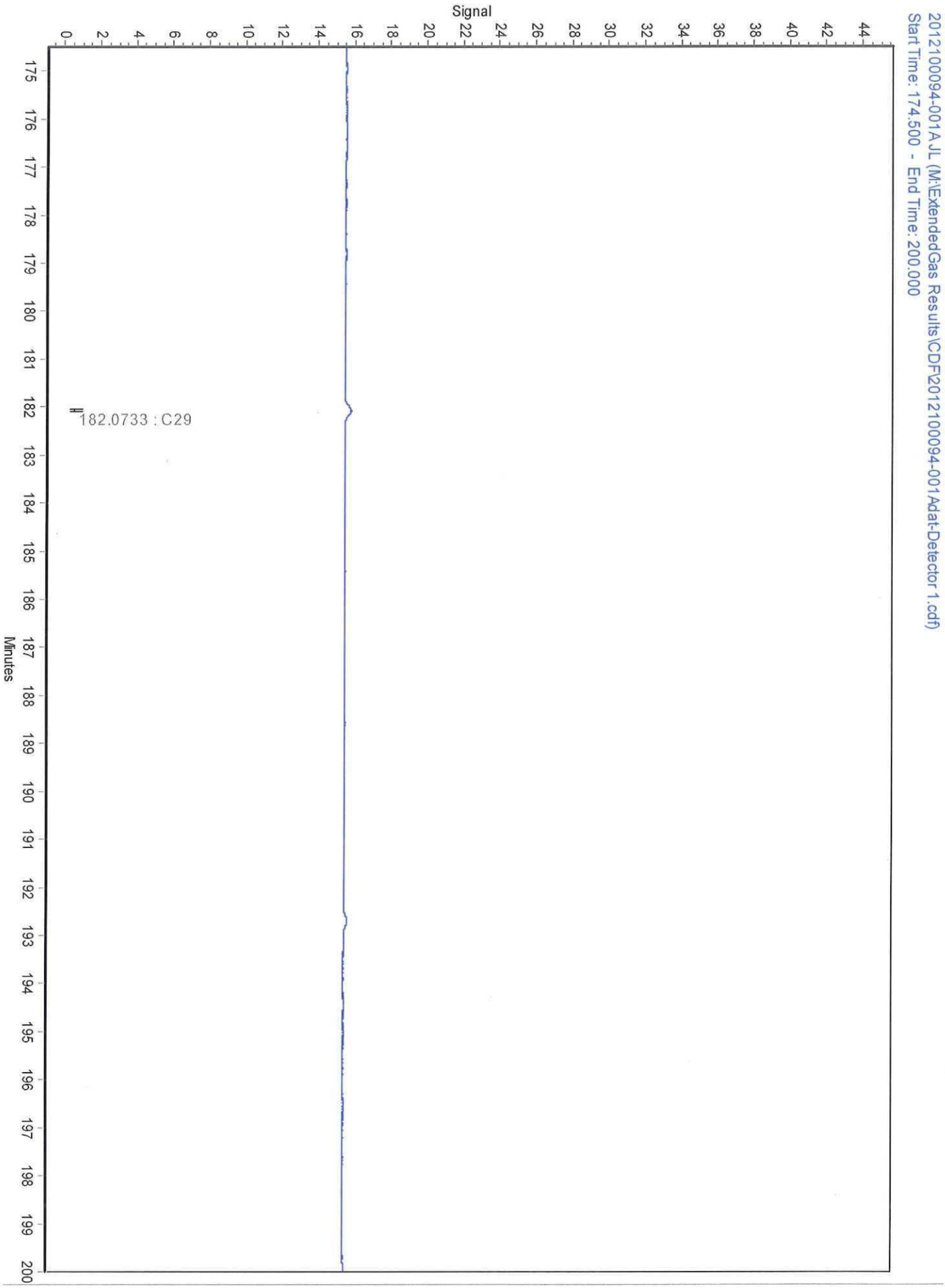



2012100094-001A JL (M:\ExtendedGas Results\CDF\2012100094-001A\dat-Detector 1.cdf)
Start Time: 99.500 - End Time: 125.000
Signal
Minutes
99.6667 : C13-Iso-Paraffin
99.9267 : 1,2,4-methylbenzene
100.1167 : C13-Iso-Paraffin
100.3767 : 1,4-methyl-n-pentylbenzene
100.6400 : C13-Iso-Paraffin
101.9400 : C13-Iso-Paraffin
101.9667 : C13-Iso-Paraffin
102.3667 : C13-Iso-Paraffin
102.5400 : C13-Iso-Paraffin
102.7933 : 1,2,3,4,5-pentamethylbenzene
102.9667 : C13-Iso-Paraffin
103.1733 : 2-methylnaphthalene
103.3167 : 1-methylnaphthalene
103.4933 : C13-Iso-Paraffin
103.6667 : C13-Iso-Paraffin
103.9000 : C13-Iso-Paraffin
104.2667 : C13-Iso-Paraffin
104.5333 : C13-Iso-Paraffin
104.8933 : n-tridecane
105.3900 : C14-Iso-Paraffin
105.6500 : C14-Iso-Paraffin
106.6400 : C14-Iso-Paraffin
106.8133 : C14-Iso-Paraffin
107.0400 : C14-Iso-Paraffin
107.2867 : C14-Iso-Paraffin
107.4267 : C14-Iso-Paraffin
107.7333 : C14-Iso-Paraffin
108.0533 : C14-Iso-Paraffin
108.3733 : C14-Iso-Paraffin
108.5500 : C14-Iso-Paraffin
108.7333 : C14-Iso-Paraffin
109.0733 : C14-Iso-Paraffin
109.2133 : C14-Iso-Paraffin
109.4167 : C14-Iso-Paraffin
109.5667 : C14-Iso-Paraffin
109.8900 : C14-Iso-Paraffin
110.1633 : C14-Iso-Paraffin
110.4467 : C14-Iso-Paraffin
110.7733 : C14-Iso-Paraffin
111.0033 : C14-Iso-Paraffin
111.2700 : C14-Iso-Paraffin
111.4067 : C14-Iso-Paraffin
111.7967 : C14
111.9800 : C15-Iso-Paraffin
112.2600 : C15-Iso-Paraffin
112.5500 : C15-Iso-Paraffin
112.8833 : C15-Iso-Paraffin
112.9867 : C15-Iso-Paraffin
113.2600 : C15-Iso-Paraffin
113.4800 : C15-Iso-Paraffin
113.5800 : C15-Iso-Paraffin
113.7033 : C15-Iso-Paraffin
113.9133 : C15-Iso-Paraffin
114.0667 : C15-Iso-Paraffin
114.2500 : C15-Iso-Paraffin
114.4933 : C15-Iso-Paraffin
114.5933 : C15-Iso-Paraffin
115.0367 : C15-Iso-Paraffin
115.2700 : C15-Iso-Paraffin
115.4267 : C15-Iso-Paraffin
115.6200 : C15-Iso-Paraffin
115.7667 : C15-Iso-Paraffin
115.9833 : C15-Iso-Paraffin
116.3800 : C15-Iso-Paraffin
116.5400 : C15-Iso-Paraffin
116.7400 : C15-Iso-Paraffin
116.9200 : C15-Iso-Paraffin
117.1267 : C15-Iso-Paraffin
117.5300 : C15-Iso-Paraffin
117.7067 : C15-Iso-Paraffin
117.8700 : C15-Iso-Paraffin
118.0500 : C15-Iso-Paraffin
118.2167 : C16-Iso-Paraffin
118.4800 : C16-Iso-Paraffin
118.7300 : C16-Iso-Paraffin
118.9800 : C16-Iso-Paraffin
119.2067 : C16-Iso-Paraffin
119.4033 : C16-Iso-Paraffin
119.5900 : C16-Iso-Paraffin
119.8800 : C16-Iso-Paraffin
120.1667 : C16-Iso-Paraffin
120.5100 : C16-Iso-Paraffin
120.7000 : C16-Iso-Paraffin
120.8967 : C16-Iso-Paraffin
121.0867 : C16-Iso-Paraffin
121.3067 : C16-Iso-Paraffin
121.5800 : C16-Iso-Paraffin
121.8400 : C16-Iso-Paraffin
121.9767 : C16-Iso-Paraffin
122.3400 : C16-Iso-Paraffin
122.6067 : C16-Iso-Paraffin
122.7833 : C16-Iso-Paraffin
123.0867 : C16-Iso-Paraffin
123.1967 : C16-Iso-Paraffin
123.3967 : C16
123.5733 : C17-Iso-Paraffin
123.8033 : C17-Iso-Paraffin
123.9833 : C17-Iso-Paraffin
124.2133 : C17-Iso-Paraffin
124.5033 : C17-Iso-Paraffin
124.8033 : C17-Iso-Paraffin
124.9133 : C17-Iso-Paraffin

2012100094-001A JL (M:\ExtendedGas Results\CDF\2012100094-001Adat-Detector 1.cdf)
Start Time: 124.500 - End Time: 150.000




2012100094-001A JL (M:\ExtendedGas Results\CDF\2012100094-001Adat-Detector 1.cdf)
Start Time: 149.500 - End Time: 175.000
Signal
Minutes
149.5467 : C24-Iso-Paraffin
149.8800 : C24-Iso-Paraffin
150.0933 : C24-Iso-Paraffin
150.2933 : C24-Iso-Paraffin
150.4500 : C24-Iso-Paraffin
150.5833 : C24-Iso-Paraffin
151.0200 : C24-Iso-Paraffin
151.3300 : C24-Iso-Paraffin
151.6167 : C24-Iso-Paraffin
151.9867 : C24-Iso-Paraffin
152.2867 : C24
153.6533 : C25-Iso-Paraffin
154.7567 : C25-Iso-Paraffin
155.1733 : C25-Iso-Paraffin
156.0433 : C25-Iso-Paraffin
156.2467 : C25
157.8067 : C26-Iso-Paraffin
159.1433 : C26-Iso-Paraffin
160.9233 : C26
166.5900 : C27
173.5200 : C28


2012100094-001A JL (M:\ExtendedGas Results\CDF\2012100094-001Adat-Detector 1.cdf)
Start Time: 174.500 - End Time: 200.000
Signal
182.0733 : C29
Minutes

Certificate of Analysis

HOUSTON LABORATORIES
8820 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

Analysis Number:	**2012100094-002A**		
Sample ID:	041-092212-02	**Date of Sample:**	09/22/12
Pace ID:	201025368	**Time Sampled:**	10:55 PM
Project Location:		**Date Sample Analyzed:**	10/09/12

Client	Pace Analytical Services		**Contact(s):**	Cindy Olavesen	
Address	1000 River Bend Blvd.				
Suite / Department	Suite F				
City	St.Rose		**State**	LA	**Zip** 70087
Phone	504-305-3628	**Ext**	**E-Mail**	cindy.olavesen	
Fax	504-469-0555				

Color:	Dark	**Odor:**	Aromatic
Specific Gravity @ 60° F.	0.8539	**API @ 60° F.**	34.21
Carbon Range	C1 - C28	**Major Range**	C8 - C16

Paraffin	12.0232	wt%	**N-Hexane**	0.392	wt%
Isoparaffins	60.4928	wt%	**Benzene**	0.082	wt%
Naphthenics	13.6091	wt%	**Ethyl Benzene**	0.282	wt%
Aromatics	13.8749	wt%	**Toluene**	0.246	wt%
Olefins	N/D	wt%	**Meta-Xylene**	0.089	wt%
Unknowns	N/D	wt%	**Para-Xylene**	N/D	wt%
2,2,4-Tri Methylpentane	0.013	wt%	**Ortho-Xylene**	0.194	wt%
			Xylenes	0.283	wt%
Calculated Research Octane	N/A		**EDB**	N/A	wt%
Lead / Manganese	N/A		**EDC**	N/A	wt%
Oxygnates	N/D	wt%	**Ethanol**	N/D	wt%
C_{17}	0.991	wt%	**C_{18}**	0671	wt%
Pristane	0.530	wt%	**Phytane**	0.264	wt%
Naphthalene	0.162	wt%	**2-Methyl Naphthalene**	0.498	wt%
1-Methyl Naphthalene	0.390	wt%			

Gasoline Range:	C_4-C_{13}	Indicators:	2,2,4-TMP, Olefins
Diesel Range:	C_7-C_{20}	Indicators:	Pristane, Phytane
Condensate Range:	C_2-C_{25}+	Indicators:	No Olefins, Light & Heavies
Heavy Oil:	C_{20+}		

Comments: **N/A Not Applicable N/D None Detected**

Chris Staley

Chris Staley
Hydrocarbon Laboratory Manager

Pace-100094-002A.xls / 001A

Detailed Hydrocarbon Analysis Detail Report -

Report Date: 10/9/2012 10:54:06 AM

RawFile: M:\ExtendedGas Results\CDF\2012100094-002Adat-Detector 1.cdf
Sample: 2012100094-002A JL
Processed 515 Peaks
Reference File: H:\DHA Application Software\References\2012100094-001A JL_10092012.DHA
Comments:

Acquired: 10/03/12 03:43:14
Analyzed: 10/9/2012 10:52:01 AM

Normalized to 100.0000%

Oxygenates

Compound	Mass%	Mass% Oxygen	Vol%
No Oxy Compounds Found	0.00	0.00	0.00

Molecular Weight and Relative Density Data

Group	Avg Mw.	Avg Rel. Density
C1	16.043	0.260
C2	30.070	0.340
C3	44.097	0.500
C4	58.124	0.570
C5	72.031	0.627
C6	85.233	0.695
C7	98.669	0.731
C8	112.692	0.760
C9	125.384	0.768
C10	138.113	0.796
C11	149.621	0.824
C12	160.827	0.843
C13	161.951	0.865
C14	186.111	0.757
C15	199.516	0.798
C16	209.283	0.954
C17	230.522	0.775
C18	243.380	0.778
C19	259.016	0.777
C20	272.761	0.781
C21	287.884	0.790
C22	302.576	0.793
C23	316.671	0.796
C24	336.463	0.799
C25	352.690	0.800
C26	370.000	0.800
C27	384.000	0.805
C28	398.000	0.805

Detailed Hydrocarbon Analysis Detail Report -

Report Date: 10/9/2012 10:54:06 AM

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Processed 515 Peaks
Reference File: H:\DHA Application Software\References\2012100094-001A JL_10092012.DHA
Comments:

Acquired: 10/03/12 03:43:14
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Normalized to 100.0000%

C29	0.000	0.000
Total Sample:	146.00	0.79

Octane Number

Research Octane Number: 87.90
(Calculated from Individual Component Values)

Contribution to Total by:

Paraffins:	10.10
Iso-Paraffins:	53.80
Aromatics:	12.60
Napthenes:	11.30
Olefins:	0.03
Oxygenates:	0.00

Detailed Hydrocarbon Analysis Detail Report -

Report Date: 10/9/2012 10:54:06 AM

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Processed 515 Peaks
Reference File: H:\DHA Application Software\References\2012100094-001A JL_10092012.DHA
Comments:

Acquired: 10/03/12 03:43:14
Analyzed: 10/9/2012 10:52:01 AM

Normalized to 100.0000%

Totals by Group Type & Carbon Number (in Mass Percent)

	Paraffins	I-Paraffins	Olefins	Napthenes	Aromatics	Unknowns	Total
C1	0.01431	0.00000	0.00000	0.00000	0.00000	0.00000	0.01431
C2	0.07332	0.00000	0.00000	0.00000	0.00000	0.00000	0.07332
C3	0.43064	0.00000	0.00000	0.00000	0.00000	0.00000	0.43064
C4	0.62530	0.45133	0.00000	0.00000	0.00000	0.00000	1.07663
C5	0.46321	0.69669	0.00000	0.07130	0.00000	0.00000	1.23120
C6	0.39176	1.30325	0.00000	0.87353	0.08207	0.00000	2.65061
C7	0.17449	1.53069	0.00000	1.78465	0.24610	0.00000	3.73594
C8	0.42794	2.45761	0.00000	3.17584	0.83568	0.00000	6.89708
C9	0.24917	4.07143	0.00000	4.33545	1.55362	0.00000	10.20968
C10	0.19014	7.39737	0.00000	3.16638	4.66483	0.00000	15.41871
C11	0.13561	5.70782	0.00000	0.20192	3.48353	0.00000	9.52887
C12	0.43085	4.48166	0.00000	0.00000	3.00910	0.00000	7.92161
C13	0.77580	6.98518	0.00000	0.00000	0.00000	0.00000	7.76098
C14	0.99532	6.52214	0.00000	0.00000	0.00000	0.00000	7.51747
C15	1.36526	6.43817	0.00000	0.00000	0.00000	0.00000	7.80343
C16	1.18798	4.31089	0.00000	0.00000	0.00000	0.00000	5.49887
C17	0.99082	2.28197	0.00000	0.00000	0.00000	0.00000	3.27279
C18	0.67097	2.43289	0.00000	0.00000	0.00000	0.00000	3.10387
C19	0.68679	1.37441	0.00000	0.00000	0.00000	0.00000	2.06120
C20	0.43486	0.95719	0.00000	0.00000	0.00000	0.00000	1.39205
C21	0.30154	0.46983	0.00000	0.00000	0.00000	0.00000	0.77138
C22	0.25469	0.32637	0.00000	0.00000	0.00000	0.00000	0.58106
C23	0.21078	0.26517	0.00000	0.00000	0.00000	0.00000	0.47595
C24	0.17186	0.03075	0.00000	0.00000	0.00000	0.00000	0.20261
C25	0.13455	0.00000	0.00000	0.00000	0.00000	0.00000	0.13455
C26	0.10997	0.00000	0.00000	0.00000	0.00000	0.00000	0.10997
C27	0.07979	0.00000	0.00000	0.00000	0.00000	0.00000	0.07979
C28	0.04542	0.00000	0.00000	0.00000	0.00000	0.00000	0.04542
C29	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Total:	12.02316	60.49283	0.00000	13.60908	13.87492	0.00000	100.00000

Oxygenates 0.00000 Total C30+: 0.00000
Total Unknowns: 0.00000 Grand Total: 100.00000

Totals by Group Type & Carbon Number (in Volume Percent)

	Paraffins	I-Paraffins	Olefins	Napthenes	Aromatics	Unknowns	Total
C1	0.04342	0.00000	0.00000	0.00000	0.00000	0.00000	0.04342
C2	0.17023	0.00000	0.00000	0.00000	0.00000	0.00000	0.17023
C3	0.67899	0.00000	0.00000	0.00000	0.00000	0.00000	0.67899
C4	0.85254	0.63921	0.00000	0.00000	0.00000	0.00000	1.49175
C5	0.58374	0.89083	0.00000	0.07549	0.00000	0.00000	1.55005
C6	0.46884	1.56601	0.00000	0.90038	0.07369	0.00000	3.00892
C7	0.20140	1.75809	0.00000	1.85006	0.22400	0.00000	4.03354
C8	0.48072	2.61609	0.00000	3.25901	0.80904	0.00000	7.16486

Detailed Hydrocarbon Analysis Detail Report -

Report Date: 10/9/2012 10:54:06 AM

RawFile: M:\ExtendedGas Results\CDF\2012100094-002Adat-Detector 1.cdf
Sample: 2012100094-002A JL
Processed 515 Peaks
Reference File: H:\DHA Application Software\References\2012100094-001A JL_10092012.DHA

Acquired: 10/03/12 03:43:14
Analyzed: 10/9/2012 10:52:01 AM

Comments:

Normalized to 100.0000%

C9	0.27401	4.44185	0.00000	4.37135	1.40515	0.00000	10.49236
C10	0.20554	7.82683	0.00000	3.11487	4.13931	0.00000	15.28655
C11	0.14384	5.81253	0.00000	0.19918	2.96689	0.00000	9.12244
C12	0.45153	4.29160	0.00000	0.00000	2.66848	0.00000	7.41161
C13	0.80939	6.26878	0.00000	0.00000	0.00000	0.00000	7.07816
C14	1.02970	6.80447	0.00000	0.00000	0.00000	0.00000	7.83417
C15	1.05626	6.66051	0.00000	0.00000	0.00000	0.00000	7.71677
C16	1.21232	3.33520	0.00000	0.00000	0.00000	0.00000	4.54753
C17	1.00501	2.32872	0.00000	0.00000	0.00000	0.00000	3.33374
C18	0.68164	2.46774	0.00000	0.00000	0.00000	0.00000	3.14937
C19	0.69716	1.39625	0.00000	0.00000	0.00000	0.00000	2.09341
C20	0.43516	0.97164	0.00000	0.00000	0.00000	0.00000	1.40681
C21	0.30057	0.47016	0.00000	0.00000	0.00000	0.00000	0.77073
C22	0.25301	0.32532	0.00000	0.00000	0.00000	0.00000	0.57833
C23	0.20873	0.26341	0.00000	0.00000	0.00000	0.00000	0.47215
C24	0.16972	0.03046	0.00000	0.00000	0.00000	0.00000	0.20017
C25	0.13272	0.00000	0.00000	0.00000	0.00000	0.00000	0.13272
C26	0.10848	0.00000	0.00000	0.00000	0.00000	0.00000	0.10848
C27	0.07822	0.00000	0.00000	0.00000	0.00000	0.00000	0.07822
C28	0.04452	0.00000	0.00000	0.00000	0.00000	0.00000	0.04452
C29	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Total:	12.77741	61.16570	0.00000	13.77034	12.28655	0.00000	100.00000

Oxygenates	0.00000	Total C30+:	0.00000
Total Unknowns:	0.00000	Grand Total:	100.00000

Detailed Hydrocarbon Analysis Detail Report -

Report Date: 10/9/2012 10:54:06 AM

RawFile: M:\ExtendedGas Results\CDF\2012100094-002Adat-Detector 1.cdf
Sample: 2012100094-002A JL
Processed 515 Peaks
Reference File: H:\DHA Application Software\References\2012100094-001A JL_10092012.DHA
Comments:

Acquired: 10/03/12 03:43:14
Analyzed: 10/9/2012 10:52:01 AM

Normalized to 100.0000%

Totals by Group Type & Carbon Number (in Mol Percent)

	Paraffins	I-Paraffins	Olefins	Napthenes	Aromatics	Unknowns	Total
C1	0.12993	0.00000	0.00000	0.00000	0.00000	0.00000	0.12993
C2	0.35528	0.00000	0.00000	0.00000	0.00000	0.00000	0.35528
C3	1.42295	0.00000	0.00000	0.00000	0.00000	0.00000	1.42295
C4	1.56753	1.13143	0.00000	0.00000	0.00000	0.00000	2.69896
C5	0.93544	1.40697	0.00000	0.14813	0.00000	0.00000	2.49054
C6	0.66237	2.20352	0.00000	1.51233	0.15309	0.00000	4.53132
C7	0.25373	2.22579	0.00000	2.64835	0.38916	0.00000	5.51703
C8	0.54586	3.16651	0.00000	4.12372	1.08167	0.00000	8.91776
C9	0.28307	4.69422	0.00000	5.00394	1.88341	0.00000	11.86464
C10	0.19471	7.65148	0.00000	3.28916	5.13129	0.00000	16.26664
C11	0.12641	5.50766	0.00000	0.19069	3.45492	0.00000	9.27968
C12	0.36855	4.10644	0.00000	0.00000	2.70195	0.00000	7.17694
C13	0.61312	6.36947	0.00000	0.00000	0.00000	0.00000	6.98259
C14	0.73102	5.15448	0.00000	0.00000	0.00000	0.00000	5.88550
C15	0.97039	4.72855	0.00000	0.00000	0.00000	0.00000	5.69894
C16	0.76440	3.06406	0.00000	0.00000	0.00000	0.00000	3.82846
C17	0.60034	1.46833	0.00000	0.00000	0.00000	0.00000	2.06867
C18	0.38414	1.47411	0.00000	0.00000	0.00000	0.00000	1.85824
C19	0.37266	0.78686	0.00000	0.00000	0.00000	0.00000	1.15952
C20	0.22425	0.51938	0.00000	0.00000	0.00000	0.00000	0.74363
C21	0.14814	0.24228	0.00000	0.00000	0.00000	0.00000	0.39042
C22	0.11948	0.16034	0.00000	0.00000	0.00000	0.00000	0.27982
C23	0.09461	0.12439	0.00000	0.00000	0.00000	0.00000	0.21900
C24	0.07394	0.01380	0.00000	0.00000	0.00000	0.00000	0.08774
C25	0.05559	0.00000	0.00000	0.00000	0.00000	0.00000	0.05559
C26	0.04331	0.00000	0.00000	0.00000	0.00000	0.00000	0.04331
C27	0.03028	0.00000	0.00000	0.00000	0.00000	0.00000	0.03028
C28	0.01663	0.00000	0.00000	0.00000	0.00000	0.00000	0.01663
C29	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Total:	12.08813	56.20006	0.00000	16.91632	14.79548	0.00000	100.00000

Oxygenates 0.00000 Total C30+: 0.00000

Total Unknowns: 0.00000 Grand Total 100.00000

Detailed Hydrocarbon Analysis Detail Report -

Report Date: 10/9/2012 10:54:06 AM

RawFile: M:\ExtendedGas Results\CDF\2012100094-002Adat-Detector 1.cdf
Sample: 2012100094-002A JL
Processed 515 Peaks
Reference File: H:\DHA Application Software\References\2012100094-001A JL_10092012.DHA
Comments:

Acquired: 10/03/12 03:43:14
Analyzed: 10/9/2012 10:52:01 AM

Normalized to 100.0000%

Hold

Components Listed in Chromatographic Order

Minutes	Index	Group	Component	Mass %	Volume %	Mol %
7.217	100.000	P1	methane	0.014	0.043	0.130
7.323	200.000	P2	ethane	0.073	0.170	0.355
7.583	300.000	P3	propane	0.431	0.679	1.423
7.990	366.290	I4	i-butane	0.451	0.639	1.131
8.337	400.000	P4	n-butane	0.625	0.853	1.568
8.513	414.330	I5	2,2-dimethylpropane	0.057	0.076	0.114
9.613	474.900	I5	i-pentane	0.640	0.815	1.293
10.303	500.000	P5	n-pentane	0.463	0.584	0.935
11.610	536.140	I6	2,2-dimethylbutane	0.303	0.368	0.512
12.993	564.240	N5	cyclopentane	0.071	0.075	0.148
13.073	565.650	I6	2,3-dimethylbutane	0.353	0.421	0.596
13.293	569.440	I6	2-methylpentane	0.378	0.457	0.639
14.187	583.530	I6	3-methylpentane	0.270	0.320	0.456
15.397	600.000	P6	n-hexane	0.392	0.469	0.662
17.407	626.710	I7	2,2-dimethylpentane	0.127	0.149	0.185
17.623	629.270	N6	methylcyclopentane	0.368	0.388	0.638
17.963	633.190	I7	2,4-dimethylpentane	0.177	0.208	0.257
18.473	638.830	I7	2,2,3-trimethylbutane	0.147	0.168	0.214
19.883	653.190	A6	benzene	0.082	0.074	0.153
20.457	658.580	I7	3,3-dimethylpentane	0.114	0.130	0.166
20.843	662.080	N6	cyclohexane	0.505	0.512	0.875
21.847	670.730	I7	2-methylhexane	0.175	0.204	0.255
22.030	672.250	I7	2,3-dimethylpentane	0.281	0.319	0.409
22.340	674.770	N7	1,1-dimethylcyclopentane	0.198	0.207	0.294
22.837	678.710	I7	3-methylhexane	0.283	0.325	0.411
23.570	684.290	N7	1c,3-dimethylcyclopentane	0.228	0.242	0.338
23.903	686.750	N7	1t,3-dimethylcyclopentane	0.218	0.229	0.323
24.053	687.840	N7	1t,2-dimethylcyclopentane	0.070	0.074	0.105
24.223	689.060	I7	3-ethylpentane	0.226	0.255	0.328
24.427	690.510	I8	2,2,4-trimethylpentane	0.013	0.015	0.017
25.820	700.000	P7	n-heptane	0.174	0.201	0.254
28.350	721.720	N7	methylcyclohexane	1.071	1.098	1.589
28.773	725.100	N8	1,1,3-trimethylcyclopentane	0.440	0.464	0.571
29.930	734.000	I8	2,2,3-trimethylpentane	0.124	0.136	0.158
30.120	735.420	N8	1c,2t,4-trimethylcyclopentane	0.103	0.106	0.134
30.257	736.440	I8	C8-Iso-Paraffin	0.043	0.045	0.056
30.380	737.350	I8	3,3-dimethylhexane	0.237	0.263	0.302
31.137	742.820	N8	1t,2c,3-trimethylcyclopentane	0.315	0.322	0.409

Detailed Hydrocarbon Analysis Detail Report -

Report Date: 10/9/2012 10:54:06 AM

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Sample: 2012100094-002A JL
Processed 515 Peaks
Reference File: H:\DHA Application Software\References\2012100094-001A JL_10092012.DHA
Comments:

Acquired: 10/03/12 03:43:14
Analyzed: 10/9/2012 10:52:01 AM

Normalized to 100.0000%

Hold

Components Listed in Chromatographic Order

Minutes	Index	Group	Component	Mass %	Volume %	Mol %
31.340	744.270	I8	2,3,4-trimethylpentane	0.099	0.109	0.126
32.153	749.920	I8	I1	0.384	0.421	0.489
32.553	752.630	I8	2,3,3-trimethylpentane	0.067	0.073	0.086
33.093	756.220	A7	toluene	0.246	0.224	0.389
34.170	763.170	N8	1,1,2-trimethylcyclopentane	0.292	0.298	0.379
34.310	764.050	I8	2-methyl-3-ethylpentane	0.053	0.059	0.068
34.633	766.080	I8	4-methylheptane	0.015	0.016	0.019
35.027	768.500	I8	2-methylheptane	0.083	0.093	0.105
35.237	769.790	N8	1c,2c,4-trimethylcyclopentane	0.108	0.112	0.140
35.453	771.100	N8	1c,3-dimethylcyclohexane	0.098	0.102	0.128
35.793	773.140	N8	1c,2t,3-trimethylcyclopentane	0.045	0.046	0.058
36.133	775.150	N8	1t,4-dimethylcyclohexane	0.122	0.126	0.158
36.313	776.210	I8	C8-Iso-Paraffin	1.102	1.140	1.431
36.440	776.950	N8	1,1-dimethylcyclohexane	0.083	0.084	0.108
36.610	777.940	I9	2,2,5-trimethylhexane	0.744	0.830	0.845
37.473	782.870	N8	3c-ethylmethylcyclopentane	0.230	0.237	0.299
37.840	784.930	I8	C8-Iso-Paraffin	0.060	0.062	0.078
38.050	786.090	N8	3t-ethylmethylcyclopentane	0.086	0.089	0.112
38.400	788.020	N8	2t-ethylmethylcyclopentane	0.077	0.079	0.100
38.607	789.140	I8	C8-Iso-Paraffin	0.178	0.183	0.232
38.950	791.000	I9	2,2,4-trimethylhexane	0.061	0.065	0.069
39.417	793.490	N8	1t,2-dimethylcyclohexane	0.513	0.522	0.666
40.543	799.350	N8	1c,2c,3-trimethylcyclopentane	0.220	0.222	0.285
40.670	800.000	P8	n-octane	0.428	0.481	0.546
41.997	807.710	N8	i-propylcyclopentane	0.101	0.103	0.132
42.460	810.330	I9	2,4,4-trimethylhexane	0.007	0.008	0.008
42.673	811.530	I9	C9-Iso-Paraffin	0.011	0.012	0.013
43.093	813.860	N8	N1	0.089	0.090	0.115
43.540	816.310	I9	C9-Iso-Paraffin	0.068	0.069	0.088
43.870	818.110	I9	2,3,4-trimethylhexane	0.032	0.034	0.036
44.237	820.080	N8	N2	0.110	0.111	0.142
45.060	824.440	I9	C9-Iso-Paraffin	0.320	0.324	0.416
45.240	825.380	I9	2,3,5-trimethylhexane	0.040	0.044	0.045
45.423	826.340	N8	N3	0.034	0.034	0.044
45.637	827.440	N8	1c,2-dimethylcyclohexane	0.017	0.016	0.022
46.130	829.970	I9	2,2-dimethylheptane	0.850	0.944	0.965
46.447	831.580	N8	N4	0.053	0.054	0.069
46.843	833.570	I9	C9-Iso-Paraffin	0.036	0.036	0.046

Detailed Hydrocarbon Analysis Detail Report -

Report Date: 10/9/2012 10:54:06 AM

RawFile: M:\ExtendedGas Results\CDF\2012100094-002Adat-Detector 1.cdf
Sample: 2012100094-002A JL
Processed 515 Peaks
Reference File: H:\DHA Application Software\References\2012100094-001A JL_10092012.DHA
Comments:

Acquired: 10/03/12 03:43:14
Analyzed: 10/9/2012 10:52:01 AM

Normalized to 100.0000%

Hold

Components Listed in Chromatographic Order

Minutes	Index	Group	Component	Mass %	Volume %	Mol %
47.280	835.740	N9	1,1,4-trimethylcyclohexane	0.770	0.787	0.889
47.830	838.450	I9	2,4-dimethylheptane	0.530	0.585	0.603
48.200	840.250	N9	*1c,3c,5-trimethylcyclohexane	0.170	0.175	0.197
48.433	841.370	I9	4,4-dimethylheptane	0.048	0.053	0.054
48.720	842.750	I9	C9-Iso-Paraffin	0.115	0.127	0.131
49.053	844.330	N8	n-propylcyclopentane	0.040	0.041	0.052
50.347	850.370	A8	ethylbenzene	0.282	0.256	0.386
50.737	852.160	N9	1,1,3-trimethylcyclohexane	0.537	0.538	0.619
52.267	859.010	A8	m-xylene	0.089	0.103	0.103
52.780	861.250	I9	I4	0.334	0.361	0.380
53.243	863.260	N9	N12	0.029	0.029	0.033
53.567	864.650	A8	1,3-dimethylbenzene	0.177	0.161	0.242
54.070	866.790	A8	1,4-dimethylbenzene	0.095	0.087	0.130
54.870	870.150	I9	3,4 -dimethylheptane	0.054	0.058	0.061
55.153	871.320	N9	N14	0.038	0.038	0.044
55.687	873.520	I9	4-ethylheptane	0.162	0.178	0.184
56.357	876.240	N9	N15	0.203	0.205	0.234
56.760	877.860	I9	3-ethylheptane	0.136	0.147	0.154
57.387	880.350	I9	3-methyloctane	0.101	0.111	0.115
57.763	881.840	A8	o-xylene	0.194	0.202	0.220
58.017	882.830	N9	1,1,2-trimethylcyclohexane	0.032	0.032	0.037
58.597	885.080	I9	I6	0.041	0.045	0.047
59.063	886.870	I9	I7	0.254	0.275	0.289
59.303	887.790	N9	N18	0.568	0.574	0.655
59.770	889.560	N9	N19	0.492	0.497	0.567
59.987	890.370	I9	I8	0.059	0.064	0.067
61.700	896.710	N9	N23	0.224	0.226	0.258
62.233	898.640	I9	I10	0.068	0.073	0.077
62.610	900.000	P9	n-nonane	0.249	0.274	0.283
63.097	903.560	N9	N24	0.647	0.646	0.746
63.487	906.400	N9	N25	0.157	0.157	0.181
63.613	907.320	N9	N26	0.067	0.067	0.077
64.440	913.250	A9	i-propylbenzene	0.063	0.057	0.076
64.920	916.660	I10	I11	0.410	0.443	0.419
65.167	918.400	I10	C10-Iso-Paraffin	0.058	0.062	0.059
65.330	919.540	N9	i-propylcyclohexane	0.207	0.203	0.239
65.773	922.640	I10	2,2-dimethyloctane	0.094	0.102	0.096
66.040	924.490	I10	2,4-dimethyloctane	0.472	0.513	0.484

Detailed Hydrocarbon Analysis Detail Report -

Report Date: 10/9/2012 10:54:06 AM

RawFile: M:\ExtendedGas Results\CDF\2012100094-002Adat-Detector 1.cdf
Sample: 2012100094-002A JL
Processed 515 Peaks
Reference File: H:\DHA Application Software\References\2012100094-001A JL_10092012.DHA
Comments:

Acquired: 10/03/12 03:43:14
Analyzed: 10/9/2012 10:52:01 AM

Normalized to 100.0000%

Hold

Components Listed in Chromatographic Order

Minutes	Index	Group	Component	Mass %	Volume %	Mol %
66.357	926.680	I10	C10-Iso-Paraffin	0.118	0.129	0.121
66.467	927.440	N9	N28	0.079	0.079	0.091
66.817	929.840	N9	N29	0.118	0.118	0.136
67.197	932.440	I10	2,6-dimethyloctane	0.569	0.617	0.582
67.350	933.480	I10	2,5-dimethyloctane	0.499	0.539	0.511
68.047	938.170	N10	N30	0.104	0.102	0.108
68.220	939.330	I10	C10-Iso-Paraffin	0.196	0.193	0.203
68.473	941.020	I10	I14	0.169	0.183	0.173
68.653	942.220	I10	C10-Iso-Paraffin	0.151	0.164	0.155
68.803	943.220	I10	3,3-dimethyloctane	0.184	0.196	0.188
68.910	943.920	I10	C10-Iso-Paraffin	0.108	0.115	0.110
69.053	944.870	N10	N31	0.292	0.288	0.303
69.207	945.880	A9	n-propylbenzene	0.113	0.103	0.137
69.337	946.730	I10	C10-Iso-Paraffin	0.234	0.214	0.283
69.607	948.500	I10	3-methyl-5-ethylheptane	0.133	0.144	0.136
69.863	950.180	N10	N32	0.445	0.439	0.462
70.240	952.620	I10	C10-Iso-Paraffin	0.327	0.323	0.340
70.607	954.990	A9	1,3-methylethylbenzene	0.368	0.336	0.446
70.833	956.440	A9	1,4-methylethylbenzene	0.094	0.086	0.113
71.320	959.550	N10	N33	0.214	0.211	0.222
71.700	961.960	A9	1,3,5-trimethylbenzene	0.179	0.163	0.217
71.903	963.240	I10	I15	0.335	0.357	0.343
72.037	964.080	I10	C10-Iso-Paraffin	0.211	0.225	0.216
72.287	965.650	I10	I16	0.170	0.181	0.174
72.393	966.320	I10	C10-Iso-Paraffin	0.091	0.097	0.094
72.770	968.670	I10	5-methylnonane	0.054	0.058	0.055
72.937	969.710	A9	1,2-methylethylbenzene	0.231	0.207	0.280
73.107	970.760	I10	C10-Iso-Paraffin	0.111	0.099	0.134
73.343	972.220	I10	2-methylnonane	0.132	0.143	0.135
73.460	972.940	I10	C10-Iso-Paraffin	0.093	0.101	0.095
73.630	973.990	I10	3-ethyloctane	0.269	0.287	0.275
73.853	975.360	N10	N35	0.294	0.290	0.306
74.133	977.070	I10	C10-Iso-Paraffin	0.209	0.206	0.217
74.273	977.920	I10	3-methylnonane	0.308	0.331	0.315
74.643	980.160	I10	I18	0.125	0.133	0.128
75.033	982.510	A9	1,2,4-trimethylbenzene	0.300	0.270	0.364
75.300	984.110	N10	i-butylcyclohexane	0.436	0.433	0.453
75.657	986.250	I10	I20	0.537	0.572	0.549

Detailed Hydrocarbon Analysis Detail Report -

Report Date: 10/9/2012 10:54:06 AM

RawFile: M:\ExtendedGas Results\CDF\2012100094-002Adat-Detector 1.cdf
Sample: 2012100094-002A JL
Processed 515 Peaks
Reference File: H:\DHA Application Software\References\2012100094-001A JL_10092012.DHA
Comments:

Acquired: 10/03/12 03:43:14
Analyzed: 10/9/2012 10:52:01 AM

Normalized to 100.0000%

Hold

Components Listed in Chromatographic Order

Minutes	Index	Group	Component	Mass %	Volume %	Mol %
75.893	987.650	I10	I21	0.191	0.204	0.195
76.137	989.100	I10	I23	0.298	0.318	0.305
76.340	990.300	N10	N37	0.083	0.082	0.086
76.463	991.020	I10	C10-Iso-Paraffin	0.040	0.039	0.041
76.813	993.080	I10	I24	0.204	0.217	0.209
77.017	994.270	N10	1t-methyl-2-n-propylcyclohexane	0.458	0.452	0.476
77.273	995.770	A10	i-butylbenzene	0.077	0.072	0.084
77.460	996.850	I10	I25	0.302	0.322	0.309
77.733	998.440	A10	sec-butylbenzene	0.241	0.221	0.261
78.003	1000.000	P10	n-decane	0.190	0.206	0.195
78.267	1002.670	N10	N38	0.209	0.206	0.217
78.500	1005.030	I11	C11-Iso-Paraffin	0.308	0.304	0.320
78.810	1008.150	A9	1,2,3-trimethylbenzene	0.207	0.182	0.250
79.143	1011.500	N11	N39	0.202	0.199	0.191
79.273	1012.800	A10	1,4-methyl-i-propylbenzene	0.072	0.066	0.078
79.630	1016.350	I11	I28	0.167	0.178	0.156
79.857	1018.600	A10	2-3-dihydroindene	0.299	0.245	0.369
80.097	1020.980	I11	C11-Iso-Paraffin	0.172	0.141	0.212
80.320	1023.180	N10	sec-butylcyclohexane	0.631	0.611	0.655
80.683	1026.750	A10	1,2-methyl-i-propylbenzene	0.396	0.356	0.430
80.930	1029.160	I11	C11-Iso-Paraffin	0.129	0.116	0.140
81.190	1031.700	I11	3-ethylnonane	0.776	0.823	0.723
81.697	1036.610	I11	I32	0.285	0.282	0.270
81.897	1038.550	I11	C11-Iso-Paraffin	0.160	0.158	0.151
82.073	1040.250	A10	1,3-diethylbenzene	0.243	0.222	0.264
82.450	1043.860	I11	I33	0.407	0.434	0.379
82.697	1046.220	I11	C11-Iso-Paraffin	0.241	0.257	0.224
82.790	1047.110	A10	1,4-methyl-n-propylbenzene	0.111	0.102	0.120
82.957	1048.690	A10	n-butylbenzene	0.143	0.131	0.155
83.047	1049.550	I11	C11-Iso-Paraffin	0.049	0.045	0.054
83.143	1050.470	A10	1,3-dimethyl-5-ethylbenzene	0.068	0.061	0.073
83.330	1052.230	A10	1,2-diethylbenzene	0.157	0.141	0.170
83.440	1053.270	I11	C11-Iso-Paraffin	0.280	0.251	0.304
83.807	1056.730	A10	1,2-methyl-n-propylbenzene	0.285	0.258	0.310
83.990	1058.450	I11	I35	0.123	0.131	0.114
84.177	1060.200	I11	I36	0.111	0.118	0.104
84.283	1061.200	I11	C11-Iso-Paraffin	0.064	0.068	0.059
84.707	1065.140	I11	I38	0.202	0.215	0.188

Detailed Hydrocarbon Analysis Detail Report -

Report Date: 10/9/2012 10:54:06 AM

RawFile: M:\ExtendedGas Results\CDF\2012100094-002Adat-Detector 1.cdf
Sample: 2012100094-002A JL
Processed 515 Peaks
Reference File: H:\DHA Application Software\References\2012100094-001A JL_10092012.DHA
Comments:

Acquired: 10/03/12 03:43:14
Analyzed: 10/9/2012 10:52:01 AM

Normalized to 100.0000%

Hold

Components Listed in Chromatographic Order

Minutes	Index	Group	Component	Mass %	Volume %	Mol %
84.920	1067.120	A10	A3	0.248	0.228	0.270
85.097	1068.760	A10	1,3-dimethyl-4-ethylbenzene	0.196	0.180	0.212
85.303	1070.660	I11	I39	0.187	0.199	0.174
85.477	1072.260	I11	C11-Iso-Paraffin	0.023	0.024	0.021
85.617	1073.550	I11	C11-Iso-Paraffin	0.126	0.135	0.118
85.727	1074.560	I11	I40	0.137	0.147	0.128
85.800	1075.230	A10	1,2-dimethyl-4-ethylbenzene	0.087	0.079	0.095
85.903	1076.170	I11	C11-Iso-Paraffin	0.170	0.154	0.185
86.113	1078.090	I11	I41	0.337	0.359	0.314
86.253	1079.370	I11	C11-Iso-Paraffin	0.391	0.417	0.365
86.600	1082.520	I11	I42	0.157	0.167	0.146
86.907	1085.300	I11	I43	0.225	0.239	0.209
87.047	1086.560	I11	C11-Iso-Paraffin	0.133	0.142	0.124
87.307	1088.900	A12	1,3-di-n-propylbenzene	0.227	0.201	0.204
87.490	1090.550	I11	C11-Iso-Paraffin	0.202	0.179	0.181
87.707	1092.490	A11	1,4-methyl-t-butylbenzene	0.317	0.295	0.312
87.873	1093.980	A10	1,2-dimethyl-3-ethylbenzene	0.084	0.075	0.092
88.197	1096.860	A11	1,2-ethyl-i-propylbenzene	0.745	0.661	0.733
88.400	1098.670	I11	C11-Iso-Paraffin	0.148	0.131	0.145
88.550	1100.000	P11	n-undecane	0.136	0.144	0.126
88.903	1104.250	A10	1,2,4,5-tetramethylbenzene	0.510	0.453	0.553
89.227	1108.120	A11	1,2-methyl-n-butylbenzene	0.247	0.219	0.243
89.343	1109.520	A10	1,2,3,5-tetramethylbenzene	0.391	0.347	0.425
89.493	1111.310	I12	C12-Iso-Paraffin	0.135	0.120	0.147
89.813	1115.110	A11	1,2-methyl-t-butylbenzene	0.408	0.362	0.401
90.017	1117.520	I12	C12-Iso-Paraffin	0.089	0.079	0.088
90.263	1120.440	I12	C12-Iso-Paraffin	0.215	0.190	0.211
90.340	1121.350	I12	C12-Iso-Paraffin	0.163	0.145	0.160
90.880	1127.700	A10	5-methylindan	0.600	0.532	0.661
91.027	1129.420	I12	C12-Iso-Paraffin	0.132	0.117	0.146
91.213	1131.600	I12	I44	0.301	0.315	0.257
91.413	1133.930	A10	4-methylindan	0.115	0.102	0.127
91.637	1136.530	A11	1,2-ethyl-n-propylbenzene	0.369	0.327	0.362
92.000	1140.740	A11	1,3-methyl-n-butylbenzene	0.028	0.025	0.028
92.110	1142.010	A12	1,3-di-i-propylbenzene	0.067	0.059	0.060
92.367	1144.970	A11	s-pentylbenzene	0.092	0.082	0.090
92.530	1146.850	I12	C12-Iso-Paraffin	0.066	0.058	0.065
92.707	1148.880	I12	C12-Iso-Paraffin	0.241	0.214	0.237

Detailed Hydrocarbon Analysis Detail Report -

Report Date: 10/9/2012 10:54:06 AM

RawFile: M:\ExtendedGas Results\CDF\2012100094-002Adat-Detector 1.cdf
Sample: 2012100094-002A JL
Processed 515 Peaks
Reference File: H:\DHA Application Software\References\2012100094-001A JL_10092012.DHA
Comments:

Acquired: 10/03/12 03:43:14
Analyzed: 10/9/2012 10:52:01 AM

Normalized to 100.0000%

Hold

Components Listed in Chromatographic Order

Minutes	Index	Group	Component	Mass %	Volume %	Mol %
92.830	1150.300	A11	n-pentylbenzene	0.032	0.028	0.032
93.027	1152.550	A12	1,2-di-i-propylbenzene	0.193	0.171	0.173
93.167	1154.140	I12	C12-Iso-Paraffin	0.124	0.110	0.111
93.400	1156.800	I12	C12-Iso-Paraffin	0.156	0.138	0.140
93.567	1158.700	I12	C12-Iso-Paraffin	0.202	0.179	0.181
93.667	1159.830	A12	1,4-di-i-propylbenzene	0.103	0.091	0.093
93.810	1161.460	I12	C12-Iso-Paraffin	0.092	0.081	0.082
93.967	1163.230	A10	tetrahydronaphthalene	0.179	0.146	0.198
94.113	1164.890	I12	C12-Iso-Paraffin	0.257	0.209	0.283
94.353	1167.590	A10	naphthalene	0.162	0.125	0.184
94.530	1169.580	A12	1-t-butyl-3,5-dimethylbenzene	0.257	0.228	0.231
94.620	1170.590	I12	C12-Iso-Paraffin	0.133	0.118	0.120
94.737	1171.900	I12	C12-Iso-Paraffin	0.044	0.039	0.040
94.910	1173.840	A12	1,4-ethyl-t-butylbenzene	0.235	0.208	0.211
95.050	1175.400	I12	C12-Iso-Paraffin	0.050	0.044	0.045
95.260	1177.750	I12	I45	0.399	0.418	0.342
95.513	1180.560	I12	I46	0.102	0.107	0.087
95.707	1182.710	I12	C12-Iso-Paraffin	0.534	0.560	0.457
95.893	1184.780	I12	I47	0.238	0.250	0.204
96.013	1186.100	I12	C12-Iso-Paraffin	0.064	0.067	0.055
96.187	1188.020	I12	I48	0.447	0.469	0.383
96.397	1190.330	A12	A5	0.239	0.212	0.215
96.607	1192.630	A12	A6	0.418	0.371	0.375
96.847	1195.260	I12	C12-Iso-Paraffin	0.067	0.060	0.061
97.053	1197.520	I12	C12-Iso-Paraffin	0.229	0.203	0.205
97.280	1200.000	P12	n-dodecane	0.431	0.452	0.369
97.427	1202.000	I13	C13-Iso-Paraffin	0.388	0.407	0.332
97.620	1204.640	I13	C13-Iso-Paraffin	0.130	0.137	0.112
97.903	1208.490	I13	C13-Iso-Paraffin	0.503	0.528	0.431
98.107	1211.250	I13	C13-Iso-Paraffin	0.117	0.123	0.100
98.330	1214.280	I13	C13-Iso-Paraffin	0.159	0.167	0.136
98.557	1217.340	A12	1,3,5-triethylbenzene	0.499	0.443	0.448
98.687	1219.090	I13	C13-Iso-Paraffin	0.092	0.082	0.083
98.857	1221.380	I13	C13-Iso-Paraffin	0.177	0.157	0.159
99.063	1224.160	I13	C13-Iso-Paraffin	0.211	0.187	0.189
99.240	1226.520	I13	C13-Iso-Paraffin	0.350	0.310	0.314
99.493	1229.910	I13	C13-Iso-Paraffin	0.411	0.364	0.369
99.700	1232.670	I13	C13-Iso-Paraffin	0.103	0.091	0.092

Detailed Hydrocarbon Analysis Detail Report -

Report Date: 10/9/2012 10:54:06 AM

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Comments:

Acquired: 10/03/12 03:43:14
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Hold

Components Listed in Chromatographic Order

Minutes	Index	Group	Component	Mass %	Volume %	Mol %
99.813	1234.180	I13	C13-Iso-Paraffin	0.133	0.118	0.119
99.923	1235.640	A12	1,2,4-triethylbenzene	0.132	0.117	0.119
100.120	1238.250	I13	C13-Iso-Paraffin	0.084	0.075	0.076
100.373	1241.610	A12	1,4-methyl-n-pentylbenzene	0.476	0.423	0.428
100.453	1242.670	I13	C13-Iso-Paraffin	0.131	0.116	0.117
100.637	1245.090	I13	C13-Iso-Paraffin	0.151	0.134	0.135
100.813	1247.420	I13	C13-Iso-Paraffin	0.265	0.235	0.238
101.027	1250.220	I13	C13-Iso-Paraffin	0.080	0.071	0.071
101.147	1251.800	I13	C13-Iso-Paraffin	0.127	0.113	0.114
101.350	1254.460	I13	C13-Iso-Paraffin	0.258	0.229	0.232
101.440	1255.640	A12	n-hexylbenzene	0.162	0.144	0.145
101.593	1257.640	I13	C13-Iso-Paraffin	0.281	0.249	0.252
101.820	1260.600	I13	C13-Iso-Paraffin	0.111	0.099	0.100
101.950	1262.290	I13	C13-Iso-Paraffin	0.275	0.244	0.247
102.170	1265.150	I13	C13-Iso-Paraffin	0.202	0.179	0.181
102.297	1266.790	I13	C13-Iso-Paraffin	0.442	0.392	0.397
102.410	1268.260	I13	C13-Iso-Paraffin	0.152	0.135	0.137
102.540	1269.940	I13	I50	0.184	0.192	0.145
102.793	1273.210	A11	1,2,3,4,5-pentamethylbenzene	0.357	0.282	0.351
102.937	1275.060	I13	C13-Iso-Paraffin	0.107	0.084	0.105
103.123	1277.460	A11	2-methylnaphthalene	0.498	0.385	0.506
103.317	1279.940	A11	1-methylnaphthalene	0.390	0.301	0.396
103.480	1282.030	I13	C13-Iso-Paraffin	0.118	0.091	0.120
103.637	1284.040	I13	C13-Iso-Paraffin	0.166	0.128	0.169
103.897	1287.360	I13	C13-Iso-Paraffin	0.488	0.377	0.496
104.267	1292.060	I13	C13-Iso-Paraffin	0.392	0.303	0.399
104.533	1295.440	I13	C13-Iso-Paraffin	0.199	0.154	0.203
104.893	1300.000	P13	n-tridecane	0.776	0.809	0.613
105.057	1302.440	I14	C14-Iso-Paraffin	0.202	0.211	0.159
105.187	1304.390	I14	C14-Iso-Paraffin	0.049	0.051	0.038
105.320	1306.380	I14	C14-Iso-Paraffin	0.110	0.115	0.087
105.430	1308.020	I14	C14-Iso-Paraffin	0.197	0.206	0.156
105.653	1311.340	I14	C14-Iso-Paraffin	0.229	0.239	0.181
105.773	1313.130	I14	C14-Iso-Paraffin	0.105	0.109	0.083
105.867	1314.510	I14	C14-Iso-Paraffin	0.185	0.193	0.146
106.067	1317.480	I14	C14-Iso-Paraffin	0.178	0.185	0.140
106.240	1320.050	I14	C14-Iso-Paraffin	0.239	0.250	0.189
106.327	1321.330	I14	C14-Iso-Paraffin	0.268	0.280	0.212

Detailed Hydrocarbon Analysis Detail Report -

Report Date: 10/9/2012 10:54:06 AM

RawFile: M:\ExtendedGas Results\CDF\2012100094-002Adat-Detector 1.cdf
Sample: 2012100094-002A JL
Processed 515 Peaks
Reference File: H:\DHA Application Software\References\2012100094-001A JL_10092012.DHA
Comments:

Acquired: 10/03/12 03:43:14
Analyzed: 10/9/2012 10:52:01 AM

Normalized to 100.0000%

Hold

Components Listed in Chromatographic Order

Minutes	Index	Group	Component	Mass %	Volume %	Mol %
106.637	1325.900	I14	C14-Iso-Paraffin	0.218	0.228	0.172
106.813	1328.500	I14	C14-Iso-Paraffin	0.067	0.070	0.053
107.050	1331.980	I14	C14-Iso-Paraffin	0.346	0.361	0.273
107.283	1335.390	I14	C14-Iso-Paraffin	0.213	0.222	0.168
107.427	1337.490	I14	C14-Iso-Paraffin	0.083	0.086	0.065
107.527	1338.950	I14	C14-Iso-Paraffin	0.118	0.123	0.093
107.773	1342.550	I14	C14-Iso-Paraffin	0.061	0.064	0.048
107.880	1344.100	I14	C14-Iso-Paraffin	0.088	0.092	0.070
108.050	1346.570	I14	C14-Iso-Paraffin	0.222	0.232	0.176
108.167	1348.260	I14	C14-Iso-Paraffin	0.101	0.105	0.080
108.317	1350.440	I14	C14-Iso-Paraffin	0.222	0.232	0.175
108.530	1353.520	I14	C14-Iso-Paraffin	0.203	0.211	0.160
108.737	1356.510	I14	C14-Iso-Paraffin	0.161	0.168	0.127
109.073	1361.360	I14	C14-Iso-Paraffin	0.236	0.247	0.187
109.213	1363.370	I14	C14-Iso-Paraffin	0.134	0.140	0.106
109.413	1366.240	I14	C14-Iso-Paraffin	0.267	0.279	0.211
109.550	1368.190	I14	C14-Iso-Paraffin	0.135	0.141	0.107
109.713	1370.530	I14	C14-Iso-Paraffin	0.068	0.071	0.054
109.887	1373.000	I14	C14-Iso-Paraffin	0.224	0.234	0.177
110.163	1376.940	I14	C14-Iso-Paraffin	0.074	0.077	0.059
110.447	1380.970	I14	C14-Iso-Paraffin	0.724	0.755	0.572
110.773	1385.600	I14	C14-Iso-Paraffin	0.184	0.192	0.146
111.003	1388.840	I14	C14-Iso-Paraffin	0.123	0.128	0.097
111.273	1392.650	I14	C14-Iso-Paraffin	0.175	0.183	0.138
111.407	1394.520	I14	C14-Iso-Paraffin	0.314	0.327	0.248
111.797	1400.000	P14	C14	0.995	1.030	0.731
111.960	1402.650	I15	C15-Iso-Paraffin	0.176	0.182	0.130
112.263	1407.570	I15	C15-Iso-Paraffin	0.570	0.590	0.419
112.553	1412.260	I15	C15-Iso-Paraffin	0.312	0.323	0.229
112.683	1414.360	I15	C15-Iso-Paraffin	0.179	0.185	0.132
112.847	1416.990	I15	C15-Iso-Paraffin	0.037	0.039	0.027
112.987	1419.250	I15	C15-Iso-Paraffin	0.175	0.181	0.129
113.250	1423.480	I15	C15-Iso-Paraffin	0.106	0.110	0.078
113.400	1425.880	I15	C15-Iso-Paraffin	0.024	0.025	0.018
113.590	1428.930	I15	C15-Iso-Paraffin	0.181	0.187	0.133
113.713	1430.900	I15	C15-Iso-Paraffin	0.113	0.117	0.083
113.907	1433.990	I15	C15-Iso-Paraffin	0.085	0.088	0.063
114.063	1436.480	I15	C15-Iso-Paraffin	0.180	0.187	0.133

Detailed Hydrocarbon Analysis Detail Report -

Report Date: 10/9/2012 10:54:06 AM

RawFile: M:\ExtendedGas Results\CDF\2012100094-002Adat-Detector 1.cdf
Sample: 2012100094-002A JL
Processed 515 Peaks
Reference File: H:\DHA Application Software\References\2012100094-001A JL_10092012.DHA
Comments:

Acquired: 10/03/12 03:43:14
Analyzed: 10/9/2012 10:52:01 AM

Normalized to 100.0000%

Hold

Components Listed in Chromatographic Order

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Minutes	Index	Group	Component	Mass %	Volume %	Mol %
114.247	1439.400	I15	C15-Iso-Paraffin	0.431	0.446	0.317
114.593	1444.900	I15	C15-Iso-Paraffin	0.209	0.216	0.153
115.033	1451.860	I15	C15-Iso-Paraffin	0.644	0.666	0.473
115.267	1455.540	I15	C15-Iso-Paraffin	0.191	0.197	0.140
115.417	1457.900	I15	C15-Iso-Paraffin	0.030	0.031	0.022
115.620	1461.090	I15	C15-Iso-Paraffin	0.227	0.234	0.166
115.983	1466.790	I15	C15-Iso-Paraffin	0.887	0.918	0.651
116.380	1472.980	I15	C15-Iso-Paraffin	0.296	0.306	0.217
116.540	1475.480	I15	C15-Iso-Paraffin	0.292	0.302	0.214
116.737	1478.530	I15	C15-Iso-Paraffin	0.070	0.073	0.052
116.910	1481.220	I15	C15-Iso-Paraffin	0.119	0.123	0.087
117.127	1484.580	I15	C15-Iso-Paraffin	0.267	0.276	0.196
117.547	1491.070	I15	C15-Iso-Paraffin	0.258	0.267	0.189
117.713	1493.640	I15	C15-Iso-Paraffin	0.207	0.215	0.152
117.867	1496.000	I15	C15-Iso-Paraffin	0.171	0.177	0.126
118.047	1498.770	P15	C15	1.365	1.056	0.970
118.217	1501.720	I16	C16-Iso-Paraffin	0.165	0.127	0.117
118.377	1504.780	I16	C16-Iso-Paraffin	0.097	0.075	0.069
118.487	1506.890	I16	C16-Iso-Paraffin	0.091	0.070	0.065
118.730	1511.530	I16	C16-Iso-Paraffin	0.268	0.207	0.190
118.980	1516.290	I16	C16-Iso-Paraffin	0.321	0.248	0.228
119.203	1520.540	I16	C16-Iso-Paraffin	0.110	0.085	0.078
119.303	1522.440	I16	C16-Iso-Paraffin	0.111	0.086	0.079
119.460	1525.410	I16	C16-Iso-Paraffin	0.032	0.024	0.022
119.593	1527.930	I16	C16-Iso-Paraffin	0.034	0.027	0.024
119.770	1531.270	I16	C16-Iso-Paraffin	0.124	0.096	0.088
120.163	1538.690	I16	C16-Iso-Paraffin	0.218	0.169	0.155
120.393	1543.020	I16	C16-Iso-Paraffin	0.157	0.122	0.112
120.510	1545.210	I16	C16-Iso-Paraffin	0.059	0.045	0.042
120.693	1548.650	I16	C16-Iso-Paraffin	0.176	0.136	0.125
120.803	1550.710	I16	C16-Iso-Paraffin	0.144	0.111	0.102
121.003	1554.450	I16	C16-Iso-Paraffin	0.233	0.181	0.166
121.087	1556.000	I16	C16-Iso-Paraffin	0.263	0.203	0.187
121.207	1558.240	I16	C16-Iso-Paraffin	0.173	0.134	0.123
121.303	1560.050	I16	C16-Iso-Paraffin	0.203	0.157	0.144
121.580	1565.200	I16	C16-Iso-Paraffin	0.186	0.144	0.133
121.837	1569.970	I16	C16-Iso-Paraffin	0.324	0.251	0.230
121.977	1572.560	I16	C16-Iso-Paraffin	0.302	0.233	0.215

Detailed Hydrocarbon Analysis Detail Report -

Report Date: 10/9/2012 10:54:06 AM

RawFile: M:\ExtendedGas Results\CDF\2012100094-002Adat-Detector 1.cdf
Sample: 2012100094-002A JL
Processed 515 Peaks
Reference File: H:\DHA Application Software\References\2012100094-001A JL_10092012.DHA
Comments:

Acquired: 10/03/12 03:43:14
Analyzed: 10/9/2012 10:52:01 AM

Normalized to 100.0000%

Hold

Components Listed in Chromatographic Order

Minutes	Index	Group	Component	Mass %	Volume %	Mol %
122.343	1579.350	I16	C16-Iso-Paraffin	0.091	0.071	0.065
122.683	1585.620	I16	C16-Iso-Paraffin	0.083	0.064	0.059
123.087	1593.030	I16	C16-Iso-Paraffin	0.261	0.202	0.185
123.200	1595.110	I16	C16-Iso-Paraffin	0.088	0.068	0.063
123.393	1598.650	P16	C16	1.188	1.212	0.764
123.580	1602.510	I17	C17-Iso-Paraffin	0.098	0.100	0.063
123.733	1605.920	I17	C17-Iso-Paraffin	0.018	0.018	0.011
123.850	1608.510	I17	C17-Iso-Paraffin	0.061	0.062	0.039
123.987	1611.540	I17	C17-Iso-Paraffin	0.119	0.122	0.077
124.213	1616.550	I17	C17-Iso-Paraffin	0.055	0.056	0.035
124.643	1626.040	I17	C17-Iso-Paraffin	0.011	0.011	0.007
124.787	1629.190	I17	C17-Iso-Paraffin	0.028	0.029	0.018
124.903	1631.760	I17	C17-Iso-Paraffin	0.045	0.046	0.029
125.130	1636.730	I17	C17-Iso-Paraffin	0.029	0.030	0.019
125.437	1643.450	I17	C17-Iso-Paraffin	0.042	0.042	0.027
125.593	1646.880	I17	C17-Iso-Paraffin	0.152	0.155	0.098
125.760	1650.510	I17	C17-Iso-Paraffin	0.082	0.084	0.053
125.917	1653.930	I17	C17-Iso-Paraffin	0.370	0.378	0.238
126.240	1660.960	I17	C17-Iso-Paraffin	0.382	0.390	0.246
126.450	1665.520	I17	C17-Iso-Paraffin	0.107	0.110	0.069
126.560	1667.910	I17	C17-Iso-Paraffin	0.098	0.100	0.063
126.813	1673.390	I17	C17-Iso-Paraffin	0.141	0.144	0.091
126.943	1676.200	I17	C17-Iso-Paraffin	0.049	0.050	0.031
127.060	1678.720	I17	C17-Iso-Paraffin	0.017	0.018	0.011
127.260	1683.030	I17	C17-Iso-Paraffin	0.039	0.039	0.025
127.440	1686.910	I17	C17-Iso-Paraffin	0.092	0.094	0.059
127.573	1689.770	I17	C17-Iso-Paraffin	0.062	0.064	0.040
127.667	1691.780	I17	C17-Iso-Paraffin	0.074	0.076	0.048
127.930	1697.430	I17	C17-Iso-Paraffin	0.110	0.113	0.071
128.050	1700.000	P17	C17	0.991	1.005	0.600
128.193	1703.510	I18	C18-Iso-Paraffin	0.079	0.081	0.048
128.390	1708.320	I18	C18-Iso-Paraffin	0.112	0.113	0.068
128.517	1711.410	I18	C18-Iso-Paraffin	0.530	0.537	0.321
128.660	1714.910	I18	C18-Iso-Paraffin	0.069	0.070	0.042
128.777	1717.750	I18	C18-Iso-Paraffin	0.073	0.074	0.044
128.973	1722.540	I18	C18-Iso-Paraffin	0.113	0.115	0.069
129.060	1724.650	I18	C18-Iso-Paraffin	0.106	0.108	0.064
129.377	1732.330	I18	C18-Iso-Paraffin	0.120	0.121	0.073

RawFile: M:\ExtendedGas Results\CDF\2012100094-002Adat-Detector 1.cdf
Acquired: 10/03/12 03:43:14
Sample: 2012100094-002A JL
Analyzed: 10/9/2012 10:52:01 AM
Processed 515 Peaks
Reference File: H:\DHA Application Software\References\2012100094-001A JL_10092012.DHA
Comments:
Normalized to 100.0000%

Hold

Components Listed in Chromatographic Order **Page: 18**

Minutes	Index	Group	Component	Mass %	Volume %	Mol %
129.617	1738.140	I18	C18-Iso-Paraffin	0.109	0.111	0.066
129.760	1741.610	I18	C18-Iso-Paraffin	0.013	0.013	0.008
129.947	1746.120	I18	C18-Iso-Paraffin	0.108	0.110	0.065
130.123	1750.380	I18	C18-Iso-Paraffin	0.188	0.191	0.114
130.287	1754.310	I18	C18-Iso-Paraffin	0.052	0.053	0.032
130.460	1758.480	I18	C18-Iso-Paraffin	0.173	0.175	0.105
130.547	1760.560	I18	C18-Iso-Paraffin	0.086	0.087	0.052
130.647	1762.960	I18	C18-Iso-Paraffin	0.046	0.046	0.028
130.783	1766.240	I18	C18-Iso-Paraffin	0.160	0.162	0.097
130.920	1769.510	I18	C18-Iso-Paraffin	0.046	0.047	0.028
131.100	1773.820	I18	C18-Iso-Paraffin	0.108	0.110	0.066
131.320	1779.070	I18	C18-Iso-Paraffin	0.041	0.041	0.025
131.413	1781.300	I18	C18-Iso-Paraffin	0.023	0.024	0.014
131.497	1783.280	I18	C18-Iso-Paraffin	0.033	0.034	0.020
131.783	1790.110	I18	C18-Iso-Paraffin	0.044	0.045	0.027
132.200	1800.000	P18	C18	0.671	0.682	0.384
132.313	1802.990	I19	C19-Iso-Paraffin	0.025	0.025	0.014
132.460	1806.870	I19	C19-Iso-Paraffin	0.038	0.039	0.022
132.650	1811.880	I19	C19-Iso-Paraffin	0.105	0.106	0.060
132.777	1815.220	I19	C19-Iso-Paraffin	0.264	0.268	0.151
133.050	1822.410	I19	C19-Iso-Paraffin	0.138	0.140	0.079
133.167	1825.480	I19	C19-Iso-Paraffin	0.045	0.045	0.026
133.230	1827.140	I19	C19-Iso-Paraffin	0.040	0.040	0.023
133.457	1833.080	I19	C19-Iso-Paraffin	0.024	0.025	0.014
133.627	1837.530	I19	C19-Iso-Paraffin	0.047	0.048	0.027
133.740	1840.500	I19	C19-Iso-Paraffin	0.063	0.064	0.036
133.870	1843.890	I19	C19-Iso-Paraffin	0.050	0.050	0.028
133.940	1845.720	I19	C19-Iso-Paraffin	0.029	0.030	0.017
134.053	1848.680	I19	C19-Iso-Paraffin	0.040	0.041	0.023
134.217	1852.930	I19	C19-Iso-Paraffin	0.039	0.039	0.022
134.483	1859.870	I19	C19-Iso-Paraffin	0.063	0.064	0.036
134.673	1864.810	I19	C19-Iso-Paraffin	0.082	0.083	0.047
134.873	1869.990	I19	C19-Iso-Paraffin	0.073	0.074	0.042
134.977	1872.670	I19	C19-Iso-Paraffin	0.042	0.043	0.024
135.347	1882.230	I19	C19-Iso-Paraffin	0.072	0.073	0.041
135.417	1884.040	I19	C19-Iso-Paraffin	0.015	0.015	0.009
135.697	1891.250	I19	C19-Iso-Paraffin	0.082	0.083	0.047
135.970	1898.280	P19	C19	0.687	0.697	0.373

RawFile: M:\ExtendedGas Results\CDF\2012100094-002Adat-Detector 1.cdf
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Processed 515 Peaks
Reference File: H:\DHA Application Software\References\2012100094-001A JL_10092012.DHA
Comments:

Acquired: 10/03/12 03:43:14
Analyzed: 10/9/2012 10:52:01 AM

Normalized to 100.0000%

Hold

Components Listed in Chromatographic Order **Page: 19**

Minutes	Index	Group	Component	Mass %	Volume %	Mol %
136.203	1904.850	I20	C20-Iso-Paraffin	0.060	0.061	0.033
136.327	1908.440	I20	C20-Iso-Paraffin	0.039	0.040	0.021
136.530	1914.350	I20	C20-Iso-Paraffin	0.129	0.131	0.070
136.650	1917.830	I20	C20-Iso-Paraffin	0.034	0.034	0.018
136.793	1921.990	I20	C20-Iso-Paraffin	0.026	0.026	0.014
136.910	1925.370	I20	C20-Iso-Paraffin	0.015	0.015	0.008
137.103	1930.960	I20	C20-Iso-Paraffin	0.054	0.055	0.029
137.347	1937.990	I20	C20-Iso-Paraffin	0.037	0.038	0.020
137.460	1941.260	I20	C20-Iso-Paraffin	0.064	0.065	0.035
137.660	1947.020	I20	C20-Iso-Paraffin	0.071	0.072	0.038
137.827	1951.810	I20	C20-Iso-Paraffin	0.013	0.013	0.007
138.060	1958.520	I20	C20-Iso-Paraffin	0.037	0.038	0.020
138.233	1963.490	I20	C20-Iso-Paraffin	0.069	0.070	0.038
138.393	1968.070	I20	C20-Iso-Paraffin	0.029	0.030	0.016
138.587	1973.600	I20	C20-Iso-Paraffin	0.102	0.103	0.055
138.800	1979.690	I20	C20-Iso-Paraffin	0.085	0.086	0.046
138.950	1983.970	I20	C20-Iso-Paraffin	0.045	0.046	0.025
139.080	1987.680	I20	C20-Iso-Paraffin	0.048	0.048	0.026
139.450	1998.200	P20	C20	0.435	0.435	0.224
139.880	2011.410	I21	C21-Iso-Paraffin	0.043	0.043	0.022
140.057	2016.900	I21	C21-Iso-Paraffin	0.043	0.043	0.022
140.220	2021.970	I21	C21-Iso-Paraffin	0.033	0.033	0.017
140.363	2026.410	I21	C21-Iso-Paraffin	0.025	0.025	0.013
140.453	2029.200	I21	C21-Iso-Paraffin	0.009	0.009	0.005
140.663	2035.690	I21	C21-Iso-Paraffin	0.050	0.050	0.026
140.793	2039.710	I21	C21-Iso-Paraffin	0.063	0.063	0.033
141.003	2046.190	I21	C21-Iso-Paraffin	0.011	0.011	0.006
141.390	2058.090	I21	C21-Iso-Paraffin	0.019	0.019	0.010
141.563	2063.420	I21	C21-Iso-Paraffin	0.025	0.025	0.013
141.847	2072.110	I21	C21-Iso-Paraffin	0.062	0.062	0.032
142.047	2078.230	I21	C21-Iso-Paraffin	0.085	0.085	0.044
142.697	2098.070	P21	C21	0.302	0.301	0.148
143.180	2113.870	I22	C22-Iso-Paraffin	0.017	0.017	0.009
143.367	2120.020	I22	C22-Iso-Paraffin	0.030	0.030	0.015
143.857	2136.130	I22	C22-Iso-Paraffin	0.127	0.126	0.062
144.173	2146.510	I22	C22-Iso-Paraffin	0.032	0.032	0.016
144.673	2162.850	I22	C22-Iso-Paraffin	0.042	0.042	0.020
144.830	2167.960	I22	C22-Iso-Paraffin	0.020	0.020	0.010

Detailed Hydrocarbon Analysis Detail Report -

Report Date: 10/9/2012 10:54:06 AM

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Comments:

Acquired: 10/03/12 03:43:14
Analyzed: 10/9/2012 10:52:01 AM

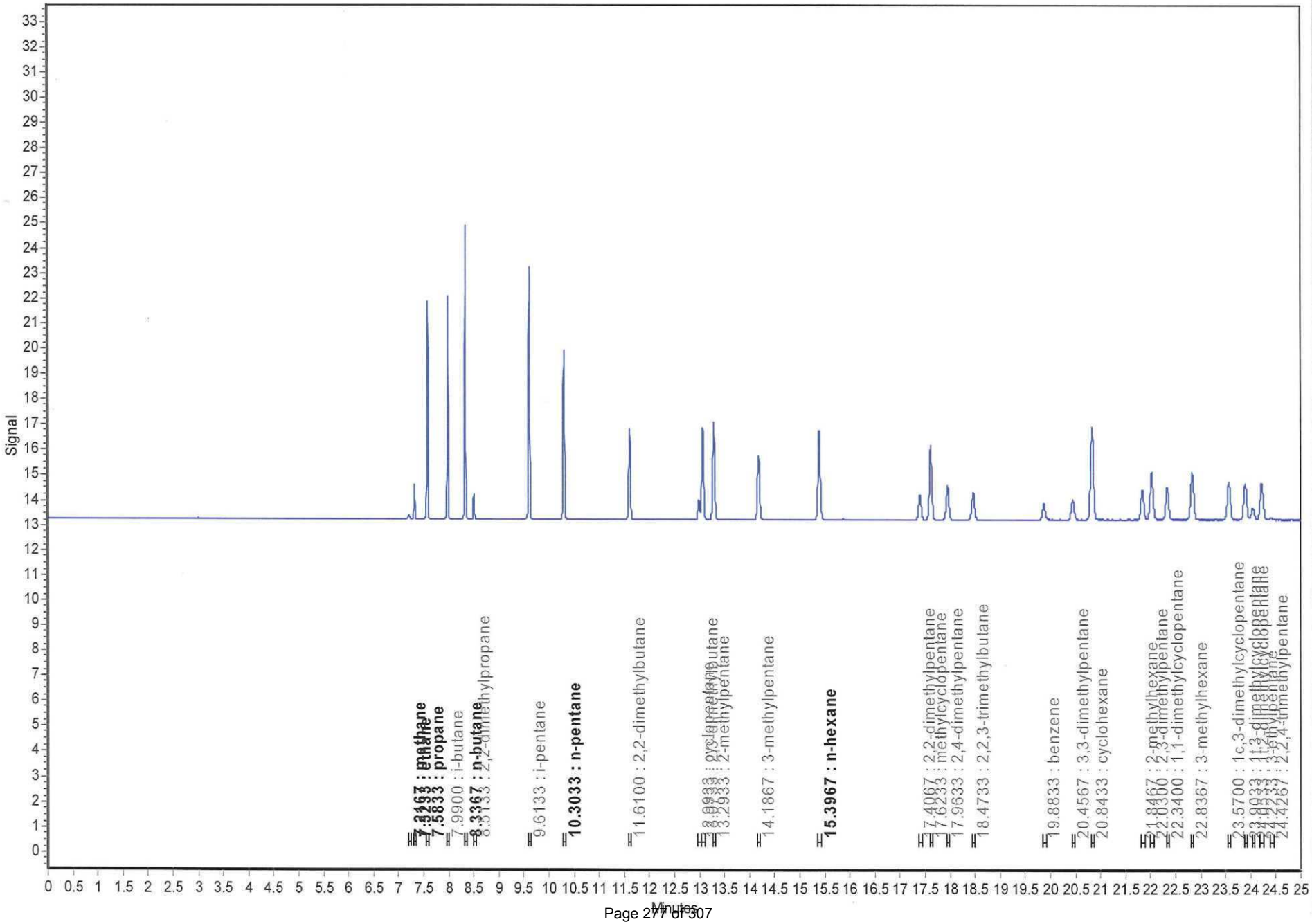
Normalized to 100.0000%

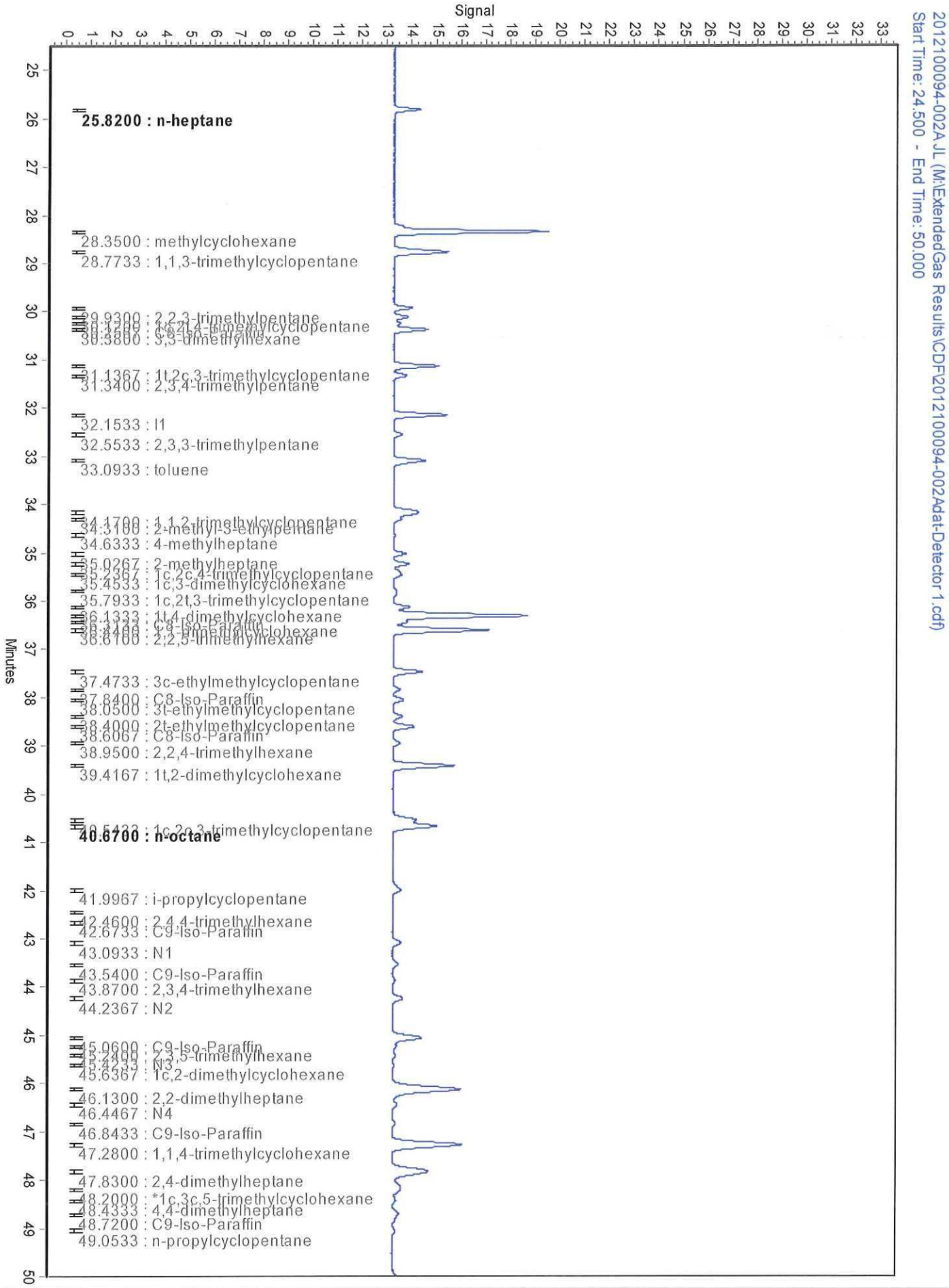
Hold

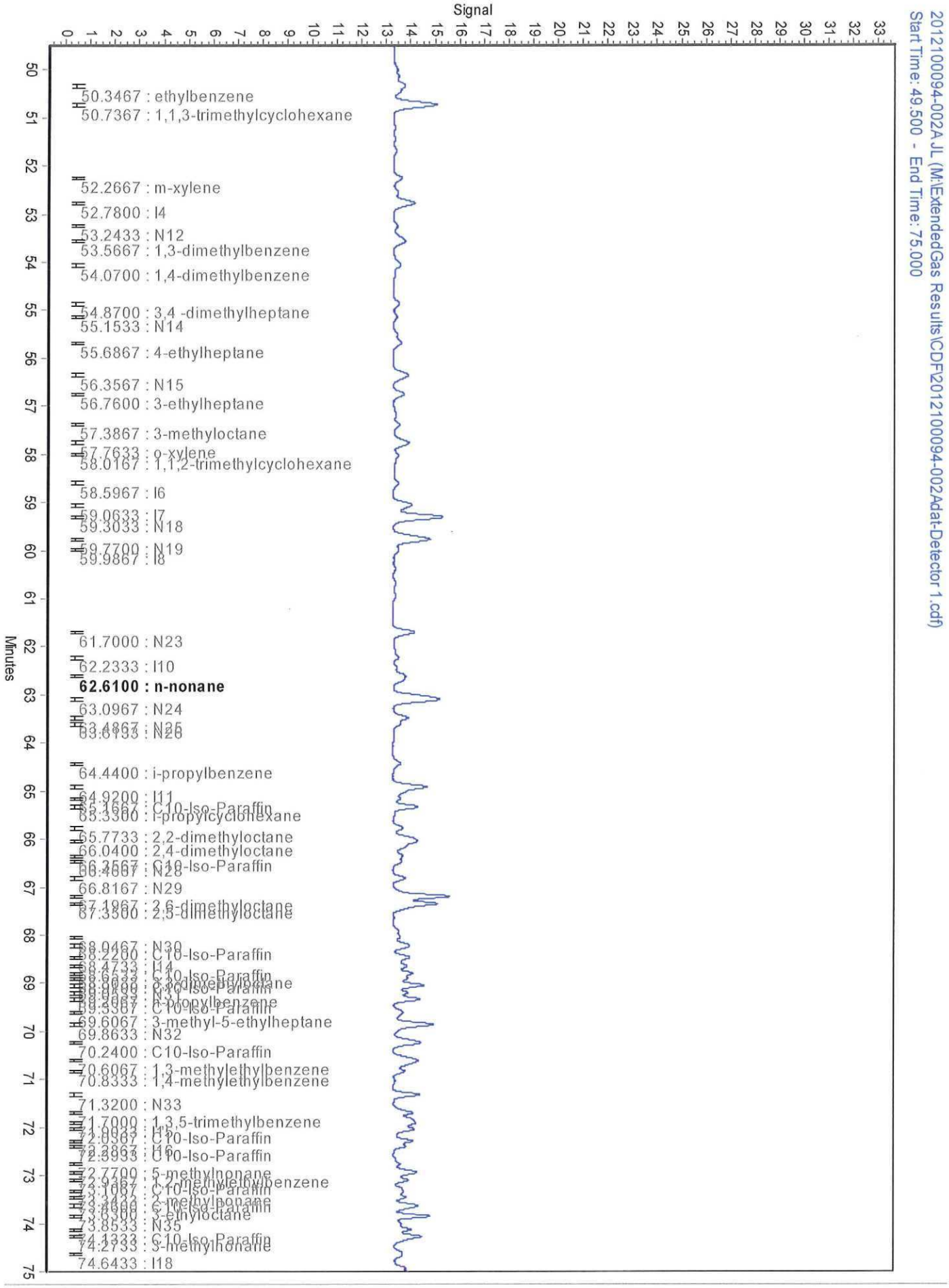
Components Listed in Chromatographic Order

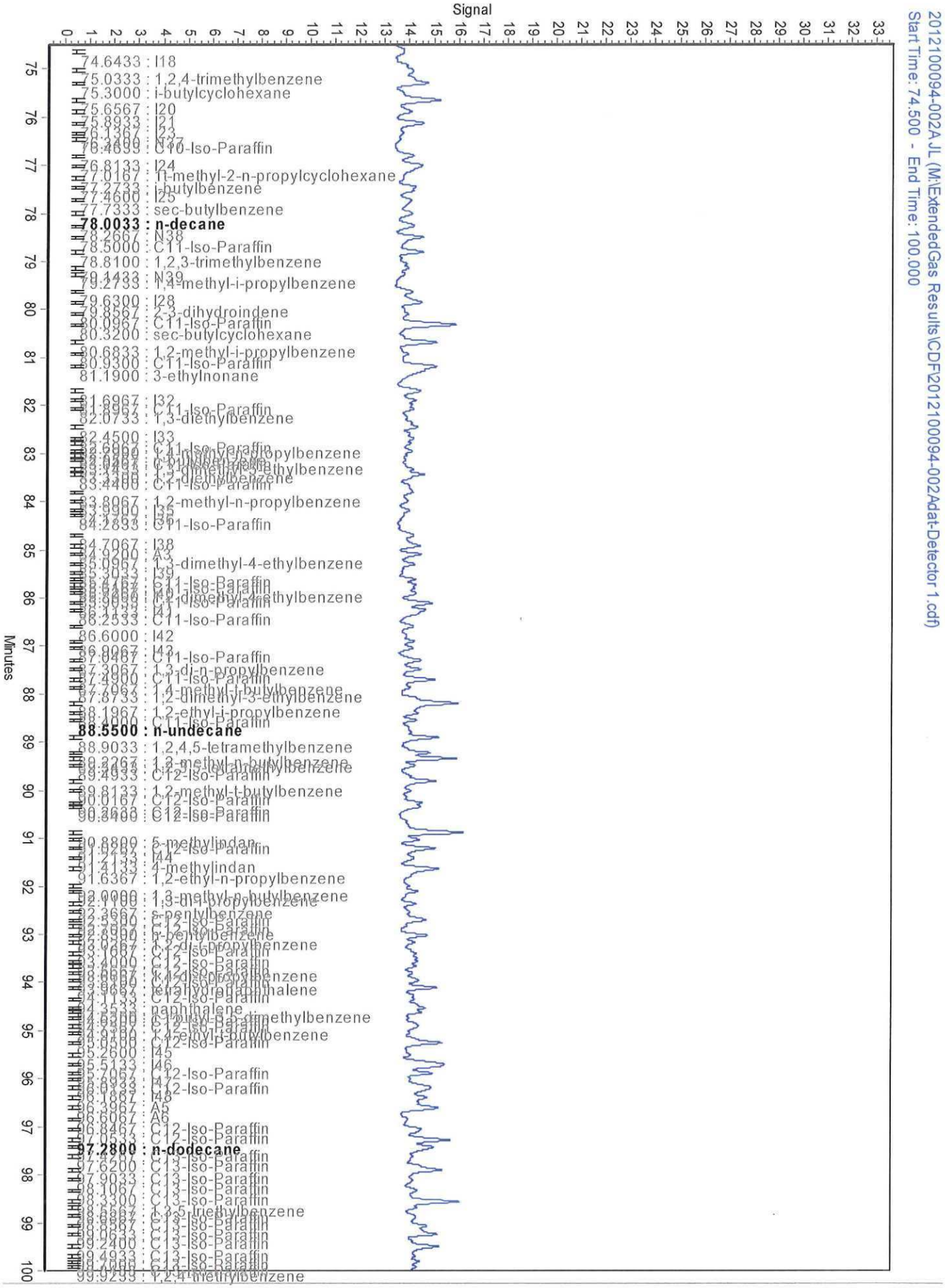
Minutes	Index	Group	Component	Mass %	Volume %	Mol %
145.017	2174.040	I22	C22-Iso-Paraffin	0.037	0.037	0.018
145.267	2182.160	I22	C22-Iso-Paraffin	0.022	0.022	0.011
145.753	2197.940	P22	C22	0.255	0.253	0.119
146.310	2216.020	I23	C23-Iso-Paraffin	0.012	0.012	0.006
146.587	2224.990	I23	C23-Iso-Paraffin	0.061	0.060	0.028
146.907	2235.330	I23	C23-Iso-Paraffin	0.023	0.023	0.011
147.080	2240.930	I23	C23-Iso-Paraffin	0.066	0.065	0.031
147.557	2256.280	I23	C23-Iso-Paraffin	0.017	0.017	0.008
147.720	2261.520	I23	C23-Iso-Paraffin	0.020	0.020	0.009
148.017	2271.040	I23	C23-Iso-Paraffin	0.010	0.010	0.005
148.567	2288.630	I23	C23-Iso-Paraffin	0.056	0.056	0.026
148.847	2297.550	P23	C23	0.211	0.209	0.095
149.667	2321.770	I24	C24-Iso-Paraffin	0.017	0.017	0.008
151.020	2361.110	I24	C24-Iso-Paraffin	0.014	0.014	0.006
152.283	2397.510	P24	C24	0.172	0.170	0.074
156.233	2497.260	P25	C25	0.135	0.133	0.056
160.910	2597.130	P26	C26	0.110	0.108	0.043
166.570	2697.010	P27	C27	0.080	0.078	0.030
173.520	2797.280	P28	C28	0.045	0.045	0.017

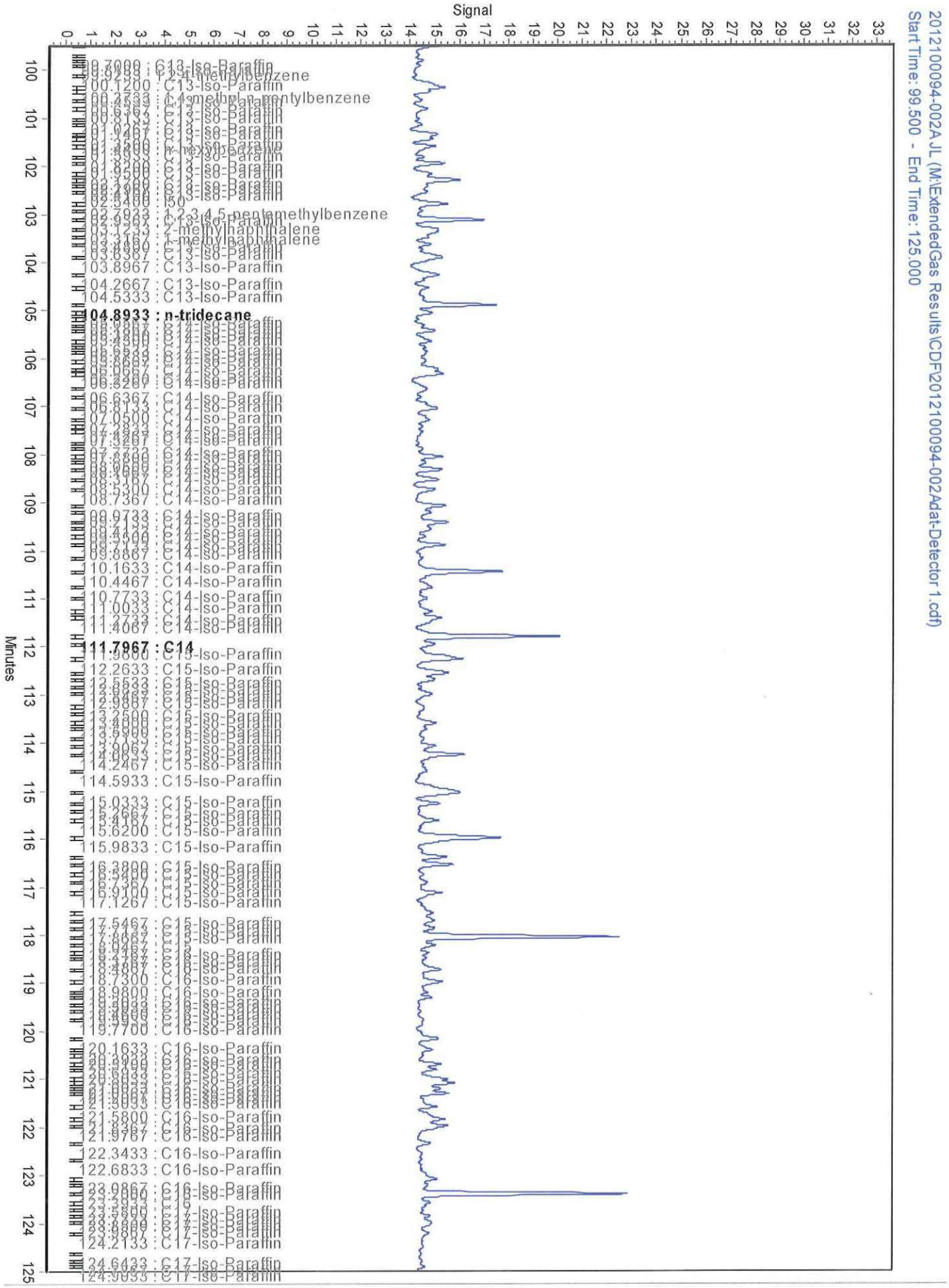
2012100094-002A JL (M:\ExtendedGas Results\CDF\2012100094-002Adat-Detector 1.cdf)
Start Time: 0.000 - End Time: 25.000



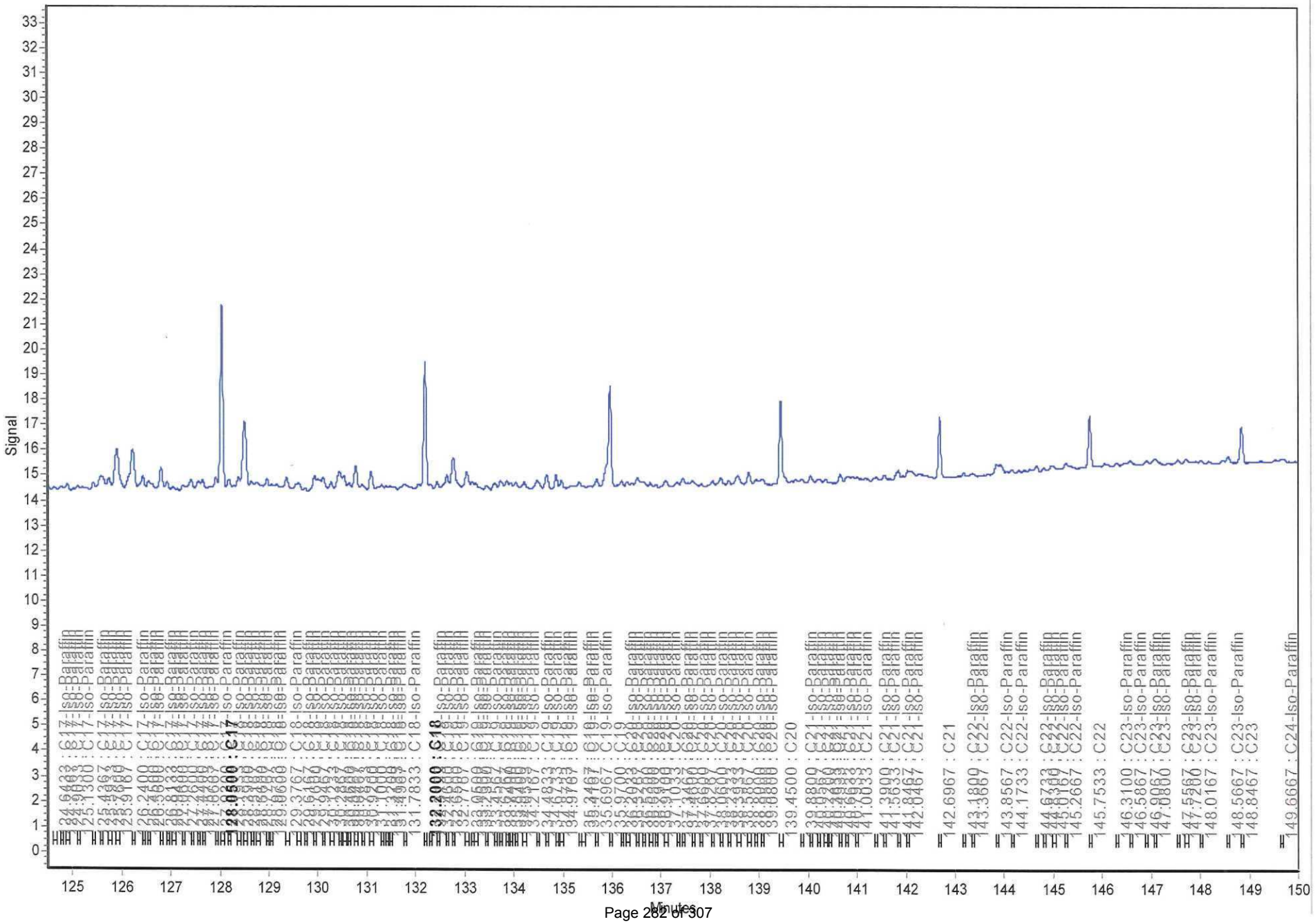

2012100094-002A JL (M:\ExtendedGas Results\CDF\2012100094-002Adat-Detector 1.cdf)
Start Time: 24.500 - End Time: 50.000
Signal
Minutes
25.8200 : n-heptane
28.3500 : methylcyclohexane
28.7733 : 1,1,3-trimethylcyclopentane
29.9300 : 2,2,3-trimethylpentane
30.3800 : 3,3-dimethylhexane
31.1367 : 1t,2c,3-trimethylcyclopentane
31.3400 : 2,3,4-trimethylpentane
32.1533 : I1
32.5533 : 2,3,3-trimethylpentane
33.0933 : toluene
34.1700 : 1,1,2-trimethylcyclopentane
34.3100 : 2-methyl-3-ethylpentane
34.6333 : 4-methylheptane
35.0267 : 2-methylheptane
35.2367 : 1c,2c,4-trimethylcyclopentane
35.4533 : 1c,3-dimethylcyclohexane
35.7933 : 1c,2t,3-trimethylcyclopentane
36.1333 : 1t,4-dimethylcyclohexane
36.6100 : 2,2,5-trimethylhexane
37.4733 : 3c-ethylmethylcyclopentane
37.8400 : C8-Iso-Paraffin
38.0500 : 3t-ethylmethylcyclopentane
38.4000 : 2t-ethylmethylcyclopentane
38.6067 : C8-Iso-Paraffin
38.9500 : 2,2,4-trimethylhexane
39.4167 : 1t,2-dimethylcyclohexane
40.6700 : n-octane
41.9967 : i-propylcyclopentane
42.4600 : 2,4,4-trimethylhexane
42.6733 : C9-Iso-Paraffin
43.0933 : N1
43.5400 : C9-Iso-Paraffin
43.8700 : 2,3,4-trimethylhexane
44.2367 : N2
45.0600 : C9-Iso-Paraffin
45.2400 : 2,3,5-trimethylhexane
45.4233 : N3
45.6367 : 1c,2-dimethylcyclohexane
46.1300 : 2,2-dimethylheptane
46.4467 : N4
46.8433 : C9-Iso-Paraffin
47.2800 : 1,1,4-trimethylcyclohexane
47.8300 : 2,4-dimethylheptane
48.2000 : *1c,3c,5-trimethylcyclohexane
48.4333 : 4,4-dimethylheptane
48.7200 : C9-Iso-Paraffin
49.0533 : n-propylcyclopentane

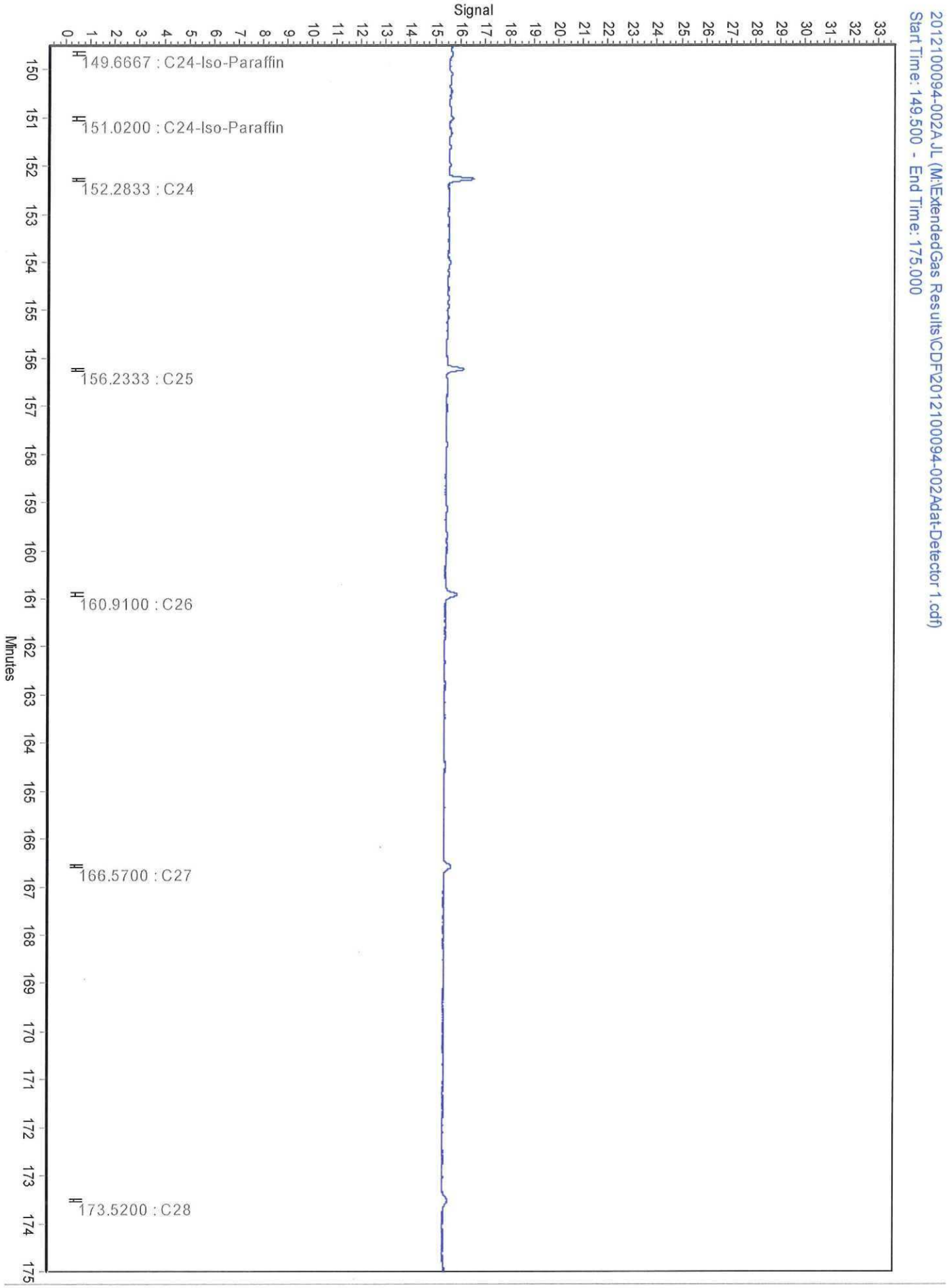

2012100094-002A JL (M:\ExtendedGas Results\CDF2012100094-002Adat-Detector 1.cdf)
Start Time: 49.500 - End Time: 75.000
Signal
Minutes
50.3467 : ethylbenzene
50.7367 : 1,1,3-trimethylcyclohexane
52.2667 : m-xylene
52.7800 : I4
53.2433 : N12
53.5667 : 1,3-dimethylbenzene
54.0700 : 1,4-dimethylbenzene
54.8700 : 3,4 -dimethylheptane
55.1533 : N14
55.6867 : 4-ethylheptane
56.3567 : N15
56.7600 : 3-ethylheptane
57.3867 : 3-methyloctane
57.7633 : o-xylene
58.0167 : 1,1,2-trimethylcyclohexane
58.5967 : I6
59.0633 : I7
59.3033 : N18
59.7700 : N19
59.9867 : I8
61.7000 : N23
62.2333 : I10
62.6100 : n-nonane
63.0967 : N24
63.4867 : N25
63.6133 : N26
64.4400 : i-propylbenzene
64.9200 : I11
65.1667 : C10-Iso-Paraffin
65.3300 : i-propylcyclohexane
65.7733 : 2,2-dimethyloctane
66.0400 : 2,4-dimethyloctane
66.2567 : C10-Iso-Paraffin
66.4667 : N28
66.8167 : N29
67.1967 : 2,6-dimethyloctane
67.3500 : 2,5-dimethyloctane
68.0467 : N30
68.2267 : C10-Iso-Paraffin
68.4733 : I14
68.6833 : C10-Iso-Paraffin
68.9100 : C10-Iso-Paraffin
69.0667 : N31
69.3367 : C10-Iso-Paraffin
69.6067 : 3-methyl-5-ethylheptane
69.8633 : N32
70.2400 : C10-Iso-Paraffin
70.6067 : 1,3-methylethylbenzene
70.8333 : 1,4-methylethylbenzene
71.3200 : N33
71.7000 : 1,3,5-trimethylbenzene
72.0033 : I15
72.0367 : C10-Iso-Paraffin
72.2867 : I16
72.3933 : C10-Iso-Paraffin
72.7700 : 5-methylnonane
73.0367 : 1,2-methylethylbenzene
73.1067 : C10-Iso-Paraffin
73.3433 : 2-methylnonane
73.4600 : C10-Iso-Paraffin
73.6300 : 3-ethyloctane
73.8533 : N35
74.1333 : C10-Iso-Paraffin
74.2733 : 3-methylnonane
74.6433 : I18


2012100094-002A JL (M:\ExtendedGas Results\CDF\2012100094-002A\dat-Detector 1.cdf)
Start Time: 74.500 - End Time: 100.000
Signal
Minutes
74.6433 : I18
75.0333 : 1,2,4-trimethylbenzene
75.3000 : i-butylcyclohexane
75.6567 : I20
75.8933 : I21
76.1367 : I23
76.3400 : N37
76.4633 : C10-Iso-Paraffin
76.8133 : I24
77.0167 : n-methyl-2-n-propylcyclohexane
77.2733 : i-butylbenzene
77.4600 : I25
77.7333 : sec-butylbenzene
78.0033 : n-decane
78.2667 : N38
78.5000 : C11-Iso-Paraffin
78.8100 : 1,2,3-trimethylbenzene
79.1433 : N39
79.2733 : 1,4-methyl-i-propylbenzene
79.6300 : I28
79.8567 : 2-3-dihydroindene
80.0967 : C11-Iso-Paraffin
80.3200 : sec-butylcyclohexane
80.6833 : 1,2-methyl-i-propylbenzene
80.9300 : C11-Iso-Paraffin
81.1900 : 3-ethylnonane
81.6967 : I32
81.8967 : C11-Iso-Paraffin
82.0733 : 1,3-diethylbenzene
82.4500 : I33
82.6967 : C11-Iso-Paraffin
83.4400 : C11-Iso-Paraffin
83.8067 : 1,2-methyl-n-propylbenzene
84.2833 : C11-Iso-Paraffin
84.7067 : I38
85.0967 : 1,3-dimethyl-4-ethylbenzene
85.3033 : I39
85.7467 : C11-Iso-Paraffin
86.2533 : C11-Iso-Paraffin
86.6000 : I42
86.9067 : I43
87.0467 : C11-Iso-Paraffin
87.3067 : 1,3-di-n-propylbenzene
87.4900 : C11-Iso-Paraffin
87.8733 : 1,2-dimethyl-3-ethylbenzene
88.1967 : 1,2-ethyl-i-propylbenzene
88.4000 : C11-Iso-Paraffin
88.5500 : n-undecane
88.9033 : 1,2,4,5-tetramethylbenzene
89.2267 : 1,3-methyl-n-butylbenzene
89.4933 : C12-Iso-Paraffin
89.8133 : 1,2-methyl-t-butylbenzene
90.0167 : C12-Iso-Paraffin
90.3633 : C12-Iso-Paraffin
90.8800 : 5-methylindan
91.0233 : C12-Iso-Paraffin
91.2133 : I44
91.4133 : 4-methylindan
91.6367 : 1,2-ethyl-n-propylbenzene
92.0000 : 1,3-methyl-n-butylbenzene
92.1100 : 1,3-di-i-propylbenzene
92.3667 : s-pentylbenzene
92.5300 : C12-Iso-Paraffin
92.7067 : C12-Iso-Paraffin
92.8500 : n-pentylbenzene
93.0667 : 1,2-di-i-propylbenzene
93.1667 : C12-Iso-Paraffin
93.4000 : C12-Iso-Paraffin
93.6667 : 1,4-di-i-propylbenzene
93.8600 : C12-Iso-Paraffin
94.0133 : tetrahydronaphthalene
94.1133 : C12-Iso-Paraffin
94.3533 : naphthalene
94.5200 : 1,2,4,5-tetramethylbenzene
94.6800 : C12-Iso-Paraffin
94.9100 : 1,4-ethyl-t-butylbenzene
95.0500 : C12-Iso-Paraffin
95.2600 : I45
95.5133 : I46
95.7067 : C12-Iso-Paraffin
95.8933 : I47
96.1867 : I48
96.3967 : A5
96.6067 : A6
96.8467 : C12-Iso-Paraffin
97.0533 : C12-Iso-Paraffin
97.2800 : n-dodecane
97.4267 : C13-Iso-Paraffin
97.6200 : C13-Iso-Paraffin
97.9033 : C13-Iso-Paraffin
98.1067 : C13-Iso-Paraffin
98.3300 : C13-Iso-Paraffin
98.5867 : 1,3,5-trimethylbenzene
98.8567 : C13-Iso-Paraffin
99.0633 : C13-Iso-Paraffin
99.2400 : C13-Iso-Paraffin
99.4933 : C13-Iso-Paraffin
99.7000 : C13-Iso-Paraffin
99.9233 : 1,2,4-methylbenzene

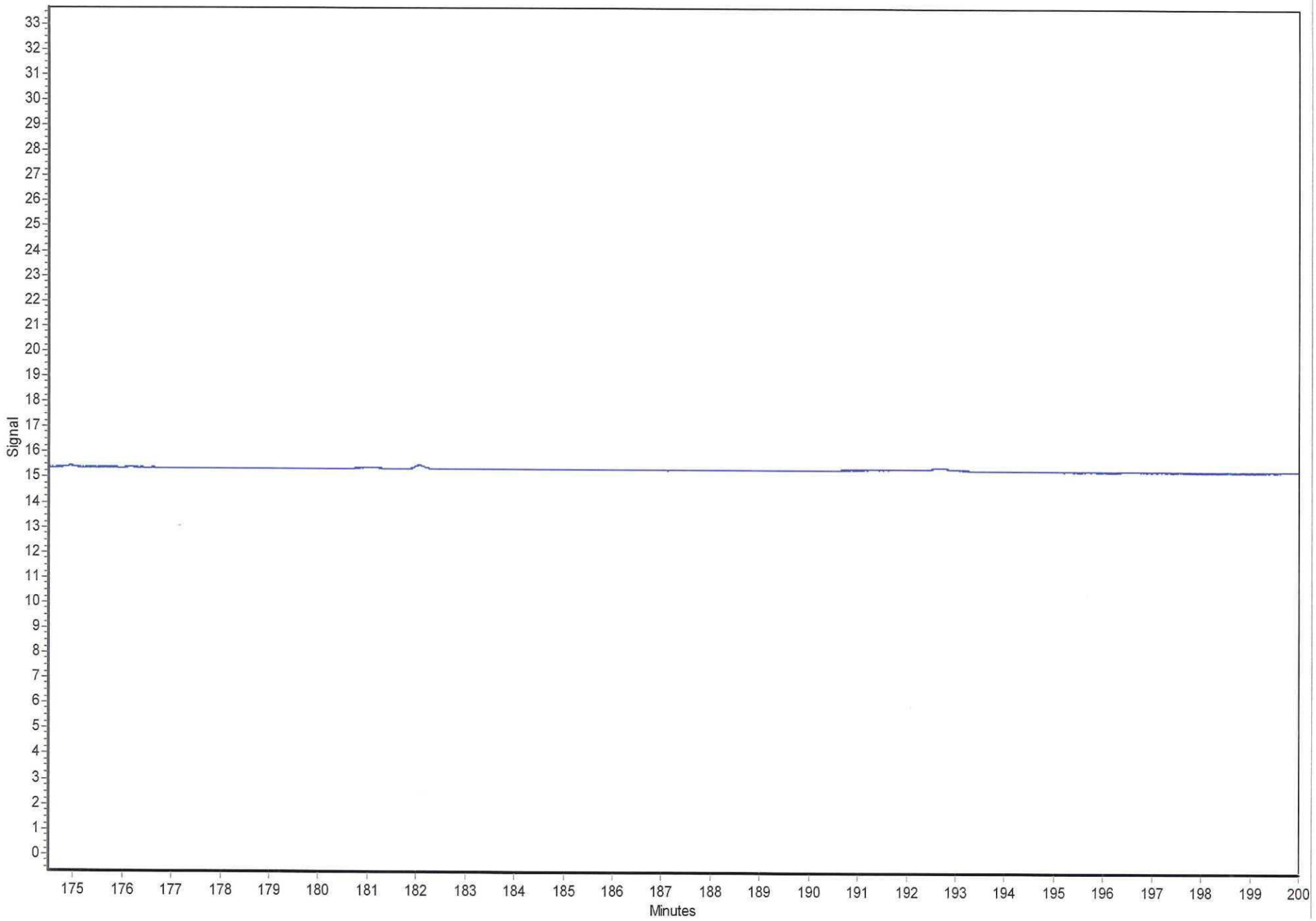

2012100094-002A JL (M:\ExtendedGas Results\CDF2012100094-002A\dat-Detector 1.cdf)
Start Time: 99.500 - End Time: 125.000
Signal
Minutes
99.7000 : C13-Iso-Paraffin
99.9233 : 1,2,4-methylbenzene
100.1200 : C13-Iso-Paraffin
100.3733 : 1,4methyl,n-pentylbenzene
100.6167 : C13-Iso-Paraffin
100.8533 : C13-Iso-Paraffin
101.0467 : C13-Iso-Paraffin
101.3200 : C13-Iso-Paraffin
101.4833 : n-hexylbenzene
101.8200 : C13-Iso-Paraffin
101.9500 : C13-Iso-Paraffin
102.1700 : C13-Iso-Paraffin
102.3967 : C13-Iso-Paraffin
102.5400 : 150
102.7933 : 1,2,3,4,5-pentemethylbenzene
102.9567 : C13-Iso-Paraffin
103.1233 : 2-methylnaphthalene
103.3167 : 1-methylnaphthalene
103.4900 : C13-Iso-Paraffin
103.6367 : C13-Iso-Paraffin
103.8967 : C13-Iso-Paraffin
104.2667 : C13-Iso-Paraffin
104.5333 : C13-Iso-Paraffin
104.8933 : n-tridecane
105.0667 : C14-Iso-Paraffin
105.3800 : C14-Iso-Paraffin
105.4300 : C14-Iso-Paraffin
105.6533 : C14-Iso-Paraffin
105.8667 : C14-Iso-Paraffin
106.0567 : C14-Iso-Paraffin
106.3267 : C14-Iso-Paraffin
106.6367 : C14-Iso-Paraffin
106.8133 : C14-Iso-Paraffin
107.0500 : C14-Iso-Paraffin
107.2833 : C14-Iso-Paraffin
107.4267 : C14-Iso-Paraffin
107.6733 : C14-Iso-Paraffin
107.8200 : C14-Iso-Paraffin
108.0500 : C14-Iso-Paraffin
108.3667 : C14-Iso-Paraffin
108.5300 : C14-Iso-Paraffin
108.7367 : C14-Iso-Paraffin
109.0733 : C14-Iso-Paraffin
109.2133 : C14-Iso-Paraffin
109.4133 : C14-Iso-Paraffin
109.5700 : C14-Iso-Paraffin
109.8867 : C14-Iso-Paraffin
110.1633 : C14-Iso-Paraffin
110.4467 : C14-Iso-Paraffin
110.7733 : C14-Iso-Paraffin
111.0033 : C14-Iso-Paraffin
111.2733 : C14-Iso-Paraffin
111.4067 : C14-Iso-Paraffin
111.7967 : C14
111.9800 : C15-Iso-Paraffin
112.2633 : C15-Iso-Paraffin
112.5533 : C15-Iso-Paraffin
112.8033 : C15-Iso-Paraffin
112.9867 : C15-Iso-Paraffin
113.2500 : C15-Iso-Paraffin
113.4800 : C15-Iso-Paraffin
113.5900 : C15-Iso-Paraffin
113.7133 : C15-Iso-Paraffin
113.9067 : C15-Iso-Paraffin
114.0833 : C15-Iso-Paraffin
114.2467 : C15-Iso-Paraffin
114.5933 : C15-Iso-Paraffin
115.0333 : C15-Iso-Paraffin
115.2667 : C15-Iso-Paraffin
115.4167 : C15-Iso-Paraffin
115.6200 : C15-Iso-Paraffin
115.9833 : C15-Iso-Paraffin
116.3800 : C15-Iso-Paraffin
116.5400 : C15-Iso-Paraffin
116.7367 : C15-Iso-Paraffin
116.9100 : C15-Iso-Paraffin
117.1267 : C15-Iso-Paraffin
117.5467 : C15-Iso-Paraffin
117.7133 : C15-Iso-Paraffin
117.8667 : C15-Iso-Paraffin
118.0467 : C15
118.2167 : C16-Iso-Paraffin
118.4167 : C16-Iso-Paraffin
118.7300 : C16-Iso-Paraffin
118.9800 : C16-Iso-Paraffin
119.2033 : C16-Iso-Paraffin
119.4600 : C16-Iso-Paraffin
119.7700 : C16-Iso-Paraffin
120.1633 : C16-Iso-Paraffin
120.5400 : C16-Iso-Paraffin
120.6933 : C16-Iso-Paraffin
120.8533 : C16-Iso-Paraffin
121.0867 : C16-Iso-Paraffin
121.3033 : C16-Iso-Paraffin
121.5800 : C16-Iso-Paraffin
121.8367 : C16-Iso-Paraffin
121.9767 : C16-Iso-Paraffin
122.3433 : C16-Iso-Paraffin
122.6833 : C16-Iso-Paraffin
123.0867 : C16-Iso-Paraffin
123.2000 : C16-Iso-Paraffin
123.3933 : C16
123.5500 : C17-Iso-Paraffin
123.8600 : C17-Iso-Paraffin
123.9867 : C17-Iso-Paraffin
124.2133 : C17-Iso-Paraffin
124.6433 : C17-Iso-Paraffin
124.9033 : C17-Iso-Paraffin

2012100094-002A JL (M:\ExtendedGas Results\CDF\2012100094-002Adat-Detector 1.cdf)
Start Time: 124.500 - End Time: 150.000




2012100094-002A JL (M:\ExtendedGas Results\CDF2012100094-002Adat-Detector 1.cdf)
Start Time: 149.500 - End Time: 175.000
Signal
149.6667 : C24-Iso-Paraffin
151.0200 : C24-Iso-Paraffin
152.2833 : C24
156.2333 : C25
160.9100 : C26
166.5700 : C27
173.5200 : C28
Minutes

2012100094-002A JL (M:\ExtendedGas Results\CDF\2012100094-002Adat-Detector 1.cdf)
Start Time: 174.500 - End Time: 200.000



Certificate of Analysis

HOUSTON LABORATORIES
8820 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

Analysis Number:	**2012100094-003A**		
Sample ID:	041-092212-Standard	**Date of Sample:**	09/22/12
Pace ID:	201025369	**Time Sampled:**	-
Project Location:		**Date Sample Analyzed:**	10/09/12
Client	Pace Analytical Services	**Contact(s):**	Cindy Olavesen
Address	1000 River Bend Blvd.		
Suite / Department	Suite F		
City	St.Rose	**State**	LA **Zip** 70087
Phone	504-305-3628 **Ext**	**E-Mail**	cindy.olavesen
Fax	504-469-0555		
Color:	Dark	**Odor:**	Aromatic
Specific Gravity @ 60° F.	0.9161	**API @ 60° F.**	22.95
Carbon Range	C8, C10 - C28	**Major Range**	C13 - C21

Paraffin	14.7385	wt%	**N-Hexane**	N/D	wt%
Isoparaffins	84.0148	wt%	**Benzene**	N/D	wt%
Naphthenics	0.0162	wt%	**Ethyl Benzene**	N/D	wt%
Aromatics	1.2305	wt%	**Toluene**	N/D	wt%
Olefins	N/D	wt%	**Meta-Xylene**	N/D	wt%
Unknowns	N/D	wt%	**Para-Xylene**	N/D	wt%
2,2,4-Tri Methylpentane	N/D	wt%	**Ortho-Xylene**	N/D	wt%
			Xylenes	N/D	wt%
Calculated Research Octane	N/A		**EDB**	N/A	wt%
Lead / Manganese	N/A		**EDC**	N/A	wt%
Oxygnates	N/D	wt%	**Ethanol**	N/D	wt%
C_{17}	1.814	wt%	**C_{18}**	1.210	wt%
Pristane	1.555	wt%	**Phytane**	0.804	wt%
Naphthalene	N/D	wt%	**2-Methyl Naphthalene**	0.390	wt%
1-Methyl Naphthalene	0.165	wt%			

Gasoline Range:	C_4-C_{13} Indicators:	2,2,4-TMP, Olefins
Diesel Range:	C_7-C_{20} Indicators:	Pristane, Phytane
Condensate Range:	C_2-C_{25}+ Indicators:	No Olefins, Light & Heavies
Heavy Oil:	C_{20+}	

Comments: **N/A Not Applicable N/D None Detected**

Chris Staley

Chris Staley
Hydrocarbon Laboratory Manager

Pace-100094-003A.xls / 001A

Detailed Hydrocarbon Analysis Detail Report -

Report Date: 10/9/2012 11:06:08 AM

RawFile: M:\ExtendedGas Results\CDF\2012100094-003Adat-Detector 1.cdf
Sample: 2012100094-003A JD
Processed 321 Peaks
Reference File: H:\DHA Application Software\References\2012100094-002A JL_10092012.DHA
Comments:

Acquired: 10/03/12 07:23:50
Analyzed: 10/9/2012 11:04:58 AM

Normalized to 100.0000%

Oxygenates

Compound	Mass%	Mass% Oxygen	Vol%
No Oxy Compounds Found	0.00	0.00	0.00

Molecular Weight and Relative Density Data

Group	Avg Mw.	Avg Rel. Density
C1	0.000	0.000
C2	0.000	0.000
C3	0.000	0.000
C4	0.000	0.000
C5	0.000	0.000
C6	0.000	0.000
C7	0.000	0.000
C8	112.216	0.781
C9	0.000	0.000
C10	132.204	0.944
C11	144.324	1.006
C12	165.943	0.820
C13	158.944	0.888
C14	185.678	0.757
C15	199.111	0.785
C16	207.276	0.984
C17	228.238	0.774
C18	242.284	0.778
C19	257.780	0.777
C20	271.254	0.780
C21	284.594	0.789
C22	300.056	0.792
C23	314.072	0.795
C24	330.873	0.798
C25	351.498	0.800
C26	363.559	0.800
C27	381.534	0.804
C28	398.000	0.805

RawFile: M:\ExtendedGas Results\CDF\2012100094-003Adat-Detector 1.cdf
Sample: 2012100094-003A JD
Processed 321 Peaks
Reference File: H:\DHA Application Software\References\2012100094-002A JL_10092012.DHA
Comments:

Acquired: 10/03/12 07:23:50
Analyzed: 10/9/2012 11:04:58 AM

Normalized to 100.0000%

C29	0.000	0.000
Total Sample:	215.00	0.82

Octane Number

Research Octane Number: 90.00
(Calculated from Individual Component Values)

Contribution to Total by:

Paraffins:	13.30
Iso-Paraffins:	75.60
Aromatics:	1.11
Napthenes:	0.02
Olefins:	0.00
Oxygenates:	0.00

Detailed Hydrocarbon Analysis Detail Report -

Report Date: 10/9/2012 11:06:08 AM

RawFile: M:\ExtendedGas Results\CDF\2012100094-003Adat-Detector 1.cdf
Acquired: 10/03/12 07:23:50
Sample: 2012100094-003A JD
Analyzed: 10/9/2012 11:04:58 AM
Processed 321 Peaks
Reference File: H:\DHA Application Software\References\2012100094-002A JL_10092012.DHA
Comments:
Normalized to 100.0000%

Totals by Group Type & Carbon Number (in Mass Percent)

	Paraffins	I-Paraffins	Olefins	Napthenes	Aromatics	Unknowns	Total
C1	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
C2	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
C3	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
C4	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
C5	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
C6	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
C7	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
C8	0.00000	0.00000	0.00000	0.01624	0.00000	0.00000	0.01624
C9	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
C10	0.00000	0.00000	0.00000	0.00000	0.07888	0.00000	0.07888
C11	0.00000	0.00000	0.00000	0.00000	0.72468	0.00000	0.72468
C12	0.12263	0.36152	0.00000	0.00000	0.42693	0.00000	0.91108
C13	0.68507	4.23998	0.00000	0.00000	0.00000	0.00000	4.92505
C14	1.15938	10.47416	0.00000	0.00000	0.00000	0.00000	11.63355
C15	2.29785	18.15650	0.00000	0.00000	0.00000	0.00000	20.45436
C16	2.12360	16.19918	0.00000	0.00000	0.00000	0.00000	18.32277
C17	1.81413	11.69979	0.00000	0.00000	0.00000	0.00000	13.51392
C18	1.20965	7.74682	0.00000	0.00000	0.00000	0.00000	8.95647
C19	1.56516	4.87667	0.00000	0.00000	0.00000	0.00000	6.44183
C20	0.80125	3.16044	0.00000	0.00000	0.00000	0.00000	3.96169
C21	0.64965	3.65077	0.00000	0.00000	0.00000	0.00000	4.30042
C22	0.54827	1.59407	0.00000	0.00000	0.00000	0.00000	2.14234
C23	0.38679	1.12969	0.00000	0.00000	0.00000	0.00000	1.51648
C24	0.42899	0.51433	0.00000	0.00000	0.00000	0.00000	0.94332
C25	0.34931	0.03117	0.00000	0.00000	0.00000	0.00000	0.38048
C26	0.23831	0.13462	0.00000	0.00000	0.00000	0.00000	0.37293
C27	0.21858	0.04504	0.00000	0.00000	0.00000	0.00000	0.26362
C28	0.13989	0.00000	0.00000	0.00000	0.00000	0.00000	0.13989
C29	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Total:	14.73851	84.01476	0.00000	0.01624	1.23049	0.00000	100.00000

Oxygenates 0.00000 Total C30+: 0.00000
Total Unknowns: 0.00000 Grand Total: 100.00000

Totals by Group Type & Carbon Number (in Volume Percent)

	Paraffins	I-Paraffins	Olefins	Napthenes	Aromatics	Unknowns	Total
C1	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
C2	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
C3	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
C4	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
C5	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
C6	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
C7	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
C8	0.00000	0.00000	0.00000	0.01696	0.00000	0.00000	0.01696

Detailed Hydrocarbon Analysis Detail Report -

Report Date: 10/9/2012 11:06:08 AM

RawFile: M:\ExtendedGas Results\CDF\2012100094-003Adat-Detector 1.cdf
Acquired: 10/03/12 07:23:50
Sample: 2012100094-003A JD
Analyzed: 10/9/2012 11:04:58 AM
Processed 321 Peaks
Reference File: H:\DHA Application Software\References\2012100094-002A JL_10092012.DHA
Comments:
Normalized to 100.0000%

C9	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
C10	0.00000	0.00000	0.00000	0.00000	0.06815	0.00000	0.06815
C11	0.00000	0.00000	0.00000	0.00000	0.58783	0.00000	0.58783
C12	0.13287	0.38215	0.00000	0.00000	0.39145	0.00000	0.90648
C13	0.73893	3.78646	0.00000	0.00000	0.00000	0.00000	4.52539
C14	1.24005	11.29769	0.00000	0.00000	0.00000	0.00000	12.53774
C15	1.83799	19.41975	0.00000	0.00000	0.00000	0.00000	21.25774
C16	2.24051	12.95731	0.00000	0.00000	0.00000	0.00000	15.19781
C17	1.90244	12.34389	0.00000	0.00000	0.00000	0.00000	14.24633
C18	1.27049	8.12393	0.00000	0.00000	0.00000	0.00000	9.39442
C19	1.64262	5.12196	0.00000	0.00000	0.00000	0.00000	6.76458
C20	0.82896	3.31684	0.00000	0.00000	0.00000	0.00000	4.14580
C21	0.66949	3.77702	0.00000	0.00000	0.00000	0.00000	4.44651
C22	0.56309	1.64274	0.00000	0.00000	0.00000	0.00000	2.20583
C23	0.39600	1.16022	0.00000	0.00000	0.00000	0.00000	1.55622
C24	0.43799	0.52658	0.00000	0.00000	0.00000	0.00000	0.96457
C25	0.35624	0.03182	0.00000	0.00000	0.00000	0.00000	0.38806
C26	0.24304	0.13729	0.00000	0.00000	0.00000	0.00000	0.38033
C27	0.22154	0.04593	0.00000	0.00000	0.00000	0.00000	0.26747
C28	0.14178	0.00000	0.00000	0.00000	0.00000	0.00000	0.14178
C29	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Total:	14.86401	84.07159	0.00000	0.01696	1.04744	0.00000	100.00000

Oxygenates	0.00000	Total C30+:	0.00000
Total Unknowns:	0.00000	Grand Total:	100.00000

Detailed Hydrocarbon Analysis Detail Report -

Report Date: 10/9/2012 11:06:08 AM

RawFile: M:\ExtendedGas Results\CDF\2012100094-003Adat-Detector 1.cdf
Sample: 2012100094-003A JD
Processed 321 Peaks
Reference File: H:\DHA Application Software\References\2012100094-002A JL_10092012.DHA
Comments:

Acquired: 10/03/12 07:23:50
Analyzed: 10/9/2012 11:04:58 AM

Normalized to 100.0000%

Totals by Group Type & Carbon Number (in Mol Percent)

	Paraffins	I-Paraffins	Olefins	Napthenes	Aromatics	Unknowns	Total
C1	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
C2	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
C3	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
C4	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
C5	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
C6	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
C7	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
C8	0.00000	0.00000	0.00000	0.03112	0.00000	0.00000	0.03112
C9	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
C10	0.00000	0.00000	0.00000	0.00000	0.12835	0.00000	0.12835
C11	0.00000	0.00000	0.00000	0.00000	1.08013	0.00000	1.08013
C12	0.15486	0.46022	0.00000	0.00000	0.56596	0.00000	1.18104
C13	0.79930	5.86619	0.00000	0.00000	0.00000	0.00000	6.66549
C14	1.25711	12.22069	0.00000	0.00000	0.00000	0.00000	13.47780
C15	2.41121	19.68698	0.00000	0.00000	0.00000	0.00000	22.09819
C16	2.01728	16.99831	0.00000	0.00000	0.00000	0.00000	19.01559
C17	1.62277	11.11405	0.00000	0.00000	0.00000	0.00000	12.73682
C18	1.02240	6.92965	0.00000	0.00000	0.00000	0.00000	7.95205
C19	1.25381	4.12179	0.00000	0.00000	0.00000	0.00000	5.37560
C20	0.60999	2.53175	0.00000	0.00000	0.00000	0.00000	3.14174
C21	0.47118	2.77933	0.00000	0.00000	0.00000	0.00000	3.25052
C22	0.37970	1.15616	0.00000	0.00000	0.00000	0.00000	1.53586
C23	0.25629	0.78237	0.00000	0.00000	0.00000	0.00000	1.03866
C24	0.27248	0.34081	0.00000	0.00000	0.00000	0.00000	0.61329
C25	0.21305	0.01980	0.00000	0.00000	0.00000	0.00000	0.23285
C26	0.13855	0.08211	0.00000	0.00000	0.00000	0.00000	0.22066
C27	0.12245	0.02619	0.00000	0.00000	0.00000	0.00000	0.14863
C28	0.07561	0.00000	0.00000	0.00000	0.00000	0.00000	0.07561
C29	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Total:	13.07806	85.11639	0.00000	0.03112	1.77443	0.00000	100.00000

Oxygenates 0.00000
Total Unknowns: 0.00000
Total C30+: 0.00000
Grand Total: 100.00000

Detailed Hydrocarbon Analysis Detail Report -

Report Date: 10/9/2012 11:06:08 AM

RawFile: M:\ExtendedGas Results\CDF\2012100094-003Adat-Detector 1.cdf
Sample: 2012100094-003A JD
Processed 321 Peaks
Reference File: H:\DHA Application Software\References\2012100094-002A JL_10092012.DHA
Comments:

Acquired: 10/03/12 07:23:50
Analyzed: 10/9/2012 11:04:58 AM

Normalized to 100.0000%

Hold

Components Listed in Chromatographic Order

Minutes	Index	Group	Component	Mass %	Volume %	Mol %
36.320	776.250	N8	1,1-dimethylcyclohexane	0.016	0.017	0.031
88.190	1097.440	A11	1,2-ethyl-i-propylbenzene	0.029	0.027	0.043
89.807	1115.780	A11	1,2-methyl-t-butylbenzene	0.025	0.023	0.036
90.880	1128.330	A10	5-methylindan	0.024	0.022	0.038
91.023	1130.000	I12	I44	0.033	0.035	0.041
93.020	1152.890	A12	1,2-di-i-propylbenzene	0.037	0.034	0.049
94.103	1165.090	A10	tetrahydronaphthalene	0.055	0.047	0.090
94.530	1169.850	A12	1-t-butyl-3,5-dimethylbenzene	0.073	0.067	0.096
95.260	1177.940	I12	I45	0.059	0.064	0.075
95.697	1182.750	I12	C12-Iso-Paraffin	0.161	0.174	0.203
95.887	1184.840	I12	I47	0.051	0.056	0.065
96.600	1192.630	A12	A6	0.058	0.053	0.077
97.040	1197.400	I12	C12-Iso-Paraffin	0.057	0.053	0.076
97.280	1200.000	P12	n-dodecane	0.123	0.133	0.155
97.420	1201.910	I13	C13-Iso-Paraffin	0.136	0.147	0.172
97.897	1208.400	I13	C13-Iso-Paraffin	0.170	0.184	0.215
98.333	1214.320	I13	C13-Iso-Paraffin	0.043	0.047	0.054
98.550	1217.250	A12	1,3,5-triethylbenzene	0.144	0.132	0.190
98.680	1219.000	I13	C13-Iso-Paraffin	0.056	0.052	0.075
99.067	1224.200	I13	C13-Iso-Paraffin	0.245	0.225	0.325
99.227	1226.350	I13	C13-Iso-Paraffin	0.107	0.098	0.142
99.493	1229.910	I13	C13-Iso-Paraffin	0.145	0.133	0.192
100.813	1247.420	I13	C13-Iso-Paraffin	0.055	0.051	0.073
101.340	1254.330	I13	C13-Iso-Paraffin	0.206	0.189	0.273
101.427	1255.460	A12	n-hexylbenzene	0.115	0.106	0.153
101.587	1257.560	I13	C13-Iso-Paraffin	0.045	0.041	0.060
101.810	1260.470	I13	C13-Iso-Paraffin	0.044	0.040	0.058
101.947	1262.250	I13	C13-Iso-Paraffin	0.124	0.113	0.164
102.167	1265.110	I13	C13-Iso-Paraffin	0.170	0.156	0.226
102.300	1266.830	I13	C13-Iso-Paraffin	0.443	0.406	0.587
102.530	1269.810	I13	C13-Iso-Paraffin	0.162	0.148	0.214
102.777	1273.000	I13	I50	0.304	0.328	0.354
102.930	1274.970	A11	1,2,3,4,5-pentamethylbenzene	0.115	0.094	0.167
103.117	1277.370	A11	2-methylnaphthalene	0.390	0.312	0.587
103.300	1279.730	A11	1-methylnaphthalene	0.165	0.132	0.248
103.407	1281.090	I13	C13-Iso-Paraffin	0.287	0.229	0.431
103.627	1283.910	I13	C13-Iso-Paraffin	0.182	0.146	0.274
103.890	1287.270	I13	C13-Iso-Paraffin	0.645	0.516	0.969

Detailed Hydrocarbon Analysis Detail Report -

Report Date: 10/9/2012 11:06:08 AM

RawFile: M:\ExtendedGas Results\CDF\2012100094-003Adat-Detector 1.cdf
Sample: 2012100094-003A JD
Processed 321 Peaks
Reference File: H:\DHA Application Software\References\2012100094-002A JL_10092012.DHA
Comments:

Acquired: 10/03/12 07:23:50
Analyzed: 10/9/2012 11:04:58 AM

Normalized to 100.0000%

Hold

Components Listed in Chromatographic Order

Minutes	Index	Group	Component	Mass %	Volume %	Mol %
104.257	1291.940	I13	C13-Iso-Paraffin	0.340	0.272	0.511
104.363	1293.290	I13	C13-Iso-Paraffin	0.104	0.083	0.156
104.530	1295.400	I13	C13-Iso-Paraffin	0.228	0.182	0.342
104.893	1300.000	P13	n-tridecane	0.685	0.739	0.799
105.043	1302.240	I14	C14-Iso-Paraffin	0.271	0.292	0.316
105.187	1304.390	I14	C14-Iso-Paraffin	0.072	0.077	0.084
105.303	1306.130	I14	C14-Iso-Paraffin	0.162	0.175	0.189
105.420	1307.880	I14	C14-Iso-Paraffin	0.288	0.311	0.336
105.647	1311.260	I14	C14-Iso-Paraffin	0.268	0.289	0.313
105.773	1313.140	I14	C14-Iso-Paraffin	0.182	0.197	0.213
106.063	1317.450	I14	C14-Iso-Paraffin	0.515	0.555	0.601
106.237	1320.020	I14	C14-Iso-Paraffin	0.750	0.809	0.875
106.627	1325.780	I14	C14-Iso-Paraffin	0.443	0.478	0.517
106.807	1328.430	I14	C14-Iso-Paraffin	0.177	0.191	0.207
107.027	1331.660	I14	C14-Iso-Paraffin	0.540	0.582	0.630
107.210	1334.350	I14	C14-Iso-Paraffin	0.368	0.397	0.429
107.427	1337.520	I14	C14-Iso-Paraffin	0.131	0.141	0.153
107.520	1338.890	I14	C14-Iso-Paraffin	0.186	0.201	0.217
107.680	1341.230	I14	C14-Iso-Paraffin	0.056	0.061	0.066
107.873	1344.040	I14	C14-Iso-Paraffin	0.234	0.252	0.273
108.047	1346.570	I14	C14-Iso-Paraffin	0.361	0.389	0.421
108.160	1348.210	I14	C14-Iso-Paraffin	0.169	0.182	0.197
108.313	1350.440	I14	C14-Iso-Paraffin	0.427	0.460	0.498
108.527	1353.530	I14	C14-Iso-Paraffin	0.315	0.340	0.368
108.733	1356.510	I14	C14-Iso-Paraffin	0.239	0.257	0.278
108.893	1358.820	I14	C14-Iso-Paraffin	0.054	0.058	0.063
109.070	1361.370	I14	C14-Iso-Paraffin	0.417	0.450	0.487
109.207	1363.330	I14	C14-Iso-Paraffin	0.387	0.418	0.452
109.410	1366.250	I14	C14-Iso-Paraffin	0.488	0.527	0.570
109.553	1368.310	I14	C14-Iso-Paraffin	0.320	0.345	0.373
109.693	1370.310	I14	C14-Iso-Paraffin	0.158	0.170	0.184
109.883	1373.020	I14	C14-Iso-Paraffin	0.313	0.338	0.365
110.157	1376.920	I14	C14-Iso-Paraffin	0.140	0.151	0.163
110.440	1380.950	I14	C14-Iso-Paraffin	0.992	1.070	1.158
110.560	1382.650	I14	C14-Iso-Paraffin	0.134	0.145	0.157
110.767	1385.580	I14	C14-Iso-Paraffin	0.381	0.411	0.444
110.883	1387.230	I14	C14-Iso-Paraffin	0.045	0.049	0.053
111.007	1388.970	I14	C14-Iso-Paraffin	0.163	0.176	0.191

Detailed Hydrocarbon Analysis Detail Report -

Report Date: 10/9/2012 11:06:08 AM

RawFile: M:\ExtendedGas Results\CDF\2012100094-003Adat-Detector 1.cdf
Sample: 2012100094-003A JD
Processed 321 Peaks
Reference File: H:\DHA Application Software\References\2012100094-002A JL_10092012.DHA
Comments:

Acquired: 10/03/12 07:23:50
Analyzed: 10/9/2012 11:04:58 AM

Normalized to 100.0000%

Hold

Components Listed in Chromatographic Order

Minutes	Index	Group	Component	Mass %	Volume %	Mol %
111.280	1392.830	I14	C14-Iso-Paraffin	0.158	0.170	0.184
111.400	1394.520	I14	C14-Iso-Paraffin	0.171	0.184	0.199
111.790	1400.000	P14	C14	1.159	1.240	1.257
111.937	1402.380	I15	C15-Iso-Paraffin	0.391	0.418	0.424
112.260	1407.620	I15	C15-Iso-Paraffin	1.063	1.137	1.153
112.543	1412.200	I15	C15-Iso-Paraffin	0.660	0.706	0.716
112.683	1414.450	I15	C15-Iso-Paraffin	0.410	0.438	0.444
112.837	1416.920	I15	C15-Iso-Paraffin	0.129	0.138	0.140
112.993	1419.440	I15	C15-Iso-Paraffin	0.475	0.508	0.515
113.257	1423.670	I15	C15-Iso-Paraffin	0.331	0.355	0.359
113.420	1426.290	I15	C15-Iso-Paraffin	0.108	0.116	0.117
113.597	1429.110	I15	C15-Iso-Paraffin	0.409	0.438	0.444
113.703	1430.810	I15	C15-Iso-Paraffin	0.388	0.415	0.421
113.900	1433.950	I15	C15-Iso-Paraffin	0.309	0.330	0.335
114.060	1436.500	I15	C15-Iso-Paraffin	0.583	0.624	0.633
114.243	1439.410	I15	C15-Iso-Paraffin	1.229	1.315	1.333
114.447	1442.640	I15	C15-Iso-Paraffin	0.229	0.244	0.248
114.600	1445.070	I15	C15-Iso-Paraffin	0.518	0.555	0.562
115.020	1451.700	I15	C15-Iso-Paraffin	1.473	1.575	1.597
115.260	1455.480	I15	C15-Iso-Paraffin	0.549	0.587	0.595
115.423	1458.050	I15	C15-Iso-Paraffin	0.099	0.106	0.107
115.620	1461.140	I15	C15-Iso-Paraffin	0.432	0.462	0.469
115.707	1462.500	I15	C15-Iso-Paraffin	0.164	0.175	0.178
115.977	1466.720	I15	C15-Iso-Paraffin	2.240	2.396	2.429
116.377	1472.960	I15	C15-Iso-Paraffin	0.856	0.916	0.929
116.537	1475.450	I15	C15-Iso-Paraffin	1.216	1.301	1.318
116.737	1478.560	I15	C15-Iso-Paraffin	0.304	0.325	0.330
116.890	1480.930	I15	C15-Iso-Paraffin	0.467	0.499	0.506
117.120	1484.500	I15	C15-Iso-Paraffin	1.068	1.143	1.159
117.527	1490.770	I15	C15-Iso-Paraffin	0.859	0.919	0.932
117.693	1493.340	I15	C15-Iso-Paraffin	0.607	0.650	0.659
117.867	1496.010	I15	C15-Iso-Paraffin	0.586	0.627	0.636
118.043	1498.720	P15	C15	2.298	1.838	2.411
118.210	1501.590	I16	C16-Iso-Paraffin	0.478	0.382	0.501
118.370	1504.650	I16	C16-Iso-Paraffin	0.370	0.296	0.388
118.480	1506.760	I16	C16-Iso-Paraffin	0.270	0.216	0.283
118.593	1508.920	I16	C16-Iso-Paraffin	0.366	0.293	0.384
118.727	1511.470	I16	C16-Iso-Paraffin	0.532	0.425	0.558

Detailed Hydrocarbon Analysis Detail Report -

Report Date: 10/9/2012 11:06:08 AM

RawFile: M:\ExtendedGas Results\CDF\2012100094-003Adat-Detector 1.cdf
Sample: 2012100094-003A JD
Processed 321 Peaks
Reference File: H:\DHA Application Software\References\2012100094-002A JL_10092012.DHA
Comments:

Acquired: 10/03/12 07:23:50
Analyzed: 10/9/2012 11:04:58 AM

Normalized to 100.0000%

Hold

Components Listed in Chromatographic Order

Minutes	Index	Group	Component	Mass %	Volume %	Mol %
118.827	1513.370	I16	C16-Iso-Paraffin	0.239	0.191	0.251
118.973	1516.170	I16	C16-Iso-Paraffin	0.762	0.609	0.799
119.127	1519.080	I16	C16-Iso-Paraffin	0.244	0.195	0.256
119.200	1520.480	I16	C16-Iso-Paraffin	0.242	0.193	0.254
119.303	1522.440	I16	C16-Iso-Paraffin	0.450	0.360	0.472
119.467	1525.530	I16	C16-Iso-Paraffin	0.144	0.115	0.151
119.583	1527.740	I16	C16-Iso-Paraffin	0.227	0.182	0.238
119.773	1531.340	I16	C16-Iso-Paraffin	0.567	0.453	0.595
120.017	1535.930	I16	C16-Iso-Paraffin	0.184	0.147	0.193
120.160	1538.630	I16	C16-Iso-Paraffin	0.650	0.520	0.682
120.387	1542.890	I16	C16-Iso-Paraffin	0.616	0.493	0.646
120.503	1545.080	I16	C16-Iso-Paraffin	0.410	0.328	0.430
120.697	1548.710	I16	C16-Iso-Paraffin	0.459	0.367	0.481
120.803	1550.710	I16	C16-Iso-Paraffin	0.510	0.408	0.535
121.083	1555.940	I16	C16-Iso-Paraffin	1.335	1.068	1.401
121.197	1558.060	I16	C16-Iso-Paraffin	0.528	0.422	0.554
121.300	1559.990	I16	C16-Iso-Paraffin	0.635	0.508	0.666
121.433	1562.470	I16	C16-Iso-Paraffin	0.299	0.239	0.314
121.573	1565.070	I16	C16-Iso-Paraffin	0.543	0.434	0.570
121.840	1570.030	I16	C16-Iso-Paraffin	1.348	1.078	1.415
122.030	1573.550	I16	C16-Iso-Paraffin	1.093	0.874	1.147
122.213	1576.940	I16	C16-Iso-Paraffin	0.107	0.086	0.112
122.337	1579.220	I16	C16-Iso-Paraffin	0.432	0.346	0.453
122.550	1583.160	I16	C16-Iso-Paraffin	0.314	0.251	0.330
122.677	1585.490	I16	C16-Iso-Paraffin	0.200	0.160	0.210
122.777	1587.330	I16	C16-Iso-Paraffin	0.193	0.154	0.202
123.077	1592.850	I16	C16-Iso-Paraffin	0.867	0.694	0.910
123.230	1595.660	I16	C16-Iso-Paraffin	0.588	0.470	0.617
123.387	1598.530	P16	C16	2.124	2.241	2.017
123.567	1602.220	I17	C17-Iso-Paraffin	0.361	0.381	0.343
123.640	1603.850	I17	C17-Iso-Paraffin	0.199	0.210	0.189
123.740	1606.070	I17	C17-Iso-Paraffin	0.158	0.166	0.150
123.850	1608.510	I17	C17-Iso-Paraffin	0.393	0.415	0.373
123.983	1611.470	I17	C17-Iso-Paraffin	0.682	0.719	0.648
124.203	1616.340	I17	C17-Iso-Paraffin	0.544	0.574	0.517
124.357	1619.730	I17	C17-Iso-Paraffin	0.210	0.222	0.200
124.500	1622.900	I17	C17-Iso-Paraffin	0.318	0.335	0.302
124.647	1626.130	I17	C17-Iso-Paraffin	0.187	0.197	0.178

Detailed Hydrocarbon Analysis Detail Report -

Report Date: 10/9/2012 11:06:08 AM

RawFile: M:\ExtendedGas Results\CDF\2012100094-003Adat-Detector 1.cdf
Sample: 2012100094-003A JD
Processed 321 Peaks
Reference File: H:\DHA Application Software\References\2012100094-002A JL_10092012.DHA
Comments:

Acquired: 10/03/12 07:23:50
Analyzed: 10/9/2012 11:04:58 AM

Normalized to 100.0000%

Hold

Components Listed in Chromatographic Order

Minutes	Index	Group	Component	Mass %	Volume %	Mol %
124.793	1629.360	I17	C17-Iso-Paraffin	0.231	0.244	0.219
124.907	1631.850	I17	C17-Iso-Paraffin	0.264	0.279	0.251
125.113	1636.390	I17	C17-Iso-Paraffin	0.364	0.384	0.345
125.217	1638.660	I17	C17-Iso-Paraffin	0.349	0.368	0.332
125.437	1643.480	I17	C17-Iso-Paraffin	0.278	0.294	0.264
125.567	1646.330	I17	C17-Iso-Paraffin	0.597	0.629	0.567
125.747	1650.260	I17	C17-Iso-Paraffin	0.397	0.419	0.377
125.910	1653.820	I17	C17-Iso-Paraffin	1.144	1.207	1.087
126.243	1661.080	I17	C17-Iso-Paraffin	1.013	1.069	0.962
126.437	1665.280	I17	C17-Iso-Paraffin	0.501	0.529	0.476
126.553	1667.810	I17	C17-Iso-Paraffin	0.572	0.603	0.543
126.813	1673.440	I17	C17-Iso-Paraffin	0.468	0.494	0.444
126.937	1676.110	I17	C17-Iso-Paraffin	0.269	0.283	0.255
127.060	1678.780	I17	C17-Iso-Paraffin	0.169	0.179	0.161
127.150	1680.720	I17	C17-Iso-Paraffin	0.116	0.122	0.110
127.263	1683.160	I17	C17-Iso-Paraffin	0.175	0.185	0.167
127.427	1686.680	I17	C17-Iso-Paraffin	0.602	0.636	0.572
127.573	1689.840	I17	C17-Iso-Paraffin	0.349	0.369	0.332
127.660	1691.700	I17	C17-Iso-Paraffin	0.288	0.304	0.273
127.930	1697.500	I17	C17-Iso-Paraffin	0.500	0.528	0.475
128.047	1700.000	P17	C17	1.814	1.902	1.623
128.190	1703.510	I18	C18-Iso-Paraffin	0.274	0.287	0.245
128.393	1708.480	I18	C18-Iso-Paraffin	0.381	0.399	0.341
128.513	1711.410	I18	C18-Iso-Paraffin	1.555	1.631	1.391
128.657	1714.910	I18	C18-Iso-Paraffin	0.316	0.331	0.283
128.753	1717.260	I18	C18-Iso-Paraffin	0.271	0.284	0.242
128.963	1722.380	I18	C18-Iso-Paraffin	0.469	0.492	0.419
129.067	1724.890	I18	C18-Iso-Paraffin	0.251	0.263	0.224
129.170	1727.400	I18	C18-Iso-Paraffin	0.136	0.142	0.122
129.373	1732.330	I18	C18-Iso-Paraffin	0.554	0.581	0.495
129.620	1738.310	I18	C18-Iso-Paraffin	0.267	0.280	0.239
129.757	1741.610	I18	C18-Iso-Paraffin	0.056	0.059	0.050
129.943	1746.120	I18	C18-Iso-Paraffin	0.269	0.283	0.241
130.040	1748.450	I18	C18-Iso-Paraffin	0.274	0.287	0.245
130.120	1750.380	I18	C18-Iso-Paraffin	0.322	0.338	0.288
130.270	1753.990	I18	C18-Iso-Paraffin	0.124	0.130	0.111
130.443	1758.160	I18	C18-Iso-Paraffin	0.362	0.379	0.324
130.540	1760.480	I18	C18-Iso-Paraffin	0.133	0.139	0.119

Detailed Hydrocarbon Analysis Detail Report -

Report Date: 10/9/2012 11:06:08 AM

RawFile: M:\ExtendedGas Results\CDF\2012100094-003Adat-Detector 1.cdf
Sample: 2012100094-003A JD
Processed 321 Peaks
Reference File: H:\DHA Application Software\References\2012100094-002A JL_10092012.DHA
Comments:

Acquired: 10/03/12 07:23:50
Analyzed: 10/9/2012 11:04:58 AM

Normalized to 100.0000%

Hold

Components Listed in Chromatographic Order

Minutes	Index	Group	Component	Mass %	Volume %	Mol %
130.773	1766.080	I18	C18-Iso-Paraffin	0.288	0.303	0.258
130.923	1769.670	I18	C18-Iso-Paraffin	0.087	0.091	0.077
131.093	1773.740	I18	C18-Iso-Paraffin	0.283	0.297	0.253
131.320	1779.150	I18	C18-Iso-Paraffin	0.201	0.211	0.180
131.497	1783.360	I18	C18-Iso-Paraffin	0.240	0.252	0.215
131.587	1785.510	I18	C18-Iso-Paraffin	0.057	0.060	0.051
131.780	1790.110	I18	C18-Iso-Paraffin	0.388	0.407	0.347
132.080	1797.230	I18	C18-Iso-Paraffin	0.190	0.199	0.170
132.197	1800.000	P18	C18	1.210	1.270	1.022
132.310	1802.990	I19	C19-Iso-Paraffin	0.175	0.184	0.148
132.447	1806.600	I19	C19-Iso-Paraffin	0.131	0.138	0.111
132.647	1811.870	I19	C19-Iso-Paraffin	0.318	0.334	0.269
132.770	1815.120	I19	C19-Iso-Paraffin	0.804	0.844	0.679
133.060	1822.740	I19	C19-Iso-Paraffin	0.259	0.272	0.219
133.157	1825.280	I19	C19-Iso-Paraffin	0.347	0.365	0.294
133.450	1832.970	I19	C19-Iso-Paraffin	0.070	0.073	0.059
133.617	1837.330	I19	C19-Iso-Paraffin	0.164	0.173	0.139
133.730	1840.290	I19	C19-Iso-Paraffin	0.226	0.237	0.191
133.867	1843.860	I19	C19-Iso-Paraffin	0.114	0.120	0.096
133.943	1845.860	I19	C19-Iso-Paraffin	0.108	0.113	0.091
134.060	1848.900	I19	C19-Iso-Paraffin	0.126	0.133	0.107
134.207	1852.720	I19	C19-Iso-Paraffin	0.152	0.160	0.128
134.493	1860.170	I19	C19-Iso-Paraffin	0.311	0.326	0.263
134.677	1864.920	I19	C19-Iso-Paraffin	0.261	0.274	0.221
134.870	1869.930	I19	C19-Iso-Paraffin	0.235	0.246	0.198
134.980	1872.780	I19	C19-Iso-Paraffin	0.129	0.135	0.109
135.180	1877.950	I19	C19-Iso-Paraffin	0.142	0.149	0.120
135.340	1882.080	I19	C19-Iso-Paraffin	0.335	0.351	0.283
135.547	1887.400	I19	C19-Iso-Paraffin	0.136	0.143	0.115
135.690	1891.090	I19	C19-Iso-Paraffin	0.334	0.351	0.283
135.967	1898.200	P19	C19	1.565	1.643	1.254
136.203	1904.940	I20	C20-Iso-Paraffin	0.255	0.267	0.204
136.313	1908.210	I20	C20-Iso-Paraffin	0.117	0.123	0.094
136.410	1911.070	I20	C20-Iso-Paraffin	0.139	0.145	0.111
136.533	1914.720	I20	C20-Iso-Paraffin	0.478	0.502	0.383
136.793	1922.410	I20	C20-Iso-Paraffin	0.135	0.142	0.108
136.907	1925.760	I20	C20-Iso-Paraffin	0.056	0.058	0.044
137.127	1932.240	I20	C20-Iso-Paraffin	0.265	0.278	0.212

Detailed Hydrocarbon Analysis Detail Report -

Report Date: 10/9/2012 11:06:08 AM

RawFile: M:\ExtendedGas Results\CDF\2012100094-003Adat-Detector 1.cdf
Sample: 2012100094-003A JD
Processed 321 Peaks
Reference File: H:\DHA Application Software\References\2012100094-002A JL_10092012.DHA
Comments:

Acquired: 10/03/12 07:23:50
Analyzed: 10/9/2012 11:04:58 AM

Normalized to 100.0000%

Hold

Components Listed in Chromatographic Order

Minutes	Index	Group	Component	Mass %	Volume %	Mol %
137.340	1938.520	I20	C20-Iso-Paraffin	0.181	0.190	0.145
137.453	1941.860	I20	C20-Iso-Paraffin	0.183	0.192	0.147
137.660	1947.930	I20	C20-Iso-Paraffin	0.322	0.338	0.258
138.063	1959.740	I20	C20-Iso-Paraffin	0.041	0.043	0.033
138.227	1964.520	I20	C20-Iso-Paraffin	0.203	0.213	0.163
138.393	1969.380	I20	C20-Iso-Paraffin	0.077	0.081	0.062
138.587	1975.020	I20	C20-Iso-Paraffin	0.336	0.353	0.269
138.953	1985.690	I20	C20-Iso-Paraffin	0.270	0.283	0.216
139.077	1989.270	I20	C20-Iso-Paraffin	0.103	0.108	0.082
139.447	2000.000	P20	C20	0.801	0.829	0.610
139.533	2002.640	I21	C21-Iso-Paraffin	0.274	0.284	0.209
139.740	2008.950	I21	C21-Iso-Paraffin	0.249	0.258	0.190
139.867	2012.810	I21	C21-Iso-Paraffin	0.071	0.073	0.054
140.050	2018.390	I21	C21-Iso-Paraffin	0.182	0.189	0.139
140.233	2023.960	I21	C21-Iso-Paraffin	0.170	0.176	0.130
140.367	2028.010	I21	C21-Iso-Paraffin	0.166	0.172	0.127
140.670	2037.210	I21	C21-Iso-Paraffin	0.286	0.296	0.218
140.910	2044.470	I21	C21-Iso-Paraffin	0.353	0.366	0.269
141.080	2049.600	I21	C21-Iso-Paraffin	0.292	0.302	0.222
141.333	2057.240	I21	C21-Iso-Paraffin	0.083	0.086	0.063
141.400	2059.250	I21	C21-Iso-Paraffin	0.142	0.147	0.108
141.570	2064.360	I21	C21-Iso-Paraffin	0.111	0.115	0.084
141.667	2067.270	I21	C21-Iso-Paraffin	0.075	0.077	0.057
141.850	2072.780	I21	C21-Iso-Paraffin	0.285	0.295	0.217
141.933	2075.280	I21	C21-Iso-Paraffin	0.103	0.107	0.079
142.097	2080.170	I21	C21-Iso-Paraffin	0.396	0.410	0.302
142.277	2085.560	I21	C21-Iso-Paraffin	0.248	0.256	0.189
142.440	2090.440	I21	C21-Iso-Paraffin	0.163	0.169	0.124
142.693	2098.010	P21	C21	0.650	0.669	0.471
142.863	2103.490	I22	C22-Iso-Paraffin	0.052	0.054	0.038
143.183	2114.300	I22	C22-Iso-Paraffin	0.063	0.065	0.046
143.370	2120.600	I22	C22-Iso-Paraffin	0.071	0.073	0.052
143.960	2140.440	I22	C22-Iso-Paraffin	0.410	0.423	0.298
144.160	2147.140	I22	C22-Iso-Paraffin	0.070	0.072	0.051
144.320	2152.500	I22	C22-Iso-Paraffin	0.055	0.057	0.040
144.417	2155.730	I22	C22-Iso-Paraffin	0.081	0.083	0.059
144.667	2164.090	I22	C22-Iso-Paraffin	0.266	0.274	0.193
144.813	2168.980	I22	C22-Iso-Paraffin	0.088	0.091	0.064

Detailed Hydrocarbon Analysis Detail Report -

Report Date: 10/9/2012 11:06:08 AM

RawFile: M:\ExtendedGas Results\CDF\2012100094-003Adat-Detector 1.cdf
Sample: 2012100094-003A JD
Processed 321 Peaks
Reference File: H:\DHA Application Software\References\2012100094-002A JL_10092012.DHA
Comments:

Acquired: 10/03/12 07:23:50
Analyzed: 10/9/2012 11:04:58 AM

Normalized to 100.0000%

Hold

Components Listed in Chromatographic Order

Minutes	Index	Group	Component	Mass %	Volume %	Mol %
145.020	2175.860	I22	C22-Iso-Paraffin	0.142	0.147	0.103
145.140	2179.860	I22	C22-Iso-Paraffin	0.069	0.071	0.050
145.270	2184.180	I22	C22-Iso-Paraffin	0.225	0.232	0.163
145.747	2200.000	P22	C22	0.548	0.563	0.380
145.847	2203.180	I23	C23-Iso-Paraffin	0.074	0.076	0.051
146.123	2211.970	I23	C23-Iso-Paraffin	0.082	0.084	0.057
146.303	2217.680	I23	C23-Iso-Paraffin	0.078	0.080	0.054
146.590	2226.770	I23	C23-Iso-Paraffin	0.309	0.318	0.214
146.903	2236.670	I23	C23-Iso-Paraffin	0.081	0.084	0.056
147.080	2242.240	I23	C23-Iso-Paraffin	0.275	0.282	0.190
147.553	2257.150	I23	C23-Iso-Paraffin	0.114	0.117	0.079
147.710	2262.070	I23	C23-Iso-Paraffin	0.085	0.087	0.059
148.017	2271.680	I23	C23-Iso-Paraffin	0.033	0.033	0.023
148.847	2297.610	P23	C23	0.387	0.396	0.256
149.657	2321.470	I24	C24-Iso-Paraffin	0.120	0.123	0.080
149.933	2329.550	I24	C24-Iso-Paraffin	0.037	0.038	0.025
150.077	2333.730	I24	C24-Iso-Paraffin	0.070	0.072	0.047
150.283	2339.740	I24	C24-Iso-Paraffin	0.070	0.071	0.046
150.480	2345.460	I24	C24-Iso-Paraffin	0.064	0.066	0.043
151.013	2360.920	I24	C24-Iso-Paraffin	0.024	0.025	0.016
151.313	2369.590	I24	C24-Iso-Paraffin	0.096	0.098	0.063
151.987	2388.990	I24	C24-Iso-Paraffin	0.032	0.033	0.021
152.277	2397.320	P24	C24	0.429	0.438	0.272
154.753	2460.300	I25	C25-Iso-Paraffin	0.031	0.032	0.020
156.230	2497.180	P25	C25	0.349	0.356	0.213
156.973	2513.570	I26	C26-Iso-Paraffin	0.135	0.137	0.082
160.913	2597.200	P26	C26	0.238	0.243	0.139
165.373	2676.280	I27	C27-Iso-Paraffin	0.045	0.046	0.026
166.573	2697.060	P27	C27	0.219	0.222	0.122
173.507	2797.090	P28	C28	0.140	0.142	0.076

2012100094-003A JD (M:\ExtendedGas Results\CDF\2012100094-003Adat-Detector 1.cdf)
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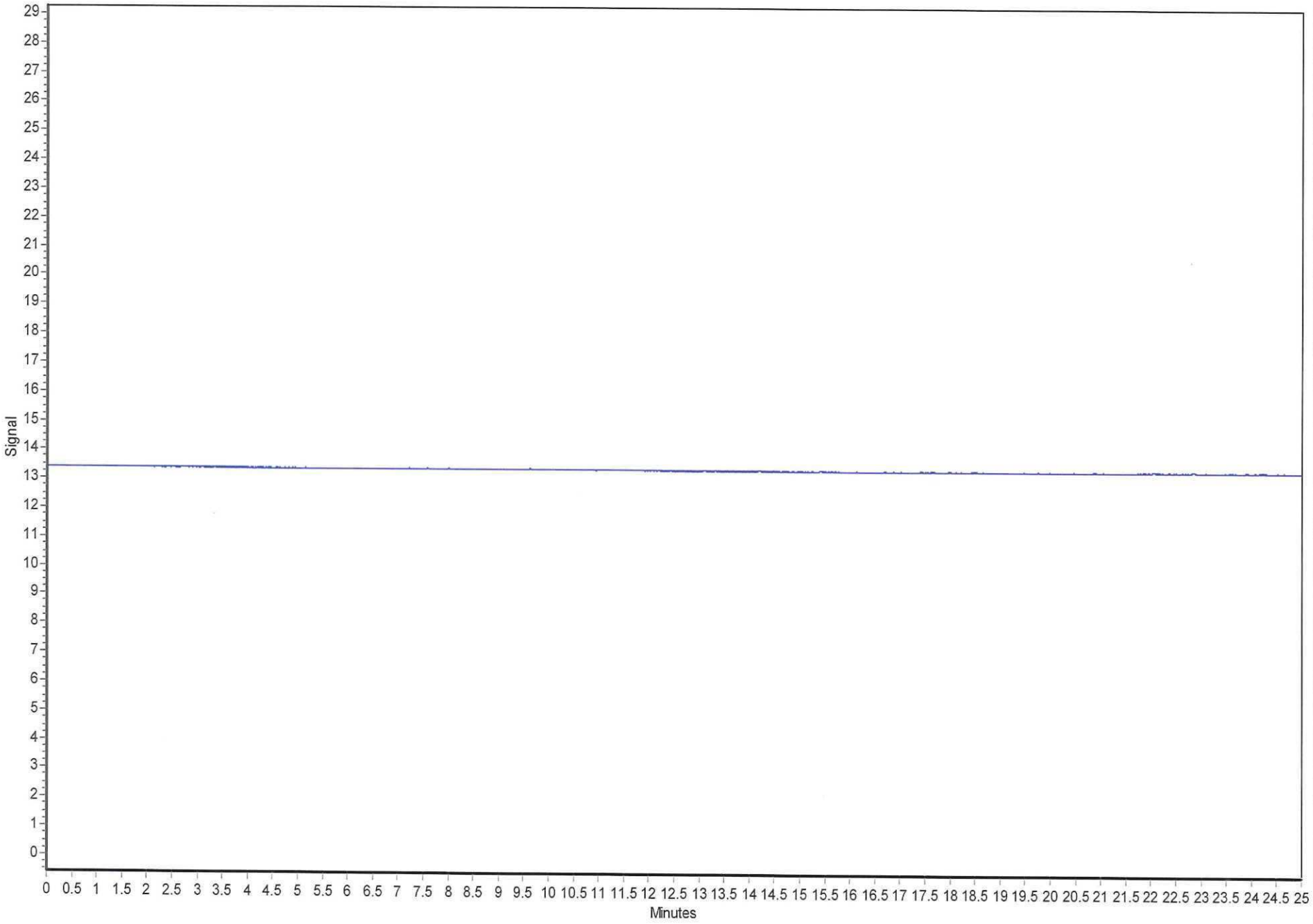

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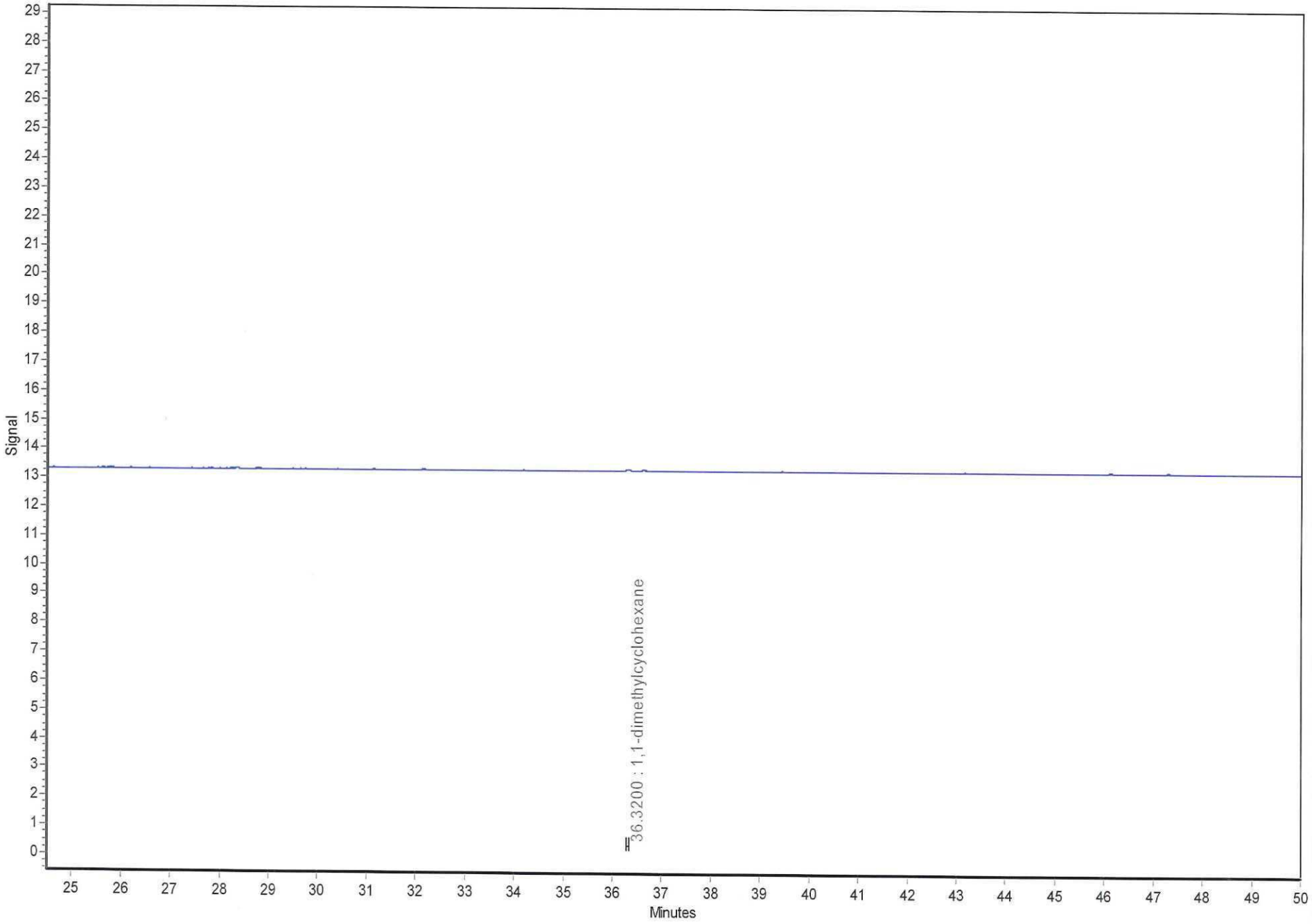

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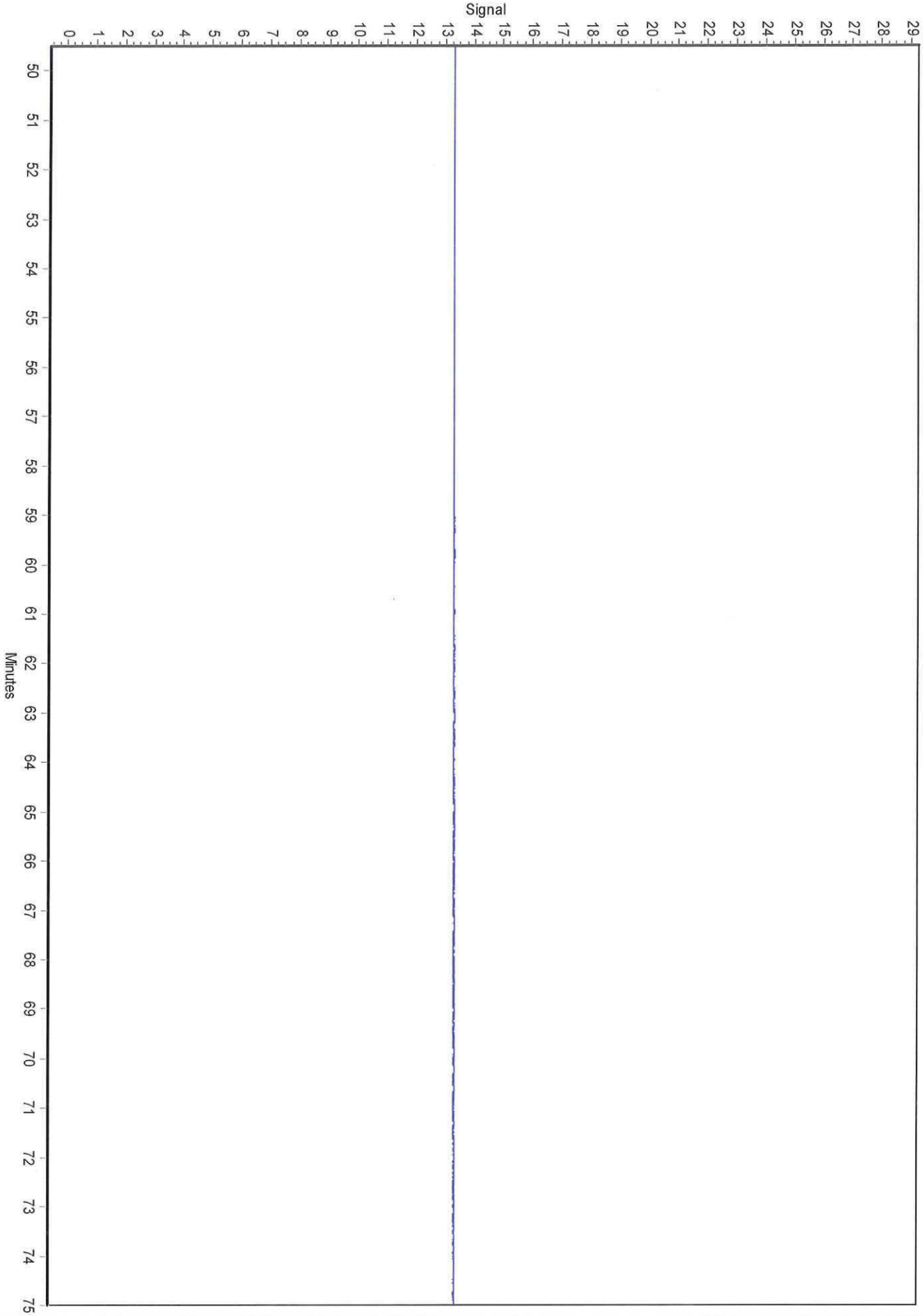

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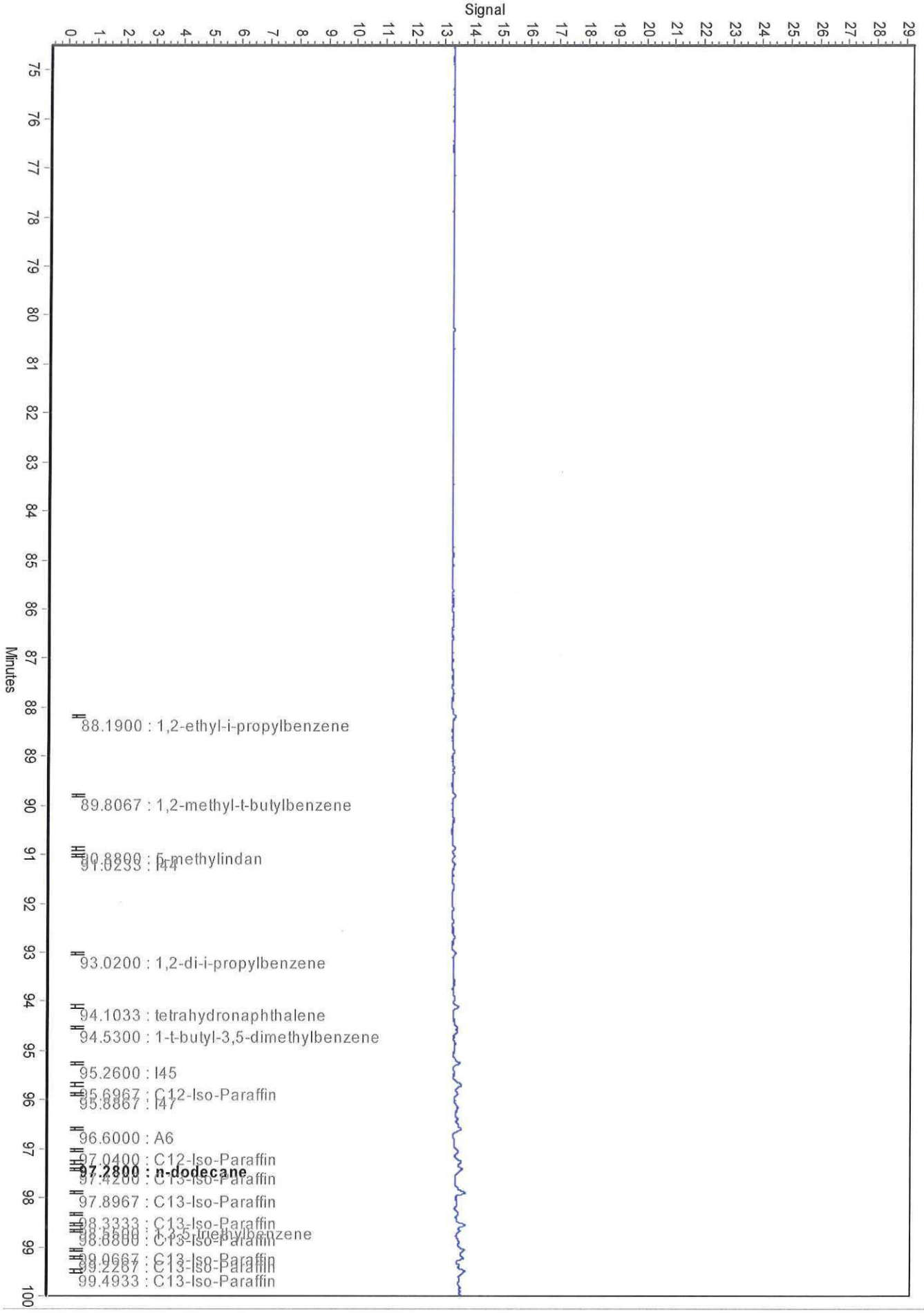

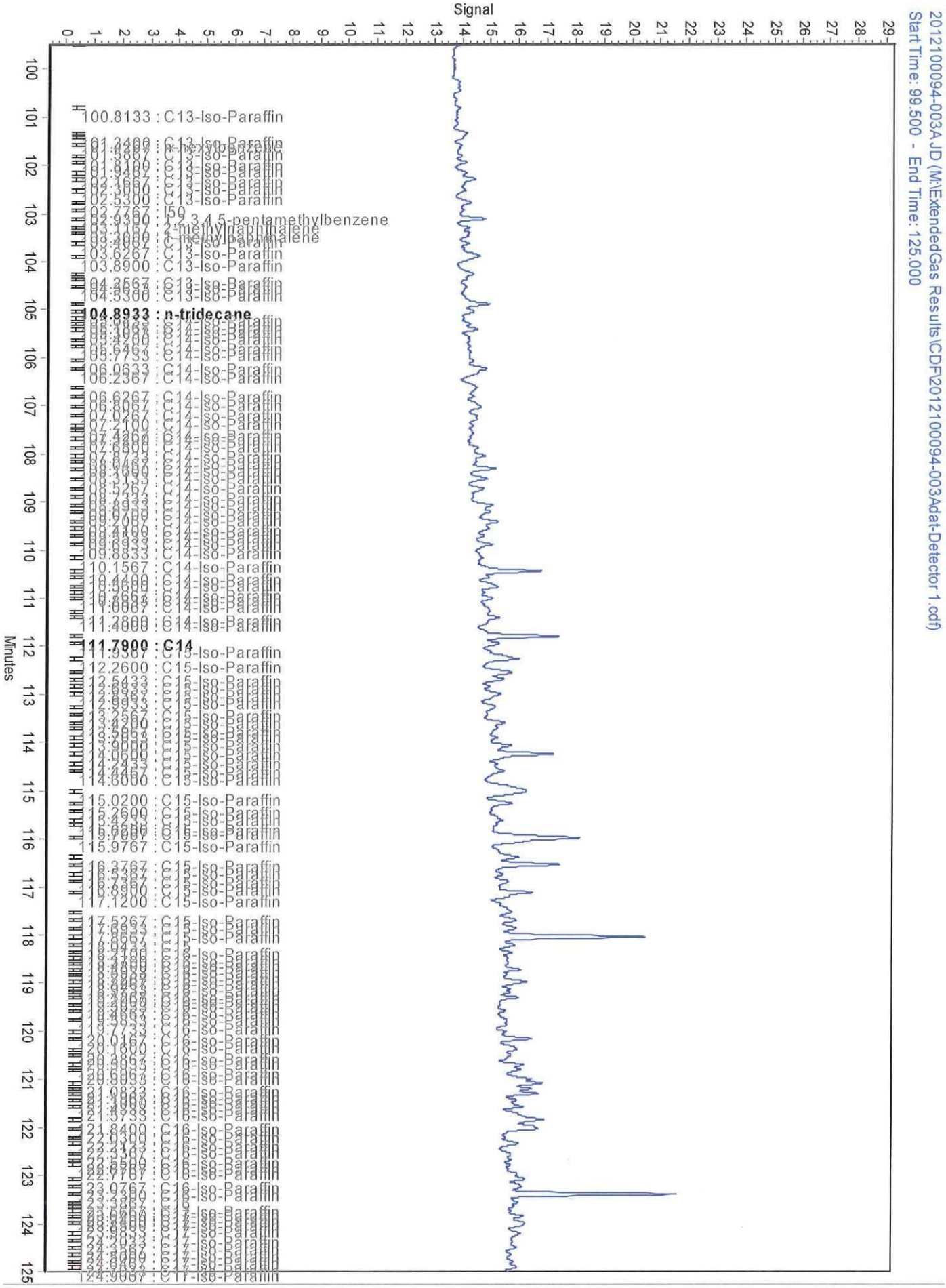
2012100094-003A.JD (M:\ExtendedGas Results\CDF\2012100094-003Adat-Detector 1.cdf)
Start Time: 99.500 - End Time: 125.000
Signal
Minutes
100.8133 : C13-Iso-Paraffin
104.8933 : n-tridecane
111.7900 : C14
124.9067 : C17-Iso-Paraffin

2012100094-003A JD (M:\ExtendedGas Results\CDF\2012100094-003Adat-Detector 1.cdf)
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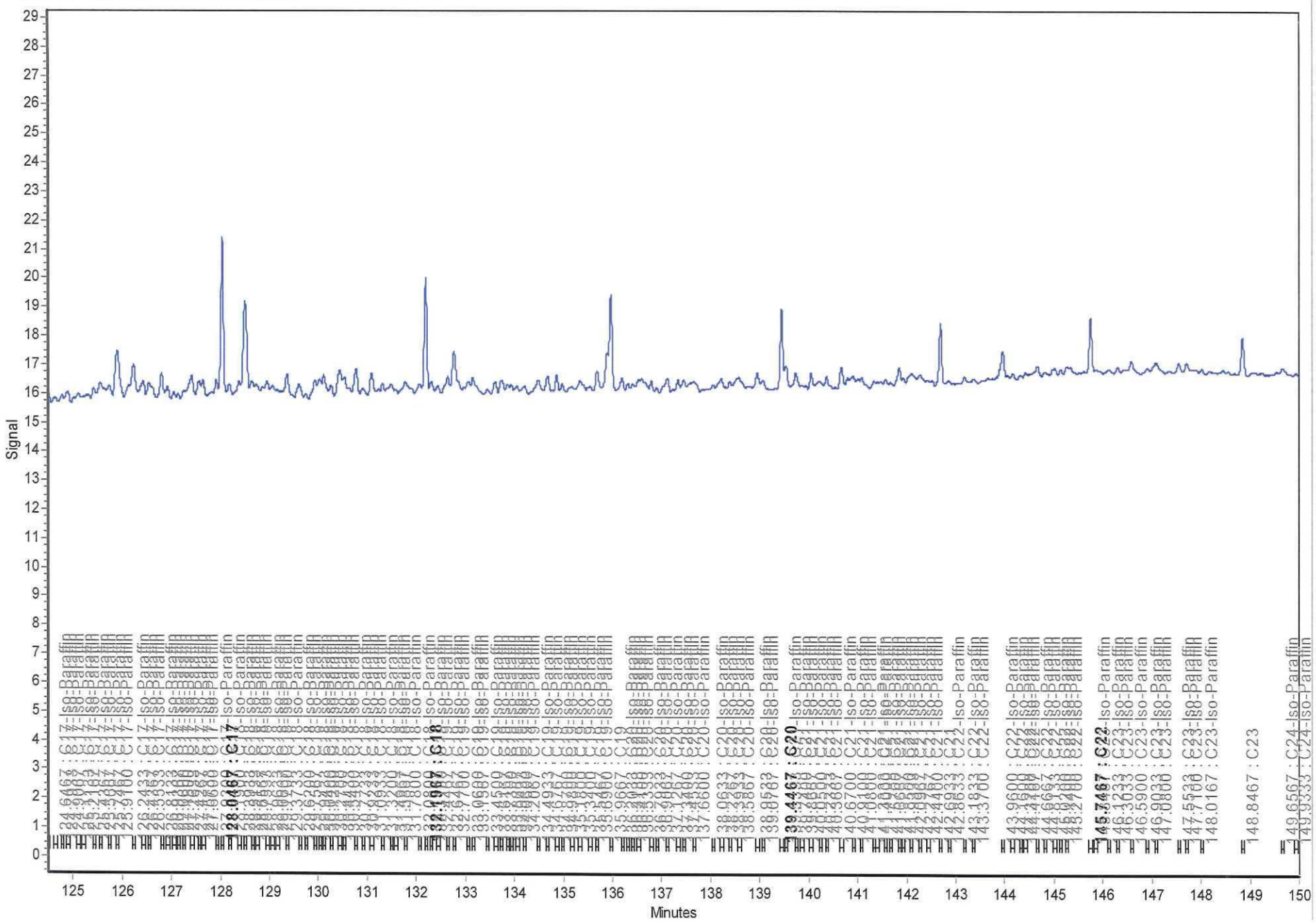
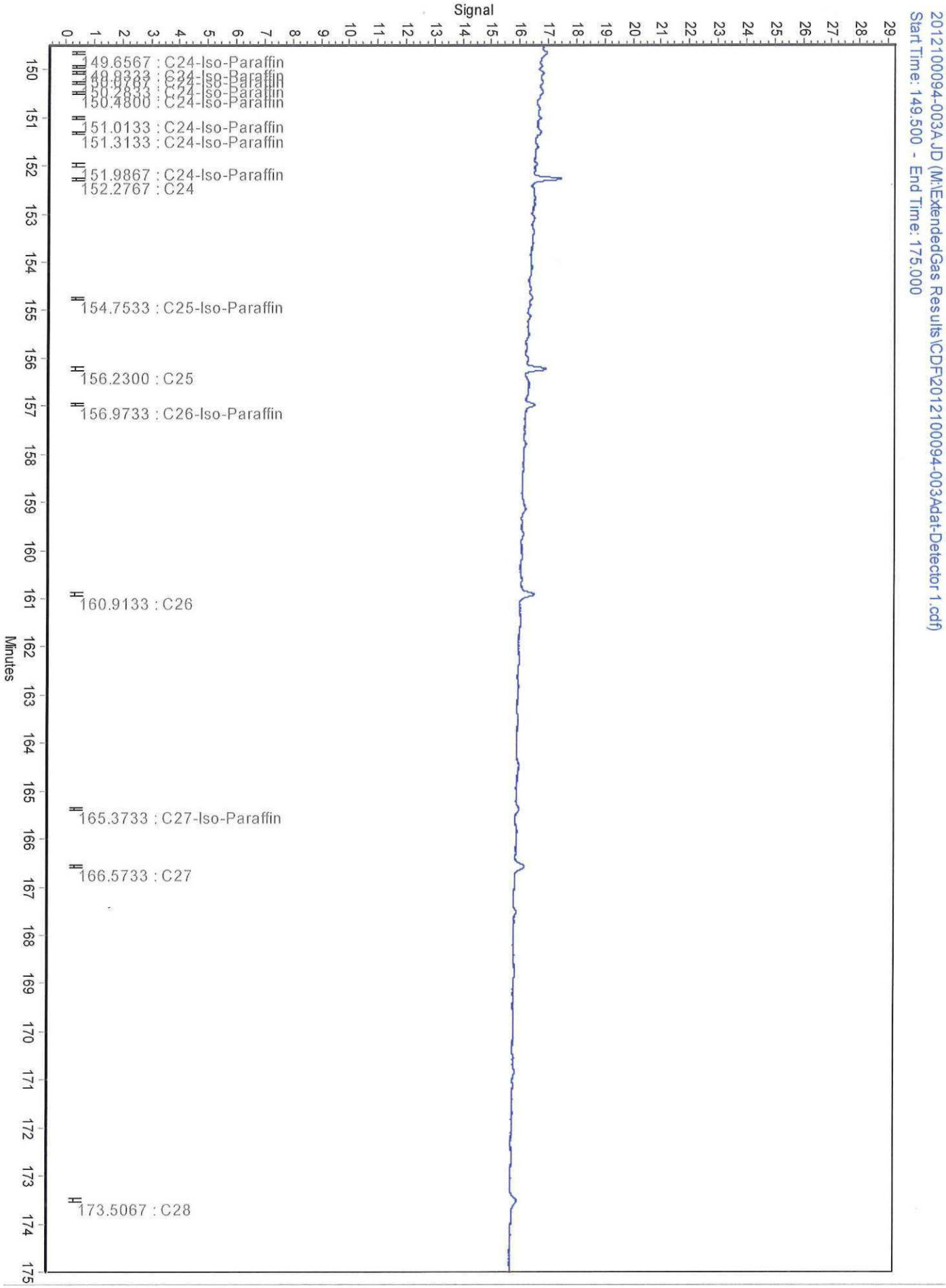
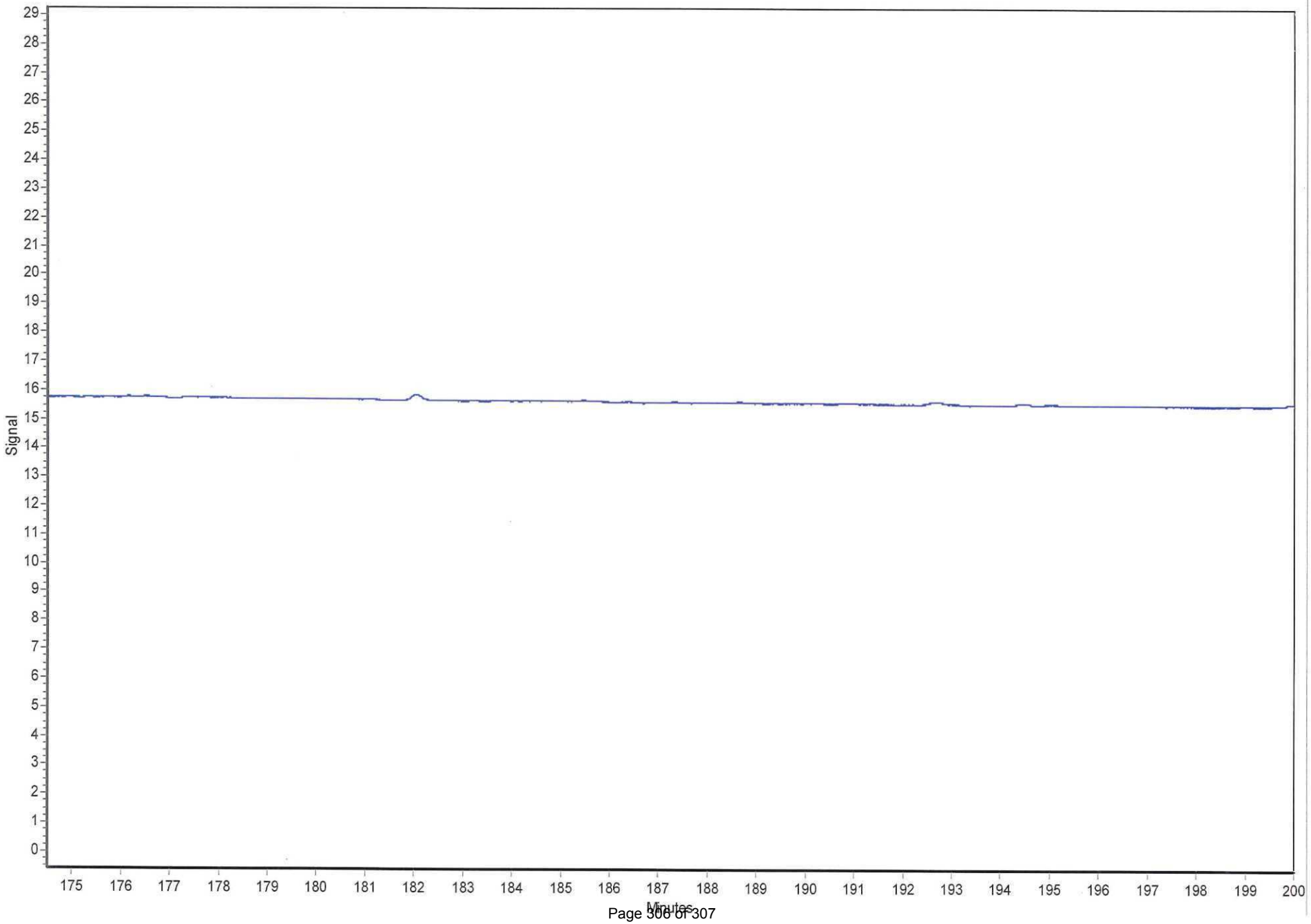



2012100094-003A JD (M:\ExtendedGas Results\CDF\2012100094-003Adat-Detector 1.cdf)
Start Time: 149.500 - End Time: 175.000
Signal
Minutes
149.6567 : C24-Iso-Paraffin
49.9333 : C24-Iso-Paraffin
48.8767 : C24-Iso-Paraffin
50.2833 : C24-Iso-Paraffin
150.4800 : C24-Iso-Paraffin
151.0133 : C24-Iso-Paraffin
151.3133 : C24-Iso-Paraffin
151.9867 : C24-Iso-Paraffin
152.2767 : C24
154.7533 : C25-Iso-Paraffin
156.2300 : C25
156.9733 : C26-Iso-Paraffin
160.9133 : C26
165.3733 : C27-Iso-Paraffin
166.5733 : C27
173.5067 : C28

2012100094-003A JD (M:\ExtendedGas Results\CDF\2012100094-003Adat-Detector 1.cdf)
Start Time: 174.500 - End Time: 200.000



SPL, Inc.
Analysis Request Chain of Custody Record

SPL

SPL Work Order No.:	
Acct. Mate Code:	
Dept. Code	
SPL	Page 1 of 1

Report To: (Company Name):	Pace Analytical Services, Inc.
Address:	1000 Riverbend Blvd., Ste. F
City/State/Zip:	St. Rose LA 70087
Contact:	Cindy Olavesen cindy.olavesen@pacelabs.com
Phone:	504-305-3626 Fax: 504-469-0555
Invoice To: (Company Name):	Pace Analytical Services, Inc.
Address:	1000 Riverbend Blvd., Ste. F
City/State/Zip:	St. Rose LA 70087
Contact:	Cindy Olavesen cindy.olavesen@pacelabs.com
Phone:	504-305-3626 Fax: 504-469-0555
Client PO# or Ref. No.:	N/A
Contract/Proposal #: (i.e. SPLQ#####)	SPLQ5311

Project/Station Name:	Project/Station Number:	Project/Station Location:
Special Instructions:		

Requested TAT*: 10 business days

Indicate Billing Type: (Place "X", where appropriate)	Net 30 day Acct.		Check #
	Credit Card		<<<Contact SPL, Inc for CC payment arrangements.

* Surcharges May Apply (See quote for details)

† Terms: Cylinders will be rented for $10/cyl. All cylinders checked out are to be returned within 21 days, whether they contain sample or not. Cylinders not returned after 30 days will be considered lost and will be billed at current replacement cost.

Requested Analysis (Place an "X" next to Sample ID below)

Sample ID (used to log/track sample)	Sample Date	Sample Time	Sample Type (Gas/Liq./Solid)	Duplicate	Composite	Spot	Cylinder Tracking Info† Cylinder #	Date Out	Date In	SPL Part #	GPA-2186-02M(PIANO)											Comments
041-092212-01	9/22/12	2250	Oil							x	X											Pace ID 20102536 7
041-092212-02		2255									X											368
041-092212-STANDARD		—									X											369
																						Please sign & return with repost the Internal COC

Sampled By-Print Name:				Received By-Company:			
Signature:							
Relinquished By-Print Name:	Cindy Olavesen	Date:	Time:	Received By-Print Name:		Date:	Time:
Signature:	Cindy Olavesen	10/1/12	1700	Signature:		10-2-12	
Relinquished By-Print Name:		Date:	Time:	Received By-Print Name:		Date:	Time:
Signature:				Signature:			
Relinquished By-Print Name:		Date:	Time:	Received By-Print Name:		Date:	Time:
Signature:				Signature:			

Choose SPL Facility>>>	Corporate HQ - Houston, TX	Ship to Address:	8820 Interchange Dr., Houston,TX 77054	Phone:	713.660.0901

Note - As a convenience to our clients, this form is available in an electronic format. Please contact one of our offices above for the form to be e-mailed to you.