



GC/MS Semivolatiles

SIMPAH

Case Narrative

COGCC

Inspection 697601578

Work Order Number: 2109426

1. This report consists of 3 soil samples. The samples were received cool and intact by ALS on 09/17/21.
2. These samples were prepared and analyzed according to SW-846, 3rd Edition procedures. Specifically, the soil samples were extracted using microwave procedures according to Method 3546.
3. The extracts were analyzed using GC/MS according to the current revision of SOP 506 based on SW-846 Method 8270E. The samples were analyzed using selective ion monitoring (SIM), in order to achieve lower reporting limits. All positive results were quantitated against the initial calibration standards using the internal standard technique. The identification of positive results was achieved by a comparison of the retention time and a limited number of major ions from the mass spectrum of the sample versus the daily calibration standard.
4. All initial calibration criteria were met. If average response factors were used in the initial calibration, %RSD was $\leq 20\%$. If linear or higher order regression calibrations were used in the initial calibration, the coefficient of determination (r^2) ≥ 0.99 .
5. All initial calibration standards are verified by comparing a second source standard initial calibration verification (ICV) against the calibration curve. All target compounds in the second source verification had a %D $\leq 30\%$.
6. Per the guidance in methods 8000 and 8270, all compounds in each of the daily (continuing) calibration verifications had sufficient response to support accurate quantitation of the data included in this report.
7. All method blank criteria were met.



8. All laboratory control sample and laboratory control sample duplicate recoveries and RPDs were within the acceptance criteria.
9. Sample 2109426-1 was designated as the quality control sample for this analysis. Similarity of matrix and therefore relevance of the QC results should not be automatically inferred for any sample other than the native sample selected for QC.

All matrix spike and matrix spike duplicate recoveries and RPDs were within acceptance criteria with the following exceptions:

Spiked Compound	QC Sample	Direction
Naphthalene	MS/MSD	Low
1-methylnaphthalene	MS	Low
Aenaphthylene	MS	Low
Acenaphthene	MS	Low
Phenanthrene	MS/MSD	Low
Benzo(G,H,I)perylene	MS	Low

The recoveries of these compounds in the laboratory control sample and laboratory control sample duplicate were within control limits, which suggest the outliers in the matrix spikes may have been due to matrix effects, so no further action was taken.

10. The samples were extracted and analyzed within the established holding times.
11. All surrogate recoveries were within acceptance criteria.
12. All internal standard recoveries were within acceptance criteria.
13. Manual integrations are performed when needed to provide consistent and defensible data following the guidelines in the current revision of SOP 939. Whenever manual integrations are performed, before and after chromatograms of the peak that was manually integrated are included in the report along with the reason why the re-integration was necessary.

The data contained in the following report have been reviewed and approved by the personnel listed below. In addition, ALS certifies that the analyses reported herein are true, complete and correct within the limits of the methods employed.


Organics Final Data Reviewer

10/16/21
Date

ALS
Data Qualifier Flags
Organics

- U or ND:** This flag indicates that the compound was analyzed for but not detected.
- J:** This flag indicates an estimated value. This flag is used as follows : (1) when estimating a concentration for tentatively identified compounds (TICs) where a 1:1 response is assumed; (2) when the mass spectral and retention time data indicate the presence of a compound that meets the volatile and semivolatile GC/MS identification criteria, and the result is less than the reporting limit (RL) but greater than the method detection limit (MDL); (3) when the retention time data indicate the presence of a compound that meets the GC identification criteria, and the result is less than the RL but greater than the MDL; and (4) the reported value is estimated.
- B:** This flag is used when the analyte is detected in the associated method blank as well as in the sample. It indicates probable blank contamination and warns the data user. This flag shall be used for a tentatively identified compound (TIC) as well as for a positively identified target compound.
- E:** This flag identifies compounds whose concentration exceeds the upper level of the calibration range.
- A:** This flag indicates that a tentatively identified compound is a suspected aldol-condensation product.
- X:** This flag indicates that the analyte was diluted below an accurate quantitation level.
- *:** This flag indicates that a spike recovery is equal to or outside the control criteria used.
- +:** This flag indicates that the relative percent difference (RPD) equals or exceeds the control criteria.

ALS -- Fort Collins

Sample Number(s) Cross-Reference Table

OrderNum: 2109426

Client Name: COGCC

Client Project Name: Inspection 697601578

Client Project Number:

Client PO Number: GAE- PHAA 2021*056

Client Sample Number	Lab Sample Number	COC Number	Matrix	Date Collected	Time Collected
118086 #3 0-6"	2109426-1		SOIL	16-Sep-21	8:35
118086 #4 0-6"	2109426-2		SOIL	16-Sep-21	8:42
118086 #5 0-6"	2109426-3		SOIL	16-Sep-21	8:48
118086 #3 0-6"	2109426-4		SatExtract	16-Sep-21	8:35
118086 #4 0-6"	2109426-5		SatExtract	16-Sep-21	8:42
118086 #5 0-6"	2109426-6		SatExtract	16-Sep-21	8:48

Turnaround time for samples received after 2 p.m. will be calculated beginning from the next business day.



2 1 0 9 4 2 6 - C

PROJECT NAME		Inspection 687601578		TURNAROUND TIME		5 business days		SAMPLER		PAG								
PROJECT NO.				SITE ID														
COMPANY NAME		Colorado Oil & Gas Conservation Commission		EDD FORMAT		COGCC				PARAMETER/METHOD REQUEST FOR ANALYSIS								
SEND REPORT TO		Peter Gintautas		PURCHASE ORDER		GAE- PHAA 2021*068				A) 3015 extended range (DRO and ORO)								
ADDRESS		1120 Lincoln St., Suite 801		INVOICE ATTN TO						B) 3270 SIM PAHs								
CITY / STATE / ZIP		Denver, CO 80203		ADDRESS						C) SW6010 and/or SW6020 metals								
PHONE		719-679-1326		CITY / STATE / ZIP						D)								
FAX				PHONE						E) Saturated Paste prep with SAR, pH and EC on extract								
E-MAIL		peter.gintautas@state.co.us		FAX						F) Hot water soluble boron extraction with SW6010 or SW6020 analysis								
				E-MAIL						G)								
										H)								
										I)								
										J)								
LAB ID	FIELD ID	MATRIX	SAMPLE DATE	SAMPLE TIME	# OF BOTTLES	PRESERVATIVE	QC	A	B	C	D	E	F	G	H	I	J	SEE NOTES SECTION
1	118086 #3 0-6"	S	9/16/21	08:35	1	7		X	X	X								
2	118086 #4 0-6"	S	9/16/21	08:42	1	7		X	X	X								
3	118086 #5 0-6"	S	9/16/21	08:48	1	7		X	X	X								
4	118086 #3 0-6"	S	9/16/21	08:36	1	8						X	X					
5	118086 #4 0-6"	S	9/16/21	08:42	1	8						X	X					
6	118086 #5 0-6"	S	9/16/21	08:48	1	8						X	X					
kmo 9/20/21																		

Time Zone (Circle): MST

Matrix: O = oil S = soil NS = non-soil solid W = water L = liquid E = extract F = filter

NOTES		Form 202-r	
METALS = As, Ba, Cd, Cu, Pb, Ni, Se, Ag, Zn 0.8		RELINQUISHED BY	SIGNATURE
		RECEIVED BY	PRINTED NAME
		RELINQUISHED BY	DATE
		RECEIVED BY	TIME
		RELINQUISHED BY	
REPORT LEVEL / QC REQUIRED			
Summary (Standard QC) LEVEL II (Standard QC) X			
LEVEL III (Std QC + forms)			
LEVEL IV (Std QC + forms + raw data)			
RESERVATION KEY 1-HCl 2-HNO3 3-H2SO4 4-NeOH 5-NaOH/Zn-Acetate 6-NH4OH 7-4°C 8-Other			



ALS Environmental - Fort Collins
CONDITION OF SAMPLE UPON RECEIPT FORM

Client: COGCC Workorder No: 2109426
 Project Manager: kmo Initials: CXT Date: 09/17/2021

	N/A	YES	NO
1. Are airbills / shipping documents present and/or removable?	X		
Tracking number:			
2. Are custody seals on shipping containers intact?	X		
3. Are custody seals on sample containers intact?	X		
4. Is there a COC (chain-of-custody) present?		X	
5. Is the COC in agreement with samples received? (IDs, dates, times, # of samples, # of containers, matrix, requested analyses, etc.)		X	
6. Are short-hold samples present?			X
7. Are all samples within holding times for the requested analyses?		X	
8. Were all sample containers received intact? (not broken or leaking)		X	
9. Is there sufficient sample for the requested analyses?		X	
10. Are samples in proper containers for requested analyses? (form 250, <i>Sample Handling Guidelines</i>)		X	
11. Are all aqueous samples preserved correctly, if required? (excluding volatiles)	X		
12. Are all samples requiring no headspace (VOC, GRO, RSK/MEE, radon) free of bubbles > 6 mm (1/4 inch) diameter? (i.e. size of green pea)	X		
13. Were the samples shipped on ice?		X	
14. Were cooler temperatures measured at 0.1-6.0°C?	RAD ONLY	X	
IR gun used*: <u>#5</u> Cooler #: <u>1</u> Temperature (°C): <u>0.8</u> # of custody seals on cooler: <u>0</u> External µR/hr reading: <u>NA</u> Background µR/hr reading: <u>11</u> Were external µR/hr readings ≤ two times background and within DOT acceptance criteria? YES (If no, see Form 008.)			

* Please provide details here for NO responses to boxes above - for 2 thru 5 & 7 thru 12, notify PM & continue w/ login.

Were unpreserved bottles pH checked? NA All client bottle ID's vs ALS lab ID's double-checked by: CT

If applicable, was the client contacted? YES / NO / NA Contact: _____ Date/Time: _____

Project Manager Signature / Date: [Signature] 9/20/21

GC/MS Semi-volatiles

Method SW8270SIME

Method Blank

Lab Name: ALS -- Fort Collins

Work Order Number: 2109426

Client Name: COGCC

ClientProject ID: Inspection 697601578

Lab ID: EX210927-4BMB

Sample Matrix: SOIL

% Moisture: N/A

Date Collected: N/A

Date Extracted: 27-Sep-21

Date Analyzed: 29-Sep-21

Prep Batch: EX210927-4

QCBatchID: EX210927-4-2

Run ID: SV210929-44

Cleanup: NONE

Basis: N/A

File Name: SV8798

Sample Aliquot: 15 g

Final Volume: 1 ml

Result Units: UG/KG

Clean DF: 1

CASNO	Target Analyte	DF	Result	Result Qualifier	Reporting Limit	MDL
91-20-3	NAPHTHALENE	1	10	U	10	4.2
91-57-6	2-METHYLNAPHTHALENE	1	6.7	U	6.7	3.2
90-12-0	1-METHYLNAPHTHALENE	1	6.7	U	6.7	3.2
208-96-8	ACENAPHTHYLENE	1	10	U	10	4
83-32-9	ACENAPHTHENE	1	10	U	10	3.6
86-73-7	FLUORENE	1	6.7	U	6.7	3.4
85-01-8	PHENANTHRENE	1	10	U	10	3.8
120-12-7	ANTHRACENE	1	10	U	10	4.6
206-44-0	FLUORANTHENE	1	10	U	10	4
129-00-0	PYRENE	1	13	U	13	6
56-55-3	BENZO(A)ANTHRACENE	1	10	U	10	5.4
218-01-9	CHRYSENE	1	10	U	10	5.2
205-99-2	BENZO(B)FLUORANTHENE	1	10	U	10	4.8
207-08-9	BENZO(K)FLUORANTHENE	1	10	U	10	4.8
50-32-8	BENZO(A)PYRENE	1	10	U	10	5.2
193-39-5	INDENO(1,2,3-CD)PYRENE	1	10	U	10	4.8
53-70-3	DIBENZO(A,H)ANTHRACENE	1	13	U	13	7.2
191-24-2	BENZO(G,H,I)PERYLENE	1	10	U	10	4.8

Surrogate Recovery

CASNO	Surrogate Analyte	Result	Flag	Spike Amount	Percent Recovery	Control Limits
321-60-8	2-FLUOROBIPHENYL	268		333	80	24 - 120
4165-60-0	NITROBENZENE-D5	265		333	79	13 - 120
1718-51-0	TERPHENYL-D14	284		333	85	30 - 125

Data Package ID: SV2109426-1

Date Printed: Wednesday, October 06, 2021

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GC/MS Semi-volatiles

Method SW8270SIME

Sample Results

Lab Name: ALS -- Fort Collins

Work Order Number: 2109426

Client Name: COGCC

ClientProject ID: Inspection 697601578

Field ID: 118086 #3 0-6"

Lab ID: 2109426-1

Sample Matrix: SOIL

% Moisture: 3.7

Date Collected: 16-Sep-21

Date Extracted: 27-Sep-21

Date Analyzed: 29-Sep-21

Prep Method: SW3546

Prep Batch: EX210927-4

QCBatchID: EX210927-4-2

Run ID: SV210929-44

Cleanup: NONE

Basis: Dry Weight

File Name: SV8808

Analyst: Tyler Knaebel

Sample Aliquot: 15.35 g

Final Volume: 1 ml

Result Units: UG/KG

Clean DF: 1

CASNO	Target Analyte	Dilution Factor	Result	Result Qualifier	Reporting Limit	MDL
91-20-3	NAPHTHALENE	1	5	J	10	4.3
91-57-6	2-METHYLNAPHTHALENE	1	6.8	U	6.8	3.2
90-12-0	1-METHYLNAPHTHALENE	1	6.8	U	6.8	3.2
208-96-8	ACENAPHTHYLENE	1	10	U	10	4.1
83-32-9	ACENAPHTHENE	1	10	U	10	3.7
86-73-7	FLUORENE	1	6.8	U	6.8	3.5
85-01-8	PHENANTHRENE	1	7	J	10	3.9
120-12-7	ANTHRACENE	1	10	U	10	4.7
206-44-0	FLUORANTHENE	1	5.2	J	10	4.1
129-00-0	PYRENE	1	14	U	14	6.1
56-55-3	BENZO(A)ANTHRACENE	1	10	U	10	5.5
218-01-9	CHRYSENE	1	10	U	10	5.3
205-99-2	BENZO(B)FLUORANTHENE	1	10	U	10	4.9
207-08-9	BENZO(K)FLUORANTHENE	1	10	U	10	4.9
50-32-8	BENZO(A)PYRENE	1	10	U	10	5.3
193-39-5	INDENO(1,2,3-CD)PYRENE	1	10	U	10	4.9
53-70-3	DIBENZO(A,H)ANTHRACENE	1	14	U	14	7.3
191-24-2	BENZO(G,H,I)PERYLENE	1	10	U	10	4.9

Data Package ID: SV2109426-1

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GC/MS Semi-volatiles

Method SW8270SIME

Sample Results

Lab Name: ALS -- Fort Collins

Work Order Number: 2109426

Client Name: COGCC

ClientProject ID: Inspection 697601578

Field ID: 118086 #3 0-6"

Lab ID: 2109426-1

Sample Matrix: SOIL

% Moisture: 3.7

Date Collected: 16-Sep-21

Date Extracted: 27-Sep-21

Date Analyzed: 29-Sep-21

Prep Method: SW3546

Prep Batch: EX210927-4

QCBatchID: EX210927-4-2

Run ID: SV210929-44

Cleanup: NONE

Basis: Dry Weight

File Name: SV8808

Analyst: Tyler Knaebel

Sample Aliquot: 15.35 g

Final Volume: 1 ml

Result Units: UG/KG

Clean DF: 1

CASNO	Target Analyte	Dilution Factor	Result	Result Qualifier	Reporting Limit	MDL
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Surrogate Recovery

CASNO	Surrogate Analyte	Result	Flag	Spike Amount	Percent Recovery	Control Limits
321-60-8	2-FLUOROBIPHENYL	127		338	38	24 - 120
4165-60-0	NITROBENZENE-D5	125		338	37	13 - 120
1718-51-0	TERPHENYL-D14	140		338	41	30 - 125

Data Package ID: SV2109426-1

GC/MS Semi-volatiles

Method SW8270SIME

Sample Results

Lab Name: ALS -- Fort Collins

Work Order Number: 2109426

Client Name: COGCC

ClientProject ID: Inspection 697601578

Field ID: 118086 #4 0-6"

Lab ID: 2109426-2

Sample Matrix: SOIL

% Moisture: 5.6

Date Collected: 16-Sep-21

Date Extracted: 27-Sep-21

Date Analyzed: 29-Sep-21

Prep Method: SW3546

Prep Batch: EX210927-4

QC Batch ID: EX210927-4-2

Run ID: SV210929-44

Cleanup: NONE

Basis: Dry Weight

File Name: SV8811

Analyst: Tyler Knaebel

Sample Aliquot: 15.4 g

Final Volume: 1 ml

Result Units: UG/KG

Clean DF: 1

CASNO	Target Analyte	Dilution Factor	Result	Result Qualifier	Reporting Limit	MDL
91-20-3	NAPHTHALENE	1	10	U	10	4.3
91-57-6	2-METHYLNAPHTHALENE	1	6.9	U	6.9	3.3
90-12-0	1-METHYLNAPHTHALENE	1	6.9	U	6.9	3.3
208-96-8	ACENAPHTHYLENE	1	10	U	10	4.1
83-32-9	ACENAPHTHENE	1	10	U	10	3.7
86-73-7	FLUORENE	1	6.9	U	6.9	3.5
85-01-8	PHENANTHRENE	1	4.2	J	10	3.9
120-12-7	ANTHRACENE	1	10	U	10	4.7
206-44-0	FLUORANTHENE	1	8.1	J	10	4.1
129-00-0	PYRENE	1	12	J	14	6.2
56-55-3	BENZO(A)ANTHRACENE	1	8.5	J	10	5.6
218-01-9	CHRYSENE	1	9.2	J	10	5.4
205-99-2	BENZO(B)FLUORANTHENE	1	13		10	5
207-08-9	BENZO(K)FLUORANTHENE	1	10	U	10	5
50-32-8	BENZO(A)PYRENE	1	11		10	5.4
193-39-5	INDENO(1,2,3-CD)PYRENE	1	9.1	J	10	5
53-70-3	DIBENZO(A,H)ANTHRACENE	1	14	U	14	7.4
191-24-2	BENZO(G,H,I)PERYLENE	1	8.4	J	10	5

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GC/MS Semi-volatiles

Method SW8270SIME

Sample Results

Lab Name: ALS -- Fort Collins

Work Order Number: 2109426

Client Name: COGCC

ClientProject ID: Inspection 697601578

Field ID: 118086 #4 0-6"

Lab ID: 2109426-2

Sample Matrix: SOIL

% Moisture: 5.6

Date Collected: 16-Sep-21

Date Extracted: 27-Sep-21

Date Analyzed: 29-Sep-21

Prep Method: SW3546

Prep Batch: EX210927-4

QC Batch ID: EX210927-4-2

Run ID: SV210929-44

Cleanup: NONE

Basis: Dry Weight

File Name: SV8811

Analyst: Tyler Knaebel

Sample Aliquot: 15.4 g

Final Volume: 1 ml

Result Units: UG/KG

Clean DF: 1

CASNO	Target Analyte	Dilution Factor	Result	Result Qualifier	Reporting Limit	MDL
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Surrogate Recovery

CASNO	Surrogate Analyte	Result	Flag	Spike Amount	Percent Recovery	Control Limits
321-60-8	2-FLUOROBIPHENYL	191		344	56	24 - 120
4165-60-0	NITROBENZENE-D5	188		344	55	13 - 120
1718-51-0	TERPHENYL-D14	195		344	57	30 - 125

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GC/MS Semi-volatiles

Method SW8270SIME

Sample Results

Lab Name: ALS -- Fort Collins

Work Order Number: 2109426

Client Name: COGCC

ClientProject ID: Inspection 697601578

Field ID: 118086 #5 0-6"

Lab ID: 2109426-3

Sample Matrix: SOIL

% Moisture: 2.0

Date Collected: 16-Sep-21

Date Extracted: 27-Sep-21

Date Analyzed: 30-Sep-21

Prep Method: SW3546

Prep Batch: EX210927-4

QCBatchID: EX210927-4-2

Run ID: SV210929-44

Cleanup: NONE

Basis: Dry Weight

File Name: SV8812

Analyst: Tyler Knaebel

Sample Aliquot: 15.28 g

Final Volume: 1 ml

Result Units: UG/KG

Clean DF: 1

CASNO	Target Analyte	Dilution Factor	Result	Result Qualifier	Reporting Limit	MDL
91-20-3	NAPHTHALENE	1	10	U	10	4.2
91-57-6	2-METHYLNAPHTHALENE	1	6.7	U	6.7	3.2
90-12-0	1-METHYLNAPHTHALENE	1	6.7	U	6.7	3.2
208-96-8	ACENAPHTHYLENE	1	10	U	10	4
83-32-9	ACENAPHTHENE	1	10	U	10	3.6
86-73-7	FLUORENE	1	6.7	U	6.7	3.4
85-01-8	PHENANTHRENE	1	10	U	10	3.8
120-12-7	ANTHRACENE	1	10	U	10	4.6
206-44-0	FLUORANTHENE	1	10	U	10	4
129-00-0	PYRENE	1	13	U	13	6
56-55-3	BENZO(A)ANTHRACENE	1	10	U	10	5.4
218-01-9	CHRYSENE	1	10	U	10	5.2
205-99-2	BENZO(B)FLUORANTHENE	1	6.9	J	10	4.8
207-08-9	BENZO(K)FLUORANTHENE	1	10	U	10	4.8
50-32-8	BENZO(A)PYRENE	1	5.7	J	10	5.2
193-39-5	INDENO(1,2,3-CD)PYRENE	1	5.9	J	10	4.8
53-70-3	DIBENZO(A,H)ANTHRACENE	1	13	U	13	7.2
191-24-2	BENZO(G,H,I)PERYLENE	1	5.5	J	10	4.8

Data Package ID: SV2109426-1

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GC/MS Semi-volatiles

Method SW8270SIME

Sample Results

Lab Name: ALS -- Fort Collins

Work Order Number: 2109426

Client Name: COGCC

ClientProject ID: Inspection 697601578

Field ID: 118086 #5 0-6"

Lab ID: 2109426-3

Sample Matrix: SOIL

% Moisture: 2.0

Date Collected: 16-Sep-21

Date Extracted: 27-Sep-21

Date Analyzed: 30-Sep-21

Prep Method: SW3546

Prep Batch: EX210927-4

QC Batch ID: EX210927-4-2

Run ID: SV210929-44

Cleanup: NONE

Basis: Dry Weight

File Name: SV8812

Analyst: Tyler Knaebel

Sample Aliquot: 15.28 g

Final Volume: 1 ml

Result Units: UG/KG

Clean DF: 1

CASNO	Target Analyte	Dilution Factor	Result	Result Qualifier	Reporting Limit	MDL
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Surrogate Recovery

CASNO	Surrogate Analyte	Result	Flag	Spike Amount	Percent Recovery	Control Limits
321-60-8	2-FLUOROBIPHENYL	236		334	71	24 - 120
4165-60-0	NITROBENZENE-D5	226		334	68	13 - 120
1718-51-0	TERPHENYL-D14	251		334	75	30 - 125

Data Package ID: SV2109426-1

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GC/MS Semi-volatiles

Method SW8270SIME Laboratory Control Sample

Lab Name: ALS -- Fort Collins

Work Order Number: 2109426

Client Name: COGCC

ClientProject ID: Inspection 697601578

Lab ID: EX210927-4BLCS

Sample Matrix: SOIL

% Moisture: N/A

Date Collected: N/A

Date Extracted: 09/27/2021

Date Analyzed: 09/29/2021

Prep Method: SW3546

Prep Batch: EX210927-4

QCBatchID: EX210927-4-2

Run ID: SV210929-44

Cleanup: NONE

Basis: N/A

File Name: SV8800

Sample Aliquot: 15 g

Final Volume: 1 ml

Result Units: UG/KG

Clean DF: 1

CASNO	Target Analyte	Spike Added	LCS Result	Reporting Limit	Result Qualifier	LCS % Rec.	Control Limits
91-20-3	NAPHTHALENE	66.7	48.3	10		72	60 - 120%
91-57-6	2-METHYLNAPHTHALENE	66.7	50.9	6.67		76	60 - 120%
90-12-0	1-METHYLNAPHTHALENE	66.7	45.4	6.67		68	58 - 120%
208-96-8	ACENAPHTHYLENE	66.7	49.8	10		75	66 - 120%
83-32-9	ACENAPHTHENE	66.7	49.5	10		74	64 - 120%
86-73-7	FLUORENE	66.7	51.1	6.67		77	63 - 120%
85-01-8	PHENANTHRENE	66.7	52.4	10		79	69 - 120%
120-12-7	ANTHRACENE	66.7	49.5	10		74	55 - 120%
206-44-0	FLUORANTHENE	66.7	50	10		75	62 - 120%
129-00-0	PYRENE	66.7	49.8	13.3		75	53 - 128%
56-55-3	BENZO(A)ANTHRACENE	66.7	54.2	10		81	61 - 121%
218-01-9	CHRYSENE	66.7	47.5	10		71	62 - 120%
205-99-2	BENZO(B)FLUORANTHENE	66.7	53.8	10		81	66 - 120%
207-08-9	BENZO(K)FLUORANTHENE	66.7	47.7	10		72	60 - 120%
50-32-8	BENZO(A)PYRENE	66.7	49.4	10		74	54 - 120%
193-39-5	INDENO(1,2,3-CD)PYRENE	66.7	56.1	10		84	59 - 120%
53-70-3	DIBENZO(A,H)ANTHRACENE	66.7	56	13.3		84	61 - 120%
191-24-2	BENZO(G,H,I)PERYLENE	66.7	49.5	10		74	72 - 120%

Surrogate Recovery

CASNO	Surrogate Analyte	Result	Flag	Spike Amount	Percent Recovery	Control Limits
321-60-8	2-FLUOROBIPHENYL	241		333	72	24 - 120
4165-60-0	NITROBENZENE-D5	232		333	70	13 - 120
1718-51-0	TERPHENYL-D14	256		333	77	30 - 125

Data Package ID: SV2109426-1

Date Printed: Wednesday, October 06, 2021

ALS -- Fort Collins

LIMS Version: 7.021

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GC/MS Semi-volatiles

Method SW8270SIME

Matrix Spike And Matrix Spike Duplicate

Lab Name: ALS -- Fort Collins

Work Order Number: 2109426

Client Name: COGCC

ClientProject ID: Inspection 697601578

Field ID: 118086 #3 0-6"

LabID: 2109426-1MS

Sample Matrix: SOIL

% Moisture: 3.7

Date Collected: 16-Sep-21

Date Extracted: 27-Sep-21

Date Analyzed: 29-Sep-21

Prep Method: SW3546

Prep Batch: EX210927-4

QCBatchID: EX210927-4-2

Run ID: SV210929-44

Cleanup: NONE

Basis: Dry Weight

Sample Aliquot: 15.2 g

Final Volume: 1 ml

Result Units: UG/KG

File Name: SV8809

CASNO	Target Analyte	Sample Result	Samp Qual	MS Result	MS Qual	Reporting Limit	Spike Added	MS % Rec.	Control Limits
91-20-3	NAPHTHALENE	5	J	40.6	*	10.2	68.3	52	60 - 120%
91-57-6	2-METHYLNAPHTHALENE	6.8	U	44.4		6.83	68.3	65	60 - 120%
90-12-0	1-METHYLNAPHTHALENE	6.8	U	38.9	*	6.83	68.3	57	58 - 120%
208-96-8	ACENAPHTHYLENE	10	U	43.8	*	10.2	68.3	64	66 - 120%
83-32-9	ACENAPHTHENE	10	U	41.8	*	10.2	68.3	61	64 - 120%
86-73-7	FLUORENE	6.8	U	43.9		6.83	68.3	64	63 - 120%
85-01-8	PHENANTHRENE	7	J	45.4	*	10.2	68.3	56	69 - 120%
120-12-7	ANTHRACENE	10	U	42.8		10.2	68.3	63	55 - 120%
206-44-0	FLUORANTHENE	5.2	J	47.5		10.2	68.3	62	62 - 120%
129-00-0	PYRENE	14	U	49.7		13.7	68.3	73	53 - 128%
56-55-3	BENZO(A)ANTHRACENE	10	U	52.1		10.2	68.3	76	61 - 121%
218-01-9	CHRYSENE	10	U	45.7		10.2	68.3	67	62 - 120%
205-99-2	BENZO(B)FLUORANTHENE	10	U	51.7		10.2	68.3	76	66 - 120%
207-08-9	BENZO(K)FLUORANTHENE	10	U	41.7		10.2	68.3	61	60 - 120%
50-32-8	BENZO(A)PYRENE	10	U	48		10.2	68.3	70	54 - 120%
193-39-5	INDENO(1,2,3-CD)PYRENE	10	U	55.8		10.2	68.3	82	59 - 120%
53-70-3	DIBENZO(A,H)ANTHRACENE	14	U	50.6		13.7	68.3	74	61 - 120%
191-24-2	BENZO(G,H,I)PERYLENE	10	U	46.7	*	10.2	68.3	68	72 - 120%

Data Package ID: SV2109426-1

Date Printed: Wednesday, October 06, 2021

ALS -- Fort Collins

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LIMS Version: 7.021

GC/MS Semi-volatiles

Method SW8270SIME

Matrix Spike And Matrix Spike Duplicate

Lab Name: ALS -- Fort Collins

Work Order Number: 2109426

Client Name: COGCC

ClientProject ID: Inspection 697601578

Field ID: 118086 #3 0-6"

LabID: 2109426-1MSD

Sample Matrix: SOIL

% Moisture: 3.7

Date Collected: 16-Sep-21

Date Extracted: 27-Sep-21

Date Analyzed: 29-Sep-21

Prep Method: SW3546

Prep Batch: EX210927-4

QCBatchID: EX210927-4-2

Run ID: SV210929-44

Cleanup: NONE

Basis: Dry Weight

Sample Aliquot: 15.22 g

Final Volume: 1 ml

Result Units: UG/KG

File Name: SV8810

CASNO	Target Analyte	MSD Result	MSD Qual	Spike Added	MSD % Rec.	Reporting Limit	RPD Limit	RPD
91-20-3	NAPHTHALENE	45.2	*	68.2	59	10.2	30	11
91-57-6	2-METHYLNAPHTHALENE	49.3		68.2	72	6.82	30	11
90-12-0	1-METHYLNAPHTHALENE	43.6		68.2	64	6.82	30	11
208-96-8	ACENAPHTHYLENE	48.3		68.2	71	10.2	30	10
83-32-9	ACENAPHTHENE	46.2		68.2	68	10.2	30	10
86-73-7	FLUORENE	48		68.2	70	6.82	30	9
85-01-8	PHENANTHRENE	47.4	*	68.2	59	10.2	30	4
120-12-7	ANTHRACENE	45		68.2	66	10.2	30	5
206-44-0	FLUORANTHENE	49.1		68.2	64	10.2	30	3
129-00-0	PYRENE	51.5		68.2	76	13.6	30	4
56-55-3	BENZO(A)ANTHRACENE	54.7		68.2	80	10.2	30	5
218-01-9	CHRYSENE	45.8		68.2	67	10.2	30	0
205-99-2	BENZO(B)FLUORANTHENE	52.7		68.2	77	10.2	30	2
207-08-9	BENZO(K)FLUORANTHENE	43.8		68.2	64	10.2	30	5
50-32-8	BENZO(A)PYRENE	50.6		68.2	74	10.2	30	5
193-39-5	INDENO(1,2,3-CD)PYRENE	60.2		68.2	88	10.2	30	8
53-70-3	DIBENZO(A,H)ANTHRACENE	52.7		68.2	77	13.6	30	4
191-24-2	BENZO(G,H,I)PERYLENE	48.9		68.2	72	10.2	30	5

Data Package ID: SV2109426-1

Date Printed: Wednesday, October 06, 2021

ALS -- Fort Collins

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LIMS Version: 7.021

GC/MS Semi-volatiles

Method SW8270SIME

Matrix Spike And Matrix Spike Duplicate

Lab Name: ALS -- Fort Collins

Work Order Number: 2109426

Client Name: COGCC

ClientProject ID: Inspection 697601578

Surrogate Recovery MS/MSD

CASNO	Target Analyte	Spike Added	MS % Rec.	MS Flag	MSD % Rec.	MSD Flag	Control Limits
321-60-8	2-FLUOROBIPHENYL	342	62		66		24 - 120
4165-60-0	NITROBENZENE-D5	342	62		65		13 - 120
1718-51-0	TERPHENYL-D14	342	67		66		30 - 125

Data Package ID: SV2109426-1

Date Printed: Wednesday, October 06, 2021

ALS -- Fort Collins

LIMS Version: 7.021

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Data Path : C:\msdchem\1\data\2021\092921\
 Data File : SV8798.D
 Acq On : 29 Sep 2021 7:50 pm
 Operator : TK HPSV4 sn #: CV11451177
 Sample : EX210927-4BMB
 Misc :
 ALS Vial : 7 Sample Multiplier: 1

DataAcq Meth:082521SP.M

Quant Method : C:\msdchem\1\methods\082521SP.M

Quant Title : SW8270D Selected Ion Monitoring (SIM PAH)

QLast Update : Thu Sep 30 07:19:26 2021

Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

Internal Standards						
1) Naphthalene-d8	3.571	136	144388	2.00	ng/uL	0.00
6) Acenaphthene-d10	4.685	164	74735	2.00	ng/uL	0.00
11) Phenanthrene-d10	5.851	188	138950	2.00	ng/uL	0.00
15) Chrysene-d12	8.361	240	102787	2.00	ng/uL	0.00
20) Perylene-d12	10.659	264	95943	2.00	ng/uL	0.00
System Monitoring Compounds						
2) Nitrobenzene-d5	3.190	82	171380	3.97	ng/uL	0.00
Spiked Amount	10.000	Range	19 - 125	Recovery	=	39.70%
7) 2-Fluorobiphenyl	4.197	172	221872	4.02	ng/uL	0.00
Spiked Amount	10.000	Range	30 - 120	Recovery	=	40.20%
17) p-Terphenyl-d14	7.210	244	222177	4.26	ng/uL	0.00
Spiked Amount	10.000	Range	22 - 138	Recovery	=	42.60%

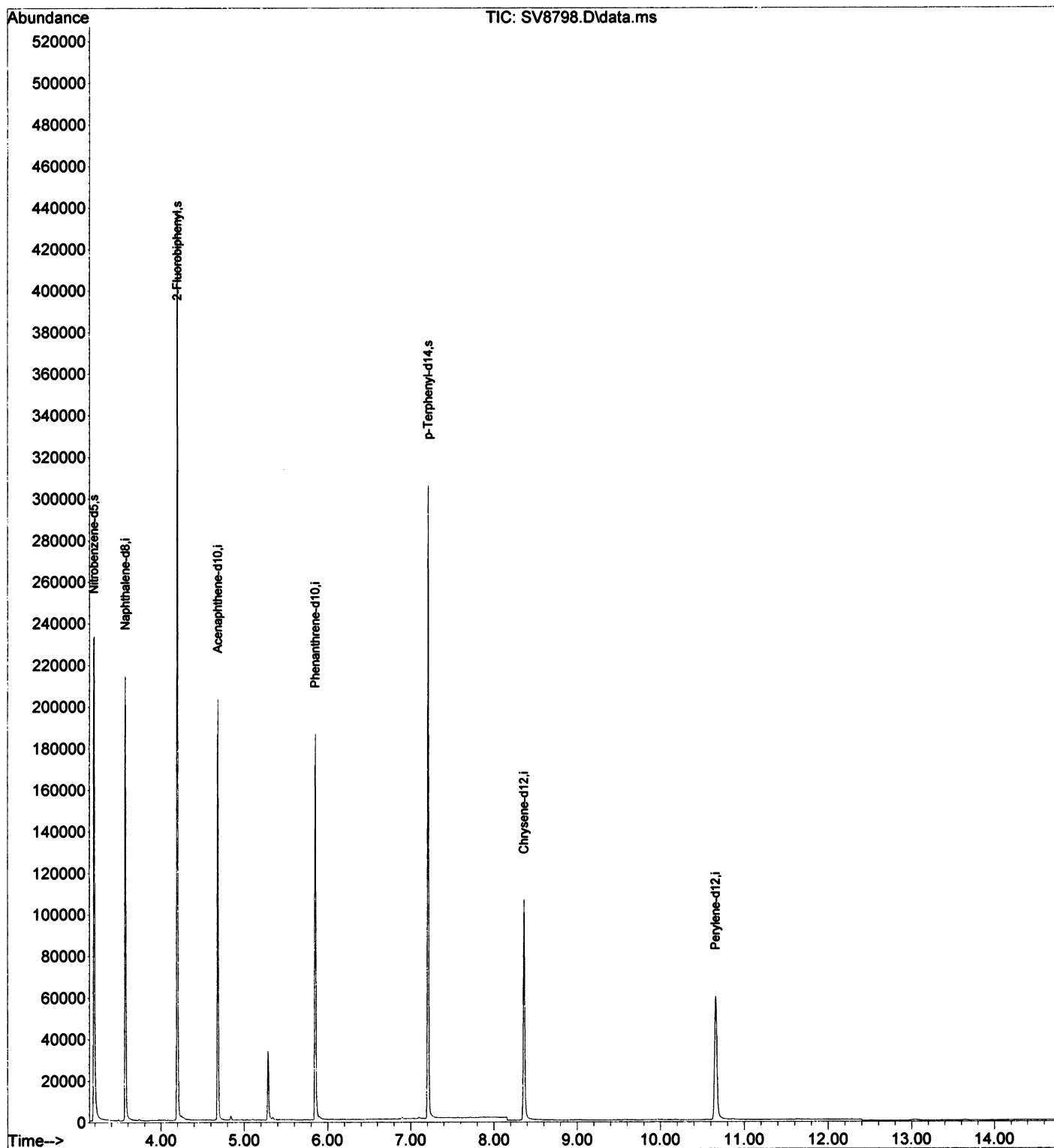
Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration (+) = signals summed

m 9/30/21

Data Path : C:\msdchem\1\data\2021\092921\
Data File : SV8798.D
Acq On : 29 Sep 2021 7:50 pm
Operator : TK HPSV4 sn #: CV11451177
Sample : EX210927-4BMB
Misc :
ALS Vial : 7 Sample Multiplier: 1

DataAcq Meth:082521SP.M
Quant Method : C:\msdchem\1\methods\082521SP.M
Quant Title : SW8270D Selected Ion Monitoring (SIM PAH)
QLast Update : Thu Sep 30 07:19:26 2021
Response via : Initial Calibration



Data Path : C:\msdchem\1\data\2021\092921\
 Data File : SV8800.D
 Acq On : 29 Sep 2021 8:26 pm
 Operator : TK HPSV4 sn #: CV11451177
 Sample : EX210927-4BLCS
 Misc :
 ALS Vial : 9 Sample Multiplier: 1

DataAcq Meth:082521SP.M

Quant Method : C:\msdchem\1\methods\082521SP.M

Quant Title : SW8270D Selected Ion Monitoring (SIM PAH)

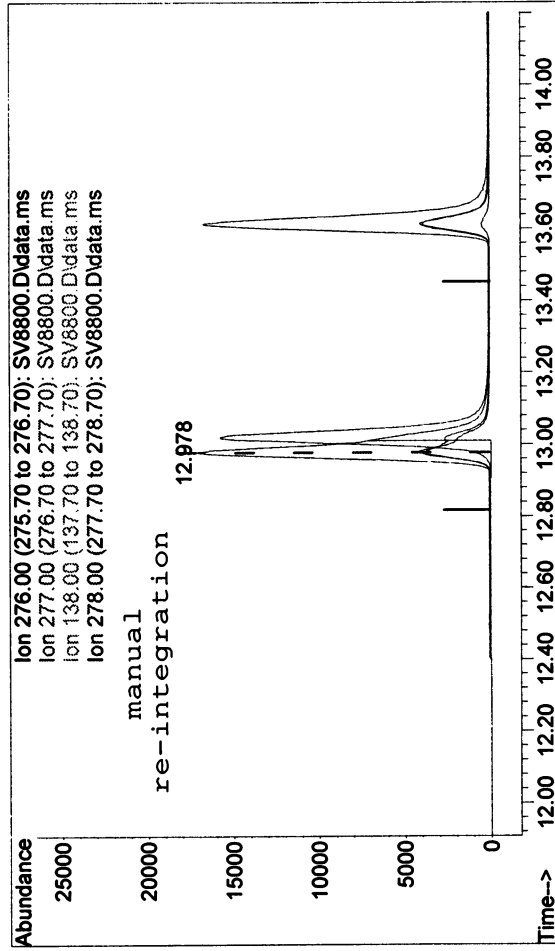
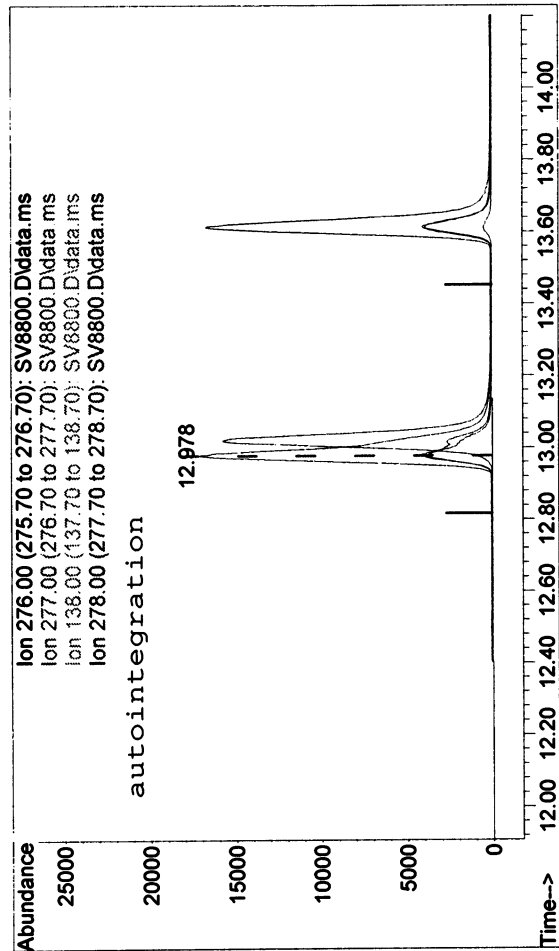
QLast Update : Thu Sep 30 07:19:26 2021

Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev (Min)
Internal Standards						
1) Naphthalene-d8	3.568	136	160987	2.00	ng/uL	0.00
6) Acenaphthene-d10	4.684	164	83435	2.00	ng/uL	0.00
11) Phenanthrene-d10	5.851	188	155373	2.00	ng/uL	0.00
15) Chrysene-d12	8.357	240	115923	2.00	ng/uL	0.00
20) Perylene-d12	10.658	264	105679	2.00	ng/uL	0.00
System Monitoring Compounds						
2) Nitrobenzene-d5	3.190	82	166911	3.48	ng/uL	0.00
Spiked Amount 10.000	Range 19 - 125		Recovery =	34.80%		
7) 2-Fluorobiphenyl	4.197	172	222830	3.62	ng/uL	0.00
Spiked Amount 10.000	Range 30 - 120		Recovery =	36.20%		
17) p-Terphenyl-d14	7.209	244	225430	3.84	ng/uL	0.00
Spiked Amount 10.000	Range 22 - 138		Recovery =	38.40%		
Target Compounds						
						Qvalue
3) Naphthalene	3.580	128	66686	0.72	ng/uL	100
4) 2-Methylnaphthalene	3.974	142	43366	0.76	ng/uL	94
5) 1-Methylnaphthalene	4.041	142	41642	0.68	ng/uL	97
8) Acenaphthylene	4.586	152	64406	0.75	ng/uL	99
9) Acenaphthene	4.705	153	44043	0.74	ng/uL	99
10) Fluorene	5.094	166	47011	0.77	ng/uL	99
12) Phenanthrene	5.871	178	74635	0.79	ng/uL	100
13) Anthracene	5.911	178	70246	0.74	ng/uL	98
14) Fluoranthene	6.893	202	76436	0.75	ng/uL	100
16) Pyrene	7.097	202	76455	0.75	ng/uL	99
18) Benzo[a]anthracene	8.346	228	58811	0.81	ng/uL	99
19) Chrysene	8.391	228	65022	0.71	ng/uL	100
21) Benzo[b]fluoranthene	9.957	252	56034	0.81	ng/uL	100
22) Benzo[k]fluoranthene	10.003	252	58330	0.72	ng/uL	100
23) Benzo[a]pyrene	10.552	252	49919	0.74	ng/uL	98
24) Indeno(1,2,3-c,d)pyrene	12.978	276	43216m	0.84	ng/uL	
25) Dibenzo[a,h]anthracene	13.019	278	46650	0.84	ng/uL	98
26) Benzo[g,h,i]perylene	13.613	276	49528	0.74	ng/uL	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

uq/30/21



TIC: SV8800.D\data.ms

(24) Indeno(1,2,3-c,d)pyrene (tm)
12.978min (-0.000) 1.07 ng/uL

response	55677	
Ion	Exp%	Act%
276.00	100.00	100.00
277.00	24.00	24.23
138.00	22.50	22.04
278.00	5.00	6.30

Reason for manual re-integration?

☐ missed peak assignment

☐ peak saturation (detector shutdown)

☒ over-integrated peak's area

☐ under-integrated peak's area

☐ other ()

initials: MM date: 9/30/81

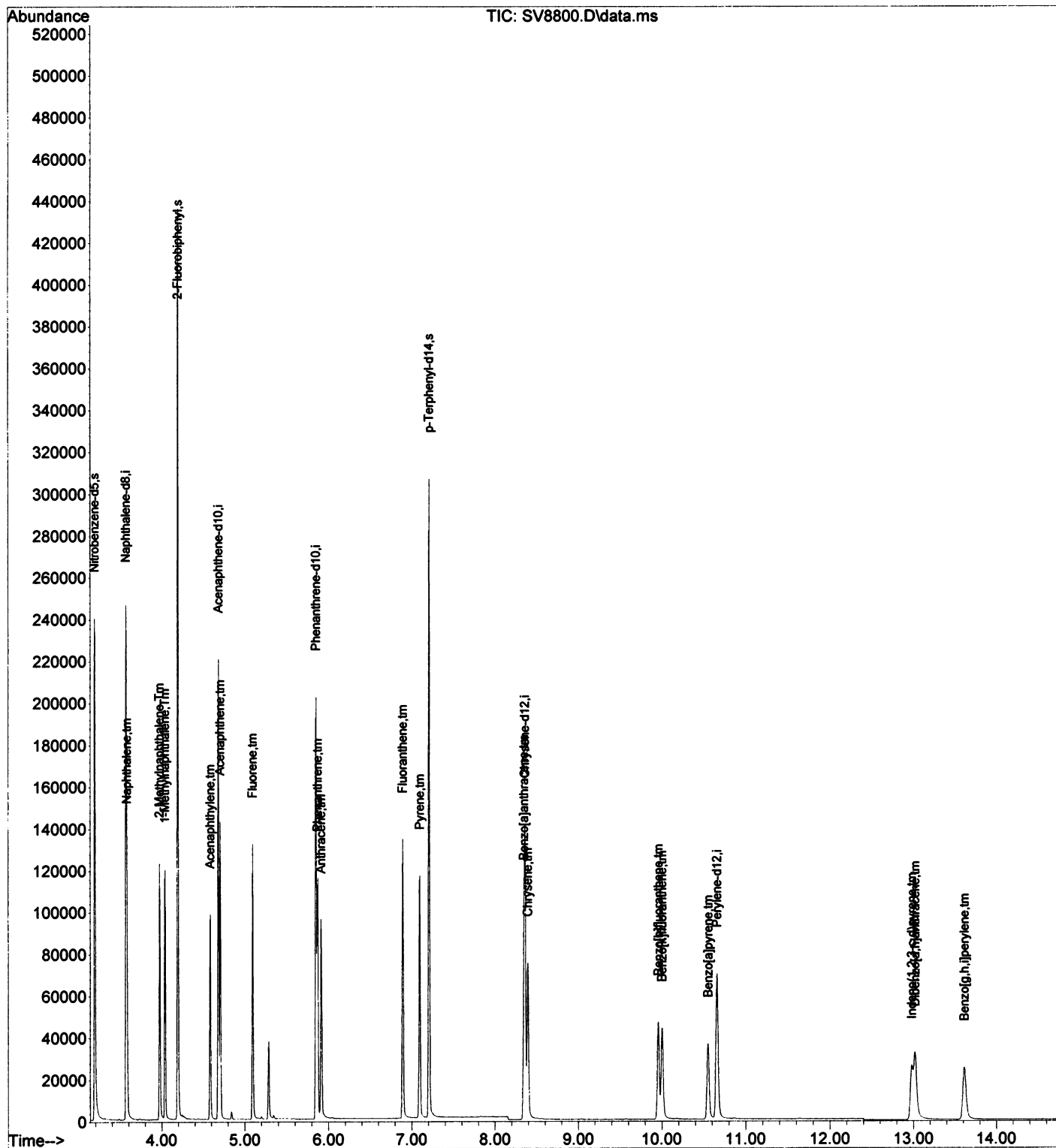
TIC: SV8800.D\data.ms

(24) Indeno(1,2,3-c,d)pyrene (tm)
12.978min (-0.000) 0.84 ng/uL m

response	43216	
Ion	Exp%	Act%
276.00	100.00	100.00
277.00	24.00	24.23
138.00	22.50	22.04
278.00	5.00	6.30

Data Path : C:\msdchem\1\data\2021\092921\
Data File : SV8800.D
Acq On : 29 Sep 2021 8:26 pm
Operator : TK HPSV4 sn #: CV11451177
Sample : EX210927-4BLCS
Misc :
ALS Vial : 9 Sample Multiplier: 1

DataAcq Meth:082521SP.M
Quant Method : C:\msdchem\1\methods\082521SP.M
Quant Title : SW8270D Selected Ion Monitoring (SIM PAH)
QLast Update : Thu Sep 30 07:19:26 2021
Response via : Initial Calibration



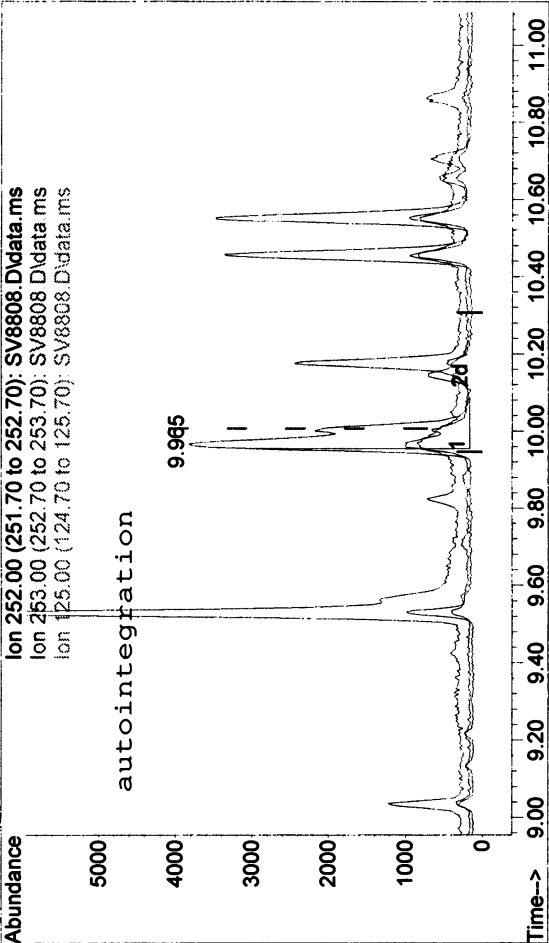
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 Data File : SV8808.D
 Acq On : 29 Sep 2021 10:51 pm
 Operator : TK HPSV4 sn #: CV11451177
 Sample : 2109426-1
 Misc :
 ALS Vial : 17 Sample Multiplier: 1

DataAcq Meth:082521SP.M
 Quant Method : C:\msdchem\1\methods\082521SP.M
 Quant Title : SW8270D Selected Ion Monitoring (SIM PAH)
 QLast Update : Thu Sep 30 07:19:26 2021
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Naphthalene-d8	3.568	136	275316	2.00	ng/uL	0.00
6) Acenaphthene-d10	4.685	164	144996	2.00	ng/uL	0.00
11) Phenanthrene-d10	5.852	188	266883	2.00	ng/uL	0.00
15) Chrysene-d12	8.357	240	199706	2.00	ng/uL	0.00
20) Perylene-d12	10.655	264	192294	2.00	ng/uL	0.00
System Monitoring Compounds						
2) Nitrobenzene-d5	3.190	82	148850	1.85	ng/uL	0.00
Spiked Amount	10.000	Range	19 - 125	Recovery	=	18.50%#
7) 2-Fluorobiphenyl	4.197	172	201622	1.88	ng/uL	0.00
Spiked Amount	10.000	Range	30 - 120	Recovery	=	18.80%#
17) p-Terphenyl-d14	7.210	244	210375	2.07	ng/uL	0.00
Spiked Amount	10.000	Range	22 - 138	Recovery	=	20.70%#
Target Compounds						
3) Naphthalene	3.580	128	11630	0.07	ng/uL	97
12) Phenanthrene	5.871	178	16986	0.10	ng/uL	99
14) Fluoranthene	6.893	202	13448	0.08	ng/uL	98
16) Pyrene	7.098	202	16524	0.08	ng/uL	99
18) Benzo[a]anthracene	8.346	228	5479	0.04	ng/uL	92
19) Chrysene	8.392	228	8443	0.04	ng/uL	96
21) Benzo[b]fluoranthene	9.965	252	8291	0.07	ng/uL#	86
23) Benzo[a]pyrene	10.548	252	6103	0.06	ng/uL#	83
24) Indeno(1,2,3-c,d)pyrene	12.983	276	4389m	0.06	ng/uL	
25) Dibenzo[a,h]anthracene	13.022	278	1621	0.04	ng/uL#	41
26) Benzo[g,h,i]perylene	13.620	276	5743	0.05	ng/uL	90

(#) = qualifier out of range (m) = manual integration (+) = signals summed

u 9/30/21



TIC: SV8808.D\data.ms

(22) Benzo[k]fluoranthene (tm)	9.965min (-0.042)	0.07 ng/uL
response	9651	
Ion	Exp%	Act%
252.00	100.00	100.00
253.00	21.50	25.72
125.00	11.50	21.78#
0.00	0.00	0.00

Reason for manual re-integration?

☒ missed peak assignment

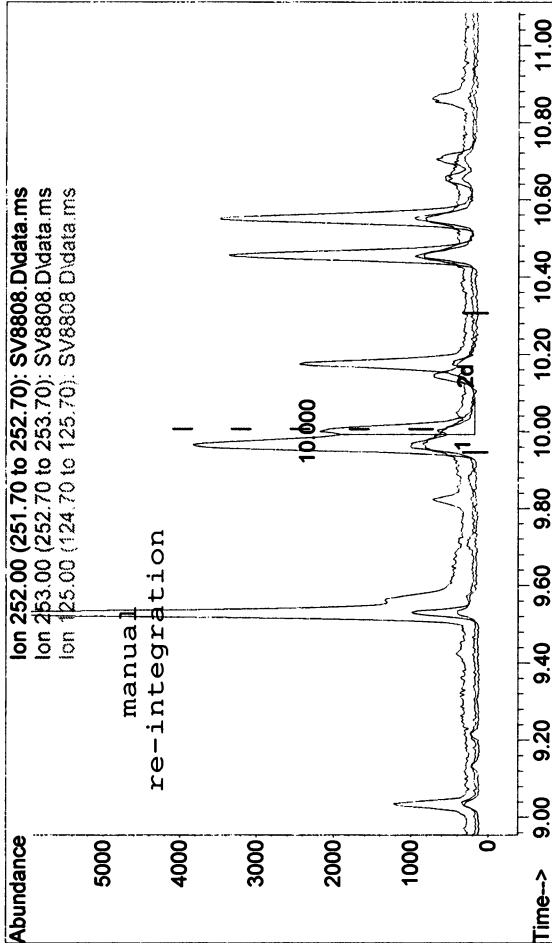
☐ peak saturation (detector shutdown)

☐ over-integrated peak's area

☐ under-integrated peak's area

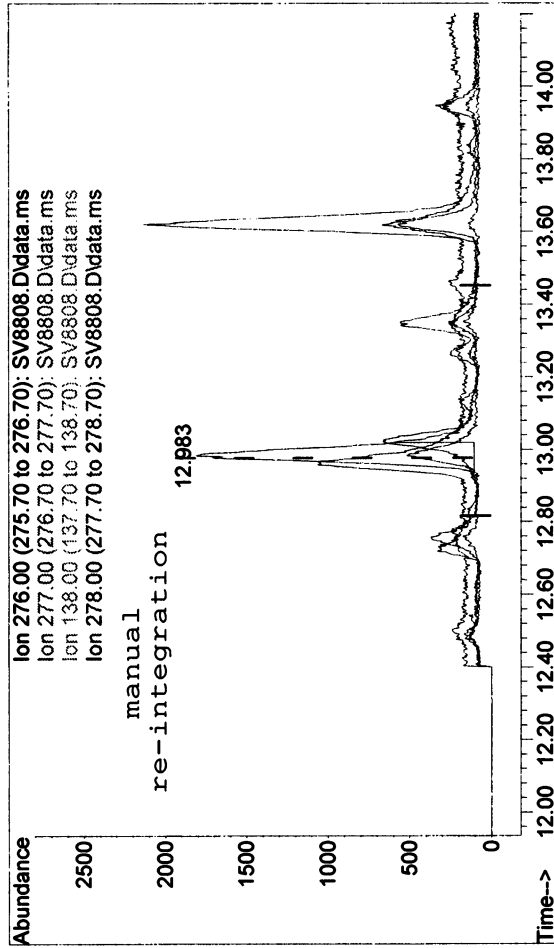
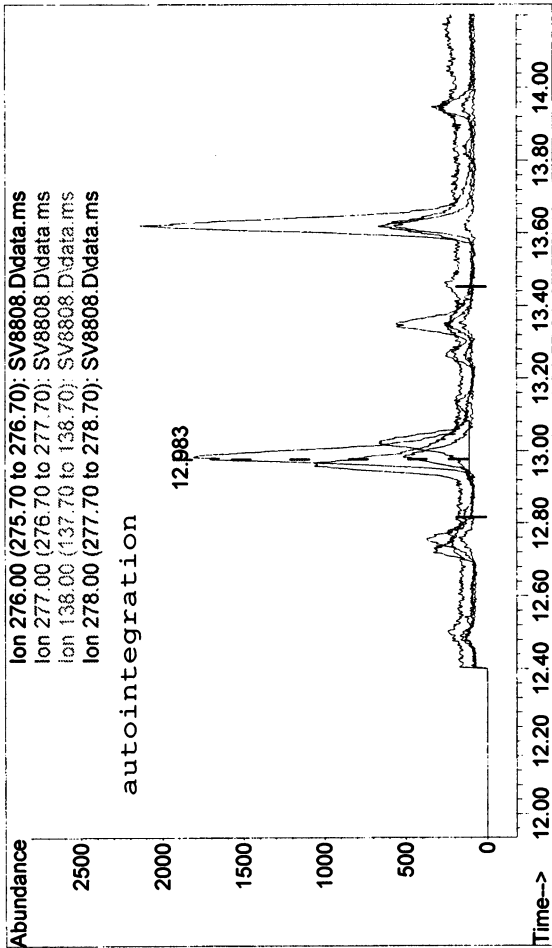
☐ other ()

initials: u date: 7/30/21



TIC: SV8808.D\data.ms

(22) Benzo[k]fluoranthene (tm)	10.000min (-0.008)	0.03 ng/uL m
response	3103	
Ion	Exp%	Act%
252.00	100.00	100.00
253.00	21.50	29.78#
125.00	11.50	27.99#
0.00	0.00	0.00



TIC: SV8808.D\data.ms

(24) Indeno (1,2,3-c,d)pyrene (tm)
12.983min (+ 0.005) 0.07 ng/uL
response 4949

Ion	Exp%	Act%
276.00	100.00	100.00
277.00	24.00	28.59
138.00	22.50	41.56#
278.00	5.00	12.75#

Reason for manual re-integration?

☐ missed peak assignment

☐ peak saturation (detector shutdown)

☒ over-integrated peak's area

☐ under-integrated peak's area

☐ other ()

initials: LL date: 7/30/21

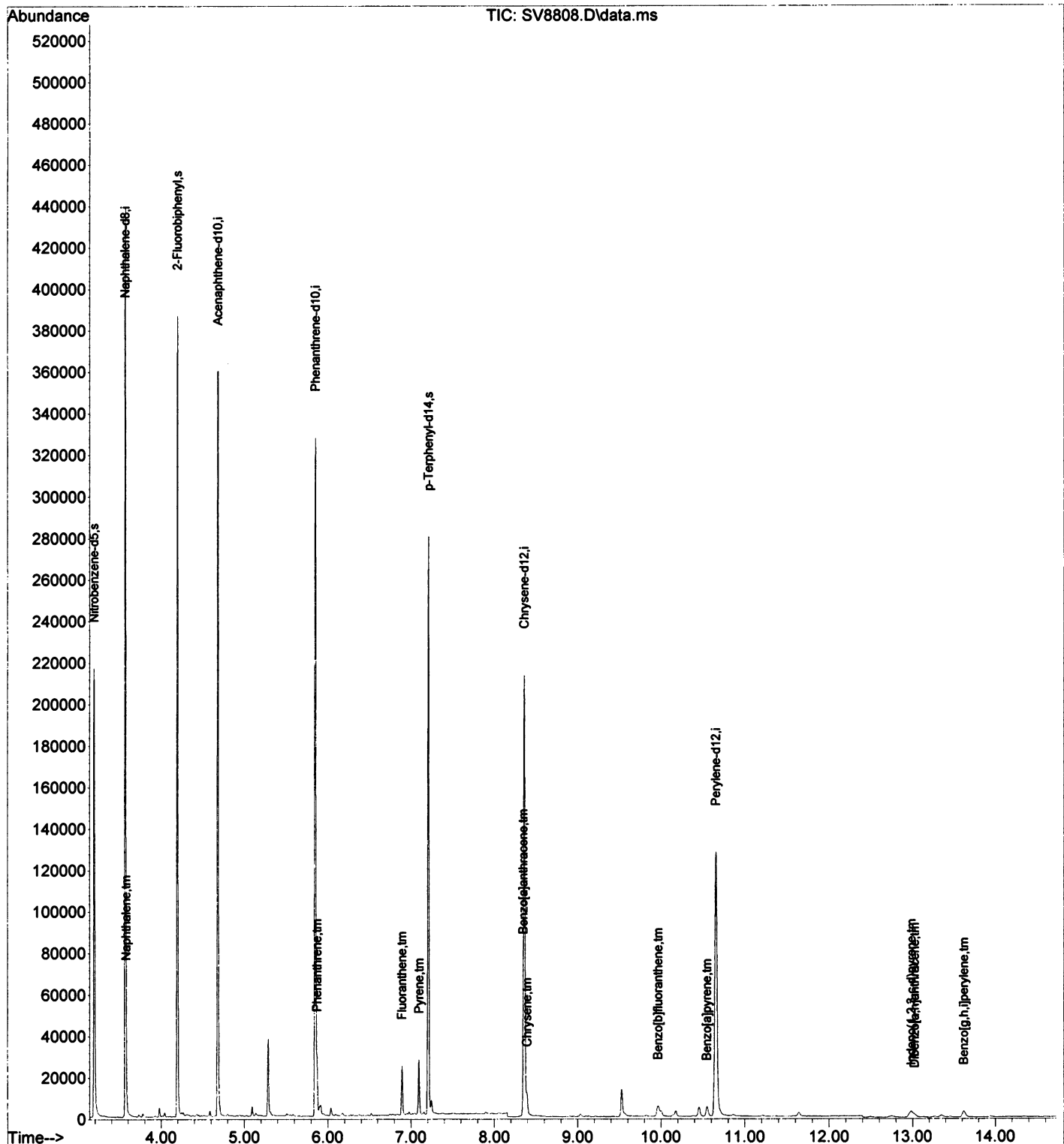
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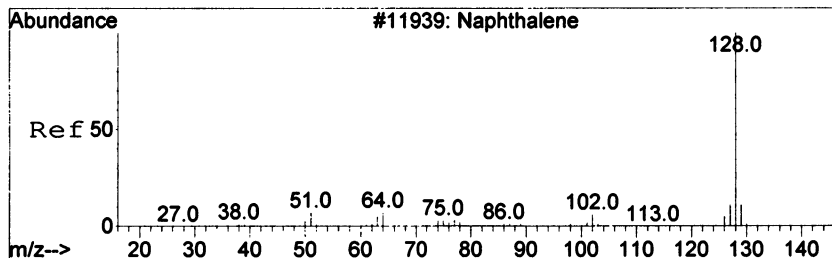
(24) Indeno (1,2,3-c,d)pyrene (tm)
12.983min (+ 0.005) 0.06 ng/uL m
response 4389

Ion	Exp%	Act%
276.00	100.00	100.00
277.00	24.00	28.59
138.00	22.50	41.56#
278.00	5.00	12.75#

Data Path : C:\msdchem\1\data\2021\092921\
Data File : SV8808.D
Acq On : 29 Sep 2021 10:51 pm
Operator : TK HPSV4 sn #: CV11451177
Sample : 2109426-1
Misc :
ALS Vial : 17 Sample Multiplier: 1

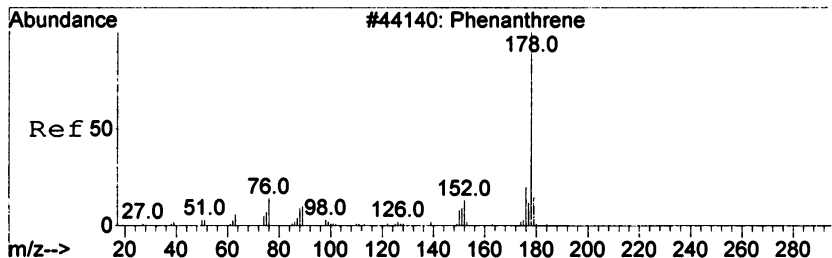
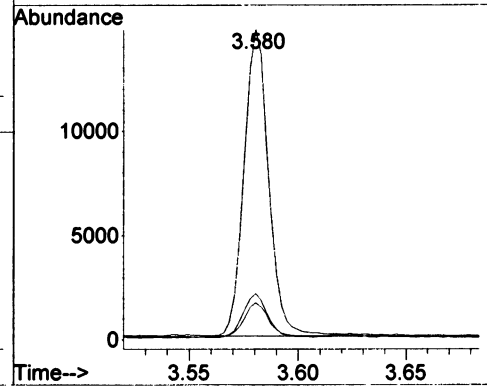
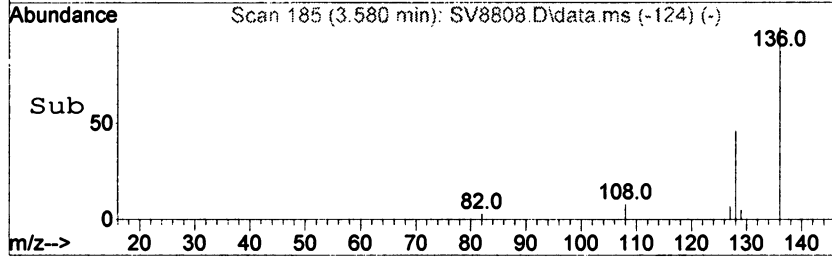
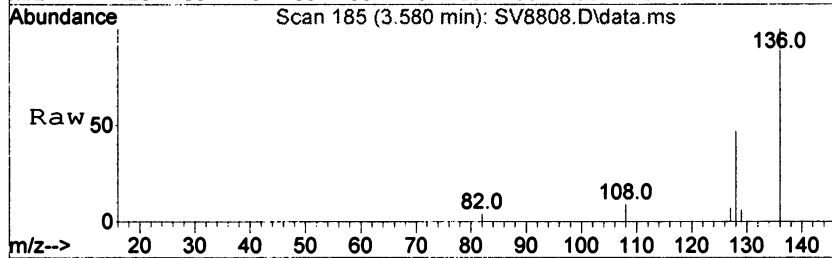
DataAcq Meth:082521SP.M
Quant Method : C:\msdchem\1\methods\082521SP.M
Quant Title : SW8270D Selected Ion Monitoring (SIM PAH)
QLast Update : Thu Sep 30 07:19:26 2021
Response via : Initial Calibration





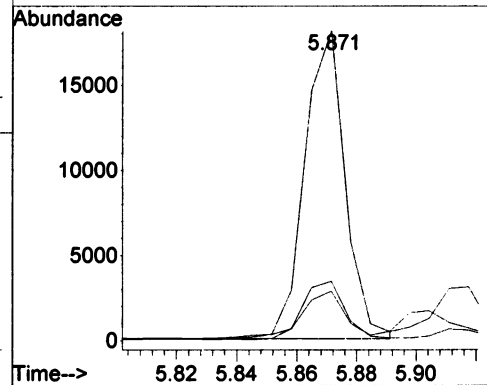
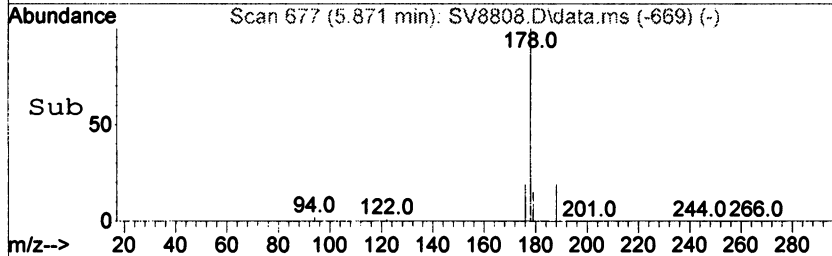
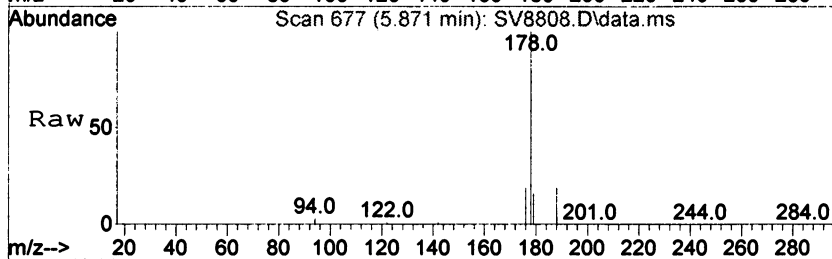
#3
Naphthalene
Concen: 0.07 ng/uL
RT: 3.580 min Scan# 185
Delta R.T. -0.002 min
Lab File: SV8808.D
Acq: 29 Sep 2021 10:51 pm

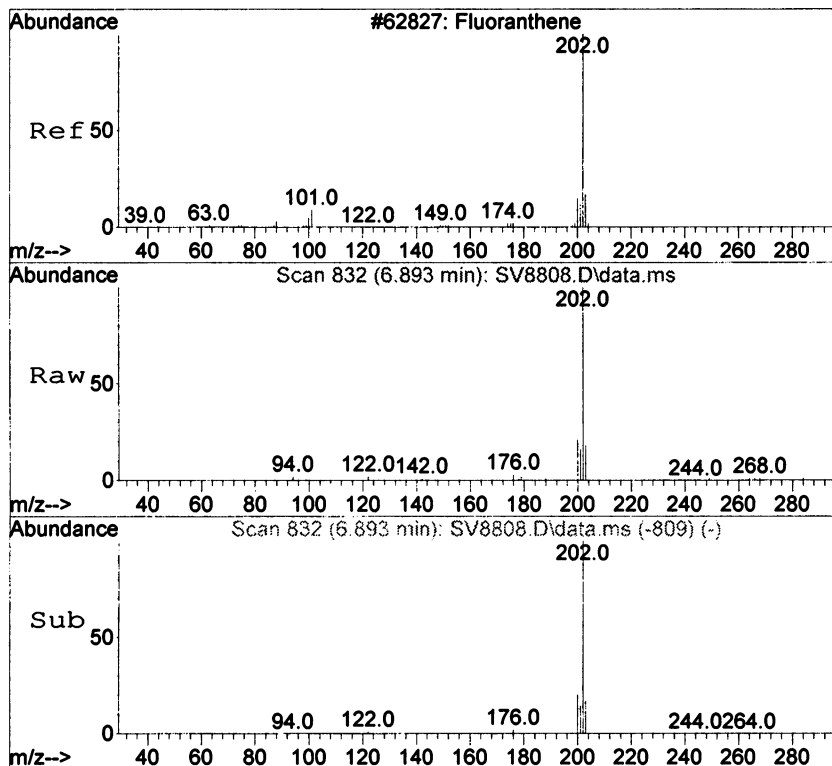
Tgt Ion:128 Resp: 11630
Ion Ratio Lower Upper
128 100
129 12.0 0.0 40.9
127 15.0 0.0 43.9



#12
Phenanthrene
Concen: 0.10 ng/uL
RT: 5.871 min Scan# 677
Delta R.T. 0.000 min
Lab File: SV8808.D
Acq: 29 Sep 2021 10:51 pm

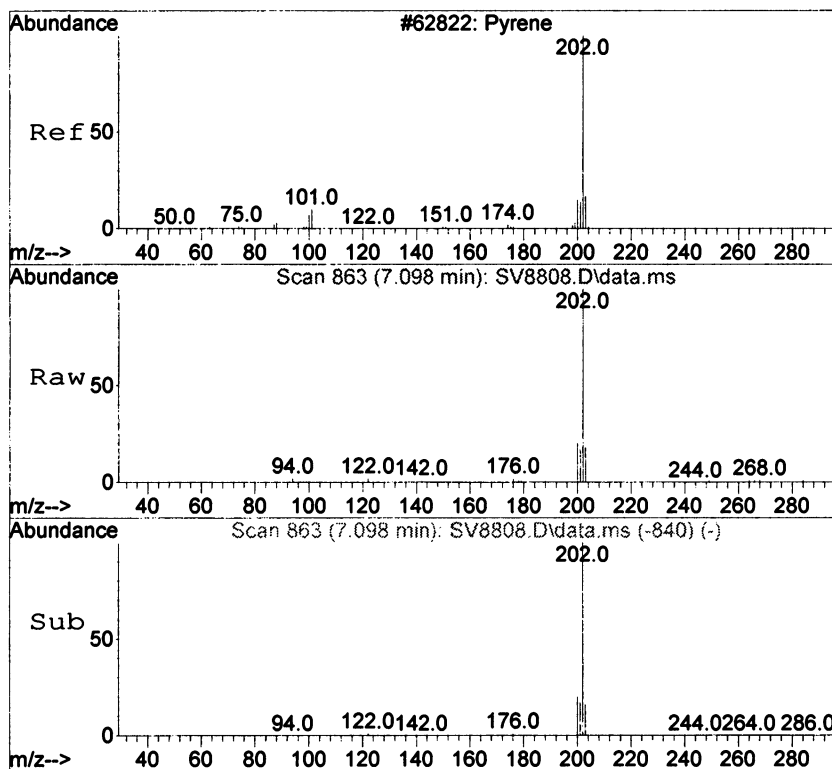
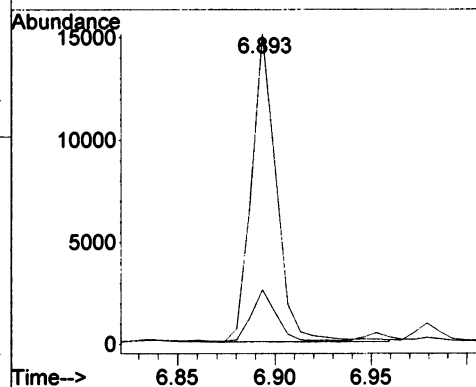
Tgt Ion:178 Resp: 16986
Ion Ratio Lower Upper
178 100
179 16.0 12.2 18.2
176 19.1 15.2 22.8





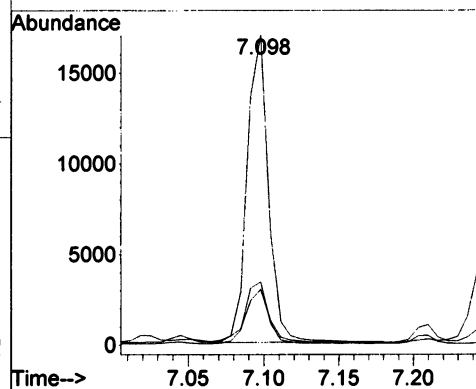
#14
Fluoranthene
Concen: 0.08 ng/uL
RT: 6.893 min Scan# 832
Delta R.T. 0.000 min
Lab File: SV8808.D
Acq: 29 Sep 2021 10:51 pm

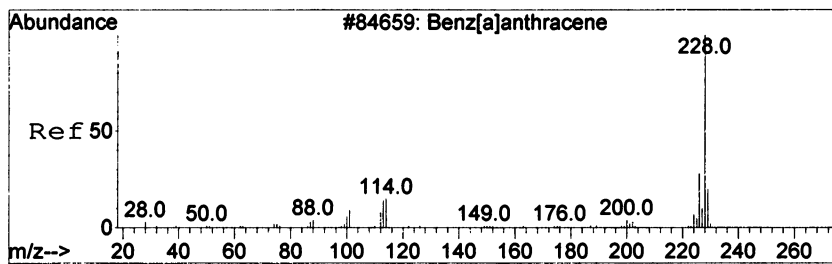
Tgt Ion	Ratio	Resp	Lower	Upper
202	100	13448		
203	17.7	13.4	20.2	



#16
Pyrene
Concen: 0.08 ng/uL
RT: 7.098 min Scan# 863
Delta R.T. 0.000 min
Lab File: SV8808.D
Acq: 29 Sep 2021 10:51 pm

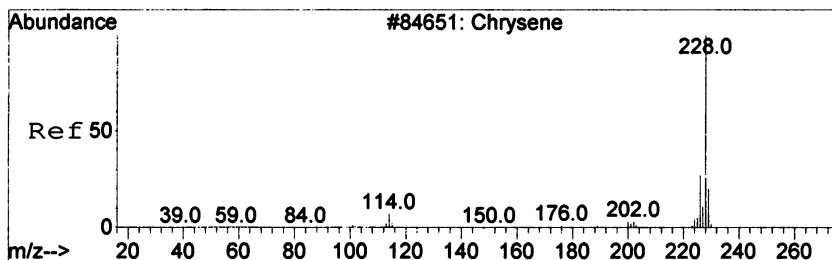
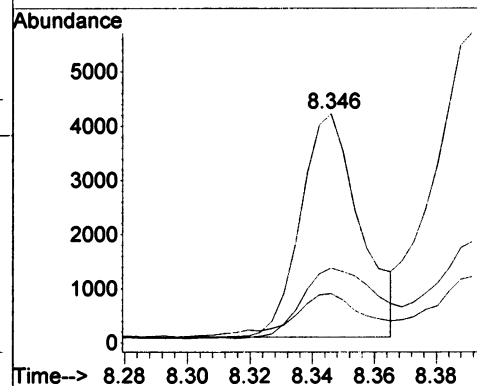
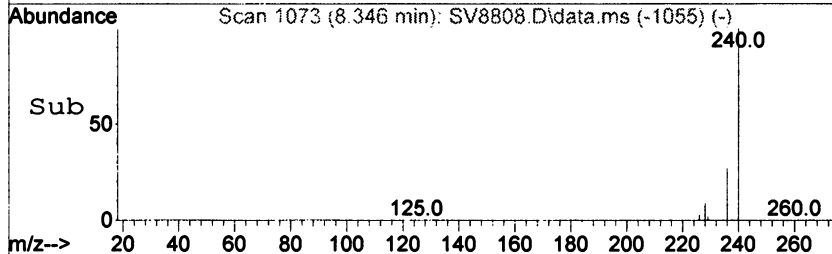
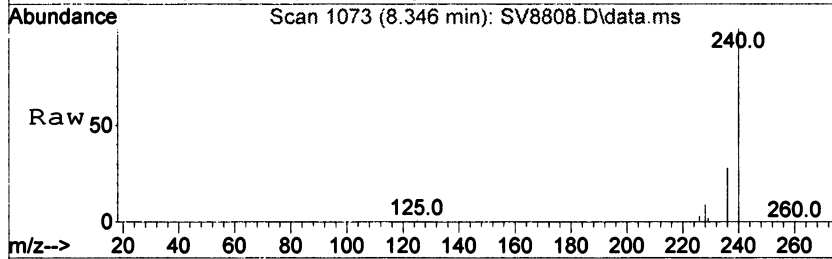
Tgt Ion	Ratio	Resp	Lower	Upper
202	100	16524		
200	20.4	14.4	26.8	
203	18.0	12.0	22.4	





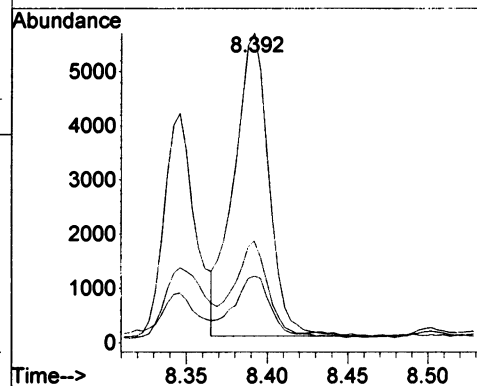
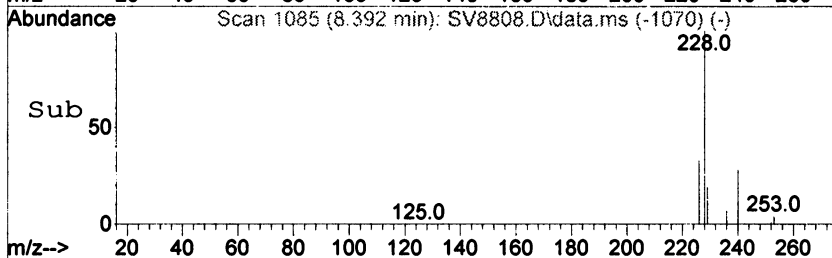
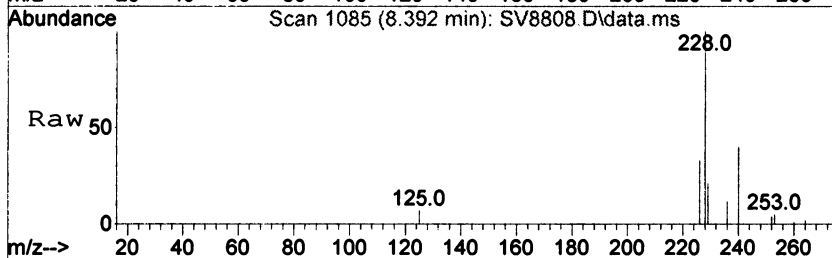
#18
Benzo[a]anthracene
Concen: 0.04 ng/uL
RT: 8.346 min Scan# 1073
Delta R.T. 0.000 min
Lab File: SV8808.D
Acq: 29 Sep 2021 10:51 pm

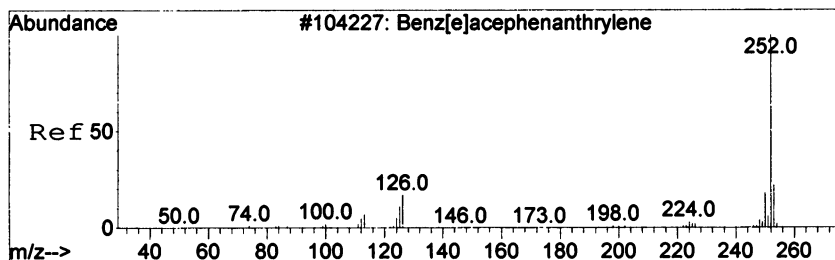
Tgt Ion: 228 Resp: 5479
Ion Ratio Lower Upper
228 100
229 21.5 13.5 25.1
226 32.7 19.2 35.6



#19
Chrysene
Concen: 0.04 ng/uL
RT: 8.392 min Scan# 1085
Delta R.T. -0.004 min
Lab File: SV8808.D
Acq: 29 Sep 2021 10:51 pm

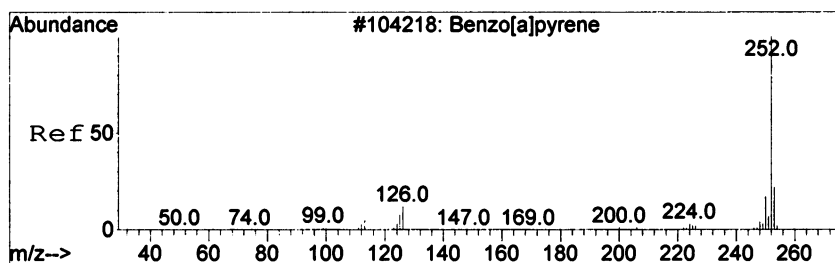
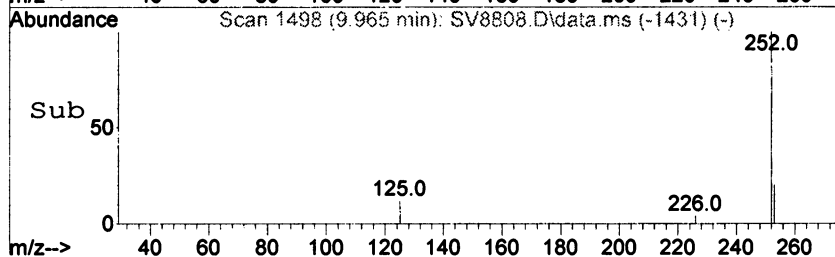
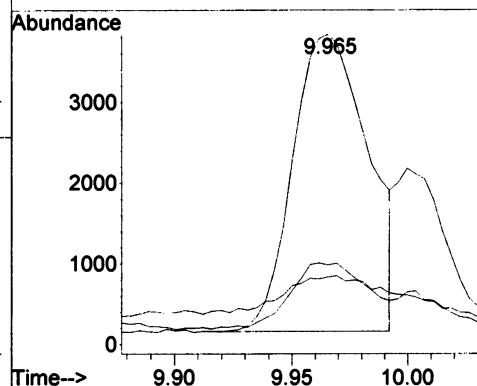
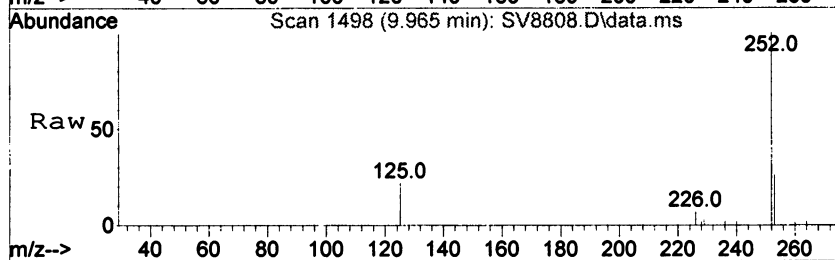
Tgt Ion: 228 Resp: 8443
Ion Ratio Lower Upper
228 100
226 32.7 21.1 39.1
229 21.4 13.9 25.7





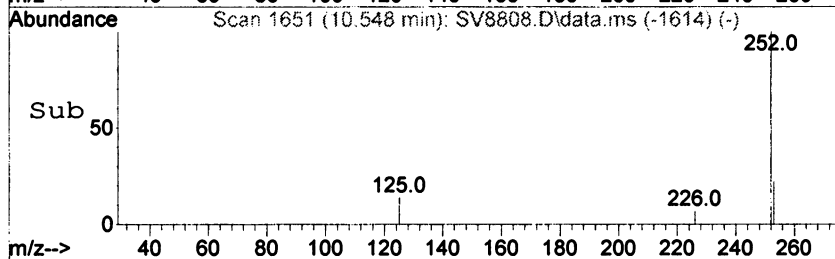
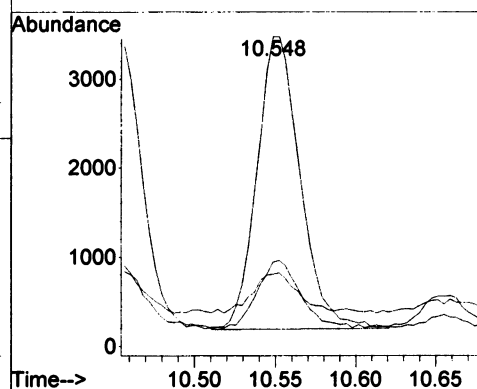
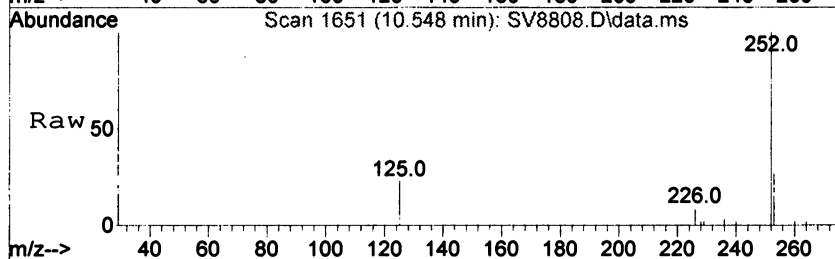
#21
Benzo[b]fluoranthene
Concen: 0.07 ng/uL
RT: 9.965 min Scan# 1498
Delta R.T. 0.004 min
Lab File: SV8808.D
Acq: 29 Sep 2021 10:51 pm

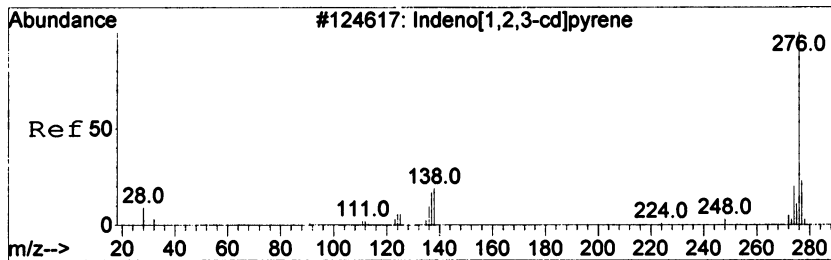
Tgt Ion:252 Resp: 8291
Ion Ratio Lower Upper
252 100
253 25.7 15.3 28.5
125 21.8 8.1 15.0#



#23
Benzo[a]pyrene
Concen: 0.06 ng/uL
RT: 10.548 min Scan# 1651
Delta R.T. -0.008 min
Lab File: SV8808.D
Acq: 29 Sep 2021 10:51 pm

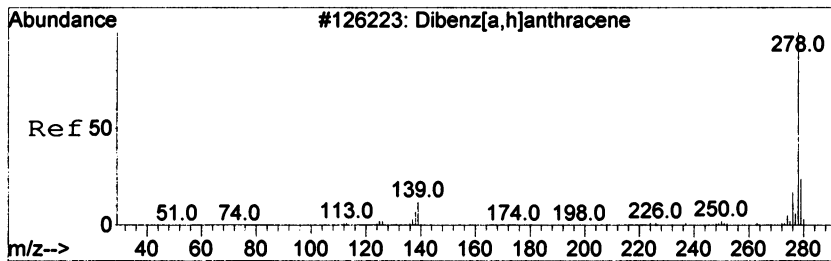
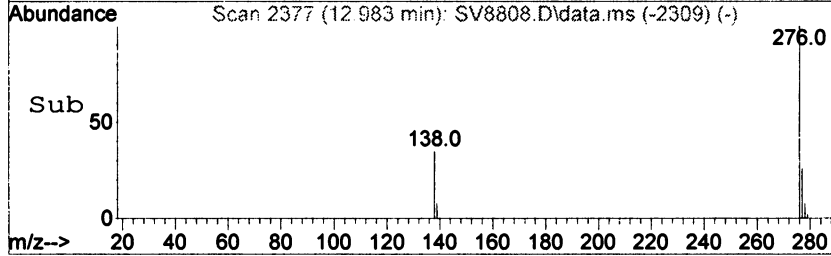
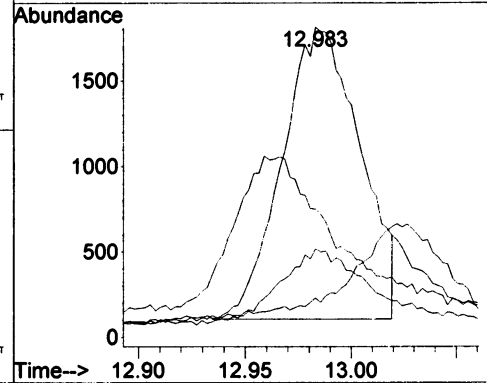
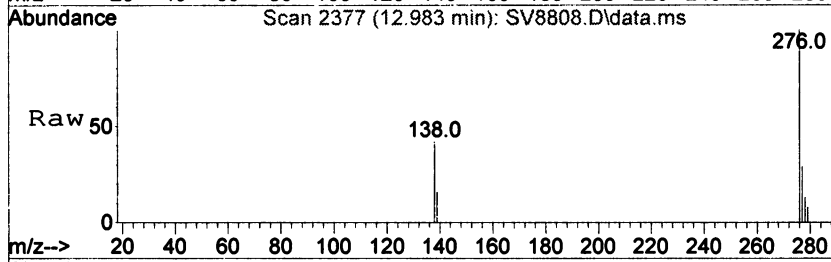
Tgt Ion:252 Resp: 6103
Ion Ratio Lower Upper
252 100
253 27.1 15.2 28.2
125 23.3 9.0 16.6#





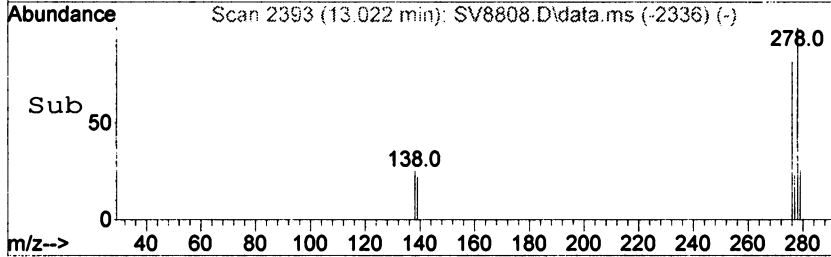
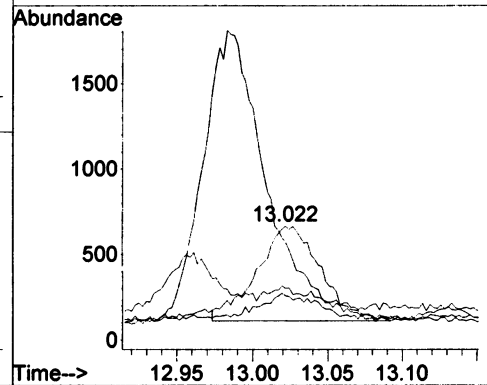
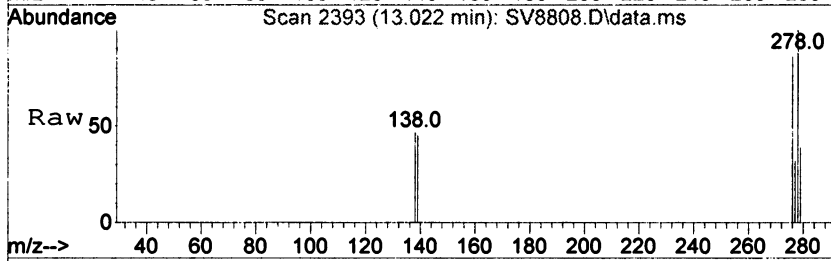
#24
 Indeno(1,2,3-c,d)pyrene
 Concen: 0.06 ng/uL m
 RT: 12.983 min Scan# 2377
 Delta R.T. 0.005 min
 Lab File: SV8808.D
 Acq: 29 Sep 2021 10:51 pm

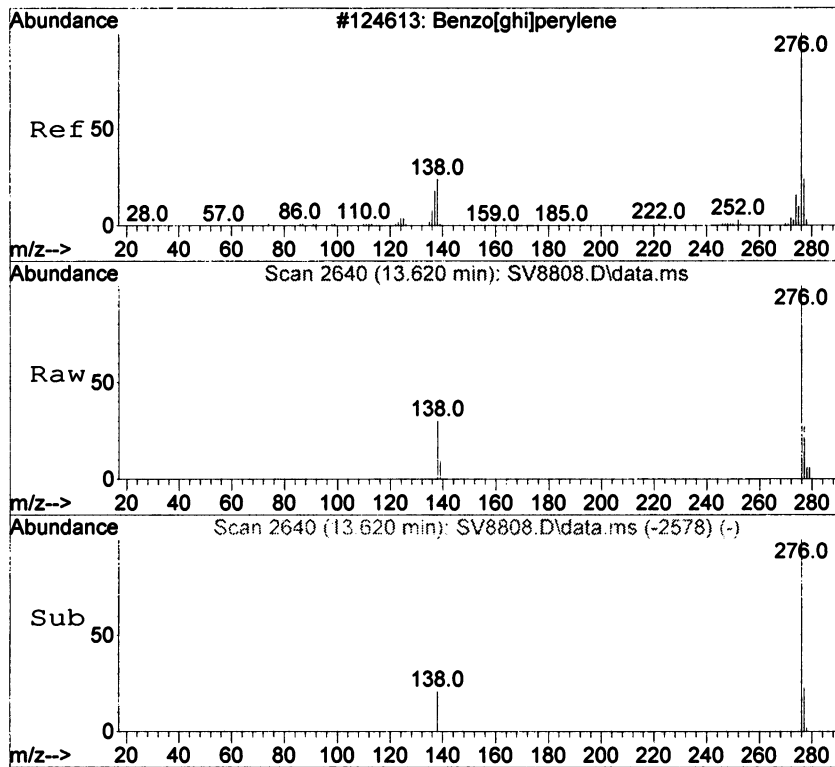
Tgt Ion:	276	Resp:	4389
Ion Ratio		Lower	Upper
276	100		
277	28.6	16.8	31.2
138	41.6	15.8	29.3#
278	12.7	3.5	6.5#



#25
 Dibenzo[a,h]anthracene
 Concen: 0.04 ng/uL
 RT: 13.022 min Scan# 2393
 Delta R.T. -0.002 min
 Lab File: SV8808.D
 Acq: 29 Sep 2021 10:51 pm

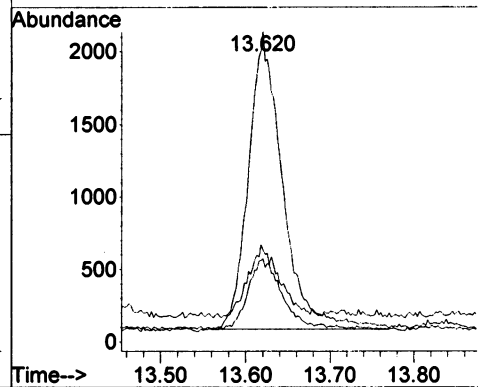
Tgt Ion:	278	Resp:	1621
Ion Ratio		Lower	Upper
278	100		
139	45.3	13.0	24.1#
279	38.7	17.1	31.7#
276	86.0	30.8	46.2#





#26
 Benzo[g,h,i]perylene
 Concen: 0.05 ng/uL
 RT: 13.620 min Scan# 2640
 Delta R.T. 0.000 min
 Lab File: SV8808.D
 Acq: 29 Sep 2021 10:51 pm

Tgt Ion	Ratio	Lower	Upper
276	100		
138	29.8	16.6	30.8
277	26.8	16.4	30.6



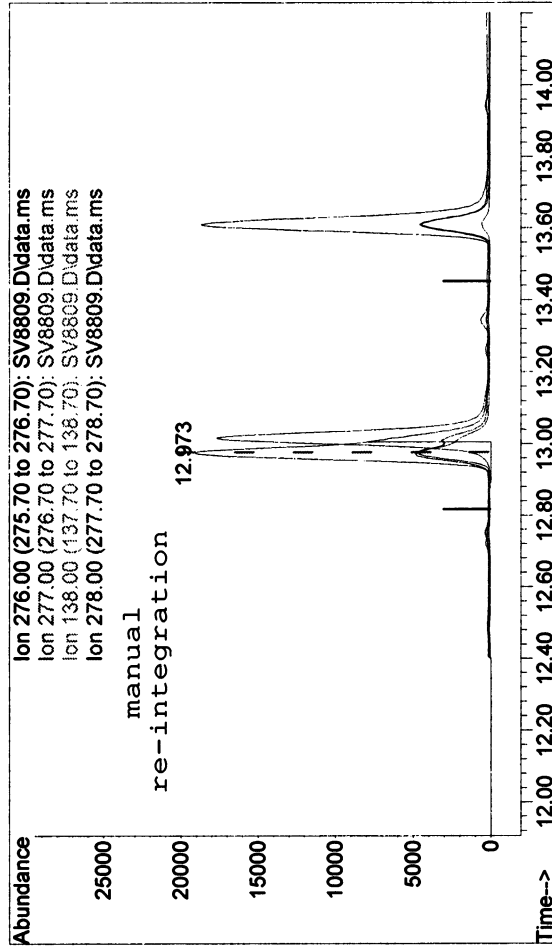
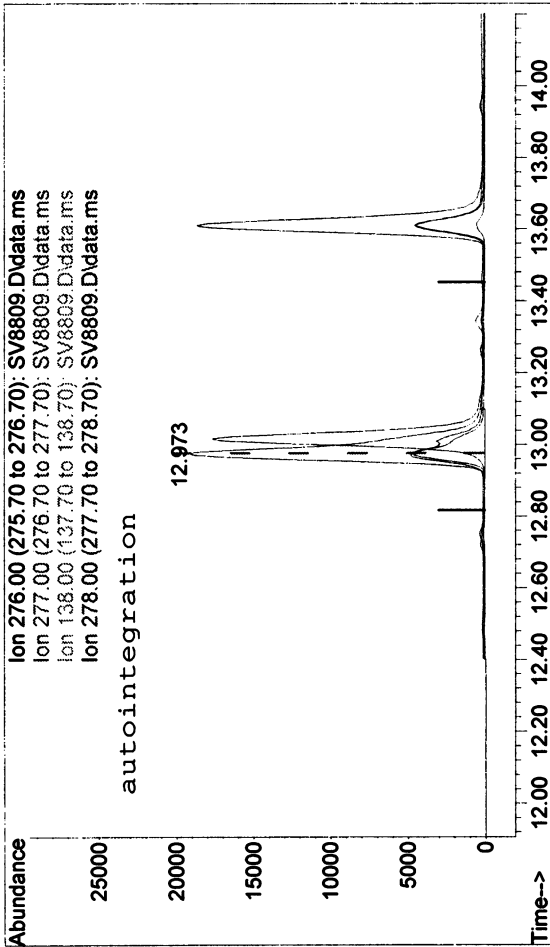
Data Path : C:\msdchem\1\data\2021\092921\
 Data File : SV8809.D
 Acq On : 29 Sep 2021 11:09 pm
 Operator : TK HPSV4 sn #: CV11451177
 Sample : 2109426-1MS
 Misc :
 ALS Vial : 18 Sample Multiplier: 1

DataAcq Meth:082521SP.M
 Quant Method : C:\msdchem\1\methods\082521SP.M
 Quant Title : SW8270D Selected Ion Monitoring (SIM PAH)
 QLast Update : Thu Sep 30 07:19:26 2021
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Naphthalene-d8	3.571	136	172250	2.00	ng/uL	0.00
6) Acenaphthene-d10	4.685	164	91163	2.00	ng/uL	0.00
11) Phenanthrene-d10	5.852	188	170478	2.00	ng/uL	0.00
15) Chrysene-d12	8.357	240	130288	2.00	ng/uL	0.00
20) Perylene-d12	10.655	264	125276	2.00	ng/uL	0.00
System Monitoring Compounds						
2) Nitrobenzene-d5	3.190	82	157222	3.08	ng/uL	0.00
Spiked Amount 10.000	Range 19 - 125		Recovery =	30.80%		
7) 2-Fluorobiphenyl	4.197	172	207285	3.08	ng/uL	0.00
Spiked Amount 10.000	Range 30 - 120		Recovery =	30.80%		
17) p-Terphenyl-d14	7.210	244	220937	3.34	ng/uL	0.00
Spiked Amount 10.000	Range 22 - 138		Recovery =	33.40%		
Target Compounds						
						Qvalue
3) Naphthalene	3.580	128	58586	0.59	ng/uL	99
4) 2-Methylnaphthalene	3.974	142	39386	0.65	ng/uL	94
5) 1-Methylnaphthalene	4.042	142	37388	0.57	ng/uL	97
8) Acenaphthylene	4.586	152	60375	0.64	ng/uL	99
9) Acenaphthene	4.705	153	39731	0.61	ng/uL	98
10) Fluorene	5.094	166	43122	0.64	ng/uL	99
12) Phenanthrene	5.871	178	69318	0.66	ng/uL	99
13) Anthracene	5.911	178	64929	0.63	ng/uL	98
14) Fluoranthene	6.893	202	77649	0.69	ng/uL	99
16) Pyrene	7.091	202	83767	0.73	ng/uL	97
18) Benzo[a]anthracene	8.342	228	61876	0.76	ng/uL	100
19) Chrysene	8.392	228	68676	0.67	ng/uL	99
21) Benzo[b]fluoranthene	9.954	252	62112	0.76	ng/uL	99
22) Benzo[k]fluoranthene	10.000	252	58929	0.61	ng/uL	98
23) Benzo[a]pyrene	10.548	252	55965	0.70	ng/uL	97
24) Indeno(1,2,3-c,d)pyrene	12.973	276	49651m	0.82	ng/uL	
25) Dibenzo[a,h]anthracene	13.017	278	48492	0.74	ng/uL	96
26) Benzo[g,h,i]perylene	13.610	276	53966	0.68	ng/uL	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

m 9/30/21



TIC: SV8809.D\data.ms

(24) Indeno(1,2,3-c,d)pyrene (tm)
12.973min (-0.005) 1.01 ng/uL

response	61963	
Ion	Exp%	Act%
276.00	100.00	100.00
277.00	24.00	23.74
138.00	22.50	24.93
278.00	5.00	5.74

Reason for manual re-integration?

☐ missed peak assignment

☐ peak saturation (detector shutdown)

☒ over-integrated peak's area

☐ under-integrated peak's area

☐ other ()

initials: u date: 9/30/21

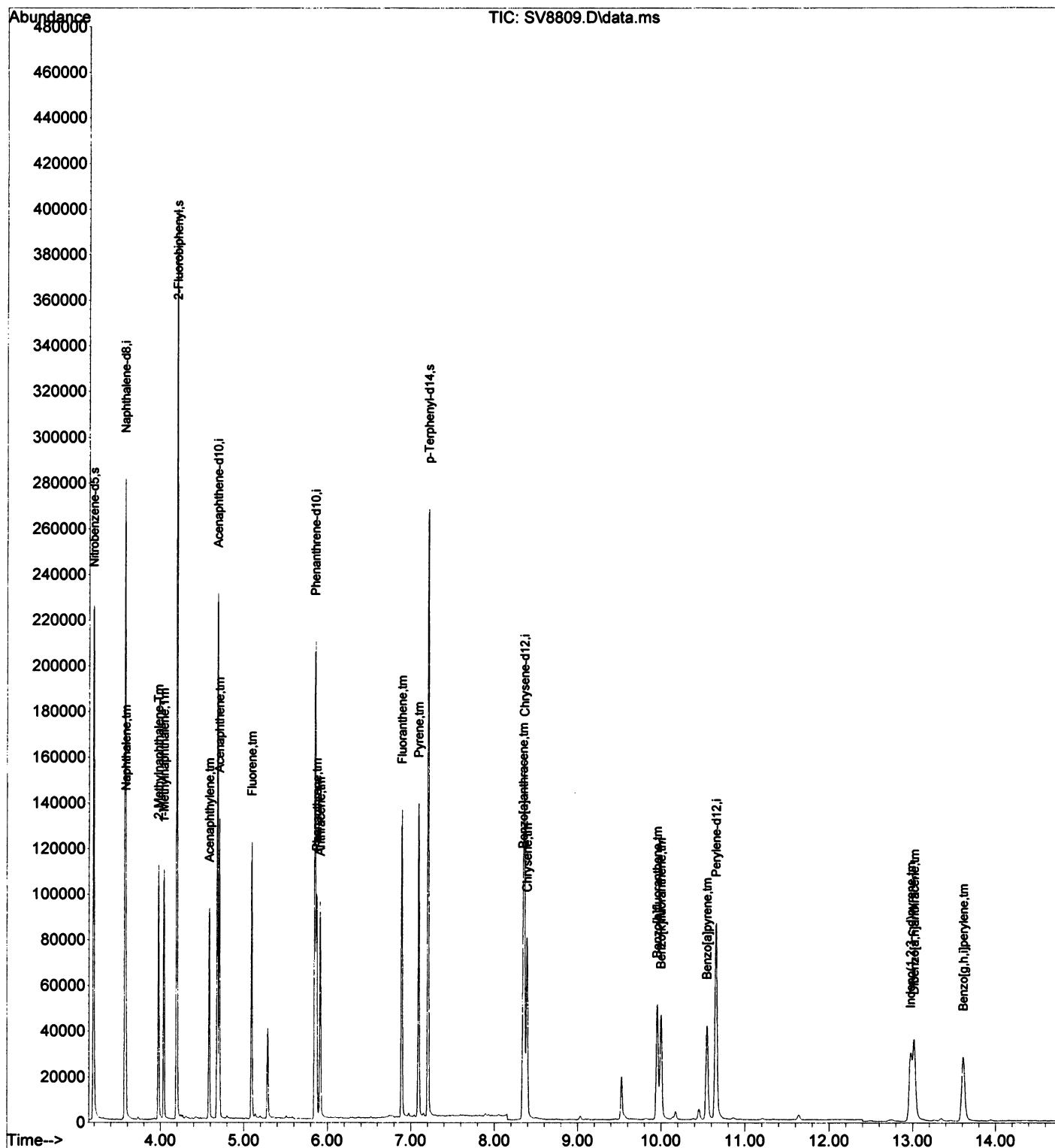
TIC: SV8809.D\data.ms

(24) Indeno(1,2,3-c,d)pyrene (tm)
12.973min (-0.005) 0.82 ng/uL m

response	49651	
Ion	Exp%	Act%
276.00	100.00	100.00
277.00	24.00	23.74
138.00	22.50	24.93
278.00	5.00	5.74

Data Path : C:\msdchem\1\data\2021\092921\
Data File : SV8809.D
Acq On : 29 Sep 2021 11:09 pm
Operator : TK HPSV4 sn #: CV11451177
Sample : 2109426-1MS
Misc :
ALS Vial : 18 Sample Multiplier: 1

DataAcq Meth:082521SP.M
Quant Method : C:\msdchem\1\methods\082521SP.M
Quant Title : SW8270D Selected Ion Monitoring (SIM PAH)
QLast Update : Thu Sep 30 07:19:26 2021
Response via : Initial Calibration



Data Path : C:\msdchem\1\data\2021\092921\
 Data File : SV8810.D
 Acq On : 29 Sep 2021 11:28 pm
 Operator : TK HPSV4 sn #: CV11451177
 Sample : 2109426-1MSD
 Misc :
 ALS Vial : 19 Sample Multiplier: 1

DataAcq Meth:082521SP.M

Quant Method : C:\msdchem\1\methods\082521SP.M

Quant Title : SW8270D Selected Ion Monitoring (SIM PAH)

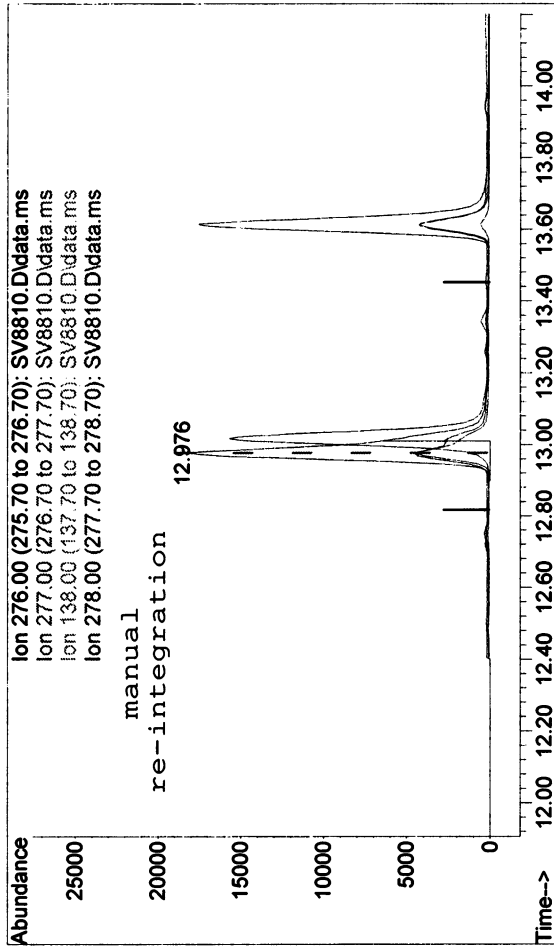
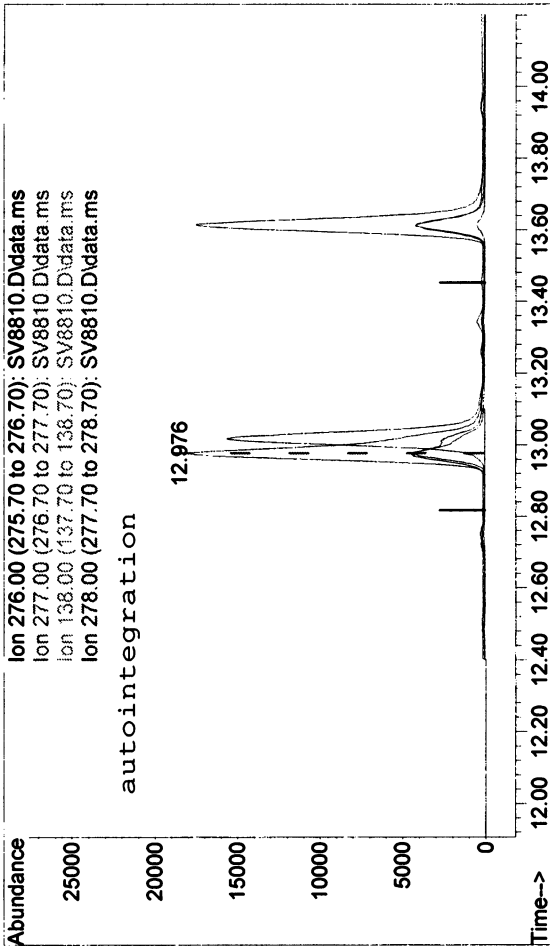
QLast Update : Thu Sep 30 07:19:26 2021

Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Naphthalene-d8	3.571	136	147428	2.00	ng/uL	0.00
6) Acenaphthene-d10	4.685	164	77507	2.00	ng/uL	0.00
11) Phenanthrene-d10	5.852	188	146432	2.00	ng/uL	0.00
15) Chrysene-d12	8.357	240	112409	2.00	ng/uL	0.00
20) Perylene-d12	10.655	264	107760	2.00	ng/uL	0.00
System Monitoring Compounds						
2) Nitrobenzene-d5	3.192	82	143482	3.27	ng/uL	0.00
Spiked Amount 10.000	Range 19 - 125		Recovery =	32.70%		
7) 2-Fluorobiphenyl	4.197	172	189983	3.32	ng/uL	0.00
Spiked Amount 10.000	Range 30 - 120		Recovery =	33.20%		
17) p-Terphenyl-d14	7.210	244	187867	3.30	ng/uL	0.00
Spiked Amount 10.000	Range 22 - 138		Recovery =	33.00%		
Target Compounds						Qvalue
3) Naphthalene	3.583	128	55822	0.66	ng/uL	100
4) 2-Methylnaphthalene	3.974	142	37579	0.72	ng/uL	93
5) 1-Methylnaphthalene	4.042	142	35799	0.64	ng/uL	98
8) Acenaphthylene	4.586	152	56784	0.71	ng/uL	99
9) Acenaphthene	4.705	153	37325	0.68	ng/uL	98
10) Fluorene	5.094	166	40128	0.70	ng/uL	99
12) Phenanthrene	5.871	178	62196	0.69	ng/uL	99
13) Anthracene	5.911	178	58786	0.66	ng/uL	98
14) Fluoranthene	6.893	202	69103	0.72	ng/uL	98
16) Pyrene	7.098	202	74928	0.76	ng/uL	99
18) Benzo[a]anthracene	8.342	228	56201	0.80	ng/uL	100
19) Chrysene	8.392	228	59478	0.67	ng/uL	99
21) Benzo[b]fluoranthene	9.954	252	54606	0.77	ng/uL	99
22) Benzo[k]fluoranthene	10.000	252	53297	0.64	ng/uL	98
23) Benzo[a]pyrene	10.548	252	50940	0.74	ng/uL	97
24) Indeno(1,2,3-c,d)pyrene	12.976	276	46301m	0.88	ng/uL	
25) Dibenzo[a,h]anthracene	13.017	278	43604	0.77	ng/uL	96
26) Benzo[g,h,i]perylene	13.613	276	48757	0.72	ng/uL	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

u 9/30/21



TIC: SV8810.D\data.ms

(24)	Indeno(1,2,3-c,d)pyrene (tm)	
12.976min	(-0.002)	1.05 ng/uL
response	5551	
Ion	Exp%	Act%
276.00	100.00	100.00
277.00	24.00	24.24
138.00	22.50	24.58
278.00	5.00	6.68#

Reason for manual re-integration?

☐ missed peak assignment

☐ peak saturation (detector shutdown)

☒ over-integrated peak's area

☐ under-integrated peak's area

☐ other ()

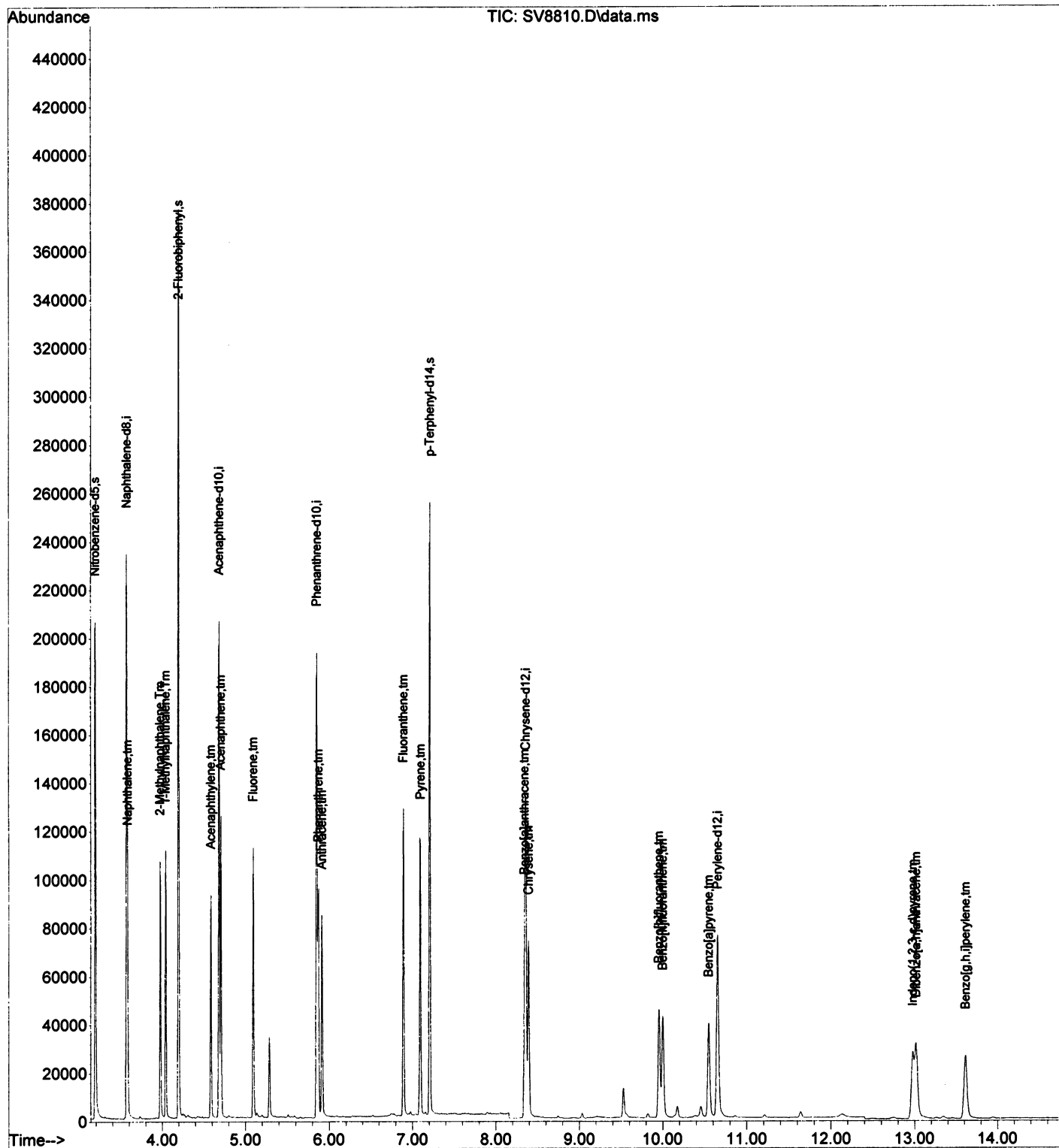
initials: M date: 9/30/08

TIC: SV8810.D\data.ms

(24)	Indeno(1,2,3-c,d)pyrene (tm)	
12.976min	(-0.002)	0.88 ng/uL m
response	46301	
Ion	Exp%	Act%
276.00	100.00	100.00
277.00	24.00	24.24
138.00	22.50	24.58
278.00	5.00	6.68#

Data Path : C:\msdchem\1\data\2021\092921\
Data File : SV8810.D
Acq On : 29 Sep 2021 11:28 pm
Operator : TK HPSV4 sn #: CV11451177
Sample : 2109426-1MSD
Misc :
ALS Vial : 19 Sample Multiplier: 1

DataAcq Meth:082521SP.M
Quant Method : C:\msdchem\1\methods\082521SP.M
Quant Title : SW8270D Selected Ion Monitoring (SIM PAH)
QLast Update : Thu Sep 30 07:19:26 2021
Response via : Initial Calibration



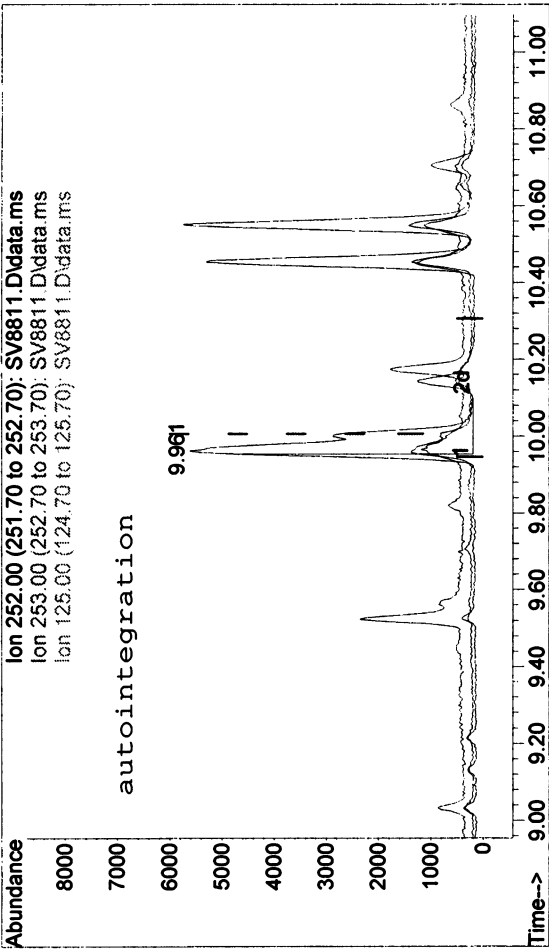
Data Path : C:\msdchem\1\data\2021\092921\
 Data File : SV8811.D
 Acq On : 29 Sep 2021 11:46 pm
 Operator : TK HPSV4 sn #: CV11451177
 Sample : 2109426-2
 Misc :
 ALS Vial : 20 Sample Multiplier: 1

DataAcq Meth:082521SP.M
 Quant Method : C:\msdchem\1\methods\082521SP.M
 Quant Title : SW8270D Selected Ion Monitoring (SIM PAH)
 QLast Update : Thu Sep 30 07:19:26 2021
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Naphthalene-d8	3.571	136	149028	2.00	ng/uL	0.00
6) Acenaphthene-d10	4.684	164	78993	2.00	ng/uL	0.00
11) Phenanthrene-d10	5.851	188	147287	2.00	ng/uL	0.00
15) Chrysene-d12	8.357	240	112750	2.00	ng/uL	0.00
20) Perylene-d12	10.655	264	108225	2.00	ng/uL	0.00
System Monitoring Compounds						
2) Nitrobenzene-d5	3.190	82	120397	2.73	ng/uL	0.00
Spiked Amount 10.000	Range 19 - 125		Recovery =	27.30%		
7) 2-Fluorobiphenyl	4.197	172	162185	2.78	ng/uL	0.00
Spiked Amount 10.000	Range 30 - 120		Recovery =	27.80%#		
17) p-Terphenyl-d14	7.210	244	161954	2.83	ng/uL	0.00
Spiked Amount 10.000	Range 22 - 138		Recovery =	28.30%		
Target Compounds						
8) Acenaphthylene	4.586	152	2504	0.03	ng/uL	92
12) Phenanthrene	5.871	178	5525	0.06	ng/uL#	95
14) Fluoranthene	6.893	202	11372	0.12	ng/uL	96
16) Pyrene	7.098	202	18838	0.18	ng/uL	99
18) Benzo[a]anthracene	8.346	228	8738	0.12	ng/uL	89
19) Chrysene	8.392	228	12659	0.13	ng/uL	98
21) Benzo[b]fluoranthene	9.961	252	12715	0.19	ng/uL#	90
22) Benzo[k]fluoranthene	9.999	252	4033m	0.05	ng/uL	
23) Benzo[a]pyrene	10.552	252	10091	0.15	ng/uL#	91
24) Indeno(1,2,3-c,d)pyrene	12.980	276	6192m	0.13	ng/uL	
25) Dibenzo[a,h]anthracene	13.019	278	1912	0.06	ng/uL#	43
26) Benzo[g,h,i]perylene	13.618	276	8119	0.12	ng/uL	94

(#) = qualifier out of range (m) = manual integration (+) = signals summed

an 9/30/21



TIC: SV8811.D\data.ms

(22)	Benzo[k]fluoranthene (tm)	9.961min (-0.046)	0.17 ng/uL
response	13452		
Ion	Exp%	Act%	
252.00	100.00	100.00	
253.00	21.50	24.31	
125.00	11.50	19.03#	
0.00	0.00	0.00	

Reason for manual re-integration?

☒ missed peak assignment

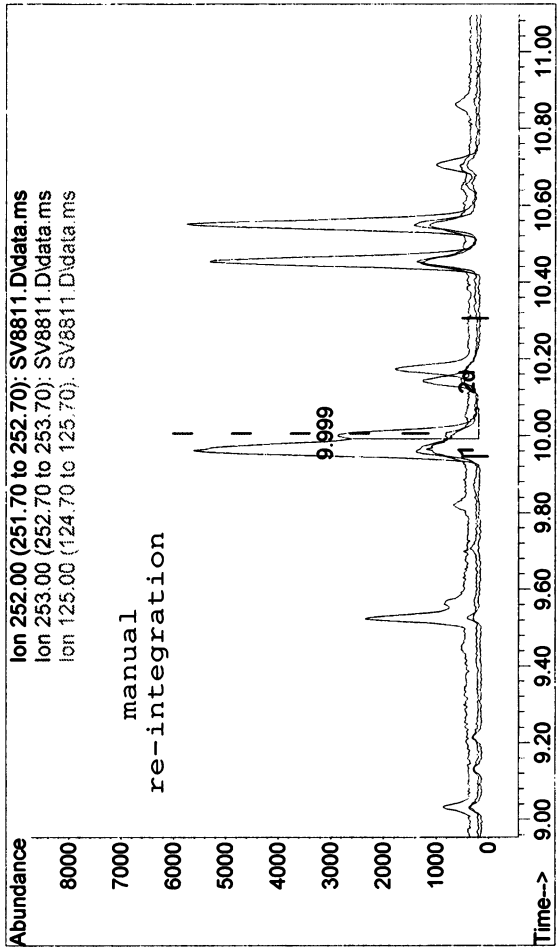
☐ peak saturation (detector shutdown)

☐ over-integrated peak's area

☐ under-integrated peak's area

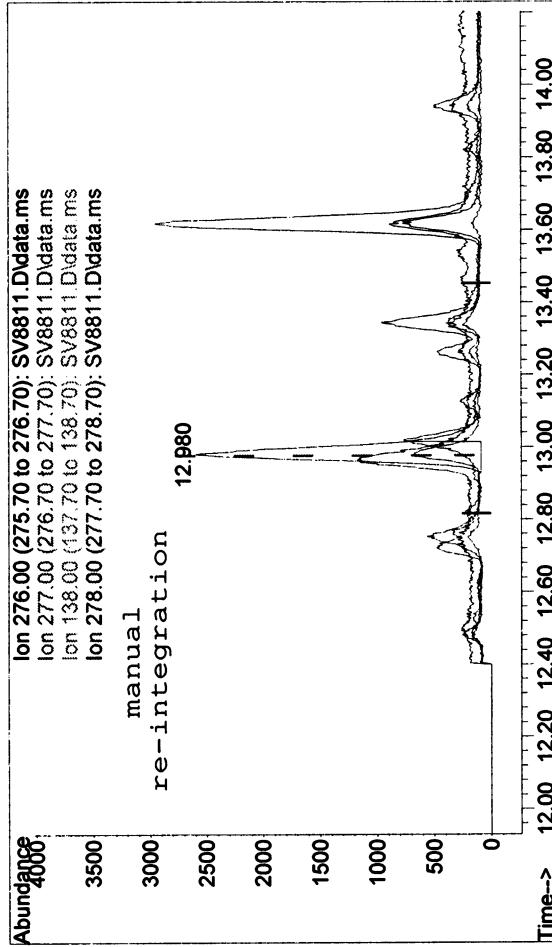
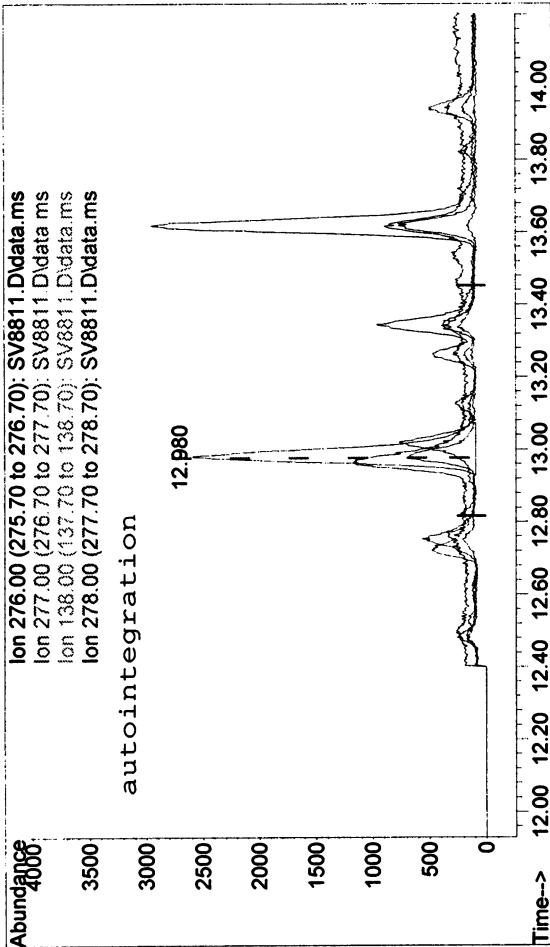
☐ other ()

initials: M date: 9/20/21



TIC: SV8811.D\data.ms

(22)	Benzo[k]fluoranthene (tm)	9.999min (-0.008)	0.05 ng/uL m
response	4033		
Ion	Exp%	Act%	
252.00	100.00	100.00	
253.00	21.50	28.99#	
125.00	11.50	25.30#	
0.00	0.00	0.00	



TIC: SV8811.D\data.ms

(24)	Indeno (1,2,3-c,d)pyrene (tm)	
12.980min	(+ 0.002)	0.15 ng/uL
response	6947	
Ion	Exp%	Act%
276.00	100.00	100.00
277.00	24.00	25.81
138.00	22.50	37.60#
278.00	5.00	10.63#

Reason for manual re-integration?

☐ missed peak assignment

☐ peak saturation (detector shutdown)

☒ over-integrated peak's area

☐ under-integrated peak's area

☐ other ()

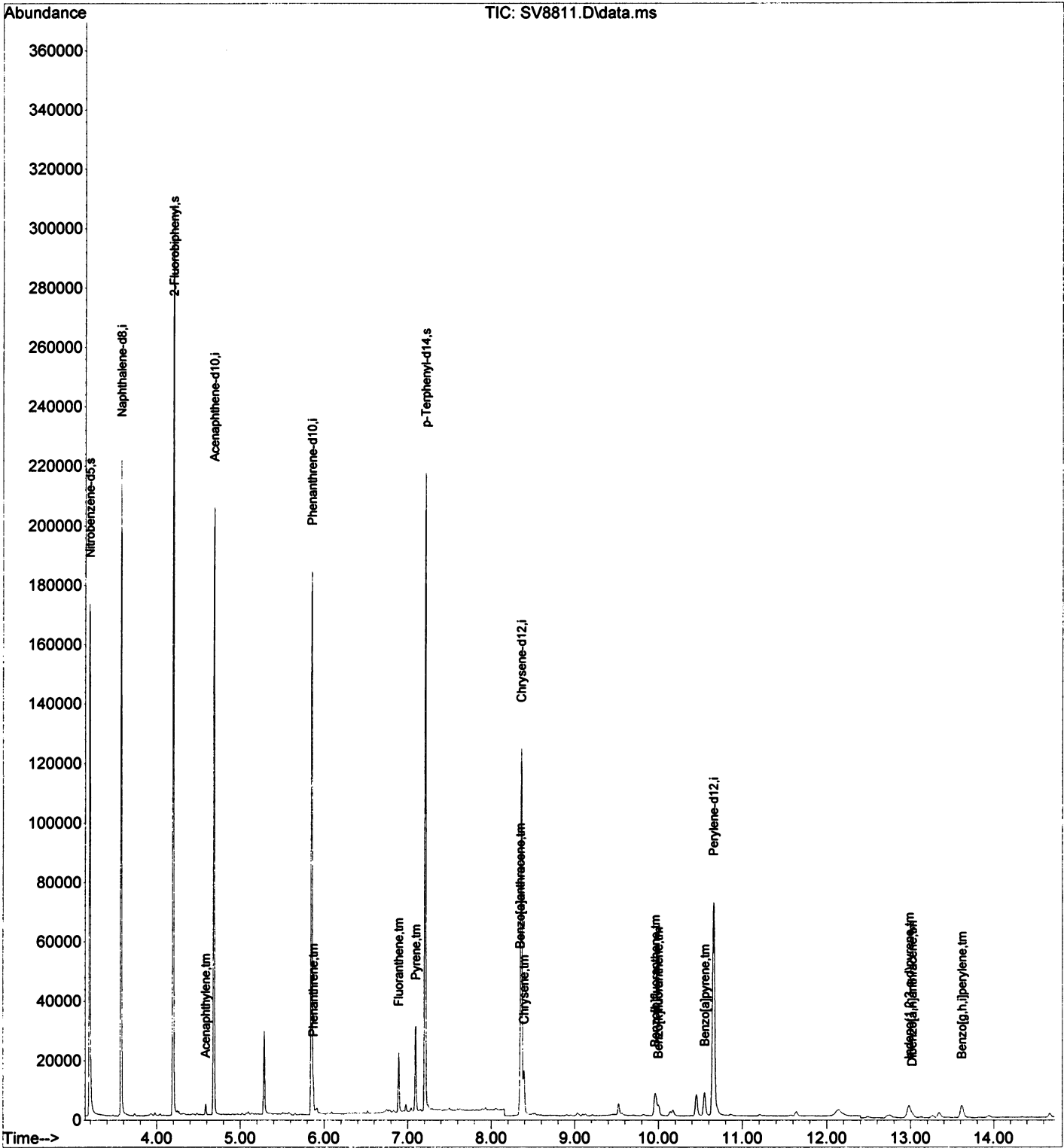
initials: ll date: 9/10/21

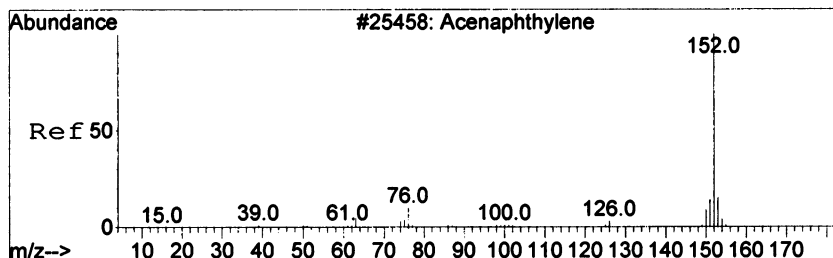
TIC: SV8811.D\data.ms

(24)	Indeno (1,2,3-c,d)pyrene (tm)	
12.980min	(+ 0.002)	0.13 ng/uL m
response	6192	
Ion	Exp%	Act%
276.00	100.00	100.00
277.00	24.00	25.81
138.00	22.50	37.60#
278.00	5.00	10.63#

Data Path : C:\msdchem\1\data\2021\092921\
Data File : SV8811.D
Acq On : 29 Sep 2021 11:46 pm
Operator : TK HPSV4 sn #: CV11451177
Sample : 2109426-2
Misc :
ALS Vial : 20 Sample Multiplier: 1

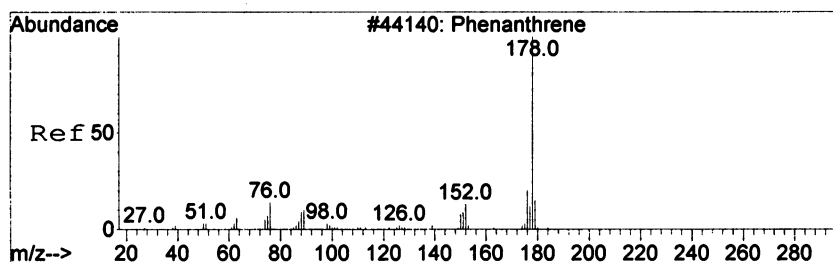
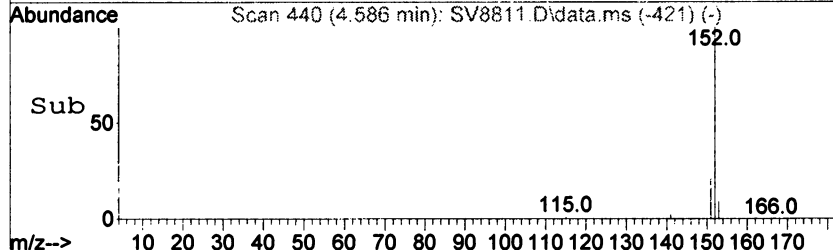
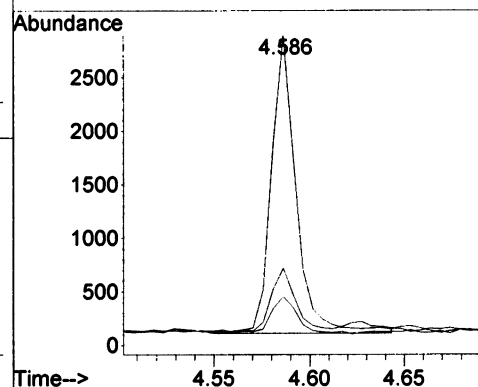
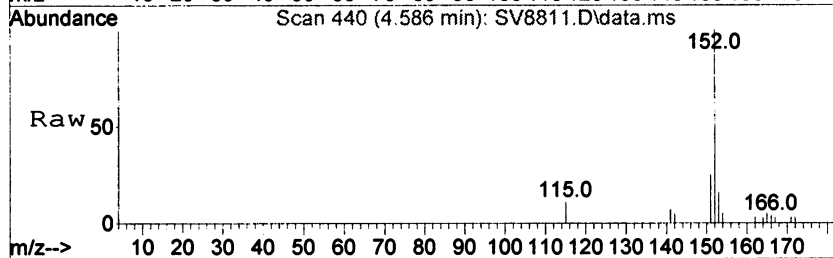
DataAcq Meth:082521SP.M
Quant Method : C:\msdchem\1\methods\082521SP.M
Quant Title : SW8270D Selected Ion Monitoring (SIM PAH)
QLast Update : Thu Sep 30 07:19:26 2021
Response via : Initial Calibration





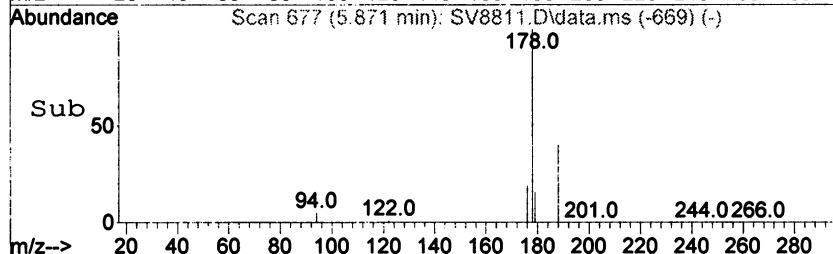
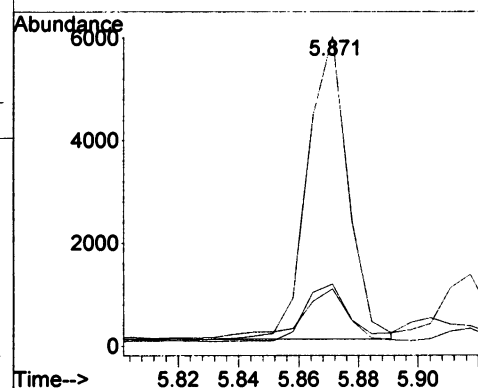
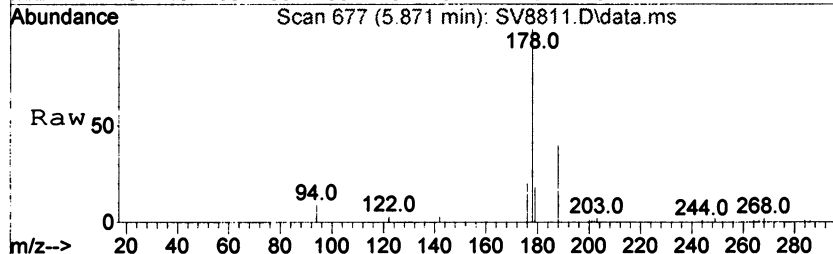
#8
Acenaphthylene
Concen: 0.03 ng/uL
RT: 4.586 min Scan# 440
Delta R.T. -0.000 min
Lab File: SV8811.D
Acq: 29 Sep 2021 11:46 pm

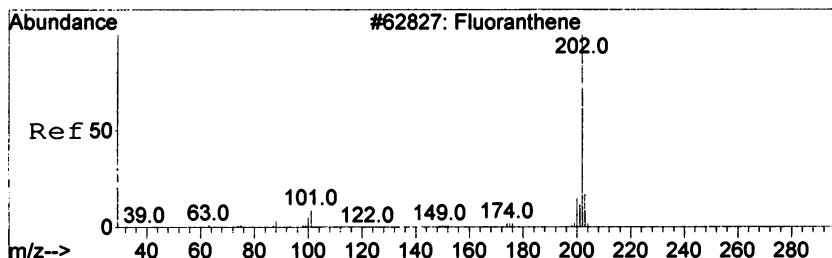
Tgt Ion:152 Resp: 2504
Ion Ratio Lower Upper
152 100
151 24.9 14.4 26.8
153 15.7 9.2 17.0



#12
Phenanthrene
Concen: 0.06 ng/uL
RT: 5.871 min Scan# 677
Delta R.T. -0.000 min
Lab File: SV8811.D
Acq: 29 Sep 2021 11:46 pm

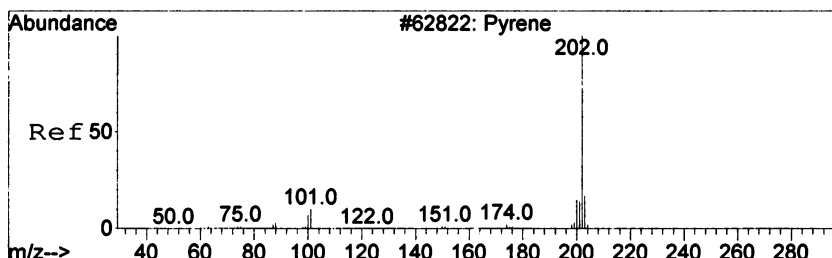
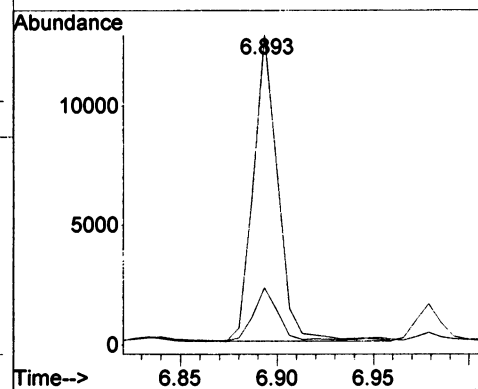
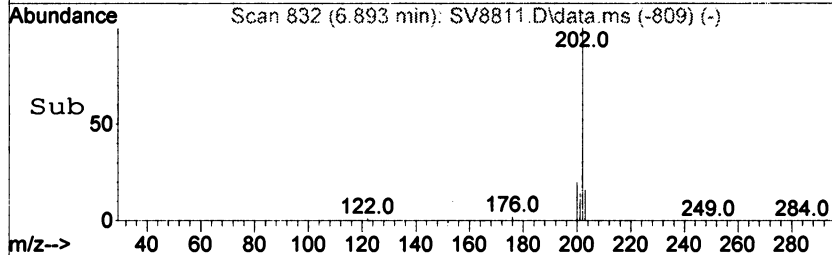
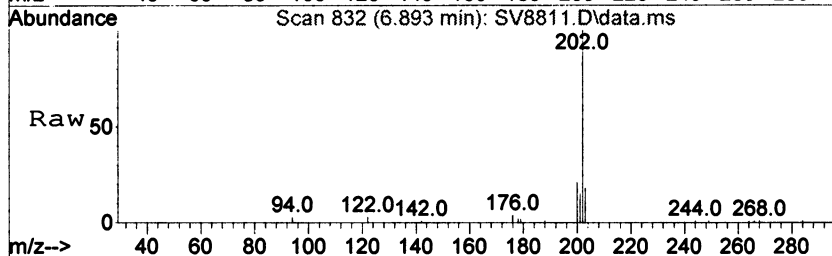
Tgt Ion:178 Resp: 5525
Ion Ratio Lower Upper
178 100
179 18.4 12.2 18.2#
176 19.9 15.2 22.8





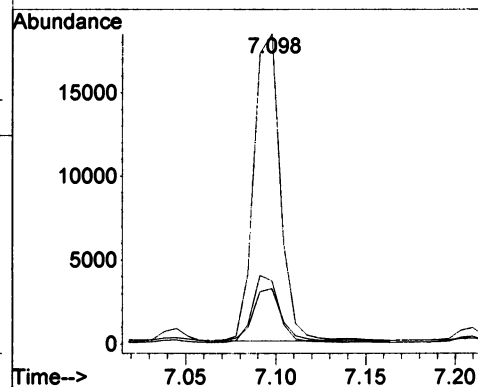
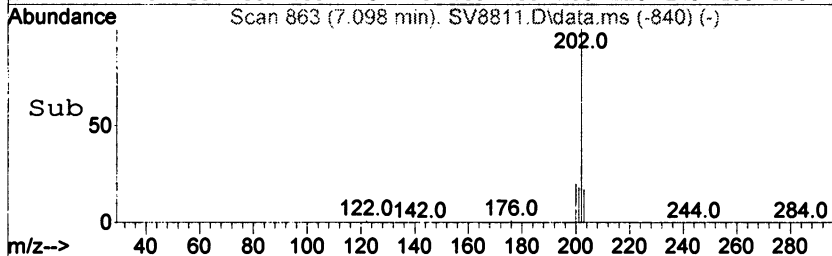
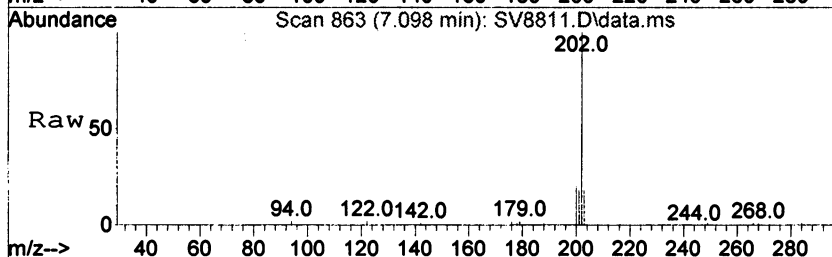
#14
Fluoranthene
Concen: 0.12 ng/uL
RT: 6.893 min Scan# 832
Delta R.T. -0.000 min
Lab File: SV8811.D
Acq: 29 Sep 2021 11:46 pm

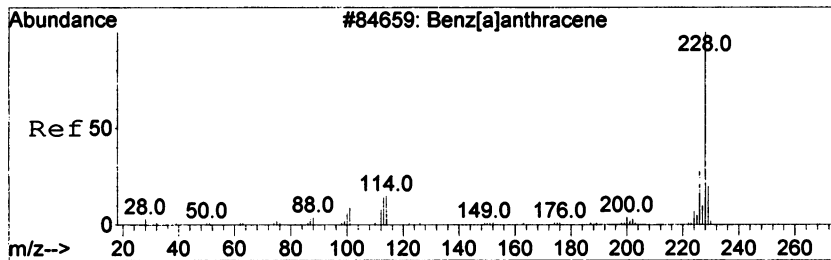
Tgt Ion: 202 Resp: 11372
Ion Ratio Lower Upper
202 100
203 18.4 13.4 20.2



#16
Pyrene
Concen: 0.18 ng/uL
RT: 7.098 min Scan# 863
Delta R.T. -0.000 min
Lab File: SV8811.D
Acq: 29 Sep 2021 11:46 pm

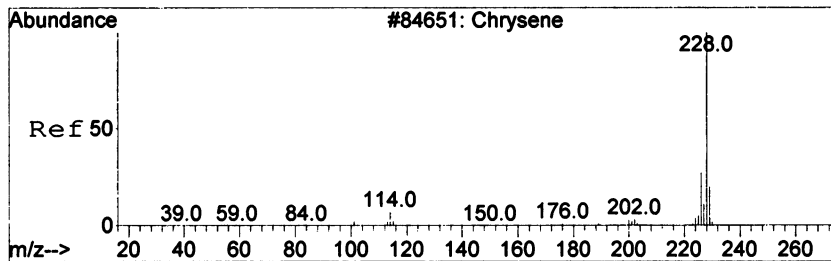
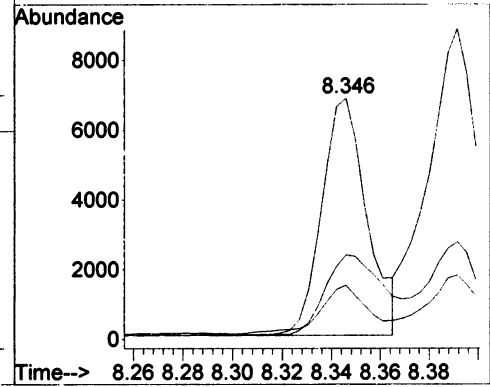
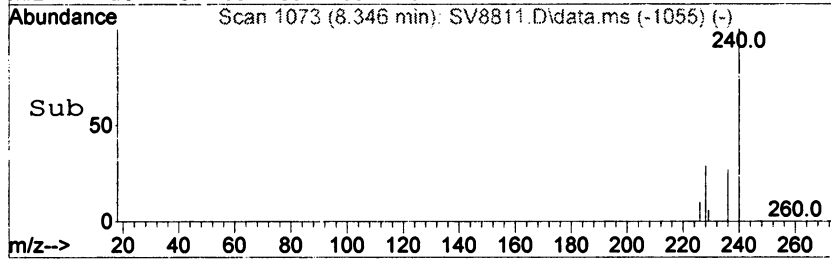
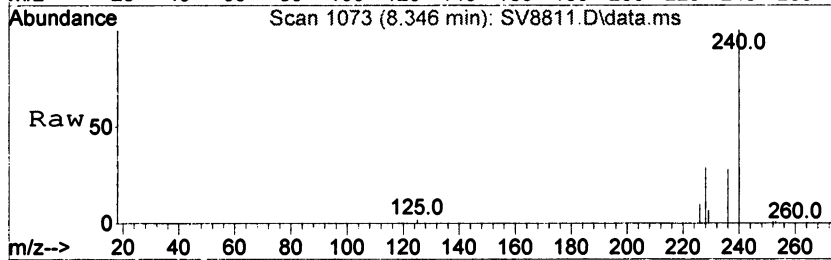
Tgt Ion: 202 Resp: 18838
Ion Ratio Lower Upper
202 100
200 20.2 14.4 26.8
203 17.8 12.0 22.4





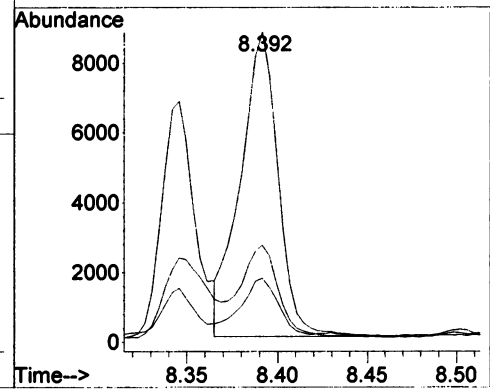
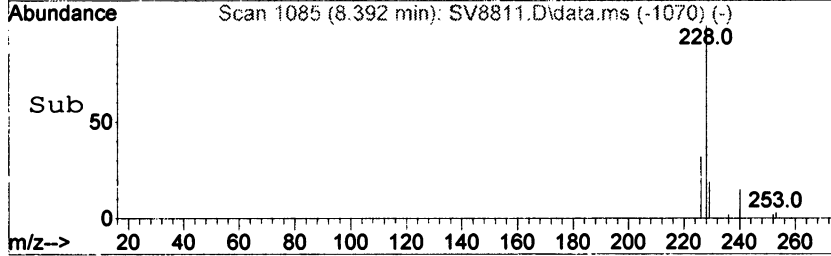
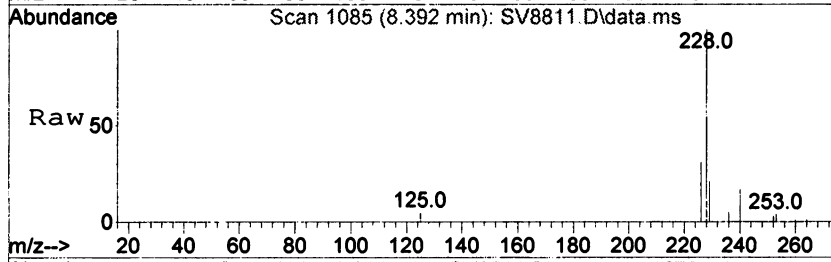
#18
Benzo[a]anthracene
Concen: 0.12 ng/uL
RT: 8.346 min Scan# 1073
Delta R.T. -0.000 min
Lab File: SV8811.D
Acq: 29 Sep 2021 11:46 pm

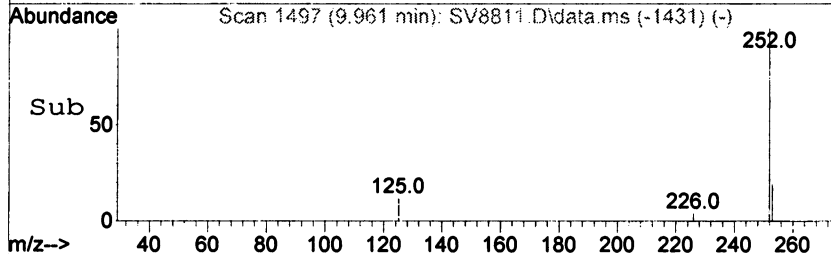
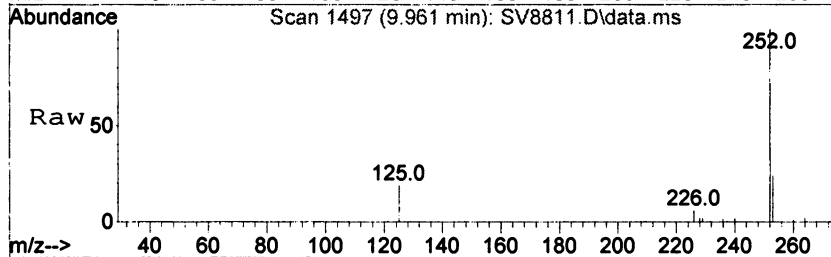
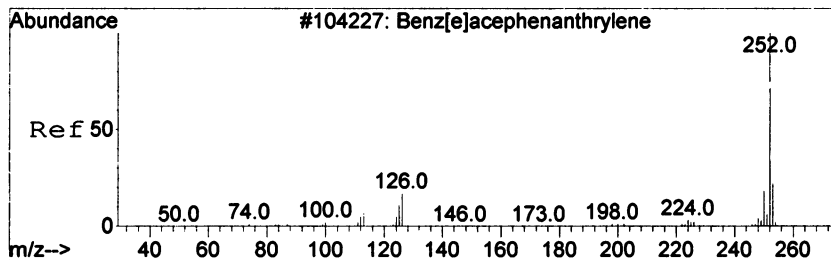
Tgt Ion:228 Resp: 8738
Ion Ratio Lower Upper
228 100
229 22.4 13.5 25.1
226 35.0 19.2 35.6



#19
Chrysene
Concen: 0.13 ng/uL
RT: 8.392 min Scan# 1085
Delta R.T. -0.004 min
Lab File: SV8811.D
Acq: 29 Sep 2021 11:46 pm

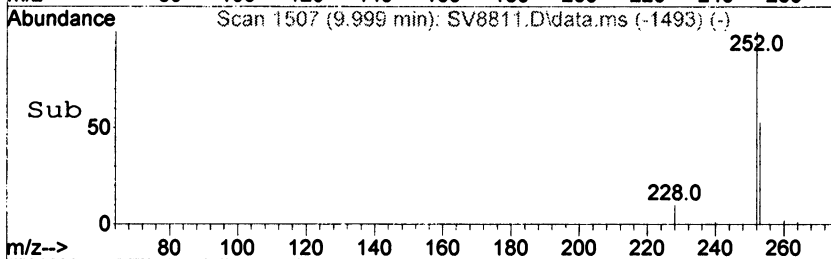
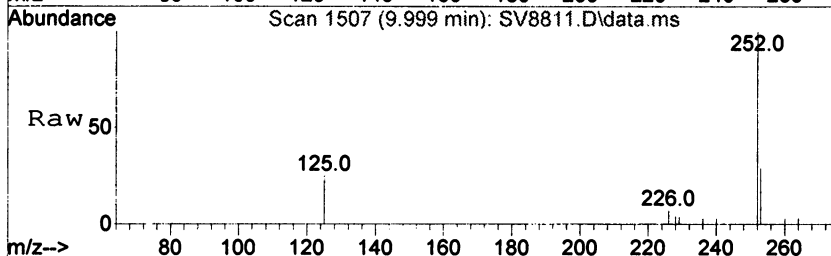
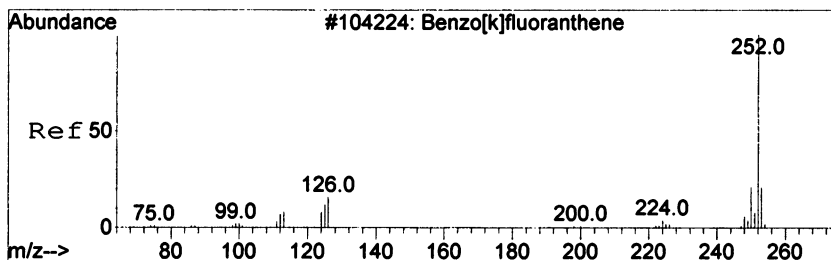
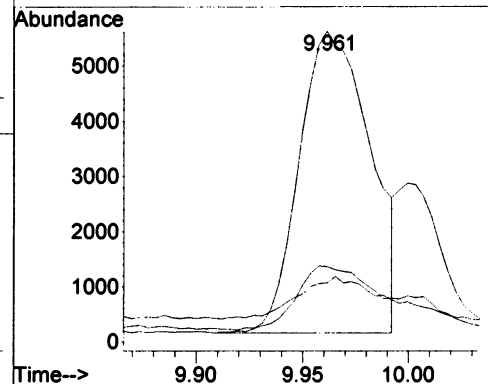
Tgt Ion:228 Resp: 12659
Ion Ratio Lower Upper
228 100
226 31.3 21.1 39.1
229 20.6 13.9 25.7





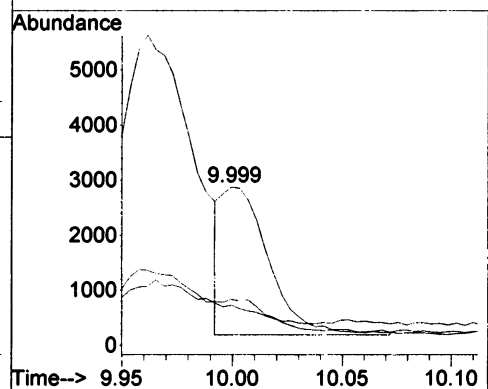
#21
Benzo[b]fluoranthene
Concen: 0.19 ng/uL
RT: 9.961 min Scan# 1497
Delta R.T. -0.000 min
Lab File: SV8811.D
Acq: 29 Sep 2021 11:46 pm

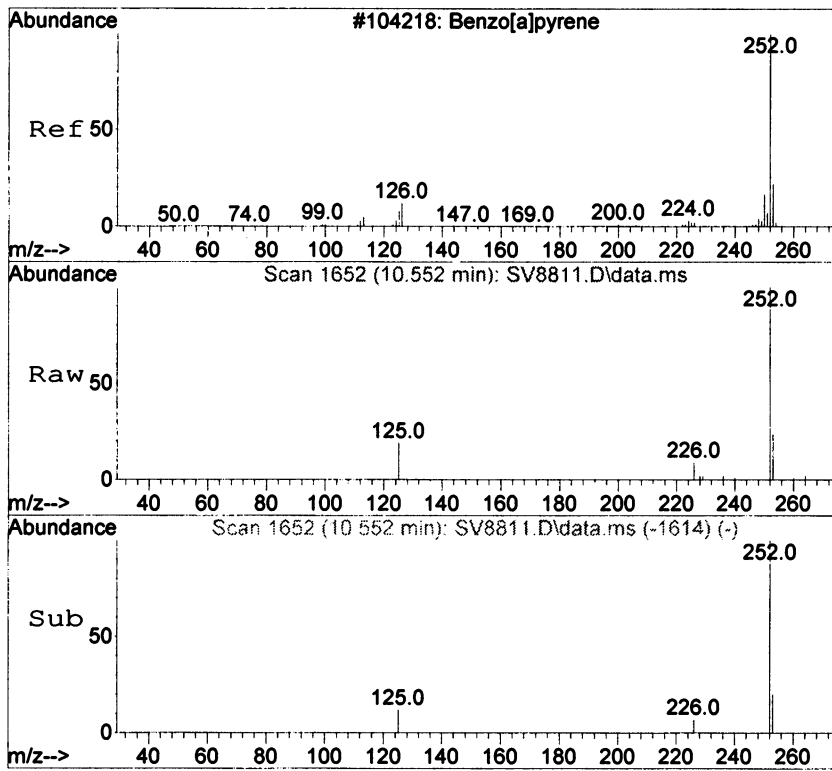
Tgt Ion	Ratio	Resp	Lower	Upper
252	100	12715		
253	24.3	15.3	28.5	
125	19.0	8.1	15.0#	



#22
Benzo[k]fluoranthene
Concen: 0.05 ng/uL m
RT: 9.999 min Scan# 1507
Delta R.T. -0.008 min
Lab File: SV8811.D
Acq: 29 Sep 2021 11:46 pm

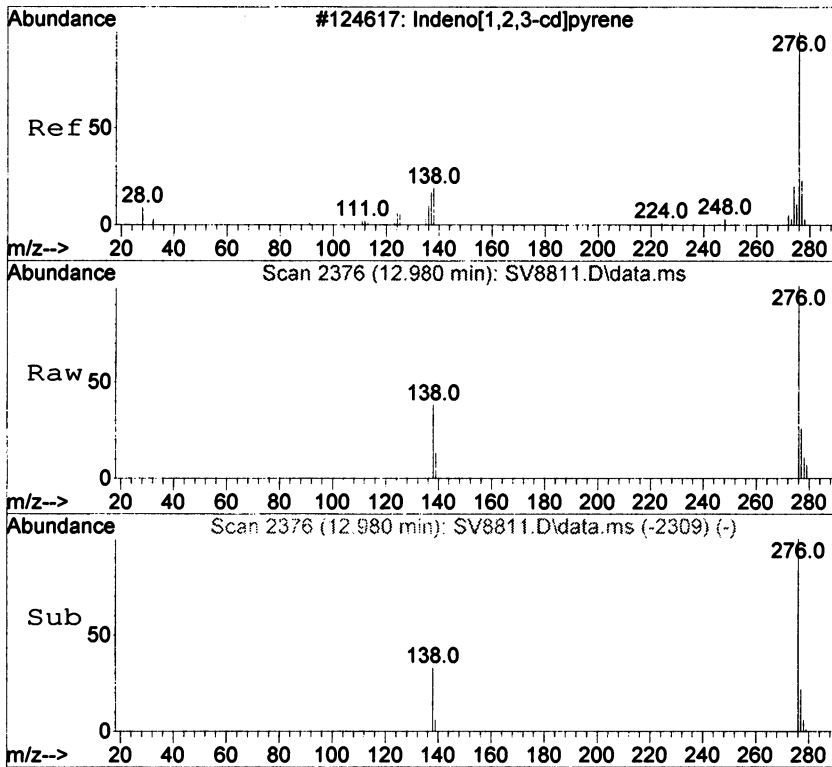
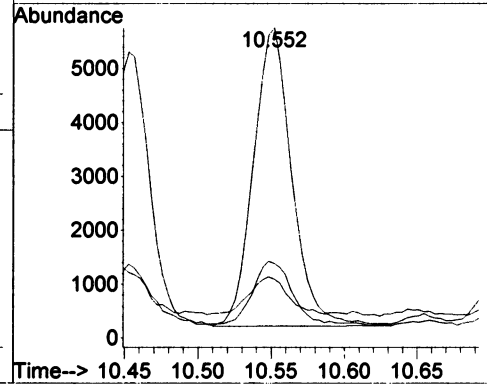
Tgt Ion	Ratio	Resp	Lower	Upper
252	100	4033		
253	29.0	15.0	28.0#	
125	25.3	8.1	15.0#	





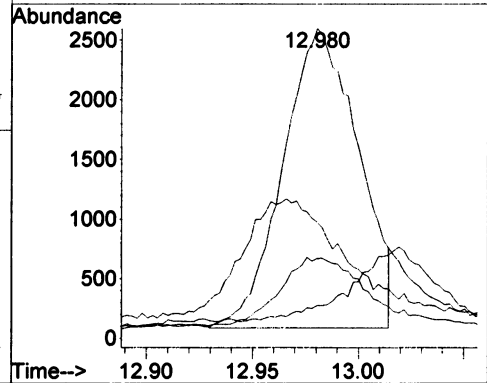
#23
Benzo[a]pyrene
Concen: 0.15 ng/uL
RT: 10.552 min Scan# 1652
Delta R.T. -0.004 min
Lab File: SV8811.D
Acq: 29 Sep 2021 11:46 pm

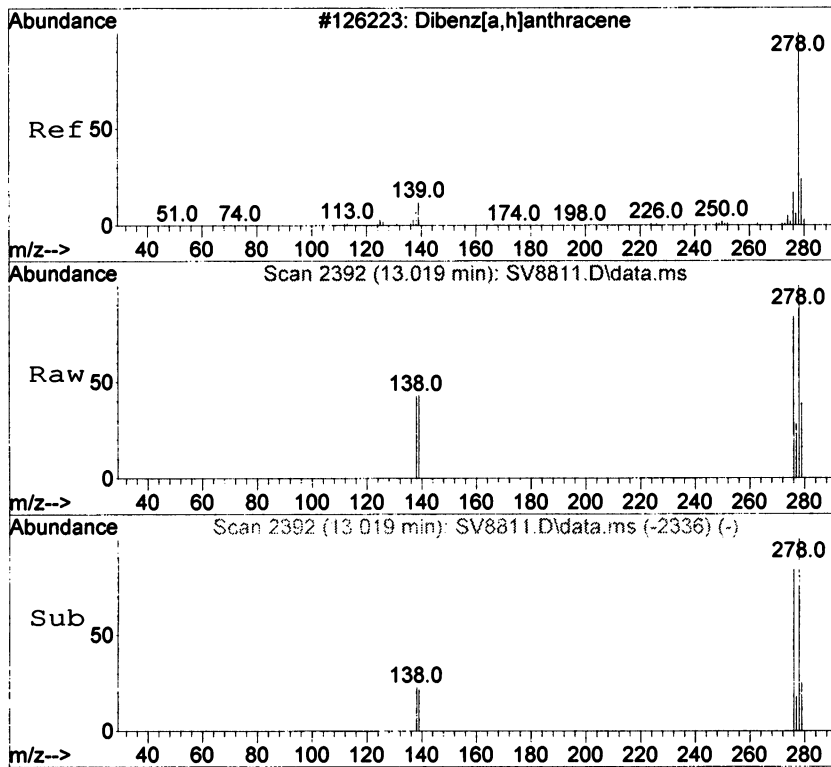
Tgt Ion	Ratio	Lower	Upper
252	100		
253	24.0	15.2	28.2
125	19.0	9.0	16.6#



#24
Indeno(1,2,3-c,d)pyrene
Concen: 0.13 ng/uL m
RT: 12.980 min Scan# 2376
Delta R.T. 0.002 min
Lab File: SV8811.D
Acq: 29 Sep 2021 11:46 pm

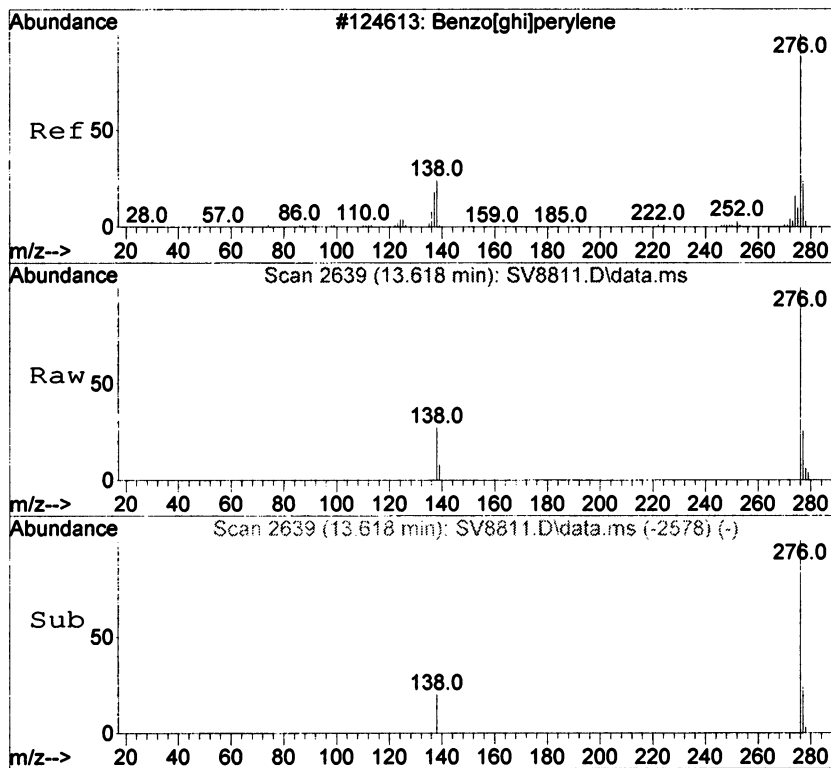
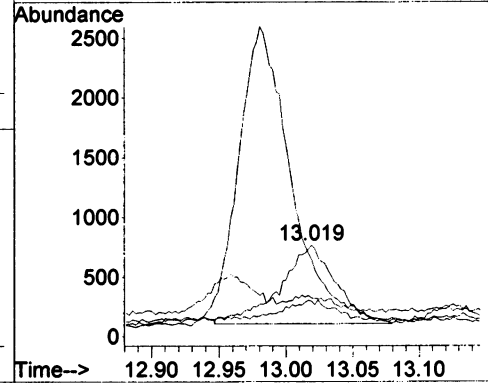
Tgt Ion	Ratio	Lower	Upper
276	100		
277	25.8	16.8	31.2
138	37.6	15.8	29.3#
278	10.6	3.5	6.5#





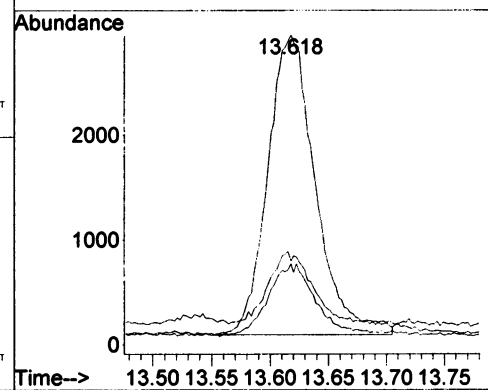
#25
 Dibenzo[a,h]anthracene
 Concen: 0.06 ng/uL
 RT: 13.019 min Scan# 2392
 Delta R.T. -0.005 min
 Lab File: SV8811.D
 Acq: 29 Sep 2021 11:46 pm

Tgt Ion	Ratio	Lower	Upper
278	100		
139	42.7	13.0	24.1#
279	38.9	17.1	31.7#
276	84.3	30.8	46.2#



#26
 Benzo[g,h,i]perylene
 Concen: 0.12 ng/uL
 RT: 13.618 min Scan# 2639
 Delta R.T. -0.003 min
 Lab File: SV8811.D
 Acq: 29 Sep 2021 11:46 pm

Tgt Ion	Ratio	Lower	Upper
276	100		
138	27.1	16.6	30.8
277	26.2	16.4	30.6



Data Path : C:\msdchem\1\data\2021\092921\
 Data File : SV8812.D
 Acq On : 30 Sep 2021 12:05 am
 Operator : TK HPSV4 sn #: CV11451177
 Sample : 2109426-3
 Misc :
 ALS Vial : 21 Sample Multiplier: 1

DataAcq Meth:082521SP.M

Quant Method : C:\msdchem\1\methods\082521SP.M

Quant Title : SW8270D Selected Ion Monitoring (SIM PAH)

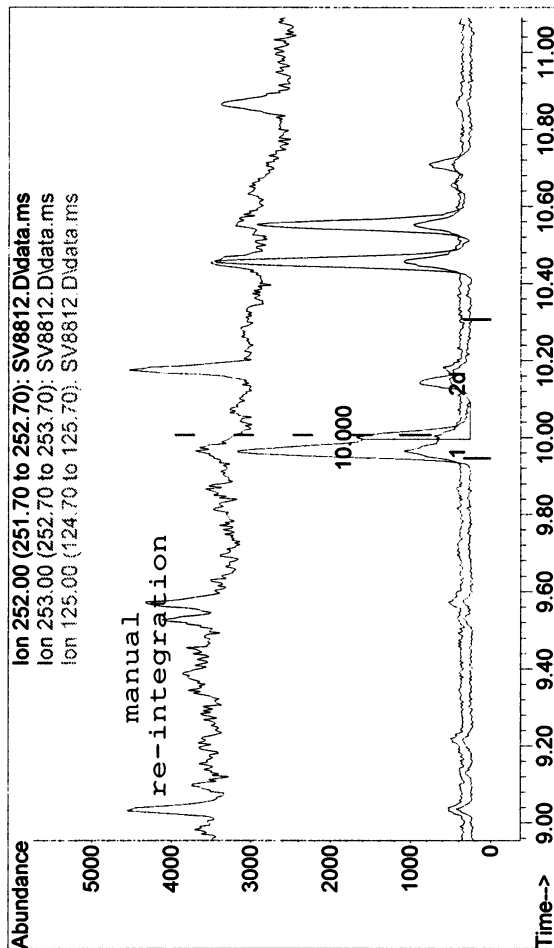
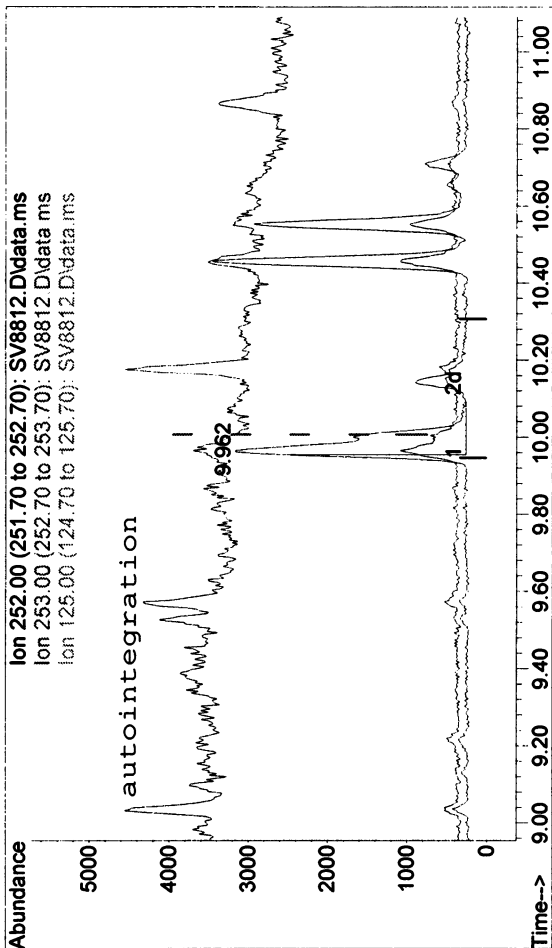
QLast Update : Thu Sep 30 07:19:26 2021

Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Naphthalene-d8	3.571	136	148252	2.00	ng/uL	0.00
6) Acenaphthene-d10	4.685	164	77772	2.00	ng/uL	0.00
11) Phenanthrene-d10	5.852	188	145025	2.00	ng/uL	0.00
15) Chrysene-d12	8.357	240	108348	2.00	ng/uL	0.00
20) Perylene-d12	10.655	264	107402	2.00	ng/uL	0.00
System Monitoring Compounds						
2) Nitrobenzene-d5	3.190	82	149440	3.39	ng/uL	0.00
Spiked Amount	10.000	Range 19 - 125	Recovery	=	33.90%	
7) 2-Fluorobiphenyl	4.197	172	202455	3.53	ng/uL	0.00
Spiked Amount	10.000	Range 30 - 120	Recovery	=	35.30%	
17) p-Terphenyl-d14	7.210	244	206773	3.76	ng/uL	0.00
Spiked Amount	10.000	Range 22 - 138	Recovery	=	37.60%	
Target Compounds						
14) Fluoranthene	6.893	202	3154	0.03	ng/uL#	60
16) Pyrene	7.098	202	5581	0.05	ng/uL#	87
18) Benzo[a]anthracene	8.346	228	4147	0.06	ng/uL#	78
19) Chrysene	8.392	228	5055	0.05	ng/uL#	87
21) Benzo[b]fluoranthene	9.962	252	6871	0.10	ng/uL#	1
23) Benzo[a]pyrene	10.552	252	5182	0.08	ng/uL#	1
24) Indeno(1,2,3-c,d)pyrene	12.985	276	3855m	0.09	ng/uL	
25) Dibenzo[a,h]anthracene	13.022	278	1176	0.05	ng/uL#	1
26) Benzo[g,h,i]perylene	13.623	276	5341	0.08	ng/uL#	68

(#) = qualifier out of range (m) = manual integration (+) = signals summed

2109426-3



TIC: SV8812.D\data.ms

(22) Benzo[k]fluoranthene (tm)

9.962min (-0.046) 0.09 ng/uL

response 7215

Ion Exp% Act%

252.00 100.00 100.00

253.00 21.50 32.52#

125.00 11.50 114.34#

0.00 0.00 0.00

Reason for manual re-integration?

☒ missed peak assignment

☐ peak saturation (detector shutdown)

☐ over-integrated peak's area

☐ under-integrated peak's area

☐ other ()

initials: M

date: 9 / 30 / 21

TIC: SV8812.D\data.ms

(22) Benzo[k]fluoranthene (tm)

10.000min (-0.008) 0.03 ng/uL m

response 1888

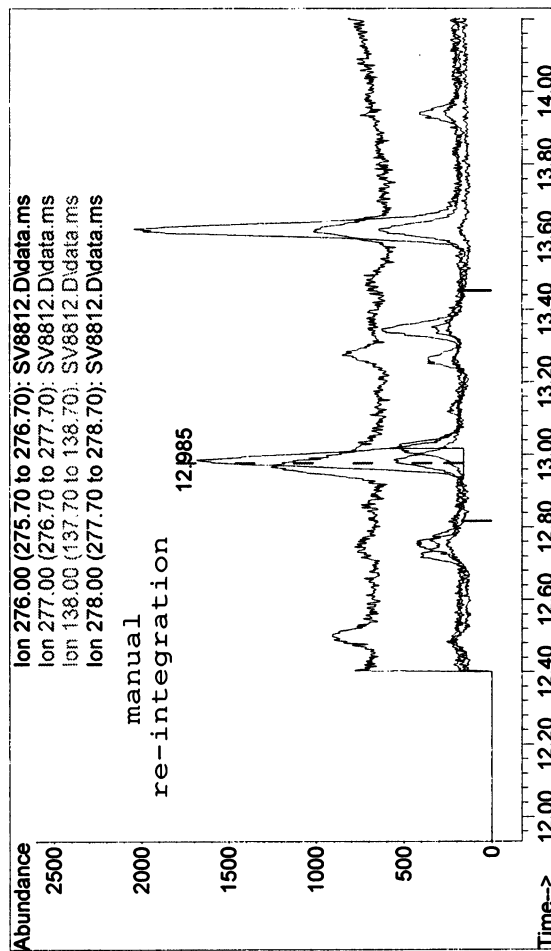
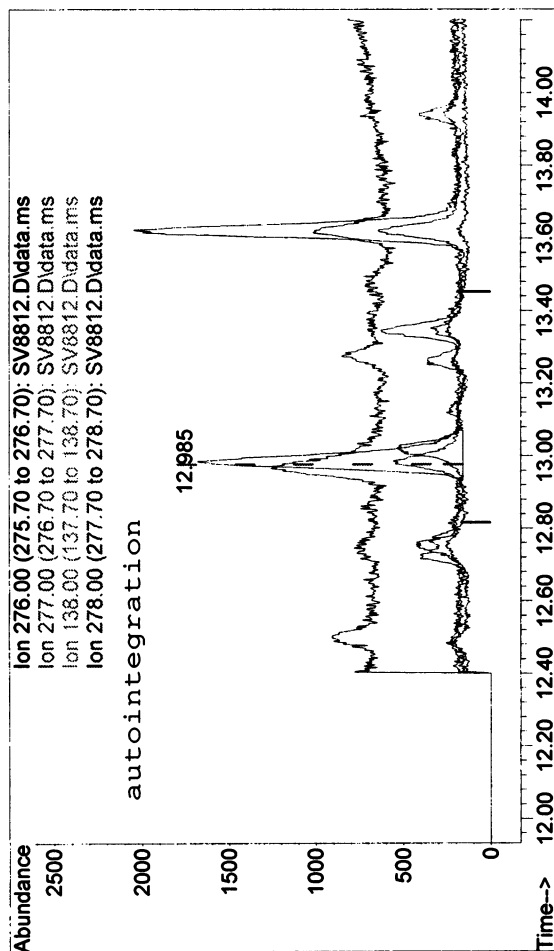
Ion Exp% Act%

252.00 100.00 100.00

253.00 21.50 38.23#

125.00 11.50 192.89#

0.00 0.00 0.00



TIC: SV8812.D\data.ms

(24) Indeno(1,2,3-c,d)pyrene (tm)
 12.985min (+ 0.007) 0.10 ng/uL

response	4319
Ion	Exp%
276.00	100.00
277.00	24.00
138.00	22.50
278.00	5.00
	Act%
	100.00
	33.10#
	65.07#
	15.72#

Reason for manual re-integration?

☐ missed peak assignment

☐ peak saturation (detector shutdown)

☒ over-integrated peak's area

☐ under-integrated peak's area

☐ other ()

initials: u date: 9/30/21

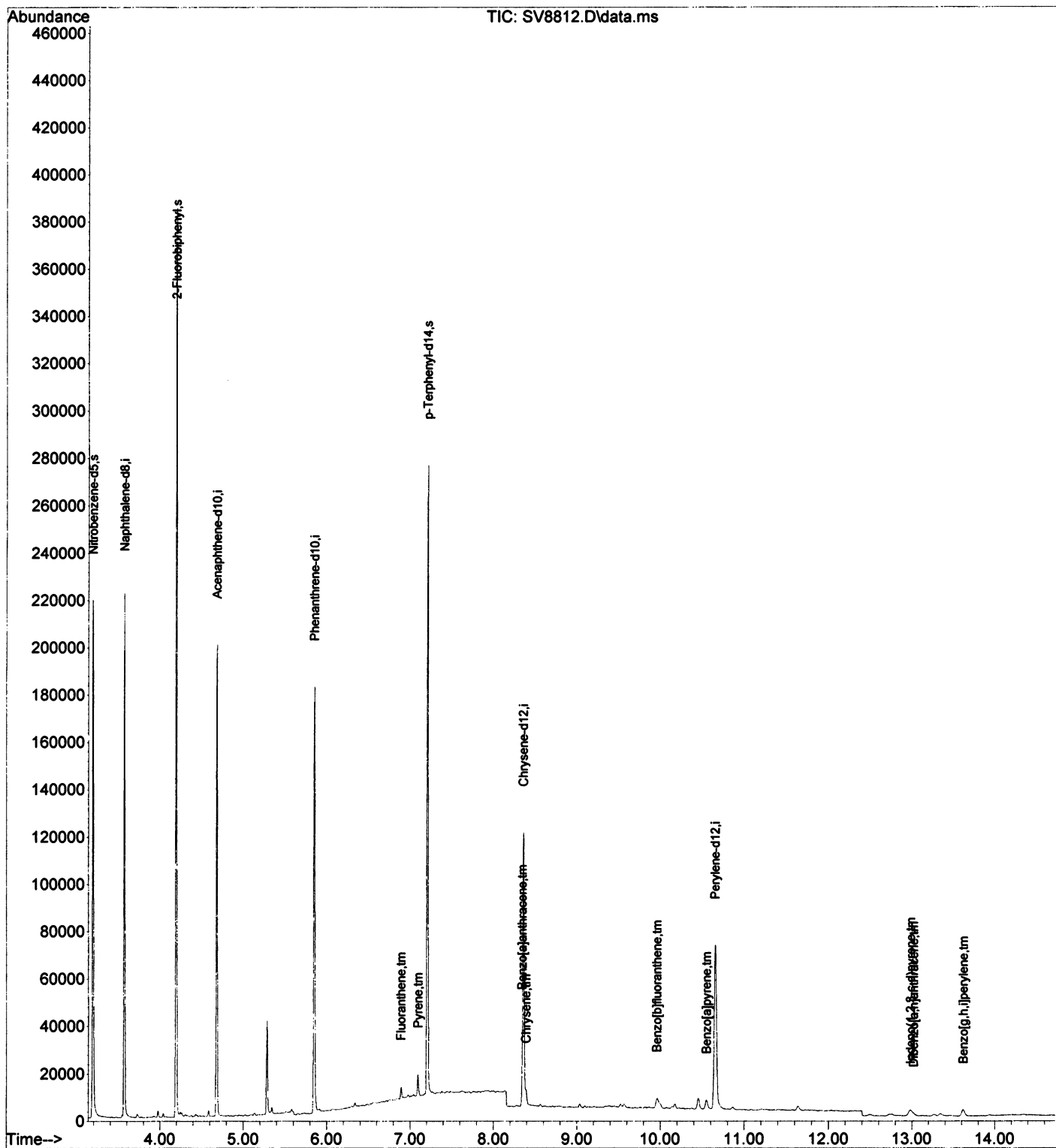
TIC: SV8812.D\data.ms

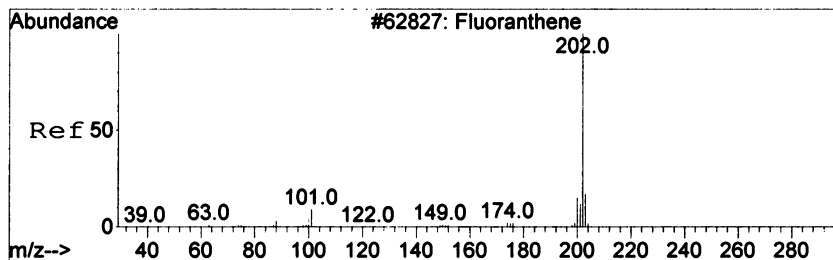
(24) Indeno(1,2,3-c,d)pyrene (tm)
 12.985min (+ 0.007) 0.09 ng/uL m

response	3855
Ion	Exp%
276.00	100.00
277.00	24.00
138.00	22.50
278.00	5.00
	Act%
	100.00
	33.10#
	65.07#
	15.72#

Data Path : C:\msdchem\1\data\2021\092921\
Data File : SV8812.D
Acq On : 30 Sep 2021 12:05 am
Operator : TK HPSV4 sn #: CV11451177
Sample : 2109426-3
Misc :
ALS Vial : 21 Sample Multiplier: 1

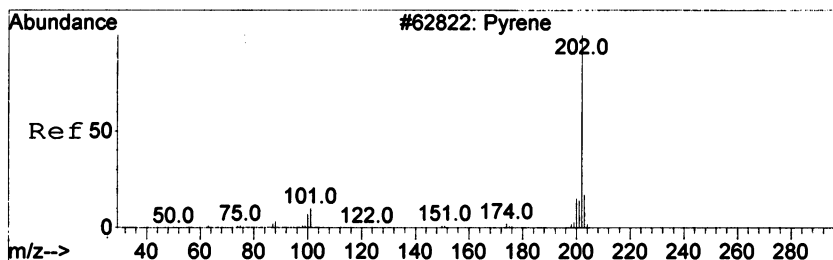
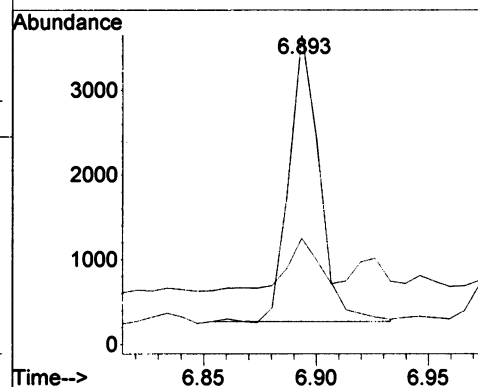
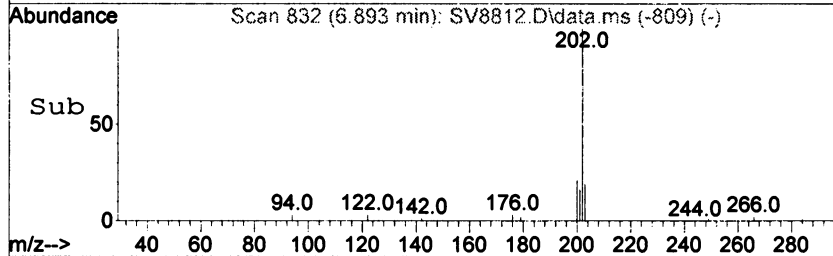
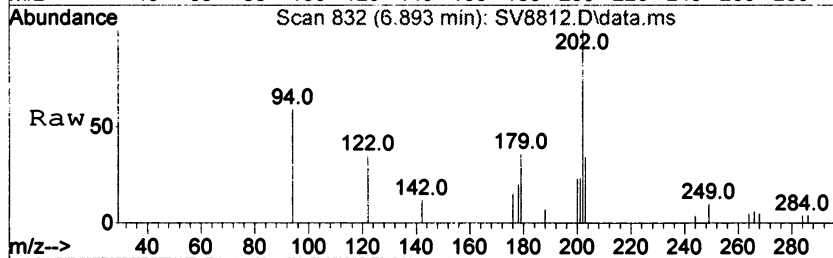
DataAcq Meth:082521SP.M
Quant Method : C:\msdchem\1\methods\082521SP.M
Quant Title : SW8270D Selected Ion Monitoring (SIM PAH)
QLast Update : Thu Sep 30 07:19:26 2021
Response via : Initial Calibration





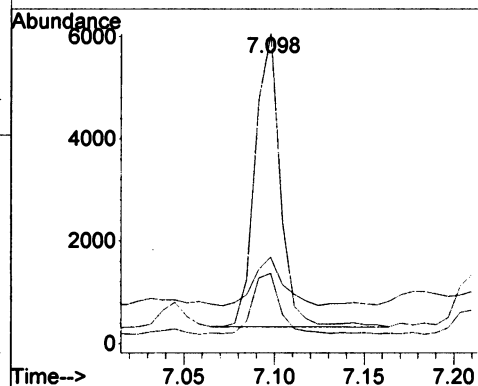
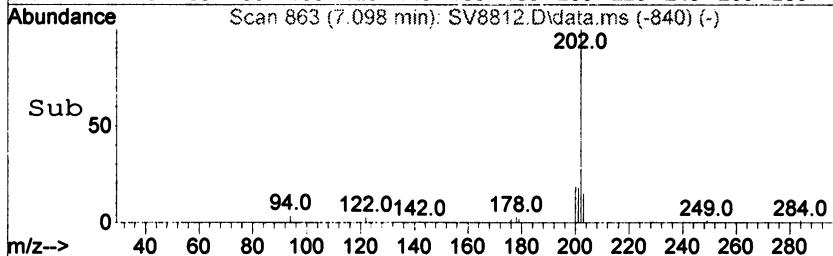
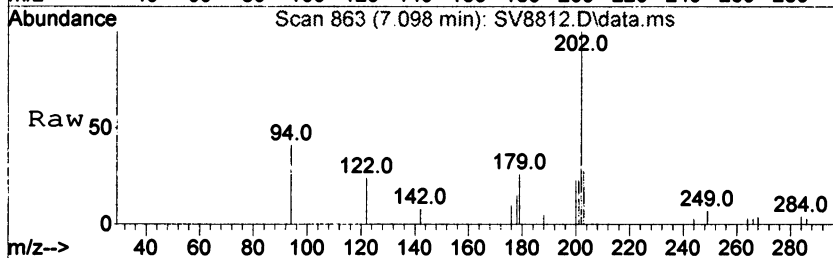
#14
Fluoranthene
Concen: 0.03 ng/uL
RT: 6.893 min Scan# 832
Delta R.T. 0.000 min
Lab File: SV8812.D
Acq: 30 Sep 2021 12:05 am

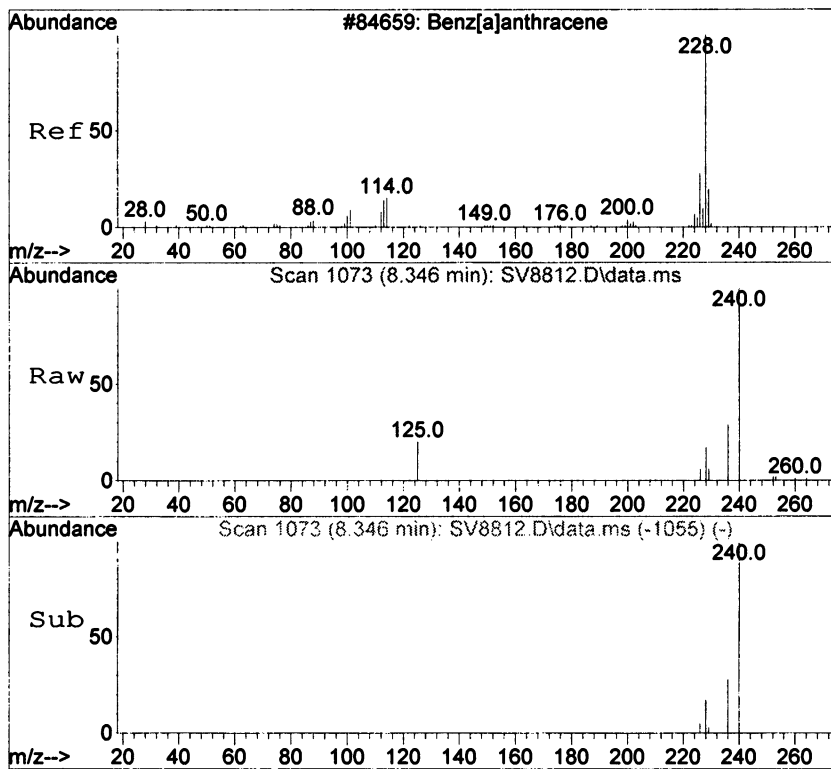
Tgt Ion:202 Resp: 3154
Ion Ratio Lower Upper
202 100
203 34.2 13.4 20.2#



#16
Pyrene
Concen: 0.05 ng/uL
RT: 7.098 min Scan# 863
Delta R.T. 0.000 min
Lab File: SV8812.D
Acq: 30 Sep 2021 12:05 am

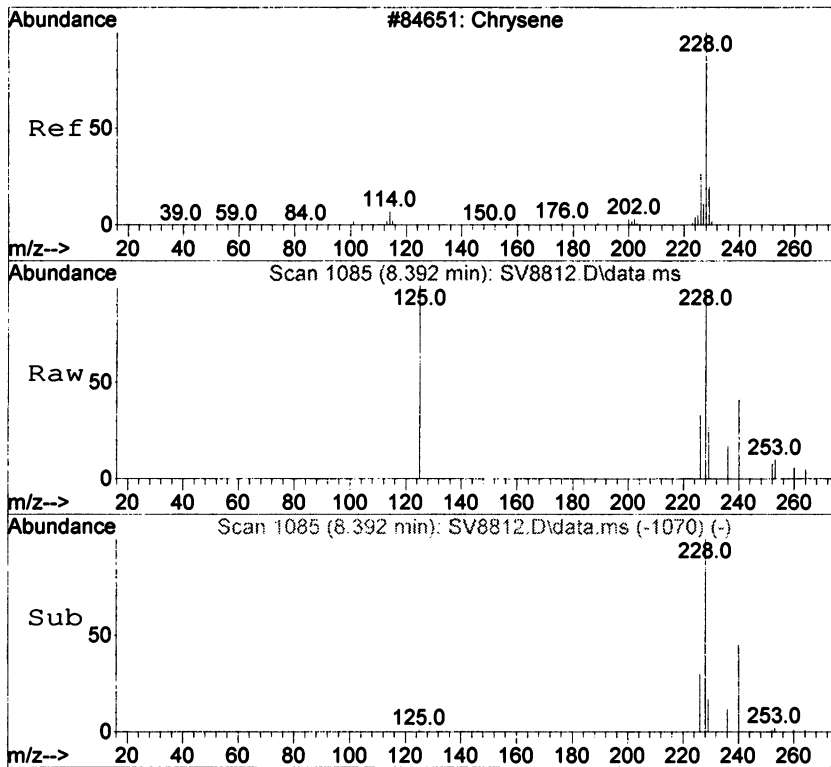
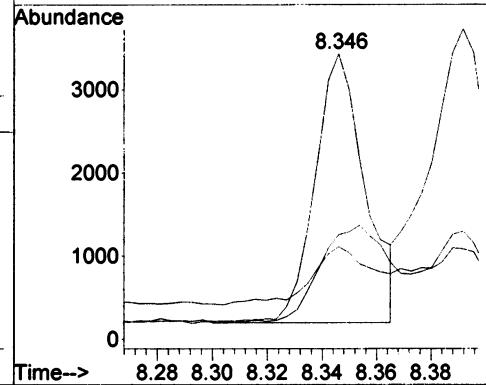
Tgt Ion:202 Resp: 5581
Ion Ratio Lower Upper
202 100
200 22.5 14.4 26.8
203 27.8 12.0 22.4#





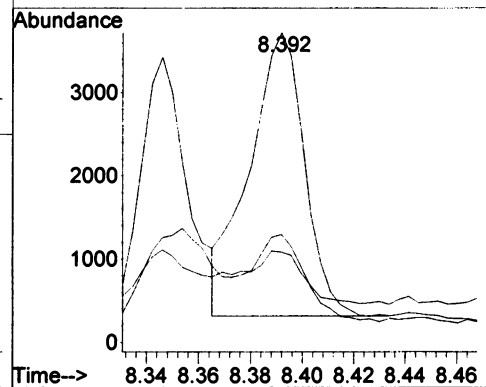
#18
Benzo[a]anthracene
Concen: 0.06 ng/uL
RT: 8.346 min Scan# 1073
Delta R.T. 0.000 min
Lab File: SV8812.D
Acq: 30 Sep 2021 12:05 am

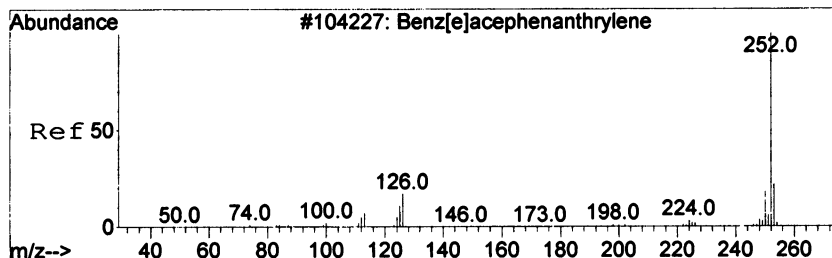
Tgt Ion	Ratio	Lower	Upper
228	100		
229	32.5	13.5	25.1#
226	36.6	19.2	35.6#



#19
Chrysene
Concen: 0.05 ng/uL
RT: 8.392 min Scan# 1085
Delta R.T. -0.004 min
Lab File: SV8812.D
Acq: 30 Sep 2021 12:05 am

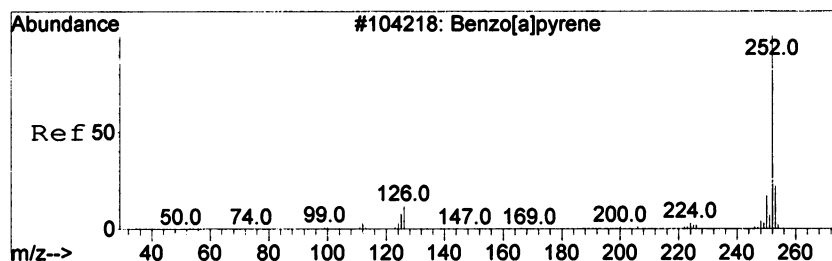
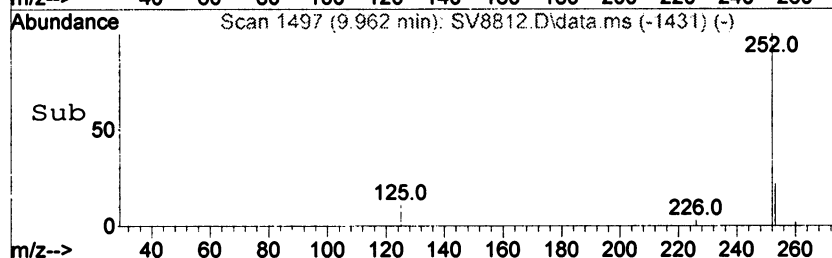
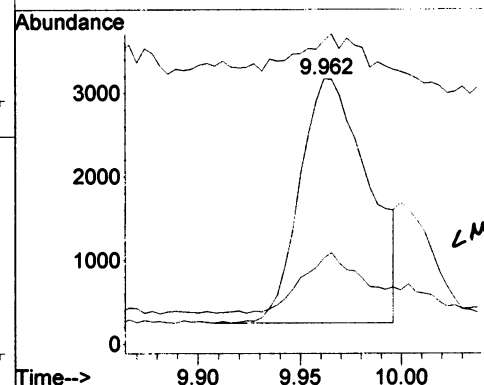
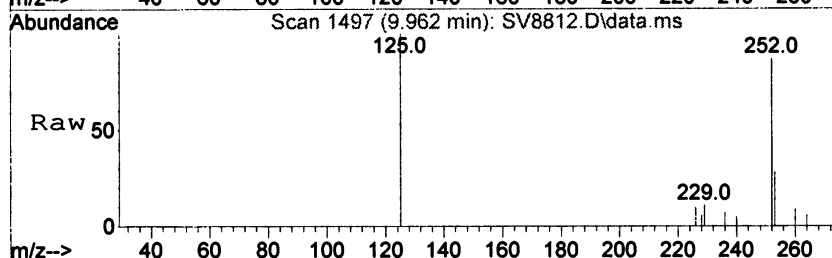
Tgt Ion	Ratio	Lower	Upper
228	100		
226	34.8	21.1	39.1
229	29.2	13.9	25.7#





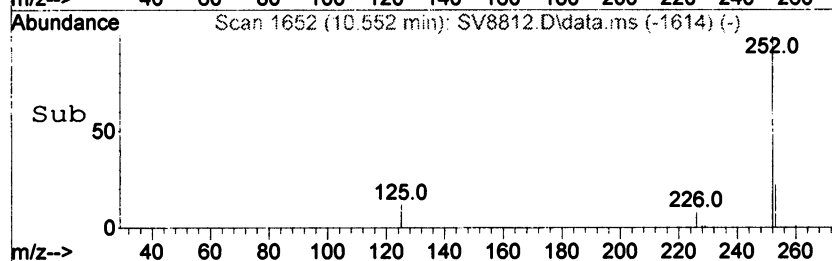
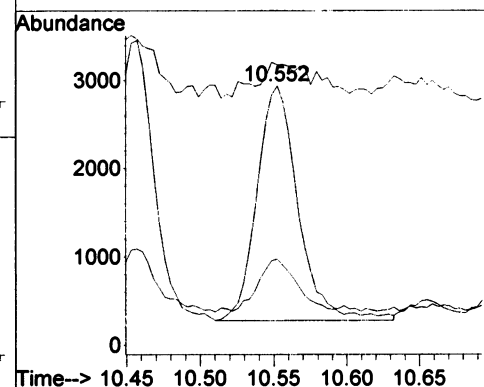
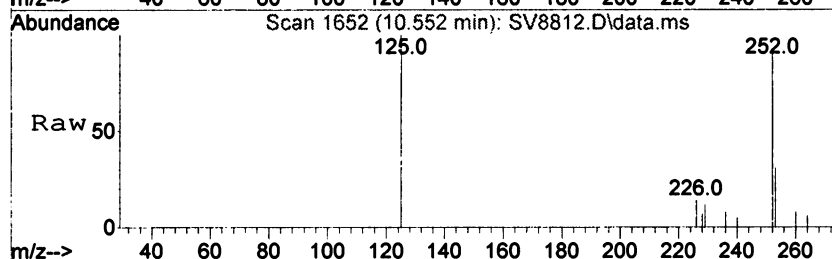
#21
Benzo[b]fluoranthene
Concen: 0.10 ng/uL
RT: 9.962 min Scan# 1497
Delta R.T. 0.000 min
Lab File: SV8812.D
Acq: 30 Sep 2021 12:05 am

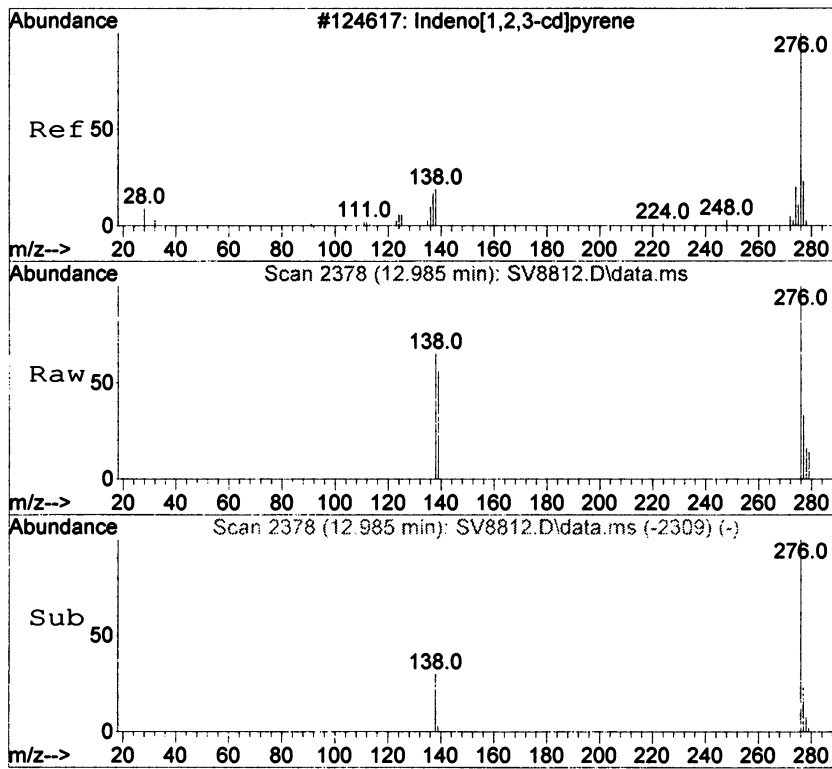
Tgt Ion:252 Resp: 6871
Ion Ratio Lower Upper
252 100
253 32.5 15.3 28.5#
125 114.3 8.1 15.0#



#23
Benzo[a]pyrene
Concen: 0.08 ng/uL
RT: 10.552 min Scan# 1652
Delta R.T. -0.004 min
Lab File: SV8812.D
Acq: 30 Sep 2021 12:05 am

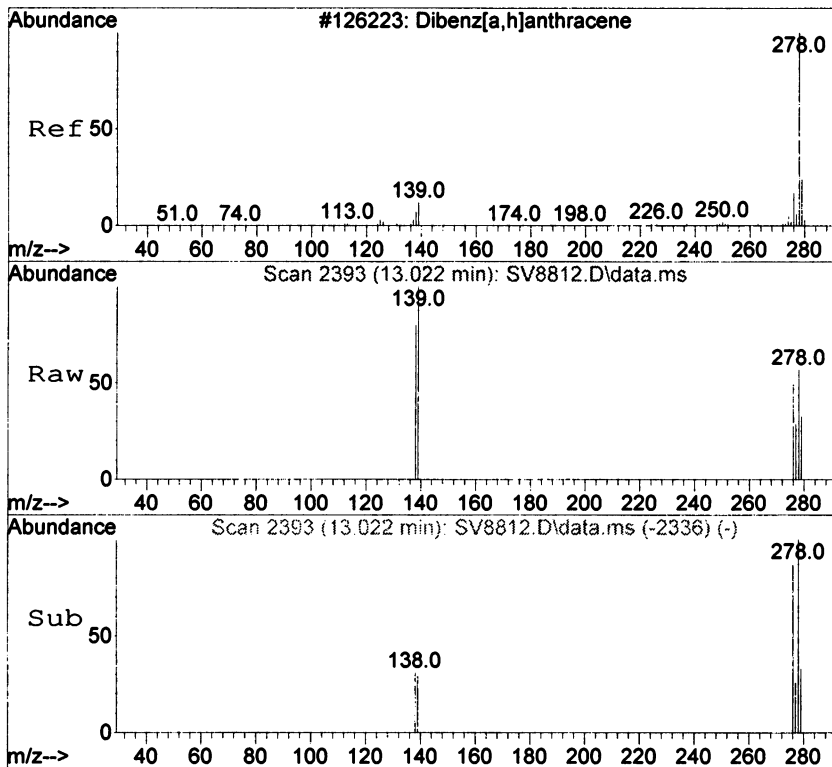
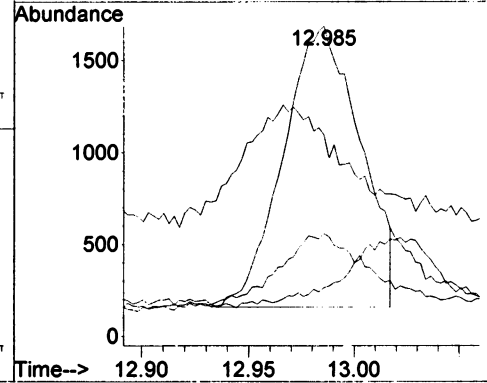
Tgt Ion:252 Resp: 5182
Ion Ratio Lower Upper
252 100
253 33.1 15.2 28.2#
125 108.2 9.0 16.6#





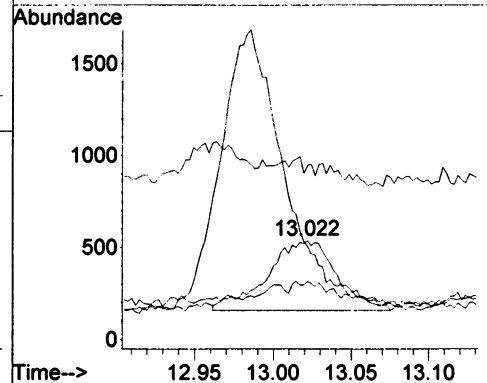
#24
 Indeno(1,2,3-c,d)pyrene
 Concen: 0.09 ng/uL m
 RT: 12.985 min Scan# 2378
 Delta R.T. 0.007 min
 Lab File: SV8812.D
 Acq: 30 Sep 2021 12:05 am

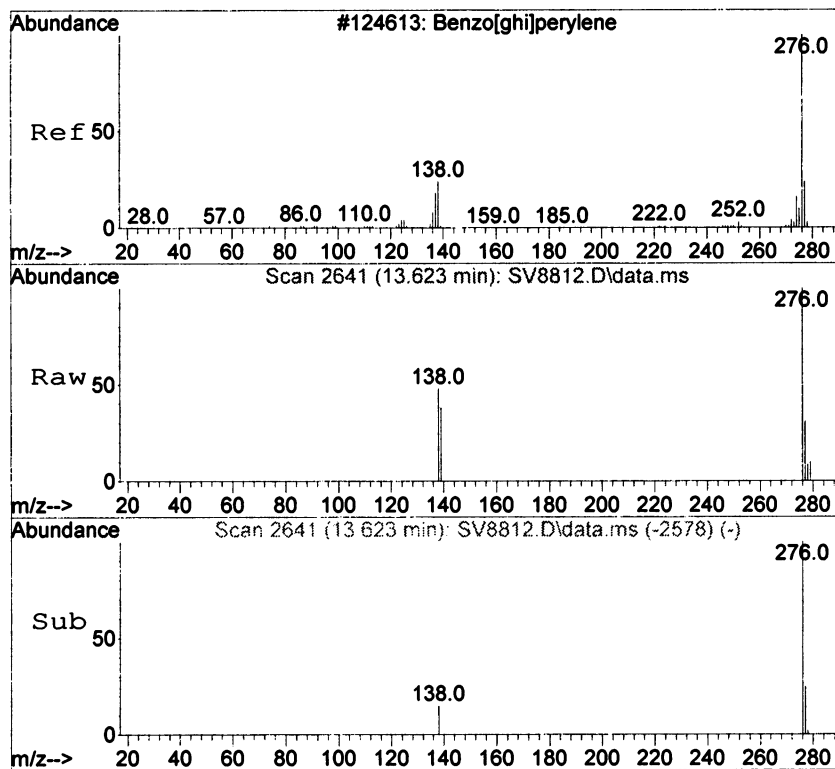
Tgt Ion	Ratio	Lower	Upper
276	100		
277	33.1	16.8	31.2#
138	65.1	15.8	29.3#
278	15.7	3.5	6.5#



#25
 Dibenzo[a,h]anthracene
 Concen: 0.05 ng/uL
 RT: 13.022 min Scan# 2393
 Delta R.T. -0.002 min
 Lab File: SV8812.D
 Acq: 30 Sep 2021 12:05 am

Tgt Ion	Ratio	Lower	Upper
278	100		
139	176.4	13.0	24.1#
279	58.7	17.1	31.7#
276	94.2	30.8	46.2#





#26
 Benzo[g,h,i]perylene
 Concen: 0.08 ng/uL
 RT: 13.623 min Scan# 2641
 Delta R.T. 0.002 min
 Lab File: SV8812.D
 Acq: 30 Sep 2021 12:05 am

Tgt Ion: 276 Resp: 5341
 Ion Ratio Lower Upper
 276 100
 138 47.7 16.6 30.8#
 277 31.3 16.4 30.6#

