

Data Path : Z:\voasrv\HPCHEM1\MSVOA_L\Data\VL100825\
 Data File : VL043061.D
 Acq On : 08 Oct 2025 13:23
 Operator : SY/MD
 Sample : Q3306-01
 Misc : 400mL/MSVOA_L
 ALS Vial : 1 Sample Multiplier: 1

Instrument :
 MSVOA_L
 ClientSampleId :
 IA1

Quant Time: Oct 09 01:17:18 2025
 Quant Method : Z:\voasrv\HPCHEM1\MSVOA_L\methods\VL100225AIR.M
 Quant Title : AIR ANALYSIS BY METHOD TO-15 Instrument: MSVOA_L Fri Aug 26 06:05:16 2022
 QLast Update : Fri Oct 03 08:23:34 2025
 Response via : Initial Calibration

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

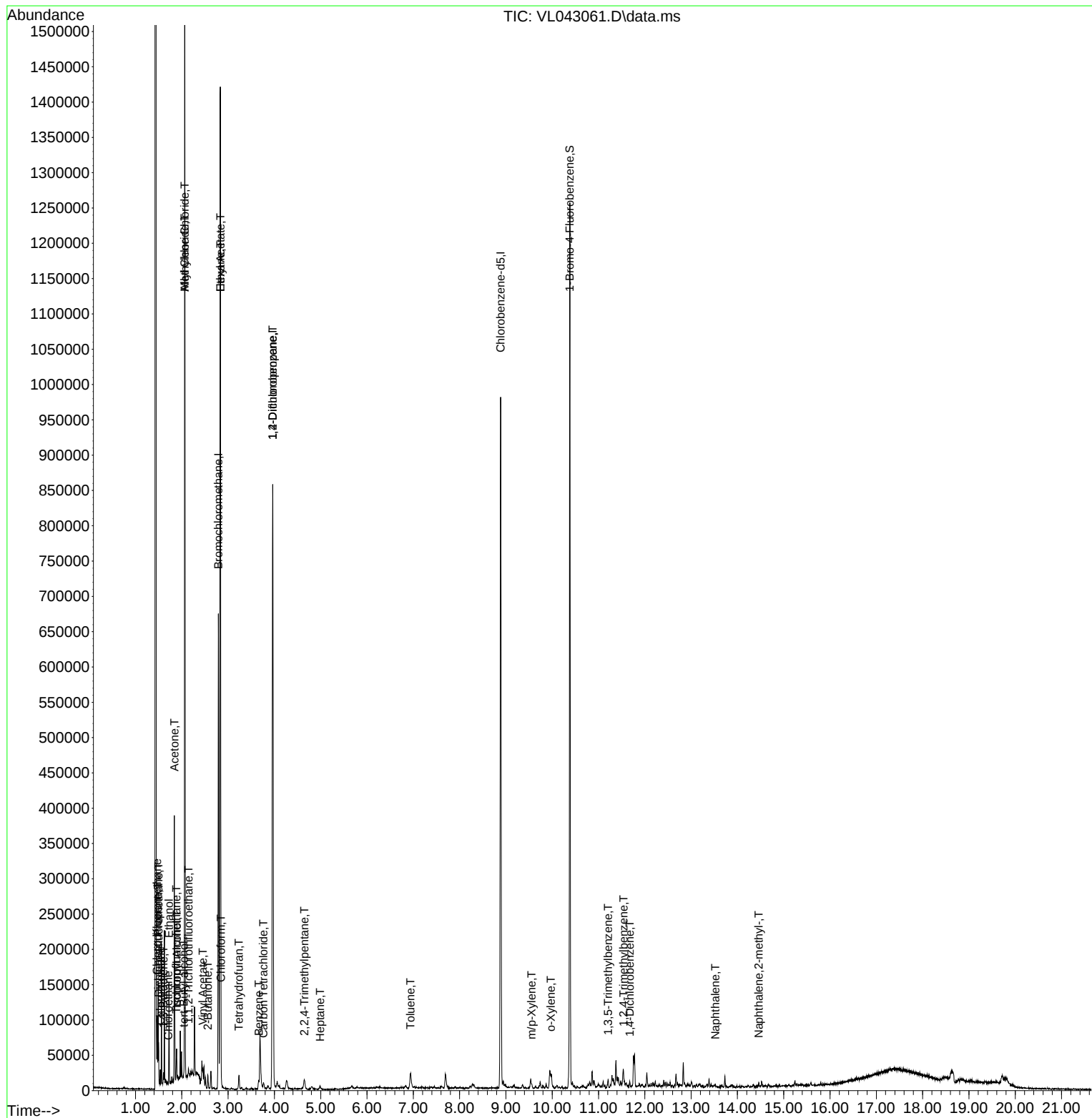
Internal Standards						
1) Bromochloromethane	2.791	49	178803	10.000	ppbv	0.02
33) 1,4-Difluorobenzene	3.962	114	481093	10.000	ppbv	0.02
55) Chlorobenzene-d5	8.885	117	385982	10.000	ppbv	0.02
System Monitoring Compounds						
68) 1-Bromo-4-Fluorobenzene	10.380	95	288219	10.366	ppbv	0.02
Spiked Amount	10.000	Range	65 - 135	Recovery	= 103.700%	
Target Compounds						
					Qvalue	
2) Dichlorodifluoromethane	1.499	85	13833	0.459	ppbv	98
3) Chlorodifluoromethane	1.467	51	24317	0.834	ppbv #	73
4) Chloromethane	1.535	50	4994	0.454	ppbv	98
7) Chloroethane	1.706	64	143	0.033	ppbv #	41
9) Propene	1.489	41	12045	1.025	ppbv	84
10) Heptane	4.988	43	975	0.034	ppbv	96
11) Trichlorofluoromethane	1.881	101	7449	0.241	ppbv	99
12) 1,1,2-Trichlorotrifluo...	2.143	101	1591	0.065	ppbv	98
13) Ethanol	1.722	45	47271	109.705	ppbv	92
15) Acetone	1.839	43	165569	6.613	ppbv	99
16) 1,3-Butadiene	1.603	39	2060	0.200	ppbv #	67
17) tert-Butyl alcohol	2.046	59	2826	0.107	ppbv #	78
19) Isopropyl Alcohol	1.891	45	15278	1.274	ppbv #	1
20) Methylene Chloride	2.066	84	259738	23.769	ppbv	98
21) Allyl Chloride	2.066	41	8479	0.529	ppbv #	26
23) Vinyl Acetate	2.454	43	11580	2.179	ppbv #	91
25) Ethyl Acetate	2.833	43	233806	3.723	ppbv #	77
26) Hexane	2.833	57	329986	13.659	ppbv #	34
29) Chloroform	2.849	83	1544	0.037	ppbv #	19
34) 2-Butanone	2.561	43	11558	0.354	ppbv	99
35) Carbon Tetrachloride	3.765	117	1916	0.048	ppbv #	78
36) Benzene	3.664	78	7242	0.158	ppbv	94
39) 1,2-Dichloropropane	3.962	63	122985	7.219	ppbv #	22
41) Tetrahydrofuran	3.234	42	1473	0.087	ppbv #	37
44) 2,2,4-Trimethylpentane	4.648	57	9153	0.124	ppbv #	79
53) Toluene	6.940	91	7637	0.165	ppbv #	31
59) m/p-Xylene	9.555	91	1726	0.034	ppbv #	30
60) o-Xylene	9.969	91	4278	0.085	ppbv	90
73) 1,3,5-Trimethylbenzene	11.209	105	1935	0.037	ppbv #	80
74) 1,2,4-Trimethylbenzene	11.539	105	5939	0.102	ppbv #	57
76) 1,4-Dichlorobenzene	11.675	146	1916	0.053	ppbv #	83
79) Naphthalene	13.520	128	1928	0.274	ppbv	96
80) Naphthalene,2-methyl-	14.462	142	1623	0.728	ppbv #	81

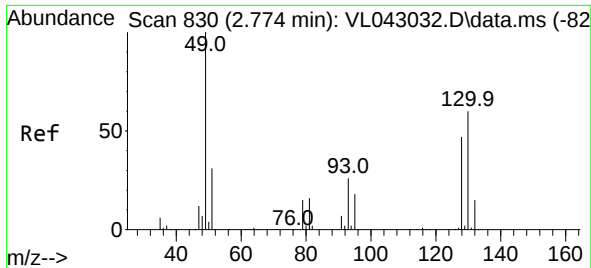
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : Z:\voasrv\HPCHEM1\MSVOA_L\Data\VL100825\
Data File : VL043061.D
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Instrument :
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ClientSampleId :
IA1

Quant Time: Oct 09 01:17:18 2025
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Quant Title : AIR ANALYSIS BY METHOD TO-15 Instrument: MSVOA_L Fri Aug 26 06:05:16 2022
QLast Update : Fri Oct 03 08:23:34 2025
Response via : Initial Calibration

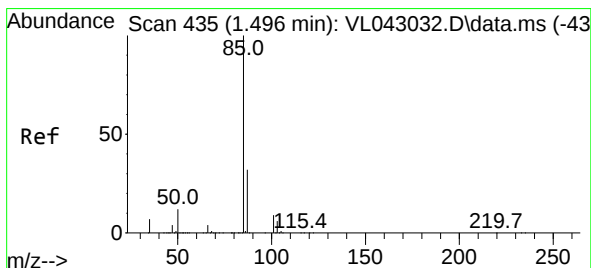
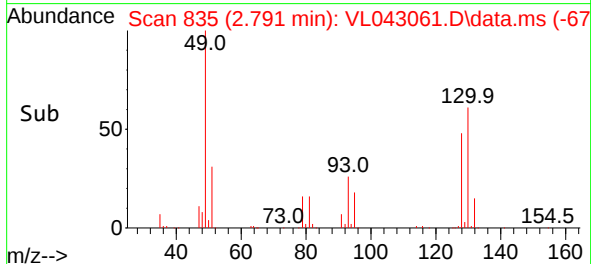
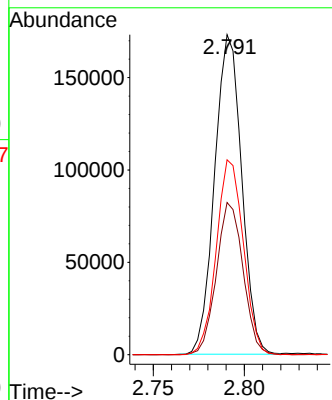
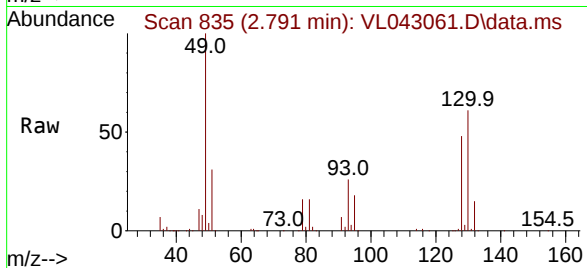




#1
Bromochloromethane
Concen: 10.000 ppbv
RT: 2.791 min Scan# 81
Delta R.T. 0.017 min
Lab File: VL043061.D
Acq: 08 Oct 2025 13:23

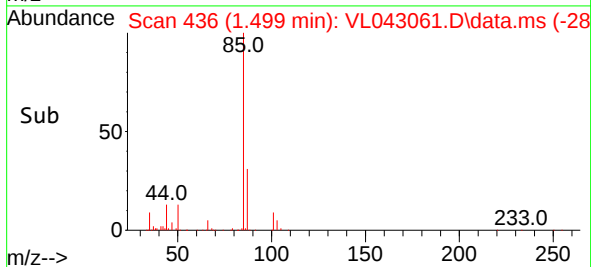
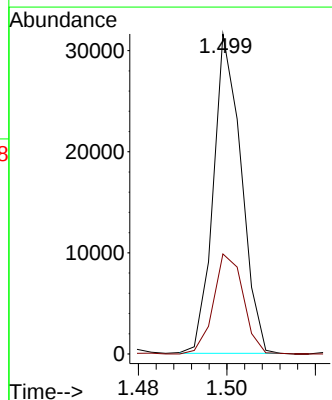
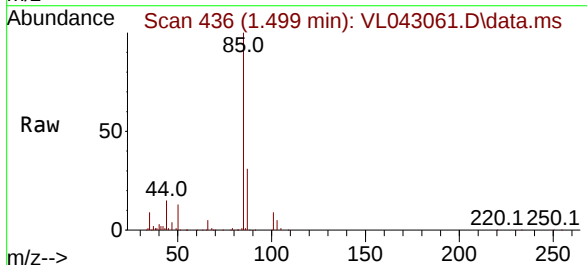
Instrument :
MSVOA_L
ClientSampleId :
IA1

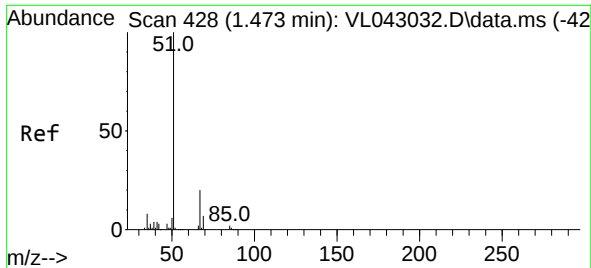
Tgt Ion: 49 Resp: 178803
Ion Ratio Lower Upper
49 100
128 46.9 24.1 72.2
130 61.1 31.4 94.3



#2
Dichlorodifluoromethane
Concen: 0.459 ppbv
RT: 1.499 min Scan# 436
Delta R.T. 0.004 min
Lab File: VL043061.D
Acq: 08 Oct 2025 13:23

Tgt Ion: 85 Resp: 13833
Ion Ratio Lower Upper
85 100
87 31.3 25.8 38.6

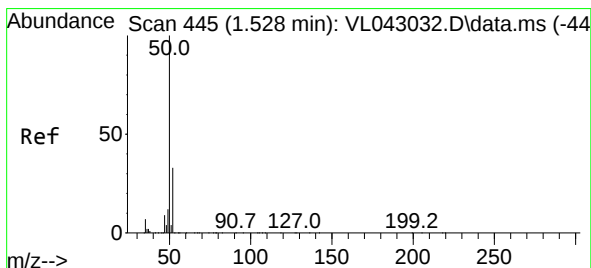
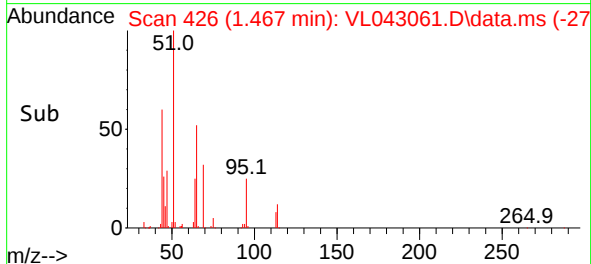
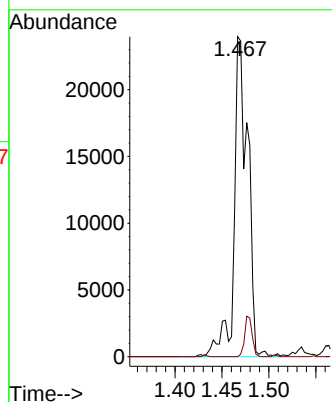
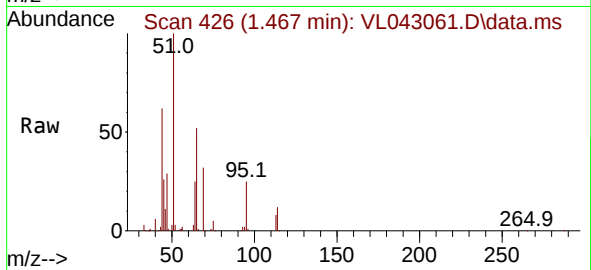




#3
Chlorodifluoromethane
Concen: 0.834 ppbv
RT: 1.467 min Scan# 41
Delta R.T. -0.006 min
Lab File: VL043061.D
Acq: 08 Oct 2025 13:23

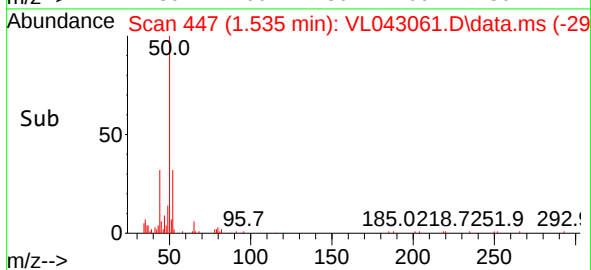
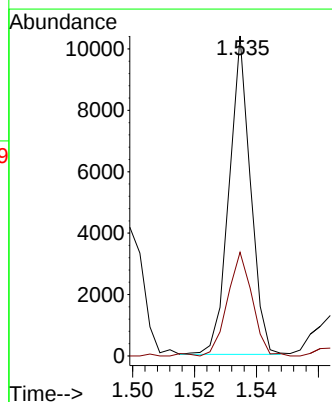
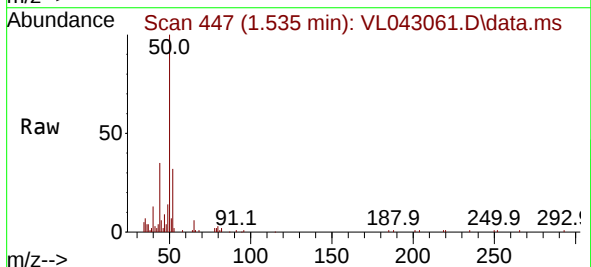
Instrument :
MSVOA_L
ClientSampleId :
IA1

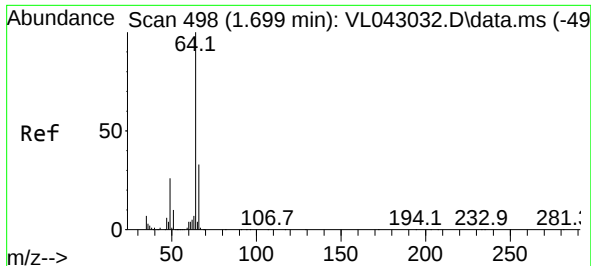
Tgt Ion: 51 Resp: 24317
Ion Ratio Lower Upper
51 100
67 6.9 15.1 22.7#



#4
Chloromethane
Concen: 0.454 ppbv
RT: 1.535 min Scan# 447
Delta R.T. 0.007 min
Lab File: VL043061.D
Acq: 08 Oct 2025 13:23

Tgt Ion: 50 Resp: 4994
Ion Ratio Lower Upper
50 100
52 33.6 26.2 39.2

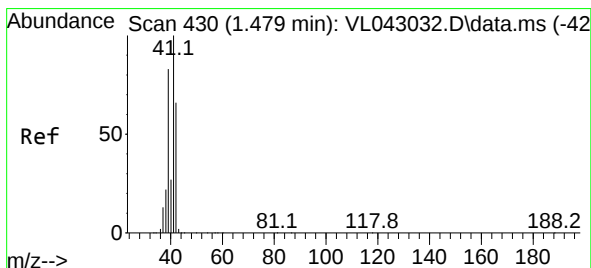
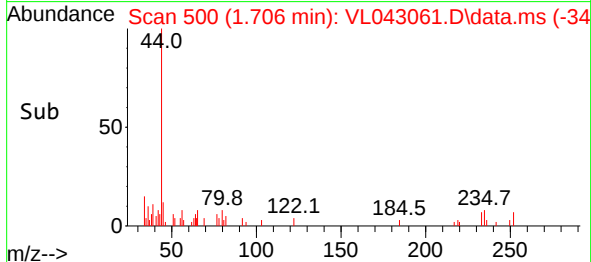
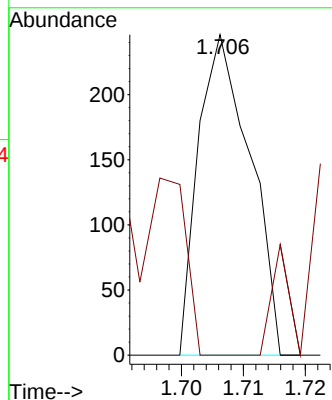
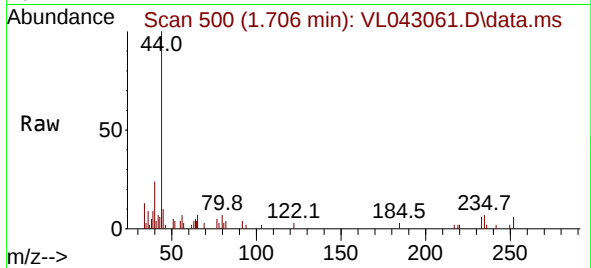




#7
Chloroethane
Concen: 0.033 ppbv
RT: 1.706 min Scan# 50
Delta R.T. 0.007 min
Lab File: VL043061.D
Acq: 08 Oct 2025 13:23

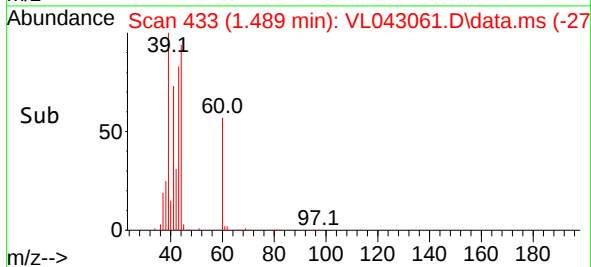
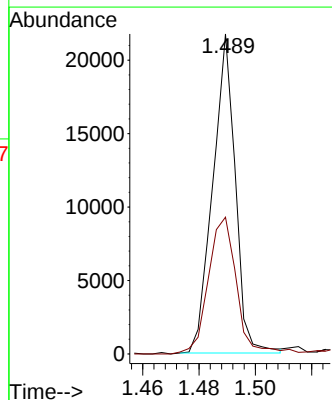
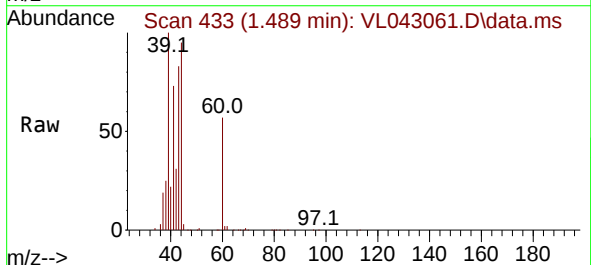
Instrument :
MSVOA_L
ClientSampleId :
IA1

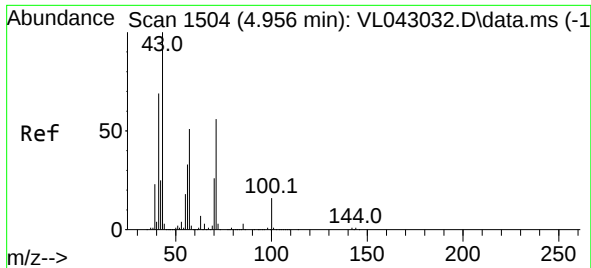
Tgt Ion: 64 Resp: 143
Ion Ratio Lower Upper
64 100
66 0.0 26.6 39.8#



#9
Propene
Concen: 1.025 ppbv
RT: 1.489 min Scan# 433
Delta R.T. 0.010 min
Lab File: VL043061.D
Acq: 08 Oct 2025 13:23

Tgt Ion: 41 Resp: 12045
Ion Ratio Lower Upper
41 100
42 54.1 53.3 79.9





#10

Heptane

Concen: 0.034 ppbv

RT: 4.988 min Scan# 11

Delta R.T. 0.033 min

Lab File: VL043061.D

Acq: 08 Oct 2025 13:23

Instrument :

MSVOA_L

ClientSampleId :

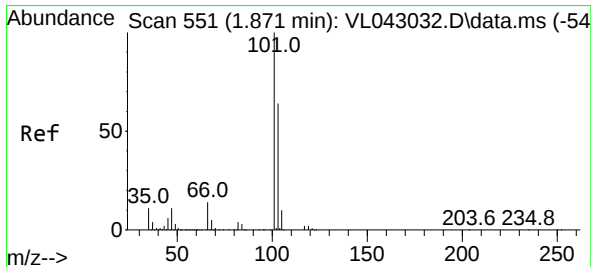
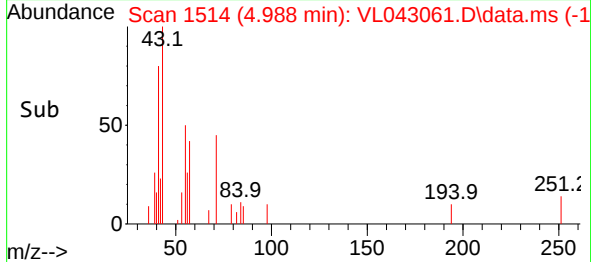
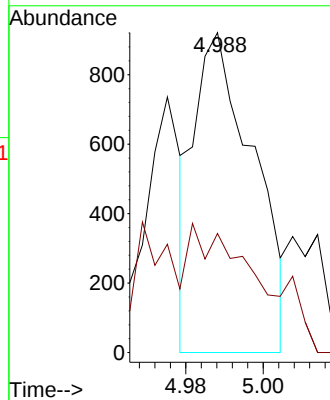
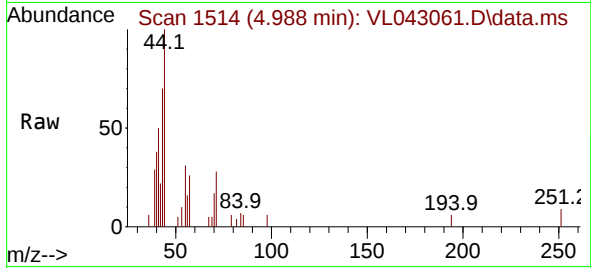
IA1

Tgt Ion: 43 Resp: 975

Ion Ratio Lower Upper

43 100

57 47.7 40.3 60.5



#11

Trichlorofluoromethane

Concen: 0.241 ppbv

RT: 1.881 min Scan# 554

Delta R.T. 0.010 min

Lab File: VL043061.D

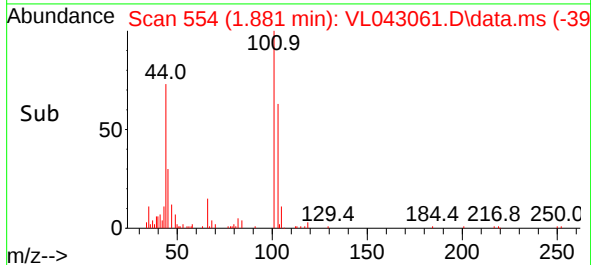
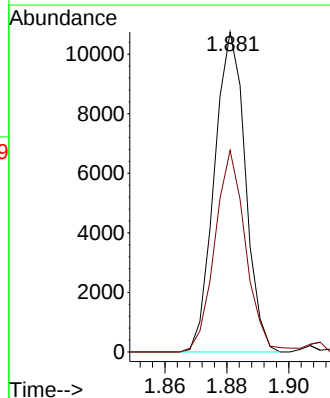
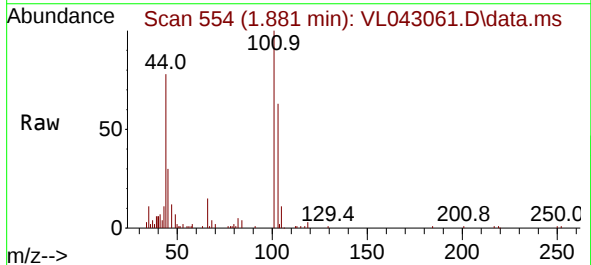
Acq: 08 Oct 2025 13:23

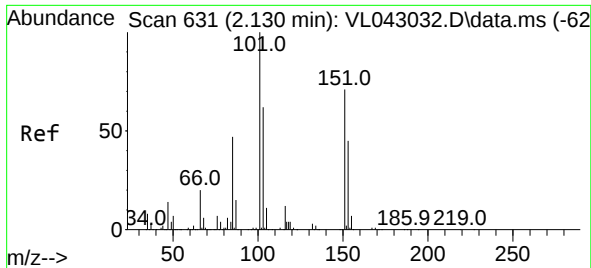
Tgt Ion:101 Resp: 7449

Ion Ratio Lower Upper

101 100

103 63.0 51.1 76.7

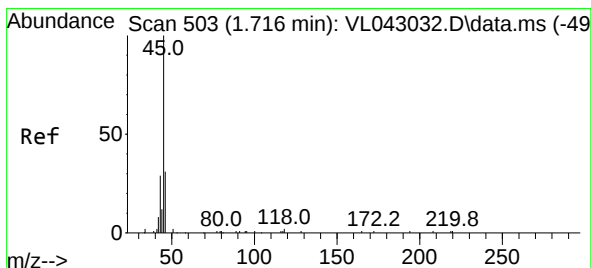
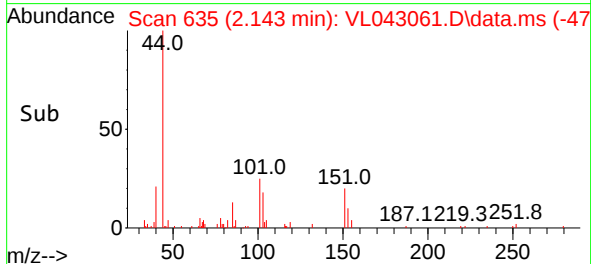
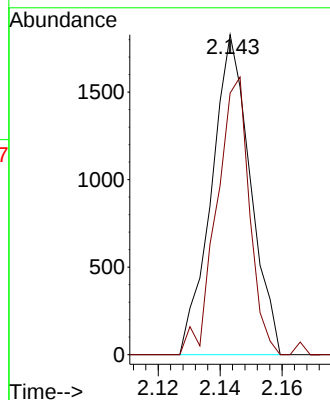
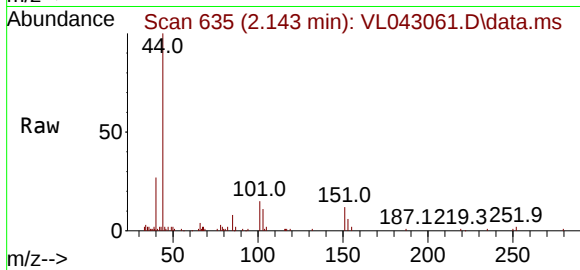




#12
1,1,2-Trichlorotrifluoroethane
Concen: 0.065 ppbv
RT: 2.143 min Scan# 61
Delta R.T. 0.013 min
Lab File: VL043061.D
Acq: 08 Oct 2025 13:23

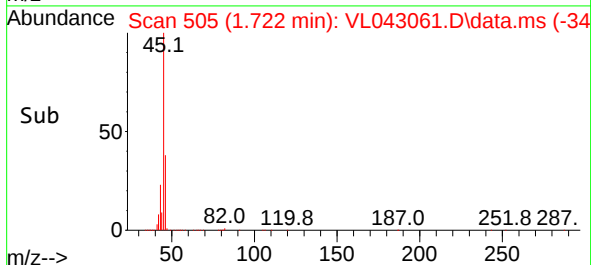
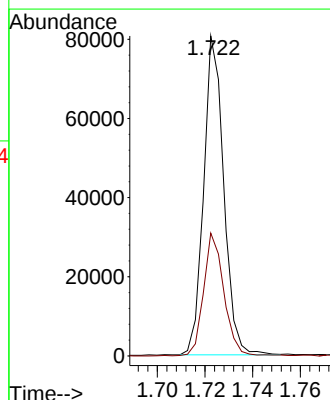
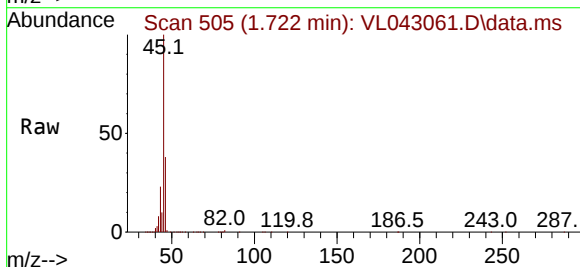
Instrument :
MSVOA_L
ClientSampleId :
IA1

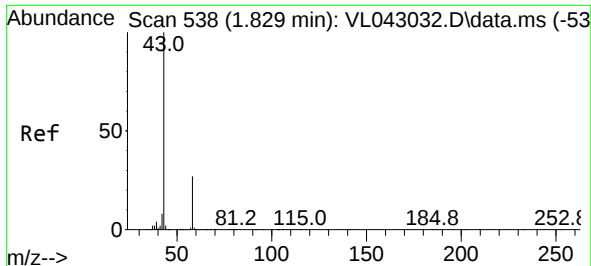
Tgt Ion:101 Resp: 1591
Ion Ratio Lower Upper
101 100
151 73.9 58.1 87.1



#13
Ethanol
Concen: 109.705 ppbv
RT: 1.722 min Scan# 505
Delta R.T. 0.006 min
Lab File: VL043061.D
Acq: 08 Oct 2025 13:23

Tgt Ion: 45 Resp: 47271
Ion Ratio Lower Upper
45 100
46 39.6 17.8 71.4

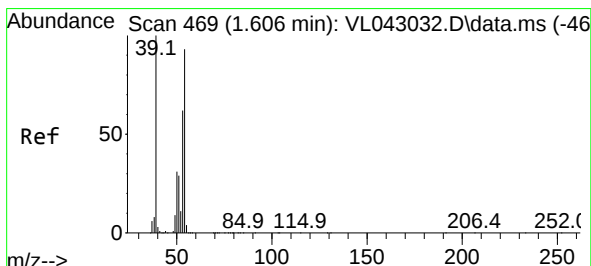
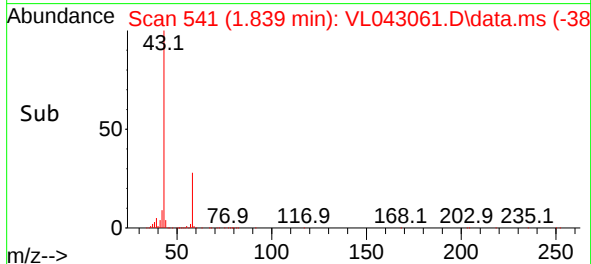
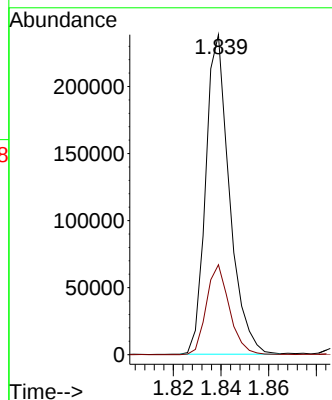
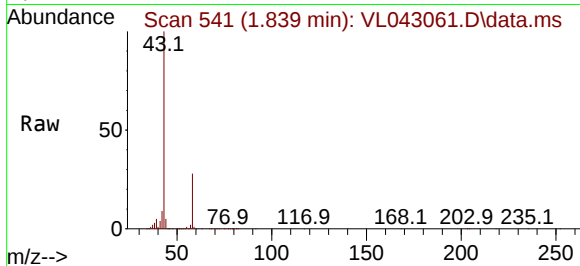




#15
Acetone
Concen: 6.613 ppbv
RT: 1.839 min Scan# 541
Delta R.T. 0.010 min
Lab File: VL043061.D
Acq: 08 Oct 2025 13:23

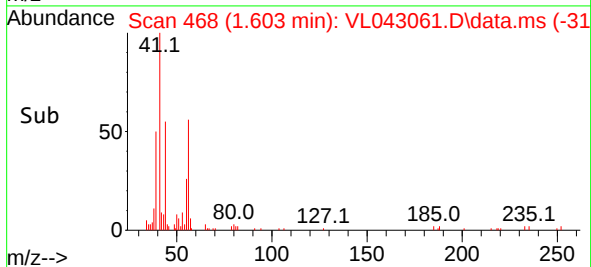
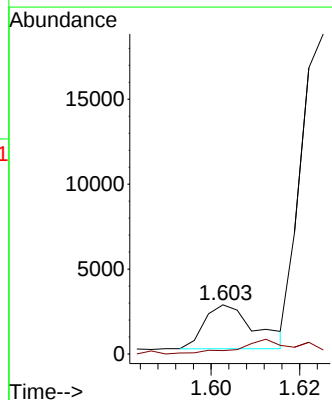
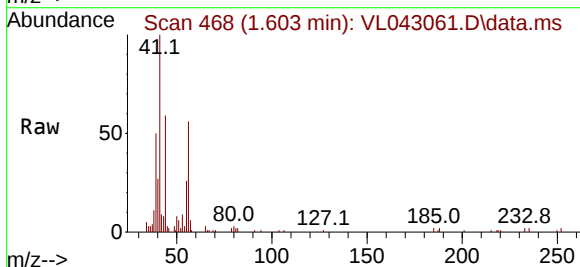
Instrument :
MSVOA_1
ClientSampleId :
IA1

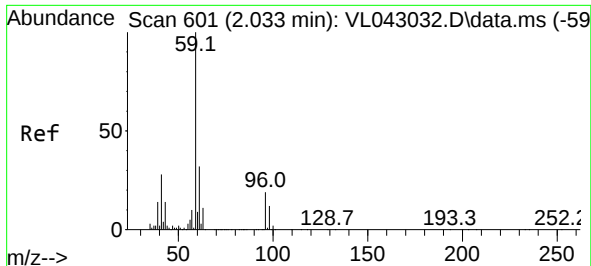
Tgt Ion: 43 Resp: 165569
Ion Ratio Lower Upper
43 100
58 27.4 22.2 33.4



#16
1,3-Butadiene
Concen: 0.200 ppbv
RT: 1.603 min Scan# 468
Delta R.T. -0.003 min
Lab File: VL043061.D
Acq: 08 Oct 2025 13:23

Tgt Ion: 39 Resp: 2060
Ion Ratio Lower Upper
39 100
54 48.5 61.4 92.2#

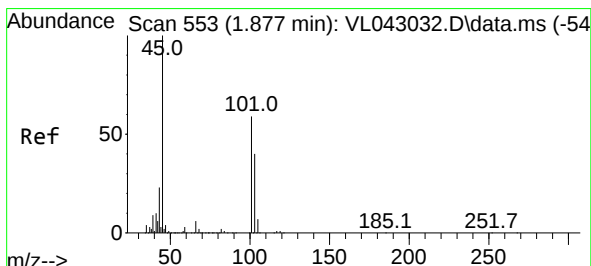
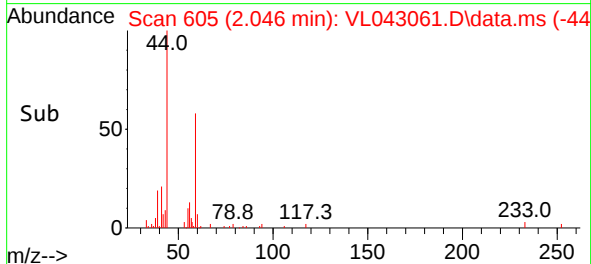
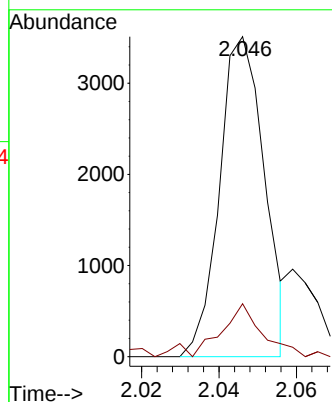
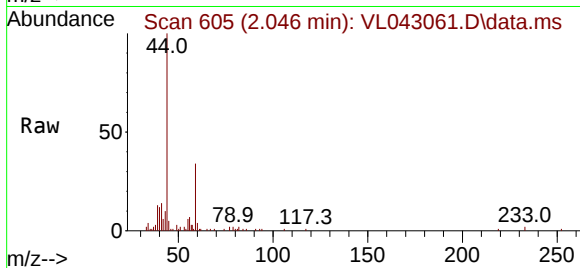




#17
tert-Butyl alcohol
Concen: 0.107 ppbv
RT: 2.046 min Scan# 601
Delta R.T. 0.013 min
Lab File: VL043061.D
Acq: 08 Oct 2025 13:23

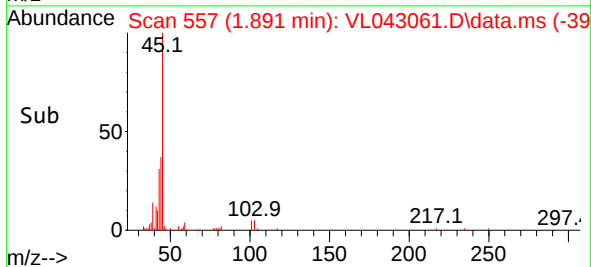
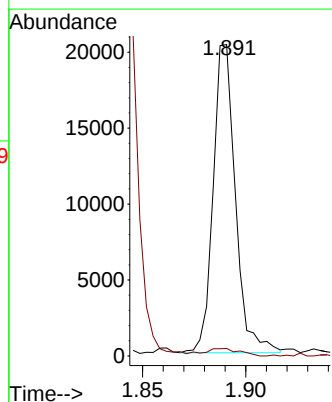
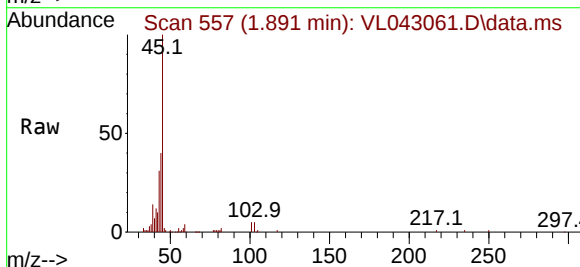
Instrument :
MSVOA_L
ClientSampleId :
IA1

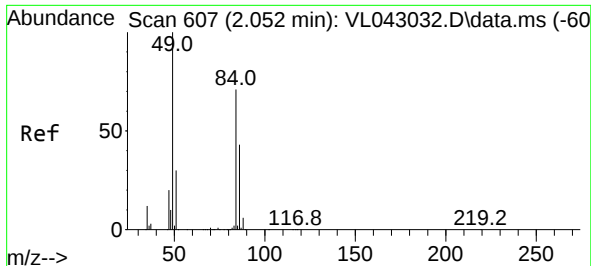
Tgt Ion: 59 Resp: 2826
Ion Ratio Lower Upper
59 100
57 18.9 8.5 12.7#



#19
Isopropyl Alcohol
Concen: 1.274 ppbv
RT: 1.891 min Scan# 557
Delta R.T. 0.013 min
Lab File: VL043061.D
Acq: 08 Oct 2025 13:23

Tgt Ion: 45 Resp: 15278
Ion Ratio Lower Upper
45 100
58 296.6 42.3 63.5#

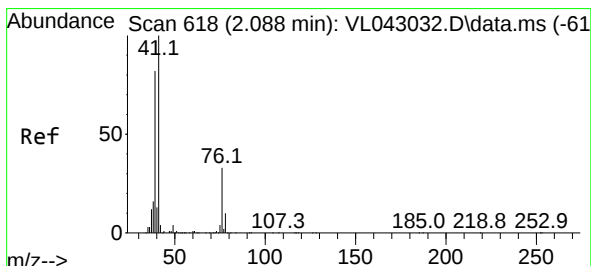
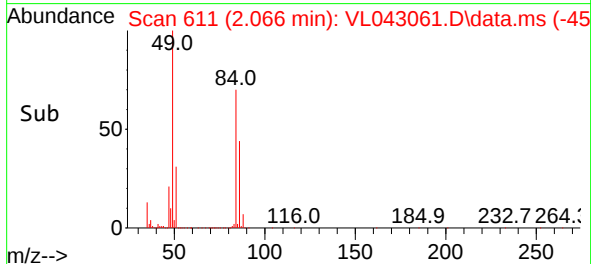
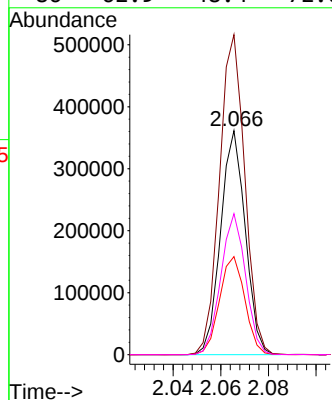
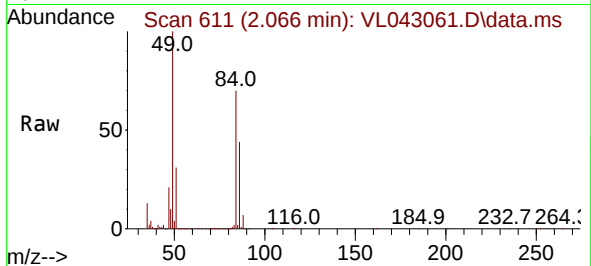




#20
Methylene Chloride
Concen: 23.769 ppbv
RT: 2.066 min Scan# 611
Delta R.T. 0.013 min
Lab File: VL043061.D
Acq: 08 Oct 2025 13:23

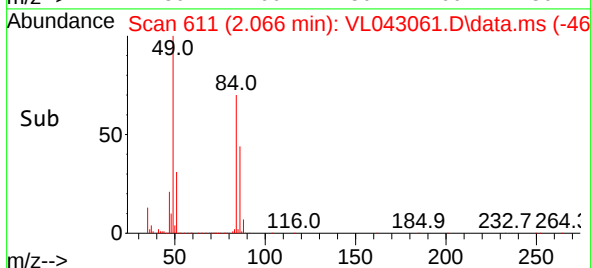
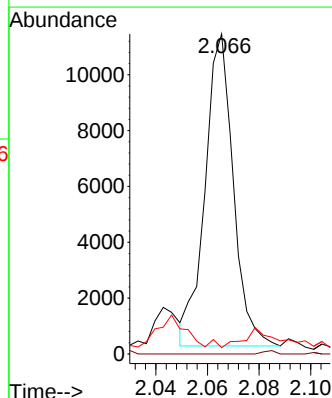
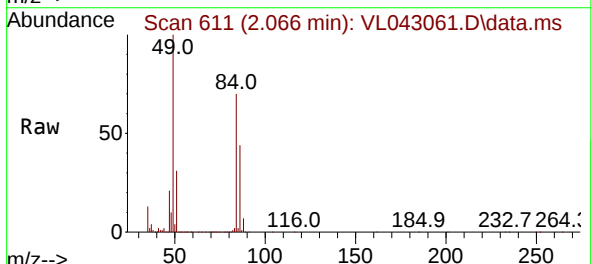
Instrument :
MSVOA_L
ClientSampleId :
IA1

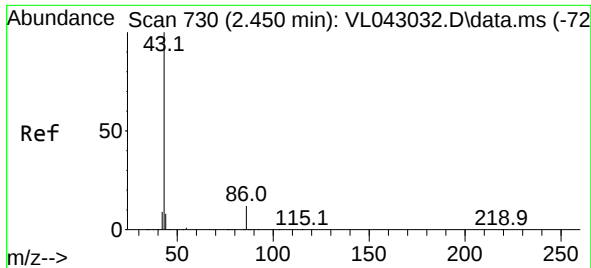
Tgt Ion: 84 Resp: 259738
Ion Ratio Lower Upper
84 100
49 142.8 112.5 168.7
51 43.7 34.2 51.2
86 62.9 48.4 72.6



#21
Allyl Chloride
Concen: 0.529 ppbv
RT: 2.066 min Scan# 611
Delta R.T. -0.022 min
Lab File: VL043061.D
Acq: 08 Oct 2025 13:23

Tgt Ion: 41 Resp: 8479
Ion Ratio Lower Upper
41 100
76 0.6 25.9 38.9#
39 8.4 63.0 94.4#



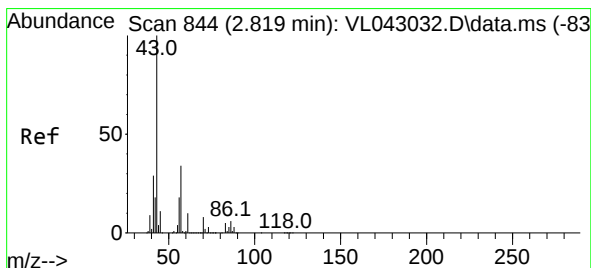
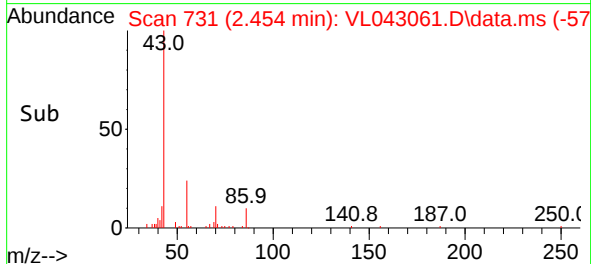
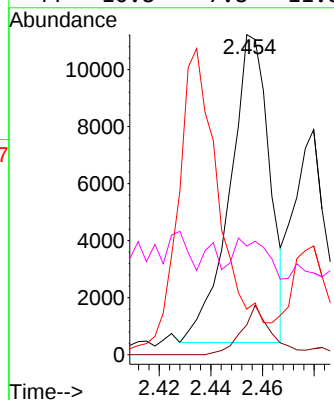
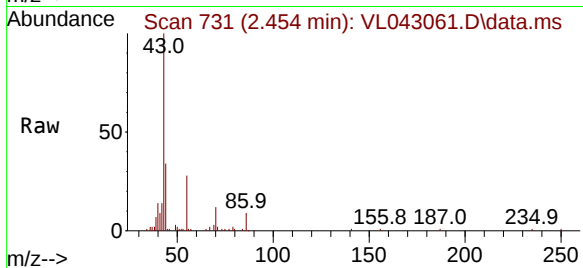


#23
Vinyl Acetate
Concen: 2.179 ppbv
RT: 2.454 min Scan# 71
Delta R.T. 0.004 min
Lab File: VL043061.D
Acq: 08 Oct 2025 13:23

Instrument :
MSVOA_L
ClientSampleId :
IA1

Tgt Ion: 43 Resp: 11580

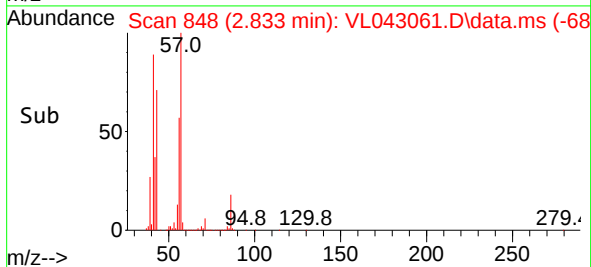
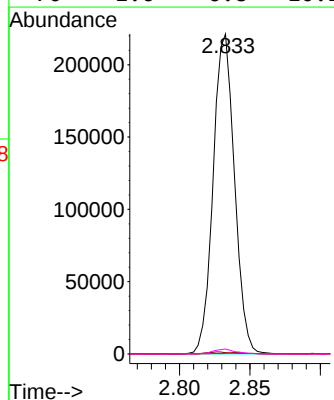
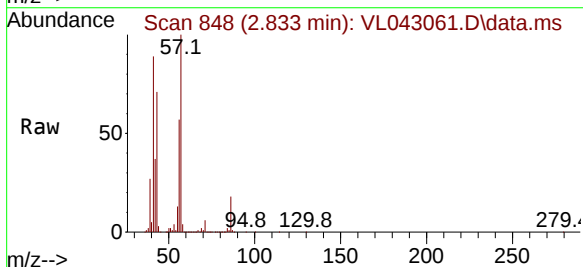
Ion	Ratio	Lower	Upper
43	100		
86	9.6	7.5	11.3
42	2.1	8.4	12.6#
44	10.8	7.8	11.8

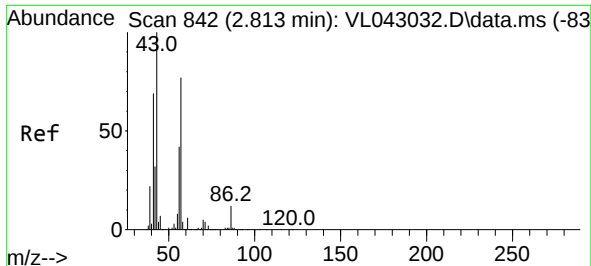


#25
Ethyl Acetate
Concen: 3.723 ppbv
RT: 2.833 min Scan# 848
Delta R.T. 0.013 min
Lab File: VL043061.D
Acq: 08 Oct 2025 13:23

Tgt Ion: 43 Resp: 233806

Ion	Ratio	Lower	Upper
43	100		
45	1.0	8.3	12.5#
61	0.3	7.5	11.3#
70	1.6	6.8	10.2#

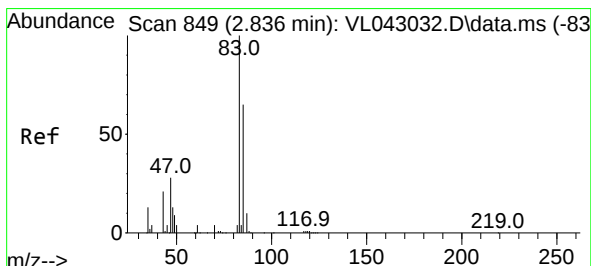
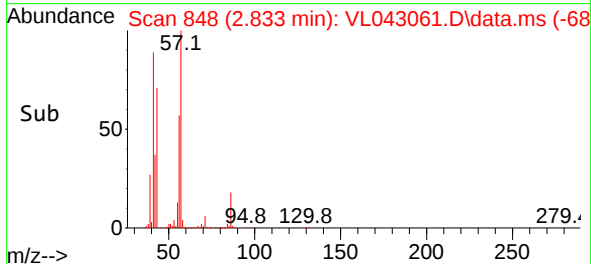
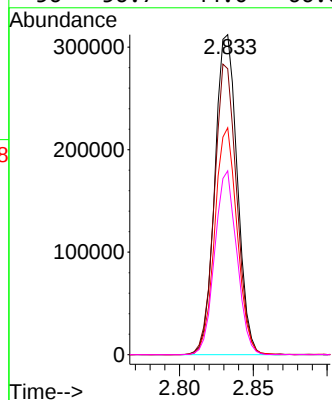
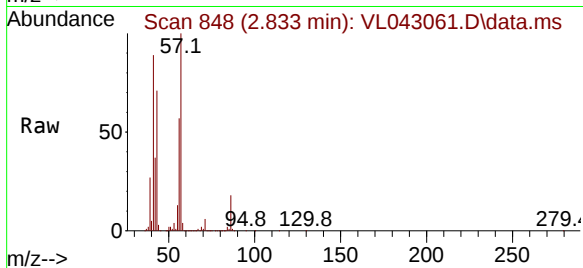




#26
Hexane
Concen: 13.659 ppbv
RT: 2.833 min Scan# 842
Delta R.T. 0.020 min
Lab File: VL043061.D
Acq: 08 Oct 2025 13:23

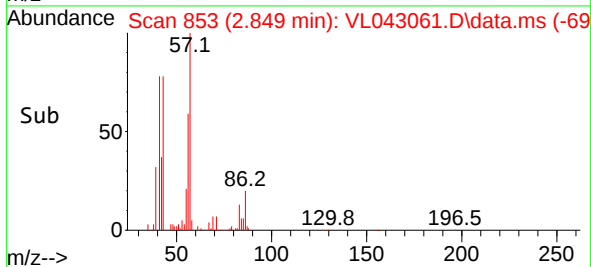
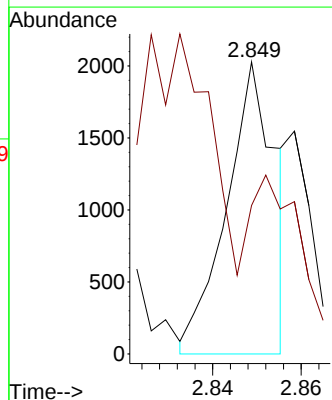
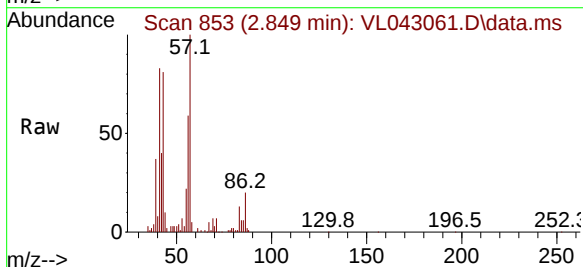
Instrument :
MSVOA_L
ClientSampleId :
IA1

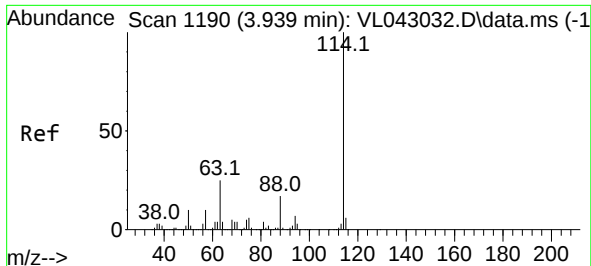
Tgt Ion: 57 Resp: 329986
Ion Ratio Lower Upper
57 100
41 90.8 76.1 114.1
43 71.0 201.4 302.0#
56 56.7 44.0 66.0



#29
Chloroform
Concen: 0.037 ppbv
RT: 2.849 min Scan# 853
Delta R.T. 0.013 min
Lab File: VL043061.D
Acq: 08 Oct 2025 13:23

Tgt Ion: 83 Resp: 1544
Ion Ratio Lower Upper
83 100
85 1.3 52.0 78.0#





#33

1,4-Difluorobenzene

Concen: 10.000 ppbv

RT: 3.962 min Scan# 1190

Delta R.T. 0.023 min

Lab File: VL043061.D

Acq: 08 Oct 2025 13:23

Instrument :

MSVOA_L

ClientSampleId :

IA1

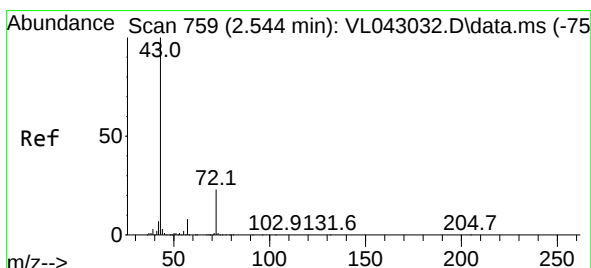
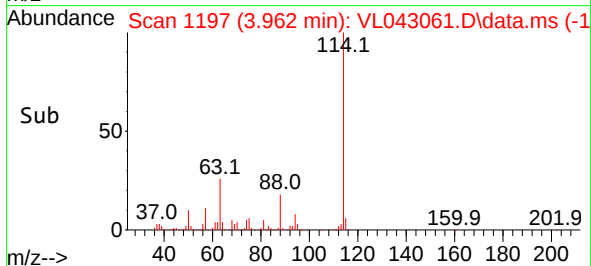
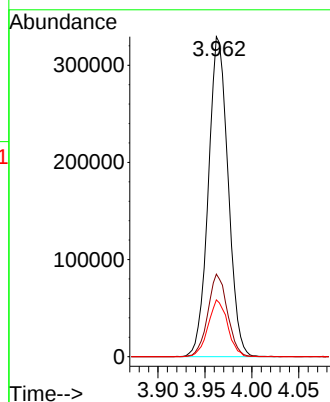
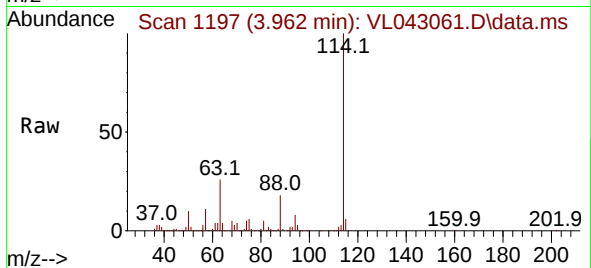
Tgt Ion:114 Resp: 481093

Ion Ratio Lower Upper

114 100

63 25.7 19.4 29.2

88 17.6 13.9 20.9



#34

2-Butanone

Concen: 0.354 ppbv

RT: 2.561 min Scan# 764

Delta R.T. 0.016 min

Lab File: VL043061.D

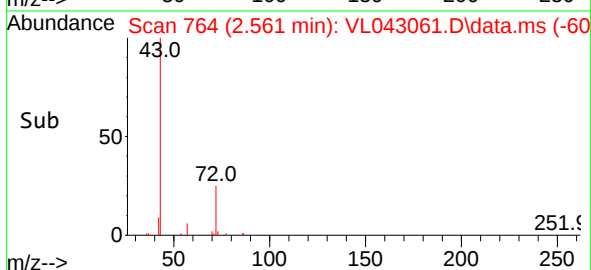
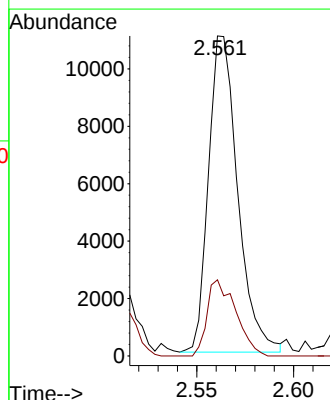
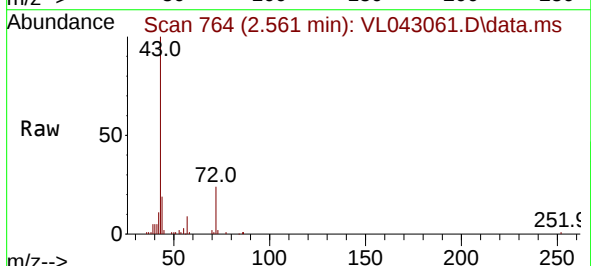
Acq: 08 Oct 2025 13:23

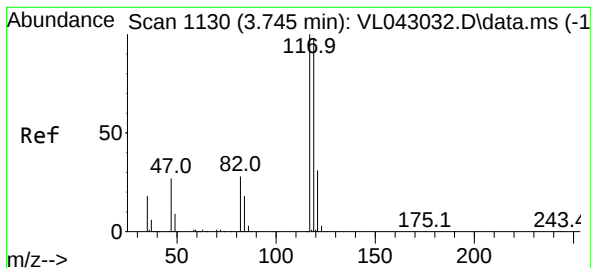
Tgt Ion: 43 Resp: 11558

Ion Ratio Lower Upper

43 100

72 23.7 18.4 27.6





#35

Carbon Tetrachloride

Concen: 0.048 ppbv

RT: 3.765 min Scan# 1130

Delta R.T. 0.020 min

Lab File: VL043061.D

Acq: 08 Oct 2025 13:23

Instrument :

MSVOA_L

ClientSampleId :

IA1

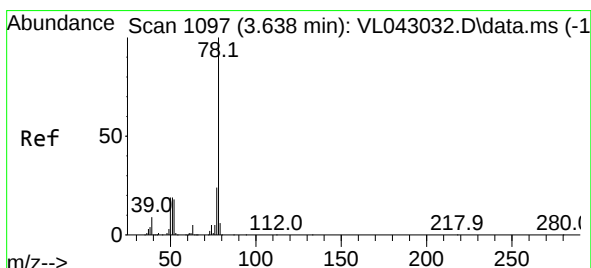
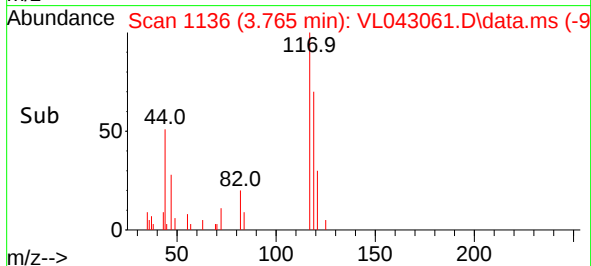
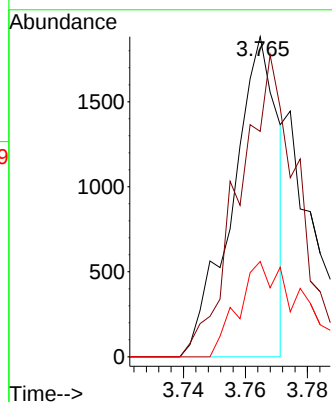
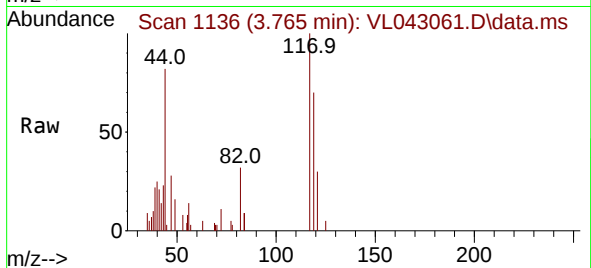
Tgt Ion:117 Resp: 1916

Ion Ratio Lower Upper

117 100

119 70.4 78.2 117.4#

121 29.8 24.8 37.2



#36

Benzene

Concen: 0.158 ppbv

RT: 3.664 min Scan# 1105

Delta R.T. 0.026 min

Lab File: VL043061.D

Acq: 08 Oct 2025 13:23

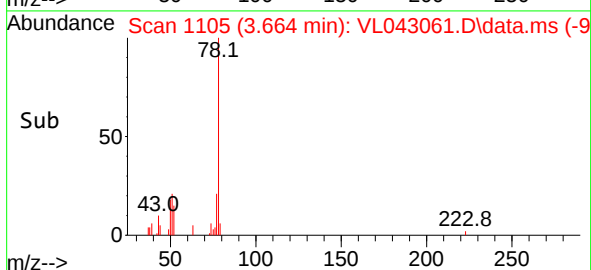
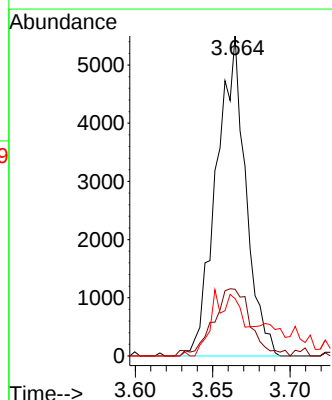
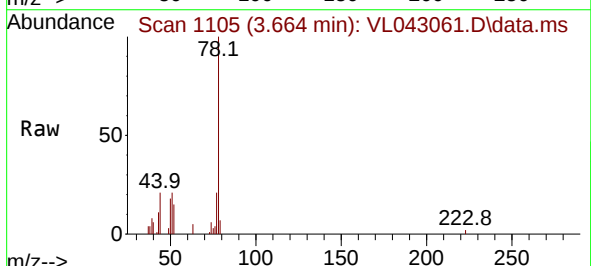
Tgt Ion: 78 Resp: 7242

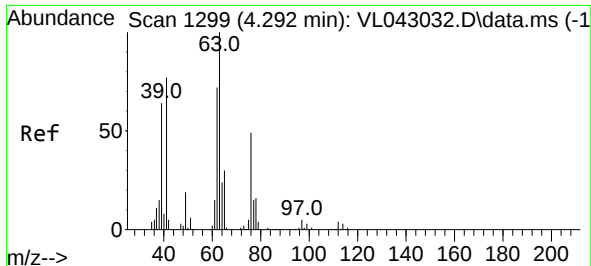
Ion Ratio Lower Upper

78 100

77 19.6 19.2 28.8

50 17.9 14.9 22.3





#39

1,2-Dichloropropane

Concen: 7.219 ppbv

RT: 3.962 min Scan# 1197

Delta R.T. -0.330 min

Lab File: VL043061.D

Acq: 08 Oct 2025 13:23

Instrument :

MSVOA_L

ClientSampleId :

IA1

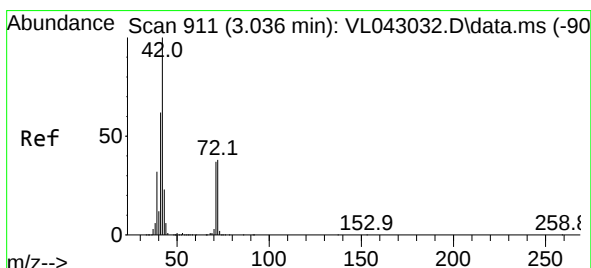
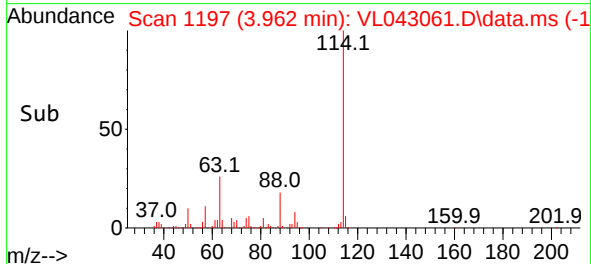
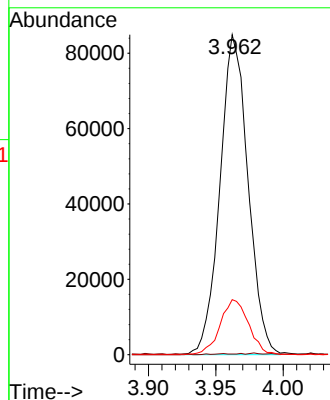
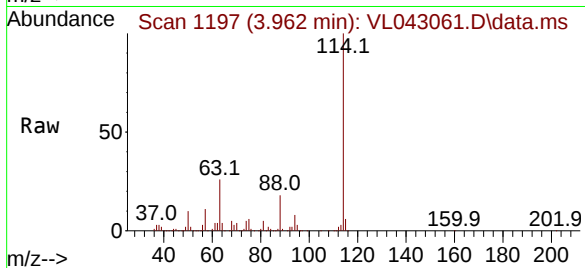
Tgt Ion: 63 Resp: 122985

Ion Ratio Lower Upper

63 100

41 0.0 61.6 92.4#

62 17.2 58.1 87.1#



#41

Tetrahydrofuran

Concen: 0.087 ppbv

RT: 3.234 min Scan# 972

Delta R.T. 0.198 min

Lab File: VL043061.D

Acq: 08 Oct 2025 13:23

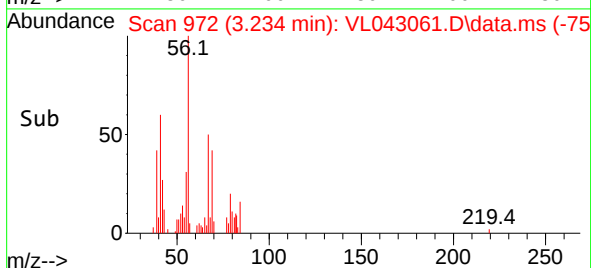
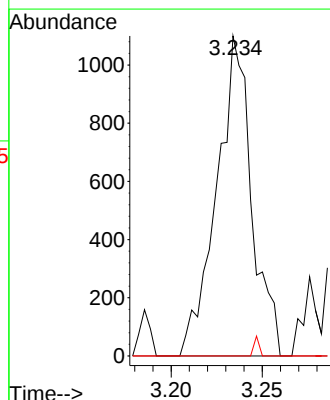
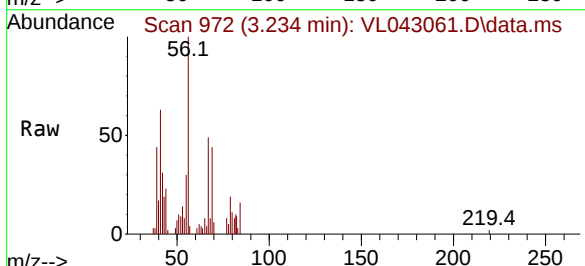
Tgt Ion: 42 Resp: 1473

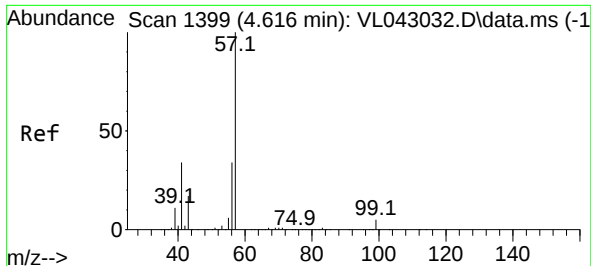
Ion Ratio Lower Upper

42 100

72 0.0 31.0 46.6#

71 0.0 29.8 44.6#





#44

2,2,4-Trimethylpentane

Concen: 0.124 ppbv

RT: 4.648 min Scan# 1409

Delta R.T. 0.033 min

Lab File: VL043061.D

Acq: 08 Oct 2025 13:23

Instrument :

MSVOA_L

ClientSampleId :

IA1

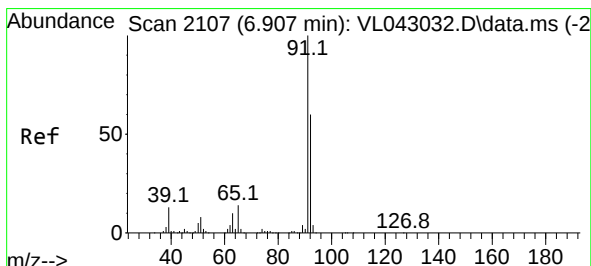
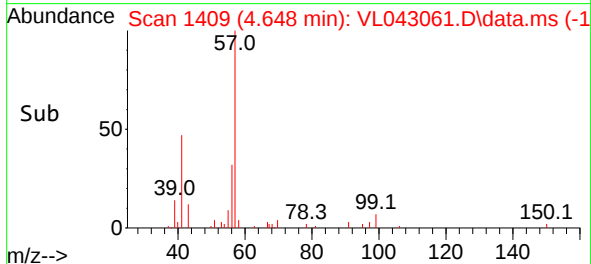
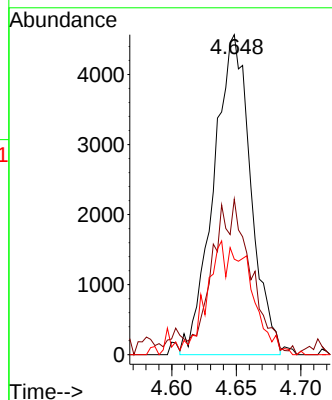
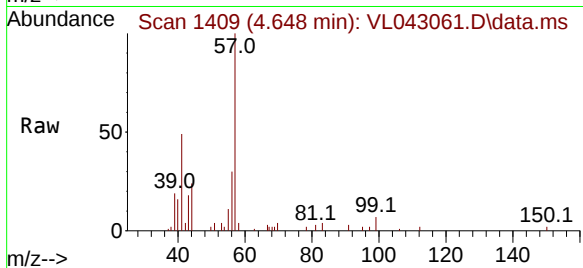
Tgt Ion: 57 Resp: 9153

Ion Ratio Lower Upper

57 100

41 48.4 27.0 40.4#

56 41.4 26.0 39.0#



#53

Toluene

Concen: 0.165 ppbv

RT: 6.940 min Scan# 2117

Delta R.T. 0.033 min

Lab File: VL043061.D

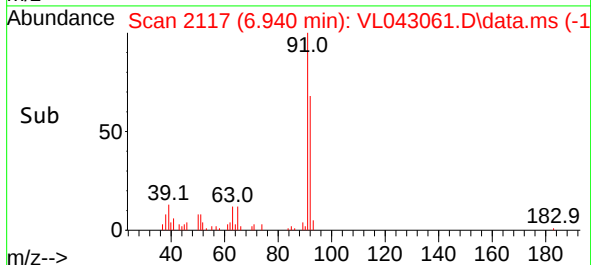
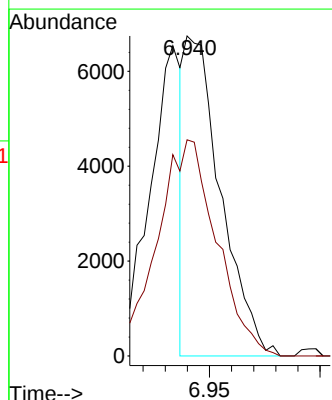
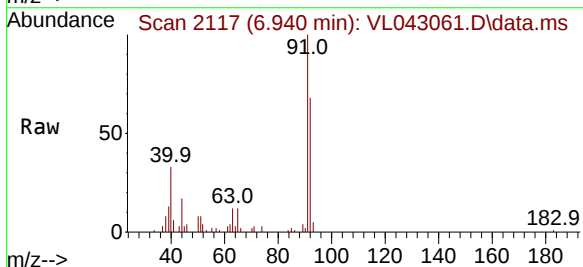
Acq: 08 Oct 2025 13:23

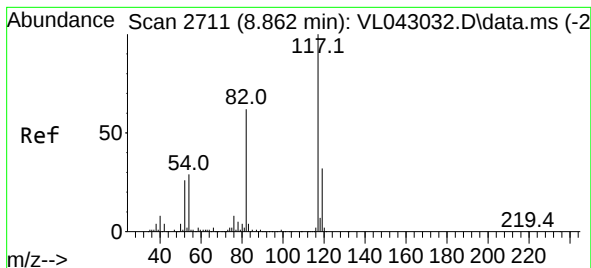
Tgt Ion: 91 Resp: 7637

Ion Ratio Lower Upper

91 100

92 112.0 47.8 71.6#





#55

Chlorobenzene-d5

Concen: 10.000 ppbv

RT: 8.885 min Scan# 21

Delta R.T. 0.023 min

Lab File: VL043061.D

Acq: 08 Oct 2025 13:23

Instrument :

MSVOA_L

ClientSampleId :

IA1

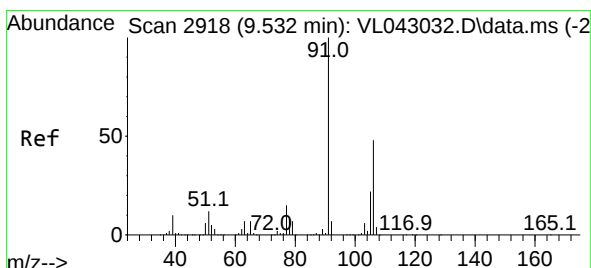
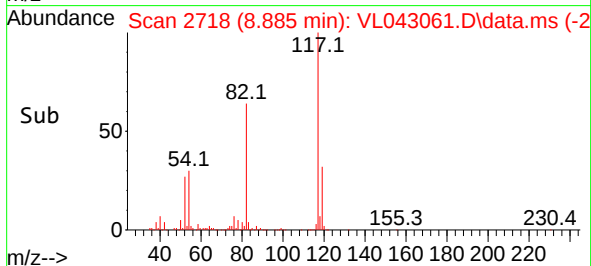
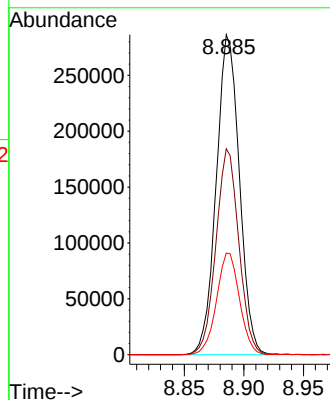
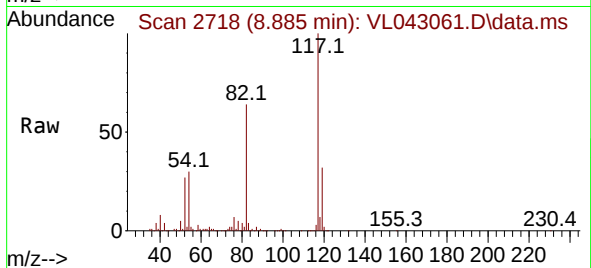
Tgt Ion:117 Resp: 385982

Ion Ratio Lower Upper

117 100

82 63.7 53.0 79.6

119 31.7 25.4 38.2



#59

m/p-Xylene

Concen: 0.034 ppbv

RT: 9.555 min Scan# 2925

Delta R.T. 0.023 min

Lab File: VL043061.D

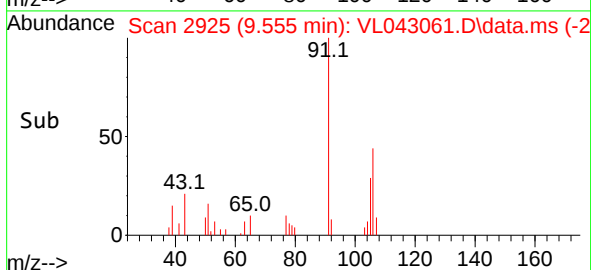
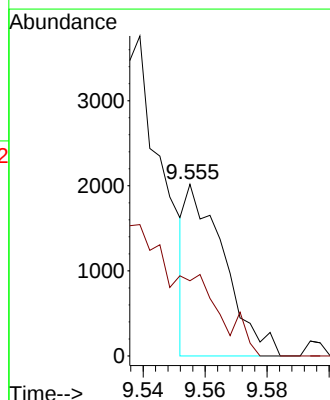
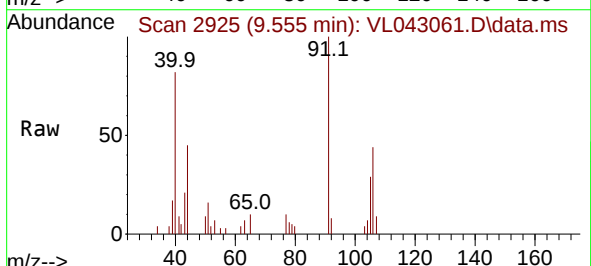
Acq: 08 Oct 2025 13:23

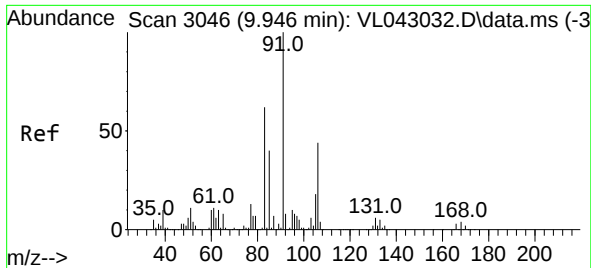
Tgt Ion: 91 Resp: 1726

Ion Ratio Lower Upper

91 100

106 0.0 37.5 56.3#

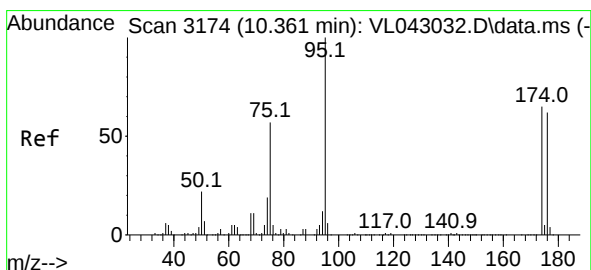
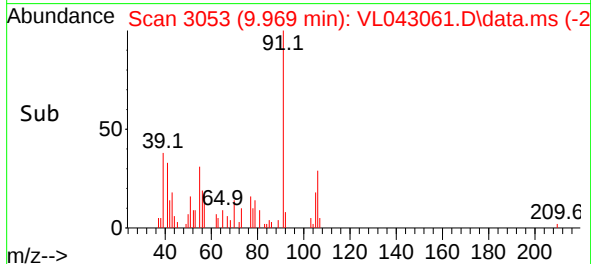
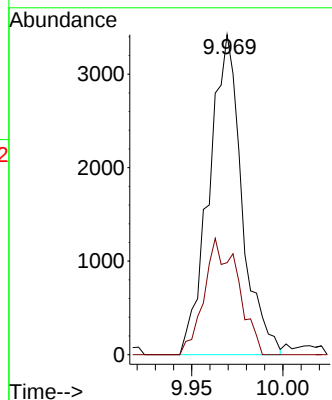
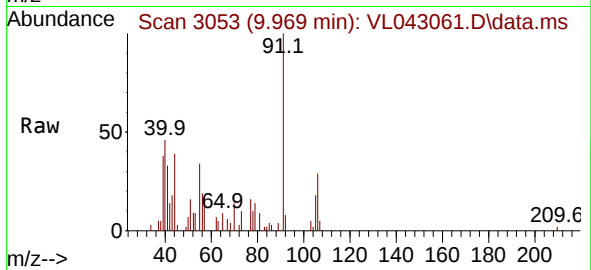




#60
o-Xylene
Concen: 0.085 ppbv
RT: 9.969 min Scan# 3046
Delta R.T. 0.023 min
Lab File: VL043061.D
Acq: 08 Oct 2025 13:23

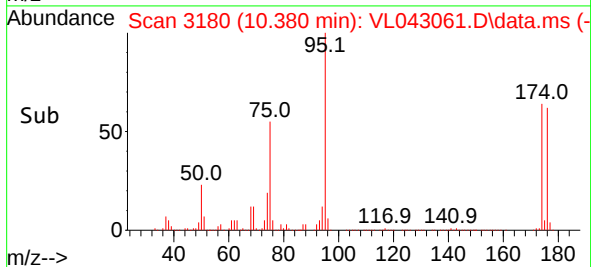
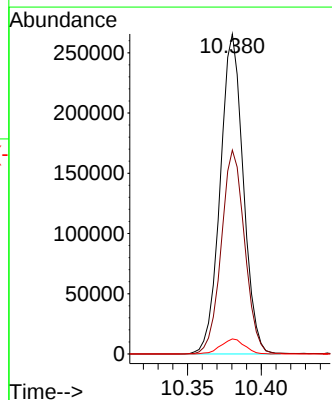
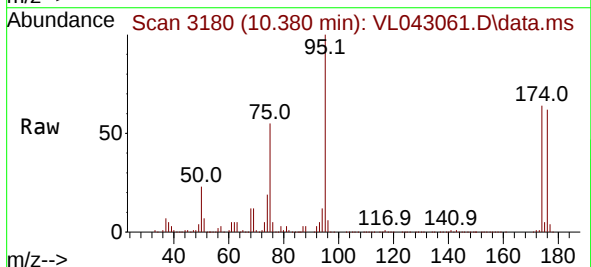
Instrument :
MSVOA_L
ClientSampleId :
IA1

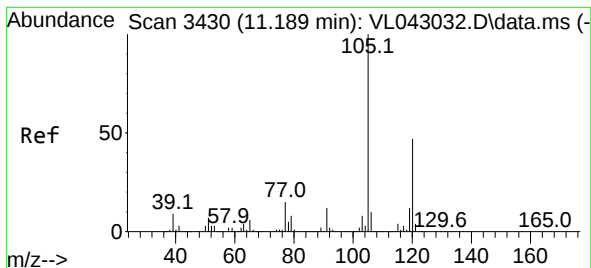
Tgt Ion: 91 Resp: 4278
Ion Ratio Lower Upper
91 100
106 37.4 21.9 65.5



#68
1-Bromo-4-Fluorobenzene
Concen: 10.366 ppbv
RT: 10.380 min Scan# 3180
Delta R.T. 0.020 min
Lab File: VL043061.D
Acq: 08 Oct 2025 13:23

Tgt Ion: 95 Resp: 288219
Ion Ratio Lower Upper
95 100
174 65.1 52.3 78.5
175 4.9 3.8 5.8





#73

1,3,5-Trimethylbenzene

Concen: 0.037 ppbv

RT: 11.209 min Scan# 3430

Delta R.T. 0.020 min

Lab File: VL043061.D

Acq: 08 Oct 2025 13:23

Instrument :

MSVOA_L

ClientSampleId :

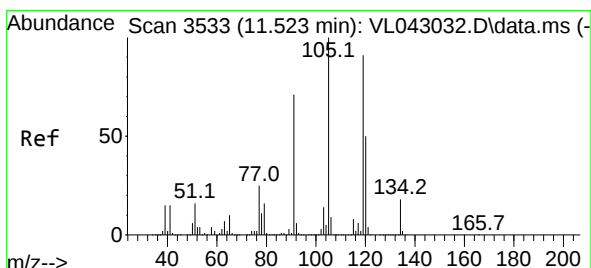
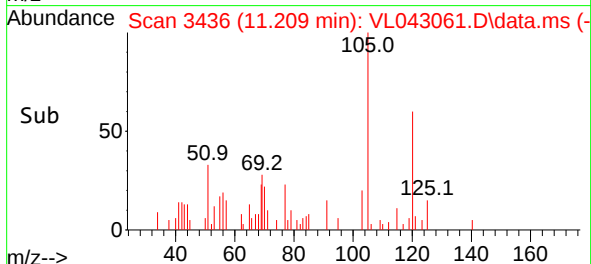
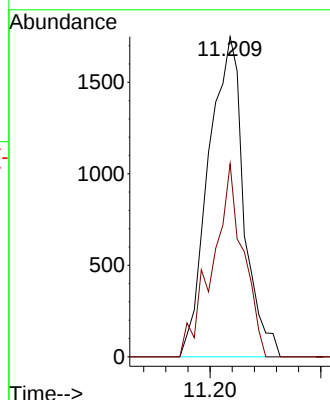
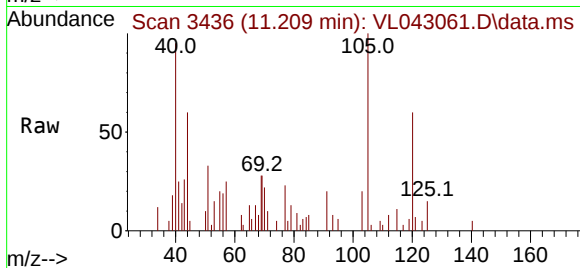
IA1

Tgt Ion:105 Resp: 1935

Ion Ratio Lower Upper

105 100

120 60.3 37.5 56.3#



#74

1,2,4-Trimethylbenzene

Concen: 0.102 ppbv

RT: 11.539 min Scan# 3538

Delta R.T. 0.016 min

Lab File: VL043061.D

Acq: 08 Oct 2025 13:23

Tgt Ion:105 Resp: 5939

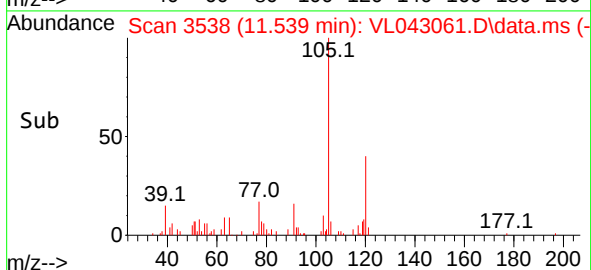
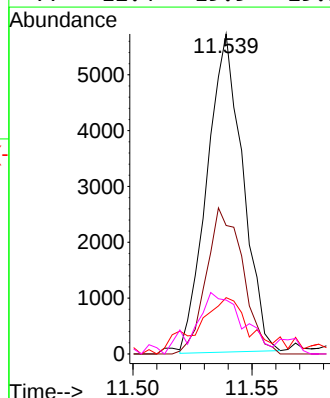
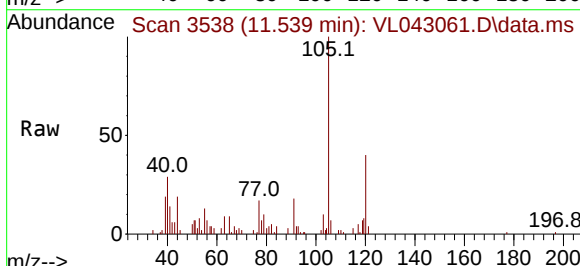
Ion Ratio Lower Upper

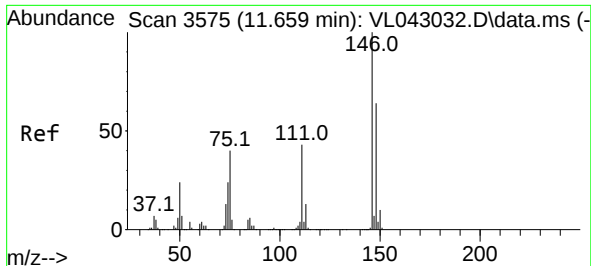
105 100

120 40.6 39.7 59.5

91 12.4 56.5 84.7#

77 12.4 19.9 29.9#

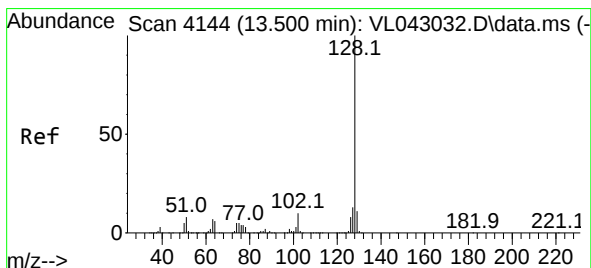
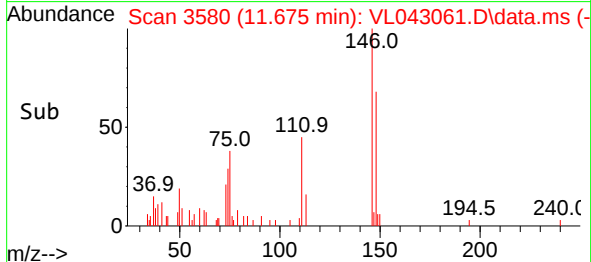
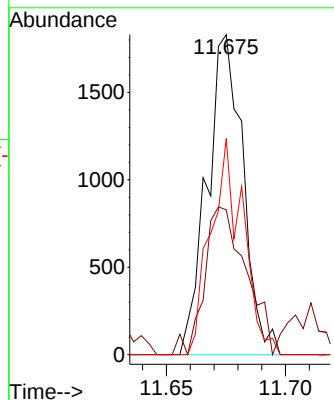
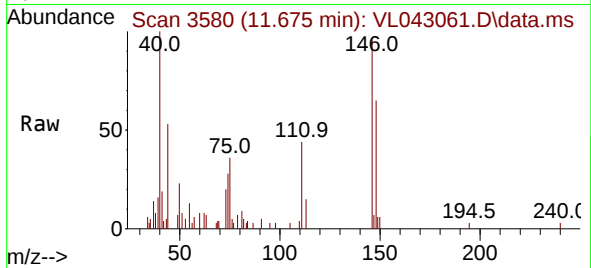




#76
1,4-Dichlorobenzene
Concen: 0.053 ppbv
RT: 11.675 min Scan# 3580
Delta R.T. 0.016 min
Lab File: VL043061.D
Acq: 08 Oct 2025 13:23

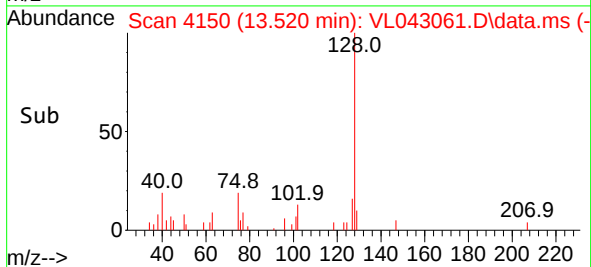
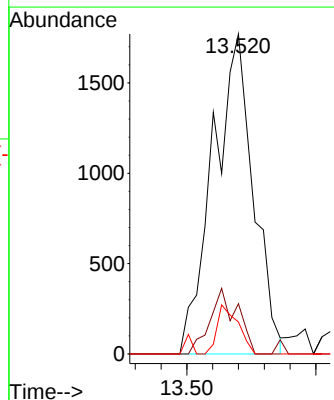
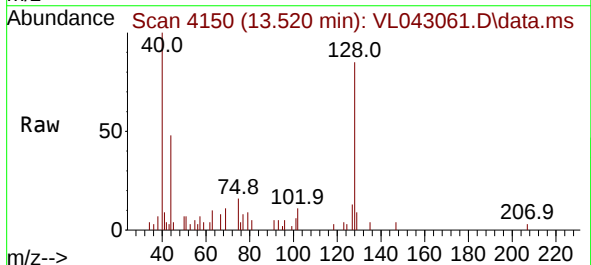
Instrument :
MSVOA_L
ClientSampleId :
IA1

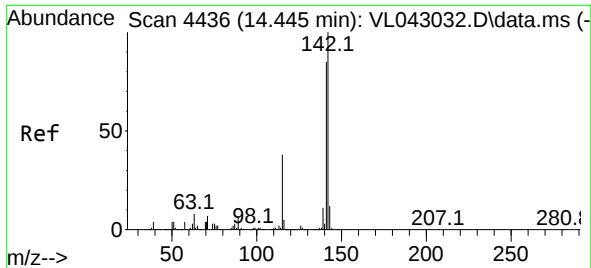
Tgt Ion:146 Resp: 1916
Ion Ratio Lower Upper
146 100
111 65.9 21.7 65.1#
148 60.8 32.1 96.3



#79
Naphthalene
Concen: 0.274 ppbv
RT: 13.520 min Scan# 4150
Delta R.T. 0.020 min
Lab File: VL043061.D
Acq: 08 Oct 2025 13:23

Tgt Ion:128 Resp: 1928
Ion Ratio Lower Upper
128 100
127 15.7 10.6 16.0
129 10.0 8.8 13.2





#80
 Naphthalene, 2-methyl-
 Concen: 0.728 ppbv
 RT: 14.462 min Scan# 44
 Delta R.T. 0.017 min
 Lab File: VL043061.D
 Acq: 08 Oct 2025 13:23

Instrument :
 MSVOA_L
 ClientSampleId :
 IA1

Tgt Ion: 142 Resp: 1623
 Ion Ratio Lower Upper
 142 100
 141 73.7 66.6 100.0
 115 60.9 30.1 45.1#

