

Data Path : Z:\voasrv\HPCHEM1\MSVOA_L\Data\VL111825\
 Data File : VL043218.D
 Acq On : 18 Nov 2025 18:15
 Operator : SY/MD
 Sample : Q3650-03
 Misc : 400mL/MSVOA_L
 ALS Vial : 1 Sample Multiplier: 1

Instrument :
 MSVOA_L
 ClientSampleId :
 IA1

Quant Time: Nov 19 01:38:10 2025
 Quant Method : Z:\voasrv\HPCHEM1\MSVOA_L\methods\VL111825AIR.M
 Quant Title : AIR ANALYSIS BY METHOD TO-15 Instrument: MSVOA_L Fri Aug 26 06:05:16 2022
 QLast Update : Wed Nov 19 01:11:25 2025
 Response via : Initial Calibration

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

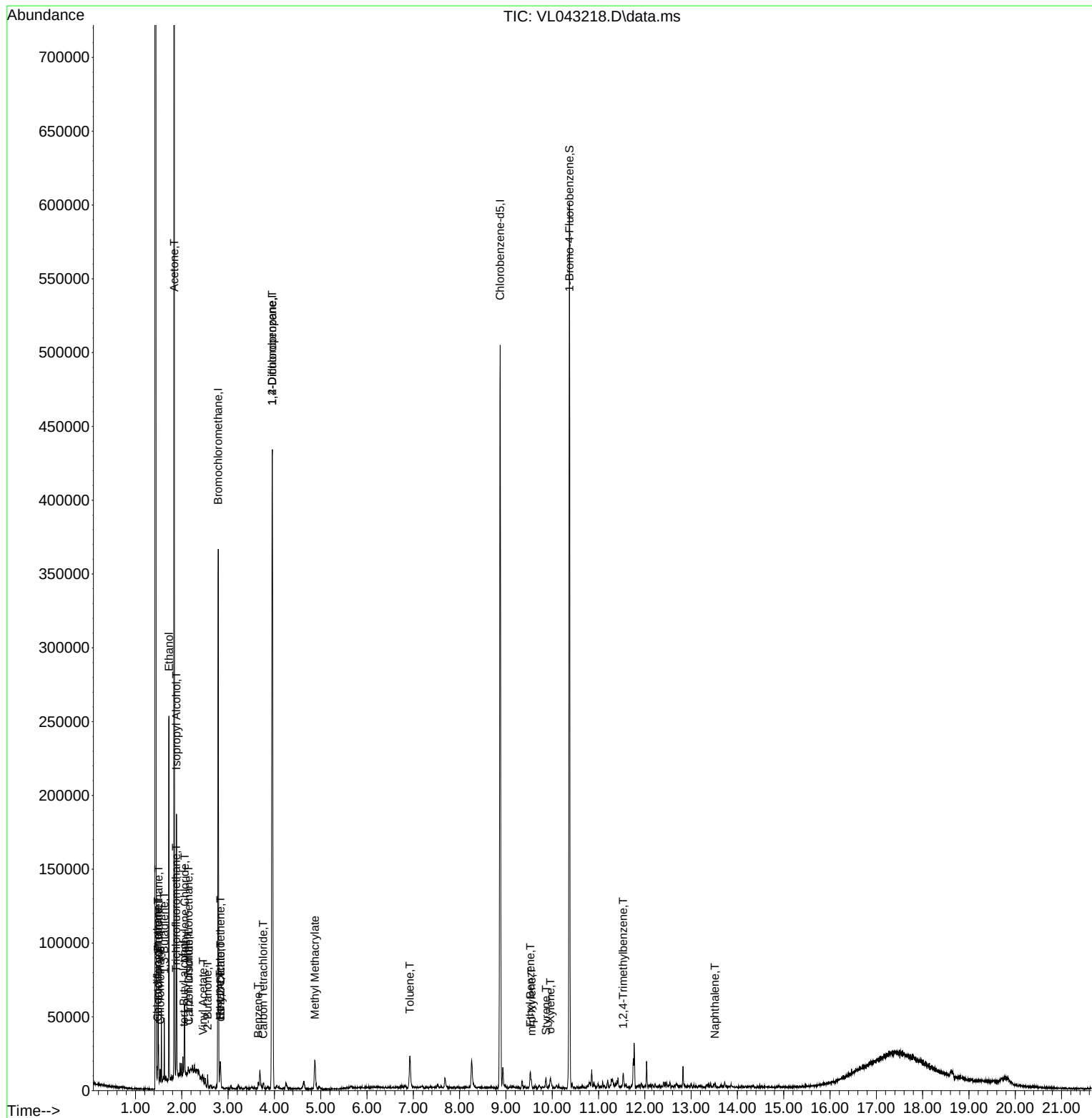
Internal Standards						
1) Bromochloromethane	2.787	49	98200	10.000	ppbv	0.00
33) 1,4-Difluorobenzene	3.955	114	259525	10.000	ppbv	0.00
55) Chlorobenzene-d5	8.875	117	203499	10.000	ppbv	0.00
System Monitoring Compounds						
68) 1-Bromo-4-Fluorobenzene	10.370	95	154823	10.379	ppbv	0.00
Spiked Amount	10.000	Range	65 - 135	Recovery	= 103.800%	
Target Compounds						
						Qvalue
2) Dichlorodifluoromethane	1.499	85	5572	0.402	ppbv	99
3) Chlorodifluoromethane	1.476	51	4358	0.320	ppbv	98
4) Chloromethane	1.531	50	2438	0.471	ppbv	98
9) Propene	1.489	41	4038	0.698	ppbv #	86
11) Trichlorofluoromethane	1.877	101	2694	0.201	ppbv	87
12) 1,1,2-Trichlorotrifluo...	2.143	101	596	0.057	ppbv	89
13) Ethanol	1.722	45	89190	43.851	ppbv	99
15) Acetone	1.835	43	695771	50.997	ppbv	100
16) 1,3-Butadiene	1.622	39	1543	0.254	ppbv #	29
17) tert-Butyl alcohol	2.042	59	830	0.046	ppbv #	27
19) Isopropyl Alcohol	1.884	45	73444	9.527	ppbv #	1
20) Methylene Chloride	2.062	84	4770	0.436	ppbv #	89
23) Vinyl Acetate	2.457	43	961	0.058	ppbv #	86
25) Ethyl Acetate	2.835	43	10417	0.354	ppbv #	76
26) Hexane	2.826	57	2400	0.186	ppbv #	12
27) Carbon Disulfide	2.149	76	603	0.046	ppbv #	1
31) cis-1,2-Dichloroethene	2.839	61	1105	0.086	ppbv #	33
34) 2-Butanone	2.557	43	4492	0.245	ppbv	98
35) Carbon Tetrachloride	3.758	117	925	0.047	ppbv #	75
36) Benzene	3.651	78	1368	0.055	ppbv #	90
39) 1,2-Dichloropropane	3.955	63	66445	7.304	ppbv #	26
43) Methyl Methacrylate	4.878	69	6270	0.475	ppbv	92
53) Toluene	6.923	91	14272	0.485	ppbv	94
58) Ethyl Benzene	9.529	91	1485	0.038	ppbv	95
59) m/p-Xylene	9.551	91	1512	0.048	ppbv #	31
60) o-Xylene	9.963	91	1029	0.033	ppbv #	34
61) Styrene	9.869	104	1164	0.085	ppbv #	53
74) 1,2,4-Trimethylbenzene	11.532	105	3182	0.091	ppbv #	56
79) Naphthalene	13.513	128	999	0.032	ppbv #	83

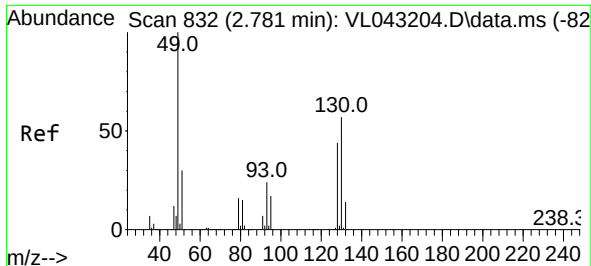
(#) = qualifier out of range (m) = manual integration (+) = signals summed

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Quant Title : AIR ANALYSIS BY METHOD TO-15 Instrument: MSVOA_L Fri Aug 26 06:05:16 2022
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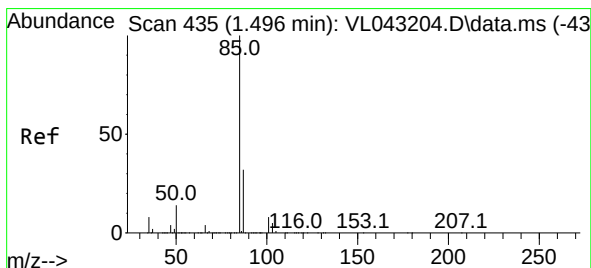
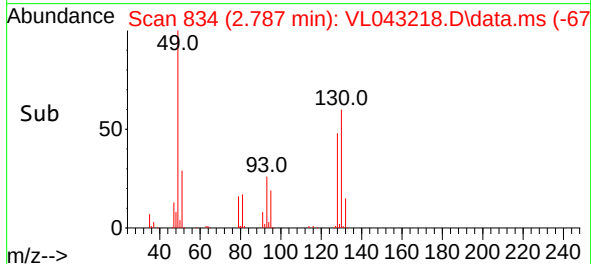
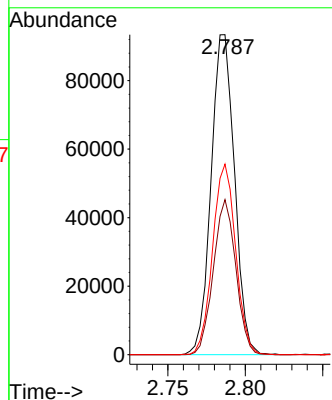
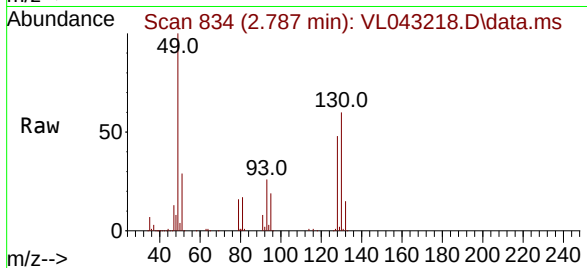




#1
Bromochloromethane
Concen: 10.000 ppbv
RT: 2.787 min Scan# 81
Delta R.T. 0.006 min
Lab File: VL043218.D
Acq: 18 Nov 2025 18:15

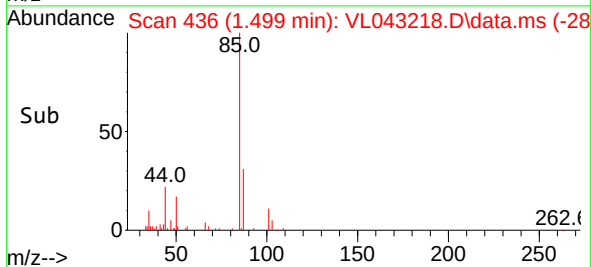
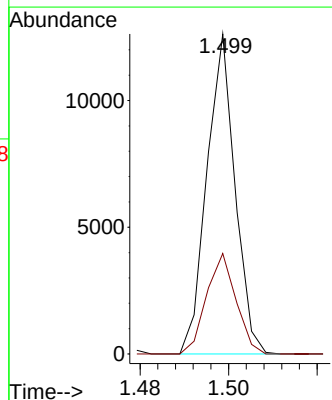
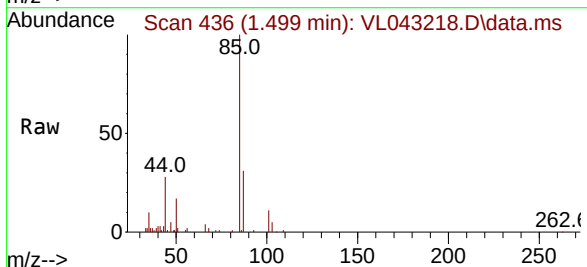
Instrument :
MSVOA_L
ClientSampleId :
IA1

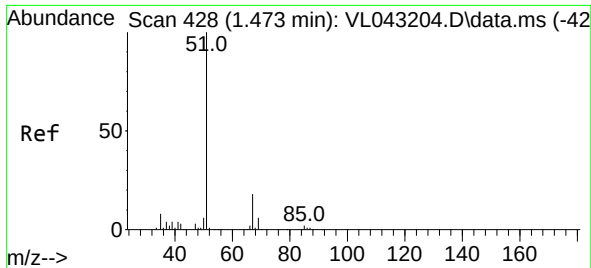
Tgt Ion: 49 Resp: 98200
Ion Ratio Lower Upper
49 100
128 46.6 23.0 69.0
130 58.6 29.9 89.7



#2
Dichlorodifluoromethane
Concen: 0.402 ppbv
RT: 1.499 min Scan# 436
Delta R.T. 0.003 min
Lab File: VL043218.D
Acq: 18 Nov 2025 18:15

Tgt Ion: 85 Resp: 5572
Ion Ratio Lower Upper
85 100
87 31.4 25.4 38.2





#3

Chlorodifluoromethane

Concen: 0.320 ppbv

RT: 1.476 min Scan# 428

Delta R.T. 0.003 min

Lab File: VL043218.D

Acq: 18 Nov 2025 18:15

Instrument :

MSVOA_1

ClientSampleId :

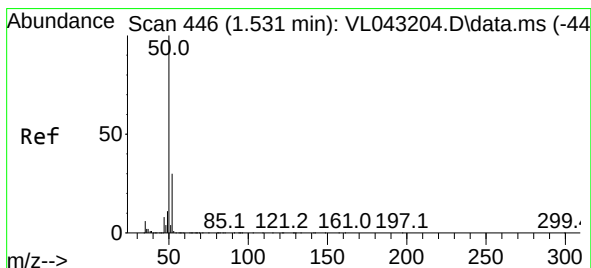
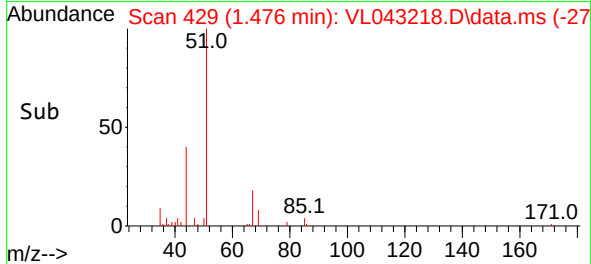
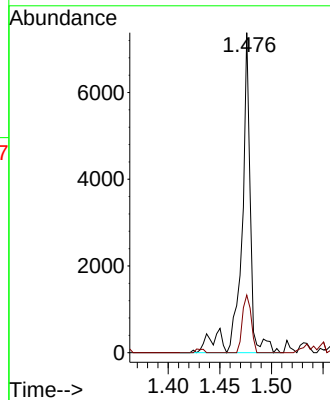
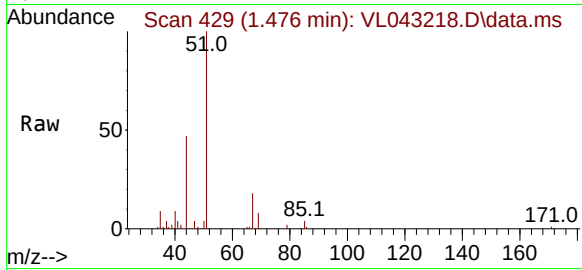
IA1

Tgt Ion: 51 Resp: 4358

Ion Ratio Lower Upper

51 100

67 17.7 14.9 22.3



#4

Chloromethane

Concen: 0.471 ppbv

RT: 1.531 min Scan# 446

Delta R.T. -0.000 min

Lab File: VL043218.D

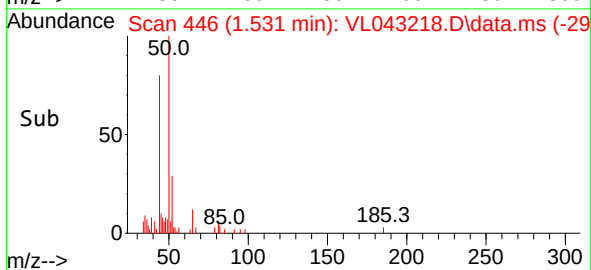
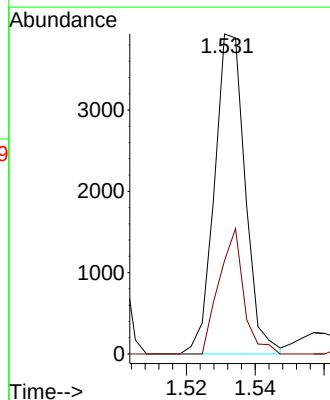
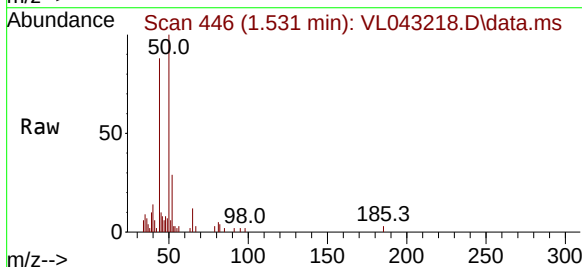
Acq: 18 Nov 2025 18:15

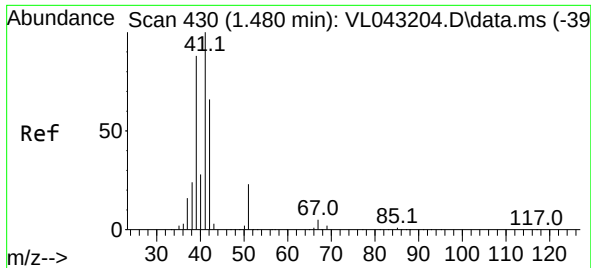
Tgt Ion: 50 Resp: 2438

Ion Ratio Lower Upper

50 100

52 29.2 24.1 36.1





#9

Propene

Concen: 0.698 ppbv

RT: 1.489 min Scan# 41

Delta R.T. 0.009 min

Lab File: VL043218.D

Acq: 18 Nov 2025 18:15

Instrument :

MSVOA_L

ClientSampleId :

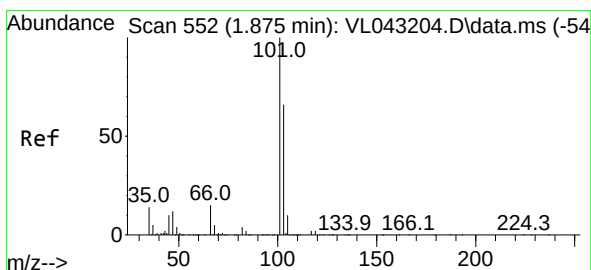
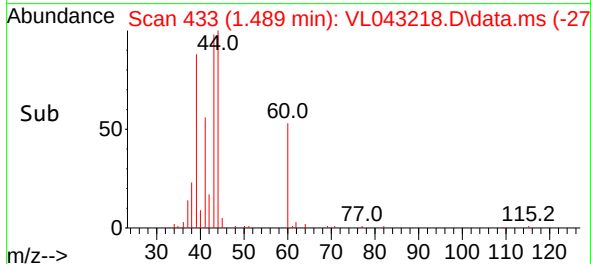
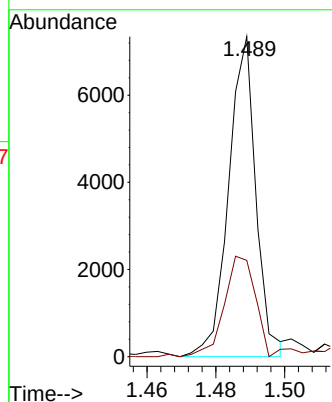
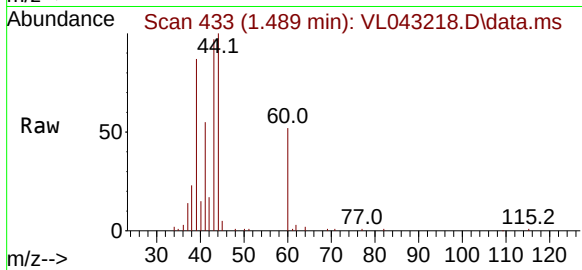
IA1

Tgt Ion: 41 Resp: 4038

Ion Ratio Lower Upper

41 100

42 0.0 3.7 5.5#



#11

Trichlorofluoromethane

Concen: 0.201 ppbv

RT: 1.877 min Scan# 553

Delta R.T. 0.003 min

Lab File: VL043218.D

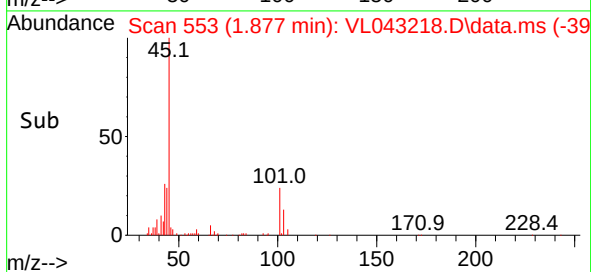
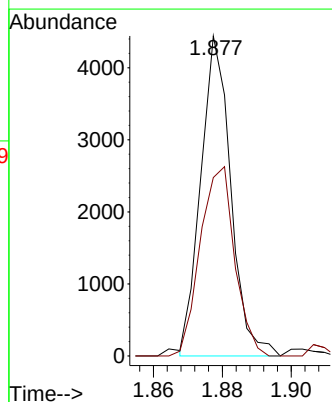
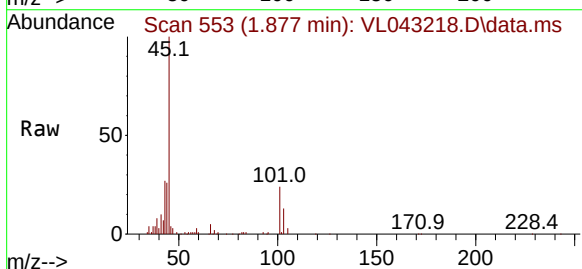
Acq: 18 Nov 2025 18:15

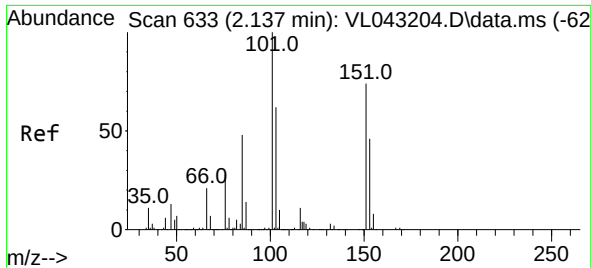
Tgt Ion:101 Resp: 2694

Ion Ratio Lower Upper

101 100

103 55.8 52.6 79.0

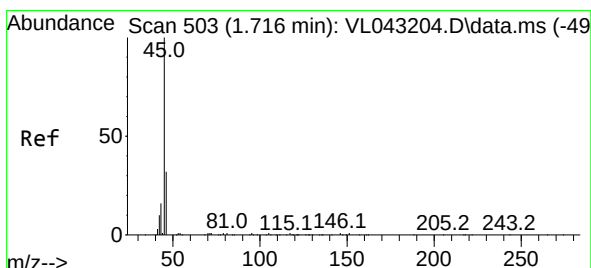
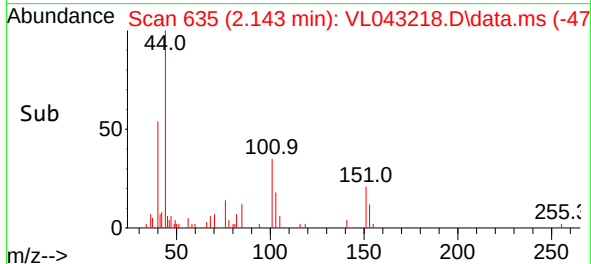
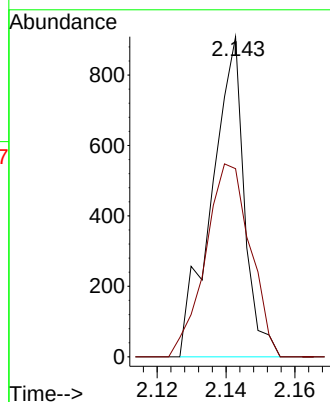
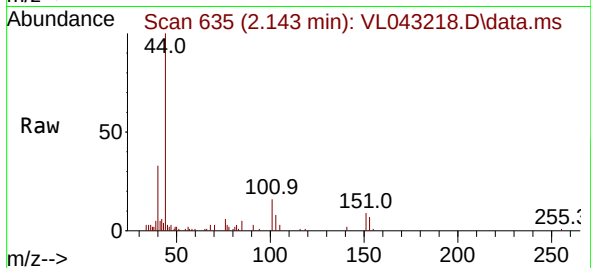




#12
1,1,2-Trichlorotrifluoroethane
Concen: 0.057 ppbv
RT: 2.143 min Scan# 61
Delta R.T. 0.006 min
Lab File: VL043218.D
Acq: 18 Nov 2025 18:15

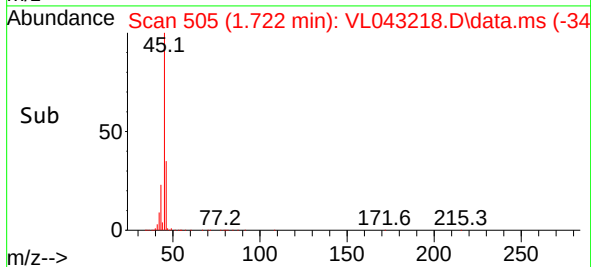
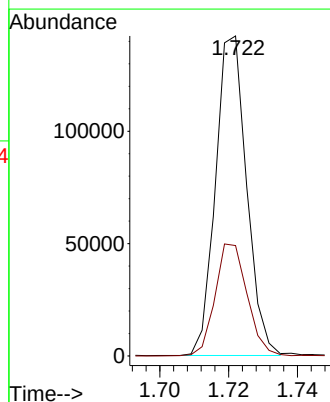
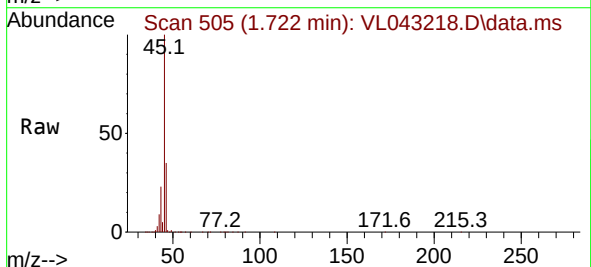
Instrument :
MSVOA_L
ClientSampleId :
IA1

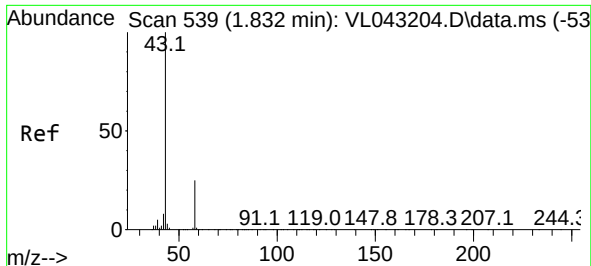
Tgt Ion:101 Resp: 596
Ion Ratio Lower Upper
101 100
151 83.2 59.2 88.8



#13
Ethanol
Concen: 43.851 ppbv
RT: 1.722 min Scan# 505
Delta R.T. 0.006 min
Lab File: VL043218.D
Acq: 18 Nov 2025 18:15

Tgt Ion: 45 Resp: 89190
Ion Ratio Lower Upper
45 100
46 36.5 15.0 59.8

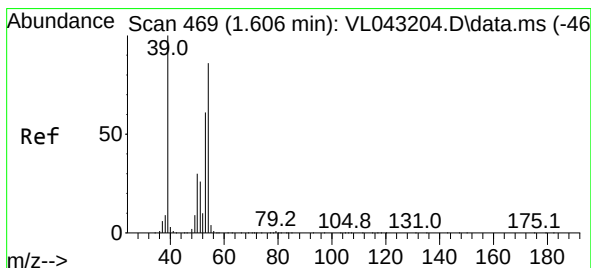
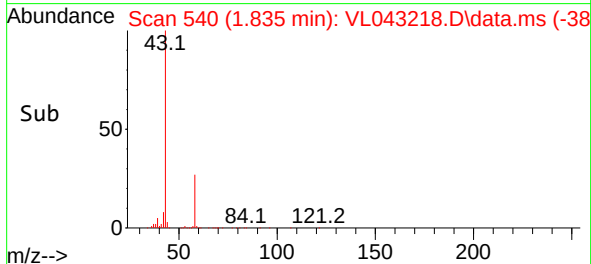
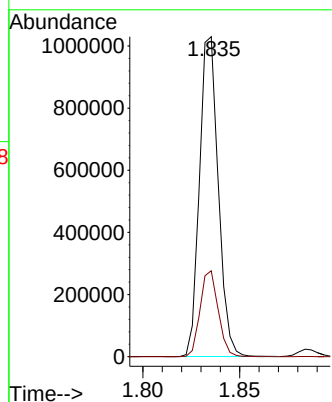
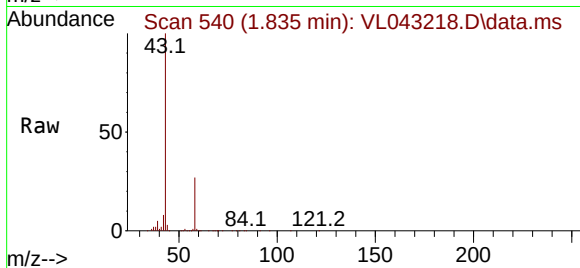




#15
Acetone
Concen: 50.997 ppbv
RT: 1.835 min Scan# 54
Delta R.T. 0.003 min
Lab File: VL043218.D
Acq: 18 Nov 2025 18:15

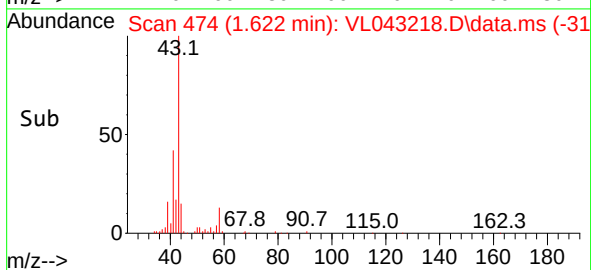
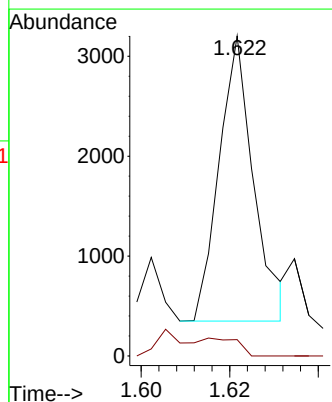
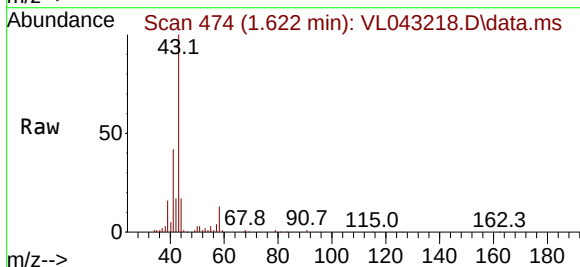
Instrument :
MSVOA_1
ClientSampleId :
IA1

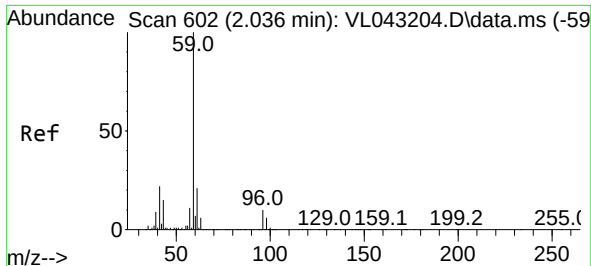
Tgt Ion: 43 Resp: 695771
Ion Ratio Lower Upper
43 100
58 25.9 20.7 31.1



#16
1,3-Butadiene
Concen: 0.254 ppbv
RT: 1.622 min Scan# 474
Delta R.T. 0.016 min
Lab File: VL043218.D
Acq: 18 Nov 2025 18:15

Tgt Ion: 39 Resp: 1543
Ion Ratio Lower Upper
39 100
54 13.9 59.4 89.2#

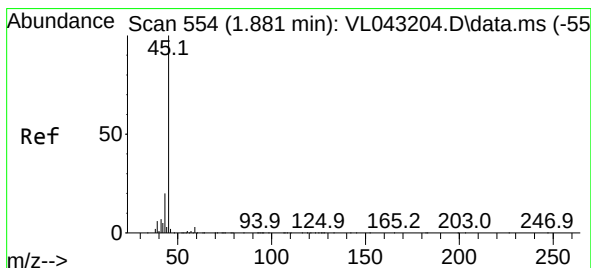
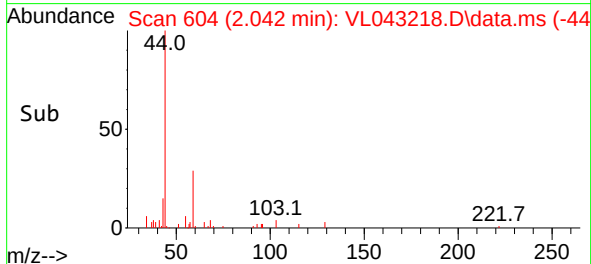
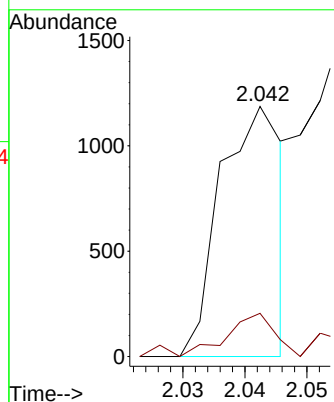
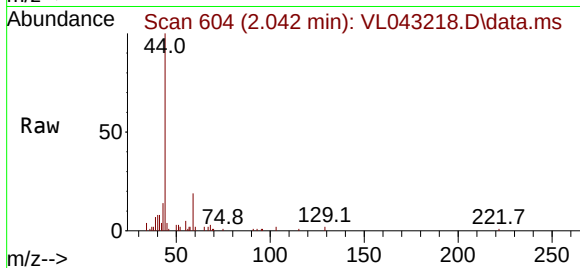




#17
tert-Butyl alcohol
Concen: 0.046 ppbv
RT: 2.042 min Scan# 602
Delta R.T. 0.006 min
Lab File: VL043218.D
Acq: 18 Nov 2025 18:15

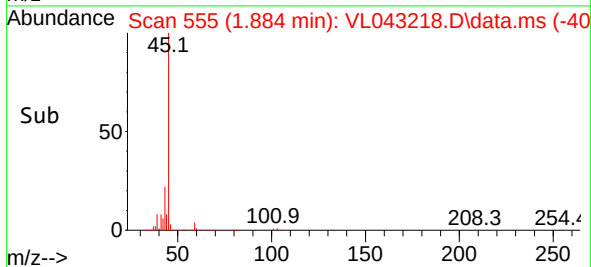
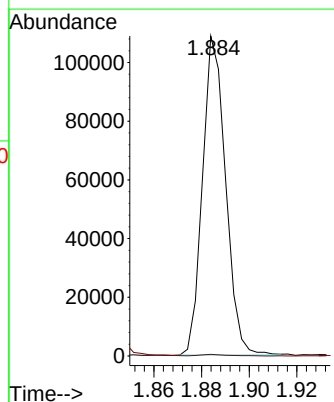
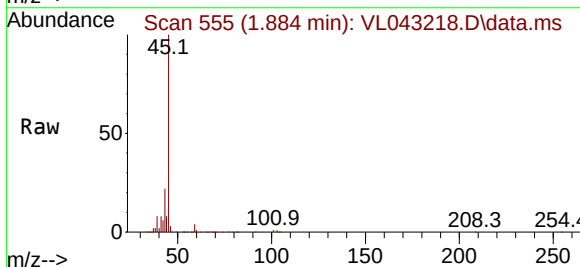
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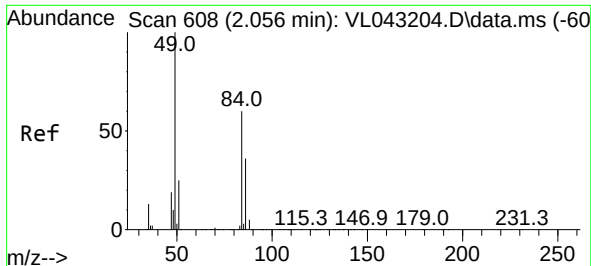
Tgt Ion: 59 Resp: 830
Ion Ratio Lower Upper
59 100
57 39.0 9.0 13.4#



#19
Isopropyl Alcohol
Concen: 9.527 ppbv
RT: 1.884 min Scan# 555
Delta R.T. 0.003 min
Lab File: VL043218.D
Acq: 18 Nov 2025 18:15

Tgt Ion: 45 Resp: 73444
Ion Ratio Lower Upper
45 100
58 245.2 31.3 46.9#

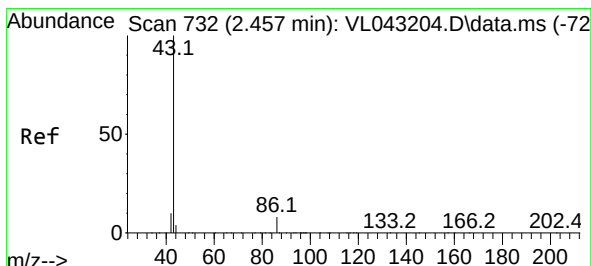
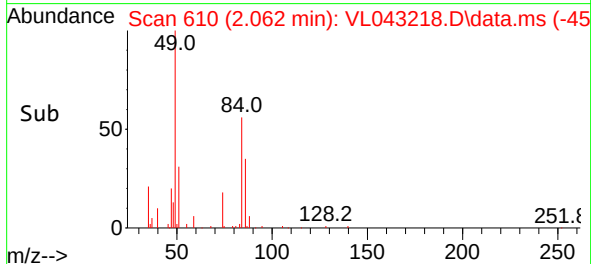
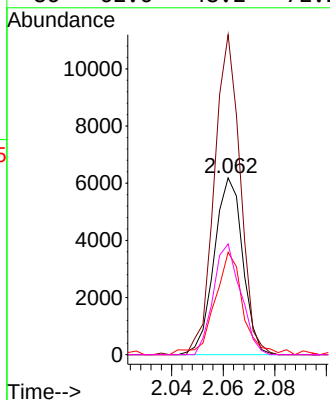
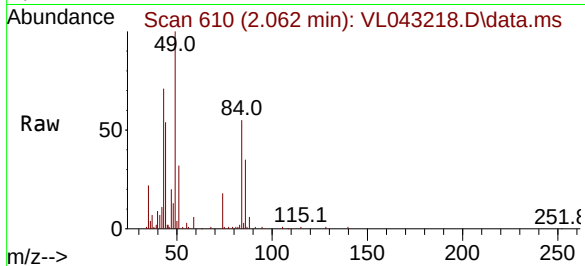




#20
Methylene Chloride
Concen: 0.436 ppbv
RT: 2.062 min Scan# 610
Delta R.T. 0.006 min
Lab File: VL043218.D
Acq: 18 Nov 2025 18:15

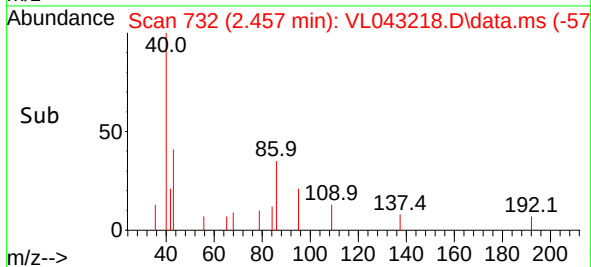
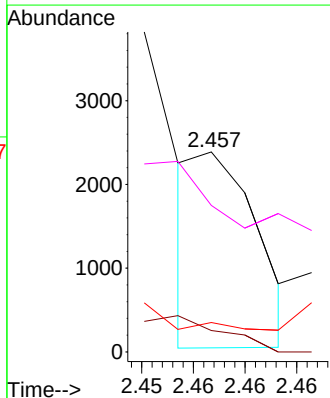
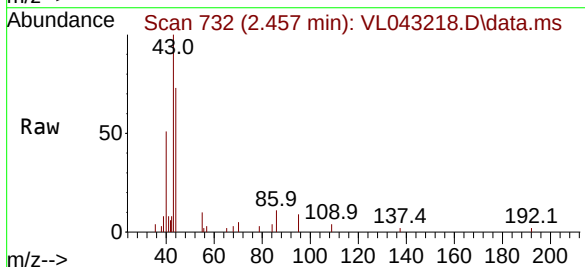
Instrument :
MSVOA_L
ClientSampleId :
IA1

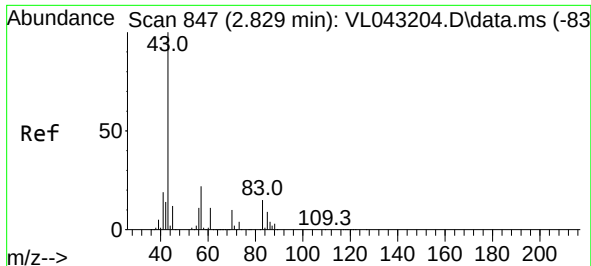
Tgt Ion: 84 Resp: 4770
Ion Ratio Lower Upper
84 100
49 181.1 132.9 199.3
51 56.7 34.8 52.2#
86 62.6 48.2 72.2



#23
Vinyl Acetate
Concen: 0.058 ppbv
RT: 2.457 min Scan# 732
Delta R.T. -0.000 min
Lab File: VL043218.D
Acq: 18 Nov 2025 18:15

Tgt Ion: 43 Resp: 961
Ion Ratio Lower Upper
43 100
86 16.3 6.2 9.2#
42 5.8 8.0 12.0#
44 6.1 4.0 6.0#

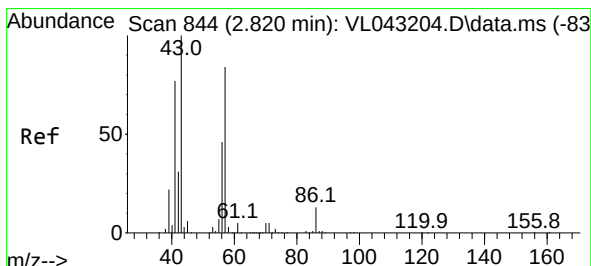
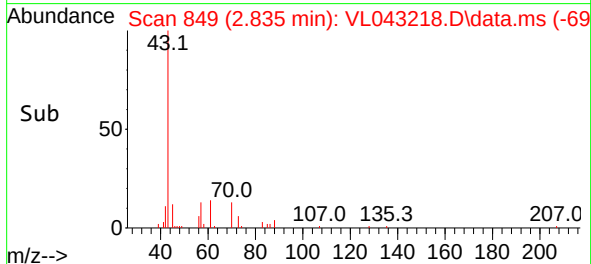
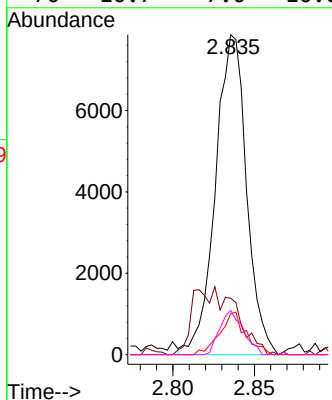
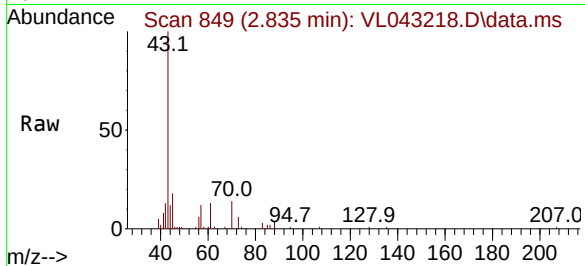




#25
Ethyl Acetate
Concen: 0.354 ppbv
RT: 2.835 min Scan# 847
Delta R.T. 0.006 min
Lab File: VL043218.D
Acq: 18 Nov 2025 18:15

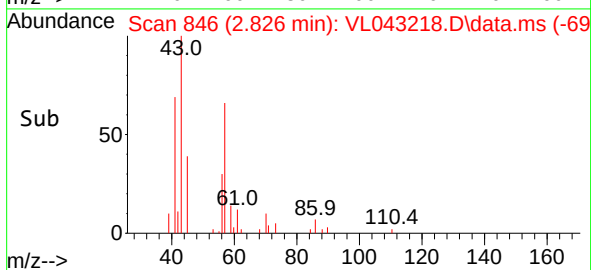
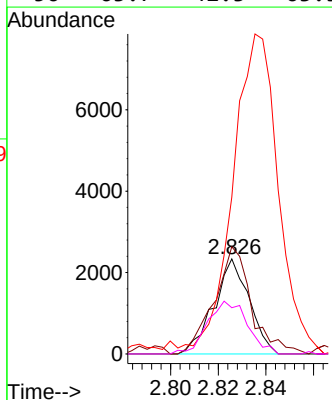
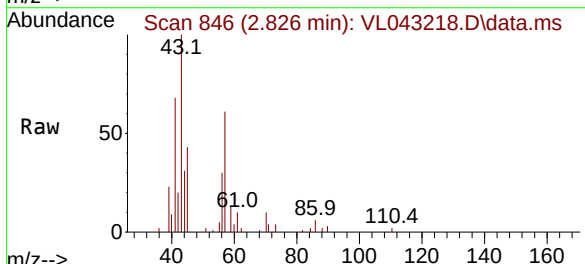
Instrument :
MSVOA_L
ClientSampleId :
IA1

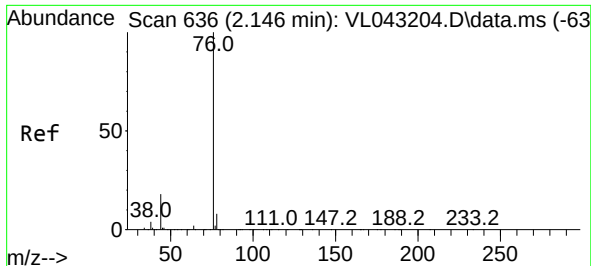
Tgt Ion: 43	Resp: 10417
Ion Ratio	Lower Upper
43 100	
45 30.5	8.1 12.1#
61 11.1	7.0 10.4#
70 10.7	7.0 10.6#



#26
Hexane
Concen: 0.186 ppbv
RT: 2.826 min Scan# 846
Delta R.T. 0.006 min
Lab File: VL043218.D
Acq: 18 Nov 2025 18:15

Tgt	Ion: 57	Resp:	2400
Ion	Ratio	Lower	Upper
57	100		
41	124.7	74.6	111.8#
43	431.2	179.0	268.4#
56	63.7	42.3	63.5#





#27

Carbon Disulfide

Concen: 0.046 ppbv

RT: 2.149 min Scan# 61

Delta R.T. 0.003 min

Lab File: VL043218.D

Acq: 18 Nov 2025 18:15

Instrument :

MSVOA_L

ClientSampleId :

IA1

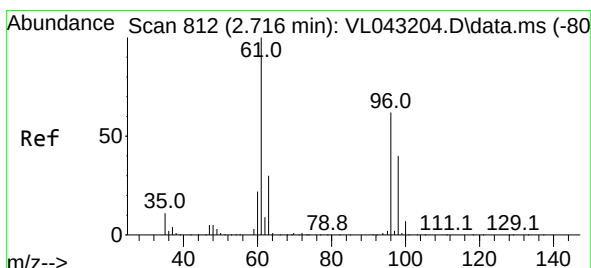
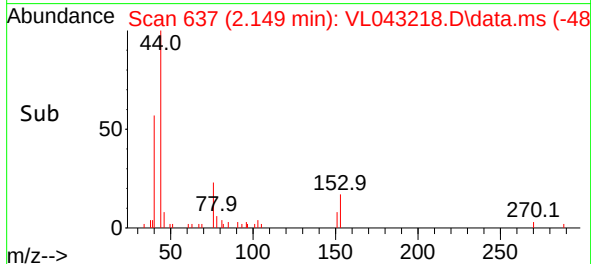
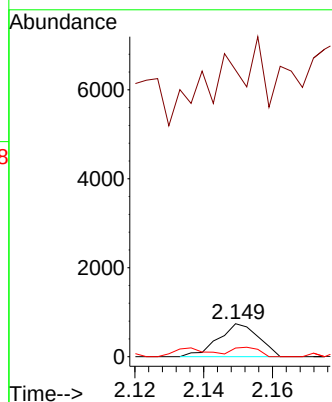
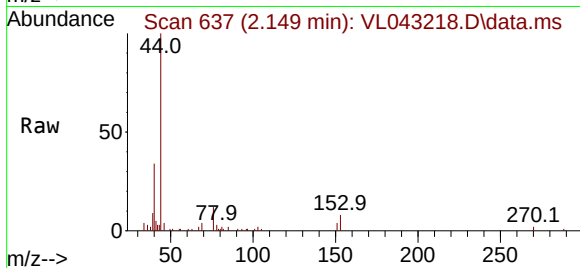
Tgt Ion: 76 Resp: 603

Ion Ratio Lower Upper

76 100

44 493.2 16.1 24.1#

78 45.8 9.6 14.4#



#31

cis-1,2-Dichloroethene

Concen: 0.086 ppbv

RT: 2.839 min Scan# 850

Delta R.T. 0.123 min

Lab File: VL043218.D

Acq: 18 Nov 2025 18:15

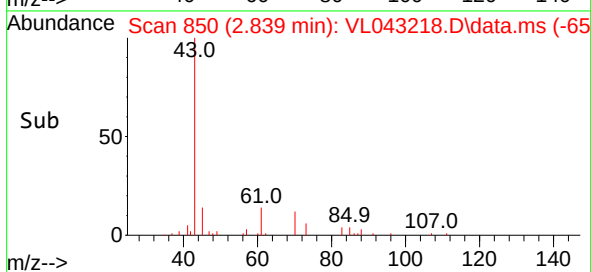
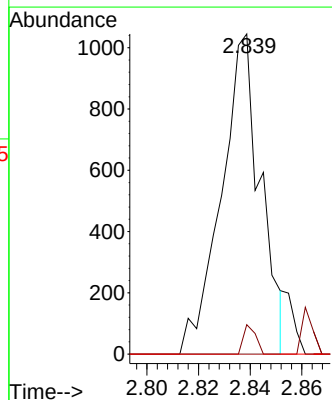
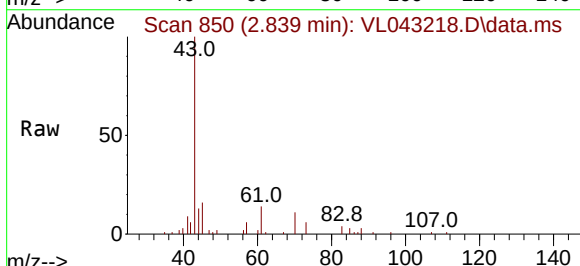
Tgt Ion: 61 Resp: 1105

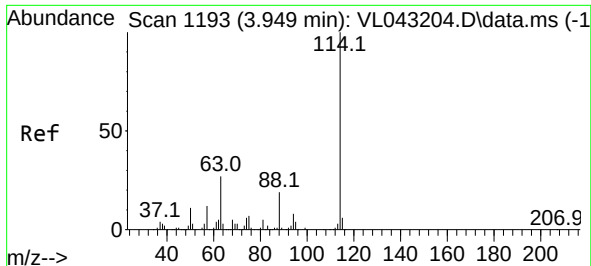
Ion Ratio Lower Upper

61 100

96 9.2 49.3 73.9#

98 0.0 32.1 48.1#





#33

1,4-Difluorobenzene

Concen: 10.000 ppbv

RT: 3.955 min Scan# 1195

Delta R.T. 0.006 min

Lab File: VL043218.D

Acq: 18 Nov 2025 18:15

Instrument :

MSVOA_L

ClientSampleId :

IA1

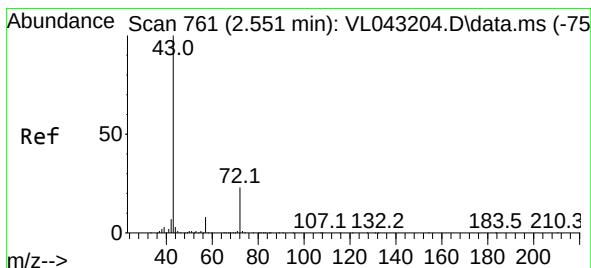
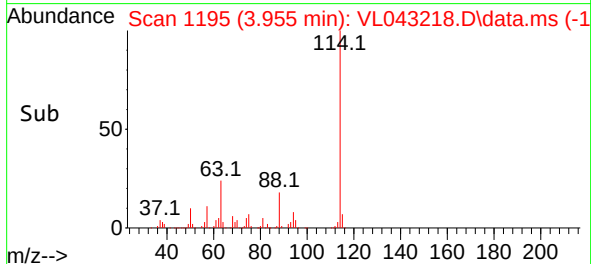
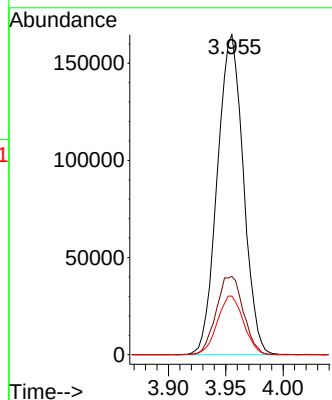
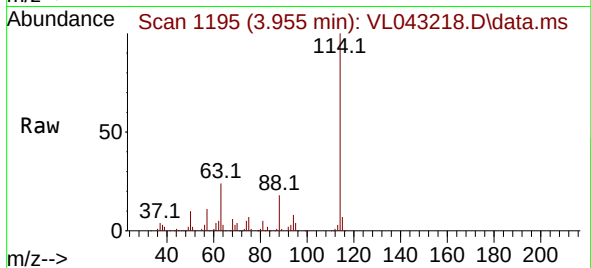
Tgt Ion:114 Resp: 259525

Ion Ratio Lower Upper

114 100

63 25.6 21.0 31.6

88 18.5 14.9 22.3



#34

2-Butanone

Concen: 0.245 ppbv

RT: 2.557 min Scan# 763

Delta R.T. 0.006 min

Lab File: VL043218.D

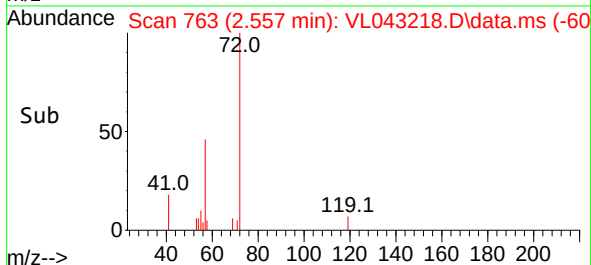
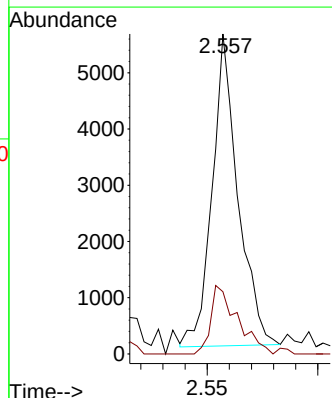
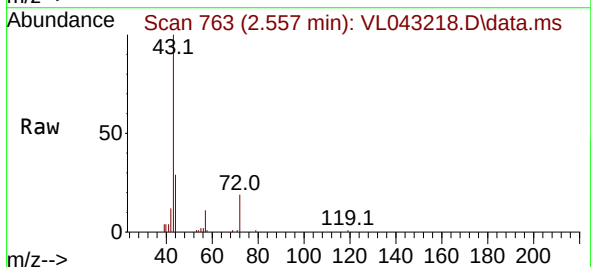
Acq: 18 Nov 2025 18:15

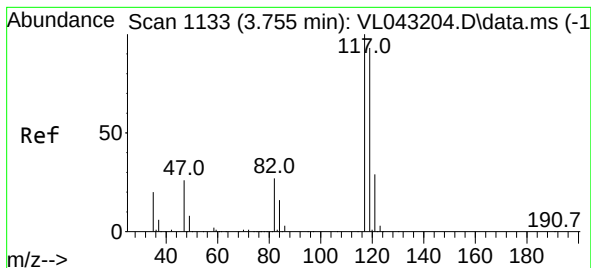
Tgt Ion: 43 Resp: 4492

Ion Ratio Lower Upper

43 100

72 23.4 18.1 27.1





#35

Carbon Tetrachloride

Concen: 0.047 ppbv

RT: 3.758 min Scan# 1133

Delta R.T. 0.003 min

Lab File: VL043218.D

Acq: 18 Nov 2025 18:15

Instrument :

MSVOA_L

ClientSampleId :

IA1

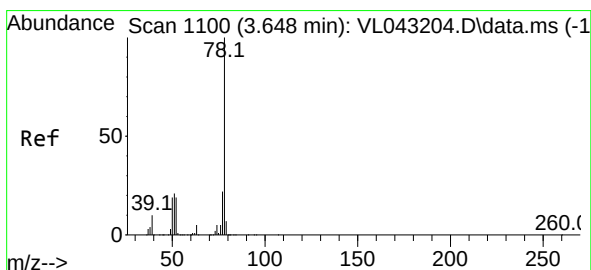
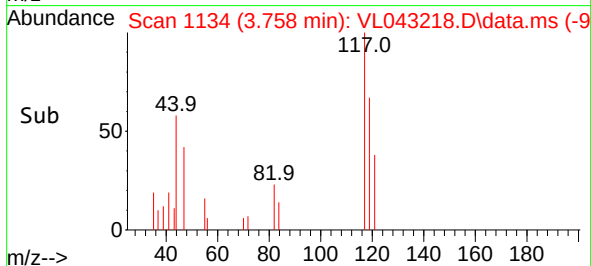
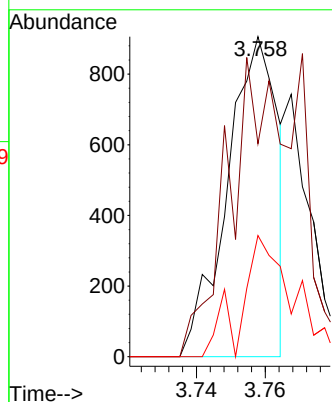
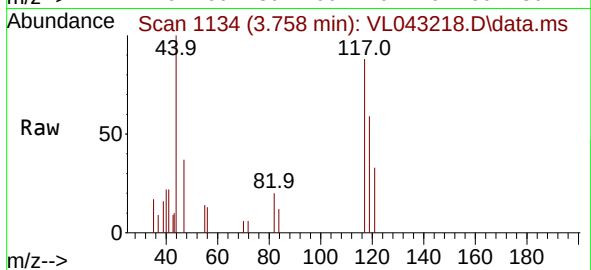
Tgt Ion:117 Resp: 925

Ion Ratio Lower Upper

117 100

119 66.6 74.6 112.0#

121 37.9 23.2 34.8#



#36

Benzene

Concen: 0.055 ppbv

RT: 3.651 min Scan# 1101

Delta R.T. 0.003 min

Lab File: VL043218.D

Acq: 18 Nov 2025 18:15

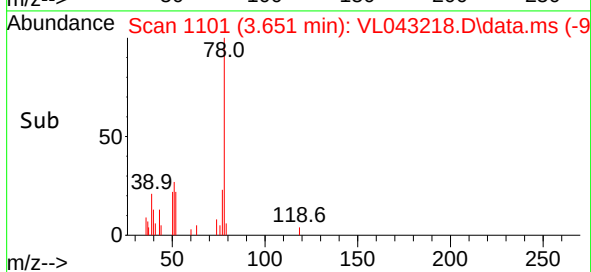
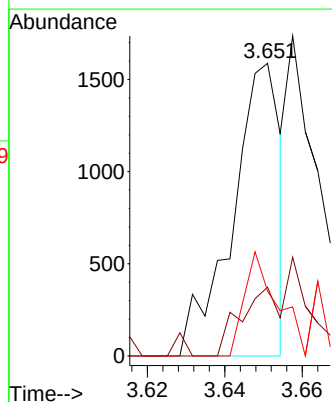
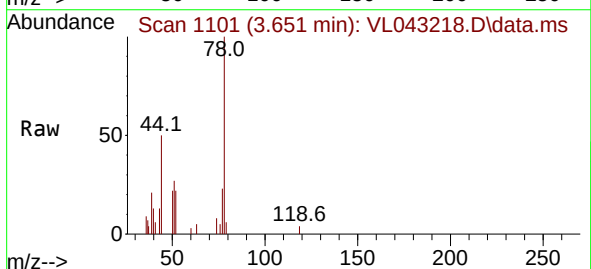
Tgt Ion: 78 Resp: 1368

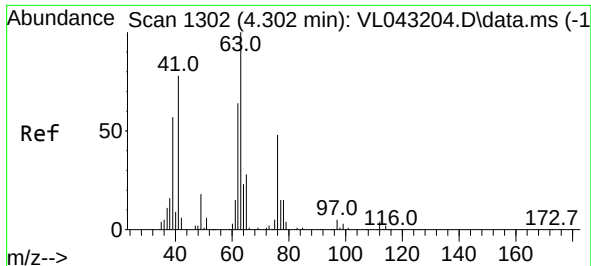
Ion Ratio Lower Upper

78 100

77 15.6 17.5 26.3#

50 22.2 15.5 23.3





#39

1,2-Dichloropropane

Concen: 7.304 ppbv

RT: 3.955 min Scan# 1195

Delta R.T. -0.347 min

Lab File: VL043218.D

Acq: 18 Nov 2025 18:15

Instrument :

MSVOA_L

ClientSampleId :

IA1

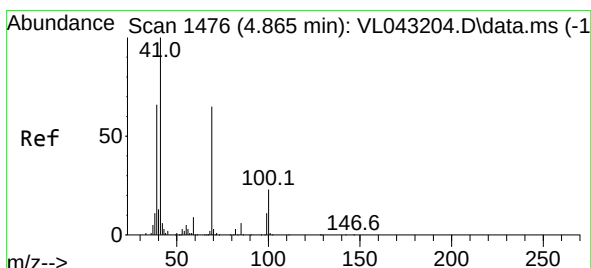
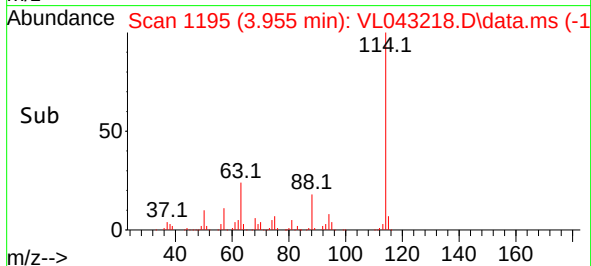
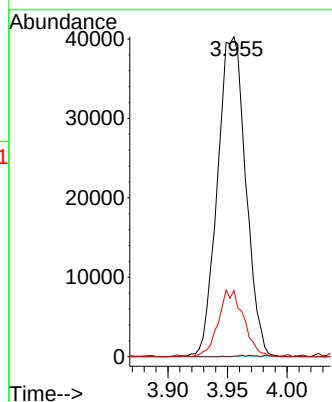
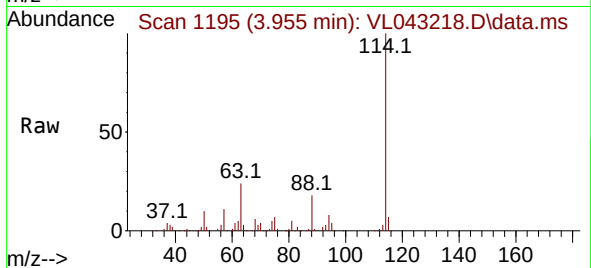
Tgt Ion: 63 Resp: 66445

Ion Ratio Lower Upper

63 100

41 0.0 62.6 93.8#

62 20.7 51.0 76.6#



#43

Methyl Methacrylate

Concen: 0.475 ppbv

RT: 4.878 min Scan# 1480

Delta R.T. 0.013 min

Lab File: VL043218.D

Acq: 18 Nov 2025 18:15

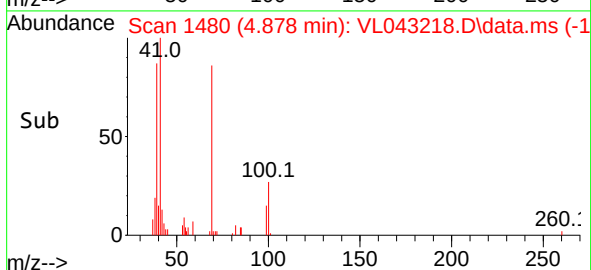
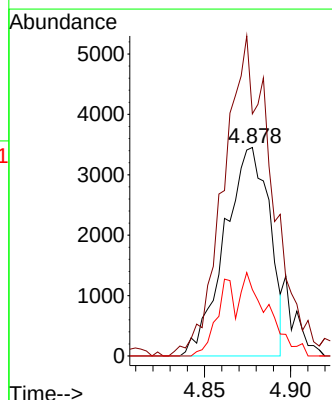
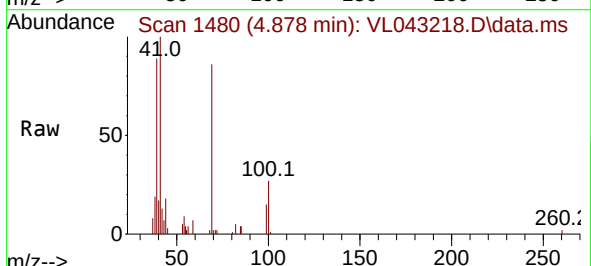
Tgt Ion: 69 Resp: 6270

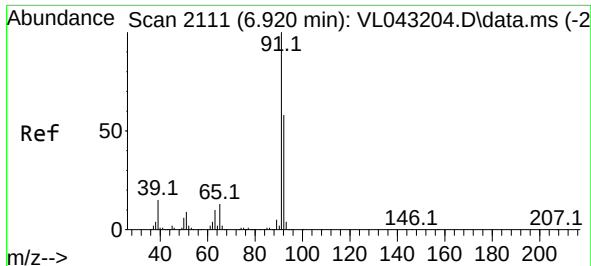
Ion Ratio Lower Upper

69 100

41 168.8 126.7 190.1

100 39.2 28.6 43.0

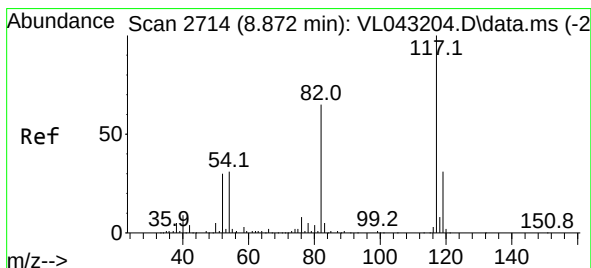
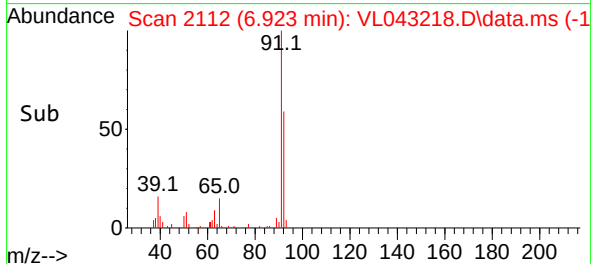
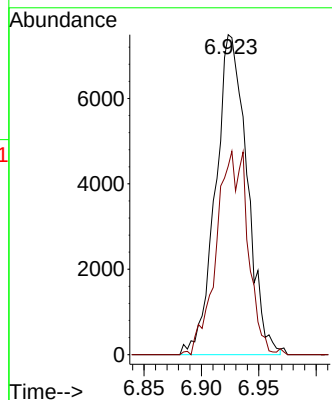
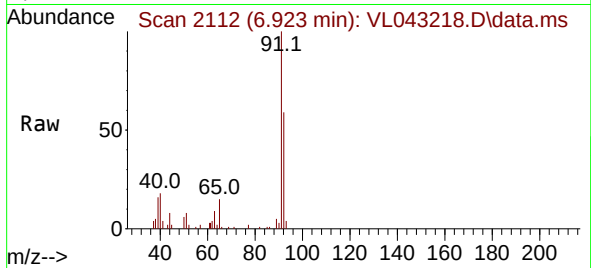




#53
Toluene
Concen: 0.485 ppbv
RT: 6.923 min Scan# 2111
Delta R.T. 0.003 min
Lab File: VL043218.D
Acq: 18 Nov 2025 18:15

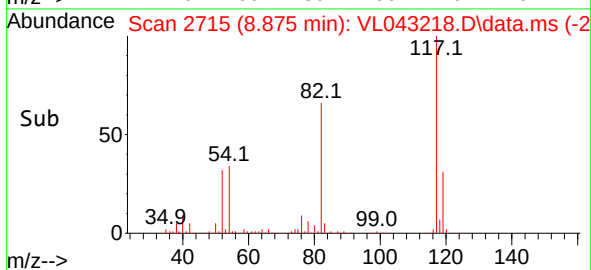
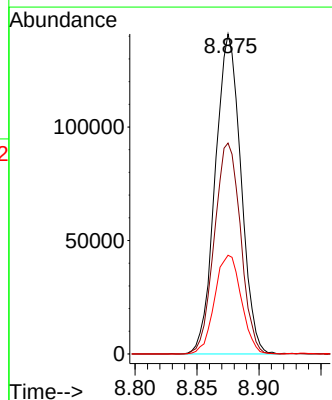
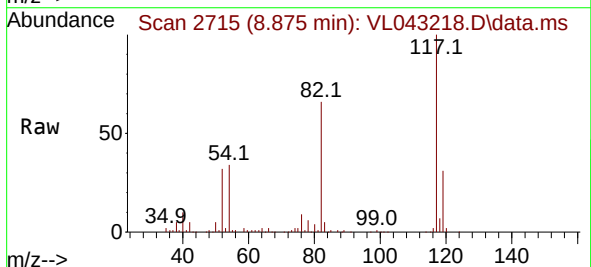
Instrument :
MSVOA_L
ClientSampleId :
IA1

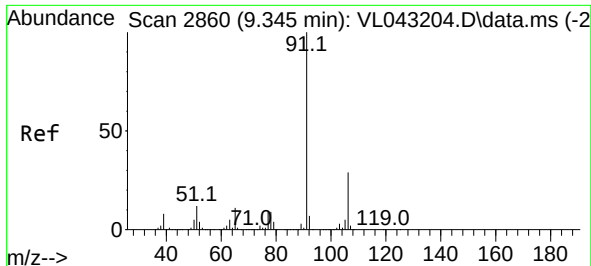
Tgt Ion: 91 Resp: 14272
Ion Ratio Lower Upper
91 100
92 64.1 47.4 71.0



#55
Chlorobenzene-d5
Concen: 10.000 ppbv
RT: 8.875 min Scan# 2715
Delta R.T. 0.003 min
Lab File: VL043218.D
Acq: 18 Nov 2025 18:15

Tgt Ion: 117 Resp: 203499
Ion Ratio Lower Upper
117 100
82 67.4 56.1 84.1
119 32.2 25.0 37.6

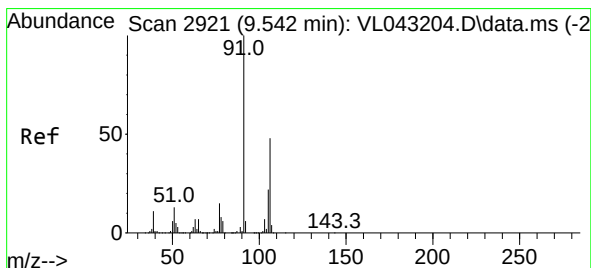
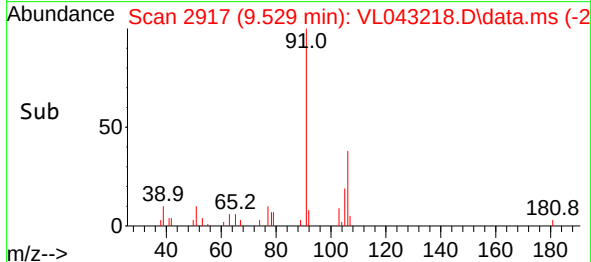
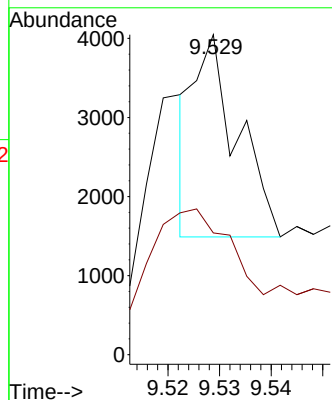
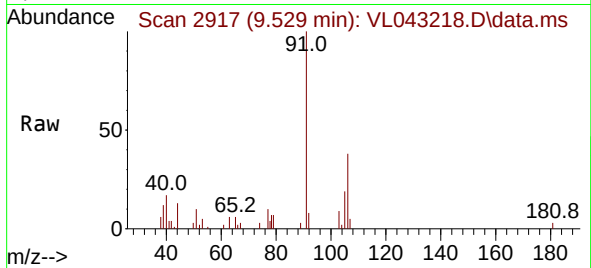




#58
Ethyl Benzene
Concen: 0.038 ppbv
RT: 9.529 min Scan# 2917
Delta R.T. 0.184 min
Lab File: VL043218.D
Acq: 18 Nov 2025 18:15

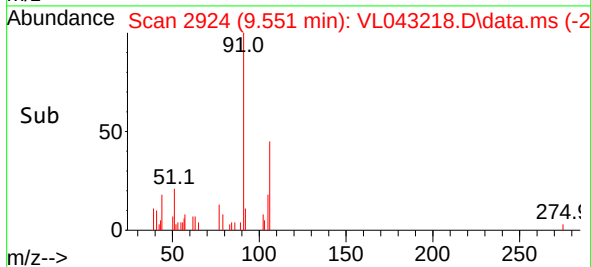
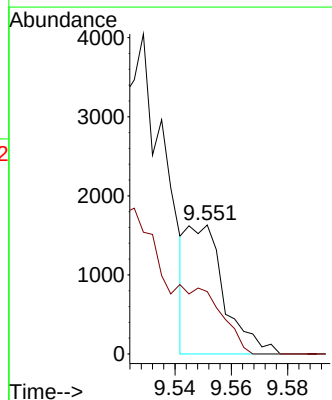
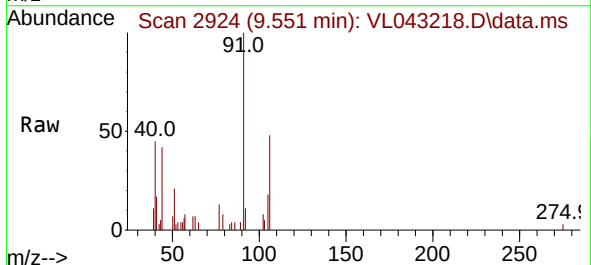
Instrument :
MSVOA_L
ClientSampleId :
IA1

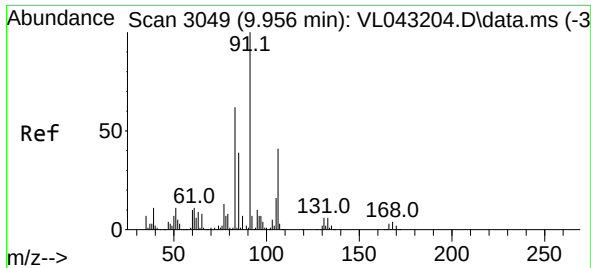
Tgt Ion: 91 Resp: 1485
Ion Ratio Lower Upper
91 100
106 25.9 22.8 34.2



#59
m/p-Xylene
Concen: 0.048 ppbv
RT: 9.551 min Scan# 2924
Delta R.T. 0.009 min
Lab File: VL043218.D
Acq: 18 Nov 2025 18:15

Tgt Ion: 91 Resp: 1512
Ion Ratio Lower Upper
91 100
106 0.0 36.1 54.1#

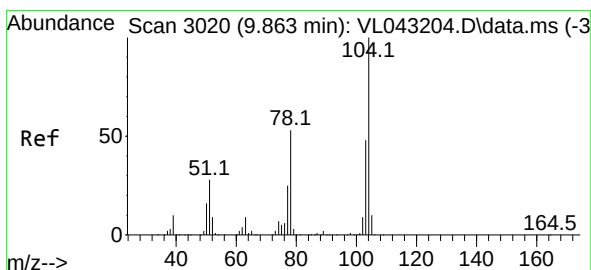
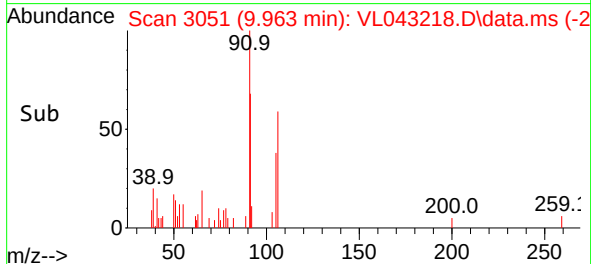
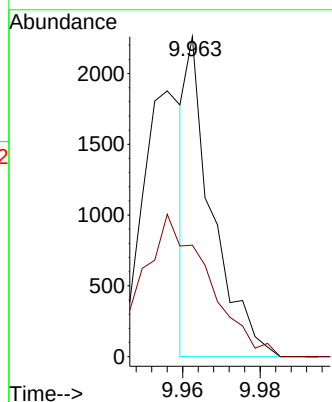
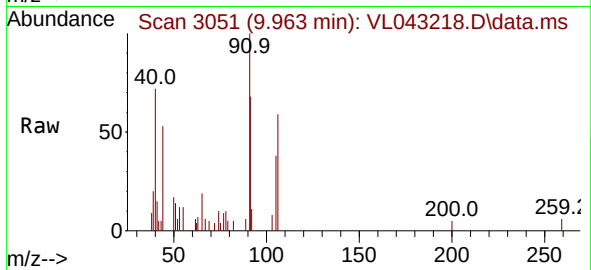




#60
o-Xylene
Concen: 0.033 ppbv
RT: 9.963 min Scan# 3051
Delta R.T. 0.006 min
Lab File: VL043218.D
Acq: 18 Nov 2025 18:15

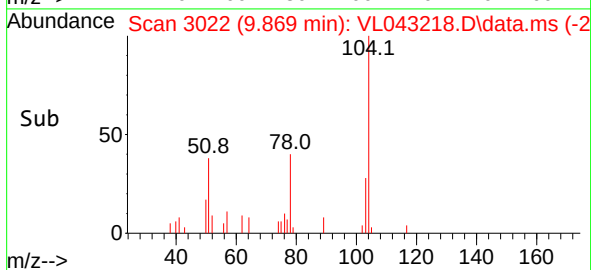
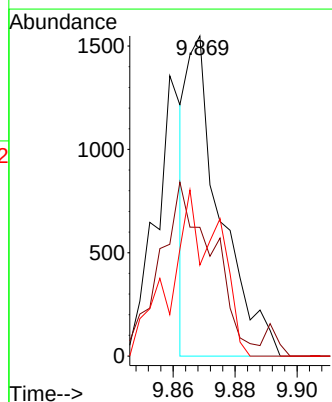
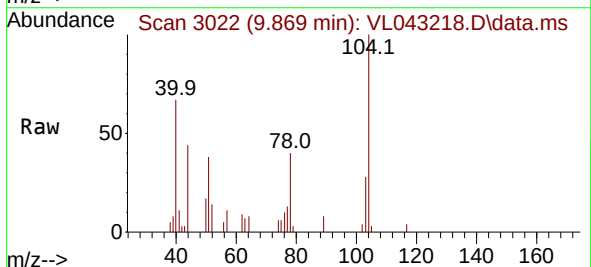
Instrument :
MSVOA_L
ClientSampleId :
IA1

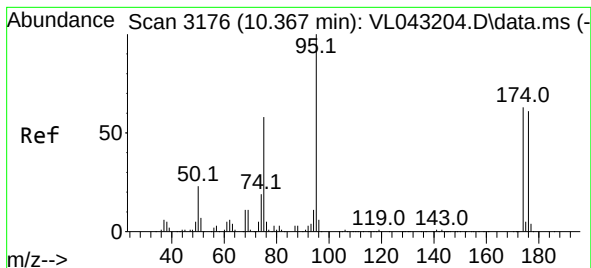
Tgt Ion: 91 Resp: 1029
Ion Ratio Lower Upper
91 100
106 0.0 20.9 62.8#



#61
Styrene
Concen: 0.085 ppbv
RT: 9.869 min Scan# 3022
Delta R.T. 0.006 min
Lab File: VL043218.D
Acq: 18 Nov 2025 18:15

Tgt Ion: 104 Resp: 1164
Ion Ratio Lower Upper
104 100
78 89.3 42.1 63.1#
103 74.0 37.2 55.8#

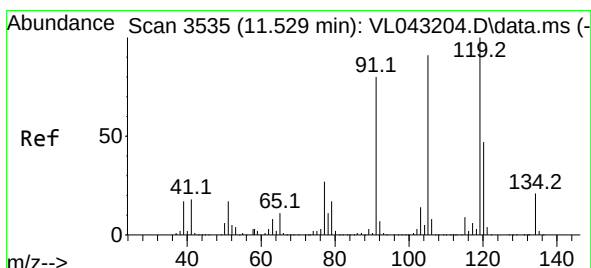
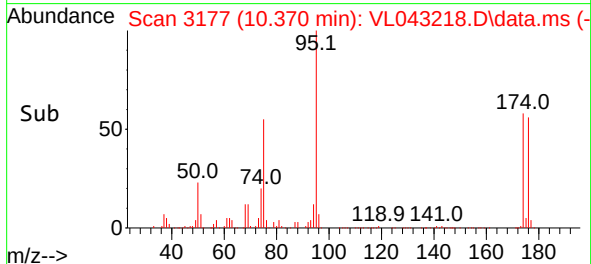
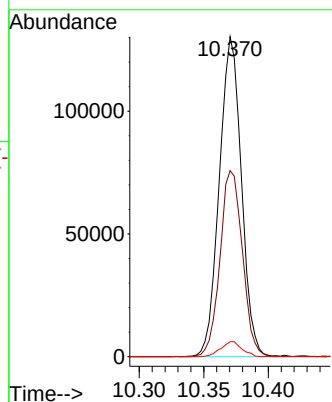
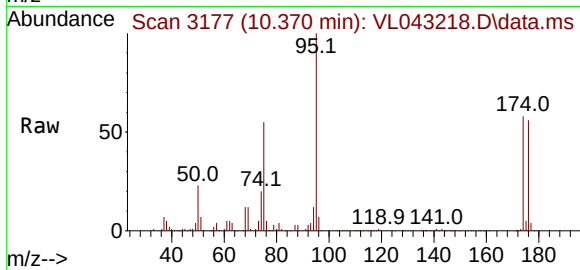




#68
1-Bromo-4-Fluorobenzene
Concen: 10.379 ppbv
RT: 10.370 min Scan# 3176
Delta R.T. 0.003 min
Lab File: VL043218.D
Acq: 18 Nov 2025 18:15

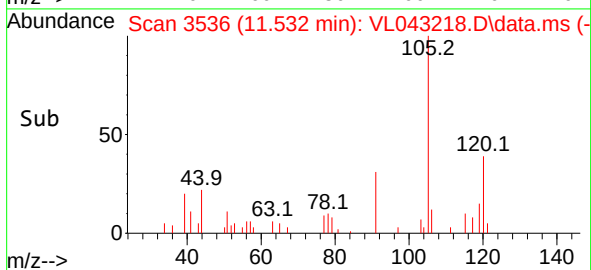
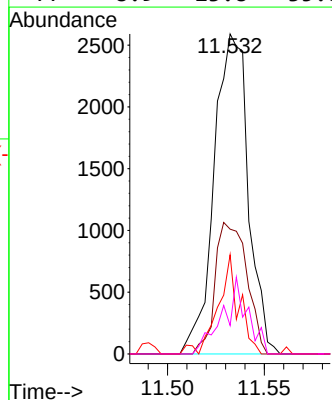
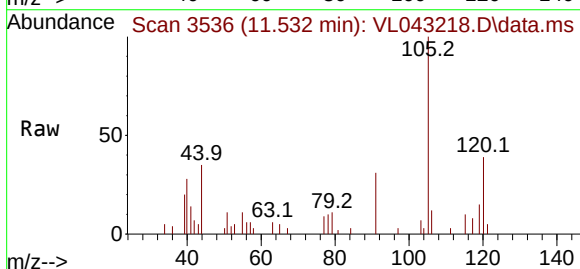
Instrument :
MSVOA_1
ClientSampleId :
IA1

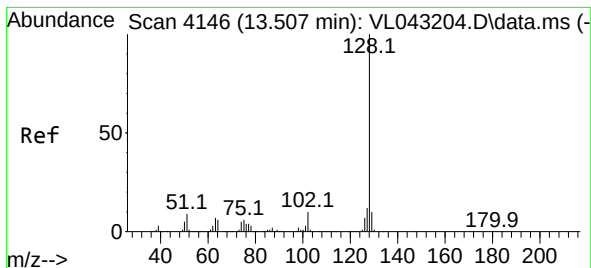
Tgt Ion: 95 Resp: 154823
Ion Ratio Lower Upper
95 100
174 59.1 50.2 75.2
175 4.6 4.1 6.1



#74
1,2,4-Trimethylbenzene
Concen: 0.091 ppbv
RT: 11.532 min Scan# 3536
Delta R.T. 0.003 min
Lab File: VL043218.D
Acq: 18 Nov 2025 18:15

Tgt Ion: 105 Resp: 3182
Ion Ratio Lower Upper
105 100
120 39.0 41.7 62.5#
91 31.0 70.0 105.0#
77 8.9 23.8 35.8#





#79

Naphthalene

Concen: 0.032 ppbv

RT: 13.513 min Scan# 41

Delta R.T. 0.006 min

Lab File: VL043218.D

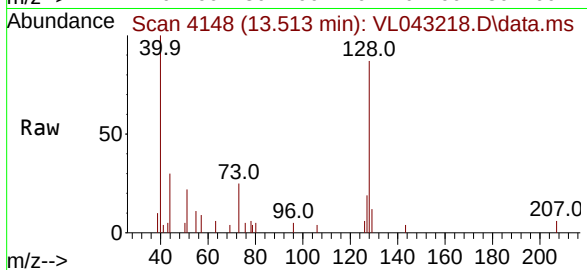
Acq: 18 Nov 2025 18:15

Instrument :

MSVOA_L

ClientSampleId :

IA1



Tgt Ion:	128	Resp:	999
Ion Ratio	100	Lower	Upper
128	100		
127	22.0	9.9	14.9#
129	13.3	8.4	12.6#

