

Data Path : Z:\voasrv\HPCHEM1\MSVOA_L\Data\VL100825\
 Data File : VL043072.D
 Acq On : 08 Oct 2025 23:16
 Operator : SY/MD
 Sample : Q3320-09
 Misc : 400mL/MSVOA_L
 ALS Vial : 1 Sample Multiplier: 1

Instrument :
 MSVOA_L
 ClientSampleId :
 IA5

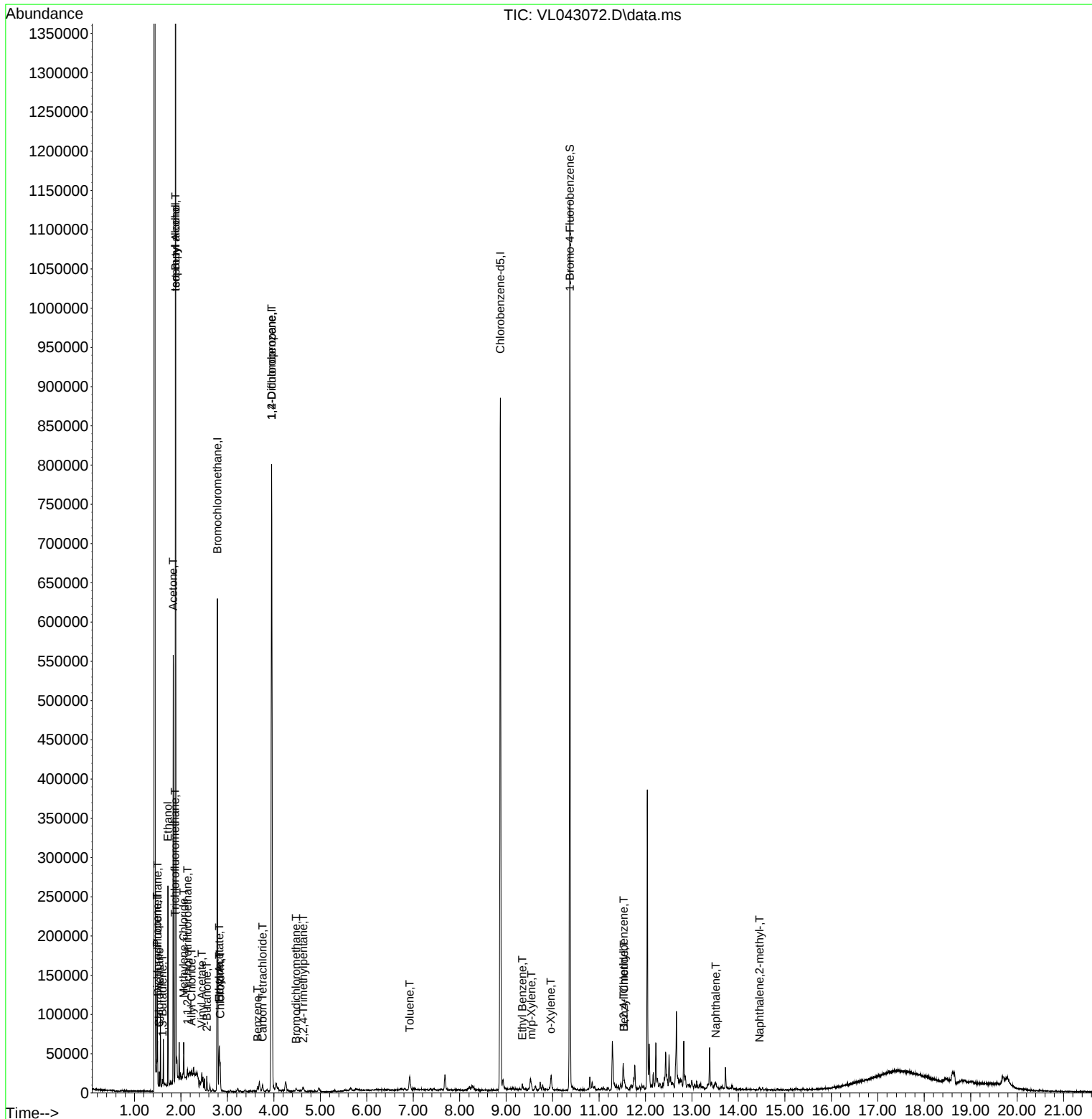
Quant Time: Oct 09 01:25:47 2025
 Quant Method : Z:\voasrv\HPCHEM1\MSVOA_L\methods\VL100225AIR.M
 Quant Title : AIR ANALYSIS BY METHOD TO-15 Instrument: MSVOA_L Fri Aug 26 06:05:16 2022
 QLast Update : Fri Oct 03 08:23:34 2025
 Response via : Initial Calibration

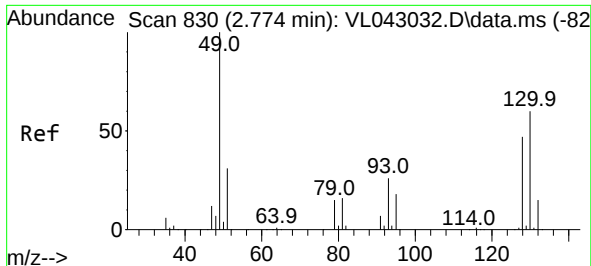
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

Internal Standards						
1) Bromochloromethane	2.784	49	166750	10.000	ppbv	0.00
33) 1,4-Difluorobenzene	3.952	114	430435	10.000	ppbv	0.01
55) Chlorobenzene-d5	8.875	117	343430	10.000	ppbv	0.01
System Monitoring Compounds						
68) 1-Bromo-4-Fluorobenzene	10.370	95	255772	10.338	ppbv	0.00
Spiked Amount	10.000	Range	65 - 135	Recovery	=	103.400%
Target Compounds						
					Qvalue	
2) Dichlorodifluoromethane	1.499	85	14120	0.502	ppbv	100
4) Chloromethane	1.531	50	5069	0.494	ppbv	97
9) Propene	1.486	41	8889	0.811	ppbv	84
11) Trichlorofluoromethane	1.874	101	6846	0.237	ppbv	100
12) 1,1,2-Trichlorotrifluo...	2.140	101	1669	0.073	ppbv	94
13) Ethanol	1.719	45	84535	211.533	ppbv	89
15) Acetone	1.832	43	236631	10.135	ppbv	100
16) 1,3-Butadiene	1.602	39	951	0.099	ppbv #	80
17) tert-Butyl alcohol	1.884	59	28883	1.170	ppbv	98
19) Isopropyl Alcohol	1.884	45	735856	65.781	ppbv #	27
20) Methylene Chloride	2.059	84	6793	0.667	ppbv	95
21) Allyl Chloride	2.230	41	1473	0.098	ppbv #	34
23) Vinyl Acetate	2.450	43	11267	2.273	ppbv #	82
25) Ethyl Acetate	2.826	43	10503	0.179	ppbv #	93
26) Hexane	2.823	57	9729	0.432	ppbv #	39
29) Chloroform	2.845	83	12444	0.324	ppbv	97
34) 2-Butanone	2.557	43	10611	0.363	ppbv	93
35) Carbon Tetrachloride	3.758	117	1670	0.047	ppbv	85
36) Benzene	3.651	78	3024	0.074	ppbv	98
39) 1,2-Dichloropropane	3.952	63	110356	7.240	ppbv #	23
42) Bromodichloromethane	4.480	83	1450	0.042	ppbv #	97
44) 2,2,4-Trimethylpentane	4.632	57	2031	0.031	ppbv #	19
53) Toluene	6.923	91	8208	0.198	ppbv #	61
58) Ethyl Benzene	9.348	91	2435	0.046	ppbv	99
59) m/p-Xylene	9.545	91	1768	0.039	ppbv #	30
60) o-Xylene	9.959	91	2897	0.065	ppbv	89
66) Benzyl Chloride	11.536	91	325	0.139	ppbv #	65
74) 1,2,4-Trimethylbenzene	11.532	105	3719	0.072	ppbv #	56
79) Naphthalene	13.513	128	2608	0.295	ppbv #	90
80) Naphthalene,2-methyl-	14.452	142	1207	0.717	ppbv	91

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

Quant Time: Oct 09 01:25:47 2025
Quant Method : Z:\voasrv\HPCHEM1\MSVOA_L\methods\VL100225AIR.M
Quant Title : AIR ANALYSIS BY METHOD TO-15 Instrument: MSVOA_LFri Aug 26 06:05:16 2022
QLast Update : Fri Oct 03 08:23:34 2025
Response via : Initial Calibration

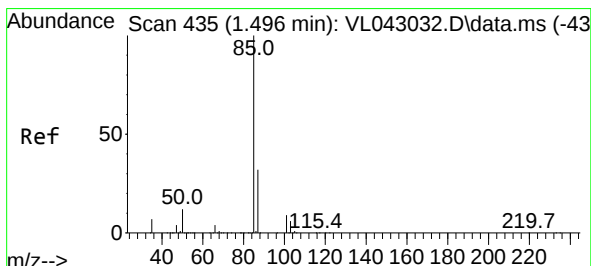
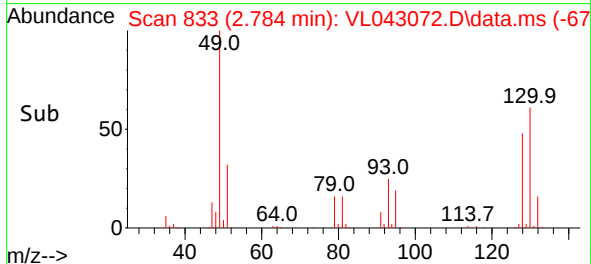
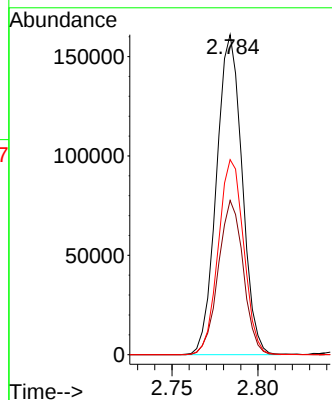
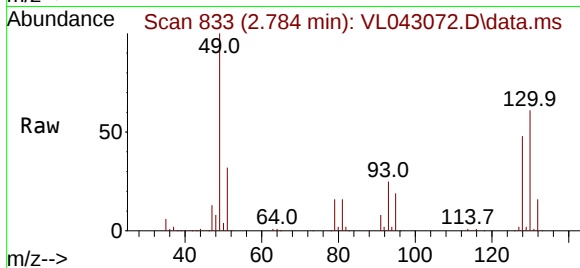




#1
 Bromochloromethane
 Concen: 10.000 ppbv
 RT: 2.784 min Scan# 81
 Delta R.T. 0.010 min
 Lab File: VL043072.D
 Acq: 08 Oct 2025 23:16

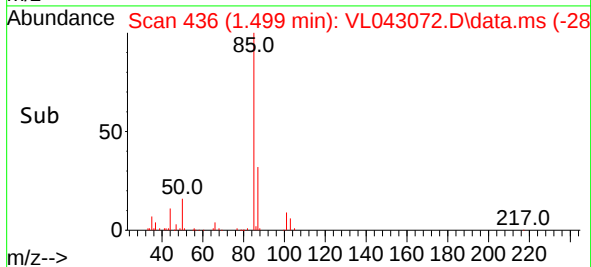
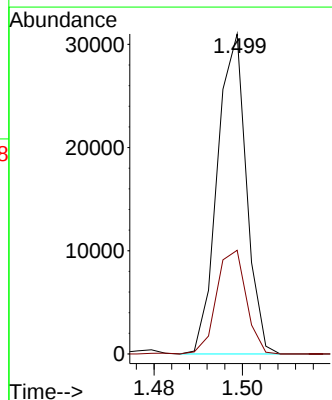
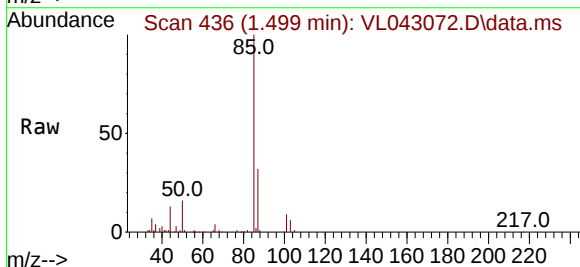
Instrument :
 MSVOA_L
 ClientSampleId :
 IA5

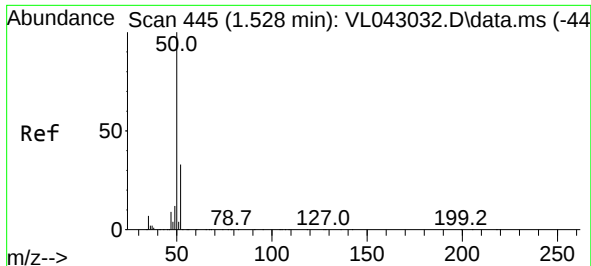
Tgt Ion: 49 Resp: 166750
 Ion Ratio Lower Upper
 49 100
 128 47.0 24.1 72.2
 130 60.5 31.4 94.3



#2
 Dichlorodifluoromethane
 Concen: 0.502 ppbv
 RT: 1.499 min Scan# 436
 Delta R.T. 0.003 min
 Lab File: VL043072.D
 Acq: 08 Oct 2025 23:16

Tgt Ion: 85 Resp: 14120
 Ion Ratio Lower Upper
 85 100
 87 32.4 25.8 38.6

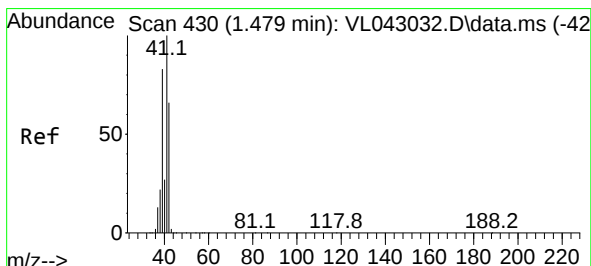
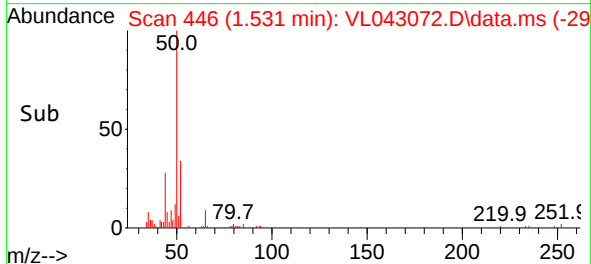
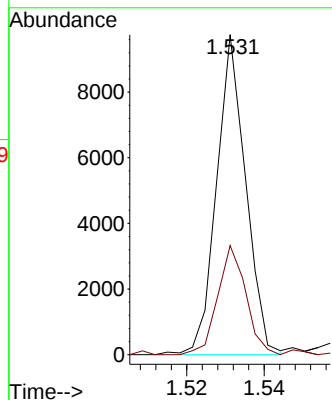
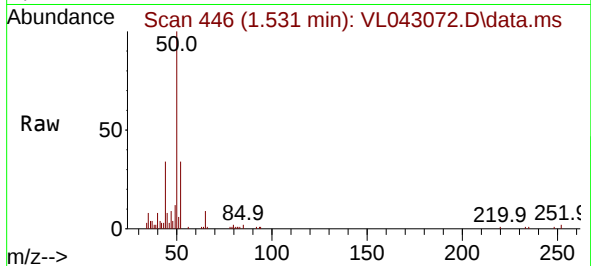




#4
Chloromethane
Concen: 0.494 ppbv
RT: 1.531 min Scan# 445
Delta R.T. 0.003 min
Lab File: VL043072.D
Acq: 08 Oct 2025 23:16

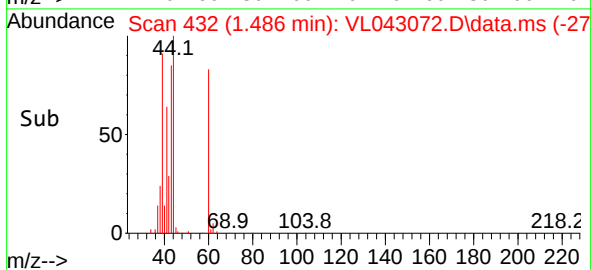
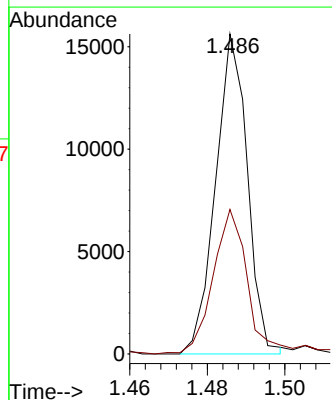
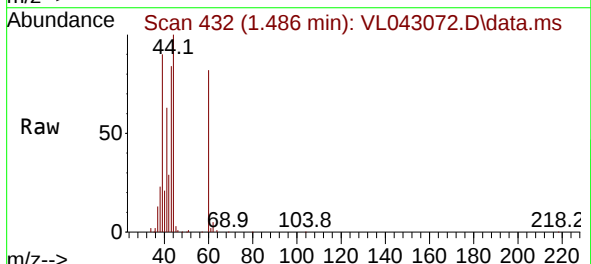
Instrument :
MSVOA_L
ClientSampleId :
IA5

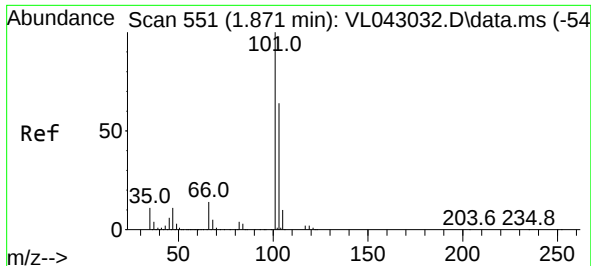
Tgt Ion: 50 Resp: 5069
Ion Ratio Lower Upper
50 100
52 34.3 26.2 39.2



#9
Propene
Concen: 0.811 ppbv
RT: 1.486 min Scan# 432
Delta R.T. 0.006 min
Lab File: VL043072.D
Acq: 08 Oct 2025 23:16

Tgt Ion: 41 Resp: 8889
Ion Ratio Lower Upper
41 100
42 54.2 53.3 79.9

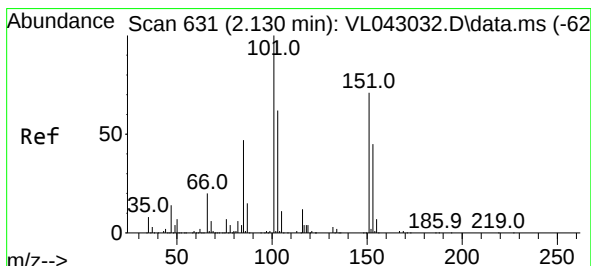
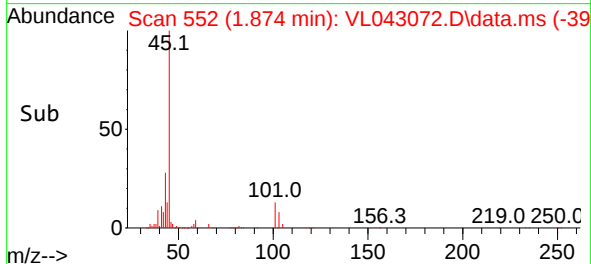
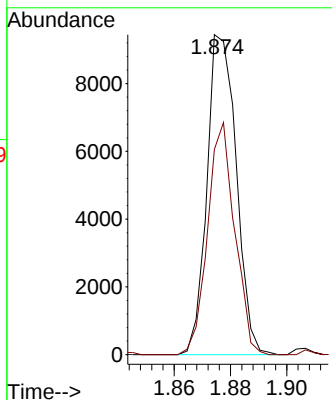
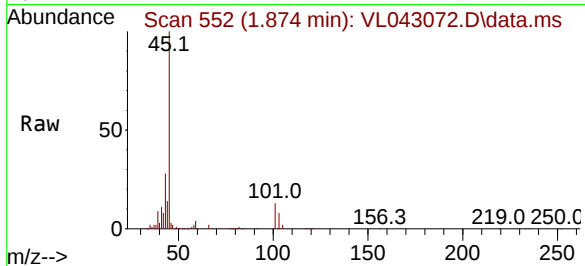




#11
 Trichlorofluoromethane
 Concen: 0.237 ppbv
 RT: 1.874 min Scan# 511
 Delta R.T. 0.003 min
 Lab File: VL043072.D
 Acq: 08 Oct 2025 23:16

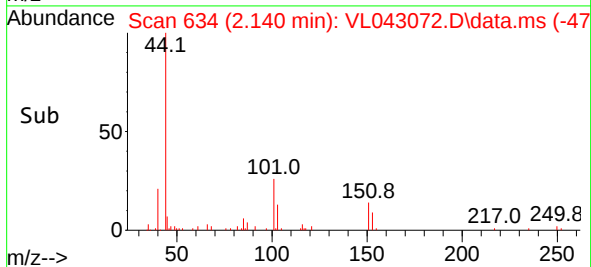
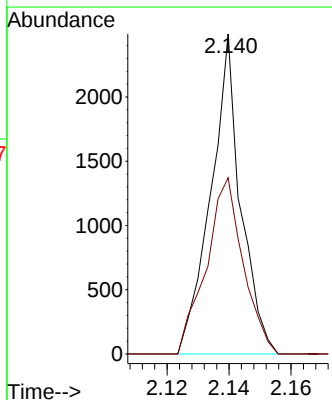
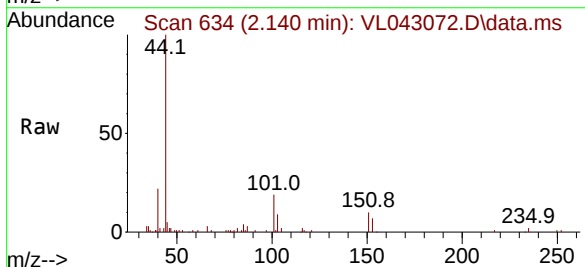
Instrument :
 MSVOA_L
 ClientSampleId :
 IA5

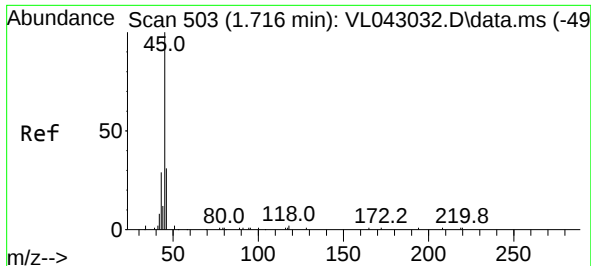
Tgt Ion:101 Resp: 6846
 Ion Ratio Lower Upper
 101 100
 103 64.2 51.1 76.7



#12
 1,1,2-Trichlorotrifluoroethane
 Concen: 0.073 ppbv
 RT: 2.140 min Scan# 634
 Delta R.T. 0.010 min
 Lab File: VL043072.D
 Acq: 08 Oct 2025 23:16

Tgt Ion:101 Resp: 1669
 Ion Ratio Lower Upper
 101 100
 151 67.9 58.1 87.1

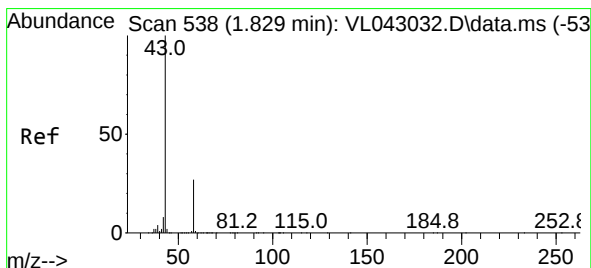
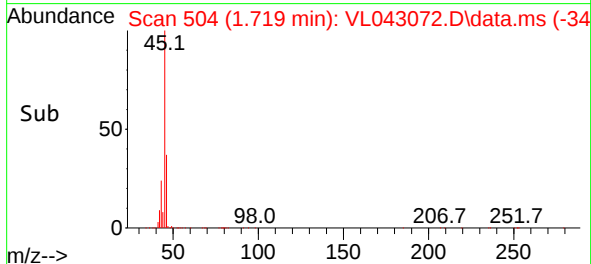
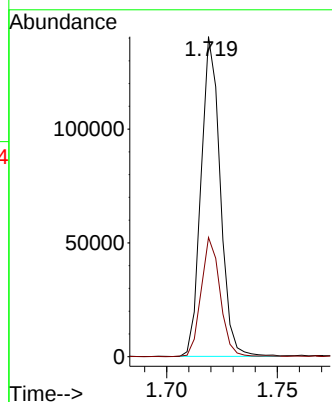
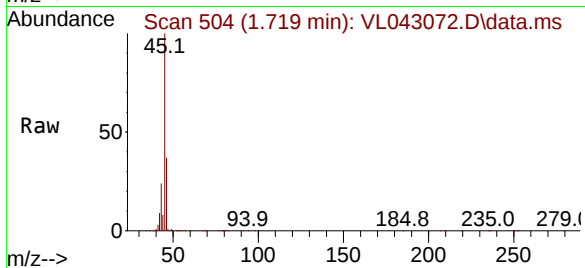




#13
Ethanol
Concen: 211.533 ppbv
RT: 1.719 min Scan# 503
Delta R.T. 0.003 min
Lab File: VL043072.D
Acq: 08 Oct 2025 23:16

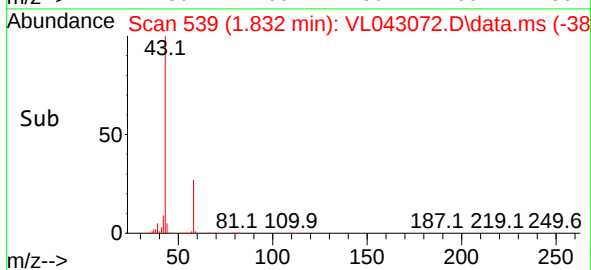
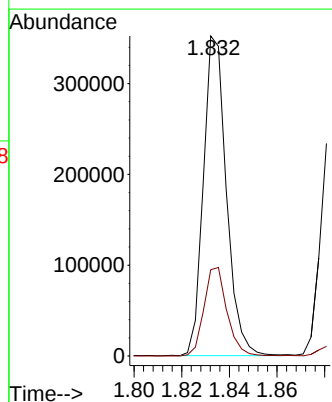
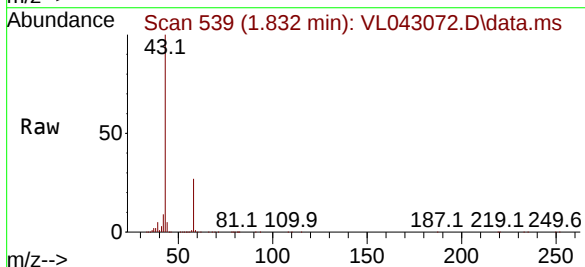
Instrument :
MSVOA_L
ClientSampleId :
IA5

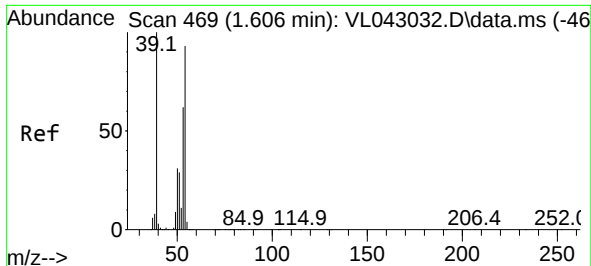
Tgt Ion: 45 Resp: 84535
Ion Ratio Lower Upper
45 100
46 37.7 17.8 71.4



#15
Acetone
Concen: 10.135 ppbv
RT: 1.832 min Scan# 539
Delta R.T. 0.003 min
Lab File: VL043072.D
Acq: 08 Oct 2025 23:16

Tgt Ion: 43 Resp: 236631
Ion Ratio Lower Upper
43 100
58 27.8 22.2 33.4

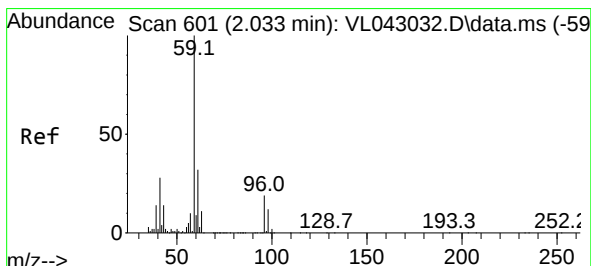
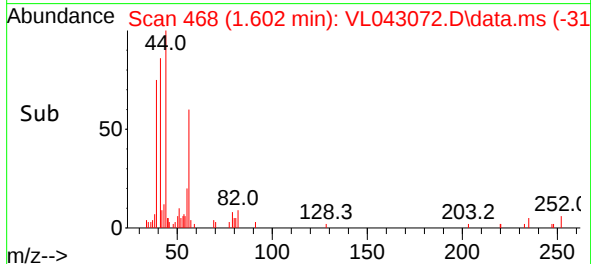
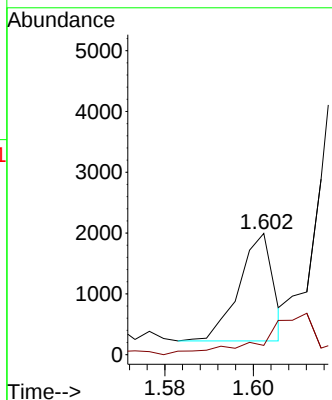
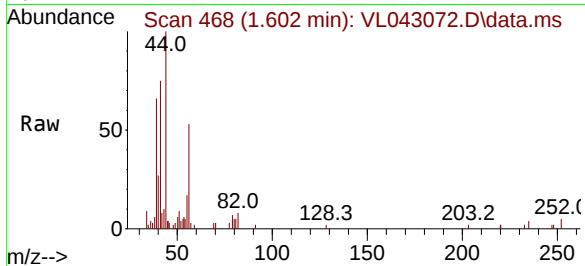




#16
1,3-Butadiene
Concen: 0.099 ppbv
RT: 1.602 min Scan# 40
Delta R.T. -0.003 min
Lab File: VL043072.D
Acq: 08 Oct 2025 23:16

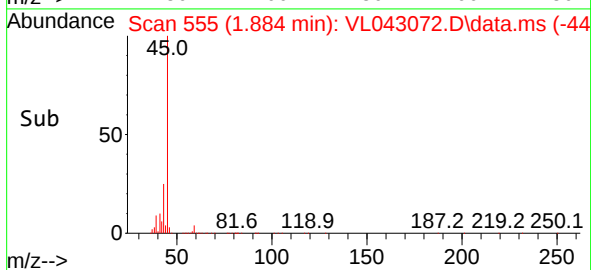
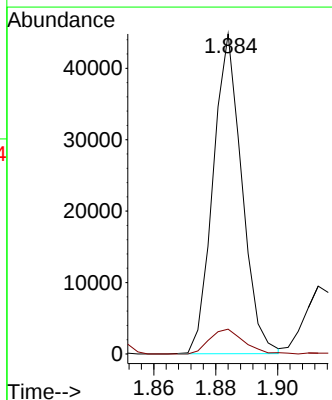
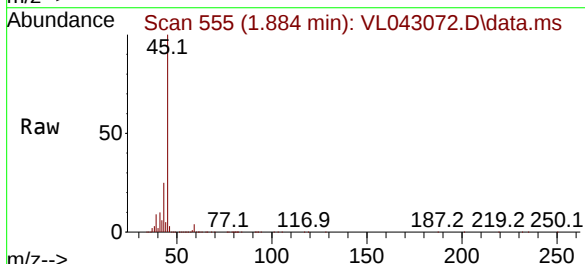
Instrument :
MSVOA_L
ClientSampleId :
IA5

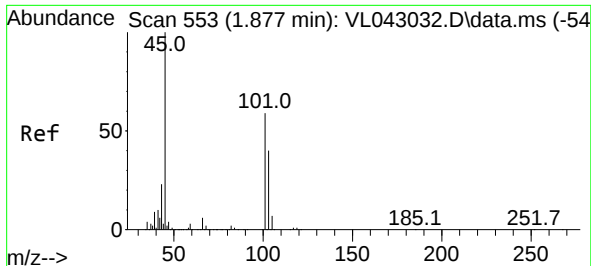
Tgt Ion: 39 Resp: 951
Ion Ratio Lower Upper
39 100
54 93.9 61.4 92.2#



#17
tert-Butyl alcohol
Concen: 1.170 ppbv
RT: 1.884 min Scan# 555
Delta R.T. -0.149 min
Lab File: VL043072.D
Acq: 08 Oct 2025 23:16

Tgt Ion: 59 Resp: 28883
Ion Ratio Lower Upper
59 100
57 9.8 8.5 12.7

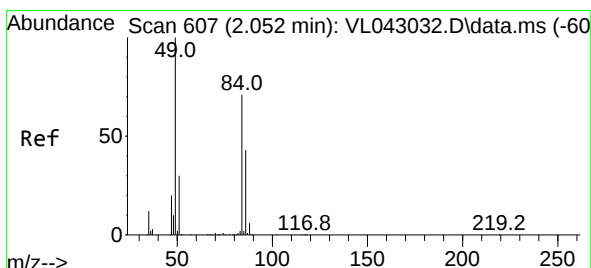
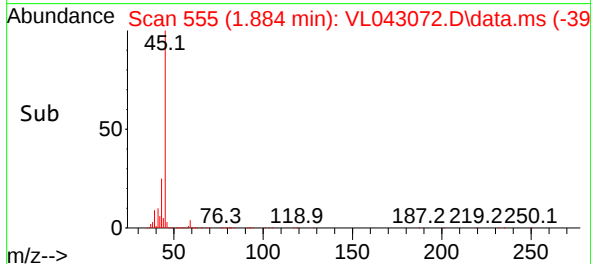
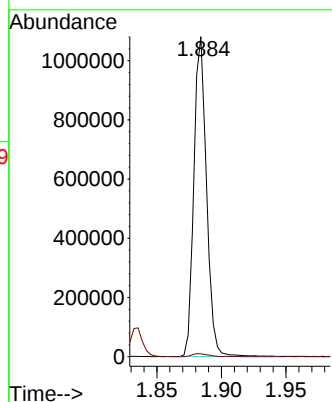
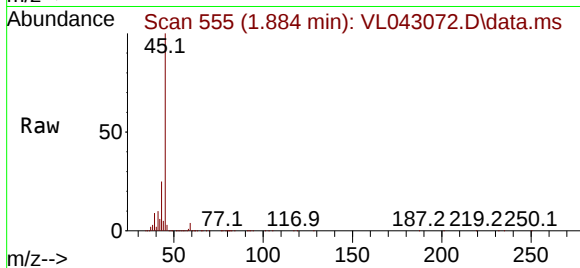




#19
Isopropyl Alcohol
Concen: 65.781 ppbv
RT: 1.884 min Scan# 511
Delta R.T. 0.006 min
Lab File: VL043072.D
Acq: 08 Oct 2025 23:16

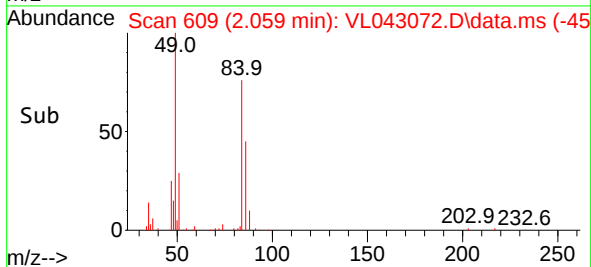
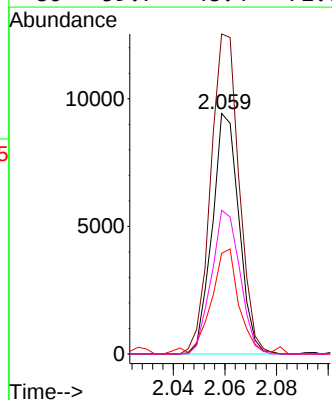
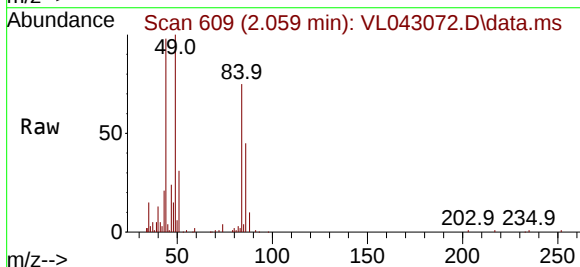
Instrument :
MSVOA_L
ClientSampleId :
IA5

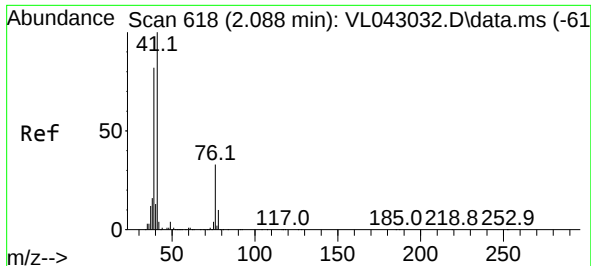
Tgt Ion: 45 Resp: 735856
Ion Ratio Lower Upper
45 100
58 1.3 42.3 63.5#



#20
Methylene Chloride
Concen: 0.667 ppbv
RT: 2.059 min Scan# 609
Delta R.T. 0.006 min
Lab File: VL043072.D
Acq: 08 Oct 2025 23:16

Tgt Ion: 84 Resp: 6793
Ion Ratio Lower Upper
84 100
49 133.1 112.5 168.7
51 39.4 34.2 51.2
86 59.7 48.4 72.6

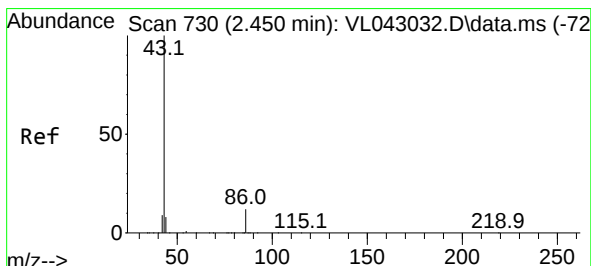
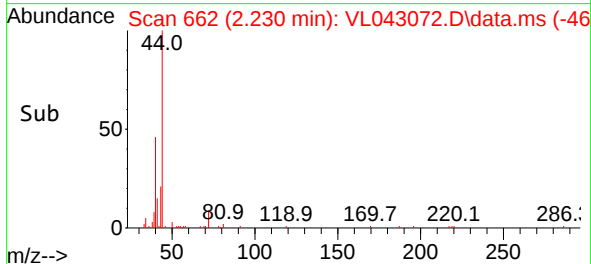
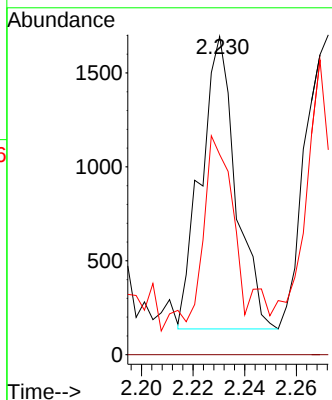
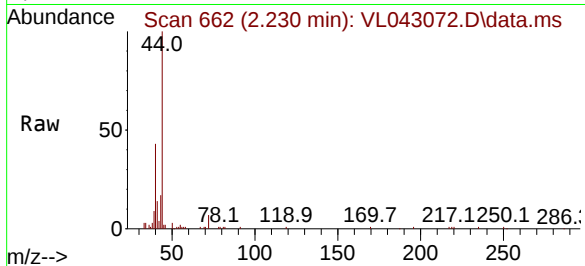




#21
 Allyl Chloride
 Concen: 0.098 ppbv
 RT: 2.230 min Scan# 618
 Delta R.T. 0.142 min
 Lab File: VL043072.D
 Acq: 08 Oct 2025 23:16

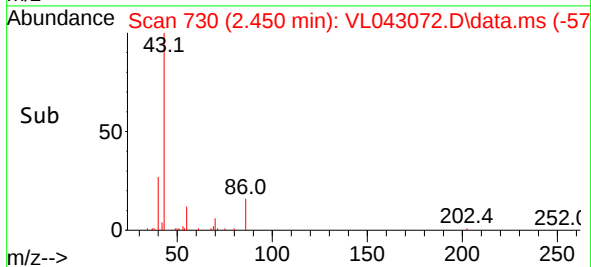
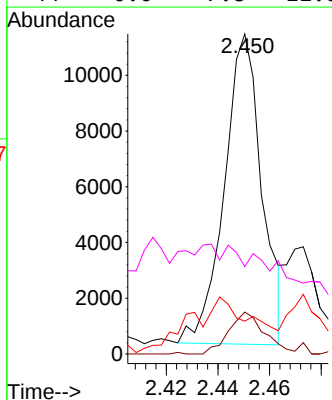
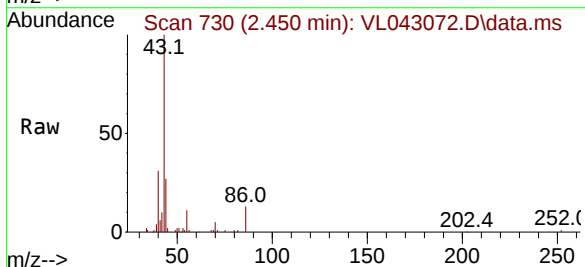
Instrument :
 MSVOA_L
 ClientSampleId :
 IA5

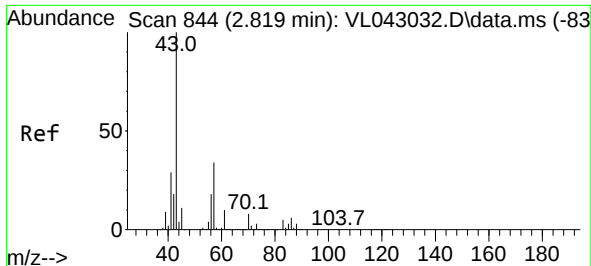
Tgt Ion: 41 Resp: 1473
 Ion Ratio Lower Upper
 41 100
 76 27.4 25.9 38.9
 39 0.0 63.0 94.4#



#23
 Vinyl Acetate
 Concen: 2.273 ppbv
 RT: 2.450 min Scan# 730
 Delta R.T. 0.000 min
 Lab File: VL043072.D
 Acq: 08 Oct 2025 23:16

Tgt Ion: 43 Resp: 11267
 Ion Ratio Lower Upper
 43 100
 86 13.1 7.5 11.3#
 42 4.2 8.4 12.6#
 44 0.0 7.8 11.8#

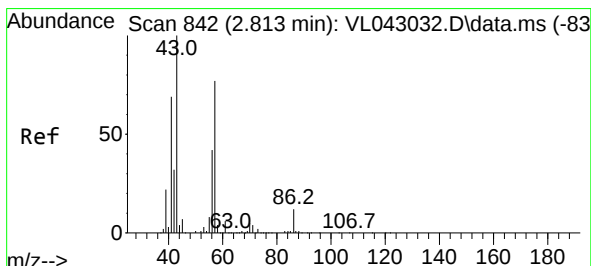
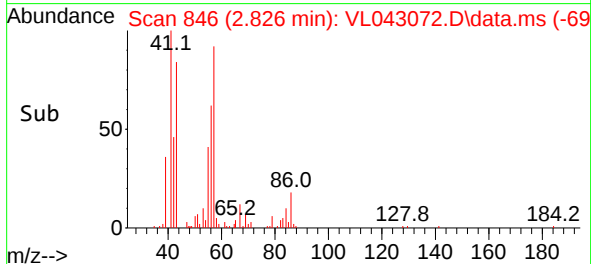
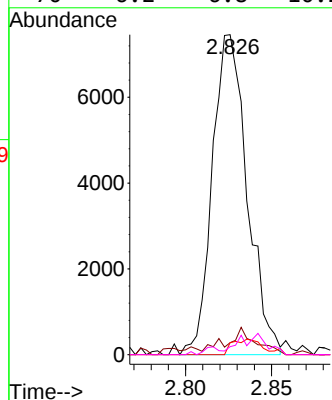
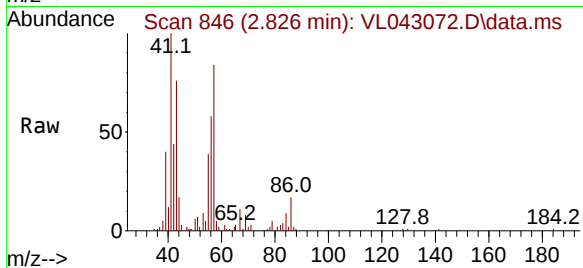




#25
Ethyl Acetate
Concen: 0.179 ppbv
RT: 2.826 min Scan# 844
Delta R.T. 0.006 min
Lab File: VL043072.D
Acq: 08 Oct 2025 23:16

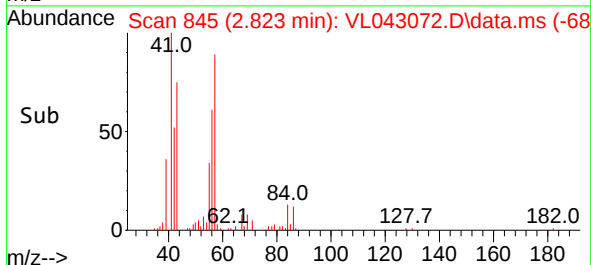
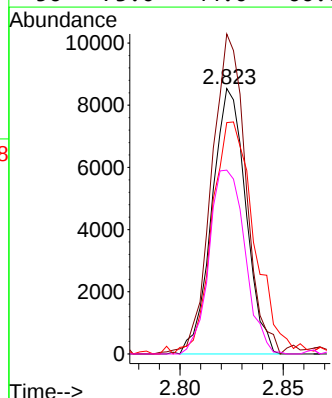
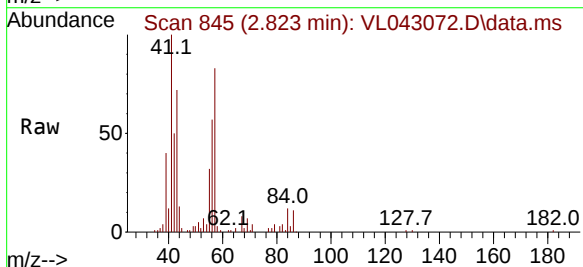
Instrument :
MSVOA_L
ClientSampleId :
IA5

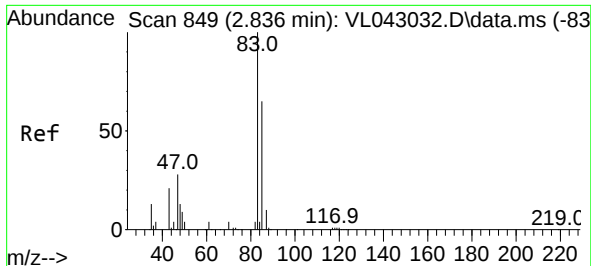
Tgt Ion: 43	Resp: 10503
Ion Ratio	Lower Upper
43 100	
45 9.8	8.3 12.5
61 4.3	7.5 11.3#
70 6.2	6.8 10.2#



#26
Hexane
Concen: 0.432 ppbv
RT: 2.823 min Scan# 845
Delta R.T. 0.010 min
Lab File: VL043072.D
Acq: 08 Oct 2025 23:16

Tgt Ion: 57	Resp: 9729
Ion Ratio	Lower Upper
57 100	
41 125.6	76.1 114.1#
43 110.2	201.4 302.0#
56 73.0	44.0 66.0#





#29

Chloroform

Concen: 0.324 ppbv

RT: 2.845 min Scan# 81

Delta R.T. 0.010 min

Lab File: VL043072.D

Acq: 08 Oct 2025 23:16

Instrument :

MSVOA_L

ClientSampleId :

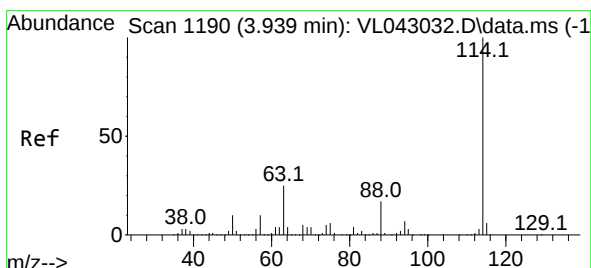
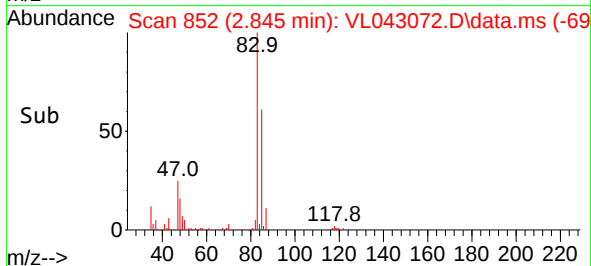
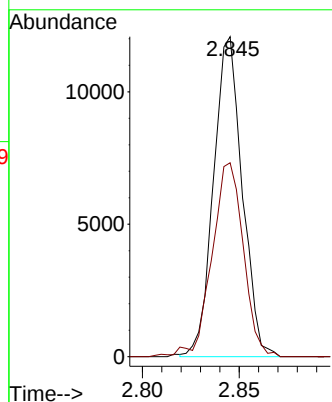
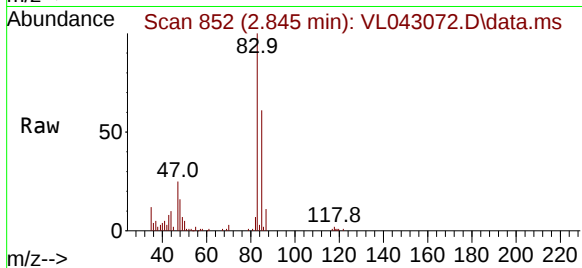
IA5

Tgt Ion: 83 Resp: 12444

Ion Ratio Lower Upper

83 100

85 62.3 52.0 78.0



#33

1,4-Difluorobenzene

Concen: 10.000 ppbv

RT: 3.952 min Scan# 1194

Delta R.T. 0.013 min

Lab File: VL043072.D

Acq: 08 Oct 2025 23:16

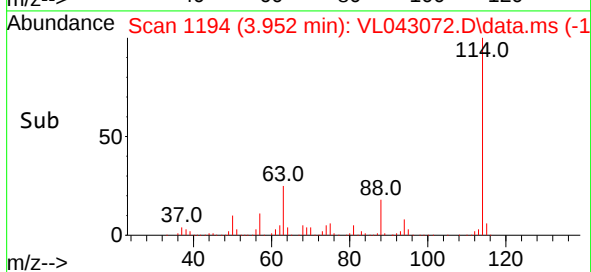
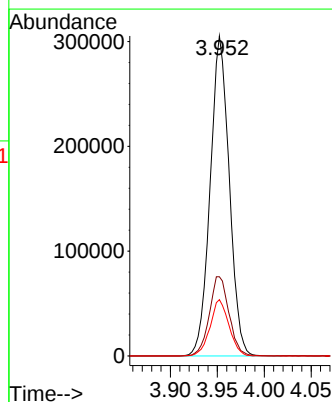
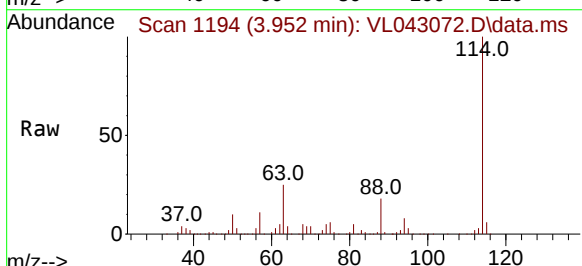
Tgt Ion: 114 Resp: 430435

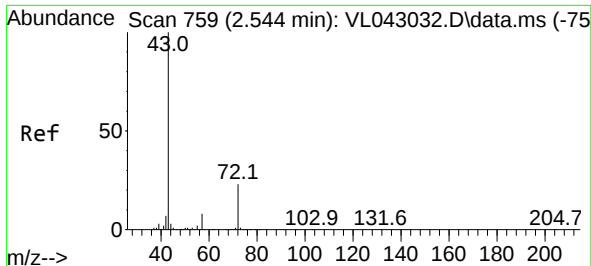
Ion Ratio Lower Upper

114 100

63 25.7 19.4 29.2

88 17.4 13.9 20.9

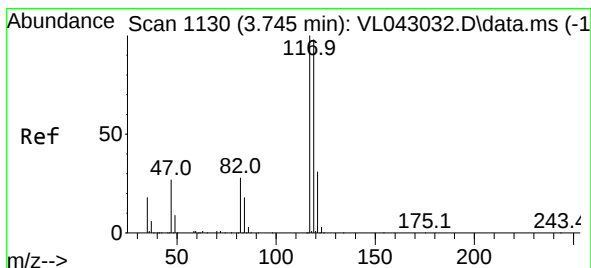
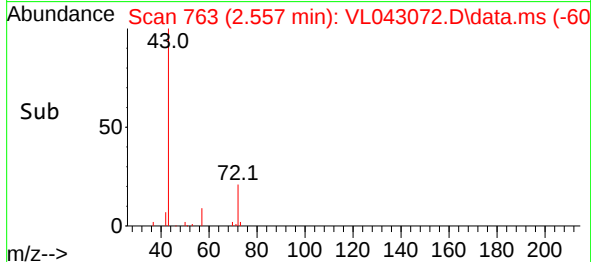
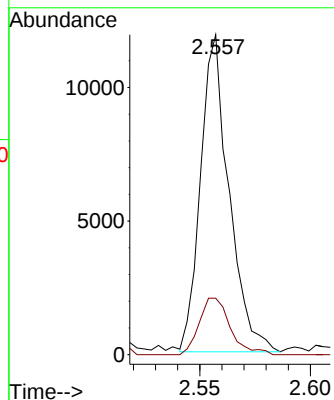
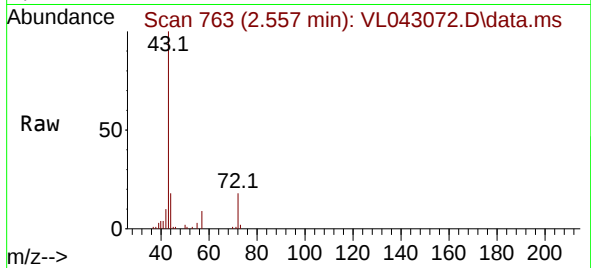




#34
2-Butanone
Concen: 0.363 ppbv
RT: 2.557 min Scan# 70
Delta R.T. 0.013 min
Lab File: VL043072.D
Acq: 08 Oct 2025 23:16

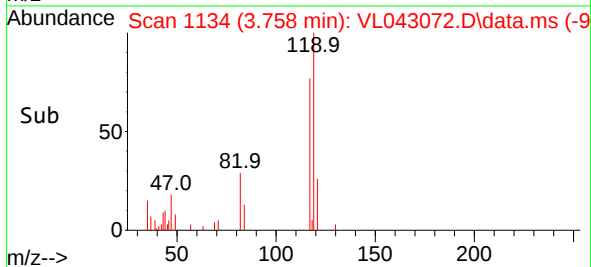
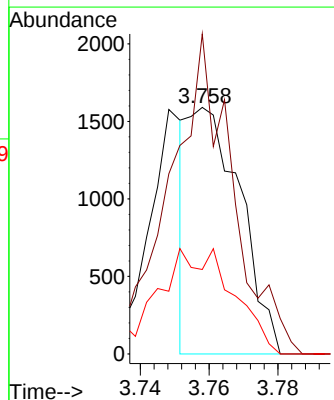
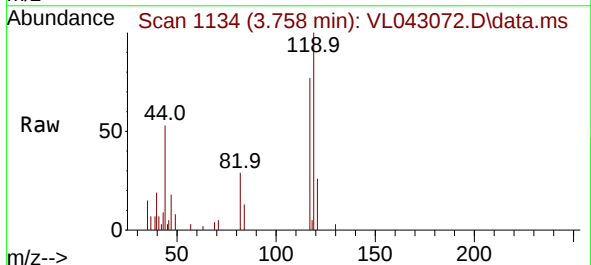
Instrument :
MSVOA_L
ClientSampleId :
IA5

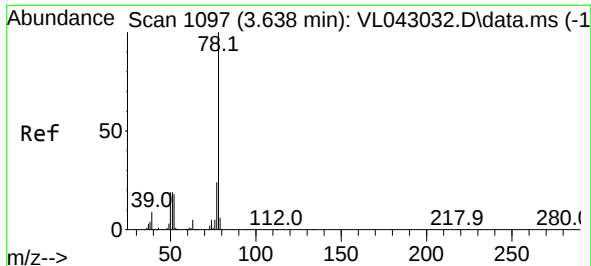
Tgt Ion: 43 Resp: 10611
Ion Ratio Lower Upper
43 100
72 19.5 18.4 27.6



#35
Carbon Tetrachloride
Concen: 0.047 ppbv
RT: 3.758 min Scan# 1134
Delta R.T. 0.013 min
Lab File: VL043072.D
Acq: 08 Oct 2025 23:16

Tgt Ion: 117 Resp: 1670
Ion Ratio Lower Upper
117 100
119 115.4 78.2 117.4
121 34.3 24.8 37.2





#36

Benzene

Concen: 0.074 ppbv

RT: 3.651 min Scan# 1101

Delta R.T. 0.013 min

Lab File: VL043072.D

Acq: 08 Oct 2025 23:16

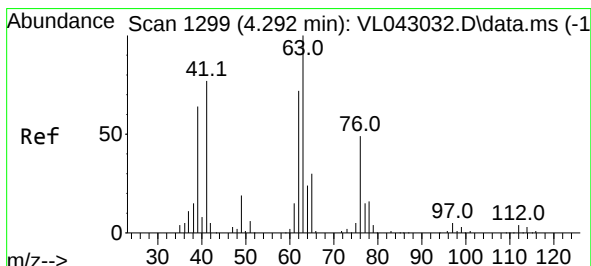
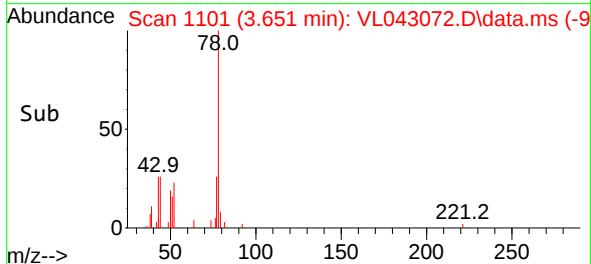
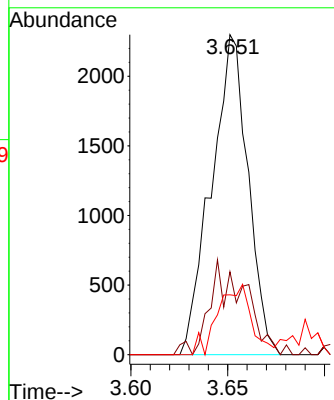
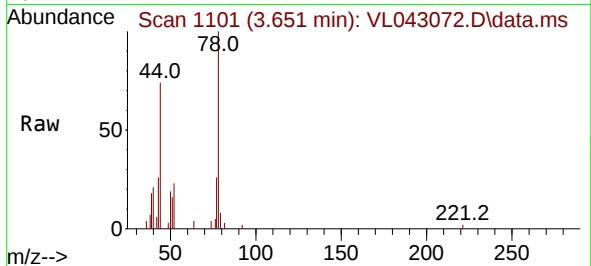
Instrument :

MSVOA_L

ClientSampleId :

IA5

Tgt Ion: 78	Resp: 3024
Ion Ratio	Lower Upper
78 100	
77 25.9	19.2 28.8
50 18.7	14.9 22.3



#39

1,2-Dichloropropane

Concen: 7.240 ppbv

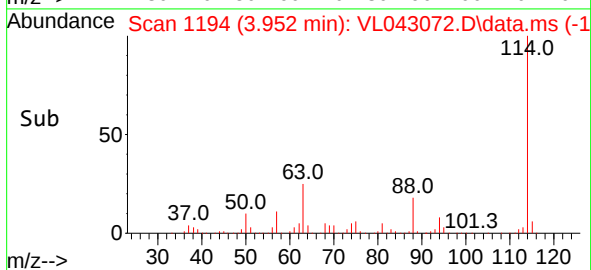
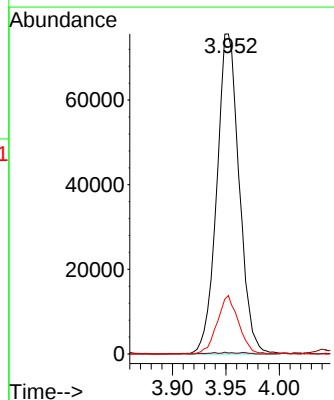
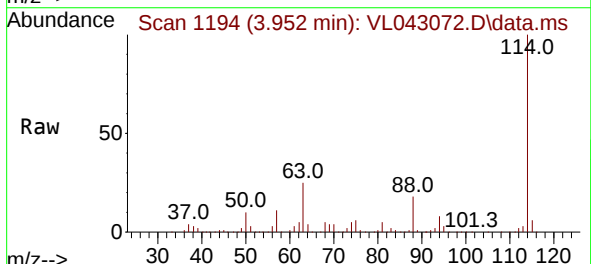
RT: 3.952 min Scan# 1194

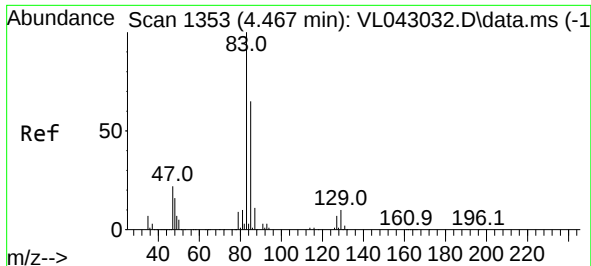
Delta R.T. -0.340 min

Lab File: VL043072.D

Acq: 08 Oct 2025 23:16

Tgt Ion: 63	Resp: 110356
Ion Ratio	Lower Upper
63 100	
41 0.2	61.6 92.4#
62 18.3	58.1 87.1#

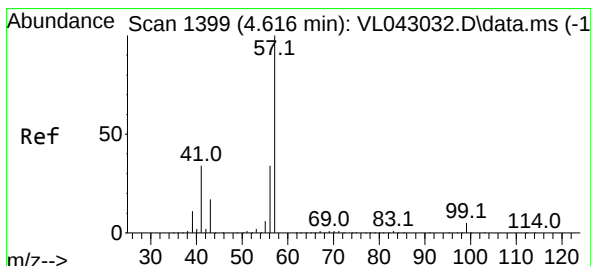
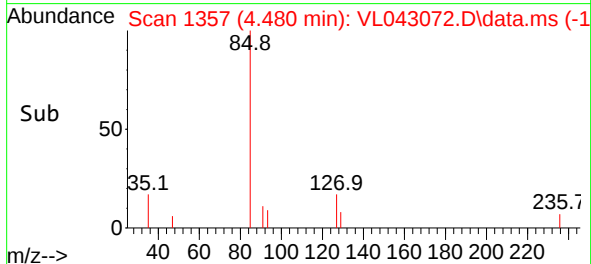
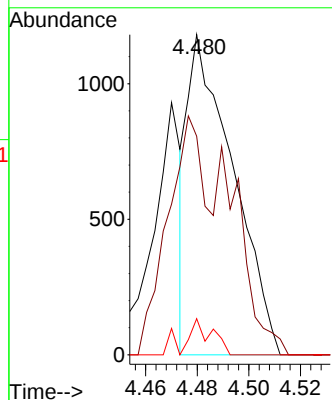
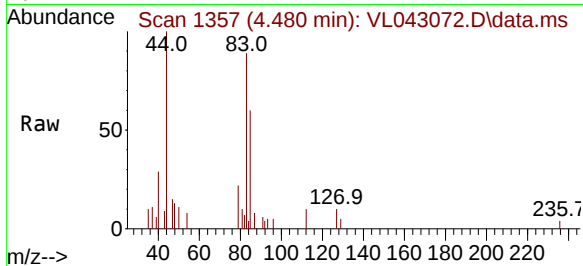




#42
Bromodichloromethane
Concen: 0.042 ppbv
RT: 4.480 min Scan# 11
Delta R.T. 0.013 min
Lab File: VL043072.D
Acq: 08 Oct 2025 23:16

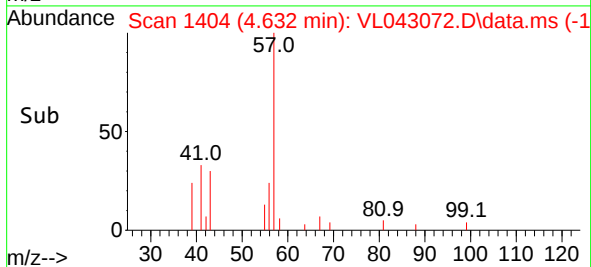
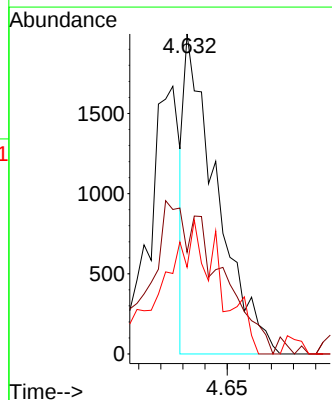
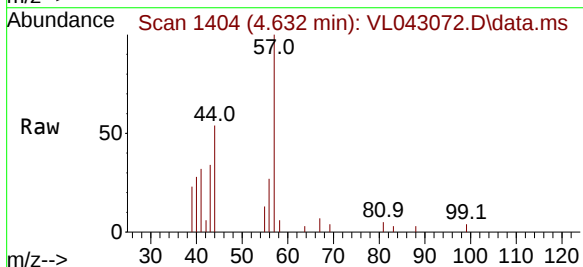
Instrument :
MSVOA_L
ClientSampleId :
IA5

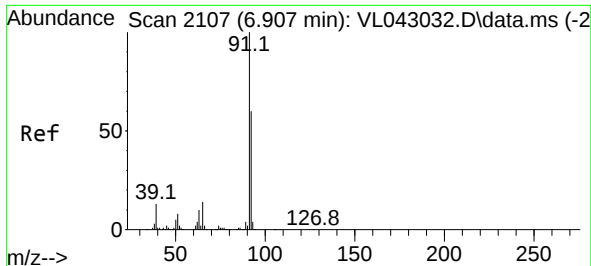
Tgt Ion: 83 Resp: 1450
Ion Ratio Lower Upper
83 100
85 63.3 51.8 77.8
127 11.3 5.9 8.9#



#44
2,2,4-Trimethylpentane
Concen: 0.031 ppbv
RT: 4.632 min Scan# 1404
Delta R.T. 0.016 min
Lab File: VL043072.D
Acq: 08 Oct 2025 23:16

Tgt Ion: 57 Resp: 2031
Ion Ratio Lower Upper
57 100
41 0.0 27.0 40.4#
56 90.3 26.0 39.0#

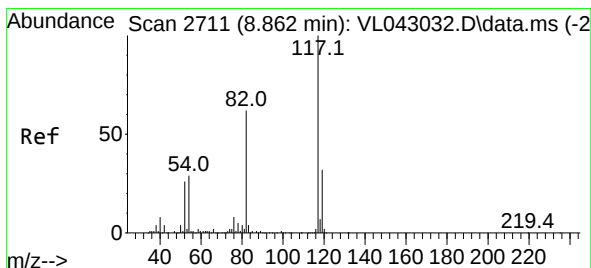
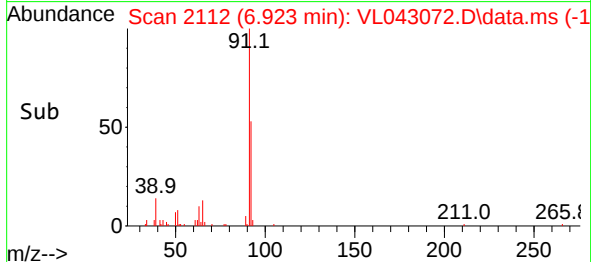
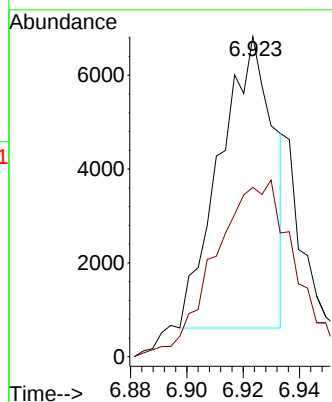
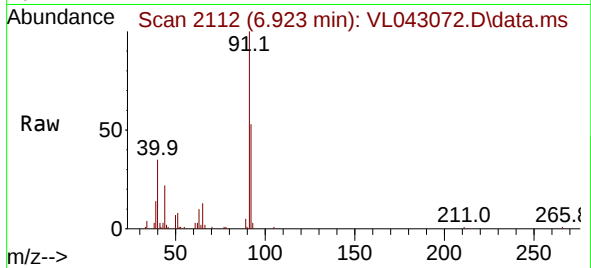




#53
Toluene
Concen: 0.198 ppbv
RT: 6.923 min Scan# 2107
Delta R.T. 0.016 min
Lab File: VL043072.D
Acq: 08 Oct 2025 23:16

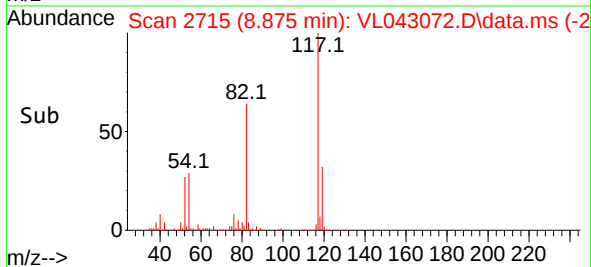
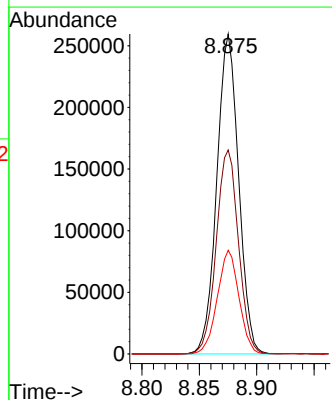
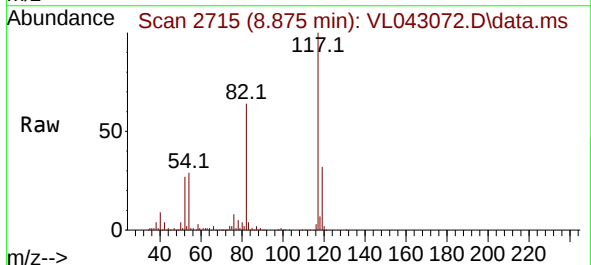
Instrument :
MSVOA_L
ClientSampleId :
IA5

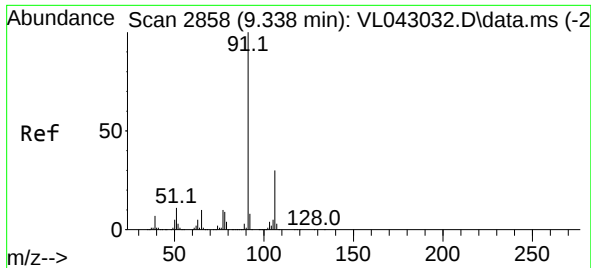
Tgt Ion: 91 Resp: 8208
Ion Ratio Lower Upper
91 100
92 89.0 47.8 71.6#



#55
Chlorobenzene-d5
Concen: 10.000 ppbv
RT: 8.875 min Scan# 2715
Delta R.T. 0.013 min
Lab File: VL043072.D
Acq: 08 Oct 2025 23:16

Tgt Ion: 117 Resp: 343430
Ion Ratio Lower Upper
117 100
82 64.9 53.0 79.6
119 32.4 25.4 38.2

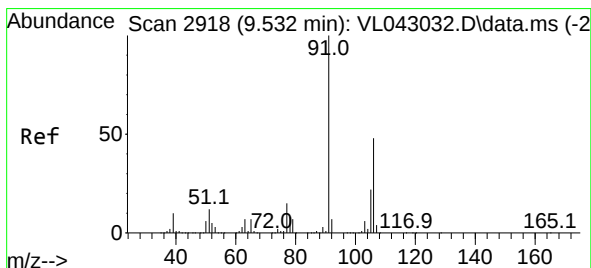
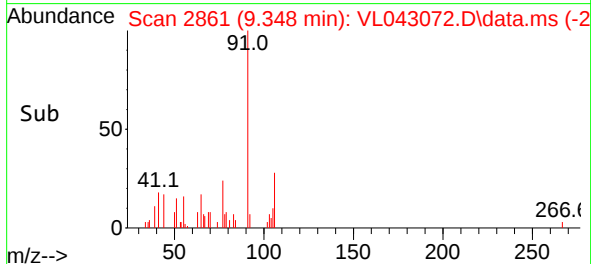
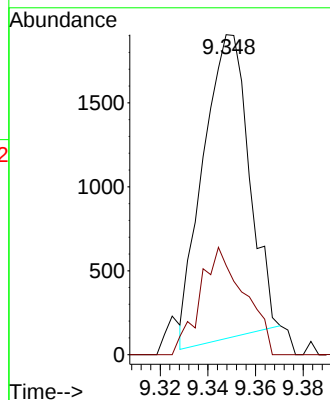
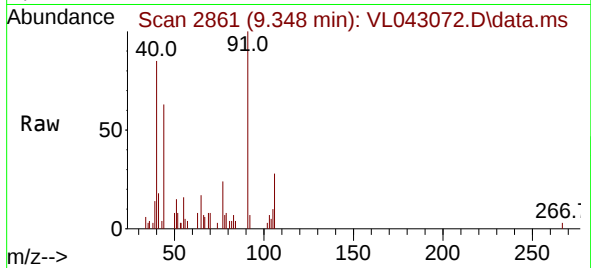




#58
Ethyl Benzene
Concen: 0.046 ppbv
RT: 9.348 min Scan# 21
Delta R.T. 0.010 min
Lab File: VL043072.D
Acq: 08 Oct 2025 23:16

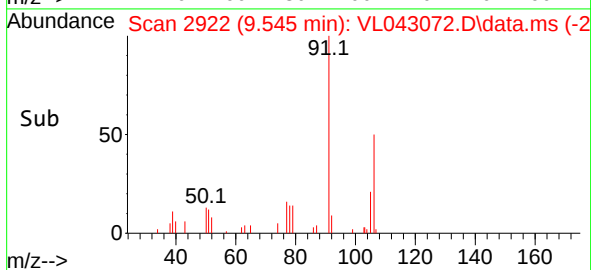
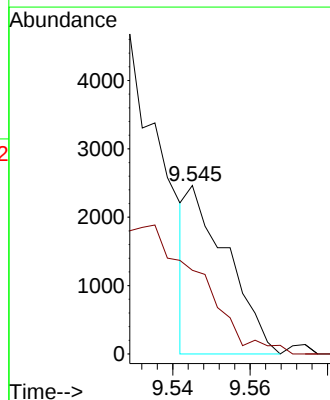
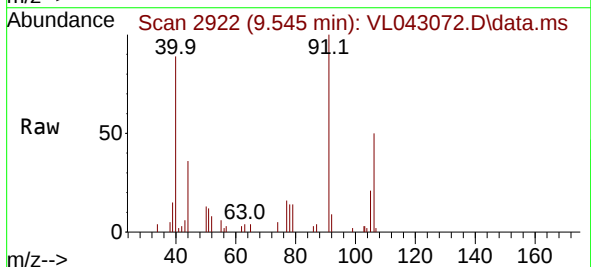
Instrument :
MSVOA_L
ClientSampleId :
IA5

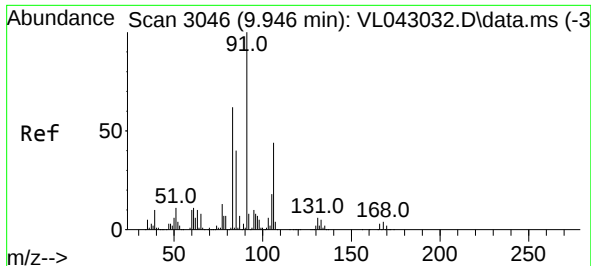
Tgt Ion: 91 Resp: 2435
Ion Ratio Lower Upper
91 100
106 30.7 24.1 36.1



#59
m/p-Xylene
Concen: 0.039 ppbv
RT: 9.545 min Scan# 2922
Delta R.T. 0.013 min
Lab File: VL043072.D
Acq: 08 Oct 2025 23:16

Tgt Ion: 91 Resp: 1768
Ion Ratio Lower Upper
91 100
106 0.0 37.5 56.3#

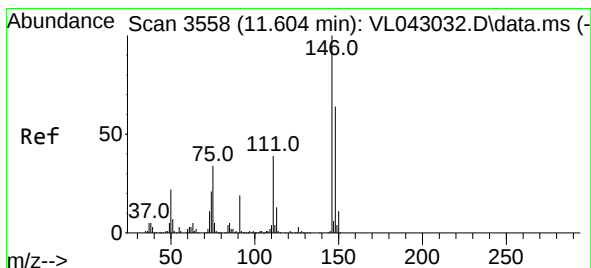
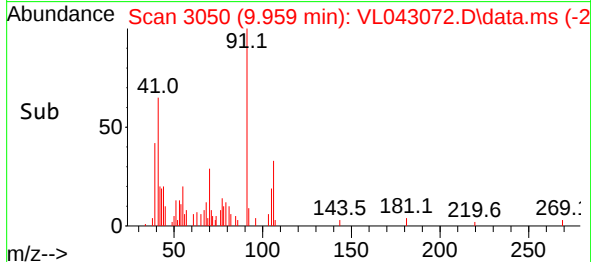
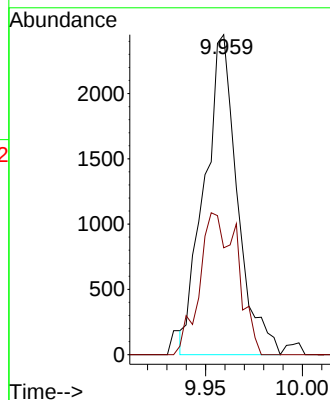
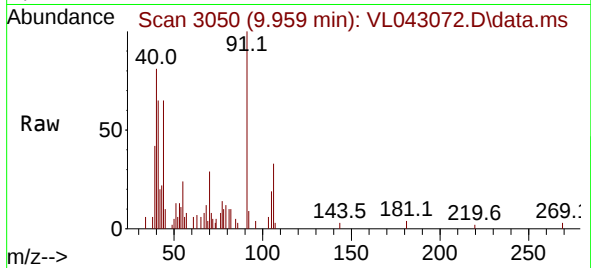




#60
o-Xylene
Concen: 0.065 ppbv
RT: 9.959 min Scan# 3046
Delta R.T. 0.013 min
Lab File: VL043072.D
Acq: 08 Oct 2025 23:16

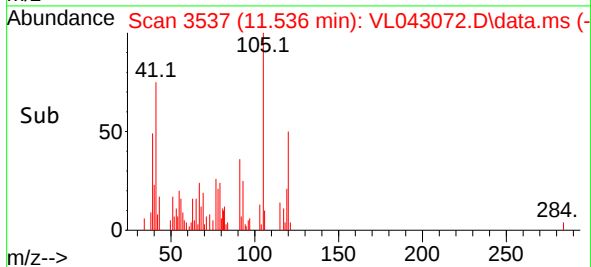
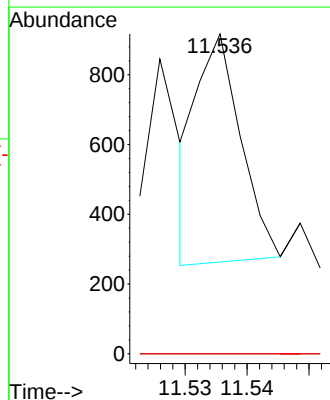
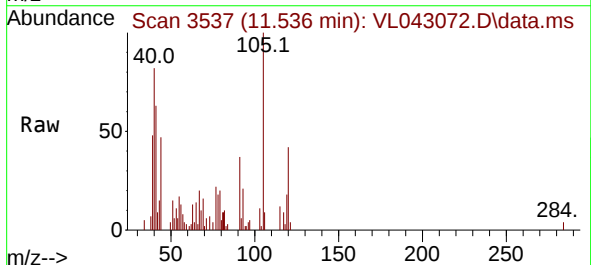
Instrument :
MSVOA_L
ClientSampleId :
IA5

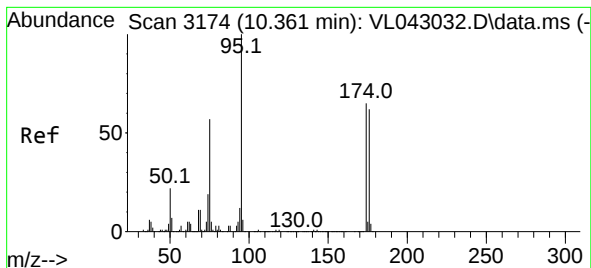
Tgt Ion: 91 Resp: 2897
Ion Ratio Lower Upper
91 100
106 50.9 21.9 65.5



#66
Benzyl Chloride
Concen: 0.139 ppbv
RT: 11.536 min Scan# 3537
Delta R.T. -0.068 min
Lab File: VL043072.D
Acq: 08 Oct 2025 23:16

Tgt Ion: 91 Resp: 325
Ion Ratio Lower Upper
91 100
126 0.0 14.2 21.4#
128 0.0 4.8 7.2#





#68

1-Bromo-4-Fluorobenzene

Concen: 10.338 ppbv

RT: 10.370 min Scan# 3177

Delta R.T. 0.010 min

Lab File: VL043072.D

Acq: 08 Oct 2025 23:16

Instrument :

MSVOA_L

ClientSampleId :

IA5

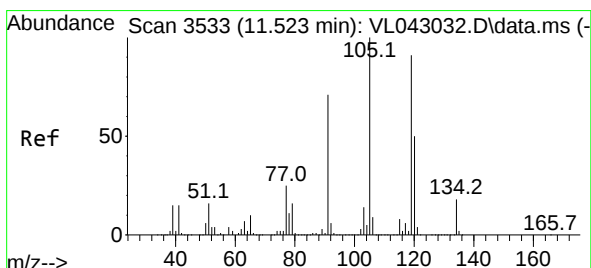
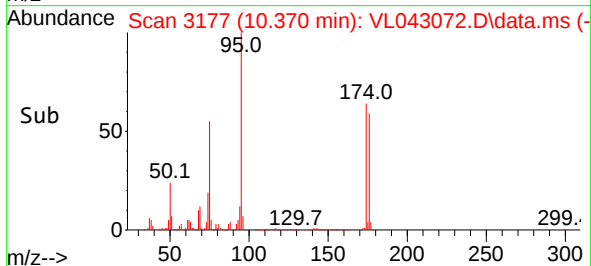
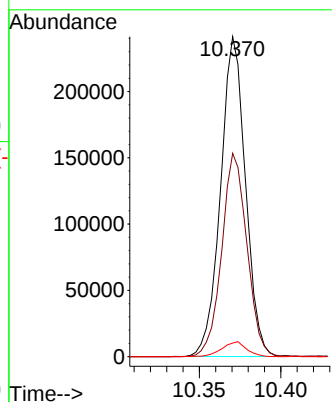
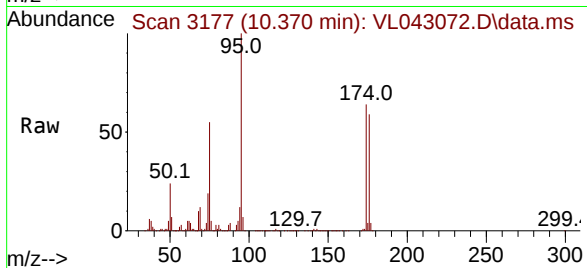
Tgt Ion: 95 Resp: 255772

Ion Ratio Lower Upper

95 100

174 64.9 52.3 78.5

175 4.7 3.8 5.8



#74

1,2,4-Trimethylbenzene

Concen: 0.072 ppbv

RT: 11.532 min Scan# 3536

Delta R.T. 0.010 min

Lab File: VL043072.D

Acq: 08 Oct 2025 23:16

Tgt Ion: 105 Resp: 3719

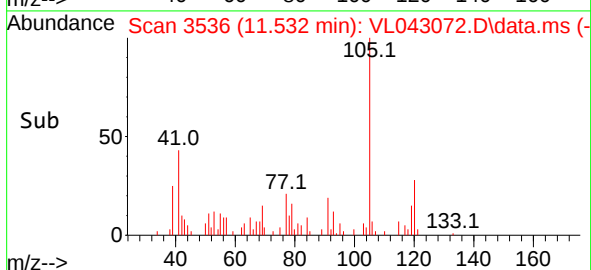
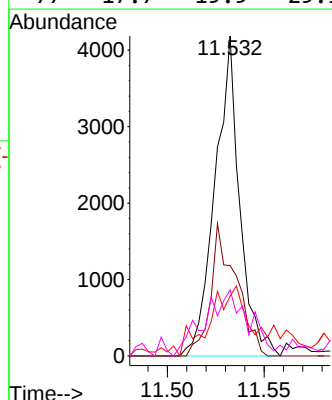
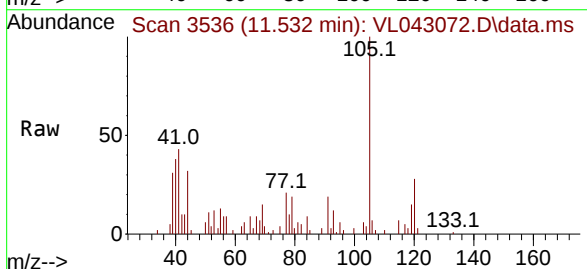
Ion Ratio Lower Upper

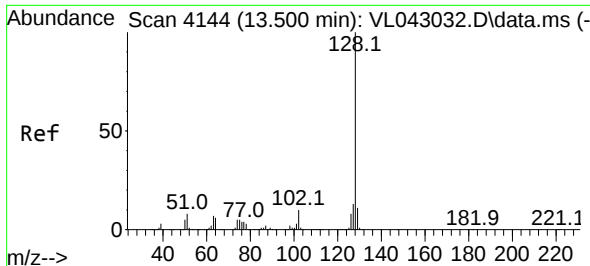
105 100

120 28.2 39.7 59.5#

91 18.7 56.5 84.7#

77 17.7 19.9 29.9#

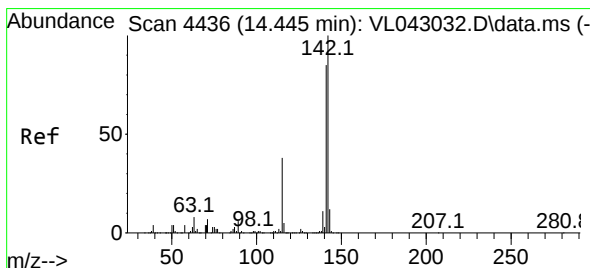
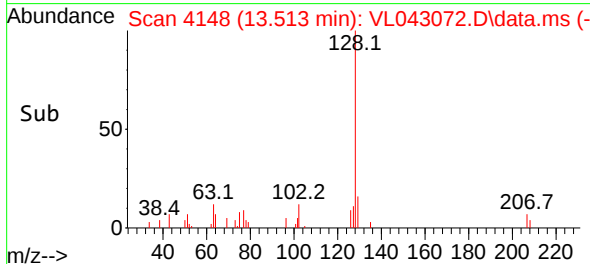
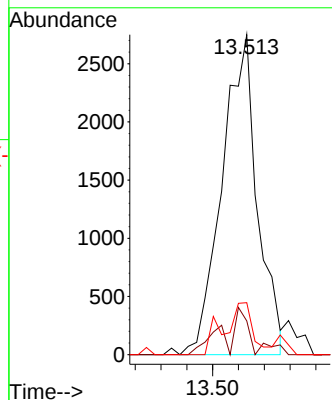
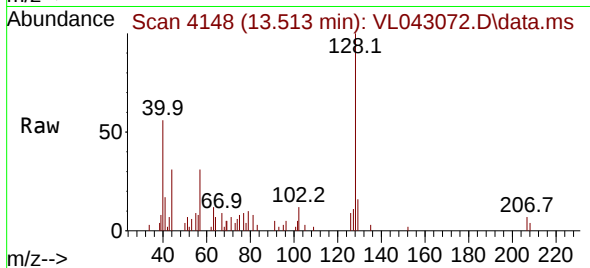




#79
Naphthalene
Concen: 0.295 ppbv
RT: 13.513 min Scan# 4144
Delta R.T. 0.013 min
Lab File: VL043072.D
Acq: 08 Oct 2025 23:16

Instrument :
MSVOA_L
ClientSampleId :
IA5

Tgt Ion:128 Resp: 2608
Ion Ratio Lower Upper
128 100
127 10.5 10.6 16.0#
129 16.3 8.8 13.2#



#80
Naphthalene,2-methyl-
Concen: 0.717 ppbv
RT: 14.452 min Scan# 4438
Delta R.T. 0.007 min
Lab File: VL043072.D
Acq: 08 Oct 2025 23:16

Tgt Ion:142 Resp: 1207
Ion Ratio Lower Upper
142 100
141 92.4 66.6 100.0
115 42.4 30.1 45.1

