

Data Path : Z:\voasrv\HPCHEM1\MSVOA_L\Data\VL041525\
 Data File : VL042334.D
 Acq On : 15 Apr 2025 16:08
 Operator : SY/MD
 Sample : Q1802-02DUP
 Misc : 400mL/MSVOA_L
 ALS Vial : 1 Sample Multiplier: 1

Instrument :
 MSVOA_L
 ClientSampleId :
 IA1DUP

Quant Time: Apr 16 01:33:25 2025
 Quant Method : Z:\voasrv\HPCHEM1\MSVOA_L\methods\VL032725AIR.M
 Quant Title : AIR ANALYSIS BY METHOD TO-15 Instrument: MSVOA_L Fri Aug 26 06:05:16 2022
 QLast Update : Fri Mar 28 02:00:52 2025
 Response via : Initial Calibration

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

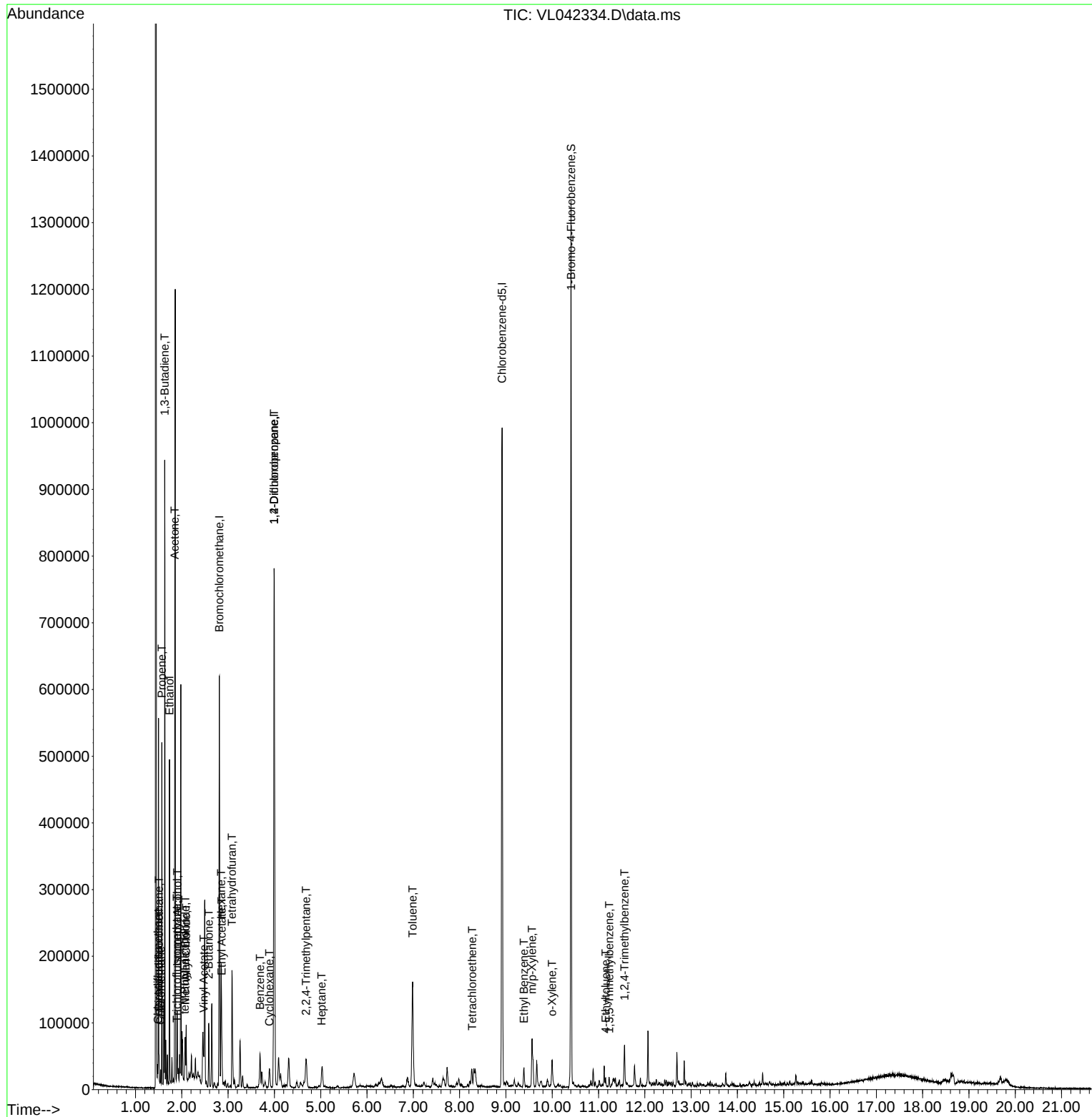
Internal Standards						
1) Bromochloromethane	2.809	49	179585	10.000	ppbv	0.03
33) 1,4-Difluorobenzene	3.994	114	439918	10.000	ppbv	0.04
55) Chlorobenzene-d5	8.917	117	393360	10.000	ppbv	0.04
System Monitoring Compounds						
68) 1-Bromo-4-Fluorobenzene	10.406	95	314181	9.726	ppbv	0.04
Spiked Amount	10.000	Range	65 - 135	Recovery	=	97.300%
Target Compounds						
					Qvalue	
2) Dichlorodifluoromethane	1.508	85	9589	0.362	ppbv	100
3) Chlorodifluoromethane	1.486	51	12611	0.466	ppbv #	78
4) Chloromethane	1.541	50	7061	0.652	ppbv	95
9) Propene	1.570	41	49876	4.017	ppbv	97
10) Heptane	5.020	43	4152	0.126	ppbv #	28
11) Trichlorofluoromethane	1.890	101	4701	0.182	ppbv	84
13) Ethanol	1.735	45	174144	148.373	ppbv	83
15) Acetone	1.848	43	421840	16.796	ppbv #	79
16) 1,3-Butadiene	1.631	39	43971	3.585	ppbv #	19
17) tert-Butyl alcohol	2.062	59	1562	0.050	ppbv #	71
19) Isopropyl Alcohol	1.900	45	40949	2.890	ppbv #	1
20) Methylene Chloride	2.078	84	3293	0.352	ppbv #	92
21) Allyl Chloride	2.094	41	7202	0.407	ppbv #	34
23) Vinyl Acetate	2.476	43	15857	1.459	ppbv #	74
25) Ethyl Acetate	2.861	43	50967	0.782	ppbv #	91
26) Hexane	2.852	57	32511	1.291	ppbv #	59
30) Cyclohexane	3.894	84	5259	0.241	ppbv #	77
34) 2-Butanone	2.580	43	57155	1.792	ppbv	99
36) Benzene	3.687	78	30839	0.707	ppbv	95
39) 1,2-Dichloropropane	3.994	63	113744	7.161	ppbv #	22
41) Tetrahydrofuran	3.085	42	58119	3.164	ppbv	92
44) 2,2,4-Trimethylpentane	4.680	57	16285	0.221	ppbv #	21
52) Tetrachloroethene	8.273	164	956	0.055	ppbv #	92
53) Toluene	6.985	91	105073	2.032	ppbv	98
58) Ethyl Benzene	9.390	91	14862	0.213	ppbv	93
59) m/p-Xylene	9.564	91	45628	0.818	ppbv	96
60) o-Xylene	9.995	91	15795	0.282	ppbv	95
72) 4-Ethyltoluene	11.154	105	4747	0.068	ppbv #	55
73) 1,3,5-Trimethylbenzene	11.231	105	4861	0.080	ppbv	89
74) 1,2,4-Trimethylbenzene	11.561	105	19209	0.274	ppbv #	69

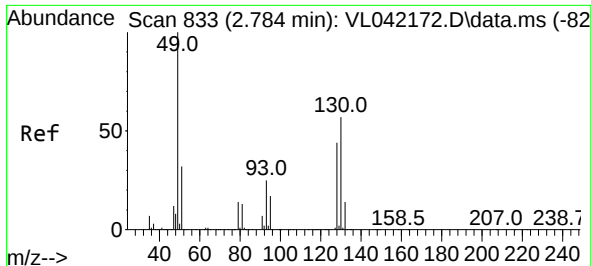
(#) = qualifier out of range (m) = manual integration (+) = signals summed

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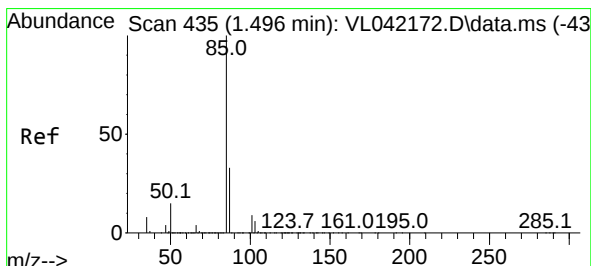
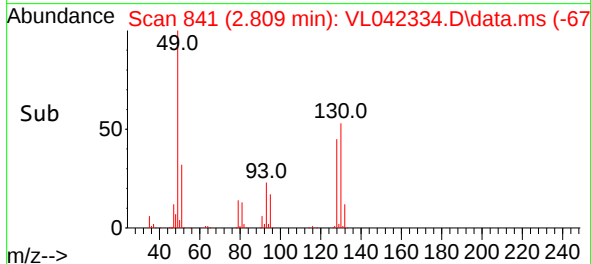
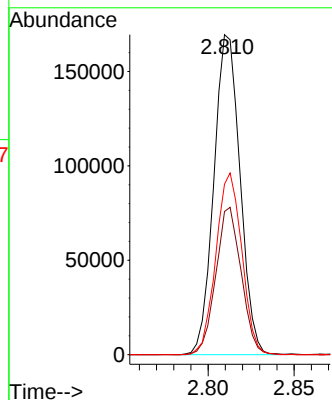
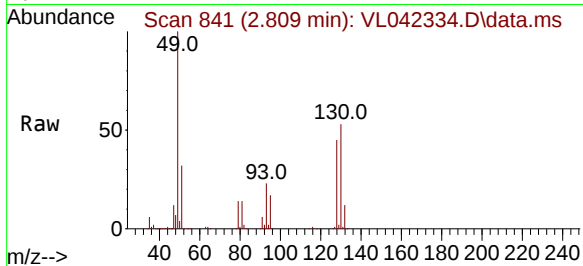




#1
Bromochloromethane
Concen: 10.000 ppbv
RT: 2.809 min Scan# 841
Delta R.T. 0.026 min
Lab File: VL042334.D
Acq: 15 Apr 2025 16:08

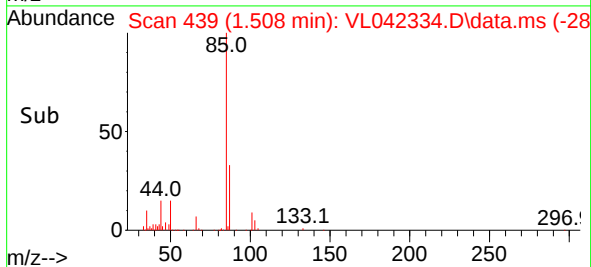
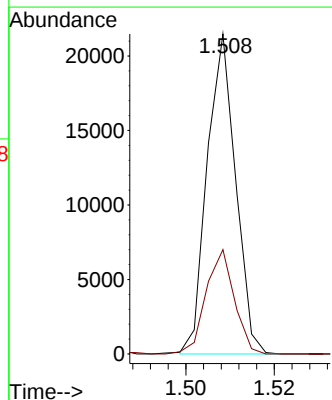
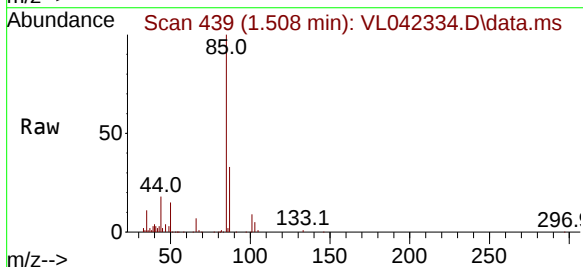
Instrument :
MSVOA_L
ClientSampleId :
IA1DUP

Tgt Ion: 49 Resp: 179585
Ion Ratio Lower Upper
49 100
128 44.6 22.9 68.5
130 56.2 28.8 86.4



#2
Dichlorodifluoromethane
Concen: 0.362 ppbv
RT: 1.508 min Scan# 439
Delta R.T. 0.013 min
Lab File: VL042334.D
Acq: 15 Apr 2025 16:08

Tgt Ion: 85 Resp: 9589
Ion Ratio Lower Upper
85 100
87 32.6 26.1 39.1

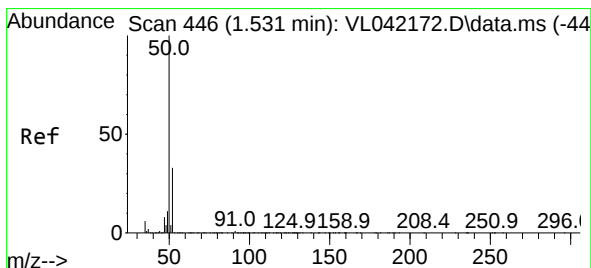
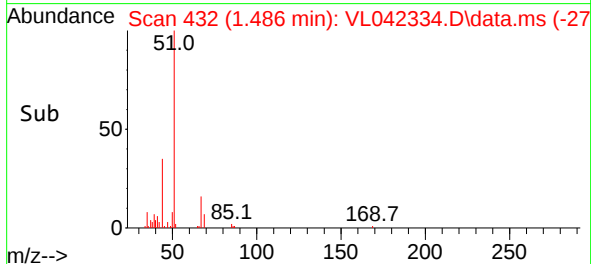
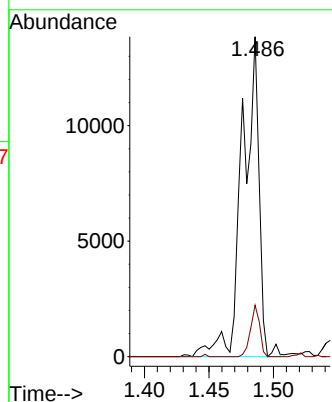
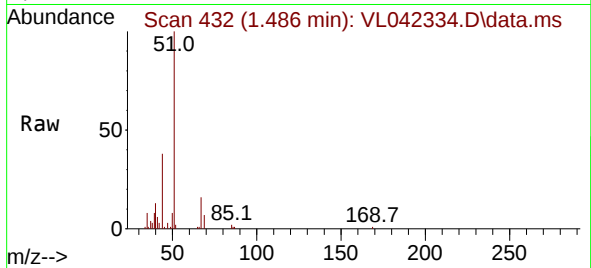




#3
Chlorodifluoromethane
Concen: 0.466 ppbv
RT: 1.486 min Scan# 41
Delta R.T. 0.013 min
Lab File: VL042334.D
Acq: 15 Apr 2025 16:08

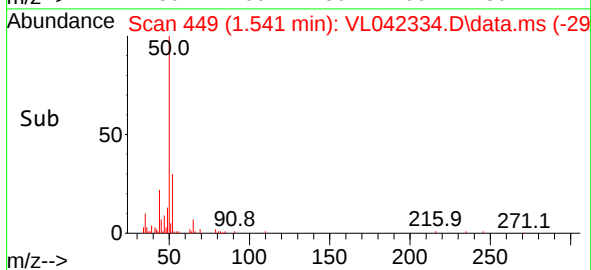
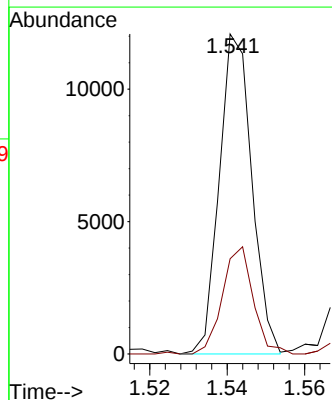
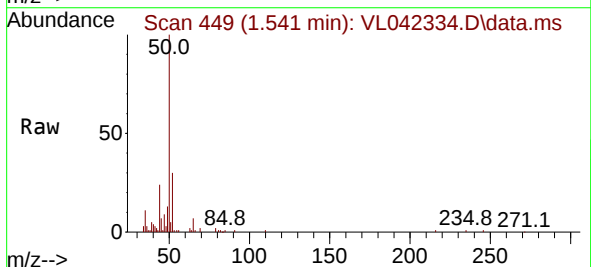
Instrument :
MSVOA_L
ClientSampleId :
IA1DUP

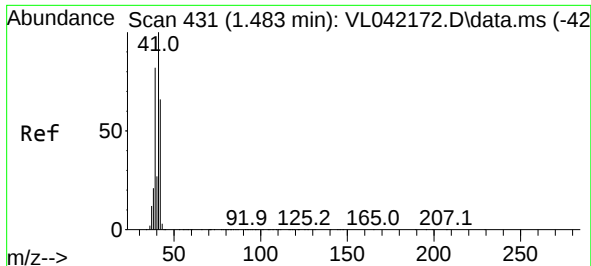
Tgt Ion: 51 Resp: 12611
Ion Ratio Lower Upper
51 100
67 8.8 15.0 22.6#



#4
Chloromethane
Concen: 0.652 ppbv
RT: 1.541 min Scan# 449
Delta R.T. 0.009 min
Lab File: VL042334.D
Acq: 15 Apr 2025 16:08

Tgt Ion: 50 Resp: 7061
Ion Ratio Lower Upper
50 100
52 29.9 26.1 39.1

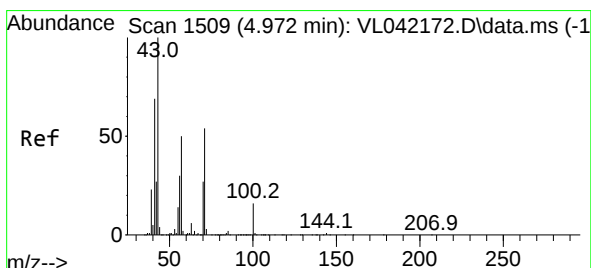
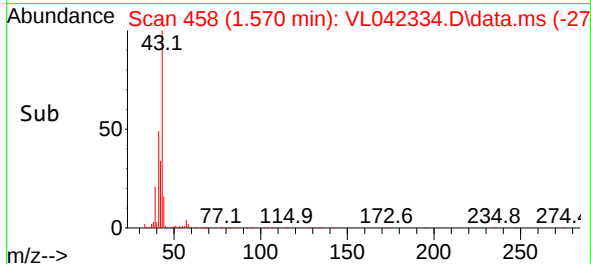
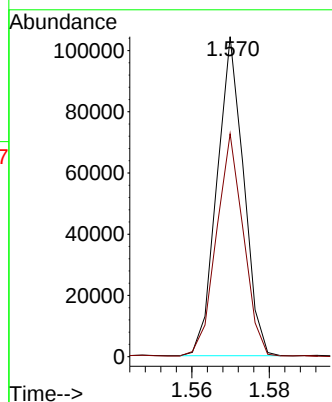
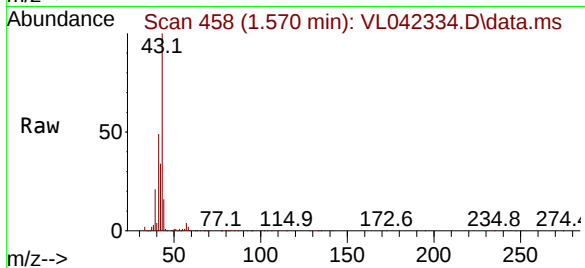




#9
Propene
Concen: 4.017 ppbv
RT: 1.570 min Scan# 41
Delta R.T. 0.087 min
Lab File: VL042334.D
Acq: 15 Apr 2025 16:08

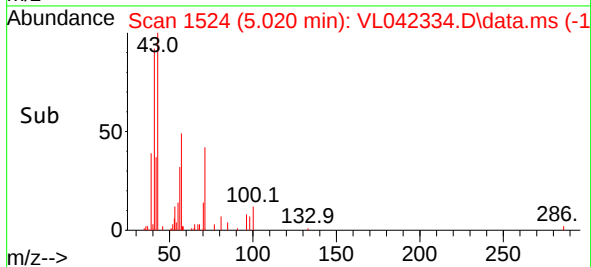
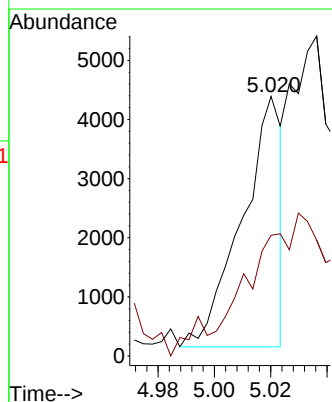
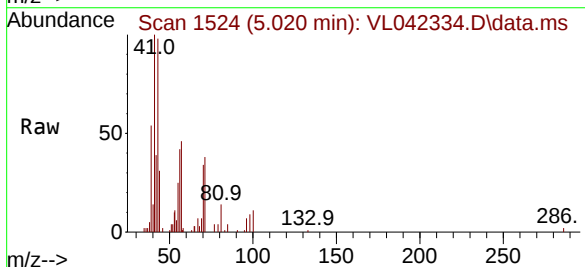
Instrument :
MSVOA_L
ClientSampleId :
IA1DUP

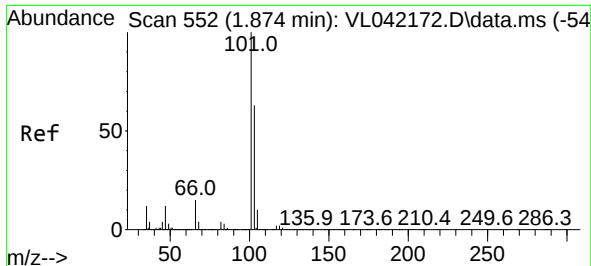
Tgt Ion: 41 Resp: 49876
Ion Ratio Lower Upper
41 100
42 71.7 55.4 83.2



#10
Heptane
Concen: 0.126 ppbv
RT: 5.020 min Scan# 1524
Delta R.T. 0.048 min
Lab File: VL042334.D
Acq: 15 Apr 2025 16:08

Tgt Ion: 43 Resp: 4152
Ion Ratio Lower Upper
43 100
57 0.0 39.4 59.2#

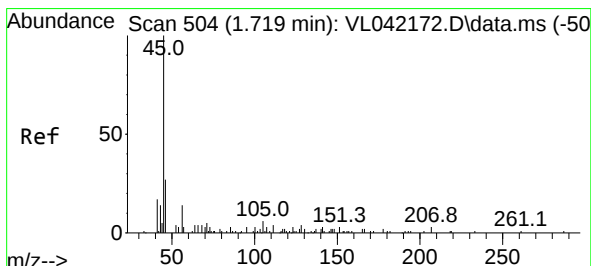
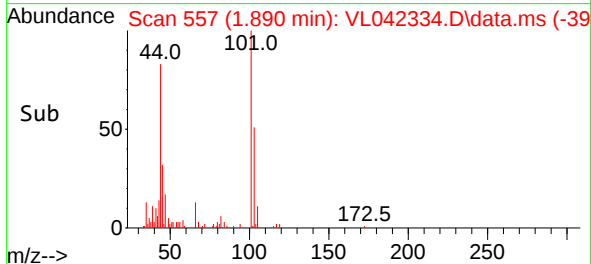
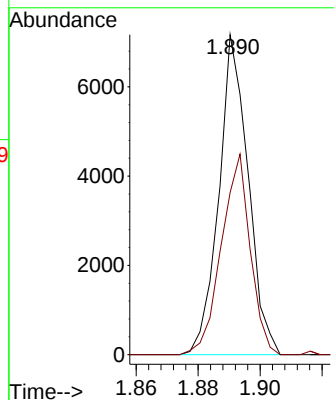
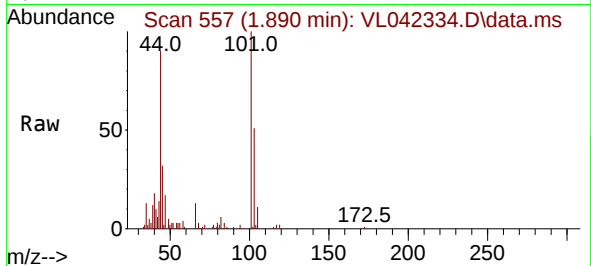




#11
 Trichlorofluoromethane
 Concen: 0.182 ppbv
 RT: 1.890 min Scan# 51
 Delta R.T. 0.016 min
 Lab File: VL042334.D
 Acq: 15 Apr 2025 16:08

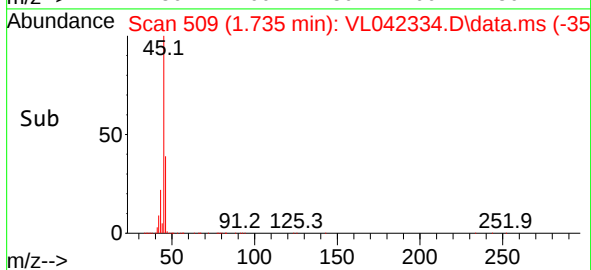
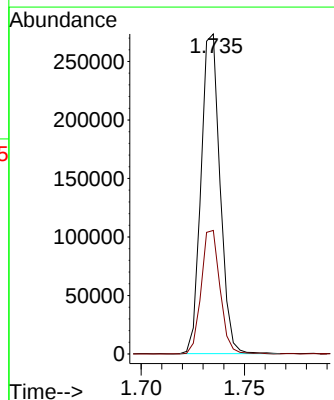
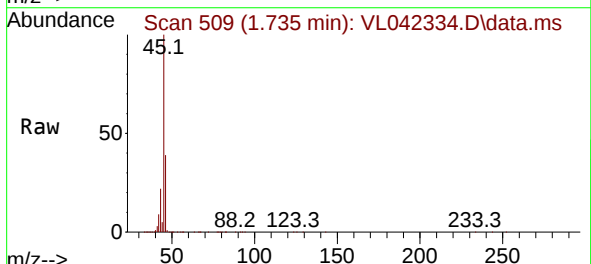
Instrument :
 MSVOA_L
 ClientSampleId :
 IA1DUP

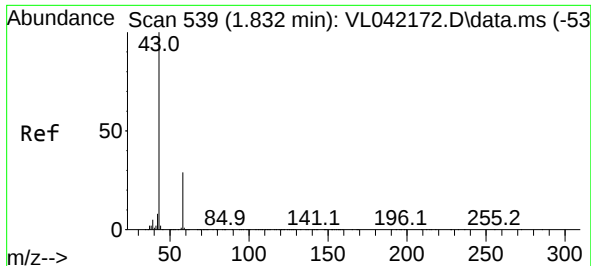
Tgt Ion:101 Resp: 4701
 Ion Ratio Lower Upper
 101 100
 103 50.6 50.2 75.2



#13
 Ethanol
 Concen: 148.373 ppbv
 RT: 1.735 min Scan# 509
 Delta R.T. 0.016 min
 Lab File: VL042334.D
 Acq: 15 Apr 2025 16:08

Tgt Ion: 45 Resp: 174144
 Ion Ratio Lower Upper
 45 100
 46 38.5 20.2 80.8





#15

Acetone

Concen: 16.796 ppbv

RT: 1.848 min Scan# 54

Delta R.T. 0.016 min

Lab File: VL042334.D

Acq: 15 Apr 2025 16:08

Instrument :

MSVOA_L

ClientSampleId :

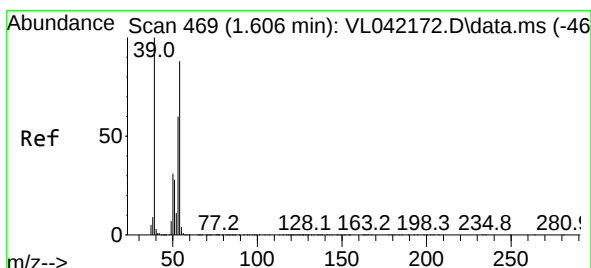
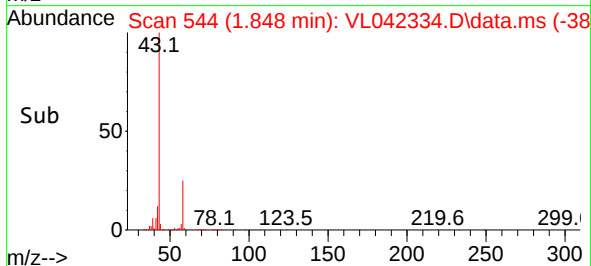
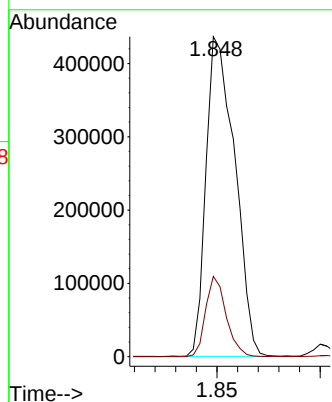
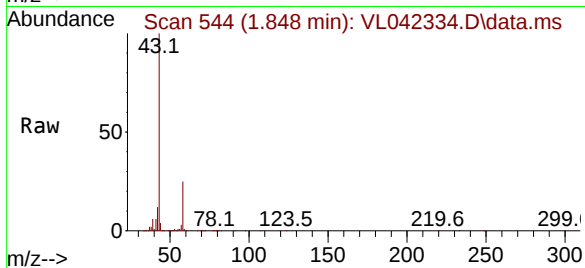
IA1DUP

Tgt Ion: 43 Resp: 421840

Ion Ratio Lower Upper

43 100

58 18.0 23.2 34.8#



#16

1,3-Butadiene

Concen: 3.585 ppbv

RT: 1.631 min Scan# 477

Delta R.T. 0.026 min

Lab File: VL042334.D

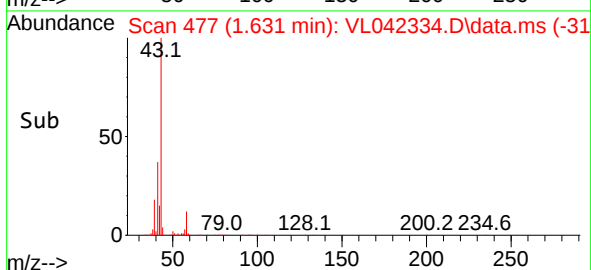
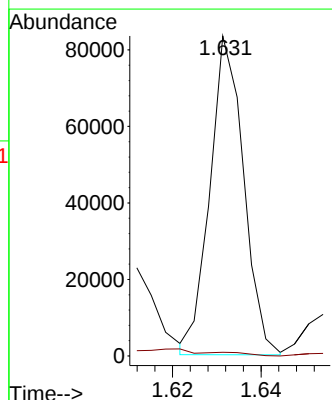
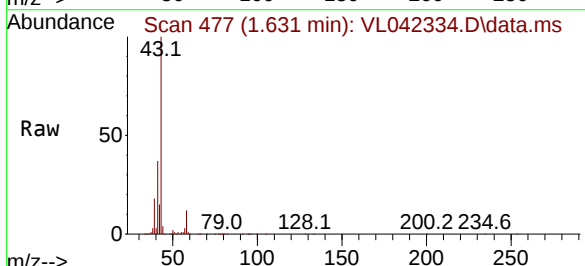
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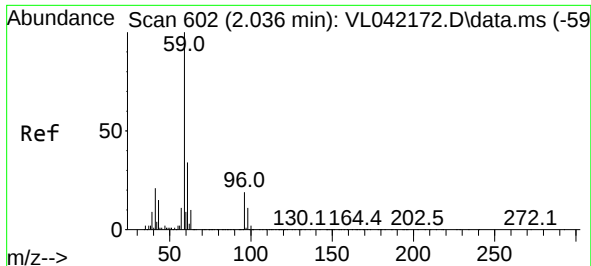
Tgt Ion: 39 Resp: 43971

Ion Ratio Lower Upper

39 100

54 6.7 60.7 91.1#

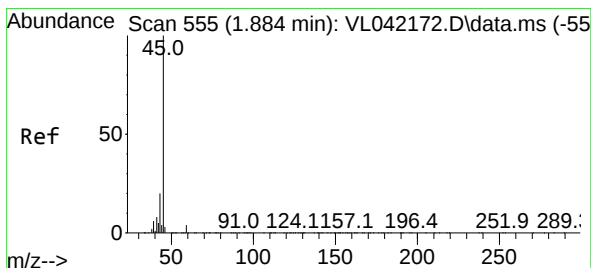
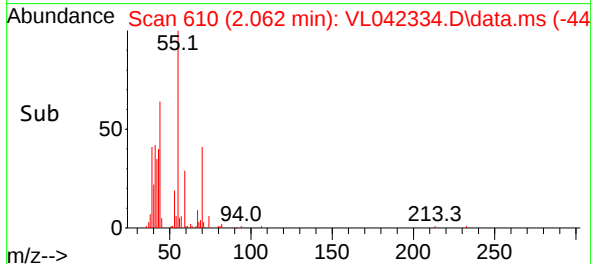
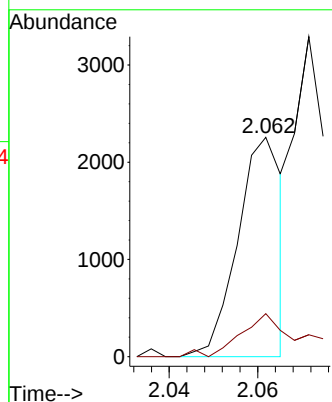
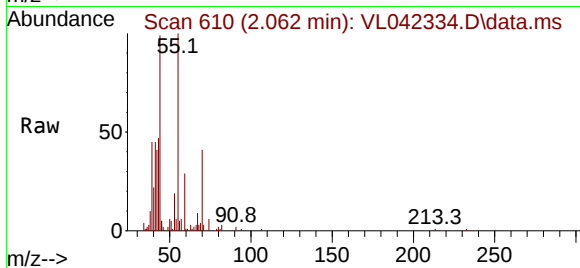




#17
tert-Butyl alcohol
Concen: 0.050 ppbv
RT: 2.062 min Scan# 610
Delta R.T. 0.026 min
Lab File: VL042334.D
Acq: 15 Apr 2025 16:08

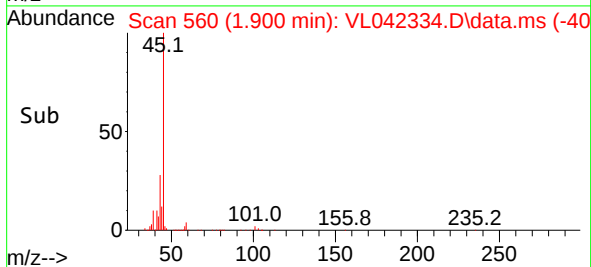
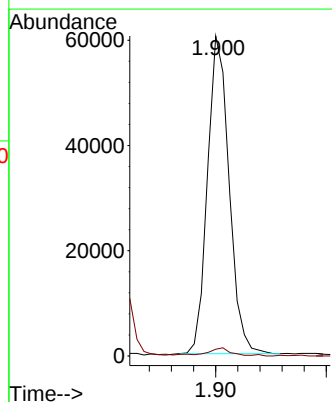
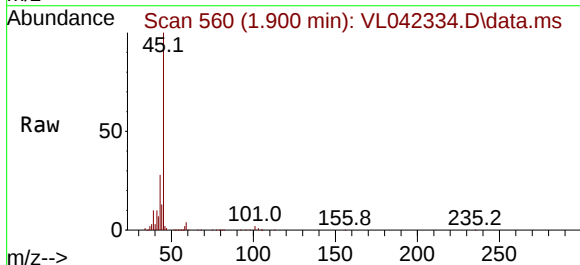
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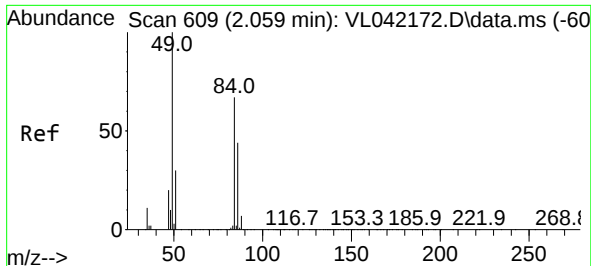
Tgt Ion: 59 Resp: 1562
Ion Ratio Lower Upper
59 100
57 0.0 8.9 13.3#



#19
Isopropyl Alcohol
Concen: 2.890 ppbv
RT: 1.900 min Scan# 560
Delta R.T. 0.016 min
Lab File: VL042334.D
Acq: 15 Apr 2025 16:08

Tgt Ion: 45 Resp: 40949
Ion Ratio Lower Upper
45 100
58 185.6 36.9 55.3#

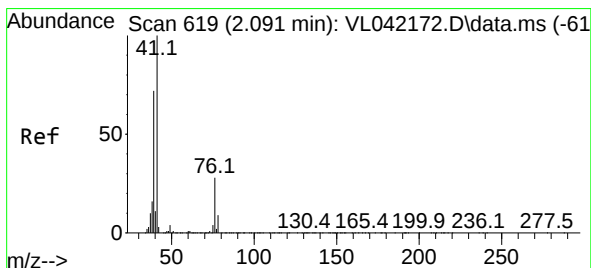
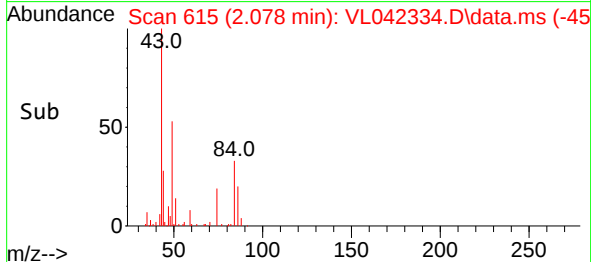
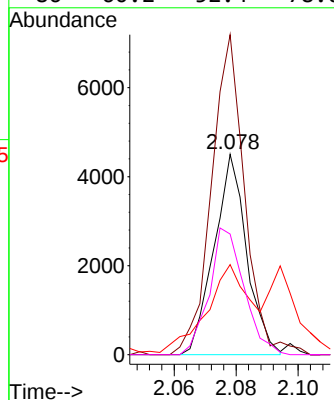
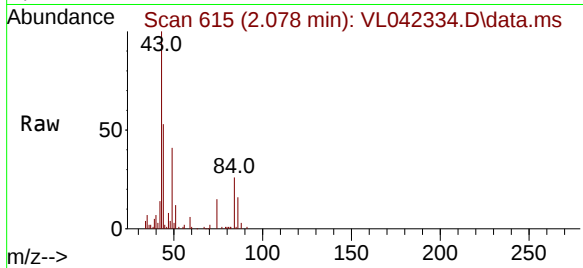




#20
Methylene Chloride
Concen: 0.352 ppbv
RT: 2.078 min Scan# 61
Delta R.T. 0.019 min
Lab File: VL042334.D
Acq: 15 Apr 2025 16:08

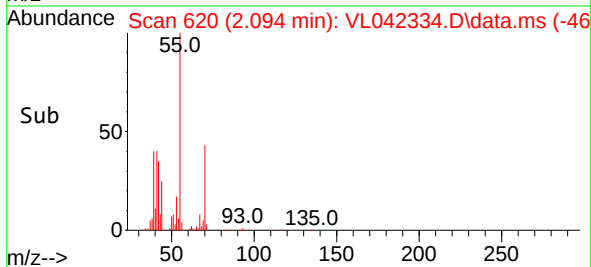
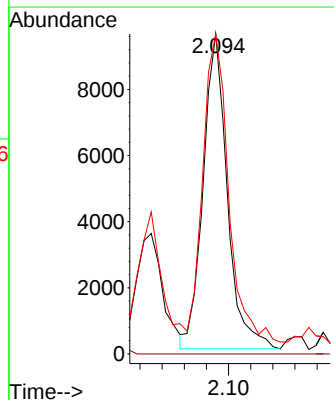
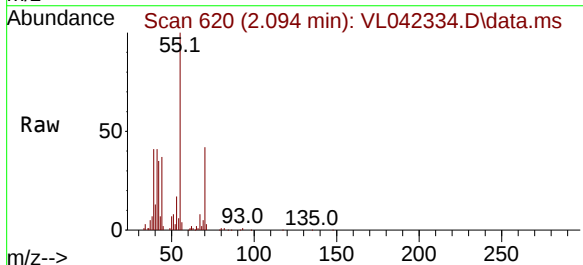
Instrument :
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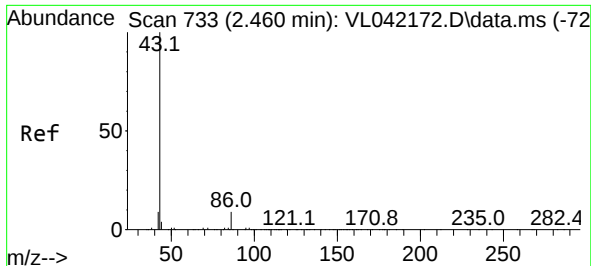
Tgt Ion:	84	Resp:	3293
Ion	Ratio	Lower	Upper
84	100		
49	155.8	120.2	180.4
51	33.4	37.4	56.0#
86	60.2	52.4	78.6



#21
Allyl Chloride
Concen: 0.407 ppbv
RT: 2.094 min Scan# 620
Delta R.T. 0.003 min
Lab File: VL042334.D
Acq: 15 Apr 2025 16:08

Tgt Ion:	41	Resp:	7202
Ion	Ratio	Lower	Upper
41	100		
76	0.0	24.1	36.1#
39	136.7	61.1	91.7#

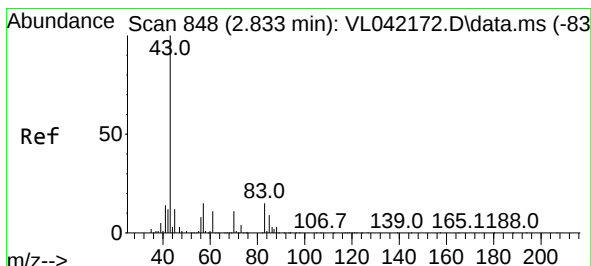
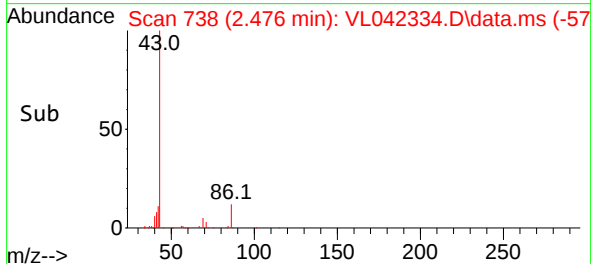
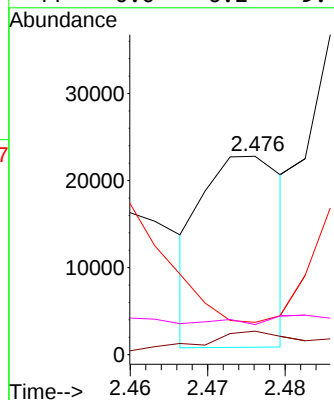
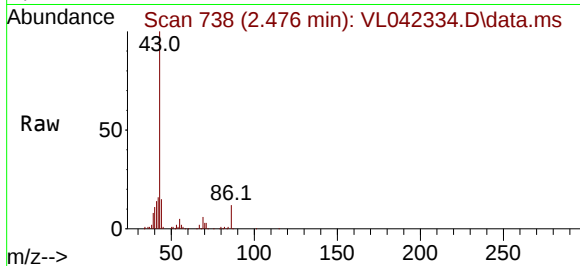




#23
 Vinyl Acetate
 Concen: 1.459 ppbv
 RT: 2.476 min Scan# 71
 Delta R.T. 0.016 min
 Lab File: VL042334.D
 Acq: 15 Apr 2025 16:08

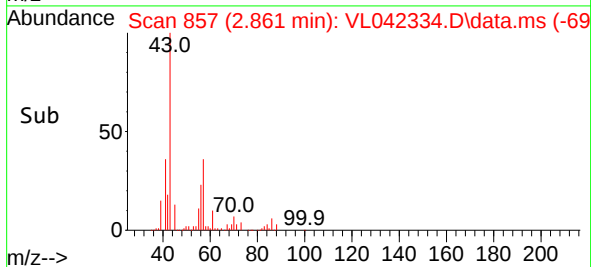
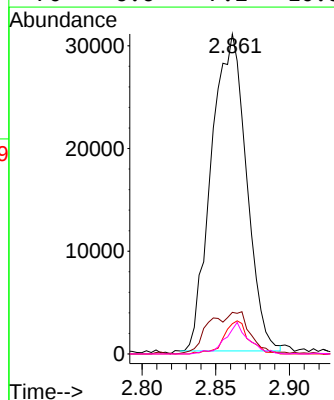
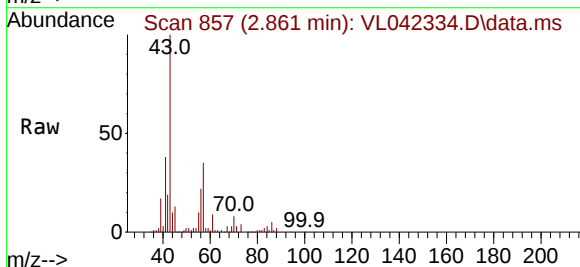
Instrument :
 MSVOA_L
 ClientSampleId :
 IA1DUP

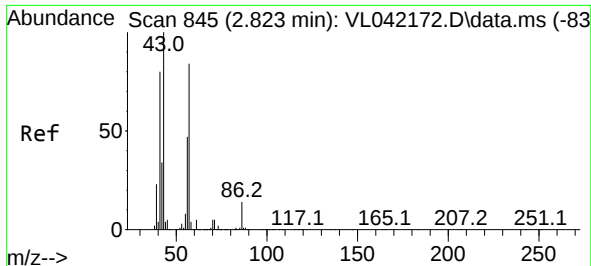
Tgt Ion:	43	Resp:	15857
Ion	Ratio	Lower	Upper
43	100		
86	15.7	5.5	8.3#
42	0.0	8.6	13.0#
44	0.0	6.2	9.4#



#25
 Ethyl Acetate
 Concen: 0.782 ppbv
 RT: 2.861 min Scan# 857
 Delta R.T. 0.029 min
 Lab File: VL042334.D
 Acq: 15 Apr 2025 16:08

Tgt Ion:	43	Resp:	50967
Ion	Ratio	Lower	Upper
43	100		
45	16.0	8.2	12.2#
61	7.5	7.3	10.9
70	6.6	7.2	10.8#

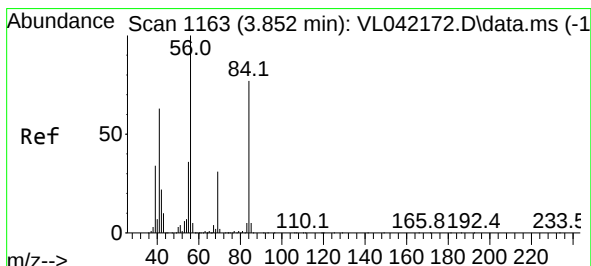
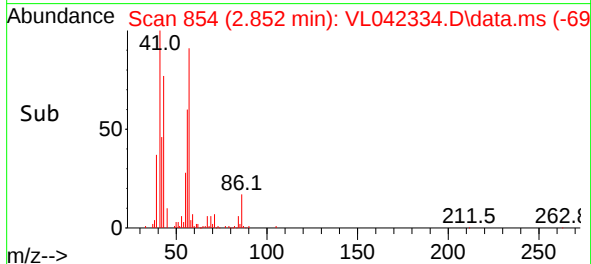
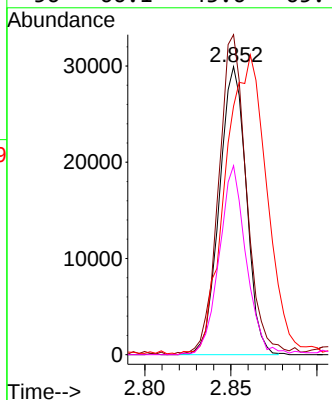
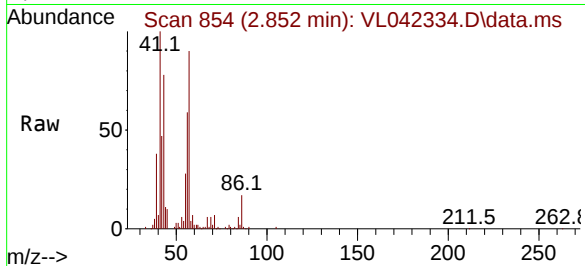




#26
Hexane
Concen: 1.291 ppbv
RT: 2.852 min Scan# 81
Delta R.T. 0.029 min
Lab File: VL042334.D
Acq: 15 Apr 2025 16:08

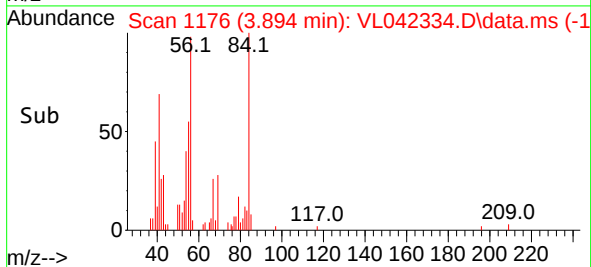
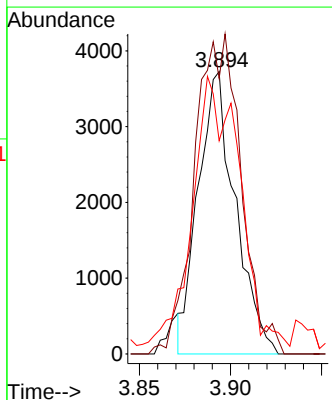
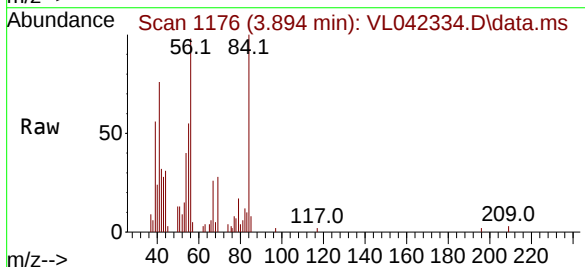
Instrument :
MSVOA_1
ClientSampleId :
IA1DUP

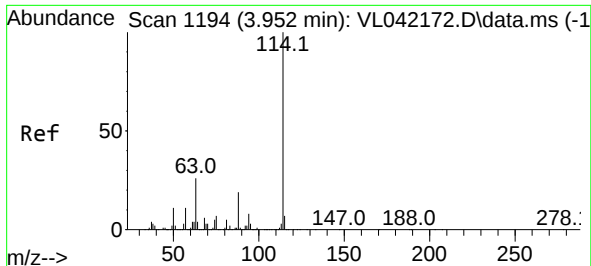
Tgt Ion:	57	Resp:	32511
Ion	Ratio	Lower	Upper
57	100		
41	116.2	76.6	114.8#
43	162.9	207.8	311.8#
56	66.1	43.6	65.4#



#30
Cyclohexane
Concen: 0.241 ppbv
RT: 3.894 min Scan# 1176
Delta R.T. 0.042 min
Lab File: VL042334.D
Acq: 15 Apr 2025 16:08

Tgt Ion:	84	Resp:	5259
Ion	Ratio	Lower	Upper
84	100		
56	141.7	102.8	154.2
41	119.4	66.5	99.7#





#33

1,4-Difluorobenzene

Concen: 10.000 ppbv

RT: 3.994 min Scan# 11

Delta R.T. 0.042 min

Lab File: VL042334.D

Acq: 15 Apr 2025 16:08

Instrument :

MSVOA_L

ClientSampleId :

IA1DUP

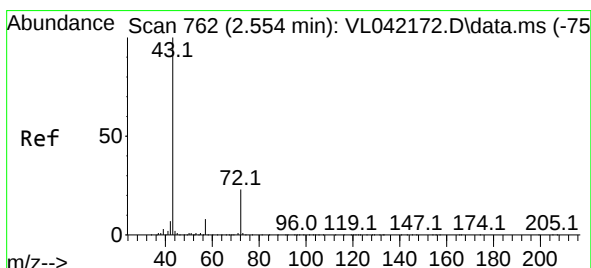
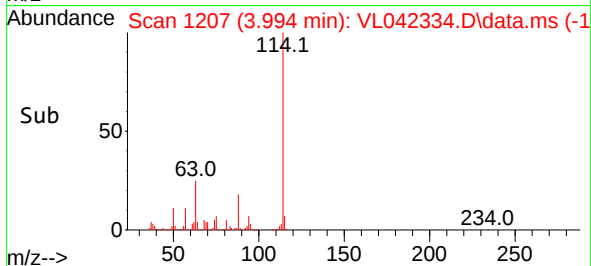
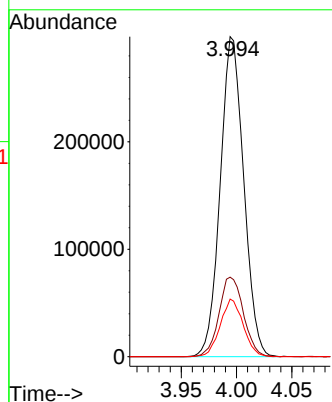
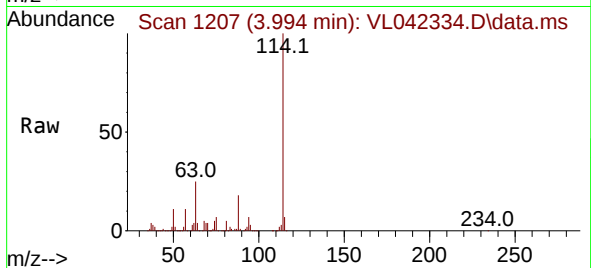
Tgt Ion:114 Resp: 439918

Ion Ratio Lower Upper

114 100

63 25.9 20.7 31.1

88 17.6 15.0 22.4



#34

2-Butanone

Concen: 1.792 ppbv

RT: 2.580 min Scan# 770

Delta R.T. 0.026 min

Lab File: VL042334.D

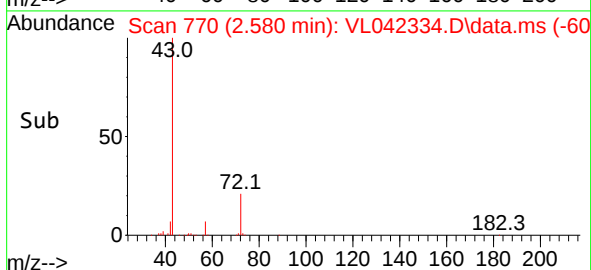
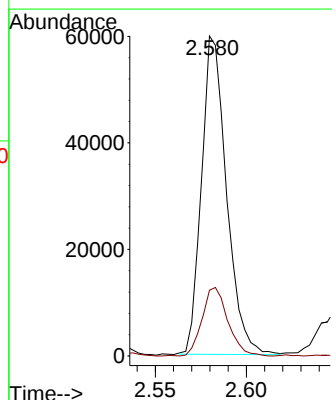
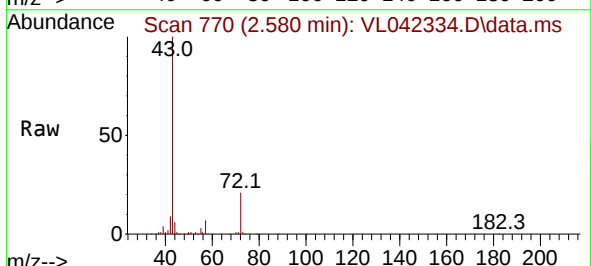
Acq: 15 Apr 2025 16:08

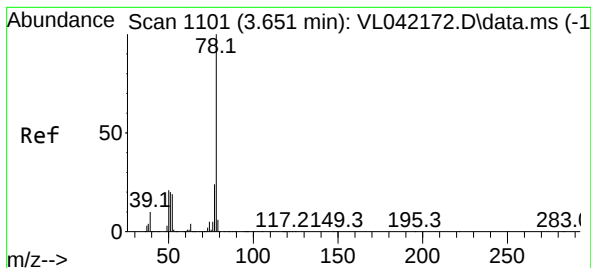
Tgt Ion: 43 Resp: 57155

Ion Ratio Lower Upper

43 100

72 22.3 18.2 27.2





#36

Benzene

Concen: 0.707 ppbv

RT: 3.687 min Scan# 1112

Delta R.T. 0.035 min

Lab File: VL042334.D

Acq: 15 Apr 2025 16:08

Instrument :

MSVOA_1

ClientSampleId :

IA1DUP

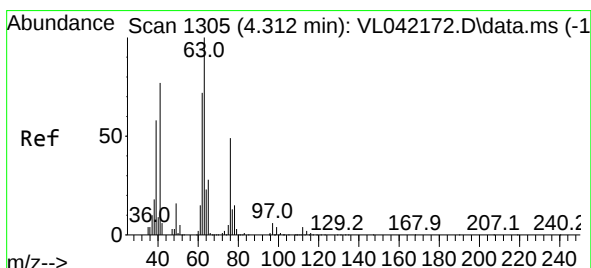
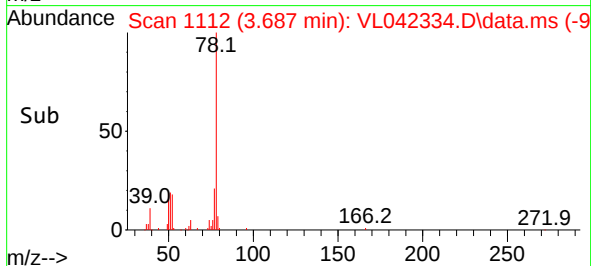
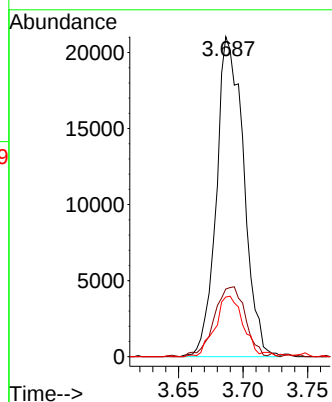
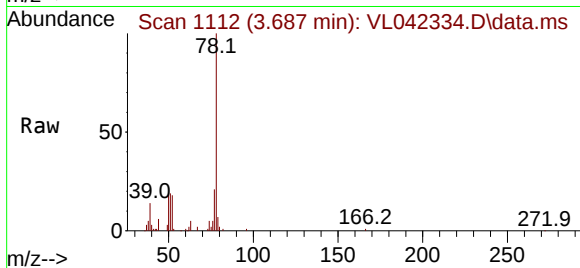
Tgt Ion: 78 Resp: 30839

Ion Ratio Lower Upper

78 100

77 21.2 19.1 28.7

50 18.7 16.6 24.8



#39

1,2-Dichloropropane

Concen: 7.161 ppbv

RT: 3.994 min Scan# 1207

Delta R.T. -0.318 min

Lab File: VL042334.D

Acq: 15 Apr 2025 16:08

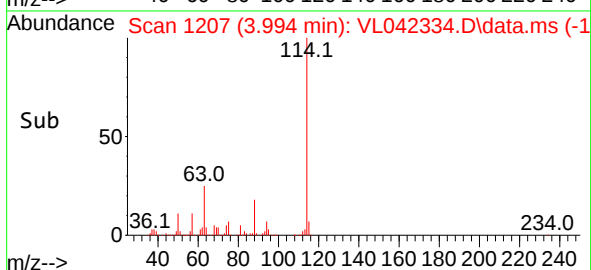
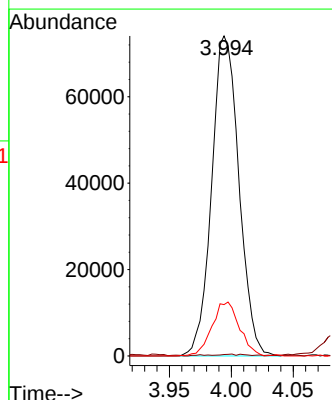
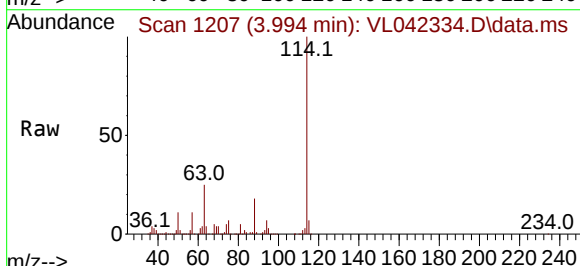
Tgt Ion: 63 Resp: 113744

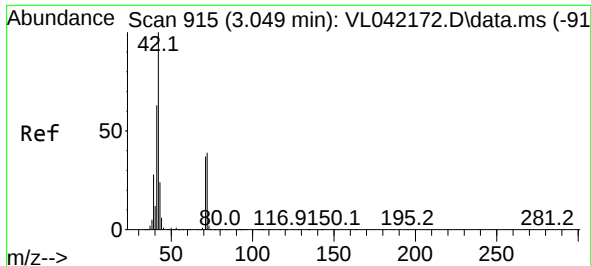
Ion Ratio Lower Upper

63 100

41 0.2 61.7 92.5#

62 15.9 57.6 86.4#





#41

Tetrahydrofuran

Concen: 3.164 ppbv

RT: 3.085 min Scan# 915

Delta R.T. 0.035 min

Lab File: VL042334.D

Acq: 15 Apr 2025 16:08

Instrument :

MSVOA_L

ClientSampleId :

IA1DUP

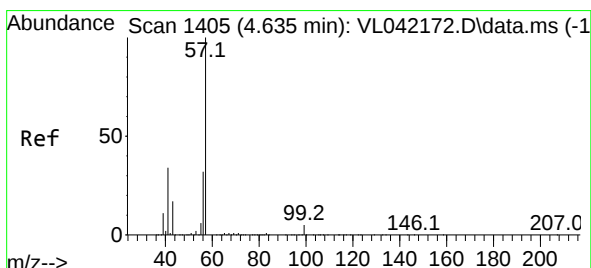
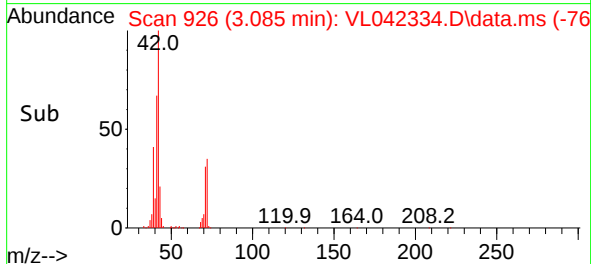
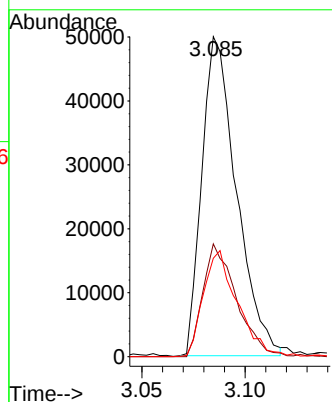
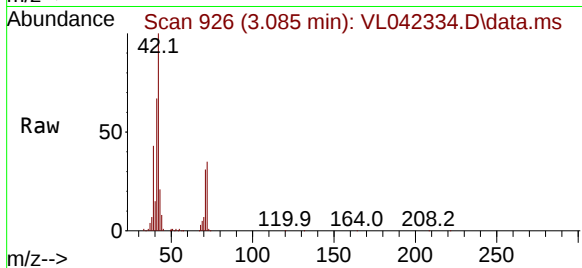
Tgt Ion: 42 Resp: 58119

Ion Ratio Lower Upper

42 100

72 34.5 31.4 47.0

71 33.2 30.2 45.4



#44

2,2,4-Trimethylpentane

Concen: 0.221 ppbv

RT: 4.680 min Scan# 1419

Delta R.T. 0.045 min

Lab File: VL042334.D

Acq: 15 Apr 2025 16:08

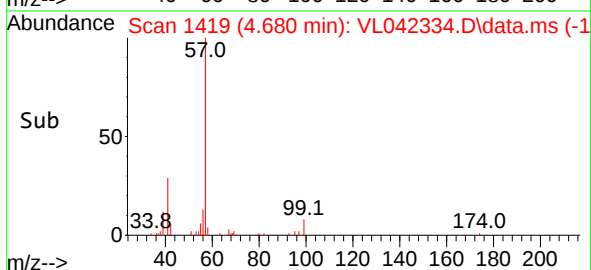
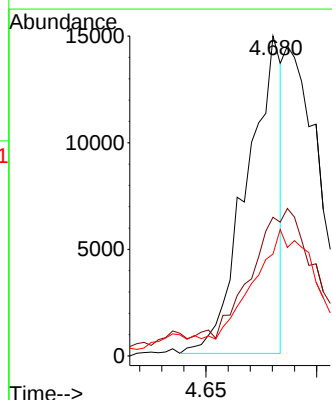
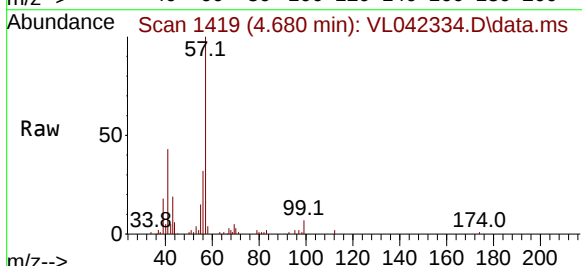
Tgt Ion: 57 Resp: 16285

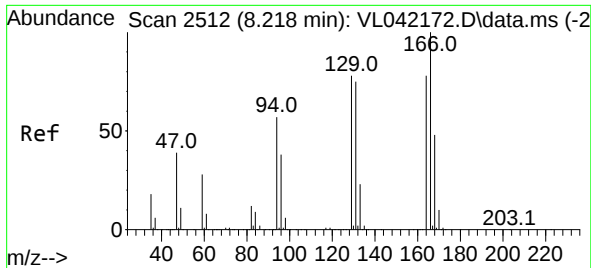
Ion Ratio Lower Upper

57 100

41 0.0 26.8 40.2#

56 88.0 25.6 38.4#

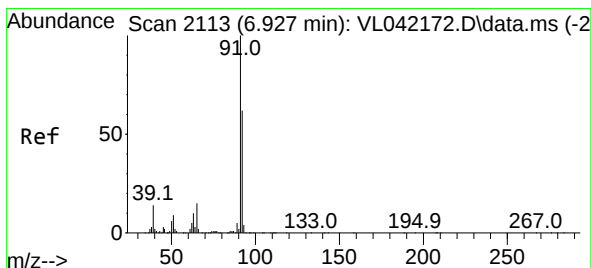
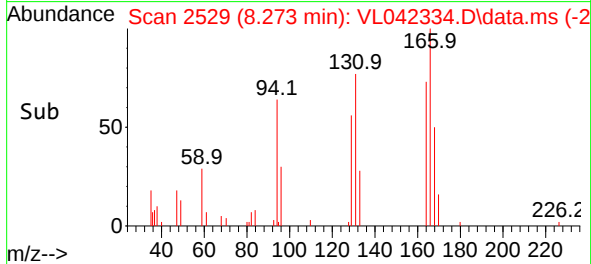
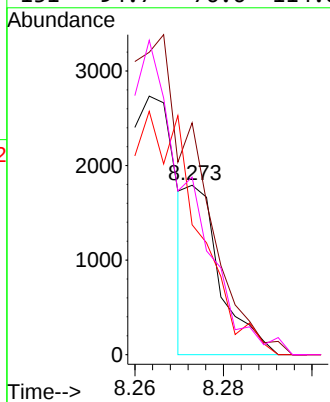
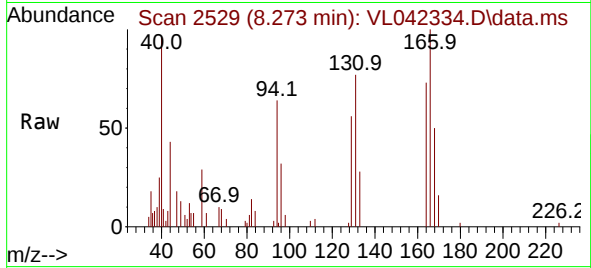




#52
Tetrachloroethene
Concen: 0.055 ppbv
RT: 8.273 min Scan# 2131
Delta R.T. 0.055 min
Lab File: VL042334.D
Acq: 15 Apr 2025 16:08

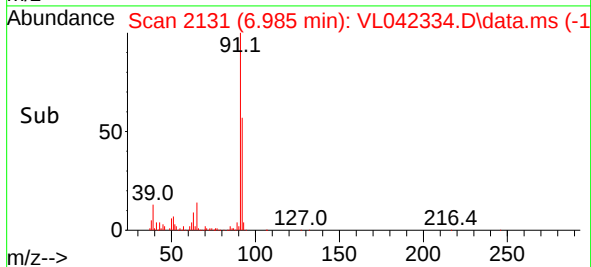
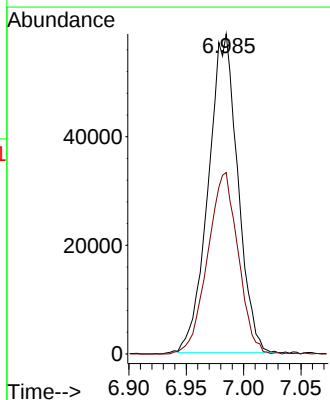
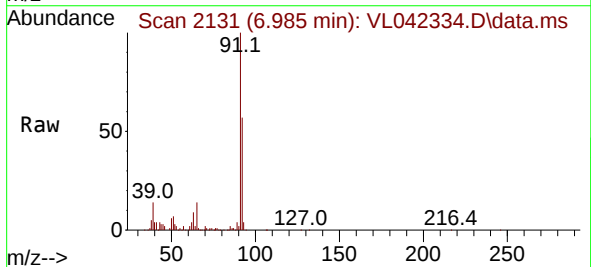
Instrument :
MSVOA_L
ClientSampleId :
IA1DUP

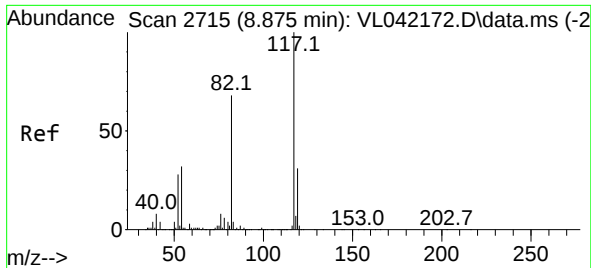
Tgt Ion:164 Resp: 956
Ion Ratio Lower Upper
164 100
166 129.0 102.5 153.7
129 76.6 79.8 119.8#
131 94.7 76.6 114.8



#53
Toluene
Concen: 2.032 ppbv
RT: 6.985 min Scan# 2131
Delta R.T. 0.058 min
Lab File: VL042334.D
Acq: 15 Apr 2025 16:08

Tgt Ion: 91 Resp: 105073
Ion Ratio Lower Upper
91 100
92 59.0 48.4 72.6

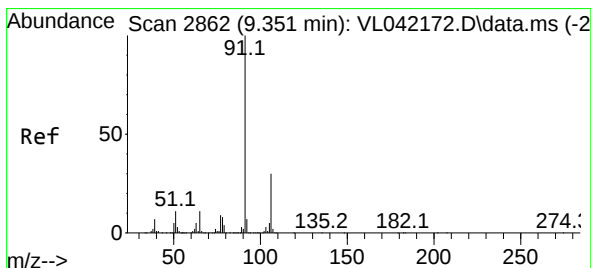
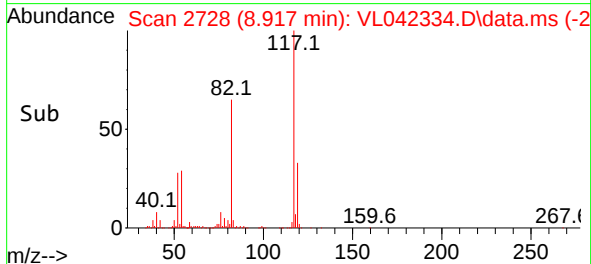
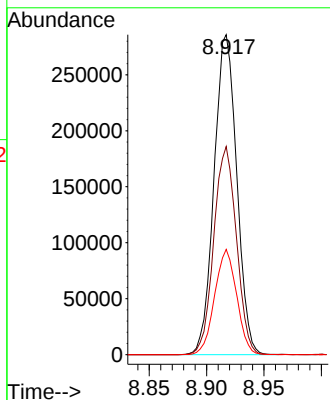
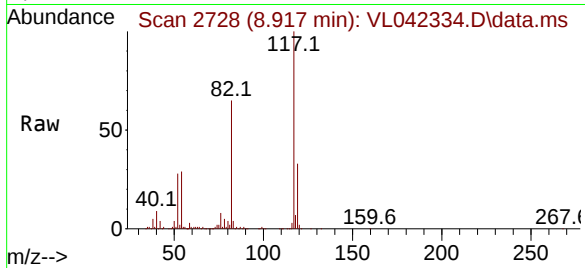




#55
Chlorobenzene-d5
Concen: 10.000 ppbv
RT: 8.917 min Scan# 21
Delta R.T. 0.042 min
Lab File: VL042334.D
Acq: 15 Apr 2025 16:08

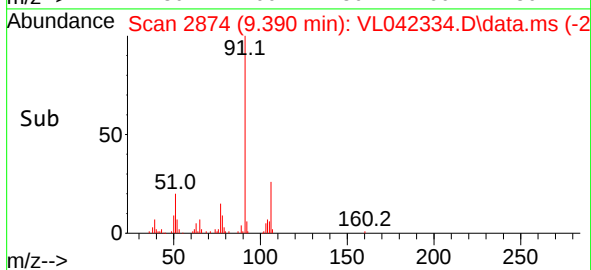
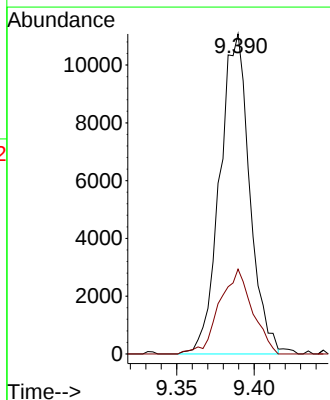
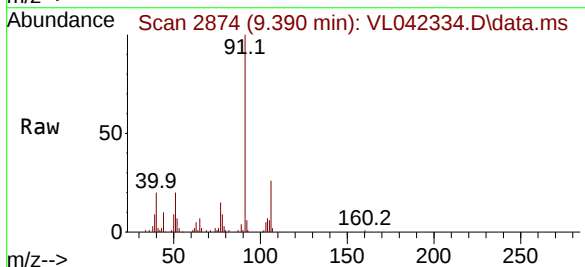
Instrument :
MSVOA_1
ClientSampleId :
IA1DUP

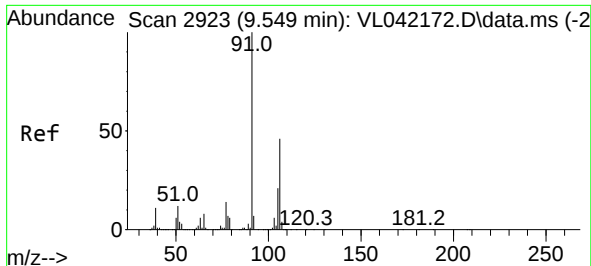
Tgt Ion:117 Resp: 393360
Ion Ratio Lower Upper
117 100
82 64.8 55.8 83.6
119 32.0 25.5 38.3



#58
Ethyl Benzene
Concen: 0.213 ppbv
RT: 9.390 min Scan# 2874
Delta R.T. 0.038 min
Lab File: VL042334.D
Acq: 15 Apr 2025 16:08

Tgt Ion: 91 Resp: 14862
Ion Ratio Lower Upper
91 100
106 26.5 24.2 36.2





#59

m/p-Xylene

Concen: 0.818 ppbv

RT: 9.564 min Scan# 2923

Delta R.T. 0.016 min

Lab File: VL042334.D

Acq: 15 Apr 2025 16:08

Instrument :

MSVOA_L

ClientSampleId :

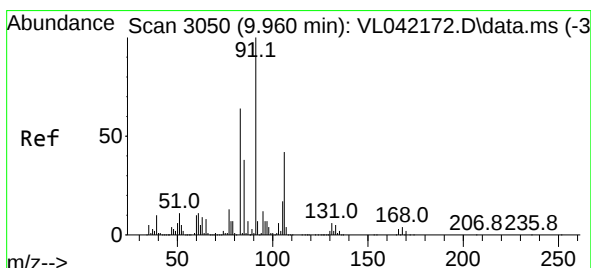
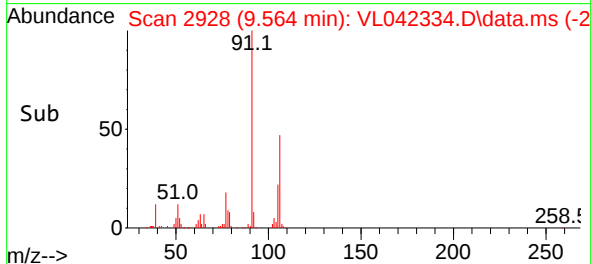
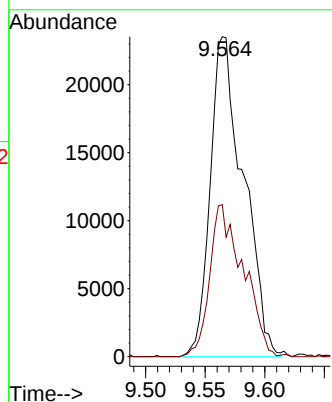
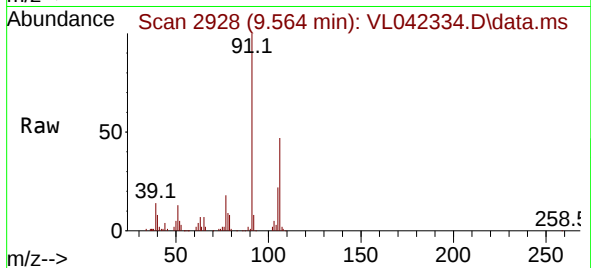
IA1DUP

Tgt Ion: 91 Resp: 45628

Ion Ratio Lower Upper

91 100

106 48.1 36.4 54.6



#60

o-Xylene

Concen: 0.282 ppbv

RT: 9.995 min Scan# 3061

Delta R.T. 0.035 min

Lab File: VL042334.D

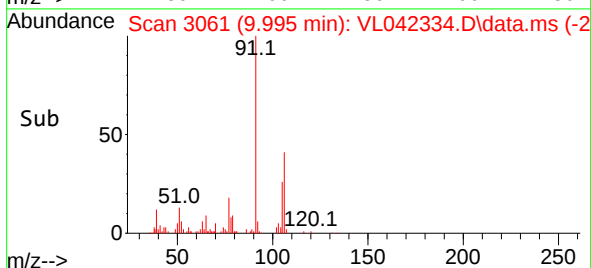
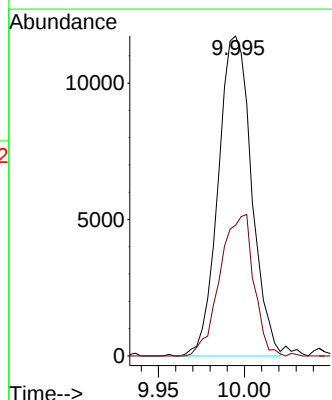
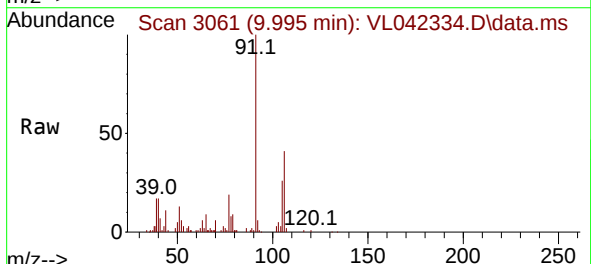
Acq: 15 Apr 2025 16:08

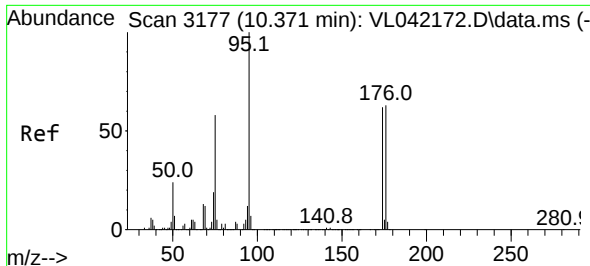
Tgt Ion: 91 Resp: 15795

Ion Ratio Lower Upper

91 100

106 44.8 20.8 62.5

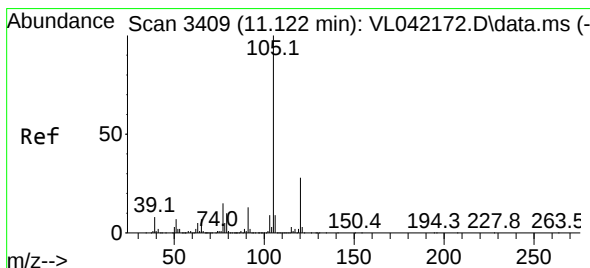
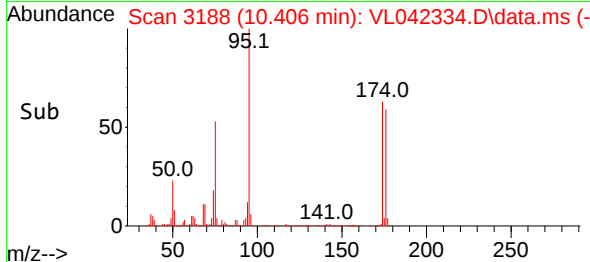
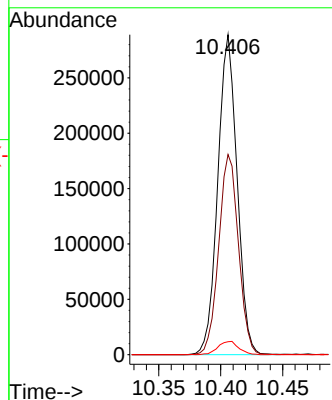
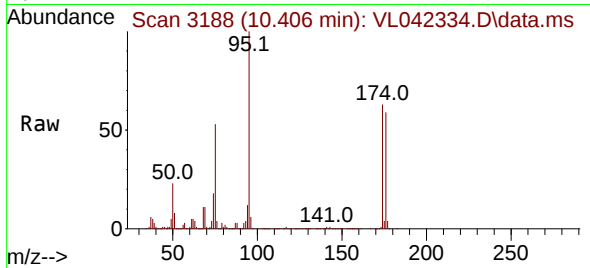




#68
1-Bromo-4-Fluorobenzene
Concen: 9.726 ppbv
RT: 10.406 min Scan# 3177
Delta R.T. 0.035 min
Lab File: VL042334.D
Acq: 15 Apr 2025 16:08

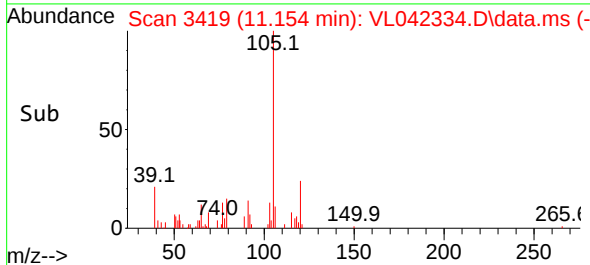
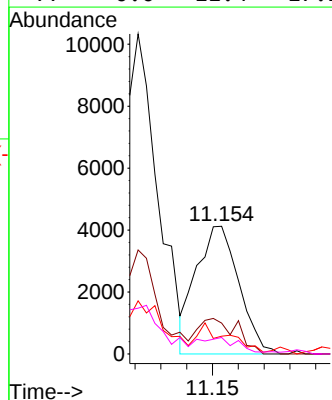
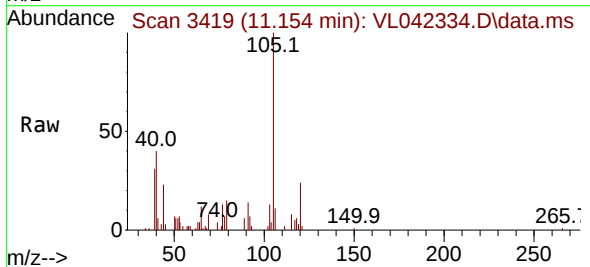
Instrument :
MSVOA_L
ClientSampleId :
IA1DUP

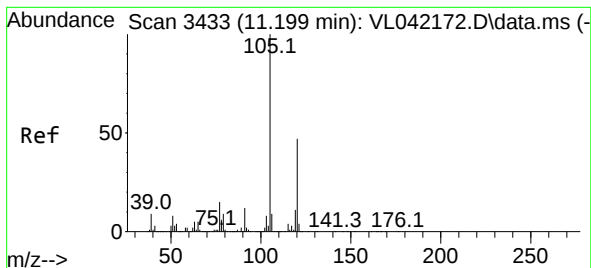
Tgt Ion: 95 Resp: 314181
Ion Ratio Lower Upper
95 100
174 63.9 50.6 76.0
175 4.5 3.8 5.6



#72
4-Ethyltoluene
Concen: 0.068 ppbv
RT: 11.154 min Scan# 3419
Delta R.T. 0.032 min
Lab File: VL042334.D
Acq: 15 Apr 2025 16:08

Tgt Ion: 105 Resp: 4747
Ion Ratio Lower Upper
105 100
120 0.0 23.4 35.0#
91 0.0 10.3 15.5#
77 0.0 11.4 17.2#





#73

1,3,5-Trimethylbenzene

Concen: 0.080 ppbv

RT: 11.231 min Scan# 34

Delta R.T. 0.032 min

Lab File: VL042334.D

Acq: 15 Apr 2025 16:08

Instrument :

MSVOA_L

ClientSampleId :

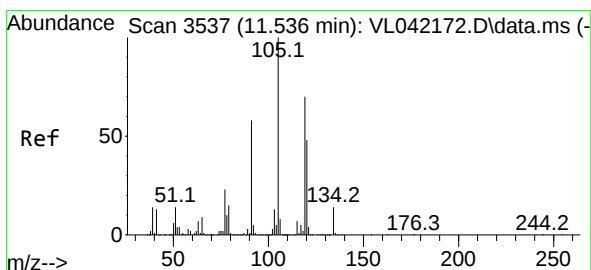
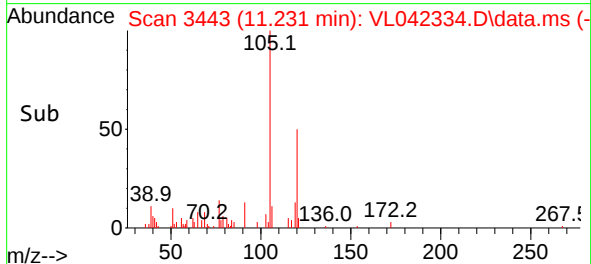
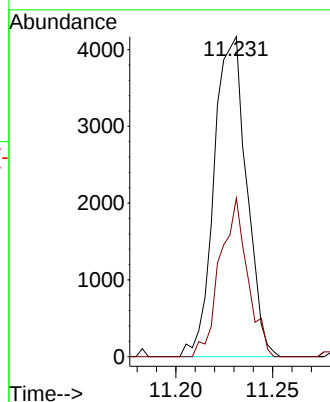
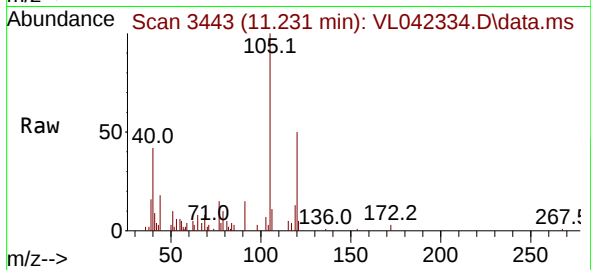
IA1DUP

Tgt Ion:105 Resp: 4861

Ion Ratio Lower Upper

105 100

120 54.3 37.4 56.0



#74

1,2,4-Trimethylbenzene

Concen: 0.274 ppbv

RT: 11.561 min Scan# 3545

Delta R.T. 0.026 min

Lab File: VL042334.D

Acq: 15 Apr 2025 16:08

Tgt Ion:105 Resp: 19209

Ion Ratio Lower Upper

105 100

120 52.4 38.6 58.0

91 13.3 46.2 69.2#

77 18.6 18.6 27.8

