

Data Path : Z:\voasrv\HPCHEM1\MSVOA_L\Data\VL120225\
 Data File : VL043298.D
 Acq On : 02 Dec 2025 14:49
 Operator : SY/MD
 Sample : Q3744-04
 Misc : 400mL/MSVOA_L
 ALS Vial : 1 Sample Multiplier: 1

Instrument :
 MSVOA_L
 ClientSampleId :
 IA2

Quant Time: Dec 03 00:07:07 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	2.800	49	127150	10.000	ppbv	0.02
33) 1,4-Difluorobenzene	3.978	114	321760	10.000	ppbv	0.03
55) Chlorobenzene-d5	8.894	117	243149	10.000	ppbv	0.02

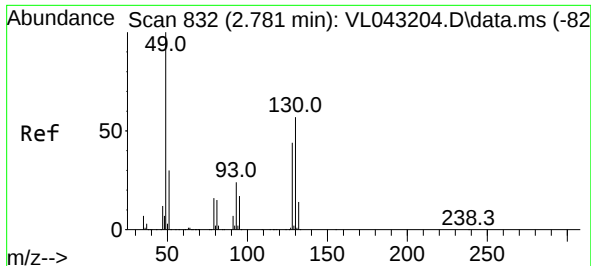
System Monitoring Compounds						
68) 1-Bromo-4-Fluorobenzene	10.387	95	174969	9.817	ppbv	0.02
Spiked Amount	10.000	Range	65 - 135	Recovery	=	98.200%

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Dichlorodifluoromethane	1.505	85	10178	0.568	ppbv	98
3) Chlorodifluoromethane	1.483	51	9534	0.541	ppbv #	84
4) Chloromethane	1.538	50	3455	0.515	ppbv	93
9) Propene	1.496	41	13356	1.783	ppbv #	1
10) Heptane	5.007	43	1203	0.054	ppbv #	28
11) Trichlorofluoromethane	1.887	101	5474	0.315	ppbv	91
12) 1,1,2-Trichlorotrifluo...	2.149	101	1032	0.076	ppbv #	76
13) Ethanol	1.729	45	43530	16.529	ppbv	95
15) Acetone	1.845	43	51387	2.909	ppbv	93
16) 1,3-Butadiene	1.628	39	11350	1.441	ppbv #	21
17) tert-Butyl alcohol	2.065	59	3667	0.158	ppbv #	71
19) Isopropyl Alcohol	1.894	45	21548	2.159	ppbv #	76
20) Methylene Chloride	2.072	84	10813	1.402	ppbv	89
21) Allyl Chloride	2.091	41	759	0.064	ppbv #	13
23) Vinyl Acetate	2.463	43	7319	0.343	ppbv #	80
25) Ethyl Acetate	2.842	43	13161	0.345	ppbv #	85
26) Hexane	2.839	57	13007	0.779	ppbv #	50
30) Cyclohexane	3.871	84	478	0.034	ppbv #	1
34) 2-Butanone	2.570	43	5219	0.230	ppbv	96
35) Carbon Tetrachloride	3.784	117	1398	0.057	ppbv #	87
36) Benzene	3.674	78	9284	0.301	ppbv #	87
39) 1,2-Dichloropropane	3.978	63	81712	7.245	ppbv #	23
44) 2,2,4-Trimethylpentane	4.664	57	6911	0.131	ppbv #	45
53) Toluene	6.959	91	40037	1.097	ppbv	97
58) Ethyl Benzene	9.367	91	2630	0.056	ppbv	95
59) m/p-Xylene	9.571	91	1769	0.047	ppbv #	31
60) o-Xylene	9.979	91	1590	0.042	ppbv #	22
74) 1,2,4-Trimethylbenzene	11.545	105	2833	0.068	ppbv #	44

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

Quant Time: Dec 03 00:07:07 2025
Quant Method : Z:\voasrv\HPCHEM1\MSVOA_L\methods\VL111825AIR.M
Quant Title : AIR ANALYSIS BY METHOD TO-15 Instrument: MSVOA_LFri Aug 26 06:05:16 2022
QLast Update : Wed Nov 19 01:11:25 2025
Response via : Initial Calibration

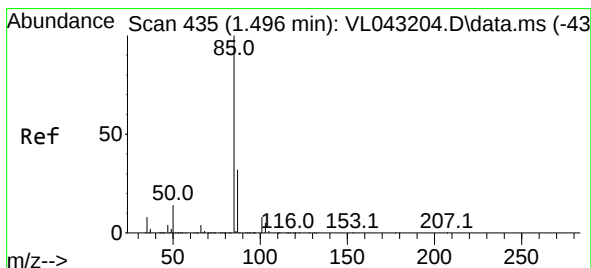
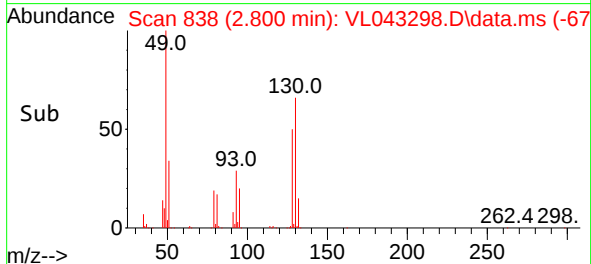
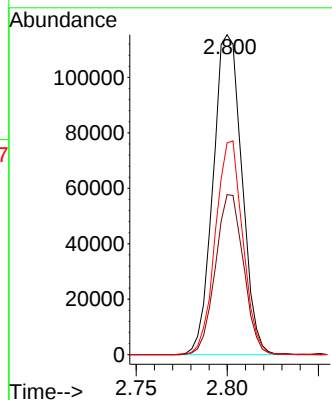
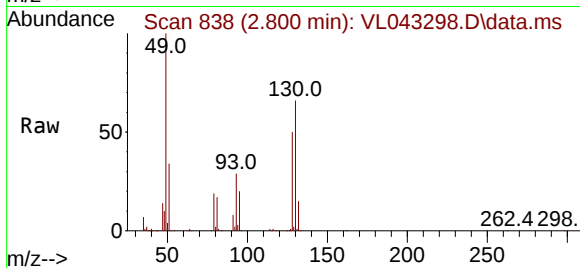




#1
Bromochloromethane
Concen: 10.000 ppbv
RT: 2.800 min Scan# 81
Delta R.T. 0.019 min
Lab File: VL043298.D
Acq: 02 Dec 2025 14:49

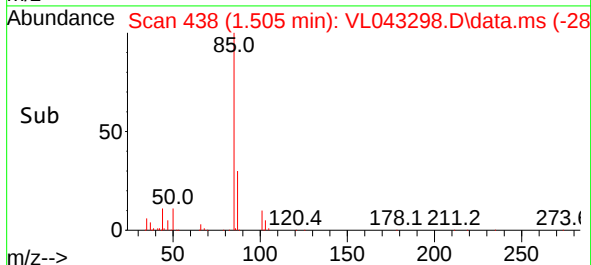
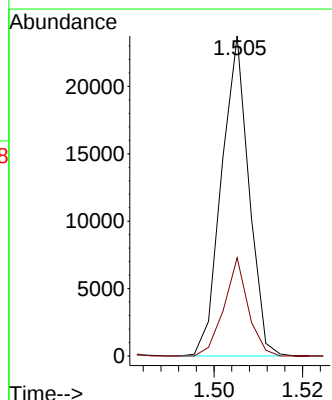
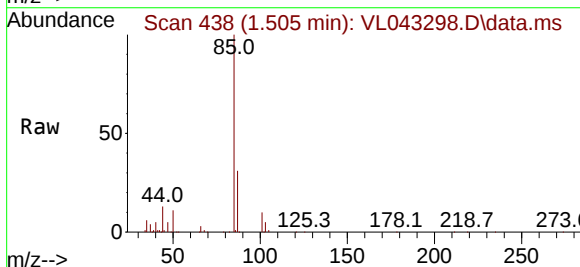
Instrument :
MSVOA_L
ClientSampleId :
IA2

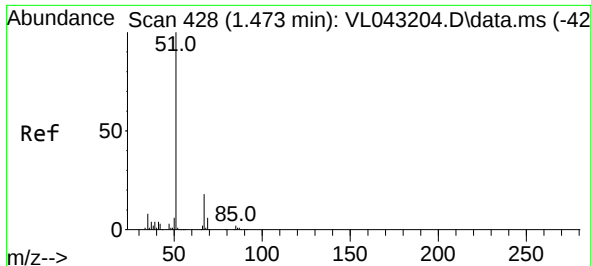
Tgt Ion: 49 Resp: 127150
Ion Ratio Lower Upper
49 100
128 48.8 23.0 69.0
130 63.7 29.9 89.7



#2
Dichlorodifluoromethane
Concen: 0.568 ppbv
RT: 1.505 min Scan# 438
Delta R.T. 0.009 min
Lab File: VL043298.D
Acq: 02 Dec 2025 14:49

Tgt Ion: 85 Resp: 10178
Ion Ratio Lower Upper
85 100
87 30.7 25.4 38.2

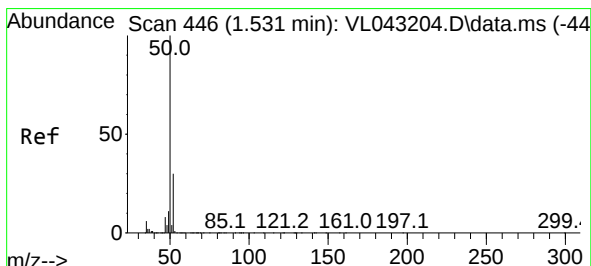
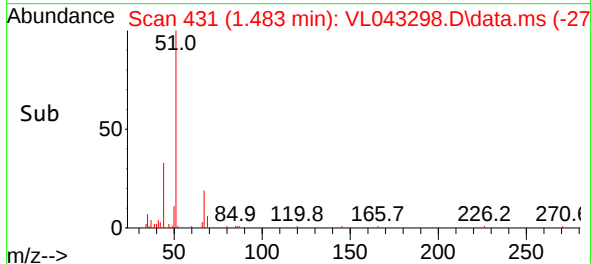
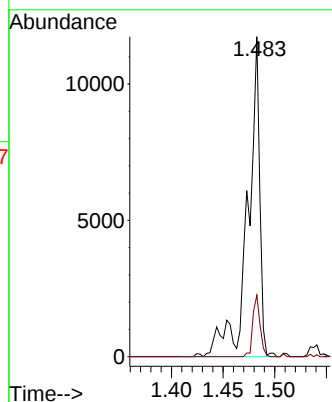
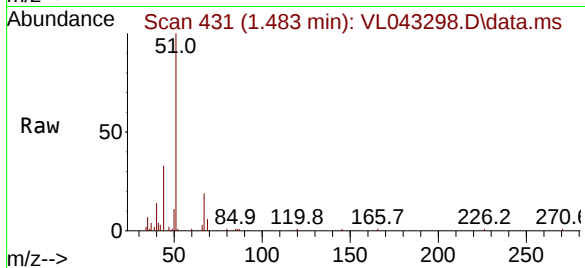




#3
Chlorodifluoromethane
Concen: 0.541 ppbv
RT: 1.483 min Scan# 41
Delta R.T. 0.009 min
Lab File: VL043298.D
Acq: 02 Dec 2025 14:49

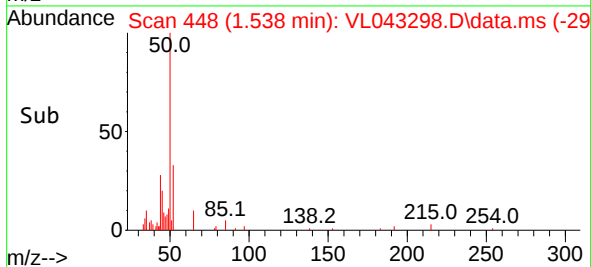
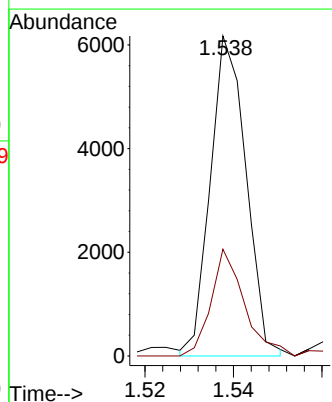
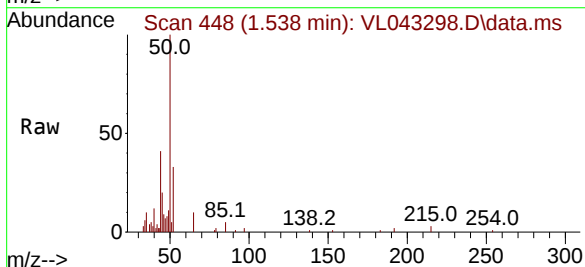
Instrument :
MSVOA_L
ClientSampleId :
IA2

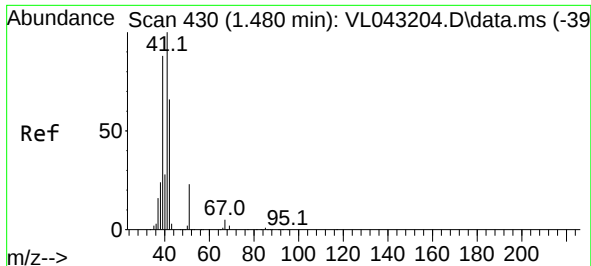
Tgt Ion: 51 Resp: 9534
Ion Ratio Lower Upper
51 100
67 11.6 14.9 22.3#



#4
Chloromethane
Concen: 0.515 ppbv
RT: 1.538 min Scan# 448
Delta R.T. 0.006 min
Lab File: VL043298.D
Acq: 02 Dec 2025 14:49

Tgt Ion: 50 Resp: 3455
Ion Ratio Lower Upper
50 100
52 33.9 24.1 36.1





#9

Propene

Concen: 1.783 ppbv

RT: 1.496 min Scan# 41

Delta R.T. 0.016 min

Lab File: VL043298.D

Acq: 02 Dec 2025 14:49

Instrument :

MSVOA_L

ClientSampleId :

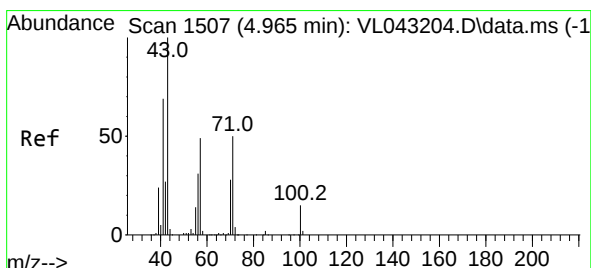
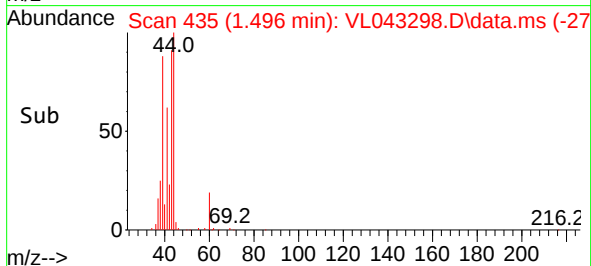
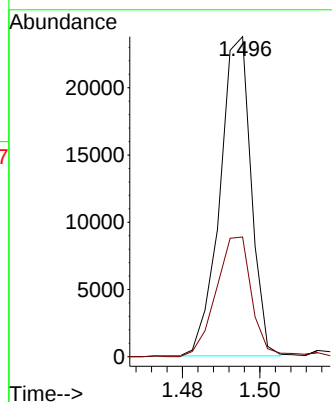
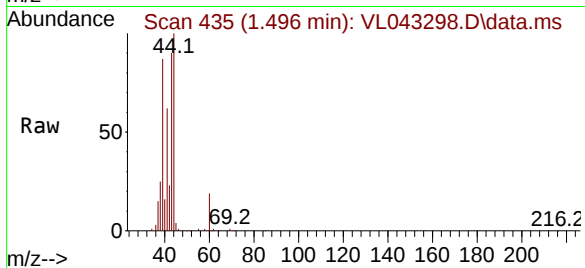
IA2

Tgt Ion: 41 Resp: 13356

Ion Ratio Lower Upper

41 100

42 43.9 3.7 5.5#



#10

Heptane

Concen: 0.054 ppbv

RT: 5.007 min Scan# 1520

Delta R.T. 0.042 min

Lab File: VL043298.D

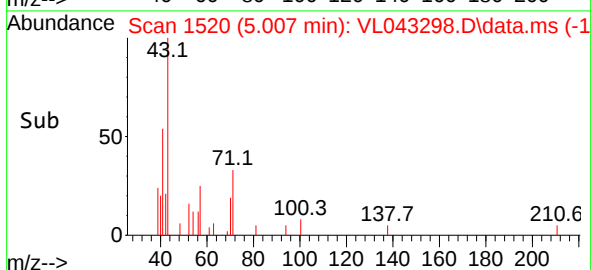
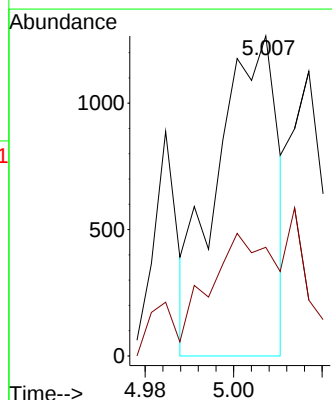
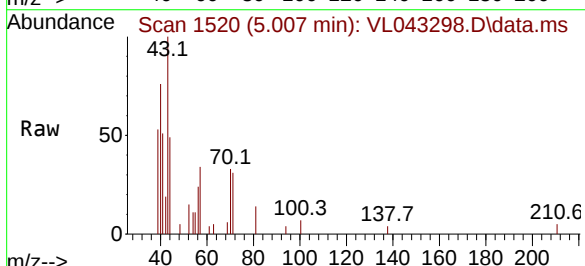
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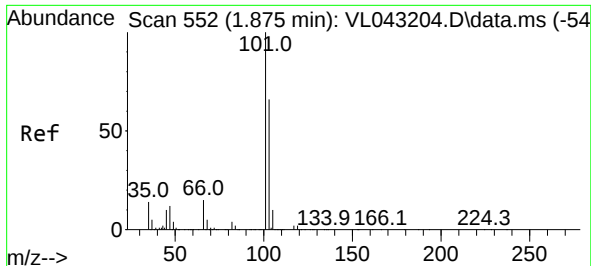
Tgt Ion: 43 Resp: 1203

Ion Ratio Lower Upper

43 100

57 0.0 39.7 59.5#

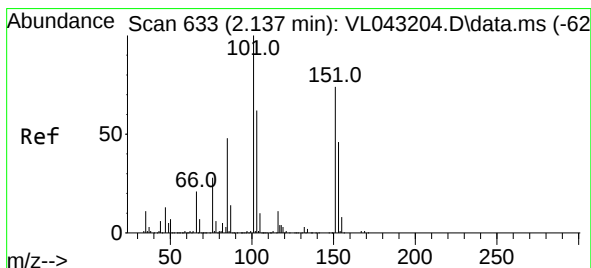
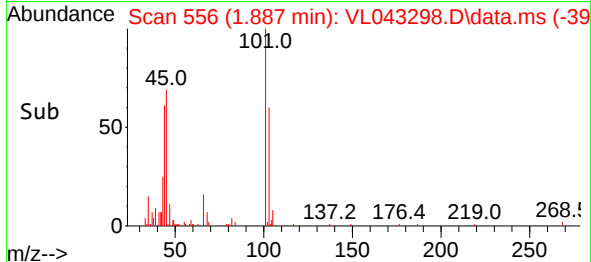
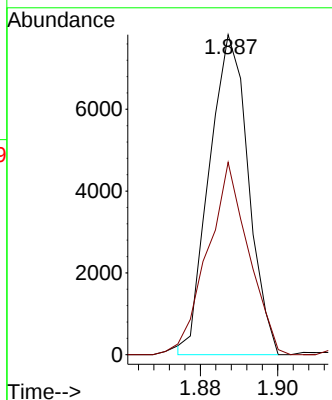
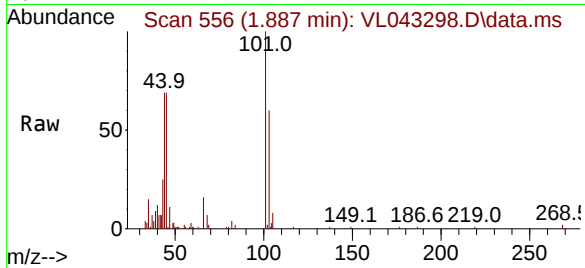




#11
 Trichlorofluoromethane
 Concen: 0.315 ppbv
 RT: 1.887 min Scan# 511
 Delta R.T. 0.013 min
 Lab File: VL043298.D
 Acq: 02 Dec 2025 14:49

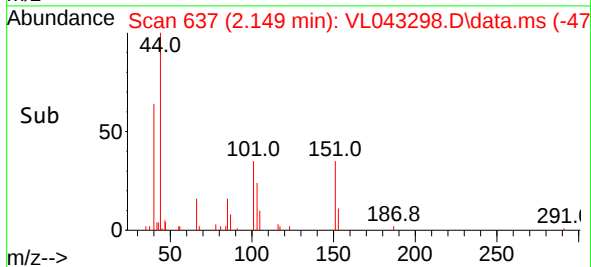
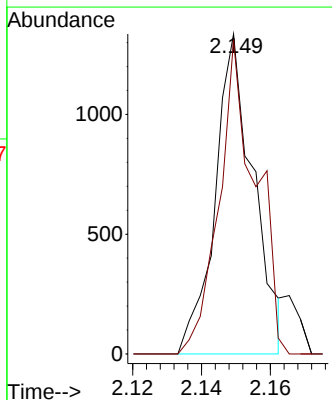
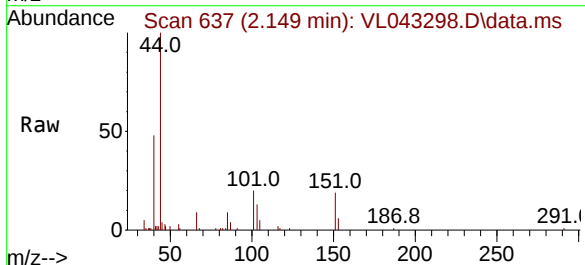
Instrument :
 MSVOA_L
 ClientSampleId :
 IA2

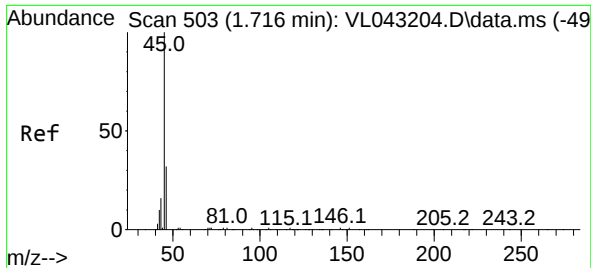
Tgt Ion:101 Resp: 5474
 Ion Ratio Lower Upper
 101 100
 103 58.5 52.6 79.0



#12
 1,1,2-Trichlorotrifluoroethane
 Concen: 0.076 ppbv
 RT: 2.149 min Scan# 637
 Delta R.T. 0.013 min
 Lab File: VL043298.D
 Acq: 02 Dec 2025 14:49

Tgt Ion:101 Resp: 1032
 Ion Ratio Lower Upper
 101 100
 151 94.0 59.2 88.8#

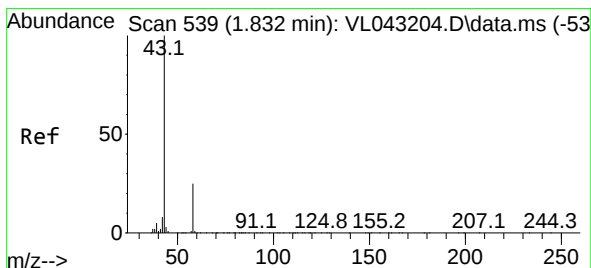
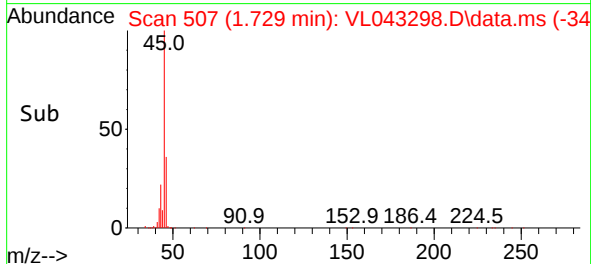
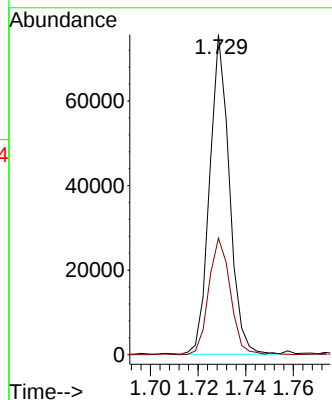
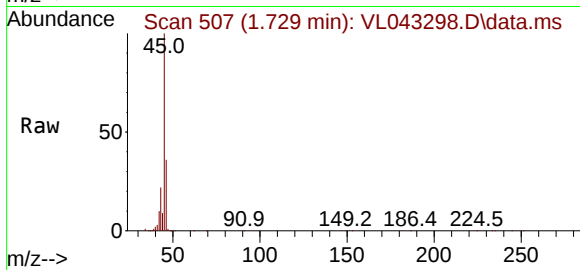




#13
 Ethanol
 Concen: 16.529 ppbv
 RT: 1.729 min Scan# 503
 Delta R.T. 0.013 min
 Lab File: VL043298.D
 Acq: 02 Dec 2025 14:49

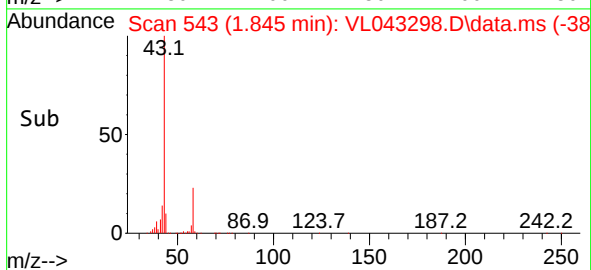
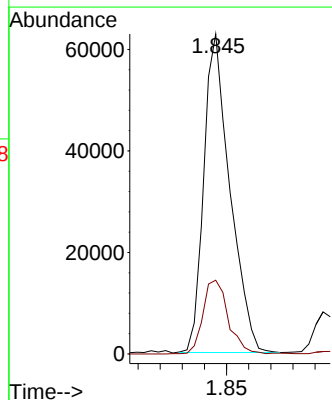
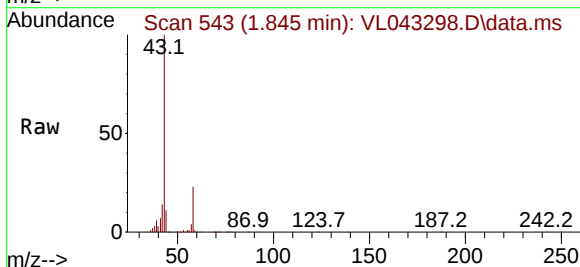
Instrument :
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 ClientSampleId :
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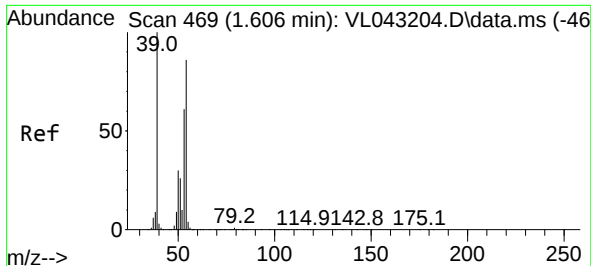
Tgt Ion: 45 Resp: 43530
 Ion Ratio Lower Upper
 45 100
 46 40.5 15.0 59.8



#15
 Acetone
 Concen: 2.909 ppbv
 RT: 1.845 min Scan# 543
 Delta R.T. 0.013 min
 Lab File: VL043298.D
 Acq: 02 Dec 2025 14:49

Tgt Ion: 43 Resp: 51387
 Ion Ratio Lower Upper
 43 100
 58 22.5 20.7 31.1

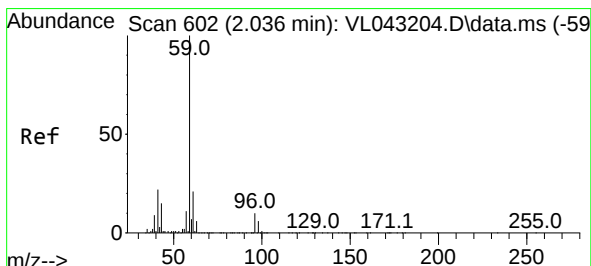
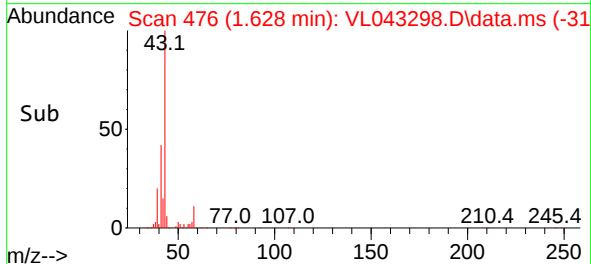
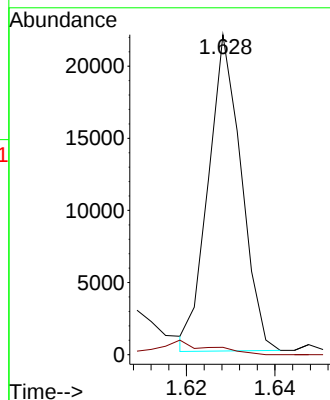
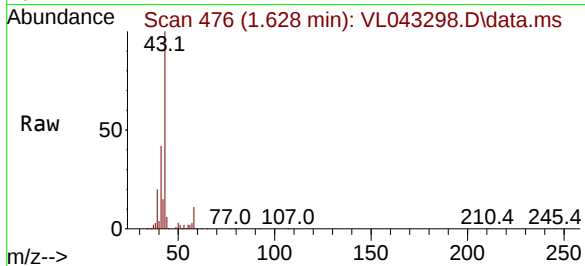




#16
1,3-Butadiene
Concen: 1.441 ppbv
RT: 1.628 min Scan# 41
Delta R.T. 0.022 min
Lab File: VL043298.D
Acq: 02 Dec 2025 14:49

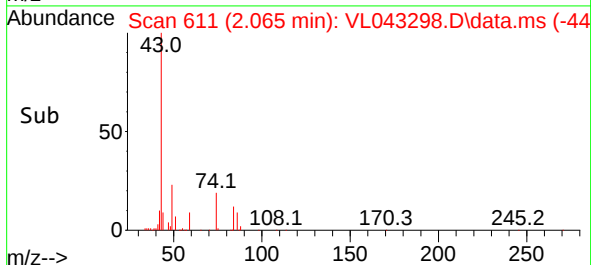
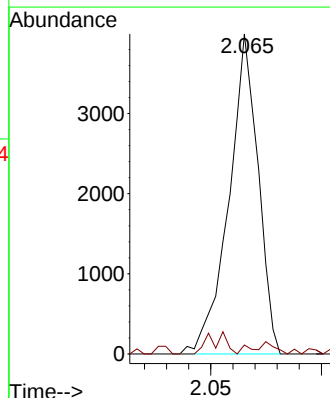
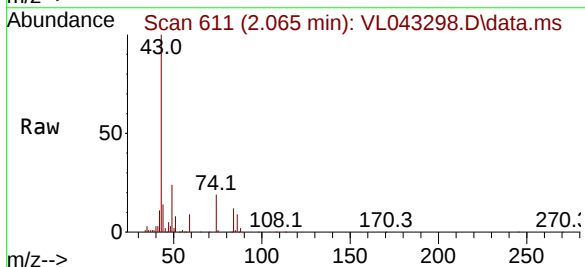
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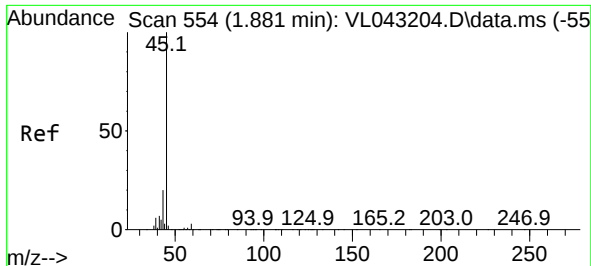
Tgt Ion: 39 Resp: 11350
Ion Ratio Lower Upper
39 100
54 7.4 59.4 89.2#



#17
tert-Butyl alcohol
Concen: 0.158 ppbv
RT: 2.065 min Scan# 611
Delta R.T. 0.029 min
Lab File: VL043298.D
Acq: 02 Dec 2025 14:49

Tgt Ion: 59 Resp: 3667
Ion Ratio Lower Upper
59 100
57 0.0 9.0 13.4#





#19

Isopropyl Alcohol

Concen: 2.159 ppbv

RT: 1.894 min Scan# 51

Delta R.T. 0.013 min

Lab File: VL043298.D

Acq: 02 Dec 2025 14:49

Instrument :

MSVOA_L

ClientSampleId :

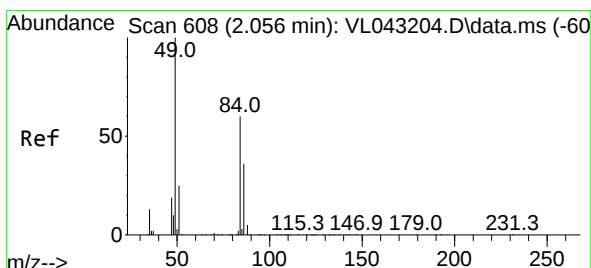
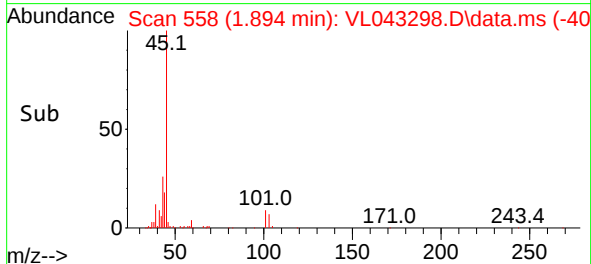
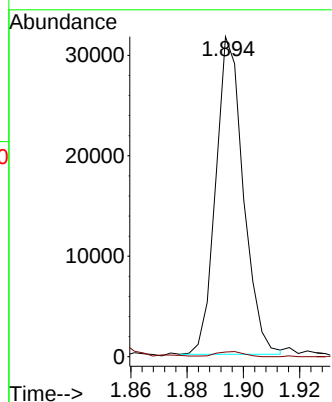
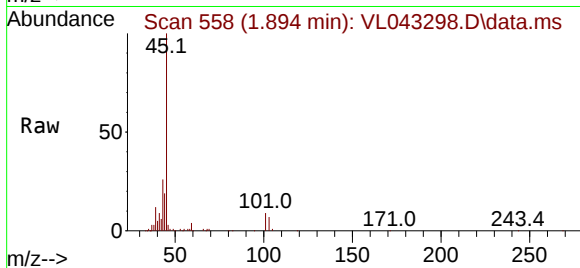
IA2

Tgt Ion: 45 Resp: 21548

Ion Ratio Lower Upper

45 100

58 53.8 31.3 46.9#



#20

Methylene Chloride

Concen: 1.402 ppbv

RT: 2.072 min Scan# 613

Delta R.T. 0.016 min

Lab File: VL043298.D

Acq: 02 Dec 2025 14:49

Tgt Ion: 84 Resp: 10813

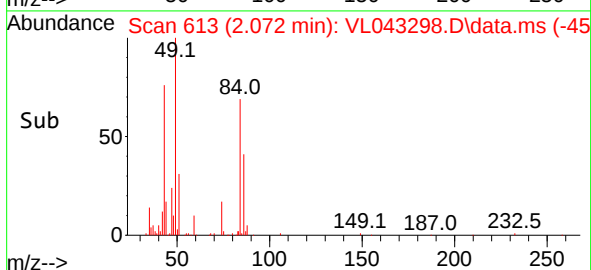
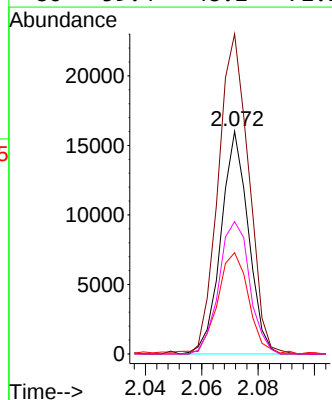
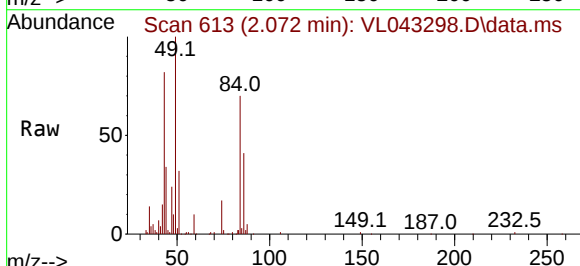
Ion Ratio Lower Upper

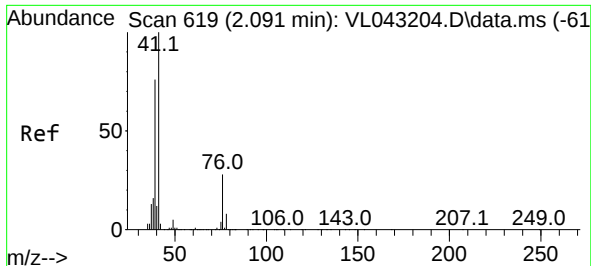
84 100

49 143.8 132.9 199.3

51 45.1 34.8 52.2

86 59.4 48.2 72.2

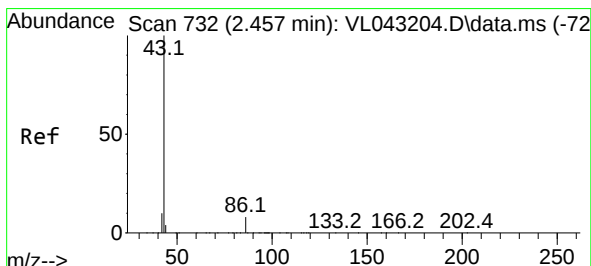
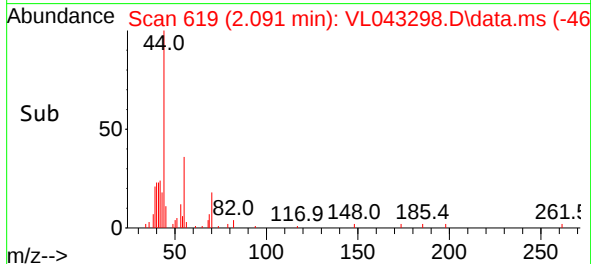
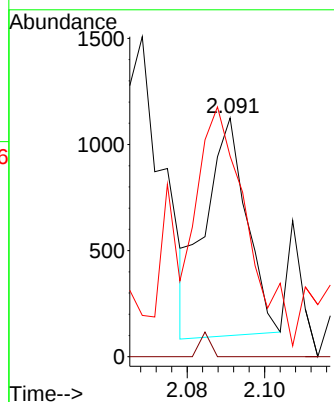
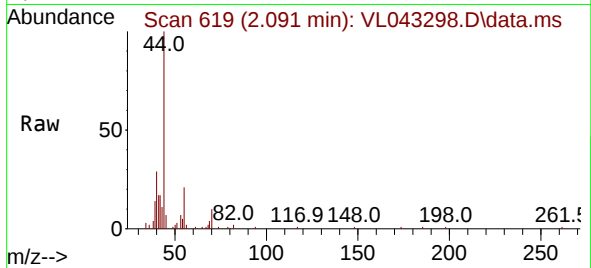




#21
 Allyl Chloride
 Concen: 0.064 ppbv
 RT: 2.091 min Scan# 619
 Delta R.T. -0.000 min
 Lab File: VL043298.D
 Acq: 02 Dec 2025 14:49

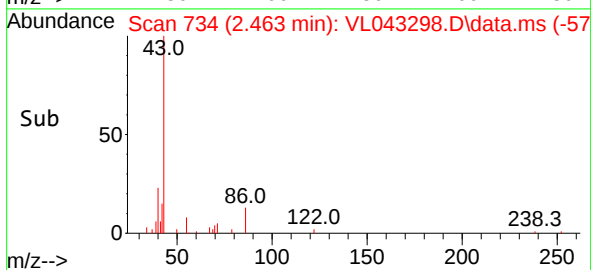
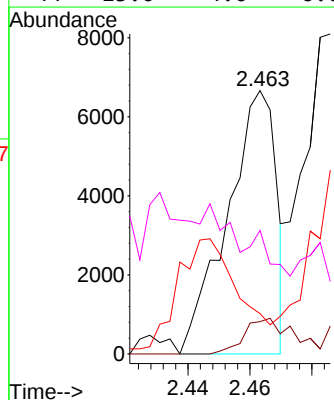
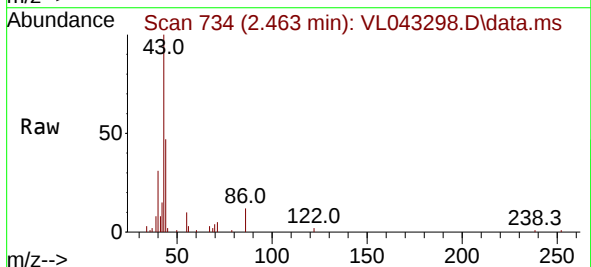
Instrument :
 MSVOA_L
 ClientSampleId :
 IA2

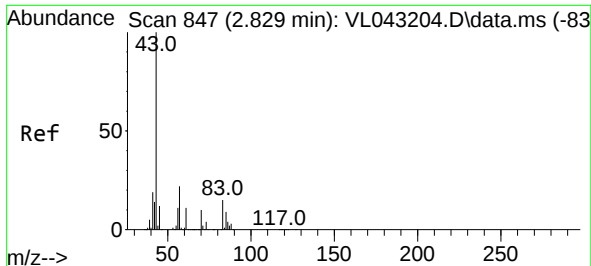
Tgt Ion: 41 Resp: 759
 Ion Ratio Lower Upper
 41 100
 76 0.0 22.1 33.1#
 39 162.1 61.0 91.4#



#23
 Vinyl Acetate
 Concen: 0.343 ppbv
 RT: 2.463 min Scan# 734
 Delta R.T. 0.006 min
 Lab File: VL043298.D
 Acq: 02 Dec 2025 14:49

Tgt Ion: 43 Resp: 7319
 Ion Ratio Lower Upper
 43 100
 86 12.3 6.2 9.2#
 42 1.0 8.0 12.0#
 44 13.0 4.0 6.0#

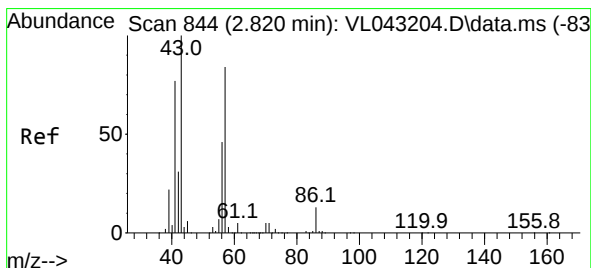
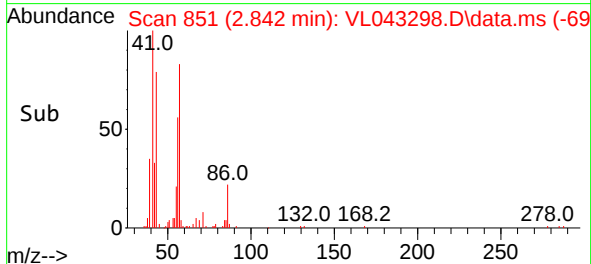
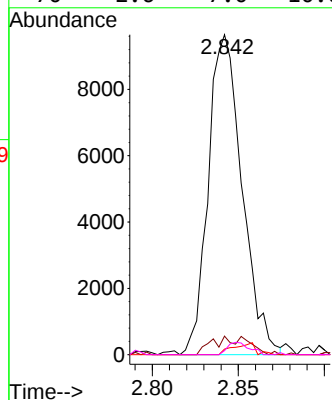
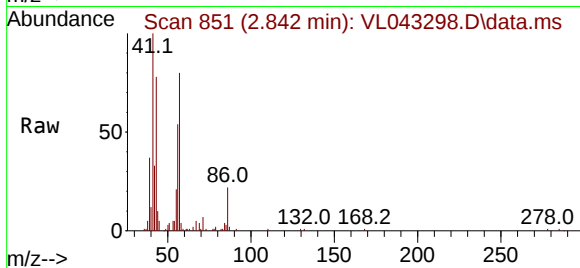




#25
Ethyl Acetate
Concen: 0.345 ppbv
RT: 2.842 min Scan# 81
Delta R.T. 0.013 min
Lab File: VL043298.D
Acq: 02 Dec 2025 14:49

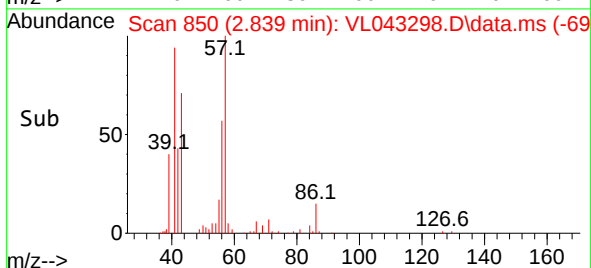
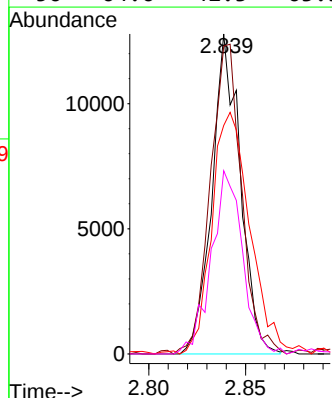
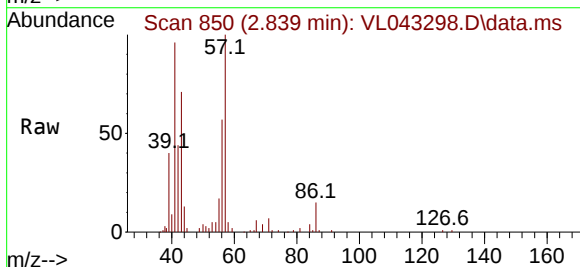
Instrument :
MSVOA_L
ClientSampleId :
IA2

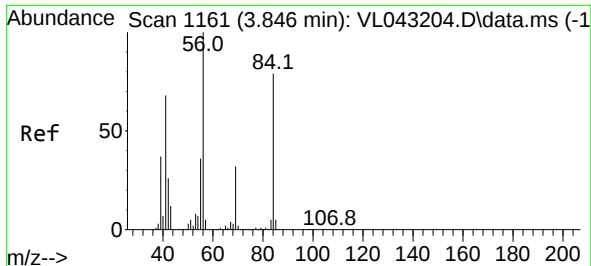
Tgt Ion: 43	Resp: 13161
Ion Ratio	Lower Upper
43 100	
45 6.2	8.1 12.1#
61 2.5	7.0 10.4#
70 2.6	7.0 10.6#



#26
Hexane
Concen: 0.779 ppbv
RT: 2.839 min Scan# 850
Delta R.T. 0.019 min
Lab File: VL043298.D
Acq: 02 Dec 2025 14:49

Tgt Ion: 57	Resp: 13007
Ion Ratio	Lower Upper
57 100	
41 107.0	74.6 111.8
43 105.4	179.0 268.4#
56 64.6	42.3 63.5#

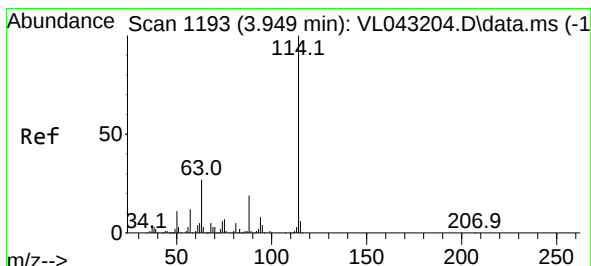
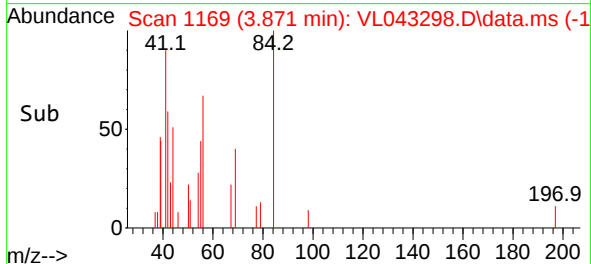
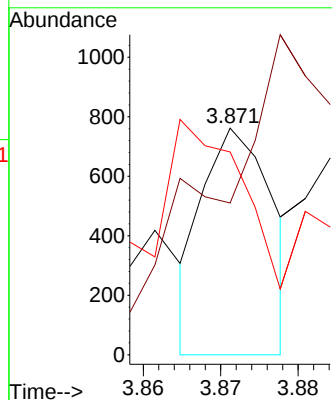
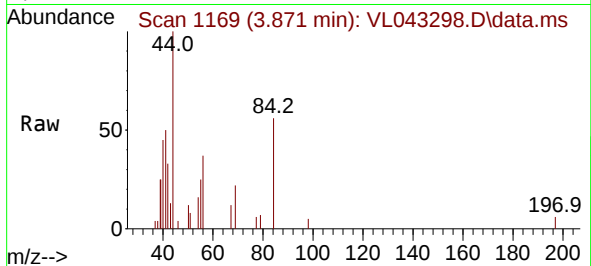




#30
Cyclohexane
Concen: 0.034 ppbv
RT: 3.871 min Scan# 1169
Delta R.T. 0.026 min
Lab File: VL043298.D
Acq: 02 Dec 2025 14:49

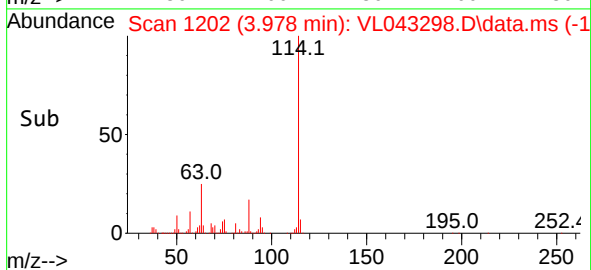
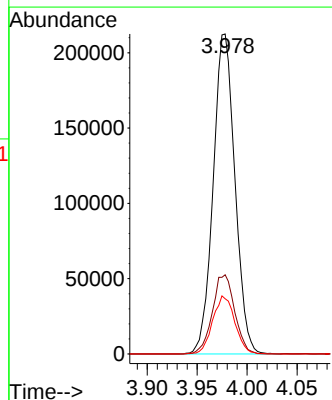
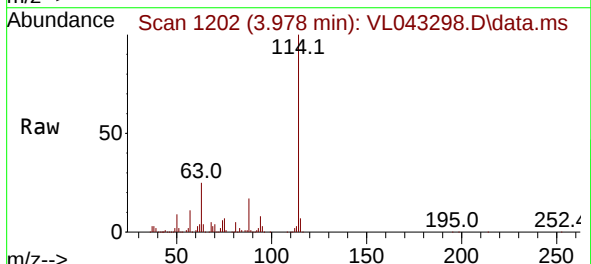
Instrument :
MSVOA_L
ClientSampleId :
IA2

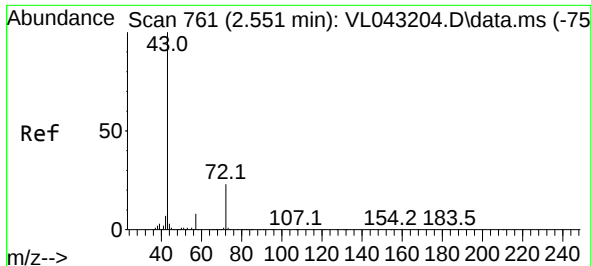
Tgt Ion: 84 Resp: 478
Ion Ratio Lower Upper
84 100
56 0.0 104.7 157.1#
41 0.0 69.0 103.6#



#33
1,4-Difluorobenzene
Concen: 10.000 ppbv
RT: 3.978 min Scan# 1202
Delta R.T. 0.029 min
Lab File: VL043298.D
Acq: 02 Dec 2025 14:49

Tgt Ion: 114 Resp: 321760
Ion Ratio Lower Upper
114 100
63 25.4 21.0 31.6
88 18.5 14.9 22.3

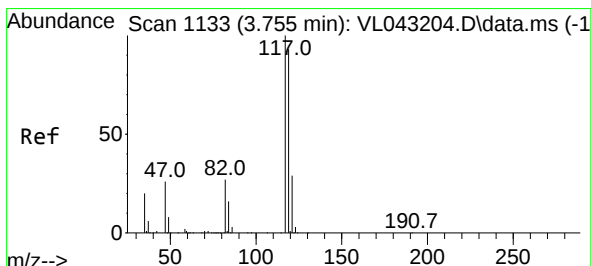
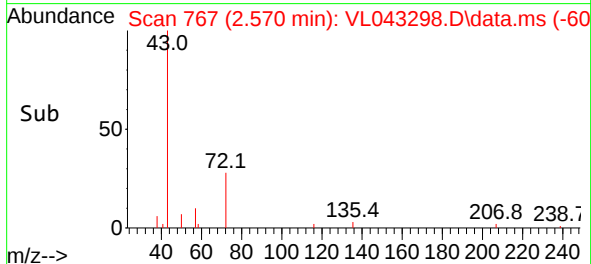
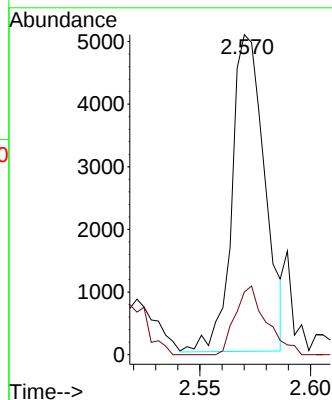
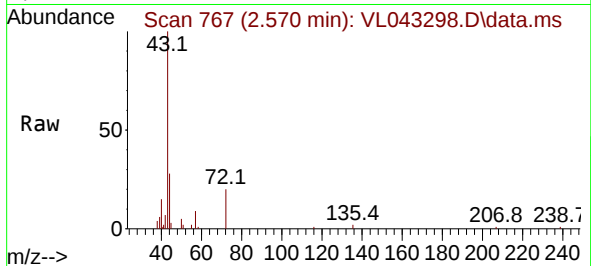




#34
2-Butanone
Concen: 0.230 ppbv
RT: 2.570 min Scan# 70
Delta R.T. 0.019 min
Lab File: VL043298.D
Acq: 02 Dec 2025 14:49

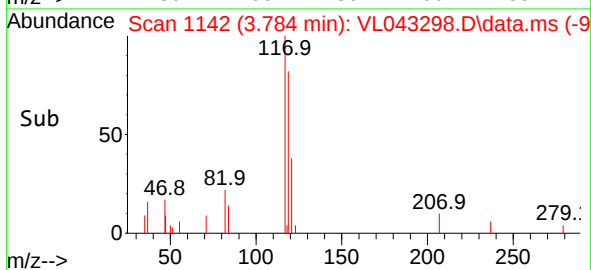
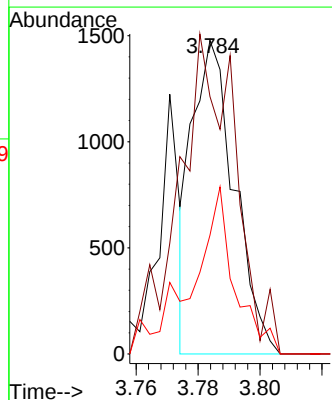
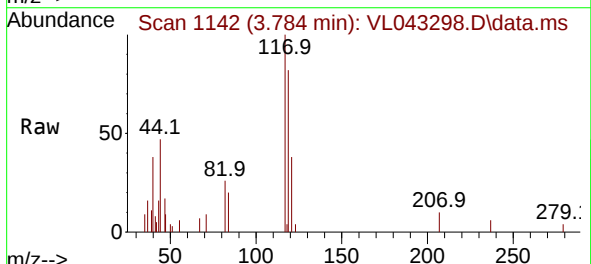
Instrument :
MSVOA_L
ClientSampleId :
IA2

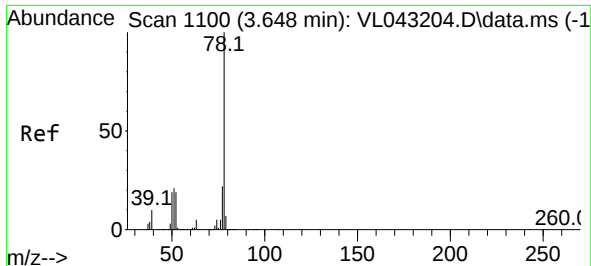
Tgt Ion: 43 Resp: 5219
Ion Ratio Lower Upper
43 100
72 20.5 18.1 27.1



#35
Carbon Tetrachloride
Concen: 0.057 ppbv
RT: 3.784 min Scan# 1142
Delta R.T. 0.029 min
Lab File: VL043298.D
Acq: 02 Dec 2025 14:49

Tgt Ion: 117 Resp: 1398
Ion Ratio Lower Upper
117 100
119 82.1 74.6 112.0
121 37.9 23.2 34.8#

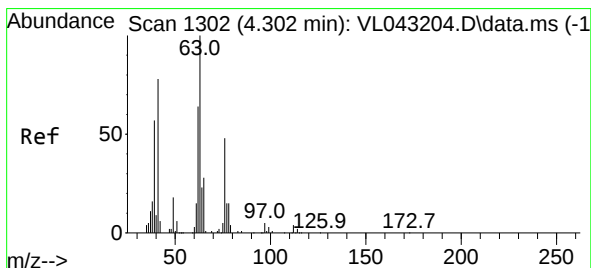
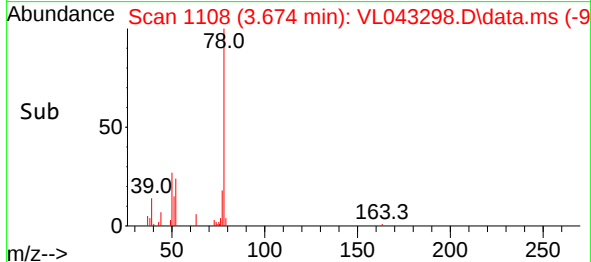
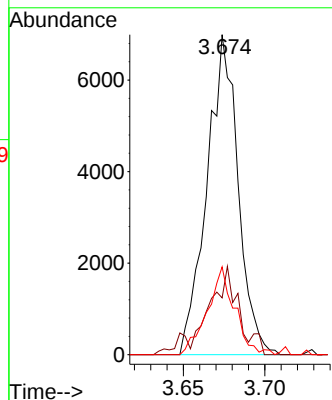
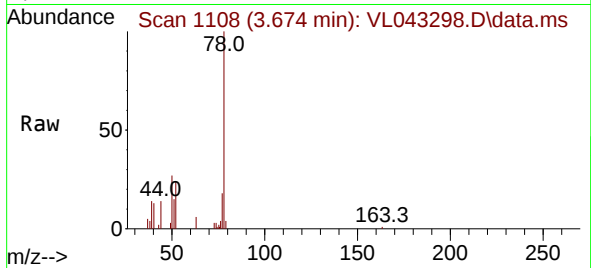




#36
Benzene
Concen: 0.301 ppbv
RT: 3.674 min Scan# 1108
Delta R.T. 0.026 min
Lab File: VL043298.D
Acq: 02 Dec 2025 14:49

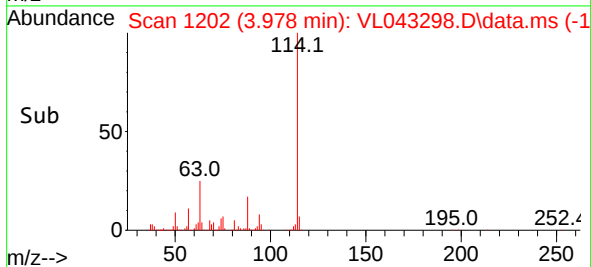
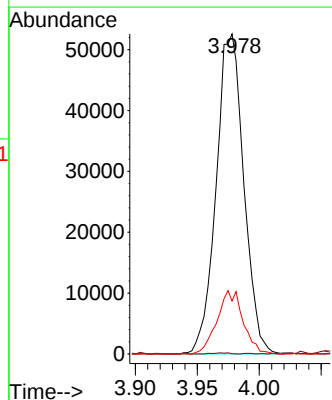
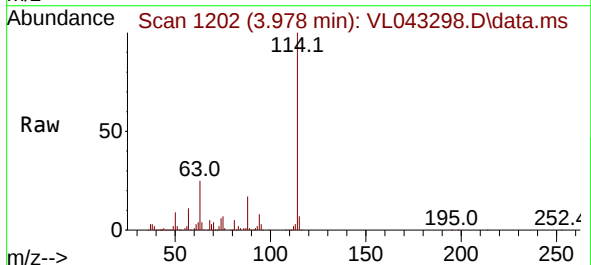
Instrument :
MSVOA_L
ClientSampleId :
IA2

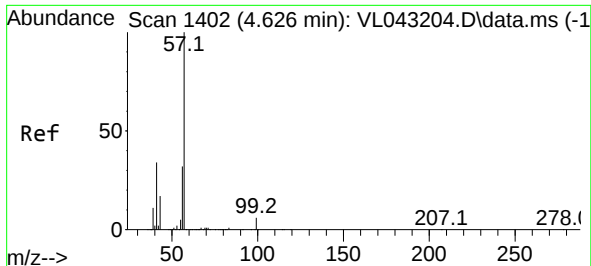
Tgt Ion: 78 Resp: 9284
Ion Ratio Lower Upper
78 100
77 17.8 17.5 26.3
50 27.4 15.5 23.3#



#39
1,2-Dichloropropane
Concen: 7.245 ppbv
RT: 3.978 min Scan# 1202
Delta R.T. -0.324 min
Lab File: VL043298.D
Acq: 02 Dec 2025 14:49

Tgt Ion: 63 Resp: 81712
Ion Ratio Lower Upper
63 100
41 0.1 62.6 93.8#
62 16.5 51.0 76.6#

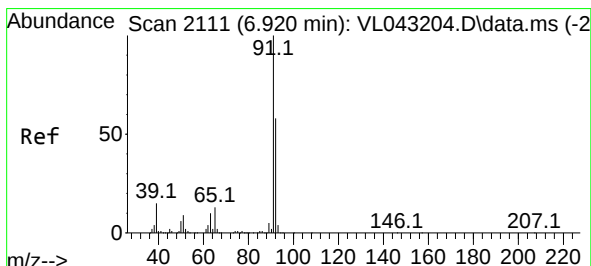
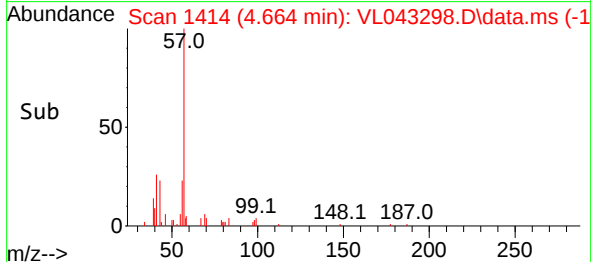
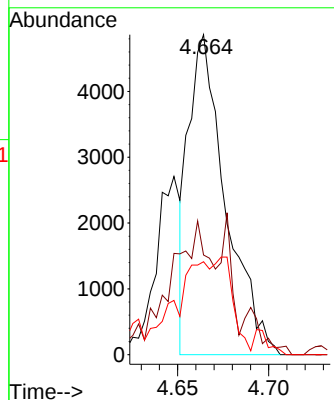
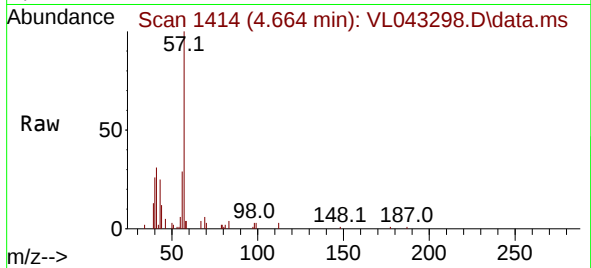




#44
2,2,4-Trimethylpentane
Concen: 0.131 ppbv
RT: 4.664 min Scan# 1402
Delta R.T. 0.039 min
Lab File: VL043298.D
Acq: 02 Dec 2025 14:49

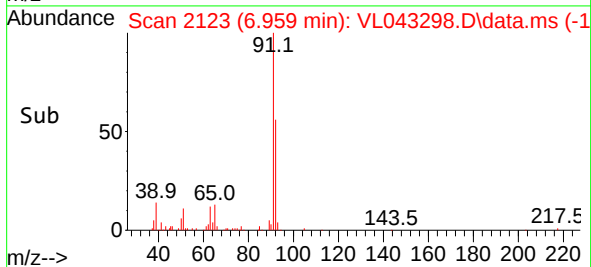
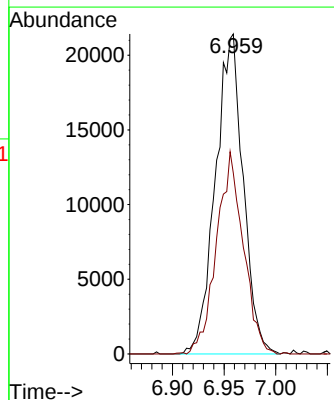
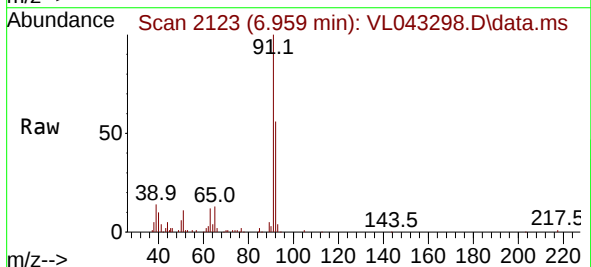
Instrument :
MSVOA_1
ClientSampleId :
IA2

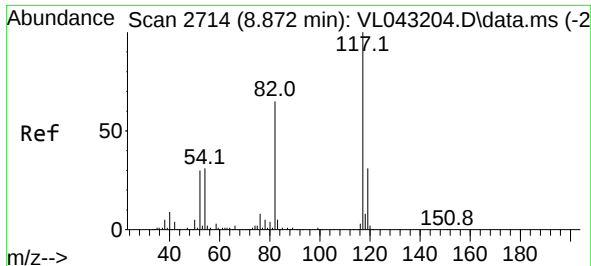
Tgt Ion: 57 Resp: 6911
Ion Ratio Lower Upper
57 100
41 71.2 28.0 42.0#
56 58.6 25.6 38.4#



#53
Toluene
Concen: 1.097 ppbv
RT: 6.959 min Scan# 2123
Delta R.T. 0.039 min
Lab File: VL043298.D
Acq: 02 Dec 2025 14:49

Tgt Ion: 91 Resp: 40037
Ion Ratio Lower Upper
91 100
92 61.1 47.4 71.0

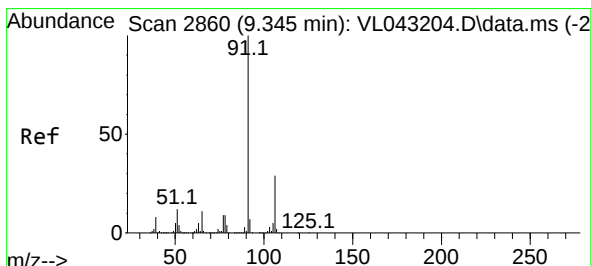
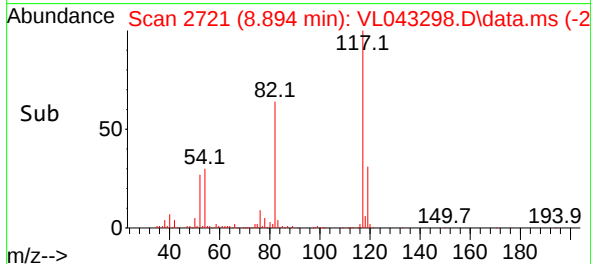
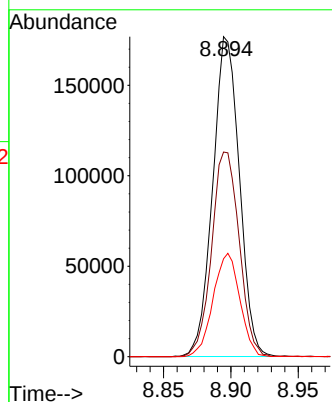
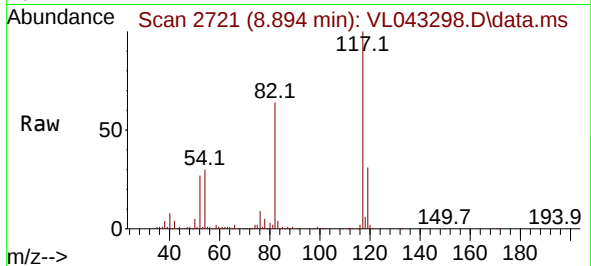




#55
Chlorobenzene-d5
Concen: 10.000 ppbv
RT: 8.894 min Scan# 21
Delta R.T. 0.022 min
Lab File: VL043298.D
Acq: 02 Dec 2025 14:49

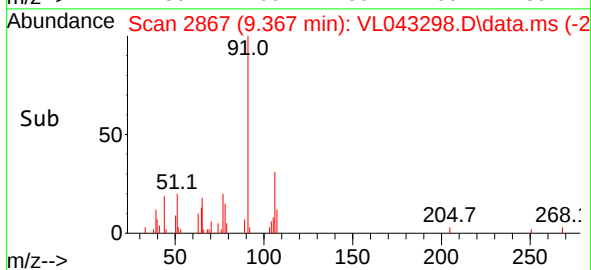
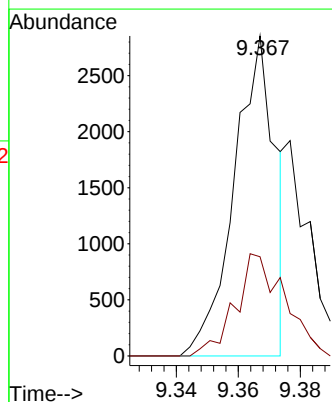
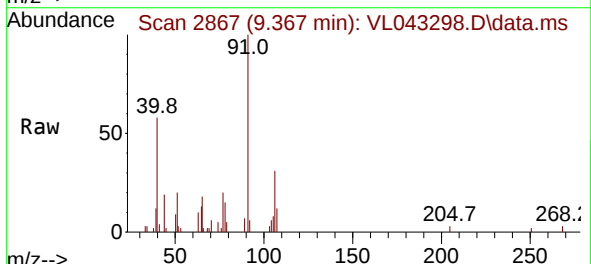
Instrument :
MSVOA_L
ClientSampleId :
IA2

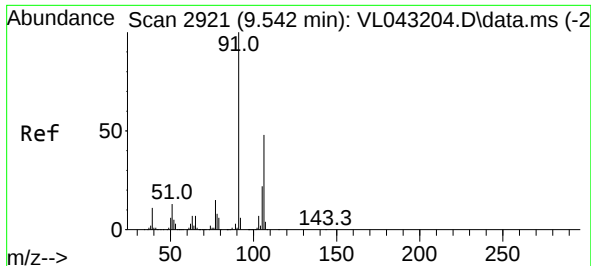
Tgt Ion:117 Resp: 243149
Ion Ratio Lower Upper
117 100
82 66.3 56.1 84.1
119 32.6 25.0 37.6



#58
Ethyl Benzene
Concen: 0.056 ppbv
RT: 9.367 min Scan# 2867
Delta R.T. 0.022 min
Lab File: VL043298.D
Acq: 02 Dec 2025 14:49

Tgt Ion: 91 Resp: 2630
Ion Ratio Lower Upper
91 100
106 31.0 22.8 34.2





#59

m/p-Xylene

Concen: 0.047 ppbv

RT: 9.571 min Scan# 29

Delta R.T. 0.029 min

Lab File: VL043298.D

Acq: 02 Dec 2025 14:49

Instrument :

MSVOA_L

ClientSampleId :

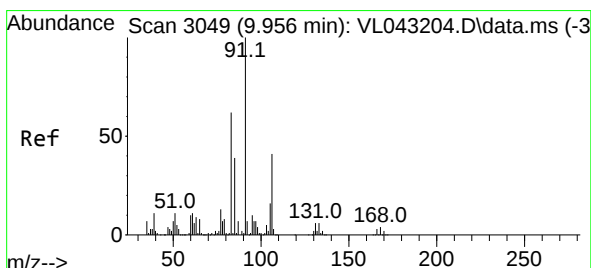
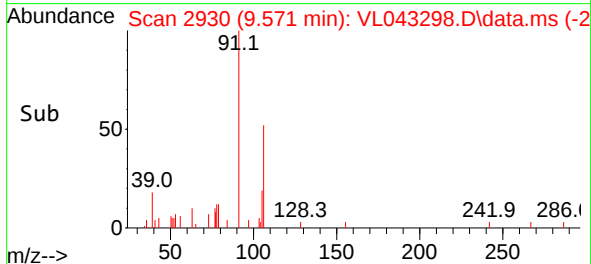
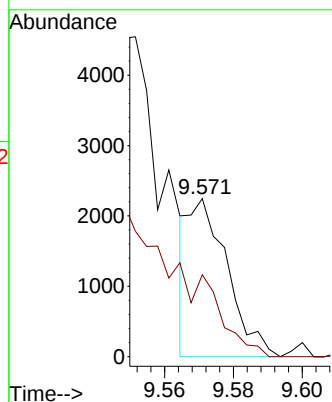
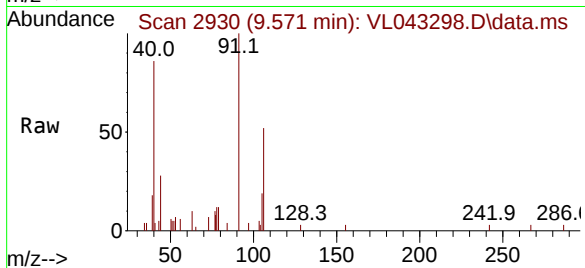
IA2

Tgt Ion: 91 Resp: 1769

Ion Ratio Lower Upper

91 100

106 0.0 36.1 54.1#



#60

o-Xylene

Concen: 0.042 ppbv

RT: 9.979 min Scan# 3056

Delta R.T. 0.022 min

Lab File: VL043298.D

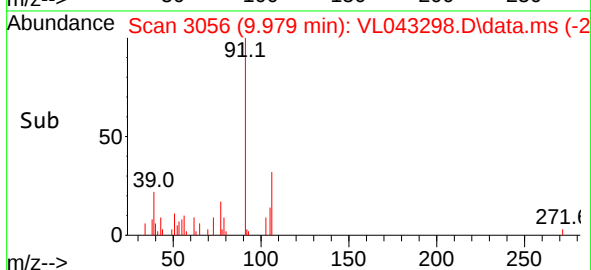
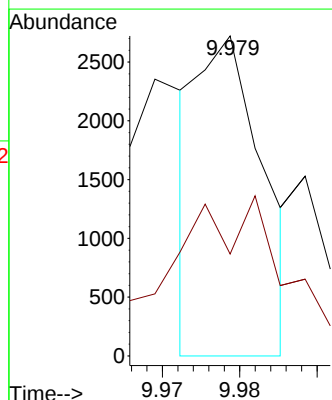
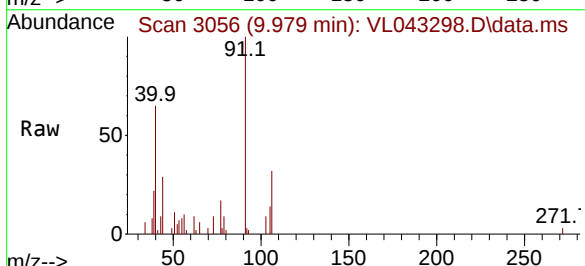
Acq: 02 Dec 2025 14:49

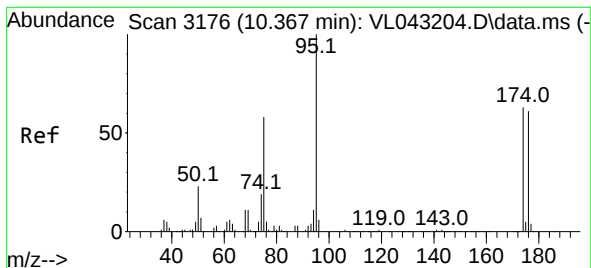
Tgt Ion: 91 Resp: 1590

Ion Ratio Lower Upper

91 100

106 90.9 20.9 62.8#





#68

1-Bromo-4-Fluorobenzene

Concen: 9.817 ppbv

RT: 10.387 min Scan# 3176

Delta R.T. 0.019 min

Lab File: VL043298.D

Acq: 02 Dec 2025 14:49

Instrument :

MSVOA_L

ClientSampleId :

IA2

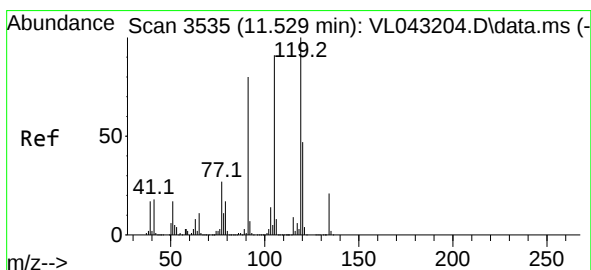
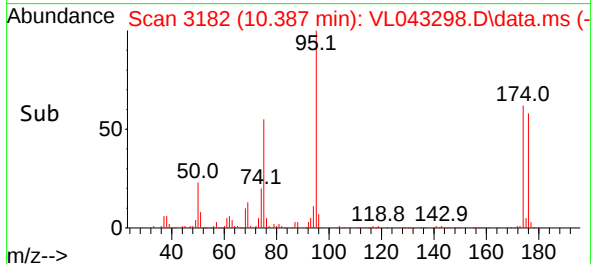
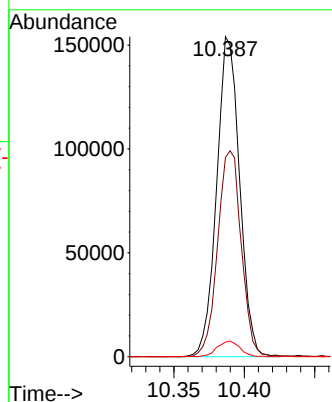
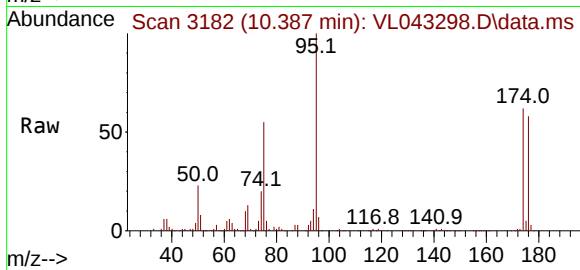
Tgt Ion: 95 Resp: 174969

Ion Ratio Lower Upper

95 100

174 66.3 50.2 75.2

175 4.9 4.1 6.1



#74

1,2,4-Trimethylbenzene

Concen: 0.068 ppbv

RT: 11.545 min Scan# 3540

Delta R.T. 0.016 min

Lab File: VL043298.D

Acq: 02 Dec 2025 14:49

Tgt Ion: 105 Resp: 2833

Ion Ratio Lower Upper

105 100

120 33.4 41.7 62.5#

91 14.3 70.0 105.0#

77 9.7 23.8 35.8#

