

Data Path : Z:\voasrv\HPCHEM1\MSVOA_L\Data\VL120225\
 Data File : VL043301.D
 Acq On : 02 Dec 2025 16:30
 Operator : SY/MD
 Sample : Q3744-03 4X
 Misc : 400mL/MSVOA_L
 ALS Vial : 1 Sample Multiplier: 1

Instrument :
 MSVOA_L
 ClientSampleId :
 SV2

Quant Time: Dec 03 00:08:23 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)

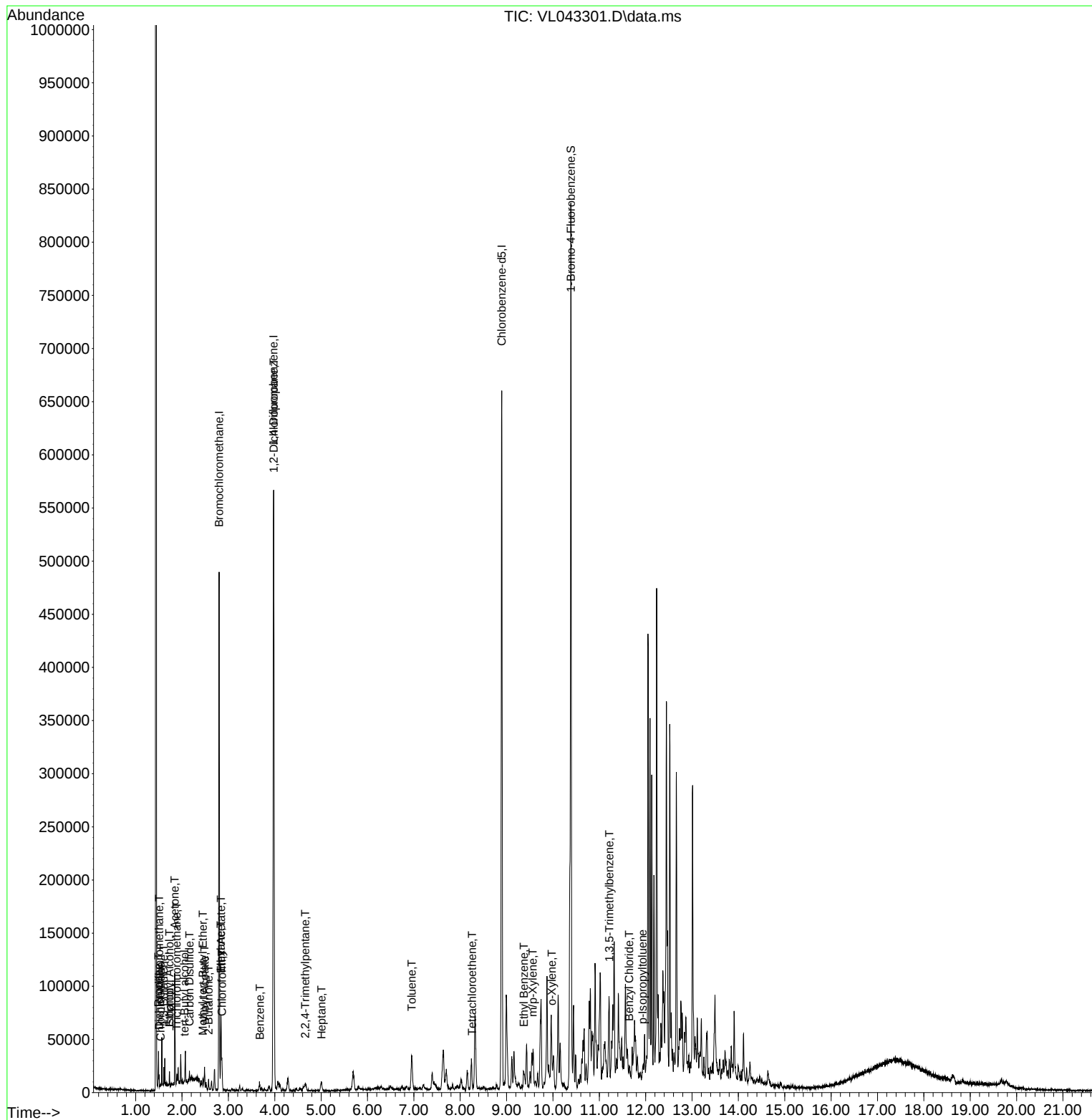
Internal Standards						
1) Bromochloromethane	2.800	49	131676	10.000	ppbv	0.02
33) 1,4-Difluorobenzene	3.975	114	327278	10.000	ppbv	0.03
55) Chlorobenzene-d5	8.895	117	263808	10.000	ppbv	0.02
System Monitoring Compounds						
68) 1-Bromo-4-Fluorobenzene	10.387	95	203235	10.510	ppbv	0.02
Spiked Amount	10.000	Range	65 - 135	Recovery	=	105.100%
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.506	85	2782	0.150	ppbv #	77
4) Chloromethane	1.538	50	360	0.052	ppbv #	59
9) Propene	1.493	41	4151	0.535	ppbv #	1
10) Heptane	5.011	43	2335	0.101	ppbv #	28
11) Trichlorofluoromethane	1.884	101	1689	0.094	ppbv #	63
13) Ethanol	1.729	45	4454	1.633	ppbv #	38
15) Acetone	1.842	43	47857	2.616	ppbv	97
16) 1,3-Butadiene	1.606	39	2210	0.271	ppbv #	30
17) tert-Butyl alcohol	2.056	59	1219	0.051	ppbv #	80
19) Isopropyl Alcohol	1.729	45	4454	0.431	ppbv #	69
20) Methylene Chloride	2.072	84	3742	Below Cal		96
23) Vinyl Acetate	2.486	43	5231	0.237	ppbv #	26
25) Ethyl Acetate	2.842	43	10697	0.271	ppbv #	80
26) Hexane	2.839	57	14297	0.826	ppbv #	40
27) Carbon Disulfide	2.159	76	3036	0.172	ppbv #	1
28) Methyl tert-Butyl Ether	2.451	73	463	0.055	ppbv #	50
29) Chloroform	2.862	83	10974	0.446	ppbv	89
34) 2-Butanone	2.574	43	6227	0.270	ppbv	94
36) Benzene	3.677	78	3457	0.110	ppbv #	70
39) 1,2-Dichloropropane	3.978	63	82079	7.155	ppbv #	24
44) 2,2,4-Trimethylpentane	4.658	57	3399	0.063	ppbv #	1
52) Tetrachloroethene	8.257	164	421	0.036	ppbv	94
53) Toluene	6.956	91	23155	0.624	ppbv	100
58) Ethyl Benzene	9.371	91	6831	0.135	ppbv	98
59) m/p-Xylene	9.562	91	5066	0.124	ppbv #	31
60) o-Xylene	9.976	91	9320	0.229	ppbv	95
66) Benzyl Chloride	11.646	91	213	0.032	ppbv #	84
69) p-Isopropyltoluene	11.931	119	2565	0.033	ppbv #	91
73) 1,3,5-Trimethylbenzene	11.215	105	2715	0.065	ppbv #	78

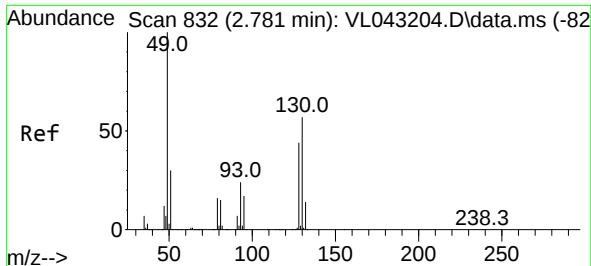
(#) = qualifier out of range (m) = manual integration (+) = signals summed

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SV2

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Quant Method : Z:\voasrv\HPCHEM1\MSVOA_L\methods\VL11825AIR.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





#1

Bromochloromethane

Concen: 10.000 ppbv

RT: 2.800 min Scan# 81

Delta R.T. 0.019 min

Lab File: VL043301.D

Acq: 02 Dec 2025 16:30

Instrument :

MSVOA_L

ClientSampleId :

SV2

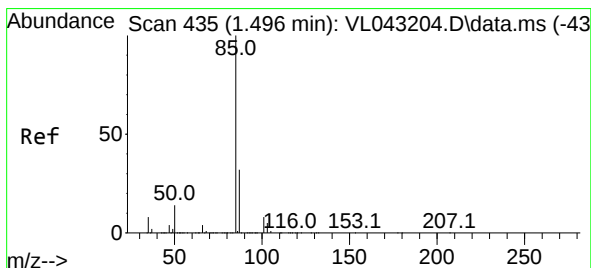
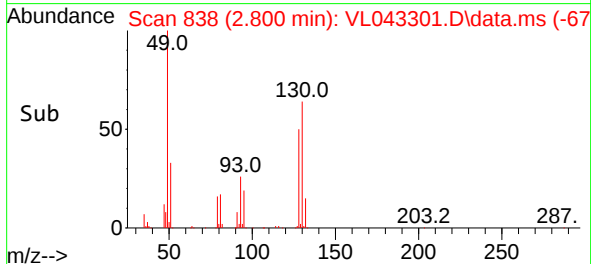
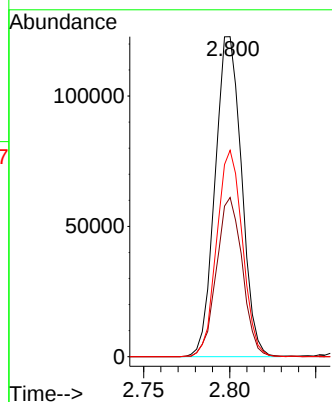
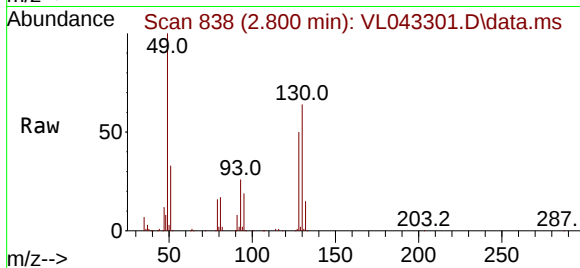
Tgt Ion: 49 Resp: 131676

Ion Ratio Lower Upper

49 100

128 48.6 23.0 69.0

130 62.6 29.9 89.7



#2

Dichlorodifluoromethane

Concen: 0.150 ppbv

RT: 1.506 min Scan# 438

Delta R.T. 0.010 min

Lab File: VL043301.D

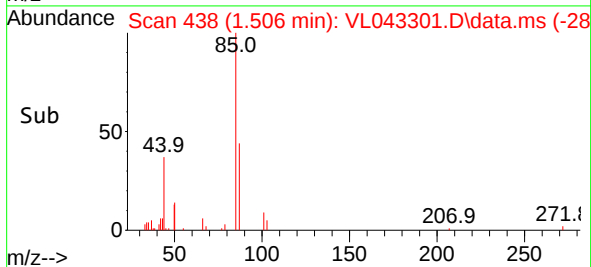
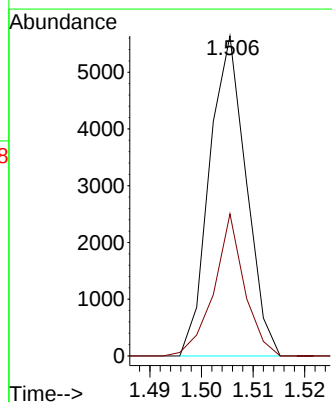
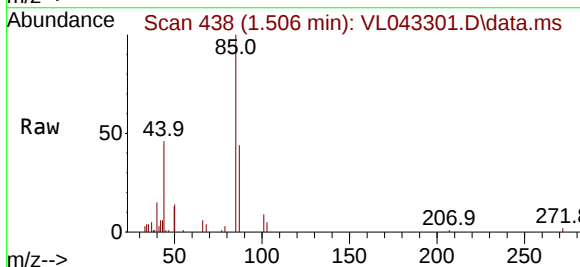
Acq: 02 Dec 2025 16:30

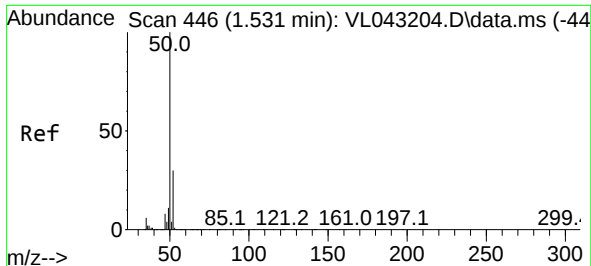
Tgt Ion: 85 Resp: 2782

Ion Ratio Lower Upper

85 100

87 44.4 25.4 38.2#

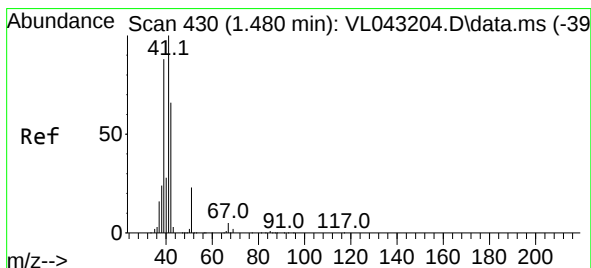
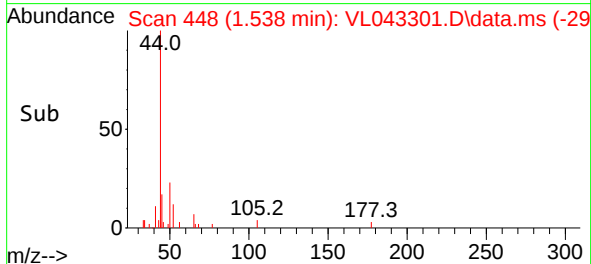
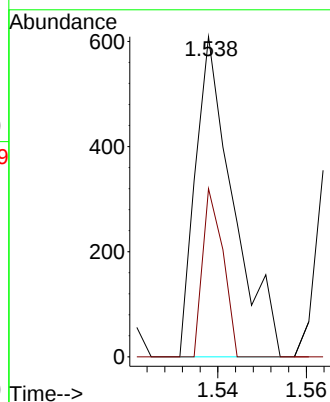
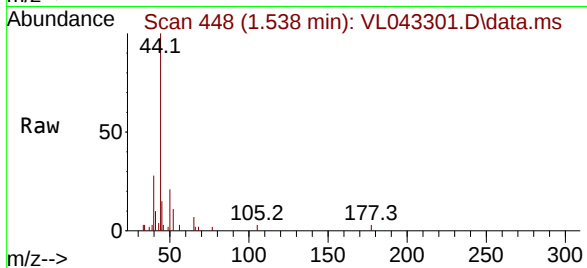




#4
Chloromethane
Concen: 0.052 ppbv
RT: 1.538 min Scan# 44
Delta R.T. 0.006 min
Lab File: VL043301.D
Acq: 02 Dec 2025 16:30

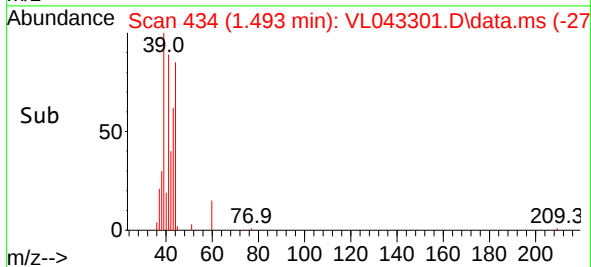
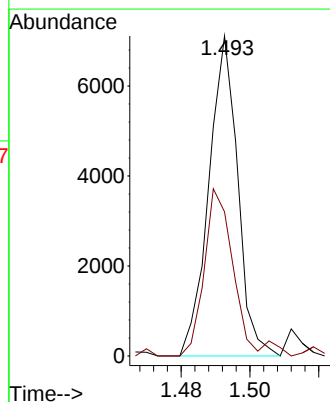
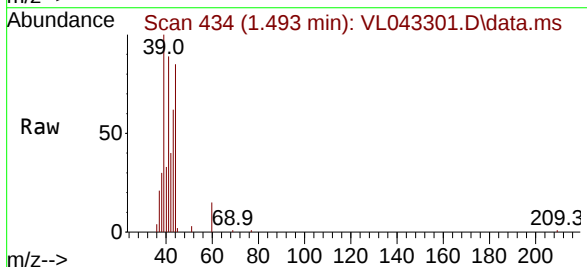
Instrument :
MSVOA_L
ClientSampleId :
SV2

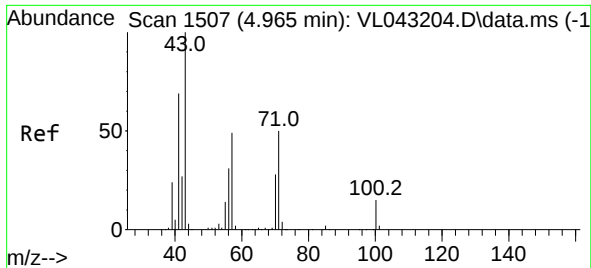
Tgt Ion: 50 Resp: 360
Ion Ratio Lower Upper
50 100
52 52.5 24.1 36.1#



#9
Propene
Concen: 0.535 ppbv
RT: 1.493 min Scan# 434
Delta R.T. 0.013 min
Lab File: VL043301.D
Acq: 02 Dec 2025 16:30

Tgt Ion: 41 Resp: 4151
Ion Ratio Lower Upper
41 100
42 53.9 3.7 5.5#

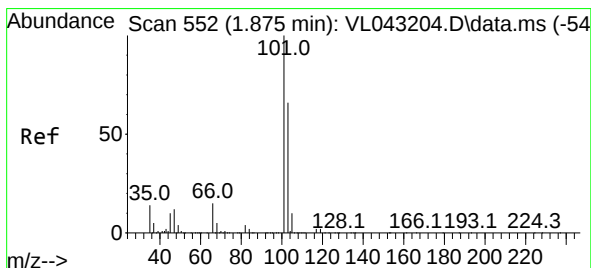
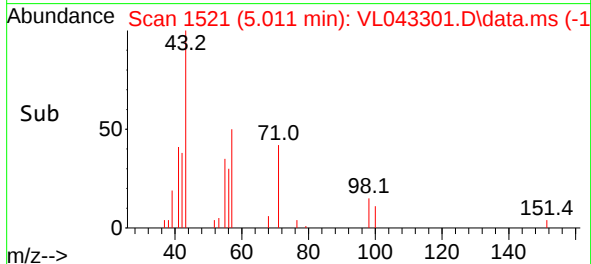
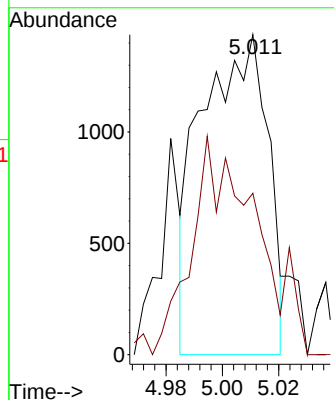
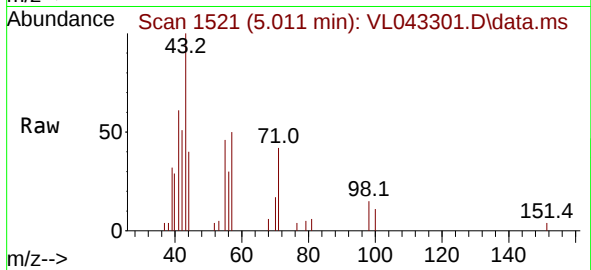




#10
Heptane
Concen: 0.101 ppbv
RT: 5.011 min Scan# 11
Delta R.T. 0.045 min
Lab File: VL043301.D
Acq: 02 Dec 2025 16:30

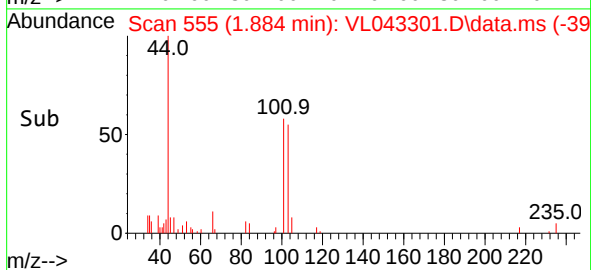
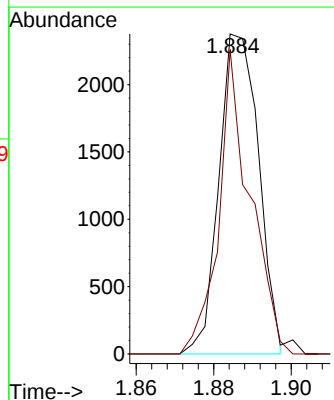
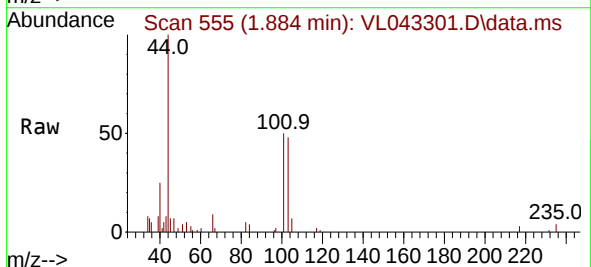
Instrument :
MSVOA_L
ClientSampleId :
SV2

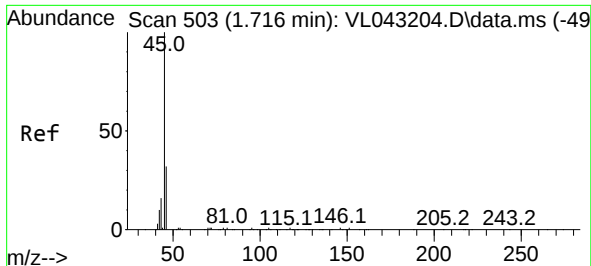
Tgt Ion: 43 Resp: 2335
Ion Ratio Lower Upper
43 100
57 0.0 39.7 59.5#



#11
Trichlorofluoromethane
Concen: 0.094 ppbv
RT: 1.884 min Scan# 555
Delta R.T. 0.010 min
Lab File: VL043301.D
Acq: 02 Dec 2025 16:30

Tgt Ion:101 Resp: 1689
Ion Ratio Lower Upper
101 100
103 95.2 52.6 79.0#

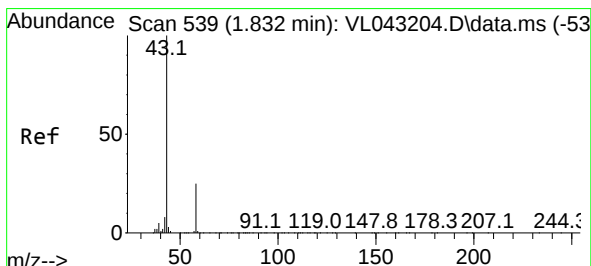
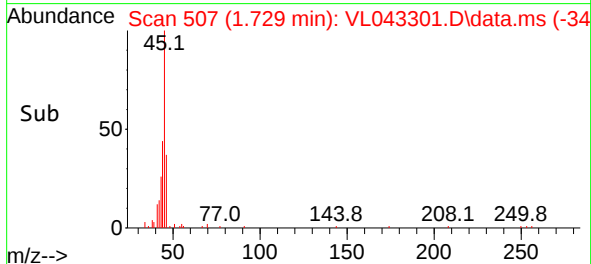
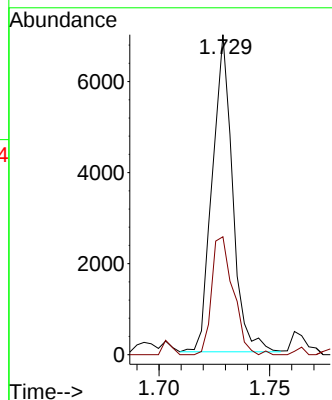
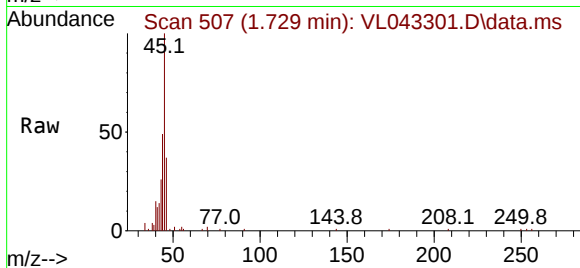




#13
Ethanol
Concen: 1.633 ppbv
RT: 1.729 min Scan# 503
Delta R.T. 0.013 min
Lab File: VL043301.D
Acq: 02 Dec 2025 16:30

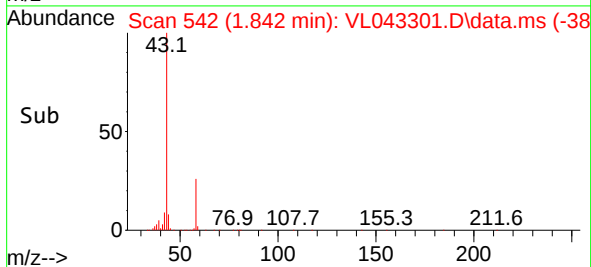
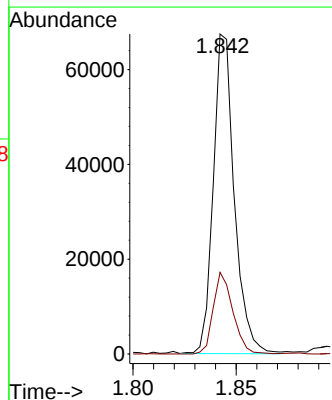
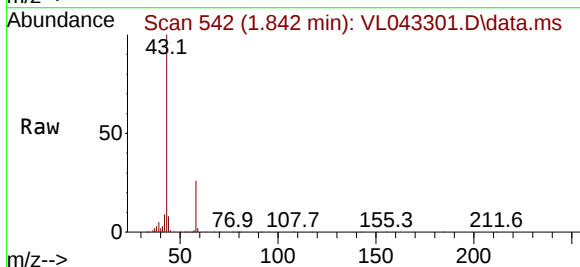
Instrument :
MSVOA_L
ClientSampleId :
SV2

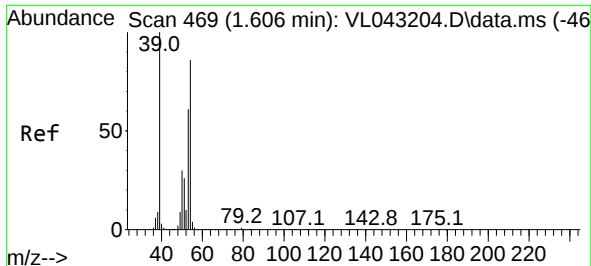
Tgt Ion: 45 Resp: 4454
Ion Ratio Lower Upper
45 100
46 0.0 15.0 59.8#



#15
Acetone
Concen: 2.616 ppbv
RT: 1.842 min Scan# 542
Delta R.T. 0.010 min
Lab File: VL043301.D
Acq: 02 Dec 2025 16:30

Tgt Ion: 43 Resp: 47857
Ion Ratio Lower Upper
43 100
58 24.2 20.7 31.1





#16

1,3-Butadiene

Concen: 0.271 ppbv

RT: 1.606 min Scan# 4

Delta R.T. 0.000 min

Lab File: VL043301.D

Acq: 02 Dec 2025 16:30

Instrument :

MSVOA_L

ClientSampleId :

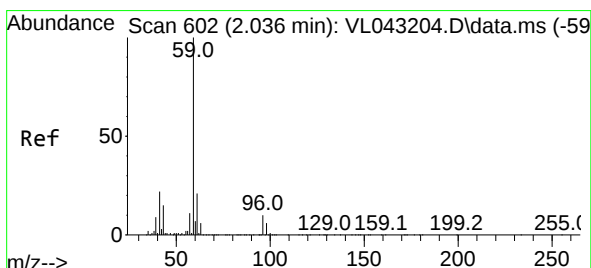
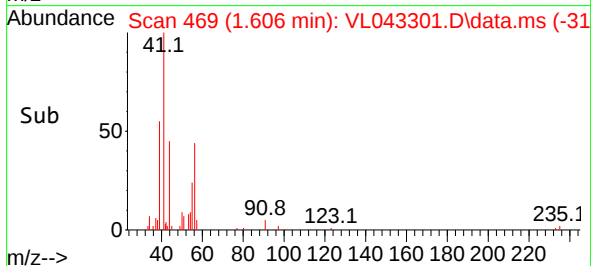
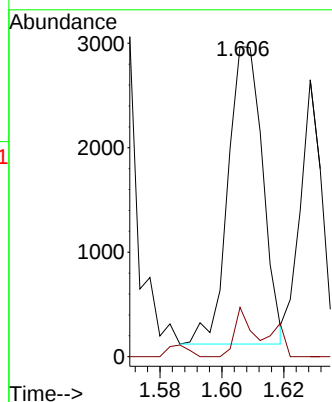
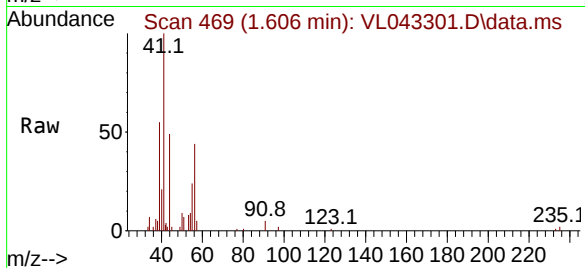
SV2

Tgt Ion: 39 Resp: 2210

Ion Ratio Lower Upper

39 100

54 15.2 59.4 89.2#



#17

tert-Butyl alcohol

Concen: 0.051 ppbv

RT: 2.056 min Scan# 608

Delta R.T. 0.019 min

Lab File: VL043301.D

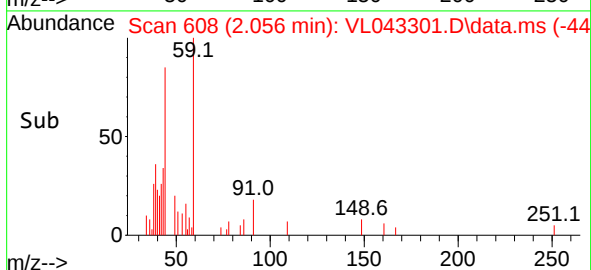
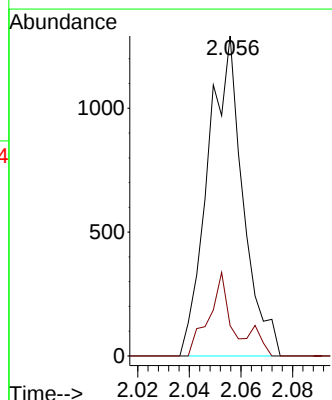
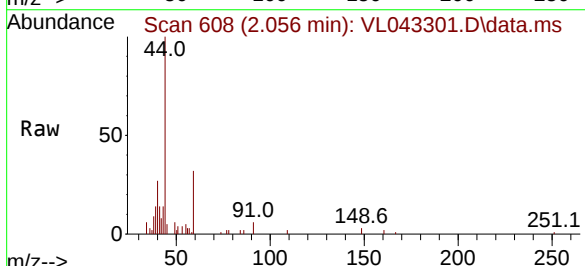
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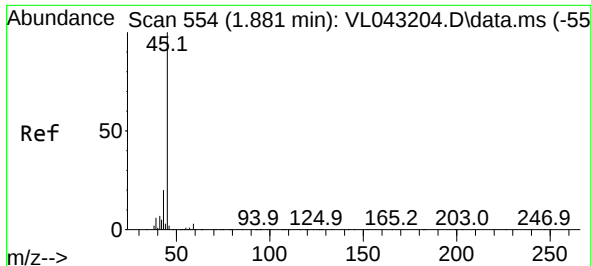
Tgt Ion: 59 Resp: 1219

Ion Ratio Lower Upper

59 100

57 18.9 9.0 13.4#

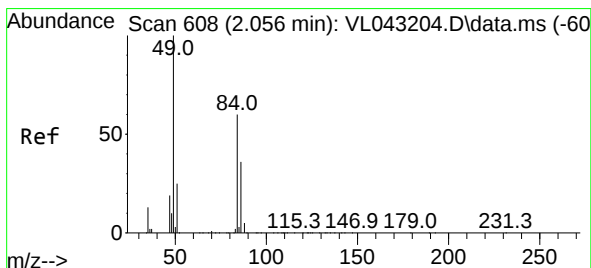
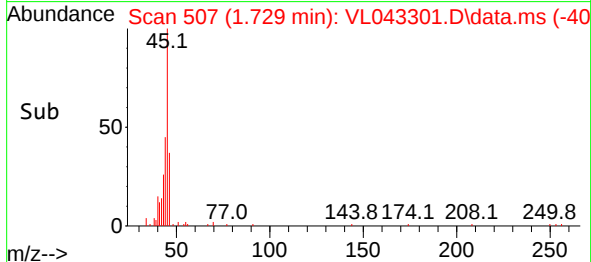
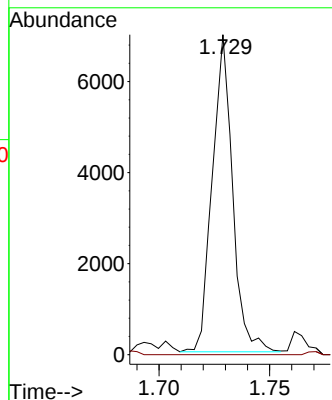
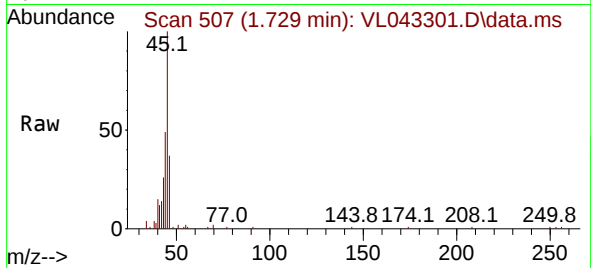




#19
Isopropyl Alcohol
Concen: 0.431 ppbv
RT: 1.729 min Scan# 507
Delta R.T. -0.152 min
Lab File: VL043301.D
Acq: 02 Dec 2025 16:30

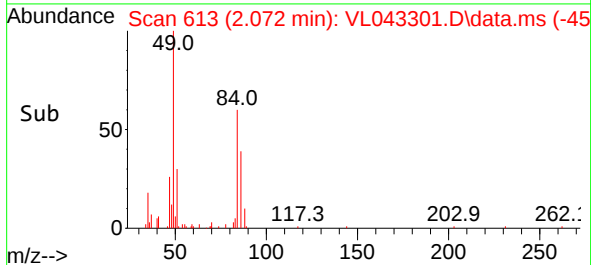
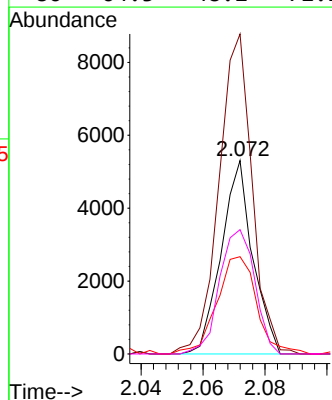
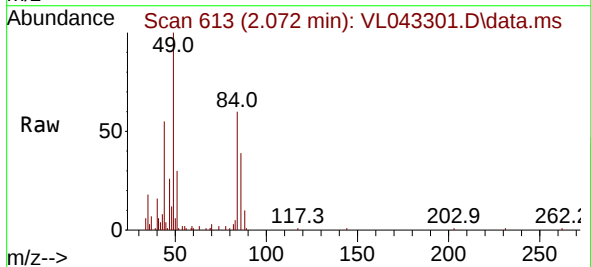
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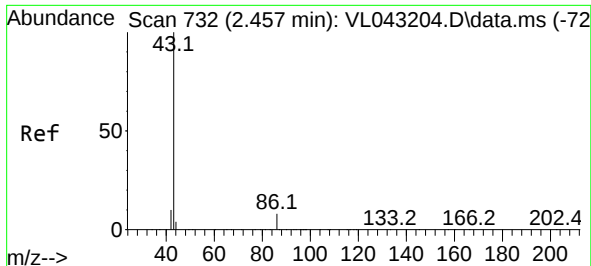
Tgt Ion: 45 Resp: 4454
Ion Ratio Lower Upper
45 100
58 20.0 31.3 46.9#



#20
Methylene Chloride
Concen: Below Cal
RT: 2.072 min Scan# 613
Delta R.T. 0.016 min
Lab File: VL043301.D
Acq: 02 Dec 2025 16:30

Tgt Ion: 84 Resp: 3742
Ion Ratio Lower Upper
84 100
49 163.3 132.9 199.3
51 48.3 34.8 52.2
86 64.3 48.2 72.2

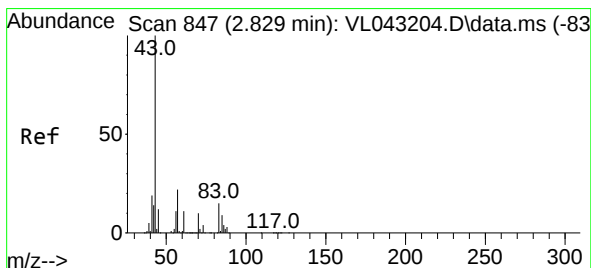
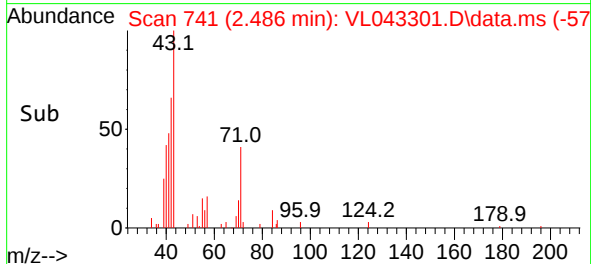
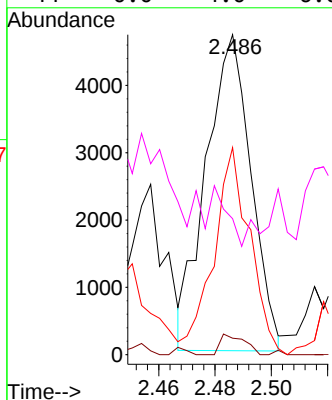
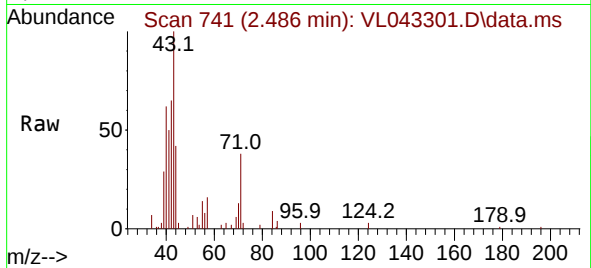




#23
 Vinyl Acetate
 Concen: 0.237 ppbv
 RT: 2.486 min Scan# 741
 Delta R.T. 0.029 min
 Lab File: VL043301.D
 Acq: 02 Dec 2025 16:30

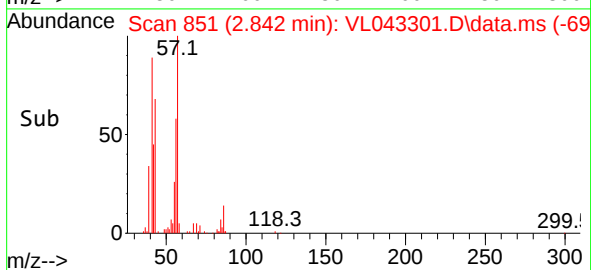
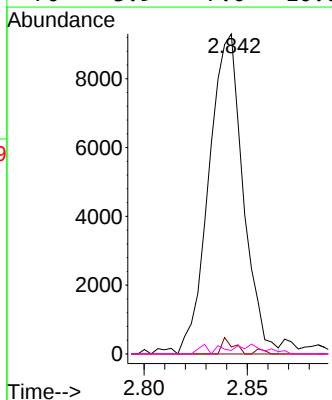
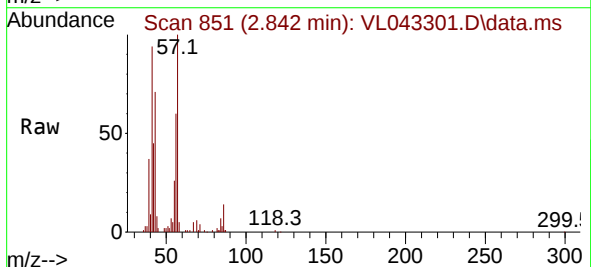
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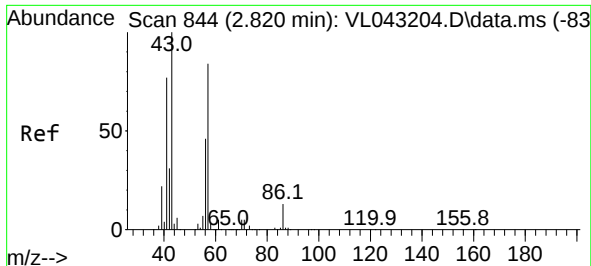
Tgt Ion:	43	Resp:	5231
Ion	Ratio	Lower	Upper
43	100		
86	4.0	6.2	9.2#
42	66.6	8.0	12.0#
44	0.0	4.0	6.0#



#25
 Ethyl Acetate
 Concen: 0.271 ppbv
 RT: 2.842 min Scan# 851
 Delta R.T. 0.013 min
 Lab File: VL043301.D
 Acq: 02 Dec 2025 16:30

Tgt Ion:	43	Resp:	10697
Ion	Ratio	Lower	Upper
43	100		
45	2.2	8.1	12.1#
61	0.0	7.0	10.4#
70	3.9	7.0	10.6#

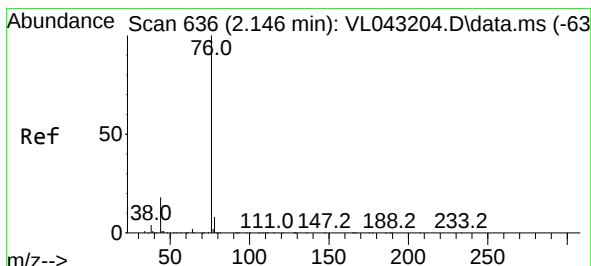
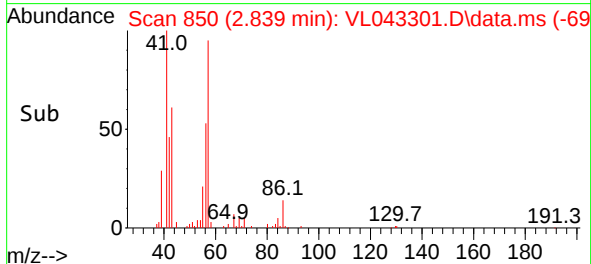
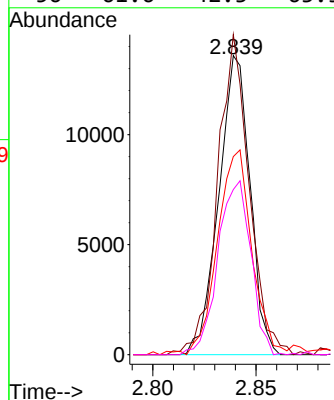
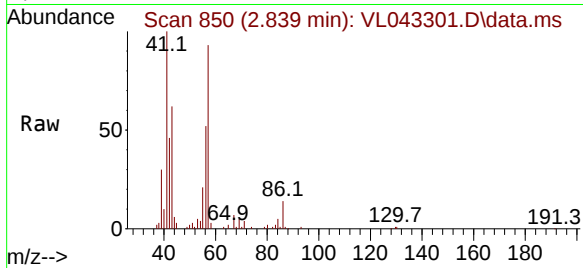




#26
Hexane
Concen: 0.826 ppbv
RT: 2.839 min Scan# 81
Delta R.T. 0.019 min
Lab File: VL043301.D
Acq: 02 Dec 2025 16:30

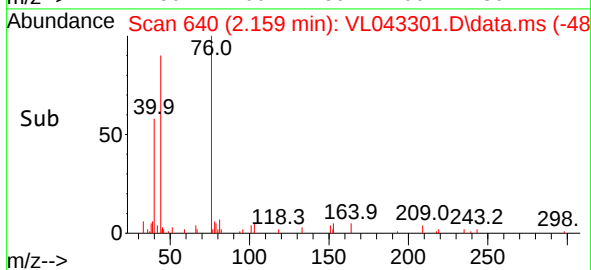
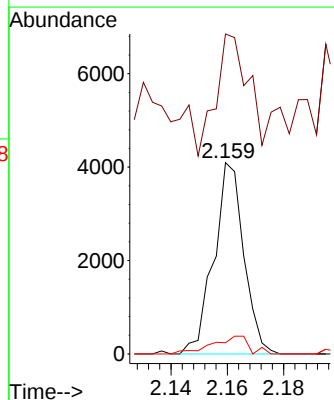
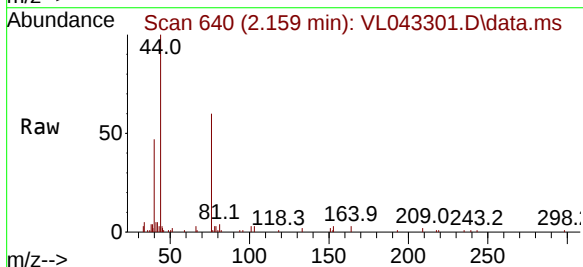
Instrument :
MSVOA_L
ClientSampleId :
SV2

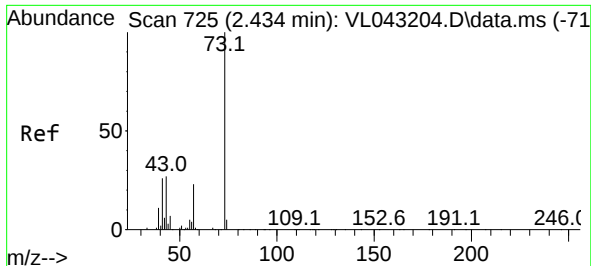
Tgt Ion: 57 Resp: 14297
Ion Ratio Lower Upper
57 100
41 108.3 74.6 111.8
43 78.6 179.0 268.4#
56 61.6 42.3 63.5



#27
Carbon Disulfide
Concen: 0.172 ppbv
RT: 2.159 min Scan# 640
Delta R.T. 0.013 min
Lab File: VL043301.D
Acq: 02 Dec 2025 16:30

Tgt Ion: 76 Resp: 3036
Ion Ratio Lower Upper
76 100
44 583.9 16.1 24.1#
78 11.4 9.6 14.4

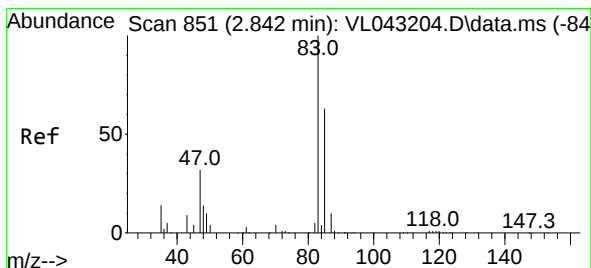
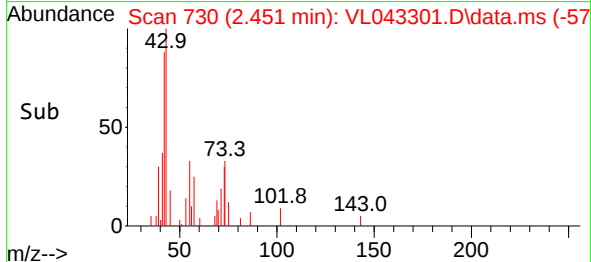
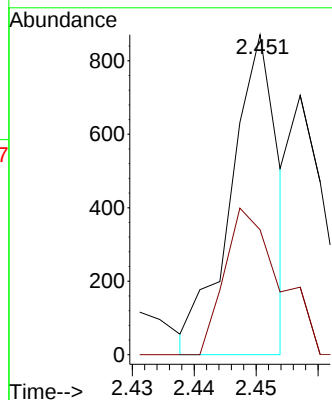
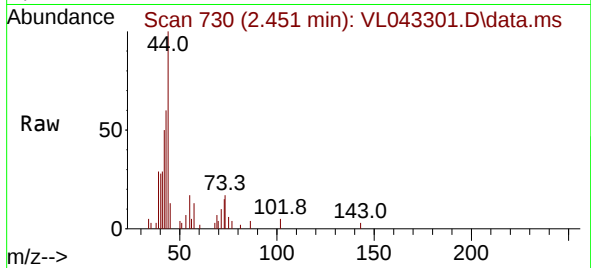




#28
Methyl tert-Butyl Ether
Concen: 0.055 ppbv
RT: 2.451 min Scan# 71
Delta R.T. 0.016 min
Lab File: VL043301.D
Acq: 02 Dec 2025 16:30

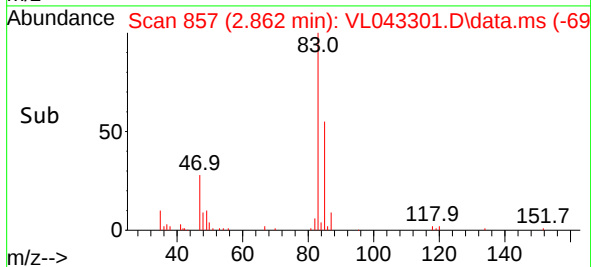
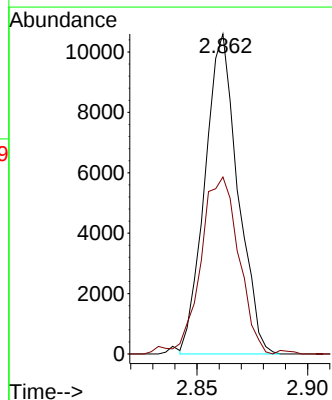
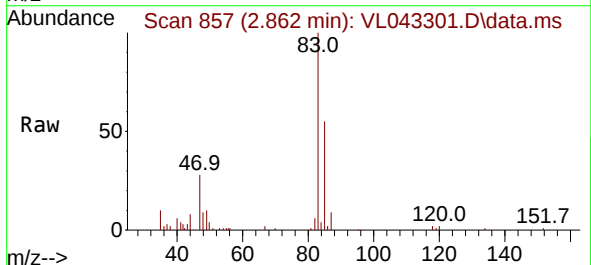
Instrument :
MSVOA_L
ClientSampleId :
SV2

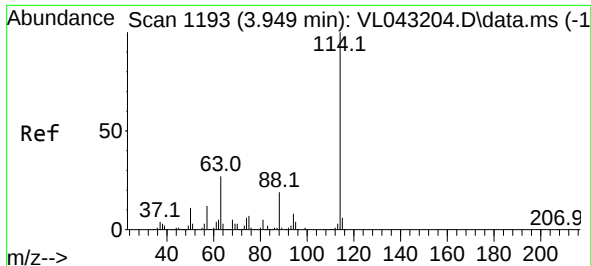
Tgt Ion: 73 Resp: 463
Ion Ratio Lower Upper
73 100
57 0.0 19.8 29.8#



#29
Chloroform
Concen: 0.446 ppbv
RT: 2.862 min Scan# 857
Delta R.T. 0.019 min
Lab File: VL043301.D
Acq: 02 Dec 2025 16:30

Tgt Ion: 83 Resp: 10974
Ion Ratio Lower Upper
83 100
85 54.2 50.5 75.7





#33

1,4-Difluorobenzene

Concen: 10.000 ppbv

RT: 3.975 min Scan# 1193

Delta R.T. 0.026 min

Lab File: VL043301.D

Acq: 02 Dec 2025 16:30

Instrument :

MSVOA_L

ClientSampleId :

SV2

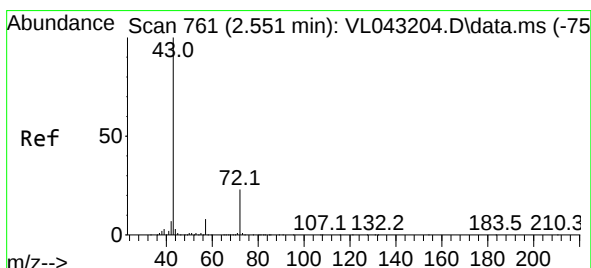
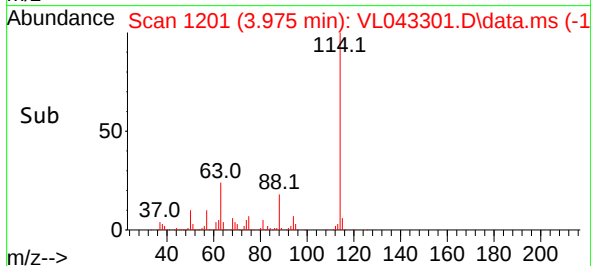
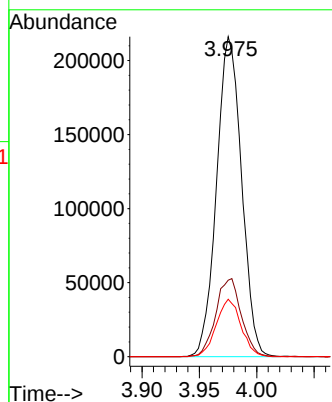
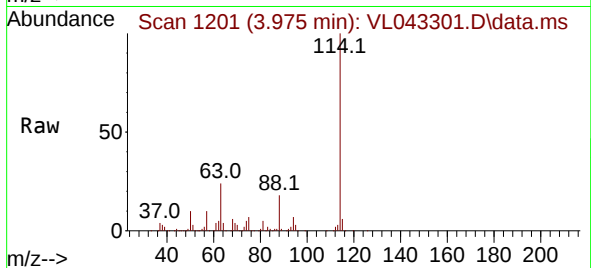
Tgt Ion:114 Resp: 327278

Ion Ratio Lower Upper

114 100

63 25.1 21.0 31.6

88 17.8 14.9 22.3



#34

2-Butanone

Concen: 0.270 ppbv

RT: 2.574 min Scan# 768

Delta R.T. 0.023 min

Lab File: VL043301.D

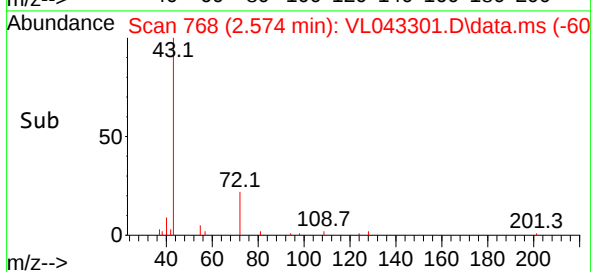
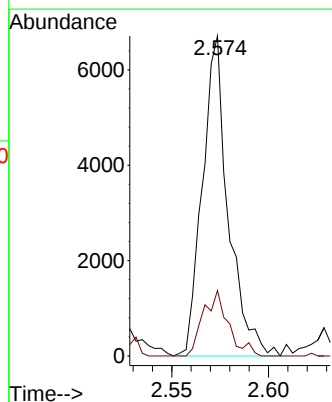
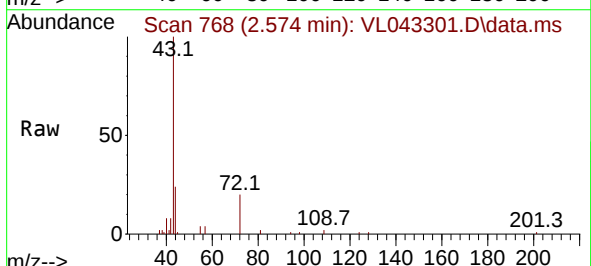
Acq: 02 Dec 2025 16:30

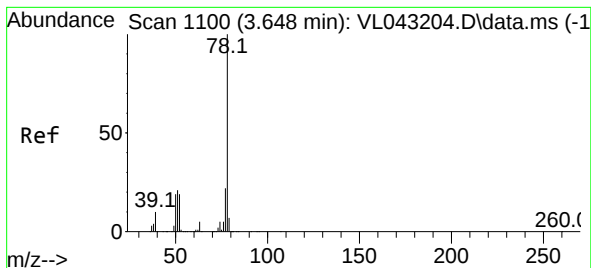
Tgt Ion: 43 Resp: 6227

Ion Ratio Lower Upper

43 100

72 19.9 18.1 27.1





#36

Benzene

Concen: 0.110 ppbv

RT: 3.677 min Scan# 1109

Delta R.T. 0.029 min

Lab File: VL043301.D

Acq: 02 Dec 2025 16:30

Instrument :

MSVOA_L

ClientSampleId :

SV2

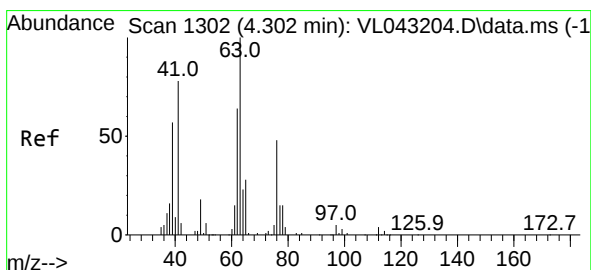
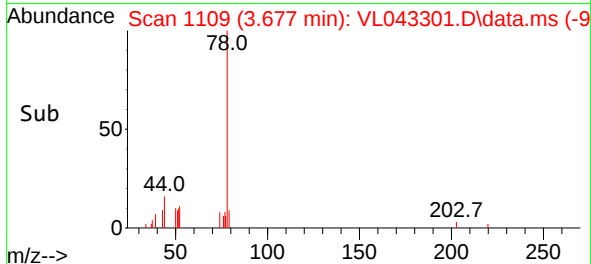
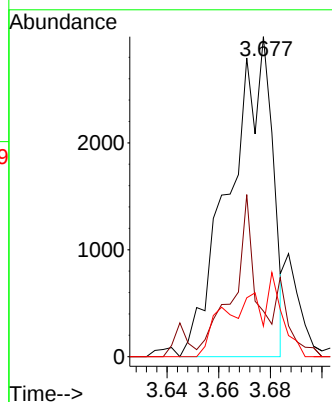
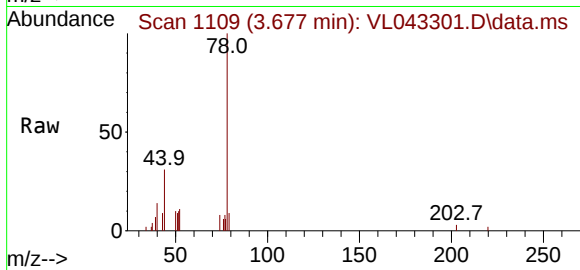
Tgt Ion: 78 Resp: 3457

Ion Ratio Lower Upper

78 100

77 3.7 17.5 26.3#

50 9.6 15.5 23.3#



#39

1,2-Dichloropropane

Concen: 7.155 ppbv

RT: 3.978 min Scan# 1202

Delta R.T. -0.324 min

Lab File: VL043301.D

Acq: 02 Dec 2025 16:30

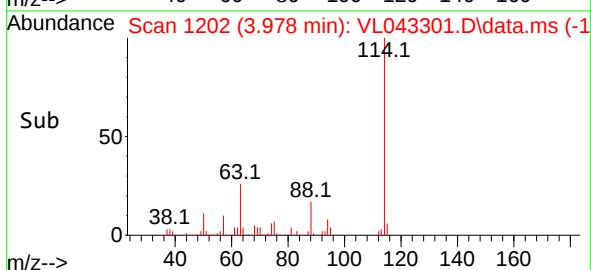
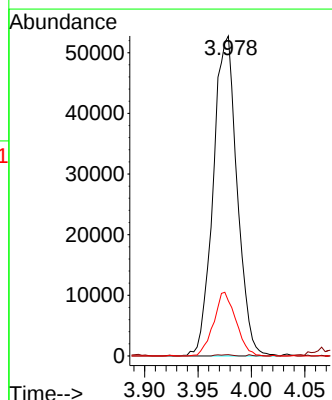
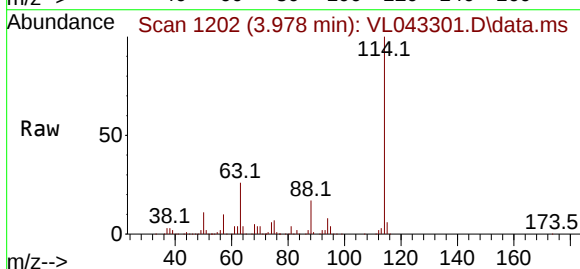
Tgt Ion: 63 Resp: 82079

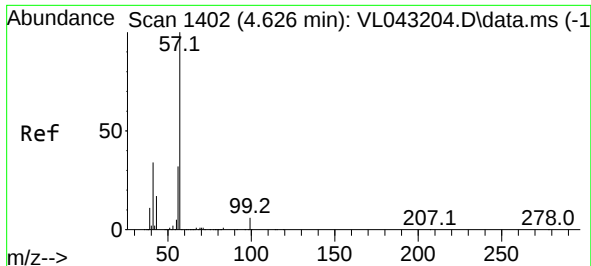
Ion Ratio Lower Upper

63 100

41 0.4 62.6 93.8#

62 17.2 51.0 76.6#

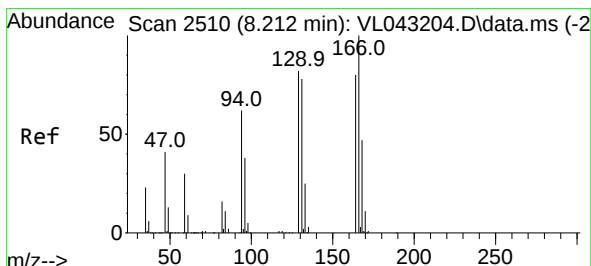
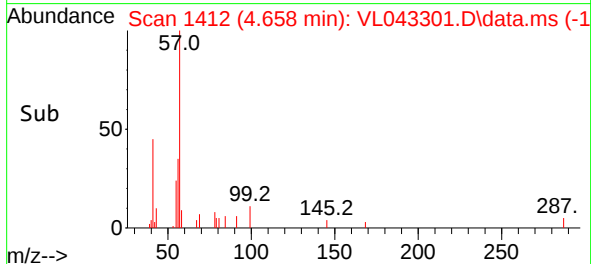
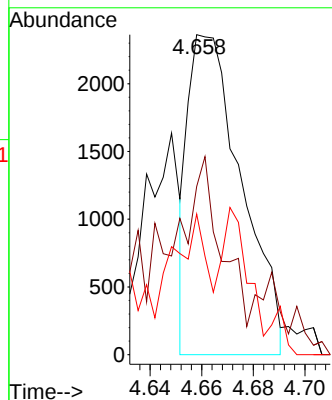
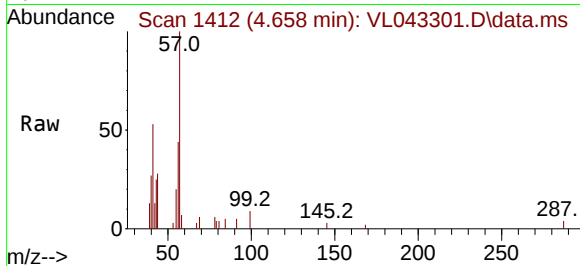




#44
2,2,4-Trimethylpentane
Concen: 0.063 ppbv
RT: 4.658 min Scan# 14
Delta R.T. 0.032 min
Lab File: VL043301.D
Acq: 02 Dec 2025 16:30

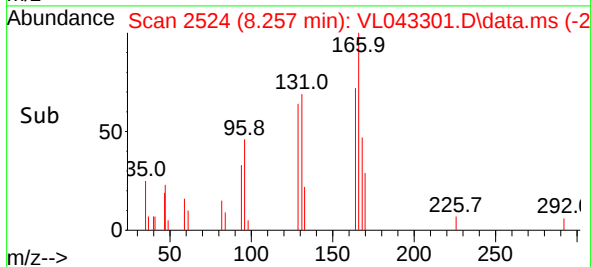
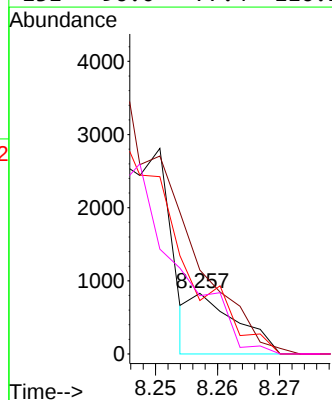
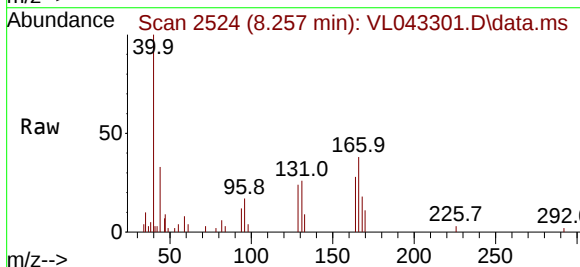
Instrument :
MSVOA_L
ClientSampleId :
SV2

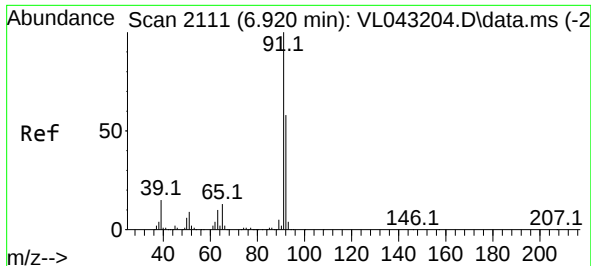
Tgt Ion: 57 Resp: 3399
Ion Ratio Lower Upper
57 100
41 118.2 28.0 42.0#
56 91.3 25.6 38.4#



#52
Tetrachloroethene
Concen: 0.036 ppbv
RT: 8.257 min Scan# 2524
Delta R.T. 0.045 min
Lab File: VL043301.D
Acq: 02 Dec 2025 16:30

Tgt Ion: 164 Resp: 421
Ion Ratio Lower Upper
164 100
166 128.9 99.4 149.2
129 88.0 81.8 122.8
131 96.0 77.4 116.2

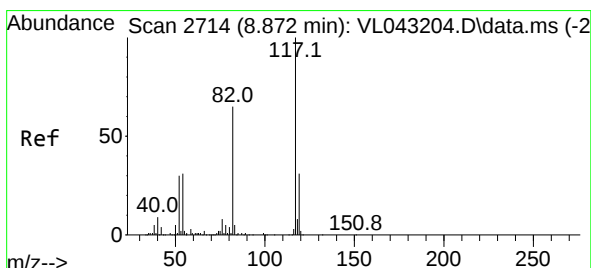
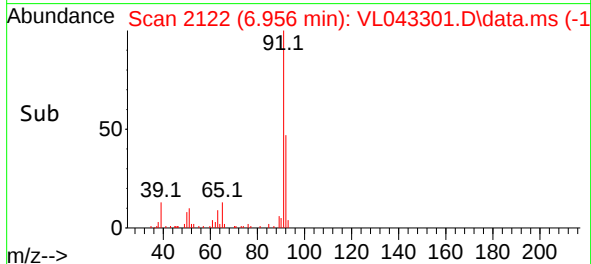
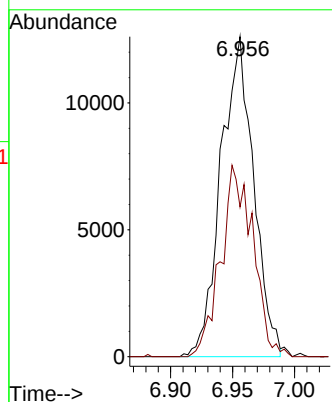
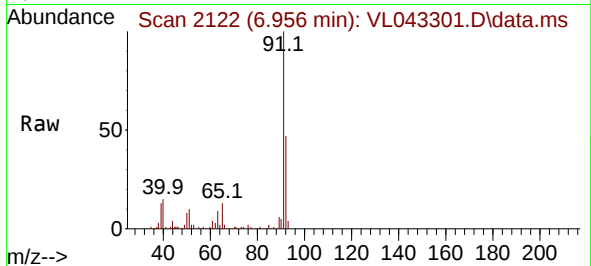




#53
Toluene
Concen: 0.624 ppbv
RT: 6.956 min Scan# 2111
Delta R.T. 0.036 min
Lab File: VL043301.D
Acq: 02 Dec 2025 16:30

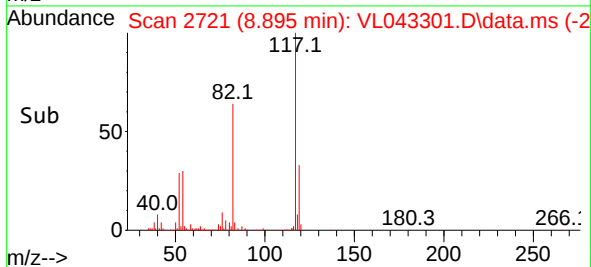
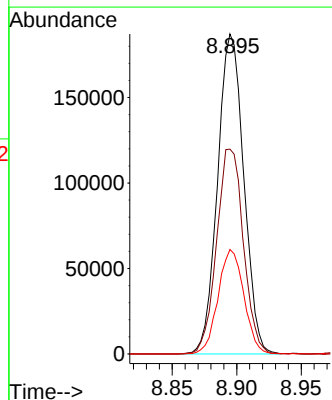
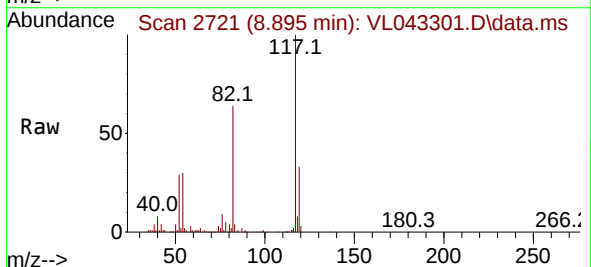
Instrument :
MSVOA_L
ClientSampleId :
SV2

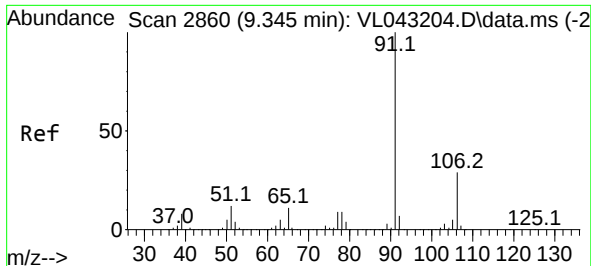
Tgt Ion: 91 Resp: 23155
Ion Ratio Lower Upper
91 100
92 58.9 47.4 71.0



#55
Chlorobenzene-d5
Concen: 10.000 ppbv
RT: 8.895 min Scan# 2721
Delta R.T. 0.023 min
Lab File: VL043301.D
Acq: 02 Dec 2025 16:30

Tgt Ion: 117 Resp: 263808
Ion Ratio Lower Upper
117 100
82 65.6 56.1 84.1
119 32.3 25.0 37.6

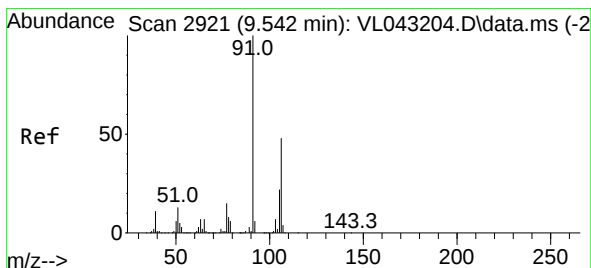
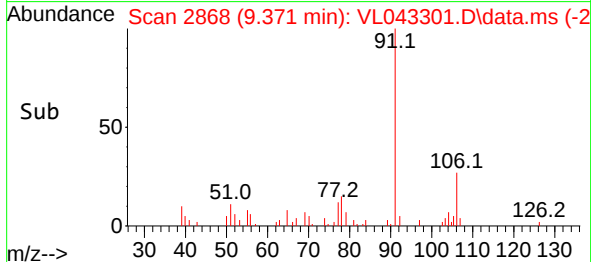
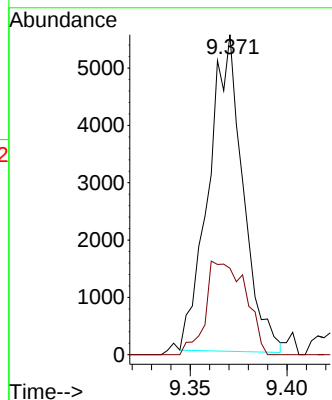
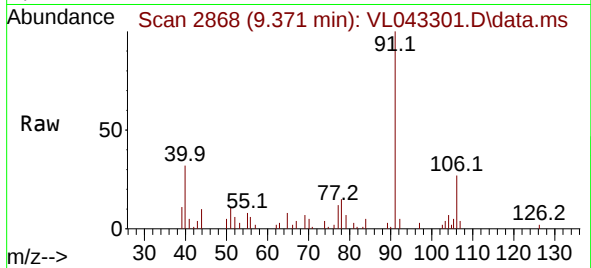




#58
Ethyl Benzene
Concen: 0.135 ppbv
RT: 9.371 min Scan# 21
Delta R.T. 0.026 min
Lab File: VL043301.D
Acq: 02 Dec 2025 16:30

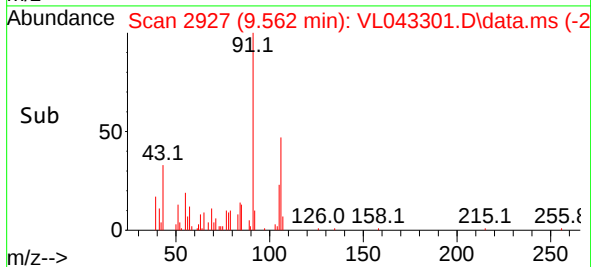
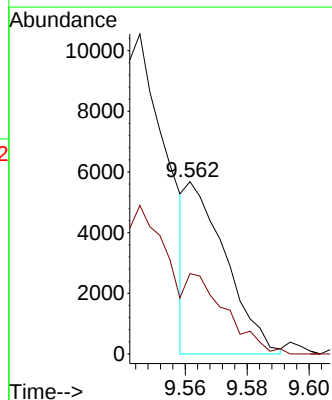
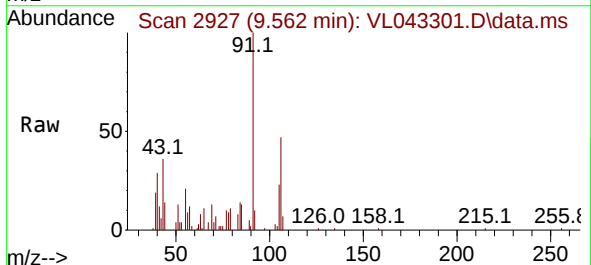
Instrument :
MSVOA_L
ClientSampleId :
SV2

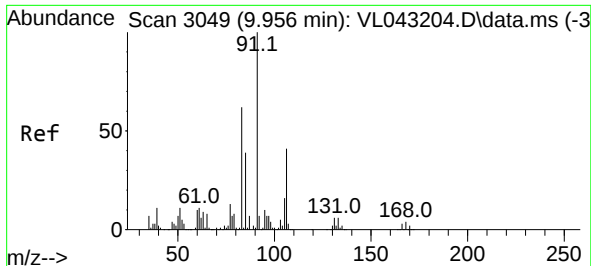
Tgt Ion: 91 Resp: 6831
Ion Ratio Lower Upper
91 100
106 27.4 22.8 34.2



#59
m/p-Xylene
Concen: 0.124 ppbv
RT: 9.562 min Scan# 2927
Delta R.T. 0.019 min
Lab File: VL043301.D
Acq: 02 Dec 2025 16:30

Tgt Ion: 91 Resp: 5066
Ion Ratio Lower Upper
91 100
106 0.0 36.1 54.1#

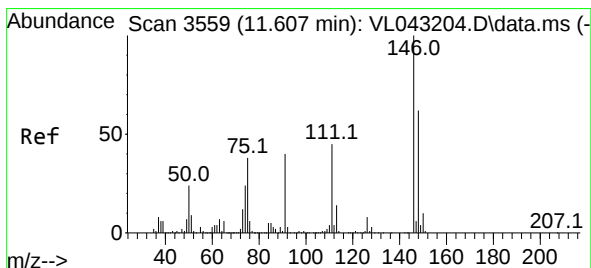
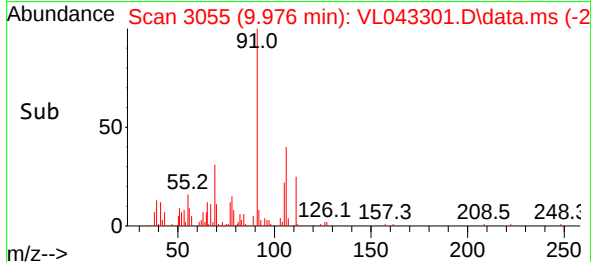
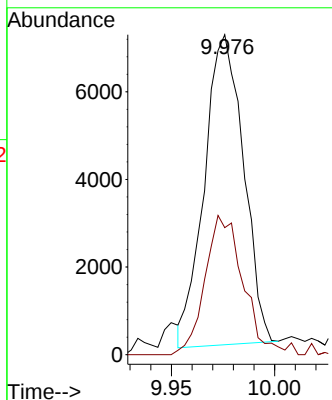
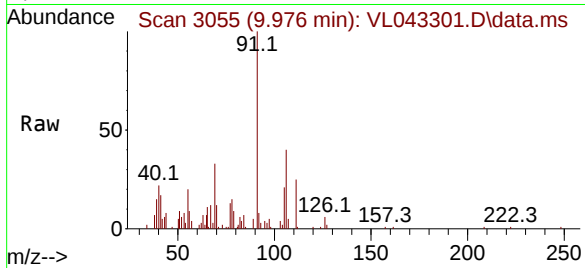




#60
o-Xylene
Concen: 0.229 ppbv
RT: 9.976 min Scan# 3049
Delta R.T. 0.019 min
Lab File: VL043301.D
Acq: 02 Dec 2025 16:30

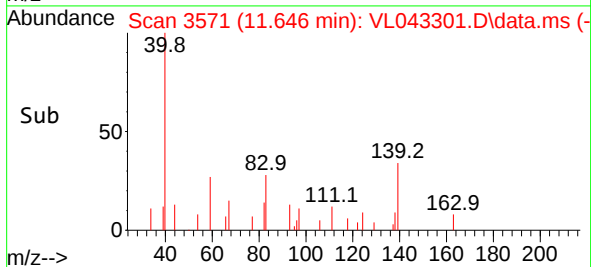
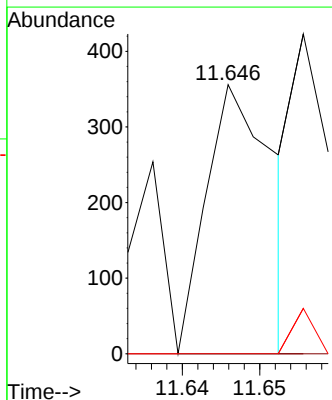
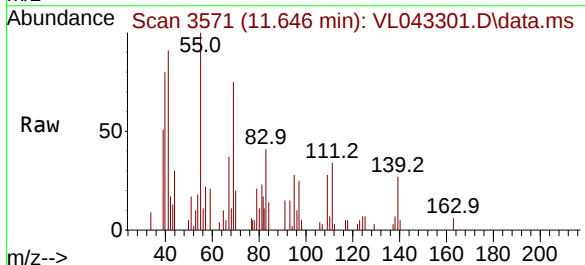
Instrument :
MSVOA_L
ClientSampleId :
SV2

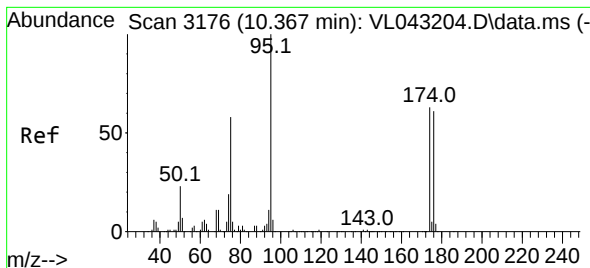
Tgt Ion: 91 Resp: 9320
Ion Ratio Lower Upper
91 100
106 44.8 20.9 62.8



#66
Benzyl Chloride
Concen: 0.032 ppbv
RT: 11.646 min Scan# 3571
Delta R.T. 0.039 min
Lab File: VL043301.D
Acq: 02 Dec 2025 16:30

Tgt Ion: 91 Resp: 213
Ion Ratio Lower Upper
91 100
126 24.9 14.4 21.6#
128 0.0 4.6 6.8#

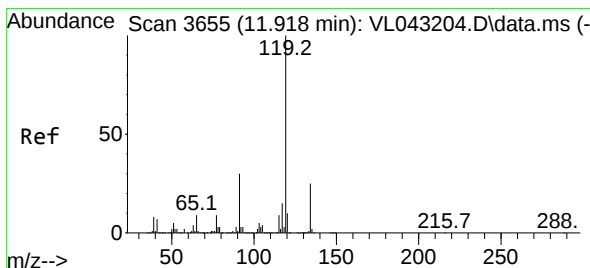
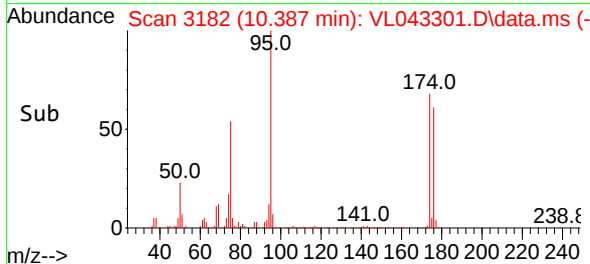
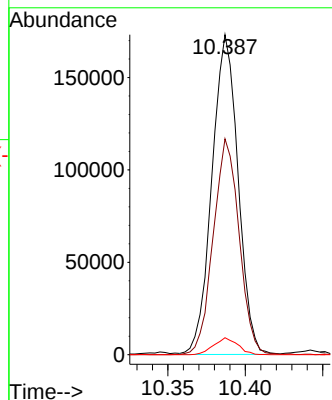
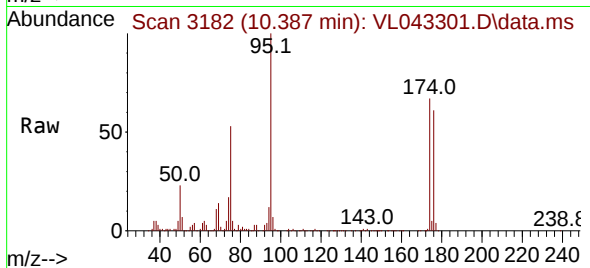




#68
1-Bromo-4-Fluorobenzene
Concen: 10.510 ppbv
RT: 10.387 min Scan# 3176
Delta R.T. 0.019 min
Lab File: VL043301.D
Acq: 02 Dec 2025 16:30

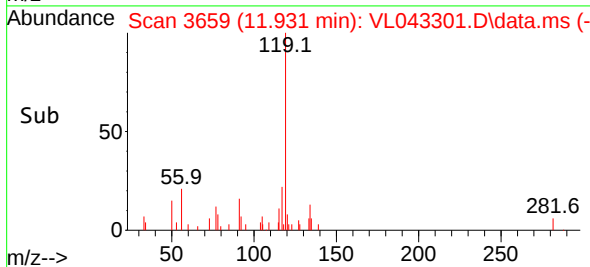
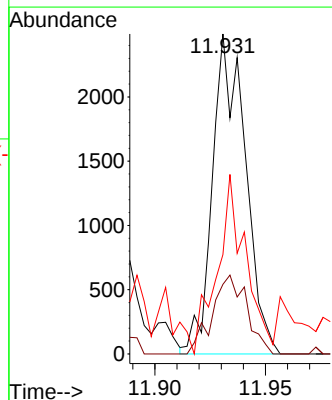
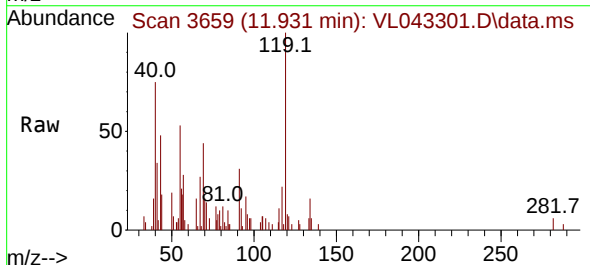
Instrument :
MSVOA_L
ClientSampleId :
SV2

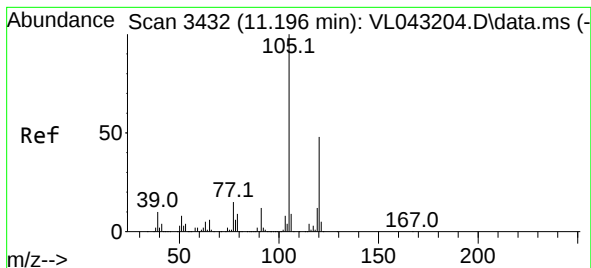
Tgt Ion: 95 Resp: 203235
Ion Ratio Lower Upper
95 100
174 66.9 50.2 75.2
175 4.9 4.1 6.1



#69
p-Isopropyltoluene
Concen: 0.033 ppbv
RT: 11.931 min Scan# 3659
Delta R.T. 0.013 min
Lab File: VL043301.D
Acq: 02 Dec 2025 16:30

Tgt Ion: 119 Resp: 2565
Ion Ratio Lower Upper
119 100
134 25.9 20.2 30.2
91 37.7 23.8 35.8#





#73

1,3,5-Trimethylbenzene

Concen: 0.065 ppbv

RT: 11.215 min Scan# 34

Delta R.T. 0.019 min

Lab File: VL043301.D

Acq: 02 Dec 2025 16:30

Instrument :

MSVOA_L

ClientSampleId :

SV2

Tgt Ion:105 Resp: 2715

Ion Ratio Lower Upper

105 100

120 33.0 38.6 57.8#

