

Data Path : Z:\voasrv\HPCHEM1\MSVOA_L\Data\VL111825\
 Data File : VL043226.D
 Acq On : 18 Nov 2025 22:37
 Operator : SY/MD
 Sample : Q3650-02 4X
 Misc : 400mL/MSVOA_L
 ALS Vial : 1 Sample Multiplier: 1

Instrument :
 MSVOA_L
 ClientSampleId :
 SV2

Quant Time: Nov 19 01:41:37 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	2.790	49	101095	10.000	ppbv	0.00
33) 1,4-Difluorobenzene	3.956	114	261880	10.000	ppbv	0.00
55) Chlorobenzene-d5	8.879	117	206328	10.000	ppbv	0.00

System Monitoring Compounds						
68) 1-Bromo-4-Fluorobenzene	10.371	95	157815	10.435	ppbv	0.00
Spiked Amount	10.000	Range	65 - 135	Recovery	=	104.300%

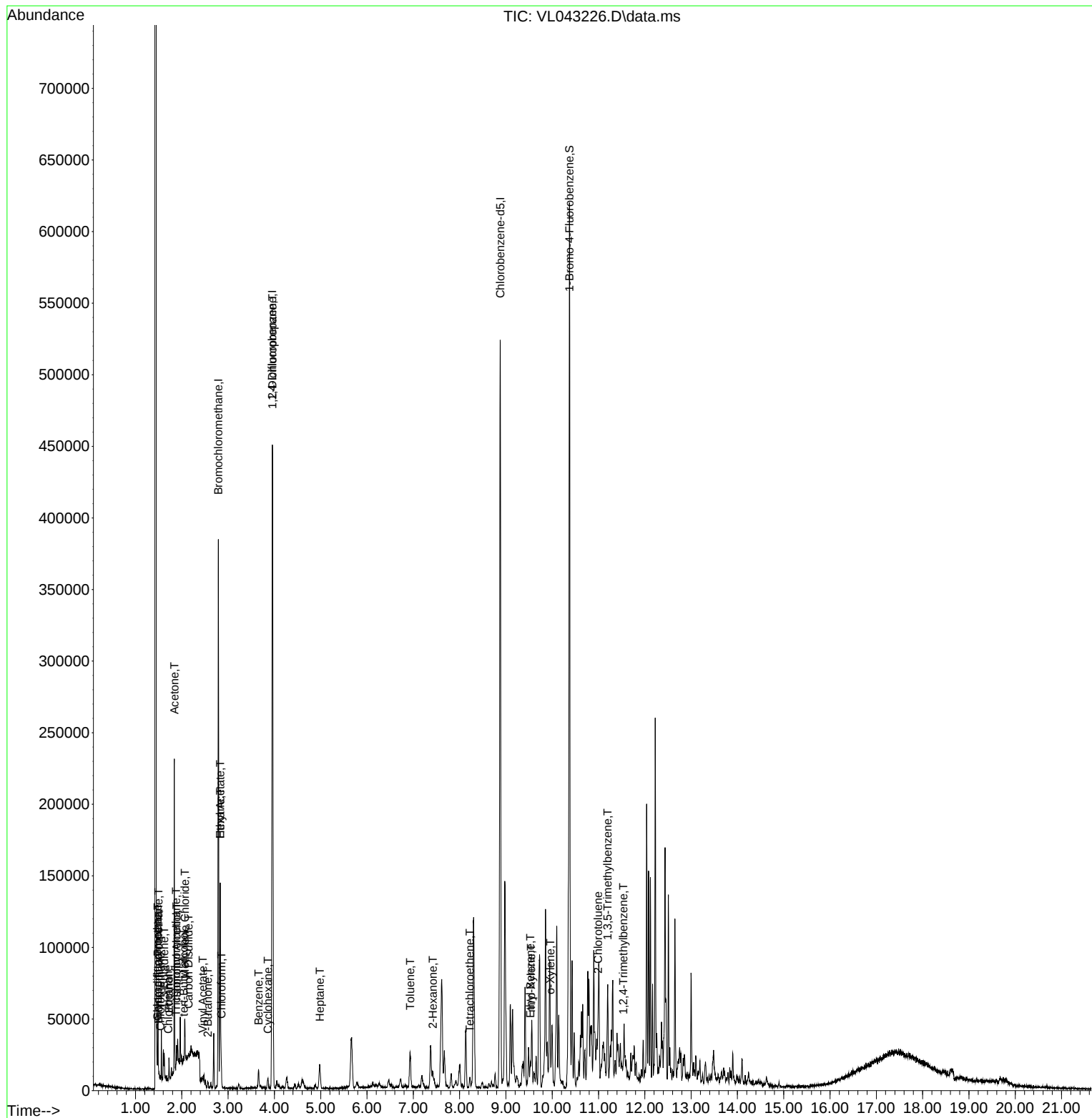
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.499	85	1823	0.128	ppbv	94
3) Chlorodifluoromethane	1.473	51	1841	0.131	ppbv	96
4) Chloromethane	1.535	50	523	0.098	ppbv	90
7) Chloroethane	1.709	64	115	0.051	ppbv #	41
9) Propene	1.483	41	7066	1.187	ppbv #	1
10) Heptane	4.982	43	4582	0.259	ppbv #	55
11) Trichlorofluoromethane	1.881	101	486	0.035	ppbv	88
13) Ethanol	1.722	45	5393	2.576	ppbv #	38
15) Acetone	1.839	43	95505	6.800	ppbv	100
16) 1,3-Butadiene	1.619	39	1336	0.213	ppbv #	47
17) tert-Butyl alcohol	2.046	59	785	0.043	ppbv	97
19) Isopropyl Alcohol	1.887	45	5663	0.714	ppbv #	1
20) Methylene Chloride	2.069	84	4456	0.317	ppbv #	73
23) Vinyl Acetate	2.454	43	1949	0.115	ppbv #	67
25) Ethyl Acetate	2.829	43	23688	0.782	ppbv #	82
26) Hexane	2.829	57	34356	2.587	ppbv #	43
27) Carbon Disulfide	2.146	76	407	0.030	ppbv #	1
29) Chloroform	2.855	83	7704	0.408	ppbv	96
30) Cyclohexane	3.862	84	840	0.075	ppbv #	1
34) 2-Butanone	2.561	43	2833	0.153	ppbv #	88
36) Benzene	3.658	78	7571	0.302	ppbv #	94
39) 1,2-Dichloropropane	3.959	63	69150	7.533	ppbv #	25
51) 2-Hexanone	7.422	43	1987	0.098	ppbv #	29
52) Tetrachloroethene	8.221	164	844	0.090	ppbv #	55
53) Toluene	6.933	91	7987	0.269	ppbv #	6
58) Ethyl Benzene	9.526	91	8657	0.218	ppbv	90
59) m/p-Xylene	9.545	91	2850	0.090	ppbv #	31
60) o-Xylene	9.960	91	4685	0.147	ppbv	97
71) 2-Chlorotoluene	10.989	91	1678	0.038	ppbv	69
73) 1,3,5-Trimethylbenzene	11.199	105	1007	0.031	ppbv #	71
74) 1,2,4-Trimethylbenzene	11.536	105	3505	0.099	ppbv #	44

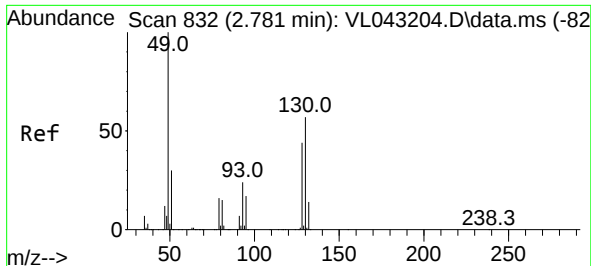
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : Z:\voasrv\HPCHEM1\MSVOA_L\Data\VL111825\
Data File : VL043226.D
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Instrument :
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SV2

Quant Time: Nov 19 01:41:37 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

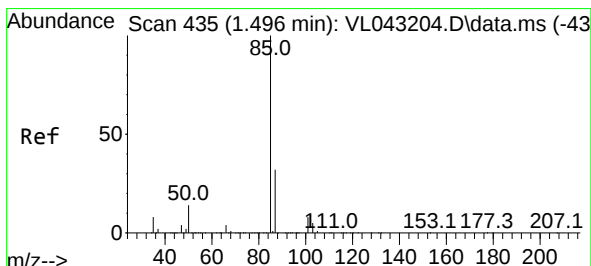
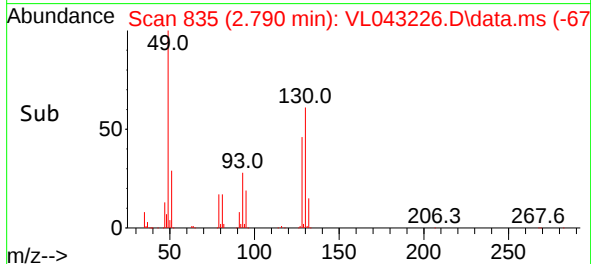
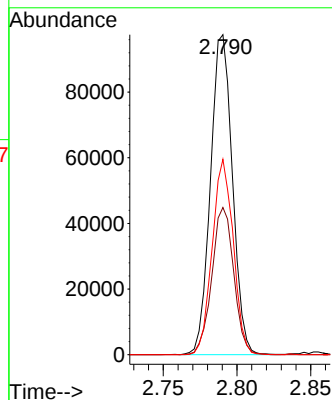
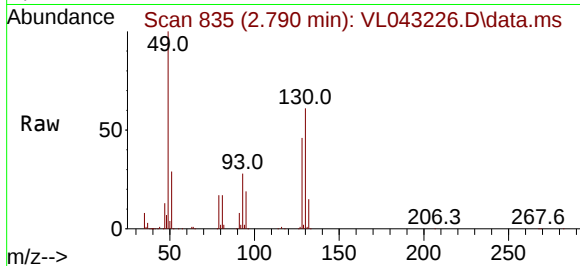




#1
Bromochloromethane
Concen: 10.000 ppbv
RT: 2.790 min Scan# 81
Delta R.T. 0.009 min
Lab File: VL043226.D
Acq: 18 Nov 2025 22:37

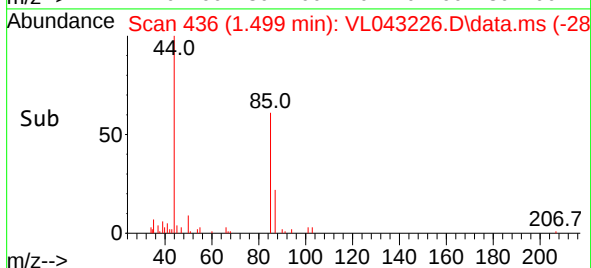
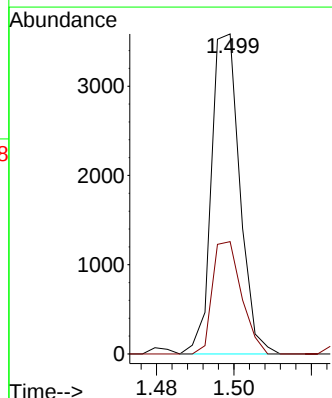
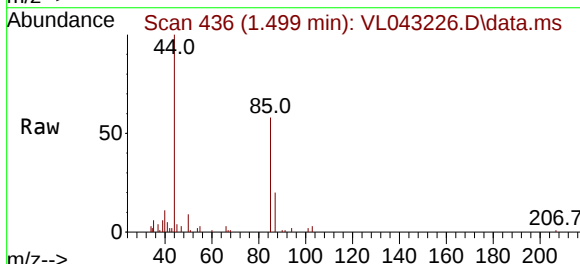
Instrument :
MSVOA_L
ClientSampleId :
SV2

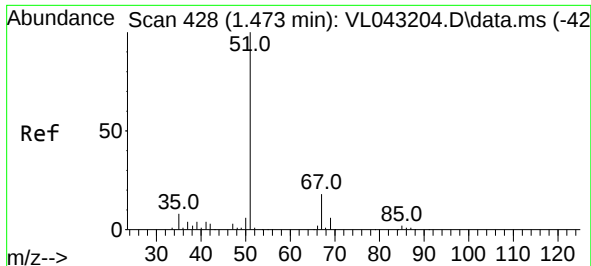
Tgt Ion: 49 Resp: 101095
Ion Ratio Lower Upper
49 100
128 45.9 23.0 69.0
130 58.4 29.9 89.7



#2
Dichlorodifluoromethane
Concen: 0.128 ppbv
RT: 1.499 min Scan# 436
Delta R.T. 0.003 min
Lab File: VL043226.D
Acq: 18 Nov 2025 22:37

Tgt Ion: 85 Resp: 1823
Ion Ratio Lower Upper
85 100
87 35.1 25.4 38.2

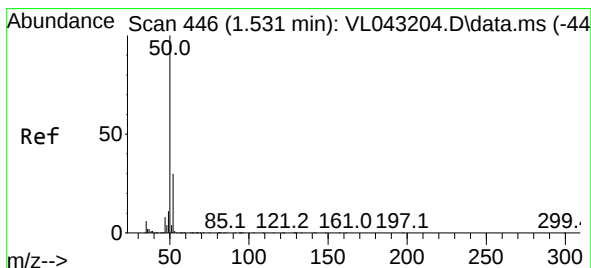
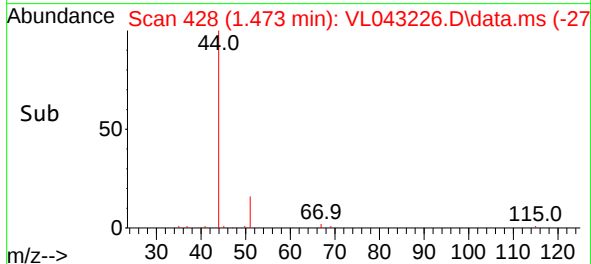
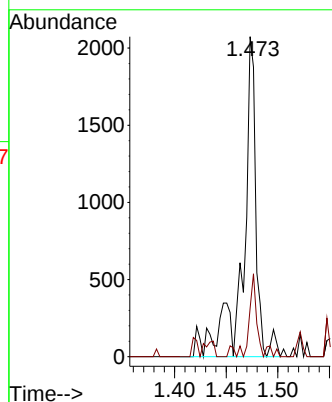
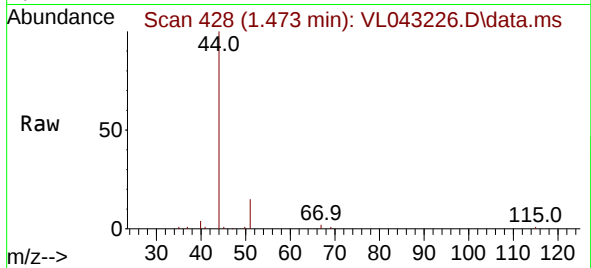




#3
Chlorodifluoromethane
Concen: 0.131 ppbv
RT: 1.473 min Scan# 41
Delta R.T. -0.000 min
Lab File: VL043226.D
Acq: 18 Nov 2025 22:37

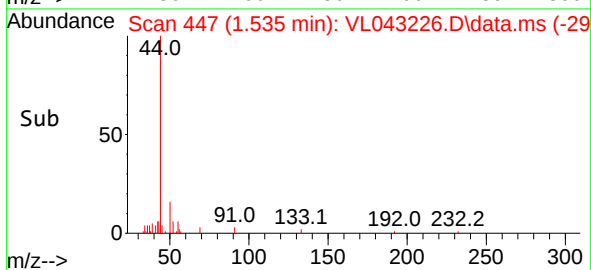
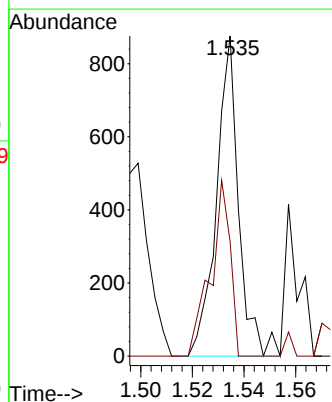
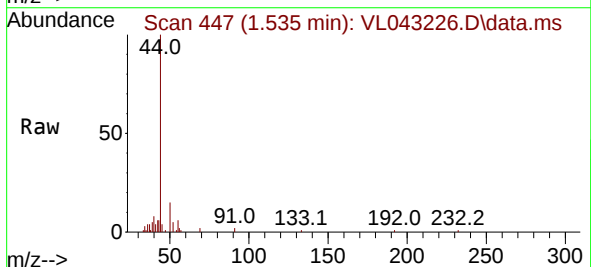
Instrument :
MSVOA_L
ClientSampleId :
SV2

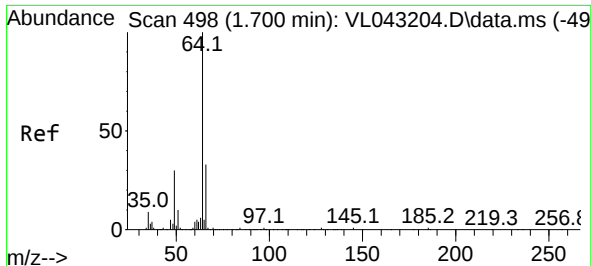
Tgt Ion: 51 Resp: 1841
Ion Ratio Lower Upper
51 100
67 16.8 14.9 22.3



#4
Chloromethane
Concen: 0.098 ppbv
RT: 1.535 min Scan# 447
Delta R.T. 0.003 min
Lab File: VL043226.D
Acq: 18 Nov 2025 22:37

Tgt Ion: 50 Resp: 523
Ion Ratio Lower Upper
50 100
52 35.7 24.1 36.1

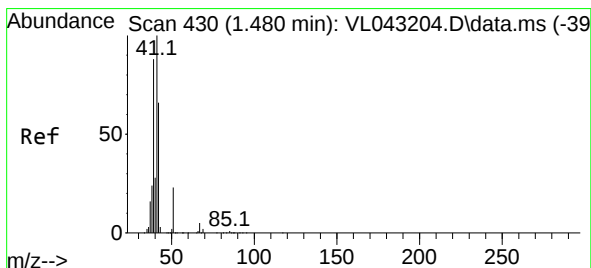
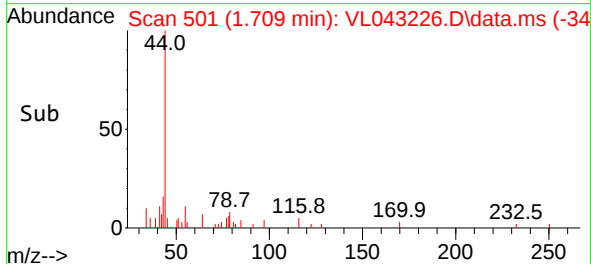
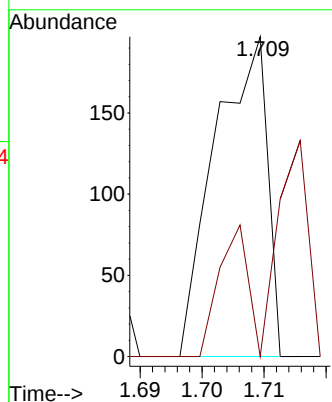
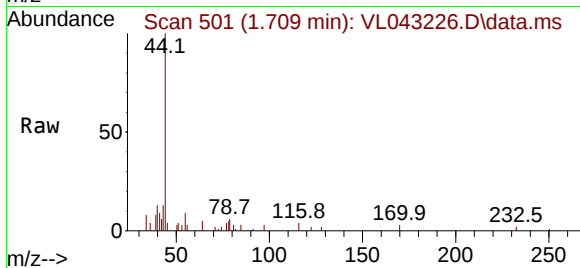




#7
Chloroethane
Concen: 0.051 ppbv
RT: 1.709 min Scan# 501
Delta R.T. 0.010 min
Lab File: VL043226.D
Acq: 18 Nov 2025 22:37

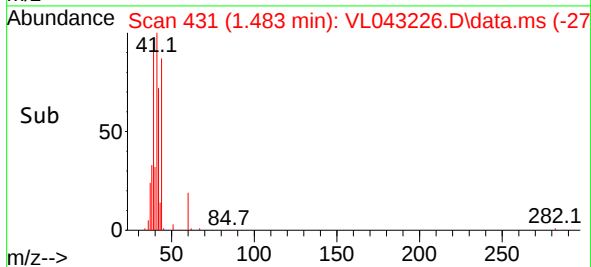
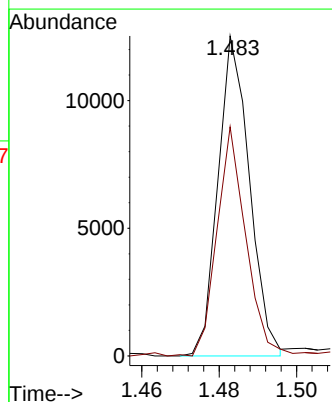
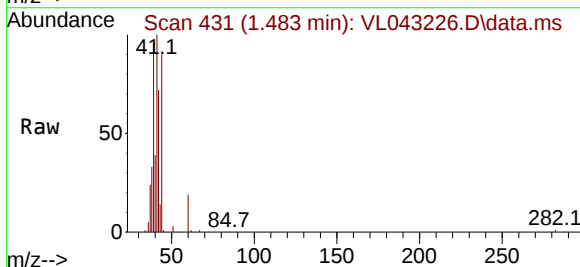
Instrument :
MSVOA_L
ClientSampleId :
SV2

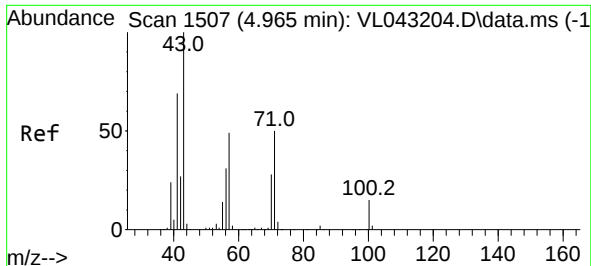
Tgt Ion: 64 Resp: 115
Ion Ratio Lower Upper
64 100
66 0.0 26.8 40.2#



#9
Propene
Concen: 1.187 ppbv
RT: 1.483 min Scan# 431
Delta R.T. 0.003 min
Lab File: VL043226.D
Acq: 18 Nov 2025 22:37

Tgt Ion: 41 Resp: 7066
Ion Ratio Lower Upper
41 100
42 69.1 3.7 5.5#





#10

Heptane

Concen: 0.259 ppbv

RT: 4.982 min Scan# 1

Delta R.T. 0.016 min

Lab File: VL043226.D

Acq: 18 Nov 2025 22:37

Instrument :

MSVOA_L

ClientSampleId :

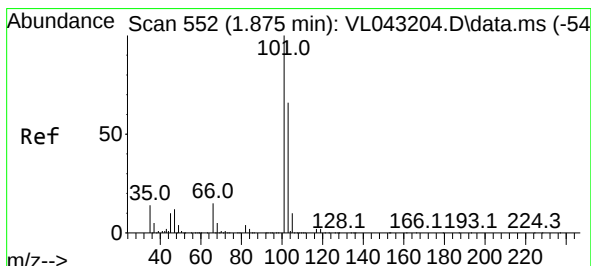
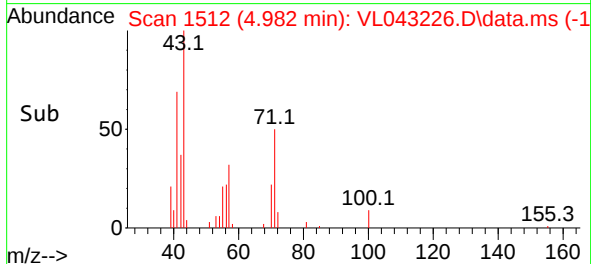
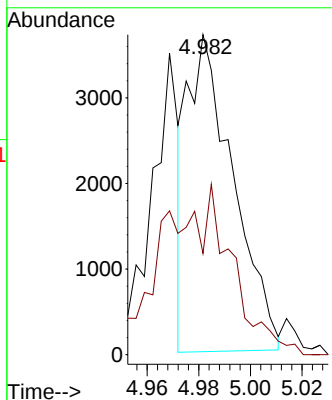
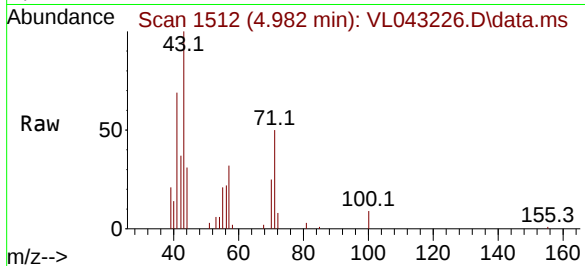
SV2

Tgt Ion: 43 Resp: 4582

Ion Ratio Lower Upper

43 100

57 80.2 39.7 59.5#



#11

Trichlorofluoromethane

Concen: 0.035 ppbv

RT: 1.881 min Scan# 554

Delta R.T. 0.006 min

Lab File: VL043226.D

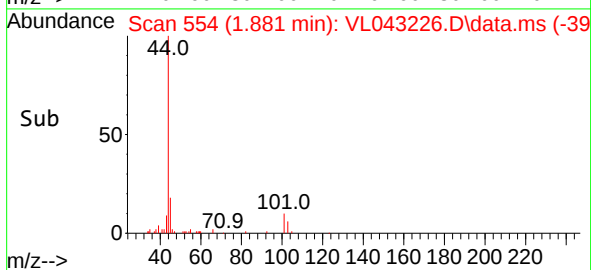
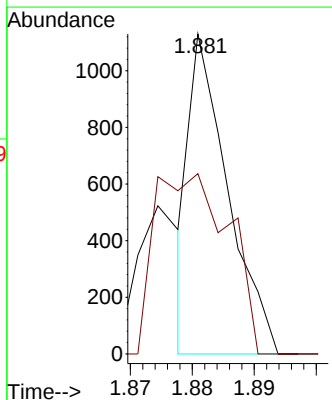
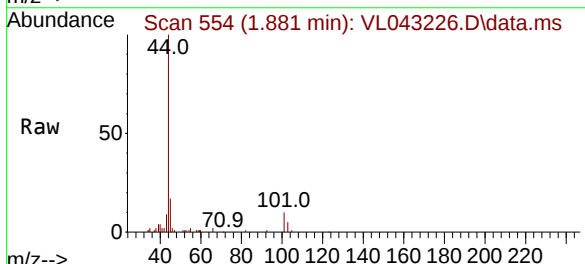
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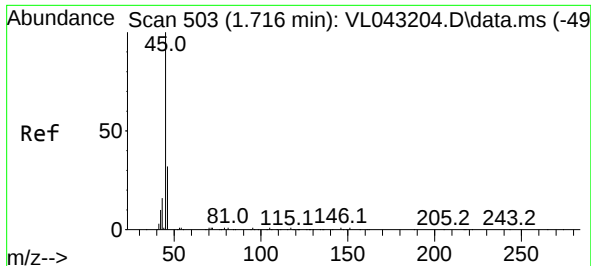
Tgt Ion:101 Resp: 486

Ion Ratio Lower Upper

101 100

103 56.4 52.6 79.0

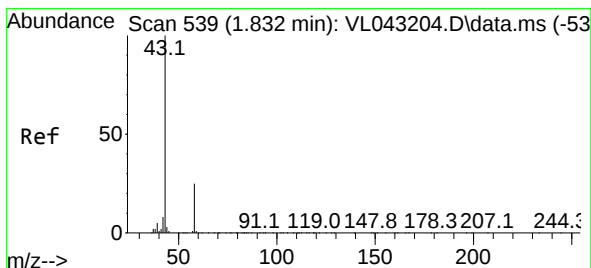
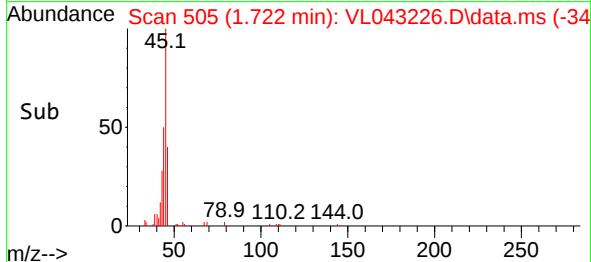
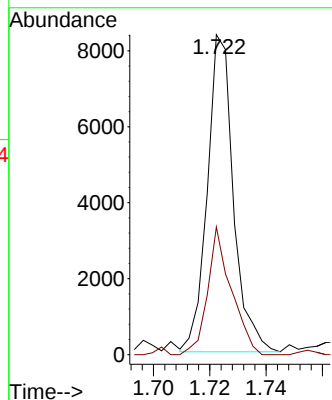
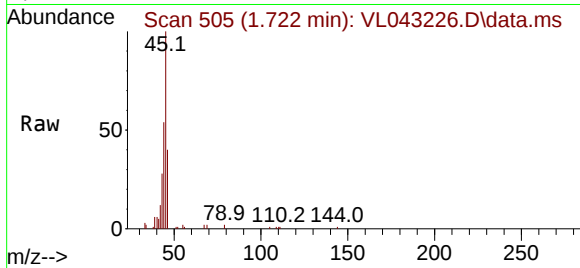




#13
Ethanol
Concen: 2.576 ppbv
RT: 1.722 min Scan# 503
Delta R.T. 0.006 min
Lab File: VL043226.D
Acq: 18 Nov 2025 22:37

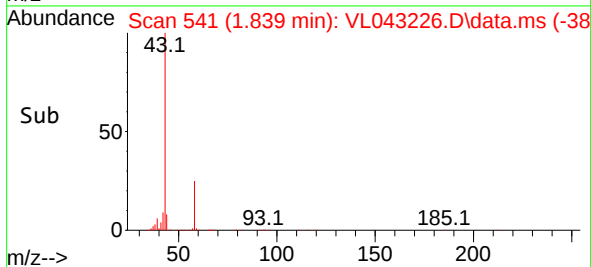
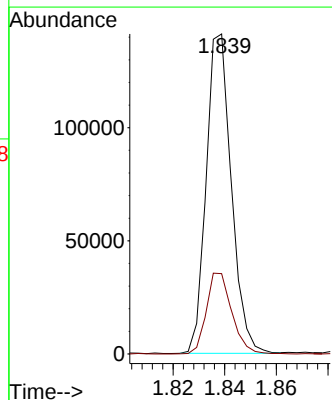
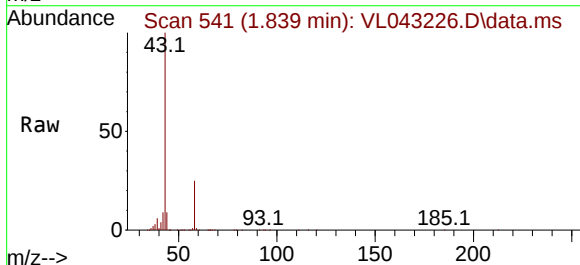
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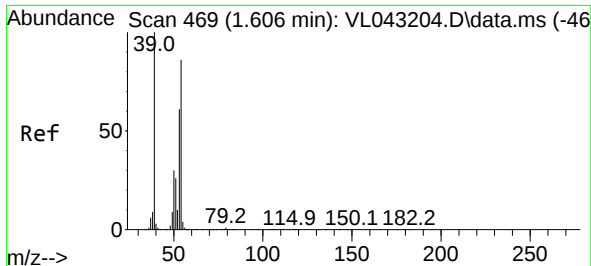
Tgt Ion: 45 Resp: 5393
Ion Ratio Lower Upper
45 100
46 0.0 15.0 59.8#



#15
Acetone
Concen: 6.800 ppbv
RT: 1.839 min Scan# 541
Delta R.T. 0.006 min
Lab File: VL043226.D
Acq: 18 Nov 2025 22:37

Tgt Ion: 43 Resp: 95505
Ion Ratio Lower Upper
43 100
58 26.0 20.7 31.1

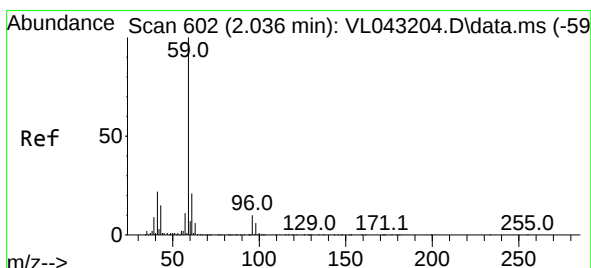
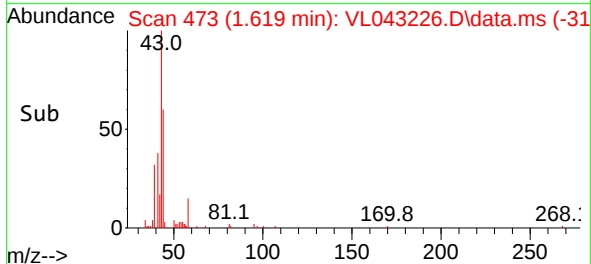
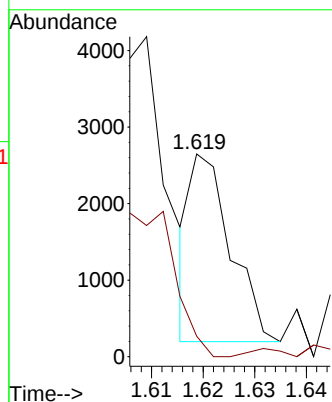
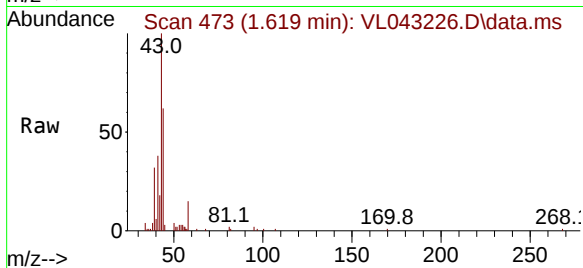




#16
1,3-Butadiene
Concen: 0.213 ppbv
RT: 1.619 min Scan# 41
Delta R.T. 0.013 min
Lab File: VL043226.D
Acq: 18 Nov 2025 22:37

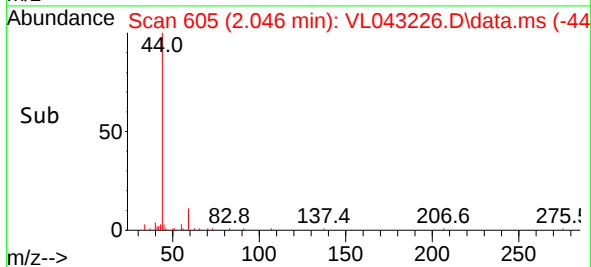
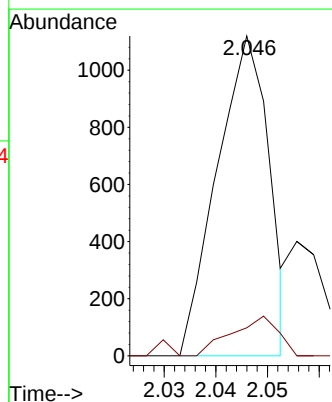
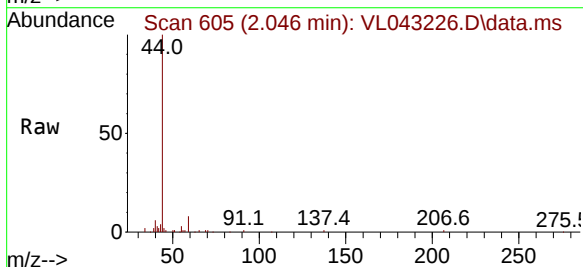
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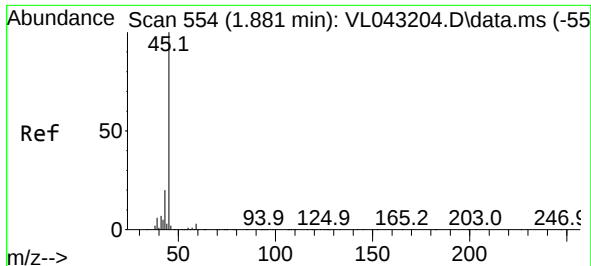
Tgt Ion: 39 Resp: 1336
Ion Ratio Lower Upper
39 100
54 119.2 59.4 89.2#



#17
tert-Butyl alcohol
Concen: 0.043 ppbv
RT: 2.046 min Scan# 605
Delta R.T. 0.010 min
Lab File: VL043226.D
Acq: 18 Nov 2025 22:37

Tgt Ion: 59 Resp: 785
Ion Ratio Lower Upper
59 100
57 12.5 9.0 13.4





#19

Isopropyl Alcohol

Concen: 0.714 ppbv

RT: 1.887 min Scan# 51

Delta R.T. 0.006 min

Lab File: VL043226.D

Acq: 18 Nov 2025 22:37

Instrument :

MSVOA_L

ClientSampleId :

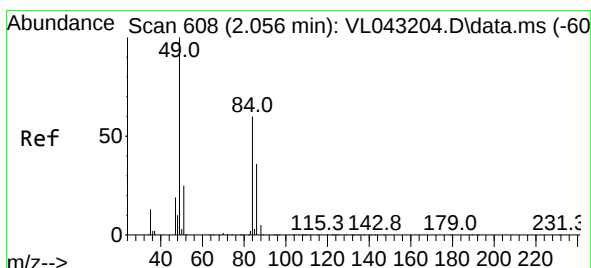
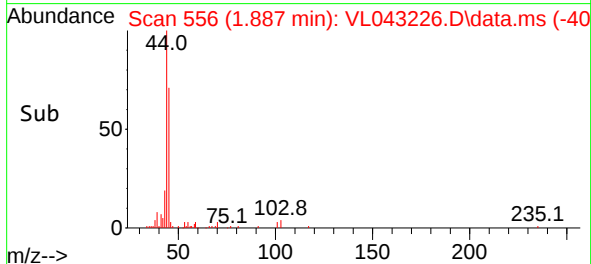
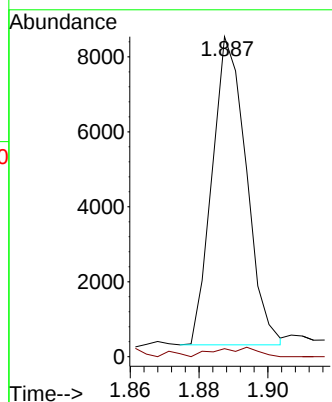
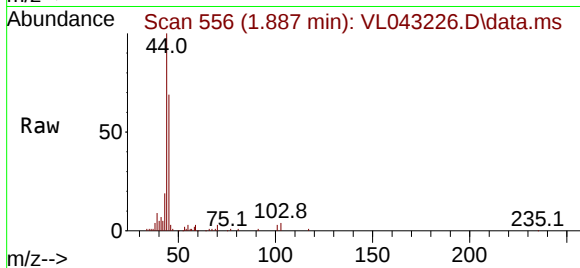
SV2

Tgt Ion: 45 Resp: 5663

Ion Ratio Lower Upper

45 100

58 438.4 31.3 46.9#



#20

Methylene Chloride

Concen: 0.317 ppbv

RT: 2.069 min Scan# 612

Delta R.T. 0.013 min

Lab File: VL043226.D

Acq: 18 Nov 2025 22:37

Tgt Ion: 84 Resp: 4456

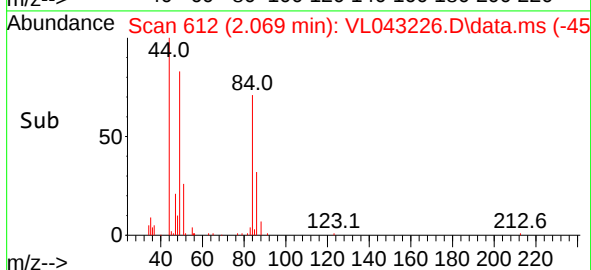
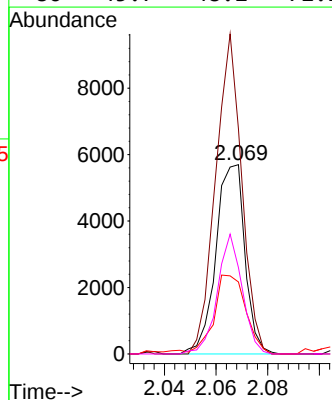
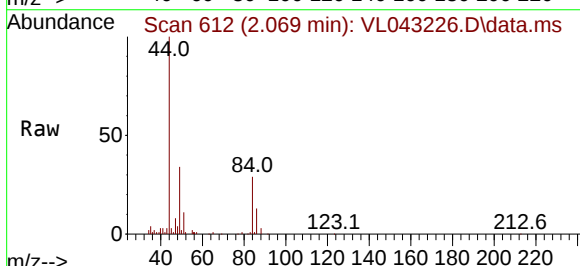
Ion Ratio Lower Upper

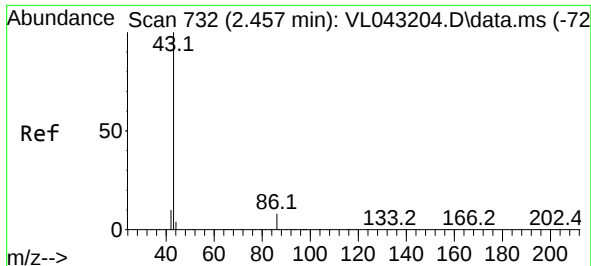
84 100

49 119.0 132.9 199.3#

51 38.0 34.8 52.2

86 45.7 48.2 72.2#

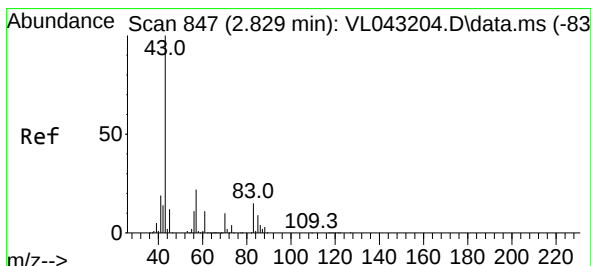
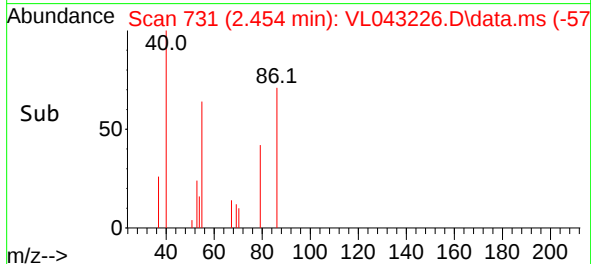
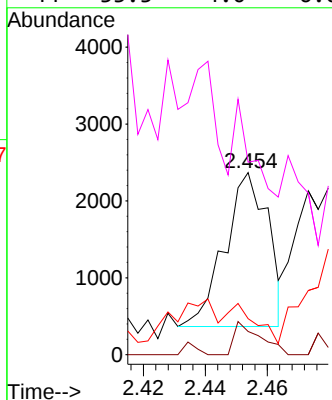
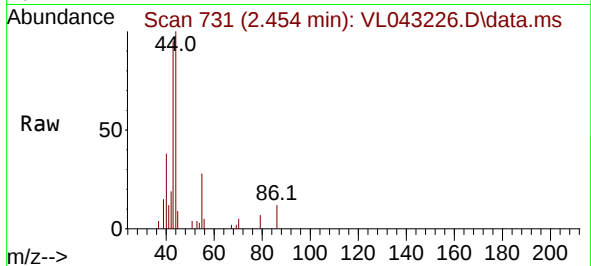




#23
 Vinyl Acetate
 Concen: 0.115 ppbv
 RT: 2.454 min Scan# 732
 Delta R.T. -0.003 min
 Lab File: VL043226.D
 Acq: 18 Nov 2025 22:37

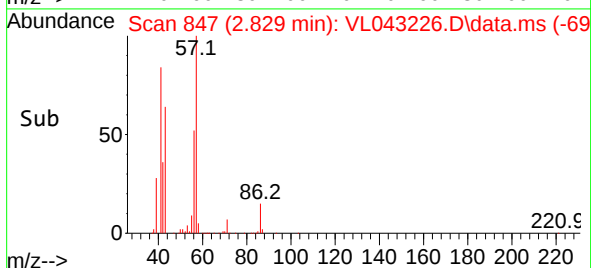
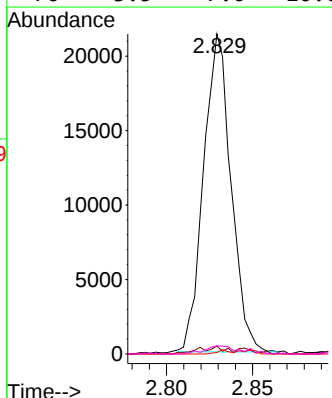
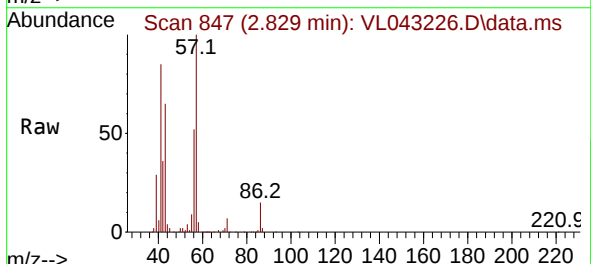
Instrument :
 MSVOA_L
 ClientSampleId :
 SV2

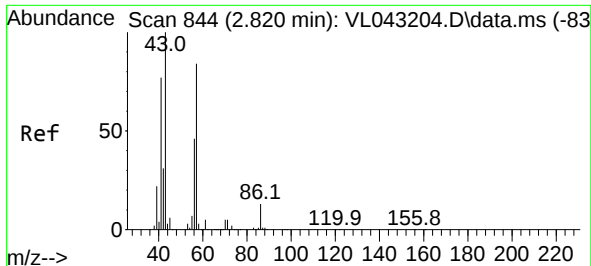
Tgt Ion:	43	Resp:	1949
Ion	Ratio	Lower	Upper
43	100		
86	15.1	6.2	9.2#
42	16.2	8.0	12.0#
44	33.3	4.0	6.0#



#25
 Ethyl Acetate
 Concen: 0.782 ppbv
 RT: 2.829 min Scan# 847
 Delta R.T. -0.000 min
 Lab File: VL043226.D
 Acq: 18 Nov 2025 22:37

Tgt Ion:	43	Resp:	23688
Ion	Ratio	Lower	Upper
43	100		
45	3.4	8.1	12.1#
61	1.2	7.0	10.4#
70	3.5	7.0	10.6#

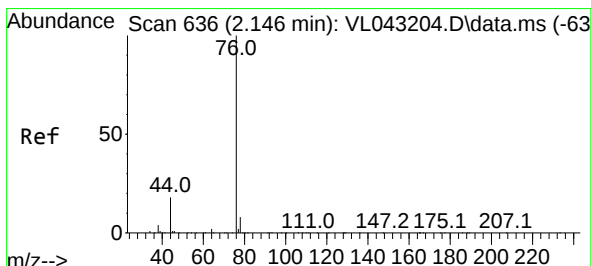
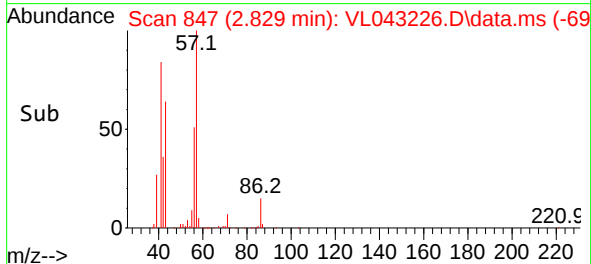
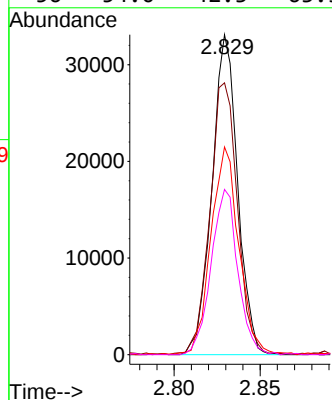
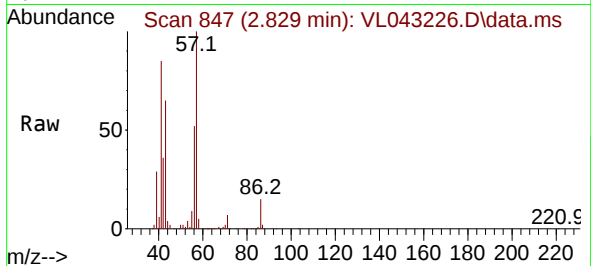




#26
Hexane
Concen: 2.587 ppbv
RT: 2.829 min Scan# 844
Delta R.T. 0.010 min
Lab File: VL043226.D
Acq: 18 Nov 2025 22:37

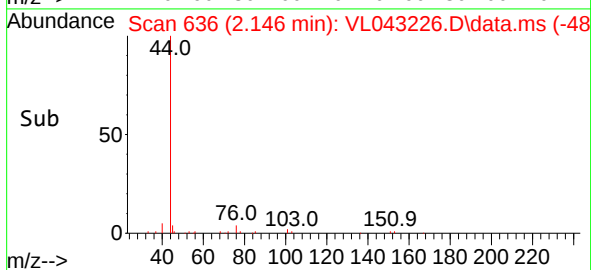
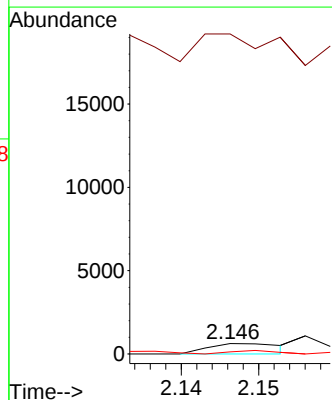
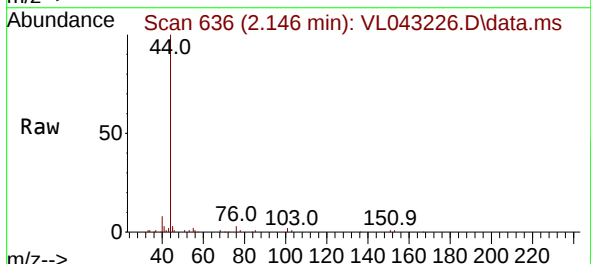
Instrument :
MSVOA_L
ClientSampleId :
SV2

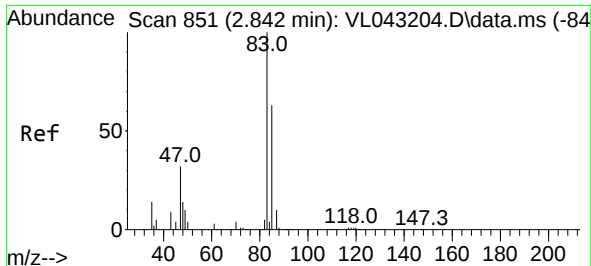
Tgt Ion: 57 Resp: 34356
Ion Ratio Lower Upper
57 100
41 91.6 74.6 111.8
43 71.5 179.0 268.4#
56 54.0 42.3 63.5



#27
Carbon Disulfide
Concen: 0.030 ppbv
RT: 2.146 min Scan# 636
Delta R.T. -0.000 min
Lab File: VL043226.D
Acq: 18 Nov 2025 22:37

Tgt Ion: 76 Resp: 407
Ion Ratio Lower Upper
76 100
44 3309.8 16.1 24.1#
78 43.5 9.6 14.4#

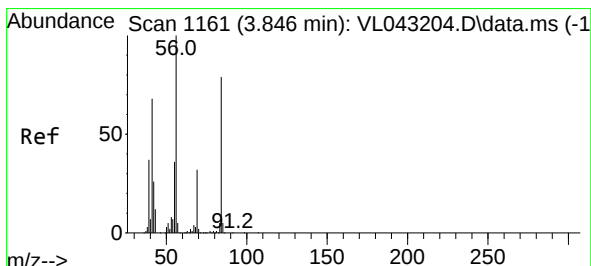
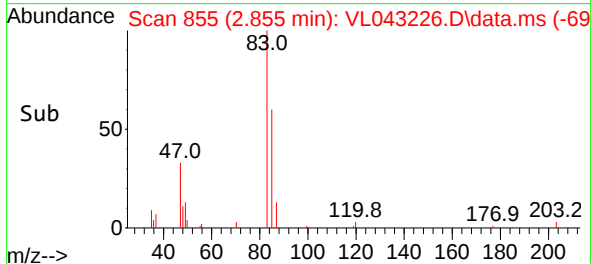
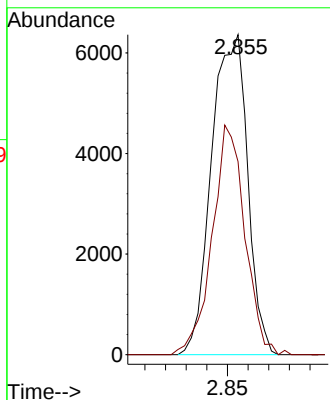
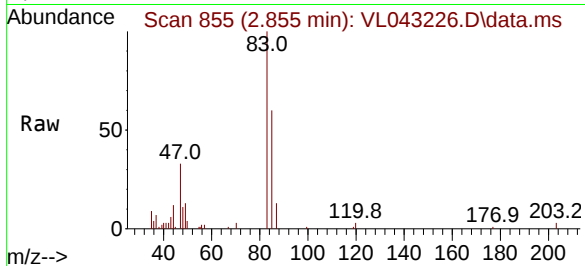




#29
Chloroform
Concen: 0.408 ppbv
RT: 2.855 min Scan# 81
Delta R.T. 0.013 min
Lab File: VL043226.D
Acq: 18 Nov 2025 22:37

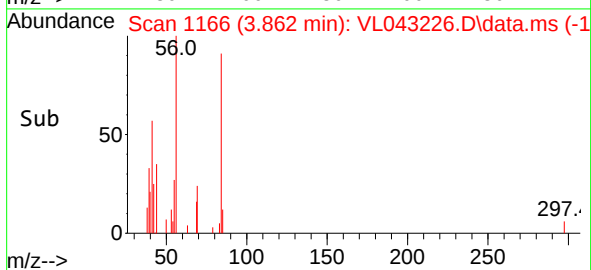
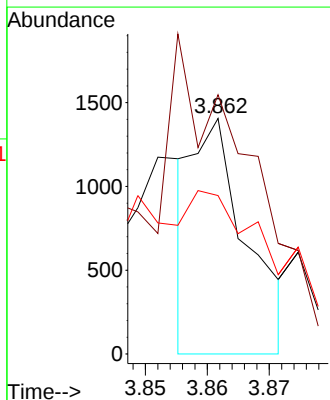
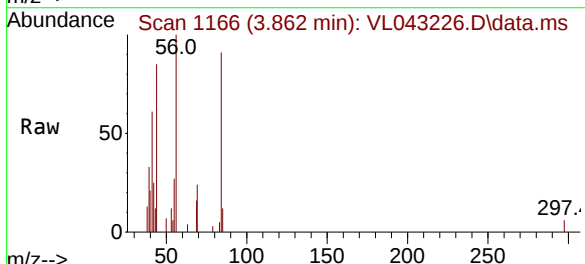
Instrument :
MSVOA_L
ClientSampleId :
SV2

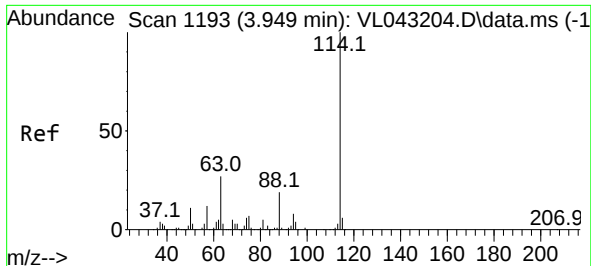
Tgt Ion: 83 Resp: 7704
Ion Ratio Lower Upper
83 100
85 60.3 50.5 75.7



#30
Cyclohexane
Concen: 0.075 ppbv
RT: 3.862 min Scan# 1166
Delta R.T. 0.016 min
Lab File: VL043226.D
Acq: 18 Nov 2025 22:37

Tgt Ion: 84 Resp: 840
Ion Ratio Lower Upper
84 100
56 0.0 104.7 157.1#
41 233.7 69.0 103.6#

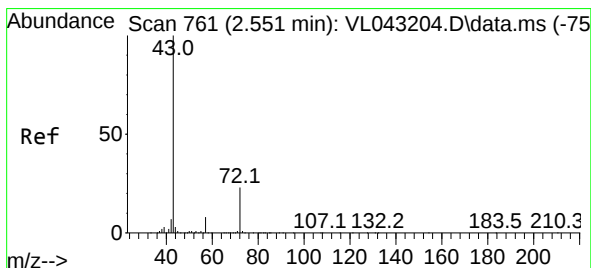
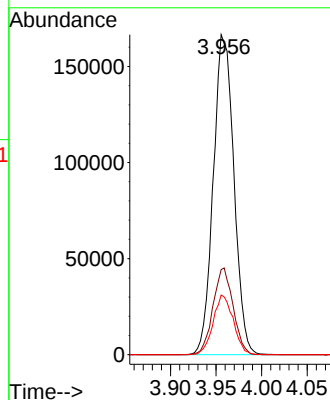
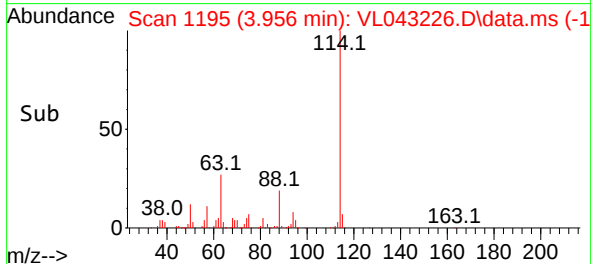
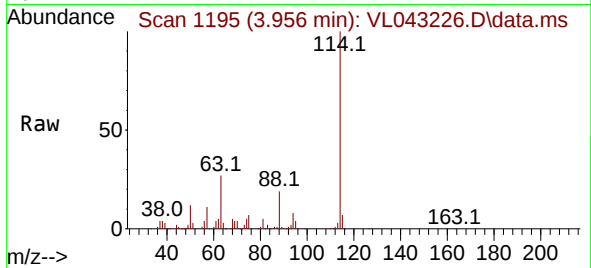




#33
 1,4-Difluorobenzene
 Concen: 10.000 ppbv
 RT: 3.956 min Scan# 1193
 Delta R.T. 0.006 min
 Lab File: VL043226.D
 Acq: 18 Nov 2025 22:37

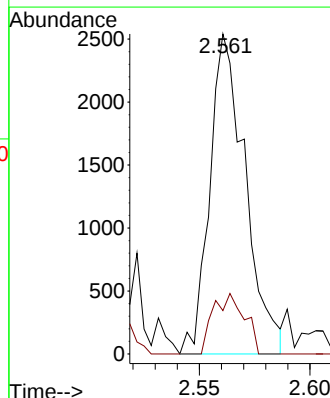
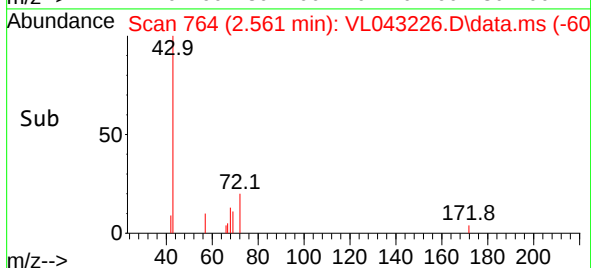
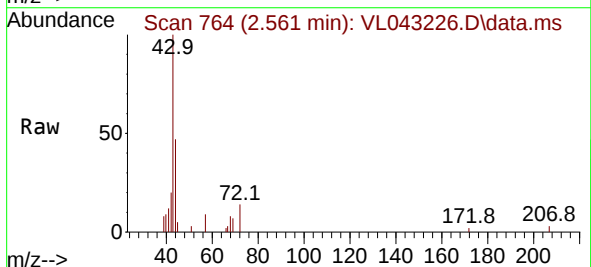
Instrument :
 MSVOA_L
 ClientSampleId :
 SV2

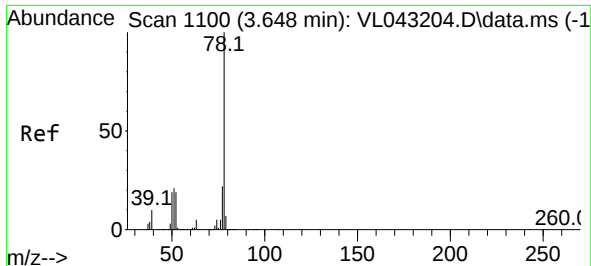
Tgt Ion:114 Resp: 261880
 Ion Ratio Lower Upper
 114 100
 63 26.4 21.0 31.6
 88 18.2 14.9 22.3



#34
 2-Butanone
 Concen: 0.153 ppbv
 RT: 2.561 min Scan# 764
 Delta R.T. 0.010 min
 Lab File: VL043226.D
 Acq: 18 Nov 2025 22:37

Tgt Ion: 43 Resp: 2833
 Ion Ratio Lower Upper
 43 100
 72 16.7 18.1 27.1#

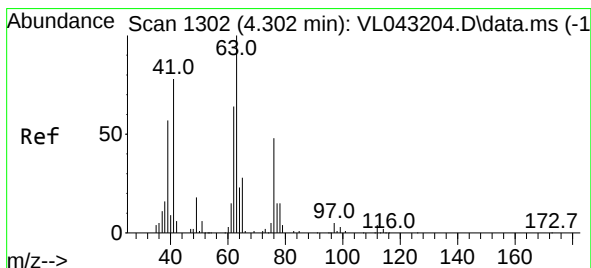
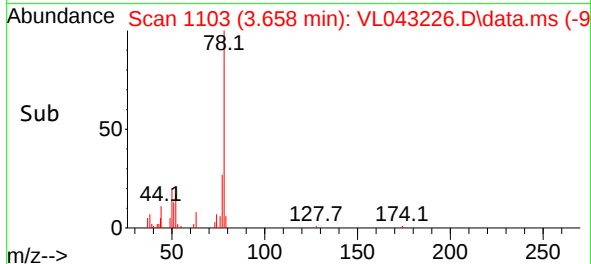
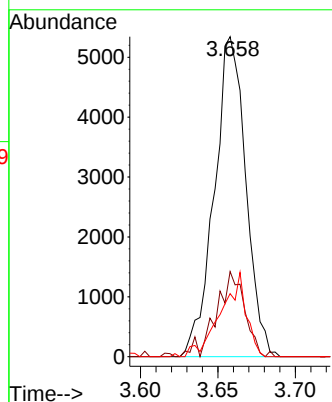
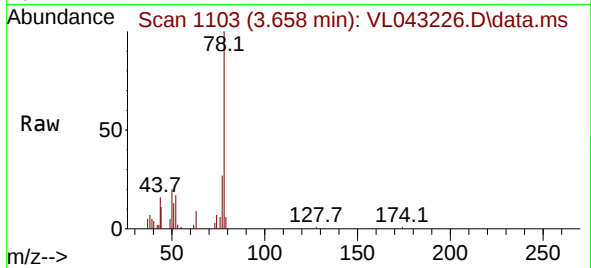




#36
Benzene
Concen: 0.302 ppbv
RT: 3.658 min Scan# 1100
Delta R.T. 0.010 min
Lab File: VL043226.D
Acq: 18 Nov 2025 22:37

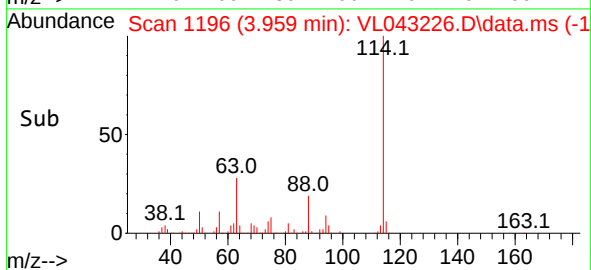
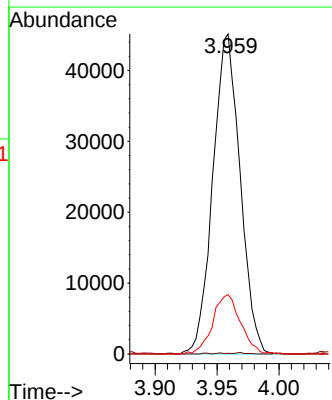
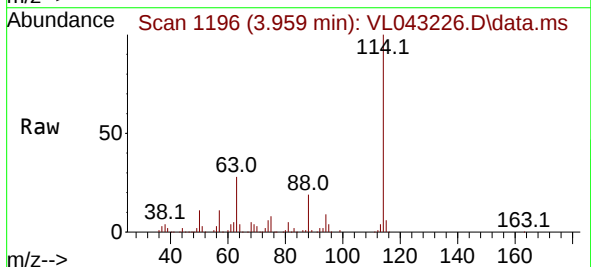
Instrument :
MSVOA_L
ClientSampleId :
SV2

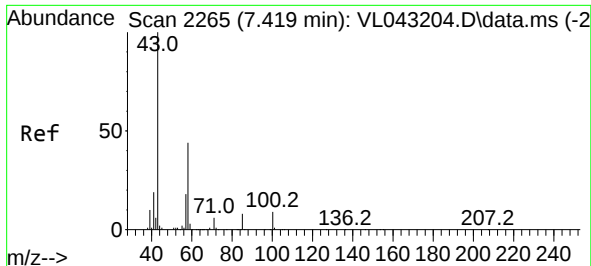
Tgt Ion: 78 Resp: 7571
Ion Ratio Lower Upper
78 100
77 26.6 17.5 26.3#
50 19.7 15.5 23.3



#39
1,2-Dichloropropane
Concen: 7.533 ppbv
RT: 3.959 min Scan# 1196
Delta R.T. -0.343 min
Lab File: VL043226.D
Acq: 18 Nov 2025 22:37

Tgt Ion: 63 Resp: 69150
Ion Ratio Lower Upper
63 100
41 0.2 62.6 93.8#
62 18.6 51.0 76.6#

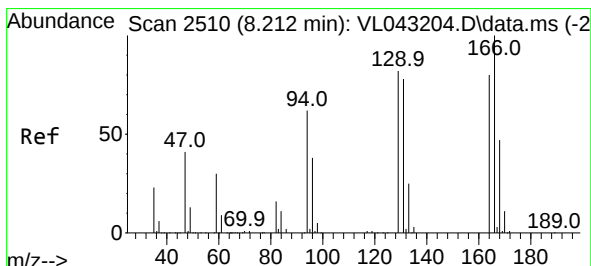
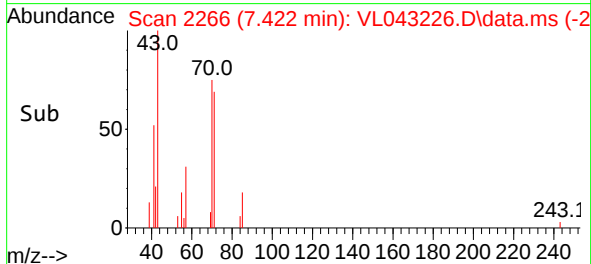
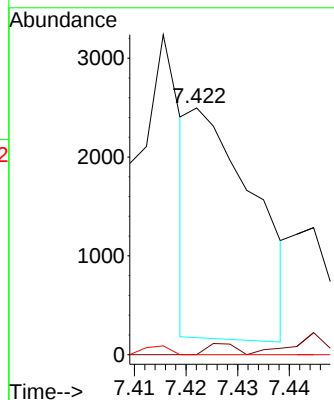
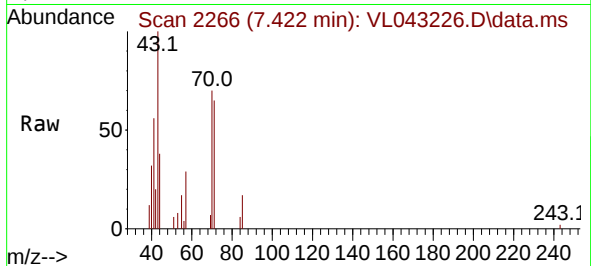




#51
2-Hexanone
Concen: 0.098 ppbv
RT: 7.422 min Scan# 21
Delta R.T. 0.003 min
Lab File: VL043226.D
Acq: 18 Nov 2025 22:37

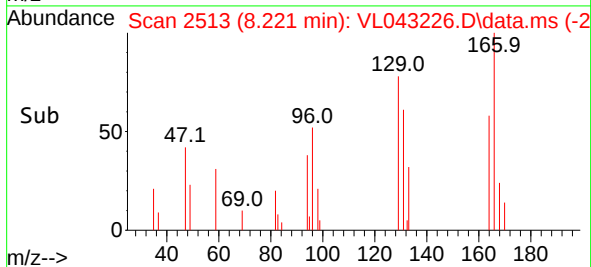
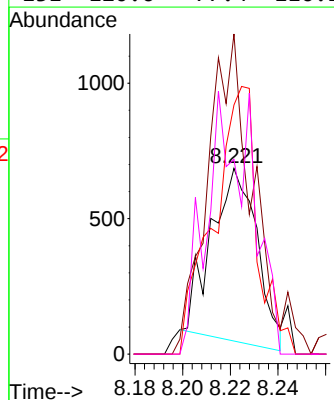
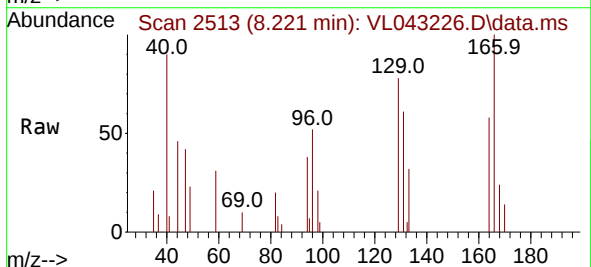
Instrument :
MSVOA_L
ClientSampleId :
SV2

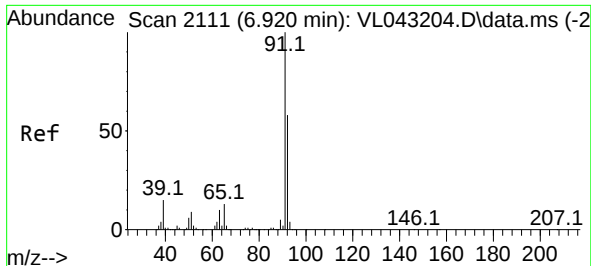
Tgt Ion: 43 Resp: 1987
Ion Ratio Lower Upper
43 100
58 0.0 38.4 57.6#
98 0.0 0.0 0.0



#52
Tetrachloroethene
Concen: 0.090 ppbv
RT: 8.221 min Scan# 2513
Delta R.T. 0.010 min
Lab File: VL043226.D
Acq: 18 Nov 2025 22:37

Tgt Ion: 164 Resp: 844
Ion Ratio Lower Upper
164 100
166 189.1 99.4 149.2#
129 154.4 81.8 122.8#
131 120.6 77.4 116.2#

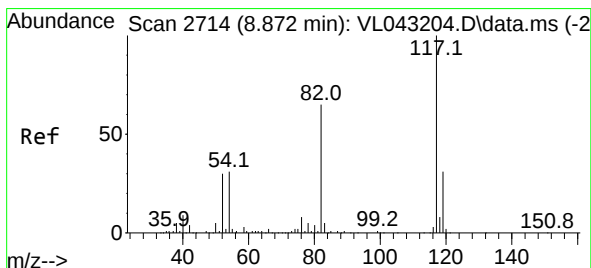
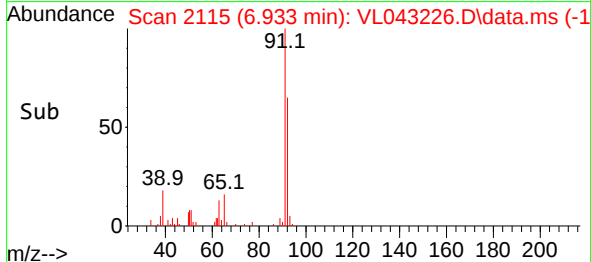
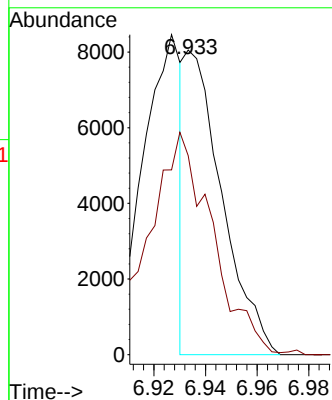
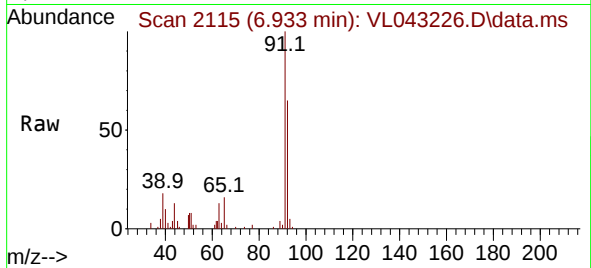




#53
Toluene
Concen: 0.269 ppbv
RT: 6.933 min Scan# 2111
Delta R.T. 0.013 min
Lab File: VL043226.D
Acq: 18 Nov 2025 22:37

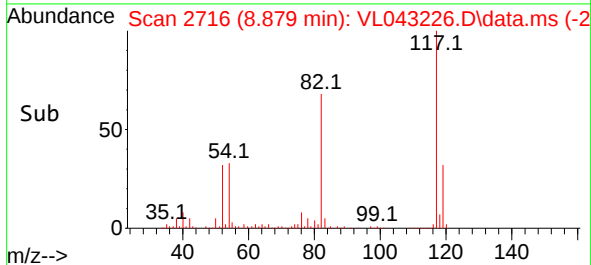
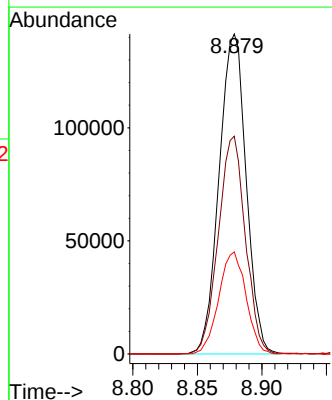
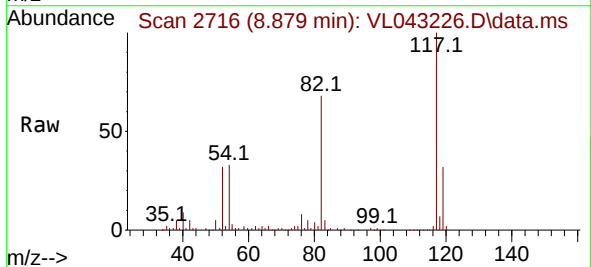
Instrument :
MSVOA_L
ClientSampleId :
SV2

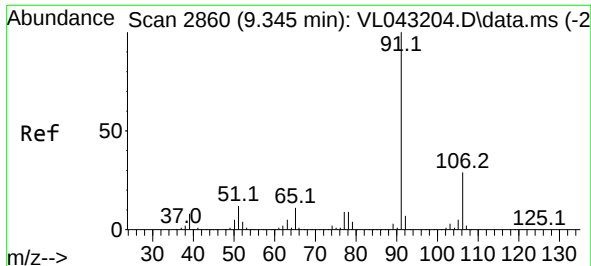
Tgt Ion: 91 Resp: 7987
Ion Ratio Lower Upper
91 100
92 129.7 47.4 71.0#



#55
Chlorobenzene-d5
Concen: 10.000 ppbv
RT: 8.879 min Scan# 2716
Delta R.T. 0.006 min
Lab File: VL043226.D
Acq: 18 Nov 2025 22:37

Tgt Ion: 117 Resp: 206328
Ion Ratio Lower Upper
117 100
82 68.1 56.1 84.1
119 32.2 25.0 37.6

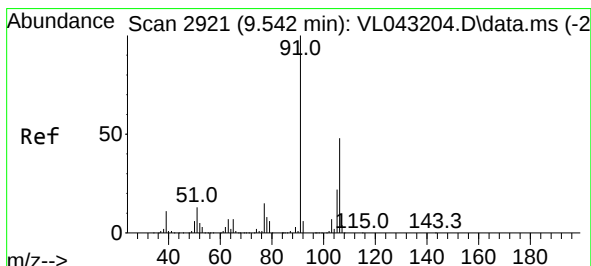
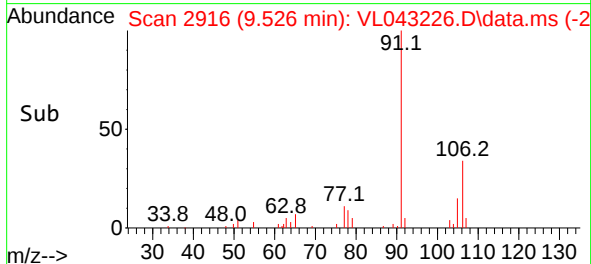
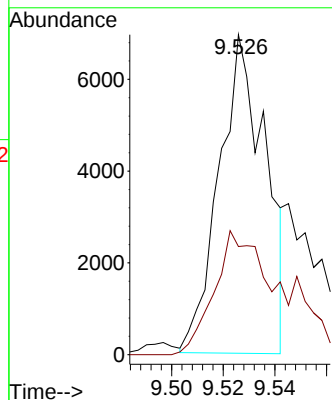
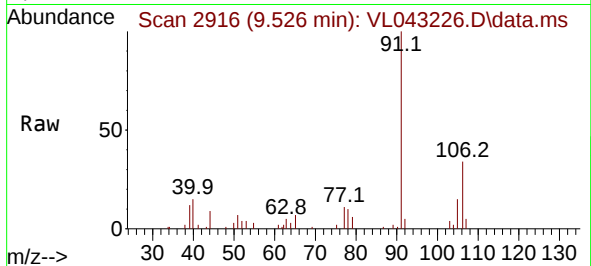




#58
Ethyl Benzene
Concen: 0.218 ppbv
RT: 9.526 min Scan# 2916
Delta R.T. 0.181 min
Lab File: VL043226.D
Acq: 18 Nov 2025 22:37

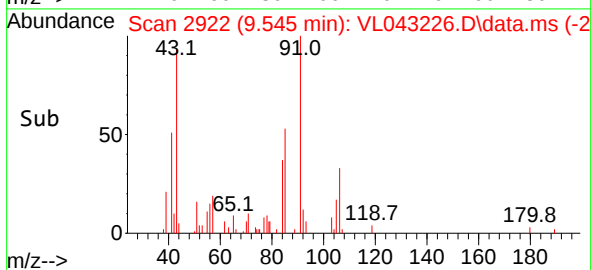
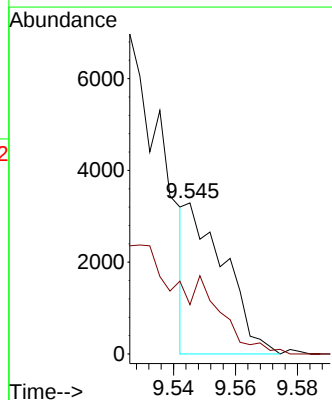
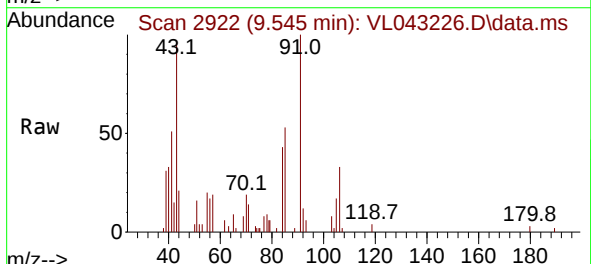
Instrument :
MSVOA_L
ClientSampleId :
SV2

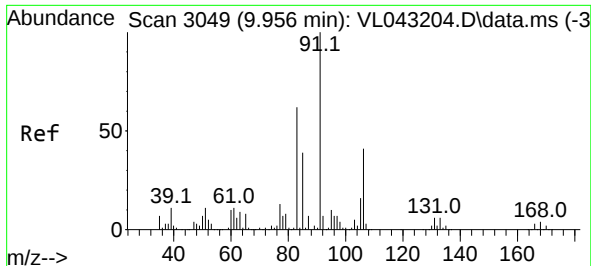
Tgt Ion: 91 Resp: 8657
Ion Ratio Lower Upper
91 100
106 33.6 22.8 34.2



#59
m/p-Xylene
Concen: 0.090 ppbv
RT: 9.545 min Scan# 2922
Delta R.T. 0.003 min
Lab File: VL043226.D
Acq: 18 Nov 2025 22:37

Tgt Ion: 91 Resp: 2850
Ion Ratio Lower Upper
91 100
106 0.0 36.1 54.1#

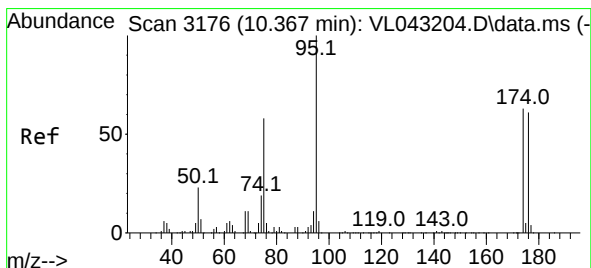
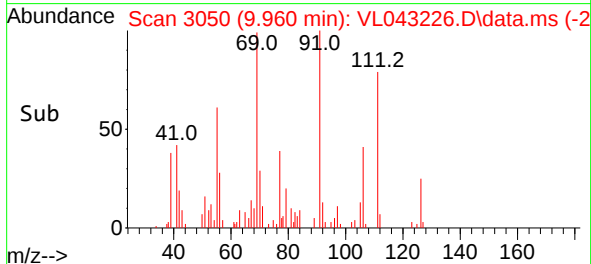
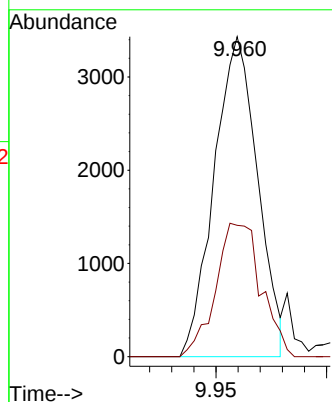
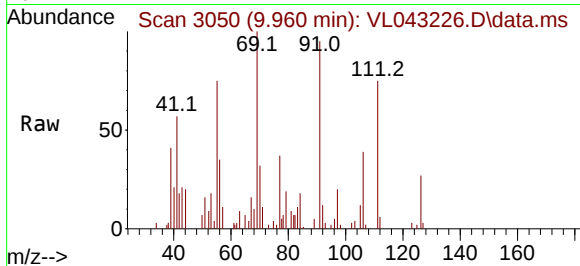




#60
o-Xylene
Concen: 0.147 ppbv
RT: 9.960 min Scan# 3049
Delta R.T. 0.003 min
Lab File: VL043226.D
Acq: 18 Nov 2025 22:37

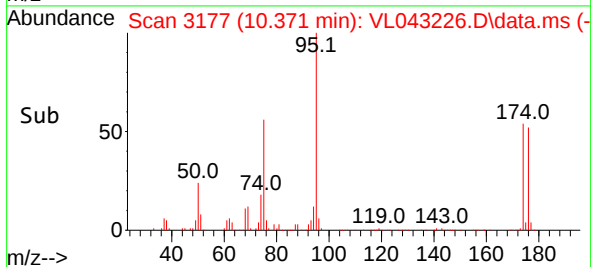
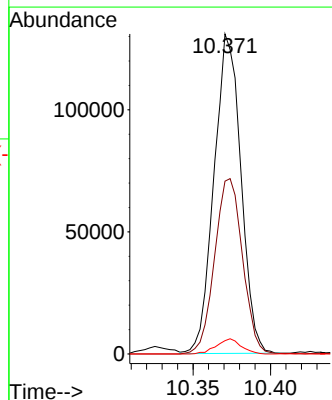
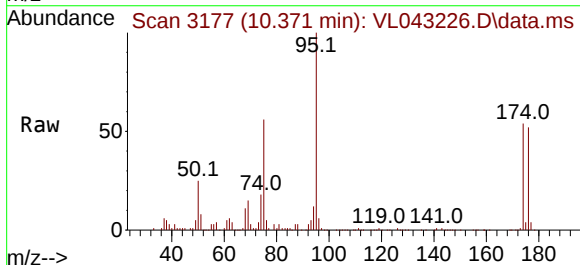
Instrument :
MSVOA_L
ClientSampleId :
SV2

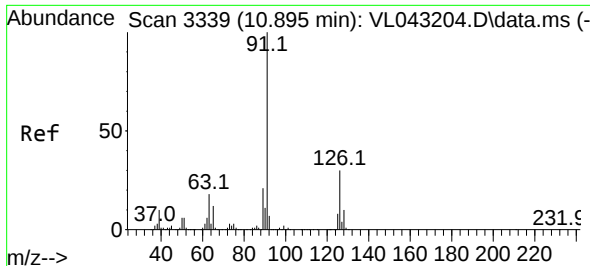
Tgt Ion: 91 Resp: 4685
Ion Ratio Lower Upper
91 100
106 43.5 20.9 62.8



#68
1-Bromo-4-Fluorobenzene
Concen: 10.435 ppbv
RT: 10.371 min Scan# 3177
Delta R.T. 0.003 min
Lab File: VL043226.D
Acq: 18 Nov 2025 22:37

Tgt Ion: 95 Resp: 157815
Ion Ratio Lower Upper
95 100
174 57.1 50.2 75.2
175 4.4 4.1 6.1

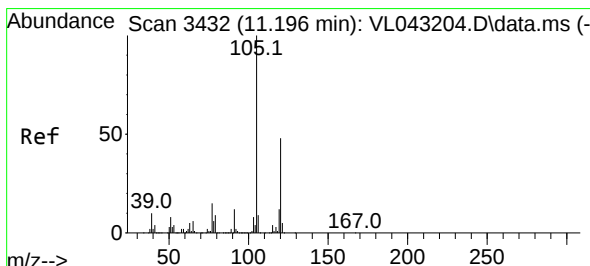
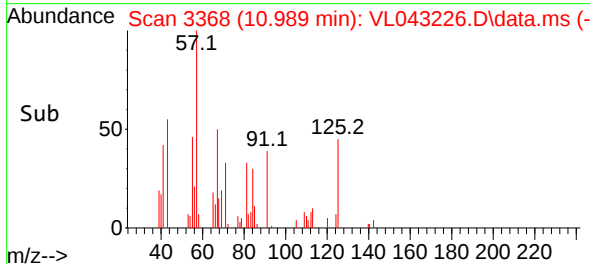
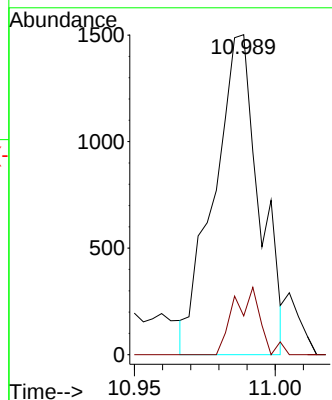
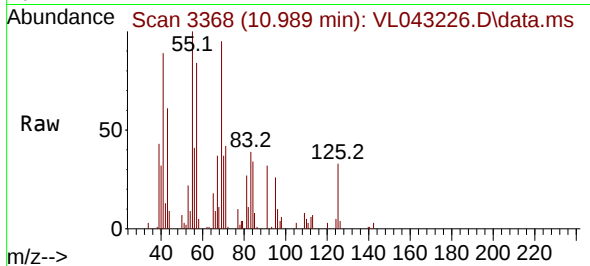




#71
2-Chlorotoluene
Concen: 0.038 ppbv
RT: 10.989 min Scan# 31
Delta R.T. 0.094 min
Lab File: VL043226.D
Acq: 18 Nov 2025 22:37

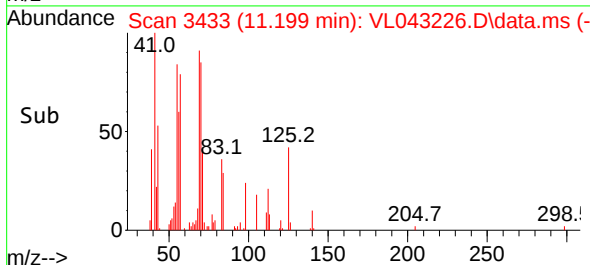
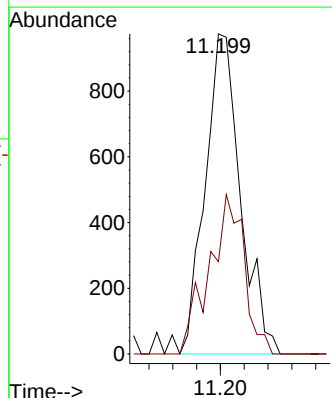
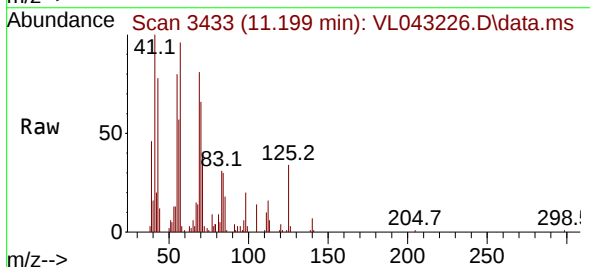
Instrument :
MSVOA_L
ClientSampleId :
SV2

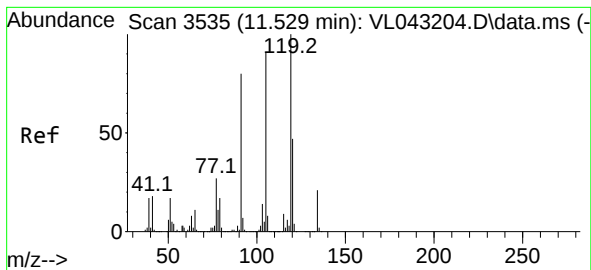
Tgt Ion: 91 Resp: 1678
Ion Ratio Lower Upper
91 100
126 12.5 11.7 46.7



#73
1,3,5-Trimethylbenzene
Concen: 0.031 ppbv
RT: 11.199 min Scan# 3433
Delta R.T. 0.003 min
Lab File: VL043226.D
Acq: 18 Nov 2025 22:37

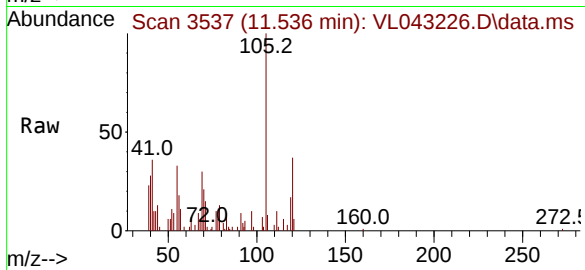
Tgt Ion: 105 Resp: 1007
Ion Ratio Lower Upper
105 100
120 28.9 38.6 57.8#





#74
 1,2,4-Trimethylbenzene
 Concen: 0.099 ppbv
 RT: 11.536 min Scan# 31
 Delta R.T. 0.006 min
 Lab File: VL043226.D
 Acq: 18 Nov 2025 22:37

Instrument :
 MSVOA_L
 ClientSampleId :
 SV2



Tgt Ion:	105	Resp:	3505
Ion	Ratio	Lower	Upper
105	100		
120	43.1	41.7	62.5
91	6.1	70.0	105.0#
77	9.5	23.8	35.8#

