

Data Path : Z:\voasrv\HPCHEM1\MSVOA_L\Data\VL100925\
 Data File : VL043096.D
 Acq On : 09 Oct 2025 20:04
 Operator : SY/MD
 Sample : Q3320-10 8X
 Misc : 400mL/MSVOA_L
 ALS Vial : 1 Sample Multiplier: 1

Instrument :
 MSVOA_L
 ClientSampleId :
 SV5

Quant Time: Oct 09 22:20:38 2025
 Quant Method : Z:\voasrv\HPCHEM1\MSVOA_L\methods\VL100225AIR.M
 Quant Title : AIR ANALYSIS BY METHOD TO-15 Instrument: MSVOA_L Fri Aug 26 06:05:16 2022
 QLast Update : Fri Oct 03 08:23:34 2025
 Response via : Initial Calibration

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

Internal Standards						
1) Bromochloromethane	2.777	49	196019	10.000	ppbv	0.00
33) 1,4-Difluorobenzene	3.939	114	525980	10.000	ppbv	0.00
55) Chlorobenzene-d5	8.862	117	487210	10.000	ppbv	0.00

System Monitoring Compounds						
68) 1-Bromo-4-Fluorobenzene	10.361	95	405687	11.559	ppbv	0.00
Spiked Amount	10.000	Range	65 - 135	Recovery	=	115.600%

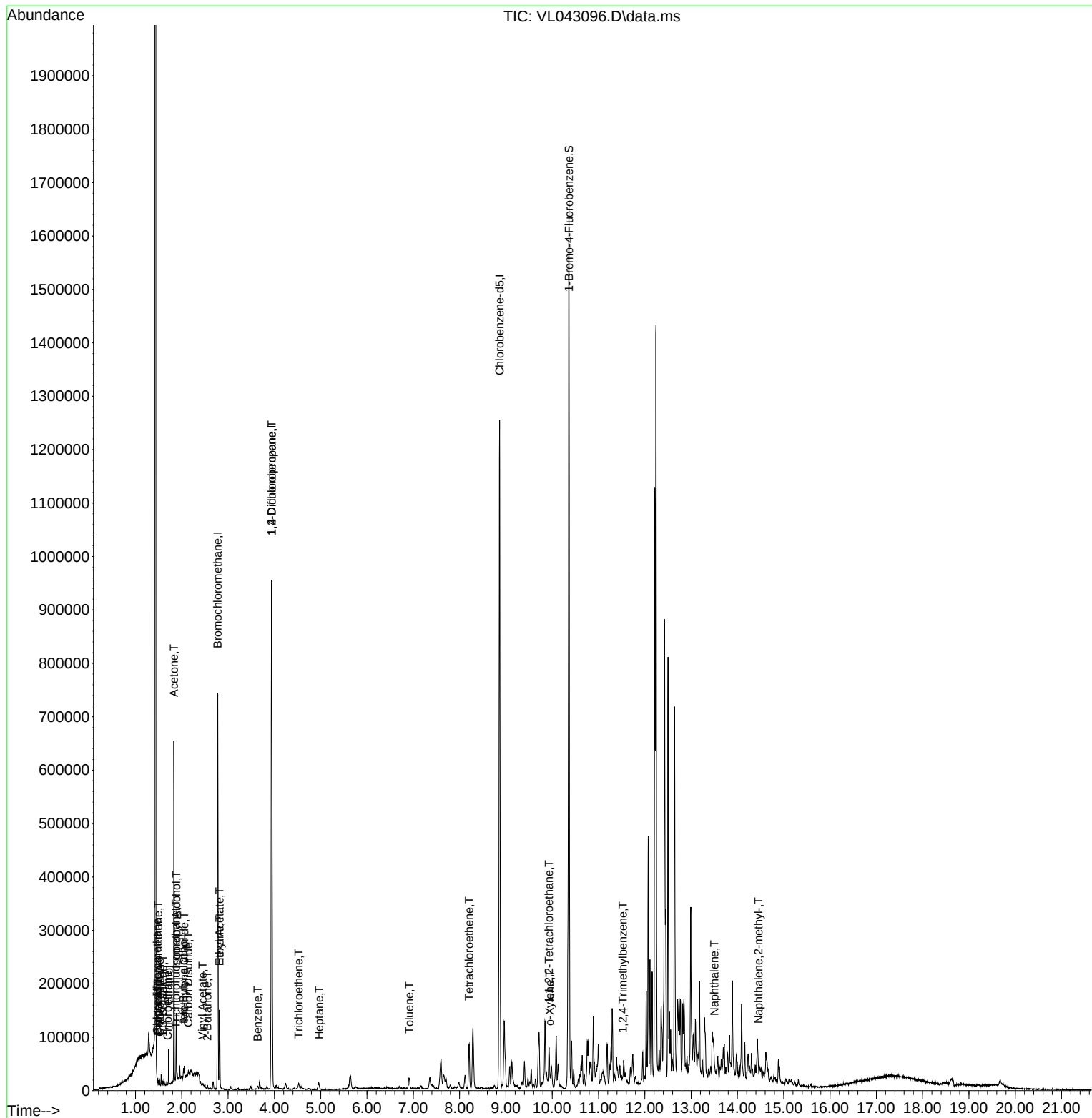
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.492	85	1941	0.059	ppbv	94
3) Chlorodifluoromethane	1.470	51	3216	0.101	ppbv #	80
4) Chloromethane	1.525	50	375	0.031	ppbv #	73
7) Chloroethane	1.699	64	168	0.035	ppbv #	41
9) Propene	1.479	41	1076	0.083	ppbv #	17
10) Heptane	4.965	43	1148	0.036	ppbv #	1
11) Trichlorofluoromethane	1.871	101	2256	0.066	ppbv	87
13) Ethanol	1.716	45	19546	40.587	ppbv	99
15) Acetone	1.829	43	250875	9.141	ppbv	98
16) 1,3-Butadiene	1.593	39	1027	0.091	ppbv #	39
17) tert-Butyl alcohol	2.036	59	6310	0.217	ppbv #	79
19) Isopropyl Alcohol	1.881	45	44620	3.393	ppbv #	1
20) Methylene Chloride	2.055	84	3178	0.265	ppbv #	81
23) Vinyl Acetate	2.447	43	370	0.063	ppbv #	37
25) Ethyl Acetate	2.816	43	20913	0.304	ppbv #	77
26) Hexane	2.816	57	26630	1.005	ppbv #	32
27) Carbon Disulfide	2.140	76	3490	0.112	ppbv #	1
34) 2-Butanone	2.554	43	3769	0.106	ppbv	98
36) Benzene	3.638	78	2982	0.059	ppbv #	83
38) Trichloroethene	4.525	130	2684	0.128	ppbv	89
39) 1,2-Dichloropropane	3.939	63	133310	7.157	ppbv #	22
52) Tetrachloroethene	8.202	164	14338	0.771	ppbv	93
53) Toluene	6.910	91	14491	0.286	ppbv	100
60) o-Xylene	9.946	91	4082	0.064	ppbv	92
63) 1,1,2,2-Tetrachloroethane	9.930	83	1580	0.035	ppbv #	94
74) 1,2,4-Trimethylbenzene	11.523	105	3652	0.050	ppbv #	59
79) Naphthalene	13.500	128	461	0.242	ppbv #	56
80) Naphthalene,2-methyl-	14.455	142	1449	0.709	ppbv #	70

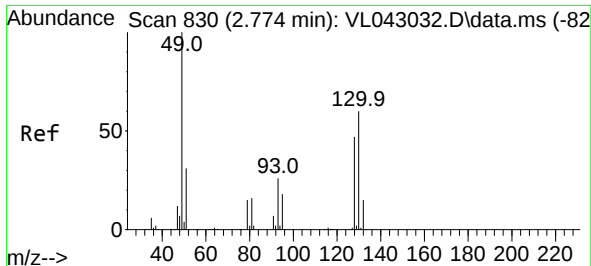
(#) = qualifier out of range (m) = manual integration (+) = signals summed

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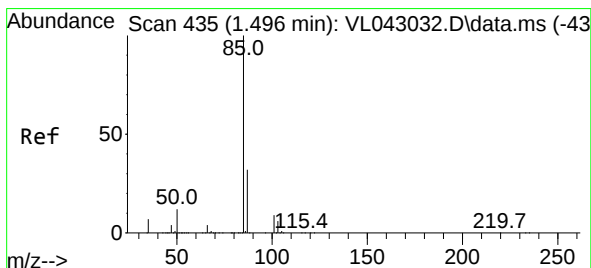
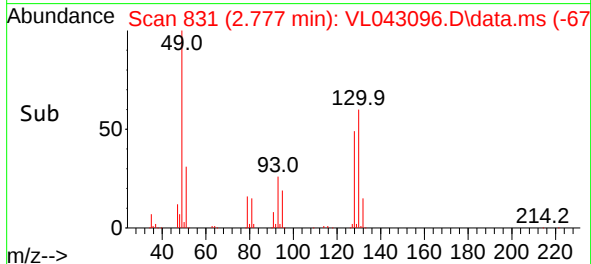
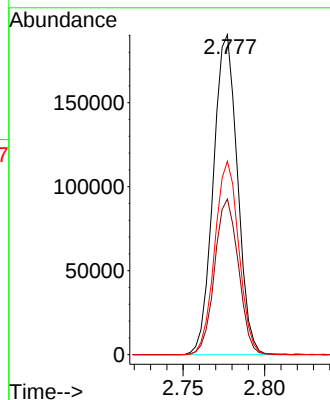
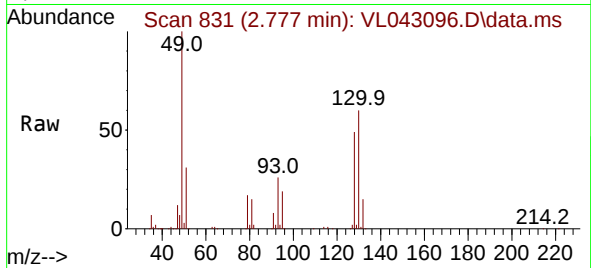




#1
Bromochloromethane
Concen: 10.000 ppbv
RT: 2.777 min Scan# 81
Delta R.T. 0.003 min
Lab File: VL043096.D
Acq: 09 Oct 2025 20:04

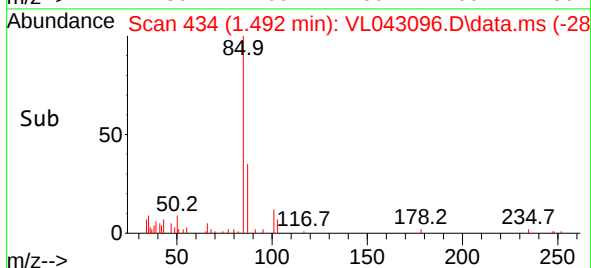
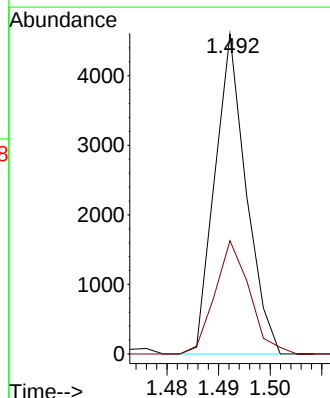
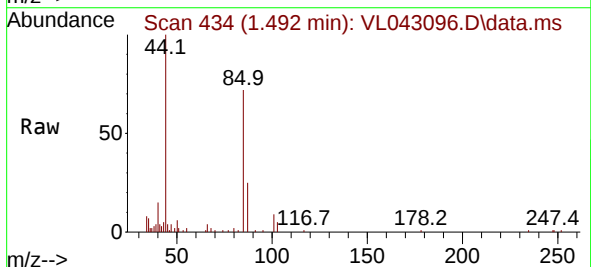
Instrument :
MSVOA_L
ClientSampleId :
SV5

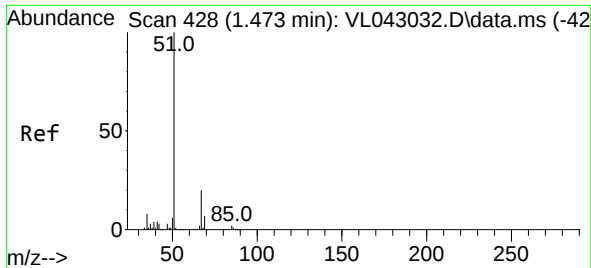
Tgt Ion: 49 Resp: 196019
Ion Ratio Lower Upper
49 100
128 48.0 24.1 72.2
130 60.2 31.4 94.3



#2
Dichlorodifluoromethane
Concen: 0.059 ppbv
RT: 1.492 min Scan# 434
Delta R.T. -0.003 min
Lab File: VL043096.D
Acq: 09 Oct 2025 20:04

Tgt Ion: 85 Resp: 1941
Ion Ratio Lower Upper
85 100
87 35.4 25.8 38.6





#3

Chlorodifluoromethane

Concen: 0.101 ppbv

RT: 1.470 min Scan# 41

Delta R.T. -0.003 min

Lab File: VL043096.D

Acq: 09 Oct 2025 20:04

Instrument :

MSVOA_L

ClientSampleId :

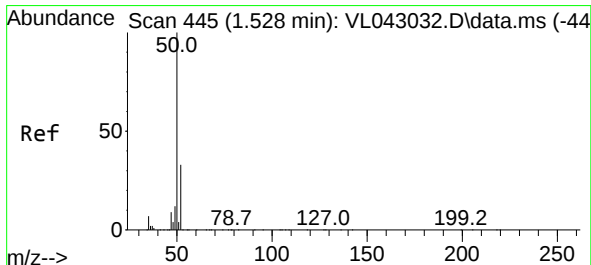
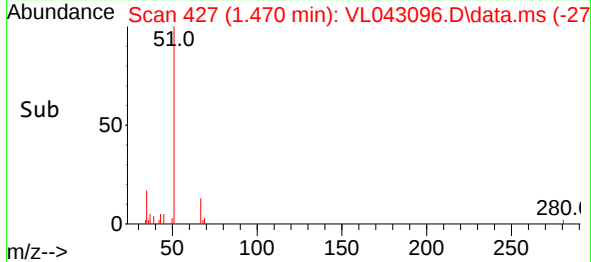
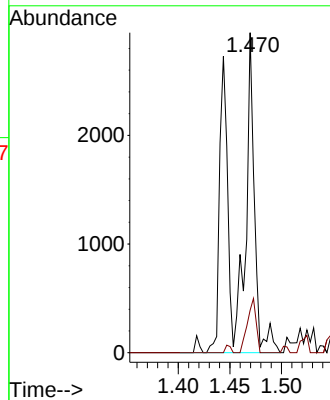
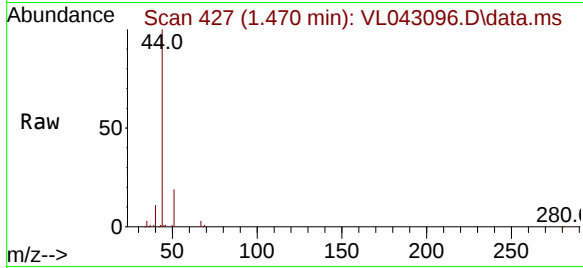
SV5

Tgt Ion: 51 Resp: 3216

Ion Ratio Lower Upper

51 100

67 9.8 15.1 22.7#



#4

Chloromethane

Concen: 0.031 ppbv

RT: 1.525 min Scan# 444

Delta R.T. -0.003 min

Lab File: VL043096.D

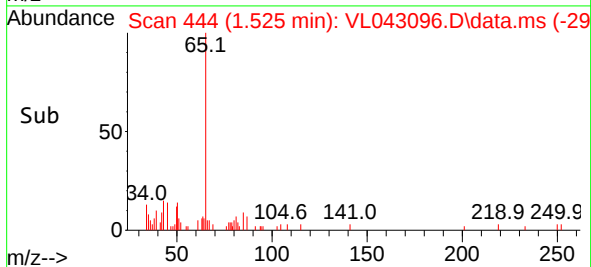
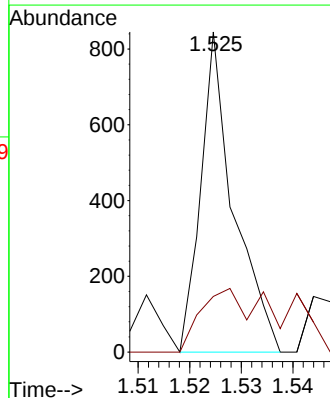
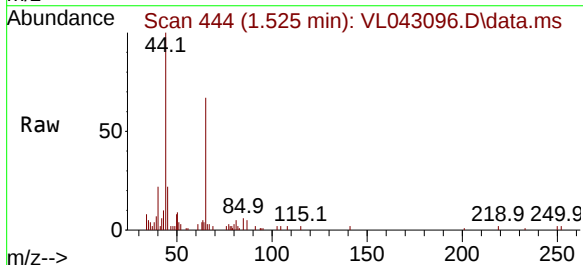
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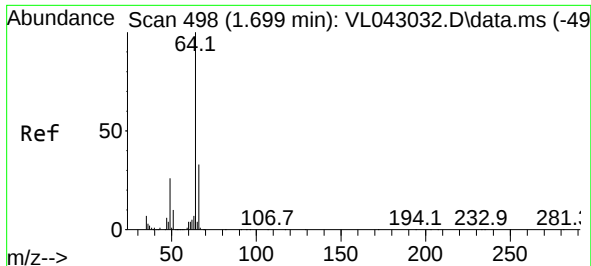
Tgt Ion: 50 Resp: 375

Ion Ratio Lower Upper

50 100

52 17.4 26.2 39.2#

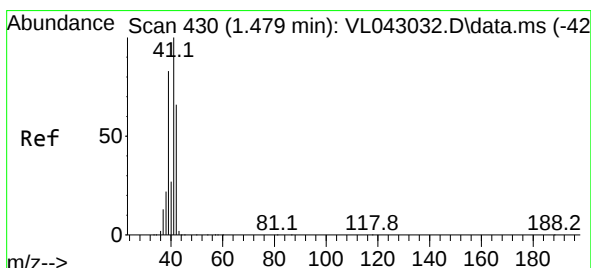
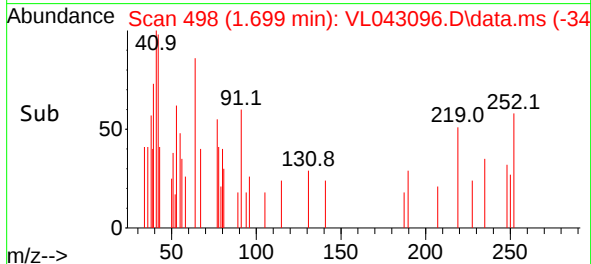
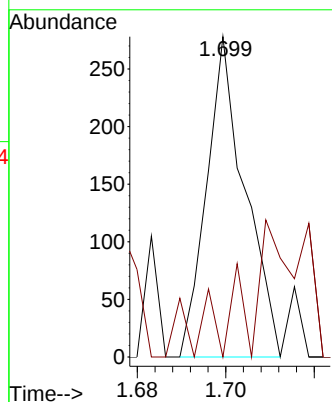
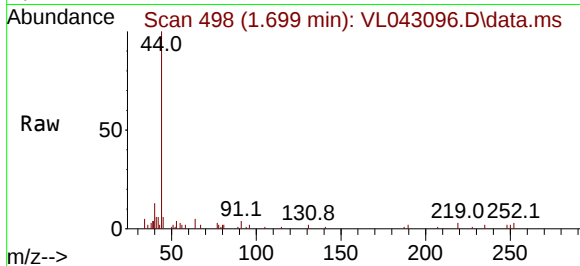




#7
Chloroethane
Concen: 0.035 ppbv
RT: 1.699 min Scan# 498
Delta R.T. -0.000 min
Lab File: VL043096.D
Acq: 09 Oct 2025 20:04

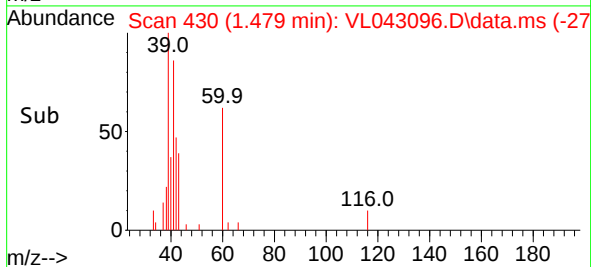
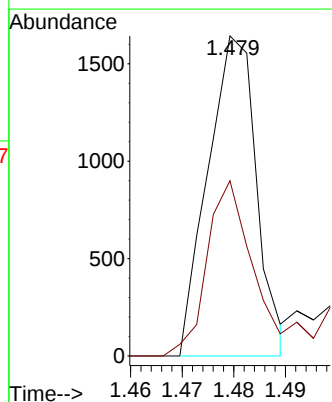
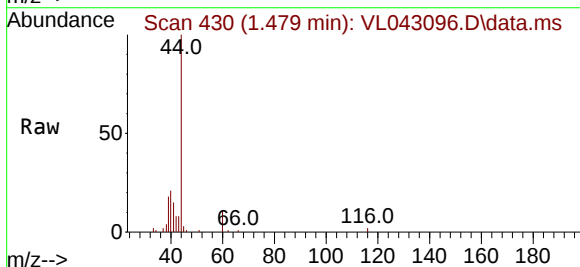
Instrument :
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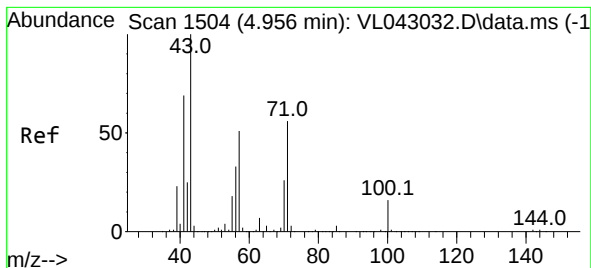
Tgt Ion: 64 Resp: 168
Ion Ratio Lower Upper
64 100
66 0.0 26.6 39.8#



#9
Propene
Concen: 0.083 ppbv
RT: 1.479 min Scan# 430
Delta R.T. -0.000 min
Lab File: VL043096.D
Acq: 09 Oct 2025 20:04

Tgt Ion: 41 Resp: 1076
Ion Ratio Lower Upper
41 100
42 0.0 53.3 79.9#





#10

Heptane

Concen: 0.036 ppbv

RT: 4.965 min Scan# 11

Delta R.T. 0.010 min

Lab File: VL043096.D

Acq: 09 Oct 2025 20:04

Instrument :

MSVOA_L

ClientSampleId :

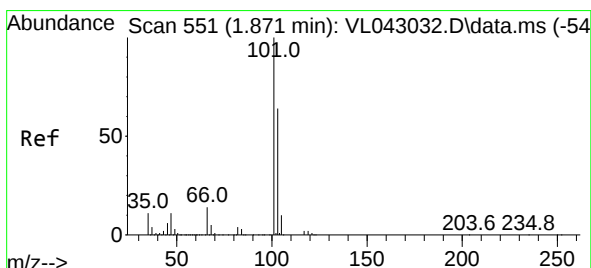
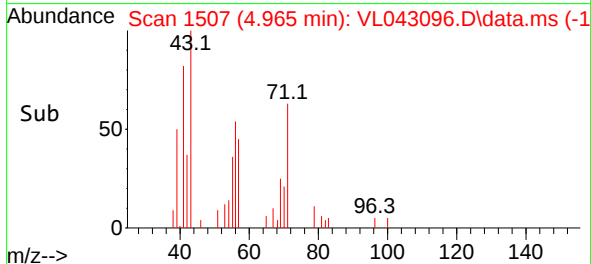
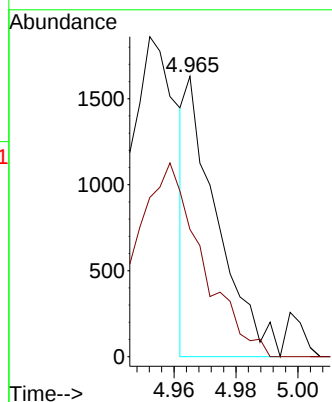
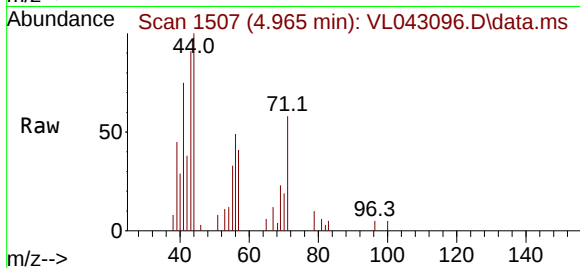
SV5

Tgt Ion: 43 Resp: 1148

Ion Ratio Lower Upper

43 100

57 174.7 40.3 60.5#



#11

Trichlorofluoromethane

Concen: 0.066 ppbv

RT: 1.871 min Scan# 551

Delta R.T. -0.000 min

Lab File: VL043096.D

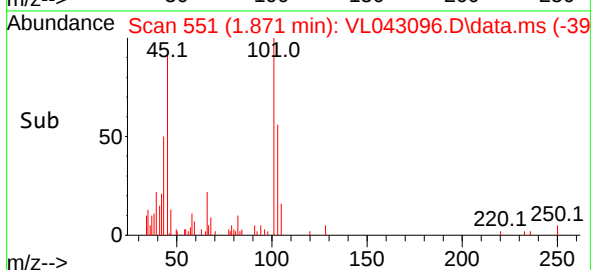
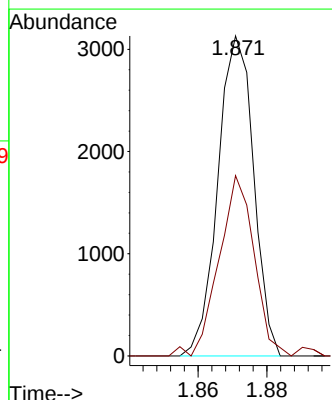
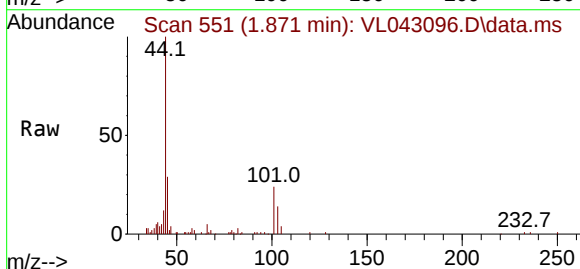
Acq: 09 Oct 2025 20:04

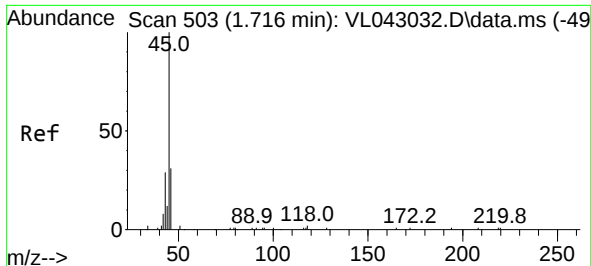
Tgt Ion:101 Resp: 2256

Ion Ratio Lower Upper

101 100

103 53.8 51.1 76.7

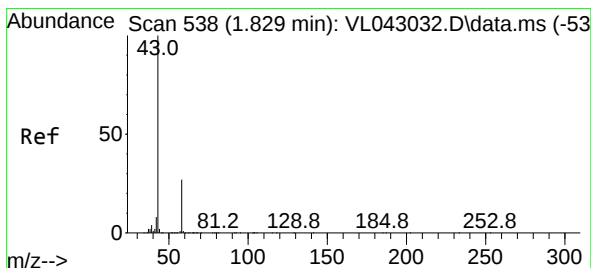
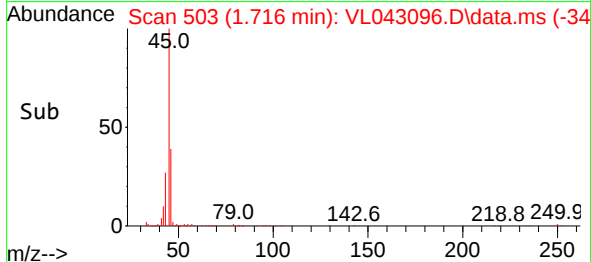
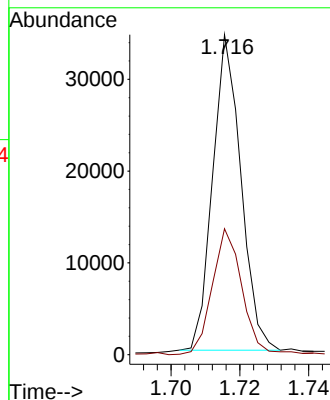
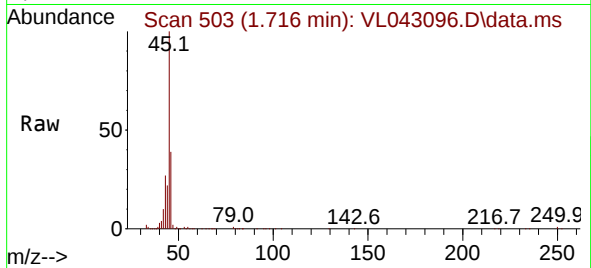




#13
Ethanol
Concen: 40.587 ppbv
RT: 1.716 min Scan# 503
Delta R.T. -0.000 min
Lab File: VL043096.D
Acq: 09 Oct 2025 20:04

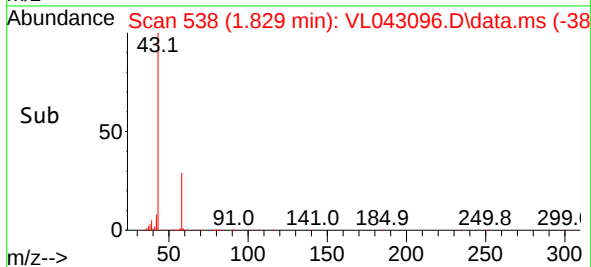
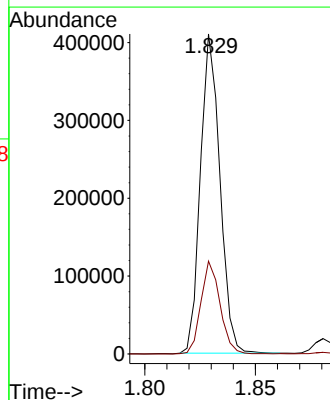
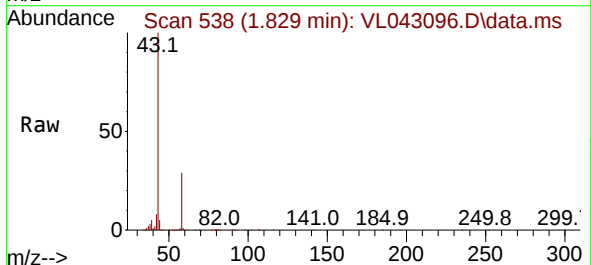
Instrument :
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ClientSampleId :
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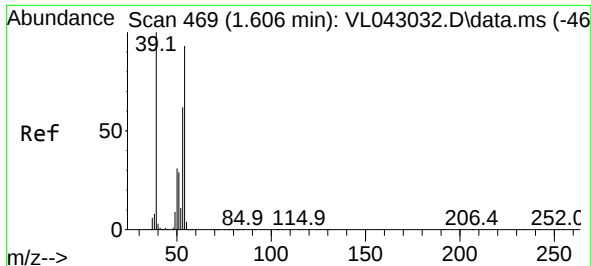
Tgt Ion: 45 Resp: 19546
Ion Ratio Lower Upper
45 100
46 44.1 17.8 71.4



#15
Acetone
Concen: 9.141 ppbv
RT: 1.829 min Scan# 538
Delta R.T. -0.000 min
Lab File: VL043096.D
Acq: 09 Oct 2025 20:04

Tgt Ion: 43 Resp: 250875
Ion Ratio Lower Upper
43 100
58 28.6 22.2 33.4

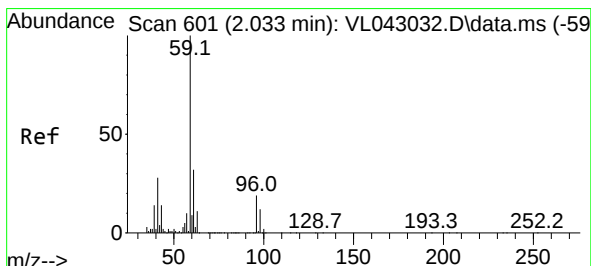
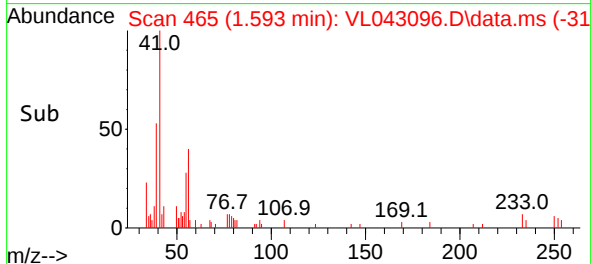
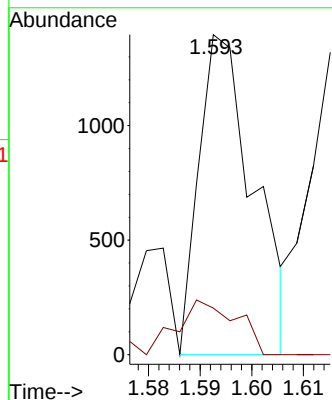
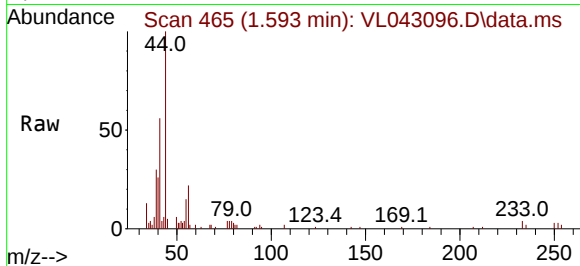




#16
1,3-Butadiene
Concen: 0.091 ppbv
RT: 1.593 min Scan# 41
Delta R.T. -0.013 min
Lab File: VL043096.D
Acq: 09 Oct 2025 20:04

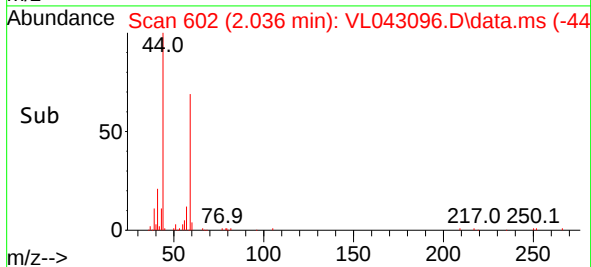
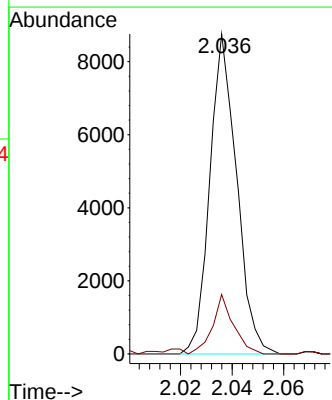
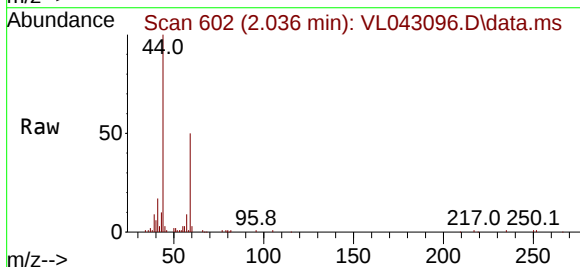
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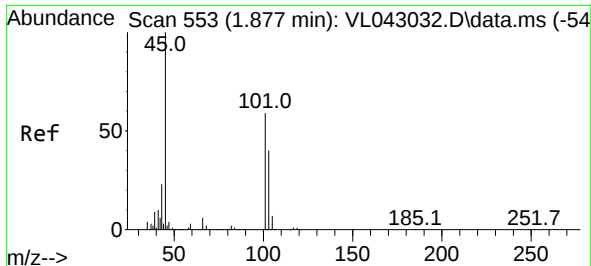
Tgt Ion: 39 Resp: 1027
Ion Ratio Lower Upper
39 100
54 24.4 61.4 92.2#



#17
tert-Butyl alcohol
Concen: 0.217 ppbv
RT: 2.036 min Scan# 602
Delta R.T. 0.003 min
Lab File: VL043096.D
Acq: 09 Oct 2025 20:04

Tgt Ion: 59 Resp: 6310
Ion Ratio Lower Upper
59 100
57 18.4 8.5 12.7#

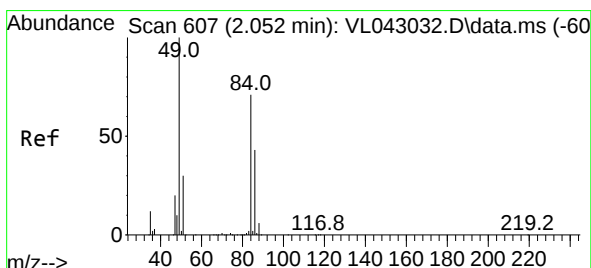
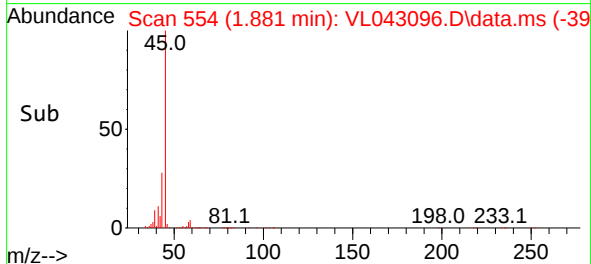
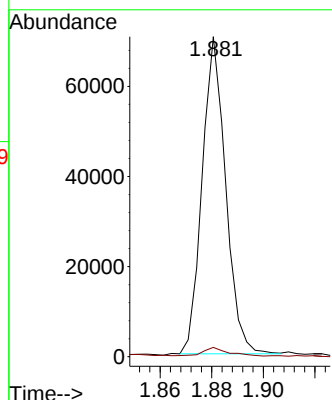
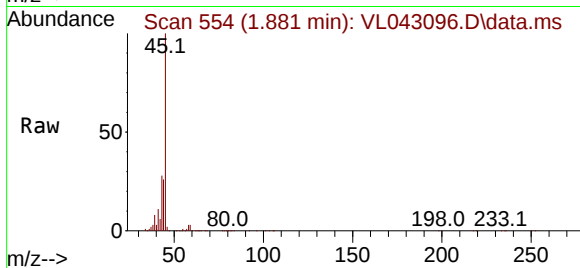




#19
Isopropyl Alcohol
Concen: 3.393 ppbv
RT: 1.881 min Scan# 511
Delta R.T. 0.003 min
Lab File: VL043096.D
Acq: 09 Oct 2025 20:04

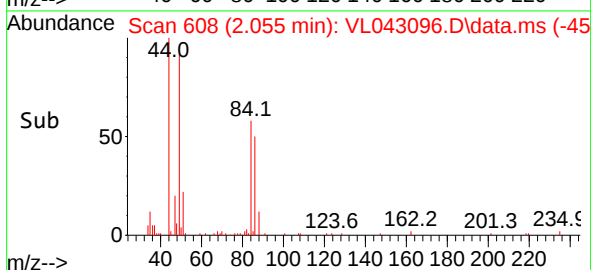
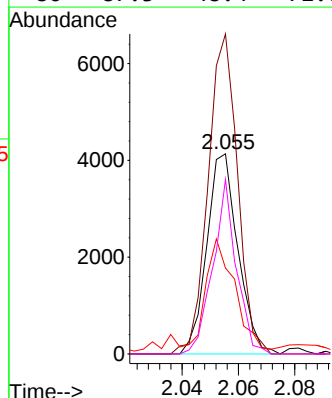
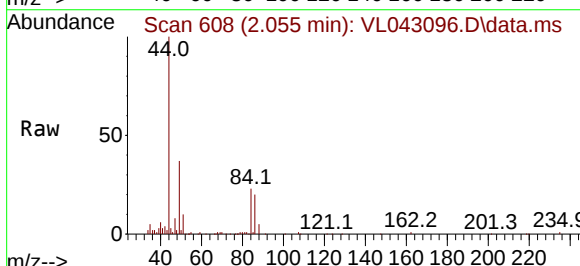
Instrument :
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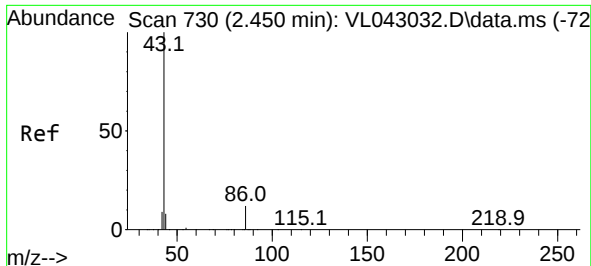
Tgt Ion: 45 Resp: 44620
Ion Ratio Lower Upper
45 100
58 160.9 42.3 63.5#



#20
Methylene Chloride
Concen: 0.265 ppbv
RT: 2.055 min Scan# 608
Delta R.T. 0.003 min
Lab File: VL043096.D
Acq: 09 Oct 2025 20:04

Tgt Ion: 84 Resp: 3178
Ion Ratio Lower Upper
84 100
49 159.9 112.5 168.7
51 39.6 34.2 51.2
86 87.3 48.4 72.6#



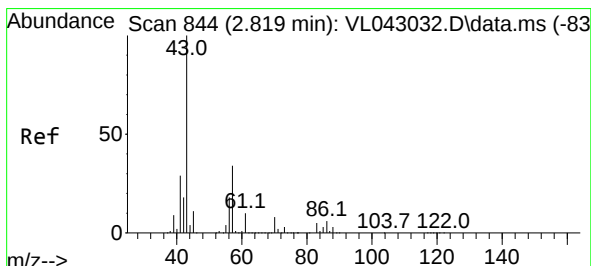
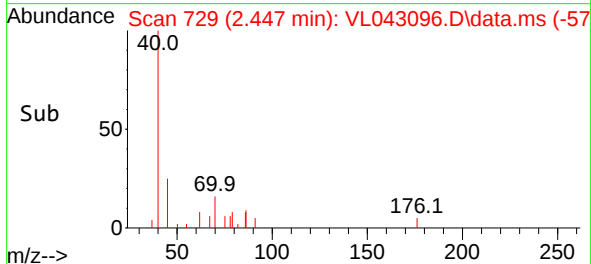
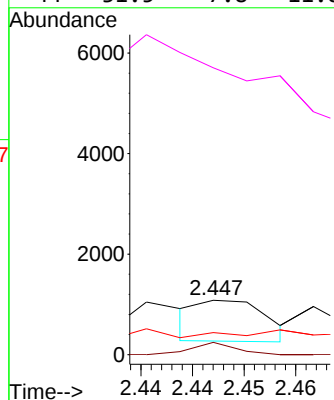
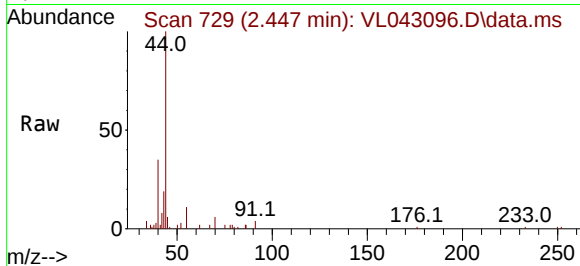


#23
 Vinyl Acetate
 Concen: 0.063 ppbv
 RT: 2.447 min Scan# 71
 Delta R.T. -0.003 min
 Lab File: VL043096.D
 Acq: 09 Oct 2025 20:04

Instrument :
 MSVOA_L
 ClientSampleId :
 SV5

Tgt Ion: 43 Resp: 370

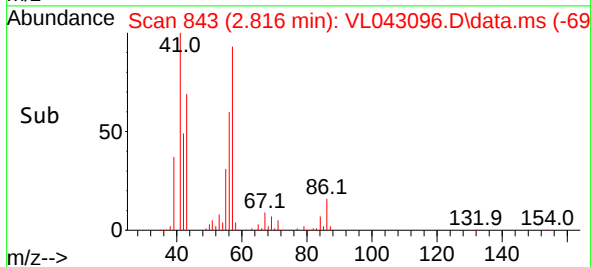
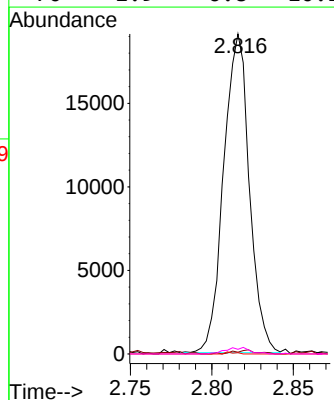
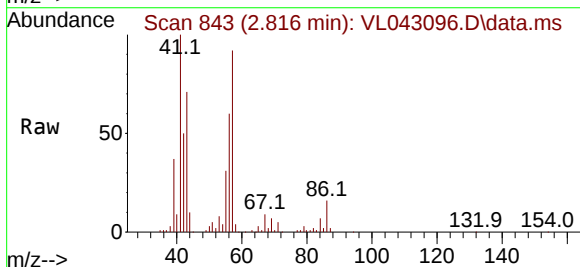
Ion	Ratio	Lower	Upper
43	100		
86	48.3	7.5	11.3#
42	20.6	8.4	12.6#
44	31.5	7.8	11.8#

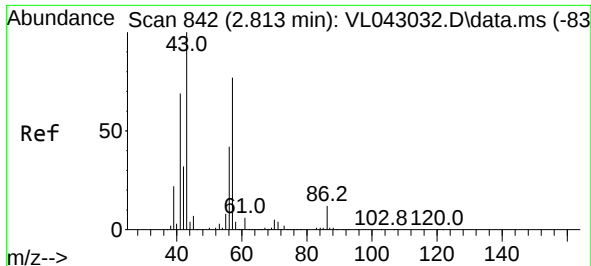


#25
 Ethyl Acetate
 Concen: 0.304 ppbv
 RT: 2.816 min Scan# 843
 Delta R.T. -0.003 min
 Lab File: VL043096.D
 Acq: 09 Oct 2025 20:04

Tgt Ion: 43 Resp: 20913

Ion	Ratio	Lower	Upper
43	100		
45	1.6	8.3	12.5#
61	0.2	7.5	11.3#
70	1.9	6.8	10.2#

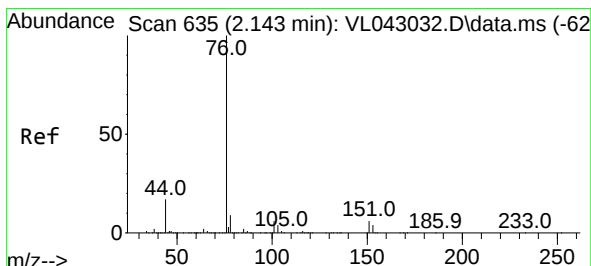
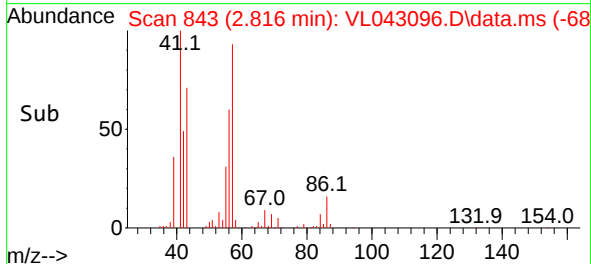
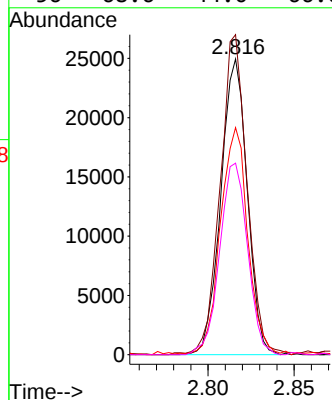
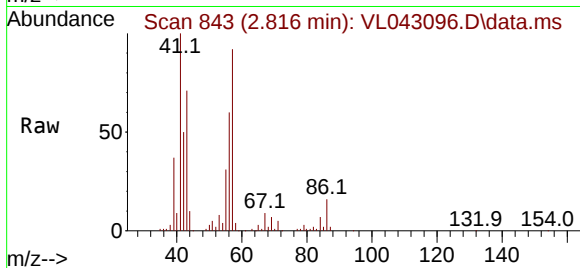




#26
Hexane
Concen: 1.005 ppbv
RT: 2.816 min Scan# 842
Delta R.T. 0.003 min
Lab File: VL043096.D
Acq: 09 Oct 2025 20:04

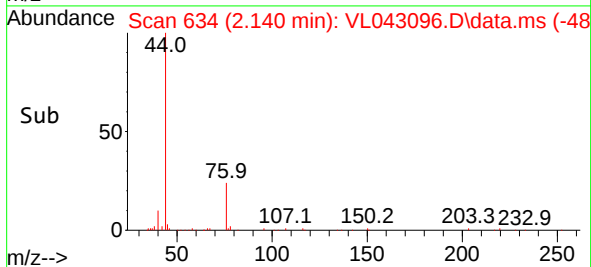
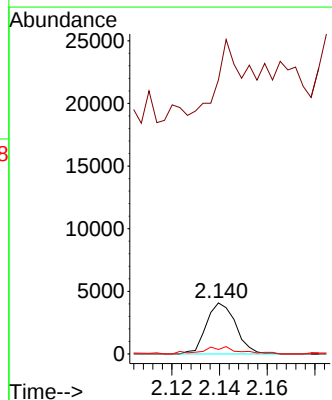
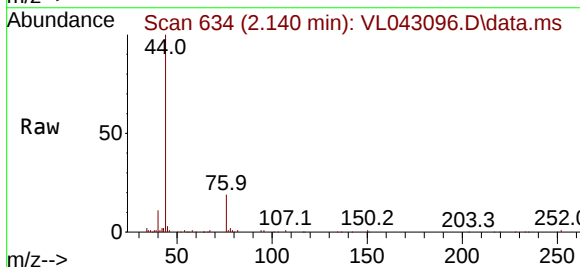
Instrument :
MSVOA_L
ClientSampleId :
SV5

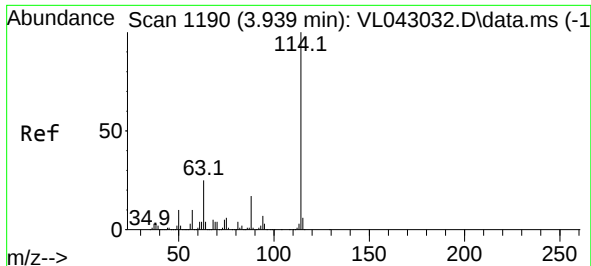
Tgt Ion: 57 Resp: 26630
Ion Ratio Lower Upper
57 100
41 111.4 76.1 114.1
43 80.5 201.4 302.0#
56 68.6 44.0 66.0#



#27
Carbon Disulfide
Concen: 0.112 ppbv
RT: 2.140 min Scan# 634
Delta R.T. -0.003 min
Lab File: VL043096.D
Acq: 09 Oct 2025 20:04

Tgt Ion: 76 Resp: 3490
Ion Ratio Lower Upper
76 100
44 2854.8 14.0 21.0#
78 17.1 9.4 14.0#





#33

1,4-Difluorobenzene

Concen: 10.000 ppbv

RT: 3.939 min Scan# 1190

Delta R.T. -0.000 min

Lab File: VL043096.D

Acq: 09 Oct 2025 20:04

Instrument :

MSVOA_L

ClientSampleId :

SV5

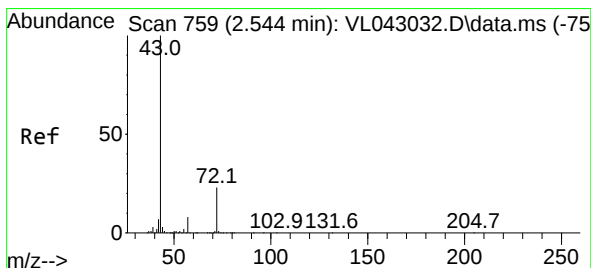
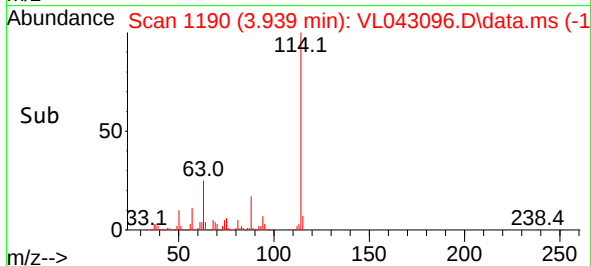
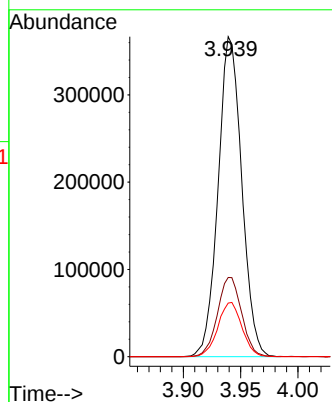
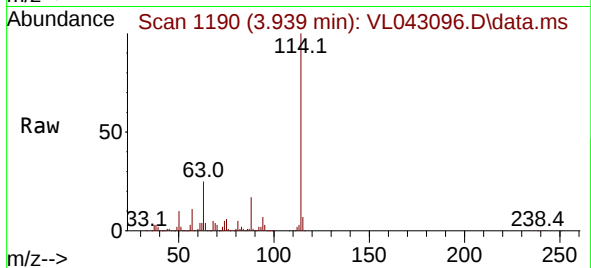
Tgt Ion:114 Resp: 525980

Ion Ratio Lower Upper

114 100

63 25.4 19.4 29.2

88 17.3 13.9 20.9



#34

2-Butanone

Concen: 0.106 ppbv

RT: 2.554 min Scan# 762

Delta R.T. 0.010 min

Lab File: VL043096.D

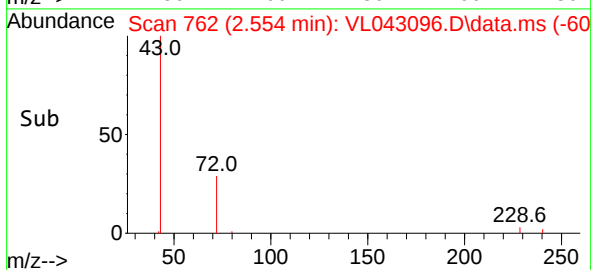
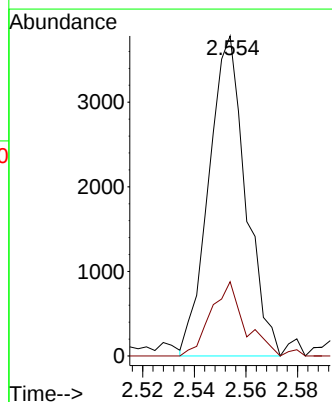
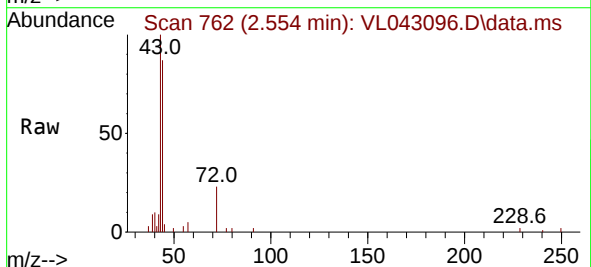
Acq: 09 Oct 2025 20:04

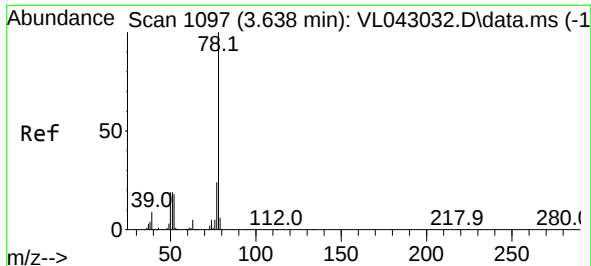
Tgt Ion: 43 Resp: 3769

Ion Ratio Lower Upper

43 100

72 21.8 18.4 27.6

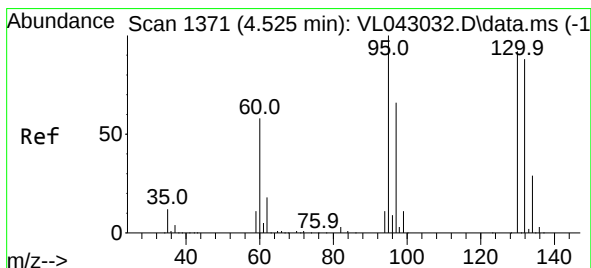
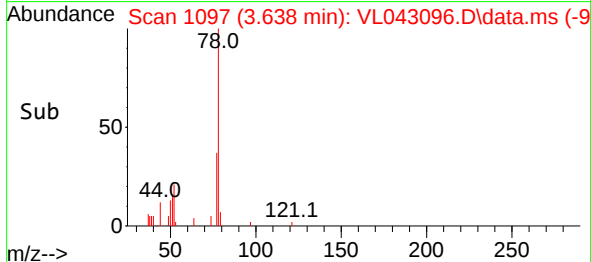
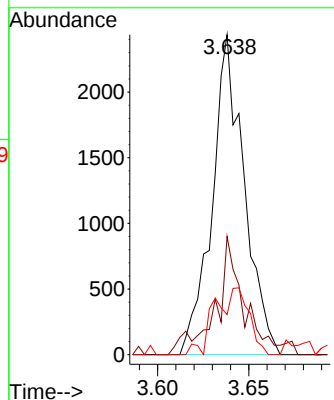
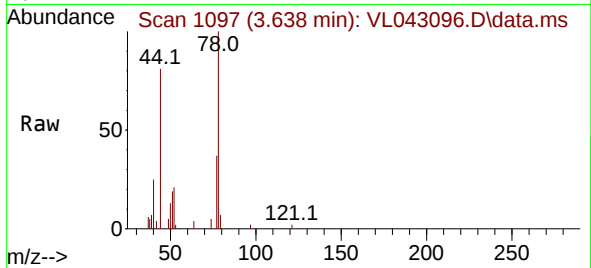




#36
Benzene
Concen: 0.059 ppbv
RT: 3.638 min Scan# 1097
Delta R.T. -0.000 min
Lab File: VL043096.D
Acq: 09 Oct 2025 20:04

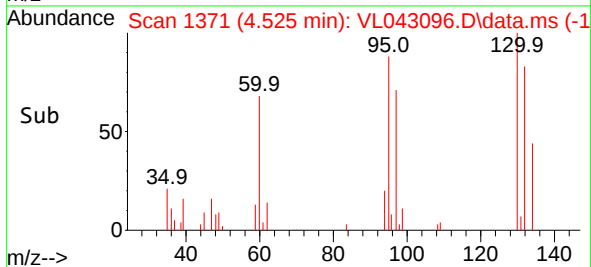
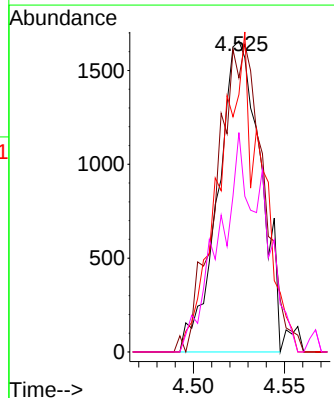
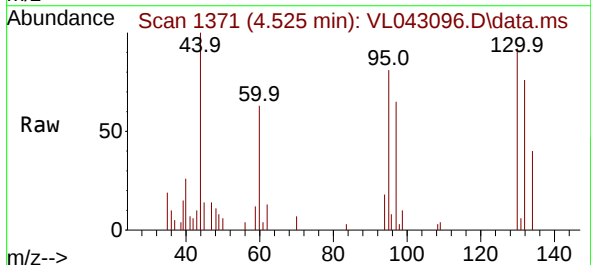
Instrument :
MSVOA_L
ClientSampleId :
SV5

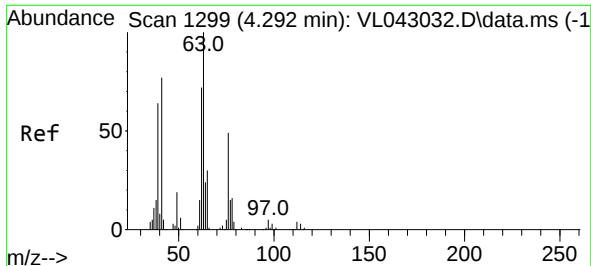
Tgt Ion: 78 Resp: 2982
Ion Ratio Lower Upper
78 100
77 34.0 19.2 28.8#
50 12.6 14.9 22.3#



#38
Trichloroethene
Concen: 0.128 ppbv
RT: 4.525 min Scan# 1371
Delta R.T. -0.000 min
Lab File: VL043096.D
Acq: 09 Oct 2025 20:04

Tgt Ion:130 Resp: 2684
Ion Ratio Lower Upper
130 100
95 91.1 86.4 129.6
132 82.8 75.7 113.5
97 70.5 56.9 85.3





#39

1,2-Dichloropropane

Concen: 7.157 ppbv

RT: 3.939 min Scan# 1190

Delta R.T. -0.353 min

Lab File: VL043096.D

Acq: 09 Oct 2025 20:04

Instrument :

MSVOA_L

ClientSampleId :

SV5

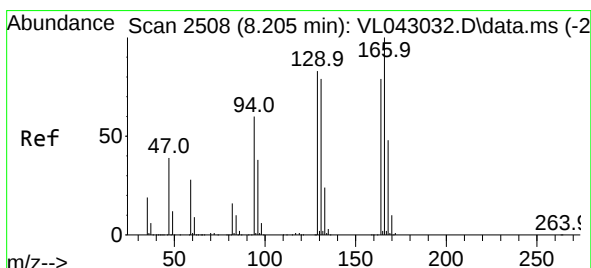
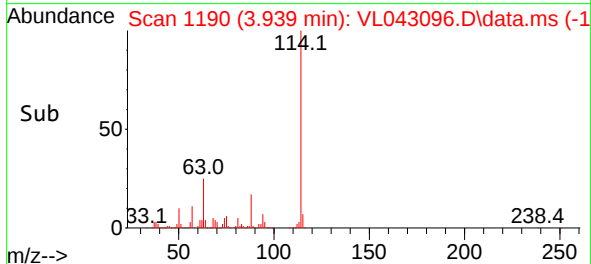
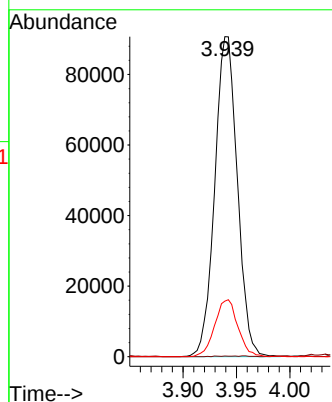
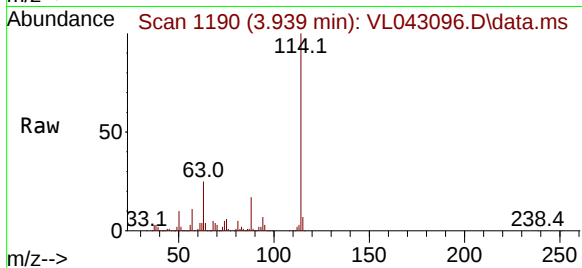
Tgt Ion: 63 Resp: 133310

Ion Ratio Lower Upper

63 100

41 0.2 61.6 92.4#

62 17.4 58.1 87.1#



#52

Tetrachloroethene

Concen: 0.771 ppbv

RT: 8.202 min Scan# 2507

Delta R.T. -0.003 min

Lab File: VL043096.D

Acq: 09 Oct 2025 20:04

Tgt Ion:164 Resp: 14338

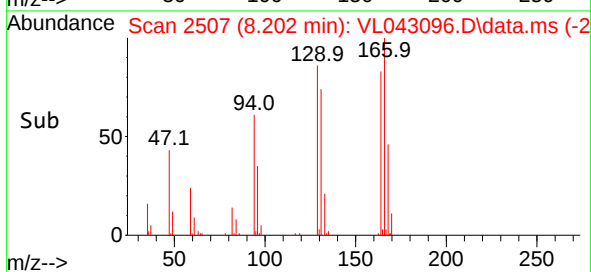
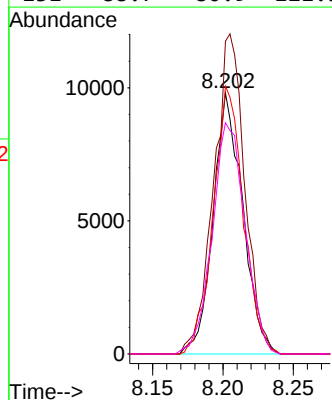
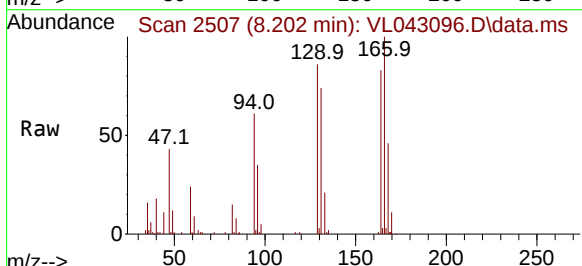
Ion Ratio Lower Upper

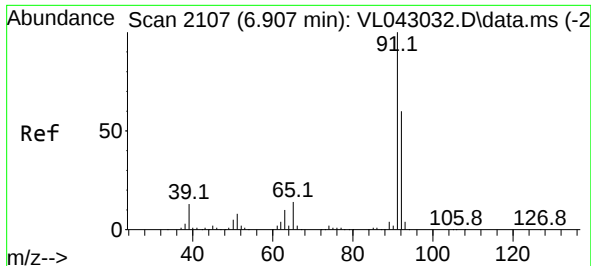
164 100

166 120.0 101.8 152.8

129 102.7 84.5 126.7

131 88.7 80.9 121.3

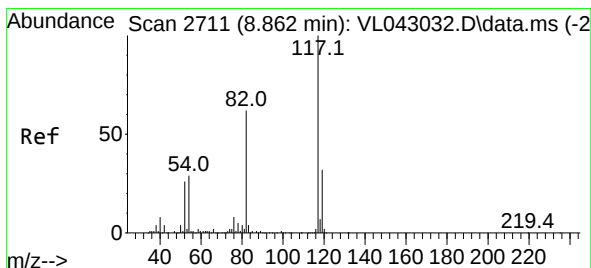
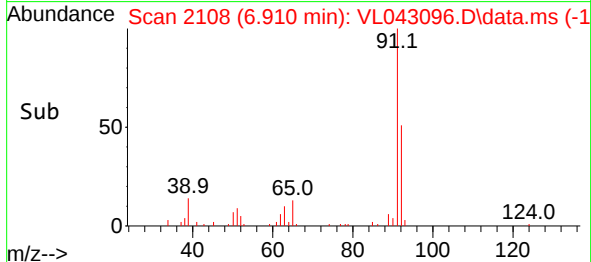
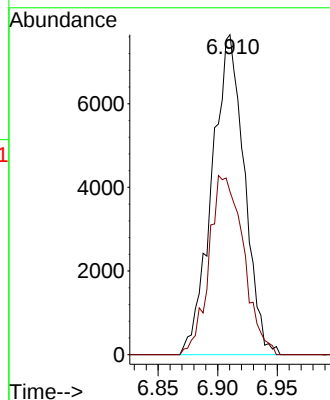
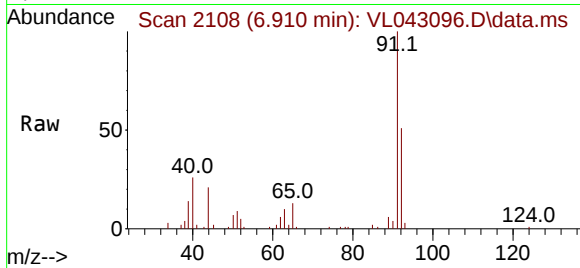




#53
Toluene
Concen: 0.286 ppbv
RT: 6.910 min Scan# 2107
Delta R.T. 0.003 min
Lab File: VL043096.D
Acq: 09 Oct 2025 20:04

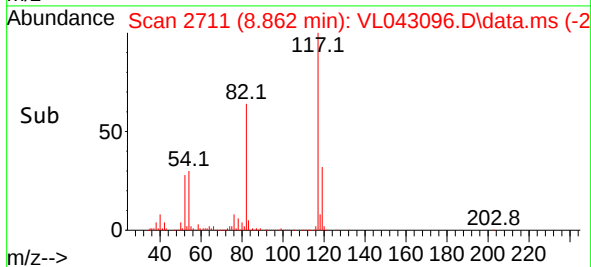
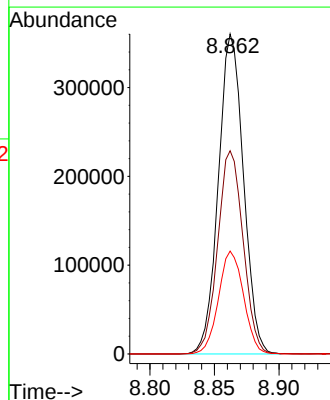
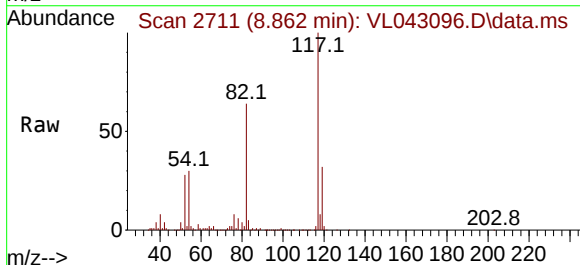
Instrument :
MSVOA_L
ClientSampleId :
SV5

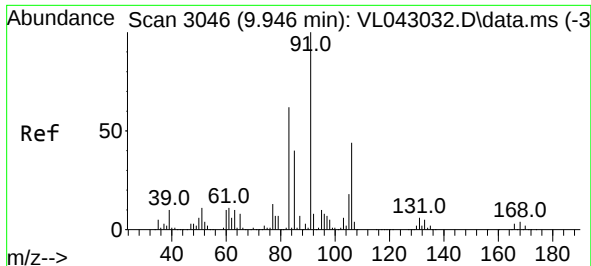
Tgt Ion: 91 Resp: 14491
Ion Ratio Lower Upper
91 100
92 59.5 47.8 71.6



#55
Chlorobenzene-d5
Concen: 10.000 ppbv
RT: 8.862 min Scan# 2711
Delta R.T. -0.000 min
Lab File: VL043096.D
Acq: 09 Oct 2025 20:04

Tgt Ion: 117 Resp: 487210
Ion Ratio Lower Upper
117 100
82 64.3 53.0 79.6
119 32.1 25.4 38.2

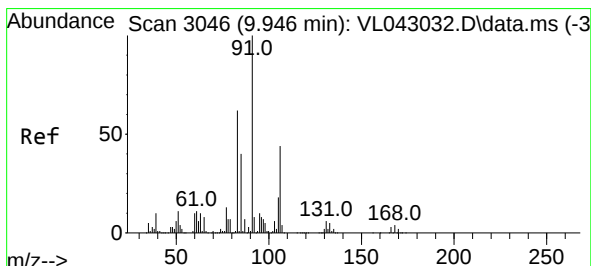
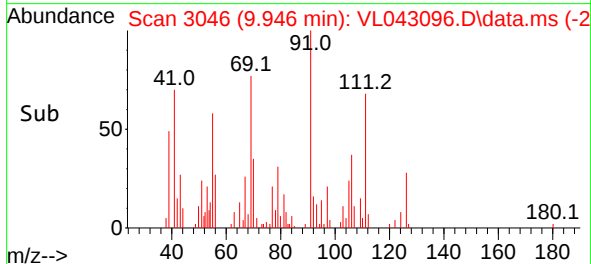
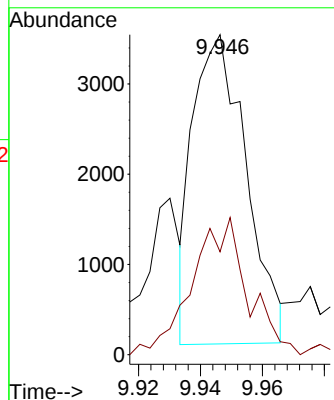
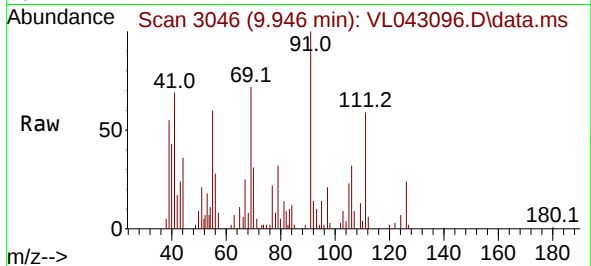




#60
o-Xylene
Concen: 0.064 ppbv
RT: 9.946 min Scan# 3041
Delta R.T. -0.000 min
Lab File: VL043096.D
Acq: 09 Oct 2025 20:04

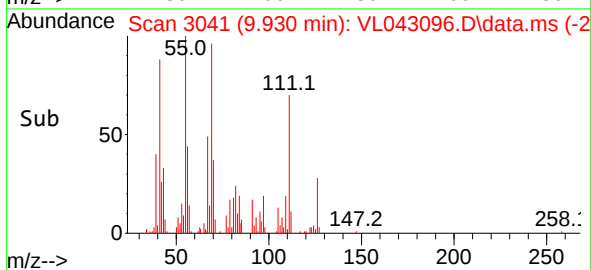
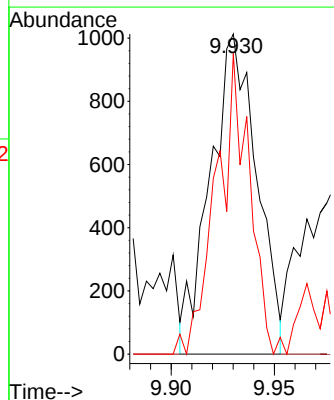
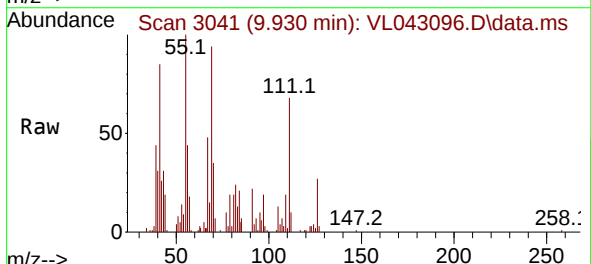
Instrument :
MSVOA_L
ClientSampleId :
SV5

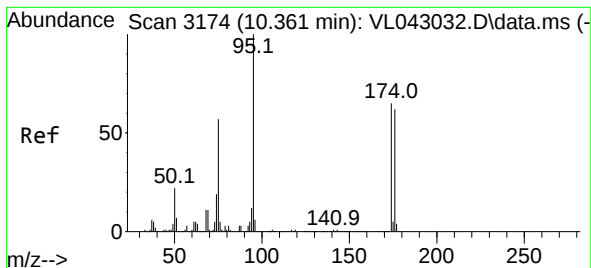
Tgt Ion: 91 Resp: 4082
Ion Ratio Lower Upper
91 100
106 48.7 21.9 65.5



#63
1,1,2,2-Tetrachloroethane
Concen: 0.035 ppbv
RT: 9.930 min Scan# 3041
Delta R.T. -0.016 min
Lab File: VL043096.D
Acq: 09 Oct 2025 20:04

Tgt Ion: 83 Resp: 1580
Ion Ratio Lower Upper
83 100
131 0.0 4.7 14.1#
85 66.7 32.0 96.2

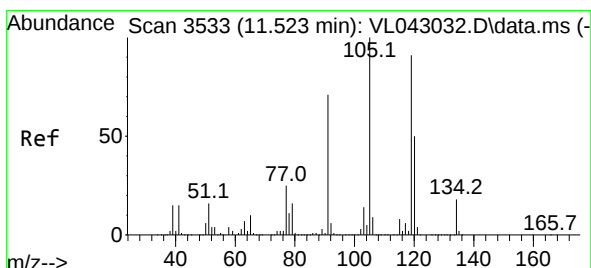
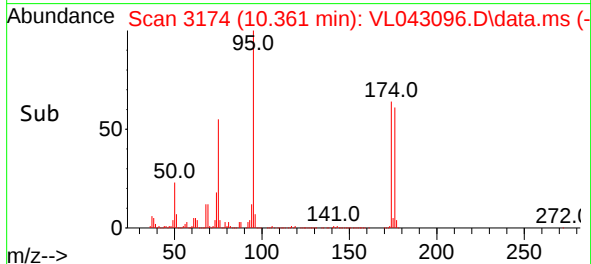
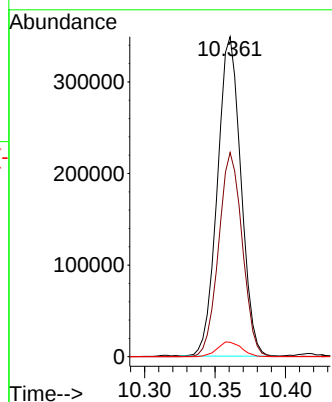
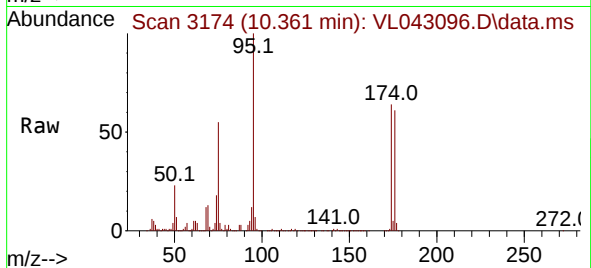




#68
1-Bromo-4-Fluorobenzene
Concen: 11.559 ppbv
RT: 10.361 min Scan# 3174
Delta R.T. -0.000 min
Lab File: VL043096.D
Acq: 09 Oct 2025 20:04

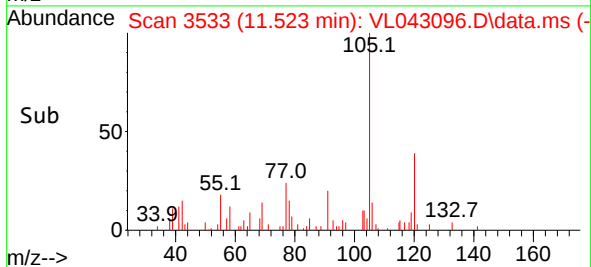
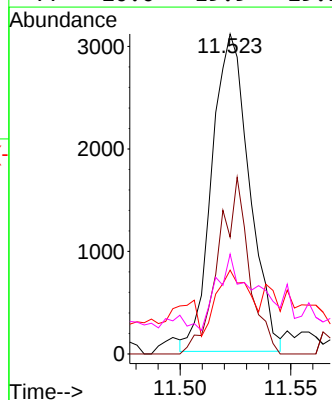
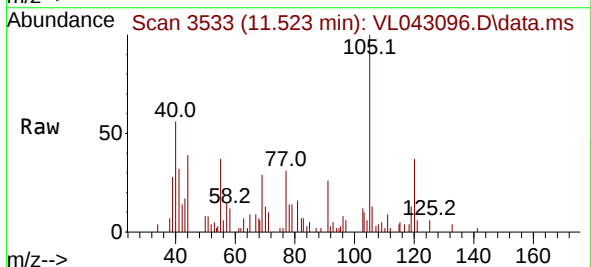
Instrument :
MSVOA_L
ClientSampleId :
SV5

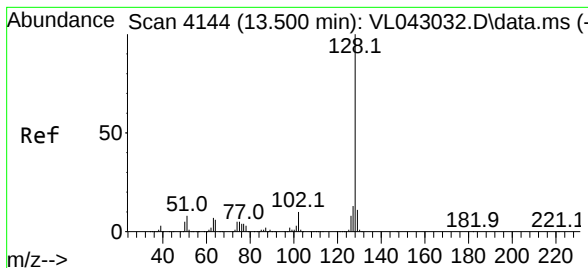
Tgt Ion: 95 Resp: 405687
Ion Ratio Lower Upper
95 100
174 64.6 52.3 78.5
175 4.8 3.8 5.8



#74
1,2,4-Trimethylbenzene
Concen: 0.050 ppbv
RT: 11.523 min Scan# 3533
Delta R.T. -0.000 min
Lab File: VL043096.D
Acq: 09 Oct 2025 20:04

Tgt Ion: 105 Resp: 3652
Ion Ratio Lower Upper
105 100
120 38.2 39.7 59.5#
91 13.5 56.5 84.7#
77 20.0 19.9 29.9





#79

Naphthalene

Concen: 0.242 ppbv

RT: 13.500 min Scan# 4144

Delta R.T. 0.000 min

Lab File: VL043096.D

Acq: 09 Oct 2025 20:04

Instrument :

MSVOA_L

ClientSampleId :

SV5

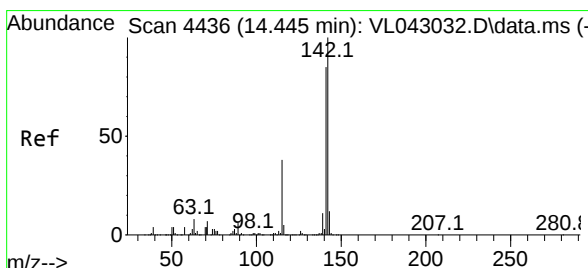
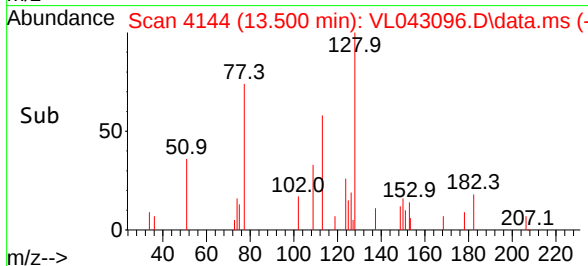
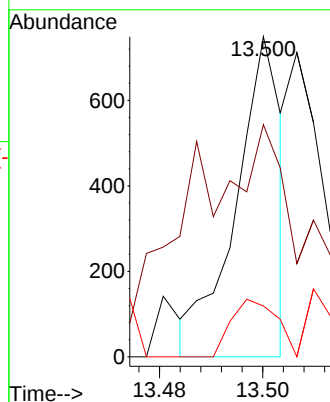
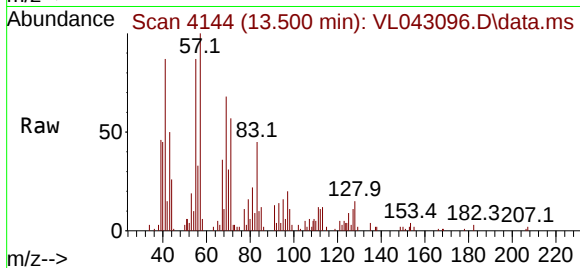
Tgt Ion:128 Resp: 461

Ion Ratio Lower Upper

128 100

127 39.5 10.6 16.0#

129 18.0 8.8 13.2#



#80

Naphthalene,2-methyl-

Concen: 0.709 ppbv

RT: 14.455 min Scan# 4439

Delta R.T. 0.010 min

Lab File: VL043096.D

Acq: 09 Oct 2025 20:04

Tgt Ion:142 Resp: 1449

Ion Ratio Lower Upper

142 100

141 88.9 66.6 100.0

115 86.3 30.1 45.1#

