

Data Path : Z:\voasrv\HPCHEM1\MSVOA_L\Data\VL060622\
 Data File : VL039177.D
 Acq On : 6 Jun 2022 8:37
 Operator : SY/AP
 Sample : VSTDCCC010
 Misc : 400mL/MSVOA_L
 ALS Vial : 1 Sample Multiplier: 1

Instrument :
 MSVOA_L
 ClientSampleId :
 VSTDCCC010

Quant Time: Jun 06 16:29:06 2022
 Quant Method : Z:\VOASRV\HPCHEM1\MSVOA_L\METHODS\VL053122AIR.M
 Quant Title : AIR ANALYSIS BY METHOD TO-15 Instrument: MSVOA_LWed Jun 01 01:22:18 2022
 QLast Update : Wed Jun 01 01:22:18 2022
 Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	5.66	49	1262951	10.00	ppbv	-0.01
33) 1,4-Difluorobenzene	7.17	114	3306165	10.00	ppbv	-0.01
55) Chlorobenzene-d5	12.08	117	4065168	10.00	ppbv	-0.02

System Monitoring Compounds

68) 1-Bromo-4-Fluorobenzene	14.40	95	2556381	7.61	ppbv	-0.01
Spiked Amount	10.000	Range	65 - 135	Recovery	=	76.10%

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Dichlorodifluoromethane	3.05	85	1766679	7.96	ppbv	97
3) Chlorodifluoromethane	2.99	51	1591004	9.90	ppbv	97
4) Chloromethane	3.14	50	877670	10.63	ppbv	99
5) Vinyl Chloride	3.26	62	815041	10.56	ppbv	96
6) Bromomethane	3.47	94	392500	10.34	ppbv	94
7) Chloroethane	3.56	64	279795	10.41	ppbv	100
8) Dichlorotetrafluoroethane	3.19	85	1971772	9.73	ppbv	96
9) Propene	3.01	41	750002	10.70	ppbv	99
10) Heptane	8.11	43	1819541	11.13	ppbv	99
11) Trichlorofluoromethane	3.95	101	1884185	9.38	ppbv	98
12) 1,1,2-Trichlorotrifluoroet	4.48	101	1371799	10.33	ppbv	99
13) Ethanol	3.60	45	21135	5.53	ppbv #	100
14) Bromoethene	3.74	108	624208	10.46	ppbv	97
15) Acetone	3.84	43	1346785	10.24	ppbv	99
16) 1,3-Butadiene	3.33	39	746342	10.55	ppbv	100
17) tert-Butyl alcohol	4.28	59	1049553	10.29	ppbv	99
18) 1,1-Dichloroethene	4.29	96	616217	10.34	ppbv	98
19) Isopropyl Alcohol	3.96	45	610300	9.89	ppbv	100
20) Methylene Chloride	4.34	84	480447	8.67	ppbv	94
21) Allyl Chloride	4.41	41	946586	10.67	ppbv	99
22) trans-1,2-Dichloroethene	4.88	96	628586	10.97	ppbv	96
23) Vinyl Acetate	5.07	43	984819	9.05	ppbv	98
24) 1,1-Dichloroethane	5.01	63	1230663	8.25	ppbv	98
25) Ethyl Acetate	5.67	43	3154067	10.64	ppbv	99
26) Hexane	5.68	57	1388098	10.65	ppbv	99
27) Carbon Disulfide	4.55	76	1503825	11.14	ppbv	99
28) Methyl tert-Butyl Ether	5.03	73	1120276	7.79	ppbv	98
29) Chloroform	5.75	83	2255109	10.28	ppbv	97
30) Cyclohexane	7.12	84	1210591	11.06	ppbv	96
31) cis-1,2-Dichloroethene	5.54	61	1408835	10.60	ppbv	97
32) 1,1,1-Trichloroethane	6.50	97	2254600	10.51	ppbv	99
34) 2-Butanone	5.24	43	1823598	10.15	ppbv	98
35) Carbon Tetrachloride	7.01	117	2312361	9.58	ppbv	97
36) Benzene	6.89	78	2935148	10.94	ppbv	98
37) 1,2-Dichloroethane	6.30	62	1705254	9.65	ppbv	97
38) Trichloroethene	7.83	130	1383752	11.22	ppbv	97
39) 1,2-Dichloropropane	7.61	63	1125334	10.54	ppbv	95
40) 1,4-Dioxane	7.82	88	216874	6.17	ppbv #	1
41) Tetrahydrofuran	6.04	42	1190226	11.02	ppbv	99
42) Bromodichloromethane	7.78	83	2487519	10.15	ppbv	96
43) Methyl Methacrylate	8.01	69	1209690	11.57	ppbv	95

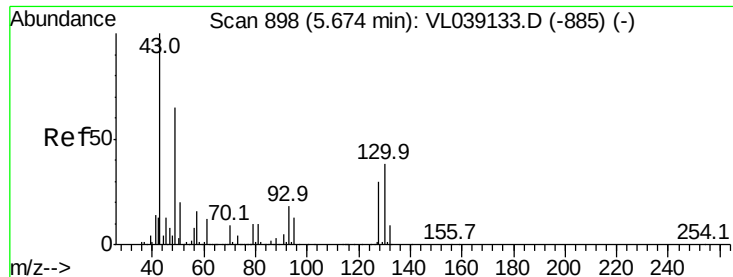
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 Quant Title : AIR ANALYSIS BY METHOD TO-15 Instrument: MSVOA_LWed Jun 01 01:22:18 2022
 QLast Update : Wed Jun 01 01:22:18 2022
 Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
44) 2,2,4-Trimethylpentane	7.86	57	4818425	10.26	ppbv	99
45) t-1,3-Dichloropropene	9.27	75	1314586	12.07	ppbv	98
46) cis-1,3-Dichloropropene	8.69	75	1652476	11.49	ppbv	99
47) 1,1,2-Trichloroethane	9.47	97	1207266	10.84	ppbv	98
48) Dibromochloromethane	10.29	129	2100361	10.56	ppbv	99
49) Bromoform	13.03	173	1784059	10.76	ppbv	98
50) 4-Methyl-2-Pentanone	8.73	43	2944263	10.95	ppbv	99
51) 2-Hexanone	10.12	43	2325312	11.11	ppbv	99
52) Tetrachloroethene	11.21	164	1079188	10.30	ppbv	95
53) Toluene	9.80	91	3424579	11.08	ppbv	100
54) 1,2-Dibromoethane	10.60	107	1690698	11.30	ppbv	94
56) 1,1,1,2-Tetrachloroethane	12.11	131	1488024	7.74	ppbv	97
57) Chlorobenzene	12.14	112	2500400	8.17	ppbv	96
58) Ethyl Benzene	12.70	91	4625573	8.26	ppbv	99
59) m/p-Xylene	12.99	91	4545719	9.22	ppbv #	48
60) o-Xylene	13.68	91	3711856	8.01	ppbv	100
61) Styrene	13.52	104	2216041	8.93	ppbv	96
62) Isopropylbenzene	14.65	105	5389423	7.83	ppbv	99
63) 1,1,2,2-Tetrachloroethane	13.66	83	1958337	7.53	ppbv	100
64) n-propylbenzene	15.55	120	1402949	8.29	ppbv	96
65) tert-Butylbenzene	16.73	119	4781875	7.59	ppbv	98
66) Benzyl Chloride	16.98	91	756372	9.24	ppbv	99
67) sec-Butylbenzene	17.28	105	6741984	7.85	ppbv	100
69) p-Isopropyltoluene	17.64	119	5603320	7.73	ppbv	99
70) n-Butylbenzene	18.54	91	5910195	7.94	ppbv	100
71) 2-Chlorotoluene	15.44	91	4137897	7.88	ppbv	100
72) 4-Ethyltoluene	15.82	105	4454101	8.20	ppbv	99
73) 1,3,5-Trimethylbenzene	15.99	105	3960806	8.09	ppbv	99
74) 1,2,4-Trimethylbenzene	16.75	105	4223612	7.73	ppbv	97
75) 1,3-Dichlorobenzene	16.99	146	2493535	8.06	ppbv	99
76) 1,4-Dichlorobenzene	17.13	146	2469709	8.00	ppbv	98
77) 1,2-Dichlorobenzene	17.81	146	2431180	7.80	ppbv	99
78) Hexachloro-1,3-Butadiene	23.36	225	1991657	6.98	ppbv	98
79) Naphthalene	22.18	128	3965251	9.42	ppbv	99
80) Naphthalene,2-methyl-	24.96	142	1598840	10.23	ppbv	98
81) 1,2,4-Trichlorobenzene	21.91	180	2227386	8.36	ppbv #	100

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



#1

Bromochloromethane

Concen: 10.00 ppbv

RT: 5.66 Instrument:

Delta R.T. MSVOA_L

Lab File: ClientSampleId:

Acq: 6 Jun 2022 8:37 VSTDCCC010

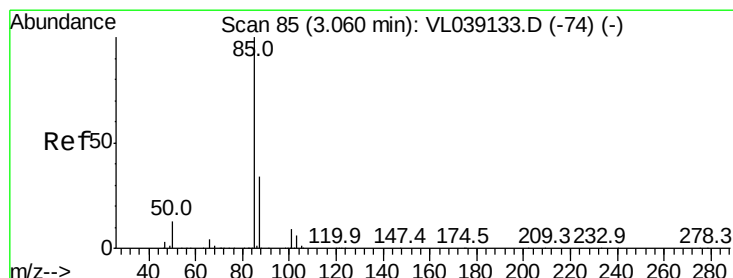
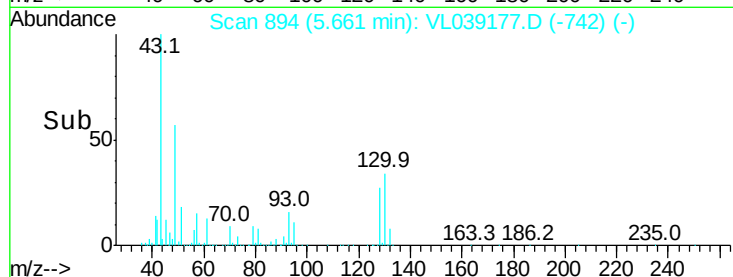
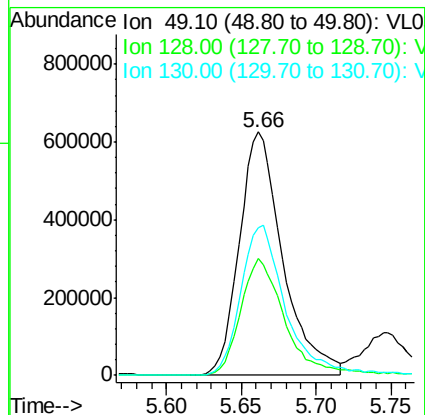
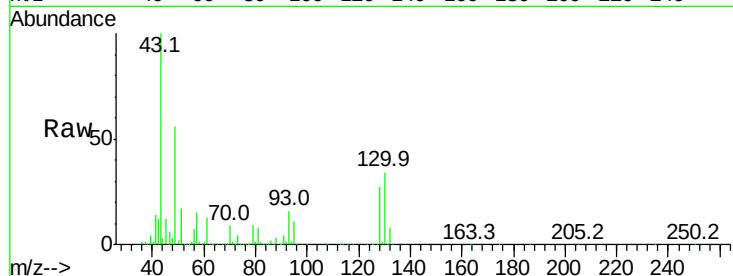
Tgt Ion: 49 Resp: 1262951

Ion Ratio Lower Upper

49 100

128 49.4 24.7 74.1

130 65.5 31.4 94.0



#2

Dichlorodifluoromethane

Concen: 7.96 ppbv

RT: 3.05 min Scan# 81

Delta R.T. -0.01 min

Lab File: VL039177.D

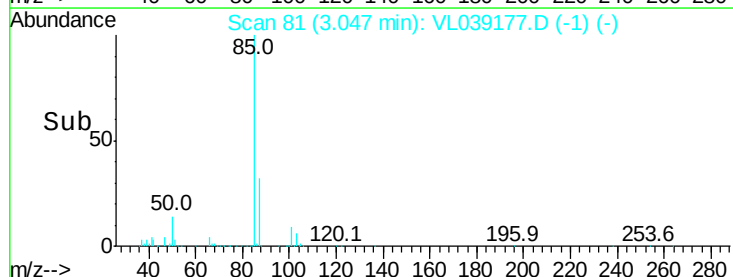
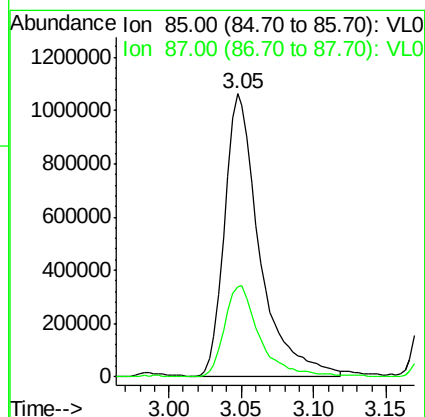
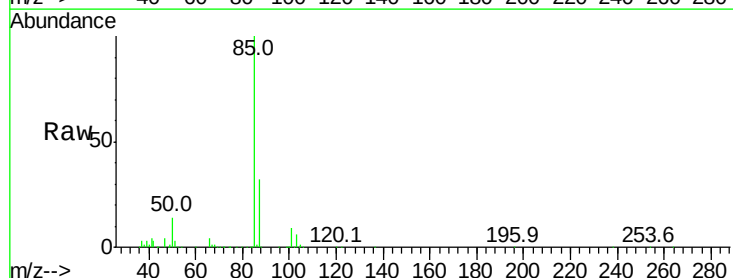
Acq: 6 Jun 2022 8:37

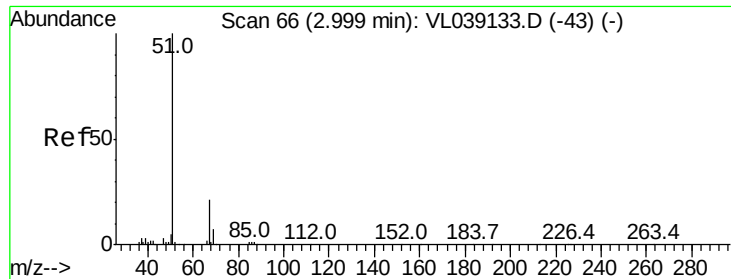
Tgt Ion: 85 Resp: 1766679

Ion Ratio Lower Upper

85 100

87 32.0 26.9 40.3





#3

Chlorodifluoromethane

Concen: 9.90 ppbv

RT: 2.99 Instrument: MSVOA_1

Delta R.T. ClientSampleId:

Lab File: VSTDCCC010

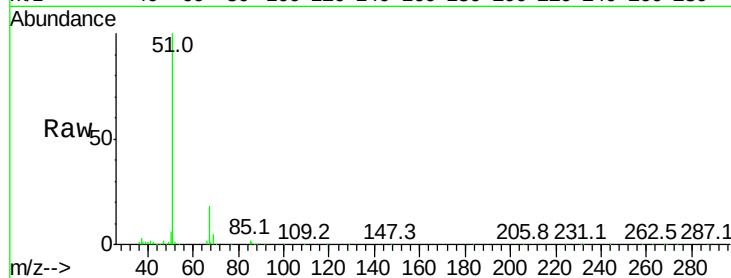
Acq: 6 Jun 2022 8:37

Tgt Ion: 51 Resp: 1591004

Ion Ratio Lower Upper

51 100

67 18.8 16.2 24.4



Abundance Ion 51.00 (50.70 to 51.70): VL0

Ion 67.00 (66.70 to 67.70): VL0

2.99

800000

600000

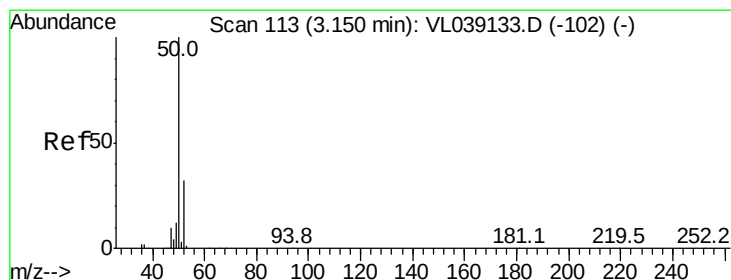
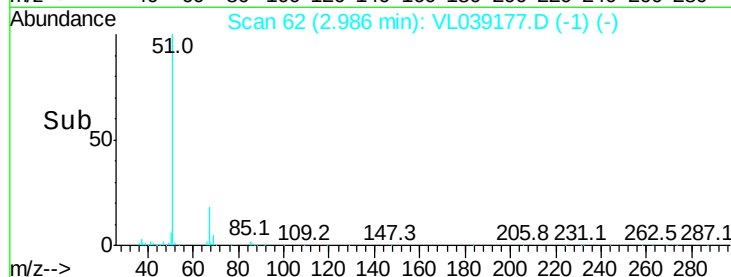
400000

200000

0

Time-->

2.90 3.00 3.10



#4

Chloromethane

Concen: 10.63 ppbv

RT: 3.14 min Scan# 109

Delta R.T. -0.01 min

Lab File: VL039177.D

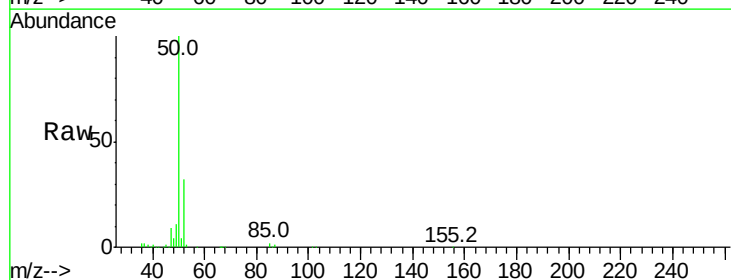
Acq: 6 Jun 2022 8:37

Tgt Ion: 50 Resp: 877670

Ion Ratio Lower Upper

50 100

52 31.8 25.9 38.9



Abundance Ion 50.10 (49.80 to 50.80): VL0

Ion 52.10 (51.80 to 52.80): VL0

3.14

500000

400000

300000

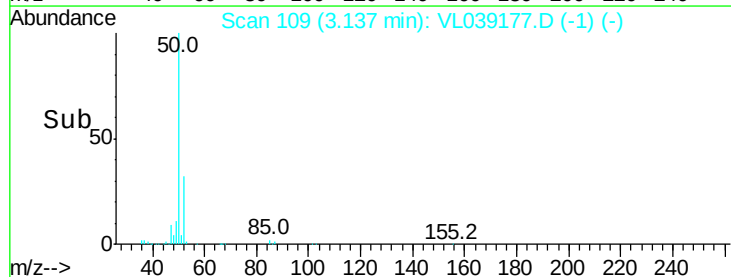
200000

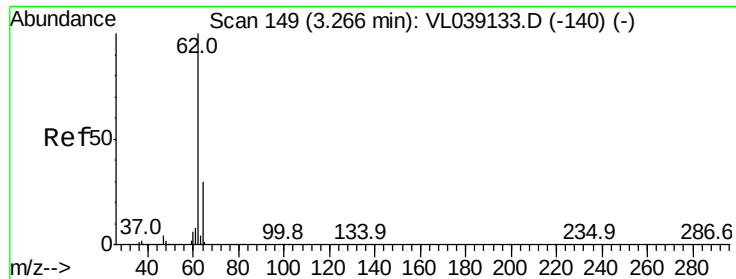
100000

0

Time-->

3.10 3.15





#5

Vinyl Chloride

Concen: 10.56 ppbv

RT: 3.26 Instrument: MSVOA_1

Delta R.T. -0.01 min

Lab File: ClientSampleId: VSTDCCC010

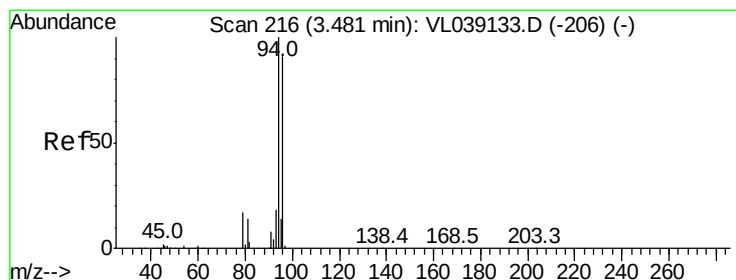
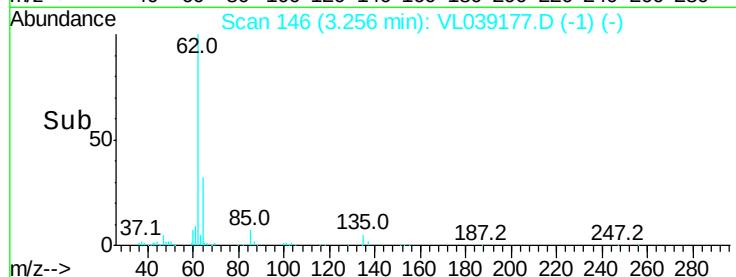
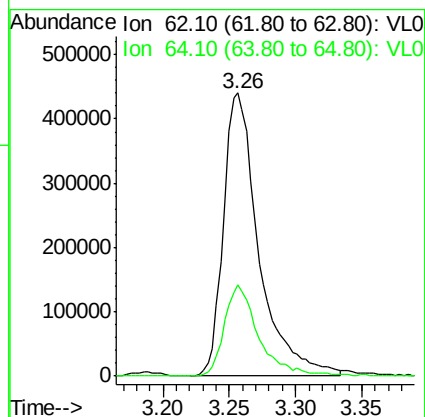
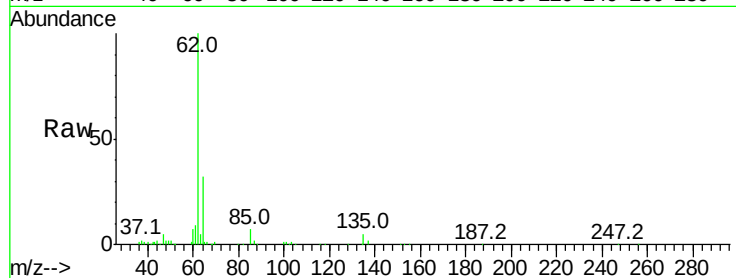
Acq: 6 Jun 2022 8:37

Tgt Ion: 62 Resp: 815041

Ion	Ratio	Lower	Upper
62	100		
64	32.2	24.2	36.2

62 100

64 32.2 24.2 36.2



#6

Bromomethane

Concen: 10.34 ppbv

RT: 3.47 min Scan# 214

Delta R.T. -0.01 min

Lab File: VL039177.D

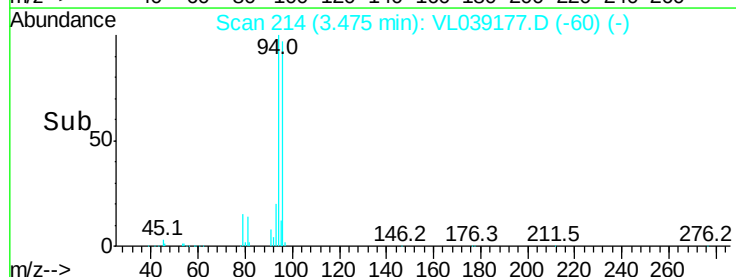
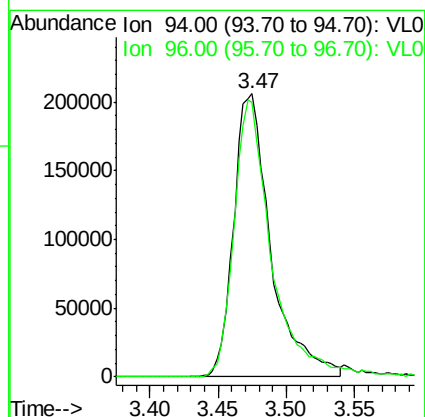
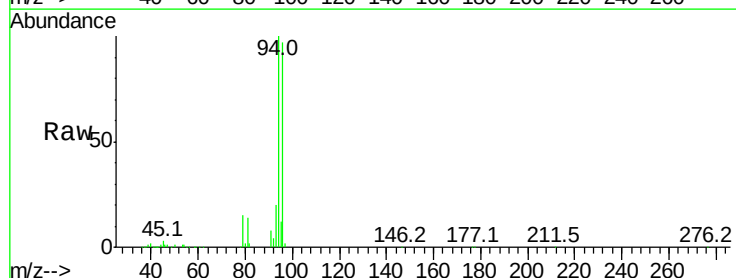
Acq: 6 Jun 2022 8:37

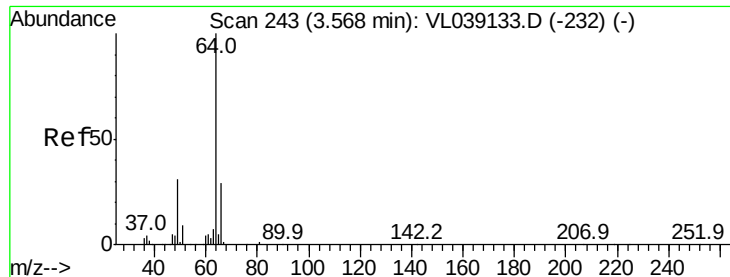
Tgt Ion: 94 Resp: 392500

Ion	Ratio	Lower	Upper
94	100		
96	96.9	73.0	109.4

94 100

96 96.9 73.0 109.4





#7

Chloroethane

Concen: 10.41 ppbv

RT: 3.56 Instrument: MSVOA_1

Delta R.T.

Lab File: ClientSampleId:

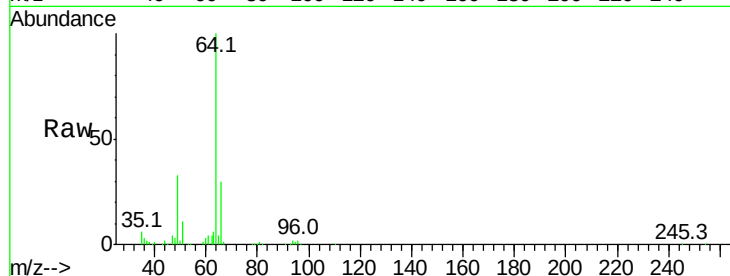
Acq: 6 Jun 2022 8:37

Tgt Ion: 64 Resp: 279795

Ion Ratio Lower Upper

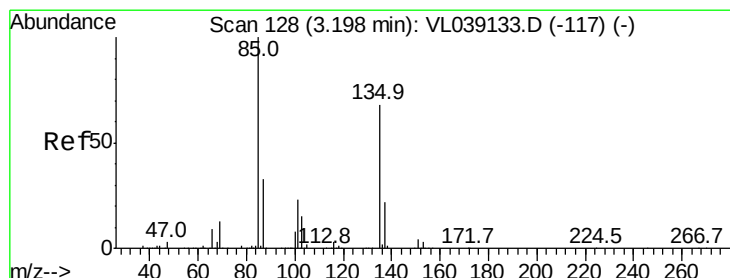
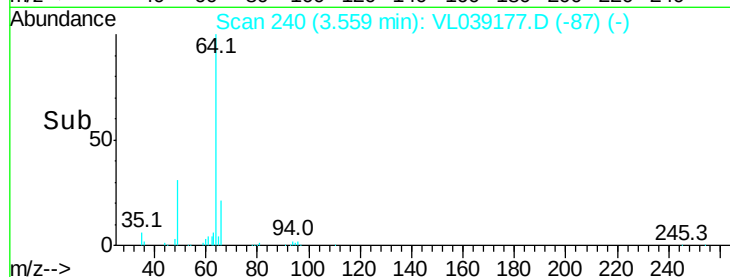
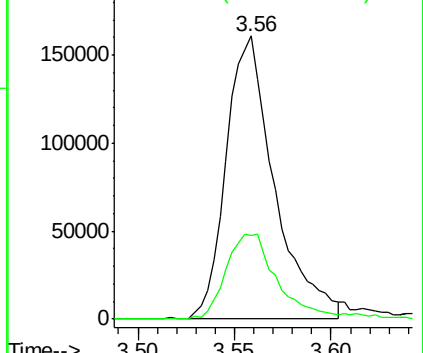
64 100

66 29.6 23.6 35.4



Abundance Ion 64.10 (63.80 to 64.80): VL0

Ion 66.10 (65.80 to 66.80): VL0



#8

Dichlorotetrafluoroethane

Concen: 9.73 ppbv

RT: 3.19 min Scan# 124

Delta R.T. -0.01 min

Lab File: VL039177.D

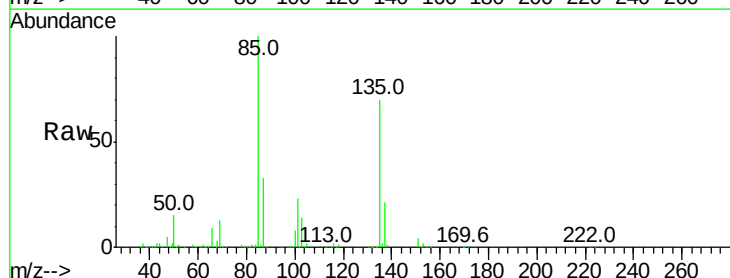
Acq: 6 Jun 2022 8:37

Tgt Ion: 85 Resp: 1971772

Ion Ratio Lower Upper

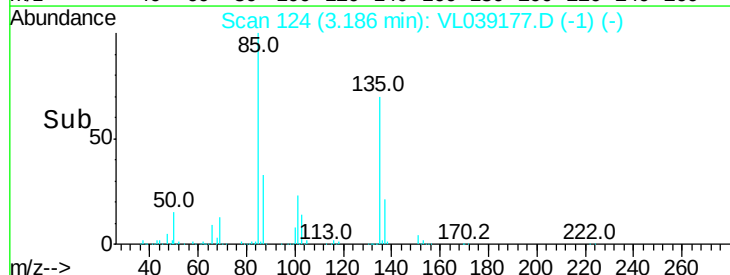
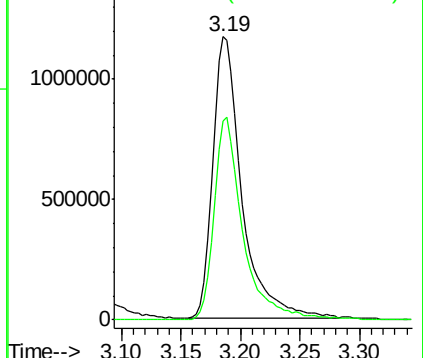
85 100

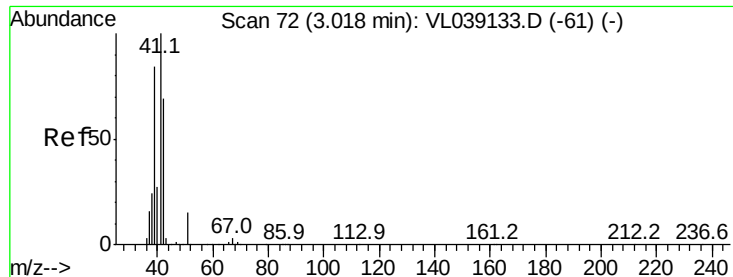
135 72.3 55.0 82.4



Abundance Ion 85.00 (84.70 to 85.70): VL0

Ion 135.00 (134.70 to 135.70): VL0





#9

Propene

Concen: 10.70 ppbv

RT: 3.01 Instrument: MSVOA_1

Delta R.T. -0.01 min

Lab File: ClientSampleId: VSTDCCC010

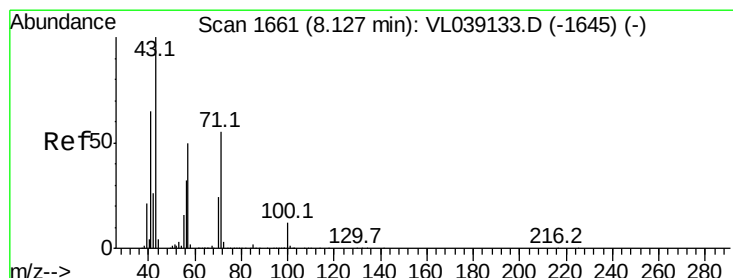
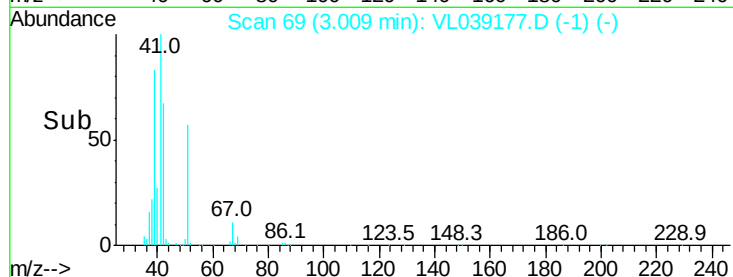
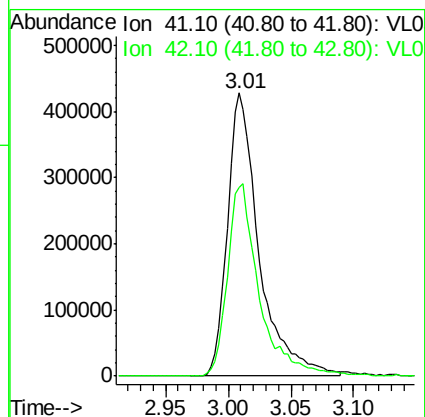
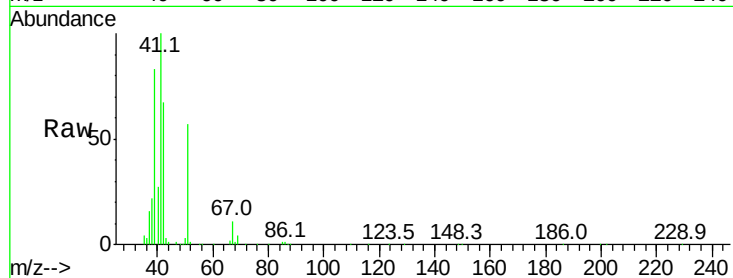
Acq: 6 Jun 2022 8:37

Tgt Ion: 41 Resp: 750002

Ion Ratio Lower Upper

41 100

42 68.7 55.4 83.2



#10

Heptane

Concen: 11.13 ppbv

RT: 8.11 min Scan# 1657

Delta R.T. -0.01 min

Lab File: VL039177.D

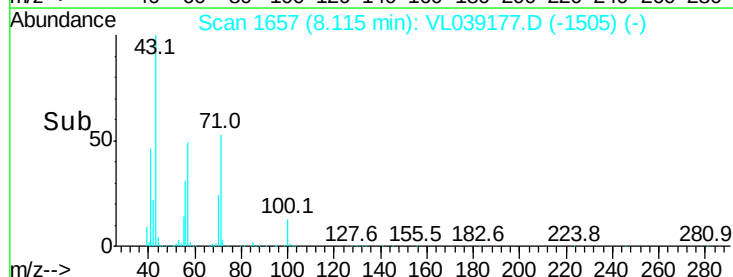
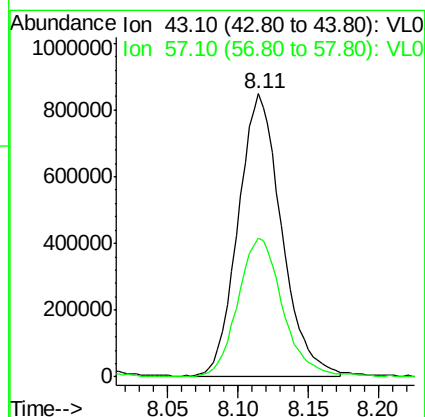
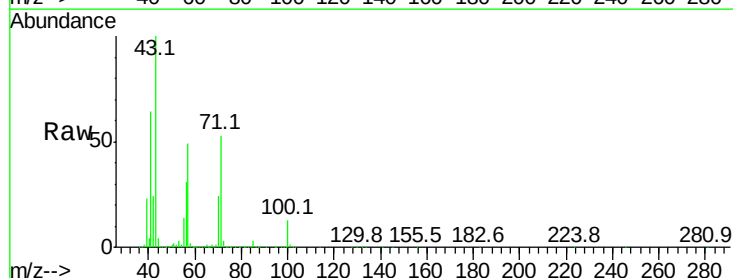
Acq: 6 Jun 2022 8:37

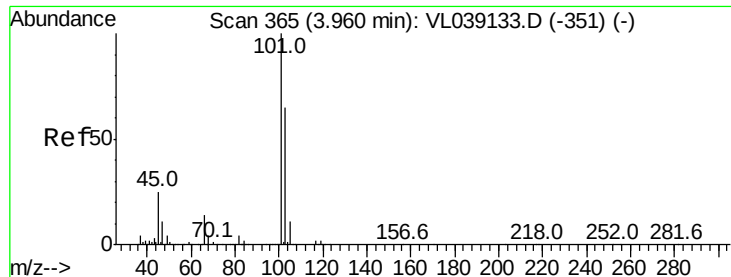
Tgt Ion: 43 Resp: 1819541

Ion Ratio Lower Upper

43 100

57 51.2 41.4 62.2





#11

Trichlorofluoromethane

Concen: 9.38 ppbv

RT: 3.95 Instrument: MSVOA_1

Delta R.T.

Lab File: ClientSampleId:

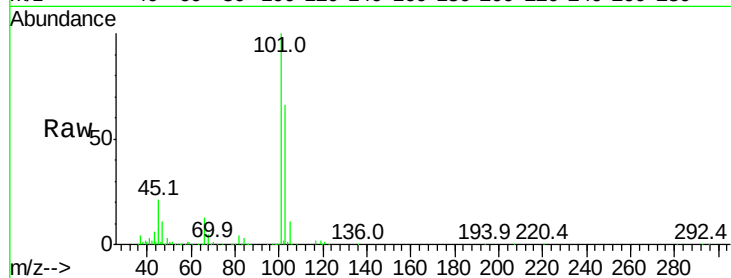
Acq: 6 Jun 2022 8:37

Tgt Ion:101 Resp: 1884185

Ion Ratio Lower Upper

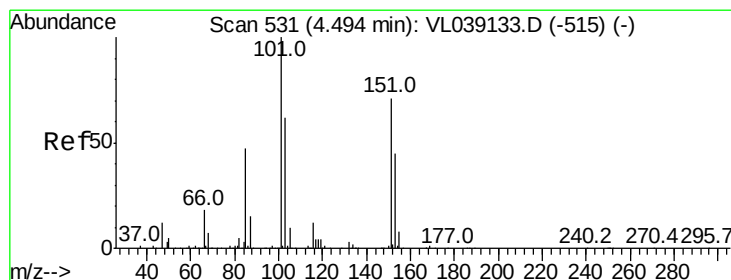
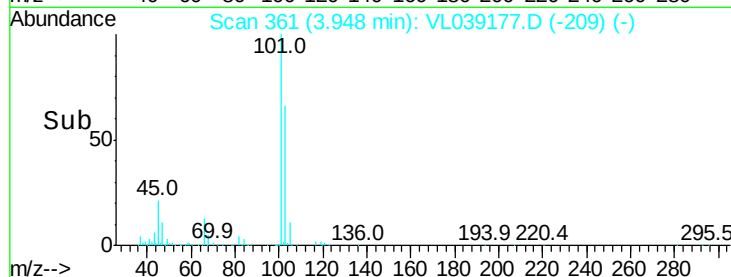
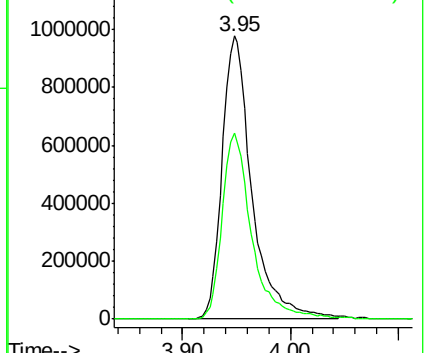
101 100

103 65.9 51.7 77.5



Abundance Ion 101.00 (100.70 to 101.70): V

Ion 103.00 (102.70 to 103.70): V



#12

1,1,2-Trichlorotrifluoroethane

Concen: 10.33 ppbv

RT: 4.48 min Scan# 527

Delta R.T. -0.01 min

Lab File: VL039177.D

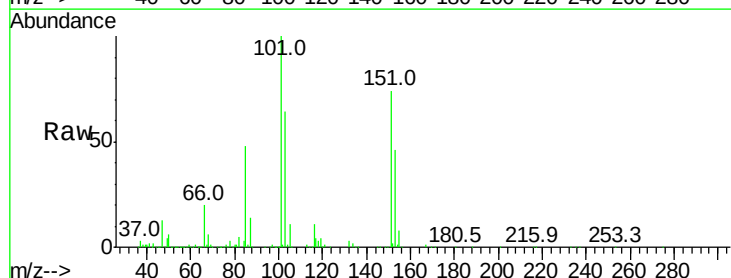
Acq: 6 Jun 2022 8:37

Tgt Ion:101 Resp: 1371799

Ion Ratio Lower Upper

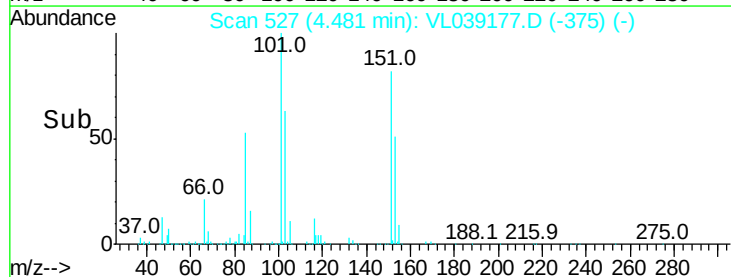
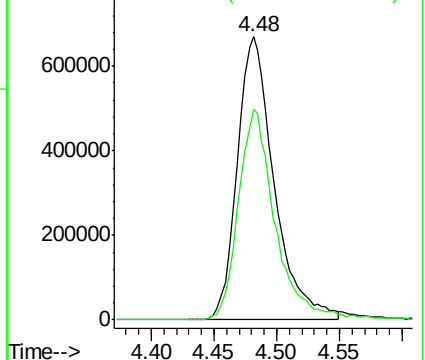
101 100

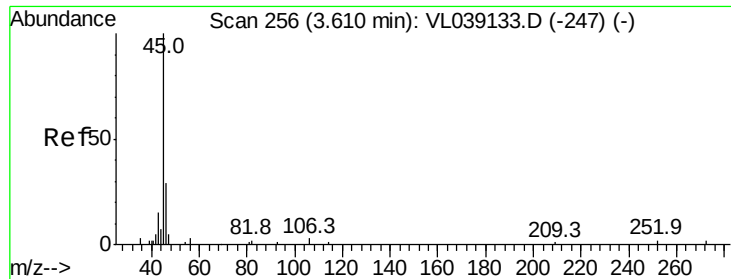
151 74.8 59.4 89.0



Abundance Ion 101.00 (100.70 to 101.70): V

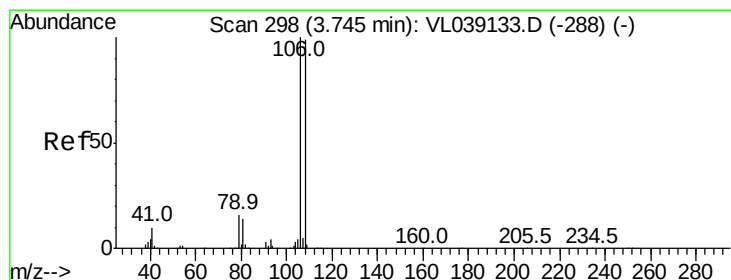
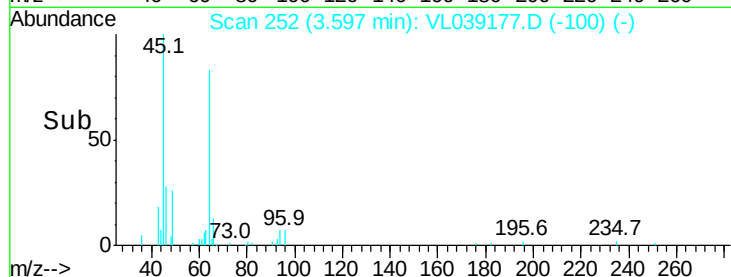
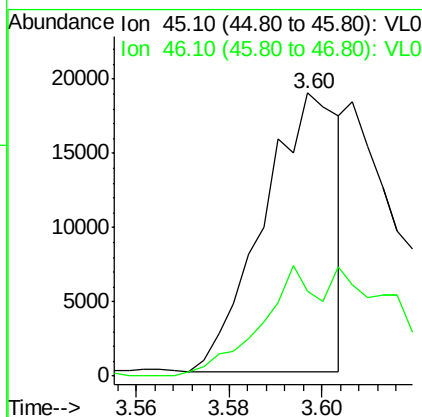
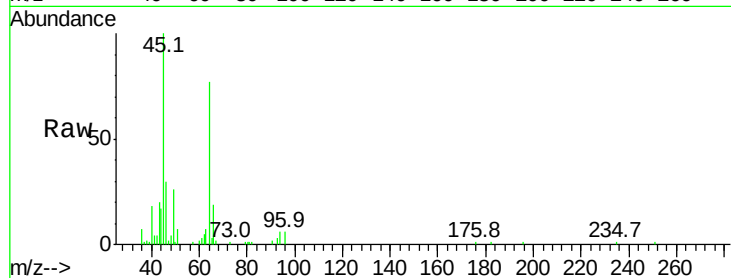
Ion 151.00 (150.70 to 151.70): V





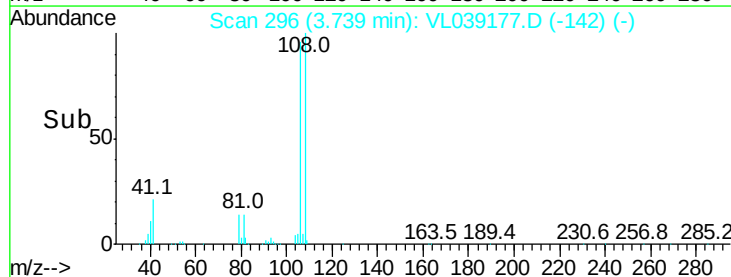
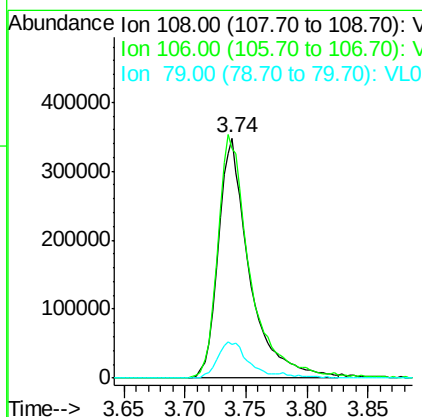
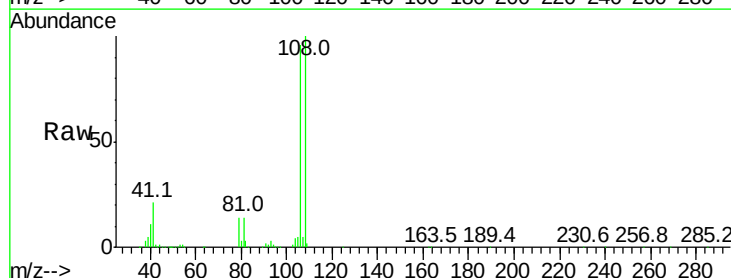
#13
 Ethanol
 Concen: 5.53 ppbv
 RT: 3.60
 Delta R.T. MSVOA_L
 Lab File: ClientSampleId:
 VSTDCCC010
 Acq: 6 Jun 2022 8:37

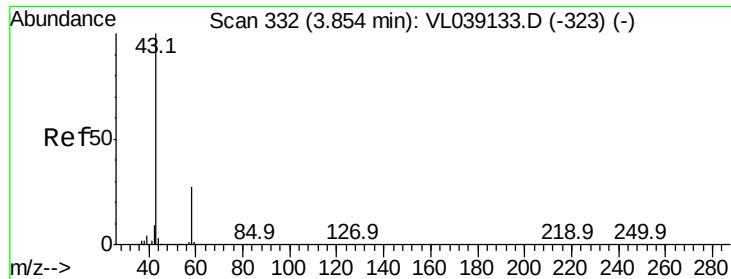
Tgt Ion: 45 Resp: 21135
 Ion Ratio Lower Upper
 45 100
 46 92.9 0.0 0.0#



#14
 Bromoethene
 Concen: 10.46 ppbv
 RT: 3.74 min Scan# 296
 Delta R.T. -0.01 min
 Lab File: VL039177.D
 Acq: 6 Jun 2022 8:37

Tgt Ion: 108 Resp: 624208
 Ion Ratio Lower Upper
 108 100
 106 106.3 88.4 132.6
 79 16.6 13.4 20.2





#15

Acetone

Concen: 10.24 ppbv

RT: 3.84 Instrument:

Delta R.T. MSVOA_1

Lab File: ClientSampleId:

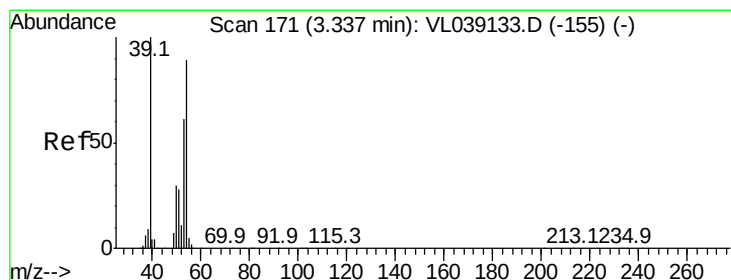
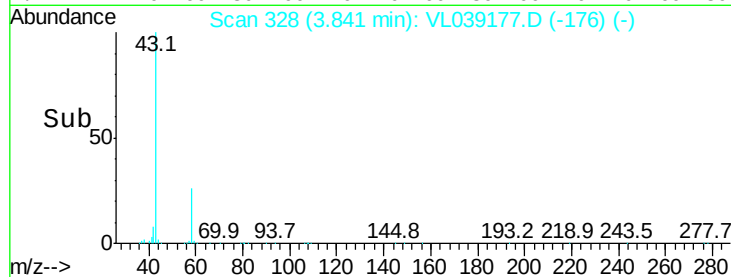
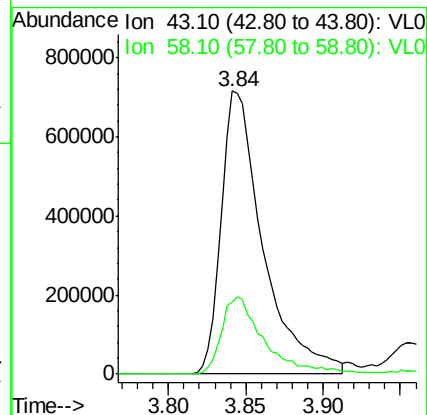
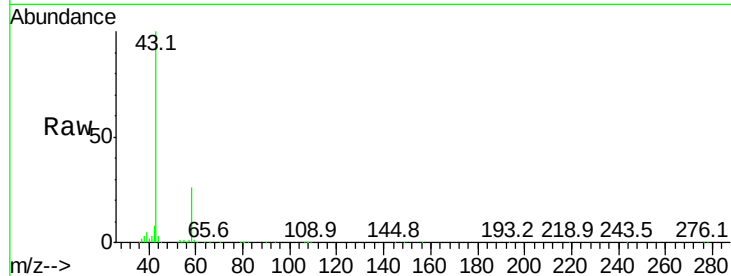
Acq: 6 Jun 2022 8:37 VSTDCCC010

Tgt Ion: 43 Resp: 1346785

Ion Ratio Lower Upper

43 100

58 27.8 22.5 33.7



#16

1,3-Butadiene

Concen: 10.55 ppbv

RT: 3.33 min Scan# 168

Delta R.T. -0.01 min

Lab File: VL039177.D

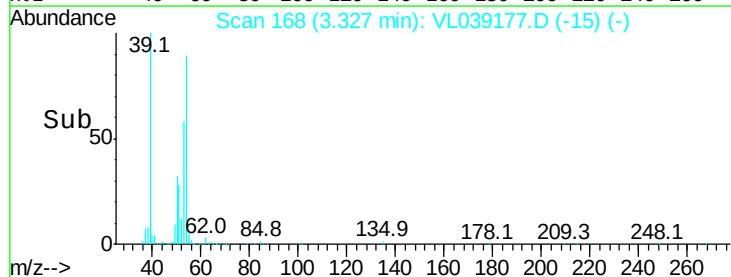
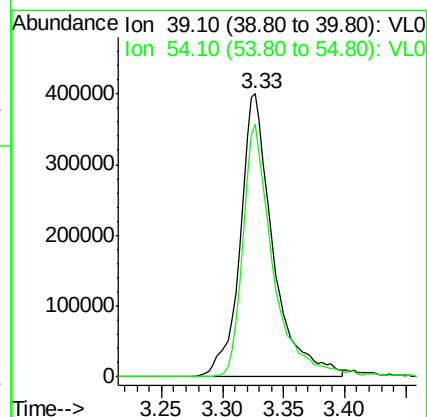
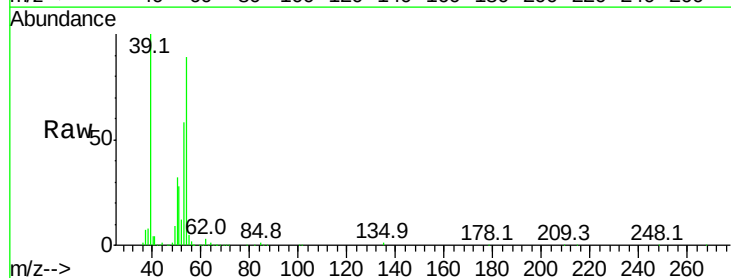
Acq: 6 Jun 2022 8:37

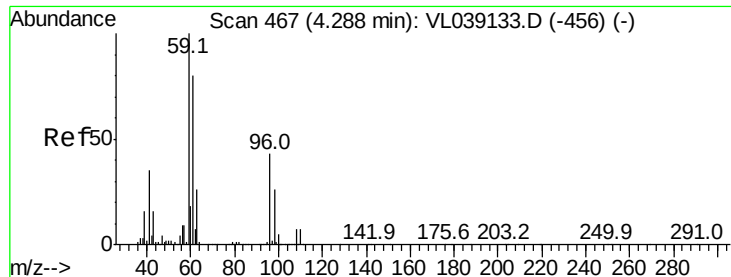
Tgt Ion: 39 Resp: 746342

Ion Ratio Lower Upper

39 100

54 82.6 65.8 98.6





#17

tert-Butyl alcohol

Concen: 10.29 ppbv

RT: 4.28 Instrument: MSVOA_1

Delta R.T.:

Lab File: ClientSampleId:

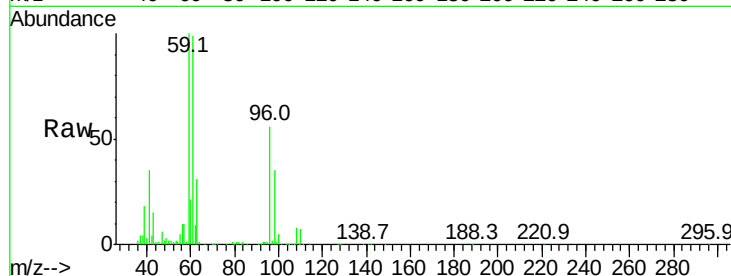
Acq: 6 Jun 2022 8:37

Tgt Ion: 59 Resp: 1049553

Ion Ratio Lower Upper

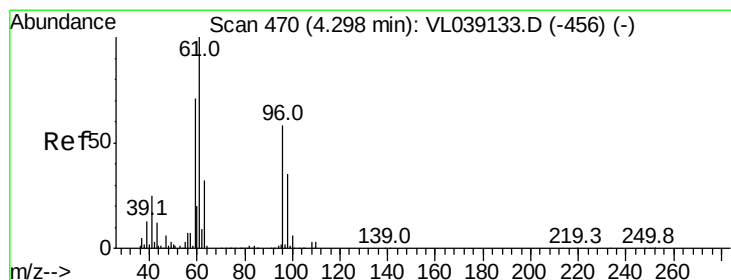
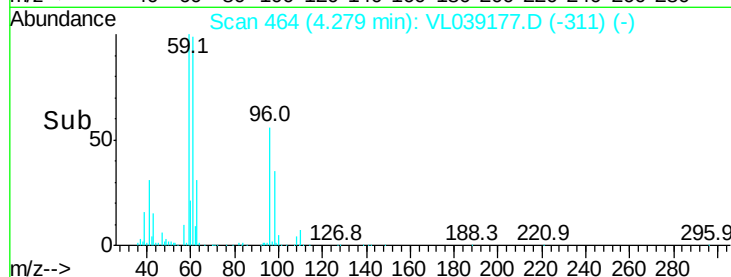
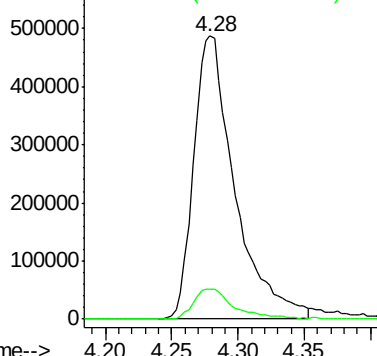
59 100

57 10.9 9.1 13.7



Abundance Ion 59.10 (58.80 to 59.80): VL0

Ion 57.10 (56.80 to 57.80): VL0



#18

1,1-Dichloroethene

Concen: 10.34 ppbv

RT: 4.29 min Scan# 466

Delta R.T. -0.01 min

Lab File: VL039177.D

Acq: 6 Jun 2022 8:37

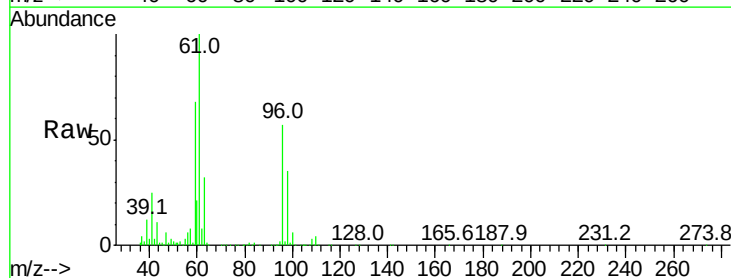
Tgt Ion: 96 Resp: 616217

Ion Ratio Lower Upper

96 100

61 176.2 138.4 207.6

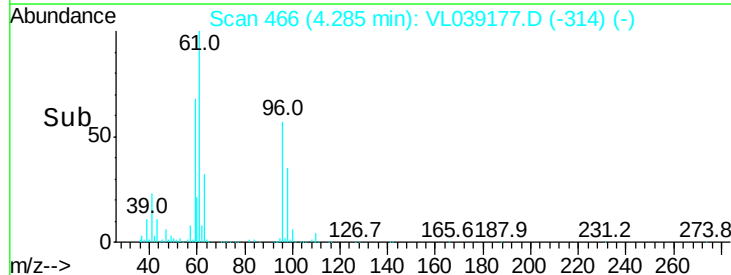
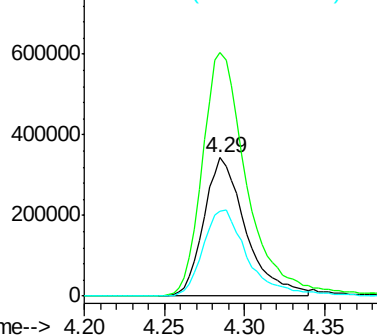
98 61.2 47.8 71.8

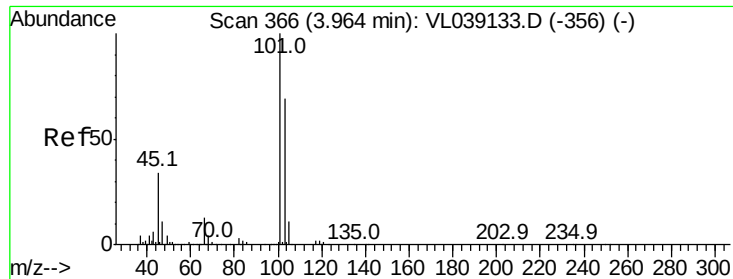


Abundance Ion 96.00 (95.70 to 96.70): VL0

Ion 61.10 (60.80 to 61.80): VL0

Ion 98.00 (97.70 to 98.70): VL0





#19

Isopropyl Alcohol

Concen: 9.89 ppbv

RT: 3.96 Instrument: MSVOA_1

Delta R.T.

Lab File: ClientSampleId:

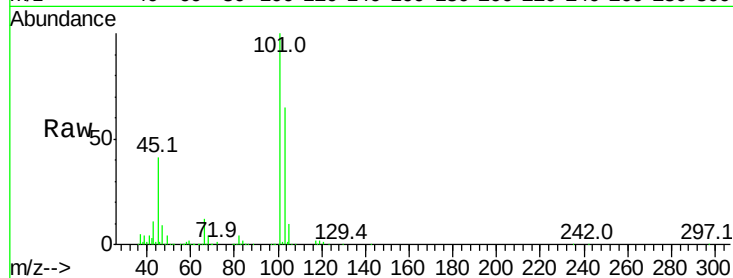
Acq: 6 Jun 2022 8:37

Tgt Ion: 45 Resp: 610300

Ion Ratio Lower Upper

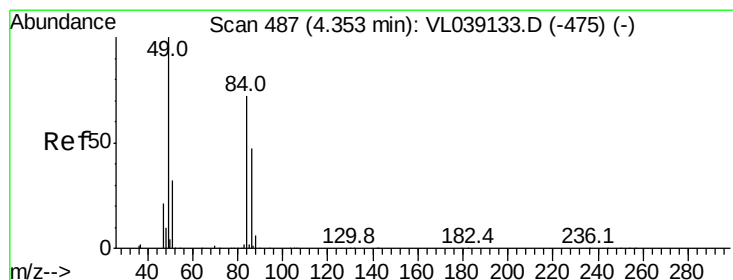
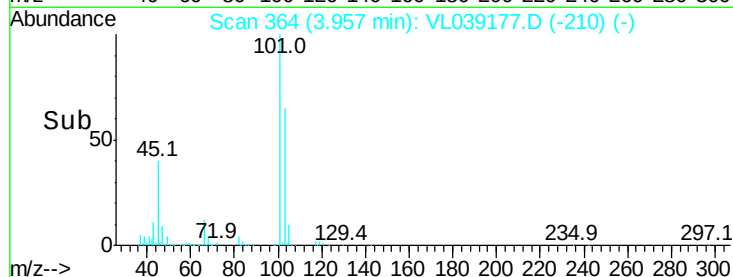
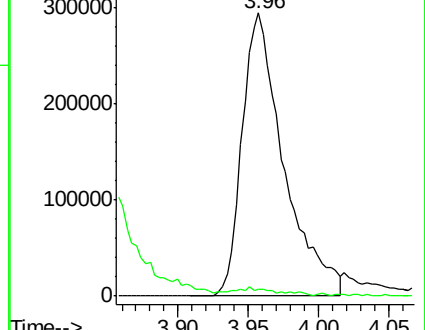
45 100

58 2.2 1.8 2.8



Abundance Ion 45.10 (44.80 to 45.80): VL0

Ion 58.10 (57.80 to 58.80): VL0



#20

Methylene Chloride

Concen: 8.67 ppbv

RT: 4.34 min Scan# 483

Delta R.T. -0.01 min

Lab File: VL039177.D

Acq: 6 Jun 2022 8:37

Tgt Ion: 84 Resp: 480447

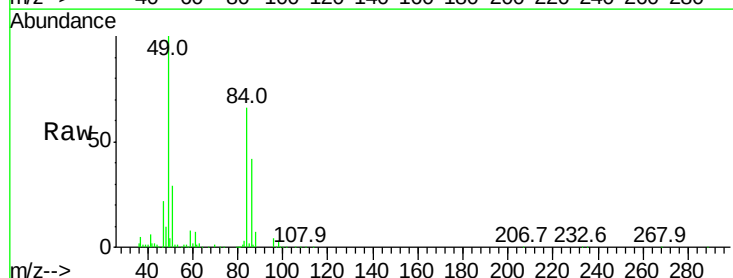
Ion Ratio Lower Upper

84 100

49 150.6 111.1 166.7

51 43.6 35.3 52.9

86 63.9 51.9 77.9

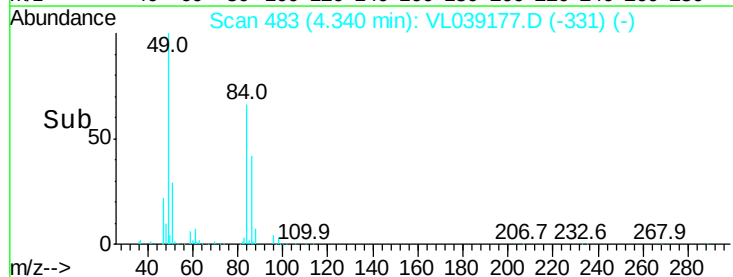
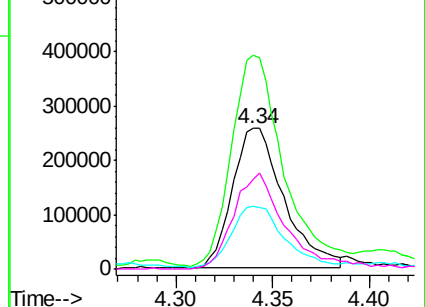


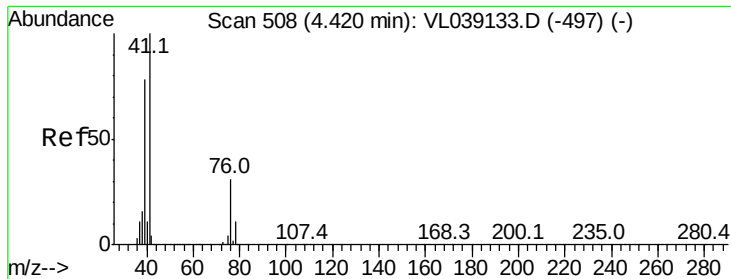
Abundance Ion 84.00 (83.70 to 84.70): VL0

Ion 49.10 (48.80 to 49.80): VL0

Ion 51.10 (50.80 to 51.80): VL0

Ion 86.00 (85.70 to 86.70): VL0





#21

Allyl Chloride

Concen: 10.67 ppbv

RT: 4.41 Instrument:

Delta R.T. MSVOA_L

Lab File: ClientSampleId:

Acq: 6 Jun 2022 8:37 VSTDCCC010

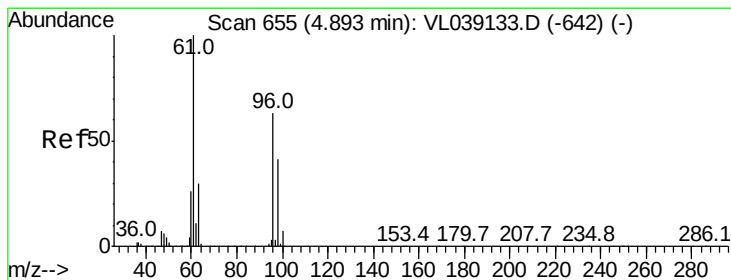
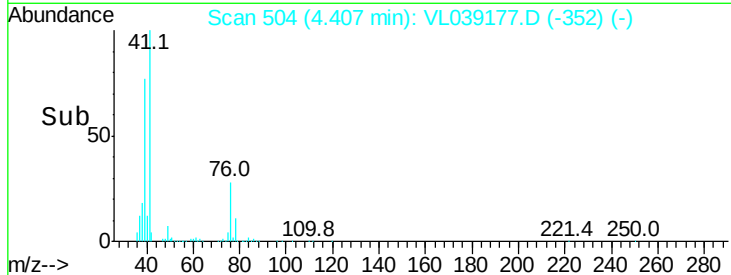
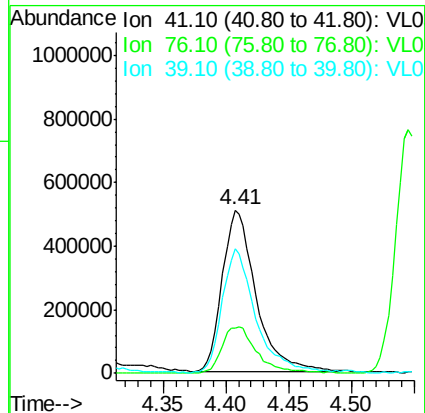
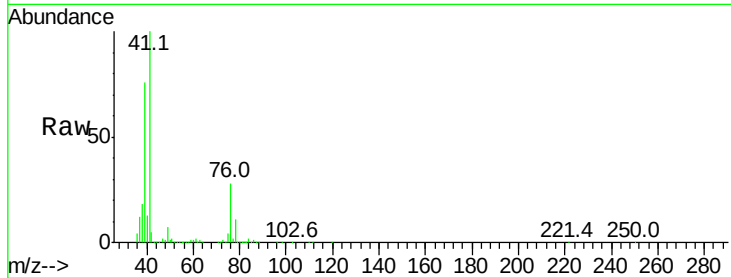
Tgt Ion: 41 Resp: 946586

Ion Ratio Lower Upper

41 100

76 30.6 24.2 36.2

39 76.9 62.2 93.2



#22

trans-1,2-Dichloroethene

Concen: 10.97 ppbv

RT: 4.88 min Scan# 651

Delta R.T. -0.01 min

Lab File: VL039177.D

Acq: 6 Jun 2022 8:37

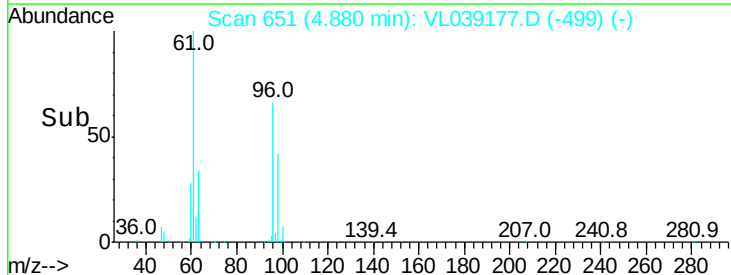
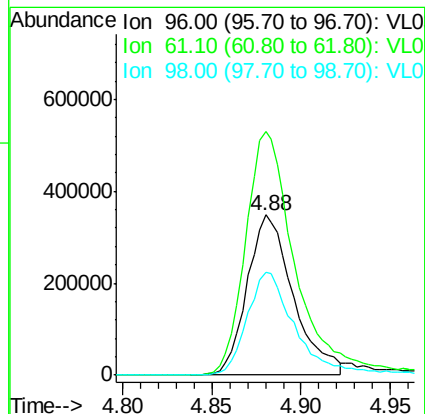
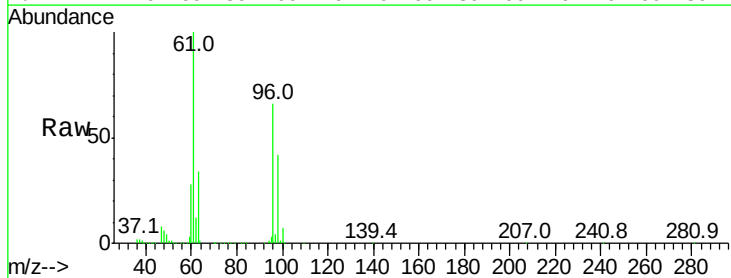
Tgt Ion: 96 Resp: 628586

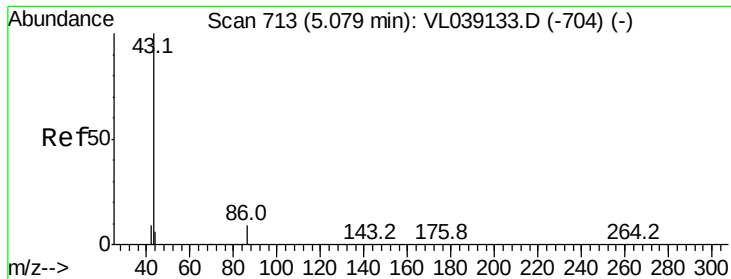
Ion Ratio Lower Upper

96 100

61 151.9 126.6 190.0

98 63.8 52.5 78.7





#23

Vinyl Acetate

Concen: 9.05 ppbv

RT: 5.07 Instrument: MSVOA_1

Delta R.T.

Lab File: ClientSampleId:

Acq: 6 Jun 2022 8:37 VSTDCCC010

Tgt Ion: 43 Resp: 984819

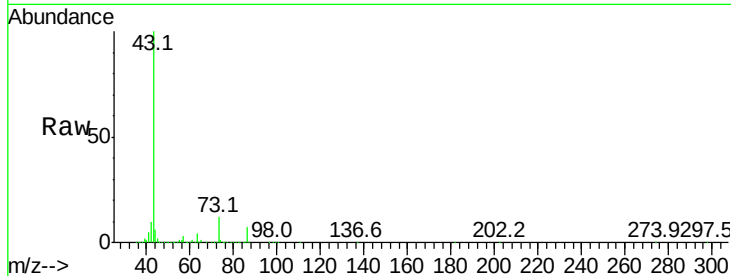
Ion Ratio Lower Upper

43 100

86 6.8 6.0 9.0

42 9.4 8.2 12.4

44 5.1 4.3 6.5

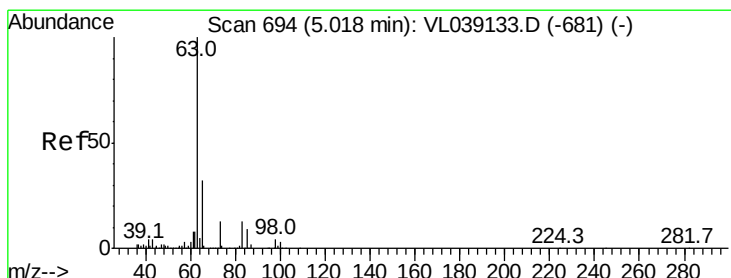
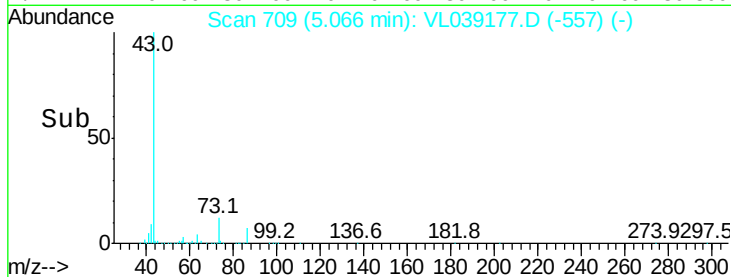
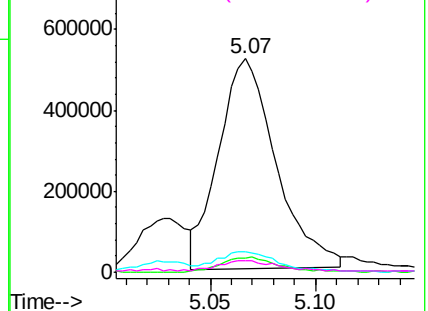


Abundance Ion 43.10 (42.80 to 43.80): VL0

Ion 86.10 (85.80 to 86.80): VL0

Ion 42.10 (41.80 to 42.80): VL0

Ion 44.10 (43.80 to 44.80): VL0



#24

1,1-Dichloroethane

Concen: 8.25 ppbv

RT: 5.01 min Scan# 690

Delta R.T. -0.01 min

Lab File: VL039177.D

Acq: 6 Jun 2022 8:37

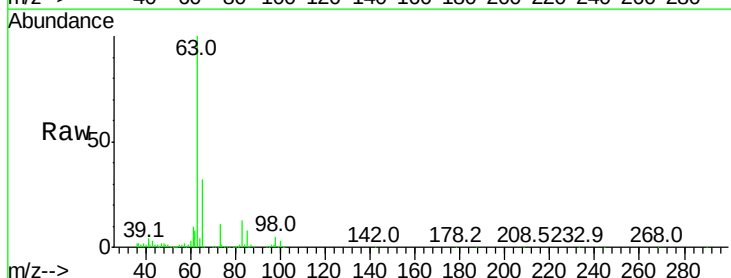
Tgt Ion: 63 Resp: 1230663

Ion Ratio Lower Upper

63 100

98 5.2 2.1 6.2

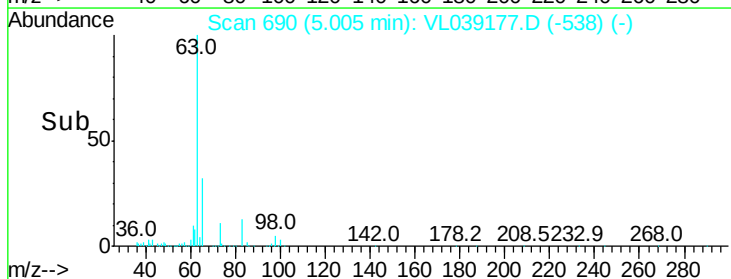
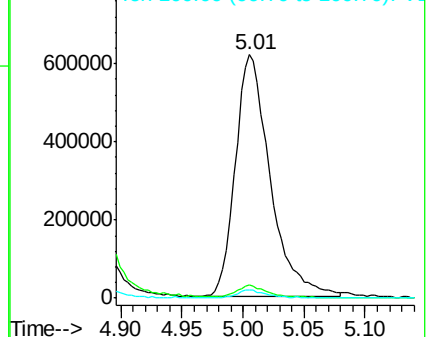
100 3.1 1.5 4.5

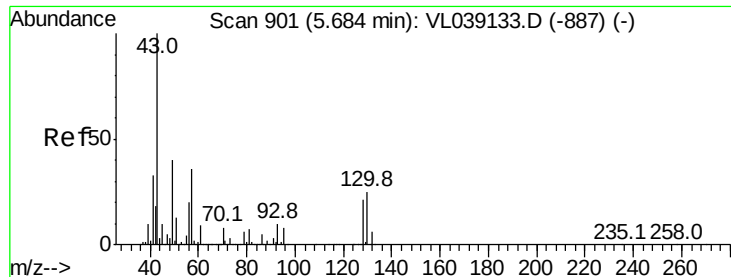


Abundance Ion 63.10 (62.80 to 63.80): VL0

Ion 98.00 (97.70 to 98.70): VL0

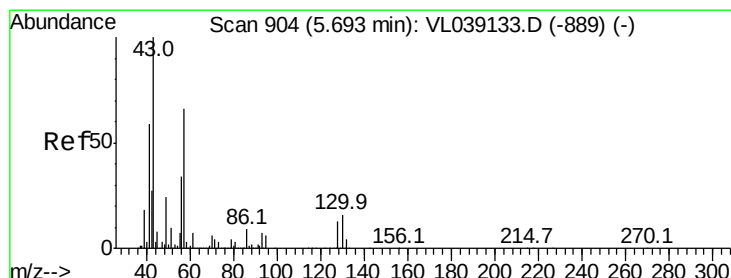
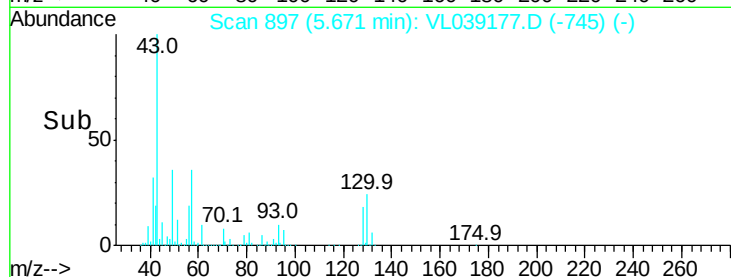
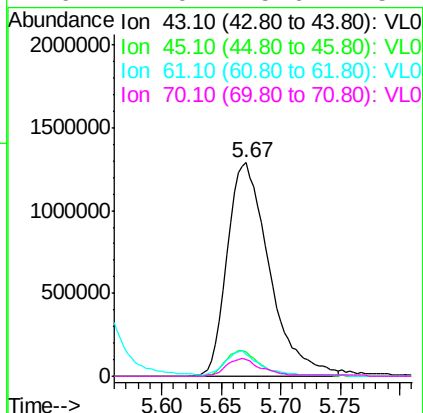
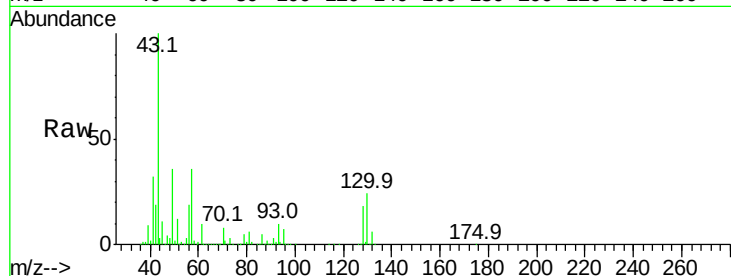
Ion 100.00 (99.70 to 100.70): VL0





#25
Ethyl Acetate
Concen: 10.64 ppbv
RT: 5.67
Instrument: MSVOA_1
Delta R.T.:
Lab File: ClientSampleId :
Acq: 6 Jun 2022 8:37

Tgt Ion:	43	Resp:	3154067
Ion	Ratio	Lower	Upper
43	100		
45	10.4	8.2	12.2
61	9.9	8.4	12.6
70	7.0	5.6	8.4



#26
Hexane
Concen: 10.65 ppbv
RT: 5.68 min Scan# 900
Delta R.T.: -0.01 min
Lab File: VL039177.D
Acq: 6 Jun 2022 8:37

Tgt Ion:	57	Resp:	1388098
Ion	Ratio	Lower	Upper
57	100		
41	89.3	72.4	108.6
43	232.3	187.0	280.6
56	52.6	41.8	62.6

