

Data Path : Z:\VOASRV\HPCHEM1\MSVOA L\DATA\VL050922\  
 Data File : VL039007.D  
 Acq On : 10 May 2022 4:20  
 Operator : SY/AP  
 Sample : N2696-04  
 Misc : 400mL/MSVOA L  
 ALS Vial : 1 Sample Multiplier: 1

Instrument :  
 MSVOA\_L  
 ClientSampleId :  
 SV4

Quant Time: May 10 05:49:03 2022  
 Quant Method : Z:\VOASRV\HPCHEM1\MSVOA L\METHODS\VL050522AIR.M  
 Quant Title : AIR ANALYSIS BY METHOD TO-15 Instrument: MSVOA\_L Thu May 05 10:12:15 2022  
 QLast Update : Thu May 05 10:12:15 2022  
 Response via : Initial Calibration

| Internal Standards      | R.T.  | QIon | Response | Conc  | Units | Dev(Min) |
|-------------------------|-------|------|----------|-------|-------|----------|
| 1) Bromochloromethane   | 5.65  | 49   | 1062398  | 10.00 | ppbv  | -0.02    |
| 33) 1,4-Difluorobenzene | 7.15  | 114  | 2983085  | 10.00 | ppbv  | -0.03    |
| 55) Chlorobenzene-d5    | 12.05 | 117  | 2524247  | 10.00 | ppbv  | -0.03    |

| System Monitoring Compounds |        | R.T.  | QIon     | Response | Conc | Units  | Dev(Min) |
|-----------------------------|--------|-------|----------|----------|------|--------|----------|
| 68) 1-Bromo-4-Fluorobenzene | 14.38  | 95    | 1742125  | 8.71     | ppbv | -0.02  |          |
| Spiked Amount               | 10.000 | Range | 65 - 135 | Recovery | =    | 87.10% |          |

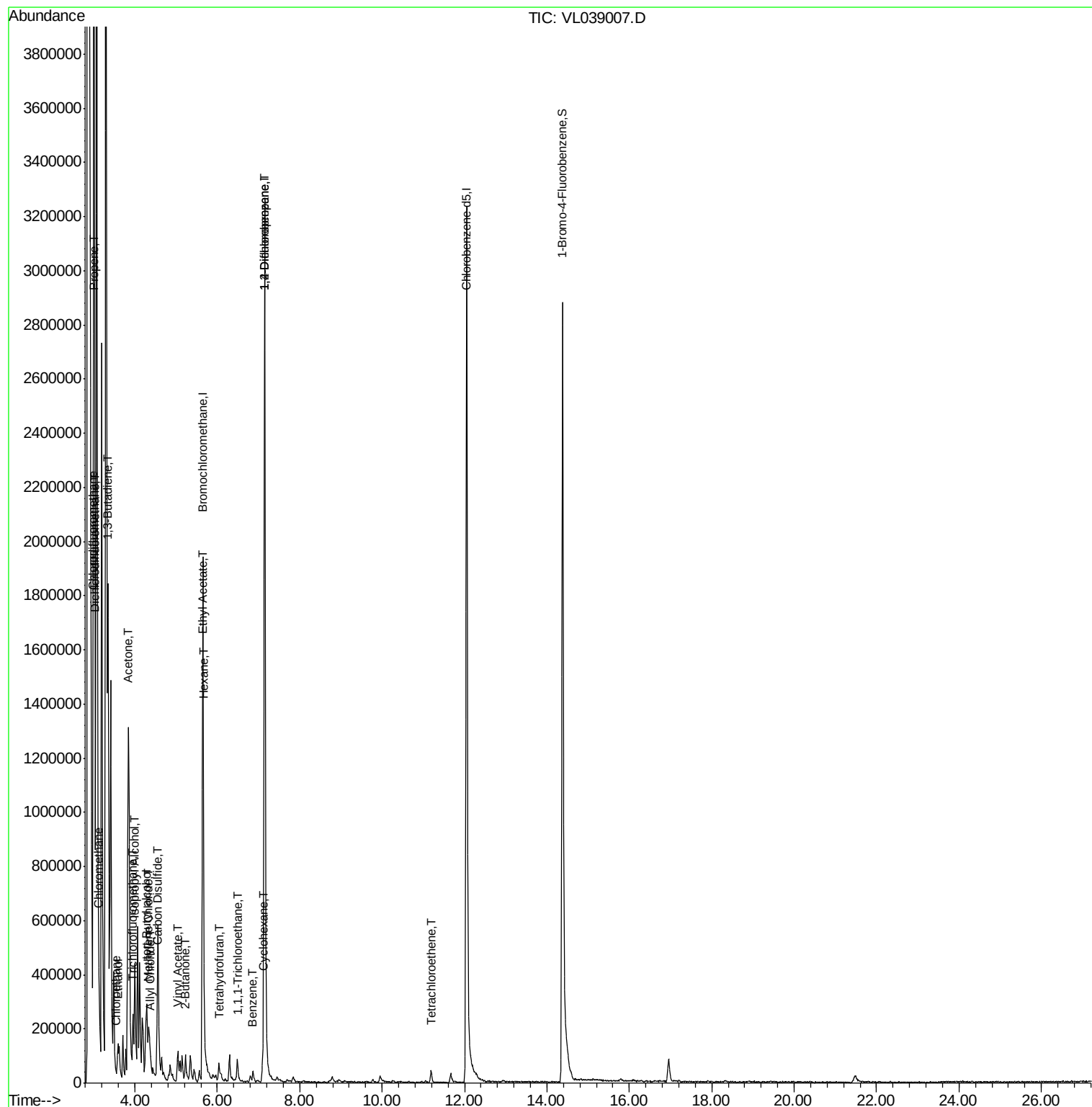
| Target Compounds           | R.T.  | QIon | Response | Conc   | Units  | Ovalue |
|----------------------------|-------|------|----------|--------|--------|--------|
| 2) Dichlorodifluoromethane | 3.04  | 85   | 34134    | 0.205  | ppbv   | 98     |
| 3) Chlorodifluoromethane   | 2.98  | 51   | 55203    | 0.419  | ppbv # | 81     |
| 4) Chloromethane           | 3.13  | 50   | 105221   | 1.594  | ppbv   | 95     |
| 7) Chloroethane            | 3.54  | 64   | 1424     | 0.071  | ppbv # | 74     |
| 9) Propene                 | 3.00  | 41   | 3641218  | 63.248 | ppbv   | 94     |
| 11) Trichlorofluoromethane | 3.93  | 101  | 9749     | 0.068  | ppbv   | 98     |
| 13) Ethanol                | 3.59  | 45   | 184986   | 45.404 | ppbv   | 86     |
| 15) Acetone                | 3.83  | 43   | 1905932  | 19.018 | ppbv   | 94     |
| 16) 1,3-Butadiene          | 3.34  | 39   | 286966   | 4.984  | ppbv # | 44     |
| 17) tert-Butyl alcohol     | 4.28  | 59   | 191992   | 2.493  | ppbv   | 100    |
| 19) Isopropyl Alcohol      | 3.99  | 45   | 4283     | 0.090  | ppbv # | 95     |
| 20) Methylene Chloride     | 4.33  | 84   | 58606    | 1.552  | ppbv # | 89     |
| 21) Allyl Chloride         | 4.38  | 41   | 2806     | 0.041  | ppbv # | 1      |
| 23) Vinyl Acetate          | 5.05  | 43   | 23600    | 0.298  | ppbv # | 70     |
| 25) Ethyl Acetate          | 5.66  | 43   | 42023    | 0.175  | ppbv # | 90     |
| 26) Hexane                 | 5.67  | 57   | 19979    | 0.187  | ppbv # | 56     |
| 27) Carbon Disulfide       | 4.53  | 76   | 221212   | 2.185  | ppbv   | 99     |
| 30) Cyclohexane            | 7.11  | 84   | 41268    | 0.462  | ppbv   | 89     |
| 32) 1,1,1-Trichloroethane  | 6.49  | 97   | 54579    | 0.317  | ppbv   | 97     |
| 34) 2-Butanone             | 5.23  | 43   | 115021   | 0.756  | ppbv # | 89     |
| 36) Benzene                | 6.86  | 78   | 23965    | 0.094  | ppbv   | 96     |
| 39) 1,2-Dichloropropane    | 7.15  | 63   | 678677   | 6.832  | ppbv # | 25     |
| 41) Tetrahydrofuran        | 6.04  | 42   | 38620    | 0.378  | ppbv # | 82     |
| 52) Tetrachloroethene      | 11.20 | 164  | 3304     | 0.036  | ppbv   | 89     |

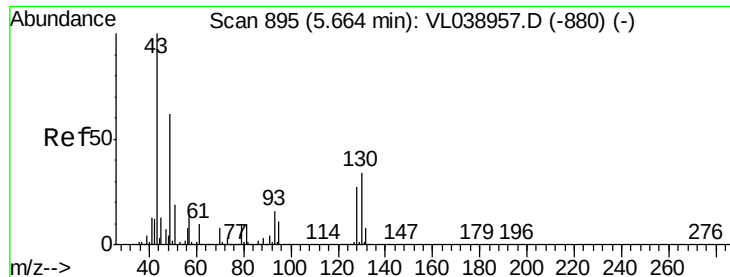
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : Z:\V0ASRV\HPCHEM1\MSVOA L\DATA\VL050922\  
Data File : VL039007.D  
Acq On : 10 May 2022 4:20  
Operator : SY/AP  
Sample : N2696-04  
Misc : 400mL/MSVOA L  
ALS Vial : 1 Sample Multiplier: 1

Instrument :  
MSVOA\_L  
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SV4

Quant Time: May 10 05:49:03 2022  
Quant Method : Z:\V0ASRV\HPCHEM1\MSVOA L\METHODS\VL050522AIR.M  
Quant Title : AIR ANALYSIS BY METHOD TO-15 Instrument: MSVOA\_L Thu May 05 10:12:15 2022  
QLast Update : Thu May 05 10:12:15 2022  
Response via : Initial Calibration





#1

Bromochloromethane

Concen: 10.000 ppbv

RT: 5.65 Instrument: MSVOA\_1

Delta R.T. ClientSampleId:

Lab File: SV4

Acq: 10 May 2022 4:20

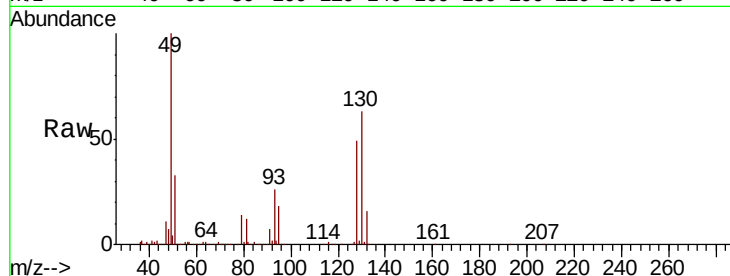
Tot Ion: 49 Resp: 1062398

| Ion | Ratio | Lower | Upper |
|-----|-------|-------|-------|
| 49  | 100   |       |       |
| 128 | 51.7  | 23.3  | 69.8  |
| 130 | 66.2  | 29.8  | 89.3  |

49 100

128 51.7 23.3 69.8

130 66.2 29.8 89.3

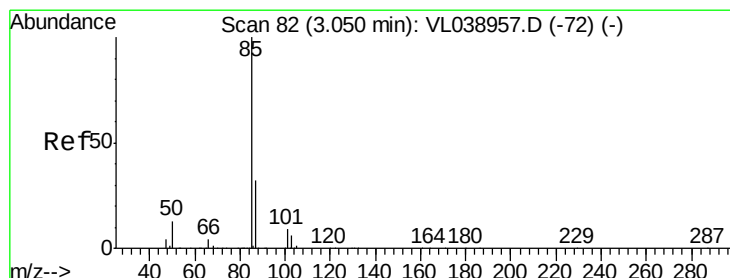
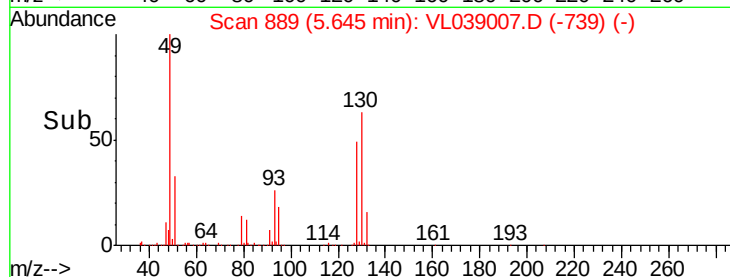


Abundance Ion 49.10 (48.80 to 49.80): VL0

Ion 128.00 (127.70 to 128.70): VL0

Ion 130.00 (129.70 to 130.70): VL0

Time--> 5.55 5.60 5.65 5.70 5.75



#2

Dichlorodifluoromethane

Concen: 0.205 ppbv

RT: 3.04 min Scan# 79

Delta R.T. -0.01 min

Lab File: VL039007.D

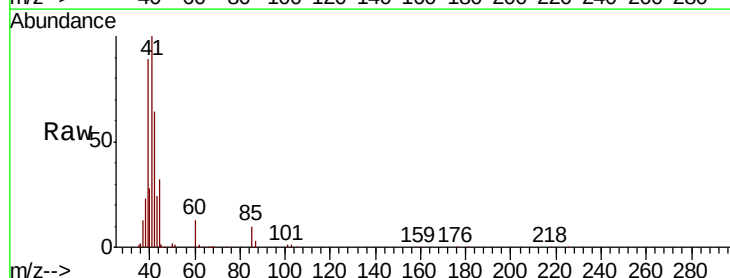
Acq: 10 May 2022 4:20

Tgt Ion: 85 Resp: 34134

| Ion | Ratio | Lower | Upper |
|-----|-------|-------|-------|
| 85  | 100   |       |       |
| 87  | 30.9  | 25.7  | 38.5  |

85 100

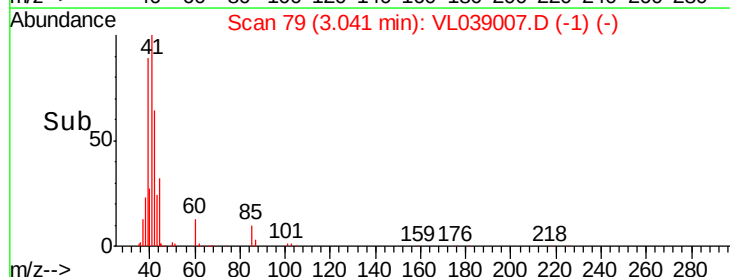
87 30.9 25.7 38.5

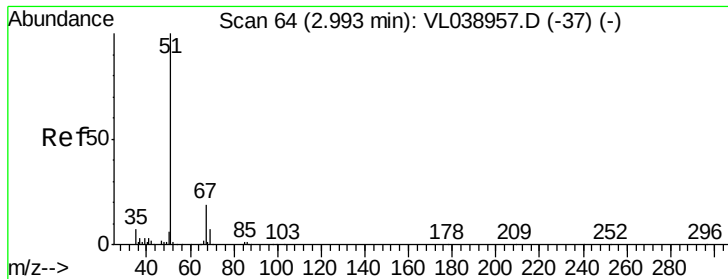


Abundance Ion 85.00 (84.70 to 85.70): VL0

Ion 87.00 (86.70 to 87.70): VL0

Time--> 3.00 3.05





#3

Chlorodifluoromethane

Concen: 0.419 ppbv

RT: 2.98 Instrument: MSVOA\_1

Delta R.T. ClientSampleId:

Lab File: SV4

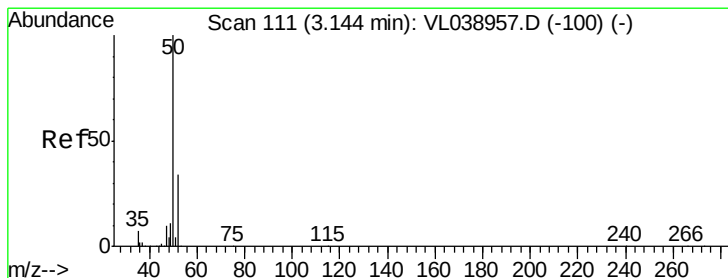
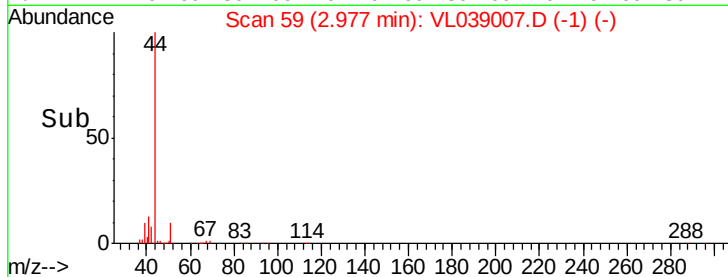
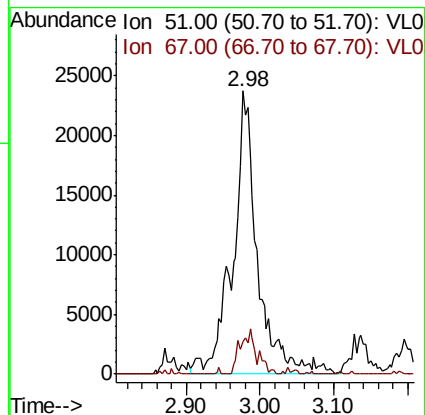
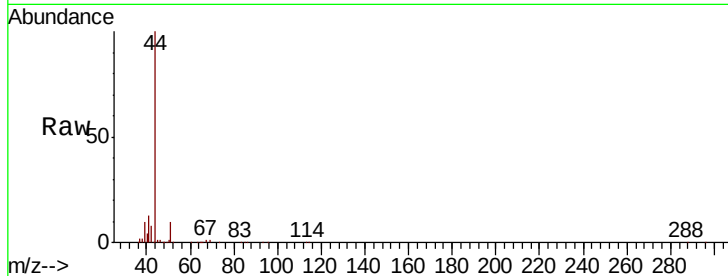
Acq: 10 May 2022 4:20

Tot Ion: 51 Resp: 55203

Ion Ratio Lower Upper

51 100

67 11.2 15.8 23.8#



#4

Chloromethane

Concen: 1.594 ppbv

RT: 3.13 min Scan# 106

Delta R.T. -0.02 min

Lab File: VL039007.D

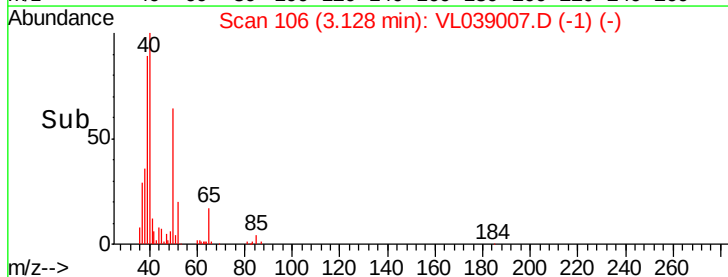
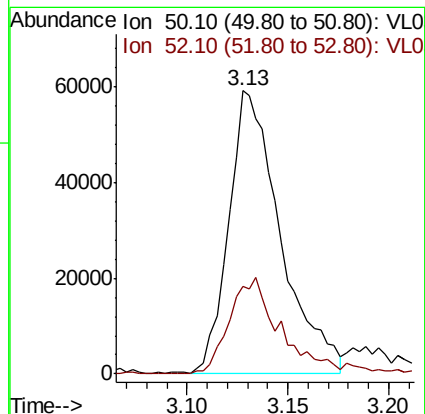
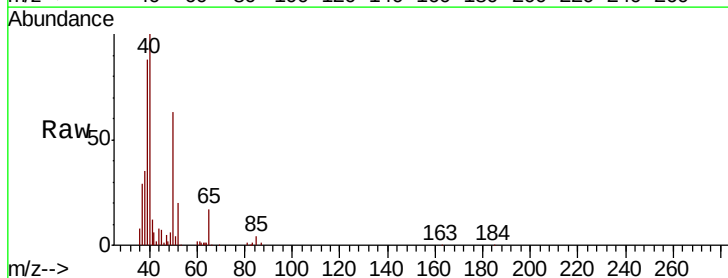
Acq: 10 May 2022 4:20

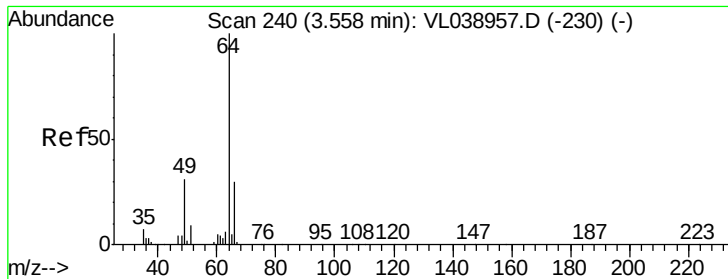
Tgt Ion: 50 Resp: 105221

Ion Ratio Lower Upper

50 100

52 31.4 27.3 40.9





#7

Chloroethane

Concen: 0.071 ppbv

RT: 3.54 Instrument:

Delta R.T. MSVOA\_L

Lab File: ClientSampleId:

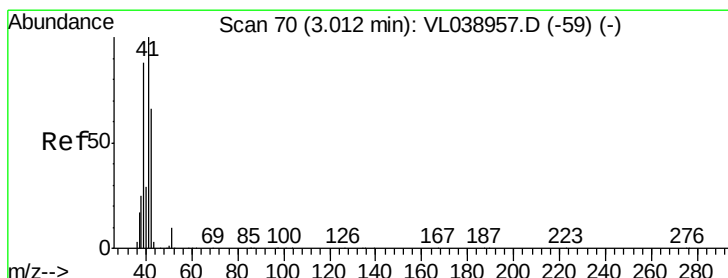
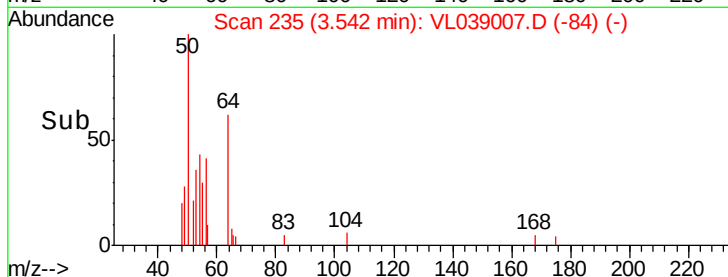
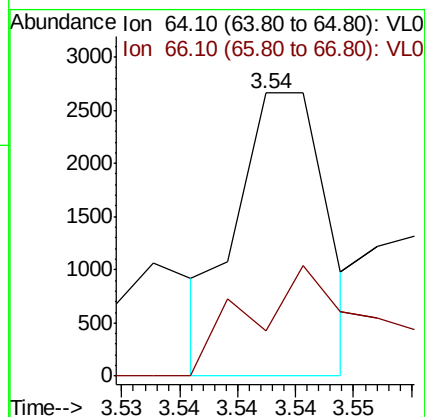
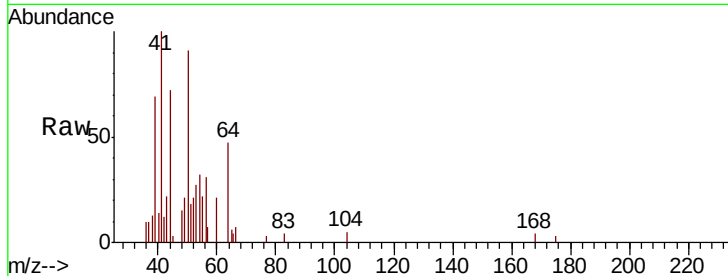
Acq: 10 May 2022 4:20

Tot Ion: 64 Resp: 1424

Ion Ratio Lower Upper

64 100

66 16.0 23.8 35.8#



#9

Propene

Concen: 63.248 ppbv

RT: 3.00 min Scan# 67

Delta R.T. -0.01 min

Lab File: VL039007.D

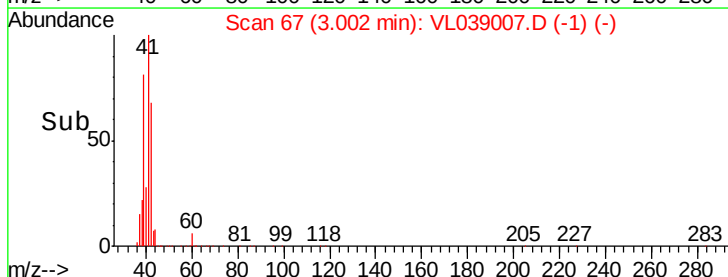
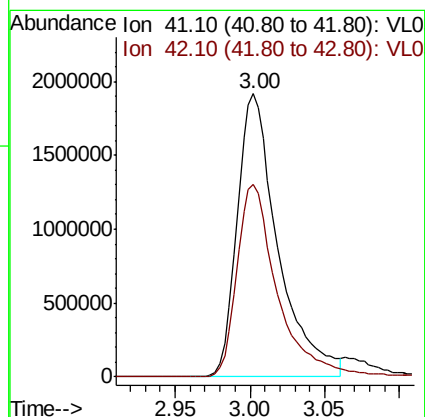
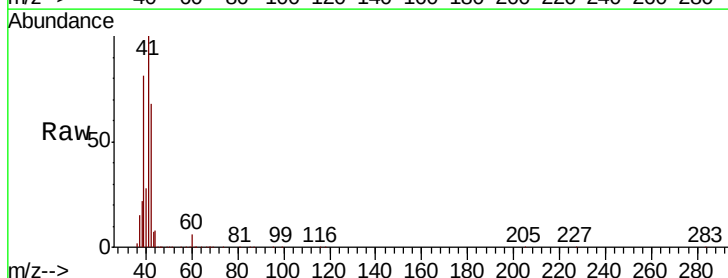
Acq: 10 May 2022 4:20

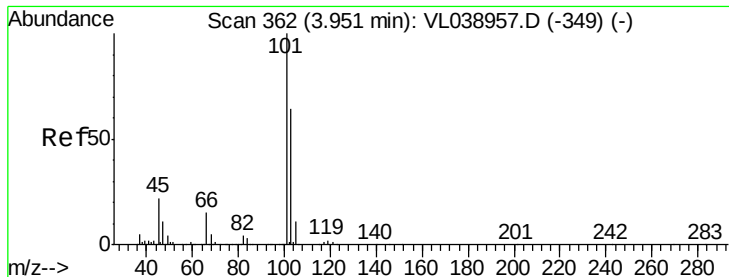
Tgt Ion: 41 Resp: 3641218

Ion Ratio Lower Upper

41 100

42 68.0 58.3 87.5





#11

Trichlorofluoromethane

Concen: 0.068 ppbv

RT: 3.93 Instrument:

Delta R.T. MSVOA\_L

Lab File: ClientSampleId:

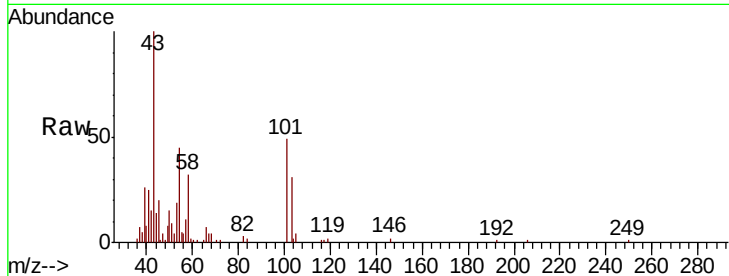
Acq: 10 May 2022 4:20 SV4

Tot Ion:101 Resp: 9749

Ion Ratio Lower Upper

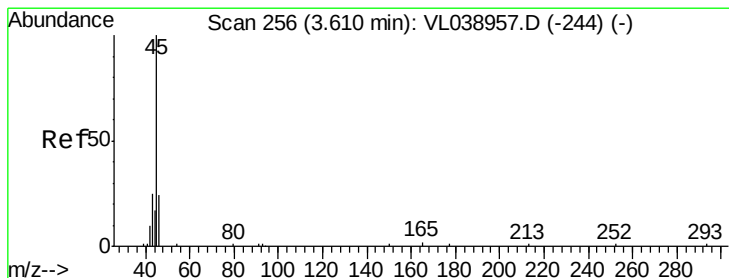
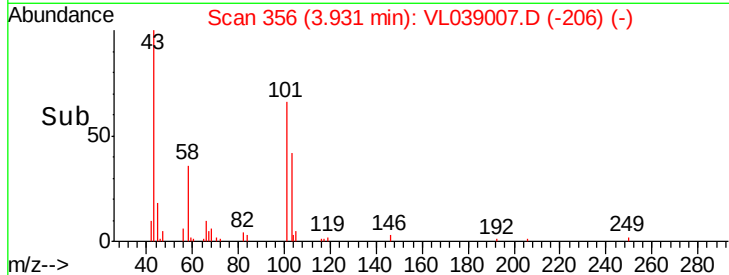
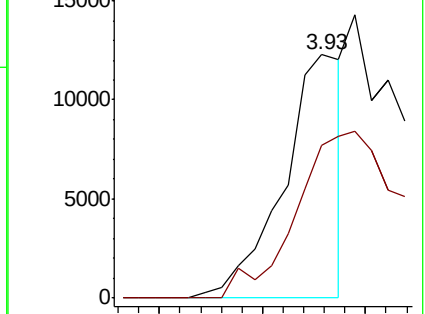
101 100

103 62.7 51.5 77.3



Abundance Ion 101.00 (100.70 to 101.70): V

Ion 103.00 (102.70 to 103.70): V



#13

Ethanol

Concen: 45.404 ppbv

RT: 3.59 min Scan# 249

Delta R.T. -0.02 min

Lab File: VL039007.D

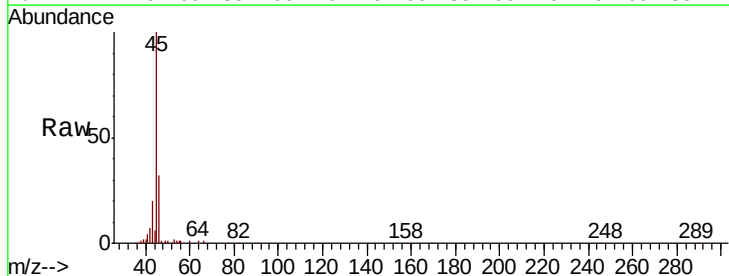
Acq: 10 May 2022 4:20

Tgt Ion: 45 Resp: 184986

Ion Ratio Lower Upper

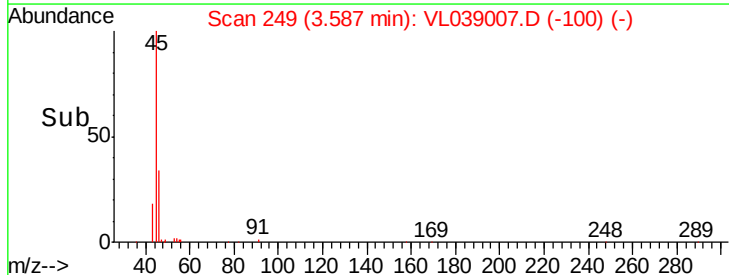
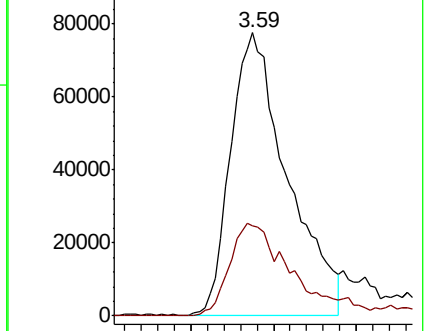
45 100

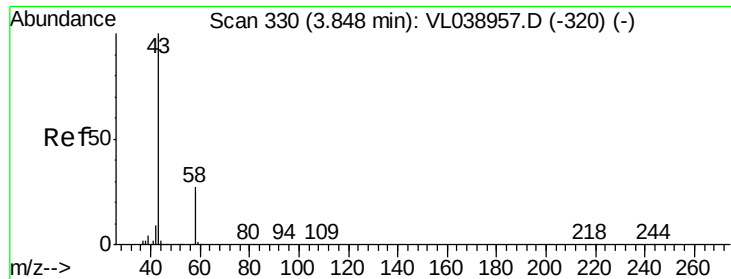
46 35.7 18.0 72.2



Abundance Ion 45.10 (44.80 to 45.80): VL0

Ion 46.10 (45.80 to 46.80): VL0





#15

Acetone

Concen: 19.018 ppbv

RT: 3.83 Instrument: MSVOA\_1

Delta R.T. 0.01 min

Lab File: ClientSampleId: SV4

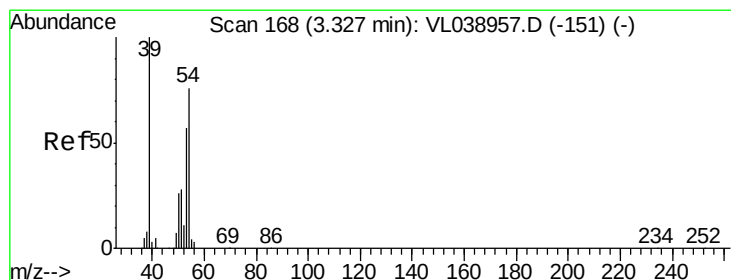
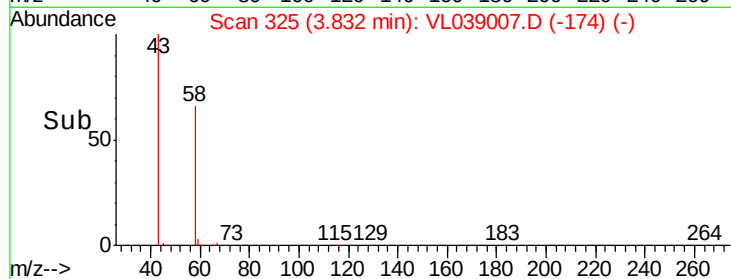
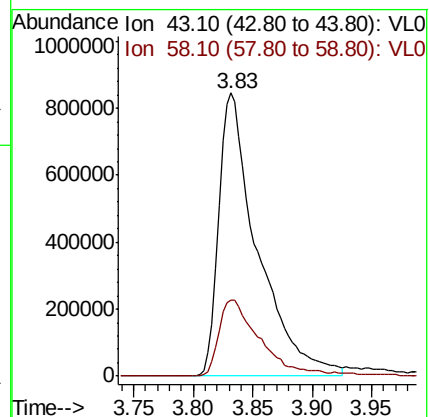
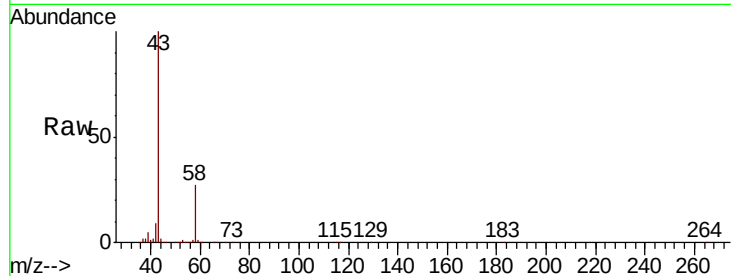
Acq: 10 May 2022 4:20

Tot Ion: 43 Resp: 1905932

Ion Ratio Lower Upper

43 100

58 29.7 21.3 31.9



#16

1,3-Butadiene

Concen: 4.984 ppbv

RT: 3.34 min Scan# 172

Delta R.T. 0.01 min

Lab File: VL039007.D

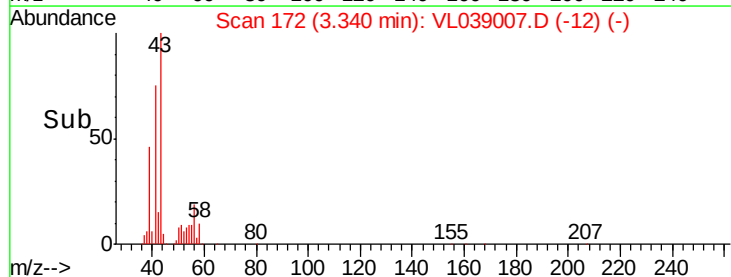
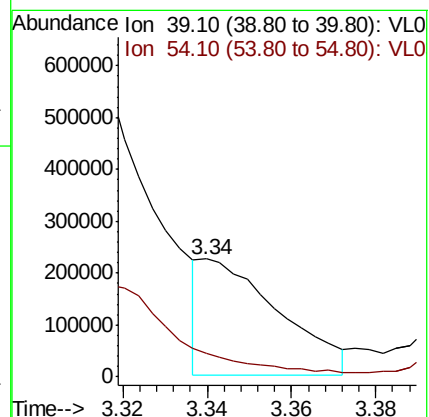
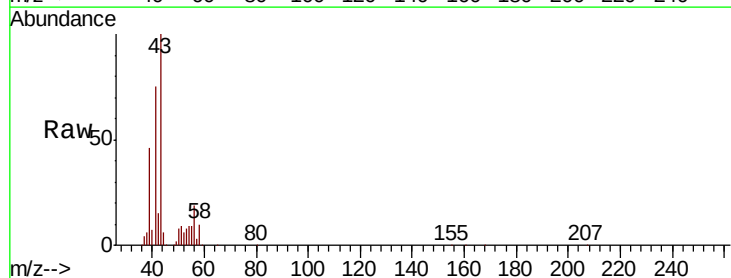
Acq: 10 May 2022 4:20

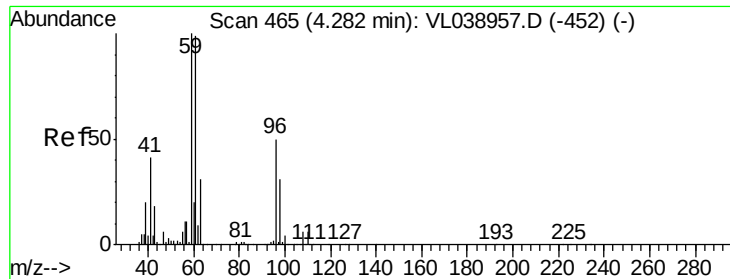
Tgt Ion: 39 Resp: 286966

Ion Ratio Lower Upper

39 100

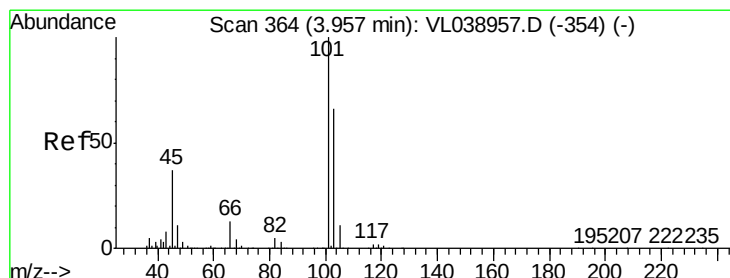
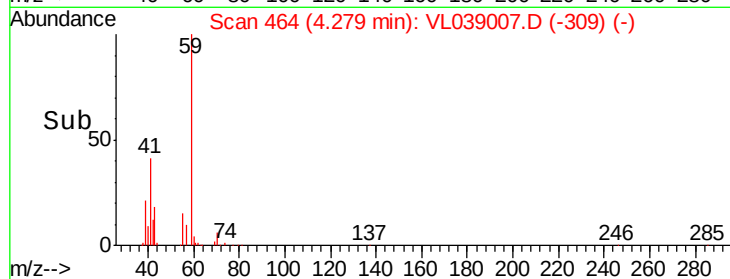
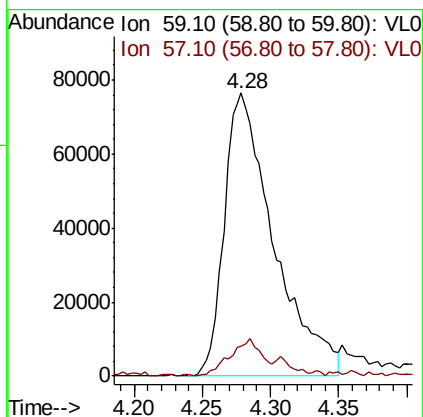
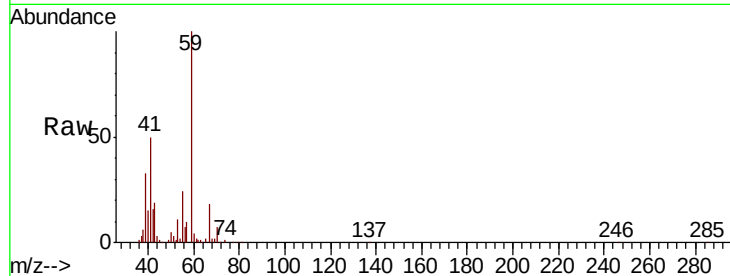
54 131.9 65.2 97.8#





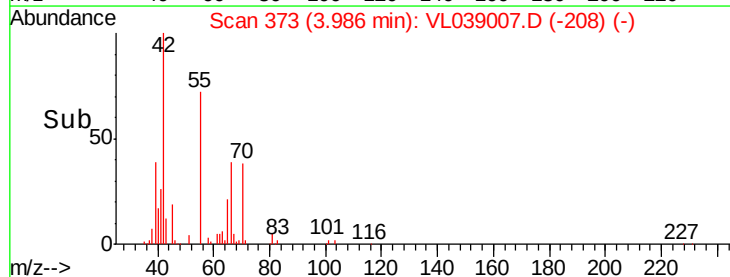
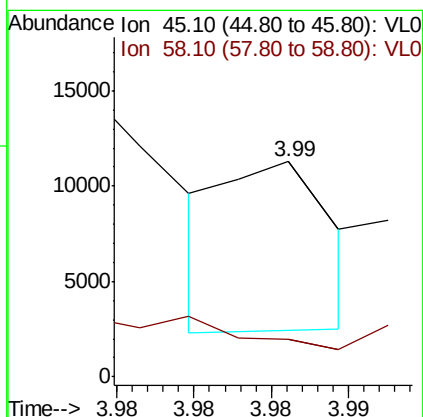
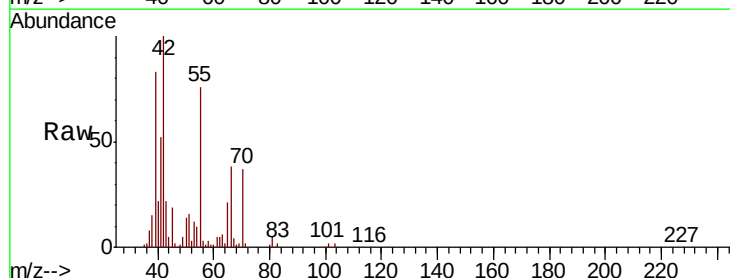
#17  
 tert-Butyl alcohol  
 Concen: 2.493 ppbv  
 RT: 4.28  
 Delta R.T. MSVOA\_L  
 Lab File: ClientSampleId :  
 SV4  
 Acq: 10 May 2022 4:20

Tot Ion: 59 Resp: 191992  
 Ion Ratio Lower Upper  
 59 100  
 57 11.6 9.2 13.8

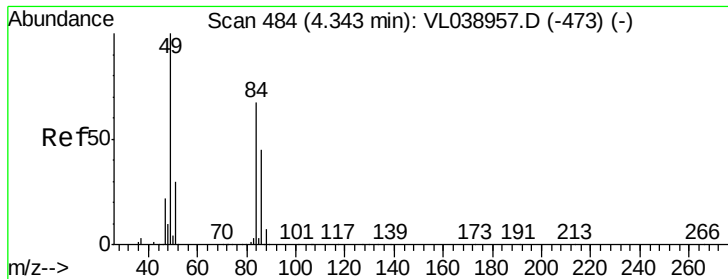


#19  
 Isopropyl Alcohol  
 Concen: 0.090 ppbv  
 RT: 3.99 min Scan# 373  
 Delta R.T. 0.03 min  
 Lab File: VL039007.D  
 Acq: 10 May 2022 4:20

Tgt Ion: 45 Resp: 4283  
 Ion Ratio Lower Upper  
 45 100  
 58 0.0 1.4 2.2#







#20

Methylene Chloride

Concen: 1.552 ppbv

RT: 4.33

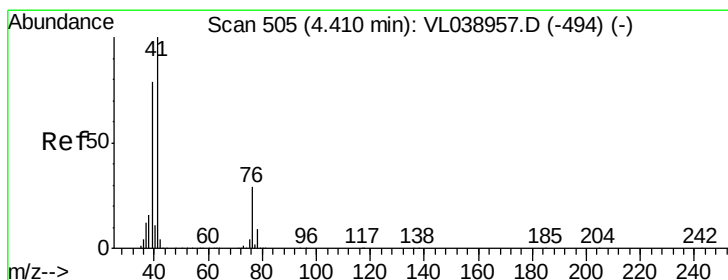
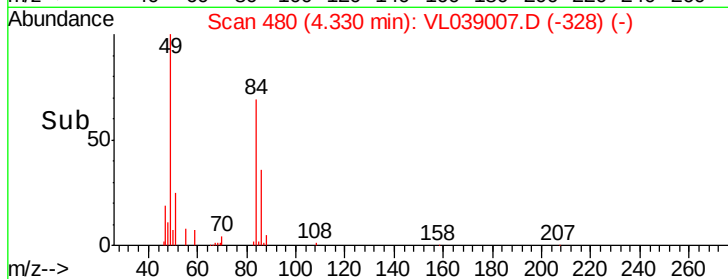
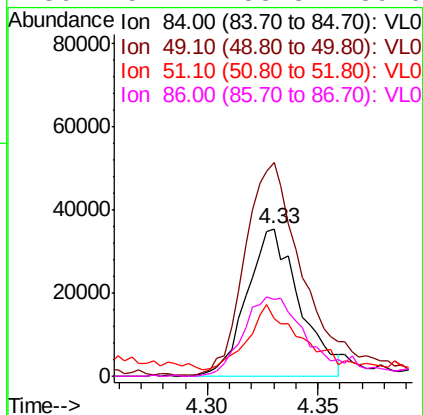
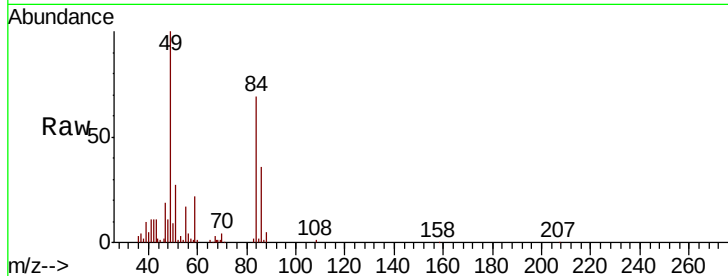
Delta R.T. MSVOA\_L

Lab File: ClientSampleId :

SV4

Acq: 10 May 2022 4:20

|          |       |       |       |
|----------|-------|-------|-------|
| Tot Ion: | 84    | Resp: | 58606 |
| Ion      | Ratio | Lower | Upper |
| 84       | 100   |       |       |
| 49       | 144.0 | 119.9 | 179.9 |
| 51       | 30.7  | 35.7  | 53.5# |
| 86       | 52.1  | 53.8  | 80.6# |



#21

Allyl Chloride

Concen: 0.041 ppbv

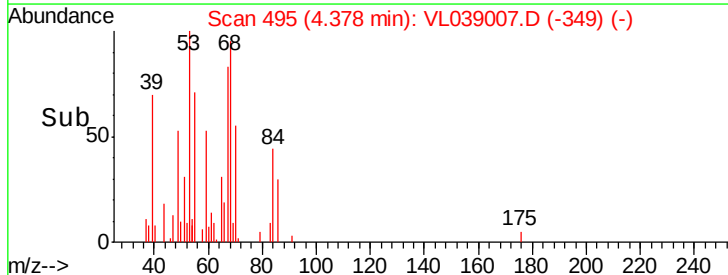
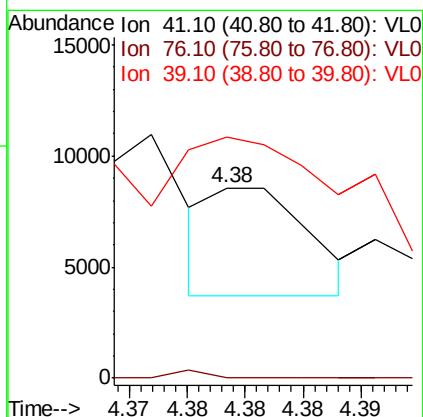
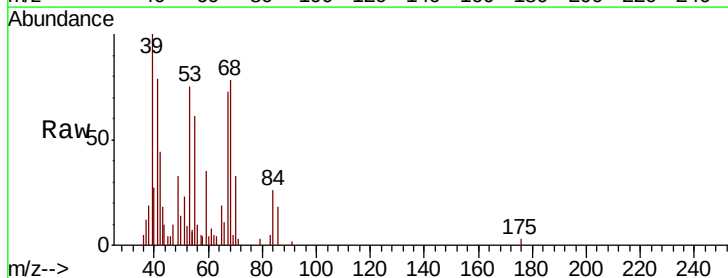
RT: 4.38 min Scan# 495

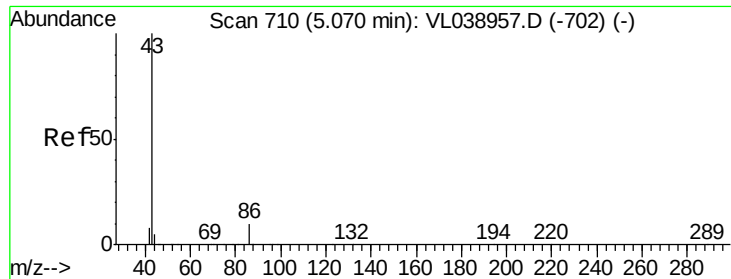
Delta R.T. -0.03 min

Lab File: VL039007.D

Acq: 10 May 2022 4:20

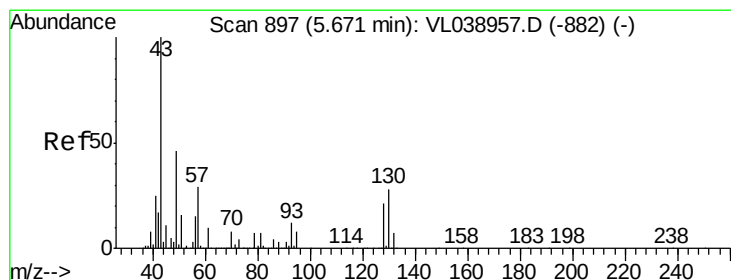
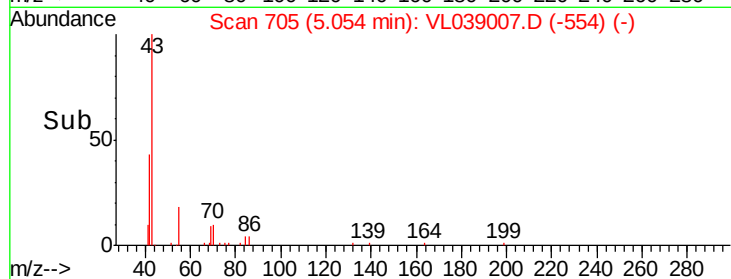
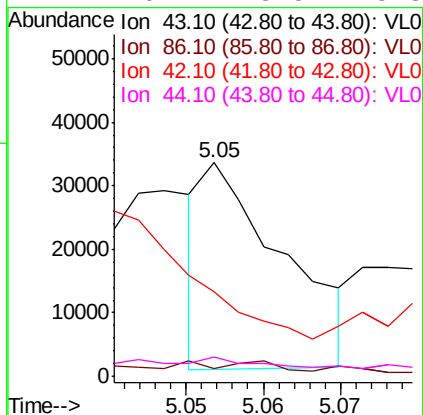
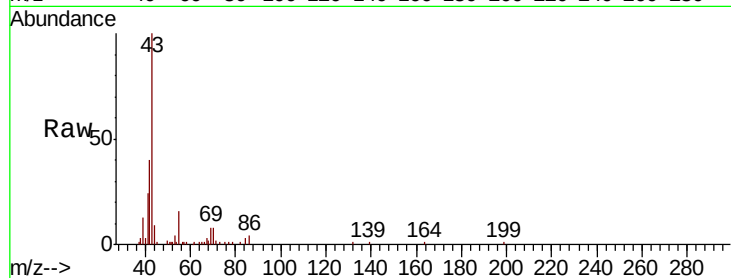
|          |       |       |       |
|----------|-------|-------|-------|
| Tgt Ion: | 41    | Resp: | 2806  |
| Ion      | Ratio | Lower | Upper |
| 41       | 100   |       |       |
| 76       | 0.0   | 24.2  | 36.4# |
| 39       | 448.1 | 63.8  | 95.8# |





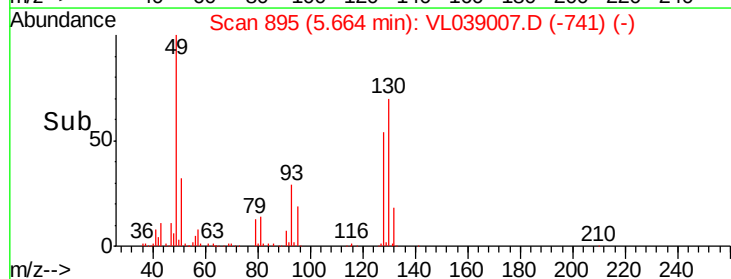
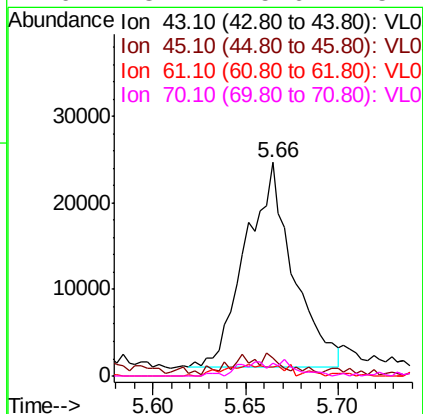
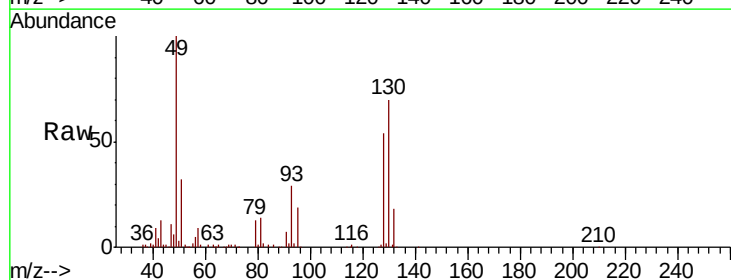
#23  
 Vinyl Acetate  
 Concen: 0.298 ppbv  
 RT: 5.05  
 Delta R.T. MSVOA\_L  
 Lab File: ClientSampleId :  
 SV4  
 Acq: 10 May 2022 4:20

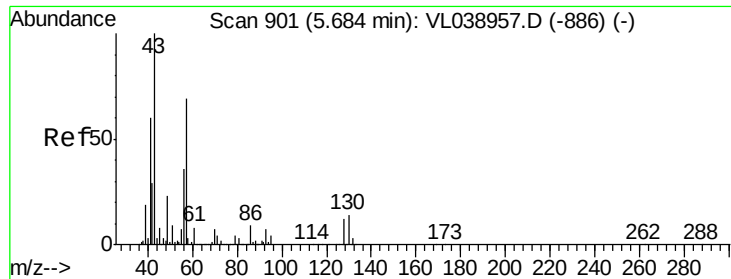
|          |       |       |       |
|----------|-------|-------|-------|
| Tot Ion: | 43    | Resp: | 23600 |
| Ion      | Ratio | Lower | Upper |
| 43       | 100   |       |       |
| 86       | 0.0   | 6.6   | 9.8#  |
| 42       | 27.4  | 8.1   | 12.1# |
| 44       | 6.4   | 3.5   | 5.3#  |



#25  
 Ethyl Acetate  
 Concen: 0.175 ppbv  
 RT: 5.66 min Scan# 895  
 Delta R.T. -0.01 min  
 Lab File: VL039007.D  
 Acq: 10 May 2022 4:20

|          |       |       |       |
|----------|-------|-------|-------|
| Tgt Ion: | 43    | Resp: | 42023 |
| Ion      | Ratio | Lower | Upper |
| 43       | 100   |       |       |
| 45       | 17.6  | 8.1   | 12.1# |
| 61       | 8.0   | 7.8   | 11.6  |
| 70       | 8.4   | 5.6   | 8.4   |





#26

Hexane

Concen: 0.187 ppbv

RT: 5.67

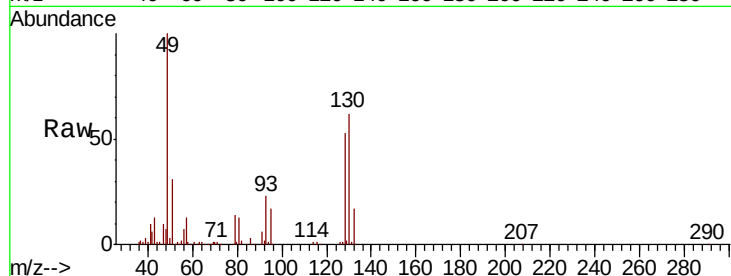
Delta R.T. MSVOA\_L

Lab File: ClientSampleId :

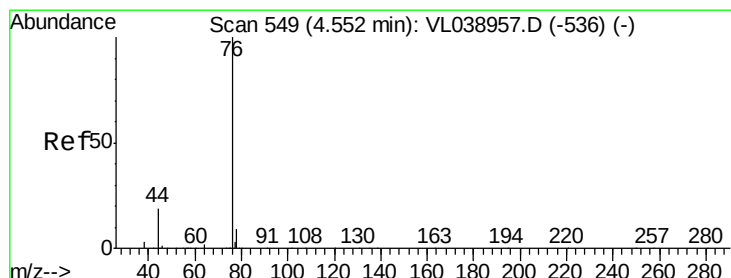
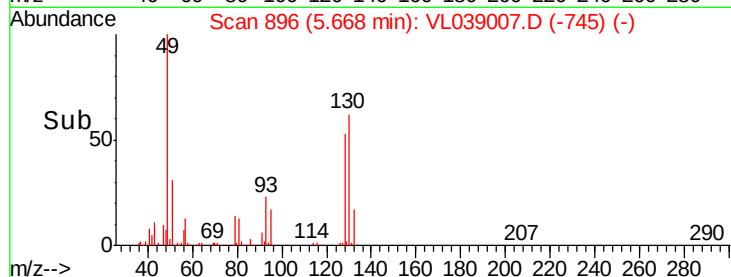
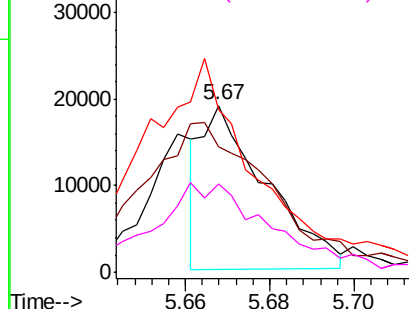
Acq: 10 May 2022 4:20

Tot Ion: 57 Resp: 19979

| Ion | Ratio | Lower | Upper  |
|-----|-------|-------|--------|
| 57  | 100   |       |        |
| 41  | 211.2 | 75.2  | 112.8# |
| 43  | 230.0 | 190.8 | 286.2  |
| 56  | 111.5 | 43.0  | 64.6#  |



Abundance Ion 57.10 (56.80 to 57.80): VL0  
 Ion 41.10 (40.80 to 41.80): VL0  
 Ion 43.10 (42.80 to 43.80): VL0  
 Ion 56.10 (55.80 to 56.80): VL0



#27

Carbon Disulfide

Concen: 2.185 ppbv

RT: 4.53 min Scan# 543

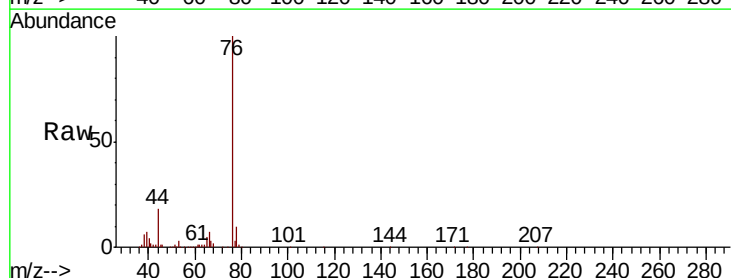
Delta R.T. -0.02 min

Lab File: VL039007.D

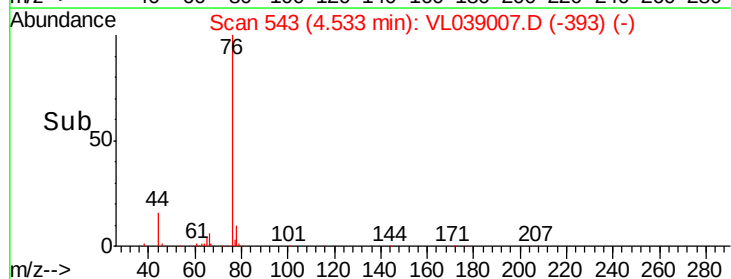
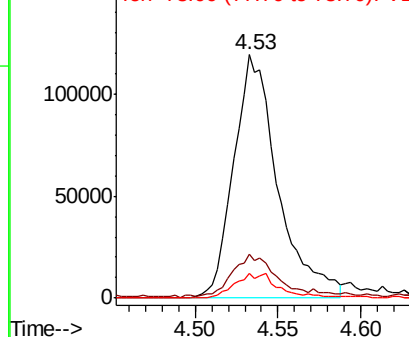
Acq: 10 May 2022 4:20

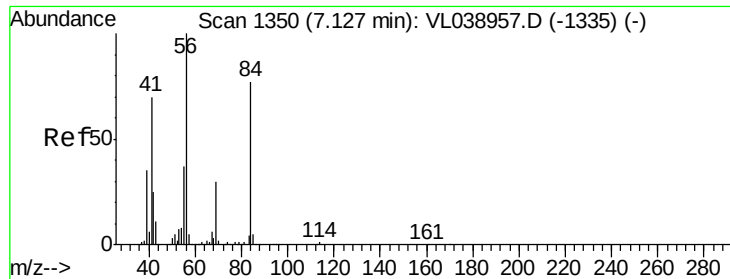
Tgt Ion: 76 Resp: 221212

| Ion | Ratio | Lower | Upper |
|-----|-------|-------|-------|
| 76  | 100   |       |       |
| 44  | 19.4  | 15.3  | 22.9  |
| 78  | 10.8  | 8.2   | 12.2  |



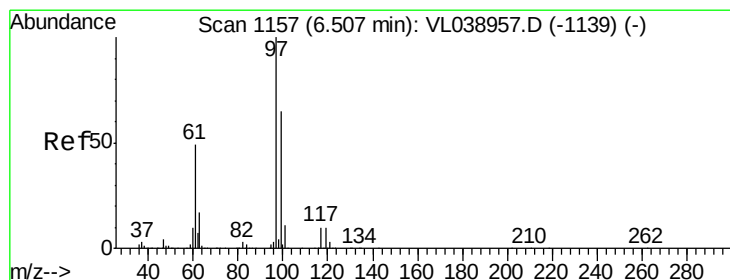
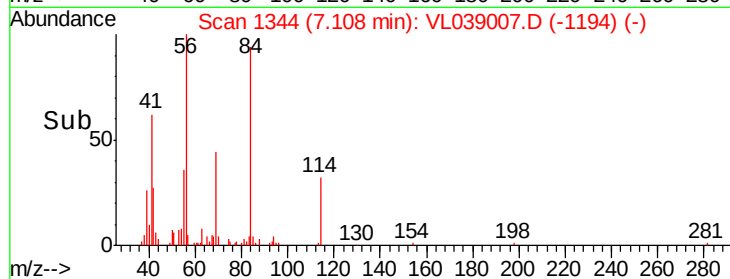
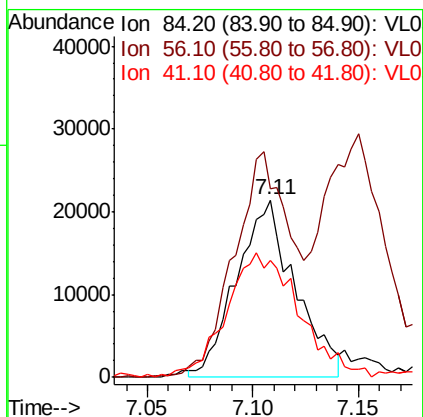
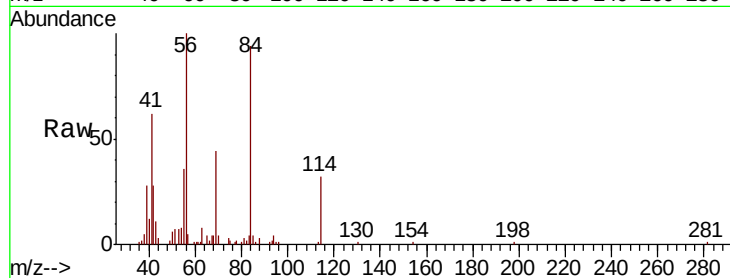
Abundance Ion 76.00 (75.70 to 76.70): VL0  
 Ion 44.10 (43.80 to 44.80): VL0  
 Ion 78.00 (77.70 to 78.70): VL0





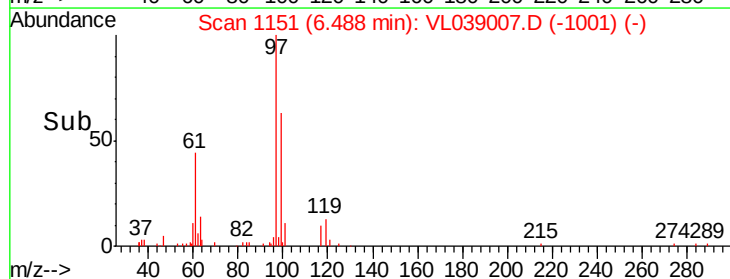
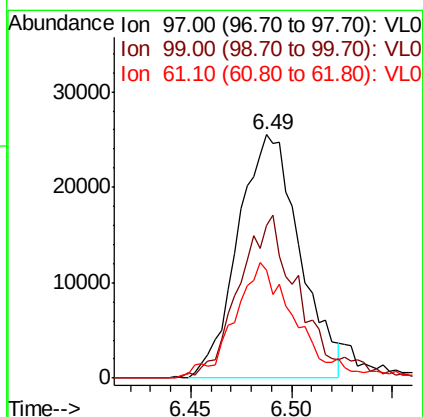
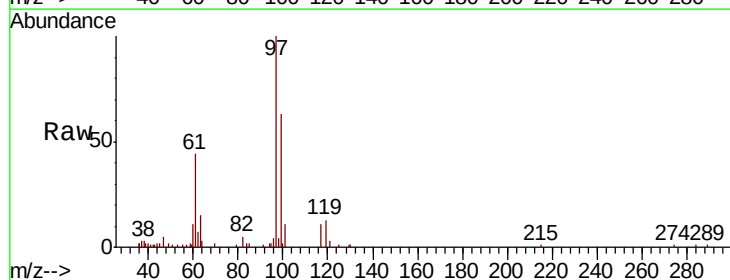
#30  
Cvclohexane  
Concen: 0.462 ppbv  
RT: 7.11  
Delta R.T. MSVOA\_L  
Lab File: ClientSampleId :  
Acq: 10 May 2022 4:20

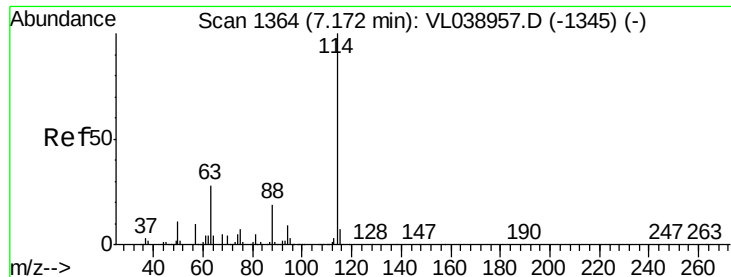
| Tot Ion | 84    | Resp  | 41268 |
|---------|-------|-------|-------|
| Ion     | Ratio | Lower | Upper |
| 84      | 100   |       |       |
| 56      | 123.0 | 115.3 | 172.9 |
| 41      | 88.7  | 72.0  | 108.0 |



#32  
1,1,1-Trichloroethane  
Concen: 0.317 ppbv  
RT: 6.49 min Scan# 1151  
Delta R.T. -0.02 min  
Lab File: VL039007.D  
Acq: 10 May 2022 4:20

| Tgt Ion | 97    | Resp  | 54579 |
|---------|-------|-------|-------|
| Ion     | Ratio | Lower | Upper |
| 97      | 100   |       |       |
| 99      | 66.7  | 51.9  | 77.9  |
| 61      | 47.8  | 40.9  | 61.3  |





#33

1,4-Difluorobenzene

Concen: 10.000 ppbv

RT: 7.15 Instrument:

Delta R.T. MSVOA\_L

Lab File: ClientSampleId:

Acq: 10 May 2022 4:20

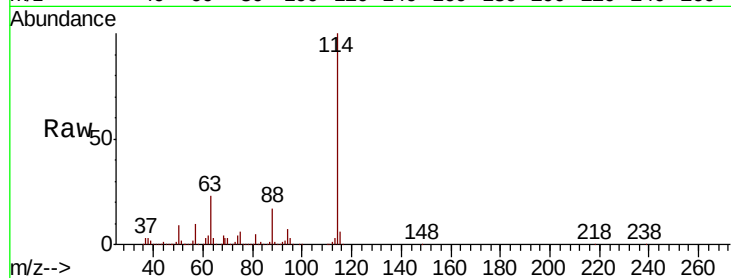
Tot Ion:114 Resp: 2983085

Ion Ratio Lower Upper

114 100

63 23.2 22.6 33.8

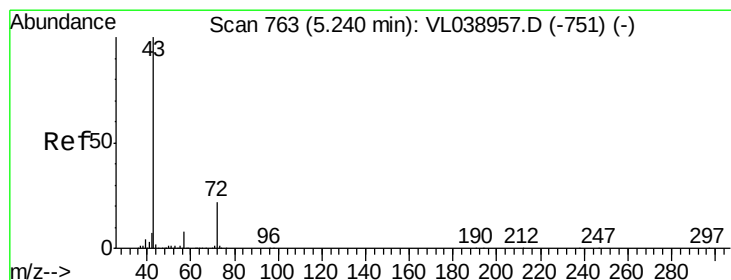
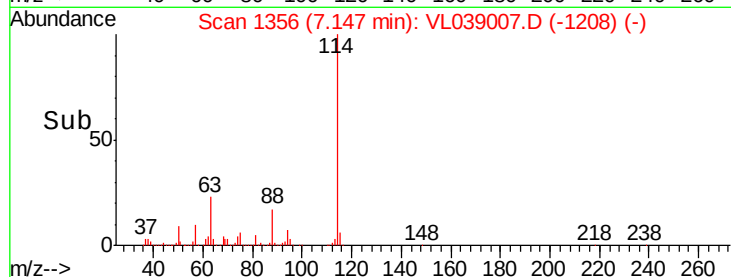
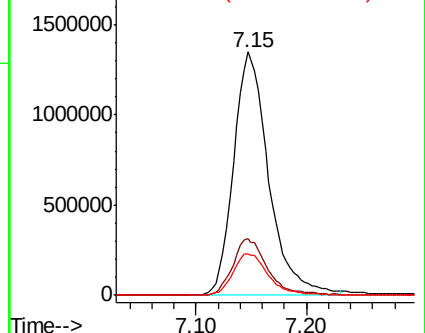
88 17.5 15.4 23.0



Abundance Ion 114.10 (113.80 to 114.80): V

Ion 63.10 (62.80 to 63.80): VL0

Ion 88.10 (87.80 to 88.80): VL0



#34

2-Butanone

Concen: 0.756 ppbv

RT: 5.23 min Scan# 759

Delta R.T. -0.01 min

Lab File: VL039007.D

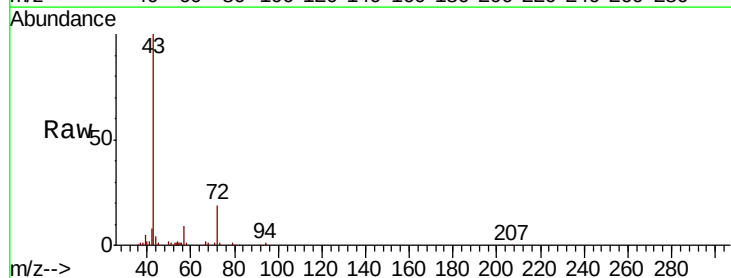
Acq: 10 May 2022 4:20

Tgt Ion: 43 Resp: 115021

Ion Ratio Lower Upper

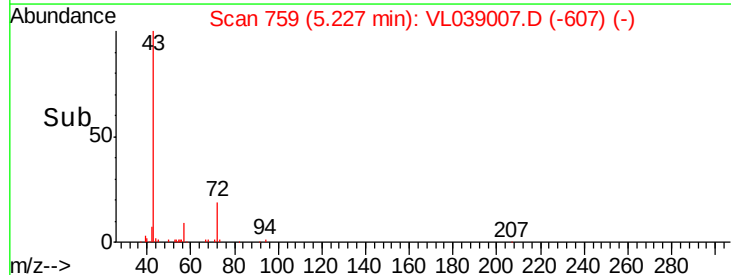
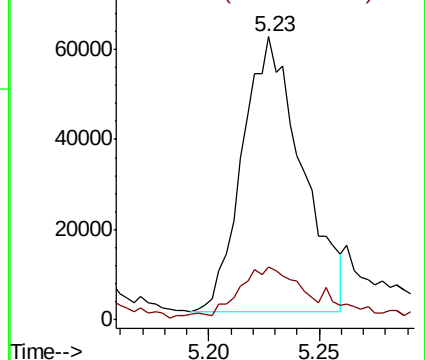
43 100

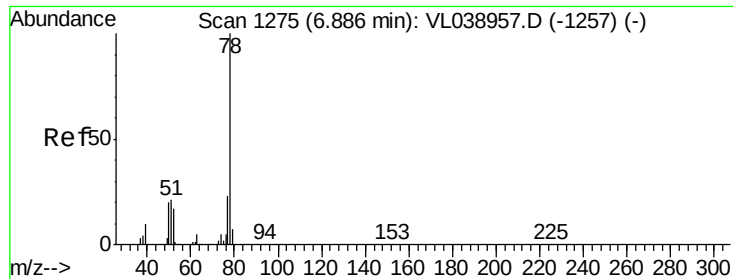
72 27.6 17.8 26.6#



Abundance Ion 43.10 (42.80 to 43.80): VL0

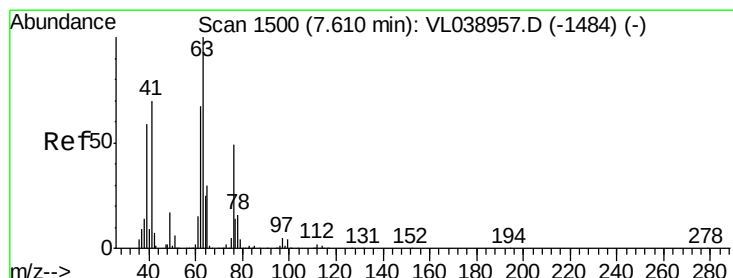
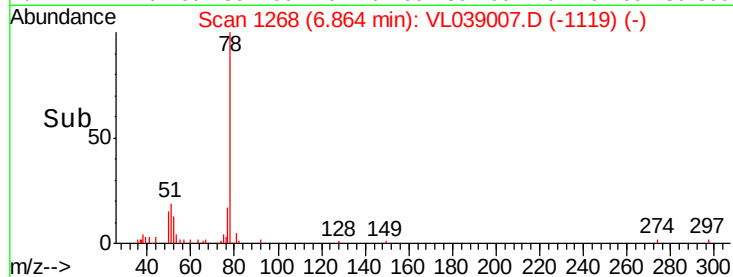
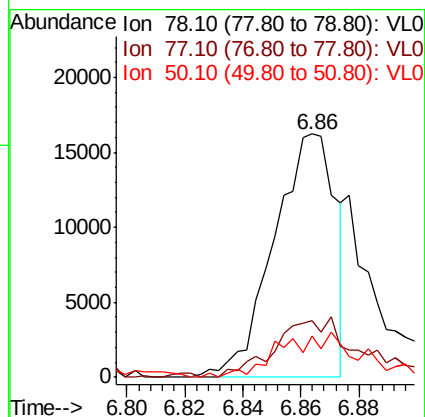
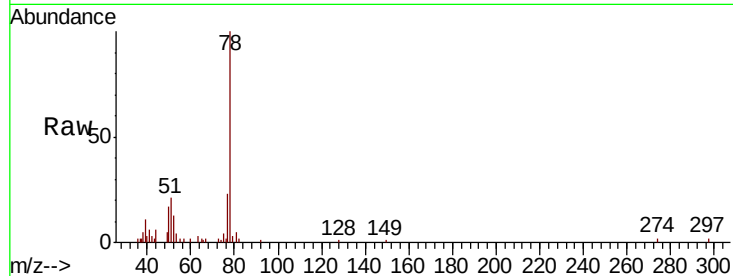
Ion 72.10 (71.80 to 72.80): VL0





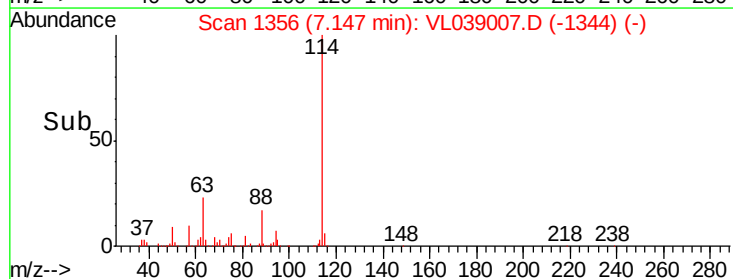
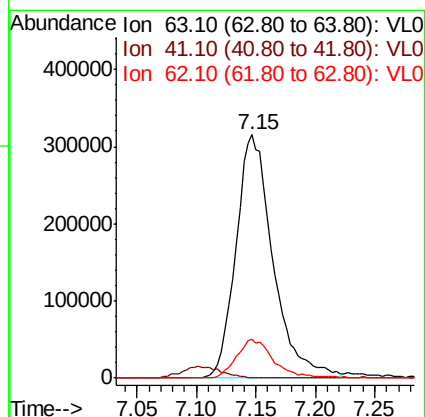
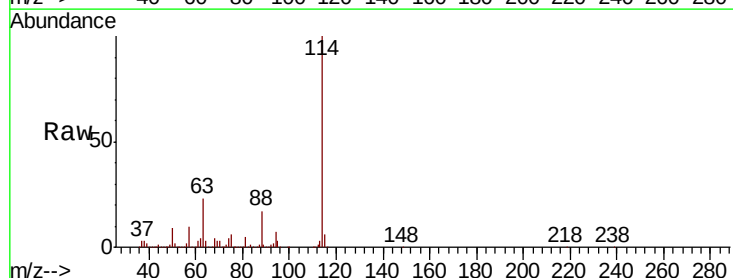
#36  
Benzene  
Concen: 0.094 ppbv  
RT: 6.86  
Delta R.T. MSVOA\_L  
Lab File: ClientSampleId:  
SV4  
Acq: 10 May 2022 4:20

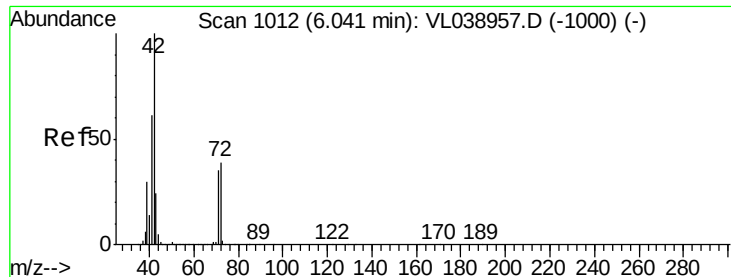
| Tot Ion   | 78    | Resp  | 23965 |
|-----------|-------|-------|-------|
| Ion Ratio | Lower | Upper |       |
| 78        | 100   |       |       |
| 77        | 21.7  | 18.6  | 28.0  |
| 50        | 16.9  | 15.6  | 23.4  |



#39  
1,2-Dichloropropane  
Concen: 6.832 ppbv  
RT: 7.15 min Scan# 1356  
Delta R.T. -0.46 min  
Lab File: VL039007.D  
Acq: 10 May 2022 4:20

| Tgt Ion   | 63    | Resp  | 678677 |
|-----------|-------|-------|--------|
| Ion Ratio | Lower | Upper |        |
| 63        | 100   |       |        |
| 41        | 0.1   | 55.9  | 83.9#  |
| 62        | 16.0  | 53.8  | 80.6#  |





#41

Tetrahydrofuran

Concen: 0.378 ppbv

RT: 6.04 Instrument:

Delta R.T. MSVOA\_L

Lab File: ClientSampleId:

Acq: 10 May 2022 4:20

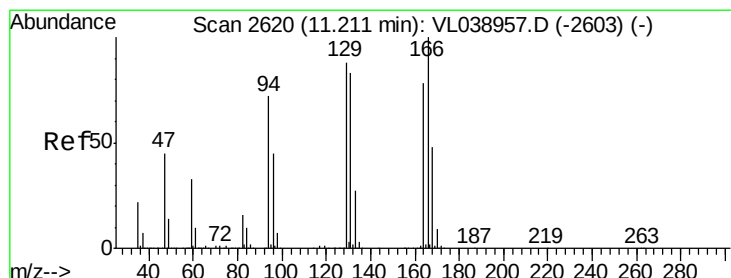
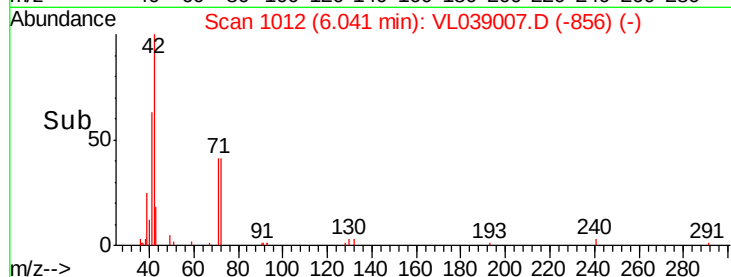
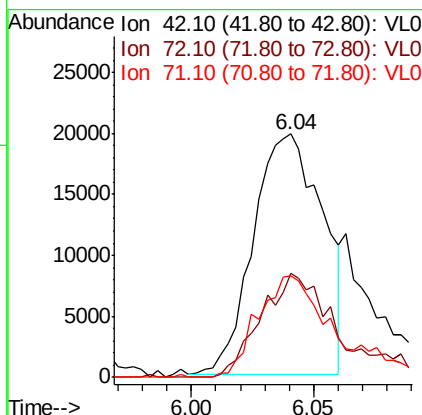
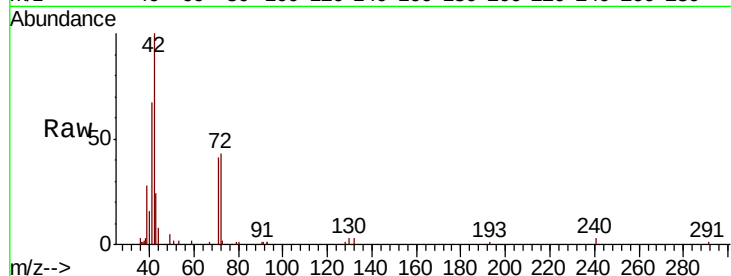
Tot Ion: 42 Resp: 38620

Ion Ratio Lower Upper

42 100

72 52.6 31.8 47.6#

71 46.7 30.6 45.8#



#52

Tetrachloroethene

Concen: 0.036 ppbv

RT: 11.20 min Scan# 2617

Delta R.T. -0.01 min

Lab File: VL039007.D

Acq: 10 May 2022 4:20

Tgt Ion: 164 Resp: 3304

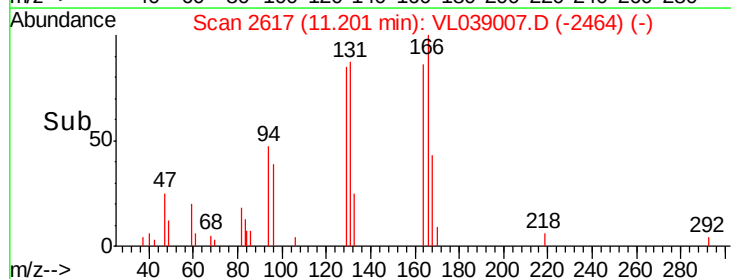
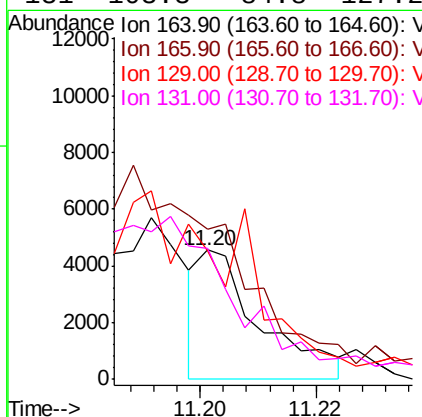
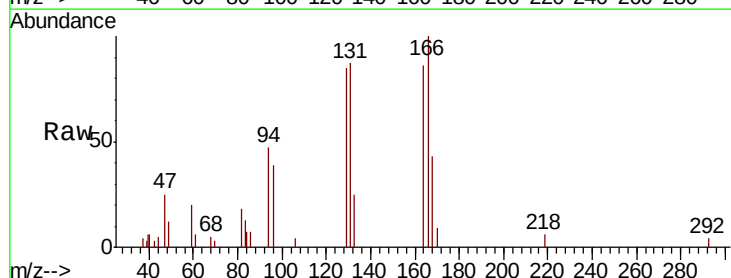
Ion Ratio Lower Upper

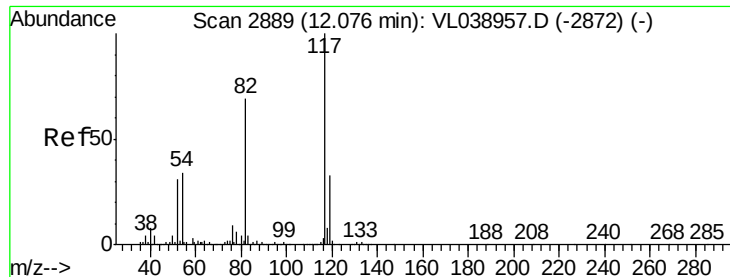
164 100

166 107.5 102.5 153.7

129 99.3 90.1 135.1

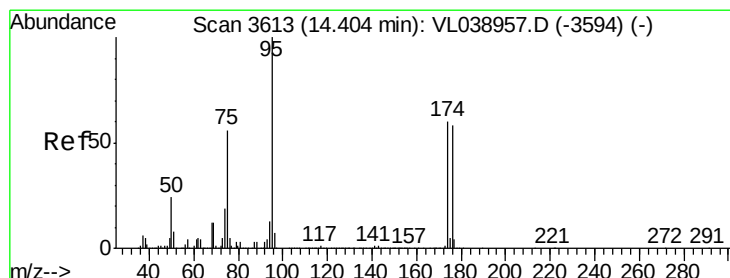
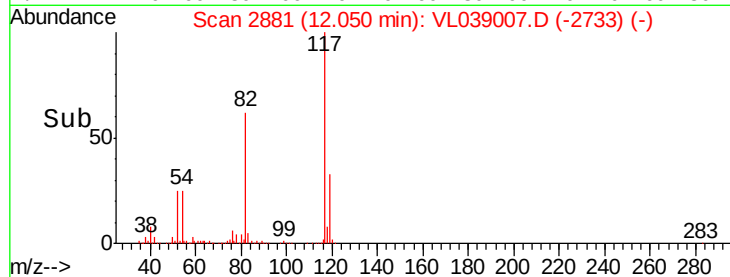
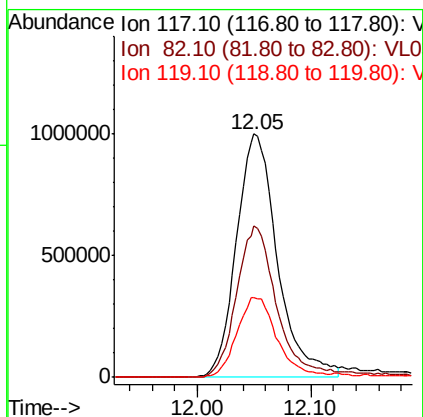
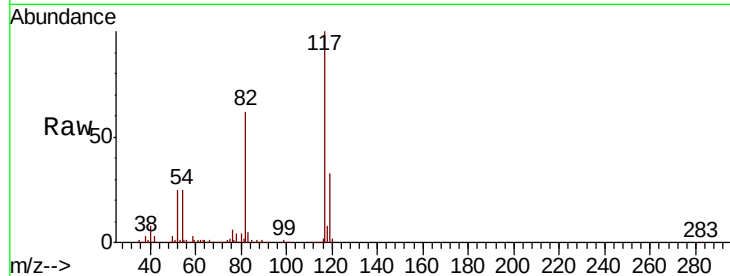
131 103.3 84.8 127.2





#55  
 Chlorobenzene-d5  
 Concen: 10.000 ppbv  
 RT: 12.05 min  
 Instrument: MSVOA\_1  
 Delta R.T.:  
 Lab File: ClientSampleId :  
 SV4  
 Acq: 10 May 2022 4:20

|             |               |
|-------------|---------------|
| Tot Ion:117 | Resp: 2524247 |
| Ion Ratio   | Lower Upper   |
| 117 100     |               |
| 82 64.4     | 57.0 85.6     |
| 119 34.3    | 27.2 40.8     |



#68  
 1-Bromo-4-Fluorobenzene  
 Concen: 8.715 ppbv  
 RT: 14.38 min Scan# 3606  
 Delta R.T.: -0.02 min  
 Lab File: VL039007.D  
 Acq: 10 May 2022 4:20

|     |         |               |       |
|-----|---------|---------------|-------|
| Tgt | Ion: 95 | Resp: 1742125 |       |
| Ion | Ratio   | Lower         | Upper |
| 95  | 100     |               |       |
| 174 | 71.4    | 50.8          | 76.2  |
| 175 | 5.2     | 3.8           | 5.6   |

