

Data File : VX013939.D  
Acq On : 11 Dec 2019 13:11  
Operator : JC/SP  
Sample : K6185-18DL 5X  
Misc : 5.0mL/MSVOA\_X/WATER  
ALS Vial : 9 Sample Multiplier: 1

Instrument :  
MSVOA\_X  
ClientSampleId :  
DUP03-20191205DL

Quant Time: Dec 12 03:58:55 2019  
Quant Method : Z:\VOASRV\HPCHEM1\MSVOA\_X\METHOD\82X112619W.M  
Quant Title : SW846 8260  
QLast Update : Tue Nov 26 15:53:00 2019  
Response via : Initial Calibration

| Internal Standards         | R.T.  | QIon | Response | Conc  | Units | Dev(Min) |
|----------------------------|-------|------|----------|-------|-------|----------|
| 1) Pentafluorobenzene      | 5.65  | 168  | 536978   | 50.00 | ug/l  | 0.00     |
| 34) 1,4-Difluorobenzene    | 6.85  | 114  | 830976   | 50.00 | ug/l  | 0.00     |
| 63) Chlorobenzene-d5       | 10.11 | 117  | 751717   | 50.00 | ug/l  | 0.00     |
| 72) 1,4-Dichlorobenzene-d4 | 12.07 | 152  | 345871   | 50.00 | ug/l  | 0.00     |

|                             |        |     |          |       |        |      |
|-----------------------------|--------|-----|----------|-------|--------|------|
| System Monitoring Compounds |        |     |          |       |        |      |
| 33) 1,2-Dichloroethane-d4   | 6.05   | 65  | 304376   | 48.83 | ug/l   | 0.00 |
| Spiked Amount               | 50.000 |     | Recovery | =     | 97.66% |      |
| 35) Dibromofluoromethane    | 5.48   | 113 | 242471   | 47.20 | ug/l   | 0.00 |
| Spiked Amount               | 50.000 |     | Recovery | =     | 94.40% |      |
| 50) Toluene-d8              | 8.71   | 98  | 989519   | 49.44 | ug/l   | 0.00 |
| Spiked Amount               | 50.000 |     | Recovery | =     | 98.88% |      |
| 62) 4-Bromofluorobenzene    | 11.14  | 95  | 350137   | 48.51 | ug/l   | 0.00 |
| Spiked Amount               | 50.000 |     | Recovery | =     | 97.02% |      |

| Target Compounds               |       |     |        |        |        | Qvalue |
|--------------------------------|-------|-----|--------|--------|--------|--------|
| 5) Bromomethane                | 1.62  | 94  | 3457   | 0.682  | ug/l   | 82     |
| 6) Chloroethane                | 1.66  | 64  | 2930   | 0.682  | ug/l   | 97     |
| 9) 1,1,2-Trichlorotrifluoroet  | 2.36  | 101 | 18395  | 3.593  | ug/l   | 93     |
| 10) Methyl Iodide              | 2.50  | 142 | 1427   | 0.230  | ug/l # | 71     |
| 11) Tert butyl alcohol         | 3.01  | 59  | 9540   | 6.201  | ug/l # | 92     |
| 12) 1,1-Dichloroethene         | 2.36  | 96  | 6156   | 1.205  | ug/l   | 97     |
| 13) Acrolein                   | 2.27  | 56  | 742    | 6.708  | ug/l # | 43     |
| 16) Acetone                    | 2.44  | 43  | 7115   | 2.312  | ug/l   | 90     |
| 20) Methylene Chloride         | 2.84  | 84  | 4210   | 0.712  | ug/l # | 90     |
| 25) 2-Butanone                 | 4.68  | 43  | 1788   | 0.391  | ug/l # | 51     |
| 27) cis-1,2-Dichloroethene     | 4.58  | 96  | 7144   | 1.117  | ug/l   | 67     |
| 29) Tetrahydrofuran            | 5.00  | 42  | 805    | 0.286  | ug/l   | 89     |
| 36) 1,1-Dichloropropene        | 5.65  | 75  | 36256  | 4.806  | ug/l # | 54     |
| 38) Carbon Tetrachloride       | 5.65  | 117 | 48301  | 6.944  | ug/l # | 15     |
| 41) Methacrylonitrile          | 5.02  | 41  | 1120   | 0.241  | ug/l # | 61     |
| 44) Trichloroethene            | 7.20  | 130 | 328533 | 52.106 | ug/l   | 98     |
| 46) Dibromomethane             | 7.64  | 93  | 980    | 0.251  | ug/l # | 4      |
| 49) 1,4-Dioxane                | 7.74  | 88  | 643    | 4.244  | ug/l # | 59     |
| 64) Tetrachloroethene          | 9.33  | 164 | 6001   | 1.070  | ug/l   | 93     |
| 76) 1,2,3-Trichloropropane     | 11.14 | 75  | 171395 | 22.032 | ug/l # | 40     |
| 81) trans-1,4-Dichloro-2-buten | 11.14 | 75  | 171395 | 60.277 | ug/l # | 11     |

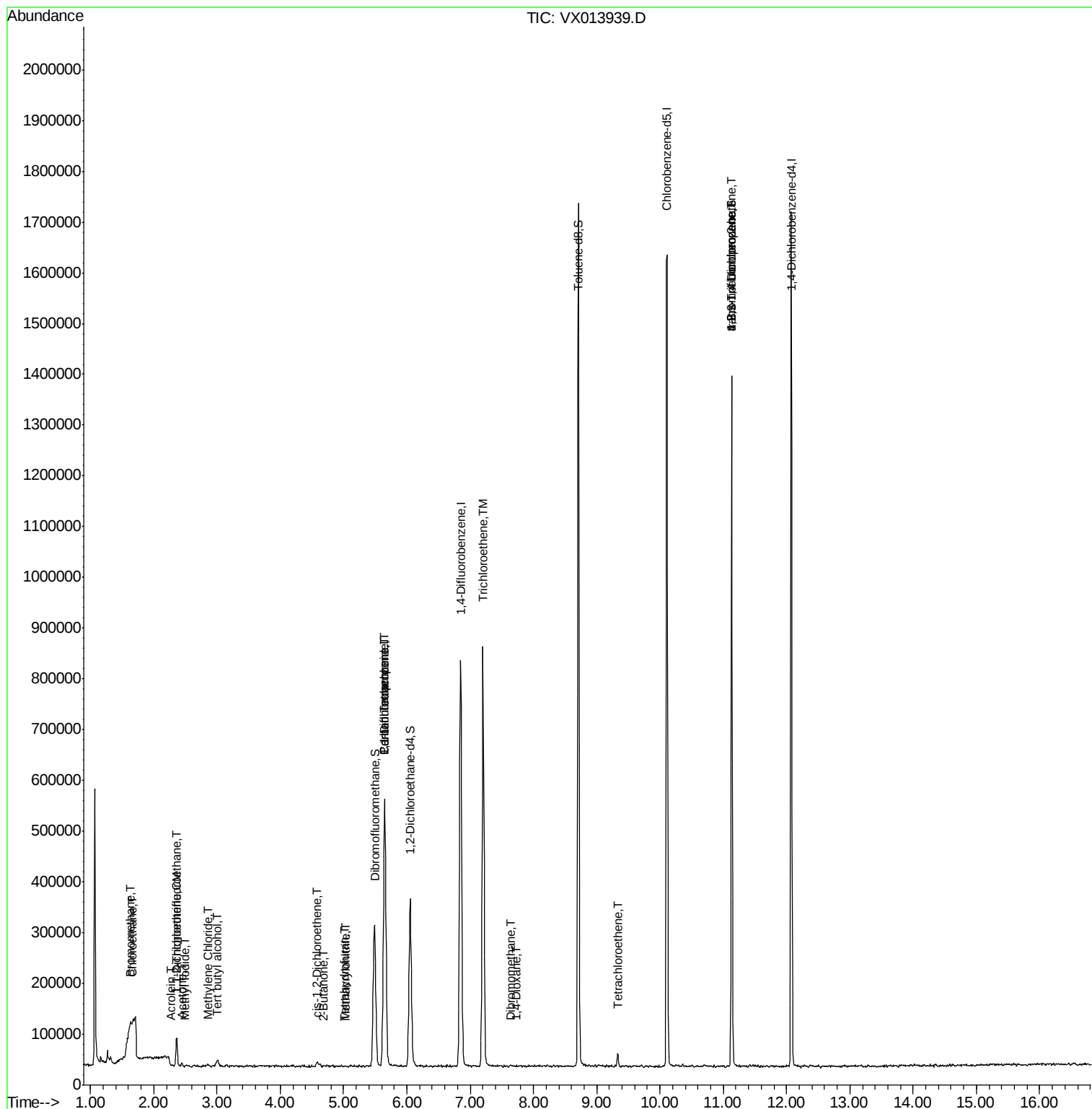
(#) = qualifier out of range (m) = manual integration (+) = signals summed

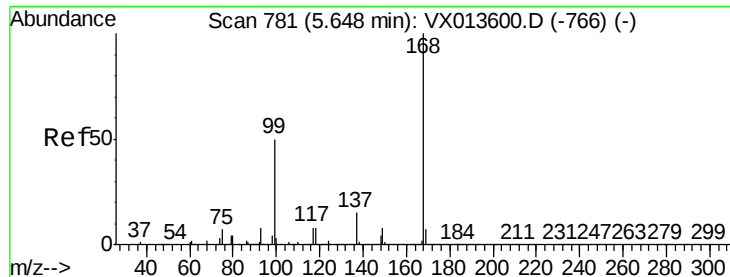
Data File : VX013939.D

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QLast Update : Tue Nov 26 15:53:00 2019  
Response via : Initial Calibration





#1

Pentafluorobenzene

Concen: 50.000 ug/l

RT: 5.65 min Scan# 781

Delta R.T. 0.00 min

Lab File: VX013939.D

Acq: 11 Dec 2019 13:11

Instrument :

MSVOA\_X

ClientSampleId :

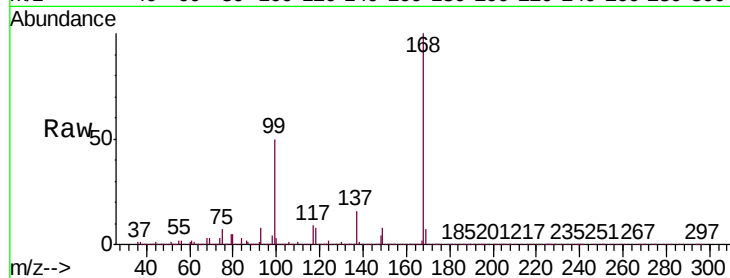
DUP03-20191205DL

Tgt Ion:168 Resp: 536978

Ion Ratio Lower Upper

168 100

99 50.5 39.8 59.8



Abundance Ion 167.90 (167.60 to 168.60): V

Ion 98.90 (98.60 to 99.60): VX0

5.65

200000

150000

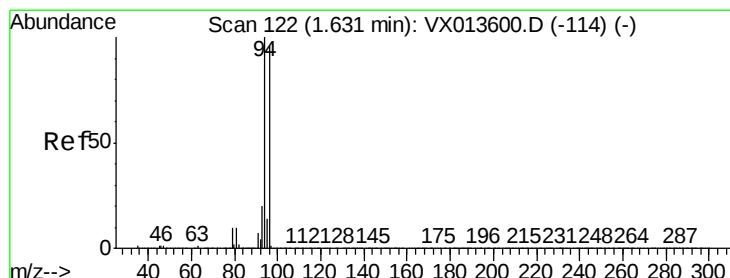
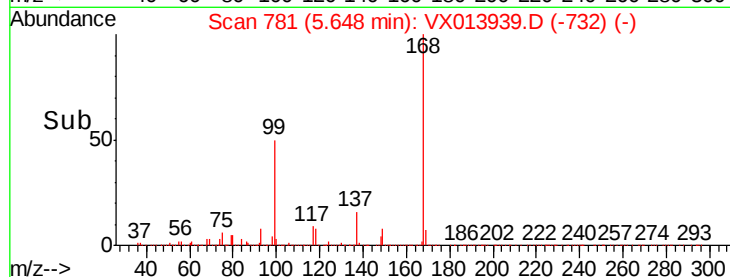
100000

50000

0

5.50 5.60 5.70 5.80

Time-->



#5

Bromomethane

Concen: 0.682 ug/l

RT: 1.62 min Scan# 121

Delta R.T. -0.01 min

Lab File: VX013939.D

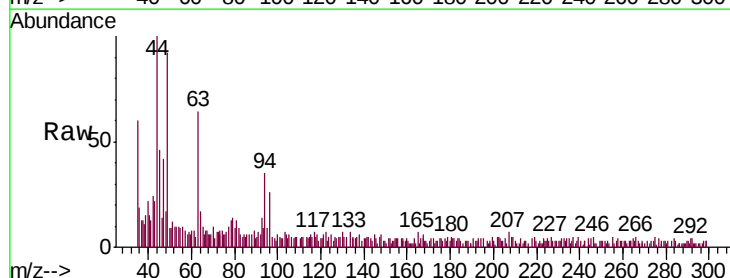
Acq: 11 Dec 2019 13:11

Tgt Ion: 94 Resp: 3457

Ion Ratio Lower Upper

94 100

96 78.8 77.0 115.4



Abundance Ion 93.90 (93.60 to 94.60): VX0

Ion 95.90 (95.60 to 96.60): VX0

2500

2000

1500

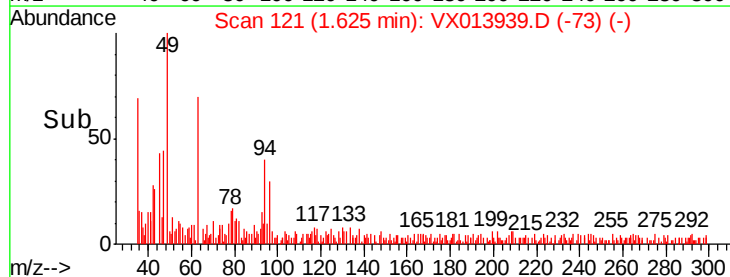
1000

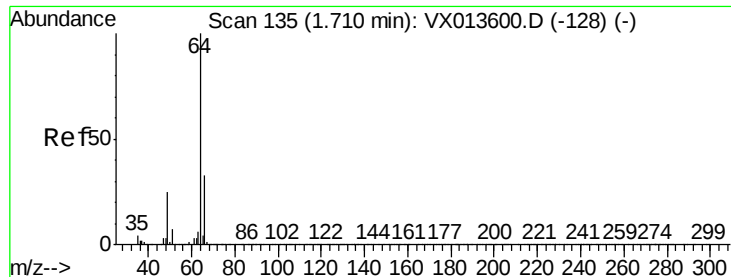
500

0

1.55 1.60 1.65 1.70

Time-->





#6

Chloroethane

Concen: 0.682 ug/l

RT: 1.66 min Scan# 126

Delta R.T. -0.05 min

Lab File: VX013939.D

Acq: 11 Dec 2019 13:11

Instrument :

MSVOA\_X

ClientSampleId :

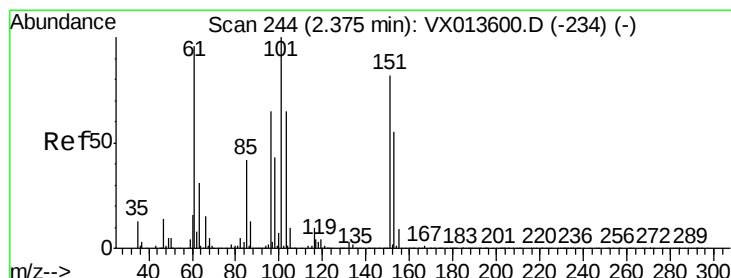
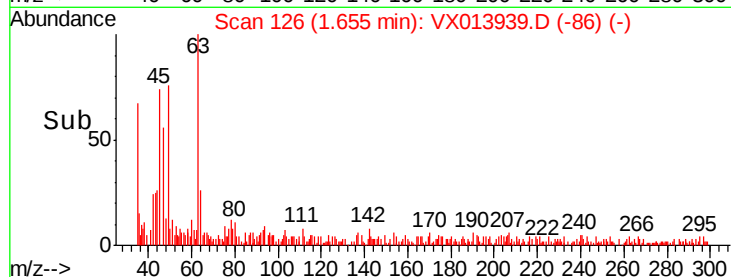
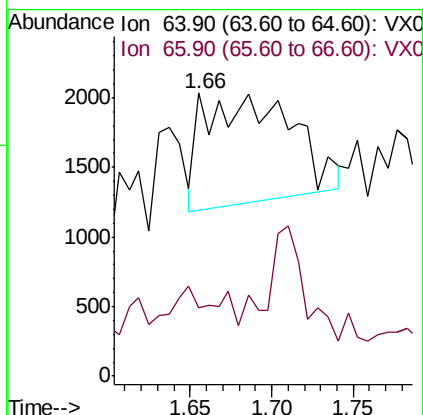
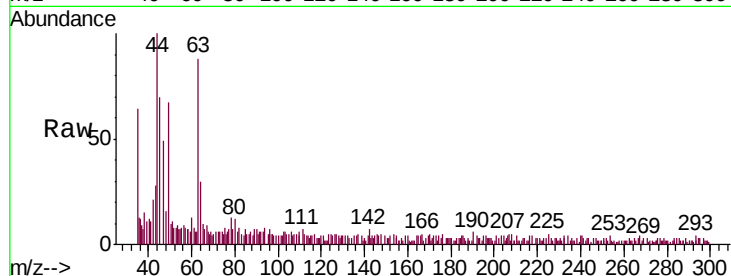
DUP03-20191205DL

Tgt Ion: 64 Resp: 2930

Ion Ratio Lower Upper

64 100

66 35.3 26.7 40.1



#9

1,1,2-Trichlorotrifluoroethane

Concen: 3.593 ug/l

RT: 2.36 min Scan# 242

Delta R.T. -0.01 min

Lab File: VX013939.D

Acq: 11 Dec 2019 13:11

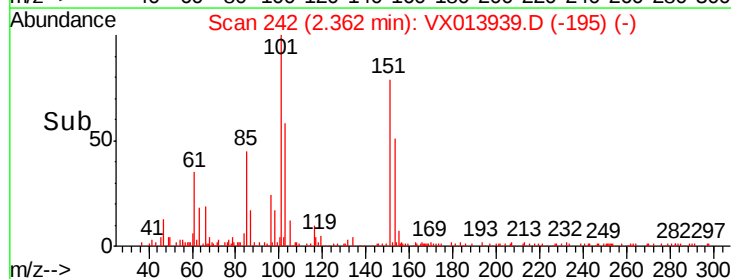
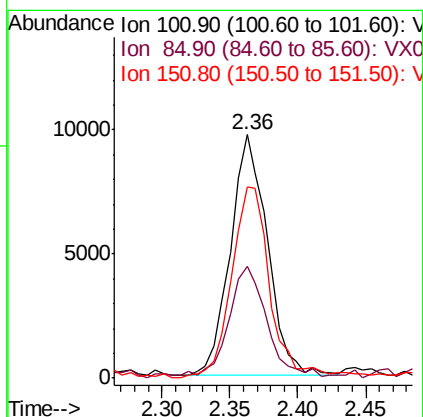
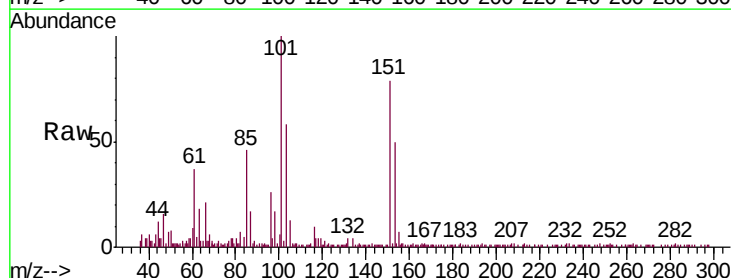
Tgt Ion: 101 Resp: 18395

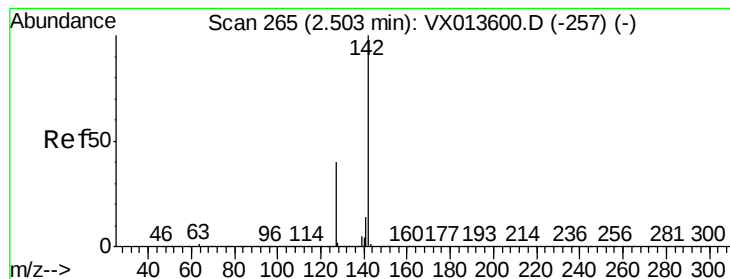
Ion Ratio Lower Upper

101 100

85 50.4 33.9 50.9

151 84.3 64.2 96.2





#10

Methyl Iodide

Concen: 0.230 ug/l

RT: 2.50 min Scan# 264

Delta R.T. -0.01 min

Lab File: VX013939.D

Acq: 11 Dec 2019 13:11

Instrument :

MSVOA\_X

ClientSampleId :

DUP03-20191205DL

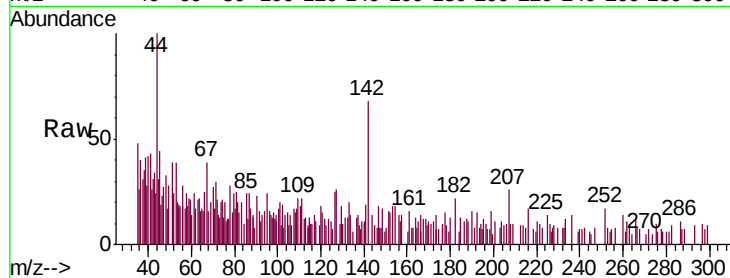
Tgt Ion:142 Resp: 1427

Ion Ratio Lower Upper

142 100

127 62.0 31.0 46.4#

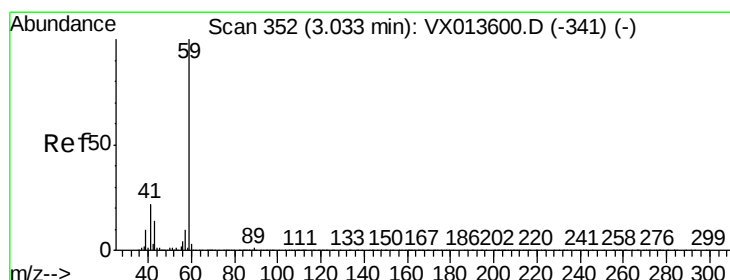
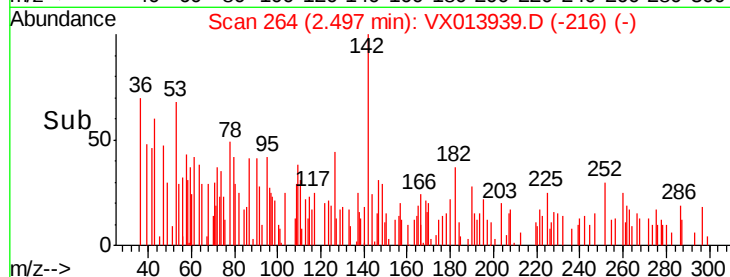
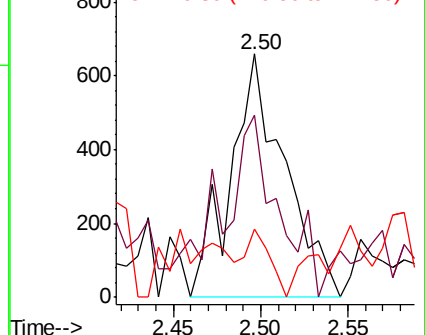
141 12.7 11.6 17.4



Abundance Ion 141.80 (141.50 to 142.50): V

Ion 126.80 (126.50 to 127.50): V

Ion 140.80 (140.50 to 141.50): V



#11

Tert butyl alcohol

Concen: 6.201 ug/l

RT: 3.01 min Scan# 348

Delta R.T. -0.02 min

Lab File: VX013939.D

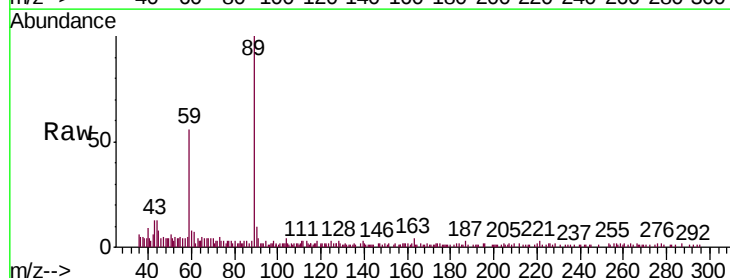
Acq: 11 Dec 2019 13:11

Tgt Ion: 59 Resp: 9540

Ion Ratio Lower Upper

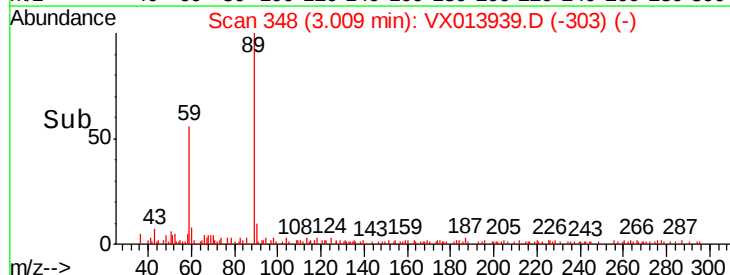
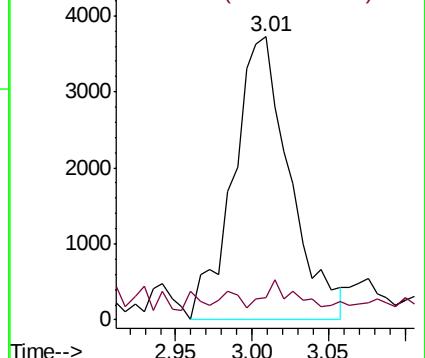
59 100

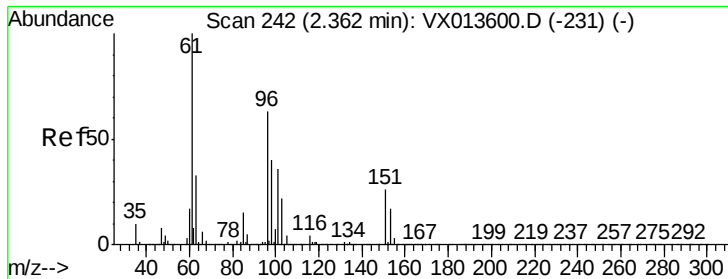
57 6.8 7.8 11.6#



Abundance Ion 59.00 (58.70 to 59.70): VX0

Ion 57.00 (56.70 to 57.70): VX0





#12

1,1-Dichloroethene

Concen: 1.205 ug/l

RT: 2.36 min Scan# 241

Delta R.T. -0.01 min

Lab File: VX013939.D

Acq: 11 Dec 2019 13:11

Instrument :

MSVOA\_X

ClientSampleId :

DUP03-20191205DL

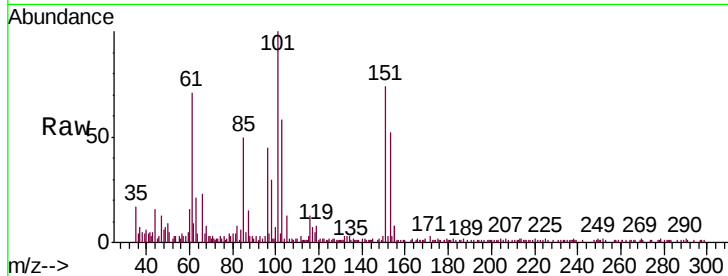
Tgt Ion: 96 Resp: 6156

Ion Ratio Lower Upper

96 100

61 153.5 126.6 190.0

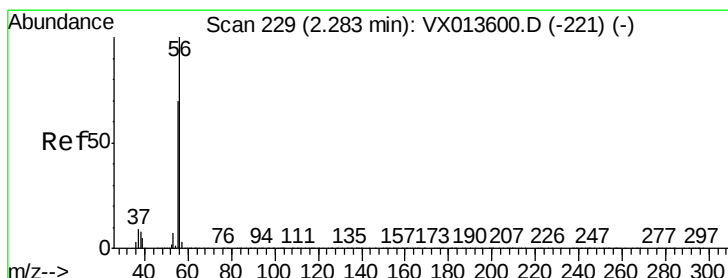
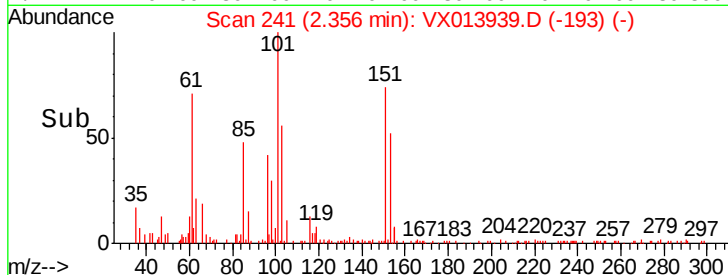
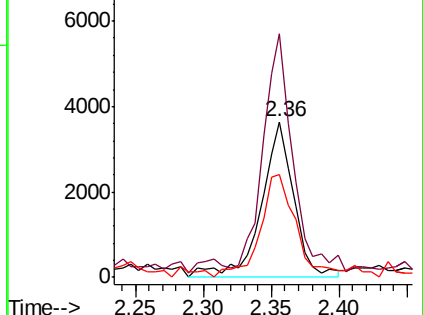
98 61.7 50.6 76.0



Abundance Ion 95.90 (95.60 to 96.60): VX0

Ion 60.90 (60.60 to 61.60): VX0

Ion 97.90 (97.60 to 98.60): VX0



#13

Acrolein

Concen: 6.708 ug/l

RT: 2.27 min Scan# 227

Delta R.T. -0.01 min

Lab File: VX013939.D

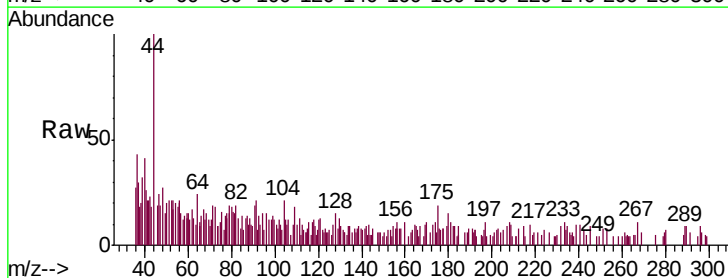
Acq: 11 Dec 2019 13:11

Tgt Ion: 56 Resp: 742

Ion Ratio Lower Upper

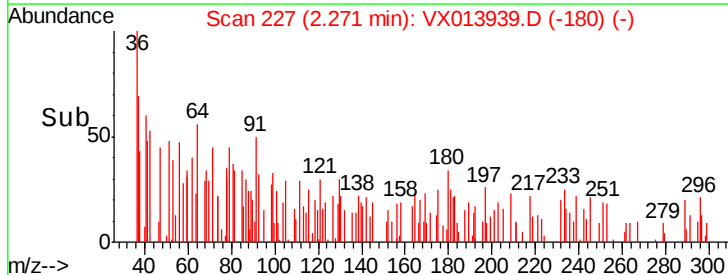
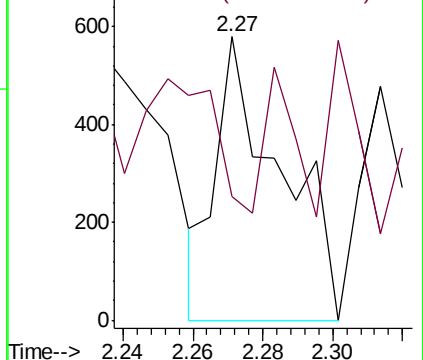
56 100

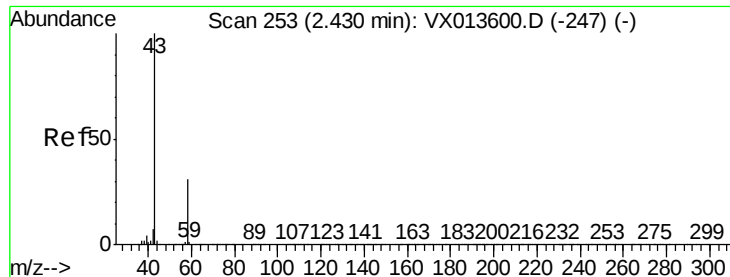
55 23.0 56.2 84.4#



Abundance Ion 56.00 (55.70 to 56.70): VX0

Ion 55.00 (54.70 to 55.70): VX0

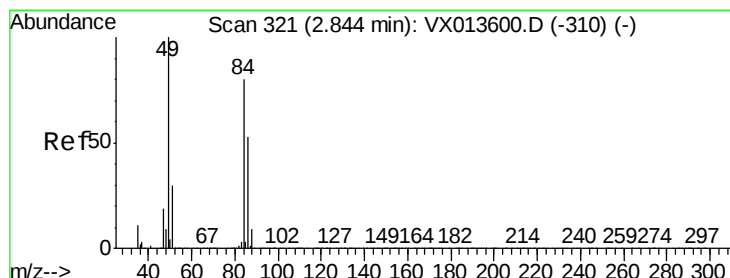
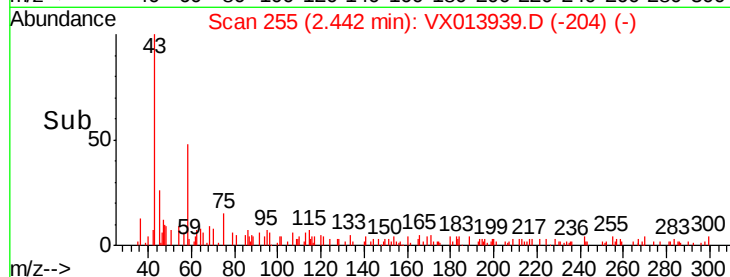
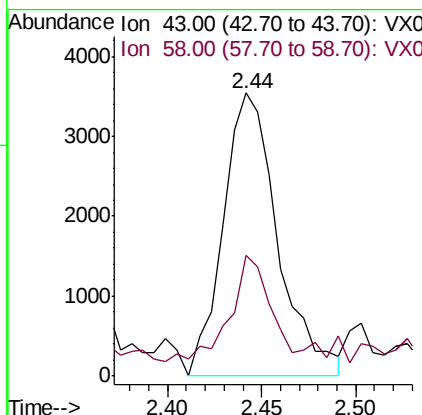
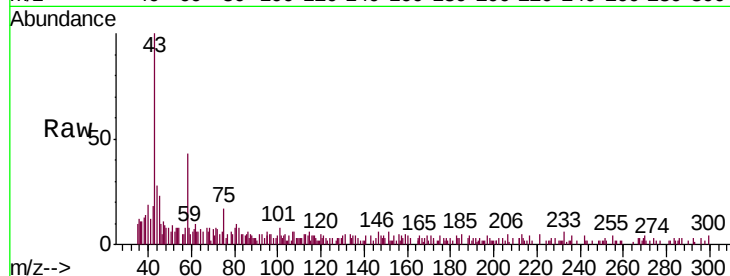




#16  
Acetone  
Concen: 2.312 ug/l  
RT: 2.44 min Scan# 255  
Delta R.T. 0.01 min  
Lab File: VX013939.D  
Acq: 11 Dec 2019 13:11

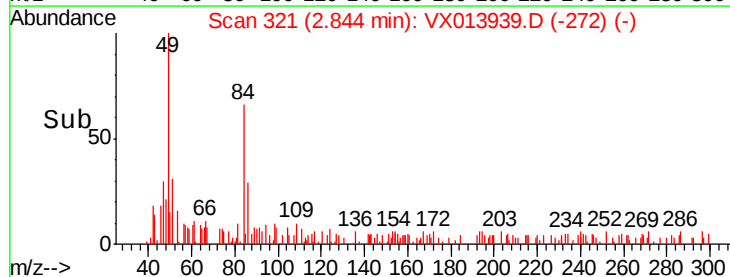
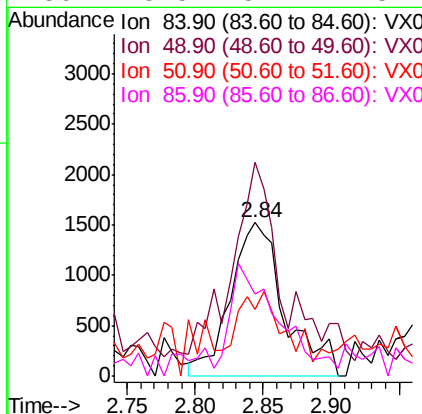
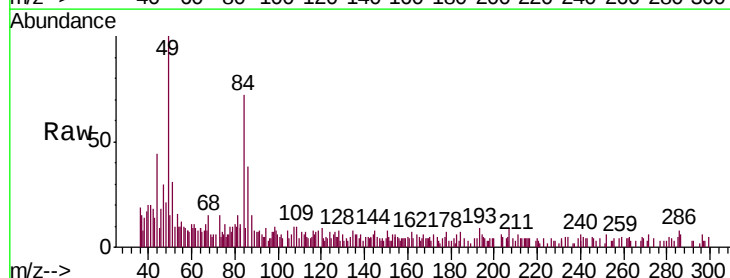
Instrument :  
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DUP03-20191205DL

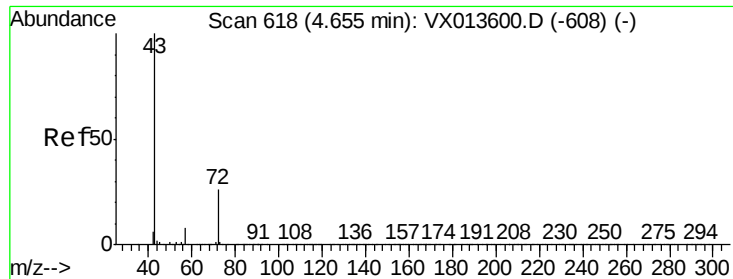
Tgt Ion: 43 Resp: 7115  
Ion Ratio Lower Upper  
43 100  
58 36.3 24.6 36.8



#20  
Methylene Chloride  
Concen: 0.712 ug/l  
RT: 2.84 min Scan# 321  
Delta R.T. -0.00 min  
Lab File: VX013939.D  
Acq: 11 Dec 2019 13:11

Tgt Ion: 84 Resp: 4210  
Ion Ratio Lower Upper  
84 100  
49 121.2 99.7 149.5  
51 29.4 29.9 44.9#  
86 48.5 52.2 78.4#





#25

2-Butanone

Concen: 0.391 ug/l

RT: 4.68 min Scan# 622

Delta R.T. 0.02 min

Lab File: VX013939.D

Acq: 11 Dec 2019 13:11

Instrument :

MSVOA\_X

ClientSampleID :

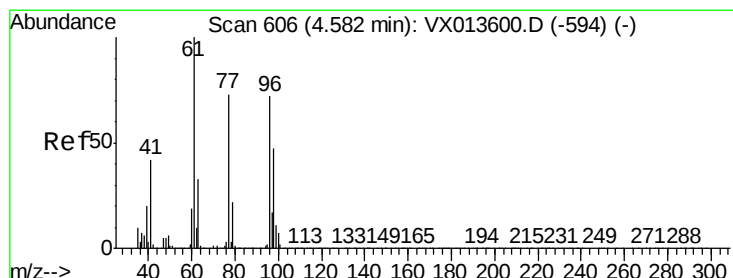
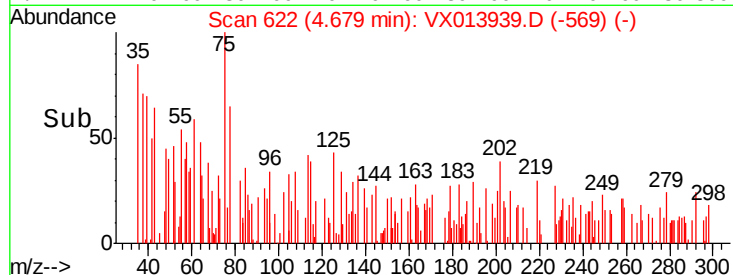
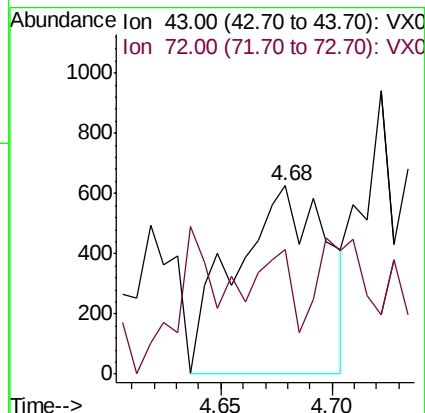
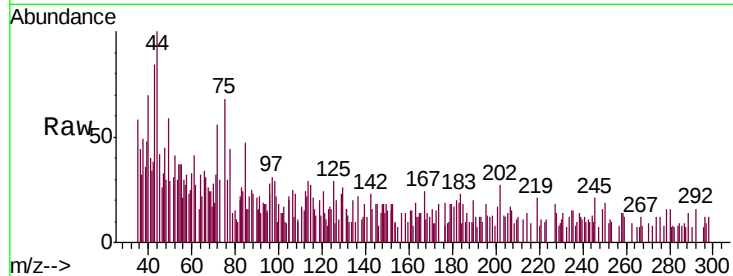
DUP03-20191205DL

Tgt Ion: 43 Resp: 1788

Ion Ratio Lower Upper

43 100

72 0.8 20.6 31.0#



#27

cis-1,2-Dichloroethene

Concen: 1.117 ug/l

RT: 4.58 min Scan# 606

Delta R.T. 0.00 min

Lab File: VX013939.D

Acq: 11 Dec 2019 13:11

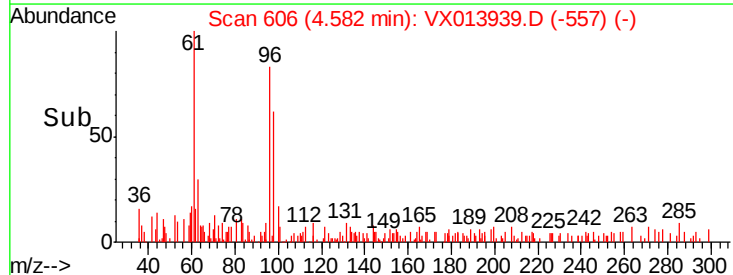
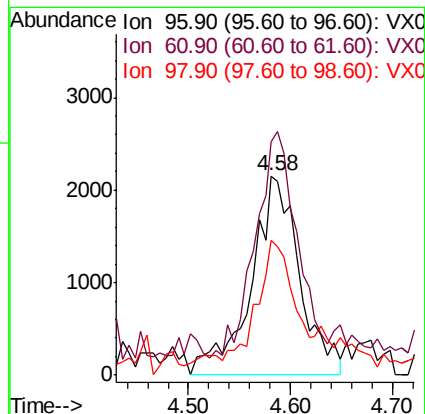
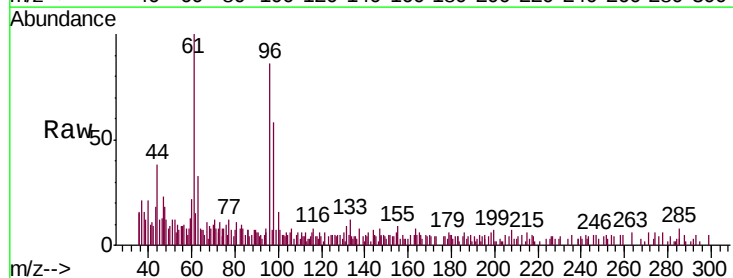
Tgt Ion: 96 Resp: 7144

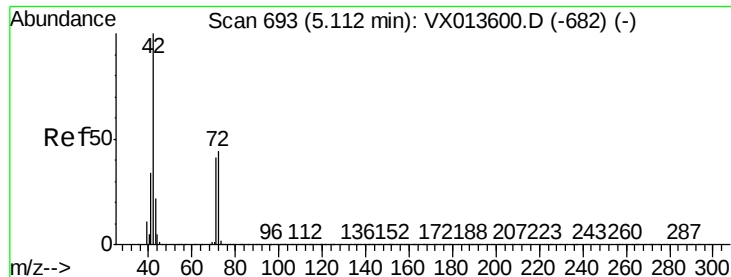
Ion Ratio Lower Upper

96 100

61 97.8 0.0 286.4

98 44.6 0.0 127.4

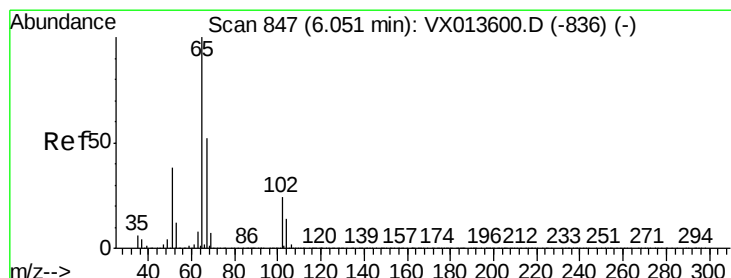
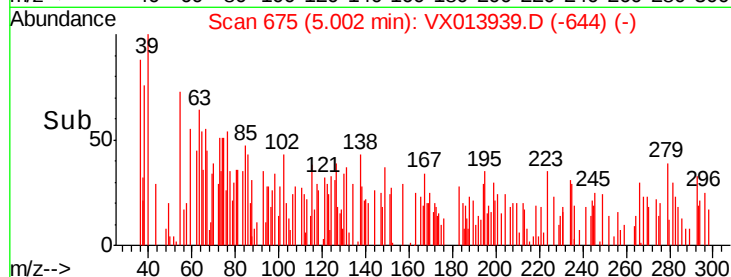
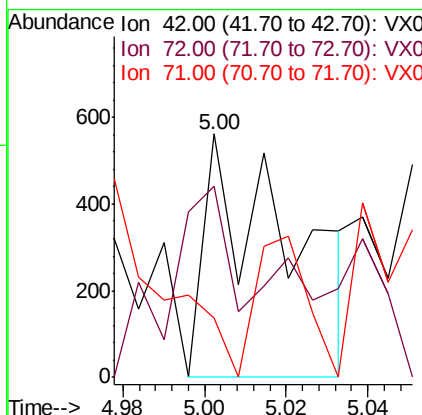
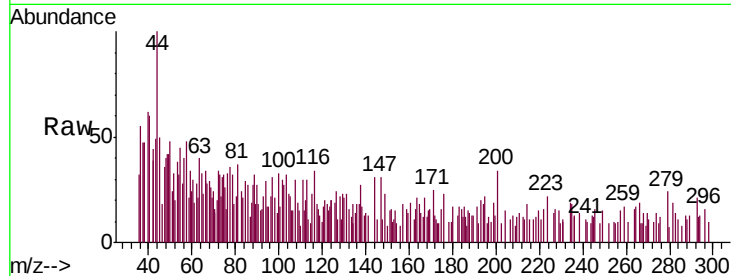




#29  
Tetrahydrofuran  
Concen: 0.286 ug/l  
RT: 5.00 min Scan# 675  
Delta R.T. -0.11 min  
Lab File: VX013939.D  
Acq: 11 Dec 2019 13:11

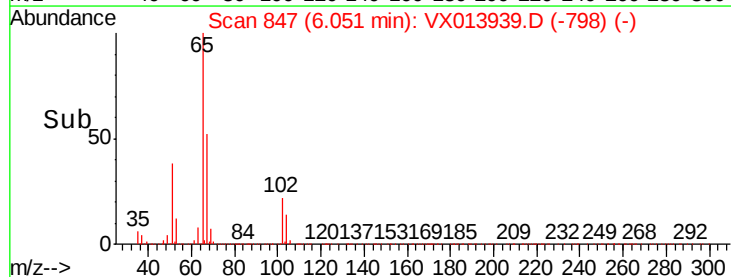
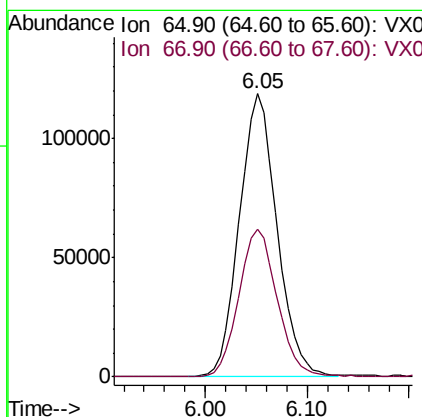
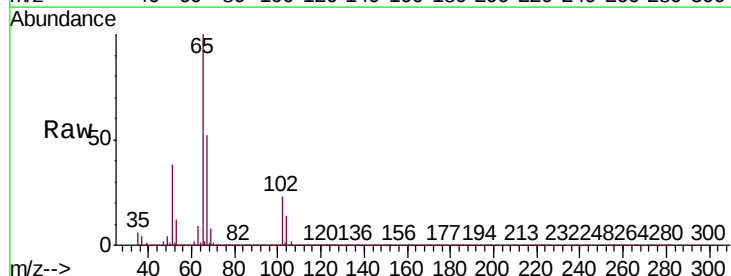
Instrument :  
MSVOA\_X  
ClientSampleId :  
DUP03-20191205DL

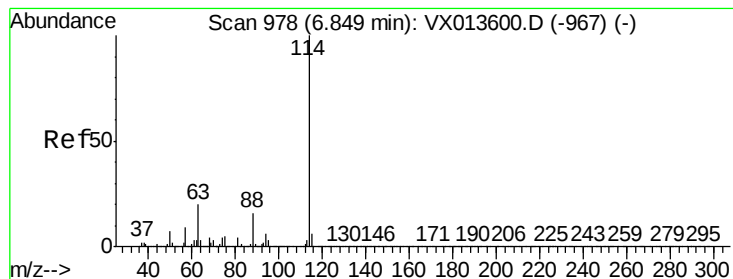
Tgt Ion: 42 Resp: 805  
Ion Ratio Lower Upper  
42 100  
72 38.0 36.3 54.5  
71 35.2 33.2 49.8



#33  
1,2-Dichloroethane-d4  
Concen: 48.832 ug/l  
RT: 6.05 min Scan# 847  
Delta R.T. 0.00 min  
Lab File: VX013939.D  
Acq: 11 Dec 2019 13:11

Tgt Ion: 65 Resp: 304376  
Ion Ratio Lower Upper  
65 100  
67 52.8 0.0 104.4





#34

1,4-Difluorobenzene

Concen: 50.000 ug/l

RT: 6.85 min Scan# 978

Delta R.T. -0.00 min

Lab File: VX013939.D

Acq: 11 Dec 2019 13:11

Instrument :

MSVOA\_X

ClientSampleId :

DUP03-20191205DL

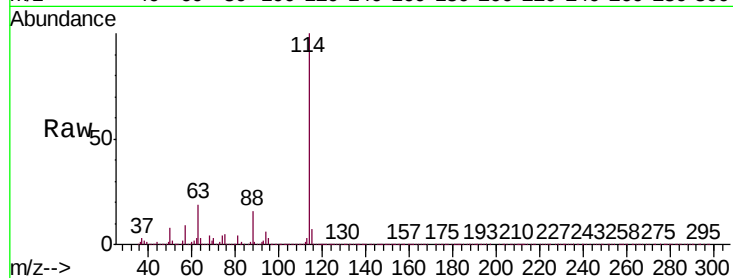
Tgt Ion:114 Resp: 830976

Ion Ratio Lower Upper

114 100

63 19.2 0.0 39.6

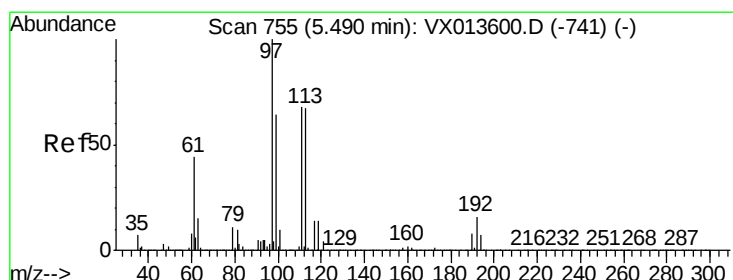
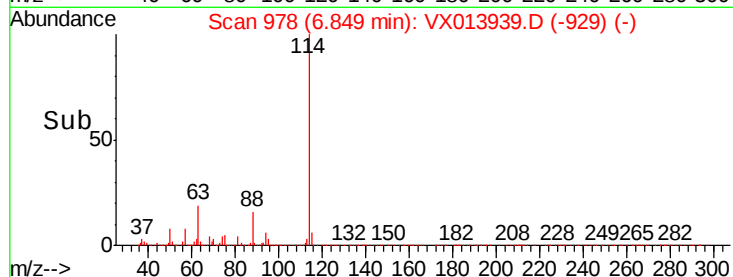
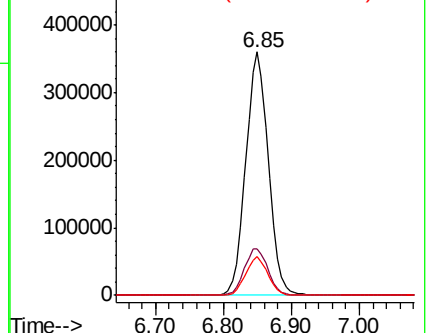
88 15.7 0.0 31.4



Abundance Ion 113.90 (113.60 to 114.60): V

Ion 63.00 (62.70 to 63.70): VX0

Ion 87.90 (87.60 to 88.60): VX0



#35

Dibromofluoromethane

Concen: 47.199 ug/l

RT: 5.48 min Scan# 754

Delta R.T. -0.01 min

Lab File: VX013939.D

Acq: 11 Dec 2019 13:11

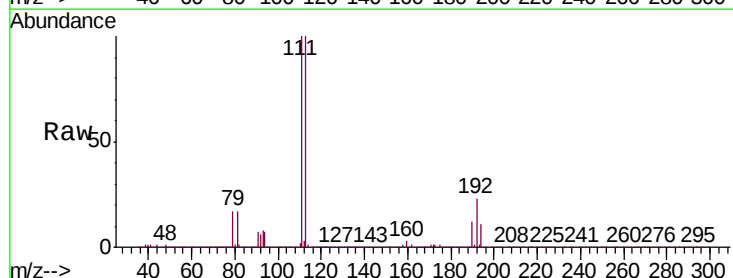
Tgt Ion:113 Resp: 242471

Ion Ratio Lower Upper

113 100

111 103.1 83.6 125.4

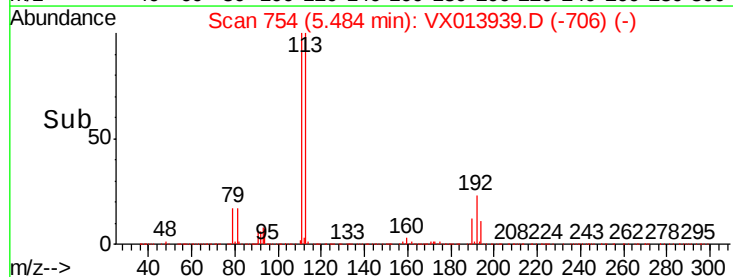
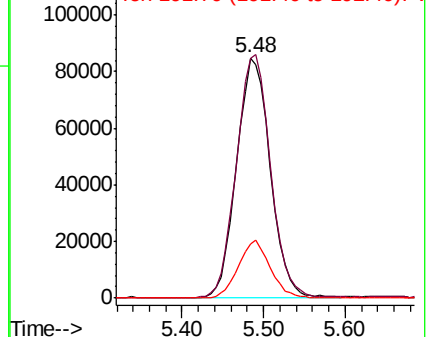
192 23.0 19.2 28.8

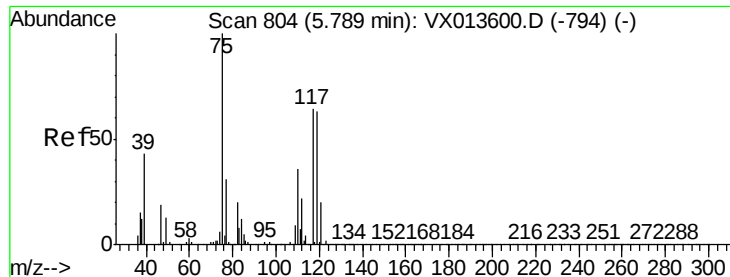


Abundance Ion 112.80 (112.50 to 113.50): V

Ion 110.80 (110.50 to 111.50): V

Ion 191.70 (191.40 to 192.40): V

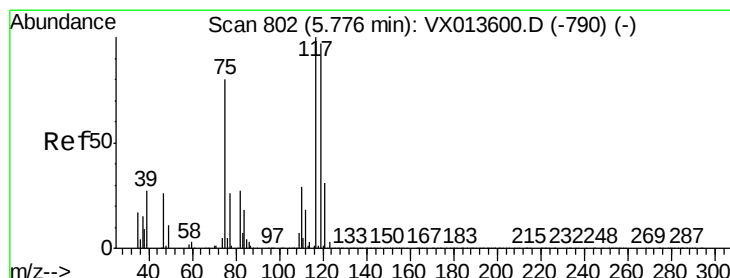
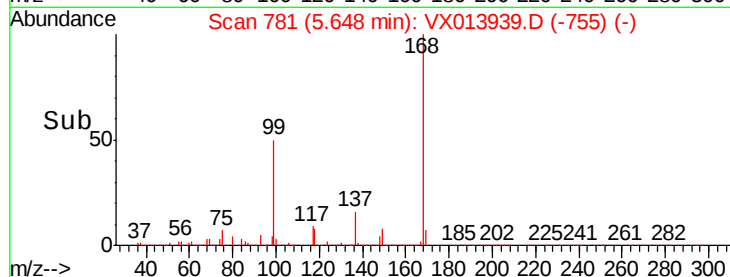
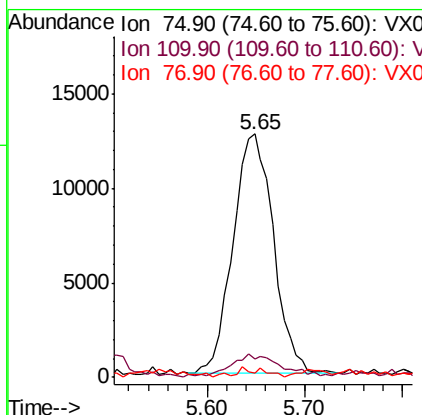
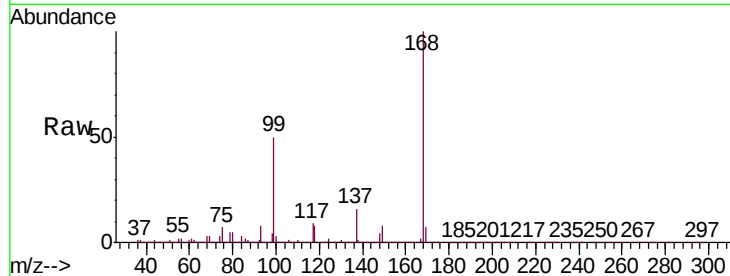




#36  
 1,1-Dichloropropene  
 Concen: 4.806 ug/l  
 RT: 5.65 min Scan# 781  
 Delta R.T. -0.14 min  
 Lab File: VX013939.D  
 Acq: 11 Dec 2019 13:11

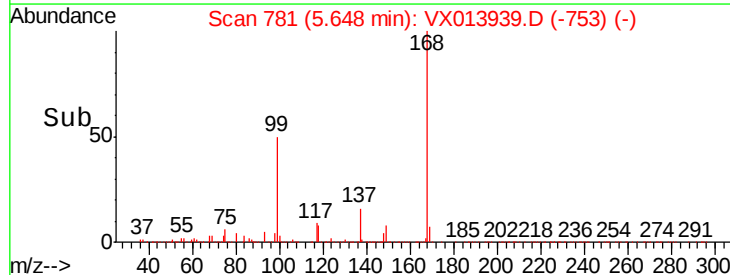
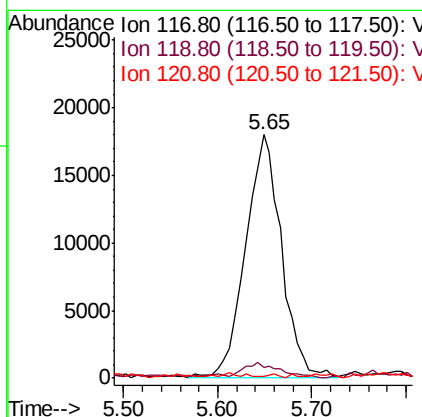
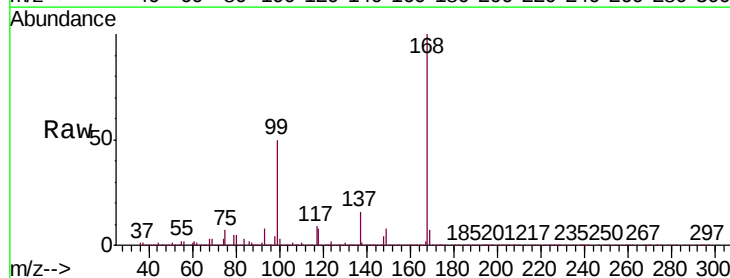
Instrument :  
 MSVOA\_X  
 ClientSampleId :  
 DUP03-20191205DL

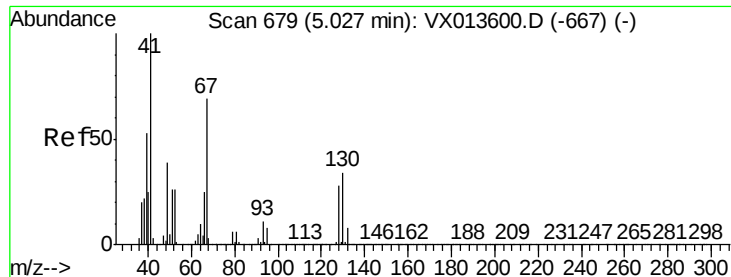
| Tgt Ion | Ratio | Lower | Upper |
|---------|-------|-------|-------|
| 75      | 100   |       |       |
| 110     | 12.5  | 18.1  | 54.1# |
| 77      | 1.7   | 24.5  | 36.7# |



#38  
 Carbon Tetrachloride  
 Concen: 6.944 ug/l  
 RT: 5.65 min Scan# 781  
 Delta R.T. -0.13 min  
 Lab File: VX013939.D  
 Acq: 11 Dec 2019 13:11

| Tgt Ion | Ratio | Lower | Upper  |
|---------|-------|-------|--------|
| 117     | 100   |       |        |
| 119     | 3.8   | 77.5  | 116.3# |
| 121     | 0.5   | 25.0  | 37.6#  |

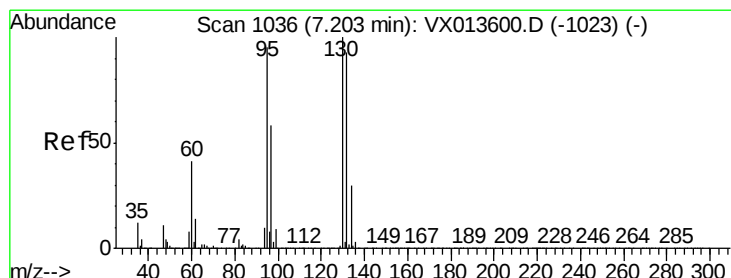
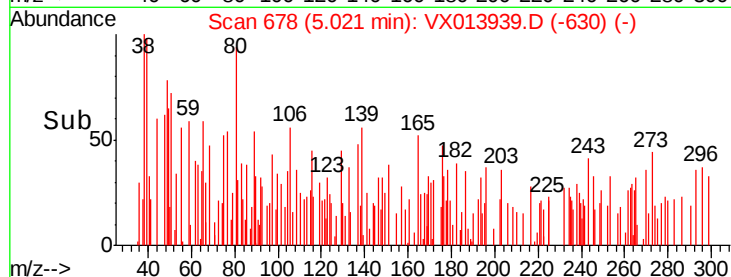
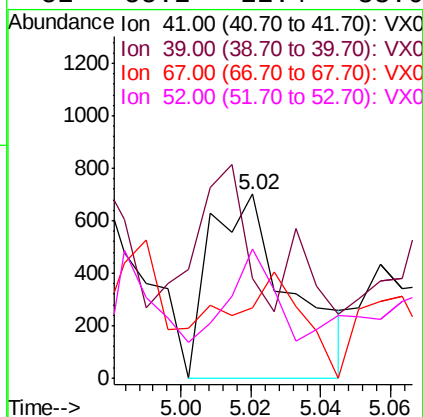
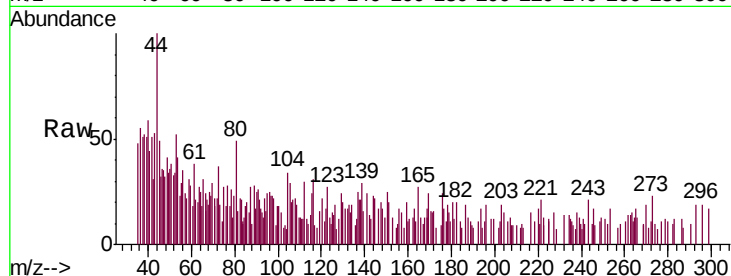




#41  
Methacrylonitrile  
Concen: 0.241 ug/l  
RT: 5.02 min Scan# 678  
Delta R.T. -0.01 min  
Lab File: VX013939.D  
Acq: 11 Dec 2019 13:11

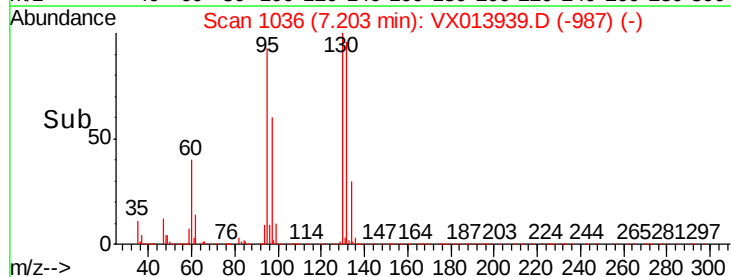
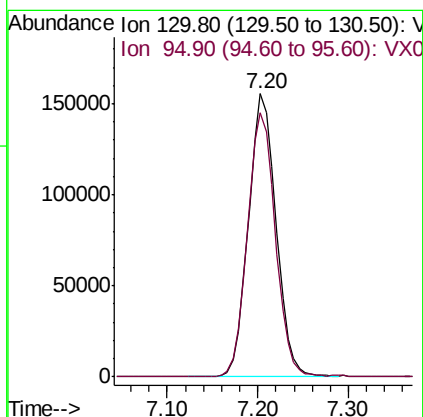
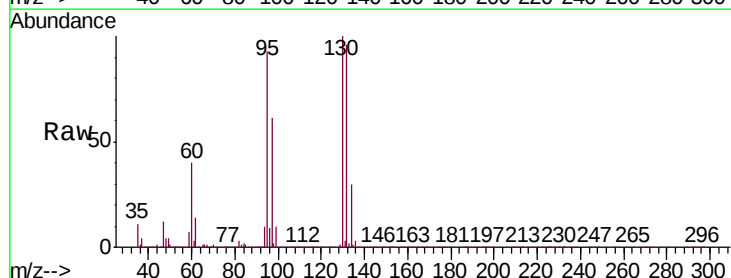
Instrument :  
MSVOA\_X  
ClientSampleId :  
DUP03-20191205DL

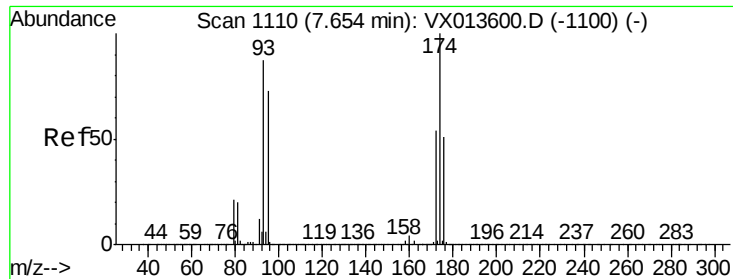
|          |       |       |       |
|----------|-------|-------|-------|
| Tgt Ion: | 41    | Resp: | 1120  |
| Ion      | Ratio | Lower | Upper |
| 41       | 100   |       |       |
| 39       | 14.3  | 42.9  | 64.3# |
| 67       | 53.7  | 57.4  | 86.0# |
| 52       | 55.2  | 22.4  | 33.6# |



#44  
Trichloroethene  
Concen: 52.106 ug/l  
RT: 7.20 min Scan# 1036  
Delta R.T. 0.00 min  
Lab File: VX013939.D  
Acq: 11 Dec 2019 13:11

|          |       |       |        |
|----------|-------|-------|--------|
| Tgt Ion: | 130   | Resp: | 328533 |
| Ion      | Ratio | Lower | Upper  |
| 130      | 100   |       |        |
| 95       | 93.5  | 0.0   | 190.8  |

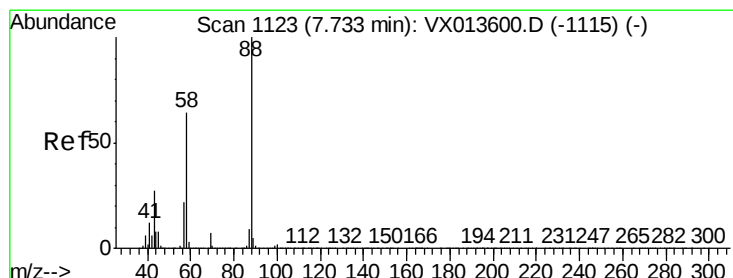
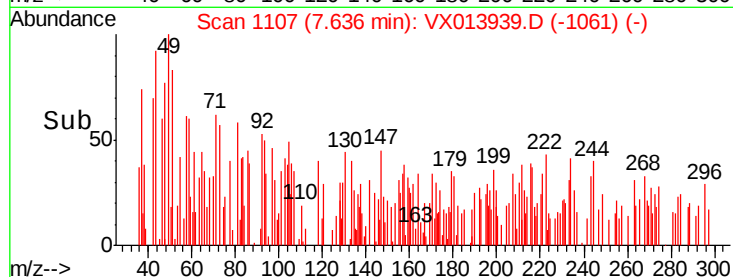
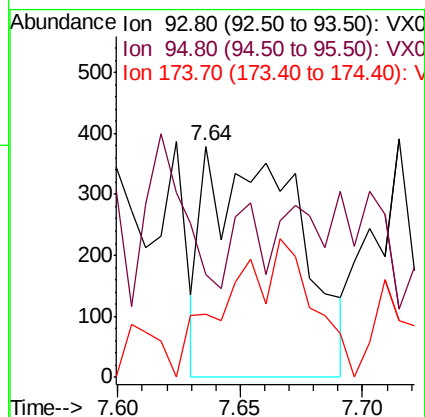
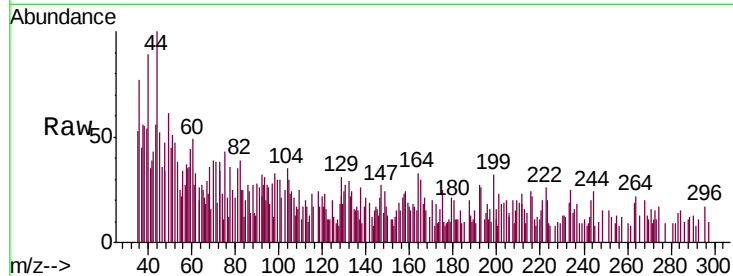




#46  
Dibromomethane  
Concen: 0.251 ug/l  
RT: 7.64 min Scan# 1107  
Delta R.T. -0.02 min  
Lab File: VX013939.D  
Acq: 11 Dec 2019 13:11

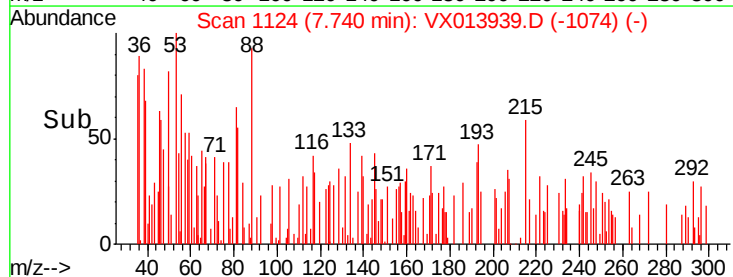
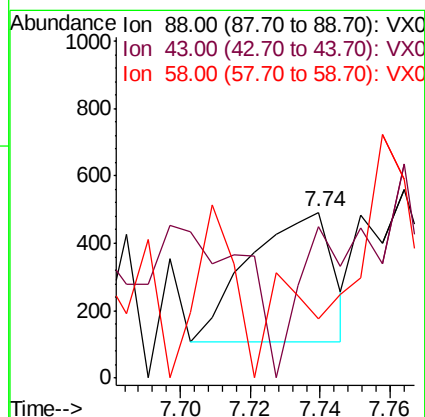
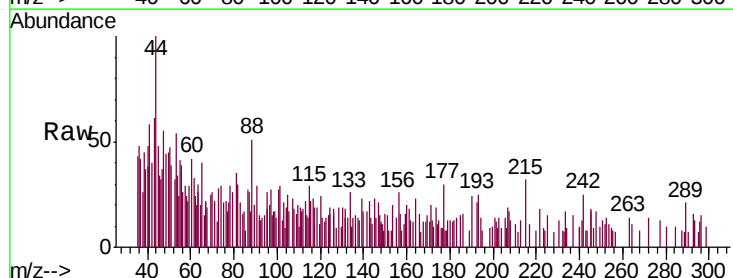
Instrument :  
MSVOA\_X  
ClientSampleId :  
DUP03-20191205DL

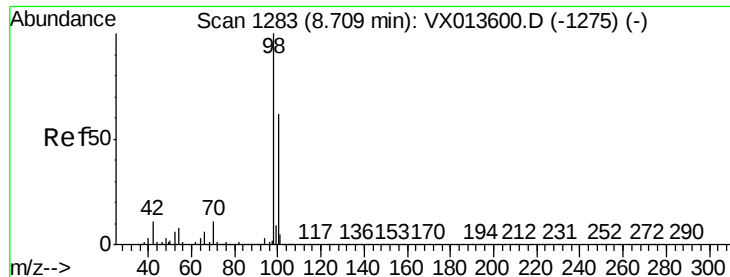
Tgt Ion: 93 Resp: 980  
Ion Ratio Lower Upper  
93 100  
95 10.6 66.2 99.2#  
174 0.0 93.4 140.0#



#49  
1,4-Dioxane  
Concen: 4.244 ug/l  
RT: 7.74 min Scan# 1124  
Delta R.T. 0.01 min  
Lab File: VX013939.D  
Acq: 11 Dec 2019 13:11

Tgt Ion: 88 Resp: 643  
Ion Ratio Lower Upper  
88 100  
43 0.0 25.8 38.6#  
58 41.5 54.6 82.0#





#50

Toluene-d8

Concen: 49.439 ug/l

RT: 8.71 min Scan# 1283

Delta R.T. -0.00 min

Lab File: VX013939.D

Acq: 11 Dec 2019 13:11

Instrument :

MSVOA\_X

ClientSampleId :

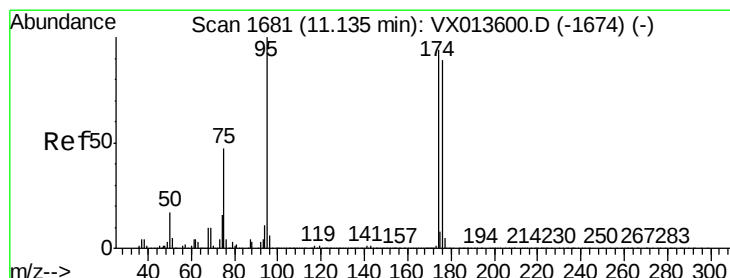
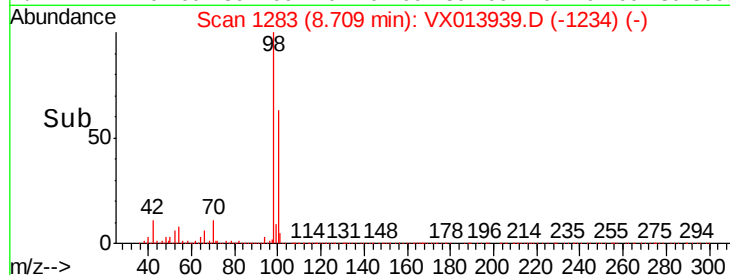
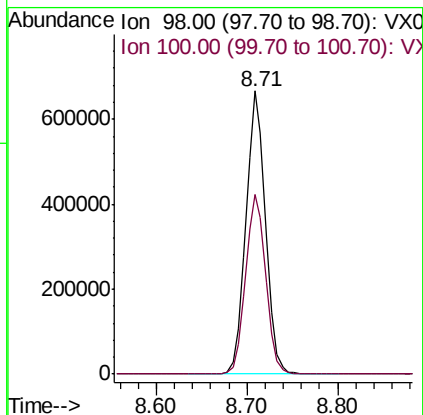
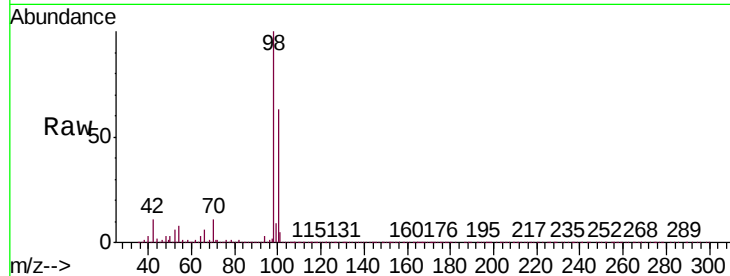
DUP03-20191205DL

Tgt Ion: 98 Resp: 989519

Ion Ratio Lower Upper

98 100

100 65.2 53.1 79.7



#62

4-Bromofluorobenzene

Concen: 48.512 ug/l

RT: 11.14 min Scan# 1681

Delta R.T. 0.00 min

Lab File: VX013939.D

Acq: 11 Dec 2019 13:11

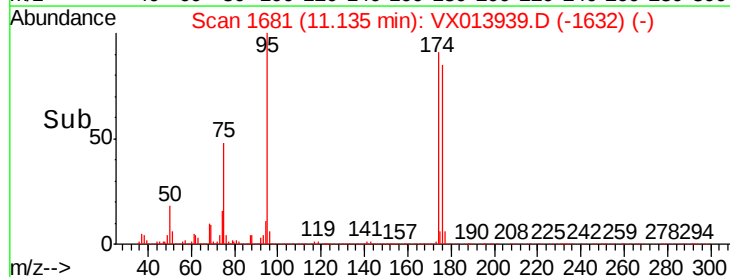
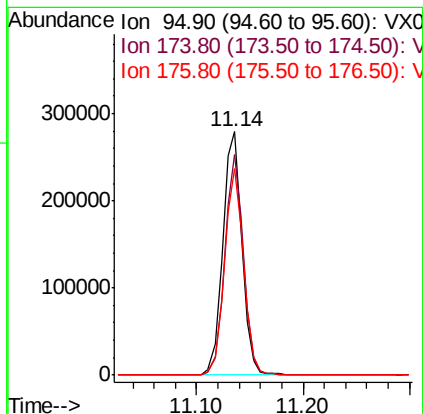
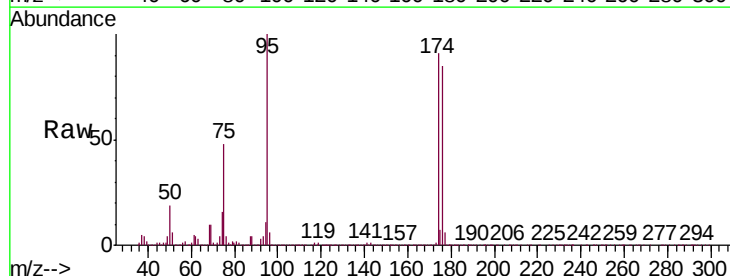
Tgt Ion: 95 Resp: 350137

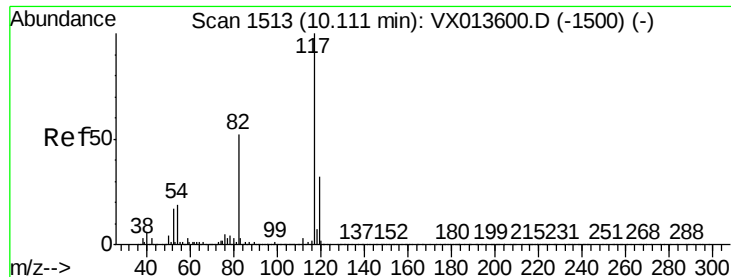
Ion Ratio Lower Upper

95 100

174 88.4 0.0 180.0

176 84.5 0.0 173.6

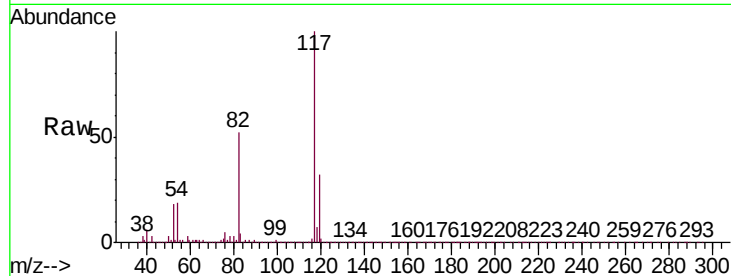




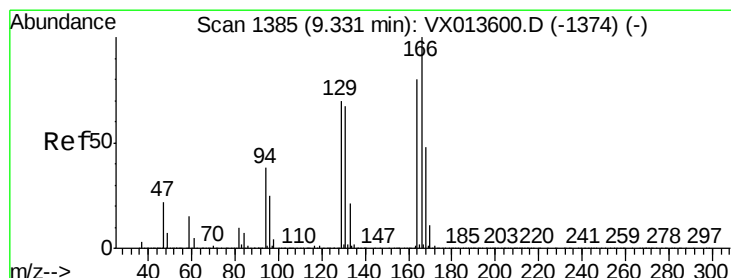
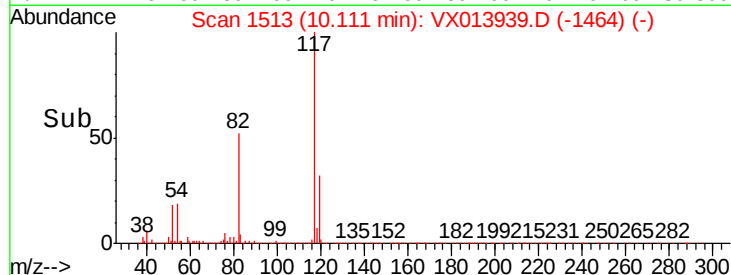
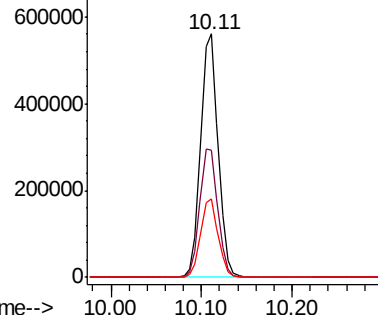
#63  
Chlorobenzene-d5  
Concen: 50.000 ug/l  
RT: 10.11 min Scan# 1513  
Delta R.T. 0.00 min  
Lab File: VX013939.D  
Acq: 11 Dec 2019 13:11

Instrument :  
MSVOA\_X  
ClientSampleId :  
DUP03-20191205DL

| Tgt Ion | Ratio | Lower | Upper |
|---------|-------|-------|-------|
| 117     | 100   |       |       |
| 82      | 52.3  | 41.8  | 62.8  |
| 119     | 32.0  | 25.8  | 38.8  |



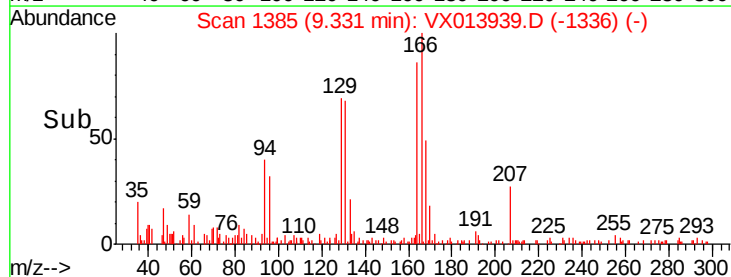
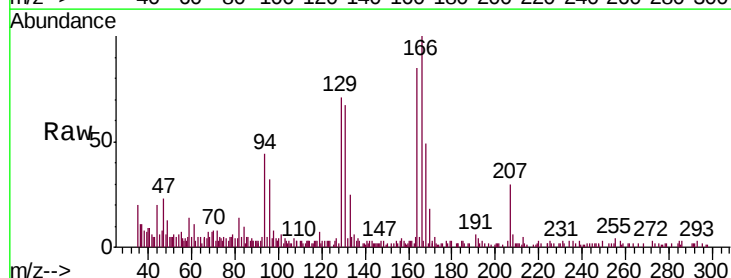
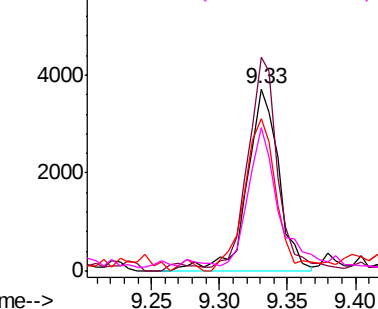
Abundance Ion 116.90 (116.60 to 117.60): V  
Ion 82.00 (81.70 to 82.70): VX0  
Ion 118.90 (118.60 to 119.60): V

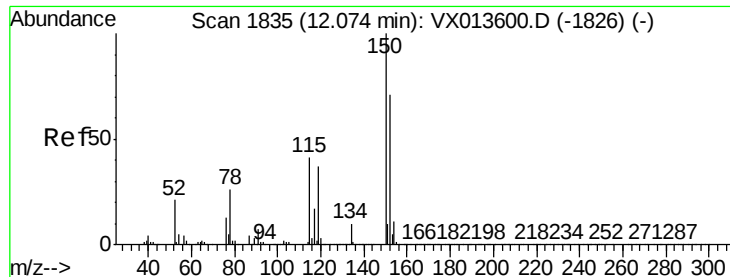


#64  
Tetrachloroethene  
Concen: 1.070 ug/l  
RT: 9.33 min Scan# 1385  
Delta R.T. 0.00 min  
Lab File: VX013939.D  
Acq: 11 Dec 2019 13:11

| Tgt Ion | Ratio | Lower | Upper |
|---------|-------|-------|-------|
| 164     | 100   |       |       |
| 166     | 120.0 | 99.7  | 149.5 |
| 129     | 80.5  | 70.1  | 105.1 |
| 131     | 74.7  | 66.9  | 100.3 |

Abundance Ion 163.80 (163.50 to 164.50): V  
Ion 165.80 (165.50 to 166.50): V  
Ion 128.80 (128.50 to 129.50): V  
Ion 130.80 (130.50 to 131.50): V





#72

1,4-Dichlorobenzene-d4

Concen: 50.000 ug/l

RT: 12.07 min Scan# 1835

Delta R.T. -0.00 min

Lab File: VX013939.D

Acq: 11 Dec 2019 13:11

Instrument :

MSVOA\_X

ClientSampleId :

DUP03-20191205DL

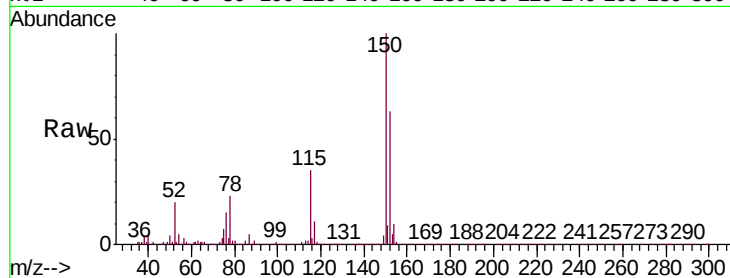
Tgt Ion: 152 Resp: 345871

Ion Ratio Lower Upper

152 100

115 55.9 38.4 115.1

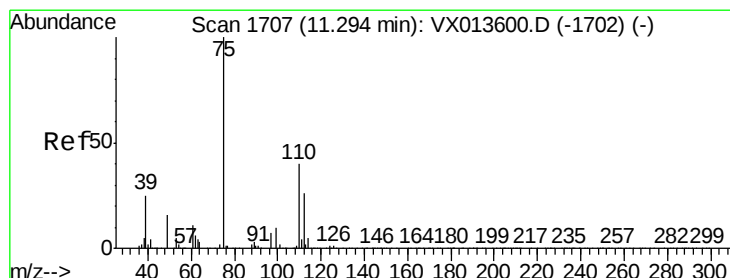
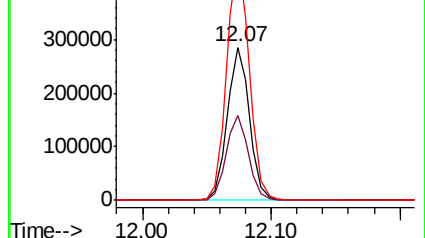
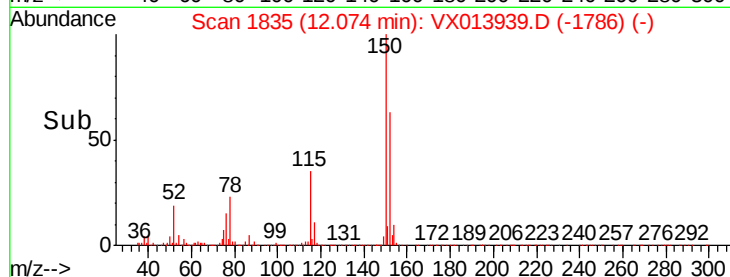
150 160.2 0.0 346.8



Abundance Ion 151.90 (151.60 to 152.60): V

Ion 114.90 (114.60 to 115.60): V

Ion 149.90 (149.60 to 150.60): V



#76

1,2,3-Trichloropropane

Concen: 22.032 ug/l

RT: 11.14 min Scan# 1681

Delta R.T. -0.16 min

Lab File: VX013939.D

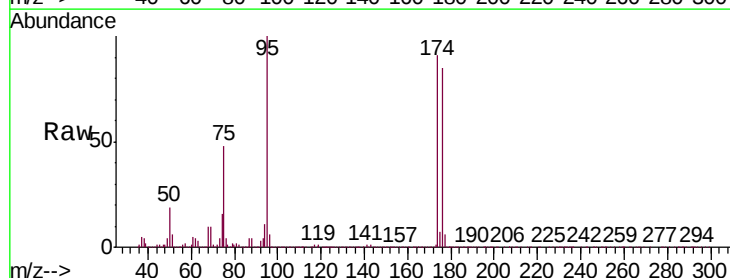
Acq: 11 Dec 2019 13:11

Tgt Ion: 75 Resp: 171395

Ion Ratio Lower Upper

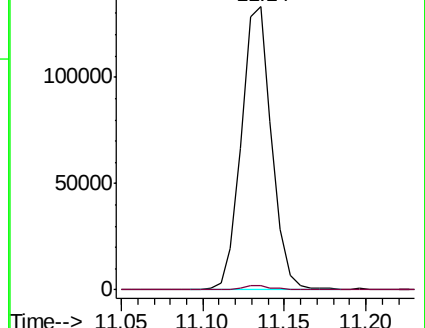
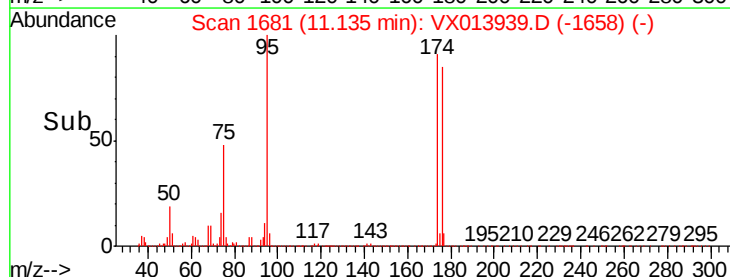
75 100

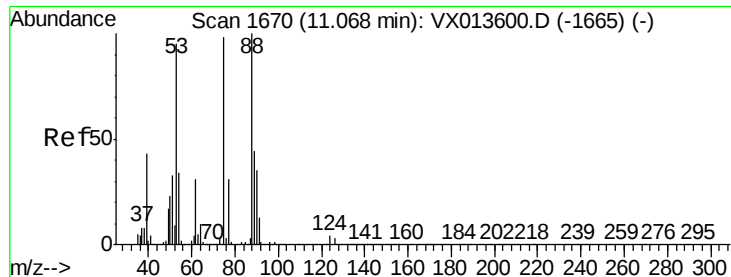
77 1.9 19.1 57.5#



Abundance Ion 74.90 (74.60 to 75.60): VX0

Ion 77.00 (76.70 to 77.70): VX0





#81

trans-1,4-Dichloro-2-butene

Concen: 60.277 ug/l

RT: 11.14 min Scan# 1681

Delta R.T. 0.07 min

Lab File: VX013939.D

Acq: 11 Dec 2019 13:11

Instrument :

MSVOA\_X

ClientSampleId :

DUP03-20191205DL

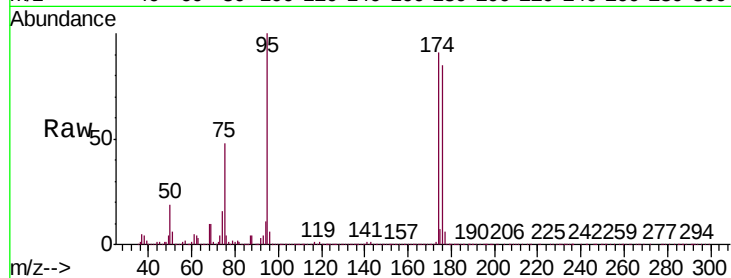
Tgt Ion: 75 Resp: 171395

Ion Ratio Lower Upper

75 100

53 0.2 78.2 117.2#

89 0.0 35.4 53.2#



Abundance Ion 74.90 (74.60 to 75.60): VX0

Ion 53.00 (52.70 to 53.70): VX0

Ion 88.90 (88.60 to 89.60): VX0

