LSC Area Percent Report

Data Path : Z:\SVOASRV\HPCHEM1\BNA F\DATA\BF091119\
Data File : BF116971.D
Acq On : 12 Sep 2019 2:27
Operator : HP/JU
Sample : K4814-02 2X
Misc :
ALS Vial : 22 Sample Multiplier: 1

**Instrument :** BNA_F
**ClientSampleId :** WC-2

Integration Parameters: rteint.p
Integrator: RTE
Smoothing : ON Filtering: 5
Sampling : 1 Min Area: 3 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : Z:\SVOASRV\HPCHEM1\BNA_F\METHODS\8270-BF083019.M
Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

Signal : TIC

| peak # | R.T. min | first scan | max scan | last scan | PK TY | peak height | corr. area | corr. % max. | % of total |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 5.016 | 492 | 498 | 505 | rBV | 22893 | 26710 | 1.16% | 0.134% |
| 2 | 5.434 | 565 | 569 | 583 | rBV | 600730 | 569715 | 24.75% | 2.859% |
| 3 | 6.451 | 738 | 742 | 752 | rBV | 723916 | 639545 | 27.79% | 3.209% |
| 4 | 6.592 | 762 | 766 | 777 | rBV | 773729 | 667615 | 29.01% | 3.350% |
| 5 | 6.822 | 802 | 805 | 815 | rBV | 452929 | 395133 | 17.17% | 1.983% |
| 6 | 6.981 | 828 | 832 | 840 | rBV | 582678 | 492432 | 21.40% | 2.471% |
| 7 | 7.381 | 896 | 900 | 913 | rBV | 412204 | 389863 | 16.94% | 1.956% |
| 8 | 8.104 | 1019 | 1023 | 1026 | rBV | 606124 | 525658 | 22.84% | 2.638% |
| 9 | 9.175 | 1201 | 1205 | 1211 | rBV | 904479 | 722348 | 31.39% | 3.625% |
| 10 | 9.563 | 1269 | 1271 | 1277 | rVB | 125820 | 118988 | 5.17% | 0.597% |
| 11 | 9.716 | 1293 | 1297 | 1301 | rBV | 76255 | 71694 | 3.12% | 0.360% |
| 12 | 9.851 | 1317 | 1320 | 1324 | rBV | 672396 | 624382 | 27.13% | 3.133% |
| 13 | 9.886 | 1324 | 1326 | 1330 | rVB | 48081 | 39239 | 1.70% | 0.197% |
| 14 | 10.057 | 1352 | 1355 | 1359 | rBV | 50930 | 49549 | 2.15% | 0.249% |
| 15 | 10.263 | 1386 | 1390 | 1392 | rBV3 | 26491 | 28602 | 1.24% | 0.144% |
| 16 | 10.398 | 1410 | 1413 | 1420 | rBV2 | 61509 | 73577 | 3.20% | 0.369% |
| 17 | 10.557 | 1437 | 1440 | 1443 | rVB | 36974 | 35784 | 1.55% | 0.180% |
| 18 | 10.639 | 1450 | 1454 | 1459 | rBV | 420905 | 413728 | 17.98% | 2.076% |
| 19 | 10.769 | 1472 | 1476 | 1482 | rVB2 | 47635 | 69397 | 3.02% | 0.348% |
| 20 | 11.074 | 1526 | 1528 | 1530 | rBV2 | 33535 | 32793 | 1.42% | 0.165% |
| 21 | 11.139 | 1537 | 1539 | 1543 | rVB | 65200 | 61702 | 2.68% | 0.310% |
| 22 | 11.192 | 1544 | 1548 | 1552 | rVV4 | 37566 | 63763 | 2.77% | 0.320% |
| 23 | 11.233 | 1552 | 1555 | 1561 | rVB2 | 75568 | 87301 | 3.79% | 0.438% |
| 24 | 11.339 | 1569 | 1573 | 1574 | rBV | 642990 | 622082 | 27.03% | 3.122% |
| 25 | 11.363 | 1574 | 1577 | 1580 | rVV | 928748 | 844207 | 36.68% | 4.236% |
| 26 | 11.410 | 1583 | 1585 | 1588 | rVV | 194607 | 162216 | 7.05% | 0.814% |
| 27 | 11.445 | 1588 | 1591 | 1595 | rVV4 | 33248 | 41783 | 1.82% | 0.210% |
| 28 | 11.563 | 1608 | 1611 | 1613 | rBV | 72747 | 69595 | 3.02% | 0.349% |
| 29 | 11.627 | 1620 | 1622 | 1625 | rVB | 53359 | 50213 | 2.18% | 0.252% |
| 30 | 11.669 | 1627 | 1629 | 1634 | rVB5 | 31473 | 38041 | 1.65% | 0.191% |
| 31 | 11.792 | 1648 | 1650 | 1652 | rBV2 | 26734 | 23093 | 1.00% | 0.116% |
| 32 | 11.839 | 1655 | 1658 | 1660 | rVV | 154101 | 151956 | 6.60% | 0.763% |
| 33 | 11.863 | 1660 | 1662 | 1666 | rVV | 257411 | 251525 | 10.93% | 1.262% |
| 34 | 11.910 | 1668 | 1670 | 1673 | rVV | 74959 | 77258 | 3.36% | 0.388% |

LSC Area Percent Report

Data Path : Z:\SVOASRV\HPCHEM1\BNA F\DATA\BF091119\
Data File : BF116971.D
Acq On : 12 Sep 2019 2:27
Operator : HP/JU
Sample : K4814-02 2X
Misc :
ALS Vial : 22 Sample Multiplier: 1

**Instrument :** BNA_F
**ClientSampleId :** WC-2

Integration Parameters: rteint.p
Integrator: RTE
Smoothing : ON Filtering: 5
Sampling : 1 Min Area: 3 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : Z:\SVOASRV\HPCHEM1\BNA_F\METHODS\8270-BF083019.M
Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 35 | 11.951 | 1673 | 1677 | 1679 | rVV2 | 221333 | 271993 | 11.82% | 1.365% |
| 36 | 11.969 | 1679 | 1680 | 1685 | rVB | 119283 | 96131 | 4.18% | 0.482% |
| 37 | 12.039 | 1690 | 1692 | 1694 | rVB2 | 47338 | 36271 | 1.58% | 0.182% |
| 38 | 12.127 | 1705 | 1707 | 1710 | rBV | 105989 | 103846 | 4.51% | 0.521% |
| 39 | 12.157 | 1710 | 1712 | 1716 | rVB | 99258 | 95658 | 4.16% | 0.480% |
| 40 | 12.280 | 1731 | 1733 | 1736 | rVB3 | 49489 | 41039 | 1.78% | 0.206% |
| 41 | 12.316 | 1736 | 1739 | 1741 | rBV2 | 60057 | 62948 | 2.74% | 0.316% |
| 42 | 12.386 | 1748 | 1751 | 1754 | rBV | 113406 | 118372 | 5.14% | 0.594% |
| 43 | 12.427 | 1755 | 1758 | 1760 | rVV3 | 84180 | 104529 | 4.54% | 0.525% |
| 44 | 12.468 | 1762 | 1765 | 1770 | rVB | 111086 | 114337 | 4.97% | 0.574% |
| 45 | 12.551 | 1775 | 1779 | 1782 | rVB | 1510056 | 1280942 | 55.66% | 6.428% |
| 46 | 12.645 | 1792 | 1795 | 1797 | rBV | 86351 | 92246 | 4.01% | 0.463% |
| 47 | 12.780 | 1812 | 1818 | 1823 | rBV | 1282653 | 1377488 | 59.85% | 6.912% |
| 48 | 12.821 | 1823 | 1825 | 1830 | rVB2 | 54513 | 71352 | 3.10% | 0.358% |
| 49 | 12.892 | 1835 | 1837 | 1838 | rVV | 84971 | 68581 | 2.98% | 0.344% |
| 50 | 12.916 | 1838 | 1841 | 1849 | rVB | 741990 | 722733 | 31.40% | 3.627% |
| 51 | 13.080 | 1866 | 1869 | 1870 | rBV3 | 86013 | 83234 | 3.62% | 0.418% |
| 52 | 13.204 | 1888 | 1890 | 1894 | rVB2 | 109786 | 113949 | 4.95% | 0.572% |
| 53 | 13.298 | 1904 | 1906 | 1909 | rVB | 65770 | 51068 | 2.22% | 0.256% |
| 54 | 13.327 | 1909 | 1911 | 1915 | rBV2 | 60458 | 63851 | 2.77% | 0.320% |
| 55 | 13.610 | 1956 | 1959 | 1963 | rVB | 151104 | 147237 | 6.40% | 0.739% |
| 56 | 13.715 | 1975 | 1977 | 1980 | rBV2 | 74255 | 70362 | 3.06% | 0.353% |
| 57 | 13.745 | 1980 | 1982 | 1984 | rVV | 78818 | 61979 | 2.69% | 0.311% |
| 58 | 13.774 | 1984 | 1987 | 1992 | rVV2 | 64251 | 121067 | 5.26% | 0.608% |
| 59 | 13.815 | 1992 | 1994 | 2001 | rVB | 163571 | 202908 | 8.82% | 1.018% |
| 60 | 13.951 | 2013 | 2017 | 2023 | rBV3 | 1514323 | 2301473 | 100.00% | 11.549% |
| 61 | 13.998 | 2023 | 2025 | 2030 | rVB | 579063 | 497324 | 21.61% | 2.496% |
| 62 | 14.357 | 2084 | 2086 | 2089 | rVB | 102314 | 79204 | 3.44% | 0.397% |
| 63 | 14.480 | 2105 | 2107 | 2109 | rBV2 | 81137 | 74698 | 3.25% | 0.375% |
| 64 | 15.004 | 2191 | 2196 | 2199 | rBV | 489337 | 761578 | 33.09% | 3.822% |
| 65 | 15.104 | 2211 | 2213 | 2216 | rVB | 100837 | 91383 | 3.97% | 0.459% |
| 66 | 15.298 | 2242 | 2246 | 2252 | rVB | 282842 | 395451 | 17.18% | 1.984% |
| 67 | 15.362 | 2252 | 2257 | 2262 | rVB | 421707 | 521204 | 22.65% | 2.615% |
| 68 | 15.421 | 2262 | 2267 | 2270 | rBV | 372677 | 515408 | 22.39% | 2.586% |
| 69 | 16.851 | 2505 | 2510 | 2518 | rVB2 | 176363 | 336942 | 14.64% | 1.691% |
| 70 | 17.280 | 2578 | 2583 | 2594 | rVB | 115799 | 247603 | 10.76% | 1.242% |

LSC Area Percent Report

Data Path : Z:\SVOASRV\HPCHEM1\BNA F\DATA\BF091119\
Data File : BF116971.D
Acq On : 12 Sep 2019 2:27
Operator : HP/JU
Sample : K4814-02 2X
Misc :
ALS Vial : 22 Sample Multiplier: 1

**Instrument :** BNA_F
**ClientSampleId :** WC-2

Integration Parameters: rteint.p
Integrator: RTE
Smoothing : ON Filtering: 5
Sampling : 1 Min Area: 3 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : Z:\SVOASRV\HPCHEM1\BNA_F\METHODS\8270-BF083019.M
Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

Sum of corrected areas: 19927876

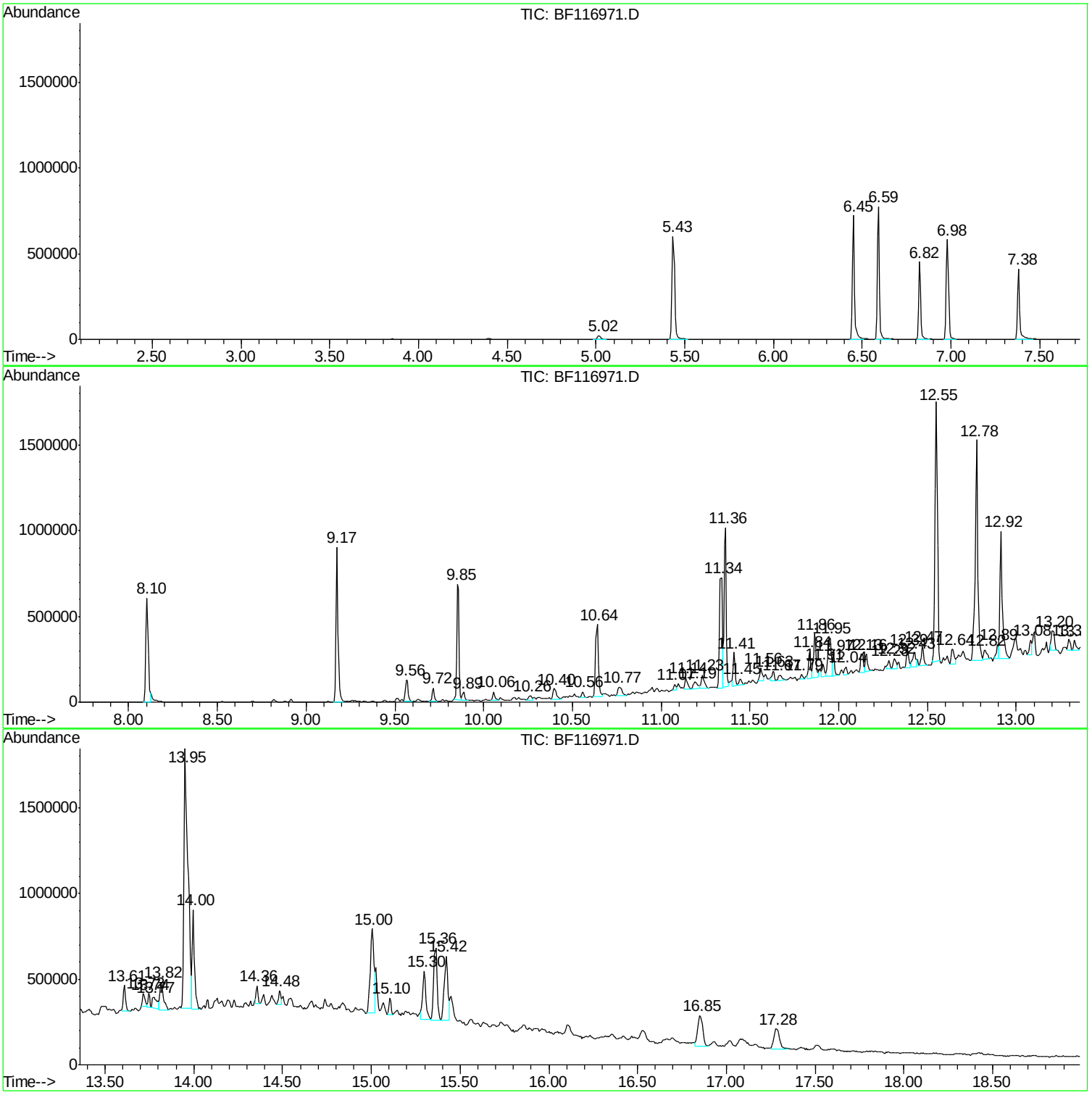
LSC Report - Integrated Chromatogram

Data Path : Z:\SVOASRV\HPCHEM1\BNA F\DATA\BF091119\
Data File : BF116971.D
Acq On : 12 Sep 2019 2:27
Operator : HP/JU
Sample : K4814-02 2X
Misc :
ALS Vial : 22 Sample Multiplier: 1

**Instrument :** BNA_F
**ClientSampleId :** WC-2

Quant Method : Z:\SVOASRV\HPCHEM1\BNA_F\METHODS\8270-BF083019.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

TIC Library : C:\DATABASE\NIST11.L
TIC Integration Parameters: LSCINT.P



Data Path : Z:\SVOASRV\HPCHEM1\BNA F\DATA\BF091119\
Data File : BF116971.D
Acq On : 12 Sep 2019 2:27
Operator : HP/JU
Sample : K4814-02 2X
Misc :
ALS Vial : 22 Sample Multiplier: 1

**Instrument :** BNA_F
**ClientSampleId :** WC-2

Quant Method : Z:\SVOASRV\HPCHEM1\BNA_F\METHODS\8270-BF083019.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

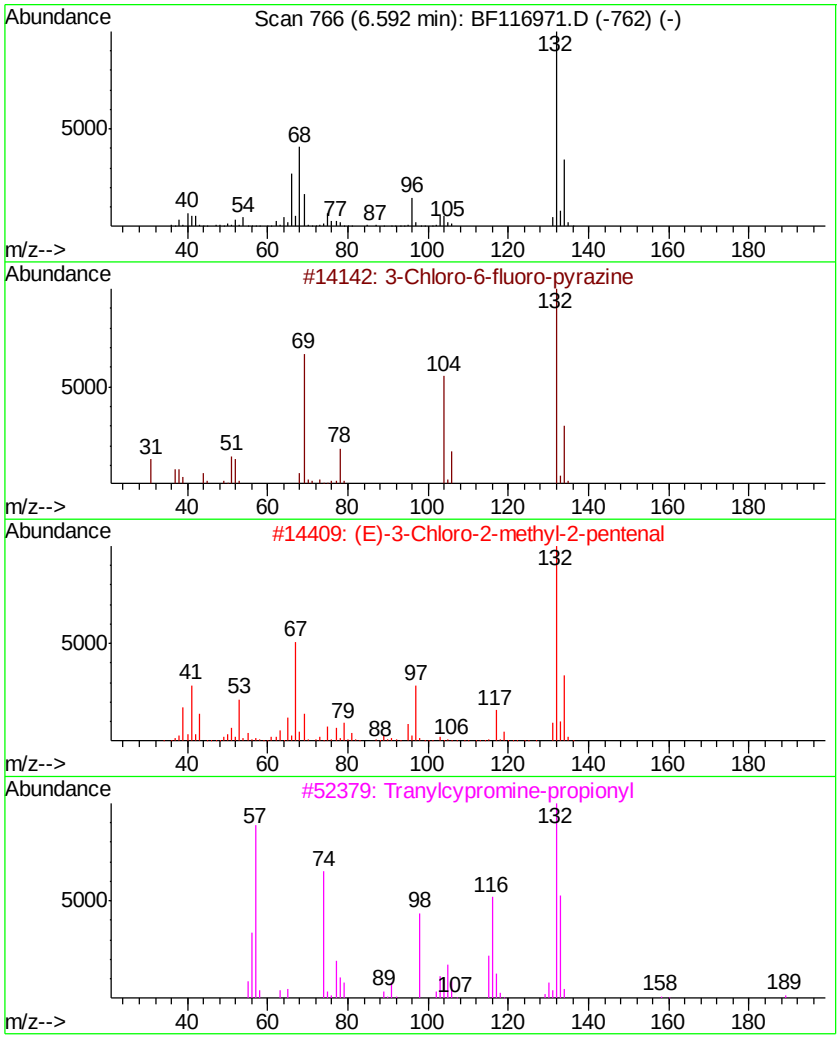
TIC Library : C:\DATABASE\NIST11.L
TIC Integration Parameters: LSCINT.P

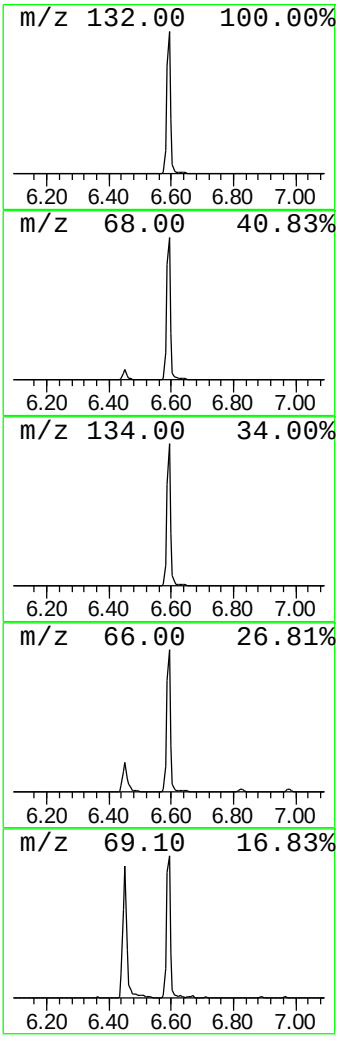
**********

Peak Number 1 unknown6.59 Concentration Rank 1

| R.T. | EstConc | Area | Relative to ISTD | R.T. |
|---|---|---|---|---|
| 6.59 | 33.79 ng | 667615 | 1,4-Dichlorobenzene-d4 | 6.82 |

| Hit# of 5 | Tentative ID | MW | MolForm | CAS# | Qual |
|---|---|---|---|---|---|
| 1 | 3-Chloro-6-fluoro-pyrazine | 132 | C4H2ClFN2 | 1000146-10-7 | 16 |
| 2 | (E)-3-Chloro-2-methyl-2-pentenal | 132 | C6H9ClO | 031357-76-3 | 16 |
| 3 | Tranylcypromine-propionyl | 189 | C12H15NO | 1000123-86-3 | 12 |
| 4 | Bicyclo[4.2.0]octa-1,3,5-triene,... | 132 | C10H12 | 028749-81-7 | 9 |
| 5 | 4-Methylpyrrolo[1,2-a]pyrazine | 132 | C8H8N2 | 064608-60-2 | 9 |



# Library Search Compound Report

Data Path : Z:\SVOASRV\HPCHEM1\BNA F\DATA\BF091119\
Data File : BF116971.D
Acq On : 12 Sep 2019 2:27
Operator : HP/JU
Sample : K4814-02 2X
Misc :
ALS Vial : 22 Sample Multiplier: 1

**Instrument :** BNA_F
**ClientSampleId :** WC-2

Quant Method : Z:\SVOASRV\HPCHEM1\BNA_F\METHODS\8270-BF083019.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

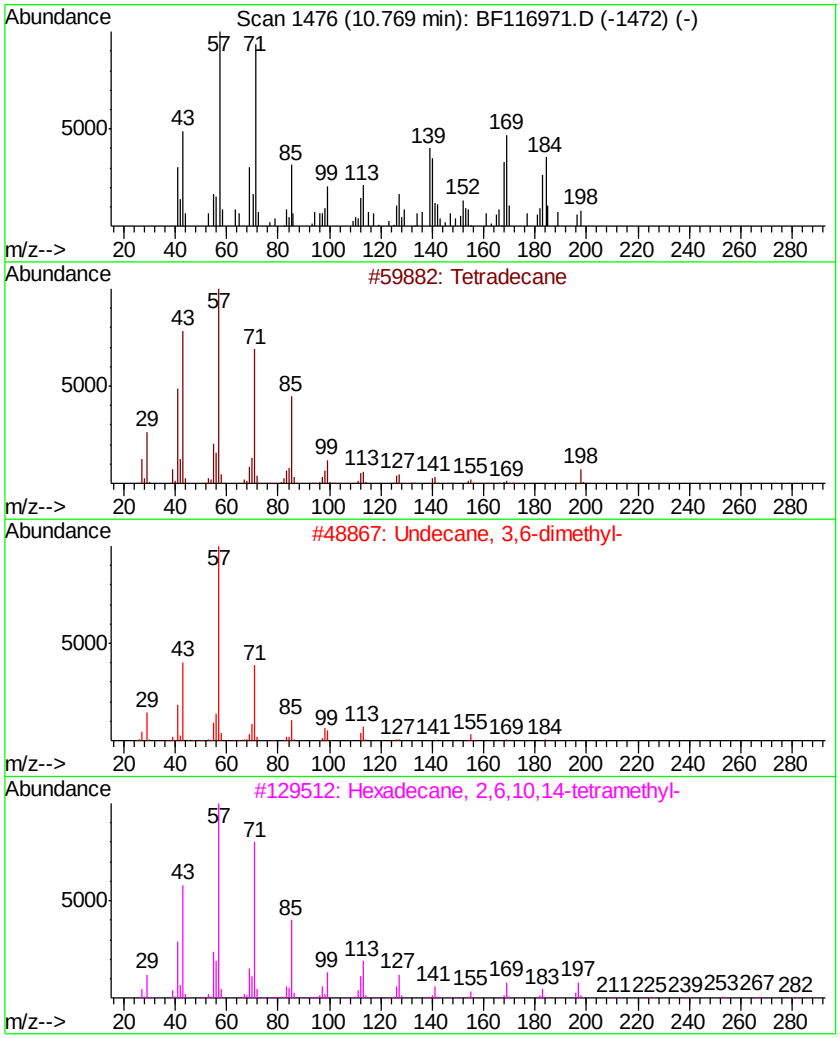
TIC Library : C:\DATABASE\NIST11.L
TIC Integration Parameters: LSCINT.P

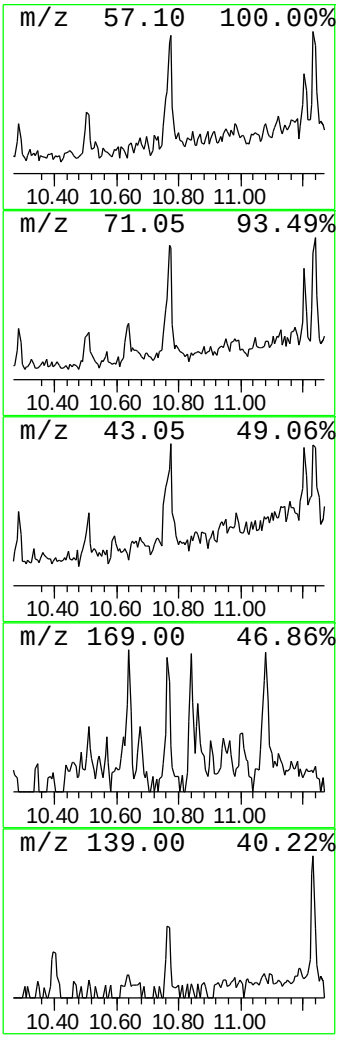
**********

Peak Number 4 unknown10.77 Concentration Rank 18

| R.T. | EstConc | Area | Relative to ISTD | R.T. |
|---|---|---|---|---|
| 10.77 | 2.23 ng | 69397 | Phenanthrene-d10 | 11.34 |

| Hit# of 5 | Tentative ID | MW | MolForm | CAS# | Qual |
|---|---|---|---|---|---|
| 1 | Tetradecane | 198 | C14H30 | 000629-59-4 | 30 |
| 2 | Undecane, 3,6-dimethyl- | 184 | C13H28 | 017301-28-9 | 30 |
| 3 | Hexadecane, 2,6,10,14-tetramethyl- | 282 | C20H42 | 000638-36-8 | 27 |
| 4 | Dodecane, 2,7,10-trimethyl- | 212 | C15H32 | 074645-98-0 | 27 |
| 5 | Sulfurous acid, 2-ethylhexyl tet... | 390 | C22H46O3S | 1000309-19-7 | 25 |



Data Path : Z:\SVOASRV\HPCHEM1\BNA F\DATA\BF091119\
Data File : BF116971.D
Acq On : 12 Sep 2019 2:27
Operator : HP/JU
Sample : K4814-02 2X
Misc :
ALS Vial : 22 Sample Multiplier: 1

**Instrument :** BNA_F
**ClientSampleId :** WC-2

Quant Method : Z:\SVOASRV\HPCHEM1\BNA_F\METHODS\8270-BF083019.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

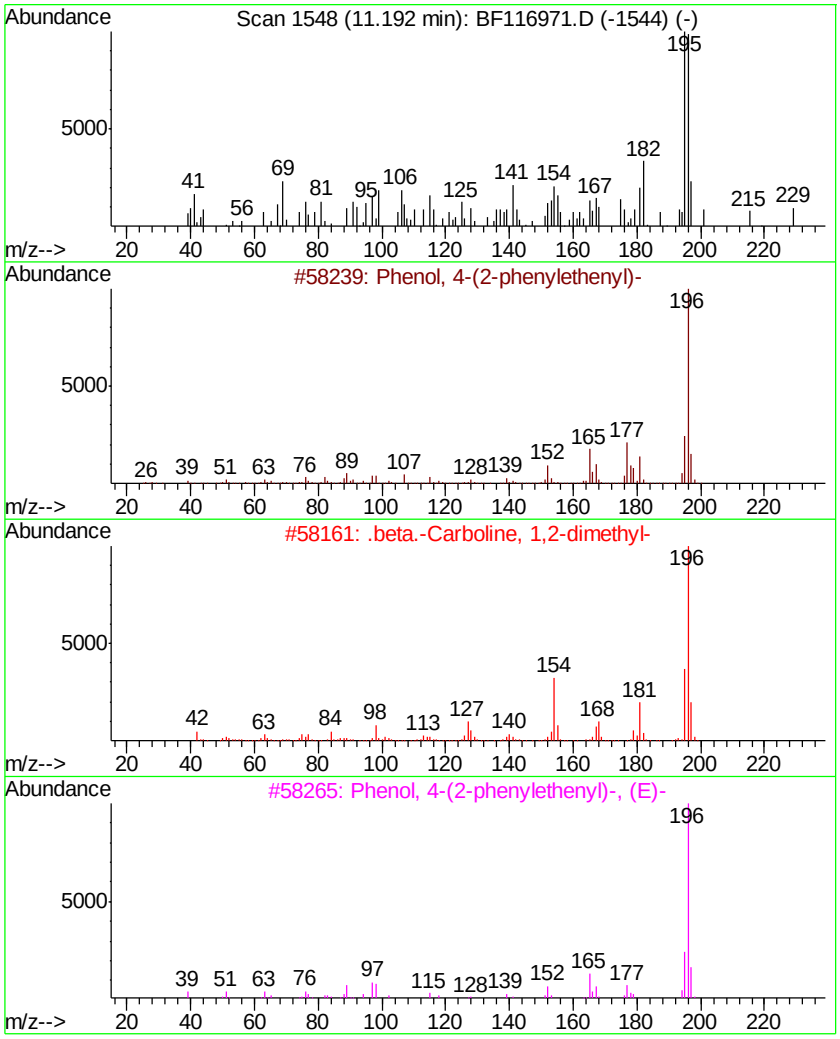
TIC Library : C:\DATABASE\NIST11.L
TIC Integration Parameters: LSCINT.P

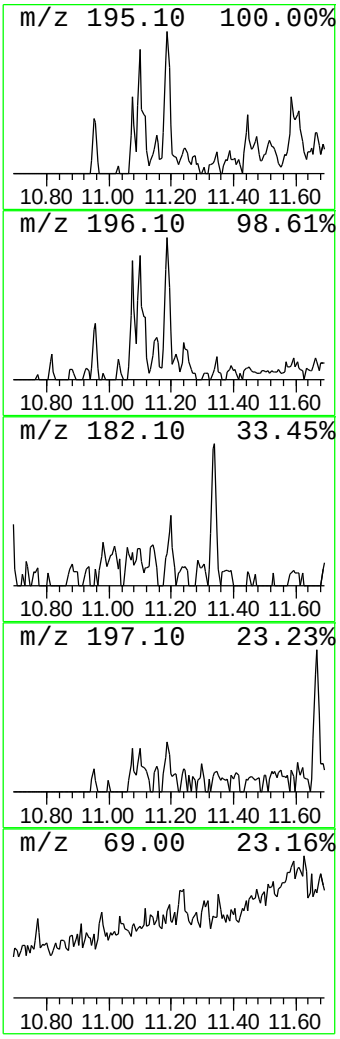
**********

Peak Number 5 unknown11.19 Concentration Rank 19

| R.T. | EstConc | Area | Relative to ISTD | R.T. |
|---|---|---|---|---|
| 11.19 | 2.05 ng | 63763 | Phenanthrene-d10 | 11.34 |

| Hit# of 5 | Tentative ID | MW | MolForm | CAS# | Qual |
|---|---|---|---|---|---|
| 1 | Phenol, 4-(2-phenylethenyl)- | 196 | C14H12O | 003839-46-1 | 46 |
| 2 | .beta.-Carboline, 1,2-dimethyl- | 196 | C13H12N2 | 109847-05-4 | 45 |
| 3 | Phenol, 4-(2-phenylethenyl)-, (E)- | 196 | C14H12O | 006554-98-9 | 42 |
| 4 | 8-Dimethylaminonaphthalene-1-car... | 196 | C13H12N2 | 128644-69-9 | 38 |
| 5 | Benzaldehyde, 2,3,4-trimethoxy- | 196 | C10H12O4 | 002103-57-3 | 38 |



Data Path : Z:\SVOASRV\HPCHEM1\BNA F\DATA\BF091119\
Data File : BF116971.D
Acq On : 12 Sep 2019 2:27
Operator : HP/JU
Sample : K4814-02 2X
Misc :
ALS Vial : 22 Sample Multiplier: 1

**Instrument :** BNA_F
**ClientSampleId :** WC-2

Quant Method : Z:\SVOASRV\HPCHEM1\BNA_F\METHODS\8270-BF083019.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

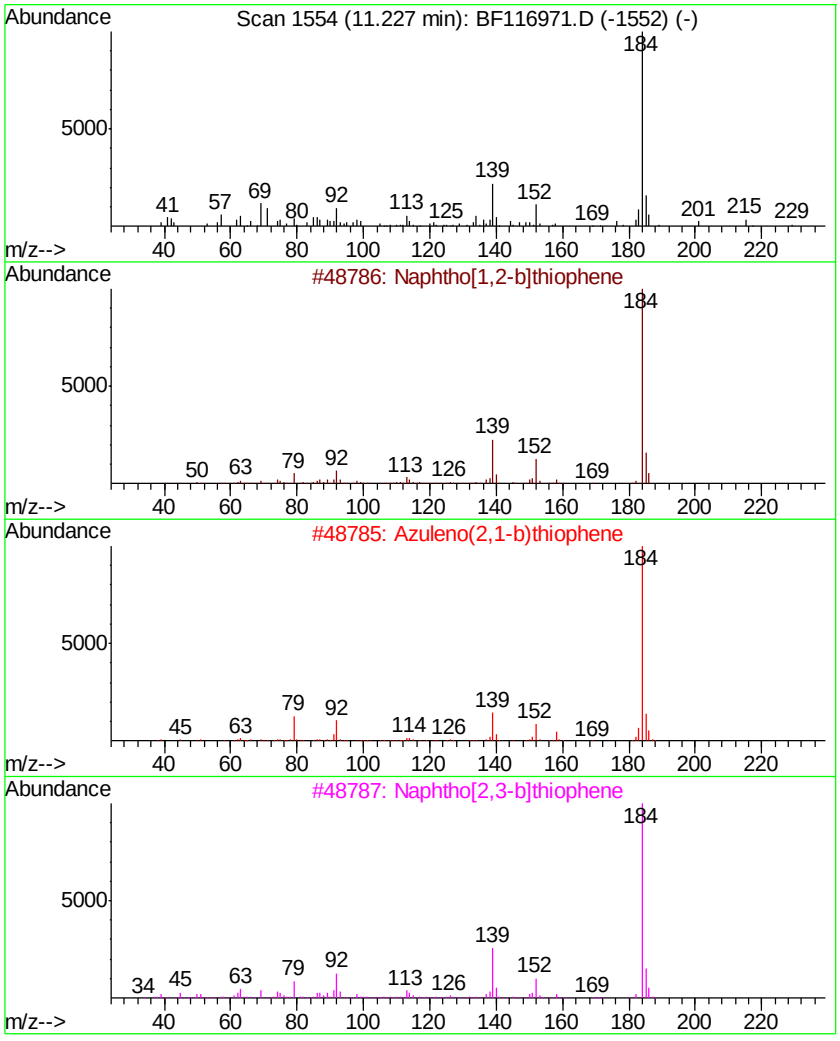
TIC Library : C:\DATABASE\NIST11.L
TIC Integration Parameters: LSCINT.P

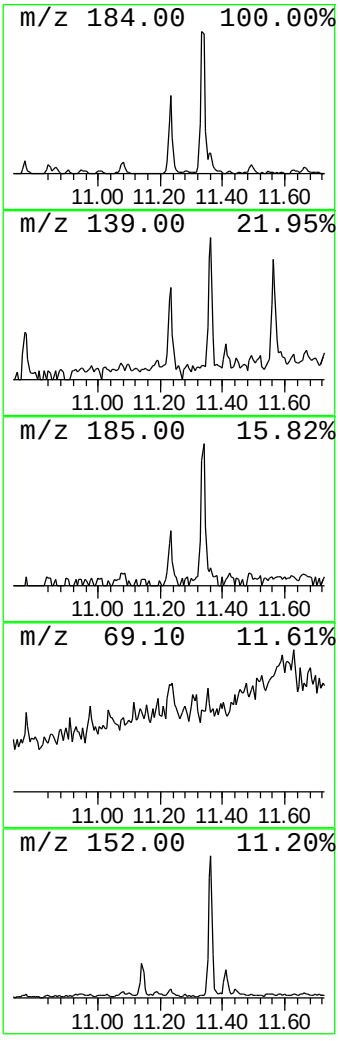
**********

Peak Number 6 Naphtho[1,2-b]thiophene Concentration Rank 15

| R.T. | EstConc | Area | Relative to ISTD | R.T. |
|---|---|---|---|---|
| 11.23 | 2.81 ng | 87301 | Phenanthrene-d10 | 11.34 |

| Hit# of 5 | Tentative ID | MW | MolForm | CAS# | Qual |
|---|---|---|---|---|---|
| 1 | Naphtho[1,2-b]thiophene | 184 | C12H8S | 000234-41-3 | 89 |
| 2 | Azuleno(2,1-b)thiophene | 184 | C12H8S | 000248-13-5 | 76 |
| 3 | Naphtho[2,3-b]thiophene | 184 | C12H8S | 000268-77-9 | 76 |
| 4 | Dibenzothiophene | 184 | C12H8S | 000132-65-0 | 76 |
| 5 | Naphtho[2,1-b]thiophene | 184 | C12H8S | 000233-02-3 | 76 |



Library Search Compound Report

Data Path : Z:\SVOASRV\HPCHEM1\BNA F\DATA\BF091119\
Data File : BF116971.D
Acq On : 12 Sep 2019 2:27
Operator : HP/JU
Sample : K4814-02 2X
Misc :
ALS Vial : 22 Sample Multiplier: 1

**Instrument :** BNA_F
**ClientSampleId :** WC-2

Quant Method : Z:\SVOASRV\HPCHEM1\BNA_F\METHODS\8270-BF083019.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

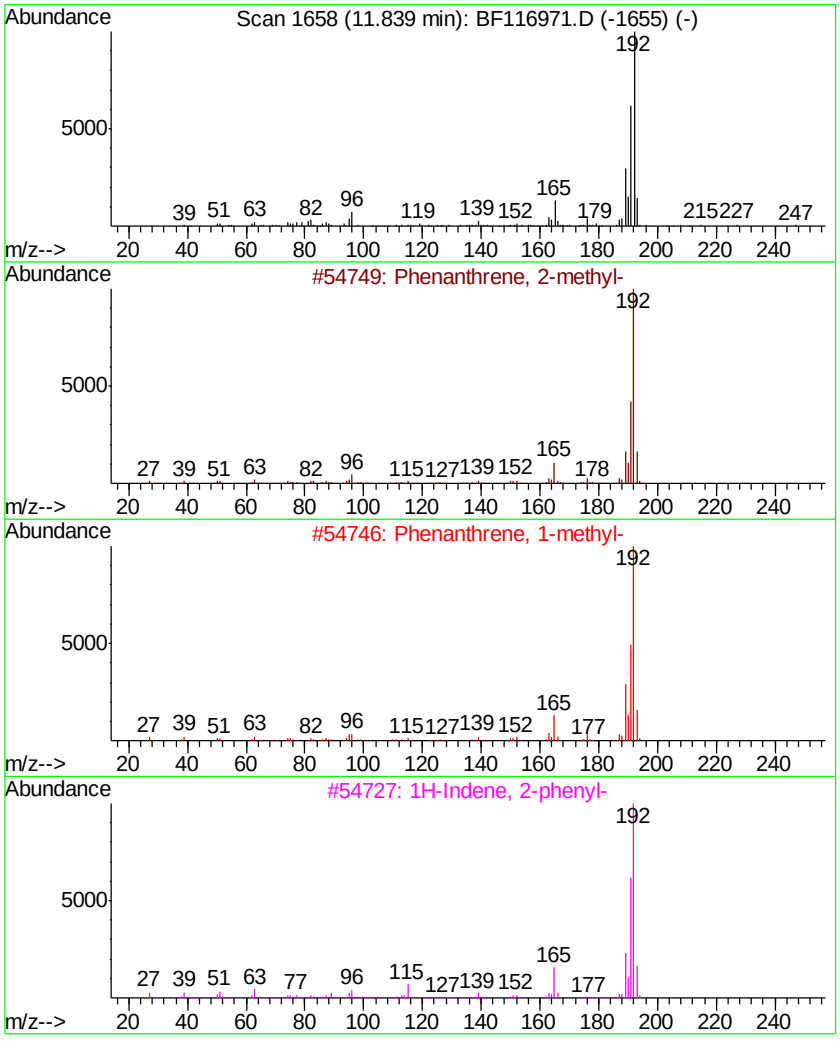
TIC Library : C:\DATABASE\NIST11.L
TIC Integration Parameters: LSCINT.P

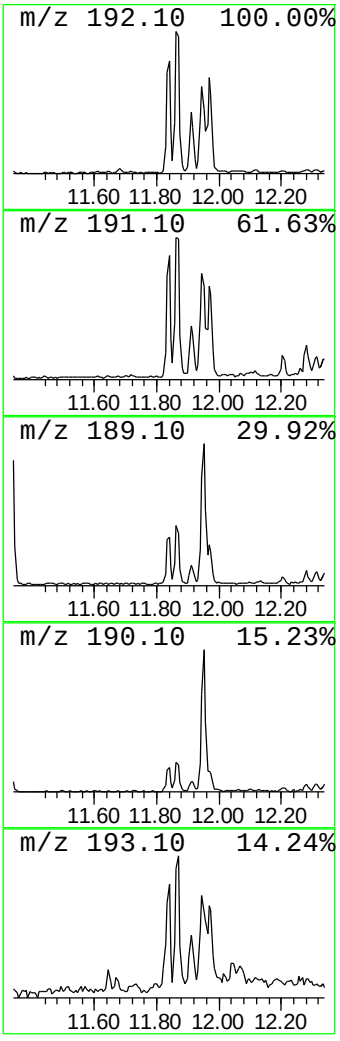
**********

Peak Number 7 Phenanthrene, 2-methyl- Concentration Rank 6

| R.T. | EstConc | Area | Relative to ISTD | R.T. |
|---|---|---|---|---|
| 11.84 | 4.89 ng | 151956 | Phenanthrene-d10 | 11.34 |

| Hit# of 5 | Tentative ID | MW | MolForm | CAS# | Qual |
|---|---|---|---|---|---|
| 1 | Phenanthrene, 2-methyl- | 192 | C15H12 | 002531-84-2 | 93 |
| 2 | Phenanthrene, 1-methyl- | 192 | C15H12 | 000832-69-9 | 93 |
| 3 | 1H-Indene, 2-phenyl- | 192 | C15H12 | 004505-48-0 | 91 |
| 4 | Anthracene, 9-methyl- | 192 | C15H12 | 000779-02-2 | 90 |
| 5 | Anthracene, 2-methyl- | 192 | C15H12 | 000613-12-7 | 87 |



Data Path : Z:\SVOASRV\HPCHEM1\BNA F\DATA\BF091119\
Data File : BF116971.D
Acq On : 12 Sep 2019 2:27
Operator : HP/JU
Sample : K4814-02 2X
Misc :
ALS Vial : 22 Sample Multiplier: 1

**Instrument :** BNA_F
**ClientSampleId :** WC-2

Quant Method : Z:\SVOASRV\HPCHEM1\BNA_F\METHODS\8270-BF083019.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

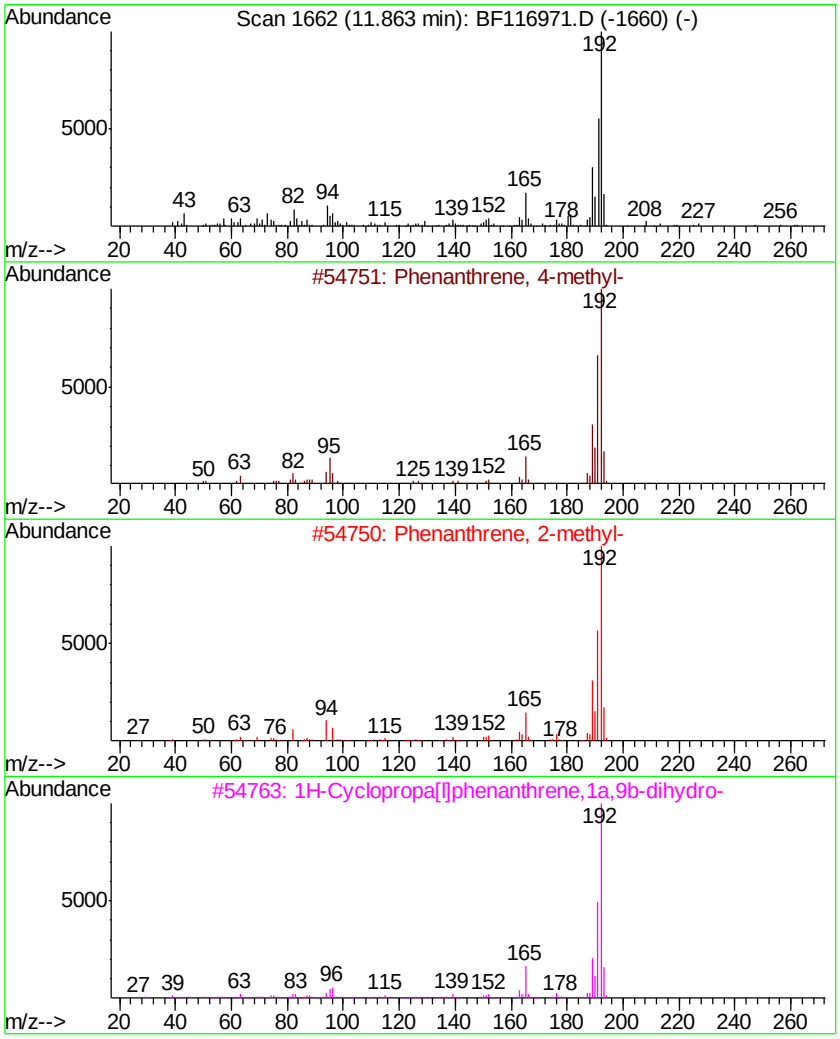
TIC Library : C:\DATABASE\NIST11.L
TIC Integration Parameters: LSCINT.P

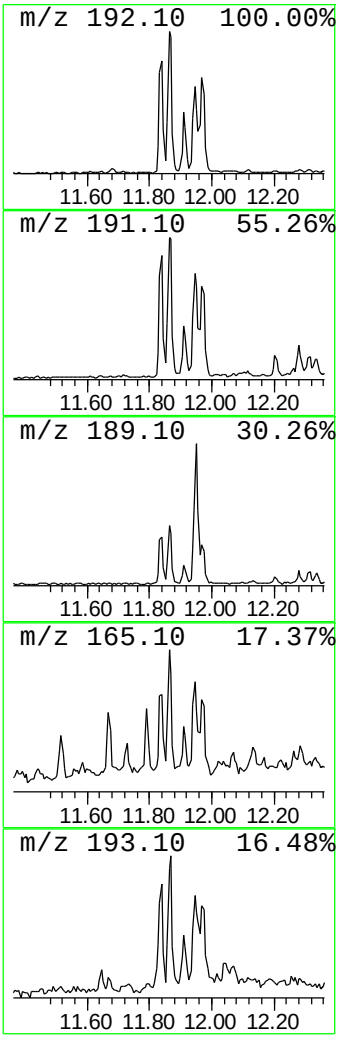
**********

Peak Number 8 Phenanthrene, 4-methyl- Concentration Rank 5

| R.T. | EstConc | Area | Relative to ISTD | R.T. |
|---|---|---|---|---|
| 11.86 | 8.09 ng | 251525 | Phenanthrene-d10 | 11.34 |

| Hit# of 5 | Tentative ID | MW | MolForm | CAS# | Qual |
|---|---|---|---|---|---|
| 1 | Phenanthrene, 4-methyl- | 192 | C15H12 | 000832-64-4 | 94 |
| 2 | Phenanthrene, 2-methyl- | 192 | C15H12 | 002531-84-2 | 93 |
| 3 | 1H-Cyclopropa[l]phenanthrene,1a,... | 192 | C15H12 | 000949-41-7 | 93 |
| 4 | 1H-Indene, 2-phenyl- | 192 | C15H12 | 004505-48-0 | 93 |
| 5 | Phenanthrene, 1-methyl- | 192 | C15H12 | 000832-69-9 | 90 |



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Acq On : 12 Sep 2019 2:27
Operator : HP/JU
Sample : K4814-02 2X
Misc :
ALS Vial : 22 Sample Multiplier: 1

**Instrument :** BNA_F
**ClientSampleId :** WC-2

Quant Method : Z:\SVOASRV\HPCHEM1\BNA_F\METHODS\8270-BF083019.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

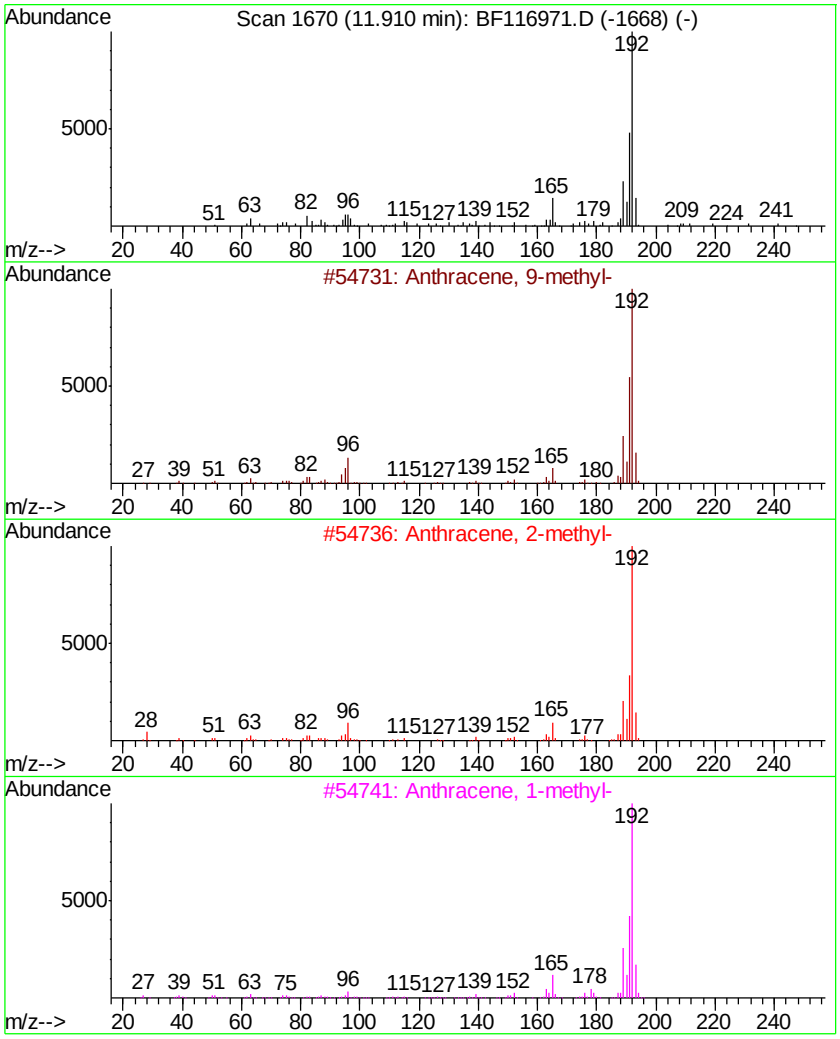
TIC Library : C:\DATABASE\NIST11.L
TIC Integration Parameters: LSCINT.P

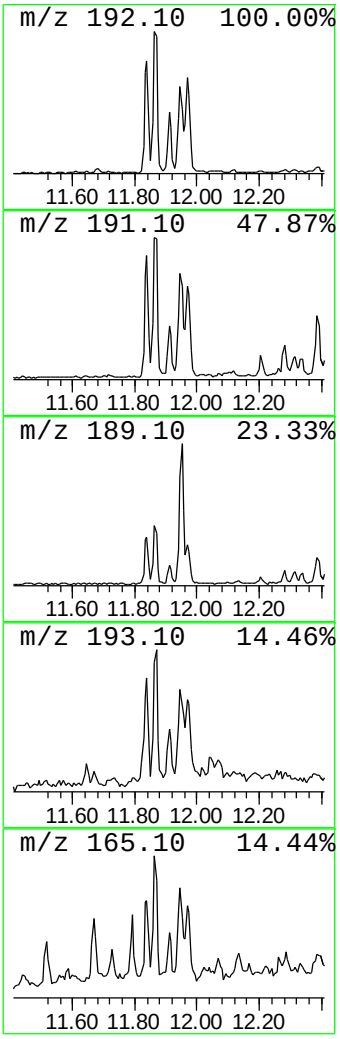
**********

Peak Number 9 Anthracene, 9-methyl- Concentration Rank 16

| R.T. | EstConc | Area | Relative to ISTD | R.T. |
|---|---|---|---|---|
| 11.91 | 2.48 ng | 77258 | Phenanthrene-d10 | 11.34 |

| Hit# of 5 | Tentative ID | MW | MolForm | CAS# | Qual |
|---|---|---|---|---|---|
| 1 | Anthracene, 9-methyl- | 192 | C15H12 | 000779-02-2 | 91 |
| 2 | Anthracene, 2-methyl- | 192 | C15H12 | 000613-12-7 | 91 |
| 3 | Anthracene, 1-methyl- | 192 | C15H12 | 000610-48-0 | 90 |
| 4 | Phenanthrene, 2-methyl- | 192 | C15H12 | 002531-84-2 | 87 |
| 5 | 1H-Indene, 1-phenyl- | 192 | C15H12 | 001961-96-2 | 87 |



Library Search Compound Report

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Acq On : 12 Sep 2019 2:27
Operator : HP/JU
Sample : K4814-02 2X
Misc :
ALS Vial : 22 Sample Multiplier: 1

**Instrument :** BNA_F
**ClientSampleId :** WC-2

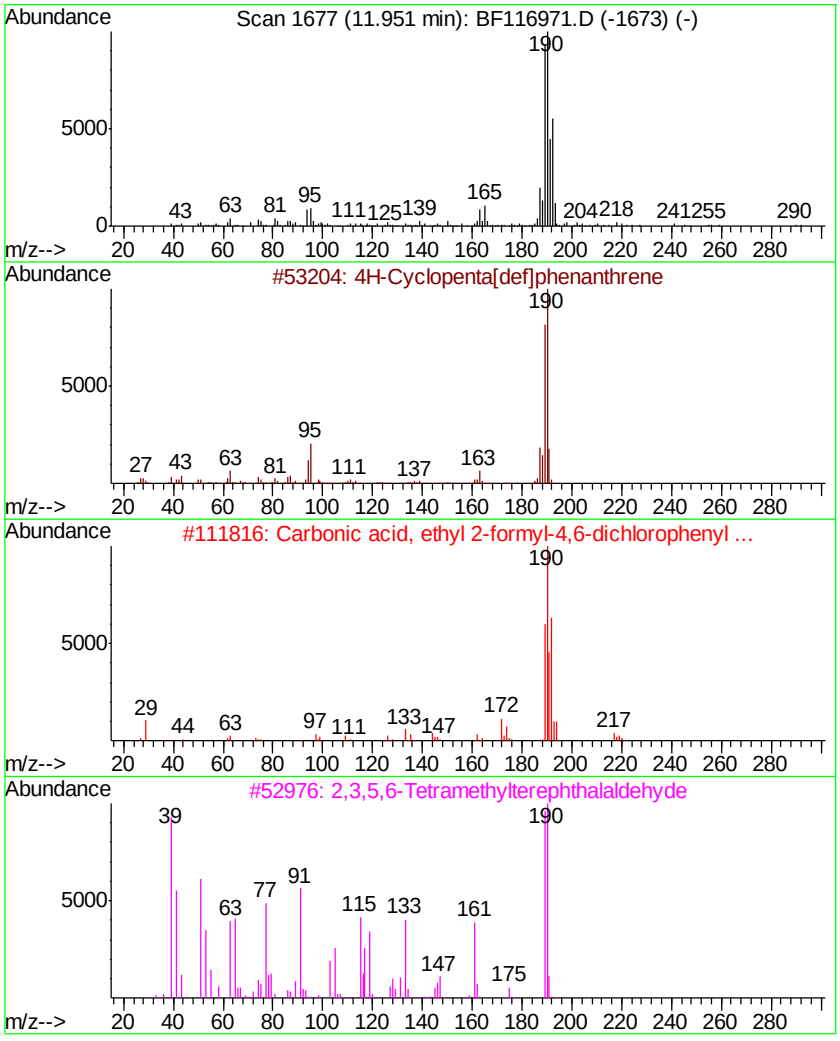
Quant Method : Z:\SVOASRV\HPCHEM1\BNA_F\METHODS\8270-BF083019.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

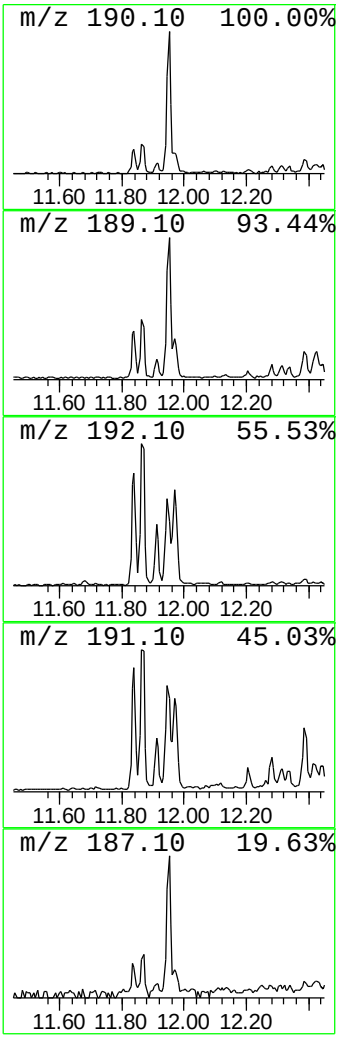
TIC Library : C:\DATABASE\NIST11.L
TIC Integration Parameters: LSCINT.P

**********
Peak Number 10 4H-Cyclopenta[def]phenanthrene Concentration Rank 4

| R.T. | EstConc | Area | Relative to ISTD | R.T. |
|---|---|---|---|---|
| 11.95 | 8.74 ng | 271993 | Phenanthrene-d10 | 11.34 |

| Hit# of 5 | Tentative ID | MW | MolForm | CAS# | Qual |
|---|---|---|---|---|---|
| 1 | 4H-Cyclopenta[def]phenanthrene | 190 | C15H10 | 000203-64-5 | 53 |
| 2 | Carbonic acid, ethyl 2-formyl-4,... | 262 | C10H8Cl2O4 | 1000331-34-4 | 50 |
| 3 | 2,3,5,6-Tetramethylterephthalald... | 190 | C12H14O2 | 007072-01-7 | 46 |
| 4 | Naphtho[1,2-b]norbornadiene | 192 | C15H12 | 1000210-14-8 | 38 |
| 5 | Phenanthrene, 4-methyl- | 192 | C15H12 | 000832-64-4 | 38 |



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Acq On : 12 Sep 2019 2:27
Operator : HP/JU
Sample : K4814-02 2X
Misc :
ALS Vial : 22 Sample Multiplier: 1

**Instrument :** BNA_F
**ClientSampleId :** WC-2

Quant Method : Z:\SVOASRV\HPCHEM1\BNA_F\METHODS\8270-BF083019.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

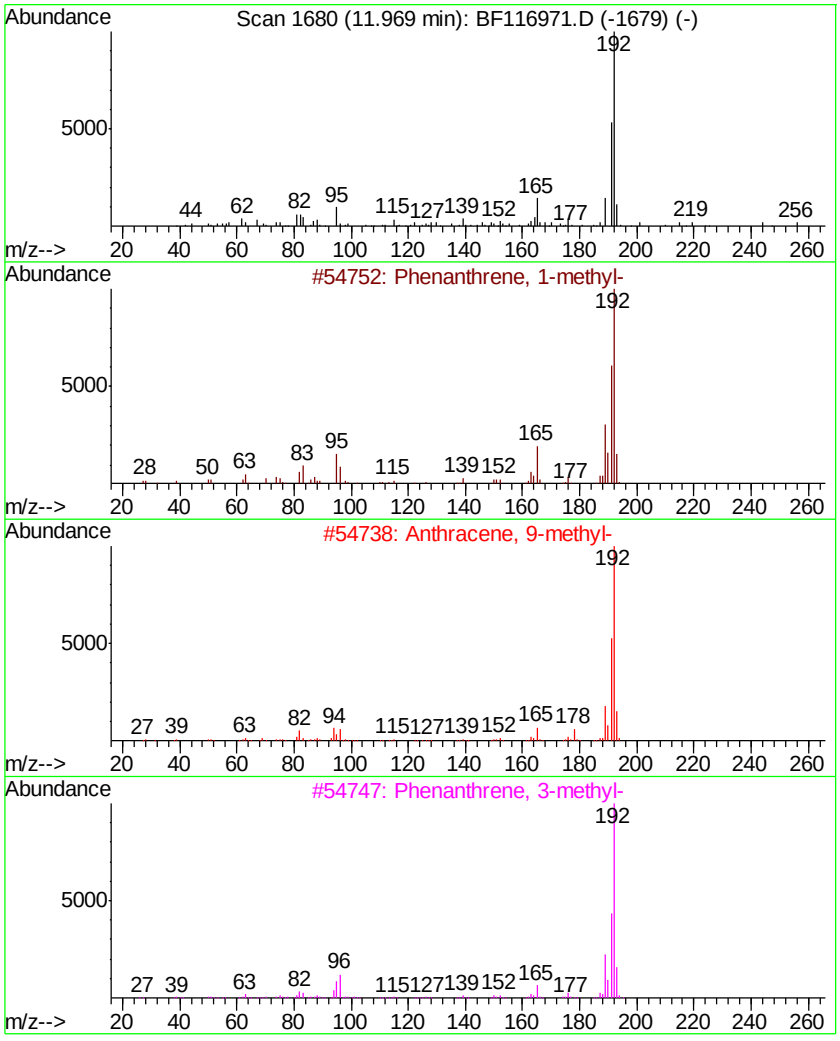
TIC Library : C:\DATABASE\NIST11.L
TIC Integration Parameters: LSCINT.P

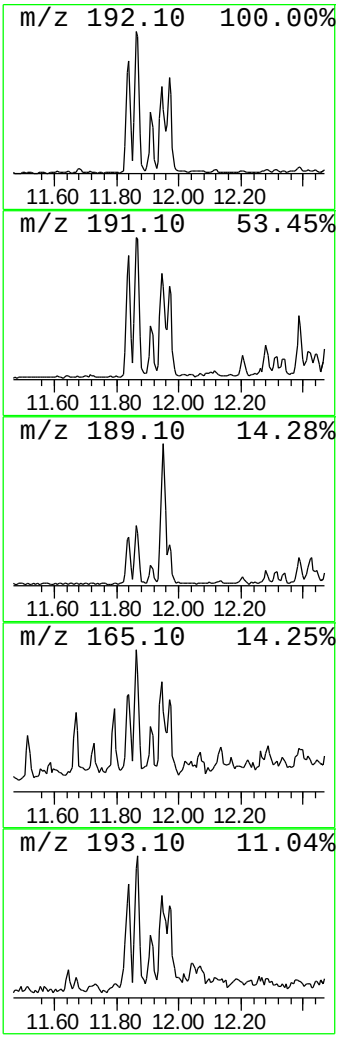
**********

Peak Number 11 Phenanthrene, 1-methyl- Concentration Rank 12

| R.T. | EstConc | Area | Relative to ISTD | R.T. |
|---|---|---|---|---|
| 11.97 | 3.09 ng | 96131 | Phenanthrene-d10 | 11.34 |

| Hit# of 5 | Tentative ID | MW | MolForm | CAS# | Qual |
|---|---|---|---|---|---|
| 1 | Phenanthrene, 1-methyl- | 192 | C15H12 | 000832-69-9 | 87 |
| 2 | Anthracene, 9-methyl- | 192 | C15H12 | 000779-02-2 | 83 |
| 3 | Phenanthrene, 3-methyl- | 192 | C15H12 | 000832-71-3 | 72 |
| 4 | Anthracene, 2-methyl- | 192 | C15H12 | 000613-12-7 | 72 |
| 5 | Phenanthrene, 9-methyl- | 192 | C15H12 | 000883-20-5 | 72 |



Library Search Compound Report

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Data File : BF116971.D
Acq On : 12 Sep 2019 2:27
Operator : HP/JU
Sample : K4814-02 2X
Misc :
ALS Vial : 22 Sample Multiplier: 1

**Instrument :** BNA_F
**ClientSampleId :** WC-2

Quant Method : Z:\SVOASRV\HPCHEM1\BNA_F\METHODS\8270-BF083019.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

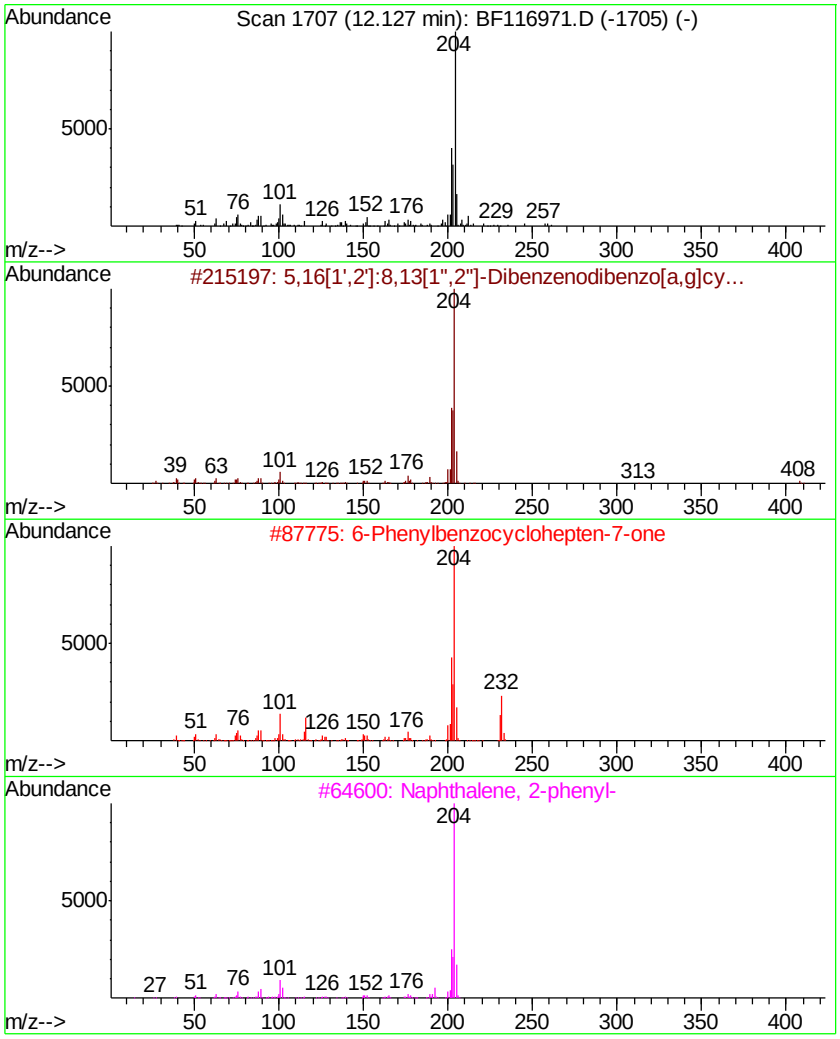
TIC Library : C:\DATABASE\NIST11.L
TIC Integration Parameters: LSCINT.P

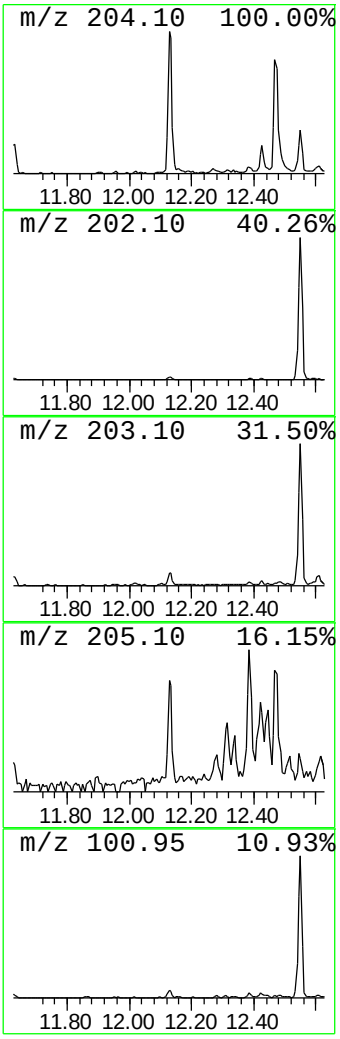
**********

Peak Number 12 5,16[1',2']:8,13[1'',2'']-D... Concentration Rank 11

| R.T. | EstConc | Area | Relative to ISTD | R.T. |
|---|---|---|---|---|
| 12.13 | 3.34 ng | 103846 | Phenanthrene-d10 | 11.34 |

| Hit# of 5 | Tentative ID | MW | MolForm | CAS# | Qual |
|---|---|---|---|---|---|
| 1 | 5,16[1',2']:8,13[1'',2'']-Dibenz... | 408 | C32H24 | 005672-97-9 | 86 |
| 2 | 6-Phenylbenzocyclohepten-7-one | 232 | C17H12O | 093327-56-1 | 78 |
| 3 | Naphthalene, 2-phenyl- | 204 | C16H12 | 000612-94-2 | 70 |
| 4 | Tricyclo[8.2.2.2(4,7)]hexadeca-2... | 204 | C16H12 | 006572-60-7 | 70 |
| 5 | Naphthalene, 1-phenyl- | 204 | C16H12 | 000605-02-7 | 55 |



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Operator : HP/JU
Sample : K4814-02 2X
Misc :
ALS Vial : 22 Sample Multiplier: 1

**Instrument :** BNA_F
**ClientSampleId :** WC-2

Quant Method : Z:\SVOASRV\HPCHEM1\BNA_F\METHODS\8270-BF083019.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

TIC Library : C:\DATABASE\NIST11.L
TIC Integration Parameters: LSCINT.P

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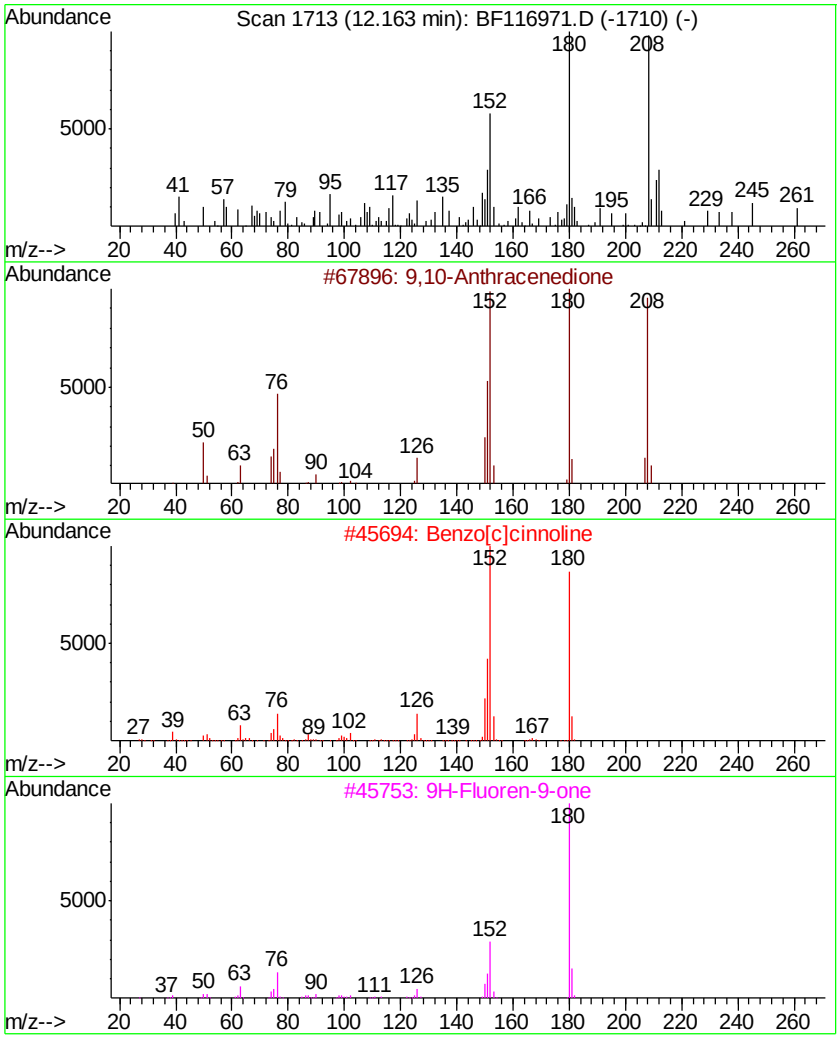
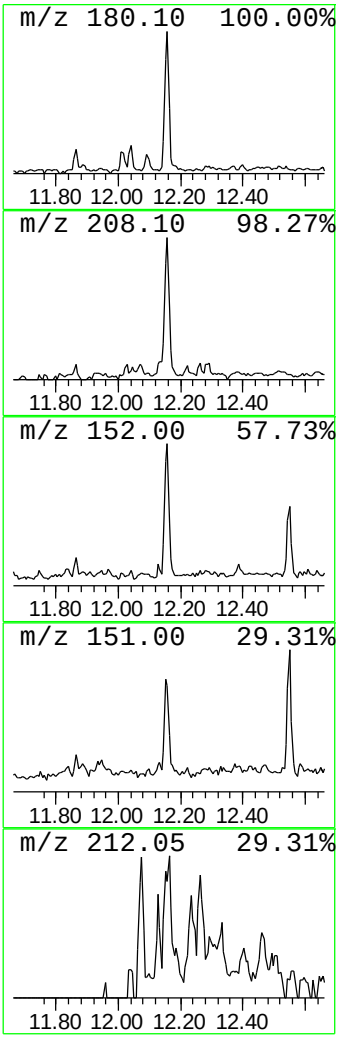
Peak Number 13 9,10-Anthracenedione Concentration Rank 13

| R.T. | EstConc | Area | Relative to ISTD | R.T. |
|---|---|---|---|---|
| 12.16 | 3.08 ng | 95658 | Phenanthrene-d10 | 11.34 |

| Hit# of 5 | Tentative ID | MW | MolForm | CAS# | Qual |
|---|---|---|---|---|---|
| 1 | 9,10-Anthracenedione | 208 | C14H8O2 | 000084-65-1 | 96 |
| 2 | Benzo[c]cinnoline | 180 | C12H8N2 | 000230-17-1 | 95 |
| 3 | 9H-Fluoren-9-one | 180 | C13H8O | 000486-25-9 | 83 |
| 4 | 9,10-Phenanthrenedione | 208 | C14H8O2 | 000084-11-7 | 60 |
| 5 | Benzo[h]cinnoline | 180 | C12H8N2 | 000230-31-9 | 53 |



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Acq On : 12 Sep 2019 2:27
Operator : HP/JU
Sample : K4814-02 2X
Misc :
ALS Vial : 22 Sample Multiplier: 1

**Instrument :** BNA_F
**ClientSampleId :** WC-2

Quant Method : Z:\SVOASRV\HPCHEM1\BNA_F\METHODS\8270-BF083019.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

TIC Library : C:\DATABASE\NIST11.L
TIC Integration Parameters: LSCINT.P

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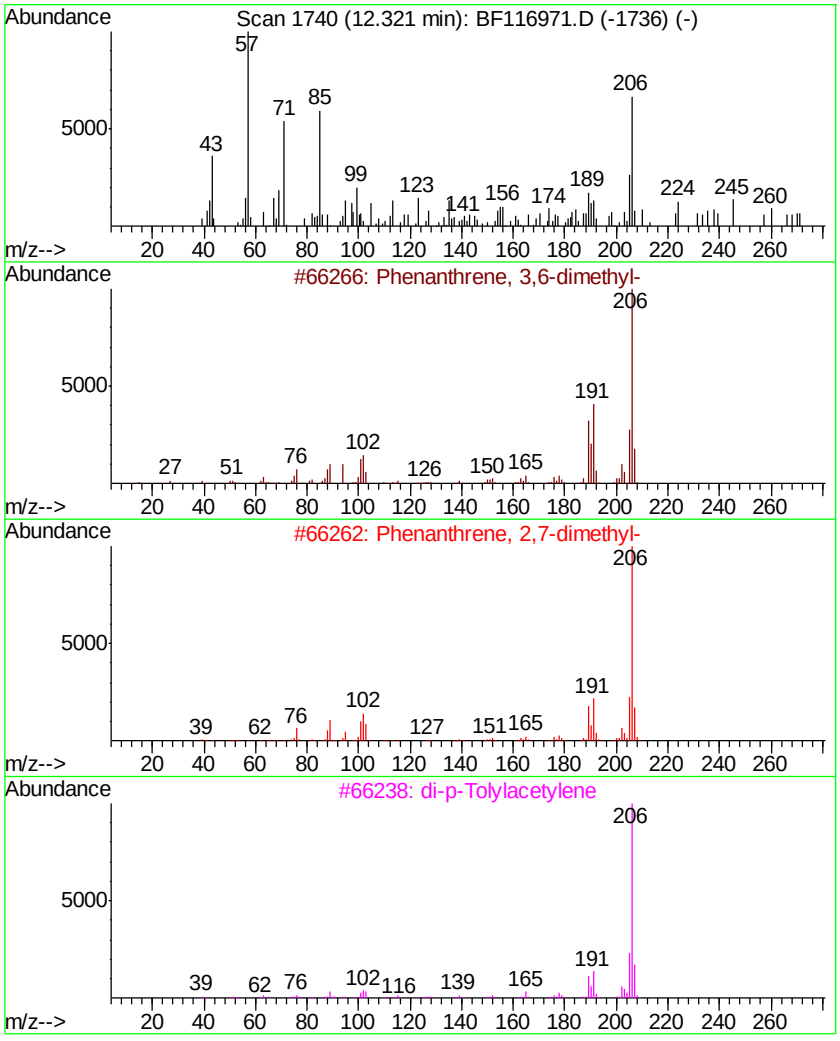
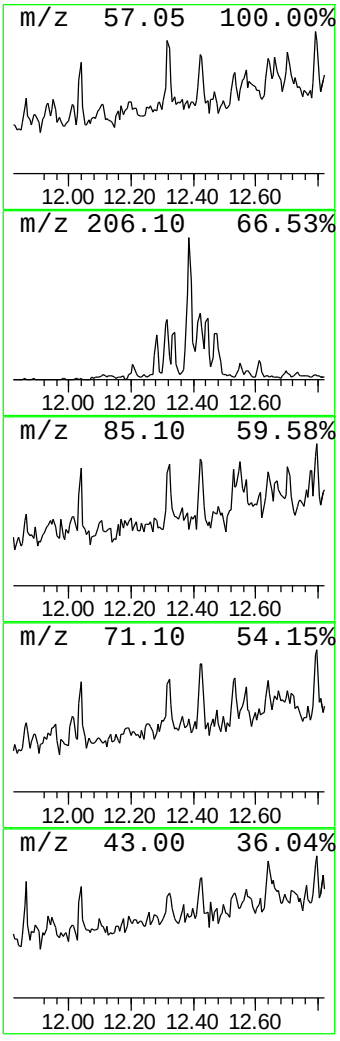
Peak Number 14 Phenanthrene, 3,6-dimethyl- Concentration Rank 20

| R.T. | EstConc | Area | Relative to ISTD | R.T. |
|---|---|---|---|---|
| 12.32 | 2.02 ng | 62948 | Phenanthrene-d10 | 11.34 |

| Hit# of 5 | Tentative ID | MW | MolForm | CAS# | Qual |
|---|---|---|---|---|---|
| 1 | Phenanthrene, 3,6-dimethyl- | 206 | C16H14 | 001576-67-6 | 89 |
| 2 | Phenanthrene, 2,7-dimethyl- | 206 | C16H14 | 001576-69-8 | 74 |
| 3 | di-p-Tolylacetylene | 206 | C16H14 | 002789-88-0 | 59 |
| 4 | Phenanthrene, 1,7-dimethyl- | 206 | C16H14 | 000483-87-4 | 59 |
| 5 | 5-Methyl-2-(p-tolylimino)-1,3-th... | 206 | C11H14N2S | 070446-87-6 | 55 |



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Data File : BF116971.D
Acq On : 12 Sep 2019 2:27
Operator : HP/JU
Sample : K4814-02 2X
Misc :
ALS Vial : 22 Sample Multiplier: 1

**Instrument :** BNA_F
**ClientSampleId :** WC-2

Quant Method : Z:\SVOASRV\HPCHEM1\BNA_F\METHODS\8270-BF083019.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

TIC Library : C:\DATABASE\NIST11.L
TIC Integration Parameters: LSCINT.P

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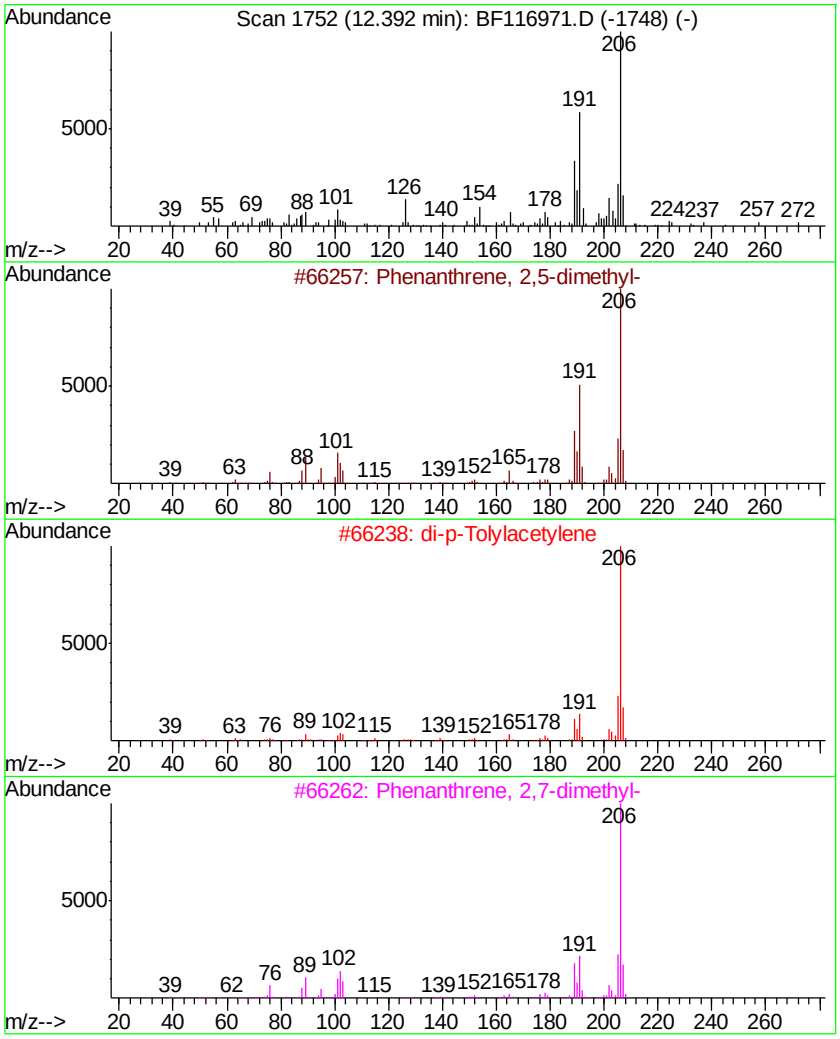
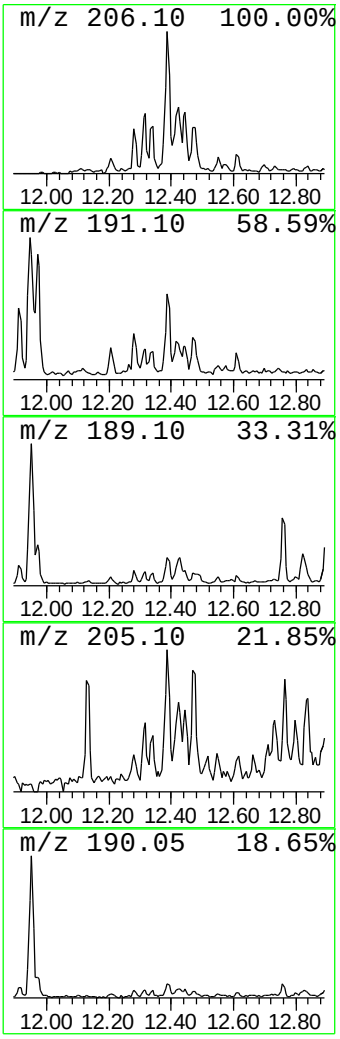
Peak Number 15 Phenanthrene, 2,5-dimethyl- Concentration Rank 7

| R.T. | EstConc | Area | Relative to ISTD | R.T. |
|---|---|---|---|---|
| 12.39 | 3.81 ng | 118372 | Phenanthrene-d10 | 11.34 |

| Hit# of 5 | Tentative ID | MW | MolForm | CAS# | Qual |
|---|---|---|---|---|---|
| 1 | Phenanthrene, 2,5-dimethyl- | 206 | C16H14 | 003674-66-6 | 95 |
| 2 | di-p-Tolylacetylene | 206 | C16H14 | 002789-88-0 | 91 |
| 3 | Phenanthrene, 2,7-dimethyl- | 206 | C16H14 | 001576-69-8 | 90 |
| 4 | Phenanthrene, 1,7-dimethyl- | 206 | C16H14 | 000483-87-4 | 90 |
| 5 | Phenanthrene, 2,3-dimethyl- | 206 | C16H14 | 003674-65-5 | 90 |



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Data File : BF116971.D
Acq On : 12 Sep 2019 2:27
Operator : HP/JU
Sample : K4814-02 2X
Misc :
ALS Vial : 22 Sample Multiplier: 1

**Instrument :** BNA_F
**ClientSampleId :** WC-2

Quant Method : Z:\SVOASRV\HPCHEM1\BNA_F\METHODS\8270-BF083019.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

TIC Library : C:\DATABASE\NIST11.L
TIC Integration Parameters: LSCINT.P

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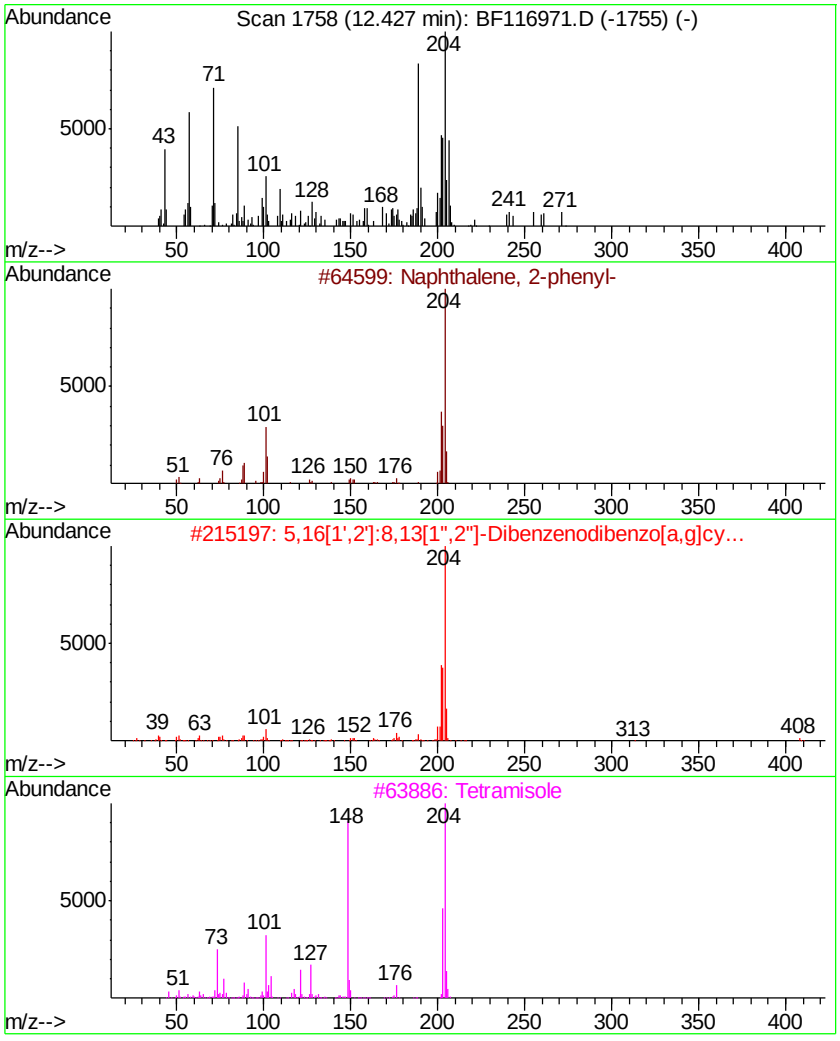
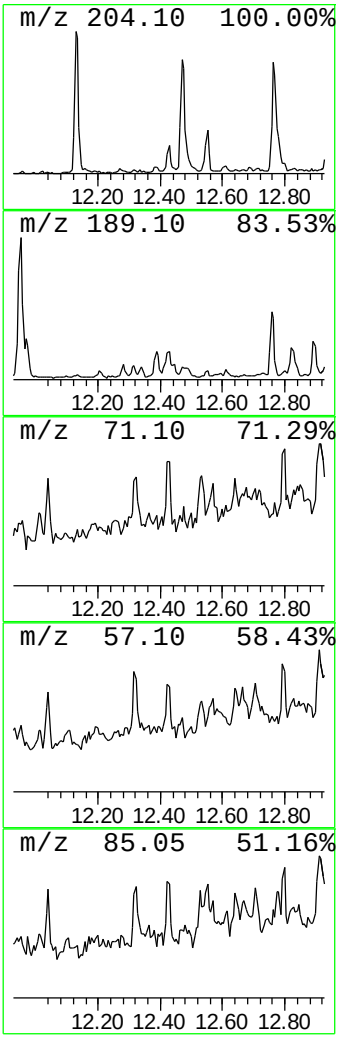
Peak Number 16 unknown12.43 Concentration Rank 10

| R.T. | EstConc | Area | Relative to ISTD | R.T. |
|---|---|---|---|---|
| 12.43 | 3.36 ng | 104529 | Phenanthrene-d10 | 11.34 |

| Hit# of 5 | Tentative ID | MW | MolForm | CAS# | Qual |
|---|---|---|---|---|---|
| 1 | Naphthalene, 2-phenyl- | 204 | C16H12 | 000612-94-2 | 38 |
| 2 | 5,16[1',2']:8,13[1'',2'']-Dibenz... | 408 | C32H24 | 005672-97-9 | 35 |
| 3 | Tetramisole | 204 | C11H12N2S | 005036-02-2 | 30 |
| 4 | Levamisole | 204 | C11H12N2S | 014769-73-4 | 30 |
| 5 | Pyrimidine, 2-chloro-4-methyl-6-... | 204 | C11H9ClN2 | 032785-40-3 | 27 |



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Data File : BF116971.D
Acq On : 12 Sep 2019 2:27
Operator : HP/JU
Sample : K4814-02 2X
Misc :
ALS Vial : 22 Sample Multiplier: 1

**Instrument :** BNA_F
**ClientSampleId :** WC-2

Quant Method : Z:\SVOASRV\HPCHEM1\BNA_F\METHODS\8270-BF083019.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

TIC Library : C:\DATABASE\NIST11.L
TIC Integration Parameters: LSCINT.P

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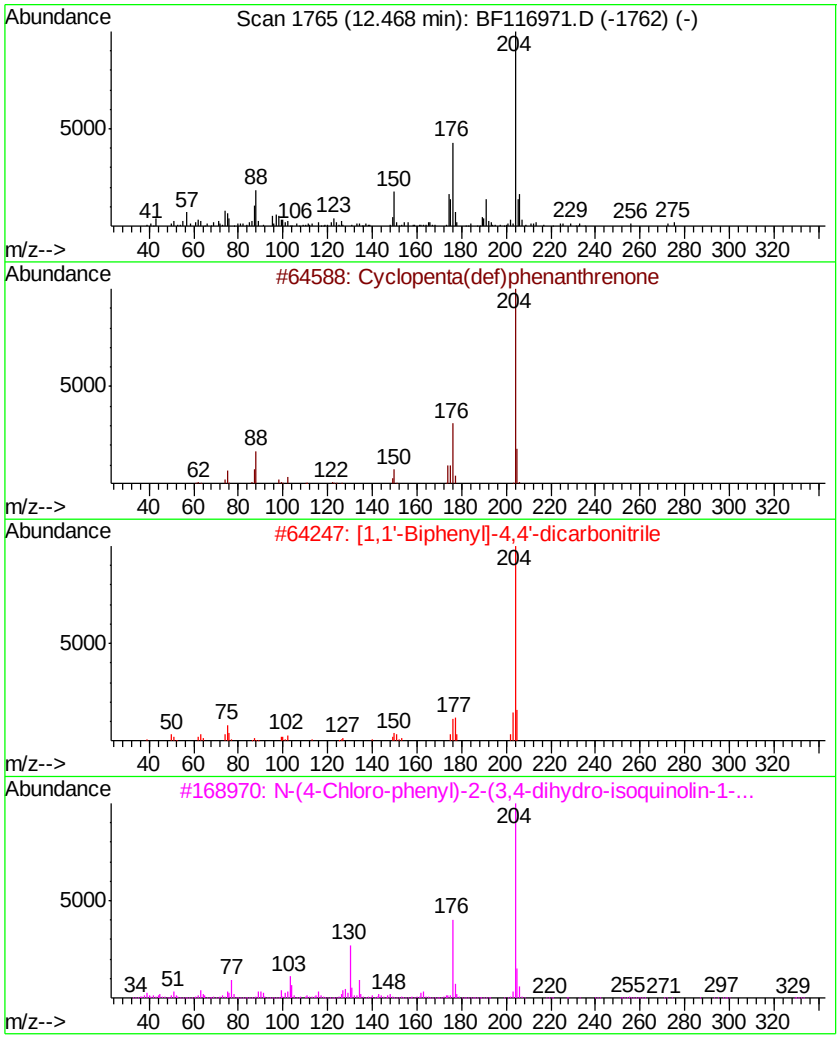
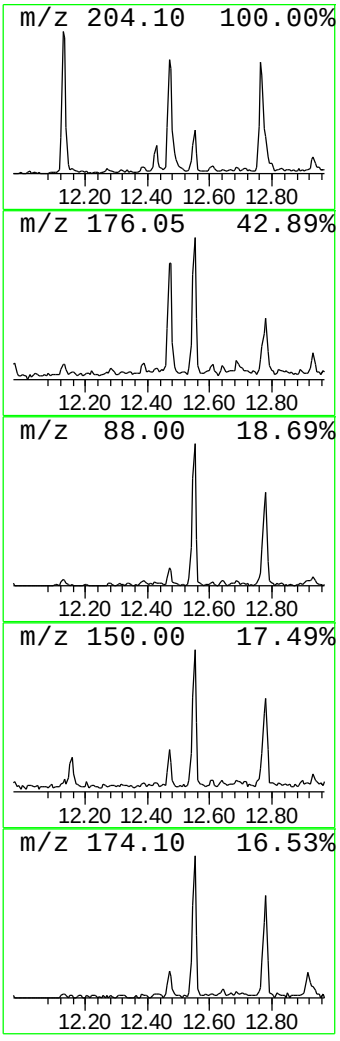
Peak Number 17 Cyclopenta(def)phenanthrenone Concentration Rank 8

| R.T. | EstConc | Area | Relative to ISTD | R.T. |
|---|---|---|---|---|
| 12.47 | 3.68 ng | 114337 | Phenanthrene-d10 | 11.34 |

| Hit# of 5 | Tentative ID | MW | MolForm | CAS# | Qual |
|---|---|---|---|---|---|
| 1 | Cyclopenta(def)phenanthrenone | 204 | C15H8O | 005737-13-3 | 93 |
| 2 | [1,1'-Biphenyl]-4,4'-dicarbonitrile | 204 | C14H8N2 | 001591-30-6 | 52 |
| 3 | N-(4-Chloro-phenyl)-2-(3,4-dihyd... | 330 | C17H15ClN2OS | 1000296-34-3 | 50 |
| 4 | [1,1'-Biphenyl]-2,2'-dicarbonitrile | 204 | C14H8N2 | 004341-02-0 | 47 |
| 5 | 4-Methoxy-6-(3-fluorophenyl)pyri... | 204 | C11H9FN2O | 076128-74-0 | 43 |



Data Path : Z:\SVOASRV\HPCHEM1\BNA F\DATA\BF091119\
Data File : BF116971.D
Acq On : 12 Sep 2019 2:27
Operator : HP/JU
Sample : K4814-02 2X
Misc :
ALS Vial : 22 Sample Multiplier: 1

**Instrument :** BNA_F
**ClientSampleId :** WC-2

Quant Method : Z:\SVOASRV\HPCHEM1\BNA_F\METHODS\8270-BF083019.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

TIC Library : C:\DATABASE\NIST11.L
TIC Integration Parameters: LSCINT.P

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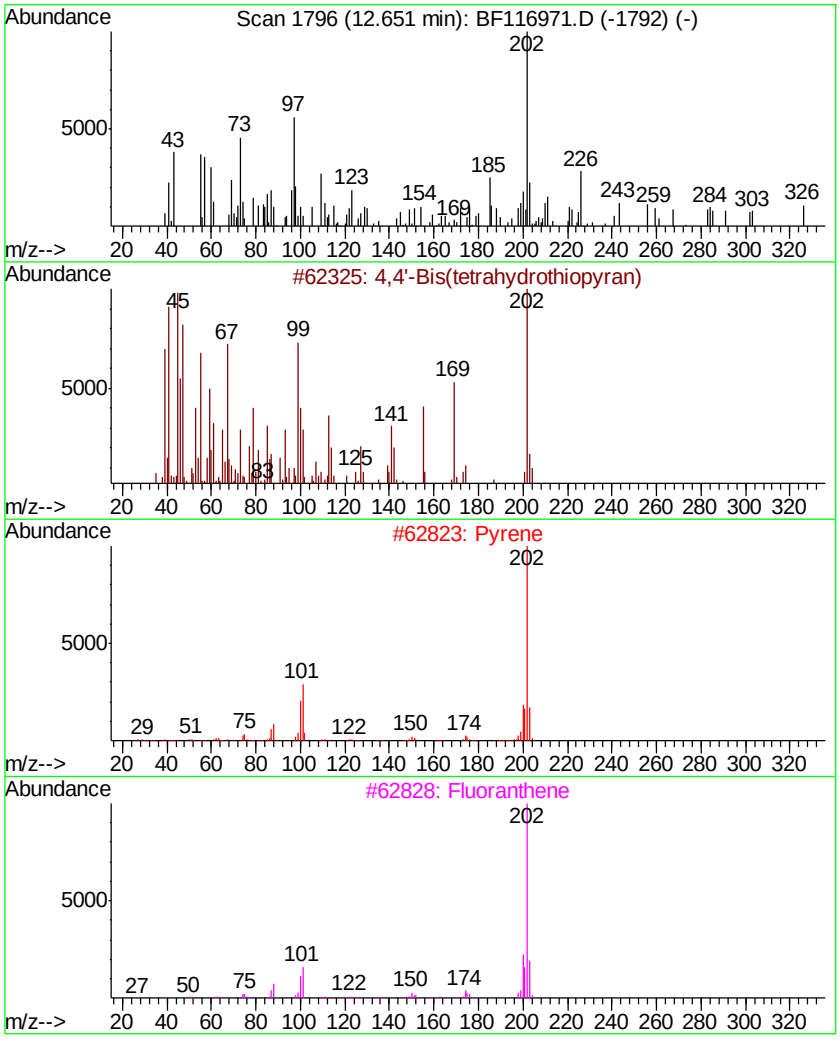
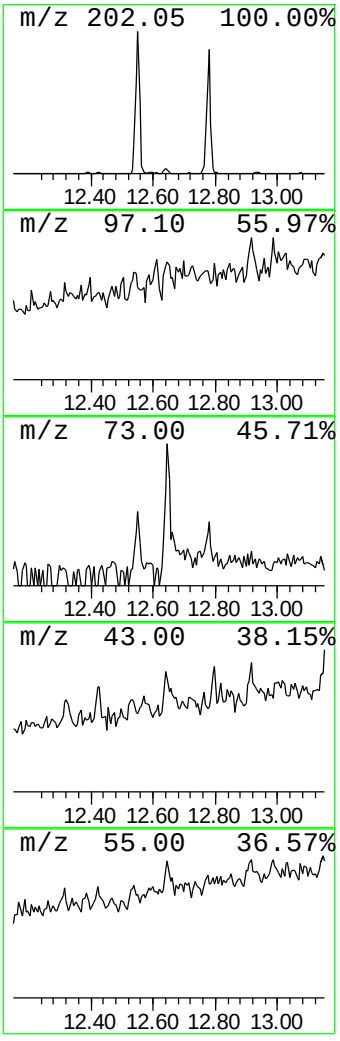
Peak Number 18 4,4'-Bis(tetrahydrothiopyran) Concentration Rank 14

| R.T. | EstConc | Area | Relative to ISTD | R.T. |
|---|---|---|---|---|
| 12.65 | 2.97 ng | 92246 | Phenanthrene-d10 | 11.34 |

| Hit# of 5 | Tentative ID | MW | MolForm | CAS# | Qual |
|---|---|---|---|---|---|
| 1 | 4,4'-Bis(tetrahydrothiopyran) | 202 | C10H18S2 | 116196-83-9 | 95 |
| 2 | Pyrene | 202 | C16H10 | 000129-00-0 | 70 |
| 3 | Fluoranthene | 202 | C16H10 | 000206-44-0 | 70 |
| 4 | Benzene, 1,1'-(1,3-butadiyne-1,4... | 202 | C16H10 | 000886-66-8 | 68 |
| 5 | Di-1H-pyrrol-1-yl-isopropenylsilane | 202 | C11H14N2Si | 1000306-57-7 | 46 |



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Data File : BF116971.D
Acq On : 12 Sep 2019 2:27
Operator : HP/JU
Sample : K4814-02 2X
Misc :
ALS Vial : 22 Sample Multiplier: 1

**Instrument :** BNA_F
**ClientSampleId :** WC-2

Quant Method : Z:\SVOASRV\HPCHEM1\BNA_F\METHODS\8270-BF083019.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

TIC Library : C:\DATABASE\NIST11.L
TIC Integration Parameters: LSCINT.P

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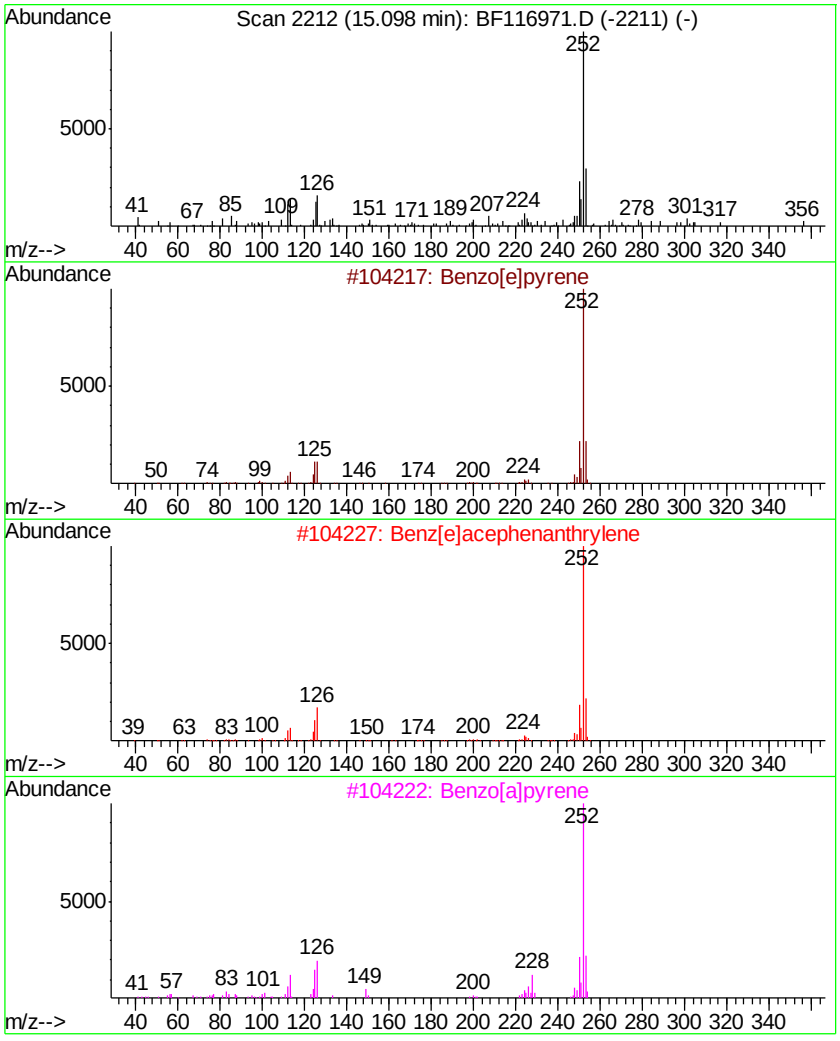
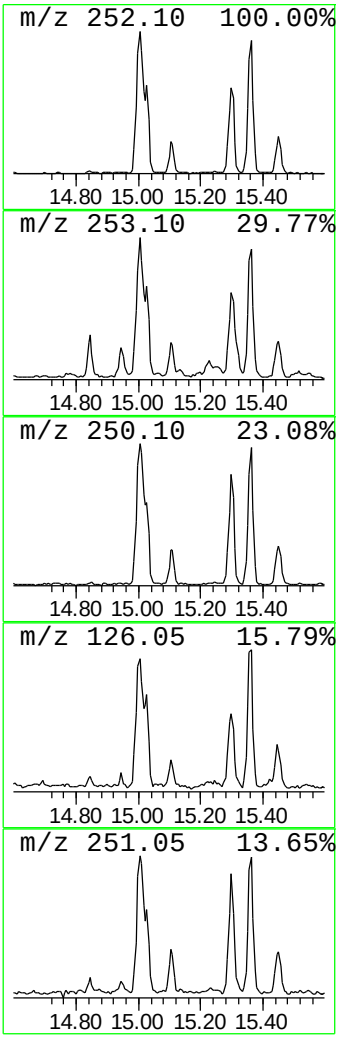
Peak Number 19 Benzo[e]pyrene Concentration Rank 9

| R.T. | EstConc | Area | Relative to ISTD | R.T. |
|---|---|---|---|---|
| 15.10 | 3.55 ng | 91383 | Perylene-d12 | 15.42 |

| Hit# of 5 | Tentative ID | MW | MolForm | CAS# | Qual |
|---|---|---|---|---|---|
| 1 | Benzo[e]pyrene | 252 | C20H12 | 000192-97-2 | 95 |
| 2 | Benz[e]acephenanthrylene | 252 | C20H12 | 000205-99-2 | 90 |
| 3 | Benzo[a]pyrene | 252 | C20H12 | 000050-32-8 | 87 |
| 4 | Perylene | 252 | C20H12 | 000198-55-0 | 81 |
| 5 | Benzo[k]fluoranthene | 252 | C20H12 | 000207-08-9 | 81 |



Tentatively Identified Compound (LSC) summary

Data Path : Z:\SVOASRV\HPCHEM1\BNA_F\DATA\BF091119\
Data File : BF116971.D
Acq On : 12 Sep 2019 2:27
Operator : HP/JU
Sample : K4814-02 2X
Misc :
ALS Vial : 22 Sample Multiplier: 1

**Instrument :** BNA_F
**ClientSampleId :** WC-2

Quant Method : Z:\SVOASRV\HPCHEM1\BNA_F\METHODS\8270-BF083019.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

TIC Library : C:\DATABASE\NIST11.L
TIC Integration Parameters: LSCINT.P

| | | | | | Internal Standard | | | |
|---|---|---|---|---|---|---|---|---|
| TIC Top Hit name | RT | EstConc | Units | Response | # | RT | Resp | Conc |
| unknown6.59 | 6.59 | 33.8 | ng | 667615 | 1 | 6.82 | 395133 | 20.0 |
| unknown10.77 | 10.77 | 2.2 | ng | 69397 | 4 | 11.34 | 622082 | 20.0 |
| unknown11.19 | 11.19 | 2.0 | ng | 63763 | 4 | 11.34 | 622082 | 20.0 |
| Naphtho[1,2-b]thi... | 11.23 | 2.8 | ng | 87301 | 4 | 11.34 | 622082 | 20.0 |
| Phenanthrene, 2-m... | 11.84 | 4.9 | ng | 151956 | 4 | 11.34 | 622082 | 20.0 |
| Phenanthrene, 4-m... | 11.86 | 8.1 | ng | 251525 | 4 | 11.34 | 622082 | 20.0 |
| Anthracene, 9-met... | 11.91 | 2.5 | ng | 77258 | 4 | 11.34 | 622082 | 20.0 |
| 4H-Cyclopenta[def... | 11.95 | 8.7 | ng | 271993 | 4 | 11.34 | 622082 | 20.0 |
| Phenanthrene, 1-m... | 11.97 | 3.1 | ng | 96131 | 4 | 11.34 | 622082 | 20.0 |
| 5,16[1',2']:8,13[... | 12.13 | 3.3 | ng | 103846 | 4 | 11.34 | 622082 | 20.0 |
| 9,10-Anthracenedione | 12.16 | 3.1 | ng | 95658 | 4 | 11.34 | 622082 | 20.0 |
| Phenanthrene, 3,6... | 12.32 | 2.0 | ng | 62948 | 4 | 11.34 | 622082 | 20.0 |
| Phenanthrene, 2,5... | 12.39 | 3.8 | ng | 118372 | 4 | 11.34 | 622082 | 20.0 |
| unknown12.43 | 12.43 | 3.4 | ng | 104529 | 4 | 11.34 | 622082 | 20.0 |
| Cyclopenta(def)ph... | 12.47 | 3.7 | ng | 114337 | 4 | 11.34 | 622082 | 20.0 |
| 4,4'-Bis(tetrahyd... | 12.65 | 3.0 | ng | 92246 | 4 | 11.34 | 622082 | 20.0 |
| Benzo[e]pyrene | 15.10 | 3.5 | ng | 91383 | 6 | 15.42 | 515408 | 20.0 |