LSC Area Percent Report

Data Path : Z:\HPCHEM1\BNA F\DATA\BF032516\
Data File : BF085768.D
Acq On : 25 Mar 2016 18:21
Operator : UM/SJ
Sample : H1855-04 10X
Misc :
ALS Vial : 54 Sample Multiplier: 1

**Instrument :** BNA_F
**ClientSampleId :** SB-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:\HPCHEM1\BNA_F\METHODS\8270-BF032416.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 | 5.258 | 258 | 260 | 263 | rBV | 74354 | 98547 | 2.12% | 0.183% |
| 2 | 5.636 | 291 | 293 | 302 | rBV | 106969 | 113954 | 2.45% | 0.212% |
| 3 | 6.516 | 368 | 370 | 373 | rVB | 190688 | 166584 | 3.58% | 0.309% |
| 4 | 6.824 | 394 | 397 | 399 | rBV | 697599 | 625143 | 13.44% | 1.160% |
| 5 | 8.104 | 507 | 509 | 514 | rBV2 | 746544 | 935817 | 20.11% | 1.737% |
| 6 | 9.522 | 631 | 633 | 634 | rVV | 146106 | 129581 | 2.78% | 0.241% |
| 7 | 9.579 | 637 | 638 | 641 | rVV2 | 70670 | 92056 | 1.98% | 0.171% |
| 8 | 9.727 | 648 | 651 | 653 | rBV | 148031 | 186341 | 4.00% | 0.346% |
| 9 | 9.865 | 660 | 663 | 664 | rBV | 1018075 | 927556 | 19.93% | 1.722% |
| 10 | 9.899 | 664 | 666 | 668 | rVB | 286218 | 335913 | 7.22% | 0.623% |
| 11 | 10.070 | 679 | 681 | 683 | rVV | 121270 | 149700 | 3.22% | 0.278% |
| 12 | 10.413 | 709 | 711 | 713 | rBV | 233321 | 308745 | 6.64% | 0.573% |
| 13 | 10.562 | 723 | 724 | 728 | rVB2 | 77442 | 91491 | 1.97% | 0.170% |
| 14 | 10.642 | 728 | 731 | 733 | rBV2 | 75776 | 123436 | 2.65% | 0.229% |
| 15 | 10.779 | 740 | 743 | 746 | rVB | 104690 | 150946 | 3.24% | 0.280% |
| 16 | 10.950 | 755 | 758 | 760 | rBV3 | 85235 | 168908 | 3.63% | 0.314% |
| 17 | 11.111 | 767 | 772 | 774 | rBV3 | 55409 | 155041 | 3.33% | 0.288% |
| 18 | 11.156 | 774 | 776 | 778 | rVB | 124328 | 132032 | 2.84% | 0.245% |
| 19 | 11.202 | 778 | 780 | 782 | rBV2 | 53613 | 109758 | 2.36% | 0.204% |
| 20 | 11.236 | 782 | 783 | 786 | rVB | 174211 | 218246 | 4.69% | 0.405% |
| 21 | 11.373 | 790 | 795 | 797 | rBV2 | 3245800 | 3825815 | 82.22% | 7.101% |
| 22 | 11.419 | 797 | 799 | 801 | rVB | 750537 | 658788 | 14.16% | 1.223% |
| 23 | 11.453 | 801 | 802 | 805 | rVB | 99970 | 94609 | 2.03% | 0.176% |
| 24 | 11.579 | 810 | 813 | 815 | rBV | 433206 | 496861 | 10.68% | 0.922% |
| 25 | 11.636 | 817 | 818 | 820 | rBV2 | 101730 | 110965 | 2.38% | 0.206% |
| 26 | 11.682 | 820 | 822 | 824 | rVB2 | 91206 | 130940 | 2.81% | 0.243% |
| 27 | 11.762 | 824 | 829 | 831 | rVB2 | 66699 | 129095 | 2.77% | 0.240% |
| 28 | 11.842 | 834 | 836 | 838 | rBV | 381895 | 539704 | 11.60% | 1.002% |
| 29 | 11.876 | 838 | 839 | 841 | rVB | 718842 | 519247 | 11.16% | 0.964% |
| 30 | 11.922 | 841 | 843 | 844 | rBV | 177064 | 158942 | 3.42% | 0.295% |
| 31 | 11.956 | 844 | 846 | 850 | rVB | 898984 | 1213033 | 26.07% | 2.251% |
| 32 | 12.048 | 850 | 854 | 855 | rBV2 | 78727 | 157336 | 3.38% | 0.292% |
| 33 | 12.139 | 860 | 862 | 863 | rVV | 377847 | 347756 | 7.47% | 0.645% |
| 34 | 12.173 | 863 | 865 | 867 | rVB | 454253 | 473713 | 10.18% | 0.879% |

LSC Area Percent Report

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Data File : BF085768.D
Acq On : 25 Mar 2016 18:21
Operator : UM/SJ
Sample : H1855-04 10X
Misc :
ALS Vial : 54 Sample Multiplier: 1

**Instrument :** BNA_F
**ClientSampleId :** SB-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:\HPCHEM1\BNA_F\METHODS\8270-BF032416.M
Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 35 | 12.288 | 872 | 875 | 877 | rBV2 | 114743 | 163679 | 3.52% | 0.304% |
| 36 | 12.322 | 877 | 878 | 882 | rVB | 163889 | 223833 | 4.81% | 0.415% |
| 37 | 12.391 | 882 | 884 | 886 | rBV | 236027 | 377880 | 8.12% | 0.701% |
| 38 | 12.436 | 886 | 888 | 891 | rVB2 | 171962 | 279444 | 6.01% | 0.519% |
| 39 | 12.482 | 891 | 892 | 895 | rBV2 | 243639 | 291610 | 6.27% | 0.541% |
| 40 | 12.562 | 896 | 899 | 901 | rBV | 3278924 | 4576385 | 98.35% | 8.494% |
| 41 | 12.619 | 901 | 904 | 906 | rBV2 | 106461 | 177231 | 3.81% | 0.329% |
| 42 | 12.711 | 908 | 912 | 914 | rBV2 | 183562 | 344463 | 7.40% | 0.639% |
| 43 | 12.791 | 916 | 919 | 922 | rBV | 2994488 | 4653003 | 100.00% | 8.636% |
| 44 | 12.836 | 922 | 923 | 925 | rVB2 | 207525 | 203182 | 4.37% | 0.377% |
| 45 | 12.905 | 927 | 929 | 931 | rBV | 271052 | 304813 | 6.55% | 0.566% |
| 46 | 12.939 | 931 | 932 | 934 | rVB | 202977 | 221842 | 4.77% | 0.412% |
| 47 | 13.008 | 934 | 938 | 939 | rBV2 | 295706 | 491794 | 10.57% | 0.913% |
| 48 | 13.111 | 943 | 947 | 949 | rVB | 656747 | 986129 | 21.19% | 1.830% |
| 49 | 13.179 | 951 | 953 | 954 | rVV | 537593 | 420593 | 9.04% | 0.781% |
| 50 | 13.214 | 954 | 956 | 960 | rVB2 | 418158 | 625835 | 13.45% | 1.162% |
| 51 | 13.271 | 960 | 961 | 963 | rBV2 | 79962 | 97541 | 2.10% | 0.181% |
| 52 | 13.305 | 963 | 964 | 966 | rVV | 204387 | 204613 | 4.40% | 0.380% |
| 53 | 13.339 | 966 | 967 | 969 | rVB | 256442 | 202153 | 4.34% | 0.375% |
| 54 | 13.499 | 978 | 981 | 983 | rBV4 | 83689 | 212412 | 4.57% | 0.394% |
| 55 | 13.534 | 983 | 984 | 985 | rVV | 108269 | 93303 | 2.01% | 0.173% |
| 56 | 13.625 | 988 | 992 | 994 | rBV2 | 304782 | 460791 | 9.90% | 0.855% |
| 57 | 13.728 | 998 | 1001 | 1002 | rBV | 429177 | 506860 | 10.89% | 0.941% |
| 58 | 13.762 | 1002 | 1004 | 1005 | rVV | 319301 | 453238 | 9.74% | 0.841% |
| 59 | 13.785 | 1005 | 1006 | 1009 | rVV3 | 367607 | 558375 | 12.00% | 1.036% |
| 60 | 13.831 | 1009 | 1010 | 1012 | rVV | 421059 | 384567 | 8.26% | 0.714% |
| 61 | 13.865 | 1012 | 1013 | 1014 | rVV | 110759 | 118633 | 2.55% | 0.220% |
| 62 | 13.899 | 1014 | 1016 | 1019 | rVV | 136045 | 221116 | 4.75% | 0.410% |
| 63 | 13.979 | 1019 | 1023 | 1025 | rVV2 | 1929175 | 3562920 | 76.57% | 6.613% |
| 64 | 14.014 | 1025 | 1026 | 1028 | rVV | 2038915 | 1679931 | 36.10% | 3.118% |
| 65 | 14.094 | 1029 | 1033 | 1035 | rVV2 | 304527 | 631890 | 13.58% | 1.173% |
| 66 | 14.128 | 1035 | 1036 | 1039 | rVV2 | 180658 | 384056 | 8.25% | 0.713% |
| 67 | 14.174 | 1039 | 1040 | 1041 | rVV | 187490 | 169451 | 3.64% | 0.315% |
| 68 | 14.208 | 1041 | 1043 | 1045 | rVV2 | 235870 | 373548 | 8.03% | 0.693% |
| 69 | 14.242 | 1045 | 1046 | 1047 | rVV | 113104 | 97051 | 2.09% | 0.180% |
| 70 | 14.334 | 1049 | 1054 | 1055 | rVV3 | 135671 | 357726 | 7.69% | 0.664% |
| 71 | 14.368 | 1055 | 1057 | 1059 | rVV | 443214 | 571306 | 12.28% | 1.060% |

LSC Area Percent Report

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Operator : UM/SJ
Sample : H1855-04 10X
Misc :
ALS Vial : 54 Sample Multiplier: 1

**Instrument :** BNA_F
**ClientSampleId :** SB-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:\HPCHEM1\BNA_F\METHODS\8270-BF032416.M
Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | 14.402 | 1059 | 1060 | 1062 | rVV2 | 240694 | 320555 | 6.89% | 0.595% |
| 73 | 14.459 | 1062 | 1065 | 1067 | rVV3 | 190487 | 497479 | 10.69% | 0.923% |
| 74 | 14.494 | 1067 | 1068 | 1071 | rVV2 | 301364 | 539655 | 11.60% | 1.002% |
| 75 | 14.562 | 1071 | 1074 | 1077 | rVB3 | 143211 | 260614 | 5.60% | 0.484% |
| 76 | 14.677 | 1082 | 1084 | 1085 | rVV2 | 152292 | 194498 | 4.18% | 0.361% |
| 77 | 14.745 | 1089 | 1090 | 1092 | rVV2 | 90936 | 119787 | 2.57% | 0.222% |
| 78 | 14.848 | 1096 | 1099 | 1103 | rVV | 144408 | 232298 | 4.99% | 0.431% |
| 79 | 15.008 | 1110 | 1113 | 1117 | rBV | 1593893 | 3284122 | 70.58% | 6.096% |
| 80 | 15.065 | 1117 | 1118 | 1120 | rVV2 | 127985 | 150775 | 3.24% | 0.280% |
| 81 | 15.099 | 1120 | 1121 | 1123 | rVV | 282794 | 325885 | 7.00% | 0.605% |
| 82 | 15.202 | 1127 | 1130 | 1132 | rVV2 | 70485 | 194753 | 4.19% | 0.361% |
| 83 | 15.294 | 1135 | 1138 | 1141 | rVV | 939415 | 1254199 | 26.95% | 2.328% |
| 84 | 15.351 | 1141 | 1143 | 1145 | rVV | 1293785 | 1602753 | 34.45% | 2.975% |
| 85 | 15.408 | 1145 | 1148 | 1149 | rVV | 447153 | 569309 | 12.24% | 1.057% |
| 86 | 15.431 | 1149 | 1150 | 1154 | rVB2 | 323611 | 492949 | 10.59% | 0.915% |
| 87 | 15.614 | 1164 | 1166 | 1169 | rVB3 | 98987 | 181151 | 3.89% | 0.336% |
| 88 | 15.831 | 1182 | 1185 | 1186 | rBV2 | 77776 | 135091 | 2.90% | 0.251% |
| 89 | 15.934 | 1192 | 1194 | 1197 | rVB | 92003 | 115794 | 2.49% | 0.215% |
| 90 | 16.380 | 1230 | 1233 | 1236 | rBV3 | 33625 | 87178 | 1.87% | 0.162% |
| 91 | 16.608 | 1250 | 1253 | 1254 | rBV2 | 73472 | 124566 | 2.68% | 0.231% |
| 92 | 16.802 | 1266 | 1270 | 1273 | rVB | 524172 | 1030247 | 22.14% | 1.912% |
| 93 | 16.860 | 1273 | 1275 | 1280 | rVB2 | 62242 | 147787 | 3.18% | 0.274% |
| 94 | 16.951 | 1280 | 1283 | 1286 | rBV2 | 93569 | 208194 | 4.47% | 0.386% |
| 95 | 17.008 | 1286 | 1288 | 1291 | rBV2 | 85258 | 148297 | 3.19% | 0.275% |
| 96 | 17.214 | 1302 | 1306 | 1312 | rBV | 409076 | 926298 | 19.91% | 1.719% |
| 97 | 17.431 | 1322 | 1325 | 1334 | rVB2 | 119462 | 317802 | 6.83% | 0.590% |
| 98 | 18.094 | 1379 | 1383 | 1390 | rBV8 | 31085 | 134789 | 2.90% | 0.250% |
| 99 | 19.340 | 1486 | 1492 | 1501 | rBV3 | 100073 | 383001 | 8.23% | 0.711% |
| 100 | 19.511 | 1503 | 1507 | 1510 | rBV | 49258 | 137446 | 2.95% | 0.255% |

Sum of corrected areas: 53877068

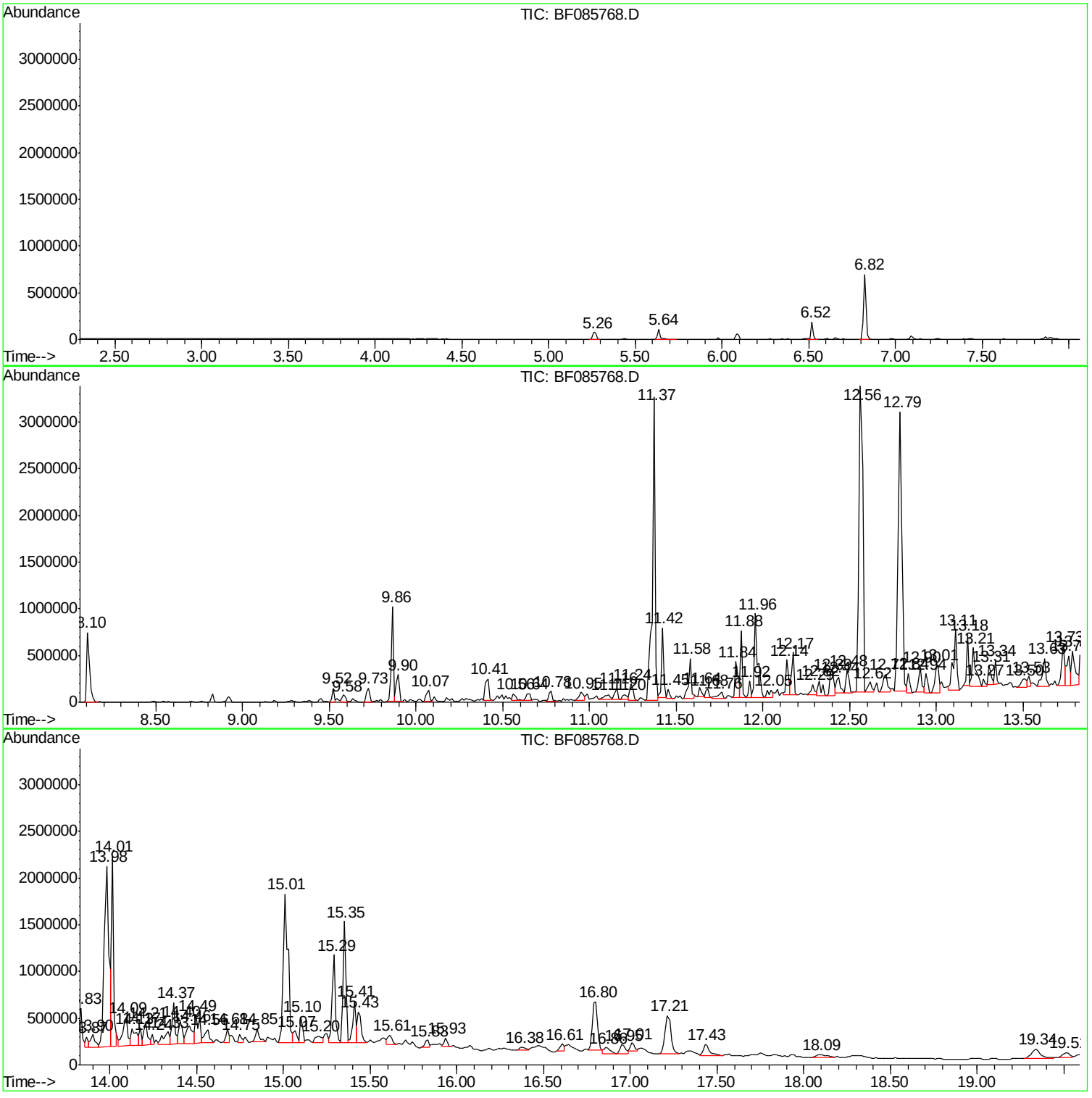
LSC Report - Integrated Chromatogram

Data Path : Z:\HPCHEM1\BNA F\DATA\BF032516\
Data File : BF085768.D
Acq On : 25 Mar 2016 18:21
Operator : UM/SJ
Sample : H1855-04 10X
Misc :
ALS Vial : 54 Sample Multiplier: 1

**Instrument :** BNA_F
**ClientSampleId :** SB-2

Quant Method : Z:\HPCHEM1\BNA_F\METHODS\8270-BF032416.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P



Data Path : Z:\HPCHEM1\BNA F\DATA\BF032516\
Data File : BF085768.D
Acq On : 25 Mar 2016 18:21
Operator : UM/SJ
Sample : H1855-04 10X
Misc :
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**Instrument :** BNA_F
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Quant Method : Z:\HPCHEM1\BNA_F\METHODS\8270-BF032416.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

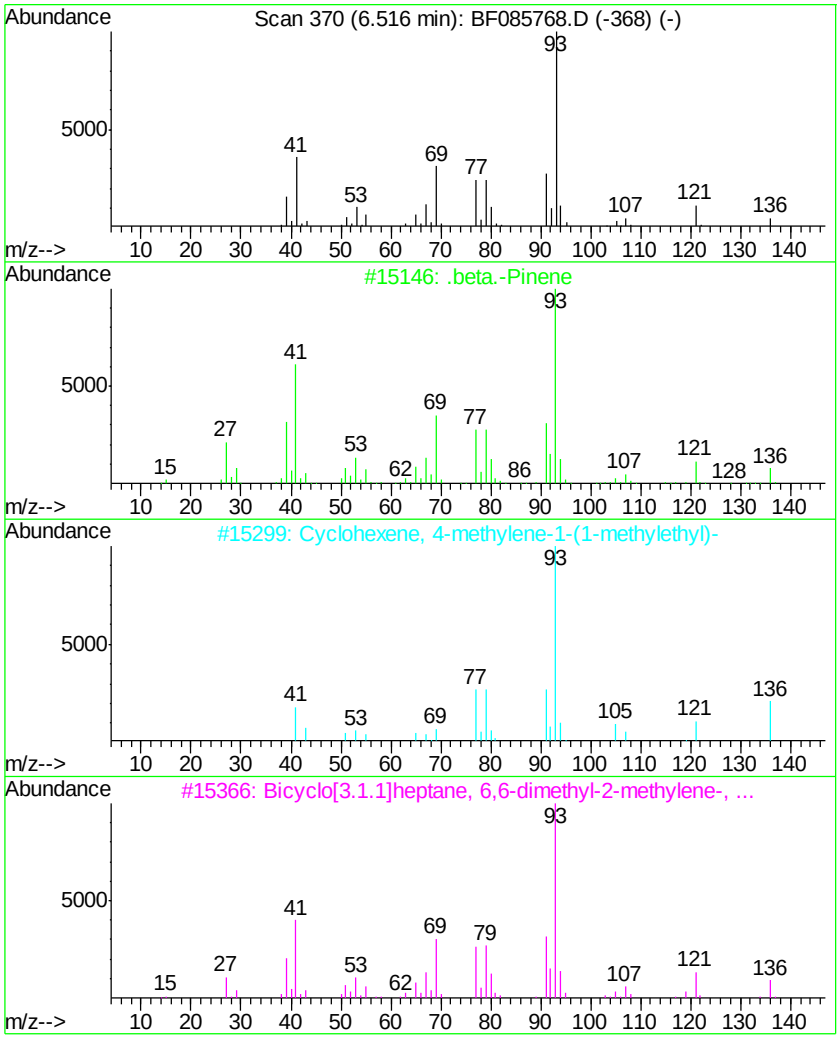
TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

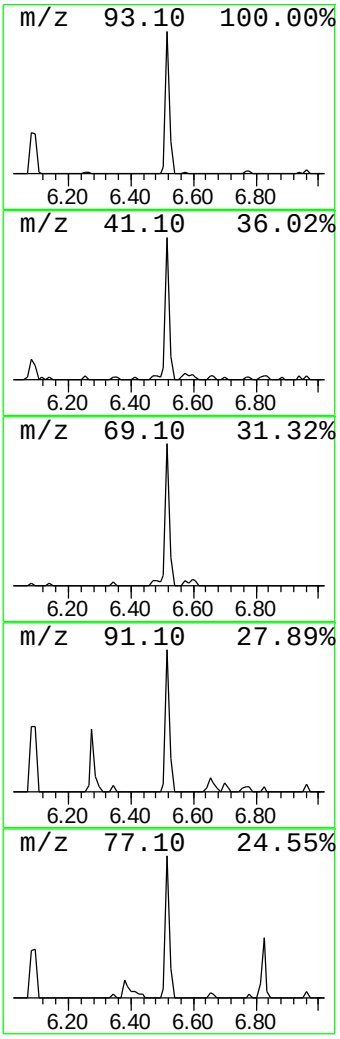
**********

Peak Number 2 .beta.-Pinene Concentration Rank 11

| R.T. | EstConc | Area | Relative to ISTD | R.T. |
|---|---|---|---|---|
| 6.52 | 5.33 ng | 166584 | 1,4-Dichlorobenzene-d4 | 6.82 |

| Hit# of 5 | Tentative ID | MW | MolForm | CAS# | Qual |
|---|---|---|---|---|---|
| 1 | .beta.-Pinene | 136 | C10H16 | 000127-91-3 | 93 |
| 2 | Cyclohexene, 4-methylene-1-(1-me... | 136 | C10H16 | 000099-84-3 | 91 |
| 3 | Bicyclo[3.1.1]heptane, 6,6-dimet... | 136 | C10H16 | 018172-67-3 | 91 |
| 4 | Tricyclo[2.2.1.0(2,6)]heptane, 1... | 136 | C10H16 | 000508-32-7 | 91 |
| 5 | Bicyclo[3.1.0]hexane, 4-methylen... | 136 | C10H16 | 003387-41-5 | 86 |



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Data File : BF085768.D
Acq On : 25 Mar 2016 18:21
Operator : UM/SJ
Sample : H1855-04 10X
Misc :
ALS Vial : 54 Sample Multiplier: 1

**Instrument :** BNA_F
**ClientSampleId :** SB-2

Quant Method : Z:\HPCHEM1\BNA_F\METHODS\8270-BF032416.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

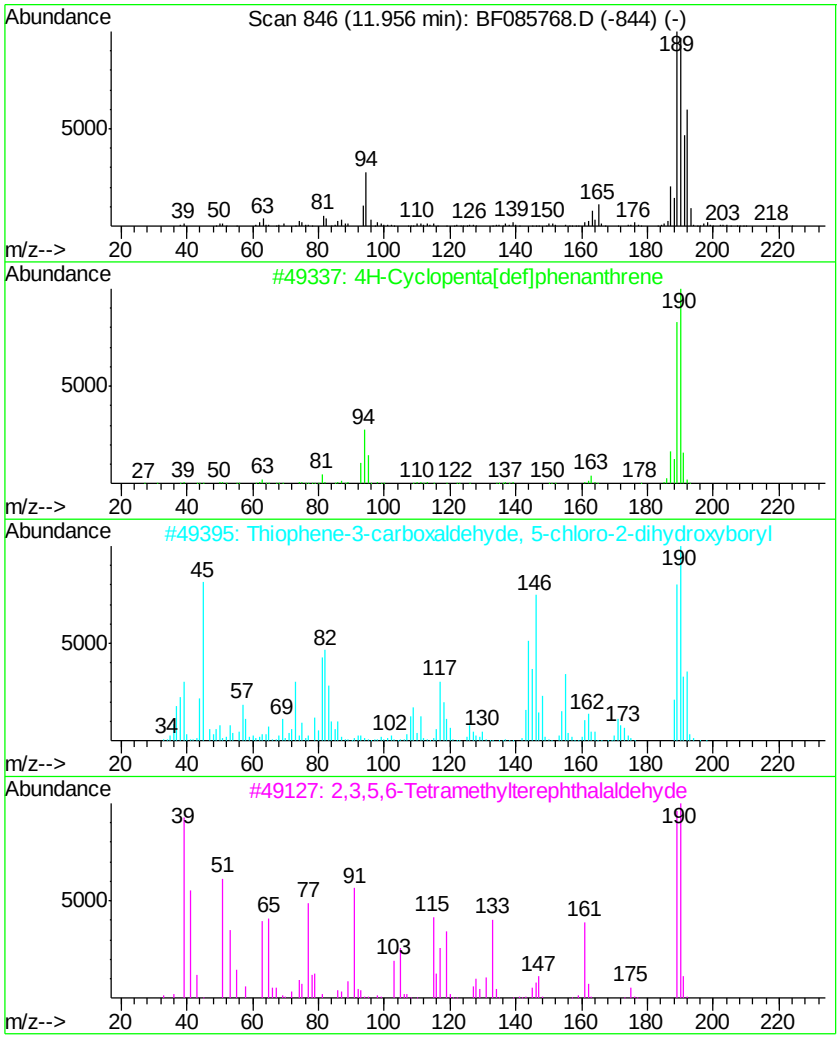
TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

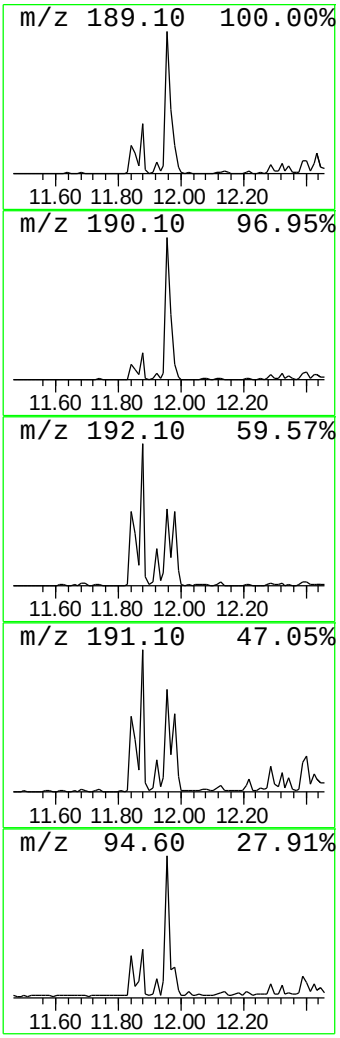
**********

Peak Number 3 4H-Cyclopenta[def]phenanthrene Concentration Rank 9

| R.T. | EstConc | Area | Relative to ISTD | R.T. |
|---|---|---|---|---|
| 11.96 | 6.34 ng | 1213030 | Phenanthrene-d10 | 11.35 |

| Hit# of 5 | Tentative ID | MW | MolForm | CAS# | Qual |
|---|---|---|---|---|---|
| 1 | 4H-Cyclopenta[def]phenanthrene | 190 | C15H10 | 000203-64-5 | 92 |
| 2 | Thiophene-3-carboxaldehyde, 5-ch... | 190 | C5H4BClO3S | 036155-87-0 | 50 |
| 3 | 2,3,5,6-Tetramethylterephthalald... | 190 | C12H14O2 | 007072-01-7 | 38 |
| 4 | 1H-Indene, 2-phenyl- | 192 | C15H12 | 004505-48-0 | 30 |
| 5 | Phenanthrene, 4-methyl- | 192 | C15H12 | 000832-64-4 | 25 |



Data Path : Z:\HPCHEM1\BNA F\DATA\BF032516\
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Operator : UM/SJ
Sample : H1855-04 10X
Misc :
ALS Vial : 54 Sample Multiplier: 1

**Instrument :** BNA_F
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Quant Method : Z:\HPCHEM1\BNA_F\METHODS\8270-BF032416.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

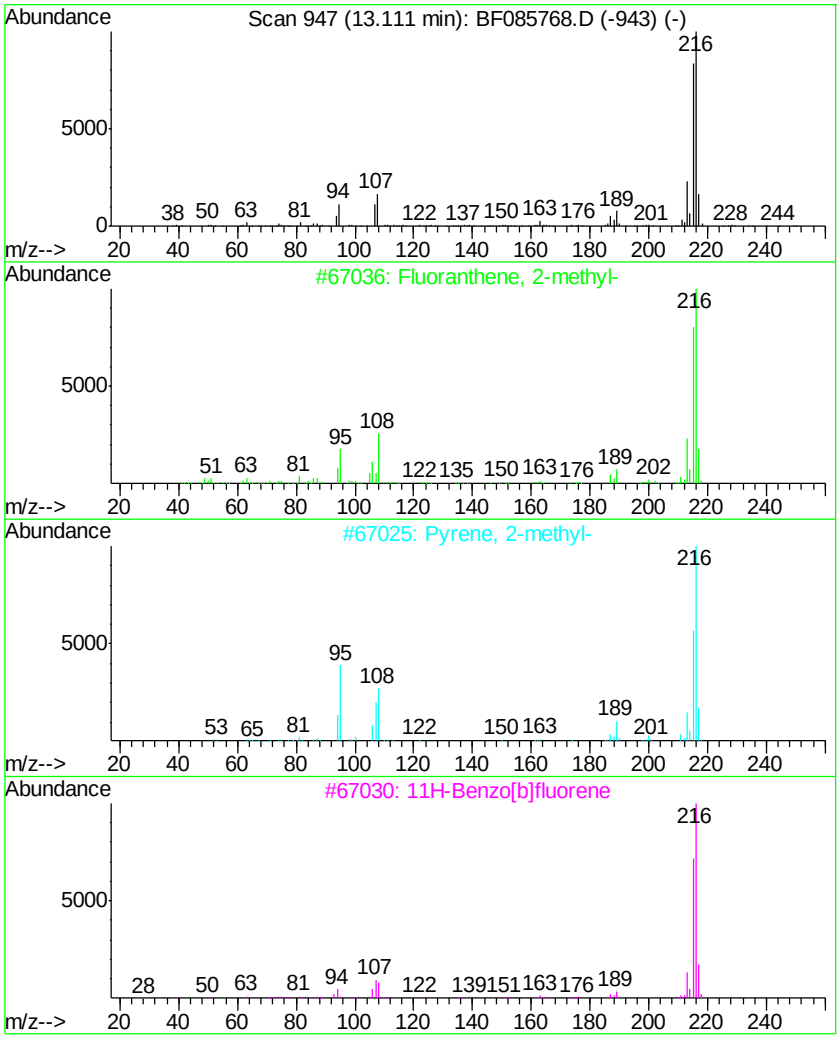
TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

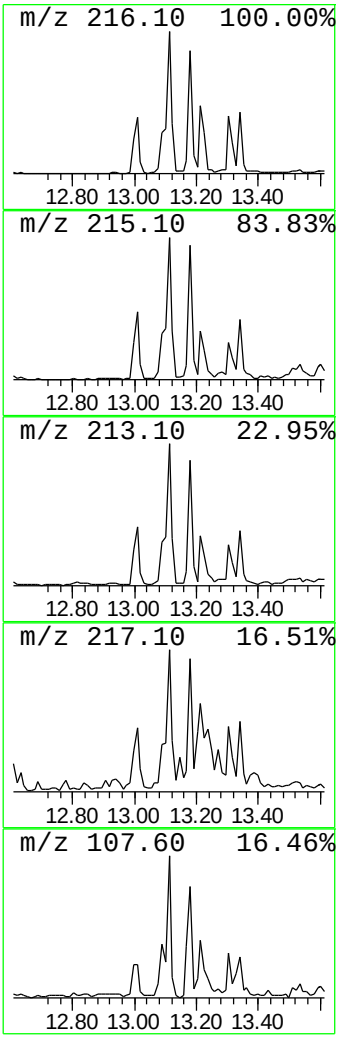
**********

Peak Number 4 Fluoranthene, 2-methyl- Concentration Rank 10

| R.T. | EstConc | Area | Relative to ISTD | R.T. |
|---|---|---|---|---|
| 13.11 | 5.54 ng | 986129 | Chrysene-d12 | 13.99 |

| Hit# of 5 | Tentative ID | MW | MolForm | CAS# | Qual |
|---|---|---|---|---|---|
| 1 | Fluoranthene, 2-methyl- | 216 | C17H12 | 033543-31-6 | 95 |
| 2 | Pyrene, 2-methyl- | 216 | C17H12 | 003442-78-2 | 95 |
| 3 | 11H-Benzo[b]fluorene | 216 | C17H12 | 000243-17-4 | 94 |
| 4 | 11H-Benzo[a]fluorene | 216 | C17H12 | 000238-84-6 | 91 |
| 5 | Pyrene, 1-methyl- | 216 | C17H12 | 002381-21-7 | 81 |



Data Path : Z:\HPCHEM1\BNA F\DATA\BF032516\
Data File : BF085768.D
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Sample : H1855-04 10X
Misc :
ALS Vial : 54 Sample Multiplier: 1

**Instrument :** BNA_F
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Quant Method : Z:\HPCHEM1\BNA_F\METHODS\8270-BF032416.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

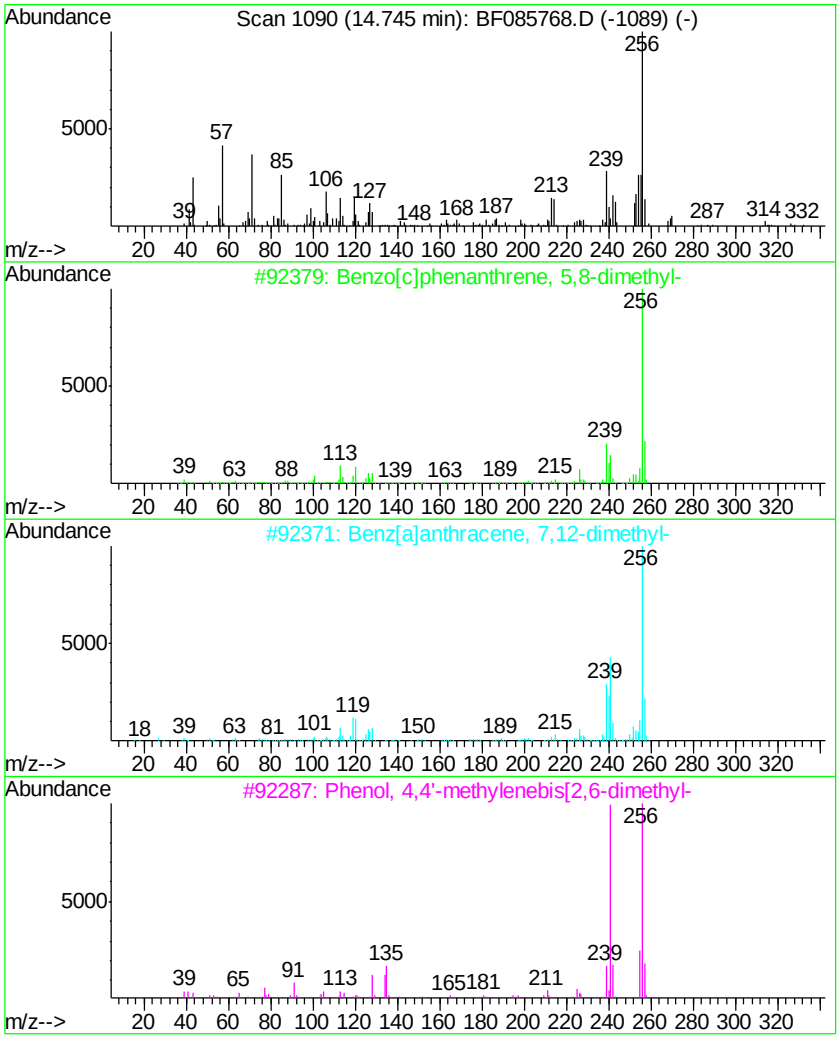
TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

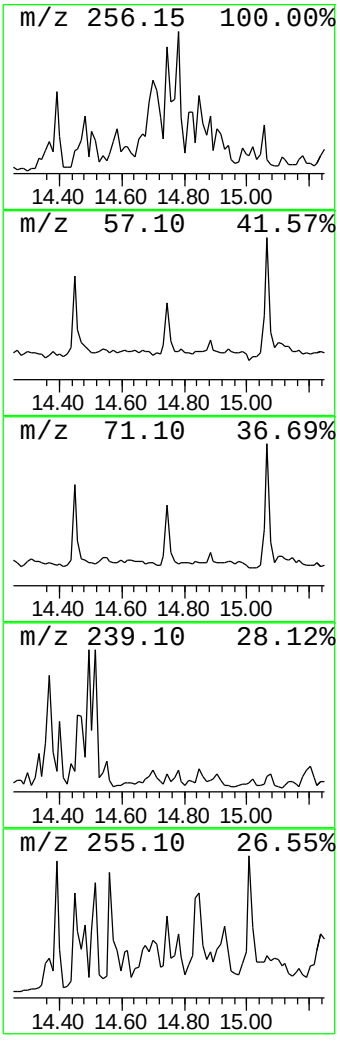
**********

Peak Number 5 Benzo[c]phenanthrene, 5,8-d... Concentration Rank 18

| R.T. | EstConc | Area | Relative to ISTD | R.T. |
|---|---|---|---|---|
| 14.75 | 4.21 ng | 119787 | Perylene-d12 | 15.41 |

| Hit# of 5 | Tentative ID | MW | MolForm | CAS# | Qual |
|---|---|---|---|---|---|
| 1 | Benzo[c]phenanthrene, 5,8-dimethyl- | 256 | C20H16 | 054986-63-9 | 53 |
| 2 | Benz[a]anthracene, 7,12-dimethyl- | 256 | C20H16 | 000057-97-6 | 49 |
| 3 | Phenol, 4,4'-methylenebis[2,6-di... | 256 | C17H20O2 | 005384-21-4 | 47 |
| 4 | 2,4-Diamino-5-methyl-6-phenylthi... | 256 | C13H12N4S | 042160-11-2 | 46 |
| 5 | 2,2'-Biquinoline | 256 | C18H12N2 | 000119-91-5 | 38 |



Data Path : Z:\HPCHEM1\BNA F\DATA\BF032516\
Data File : BF085768.D
Acq On : 25 Mar 2016 18:21
Operator : UM/SJ
Sample : H1855-04 10X
Misc :
ALS Vial : 54 Sample Multiplier: 1

**Instrument :** BNA_F
**ClientSampleId :** SB-2

Quant Method : Z:\HPCHEM1\BNA_F\METHODS\8270-BF032416.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

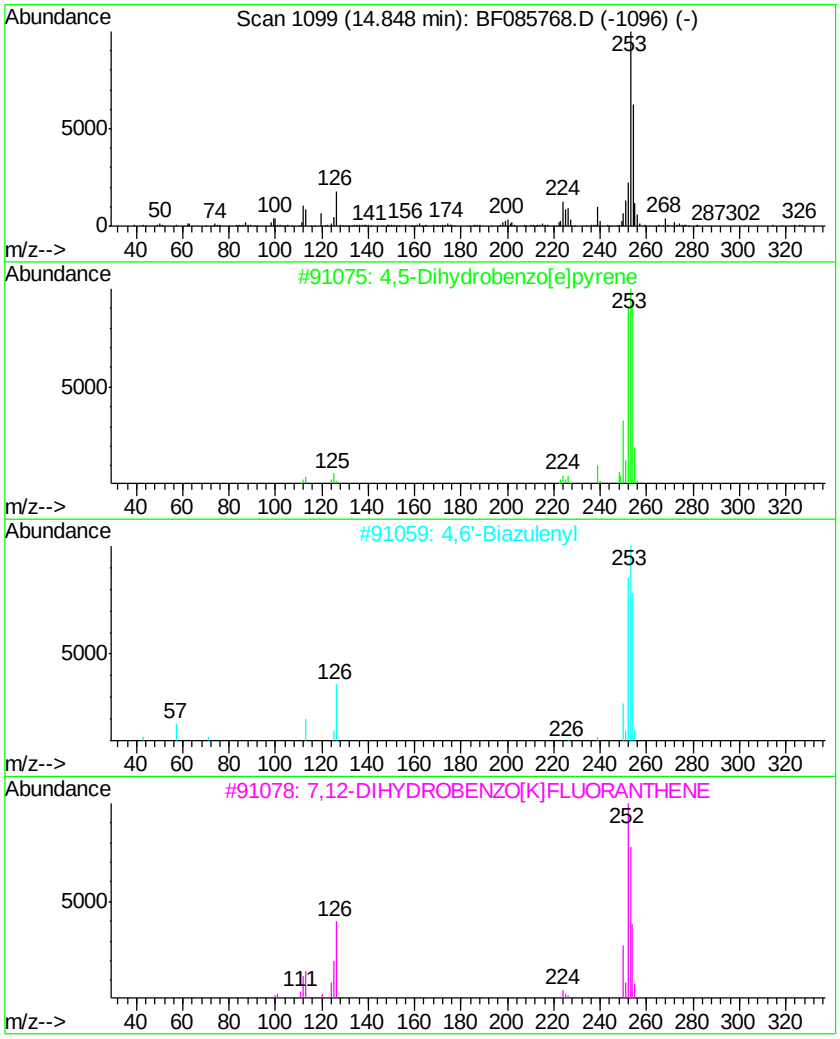
TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

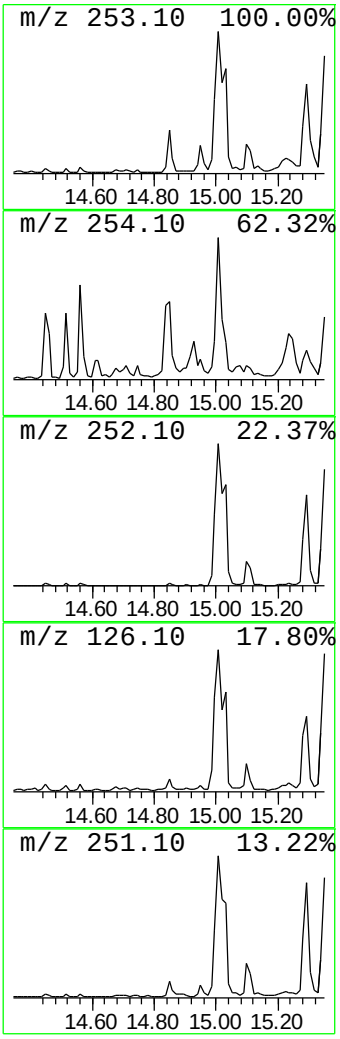
**********

Peak Number 6 4,5-Dihydrobenzo[e]pyrene Concentration Rank 5

| R.T. | EstConc | Area | Relative to ISTD | R.T. |
|---|---|---|---|---|
| 14.85 | 8.16 ng | 232298 | Perylene-d12 | 15.41 |

| Hit# of 5 | Tentative ID | MW | MolForm | CAS# | Qual |
|---|---|---|---|---|---|
| 1 | 4,5-Dihydrobenzo[e]pyrene | 254 | C20H14 | 095676-42-9 | 81 |
| 2 | 4,6'-Biazulenyl | 254 | C20H14 | 094154-49-1 | 72 |
| 3 | 7,12-DIHYDROBENZO[K]FLUORANTHENE | 254 | C20H14 | 1000080-17-7 | 64 |
| 4 | 4,4'-Biazulenyl | 254 | C20H14 | 094053-54-0 | 47 |
| 5 | 9,10[1',2']-Benzenoanthracene, 9... | 254 | C20H14 | 000477-75-8 | 47 |



Data Path : Z:\HPCHEM1\BNA F\DATA\BF032516\
Data File : BF085768.D
Acq On : 25 Mar 2016 18:21
Operator : UM/SJ
Sample : H1855-04 10X
Misc :
ALS Vial : 54 Sample Multiplier: 1

**Instrument :** BNA_F
**ClientSampleId :** SB-2

Quant Method : Z:\HPCHEM1\BNA_F\METHODS\8270-BF032416.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

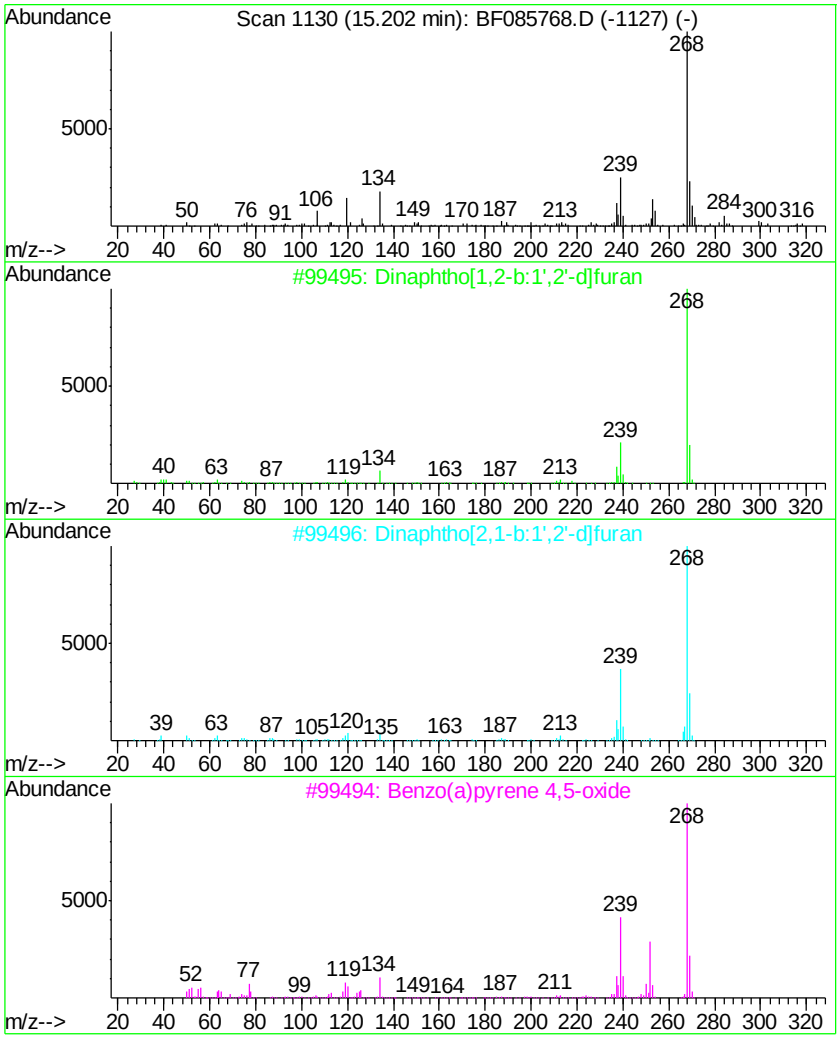
TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

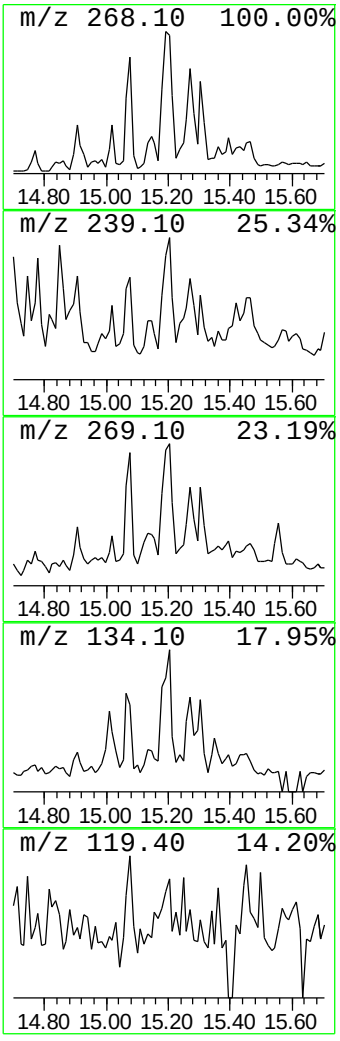
**********

Peak Number 8 Dinaphtho[1,2-b:1',2'-d]furan Concentration Rank 7

| R.T. | EstConc | Area | Relative to ISTD | R.T. |
|---|---|---|---|---|
| 15.20 | 6.84 ng | 194753 | Perylene-d12 | 15.41 |

| Hit# of 5 | Tentative ID | MW | MolForm | CAS# | Qual |
|---|---|---|---|---|---|
| 1 | Dinaphtho[1,2-b:1',2'-d]furan | 268 | C20H12O | 000207-93-2 | 93 |
| 2 | Dinaphtho[2,1-b:1',2'-d]furan | 268 | C20H12O | 000194-63-8 | 81 |
| 3 | Benzo(a)pyrene 4,5-oxide | 268 | C20H12O | 037574-47-3 | 72 |
| 4 | 4H-1-Benzopyran-4-one, 5-hydroxy... | 268 | C16H12O4 | 000520-28-5 | 59 |
| 5 | trans-4'-Methyl-4-(methylthio)ch... | 268 | C17H16OS | 126443-27-4 | 58 |



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Acq On : 25 Mar 2016 18:21
Operator : UM/SJ
Sample : H1855-04 10X
Misc :
ALS Vial : 54 Sample Multiplier: 1

**Instrument :** BNA_F
**ClientSampleId :** SB-2

Quant Method : Z:\HPCHEM1\BNA_F\METHODS\8270-BF032416.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

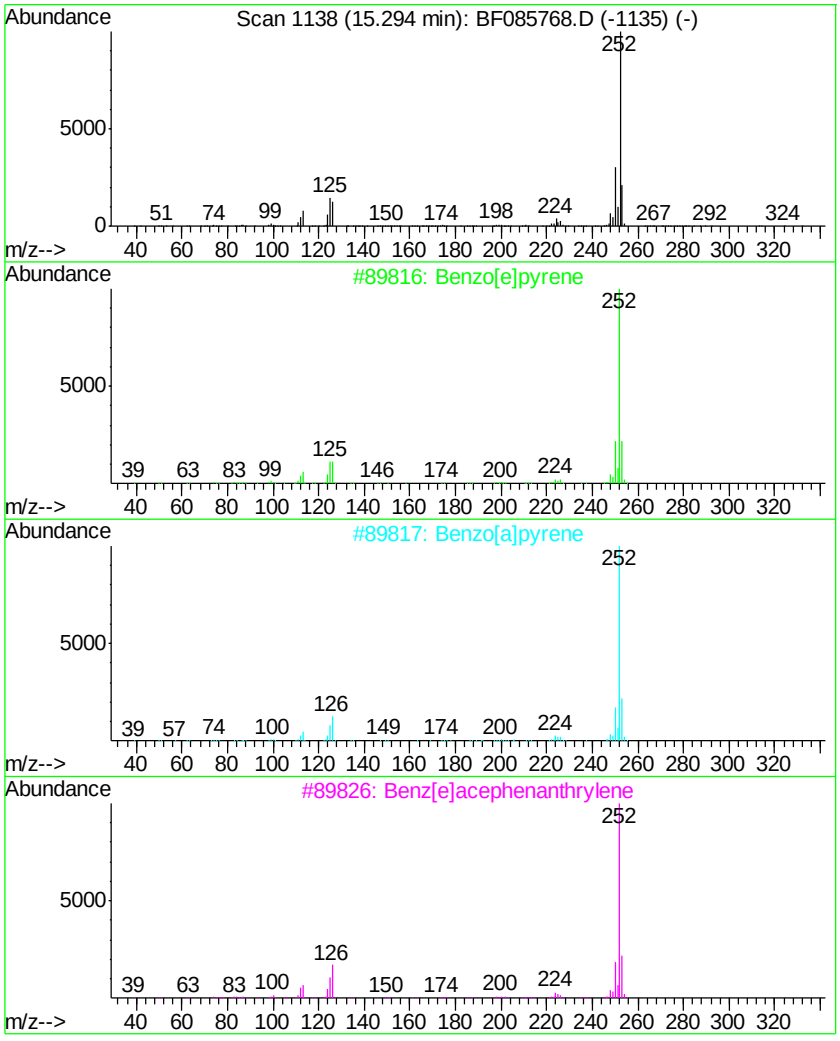
TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

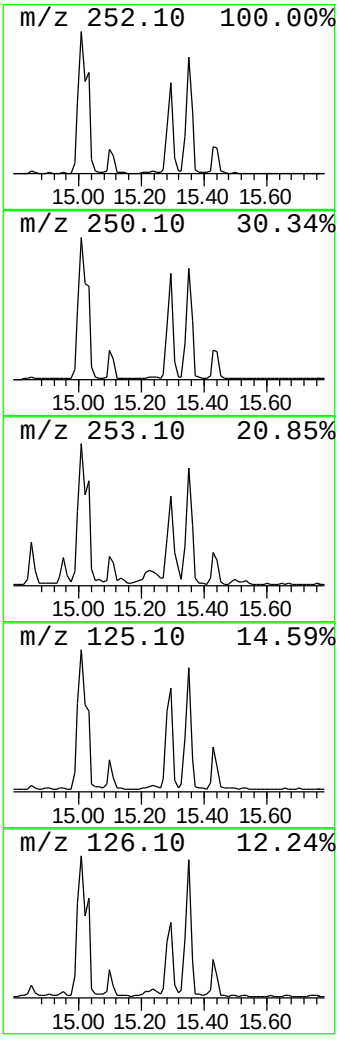
**********

Peak Number 9 Benzo[e]pyrene Concentration Rank 1

| R.T. | EstConc | Area | Relative to ISTD | R.T. |
|---|---|---|---|---|
| 15.29 | 44.06 ng | 1254200 | Perylene-d12 | 15.41 |

| Hit# of 5 | Tentative ID | MW | MolForm | CAS# | Qual |
|---|---|---|---|---|---|
| 1 | Benzo[e]pyrene | 252 | C20H12 | 000192-97-2 | 94 |
| 2 | Benzo[a]pyrene | 252 | C20H12 | 000050-32-8 | 94 |
| 3 | Benz[e]acephenanthrylene | 252 | C20H12 | 000205-99-2 | 91 |
| 4 | Benzo[j]fluoranthene | 252 | C20H12 | 000205-82-3 | 90 |
| 5 | Perylene | 252 | C20H12 | 000198-55-0 | 90 |



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Data File : BF085768.D
Acq On : 25 Mar 2016 18:21
Operator : UM/SJ
Sample : H1855-04 10X
Misc :
ALS Vial : 54 Sample Multiplier: 1

**Instrument :** BNA_F
**ClientSampleId :** SB-2

Quant Method : Z:\HPCHEM1\BNA_F\METHODS\8270-BF032416.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

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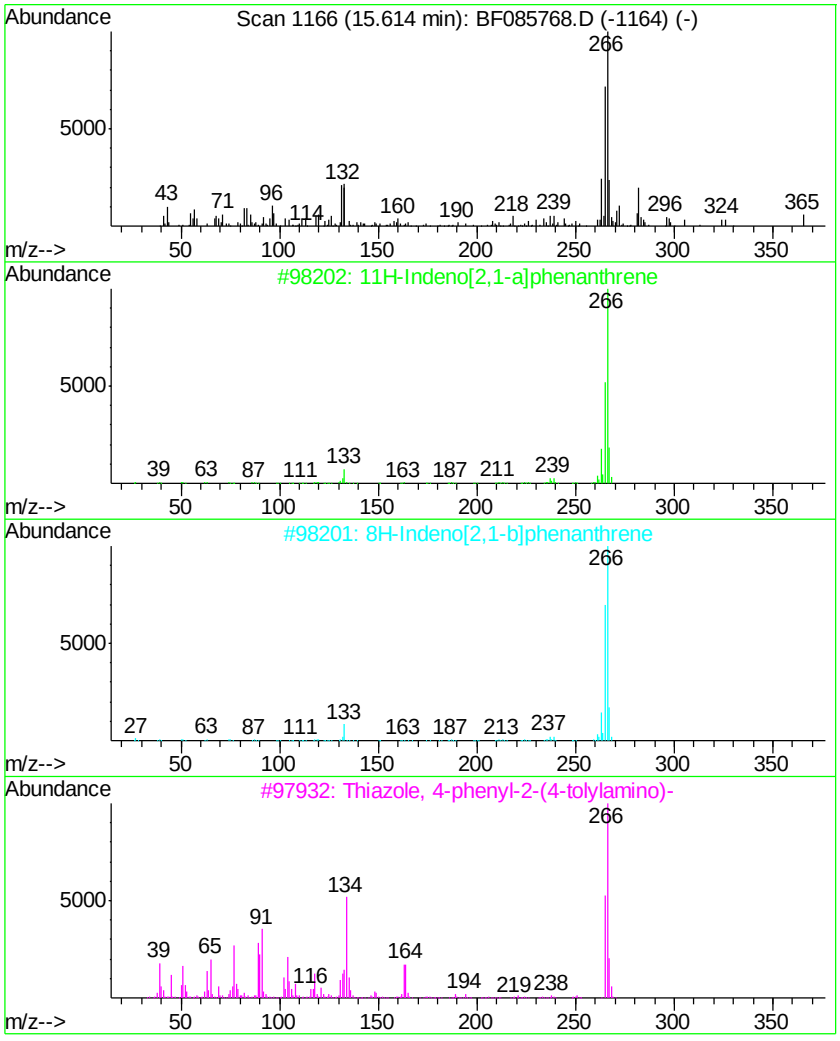
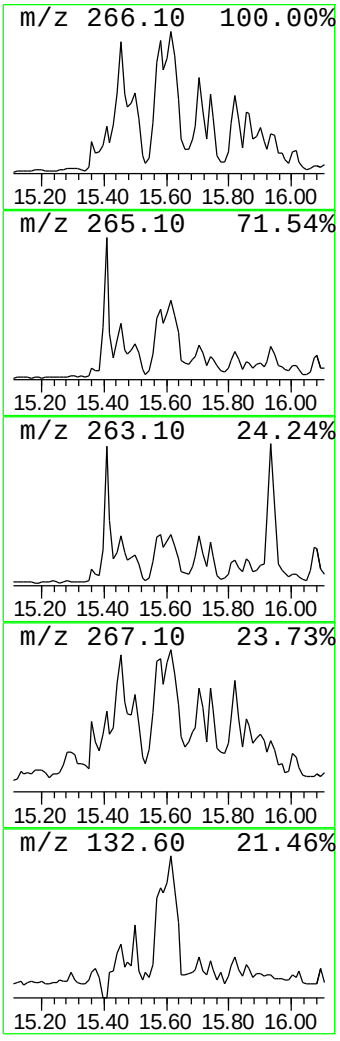
Peak Number 10 11H-Indeno[2,1-a]phenanthrene Concentration Rank 8

| R.T. | EstConc | Area | Relative to ISTD | R.T. |
|---|---|---|---|---|
| 15.61 | 6.36 ng | 181151 | Perylene-d12 | 15.41 |

| Hit# of 5 | Tentative ID | MW | MolForm | CAS# | Qual |
|---|---|---|---|---|---|
| 1 | 11H-Indeno[2,1-a]phenanthrene | 266 | C21H14 | 000220-97-3 | 55 |
| 2 | 8H-Indeno[2,1-b]phenanthrene | 266 | C21H14 | 000241-28-1 | 49 |
| 3 | Thiazole, 4-phenyl-2-(4-tolylami... | 266 | C16H14N2S | 016098-04-7 | 46 |
| 4 | 13H-Dibenzo[a,h]fluorene | 266 | C21H14 | 000239-85-0 | 46 |
| 5 | Perylene, 3-methyl- | 266 | C21H14 | 024471-47-4 | 43 |



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Acq On : 25 Mar 2016 18:21
Operator : UM/SJ
Sample : H1855-04 10X
Misc :
ALS Vial : 54 Sample Multiplier: 1

**Instrument :** BNA_F
**ClientSampleId :** SB-2

Quant Method : Z:\HPCHEM1\BNA_F\METHODS\8270-BF032416.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

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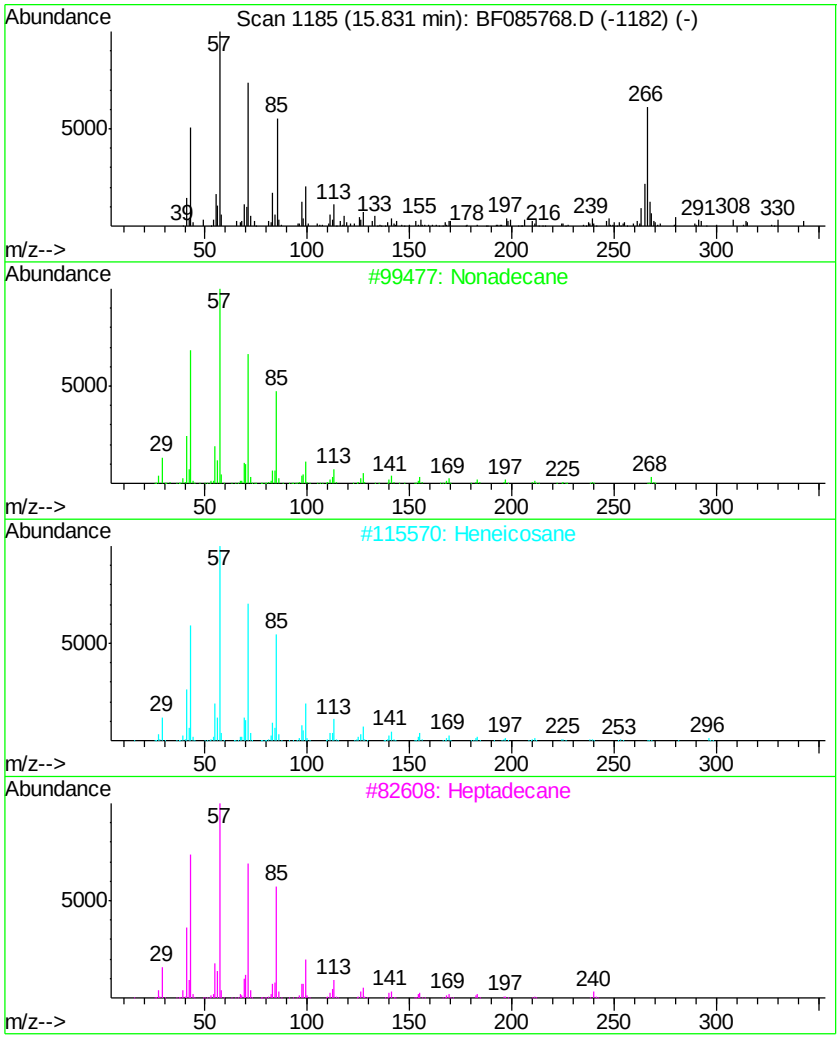
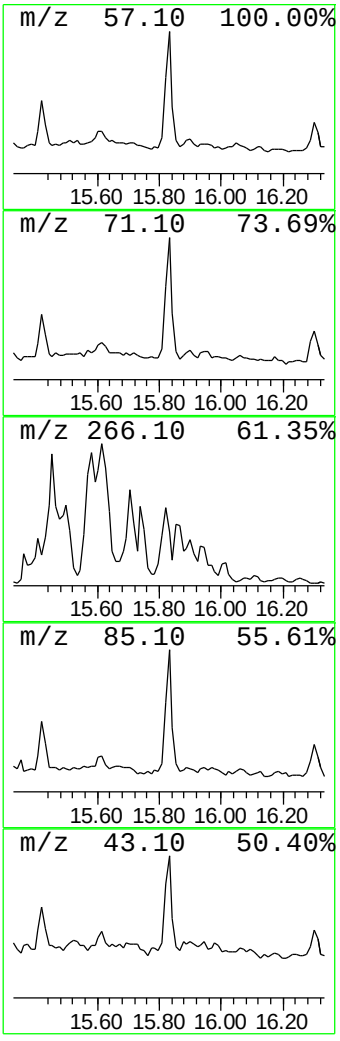
Peak Number 11 Nonadecane Concentration Rank 15

| R.T. | EstConc | Area | Relative to ISTD | R.T. |
|---|---|---|---|---|
| 15.83 | 4.75 ng | 135091 | Perylene-d12 | 15.41 |

| Hit# of 5 | Tentative ID | MW | MolForm | CAS# | Qual |
|---|---|---|---|---|---|
| 1 | Nonadecane | 268 | C19H40 | 000629-92-5 | 70 |
| 2 | Heneicosane | 296 | C21H44 | 000629-94-7 | 60 |
| 3 | Heptadecane | 240 | C17H36 | 000629-78-7 | 53 |
| 4 | Tetracosane | 338 | C24H50 | 000646-31-1 | 49 |
| 5 | Tridecane, 6-propyl- | 226 | C16H34 | 055045-10-8 | 49 |



Data Path : Z:\HPCHEM1\BNA F\DATA\BF032516\
Data File : BF085768.D
Acq On : 25 Mar 2016 18:21
Operator : UM/SJ
Sample : H1855-04 10X
Misc :
ALS Vial : 54 Sample Multiplier: 1

**Instrument :** BNA_F
**ClientSampleId :** SB-2

Quant Method : Z:\HPCHEM1\BNA_F\METHODS\8270-BF032416.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

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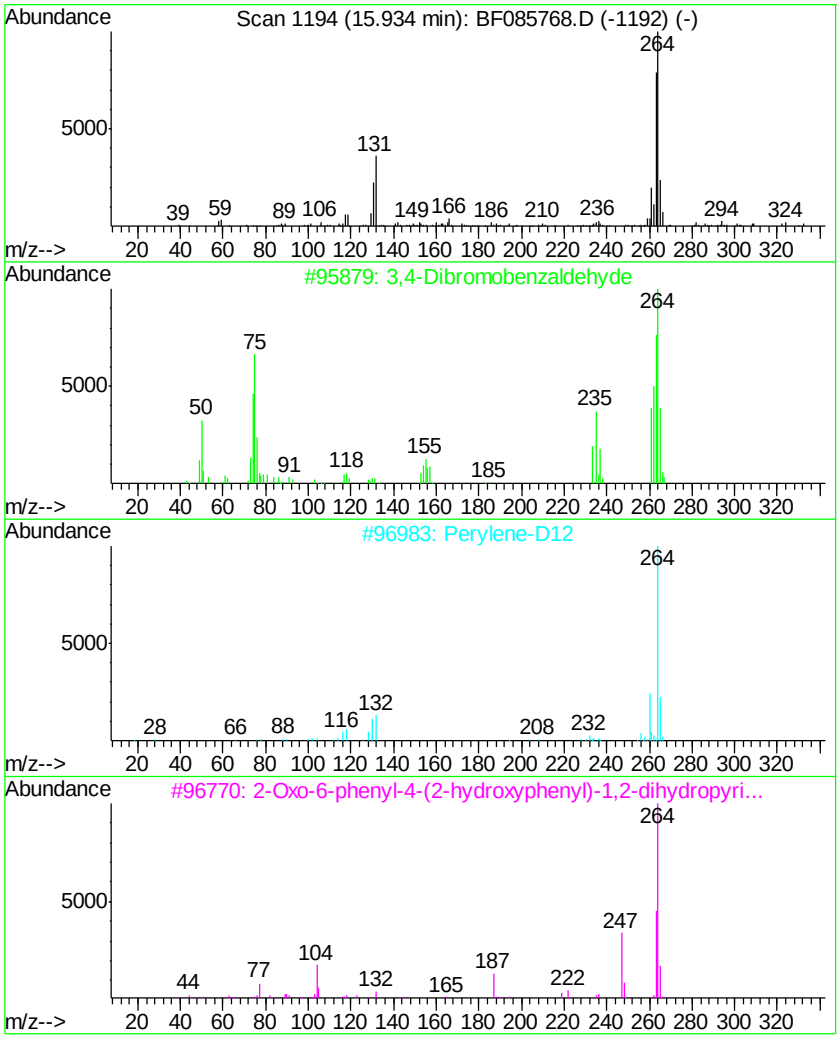
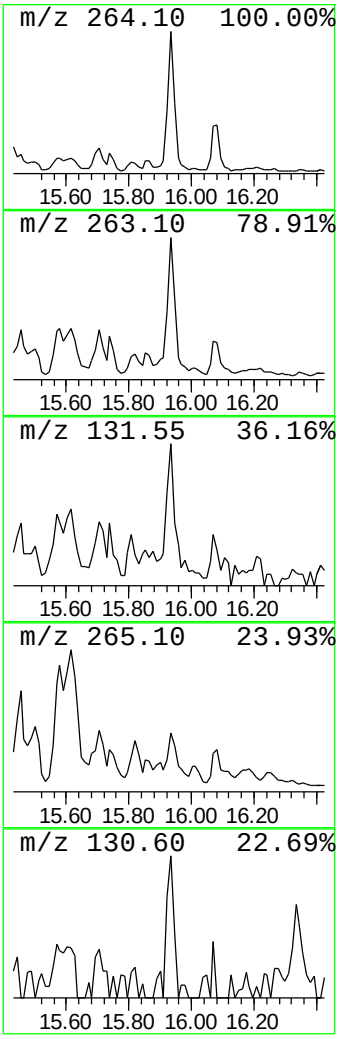
Peak Number 12 3,4-Dibromobenzaldehyde Concentration Rank 19

| R.T. | EstConc | Area | Relative to ISTD | R.T. |
|---|---|---|---|---|
| 15.93 | 4.07 ng | 115794 | Perylene-d12 | 15.41 |

| Hit# of 5 | Tentative ID | MW | MolForm | CAS# | Qual |
|---|---|---|---|---|---|
| 1 | 3,4-Dibromobenzaldehyde | 262 | C7H4Br2O | 074003-55-7 | 64 |
| 2 | Perylene-D12 | 264 | C20D12 | 001520-96-3 | 35 |
| 3 | 2-Oxo-6-phenyl-4-(2-hydroxyphenyl... | 264 | C16H12N2O2 | 017432-82-5 | 27 |
| 4 | 6-Oxo-5-phenyl-2,3,5,6-tetrahydr... | 263 | C16H13N3O | 087365-22-8 | 27 |
| 5 | Phenothiazine, 2-chloro-8-methoxy- | 263 | C13H10ClNOS | 017800-09-8 | 25 |



Library Search Compound Report

Data Path : Z:\HPCHEM1\BNA F\DATA\BF032516\
Data File : BF085768.D
Acq On : 25 Mar 2016 18:21
Operator : UM/SJ
Sample : H1855-04 10X
Misc :
ALS Vial : 54 Sample Multiplier: 1

**Instrument :** BNA_F
**ClientSampleId :** SB-2

Quant Method : Z:\HPCHEM1\BNA_F\METHODS\8270-BF032416.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

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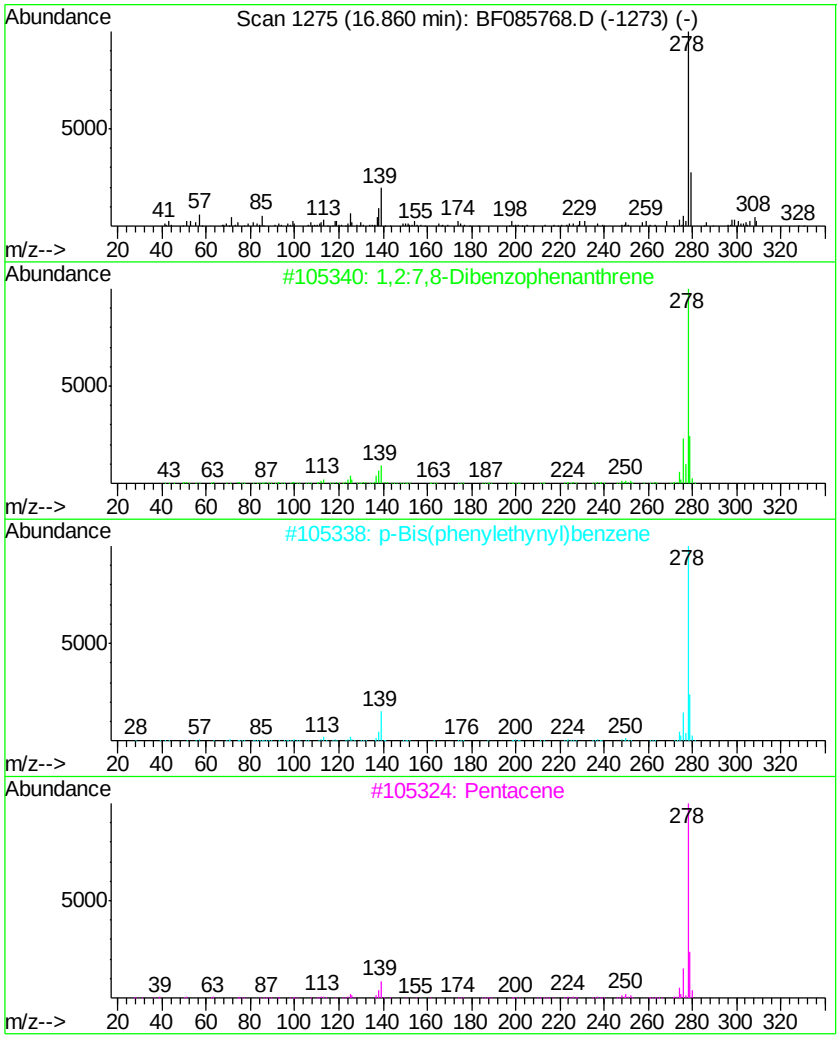
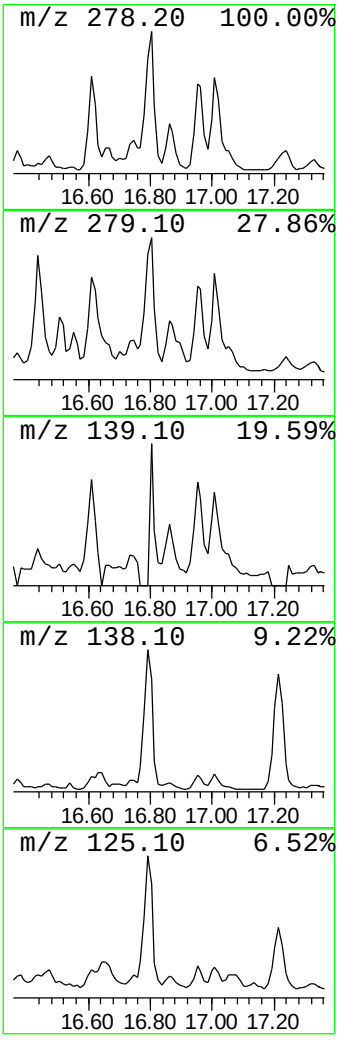
Peak Number 14 1,2:7,8-Dibenzophenanthrene Concentration Rank 13

| R.T. | EstConc | Area | Relative to ISTD | R.T. |
|---|---|---|---|---|
| 16.86 | 5.19 ng | 147787 | Perylene-d12 | 15.41 |

| Hit# of 5 | Tentative ID | MW | MolForm | CAS# | Qual |
|---|---|---|---|---|---|
| 1 | 1,2:7,8-Dibenzophenanthrene | 278 | C22H14 | 000213-46-7 | 89 |
| 2 | p-Bis(phenylethynyl)benzene | 278 | C22H14 | 001849-27-0 | 87 |
| 3 | Pentacene | 278 | C22H14 | 000135-48-8 | 87 |
| 4 | Dibenz[a,h]anthracene | 278 | C22H14 | 000053-70-3 | 76 |
| 5 | Dibenzo-1,2,7,8-anthracene | 278 | C22H14 | 000224-41-9 | 72 |



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Data File : BF085768.D
Acq On : 25 Mar 2016 18:21
Operator : UM/SJ
Sample : H1855-04 10X
Misc :
ALS Vial : 54 Sample Multiplier: 1

**Instrument :** BNA_F
**ClientSampleId :** SB-2

Quant Method : Z:\HPCHEM1\BNA_F\METHODS\8270-BF032416.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

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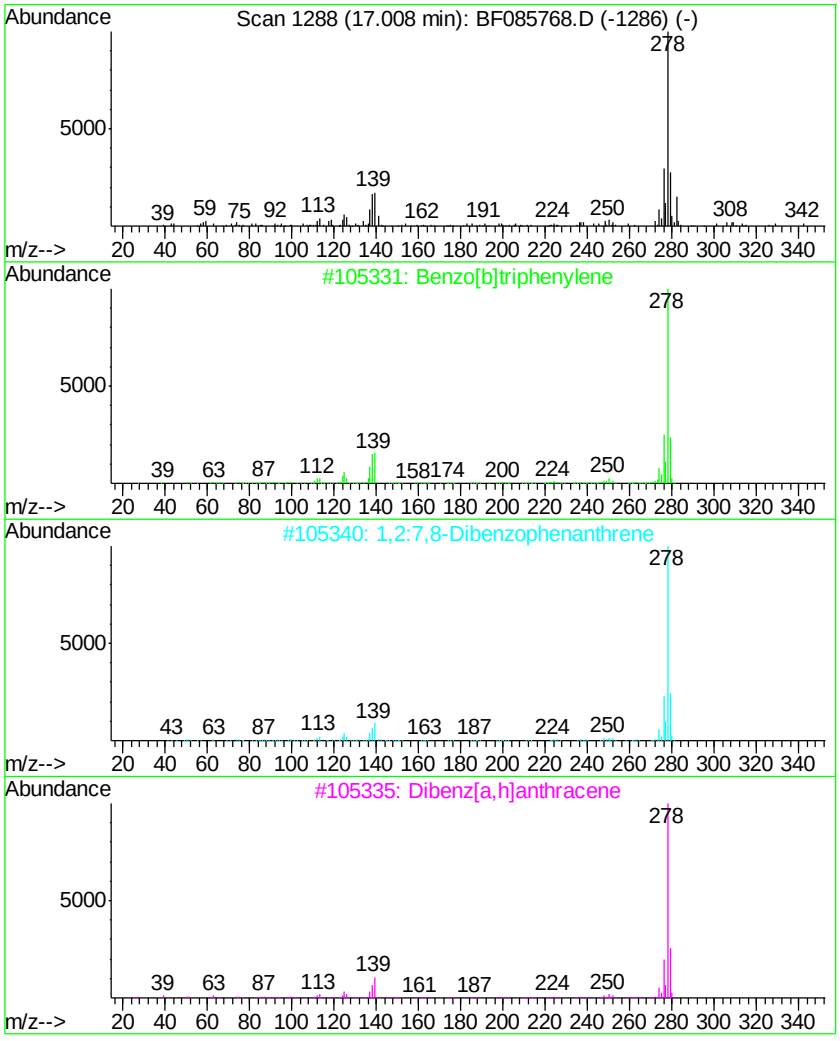
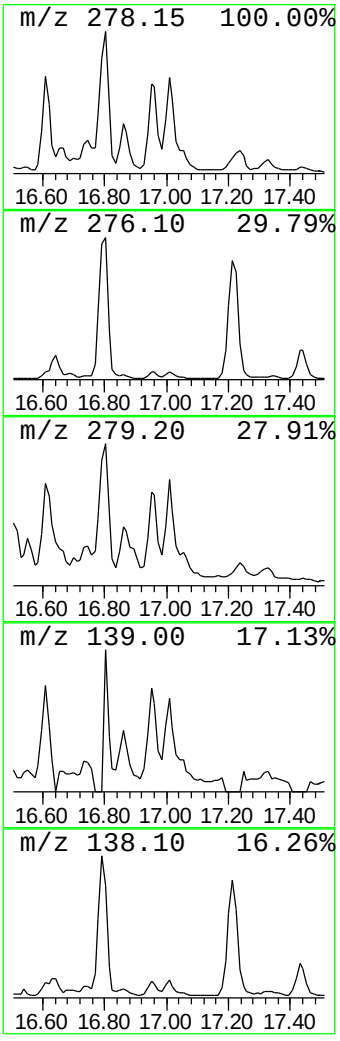
Peak Number 16 Benzo[b]triphenylene Concentration Rank 12

| R.T. | EstConc | Area | Relative to ISTD | R.T. |
|---|---|---|---|---|
| 17.01 | 5.21 ng | 148297 | Perylene-d12 | 15.41 |

| Hit# of 5 | Tentative ID | MW | MolForm | CAS# | Qual |
|---|---|---|---|---|---|
| 1 | Benzo[b]triphenylene | 278 | C22H14 | 000215-58-7 | 98 |
| 2 | 1,2:7,8-Dibenzophenanthrene | 278 | C22H14 | 000213-46-7 | 95 |
| 3 | Dibenz[a,h]anthracene | 278 | C22H14 | 000053-70-3 | 94 |
| 4 | Pentacene | 278 | C22H14 | 000135-48-8 | 93 |
| 5 | Benzo[b]chrysene | 278 | C22H14 | 000214-17-5 | 90 |



Data Path : Z:\HPCHEM1\BNA F\DATA\BF032516\
Data File : BF085768.D
Acq On : 25 Mar 2016 18:21
Operator : UM/SJ
Sample : H1855-04 10X
Misc :
ALS Vial : 54 Sample Multiplier: 1

**Instrument :** BNA_F
**ClientSampleId :** SB-2

Quant Method : Z:\HPCHEM1\BNA_F\METHODS\8270-BF032416.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

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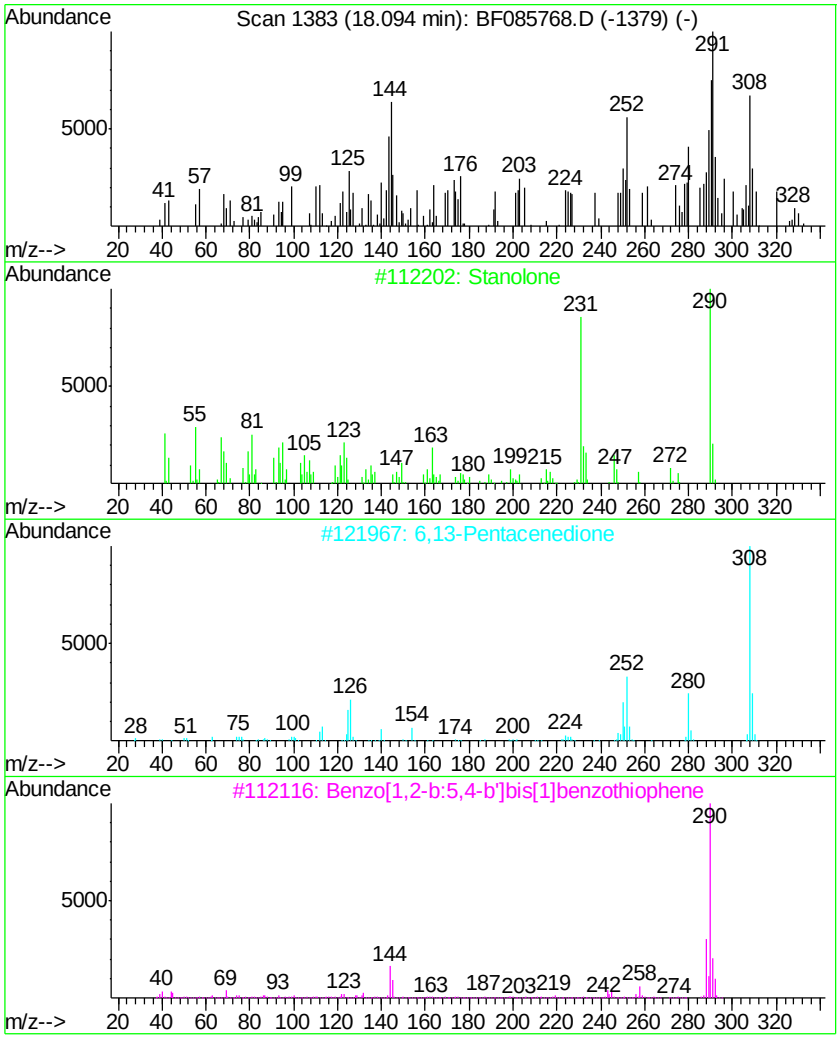
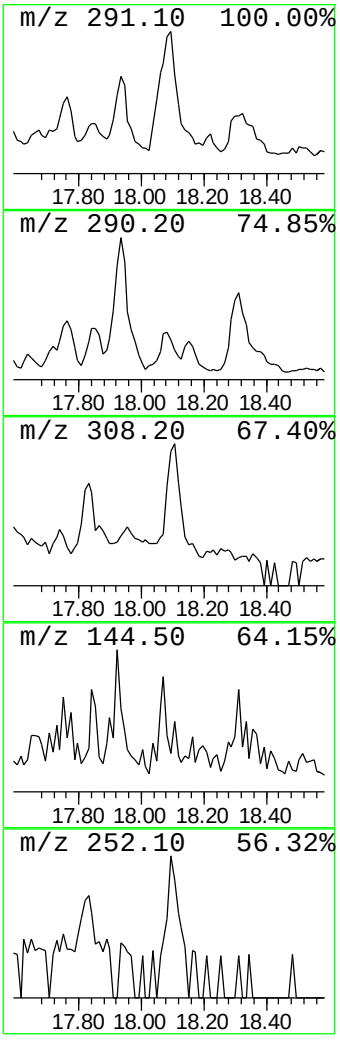
Peak Number 18 unknown18.09 Concentration Rank 16

| R.T. | EstConc | Area | Relative to ISTD | R.T. |
|---|---|---|---|---|
| 18.09 | 4.74 ng | 134789 | Perylene-d12 | 15.41 |

| Hit# of 5 | Tentative ID | MW | MolForm | CAS# | Qual |
|---|---|---|---|---|---|
| 1 | Stanolone | 290 | C19H30O2 | 000521-18-6 | 15 |
| 2 | 6,13-Pentacenedione | 308 | C22H12O2 | 003029-32-1 | 14 |
| 3 | Benzo[1,2-b:5,4-b']bis[1]benzoth... | 290 | C18H10S2 | 000241-37-2 | 14 |
| 4 | 4-(4-Methoxybenzylideneamino)ben... | 290 | C14H14N2O3S | 066667-56-9 | 14 |
| 5 | Benzamide, 4-(2-hydroxy-1-naphth... | 290 | C18H14N2O2 | 315670-89-4 | 14 |



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Data File : BF085768.D
Acq On : 25 Mar 2016 18:21
Operator : UM/SJ
Sample : H1855-04 10X
Misc :
ALS Vial : 54 Sample Multiplier: 1

**Instrument :** BNA_F
**ClientSampleId :** SB-2

Quant Method : Z:\HPCHEM1\BNA_F\METHODS\8270-BF032416.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

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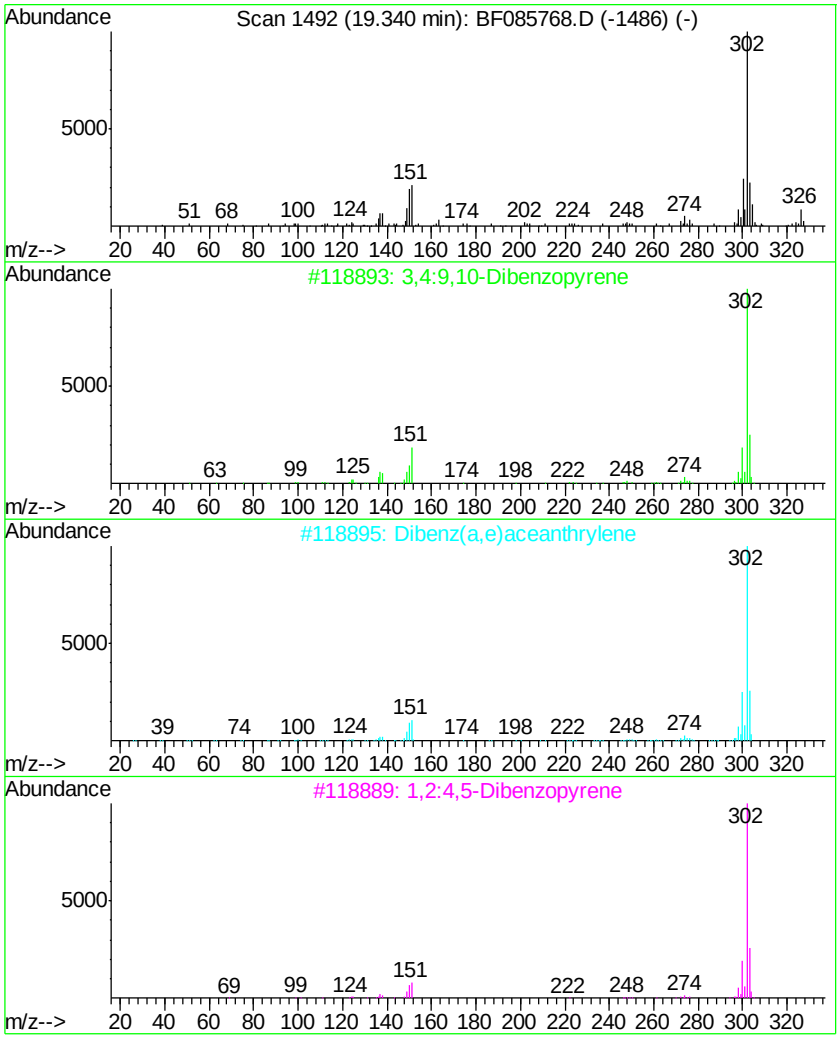
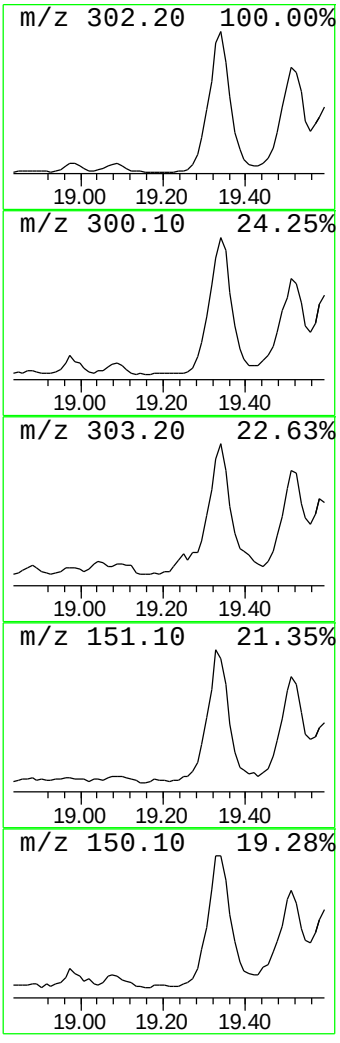
Peak Number 19 3,4:9,10-Dibenzopyrene Concentration Rank 2

| R.T. | EstConc | Area | Relative to ISTD | R.T. |
|---|---|---|---|---|
| 19.34 | 13.45 ng | 383001 | Perylene-d12 | 15.41 |

| Hit# of 5 | Tentative ID | MW | MolForm | CAS# | Qual |
|---|---|---|---|---|---|
| 1 | 3,4:9,10-Dibenzopyrene | 302 | C24H14 | 000189-55-9 | 98 |
| 2 | Dibenz(a,e)aceanthrylene | 302 | C24H14 | 005385-75-1 | 97 |
| 3 | 1,2:4,5-Dibenzopyrene | 302 | C24H14 | 000192-65-4 | 95 |
| 4 | 3,4:8,9-Dibenzopyrene | 302 | C24H14 | 000189-64-0 | 95 |
| 5 | Indeno[1,2,3-fg]naphthacene | 302 | C24H14 | 000203-11-2 | 95 |



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Data File : BF085768.D
Acq On : 25 Mar 2016 18:21
Operator : UM/SJ
Sample : H1855-04 10X
Misc :
ALS Vial : 54 Sample Multiplier: 1

**Instrument :** BNA_F
**ClientSampleId :** SB-2

Quant Method : Z:\HPCHEM1\BNA_F\METHODS\8270-BF032416.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

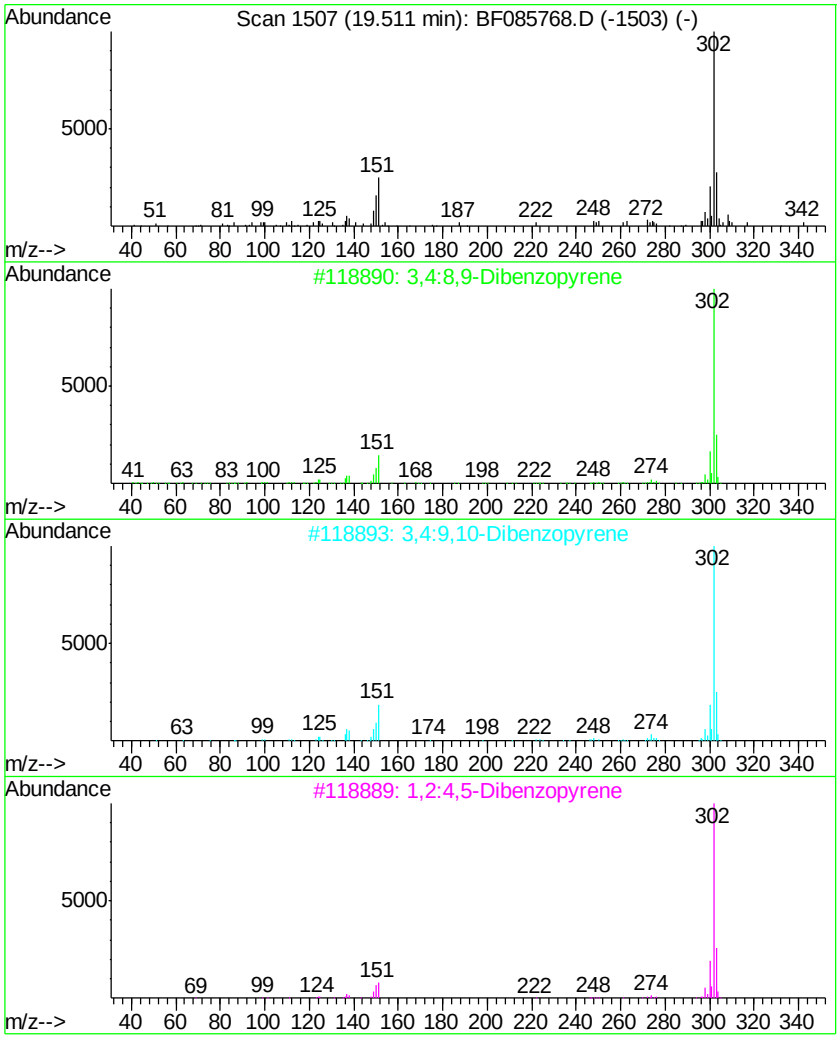
TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

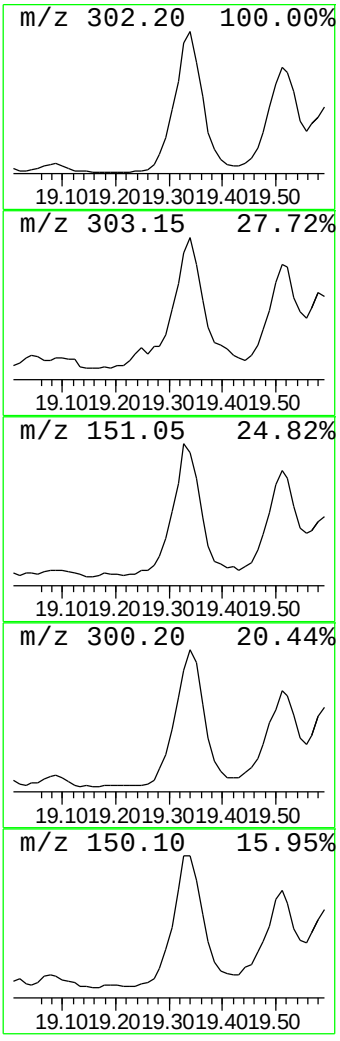
**********

Peak Number 20 3,4:8,9-Dibenzopyrene Concentration Rank 14

| R.T. | EstConc | Area | Relative to ISTD | R.T. |
|---|---|---|---|---|
| 19.51 | 4.83 ng | 137446 | Perylene-d12 | 15.41 |

| Hit# of 5 | Tentative ID | MW | MolForm | CAS# | Qual |
|---|---|---|---|---|---|
| 1 | 3,4:8,9-Dibenzopyrene | 302 | C24H14 | 000189-64-0 | 96 |
| 2 | 3,4:9,10-Dibenzopyrene | 302 | C24H14 | 000189-55-9 | 93 |
| 3 | 1,2:4,5-Dibenzopyrene | 302 | C24H14 | 000192-65-4 | 90 |
| 4 | Dibenz(a,e)aceanthrylene | 302 | C24H14 | 005385-75-1 | 70 |
| 5 | Indeno[1,2,3-fg]naphthacene | 302 | C24H14 | 000203-11-2 | 70 |



Tentatively Identified Compound (LSC) summary

Data Path : Z:\HPCHEM1\BNA_F\DATA\BF032516\
Data File : BF085768.D
Acq On : 25 Mar 2016 18:21
Operator : UM/SJ
Sample : H1855-04 10X
Misc :
ALS Vial : 54 Sample Multiplier: 1

**Instrument :** BNA_F
**ClientSampleId :** SB-2

Quant Method : Z:\HPCHEM1\BNA_F\METHODS\8270-BF032416.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

| | | | | | Internal Standard | | | |
|---|---|---|---|---|---|---|---|---|
| TIC Top Hit name | RT | EstConc | Units | Response | # | RT | Resp | Conc |
| .beta.-Pinene | 6.52 | 5.3 | ng | 166584 | 1 | 6.82 | 625143 | 20.0 |
| 4H-Cyclopenta[def... | 11.96 | 6.3 | ng | 1213030 | 4 | 11.35 | 3825820 | 20.0 |
| Fluoranthene, 2-m... | 13.11 | 5.5 | ng | 986129 | 5 | 13.99 | 3562920 | 20.0 |
| Benzo[c]phenanthr... | 14.75 | 4.2 | ng | 119787 | 6 | 15.41 | 569309 | 20.0 |
| 4,5-Dihydrobenzo[... | 14.85 | 8.2 | ng | 232298 | 6 | 15.41 | 569309 | 20.0 |
| Dinaphtho[1,2-b:1... | 15.20 | 6.8 | ng | 194753 | 6 | 15.41 | 569309 | 20.0 |
| Benzo[e]pyrene | 15.29 | 44.1 | ng | 1254200 | 6 | 15.41 | 569309 | 20.0 |
| 11H-Indeno[2,1-a]... | 15.61 | 6.4 | ng | 181151 | 6 | 15.41 | 569309 | 20.0 |
| Nonadecane | 15.83 | 4.8 | ng | 135091 | 6 | 15.41 | 569309 | 20.0 |
| 3,4-Dibromobenzal... | 15.93 | 4.1 | ng | 115794 | 6 | 15.41 | 569309 | 20.0 |
| 1,2:7,8-Dibenzoph... | 16.86 | 5.2 | ng | 147787 | 6 | 15.41 | 569309 | 20.0 |
| Benzo[b]triphenylene | 17.01 | 5.2 | ng | 148297 | 6 | 15.41 | 569309 | 20.0 |
| unknown18.09 | 18.09 | 4.7 | ng | 134789 | 6 | 15.41 | 569309 | 20.0 |
| 3,4:9,10-Dibenzop... | 19.34 | 13.4 | ng | 383001 | 6 | 15.41 | 569309 | 20.0 |
| 3,4:8,9-Dibenzopy... | 19.51 | 4.8 | ng | 137446 | 6 | 15.41 | 569309 | 20.0 |