

A Chiral Relay Race: Stereoselective Synthesis of Axially Chiral

Biaryl Diketones through Ring-Opening of Optical

Dihydrophenanthrene-9,10-diols

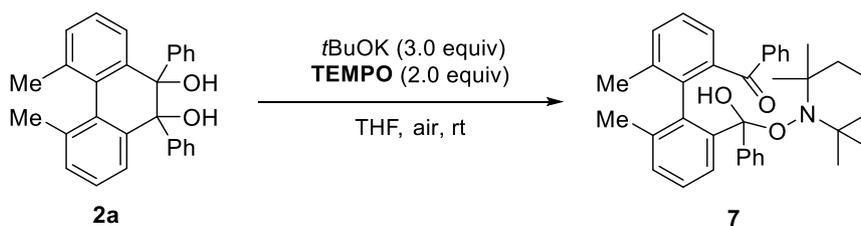
Lei Shi,¹ Jiawei Zhu,¹ Biqiong Hong² and Zhenhua Gu*^{1,2}

1. Hefei National Research Center for Physical Sciences at the Microscale and Department of Chemistry, University of Science and Technology of China, 96 Jinzhai Road, Hefei, Anhui 230026, P. R. China

2. College of Materials and Chemical Engineering, Minjiang University, Fuzhou, Fujian, 350108, China

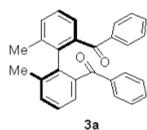
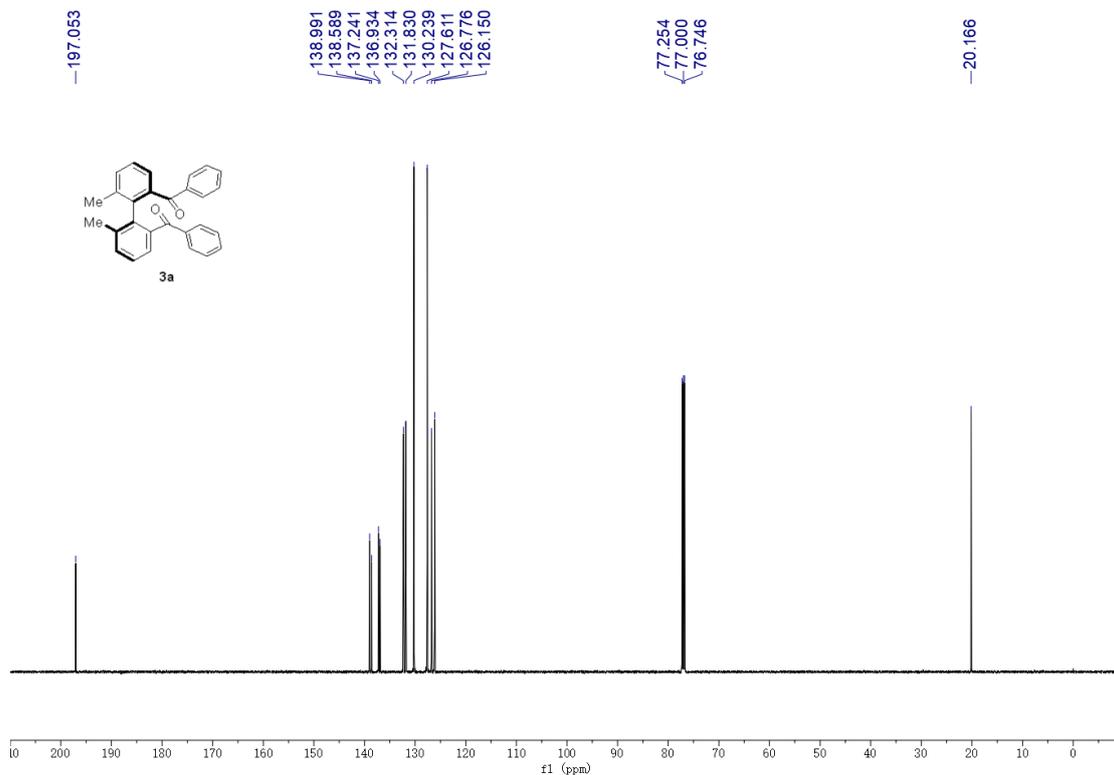
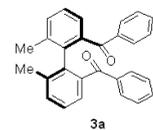
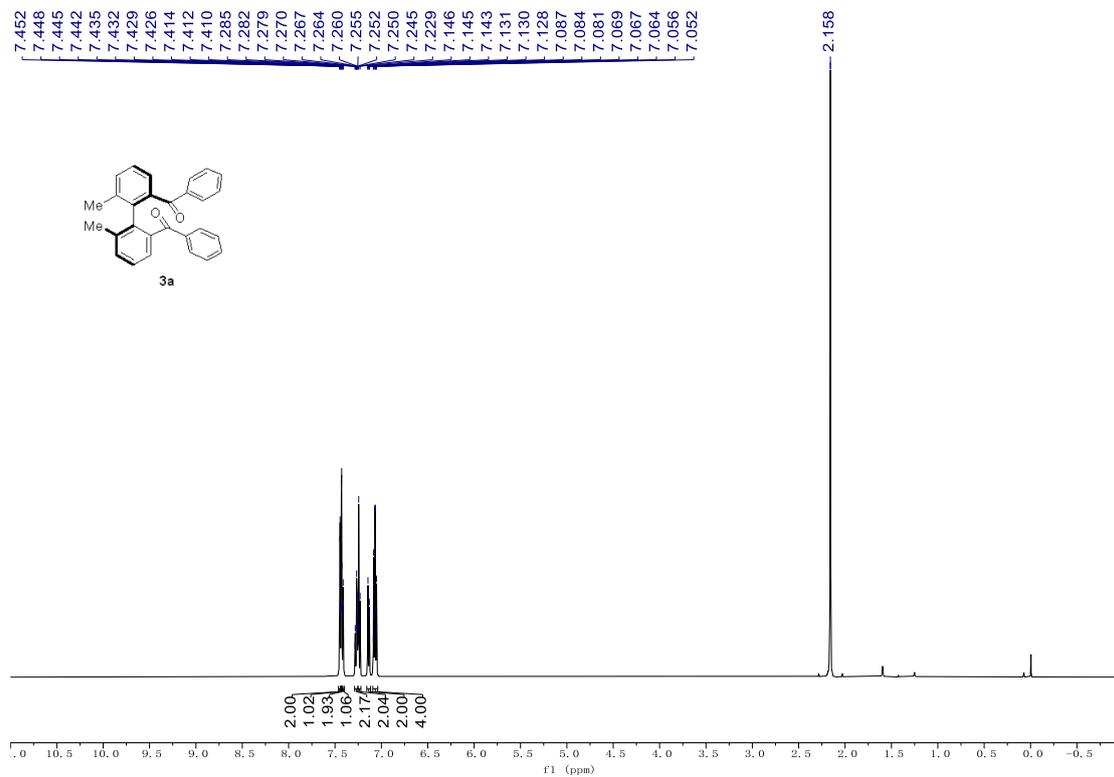
Email: zhgu@ustc.edu.cn

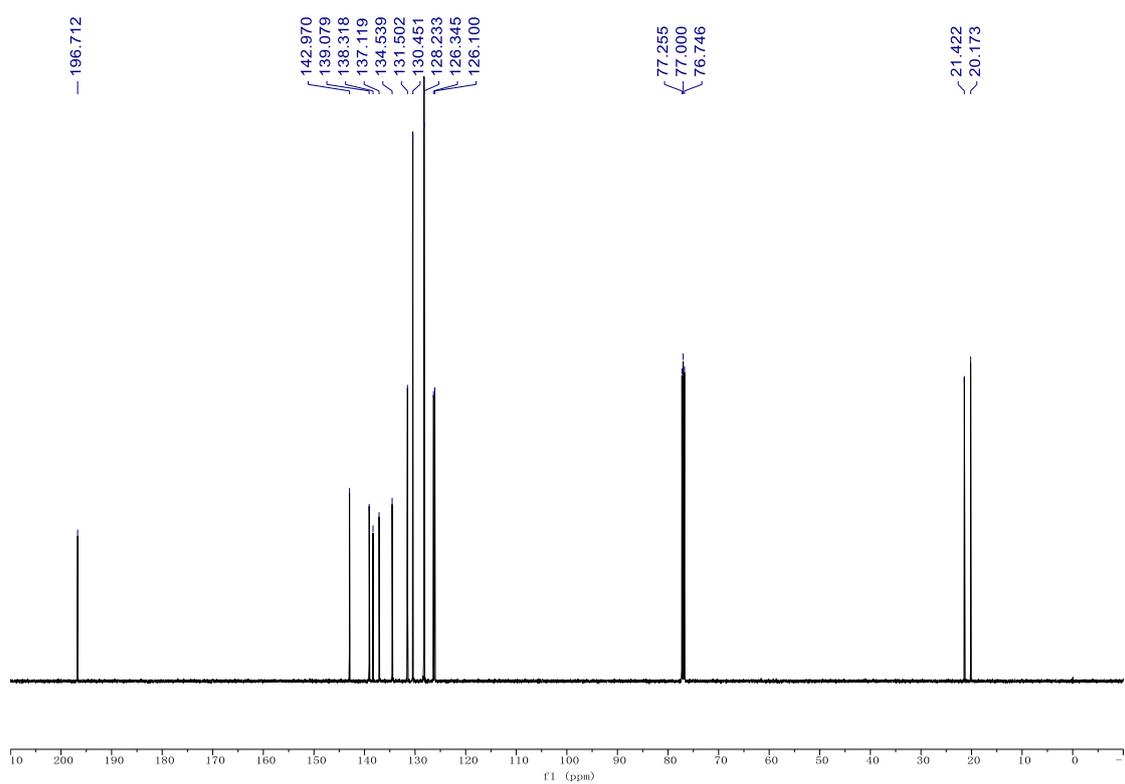
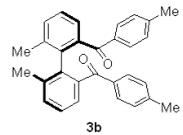
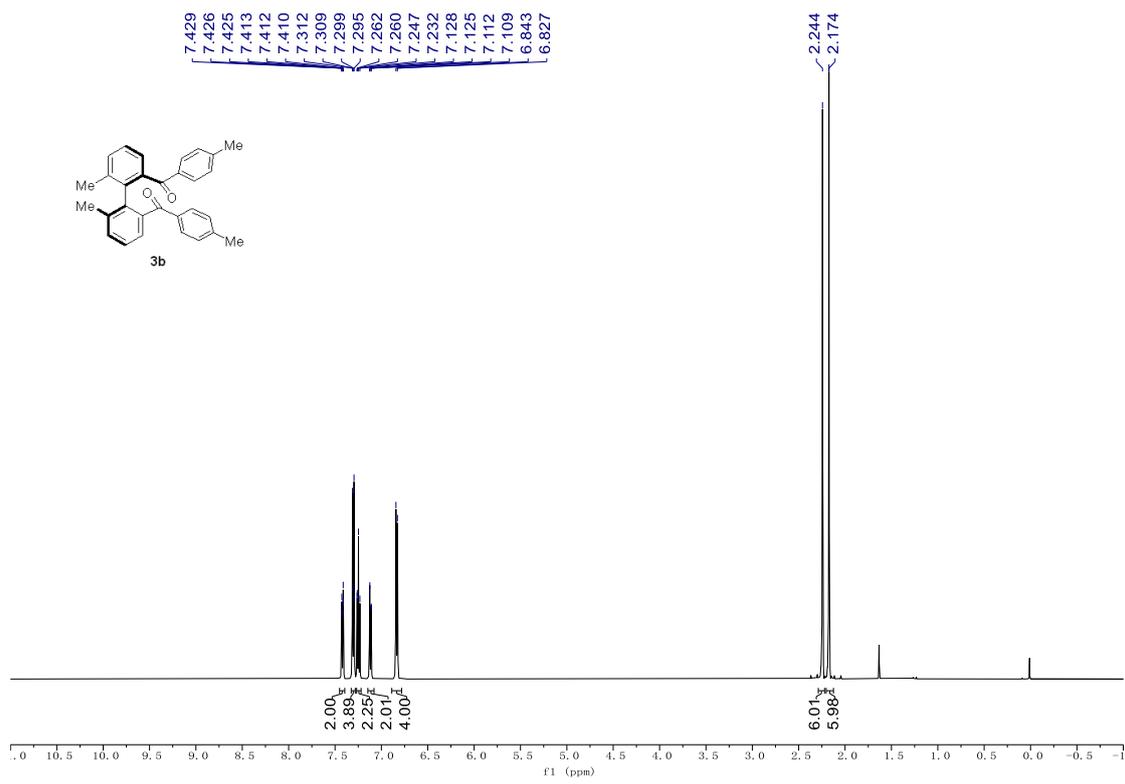
Free radical capture experiment

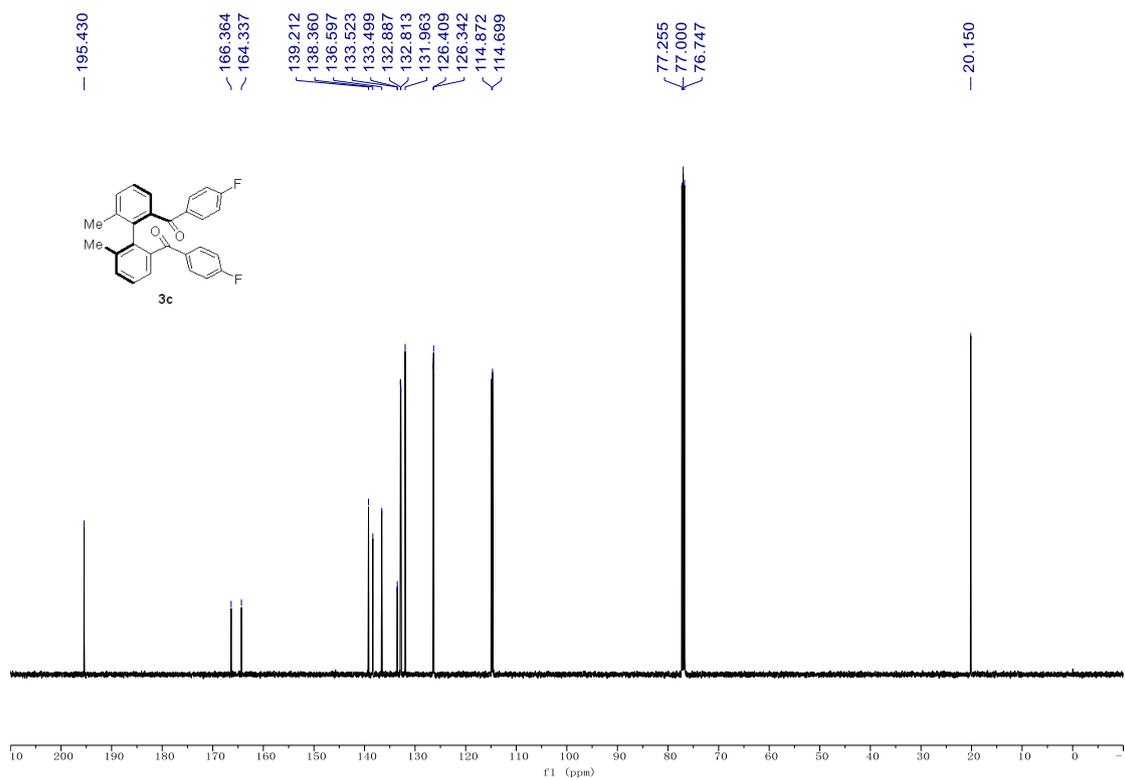
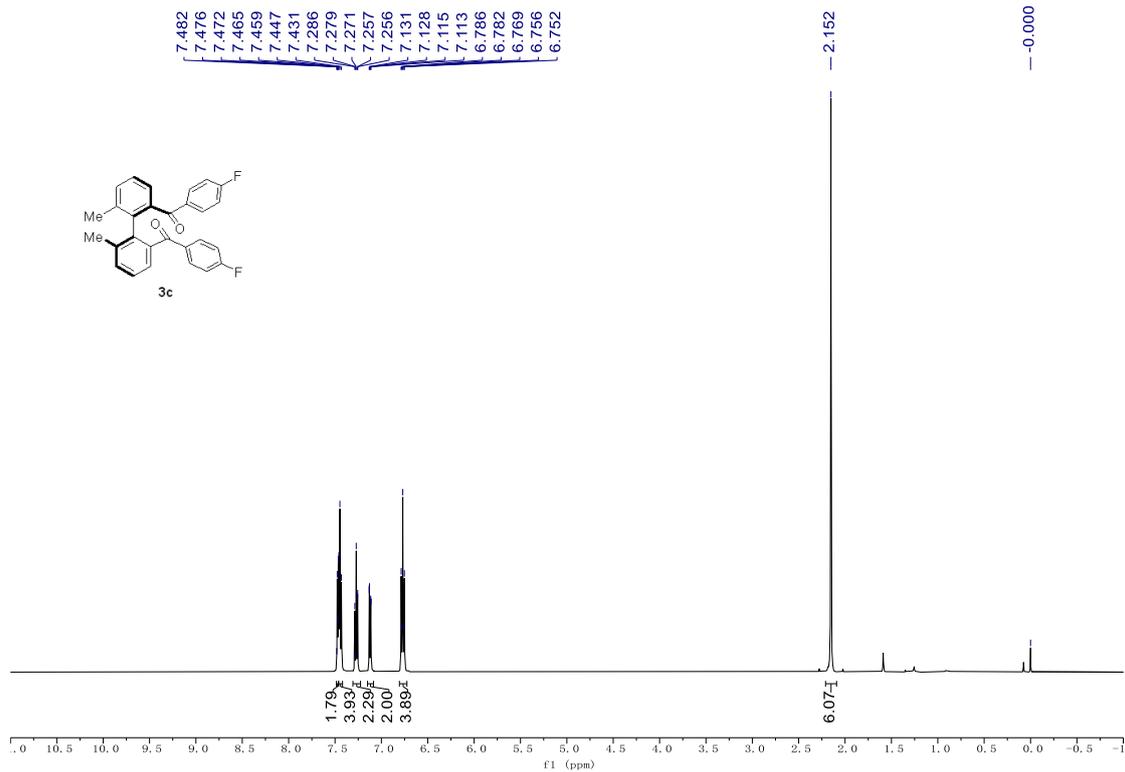


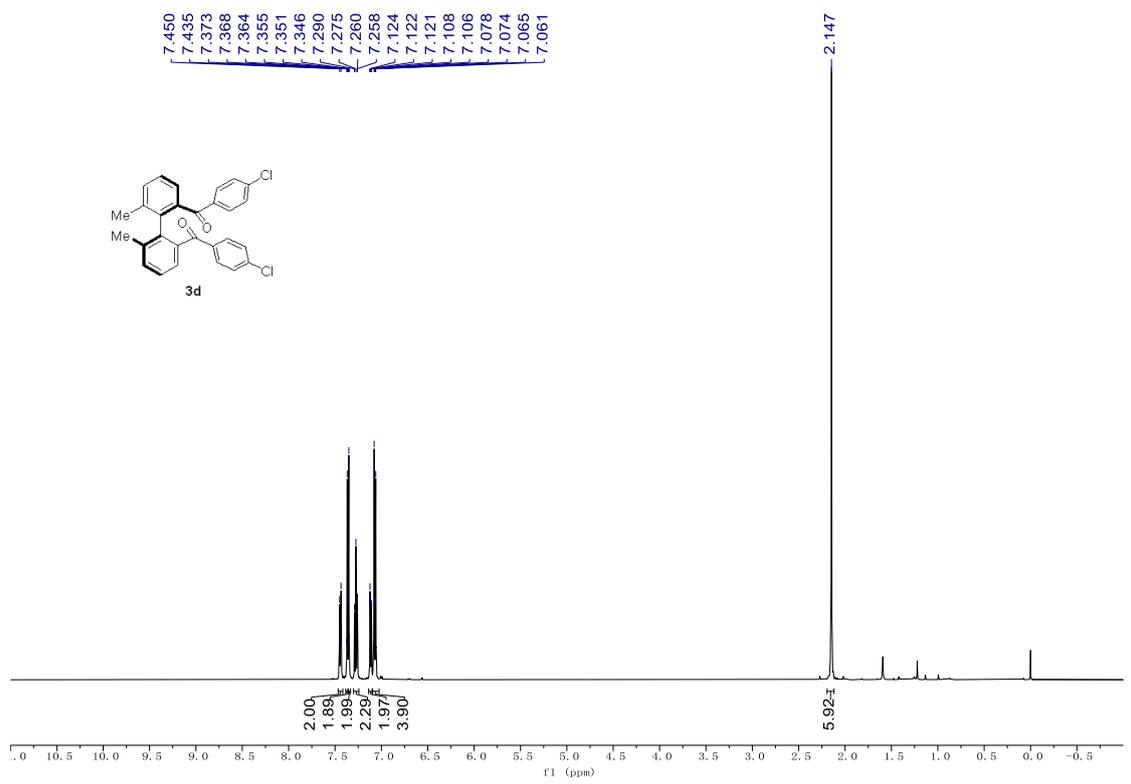
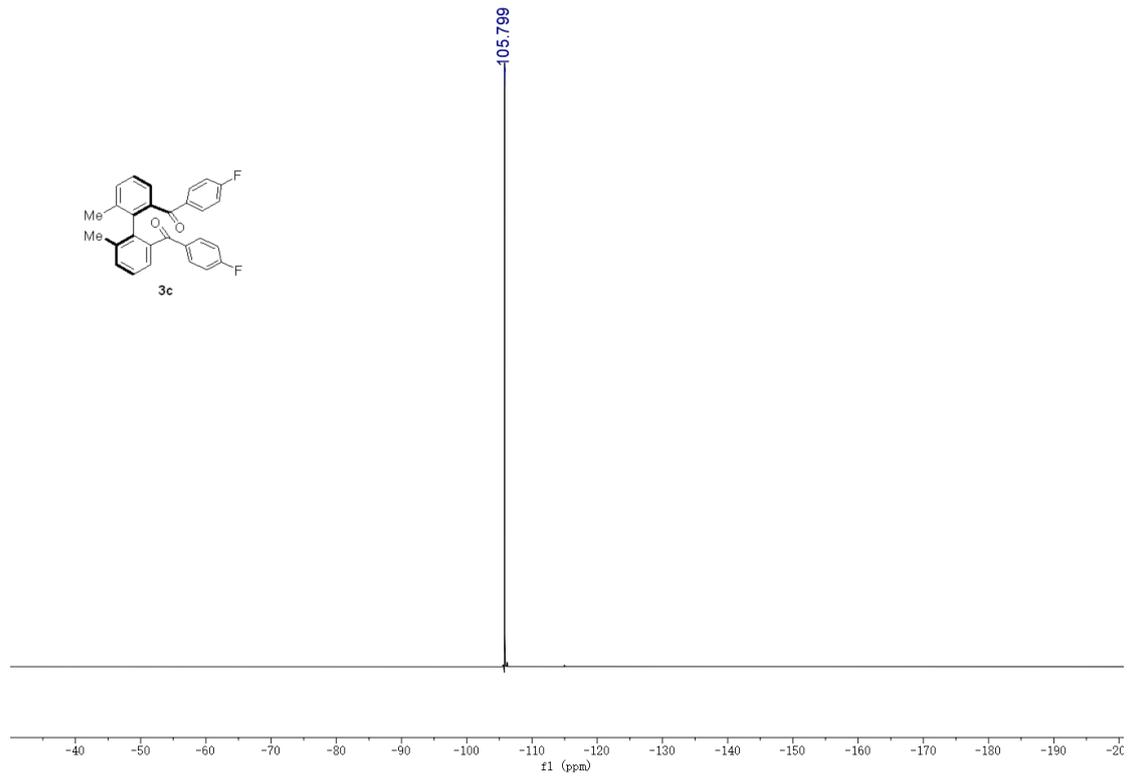
Under air atmosphere, a solution of **2a** (39.2 mg, 0.10 mmol, 1.0 equiv) in THF (2 mL) was added $t\text{BuOK}$ (33.6 mg, 0.30 mmol, 3.0 equiv) and **TEMPO** (31.3 mg, 0.20 mmol, 2.0 equiv) at room temperature, then the mixture was stirred at the same temperature for 30 min. 0.5 mL of the reaction mixture was taken out and it was passed through a short pad of silica gel. **7** was detected by the analysis of HRMS. HRMS (ESI) calcd for $\text{C}_{37}\text{H}_{42}\text{NO}_3$ $[\text{M}+\text{H}]^+$ 548.3159, found 548.3168. HRMS (ESI) calcd for $\text{C}_{37}\text{H}_{41}\text{NO}_3\text{Na}$ $[\text{M}+\text{Na}]^+$ 570.2979, found 570.2992.

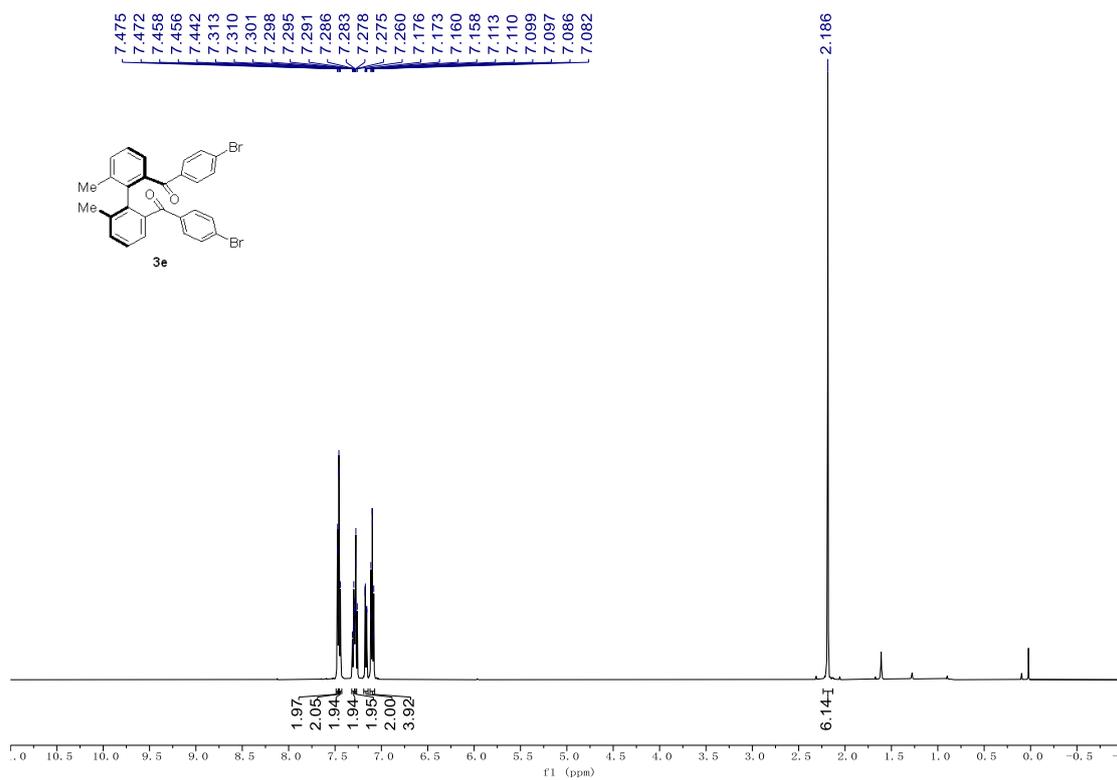
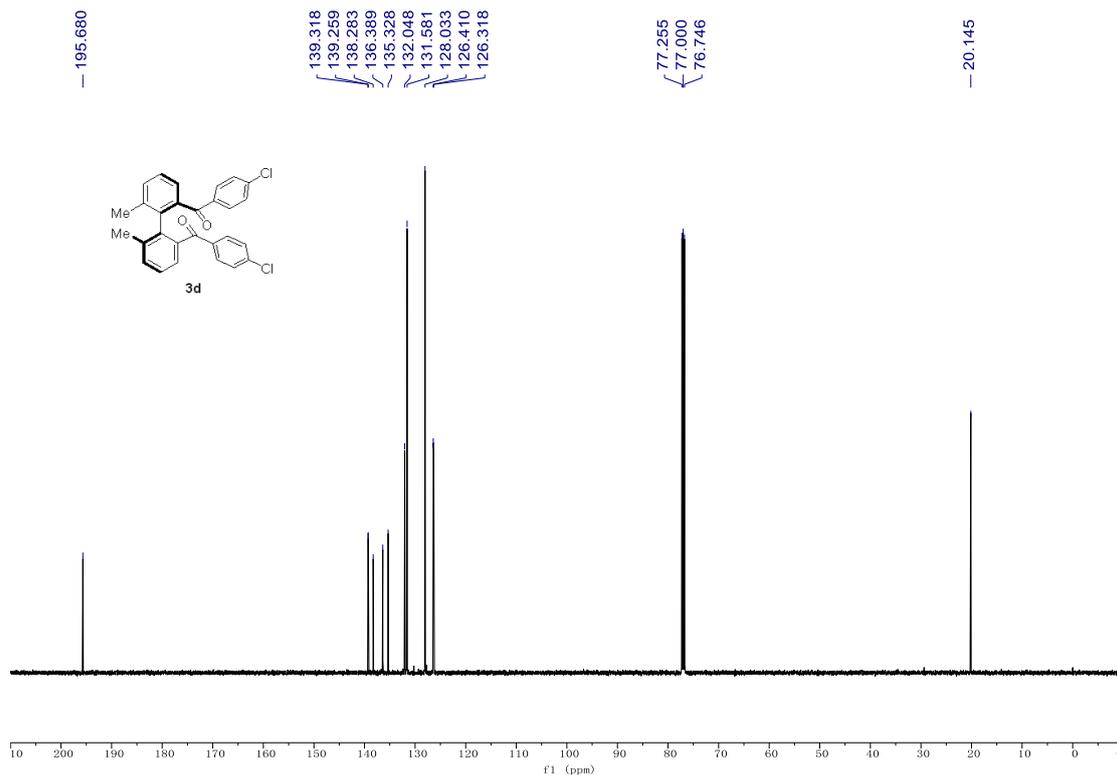
Copies of NMR Spectroscopies

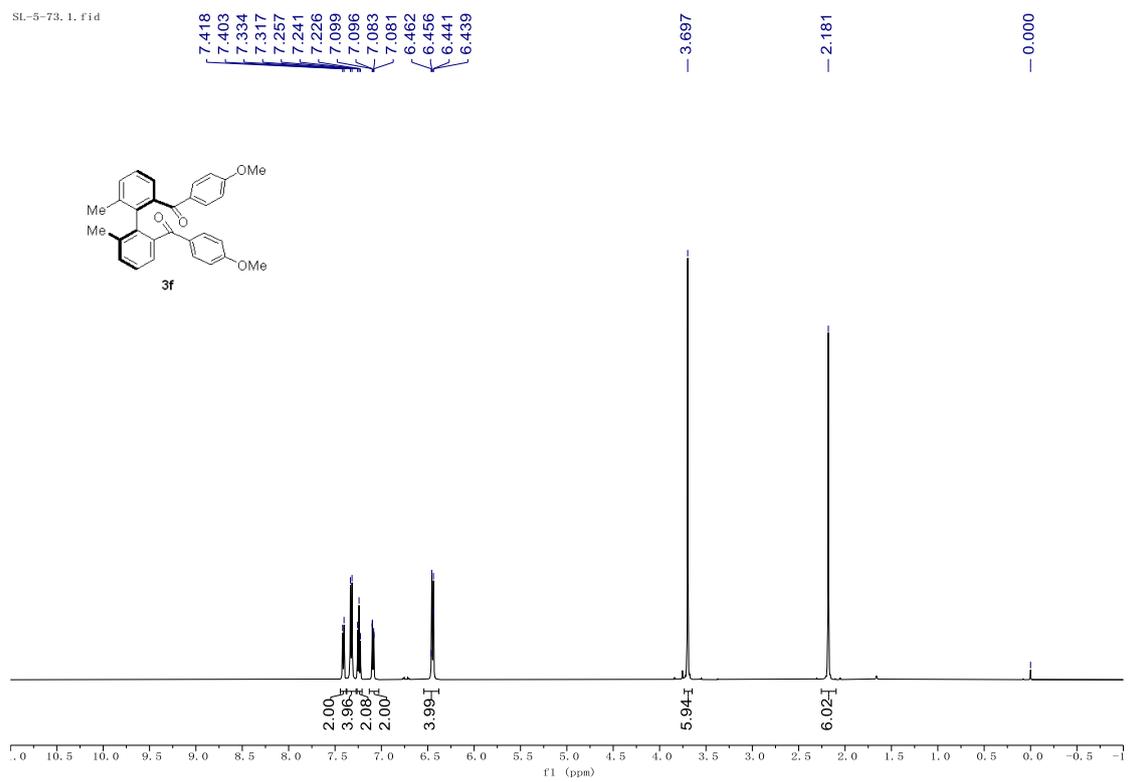
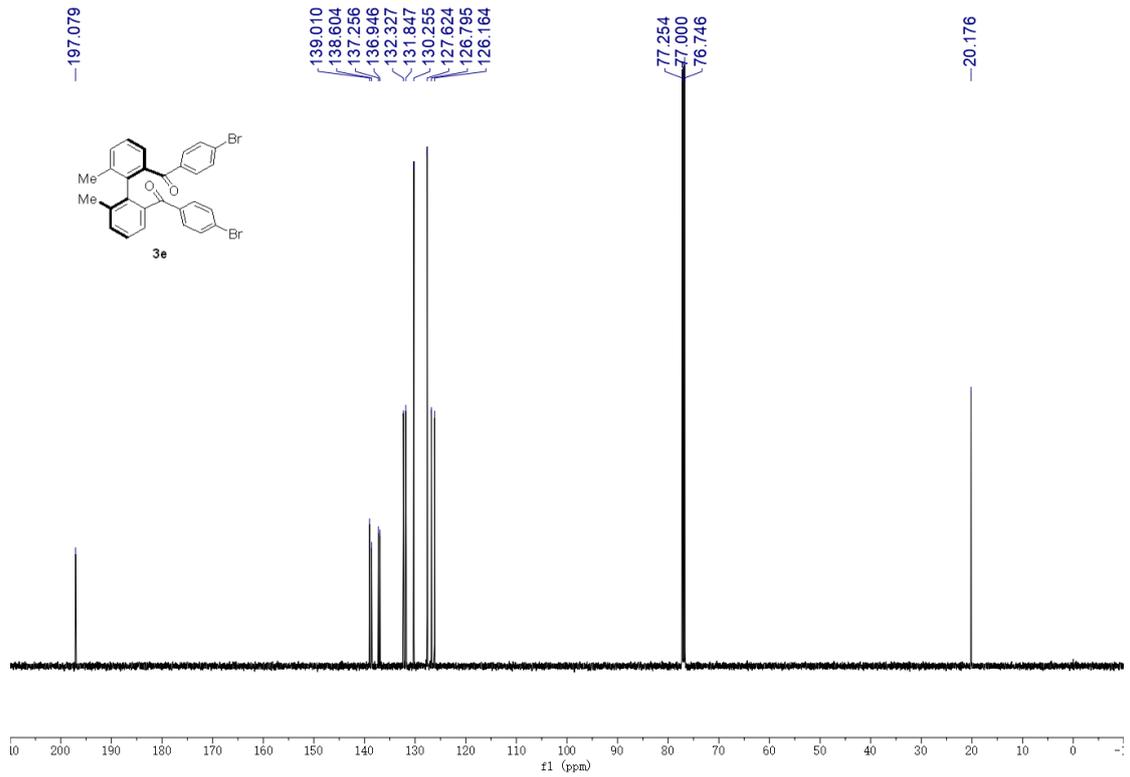


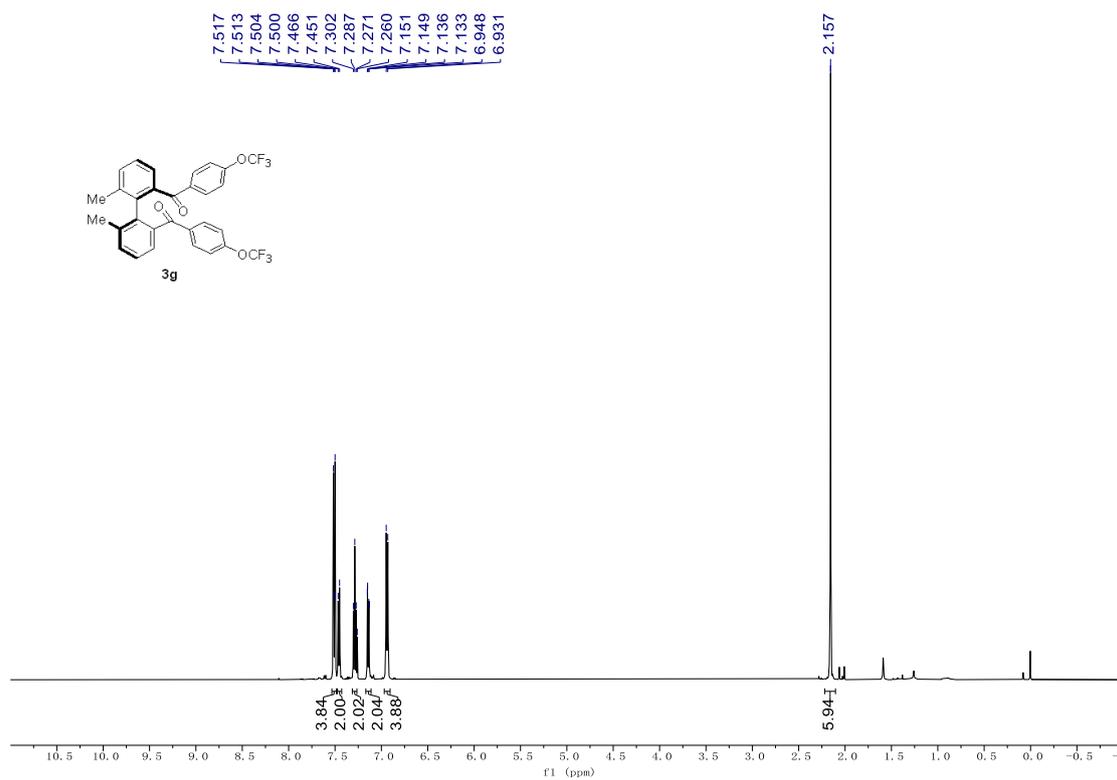
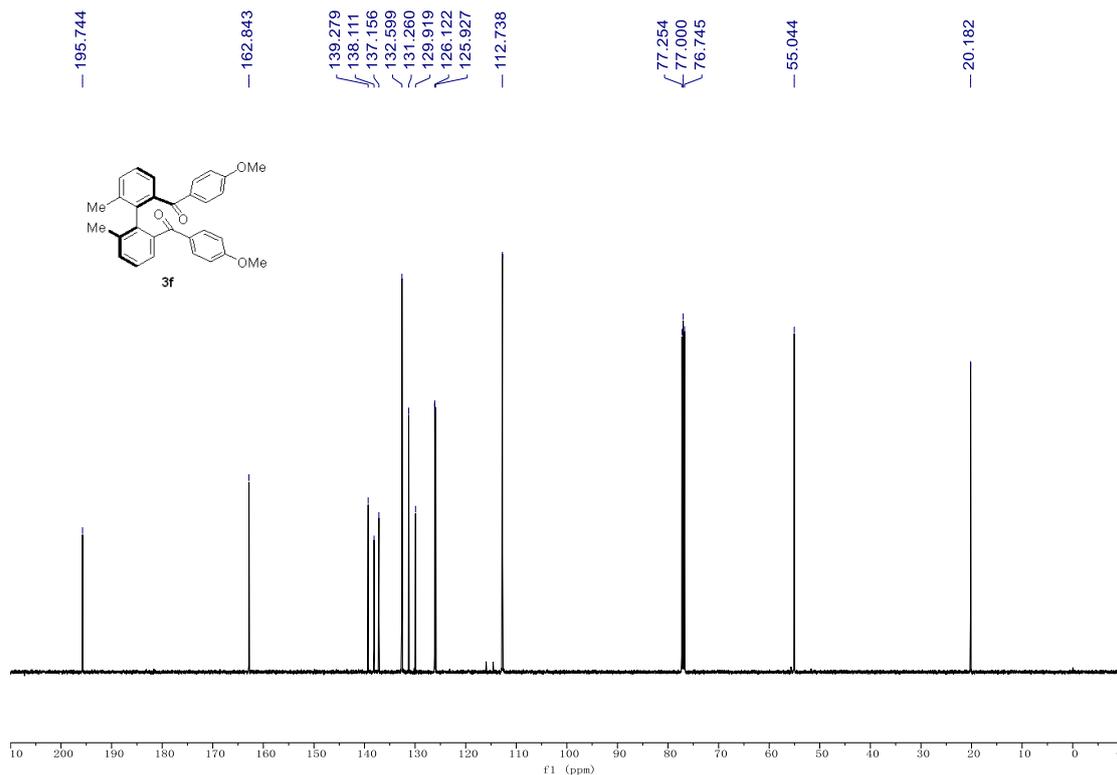


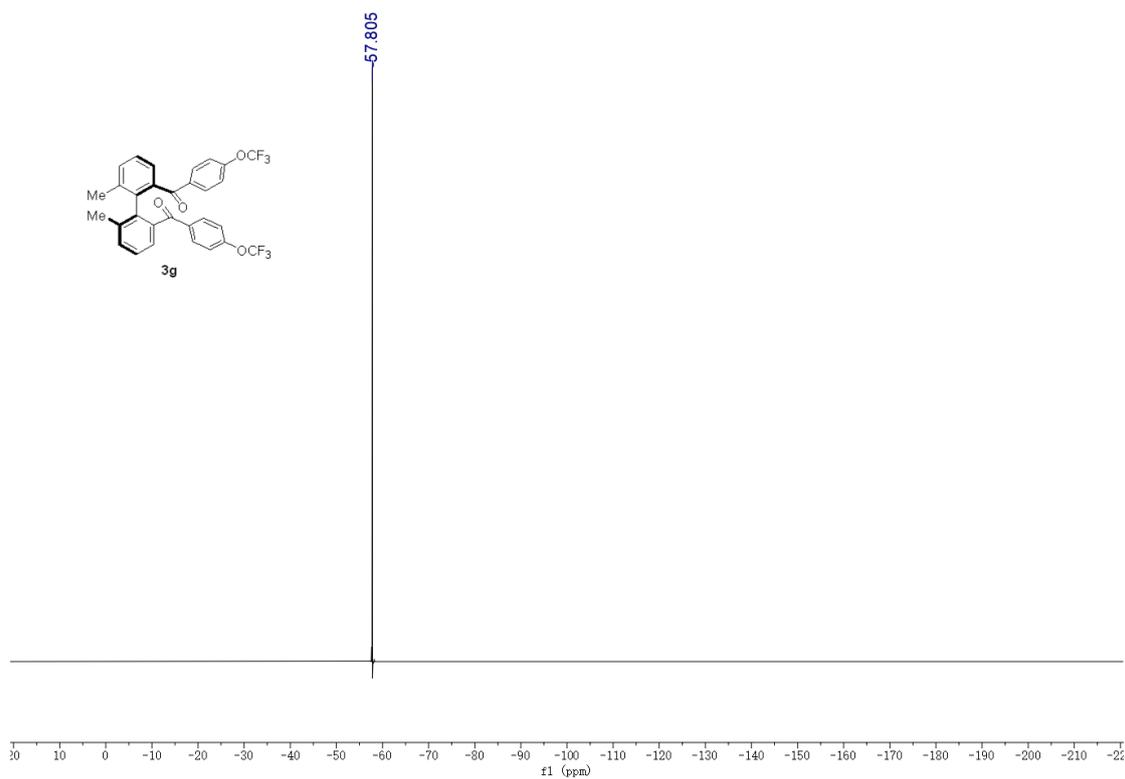
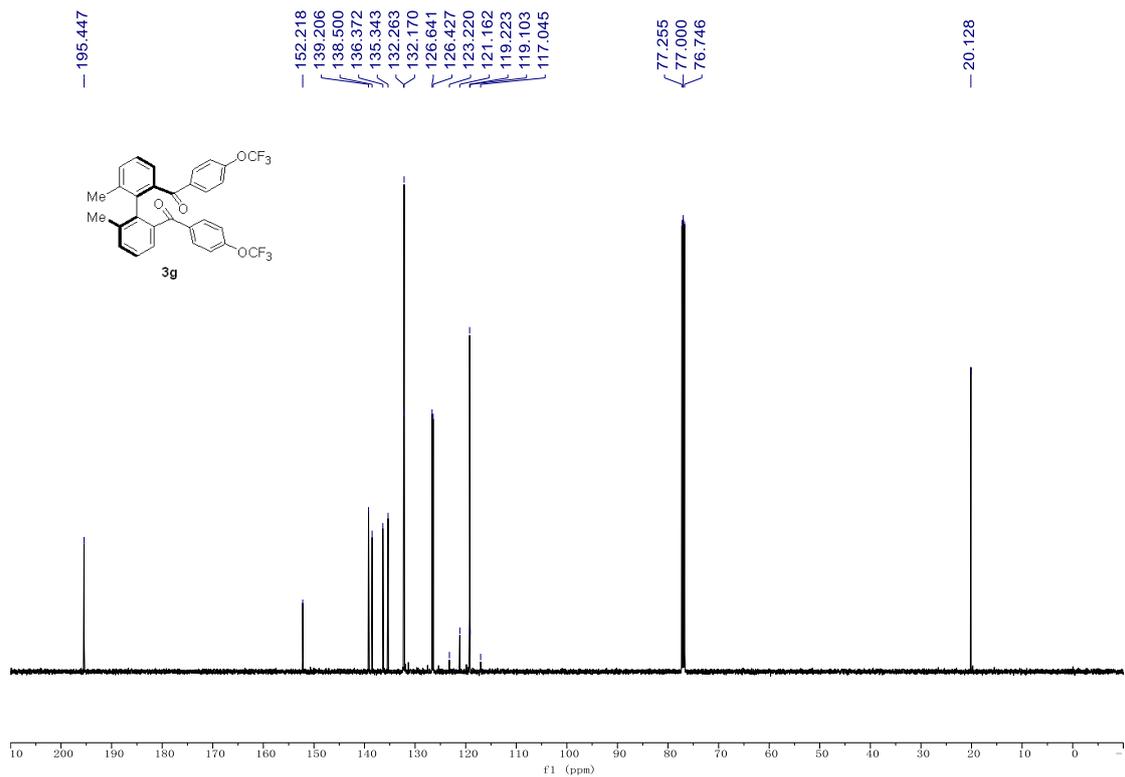


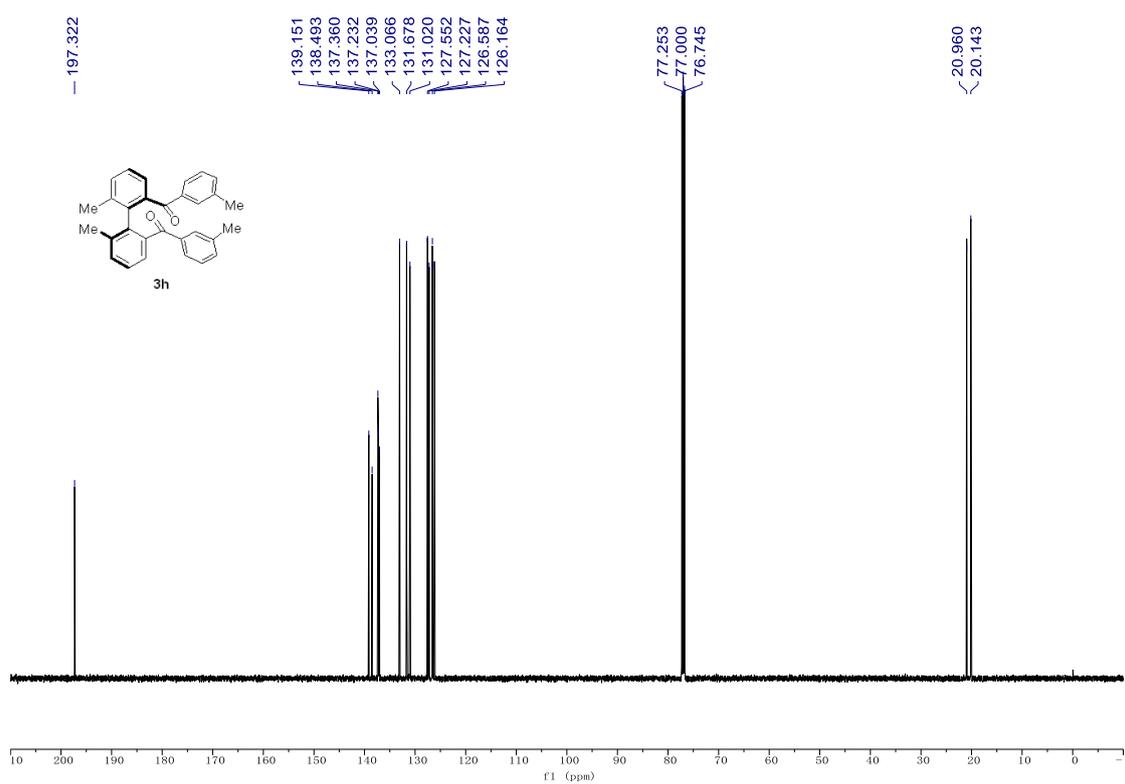
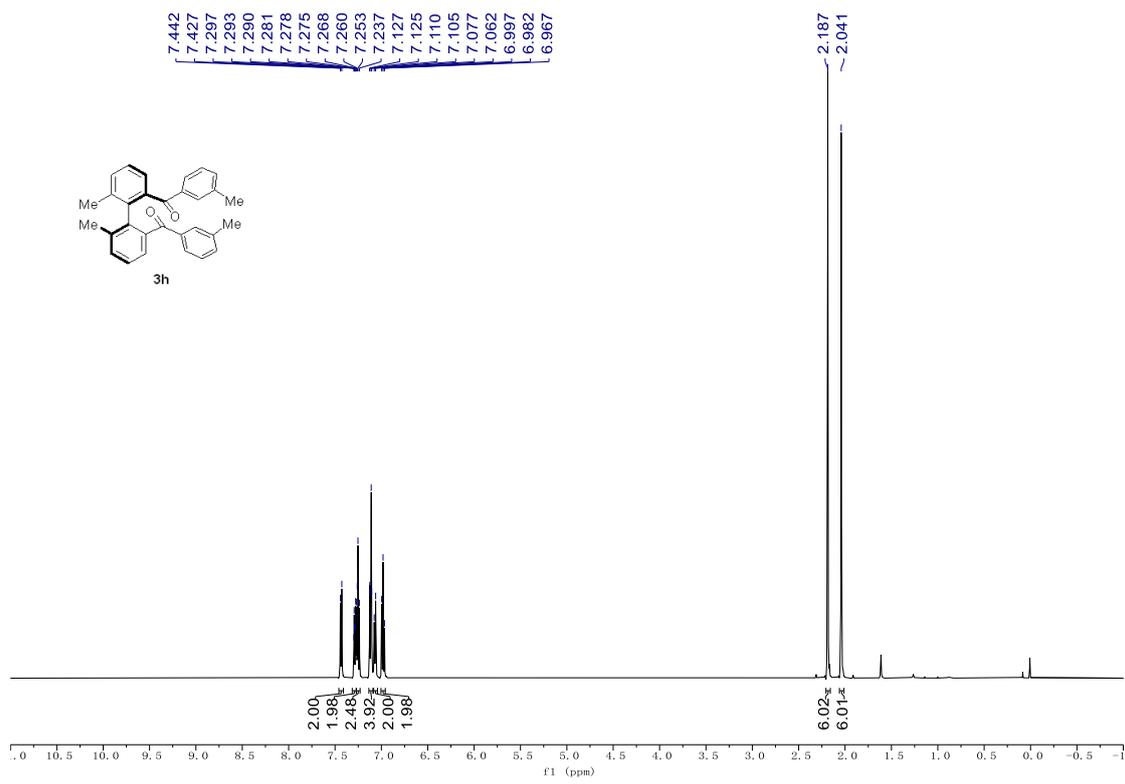


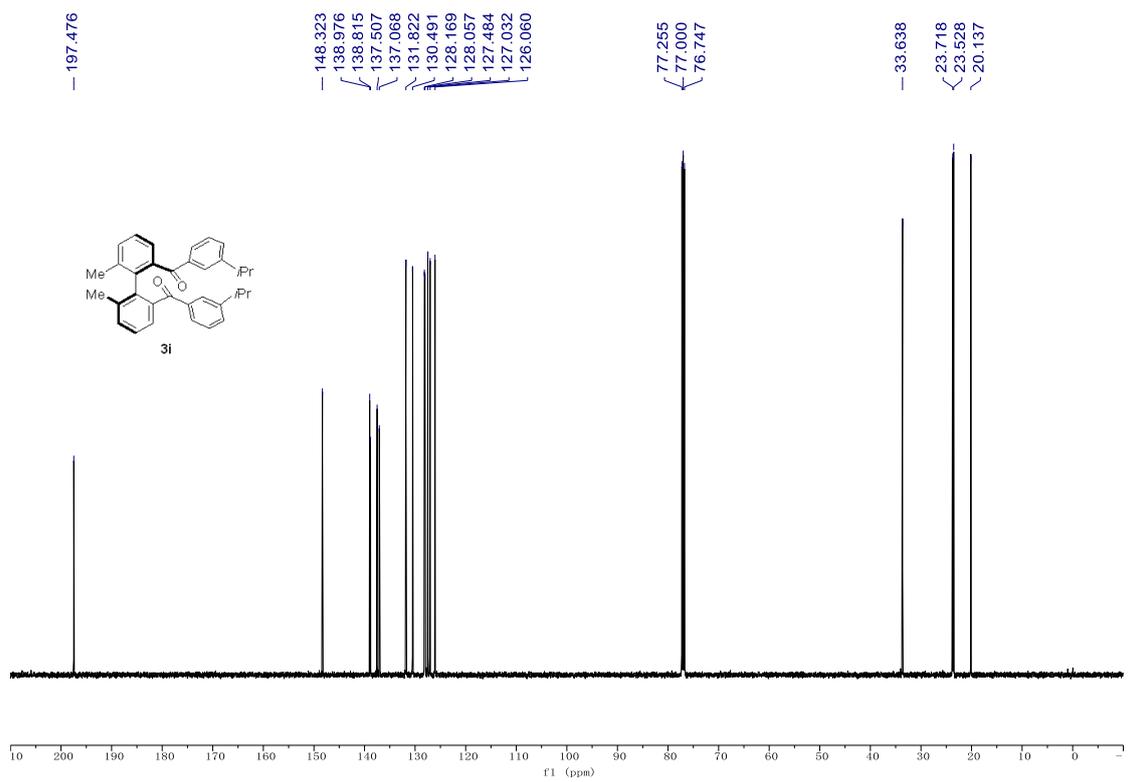
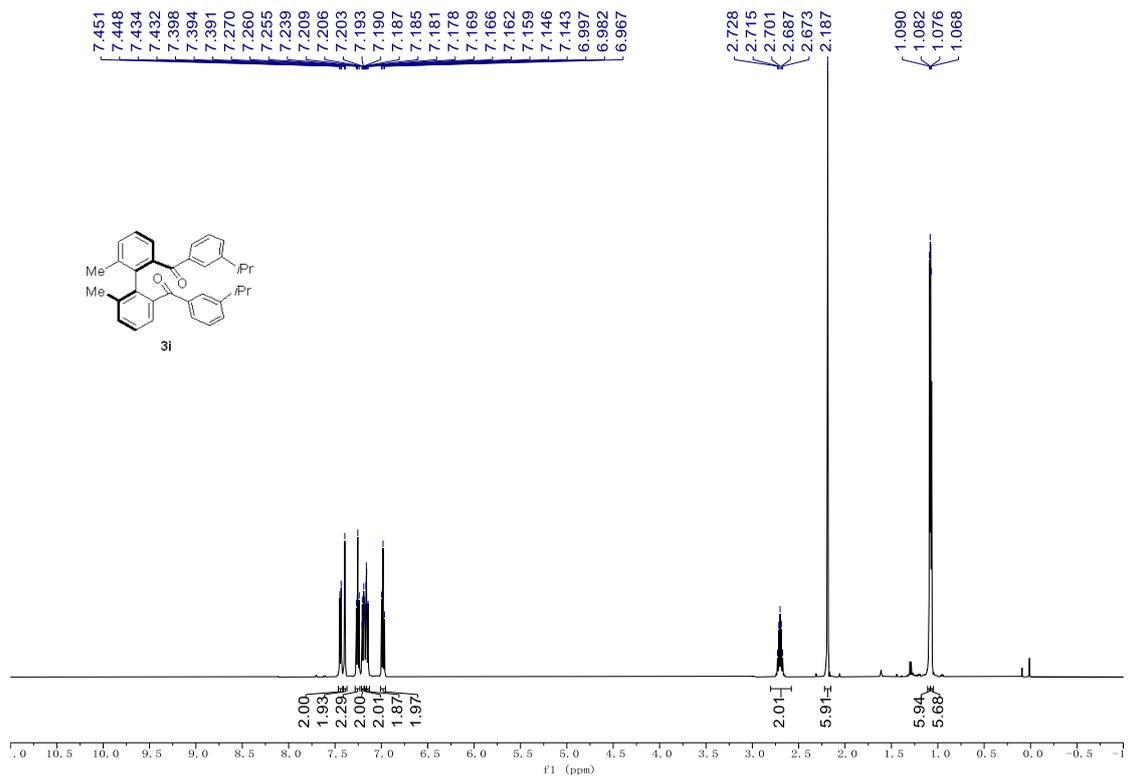


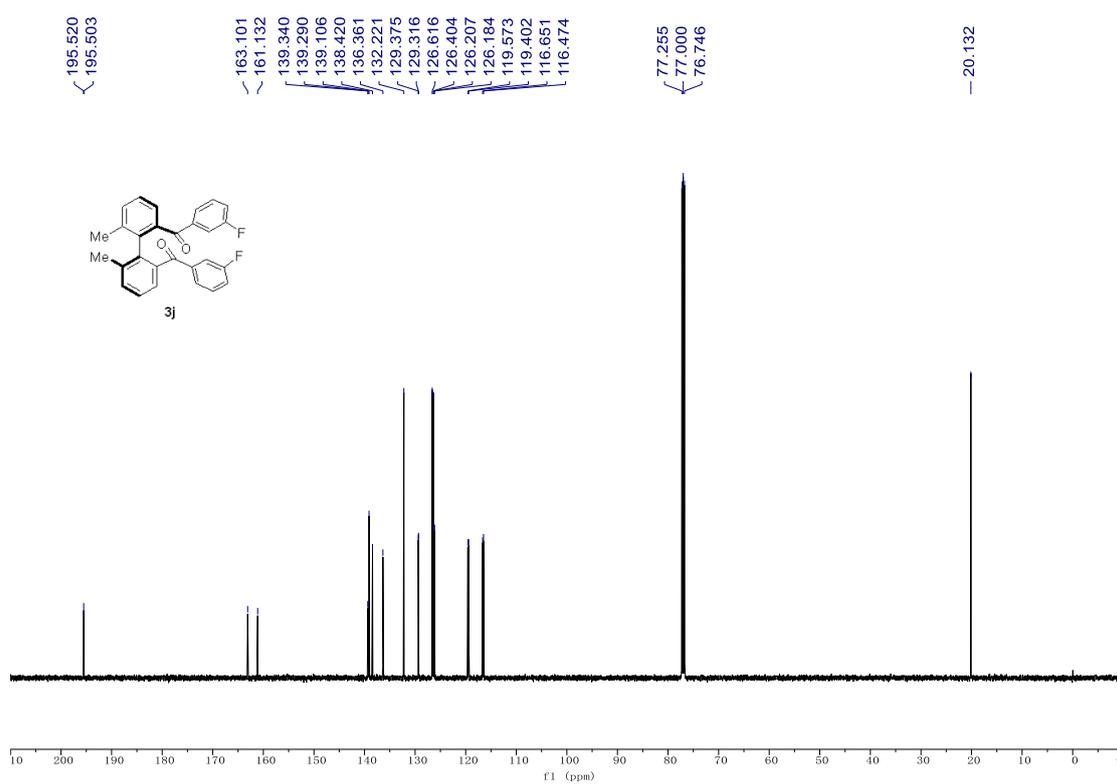
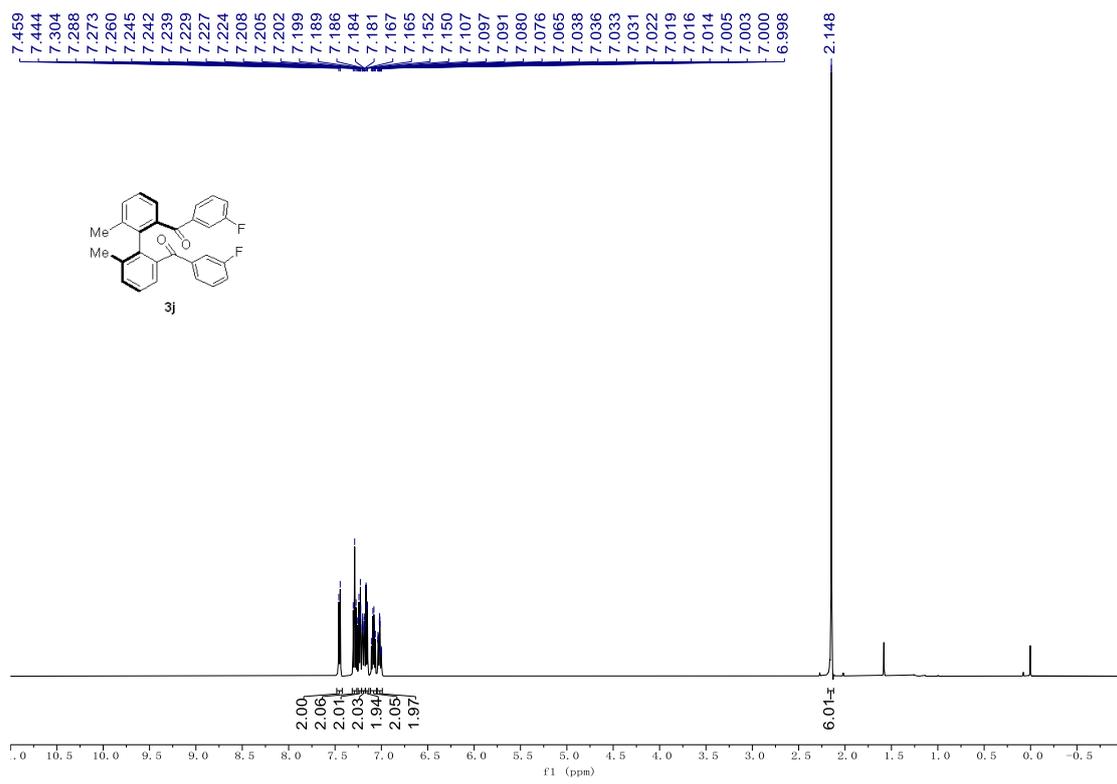


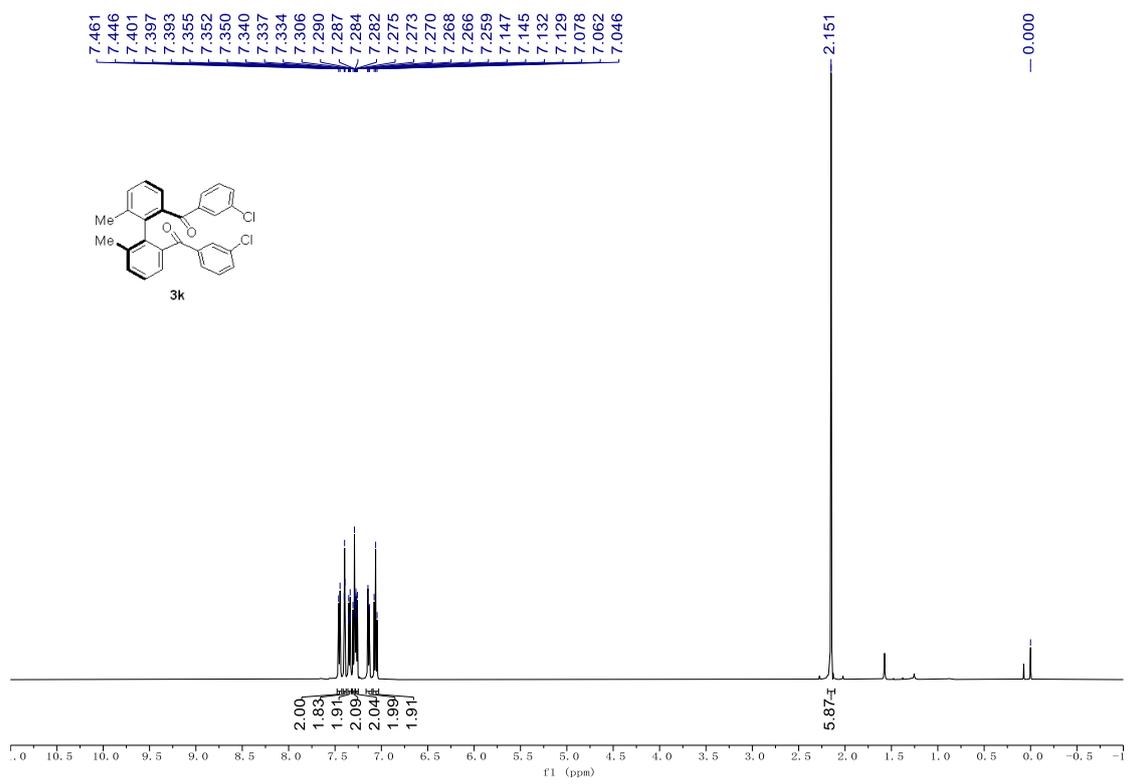
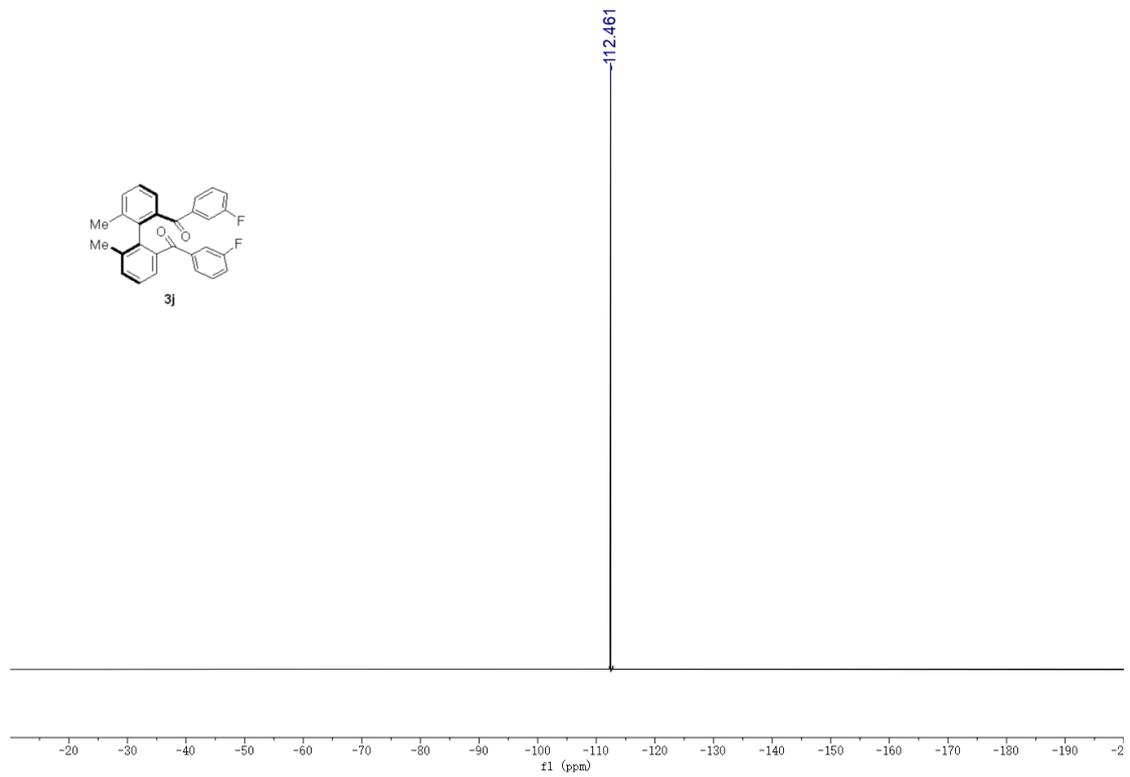


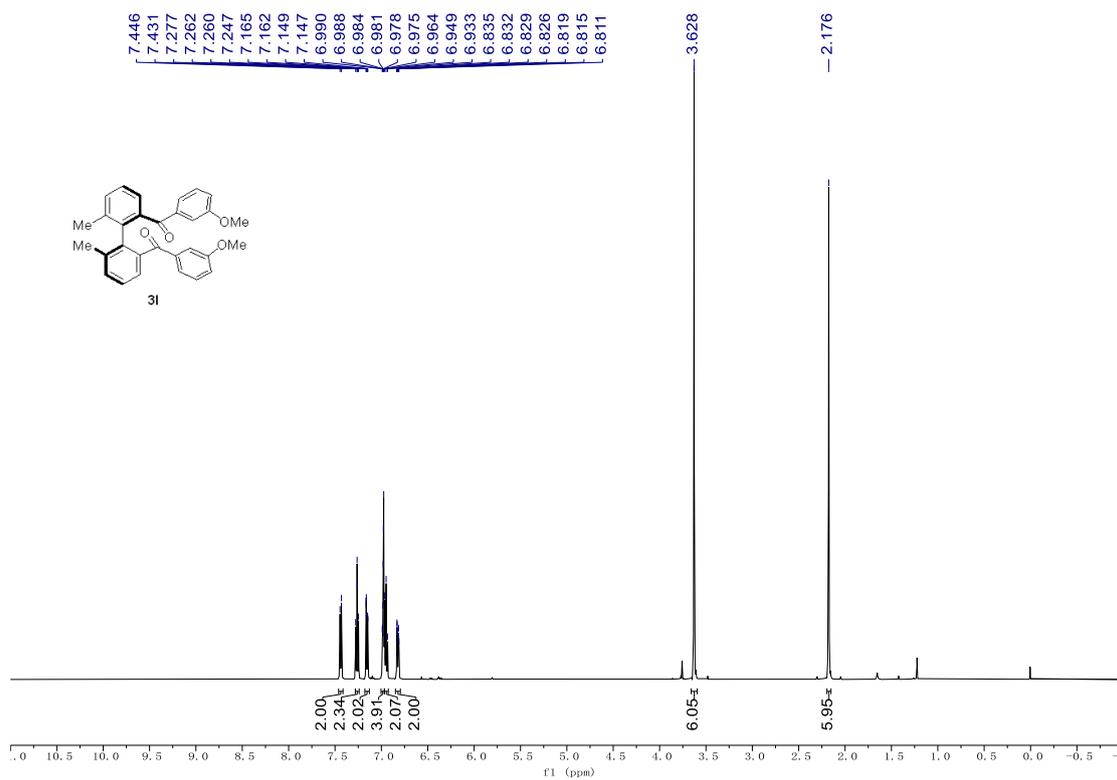
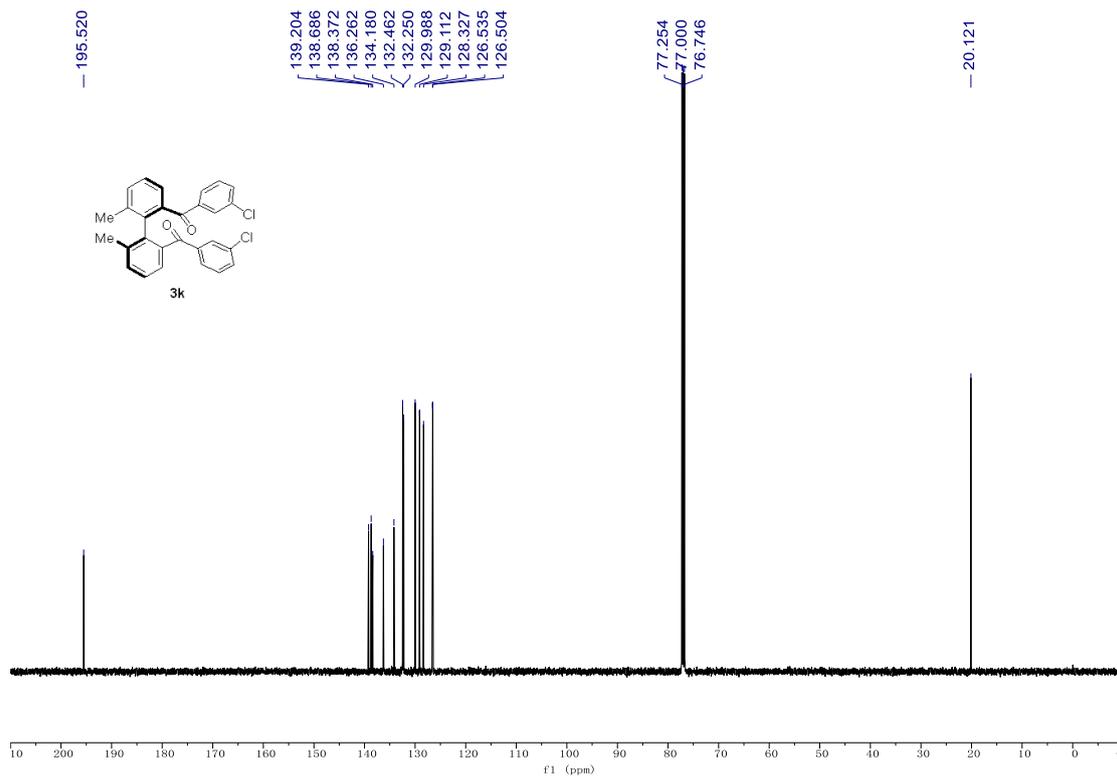


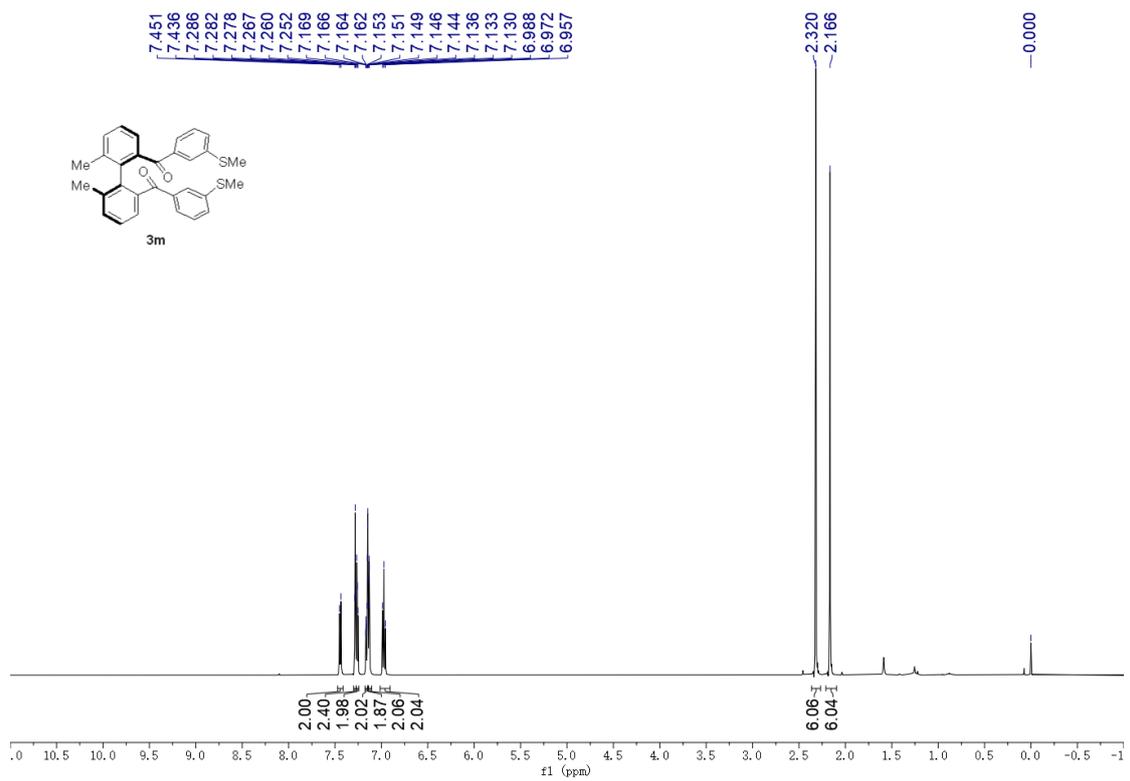
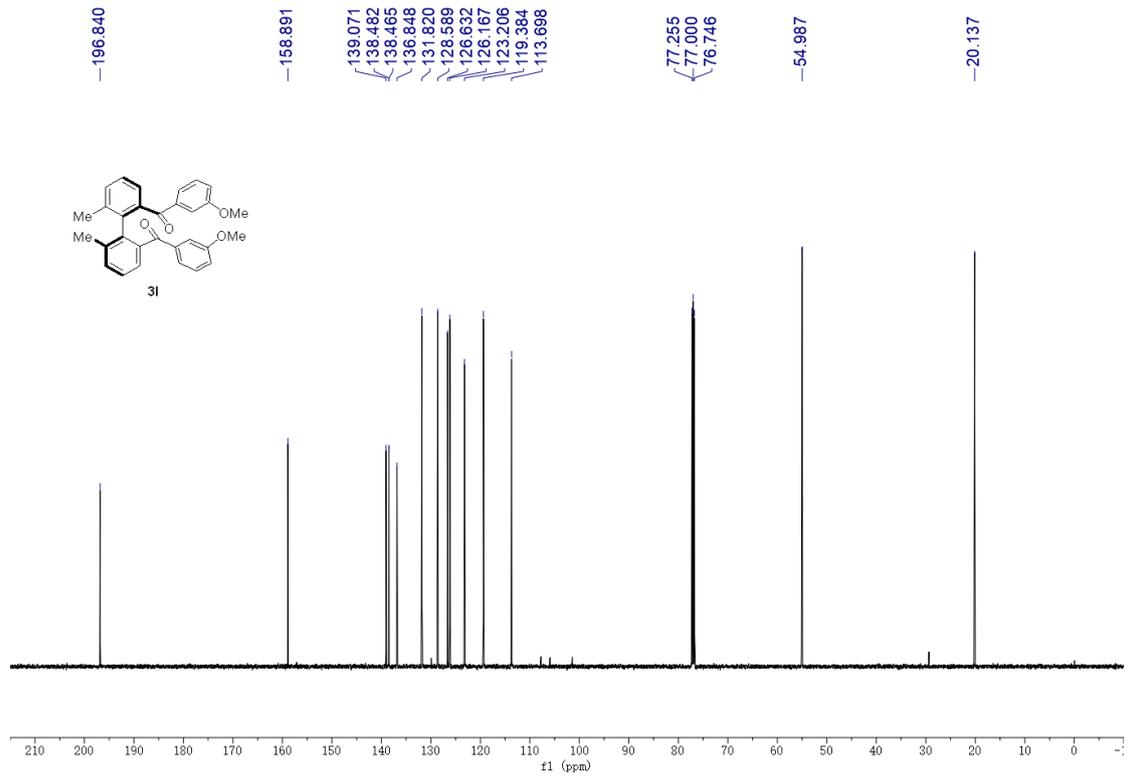


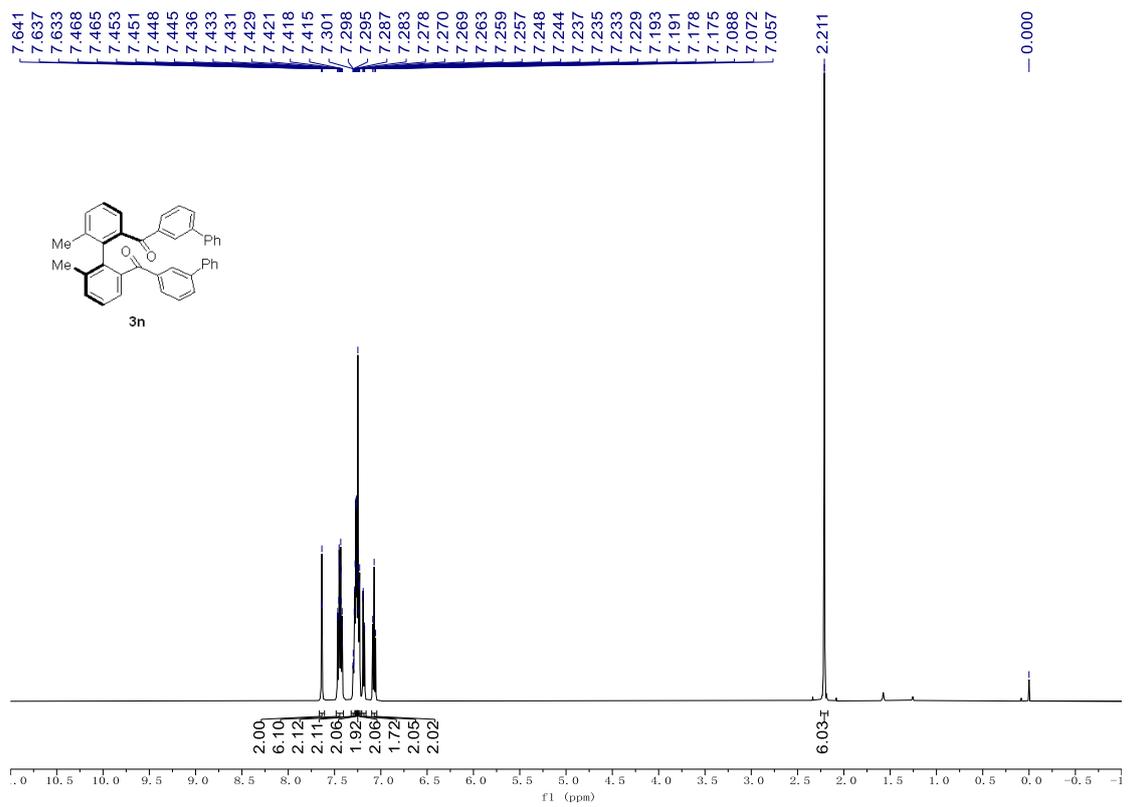
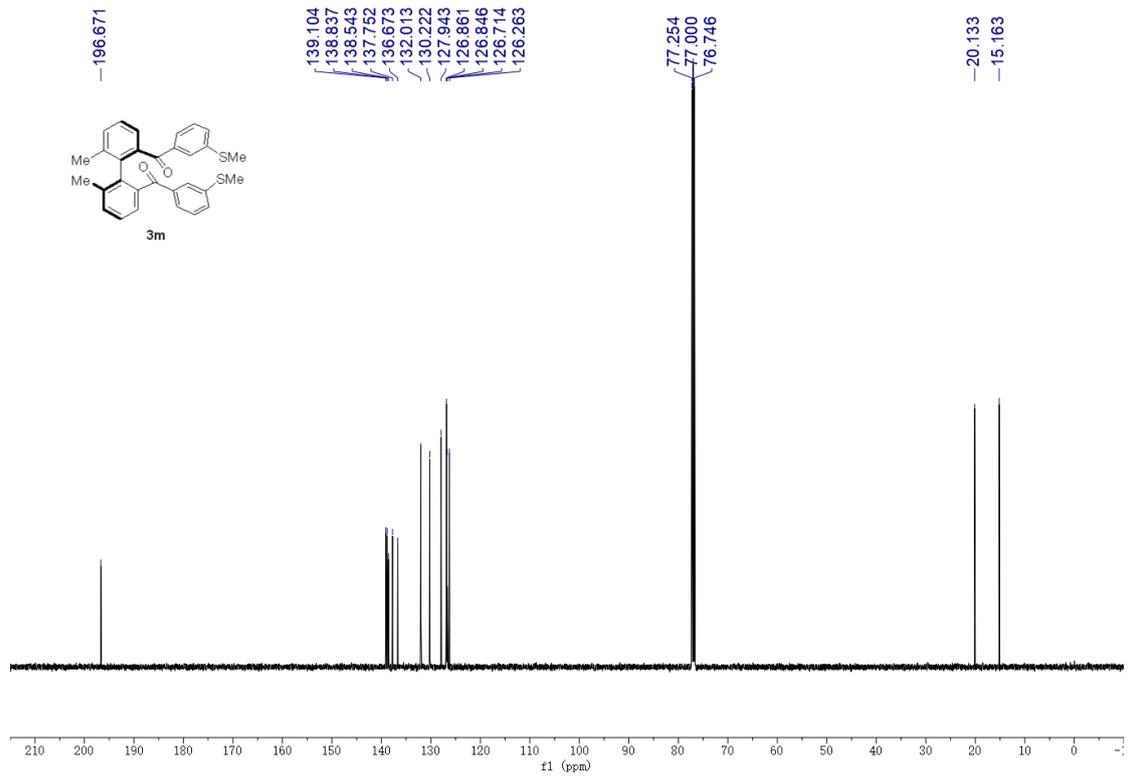


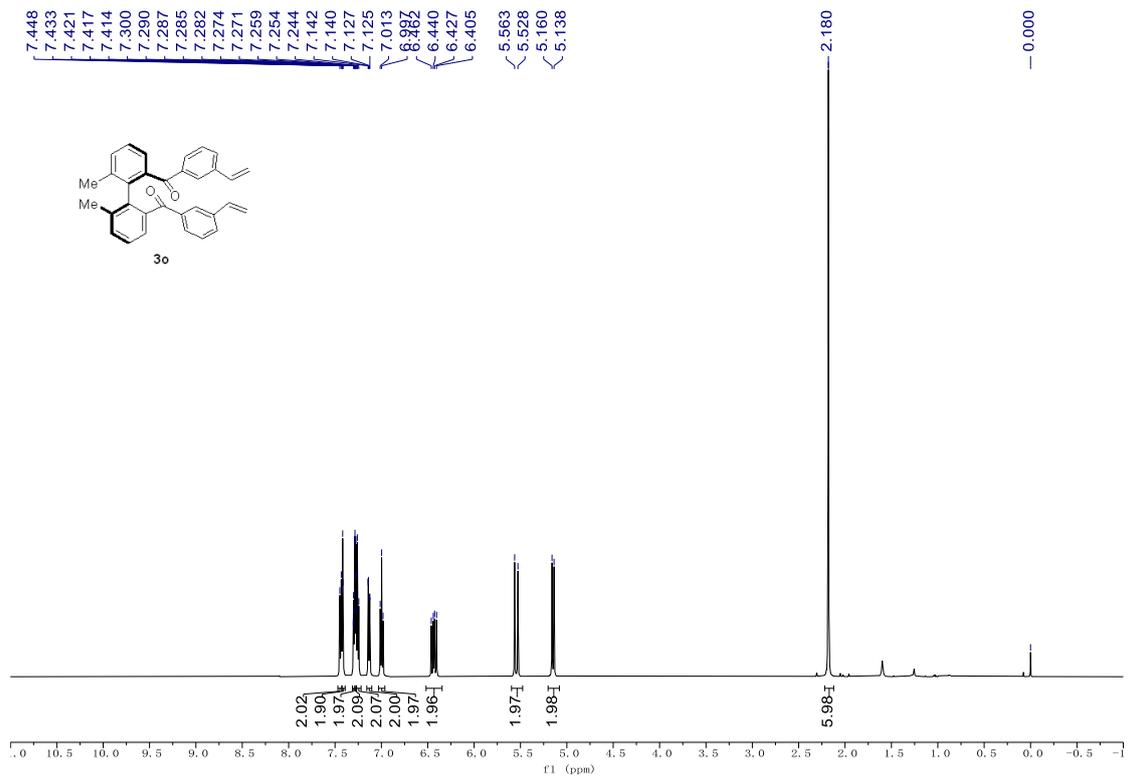
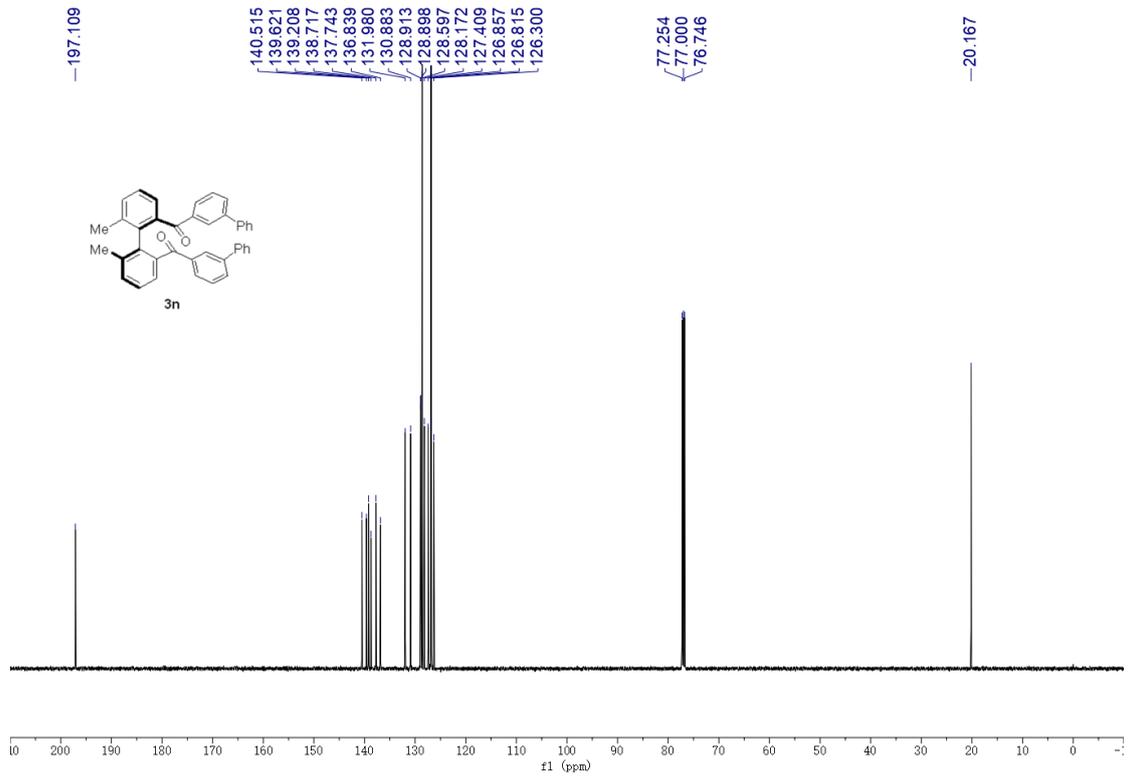


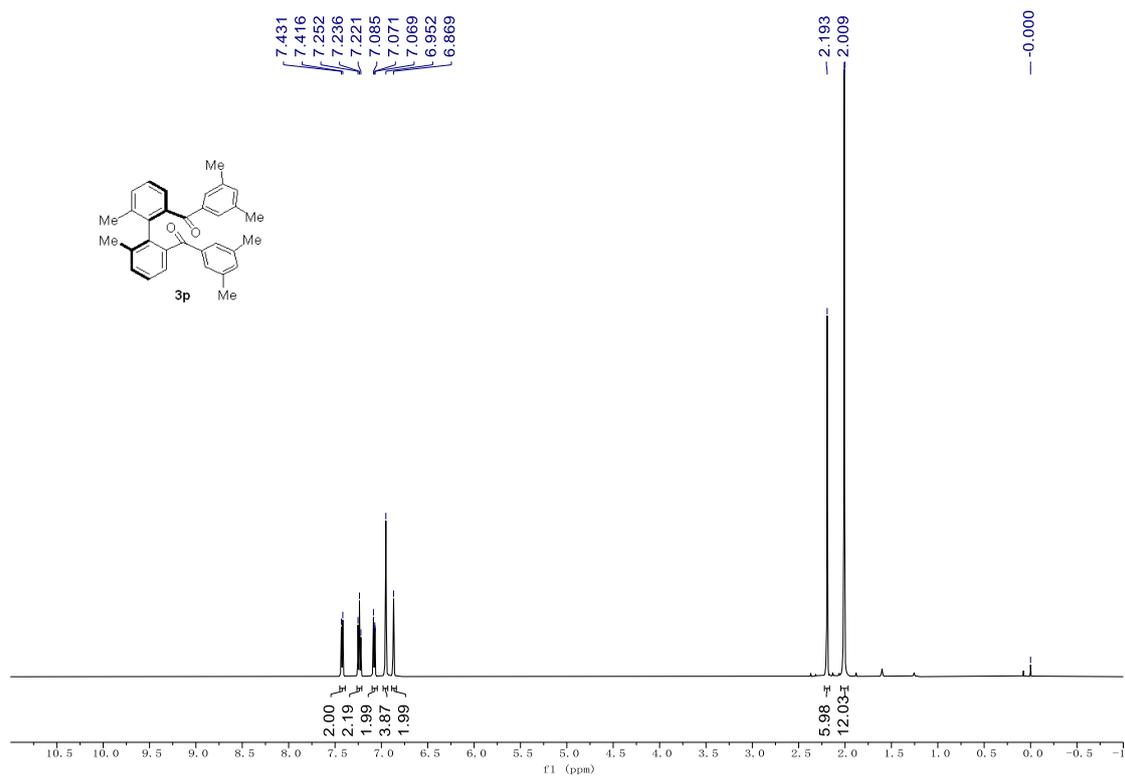
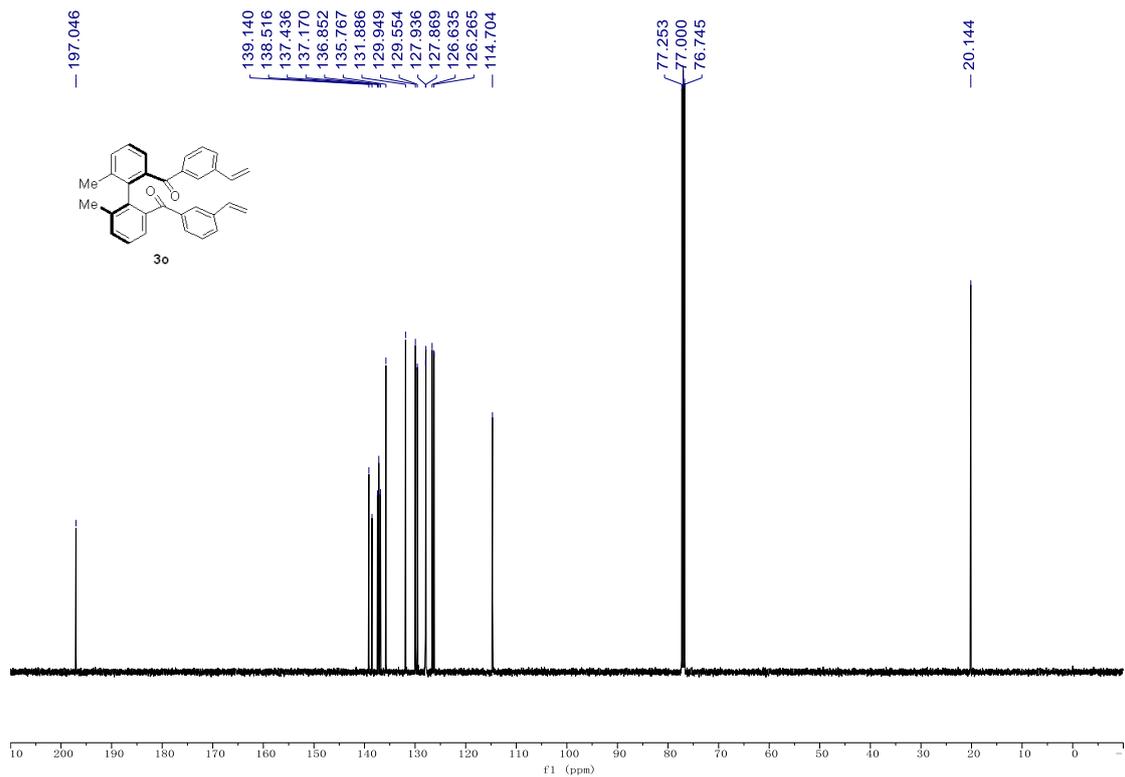


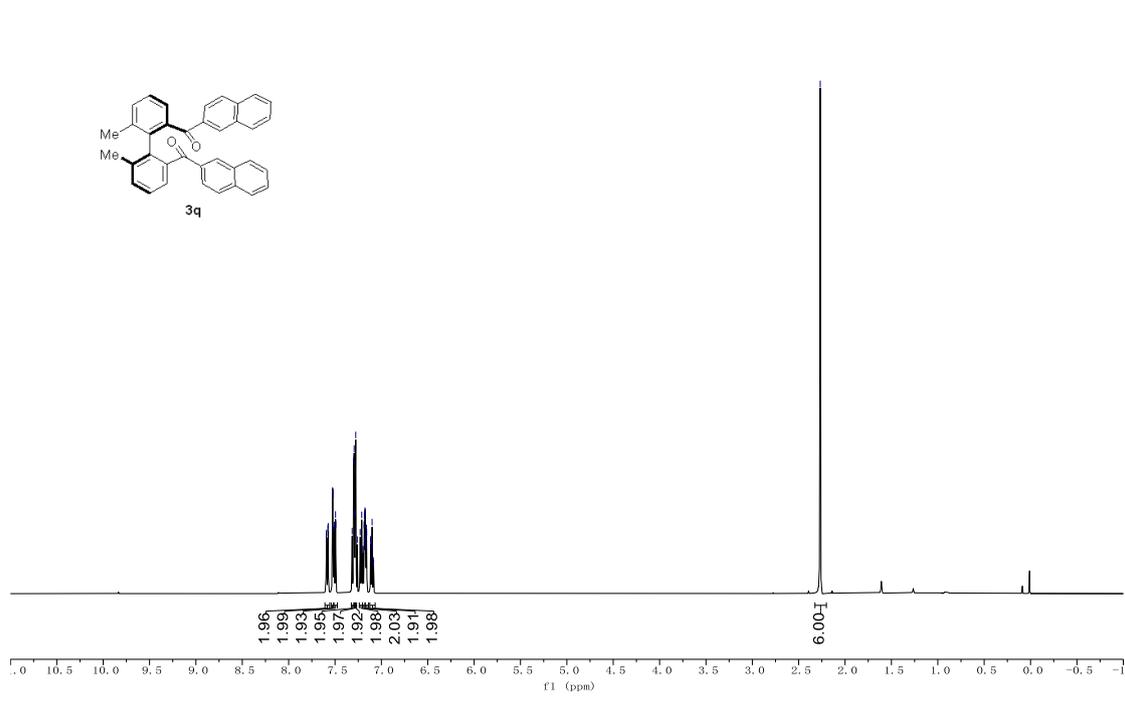
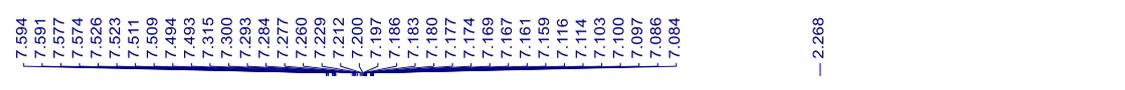
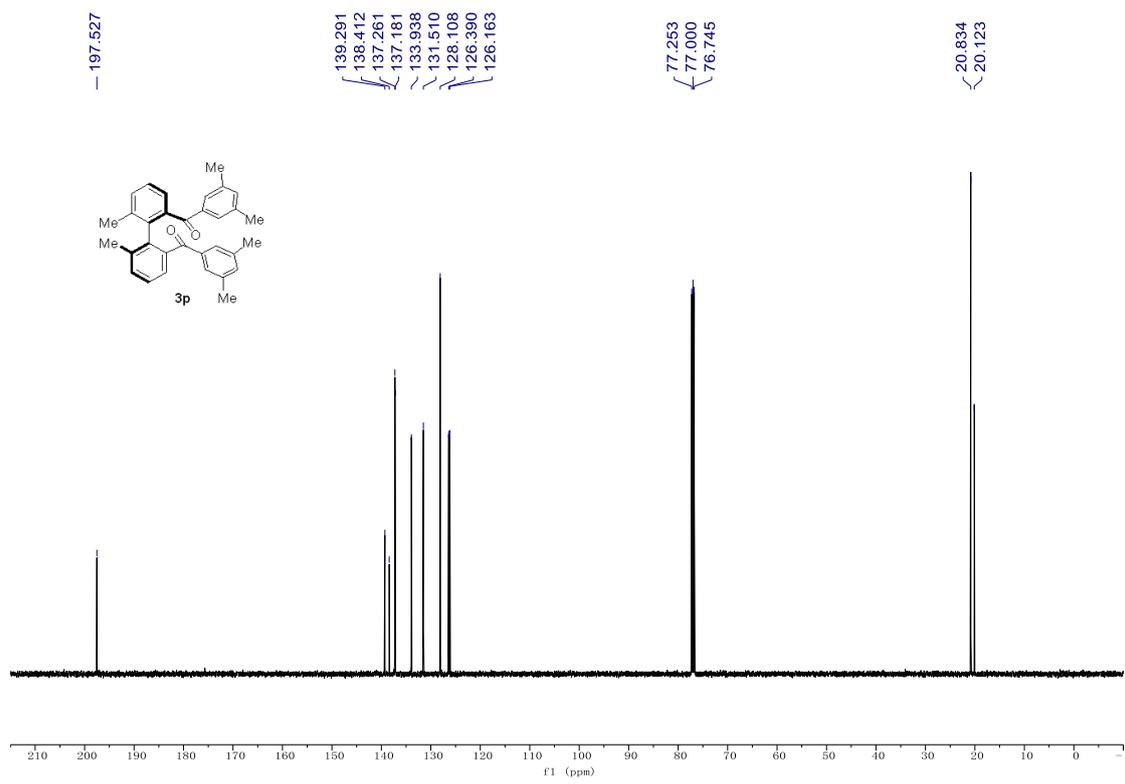


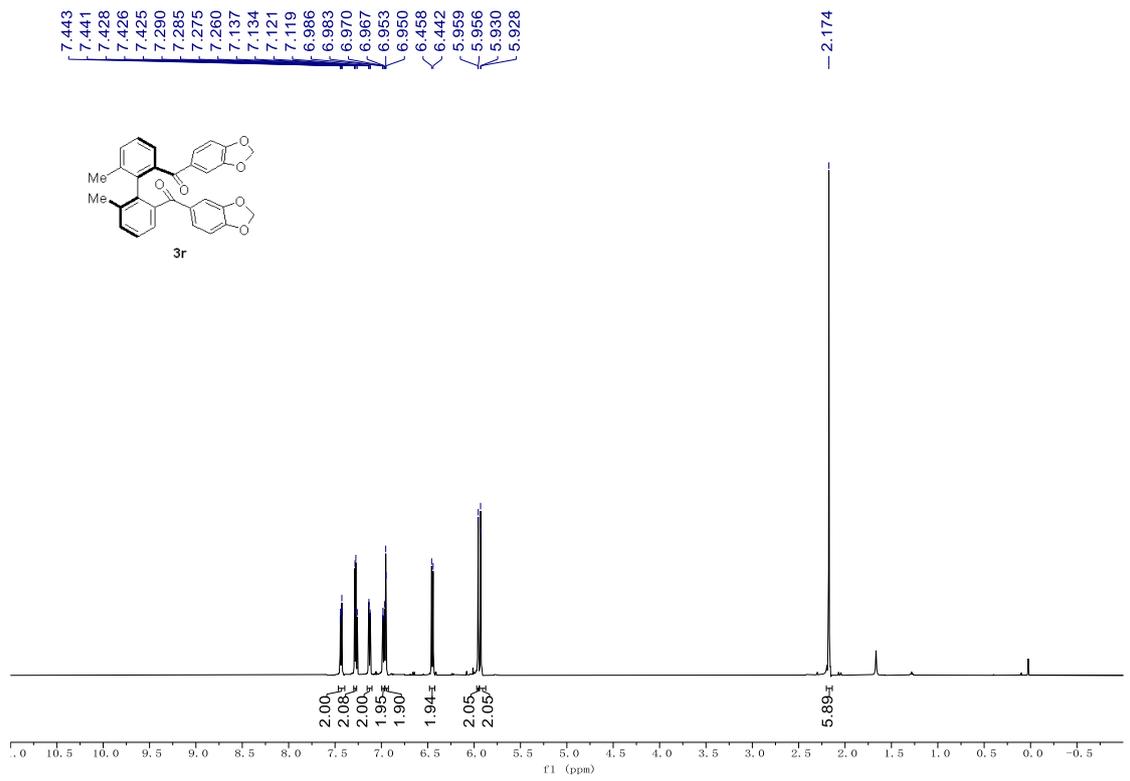
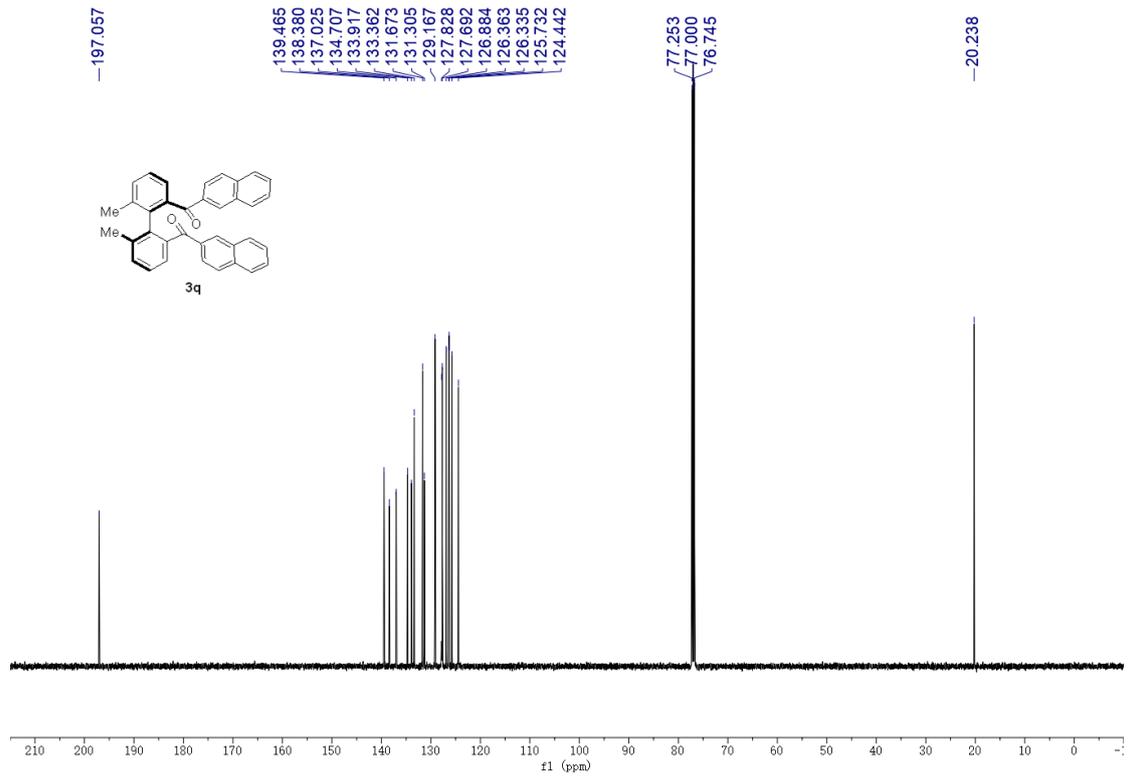


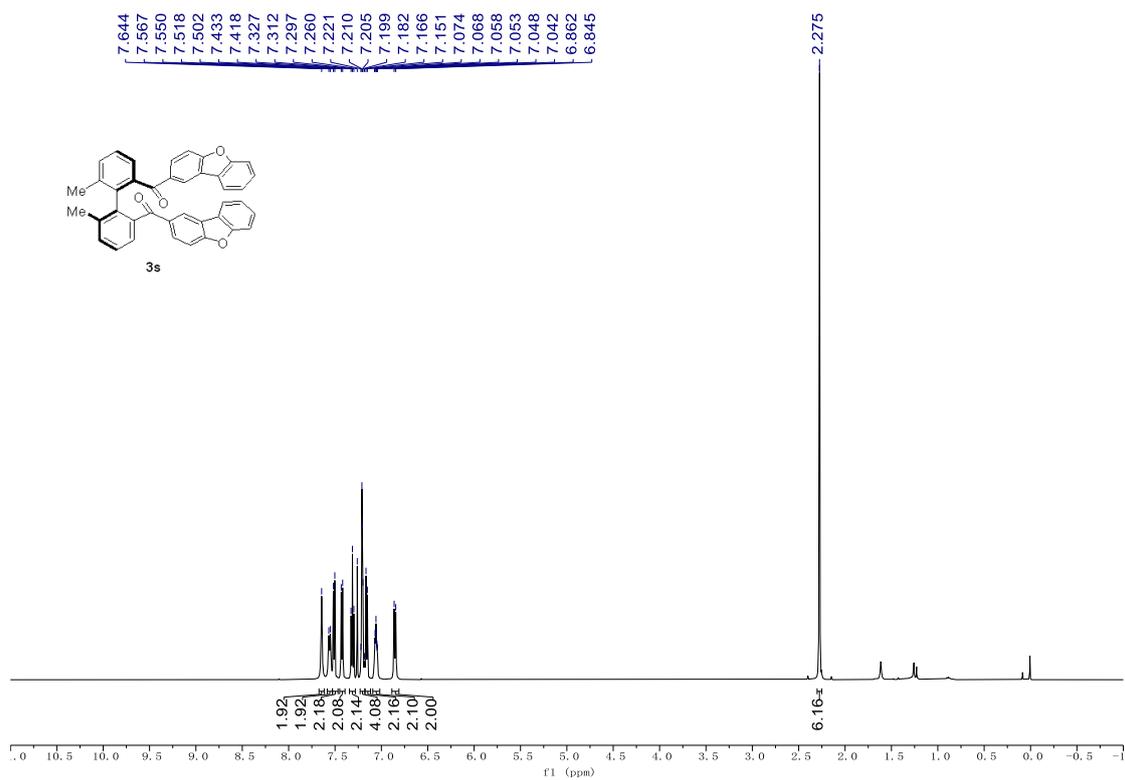
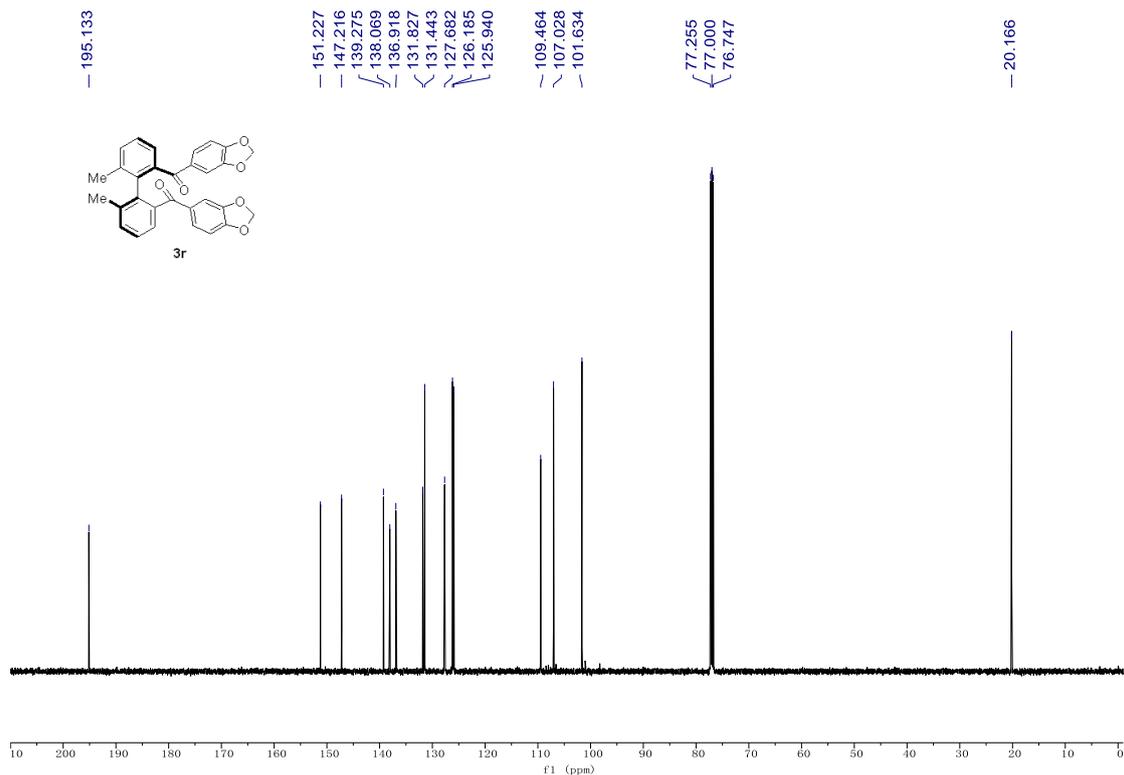


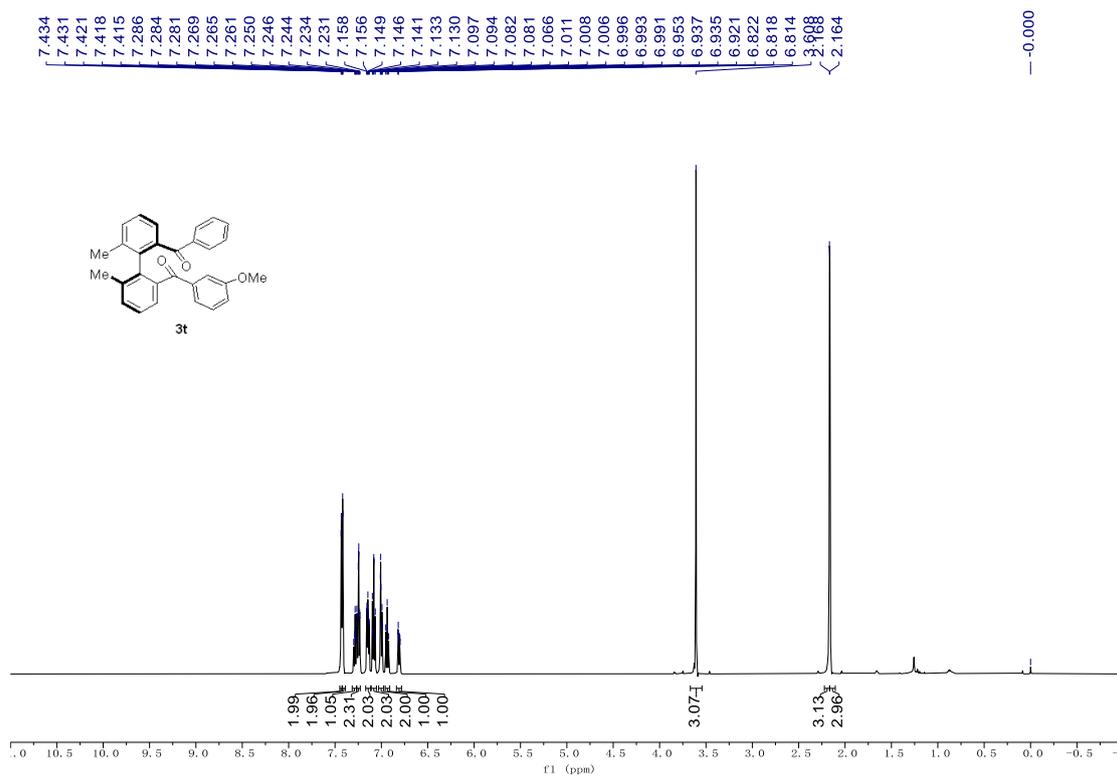
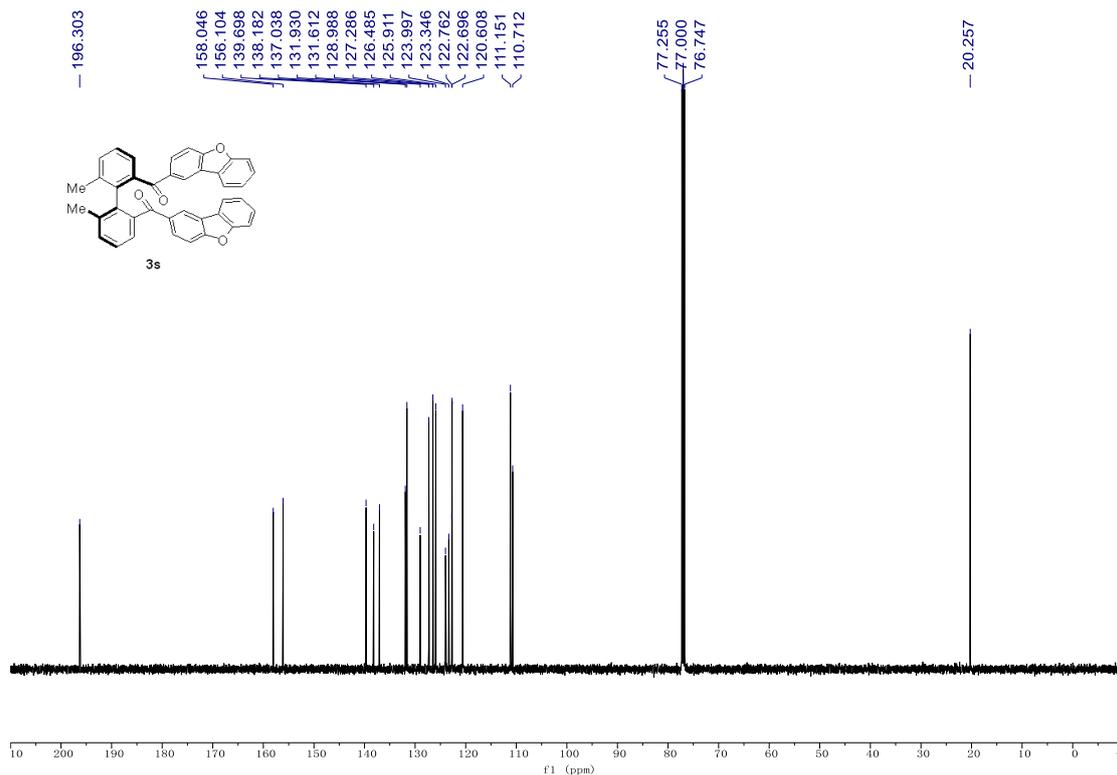


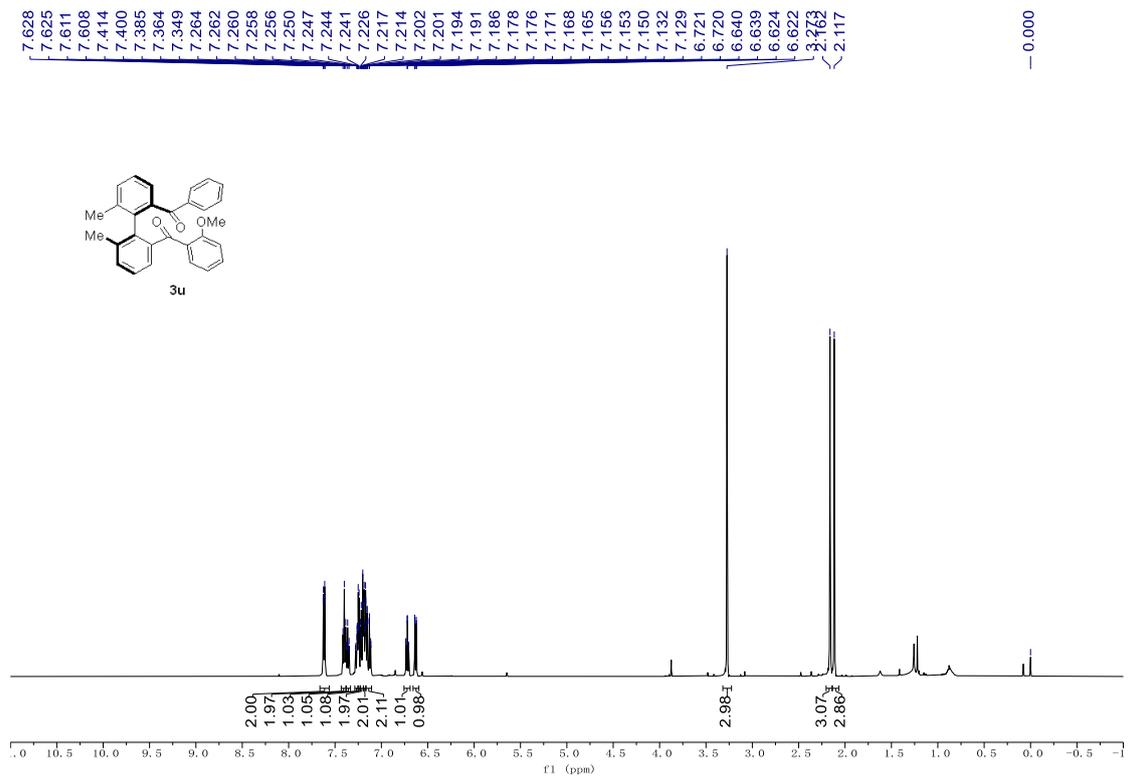
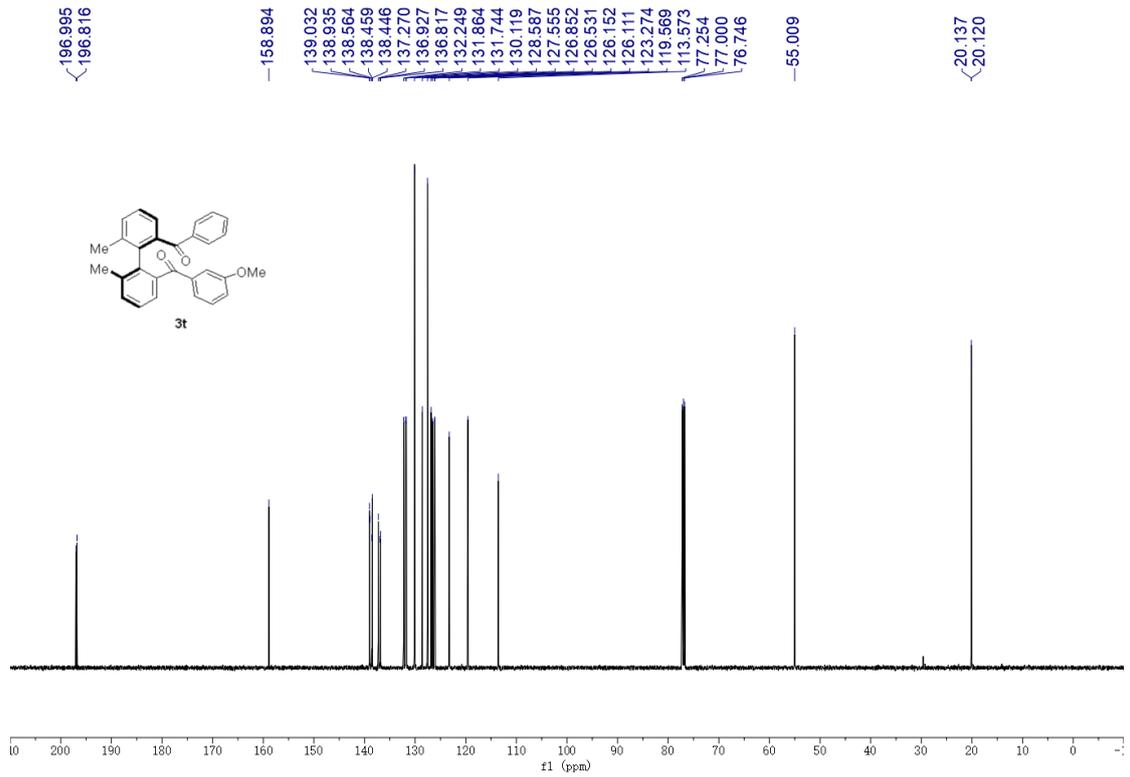


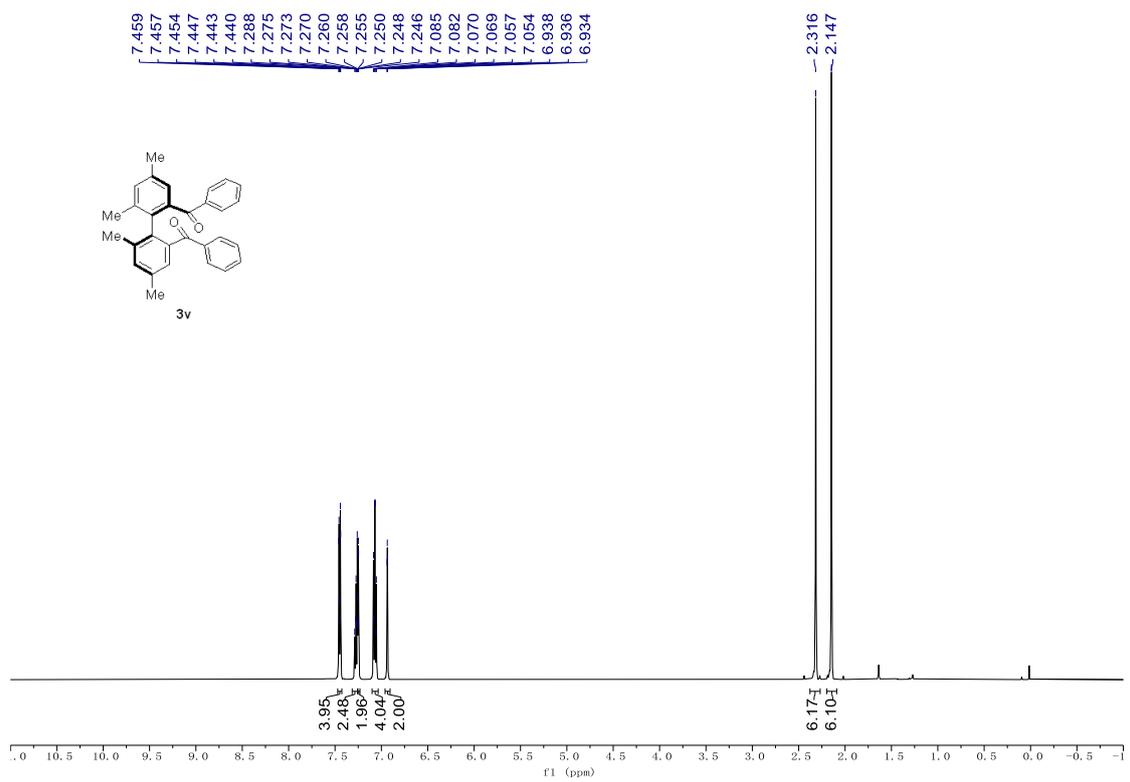
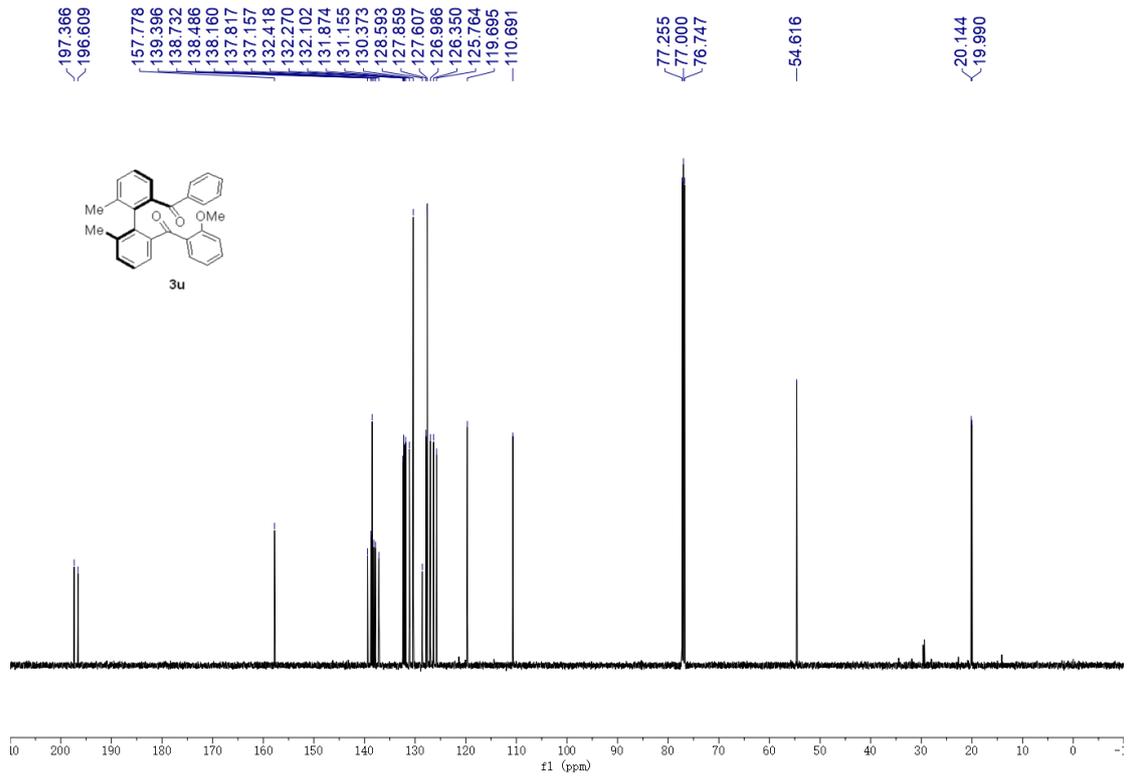


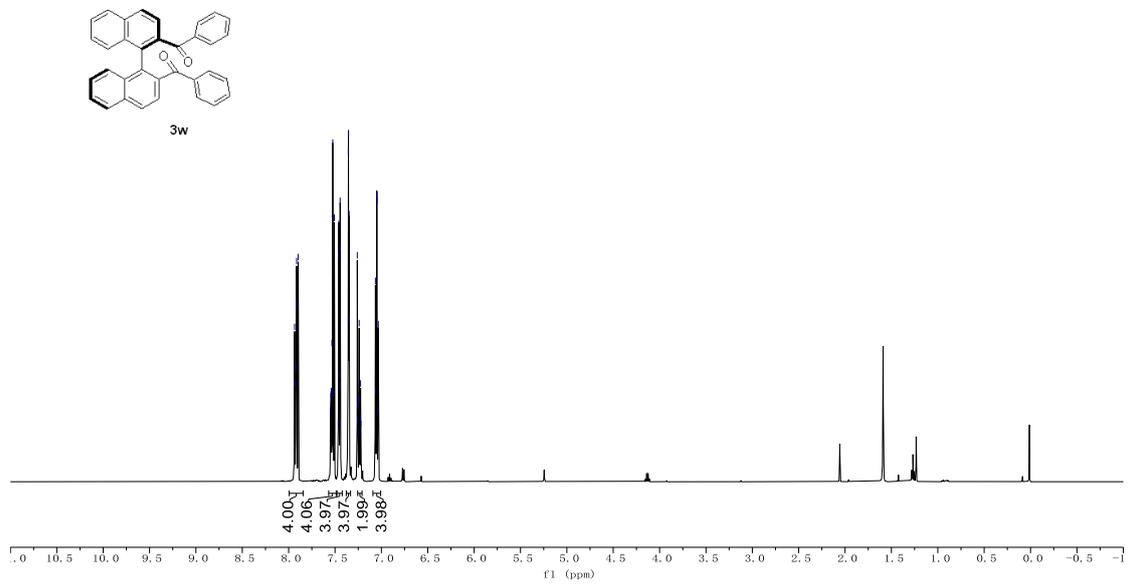
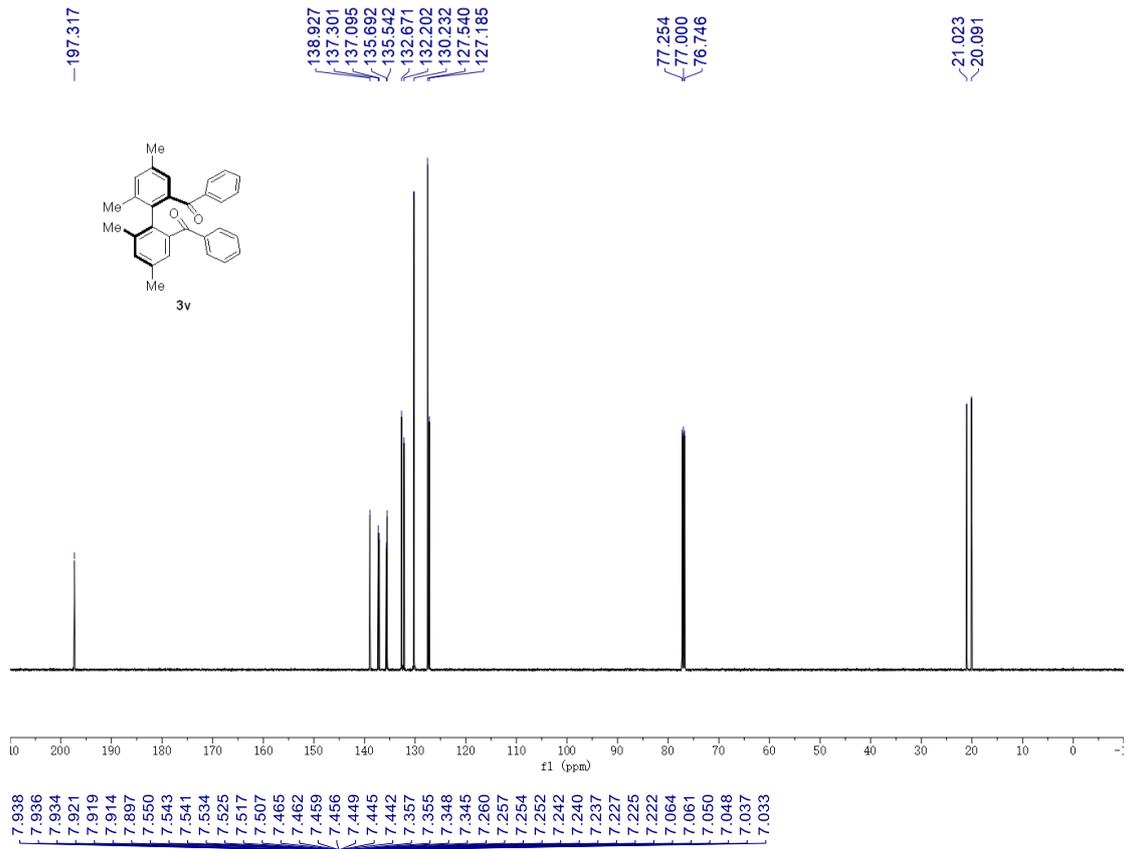


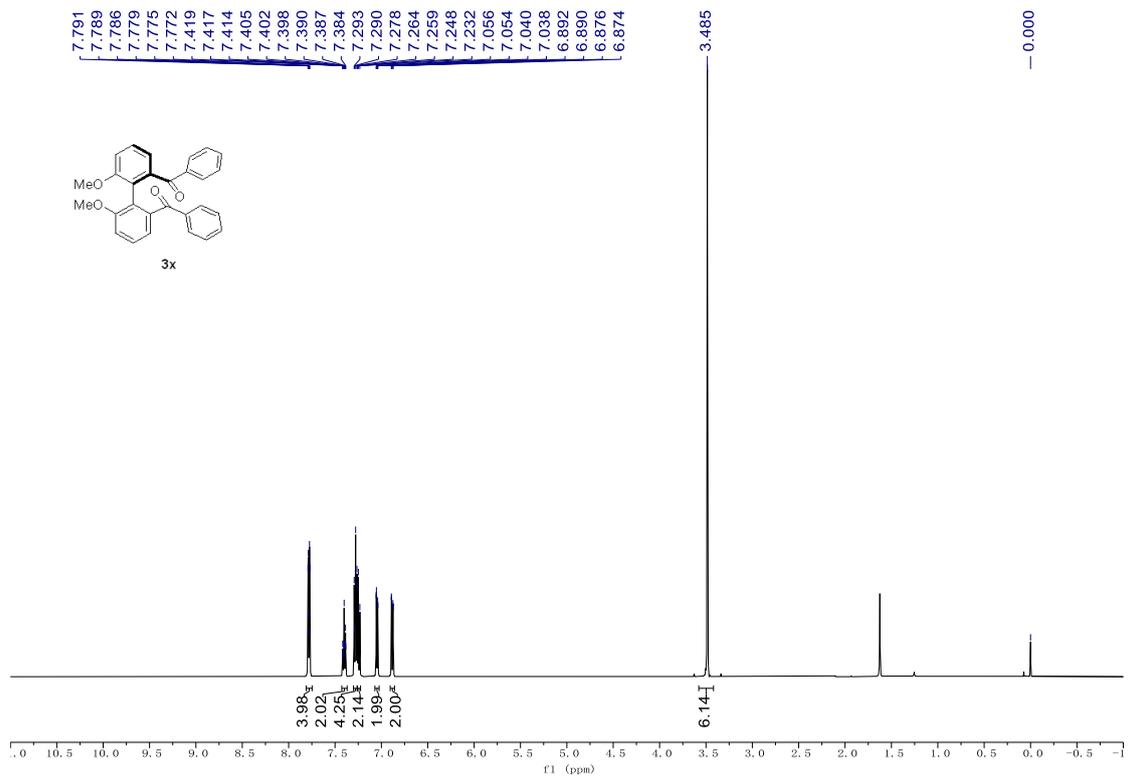
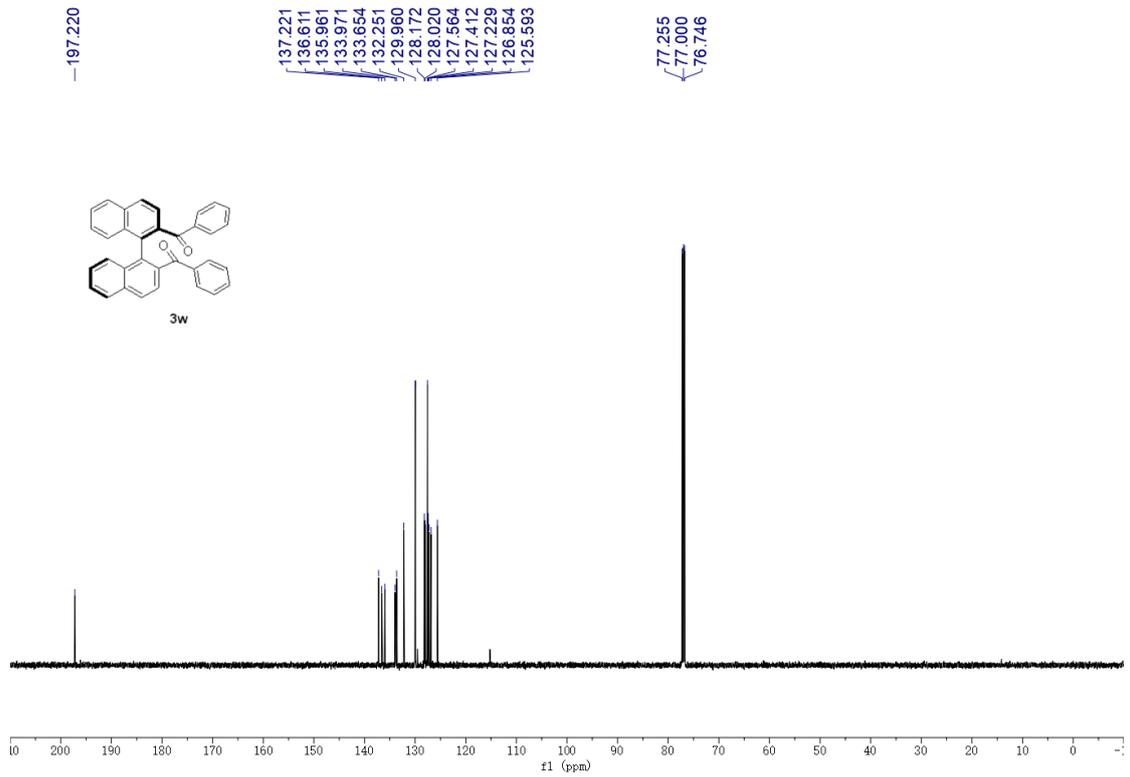


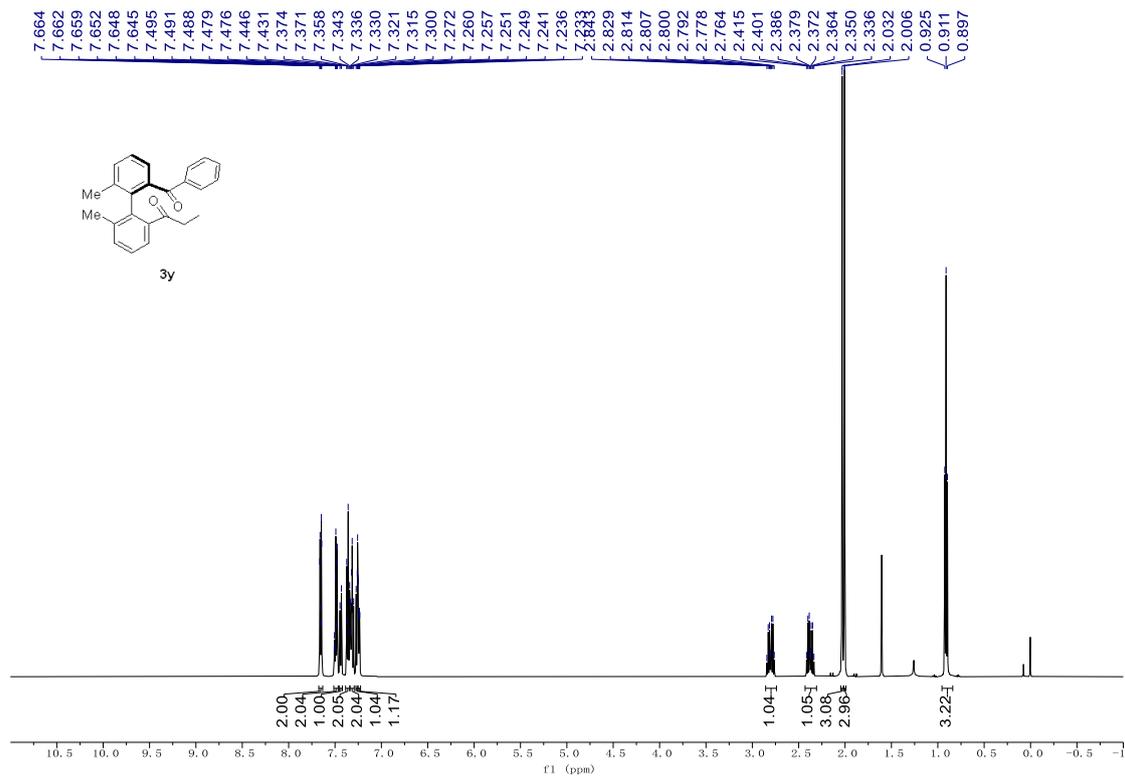
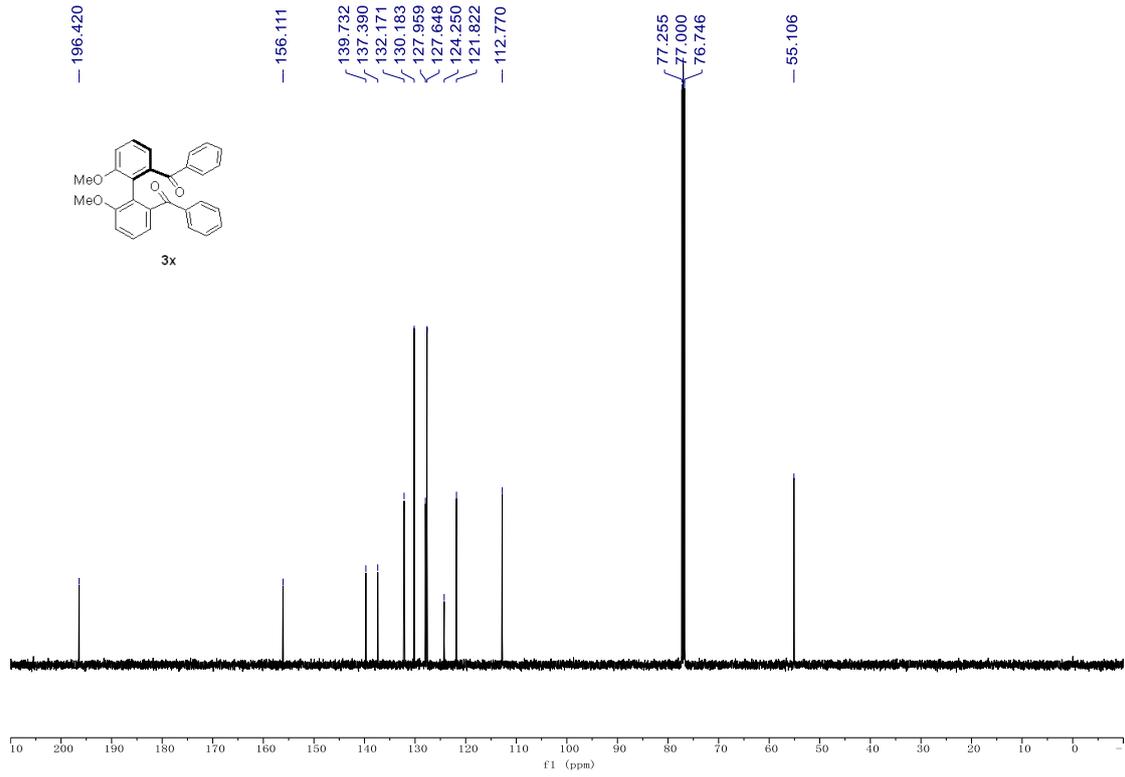


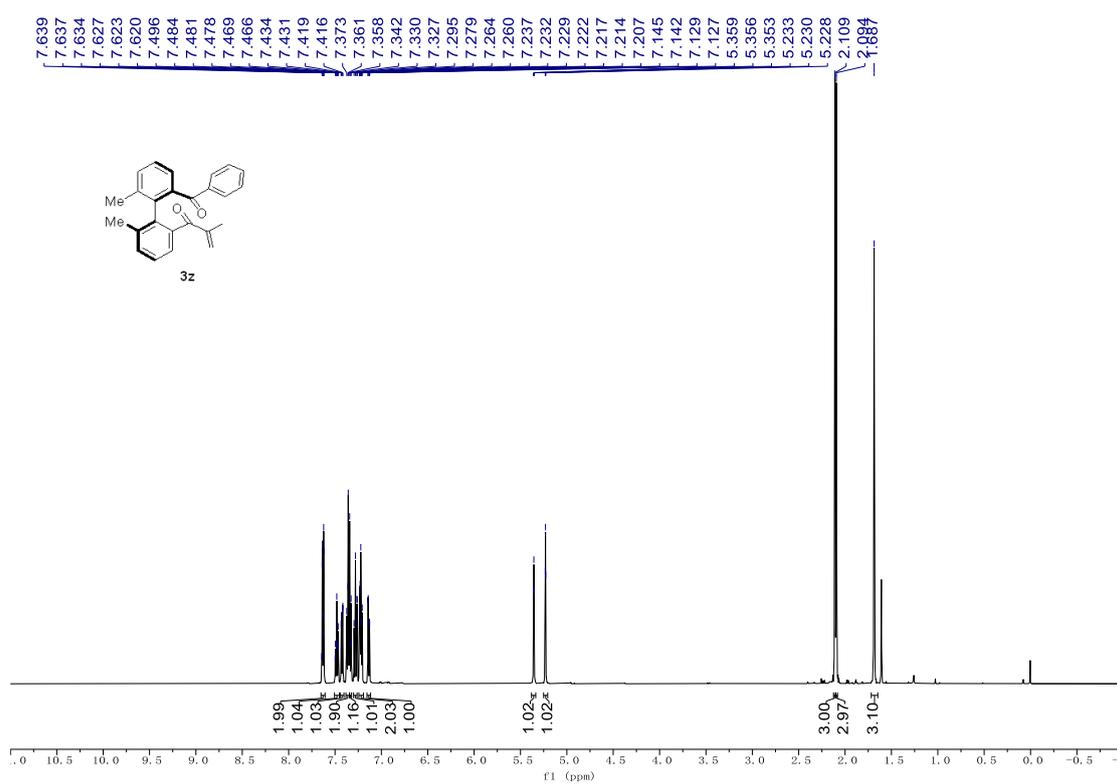
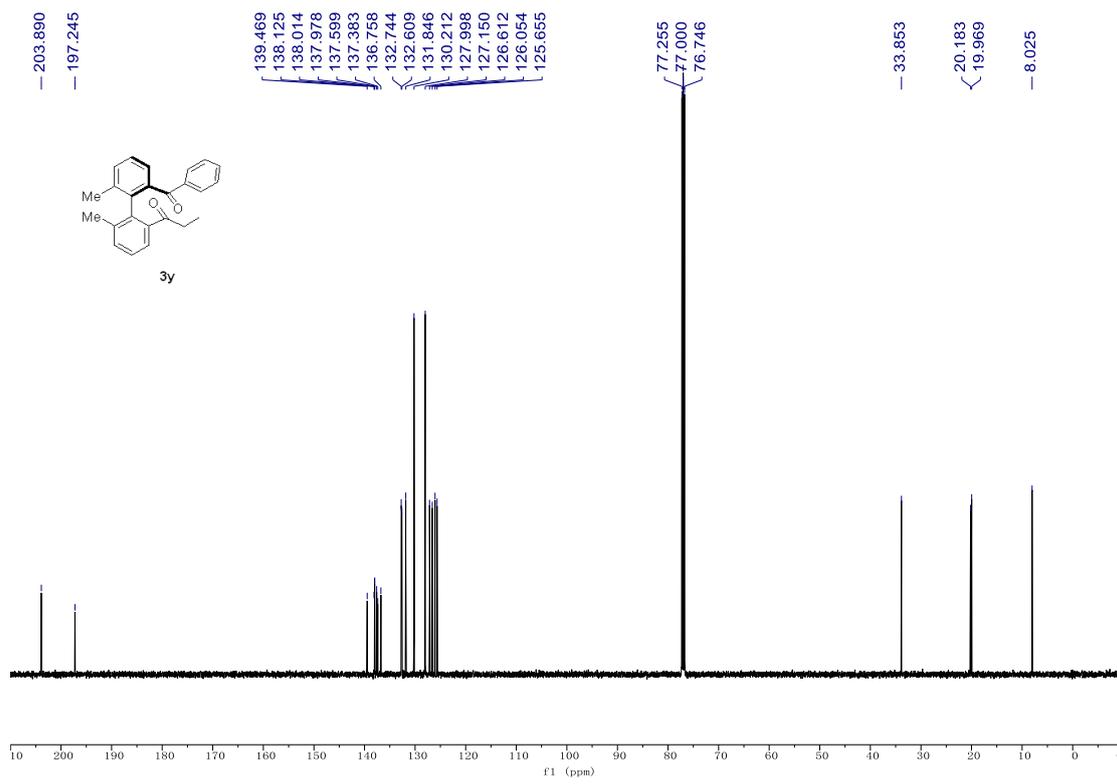


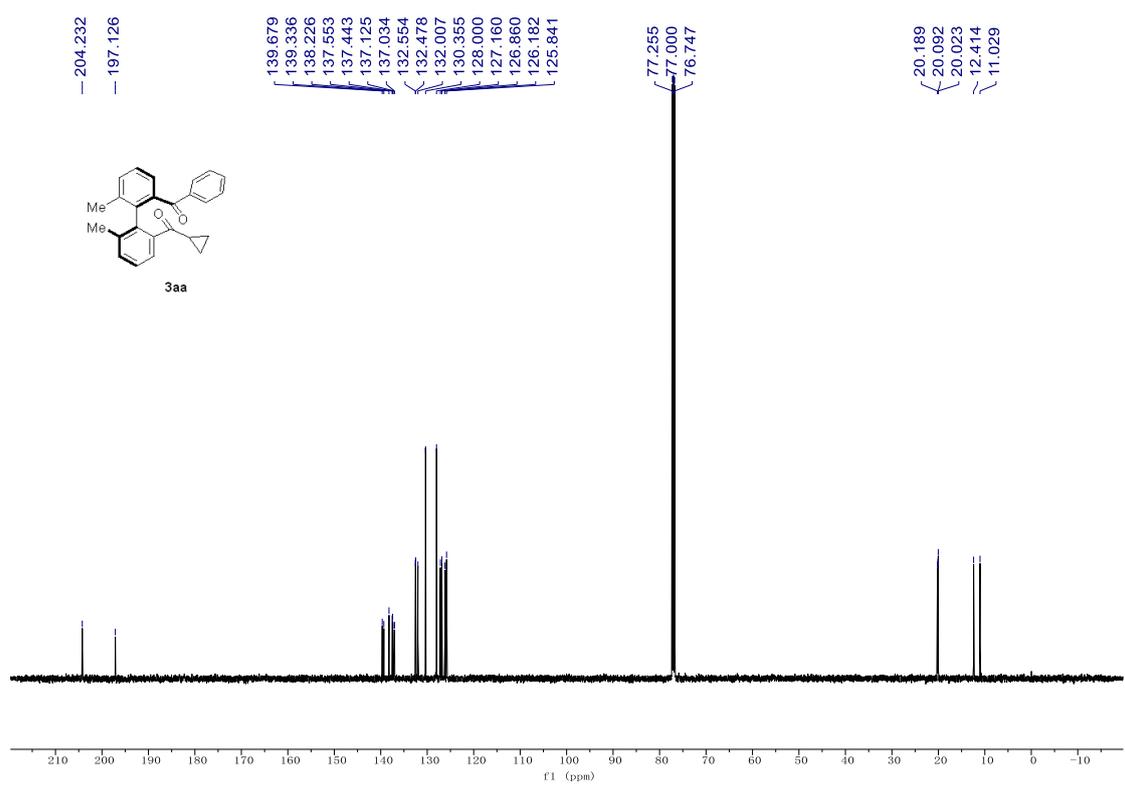
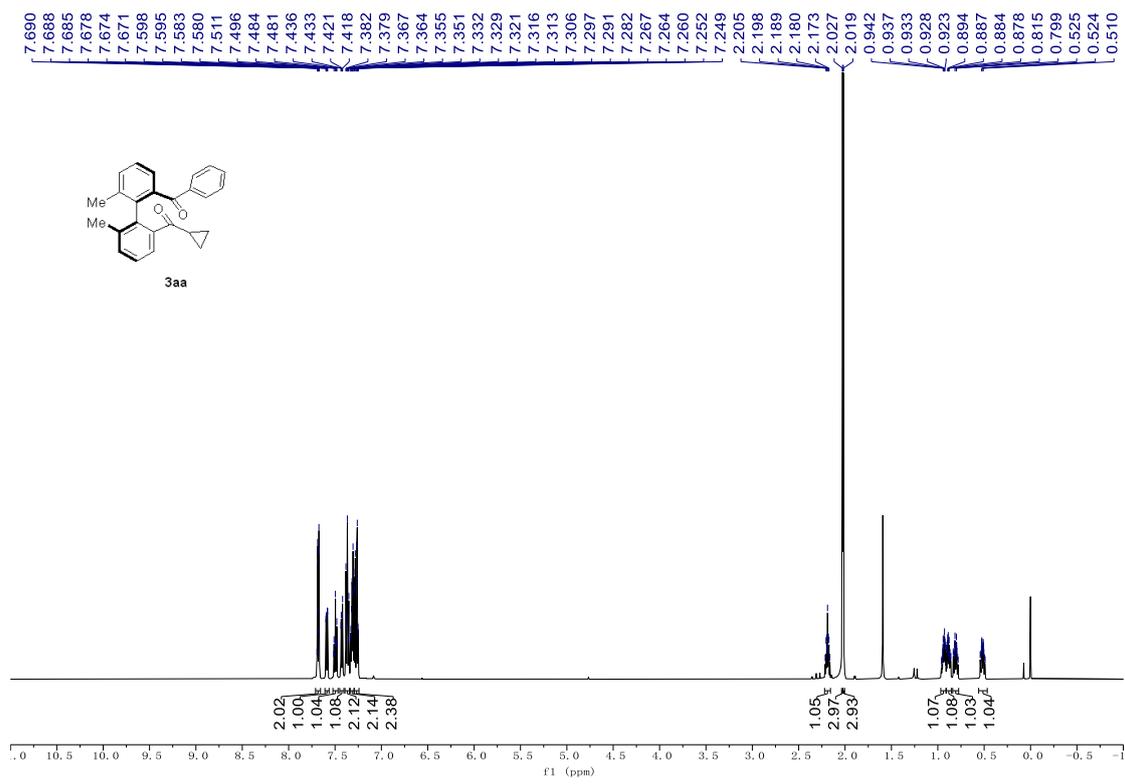


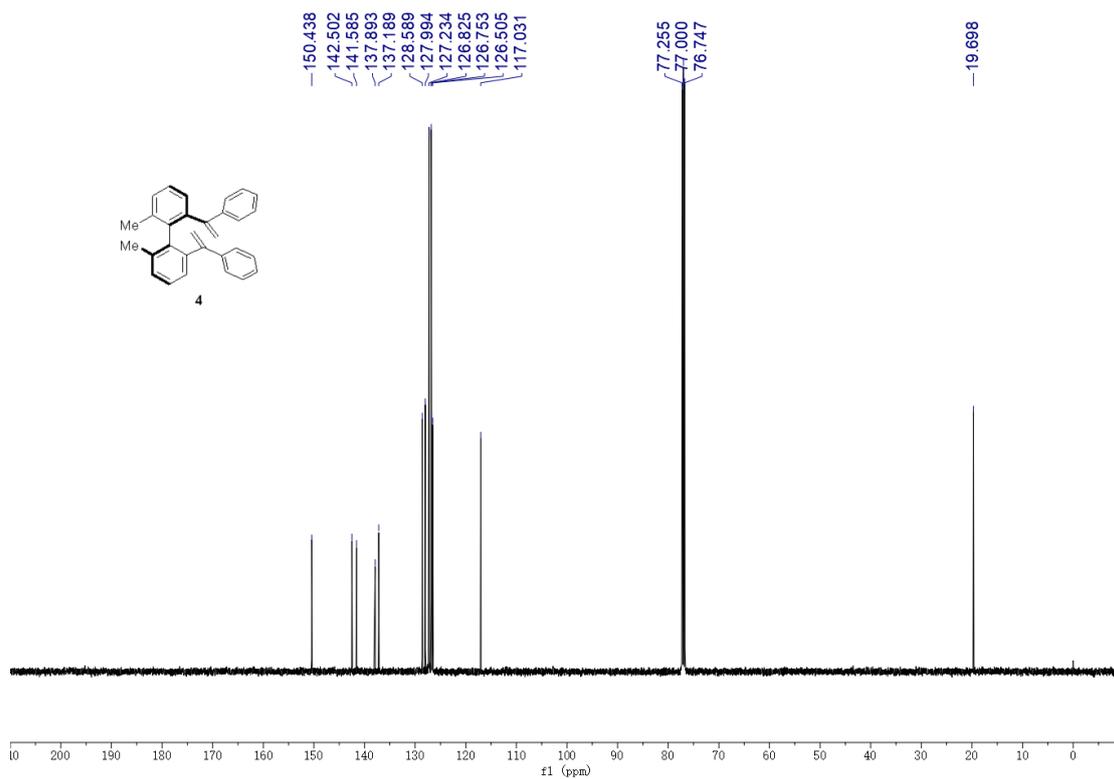
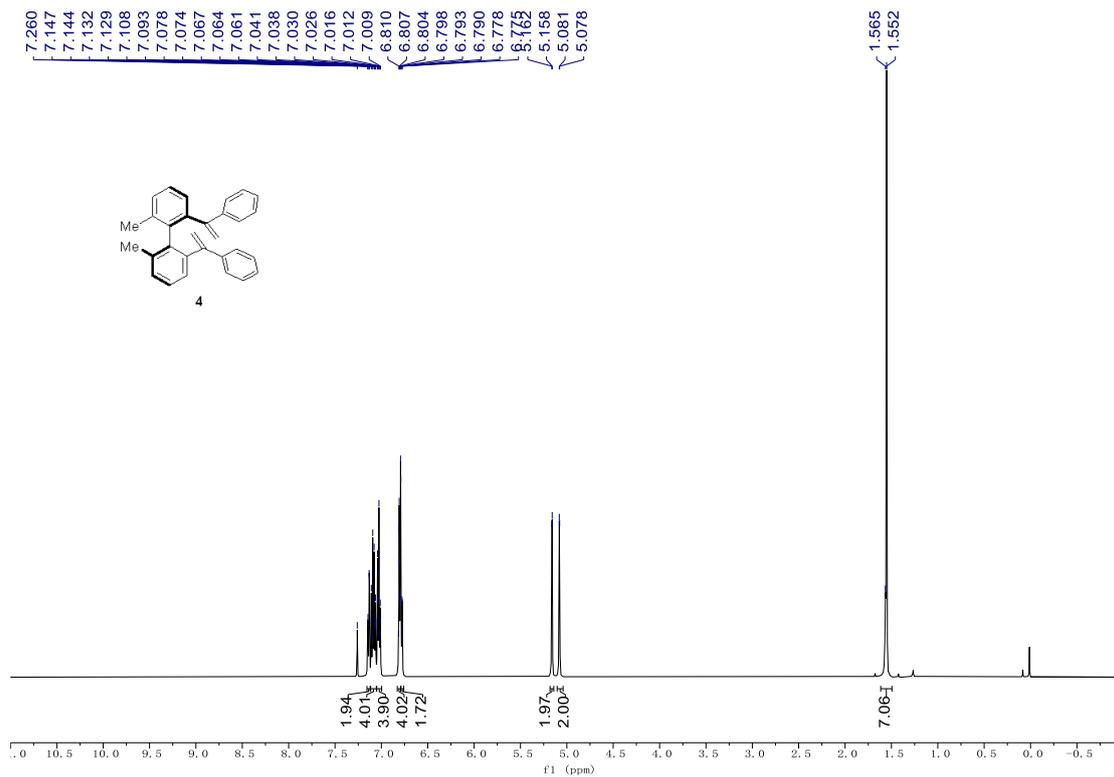


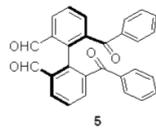




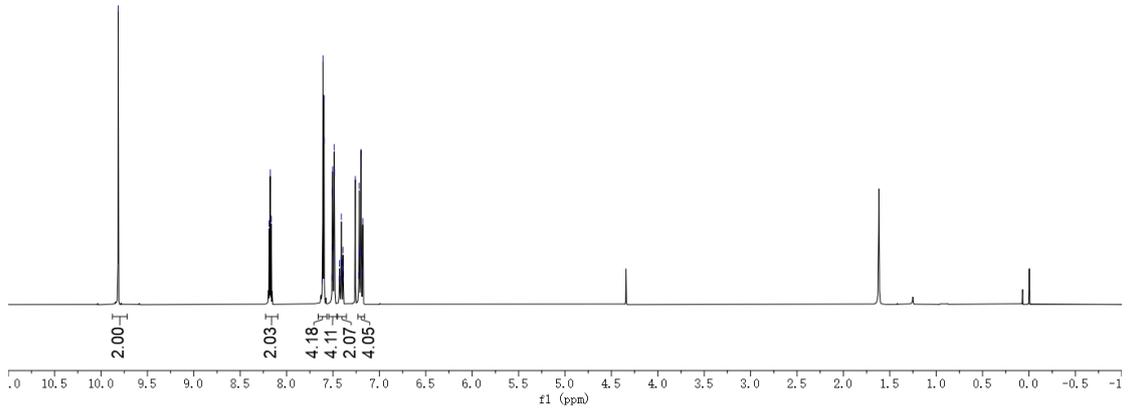




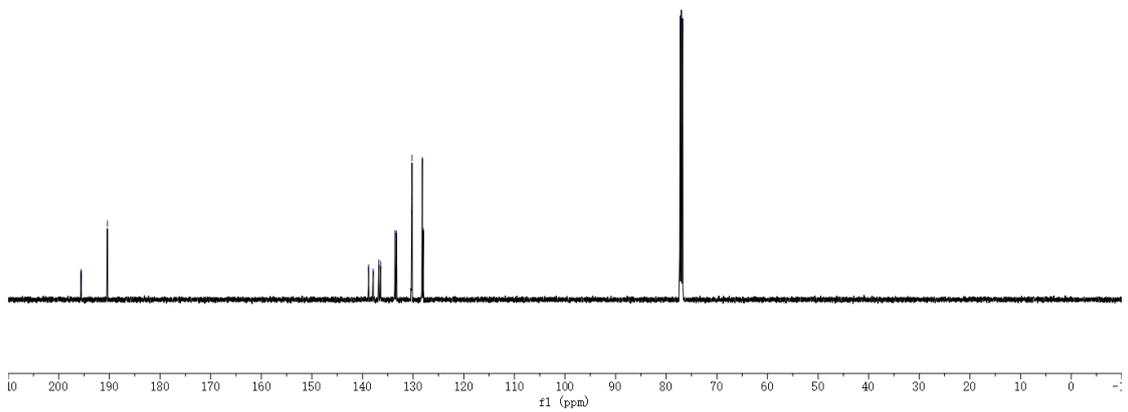
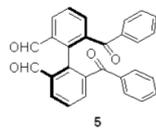


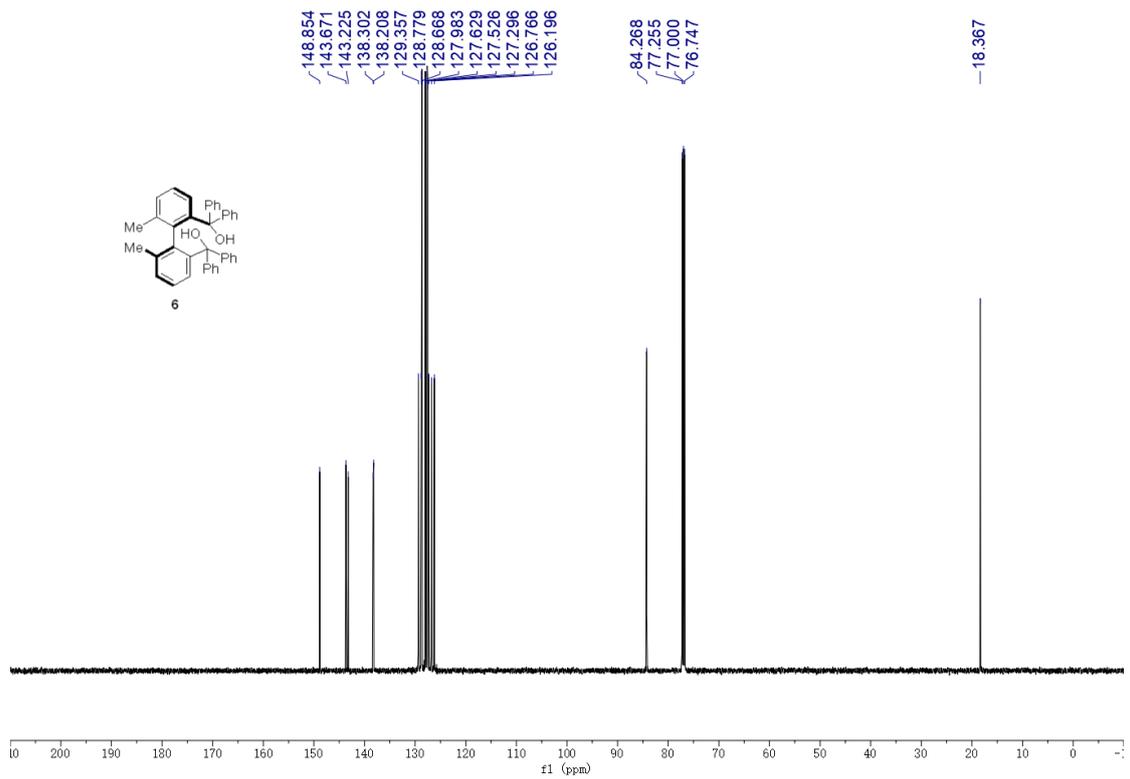
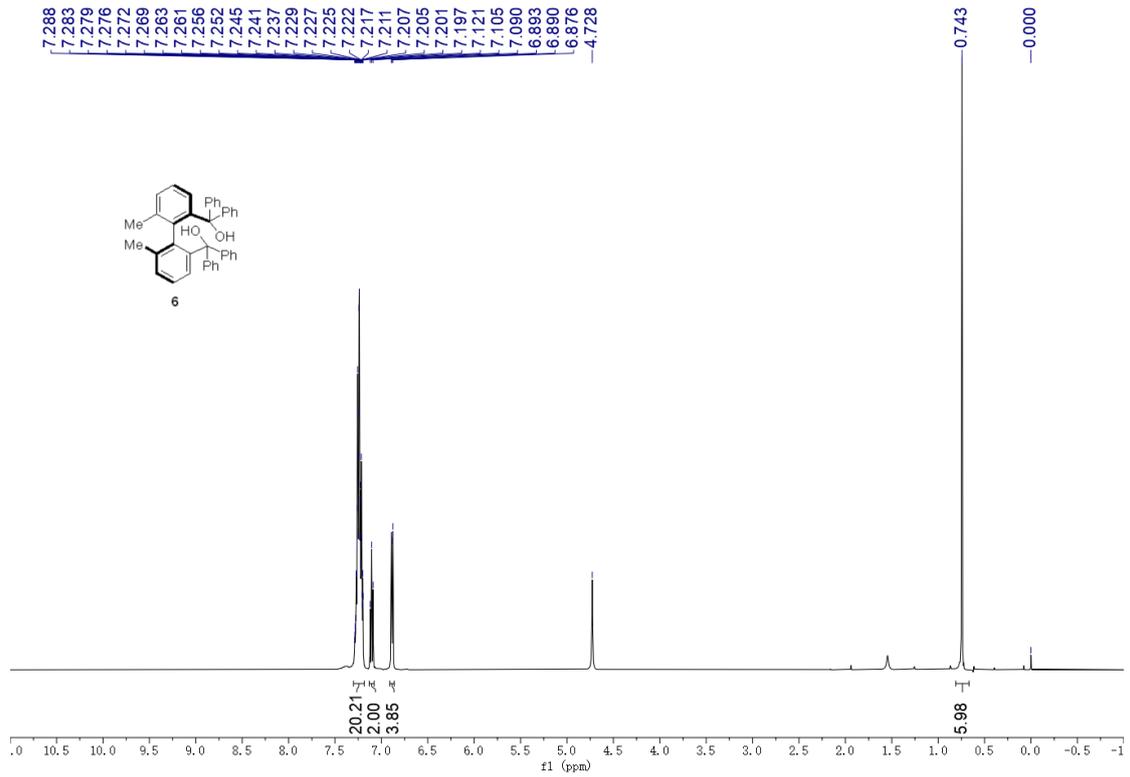


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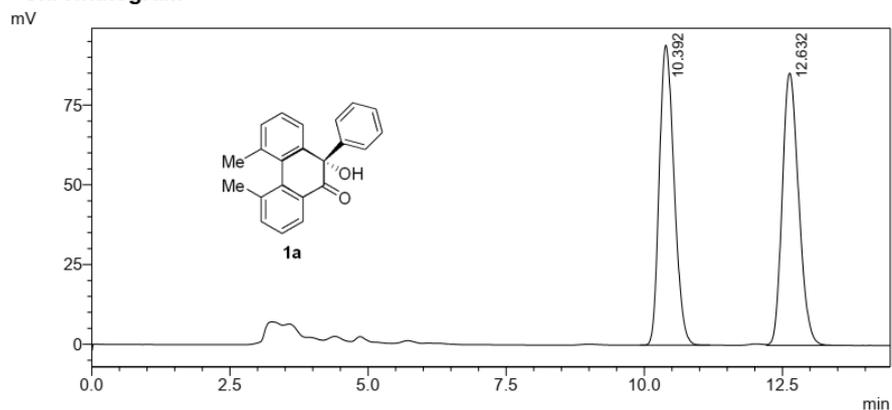
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Copies of HPLC Traces

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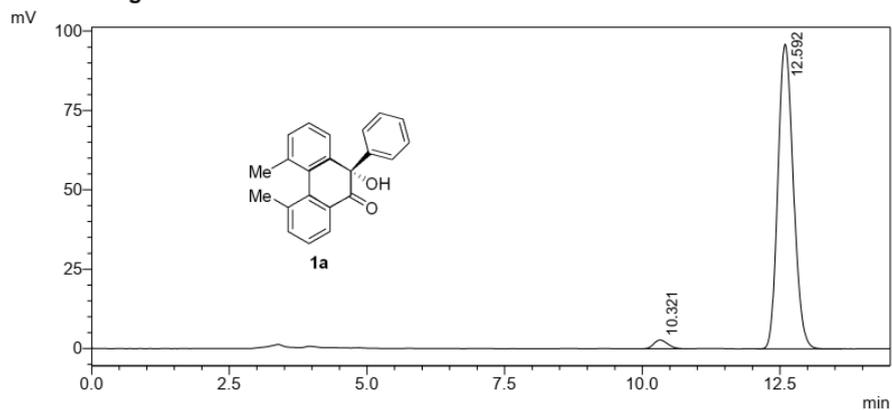


<Peak Table>

Detector A Channel 1 254nm

| Peak# | Ret. Time | Area | Height | Conc. | Unit | Mark | Name |
|-------|-----------|---------|--------|--------|------|------|------|
| 1 | 10.392 | 1754130 | 94046 | 49.825 | | | |
| 2 | 12.632 | 1766461 | 85386 | 50.175 | | | |
| Total | | 3520591 | 179432 | | | | |

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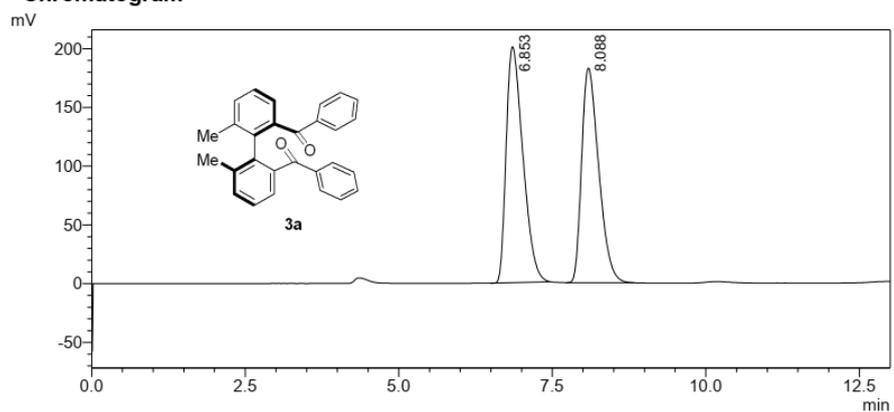


<Peak Table>

Detector A Channel 1 254nm

| Peak# | Ret. Time | Area | Height | Conc. | Unit | Mark | Name |
|-------|-----------|---------|--------|--------|------|------|------|
| 1 | 10.321 | 48969 | 2756 | 2.549 | | | |
| 2 | 12.592 | 1872157 | 95967 | 97.451 | | | |
| Total | | 1921126 | 98724 | | | | |

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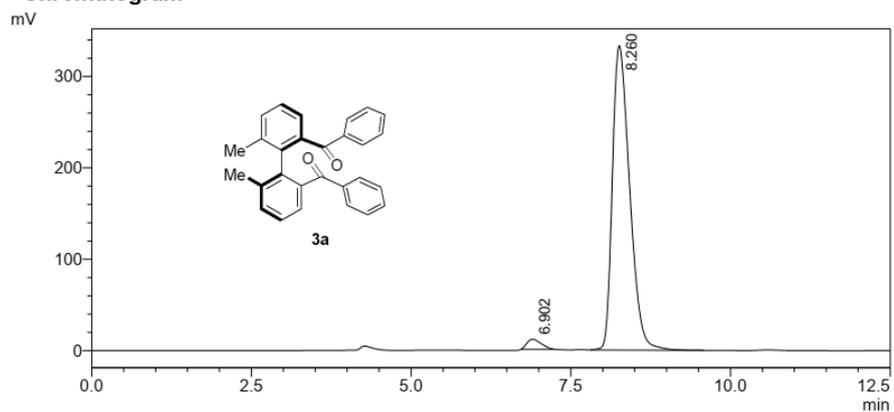


<Peak Table>

Detector A Channel 1 254nm

| Peak# | Ret. Time | Area | Height | Conc. | Unit | Mark | Name |
|-------|-----------|---------|--------|--------|------|------|------|
| 1 | 6.853 | 3803104 | 200752 | 51.830 | | | |
| 2 | 8.088 | 3534565 | 182606 | 48.170 | | | |
| Total | | 7337669 | 383358 | | | | |

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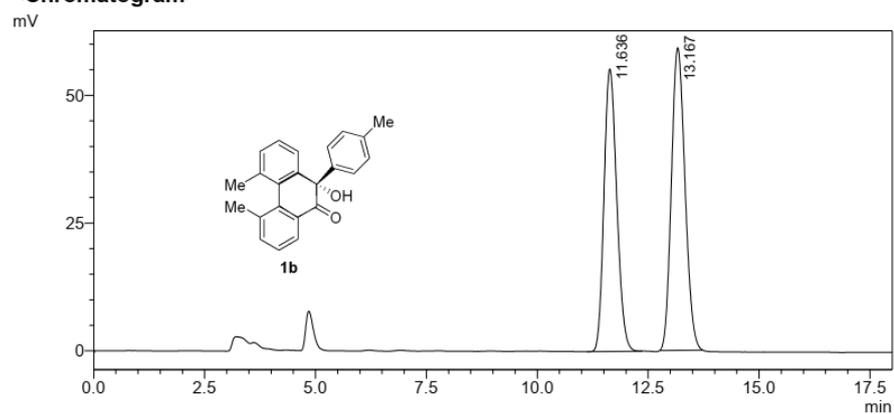


<Peak Table>

Detector A Channel 1 254nm

| Peak# | Ret. Time | Area | Height | Conc. | Unit | Mark | Name |
|-------|-----------|---------|--------|--------|------|------|------|
| 1 | 6.902 | 167066 | 10815 | 2.601 | | | |
| 2 | 8.260 | 6256364 | 332719 | 97.399 | | | |
| Total | | 6423430 | 343534 | | | | |

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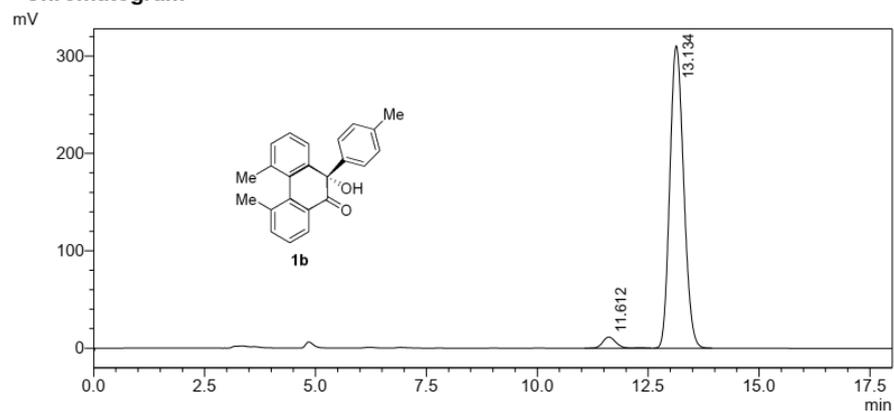


<Peak Table>

Detector A Channel 1 254nm

| Peak# | Ret. Time | Area | Height | Conc. | Unit | Mark | Name |
|-------|-----------|---------|--------|--------|------|------|------|
| 1 | 11.636 | 1105765 | 55245 | 46.703 | | | |
| 2 | 13.167 | 1261906 | 59198 | 53.297 | | | |
| Total | | 2367671 | 114442 | | | | |

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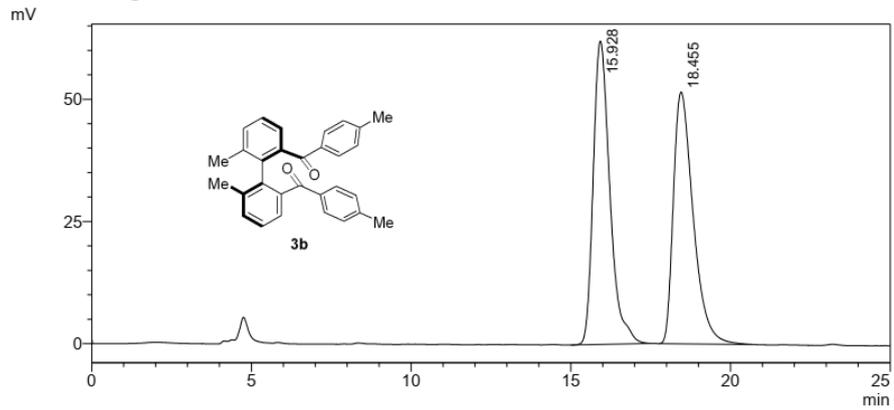


<Peak Table>

Detector A Channel 1 254nm

| Peak# | Ret. Time | Area | Height | Conc. | Unit | Mark | Name |
|-------|-----------|---------|--------|--------|------|------|------|
| 1 | 11.612 | 240825 | 11496 | 3.444 | | | |
| 2 | 13.134 | 6752127 | 310440 | 96.556 | | | |
| Total | | 6992953 | 321936 | | | | |

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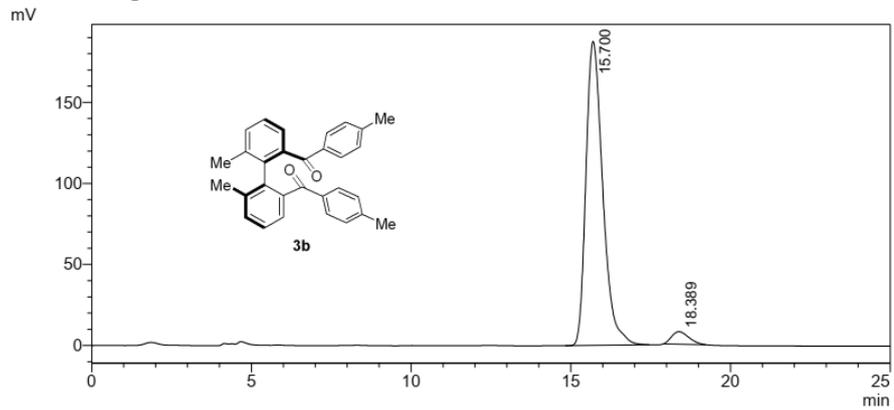


<Peak Table>

Detector A Channel 1 254nm

| Peak# | Ret. Time | Area | Height | Conc. | Unit | Mark | Name |
|-------|-----------|---------|--------|--------|------|------|------|
| 1 | 15.928 | 2252486 | 62062 | 50.354 | | | |
| 2 | 18.455 | 2220809 | 51504 | 49.646 | | | |
| Total | | 4473296 | 113566 | | | | |

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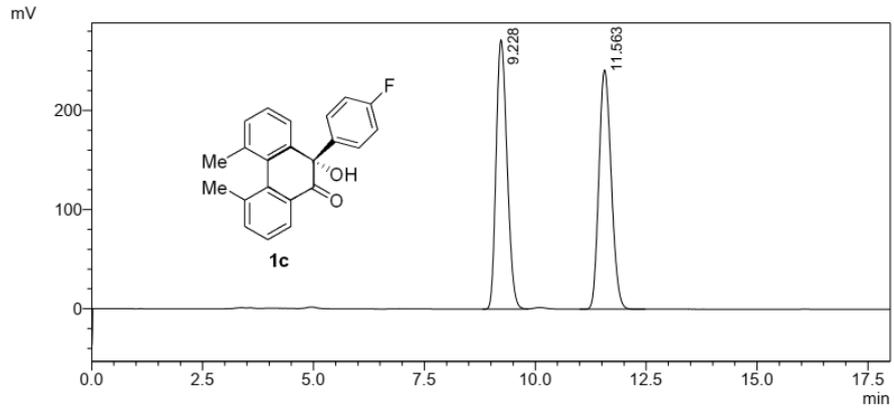


<Peak Table>

Detector A Channel 1 254nm

| Peak# | Ret. Time | Area | Height | Conc. | Unit | Mark | Name |
|-------|-----------|---------|--------|--------|------|------|------|
| 1 | 15.700 | 6866008 | 187479 | 95.961 | | | |
| 2 | 18.389 | 289000 | 7717 | 4.039 | | | |
| Total | | 7155008 | 195195 | | | | |

<Chromatogram>

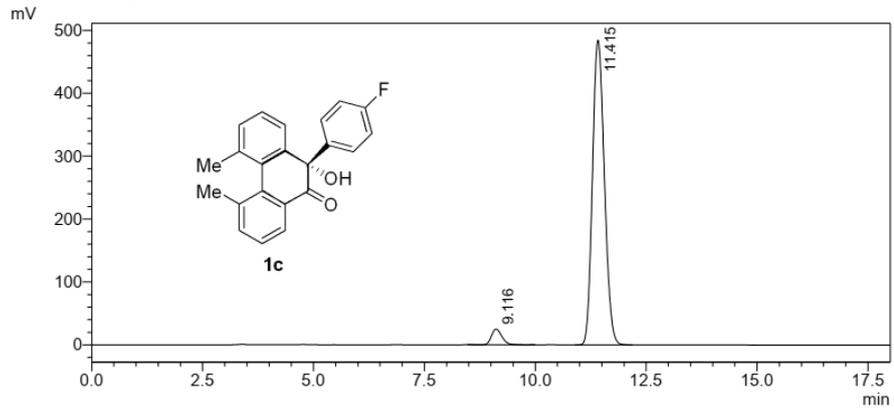


<Peak Table>

Detector A Channel 1 254nm

| Peak# | Ret. Time | Area | Height | Conc. | Unit | Mark | Name |
|-------|-----------|---------|--------|--------|------|------|------|
| 1 | 9.228 | 4668822 | 271447 | 50.000 | | | |
| 2 | 11.563 | 4668787 | 241110 | 50.000 | | | |
| Total | | 9337609 | 512557 | | | | |

<Chromatogram>

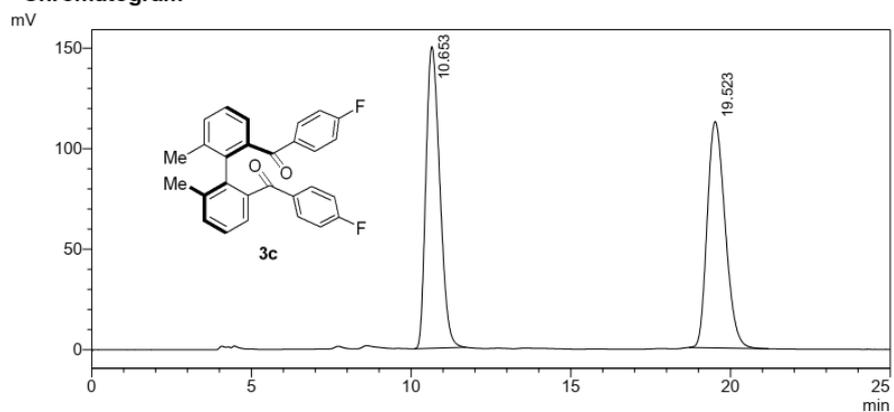


<Peak Table>

Detector A Channel 1 254nm

| Peak# | Ret. Time | Area | Height | Conc. | Unit | Mark | Name |
|-------|-----------|---------|--------|--------|------|------|------|
| 1 | 9.116 | 398965 | 24760 | 4.218 | | | |
| 2 | 11.415 | 9059023 | 484174 | 95.782 | | | |
| Total | | 9457988 | 508934 | | | | |

<Chromatogram>

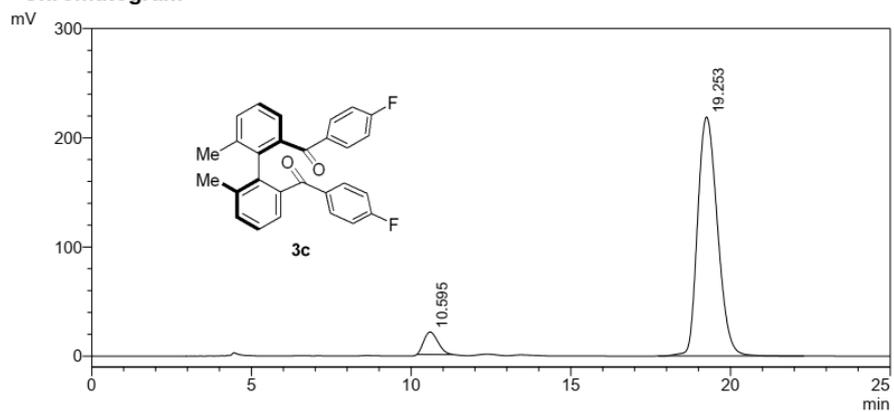


<Peak Table>

Detector A Channel 1 254nm

| Peak# | Ret. Time | Area | Height | Conc. | Unit | Mark | Name |
|-------|-----------|---------|--------|--------|------|------|------|
| 1 | 10.653 | 4509207 | 149993 | 50.649 | | | |
| 2 | 19.523 | 4393664 | 112539 | 49.351 | | | |
| Total | | 8902871 | 262533 | | | | |

<Chromatogram>

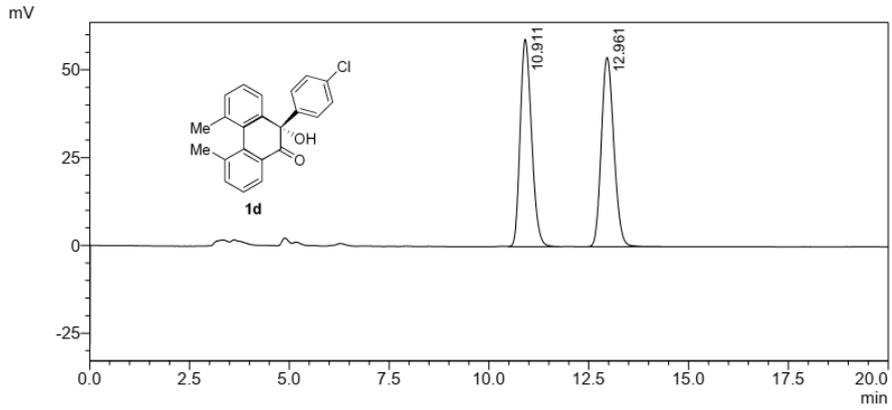


<Peak Table>

Detector A Channel 1 254nm

| Peak# | Ret. Time | Area | Height | Conc. | Unit | Mark | Name |
|-------|-----------|----------|--------|--------|------|------|------|
| 1 | 10.595 | 629564 | 20524 | 6.227 | | | |
| 2 | 19.253 | 9480863 | 219017 | 93.773 | | | |
| Total | | 10110427 | 239541 | | | | |

<Chromatogram>

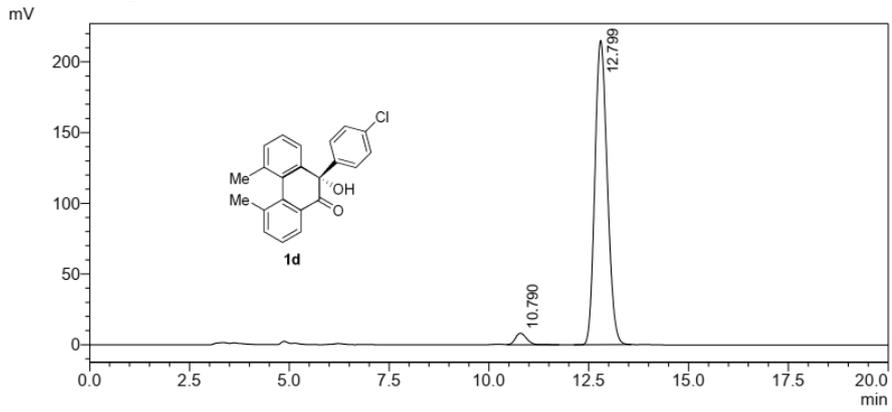


<Peak Table>

Detector A Channel 1 254nm

| Peak# | Ret. Time | Area | Height | Conc. | Unit | Mark | Name |
|-------|-----------|---------|--------|--------|------|------|------|
| 1 | 10.911 | 1172430 | 59004 | 49.886 | | | |
| 2 | 12.961 | 1177766 | 53905 | 50.114 | | | |
| Total | | 2350196 | 112909 | | | | |

<Chromatogram>

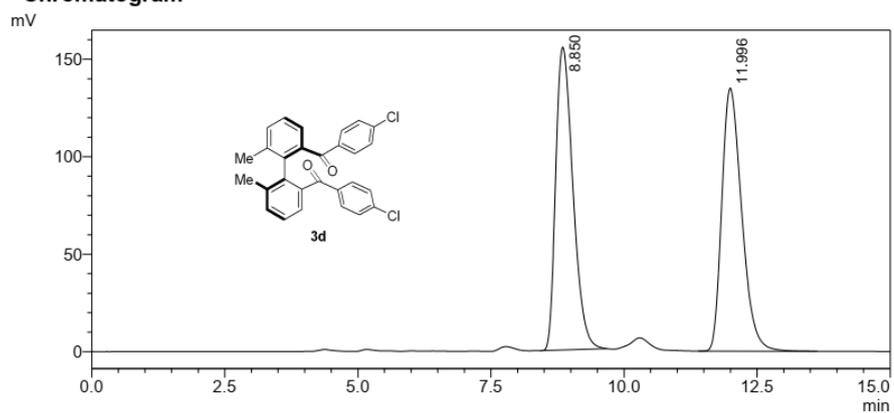


<Peak Table>

Detector A Channel 1 254nm

| Peak# | Ret. Time | Area | Height | Conc. | Unit | Mark | Name |
|-------|-----------|---------|--------|--------|------|------|------|
| 1 | 10.790 | 162224 | 8227 | 3.376 | | | |
| 2 | 12.799 | 4642815 | 215025 | 96.624 | | | |
| Total | | 4805039 | 223252 | | | | |

<Chromatogram>

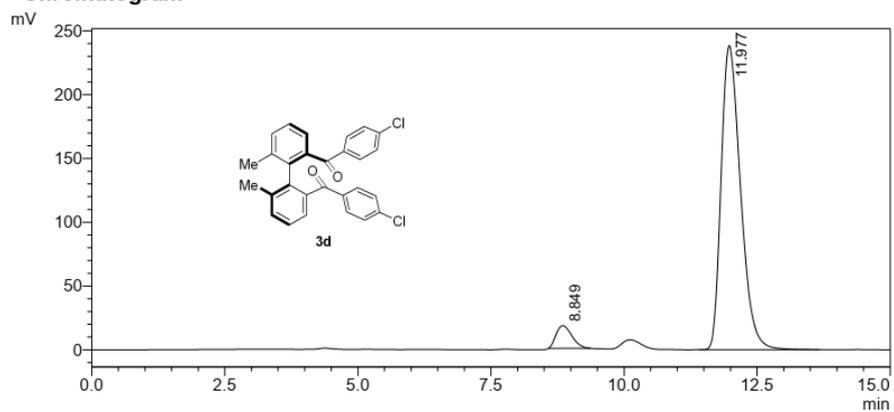


<Peak Table>

Detector A Channel 1 254nm

| Peak# | Ret. Time | Area | Height | Conc. | Unit | Mark | Name |
|-------|-----------|---------|--------|--------|------|------|------|
| 1 | 8.850 | 3493031 | 155297 | 49.861 | | | |
| 2 | 11.996 | 3512483 | 134849 | 50.139 | | | |
| Total | | 7005514 | 290146 | | | | |

<Chromatogram>

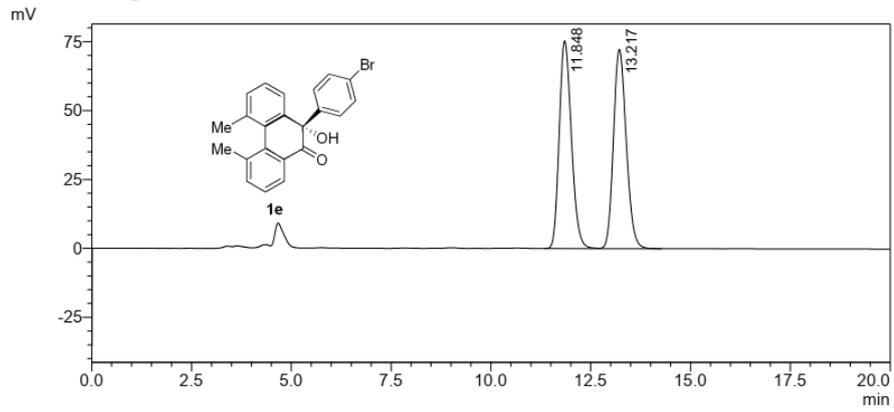


<Peak Table>

Detector A Channel 1 254nm

| Peak# | Ret. Time | Area | Height | Conc. | Unit | Mark | Name |
|-------|-----------|---------|--------|--------|------|------|------|
| 1 | 8.849 | 365378 | 17694 | 5.700 | | | |
| 2 | 11.977 | 6044466 | 238353 | 94.300 | | | |
| Total | | 6409844 | 256047 | | | | |

<Chromatogram>

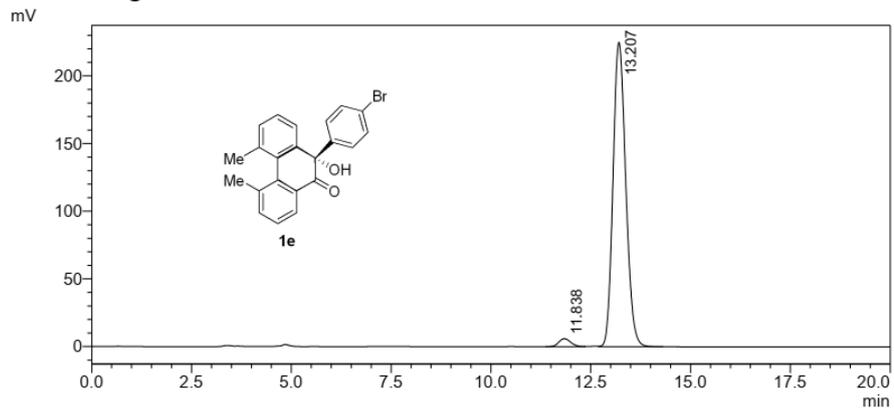


<Peak Table>

Detector A Channel 1 254nm

| Peak# | Ret. Time | Area | Height | Conc. | Unit | Mark | Name |
|-------|-----------|---------|--------|--------|------|------|------|
| 1 | 11.848 | 1600900 | 75307 | 49.779 | | | |
| 2 | 13.217 | 1615134 | 72252 | 50.221 | | | |
| Total | | 3216034 | 147559 | | | | |

<Chromatogram>

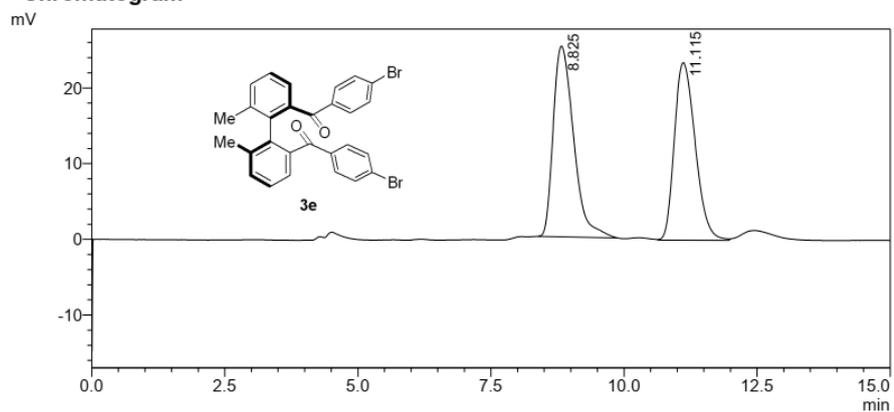


<Peak Table>

Detector A Channel 1 254nm

| Peak# | Ret. Time | Area | Height | Conc. | Unit | Mark | Name |
|-------|-----------|---------|--------|--------|------|------|------|
| 1 | 11.838 | 125548 | 5938 | 2.450 | | | |
| 2 | 13.207 | 4998206 | 224875 | 97.550 | | | |
| Total | | 5123754 | 230813 | | | | |

<Chromatogram>

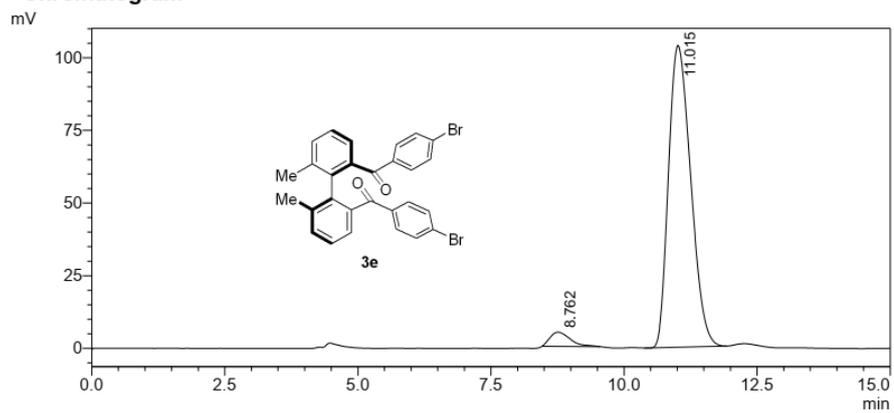


<Peak Table>

Detector A Channel 1 254nm

| Peak# | Ret. Time | Area | Height | Conc. | Unit | Mark | Name |
|-------|-----------|---------|--------|--------|------|------|------|
| 1 | 8.825 | 671956 | 25191 | 51.163 | | | |
| 2 | 11.115 | 641417 | 23470 | 48.837 | | | |
| Total | | 1313374 | 48660 | | | | |

<Chromatogram>

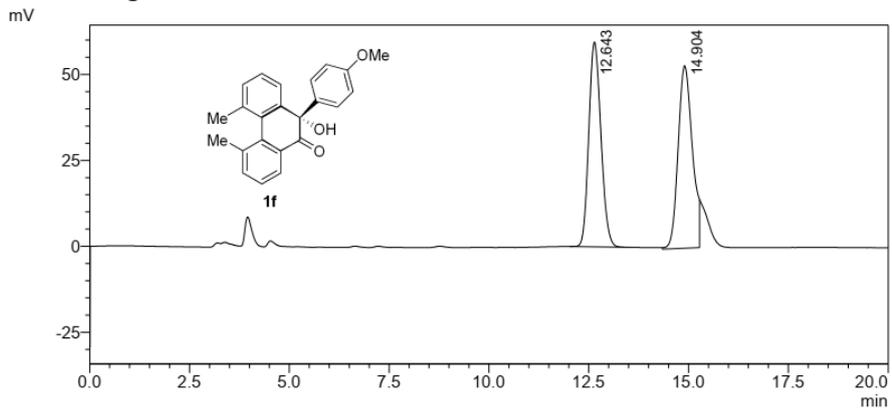


<Peak Table>

Detector A Channel 1 254nm

| Peak# | Ret. Time | Area | Height | Conc. | Unit | Mark | Name |
|-------|-----------|---------|--------|--------|------|------|------|
| 1 | 8.762 | 130854 | 4925 | 4.155 | | | |
| 2 | 11.015 | 3018602 | 103875 | 95.845 | | | |
| Total | | 3149456 | 108800 | | | | |

<Chromatogram>

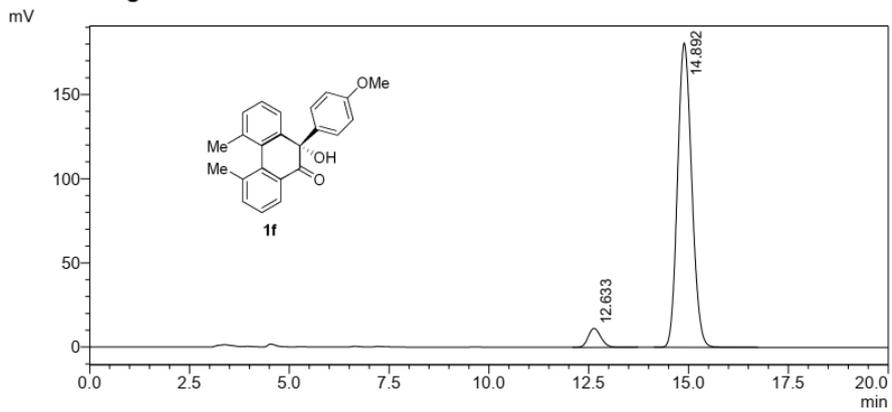


<Peak Table>

Detector A Channel 1 254nm

| Peak# | Ret. Time | Area | Height | Conc. | Unit | Mark | Name |
|-------|-----------|---------|--------|--------|------|------|------|
| 1 | 12.643 | 1262361 | 59555 | 49.007 | | | |
| 2 | 14.904 | 1313513 | 53106 | 50.993 | | | |
| Total | | 2575874 | 112661 | | | | |

<Chromatogram>

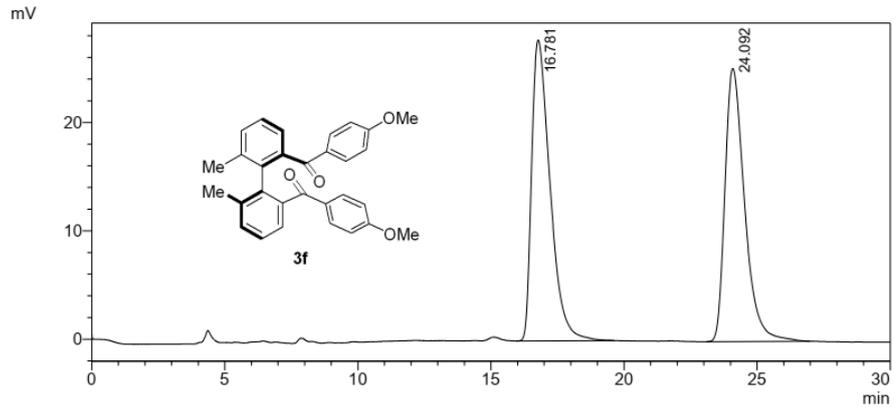


<Peak Table>

Detector A Channel 1 254nm

| Peak# | Ret. Time | Area | Height | Conc. | Unit | Mark | Name |
|-------|-----------|---------|--------|--------|------|------|------|
| 1 | 12.633 | 250777 | 11273 | 5.314 | | | |
| 2 | 14.892 | 4468186 | 180765 | 94.686 | | | |
| Total | | 4718963 | 192038 | | | | |

<Chromatogram>

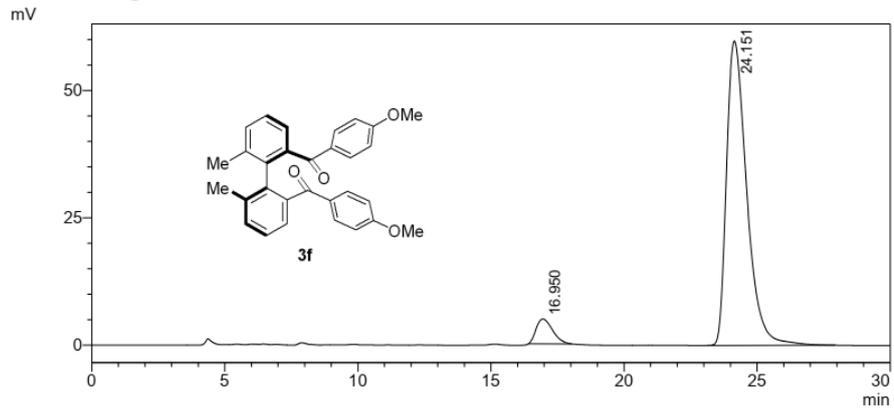


<Peak Table>

Detector A Channel 1 254nm

| Peak# | Ret. Time | Area | Height | Conc. | Unit | Mark | Name |
|-------|-----------|---------|--------|--------|------|------|------|
| 1 | 16.781 | 1337192 | 27758 | 50.841 | | | |
| 2 | 24.092 | 1292967 | 25203 | 49.159 | | | |
| Total | | 2630159 | 52961 | | | | |

<Chromatogram>

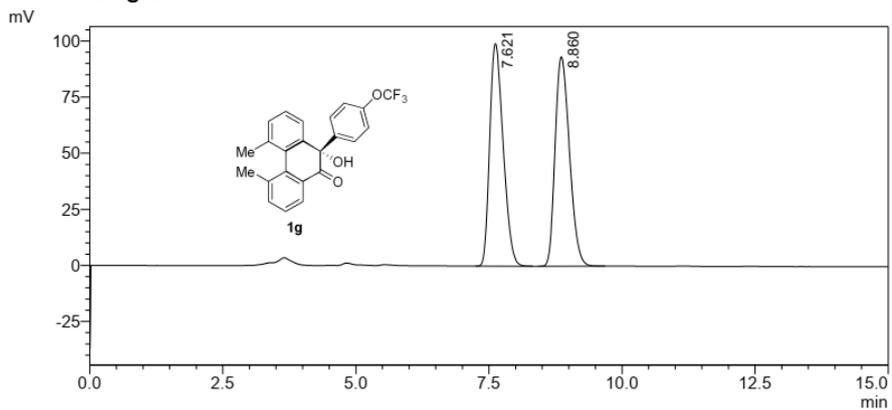


<Peak Table>

Detector A Channel 1 254nm

| Peak# | Ret. Time | Area | Height | Conc. | Unit | Mark | Name |
|-------|-----------|---------|--------|--------|------|------|------|
| 1 | 16.950 | 209817 | 4884 | 6.222 | | | |
| 2 | 24.151 | 3162426 | 59804 | 93.778 | | | |
| Total | | 3372244 | 64688 | | | | |

<Chromatogram>

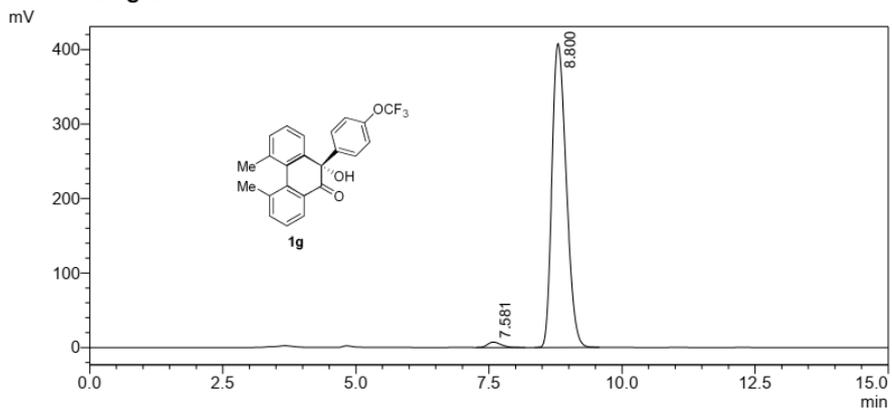


<Peak Table>

Detector A Channel 1 254nm

| Peak# | Ret. Time | Area | Height | Conc. | Unit | Mark | Name |
|-------|-----------|---------|--------|--------|------|------|------|
| 1 | 7.621 | 1746858 | 99200 | 49.944 | | | |
| 2 | 8.860 | 1750757 | 93304 | 50.056 | | | |
| Total | | 3497615 | 192505 | | | | |

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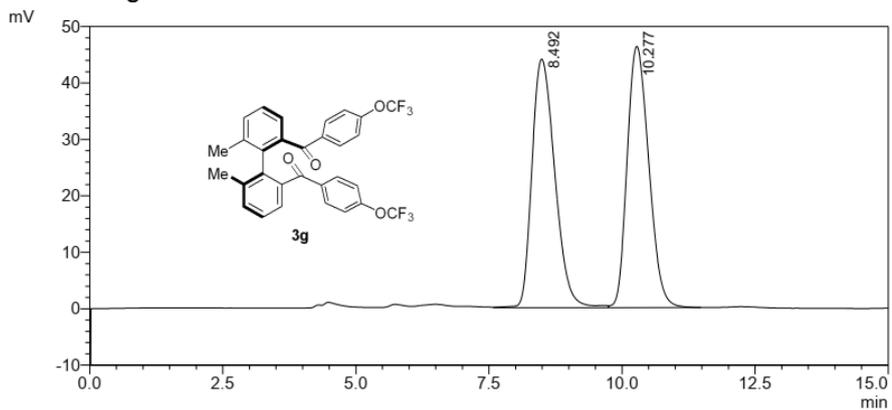


<Peak Table>

Detector A Channel 1 254nm

| Peak# | Ret. Time | Area | Height | Conc. | Unit | Mark | Name |
|-------|-----------|---------|--------|--------|------|------|------|
| 1 | 7.581 | 126385 | 7188 | 1.631 | | | |
| 2 | 8.800 | 7622506 | 407888 | 98.369 | | | |
| Total | | 7748891 | 415076 | | | | |

<Chromatogram>

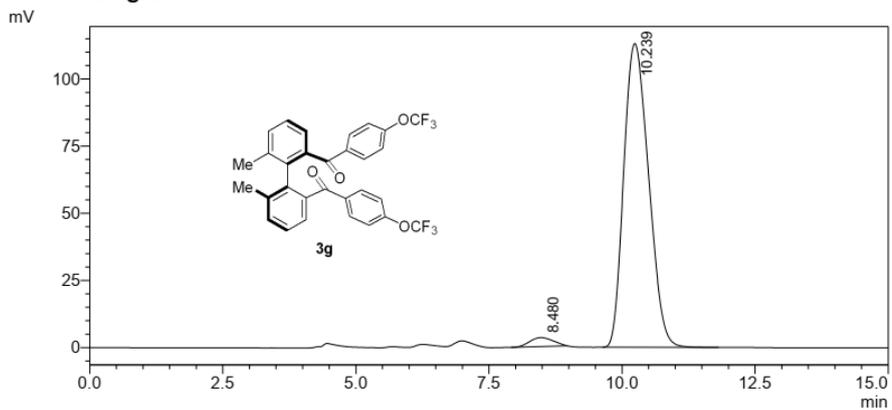


<Peak Table>

Detector A Channel 1 254nm

| Peak# | Ret. Time | Area | Height | Conc. | Unit | Mark | Name |
|-------|-----------|---------|--------|--------|------|------|------|
| 1 | 8.492 | 1321264 | 44059 | 50.256 | | | |
| 2 | 10.277 | 1307812 | 46273 | 49.744 | | | |
| Total | | 2629075 | 90332 | | | | |

<Chromatogram>

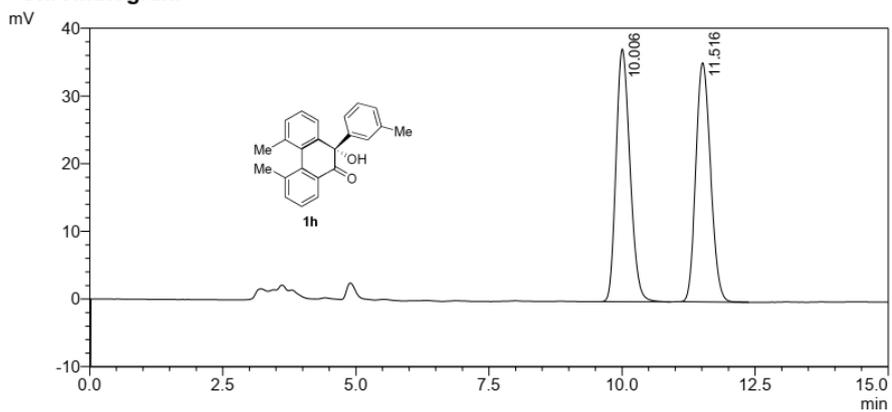


<Peak Table>

Detector A Channel 1 254nm

| Peak# | Ret. Time | Area | Height | Conc. | Unit | Mark | Name |
|-------|-----------|---------|--------|--------|------|------|------|
| 1 | 8.480 | 102273 | 3331 | 2.711 | | | |
| 2 | 10.239 | 3670377 | 113119 | 97.289 | | | |
| Total | | 3772650 | 116449 | | | | |

<Chromatogram>

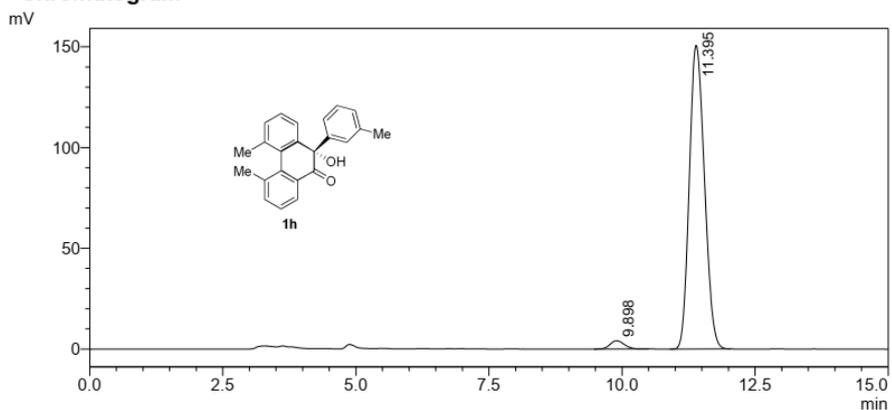


<Peak Table>

Detector A Channel 1 254nm

| Peak# | Ret. Time | Area | Height | Conc. | Unit | Mark | Name |
|-------|-----------|---------|--------|--------|------|------|------|
| 1 | 10.006 | 682204 | 37359 | 50.051 | | | |
| 2 | 11.516 | 680821 | 35314 | 49.949 | | | |
| Total | | 1363025 | 72672 | | | | |

<Chromatogram>

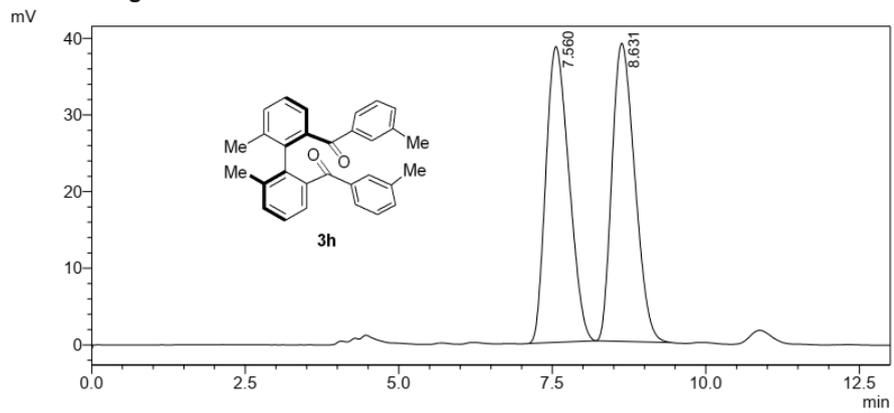


<Peak Table>

Detector A Channel 1 254nm

| Peak# | Ret. Time | Area | Height | Conc. | Unit | Mark | Name |
|-------|-----------|---------|--------|--------|------|------|------|
| 1 | 9.898 | 76376 | 4098 | 2.492 | | | |
| 2 | 11.395 | 2989049 | 150657 | 97.508 | | | |
| Total | | 3065425 | 154755 | | | | |

<Chromatogram>

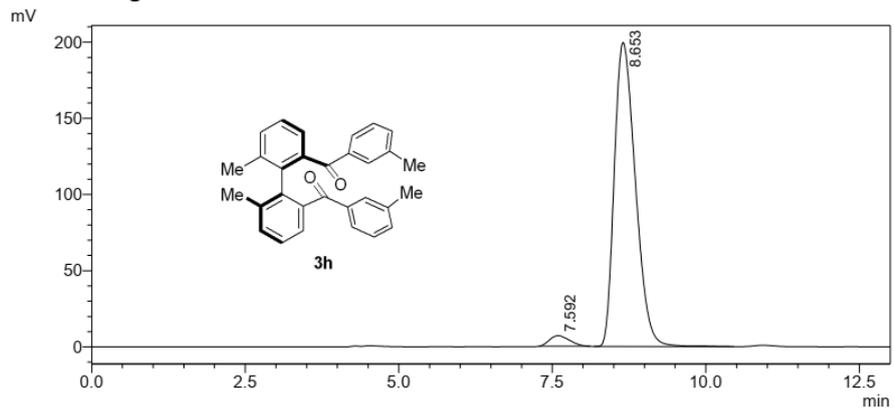


<Peak Table>

Detector A Channel 1 254nm

| Peak# | Ret. Time | Area | Height | Conc. | Unit | Mark | Name |
|-------|-----------|---------|--------|--------|------|------|------|
| 1 | 7.560 | 1007829 | 38581 | 50.119 | | | |
| 2 | 8.631 | 1003052 | 38875 | 49.881 | | | |
| Total | | 2010881 | 77456 | | | | |

<Chromatogram>

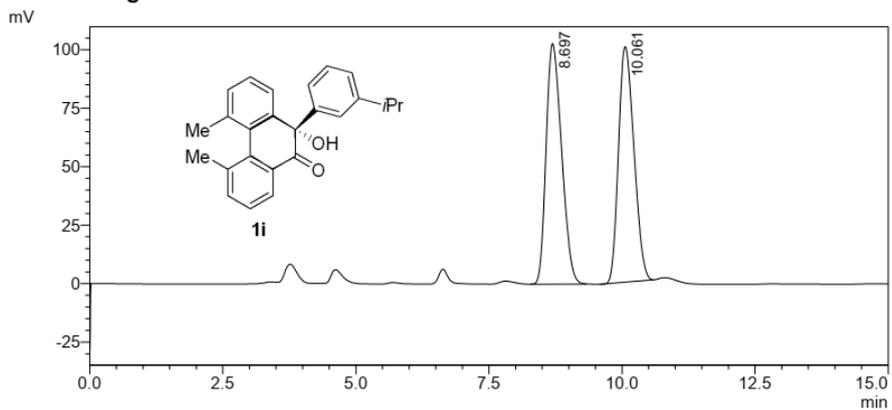


<Peak Table>

Detector A Channel 1 254nm

| Peak# | Ret. Time | Area | Height | Conc. | Unit | Mark | Name |
|-------|-----------|---------|--------|--------|------|------|------|
| 1 | 7.592 | 157233 | 6924 | 3.194 | | | |
| 2 | 8.653 | 4766237 | 199421 | 96.806 | | | |
| Total | | 4923470 | 206346 | | | | |

<Chromatogram>

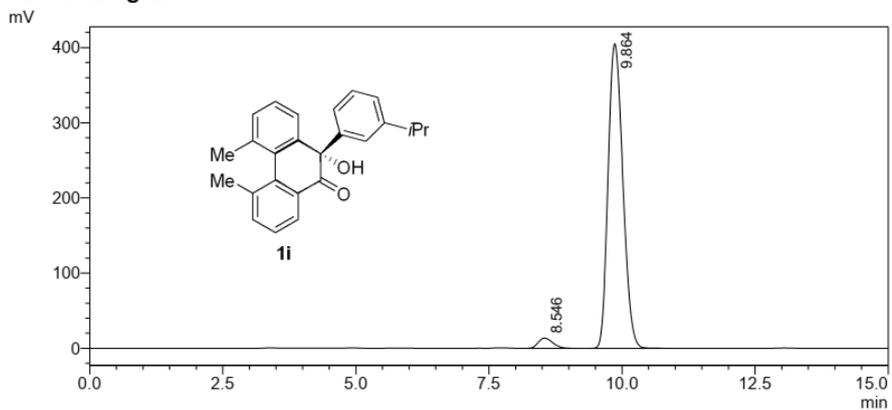


<Peak Table>

Detector A Channel 1 254nm

| Peak# | Ret. Time | Area | Height | Conc. | Unit | Mark | Name |
|-------|-----------|---------|--------|--------|------|------|------|
| 1 | 8.697 | 2084753 | 102767 | 50.601 | | M | |
| 2 | 10.061 | 2035268 | 100638 | 49.399 | | M | |
| Total | | 4120022 | 203405 | | | | |

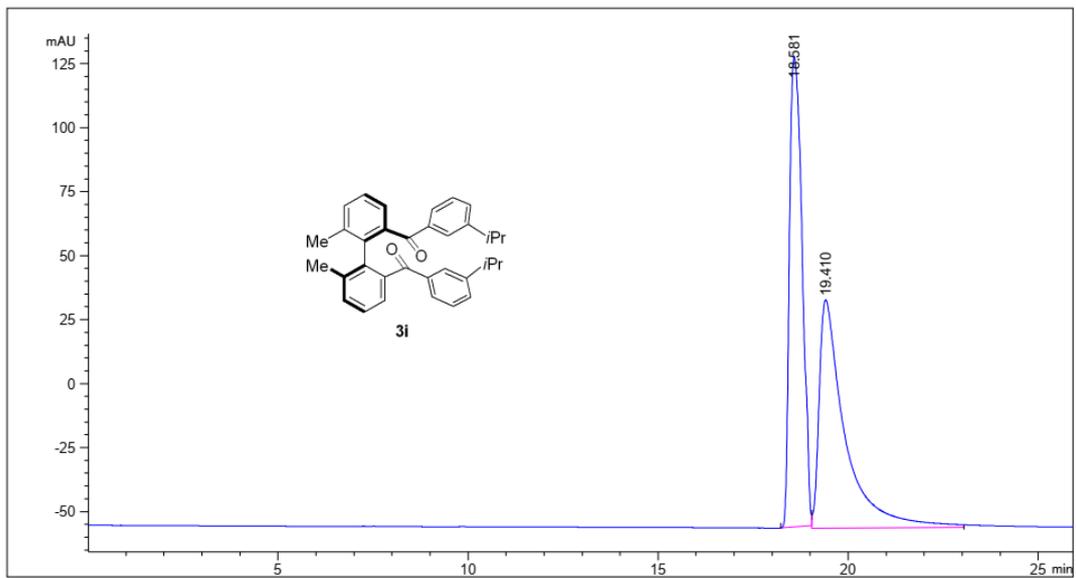
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<Peak Table>

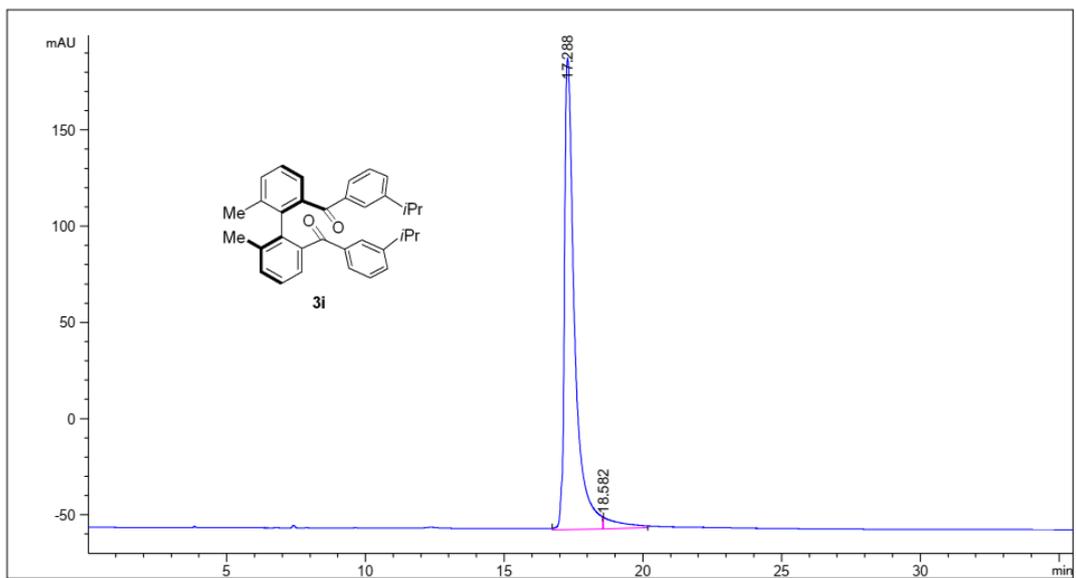
Detector A Channel 1 254nm

| Peak# | Ret. Time | Area | Height | Conc. | Unit | Mark | Name |
|-------|-----------|---------|--------|--------|------|------|------|
| 1 | 8.546 | 255373 | 13569 | 3.170 | | M | |
| 2 | 9.864 | 7801635 | 404920 | 96.830 | | M | |
| Total | | 8057009 | 418489 | | | | |



Signal 1: DAD1 A, Sig=254,4 Ref=360,100

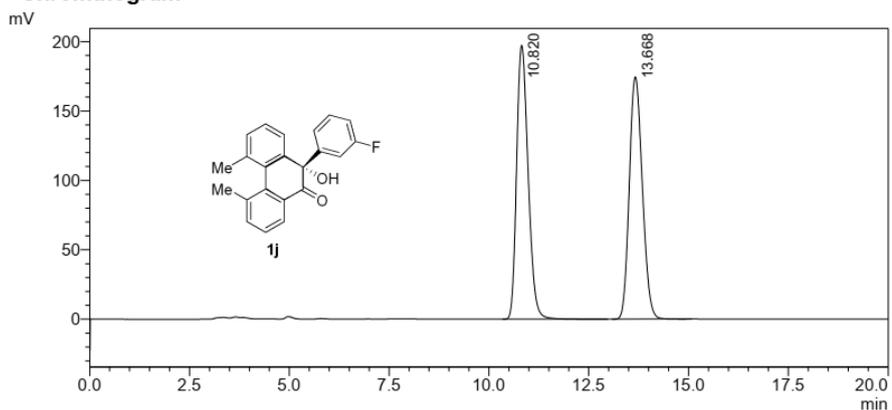
| Peak # | RetTime [min] | Type | Width [min] | Area [mAU*s] | Height [mAU] | Area % |
|--------|---------------|------|-------------|--------------|--------------|---------|
| 1 | 18.581 | BV | 0.3760 | 4249.53760 | 183.62791 | 50.1707 |
| 2 | 19.410 | MM | 0.7879 | 4220.61426 | 89.28460 | 49.8293 |



Signal 1: DAD1 A, Sig=254,4 Ref=360,100

| Peak # | RetTime [min] | Type | Width [min] | Area [mAU*s] | Height [mAU] | Area % |
|--------|---------------|------|-------------|--------------|--------------|---------|
| 1 | 17.288 | MM | 0.4252 | 6245.22021 | 244.77715 | 96.0970 |
| 2 | 18.582 | MM | 0.5013 | 253.65062 | 5.92736 | 3.9030 |

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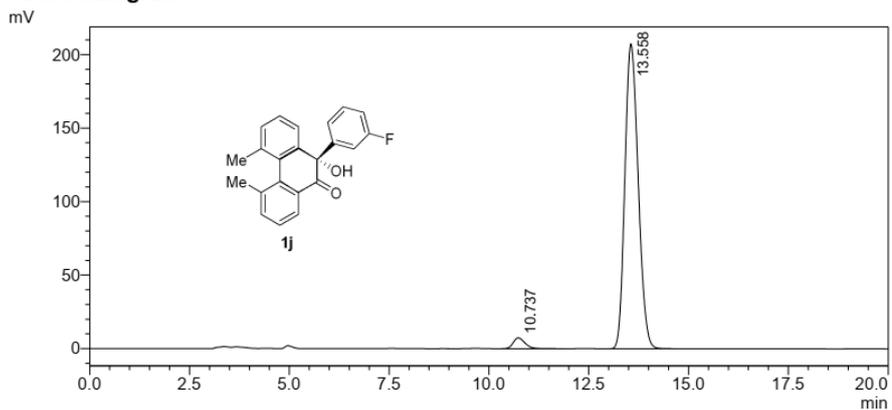


<Peak Table>

Detector A Channel 1 254nm

| Peak# | Ret. Time | Area | Height | Conc. | Unit | Mark | Name |
|-------|-----------|---------|--------|--------|------|------|------|
| 1 | 10.820 | 3960052 | 197146 | 49.948 | | | |
| 2 | 13.668 | 3968298 | 174478 | 50.052 | | | |
| Total | | 7928349 | 371625 | | | | |

<Chromatogram>

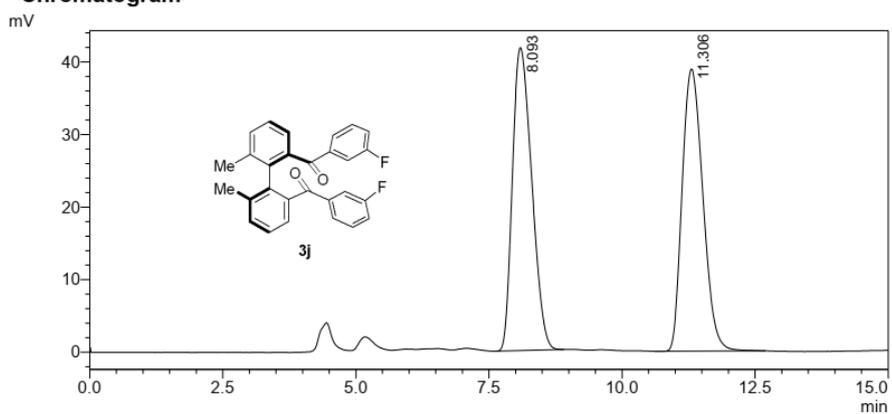


<Peak Table>

Detector A Channel 1 254nm

| Peak# | Ret. Time | Area | Height | Conc. | Unit | Mark | Name |
|-------|-----------|---------|--------|--------|------|------|------|
| 1 | 10.737 | 154393 | 7359 | 3.109 | | | |
| 2 | 13.558 | 4812187 | 207352 | 96.891 | | | |
| Total | | 4966580 | 214711 | | | | |

<Chromatogram>

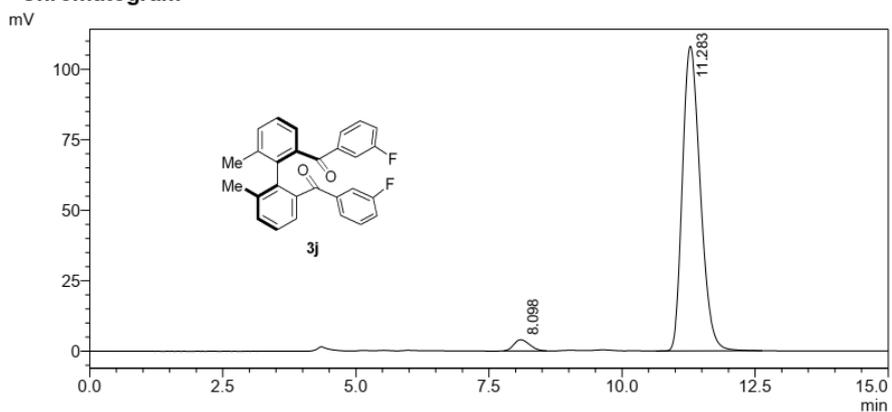


<Peak Table>

Detector A Channel 1 254nm

| Peak# | Ret. Time | Area | Height | Conc. | Unit | Mark | Name |
|-------|-----------|---------|--------|--------|------|------|------|
| 1 | 8.093 | 1052522 | 41726 | 49.970 | | | |
| 2 | 11.306 | 1053789 | 38884 | 50.030 | | | |
| Total | | 2106311 | 80610 | | | | |

<Chromatogram>

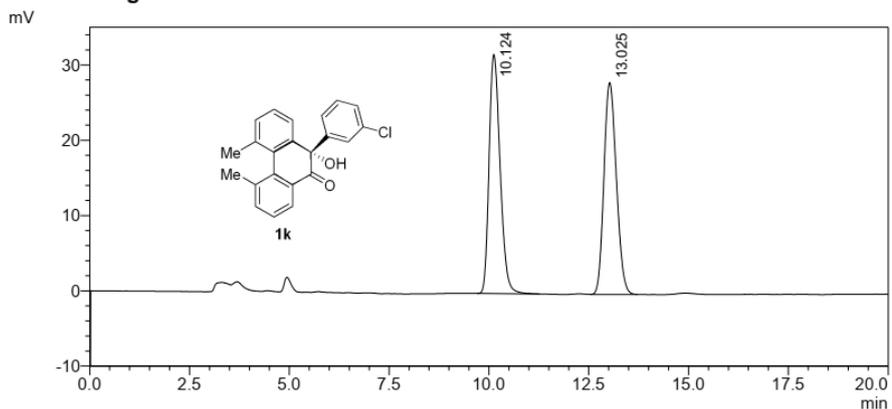


<Peak Table>

Detector A Channel 1 254nm

| Peak# | Ret. Time | Area | Height | Conc. | Unit | Mark | Name |
|-------|-----------|---------|--------|--------|------|------|------|
| 1 | 8.098 | 80999 | 3932 | 3.108 | | | |
| 2 | 11.283 | 2524892 | 108028 | 96.892 | | | |
| Total | | 2605891 | 111960 | | | | |

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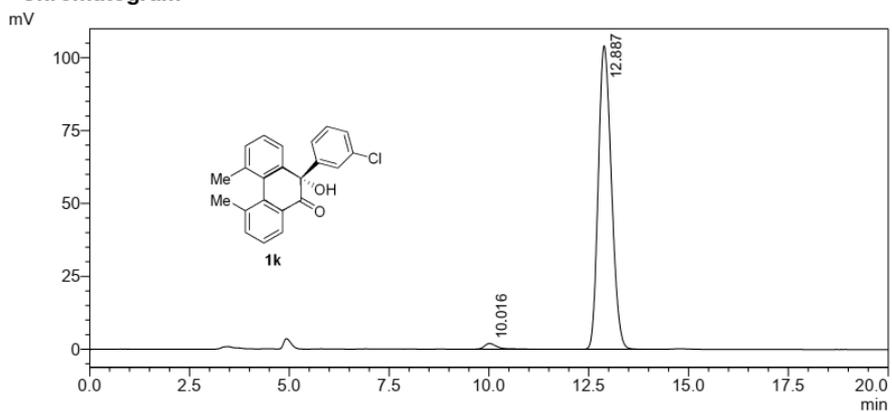


<Peak Table>

Detector A Channel 1 254nm

| Peak# | Ret. Time | Area | Height | Conc. | Unit | Mark | Name |
|-------|-----------|---------|--------|--------|------|------|------|
| 1 | 10.124 | 609553 | 31747 | 50.053 | | | |
| 2 | 13.025 | 608274 | 28126 | 49.947 | | | |
| Total | | 1217827 | 59873 | | | | |

<Chromatogram>

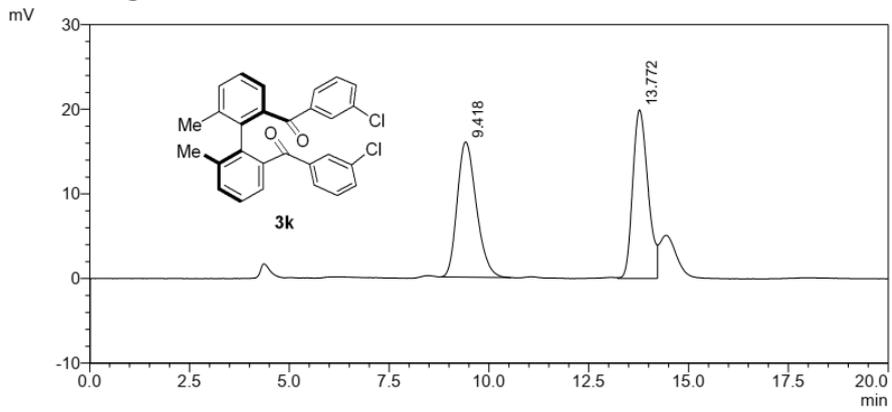


<Peak Table>

Detector A Channel 1 254nm

| Peak# | Ret. Time | Area | Height | Conc. | Unit | Mark | Name |
|-------|-----------|---------|--------|--------|------|------|------|
| 1 | 10.016 | 45009 | 1972 | 1.854 | | | |
| 2 | 12.887 | 2383321 | 104101 | 98.146 | | | |
| Total | | 2428330 | 106074 | | | | |

<Chromatogram>

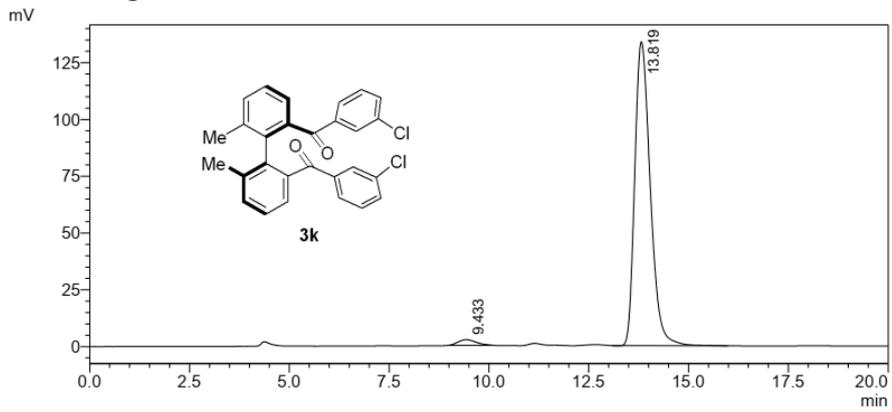


<Peak Table>

Detector A Channel 1 254nm

| Peak# | Ret. Time | Area | Height | Conc. | Unit | Mark | Name |
|-------|-----------|---------|--------|--------|------|------|------|
| 1 | 9.418 | 534012 | 15973 | 50.128 | | | |
| 2 | 13.772 | 531291 | 19936 | 49.872 | | | |
| Total | | 1065303 | 35909 | | | | |

<Chromatogram>

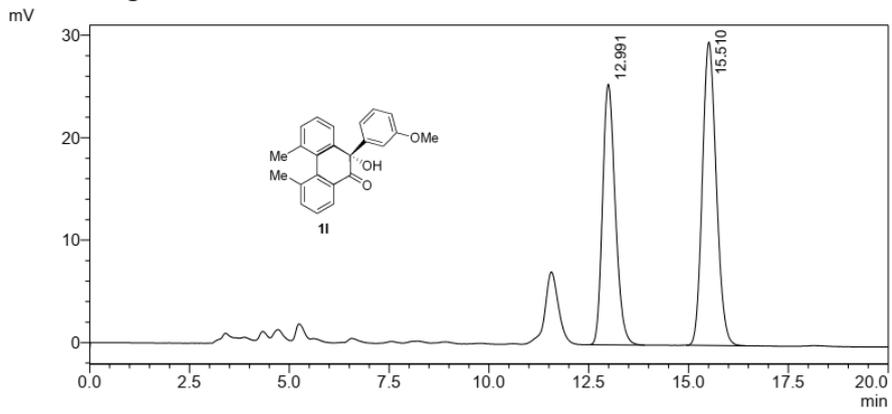


<Peak Table>

Detector A Channel 1 254nm

| Peak# | Ret. Time | Area | Height | Conc. | Unit | Mark | Name |
|-------|-----------|---------|--------|--------|------|------|------|
| 1 | 9.433 | 78280 | 2497 | 2.118 | | | |
| 2 | 13.819 | 3617034 | 133730 | 97.882 | | | |
| Total | | 3695314 | 136227 | | | | |

<Chromatogram>

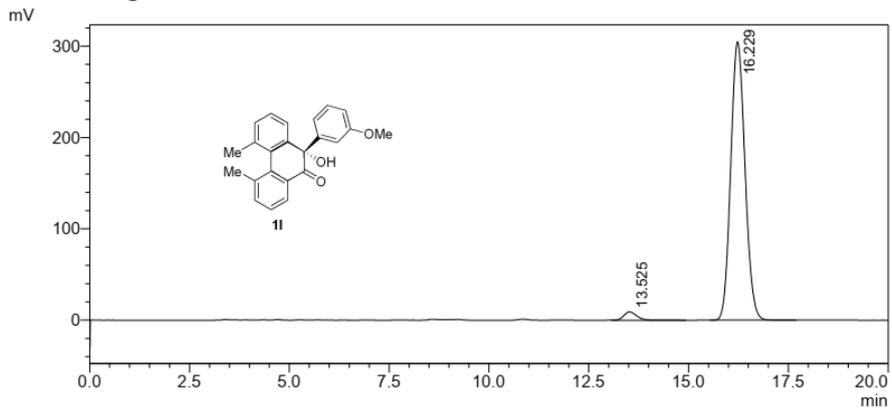


<Peak Table>

Detector A Channel 1 254nm

| Peak# | Ret. Time | Area | Height | Conc. | Unit | Mark | Name |
|-------|-----------|---------|--------|--------|------|------|------|
| 1 | 12.991 | 564901 | 25431 | 44.072 | | | |
| 2 | 15.510 | 716856 | 29606 | 55.928 | | | |
| Total | | 1281757 | 55037 | | | | |

<Chromatogram>

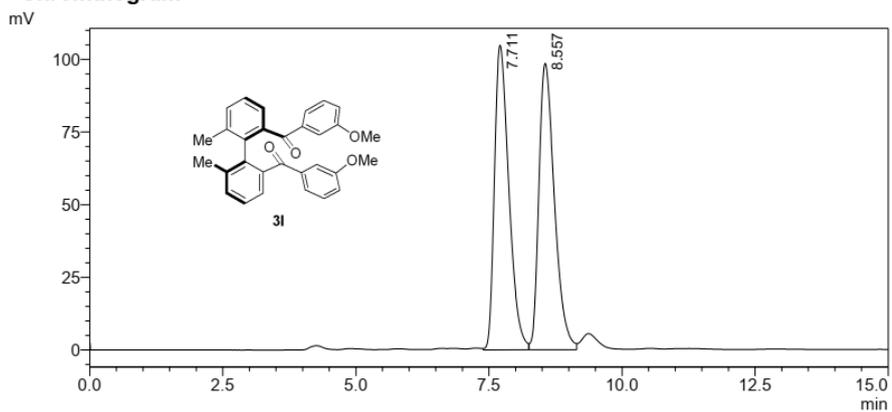


<Peak Table>

Detector A Channel 1 254nm

| Peak# | Ret. Time | Area | Height | Conc. | Unit | Mark | Name |
|-------|-----------|---------|--------|--------|------|------|------|
| 1 | 13.525 | 207299 | 9140 | 2.664 | | | |
| 2 | 16.229 | 7573810 | 304696 | 97.336 | | | |
| Total | | 7781108 | 313836 | | | | |

<Chromatogram>

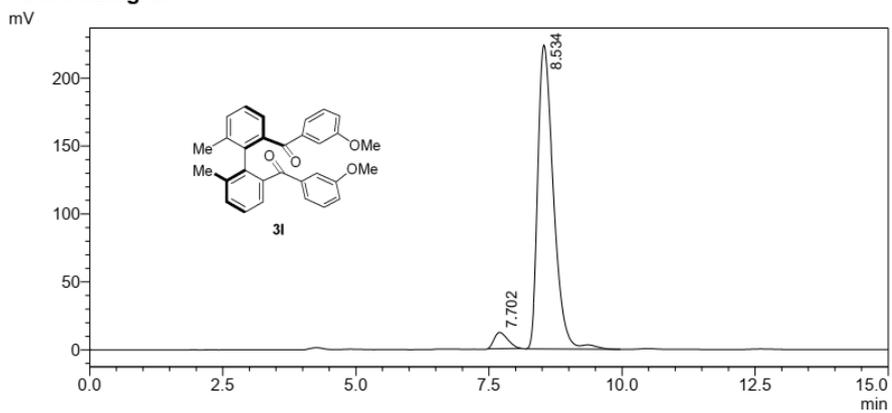


<Peak Table>

Detector A Channel 1 254nm

| Peak# | Ret. Time | Area | Height | Conc. | Unit | Mark | Name |
|-------|-----------|---------|--------|--------|------|------|------|
| 1 | 7.711 | 1976851 | 104771 | 49.711 | | | |
| 2 | 8.557 | 1999828 | 98579 | 50.289 | | | |
| Total | | 3976679 | 203349 | | | | |

<Chromatogram>

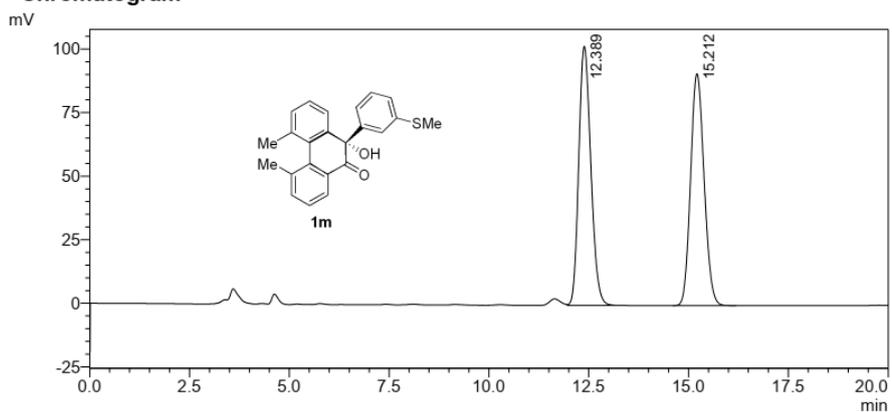


<Peak Table>

Detector A Channel 1 254nm

| Peak# | Ret. Time | Area | Height | Conc. | Unit | Mark | Name |
|-------|-----------|---------|--------|--------|------|------|------|
| 1 | 7.702 | 212745 | 11968 | 4.445 | | | |
| 2 | 8.534 | 4573331 | 223531 | 95.555 | | | |
| Total | | 4786076 | 235498 | | | | |

<Chromatogram>

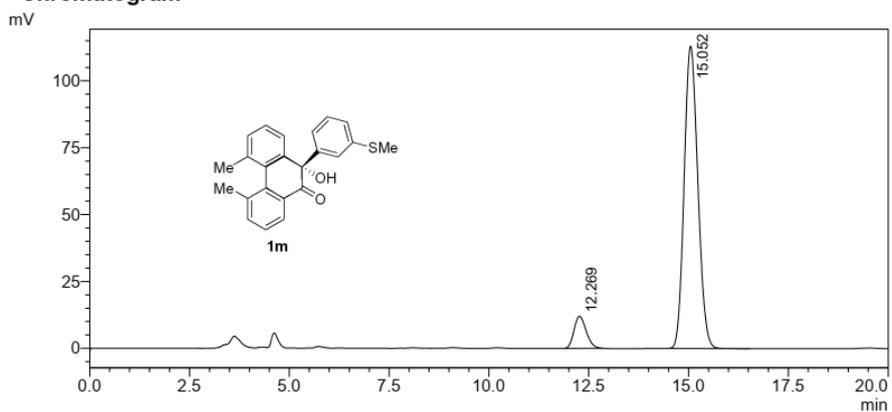


<Peak Table>

Detector A Channel 1 254nm

| Peak# | Ret. Time | Area | Height | Conc. | Unit | Mark | Name |
|-------|-----------|---------|--------|--------|------|------|------|
| 1 | 12.389 | 2147809 | 101893 | 50.013 | | | |
| 2 | 15.212 | 2146668 | 91195 | 49.987 | | | |
| Total | | 4294478 | 193088 | | | | |

<Chromatogram>

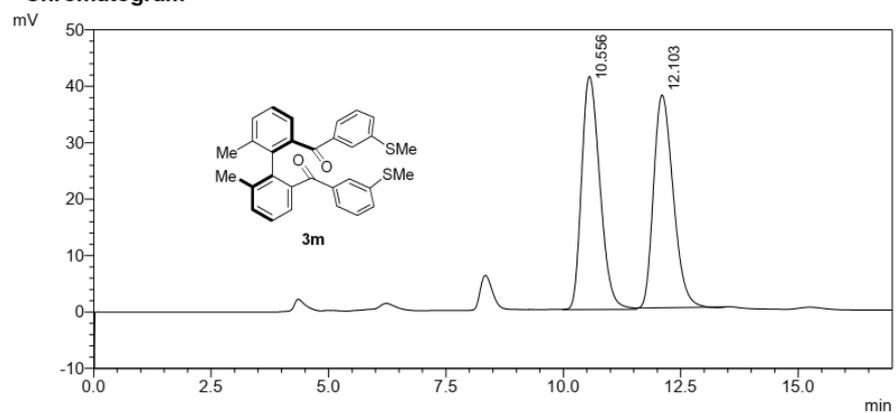


<Peak Table>

Detector A Channel 1 254nm

| Peak# | Ret. Time | Area | Height | Conc. | Unit | Mark | Name |
|-------|-----------|---------|--------|--------|------|------|------|
| 1 | 12.269 | 254278 | 11996 | 8.621 | | | |
| 2 | 15.052 | 2695405 | 113035 | 91.379 | | | |
| Total | | 2949683 | 125031 | | | | |

<Chromatogram>

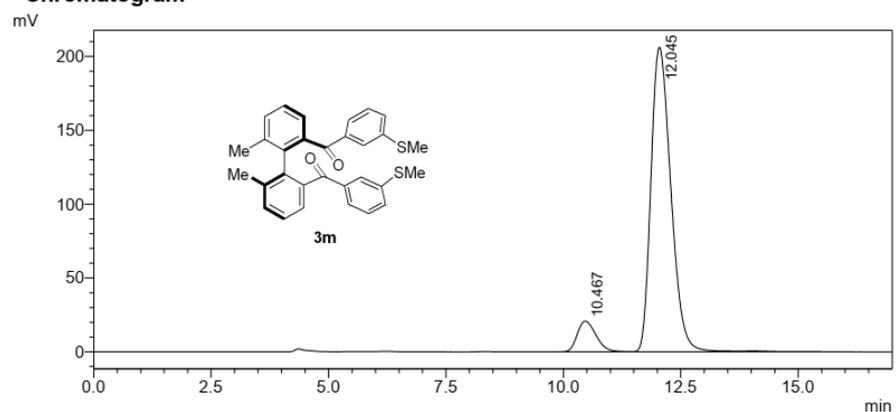


<Peak Table>

Detector A Channel 1 254nm

| Peak# | Ret. Time | Area | Height | Conc. | Unit | Mark | Name |
|-------|-----------|---------|--------|--------|------|------|------|
| 1 | 10.556 | 1123543 | 41305 | 50.668 | | | |
| 2 | 12.103 | 1093925 | 37682 | 49.332 | | | |
| Total | | 2217468 | 78987 | | | | |

<Chromatogram>

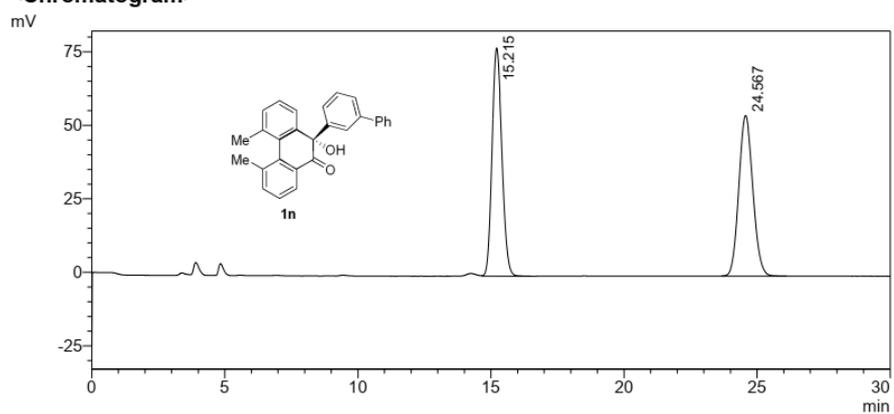


<Peak Table>

Detector A Channel 1 254nm

| Peak# | Ret. Time | Area | Height | Conc. | Unit | Mark | Name |
|-------|-----------|---------|--------|--------|------|------|------|
| 1 | 10.467 | 579641 | 20809 | 8.651 | | | |
| 2 | 12.045 | 6120293 | 206172 | 91.349 | | | |
| Total | | 6699934 | 226981 | | | | |

<Chromatogram>

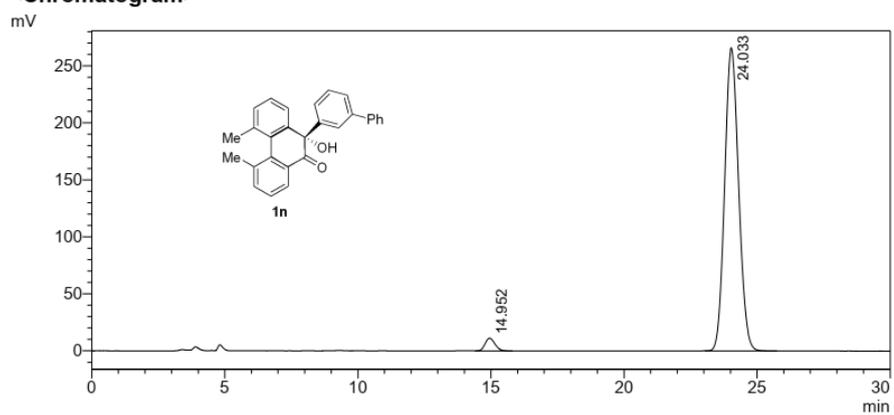


<Peak Table>

Detector A Channel 1 254nm

| Peak# | Ret. Time | Area | Height | Conc. | Unit | Mark | Name |
|-------|-----------|---------|--------|--------|------|------|------|
| 1 | 15.215 | 2001710 | 77543 | 50.002 | | | |
| 2 | 24.567 | 2001520 | 54595 | 49.998 | | | |
| Total | | 4003230 | 132138 | | | | |

<Chromatogram>

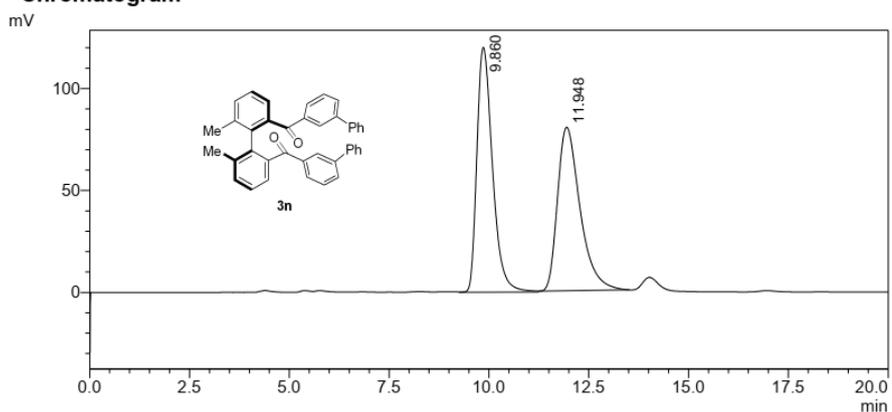


<Peak Table>

Detector A Channel 1 254nm

| Peak# | Ret. Time | Area | Height | Conc. | Unit | Mark | Name |
|-------|-----------|----------|--------|--------|------|------|------|
| 1 | 14.952 | 285263 | 11117 | 2.849 | | | |
| 2 | 24.033 | 9726831 | 265960 | 97.151 | | | |
| Total | | 10012094 | 277078 | | | | |

<Chromatogram>

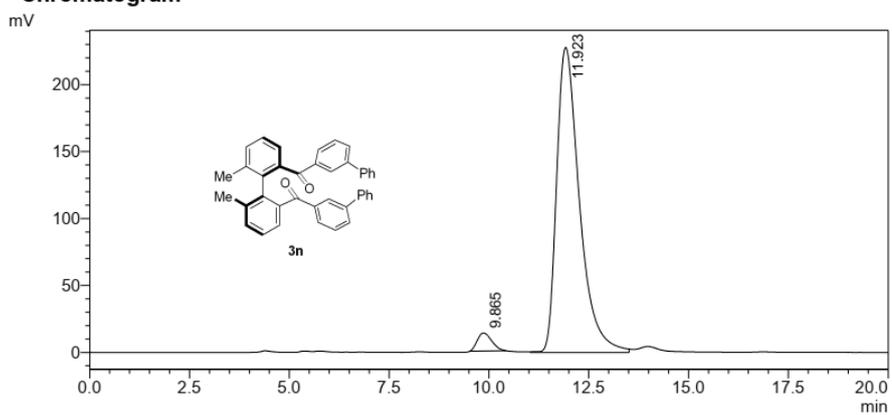


<Peak Table>

Detector A Channel 1 254nm

| Peak# | Ret. Time | Area | Height | Conc. | Unit | Mark | Name |
|-------|-----------|---------|--------|--------|------|------|------|
| 1 | 9.860 | 3268242 | 120107 | 50.921 | | | |
| 2 | 11.948 | 3149957 | 80177 | 49.079 | | | |
| Total | | 6418198 | 200283 | | | | |

<Chromatogram>

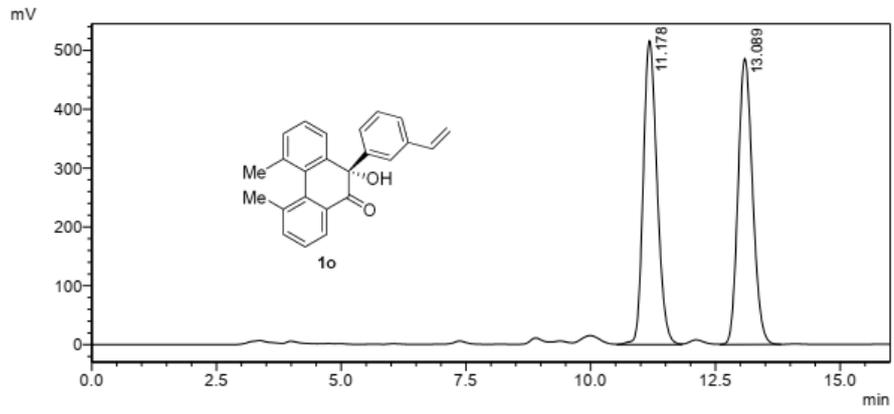


<Peak Table>

Detector A Channel 1 254nm

| Peak# | Ret. Time | Area | Height | Conc. | Unit | Mark | Name |
|-------|-----------|---------|--------|--------|------|------|------|
| 1 | 9.865 | 338448 | 13482 | 3.603 | | | |
| 2 | 11.923 | 9055898 | 227852 | 96.397 | | | |
| Total | | 9394346 | 241334 | | | | |

<Chromatogram>

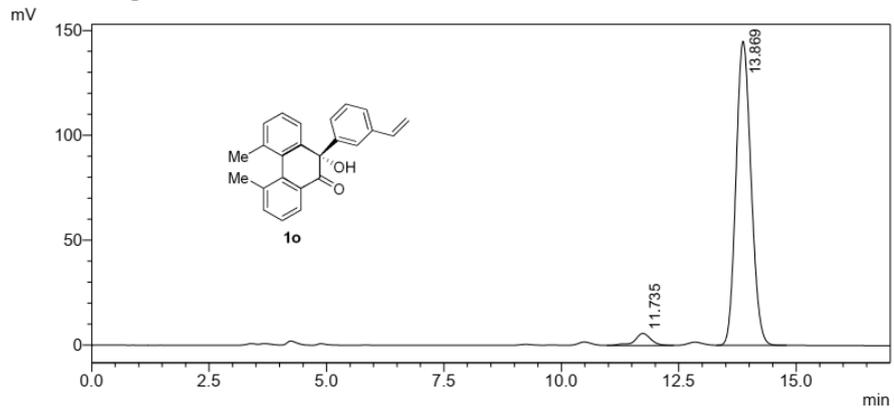


<Peak Table>

Detector A Channel 1 254nm

| Peak# | Ret. Time | Area | Height | Conc. | Unit | Mark | Name |
|-------|-----------|----------|---------|--------|------|------|------|
| 1 | 11.178 | 9914469 | 515863 | 50.201 | | | |
| 2 | 13.089 | 9835225 | 485681 | 49.799 | | | |
| Total | | 19749694 | 1001543 | | | | |

<Chromatogram>

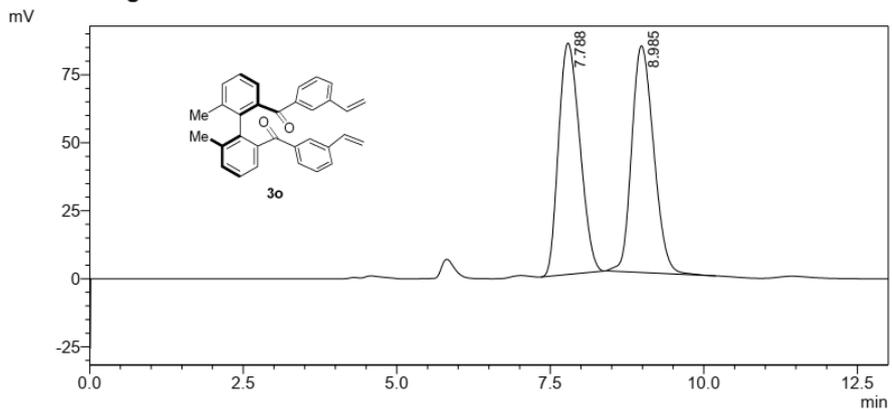


<Peak Table>

Detector A Channel 1 254nm

| Peak# | Ret. Time | Area | Height | Conc. | Unit | Mark | Name |
|-------|-----------|---------|--------|--------|------|------|------|
| 1 | 11.735 | 137297 | 5721 | 4.065 | | | |
| 2 | 13.869 | 3240567 | 144936 | 95.935 | | | |
| Total | | 3377864 | 150657 | | | | |

<Chromatogram>

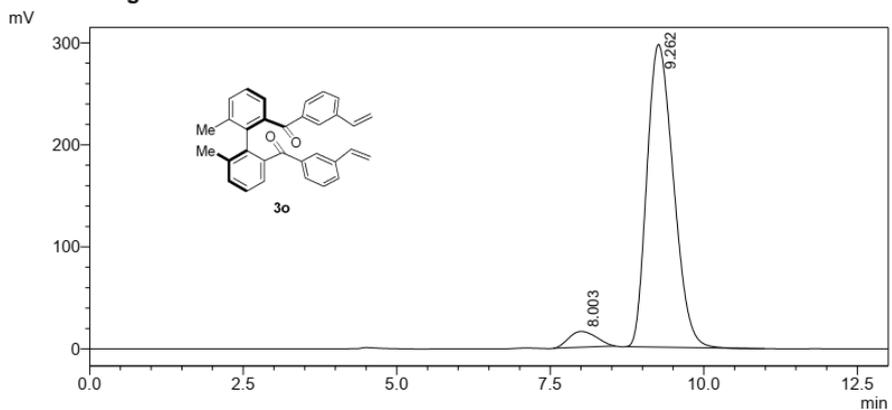


<Peak Table>

Detector A Channel 1 254nm

| Peak# | Ret. Time | Area | Height | Conc. | Unit | Mark | Name |
|-------|-----------|---------|--------|--------|------|------|------|
| 1 | 7.788 | 2050502 | 85008 | 49.733 | | | |
| 2 | 8.985 | 2072516 | 83369 | 50.267 | | | |
| Total | | 4123018 | 168377 | | | | |

<Chromatogram>

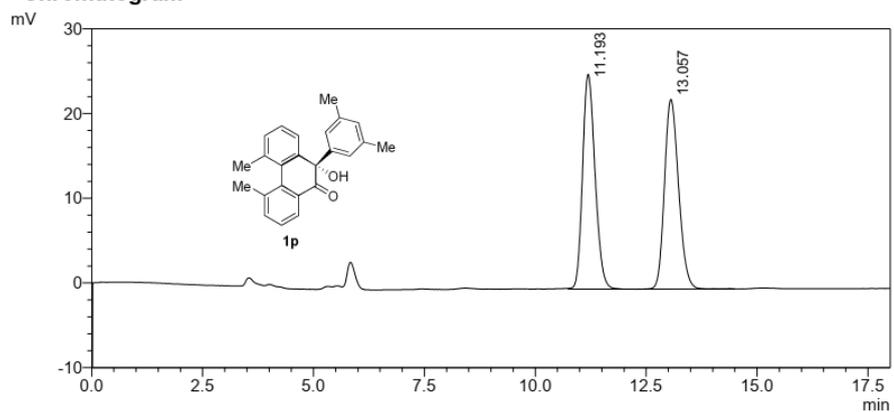


<Peak Table>

Detector A Channel 1 254nm

| Peak# | Ret. Time | Area | Height | Conc. | Unit | Mark | Name |
|-------|-----------|---------|--------|--------|------|------|------|
| 1 | 8.003 | 488553 | 15566 | 5.195 | | | |
| 2 | 9.262 | 8916071 | 296618 | 94.805 | | | |
| Total | | 9404624 | 312184 | | | | |

<Chromatogram>

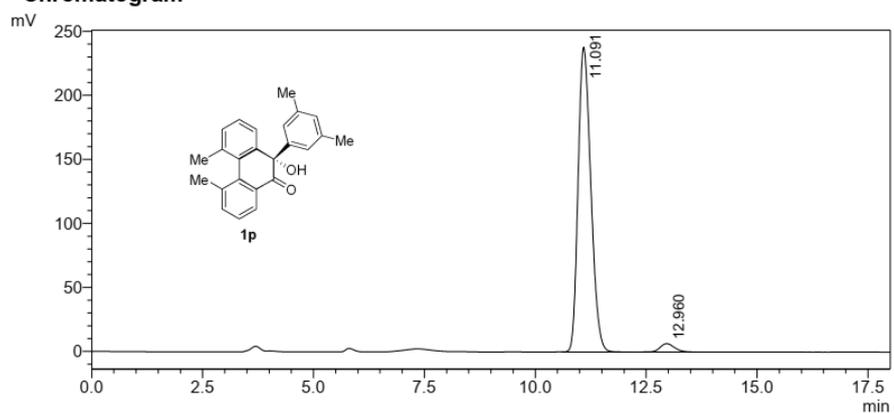


<Peak Table>

Detector A Channel 1 254nm

| Peak# | Ret. Time | Area | Height | Conc. | Unit | Mark | Name |
|-------|-----------|--------|--------|--------|------|------|------|
| 1 | 11.193 | 498008 | 25348 | 50.120 | | | |
| 2 | 13.057 | 495628 | 22405 | 49.880 | | | |
| Total | | 993636 | 47753 | | | | |

<Chromatogram>

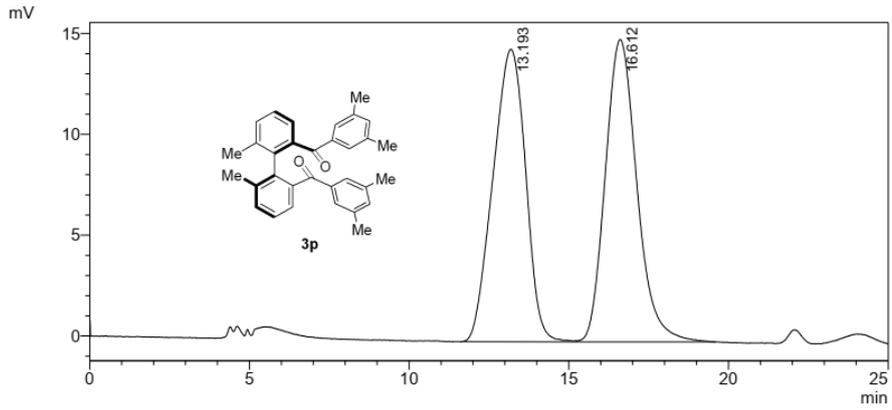


<Peak Table>

Detector A Channel 1 254nm

| Peak# | Ret. Time | Area | Height | Conc. | Unit | Mark | Name |
|-------|-----------|---------|--------|--------|------|------|------|
| 1 | 11.091 | 4747802 | 238031 | 97.010 | | | |
| 2 | 12.960 | 146346 | 6530 | 2.990 | | | |
| Total | | 4894148 | 244561 | | | | |

<Chromatogram>

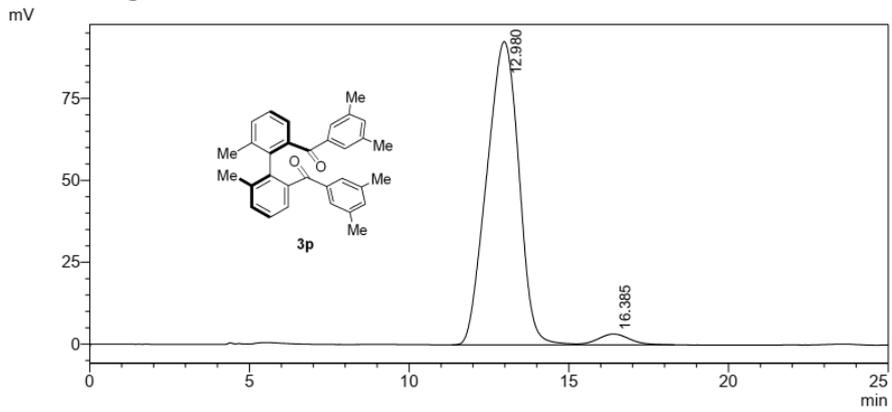


<Peak Table>

Detector A Channel 1 254nm

| Peak# | Ret. Time | Area | Height | Conc. | Unit | Mark | Name |
|-------|-----------|---------|--------|--------|------|------|------|
| 1 | 13.193 | 1032111 | 14507 | 50.001 | | | |
| 2 | 16.612 | 1032078 | 14994 | 49.999 | | | |
| Total | | 2064189 | 29501 | | | | |

<Chromatogram>

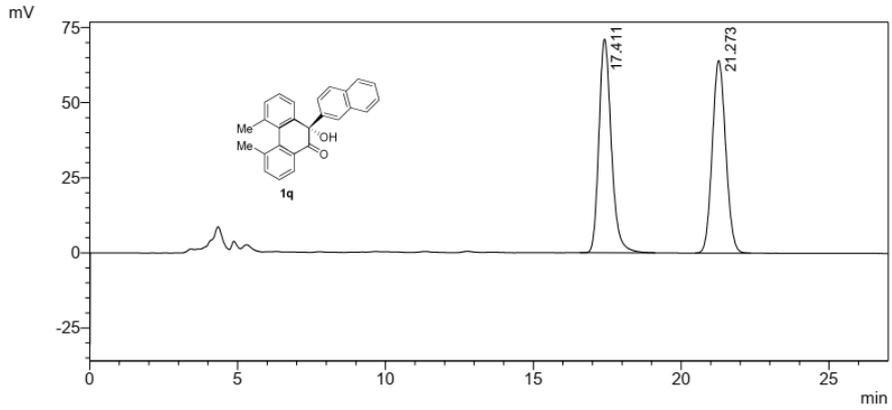


<Peak Table>

Detector A Channel 1 254nm

| Peak# | Ret. Time | Area | Height | Conc. | Unit | Mark | Name |
|-------|-----------|---------|--------|--------|------|------|------|
| 1 | 12.980 | 6457181 | 92567 | 96.571 | | | |
| 2 | 16.385 | 229249 | 3305 | 3.429 | | | |
| Total | | 6686430 | 95872 | | | | |

<Chromatogram>

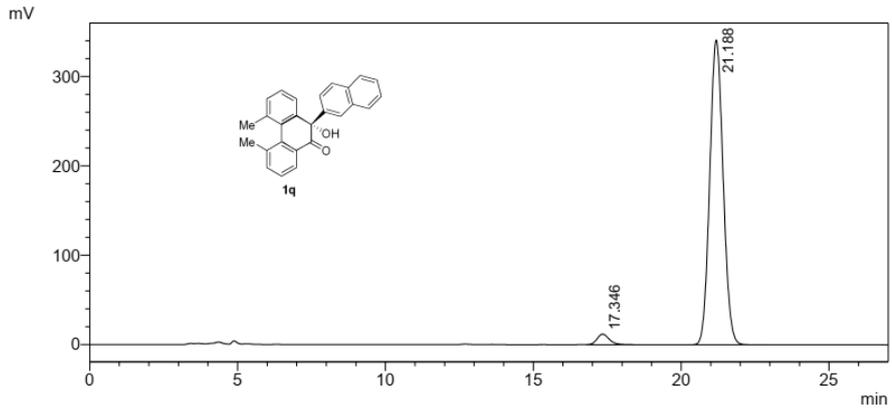


<Peak Table>

Detector A Channel 1 254nm

| Peak# | Ret. Time | Area | Height | Conc. | Unit | Mark | Name |
|-------|-----------|---------|--------|--------|------|------|------|
| 1 | 17.411 | 2076907 | 71123 | 50.563 | | | |
| 2 | 21.273 | 2030681 | 64135 | 49.437 | | | |
| Total | | 4107588 | 135259 | | | | |

<Chromatogram>

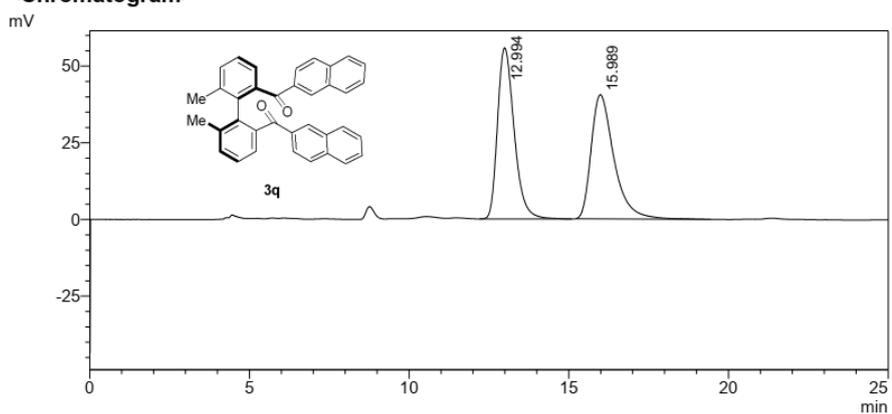


<Peak Table>

Detector A Channel 1 254nm

| Peak# | Ret. Time | Area | Height | Conc. | Unit | Mark | Name |
|-------|-----------|----------|--------|--------|------|------|------|
| 1 | 17.346 | 342467 | 11827 | 3.086 | | | |
| 2 | 21.188 | 10753770 | 340887 | 96.914 | | | |
| Total | | 11096237 | 352715 | | | | |

<Chromatogram>

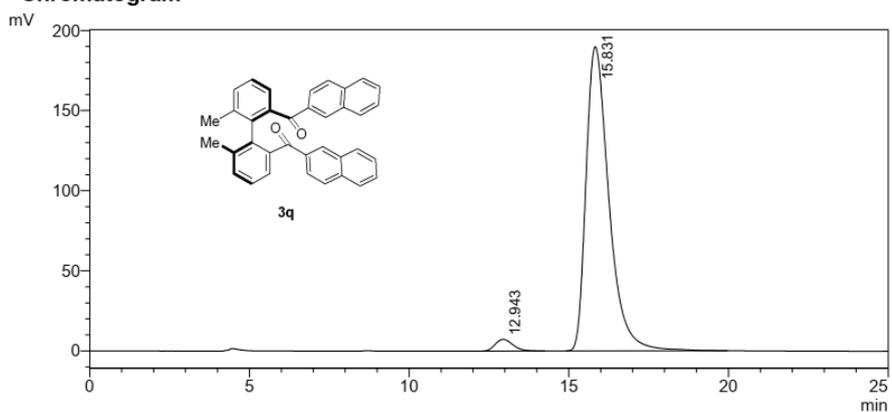


<Peak Table>

Detector A Channel 1 254nm

| Peak# | Ret. Time | Area | Height | Conc. | Unit | Mark | Name |
|-------|-----------|---------|--------|--------|------|------|------|
| 1 | 12.994 | 2022663 | 55787 | 50.102 | | | |
| 2 | 15.989 | 2014432 | 40458 | 49.898 | | | |
| Total | | 4037094 | 96245 | | | | |

<Chromatogram>

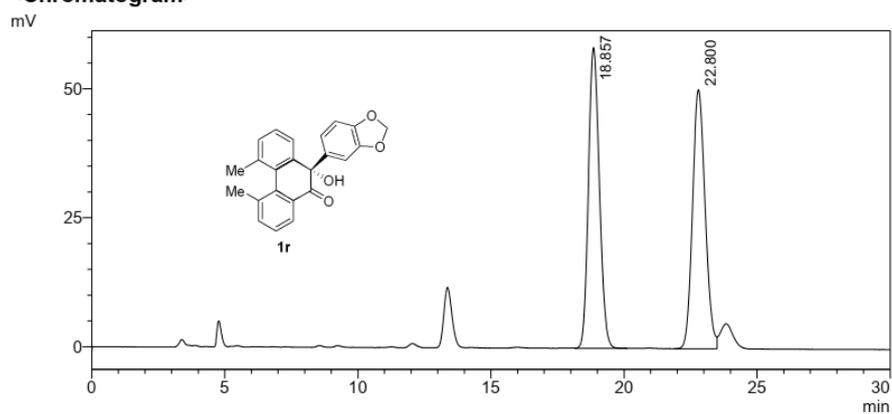


<Peak Table>

Detector A Channel 1 254nm

| Peak# | Ret. Time | Area | Height | Conc. | Unit | Mark | Name |
|-------|-----------|---------|--------|--------|------|------|------|
| 1 | 12.943 | 281601 | 7316 | 2.888 | | | |
| 2 | 15.831 | 9469953 | 189857 | 97.112 | | | |
| Total | | 9751554 | 197174 | | | | |

<Chromatogram>

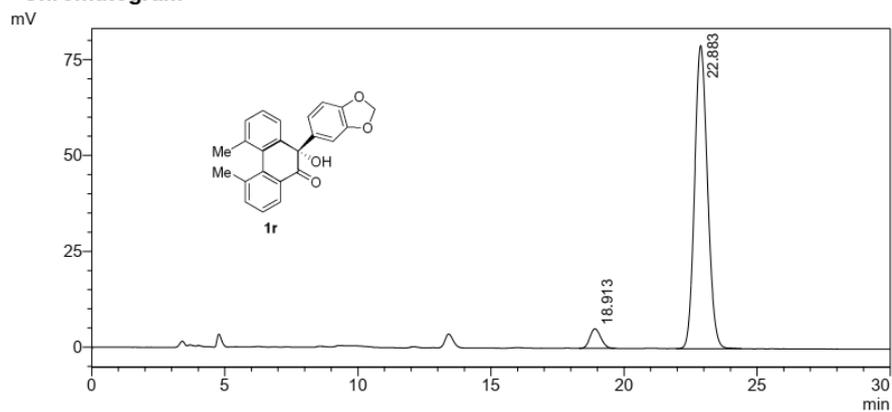


<Peak Table>

Detector A Channel 1 254nm

| Peak# | Ret. Time | Area | Height | Conc. | Unit | Mark | Name |
|-------|-----------|---------|--------|--------|------|------|------|
| 1 | 18.857 | 1659765 | 58248 | 50.000 | | | |
| 2 | 22.800 | 1659765 | 50209 | 50.000 | | | |
| Total | | 3319530 | 108457 | | | | |

<Chromatogram>

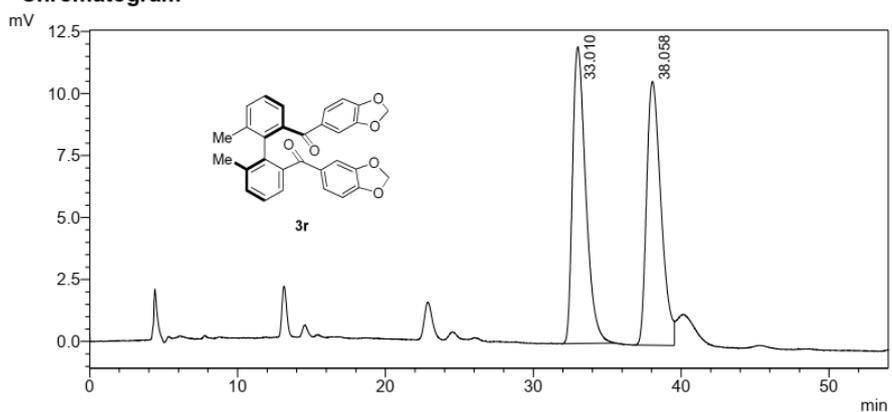


<Peak Table>

Detector A Channel 1 254nm

| Peak# | Ret. Time | Area | Height | Conc. | Unit | Mark | Name |
|-------|-----------|---------|--------|--------|------|------|------|
| 1 | 18.913 | 145520 | 5095 | 5.184 | | | |
| 2 | 22.883 | 2661513 | 79027 | 94.816 | | | |
| Total | | 2807033 | 84122 | | | | |

<Chromatogram>

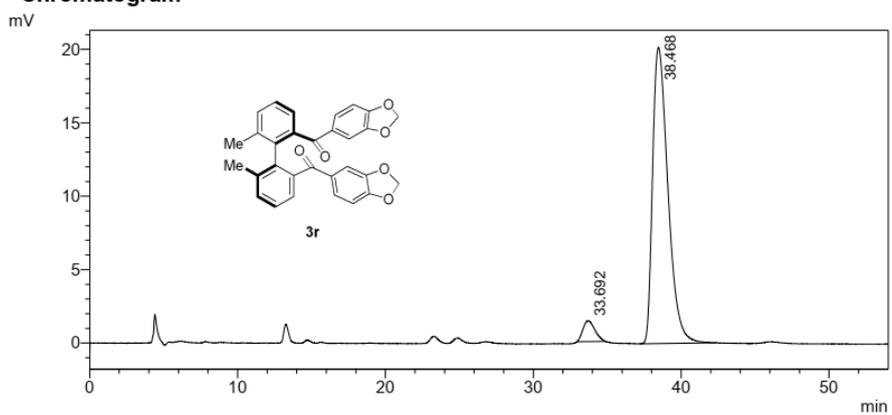


<Peak Table>

Detector A Channel 1 254nm

| Peak# | Ret. Time | Area | Height | Conc. | Unit | Mark | Name |
|-------|-----------|---------|--------|--------|------|------|------|
| 1 | 33.010 | 743404 | 11950 | 50.719 | | | |
| 2 | 38.058 | 722321 | 10633 | 49.281 | | | |
| Total | | 1465725 | 22583 | | | | |

<Chromatogram>

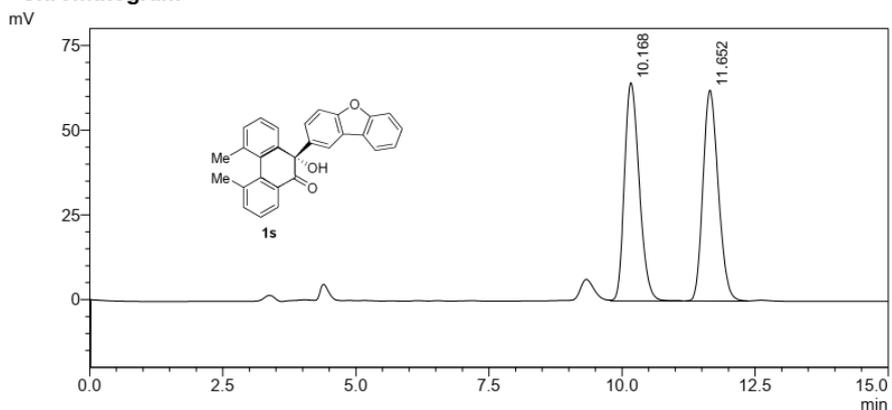


<Peak Table>

Detector A Channel 1 254nm

| Peak# | Ret. Time | Area | Height | Conc. | Unit | Mark | Name |
|-------|-----------|---------|--------|--------|------|------|------|
| 1 | 33.692 | 78825 | 1421 | 5.139 | | | |
| 2 | 38.468 | 1454901 | 20172 | 94.861 | | | |
| Total | | 1533726 | 21594 | | | | |

<Chromatogram>

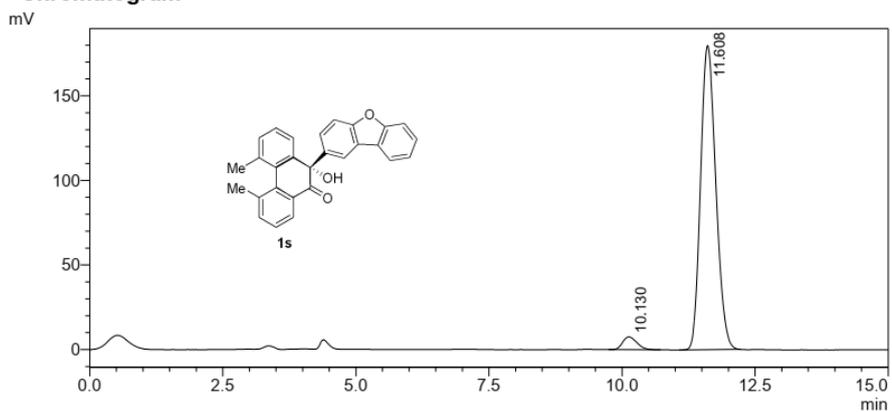


<Peak Table>

Detector A Channel 1 254nm

| Peak# | Ret. Time | Area | Height | Conc. | Unit | Mark | Name |
|-------|-----------|---------|--------|--------|------|------|------|
| 1 | 10.168 | 1243517 | 64351 | 49.954 | | | |
| 2 | 11.652 | 1245798 | 62216 | 50.046 | | | |
| Total | | 2489315 | 126566 | | | | |

<Chromatogram>

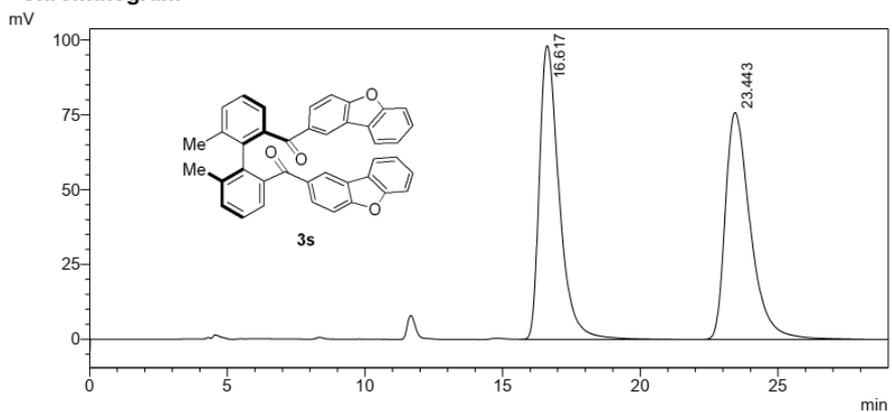


<Peak Table>

Detector A Channel 1 254nm

| Peak# | Ret. Time | Area | Height | Conc. | Unit | Mark | Name |
|-------|-----------|---------|--------|--------|------|------|------|
| 1 | 10.130 | 141300 | 7556 | 3.795 | | | |
| 2 | 11.608 | 3581819 | 179758 | 96.205 | | | |
| Total | | 3723119 | 187314 | | | | |

<Chromatogram>

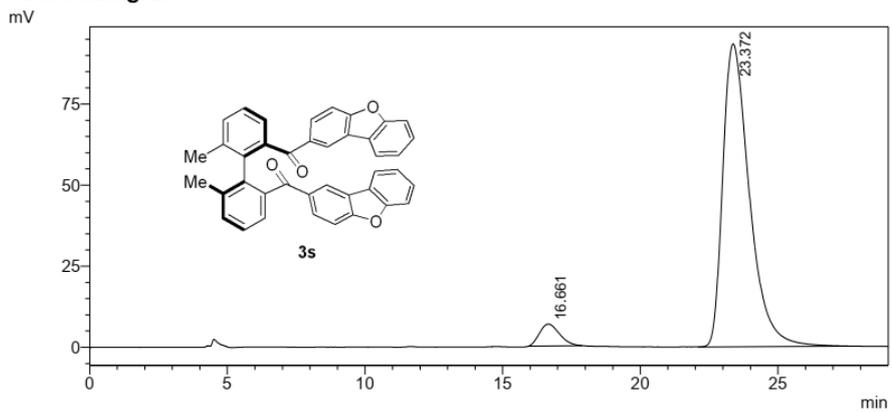


<Peak Table>

Detector A Channel 1 254nm

| Peak# | Ret. Time | Area | Height | Conc. | Unit | Mark | Name |
|-------|-----------|---------|--------|--------|------|------|------|
| 1 | 16.617 | 4894659 | 98164 | 50.446 | | | |
| 2 | 23.443 | 4808110 | 75849 | 49.554 | | | |
| Total | | 9702768 | 174014 | | | | |

<Chromatogram>

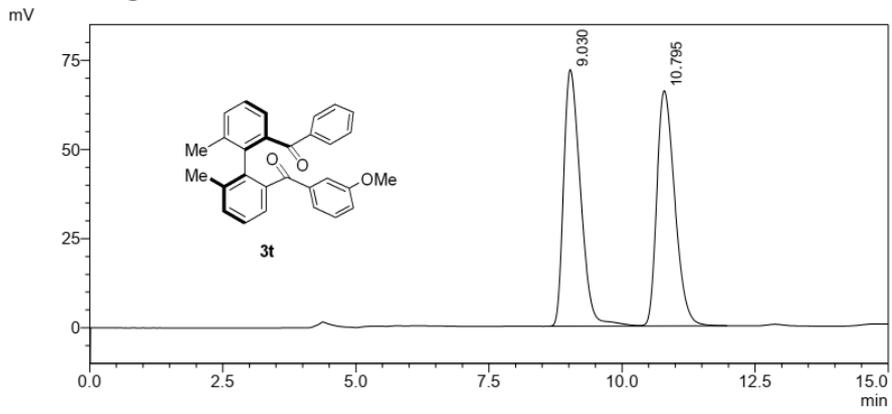


<Peak Table>

Detector A Channel 1 254nm

| Peak# | Ret. Time | Area | Height | Conc. | Unit | Mark | Name |
|-------|-----------|---------|--------|--------|------|------|------|
| 1 | 16.661 | 338502 | 6718 | 5.115 | | | |
| 2 | 23.372 | 6279906 | 93419 | 94.885 | | | |
| Total | | 6618408 | 100137 | | | | |

<Chromatogram>

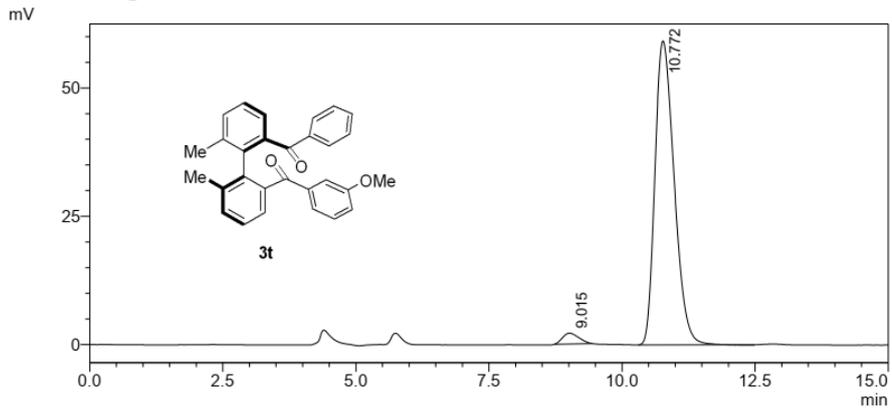


<Peak Table>

Detector A Channel 1 254nm

| Peak# | Ret. Time | Area | Height | Conc. | Unit | Mark | Name |
|-------|-----------|---------|--------|--------|------|------|------|
| 1 | 9.030 | 1592299 | 71972 | 50.694 | | | |
| 2 | 10.795 | 1548672 | 65973 | 49.306 | | | |
| Total | | 3140971 | 137945 | | | | |

<Chromatogram>

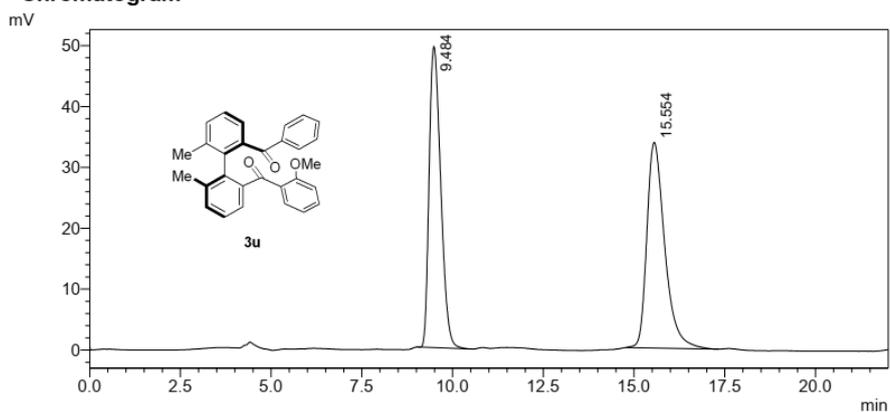


<Peak Table>

Detector A Channel 1 254nm

| Peak# | Ret. Time | Area | Height | Conc. | Unit | Mark | Name |
|-------|-----------|---------|--------|--------|------|------|------|
| 1 | 9.015 | 44584 | 2098 | 2.906 | | | |
| 2 | 10.772 | 1489785 | 59210 | 97.094 | | | |
| Total | | 1534370 | 61308 | | | | |

<Chromatogram>

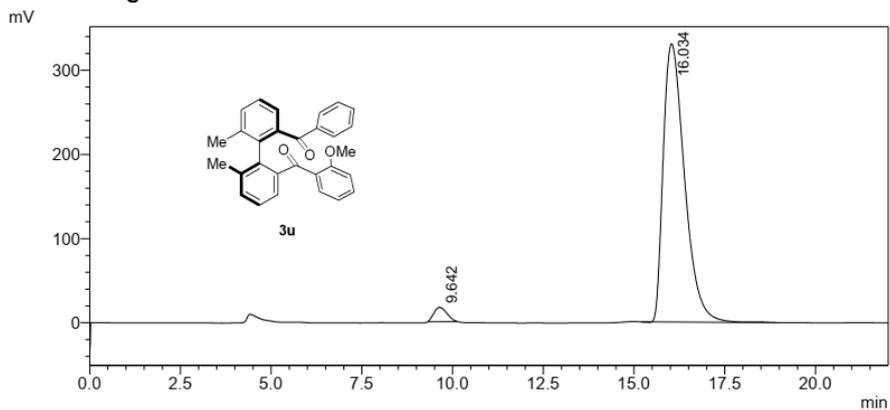


<Peak Table>

Detector A Channel 1 254nm

| Peak# | Ret. Time | Area | Height | Conc. | Unit | Mark | Name |
|-------|-----------|---------|--------|--------|------|------|------|
| 1 | 9.484 | 1097094 | 49441 | 48.704 | | | |
| 2 | 15.554 | 1155486 | 33767 | 51.296 | | | |
| Total | | 2252580 | 83208 | | | | |

<Chromatogram>

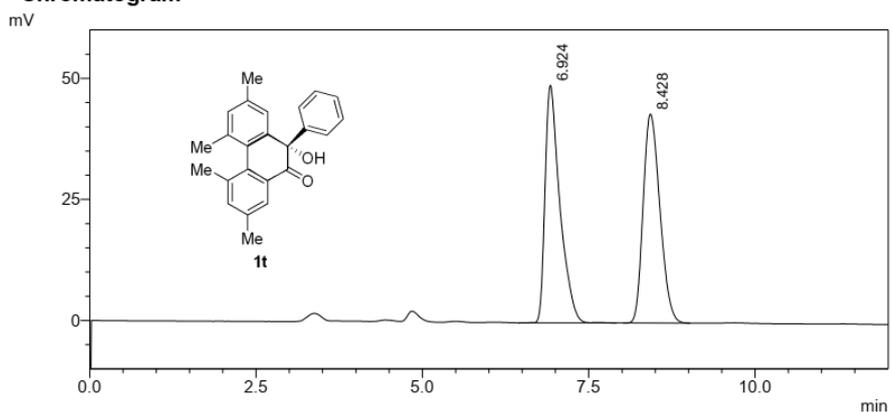


<Peak Table>

Detector A Channel 1 254nm

| Peak# | Ret. Time | Area | Height | Conc. | Unit | Mark | Name |
|-------|-----------|----------|--------|--------|------|------|------|
| 1 | 9.642 | 421988 | 17027 | 3.032 | | | |
| 2 | 16.034 | 13493722 | 330655 | 96.968 | | | |
| Total | | 13915710 | 347682 | | | | |

<Chromatogram>

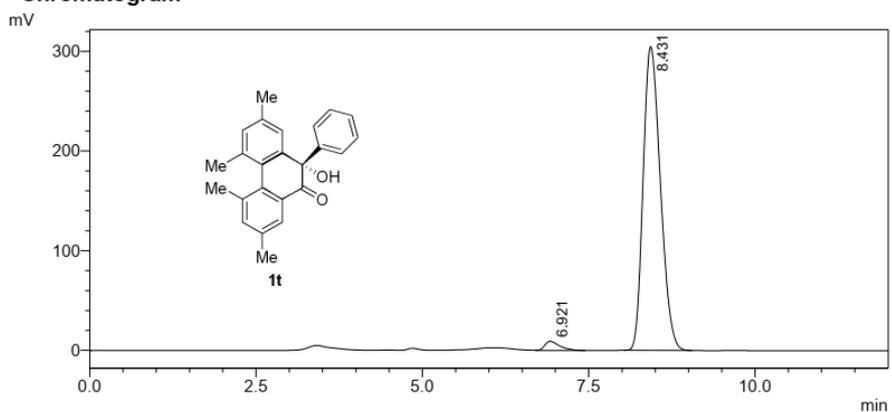


<Peak Table>

Detector A Channel 1 254nm

| Peak# | Ret. Time | Area | Height | Conc. | Unit | Mark | Name |
|-------|-----------|---------|--------|--------|------|------|------|
| 1 | 6.924 | 758957 | 49057 | 50.052 | | | |
| 2 | 8.428 | 757367 | 43132 | 49.948 | | | |
| Total | | 1516323 | 92189 | | | | |

<Chromatogram>

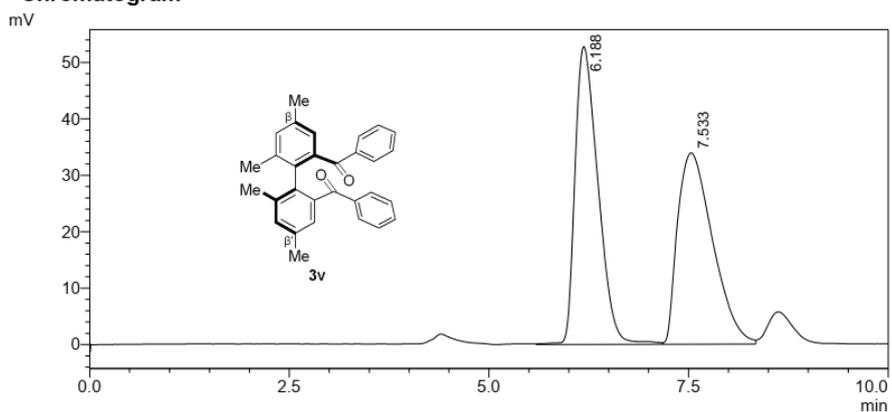


<Peak Table>

Detector A Channel 1 254nm

| Peak# | Ret. Time | Area | Height | Conc. | Unit | Mark | Name |
|-------|-----------|---------|--------|--------|------|------|------|
| 1 | 6.921 | 144859 | 9292 | 2.571 | | | |
| 2 | 8.431 | 5488625 | 304570 | 97.429 | | | |
| Total | | 5633484 | 313862 | | | | |

<Chromatogram>

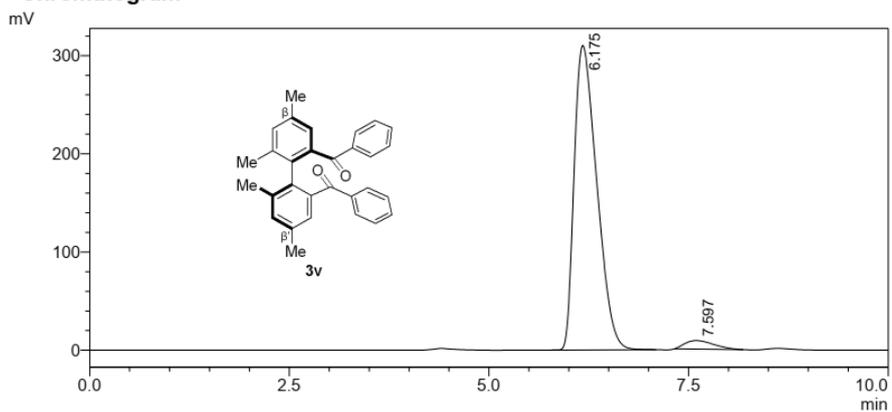


<Peak Table>

Detector A Channel 1 254nm

| Peak# | Ret. Time | Area | Height | Conc. | Unit | Mark | Name |
|-------|-----------|---------|--------|--------|------|------|------|
| 1 | 6.188 | 1057723 | 52753 | 50.505 | | | |
| 2 | 7.533 | 1036572 | 33919 | 49.495 | | | |
| Total | | 2094295 | 86672 | | | | |

<Chromatogram>

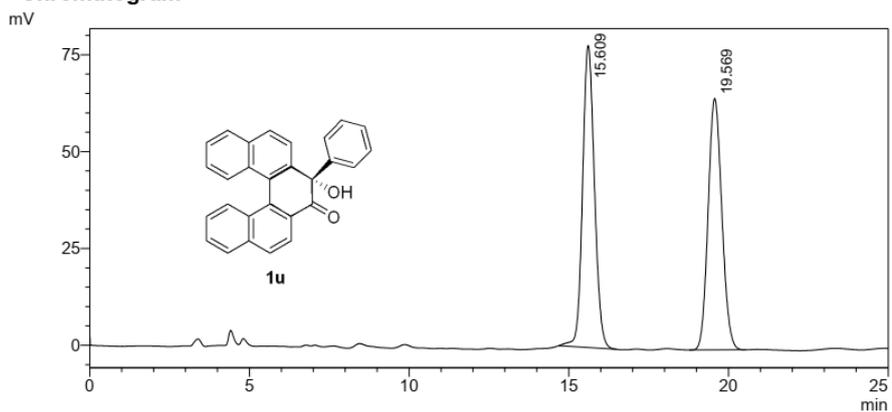


<Peak Table>

Detector A Channel 1 254nm

| Peak# | Ret. Time | Area | Height | Conc. | Unit | Mark | Name |
|-------|-----------|---------|--------|--------|------|------|------|
| 1 | 6.175 | 6100256 | 310008 | 96.528 | | | |
| 2 | 7.597 | 219444 | 8684 | 3.472 | | | |
| Total | | 6319700 | 318692 | | | | |

<Chromatogram>

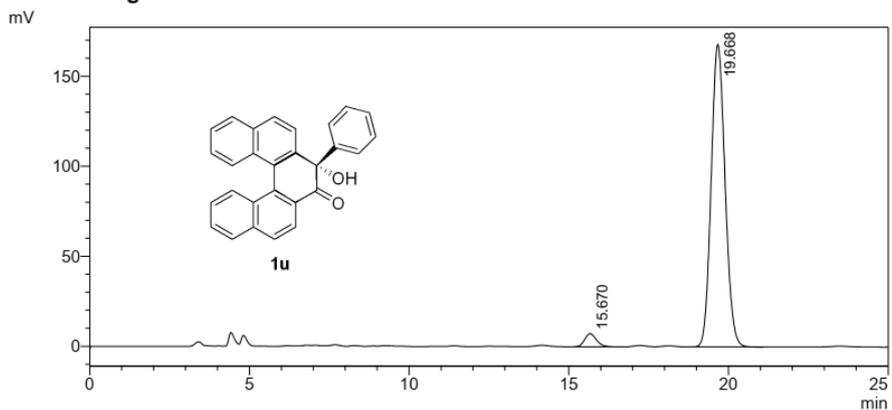


<Peak Table>

Detector A Channel 1 254nm

| Peak# | Ret. Time | Area | Height | Conc. | Unit | Mark | Name |
|-------|-----------|---------|--------|--------|------|------|------|
| 1 | 15.609 | 2012461 | 77908 | 50.903 | | | |
| 2 | 19.569 | 1941074 | 64915 | 49.097 | | | |
| Total | | 3953535 | 142823 | | | | |

<Chromatogram>

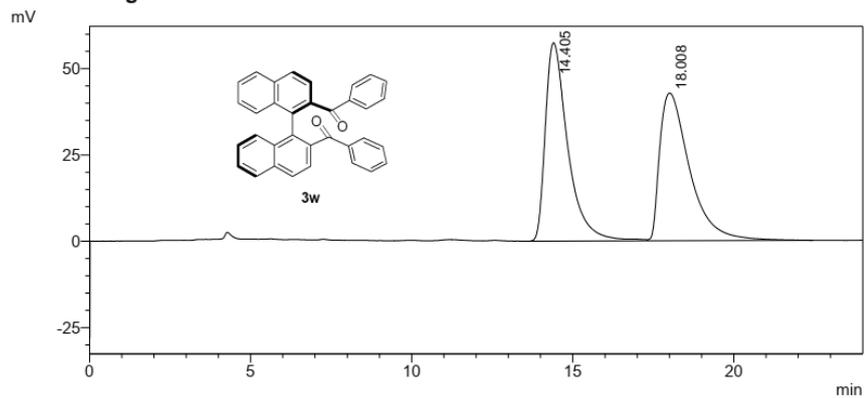


<Peak Table>

Detector A Channel 1 254nm

| Peak# | Ret. Time | Area | Height | Conc. | Unit | Mark | Name |
|-------|-----------|---------|--------|--------|------|------|------|
| 1 | 15.670 | 187318 | 7266 | 3.549 | | | |
| 2 | 19.668 | 5090215 | 168053 | 96.451 | | | |
| Total | | 5277534 | 175319 | | | | |

<Chromatogram>

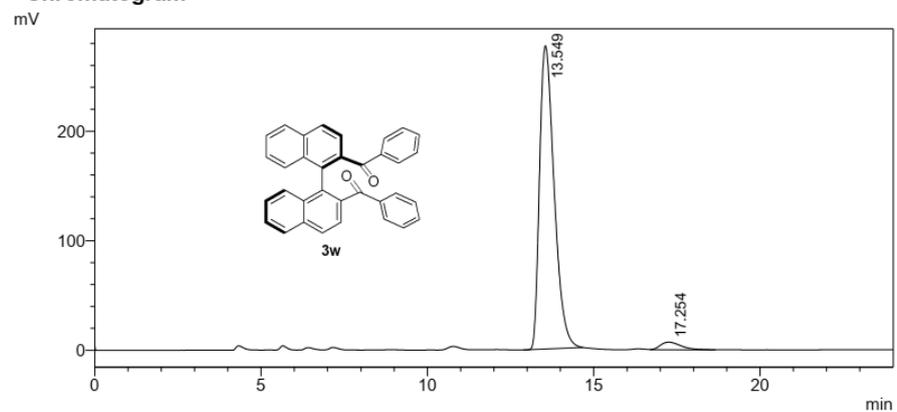


<Peak Table>

Detector A Channel 1 254nm

| Peak# | Ret. Time | Area | Height | Conc. | Unit | Mark | Name |
|-------|-----------|---------|--------|--------|------|------|------|
| 1 | 14.405 | 2798198 | 57473 | 50.285 | | | |
| 2 | 18.008 | 2766520 | 42779 | 49.715 | | | |
| Total | | 5564718 | 100251 | | | | |

<Chromatogram>

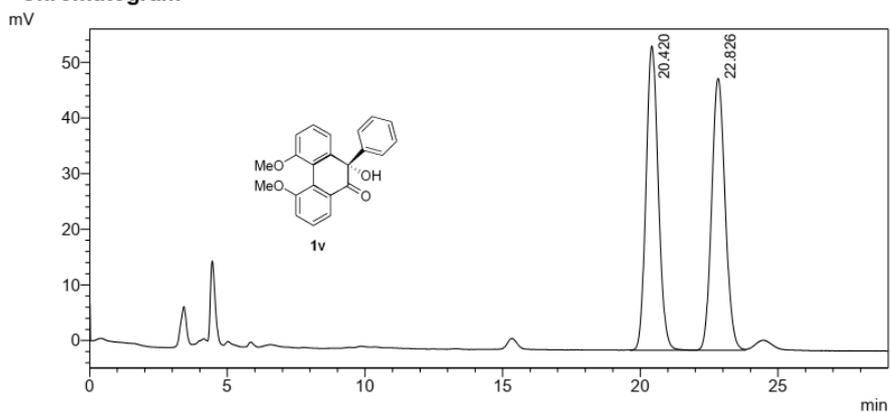


<Peak Table>

Detector A Channel 1 254nm

| Peak# | Ret. Time | Area | Height | Conc. | Unit | Mark | Name |
|-------|-----------|---------|--------|--------|------|------|------|
| 1 | 13.549 | 8440868 | 276718 | 96.554 | | | |
| 2 | 17.254 | 301238 | 6944 | 3.446 | | | |
| Total | | 8742106 | 283662 | | | | |

<Chromatogram>

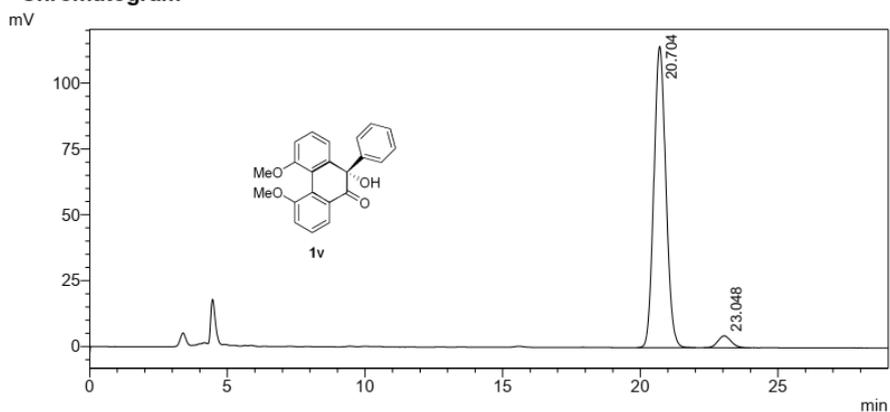


<Peak Table>

Detector A Channel 1 254nm

| Peak# | Ret. Time | Area | Height | Conc. | Unit | Mark | Name |
|-------|-----------|---------|--------|--------|------|------|------|
| 1 | 20.420 | 1691778 | 54666 | 50.414 | | | |
| 2 | 22.826 | 1663972 | 48848 | 49.586 | | | |
| Total | | 3355750 | 103514 | | | | |

<Chromatogram>

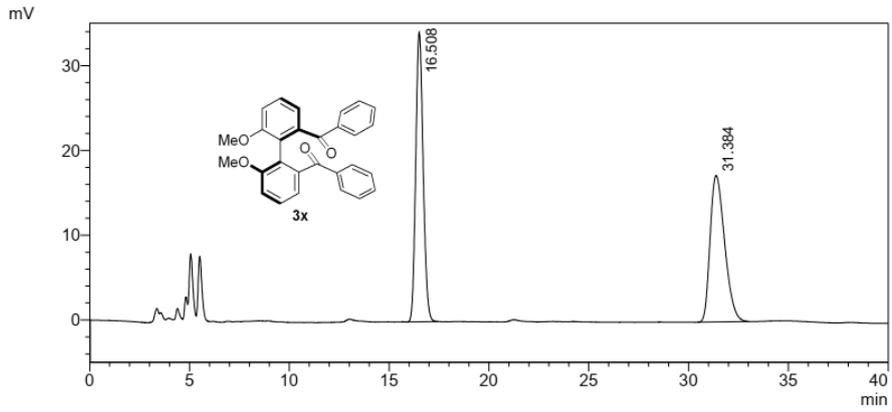


<Peak Table>

Detector A Channel 1 254nm

| Peak# | Ret. Time | Area | Height | Conc. | Unit | Mark | Name |
|-------|-----------|---------|--------|--------|------|------|------|
| 1 | 20.704 | 3469505 | 114320 | 95.850 | | | |
| 2 | 23.048 | 150223 | 4487 | 4.150 | | | |
| Total | | 3619728 | 118807 | | | | |

<Chromatogram>

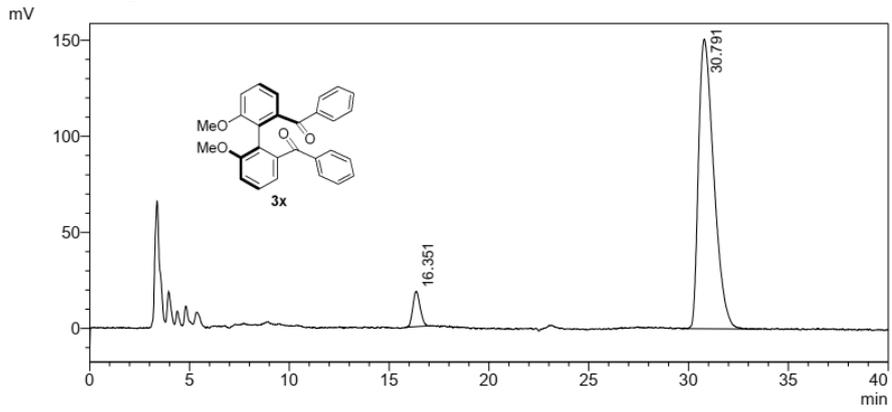


<Peak Table>

Detector A Channel 1 210nm

| Peak# | Ret. Time | Area | Height | Conc. | Unit | Mark | Name |
|-------|-----------|---------|--------|--------|------|------|------|
| 1 | 16.508 | 880851 | 34137 | 50.152 | | | |
| 2 | 31.384 | 875509 | 17294 | 49.848 | | | |
| Total | | 1756360 | 51431 | | | | |

<Chromatogram>

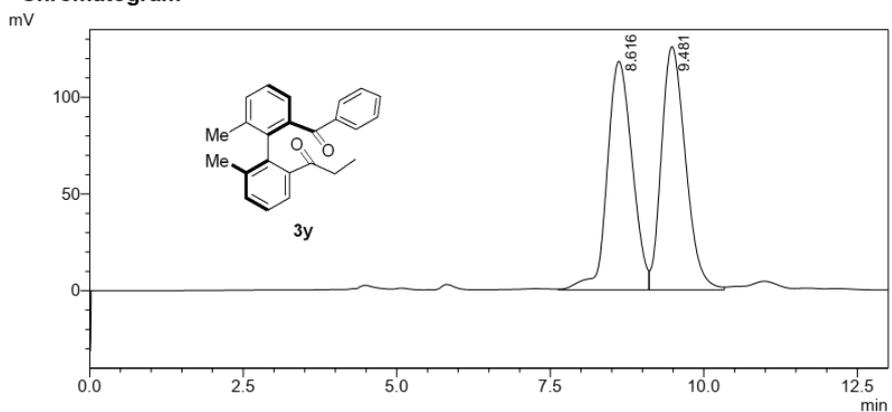


<Peak Table>

Detector A Channel 2 210nm

| Peak# | Ret. Time | Area | Height | Conc. | Unit | Mark | Name |
|-------|-----------|---------|--------|--------|------|------|------|
| 1 | 16.351 | 464575 | 18195 | 5.474 | | | |
| 2 | 30.791 | 8022900 | 150817 | 94.526 | | | |
| Total | | 8487475 | 169013 | | | | |

<Chromatogram>

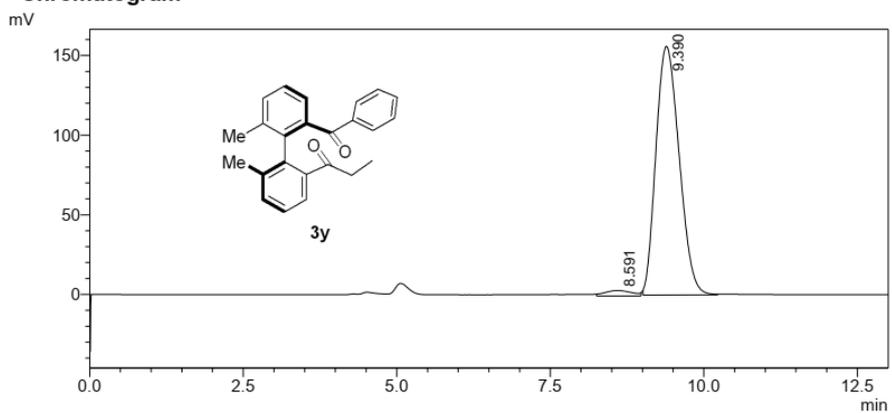


<Peak Table>

Detector A Channel 1 254nm

| Peak# | Ret. Time | Area | Height | Conc. | Unit | Mark | Name |
|-------|-----------|---------|--------|--------|------|------|------|
| 1 | 8.616 | 3348777 | 118261 | 49.331 | | | |
| 2 | 9.481 | 3439577 | 125829 | 50.669 | | | |
| Total | | 6788354 | 244090 | | | | |

<Chromatogram>

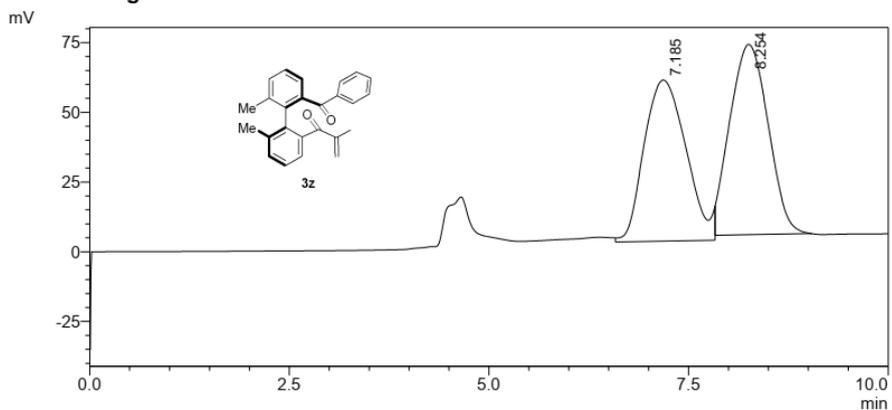


<Peak Table>

Detector A Channel 1 254nm

| Peak# | Ret. Time | Area | Height | Conc. | Unit | Mark | Name |
|-------|-----------|---------|--------|--------|------|------|------|
| 1 | 8.591 | 107068 | 3442 | 2.537 | | | |
| 2 | 9.390 | 4112820 | 156161 | 97.463 | | | |
| Total | | 4219888 | 159603 | | | | |

<Chromatogram>

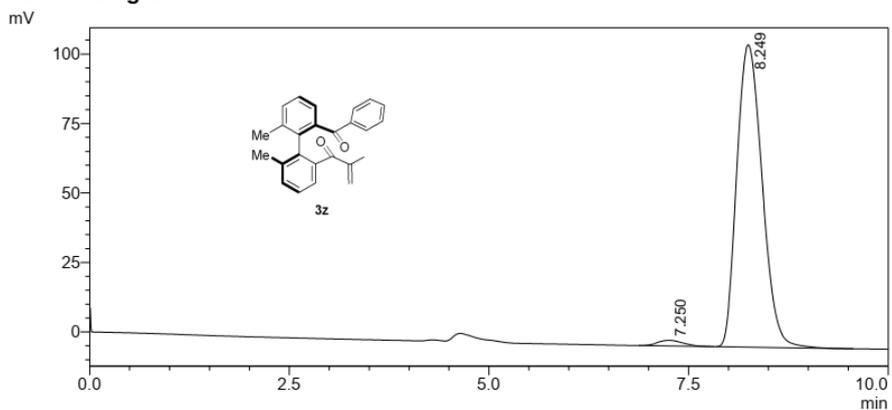


<Peak Table>

Detector A Channel 1 254nm

| Peak# | Ret. Time | Area | Height | Conc. | Unit | Mark | Name |
|-------|-----------|---------|--------|--------|------|------|------|
| 1 | 7.185 | 2120854 | 57778 | 48.296 | | | |
| 2 | 8.254 | 2270535 | 68199 | 51.704 | | | |
| Total | | 4391390 | 125977 | | | | |

<Chromatogram>

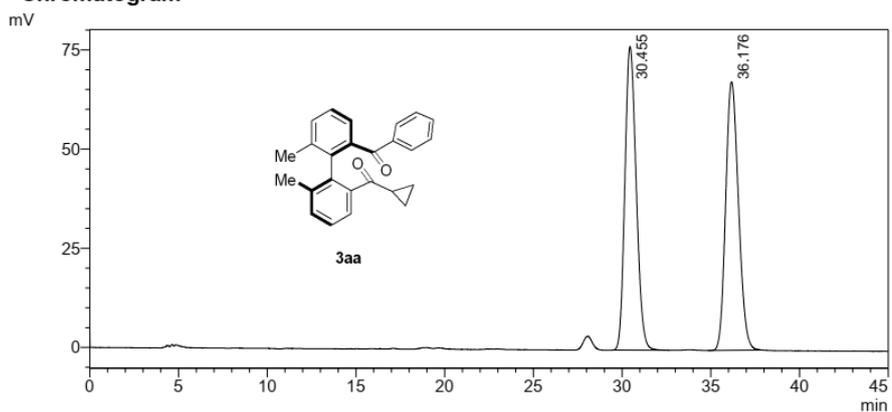


<Peak Table>

Detector A Channel 1 254nm

| Peak# | Ret. Time | Area | Height | Conc. | Unit | Mark | Name |
|-------|-----------|---------|--------|--------|------|------|------|
| 1 | 7.250 | 44587 | 2013 | 1.822 | | | |
| 2 | 8.249 | 2403005 | 108789 | 98.178 | | | |
| Total | | 2447592 | 110802 | | | | |

<Chromatogram>

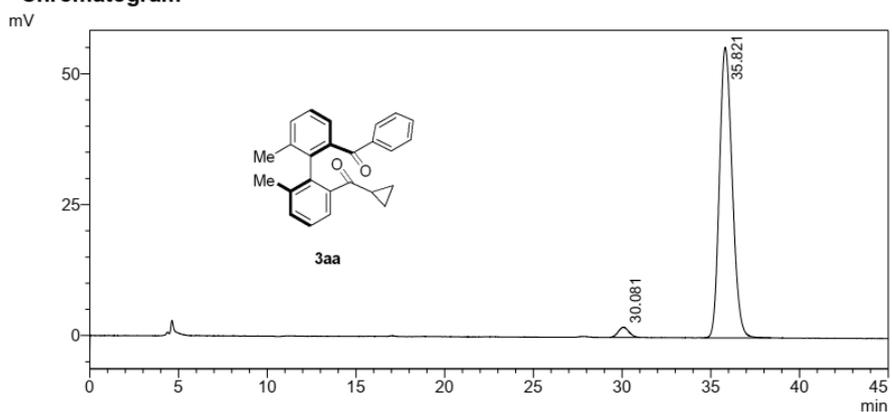


<Peak Table>

Detector A Channel 1 254nm

| Peak# | Ret. Time | Area | Height | Conc. | Unit | Mark | Name |
|-------|-----------|---------|--------|--------|------|------|------|
| 1 | 30.455 | 3385735 | 76495 | 49.984 | | | |
| 2 | 36.176 | 3387913 | 67677 | 50.016 | | | |
| Total | | 6773648 | 144172 | | | | |

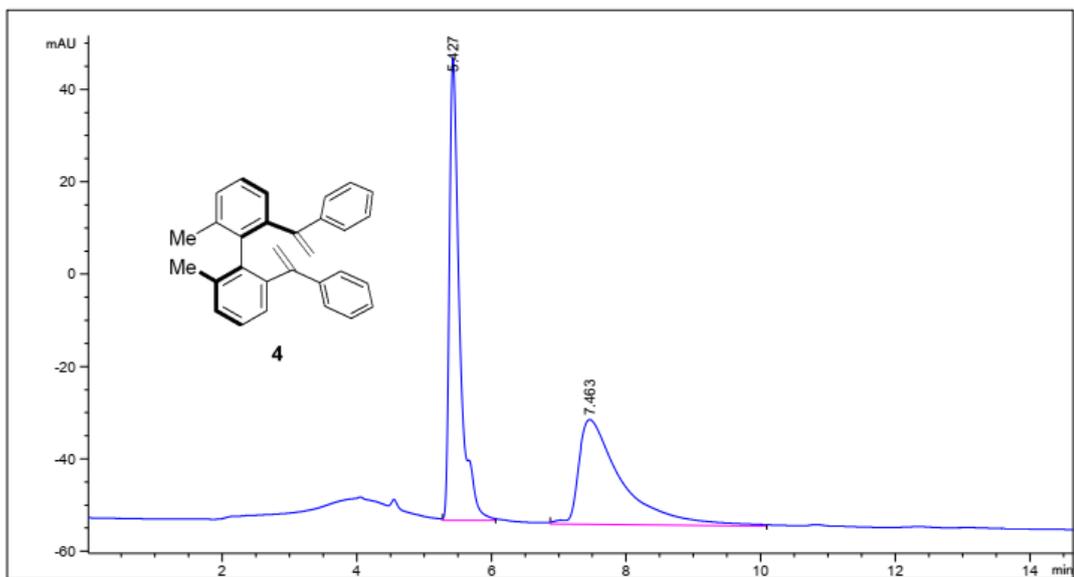
<Chromatogram>



<Peak Table>

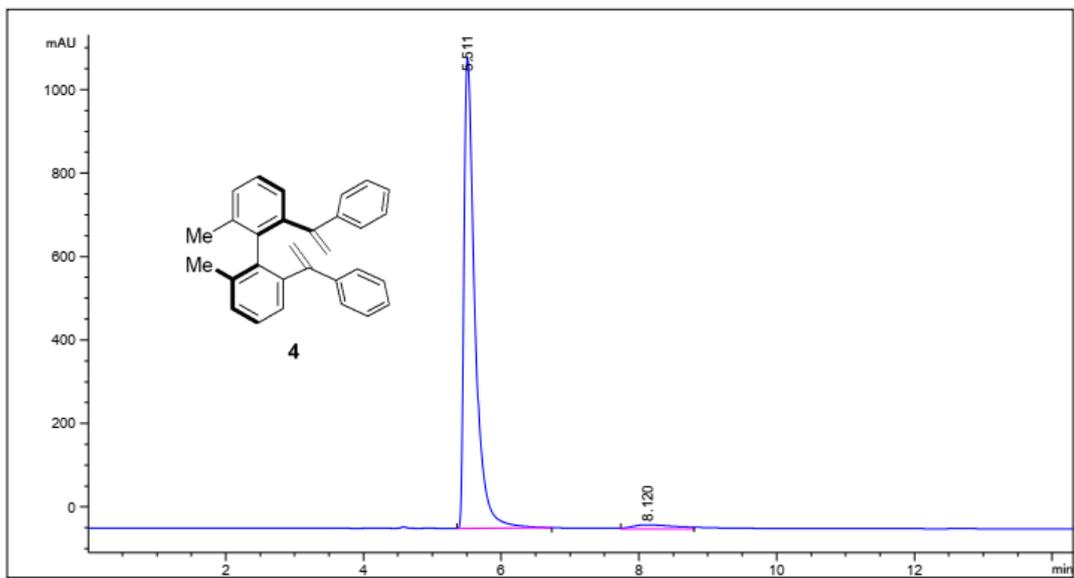
Detector A Channel 1 254nm

| Peak# | Ret. Time | Area | Height | Conc. | Unit | Mark | Name |
|-------|-----------|---------|--------|--------|------|------|------|
| 1 | 30.081 | 81664 | 1947 | 2.858 | | | |
| 2 | 35.821 | 2776071 | 55487 | 97.142 | | | |
| Total | | 2857735 | 57434 | | | | |



Signal 1: DAD1 A, Sig=254,4 Ref=360,100

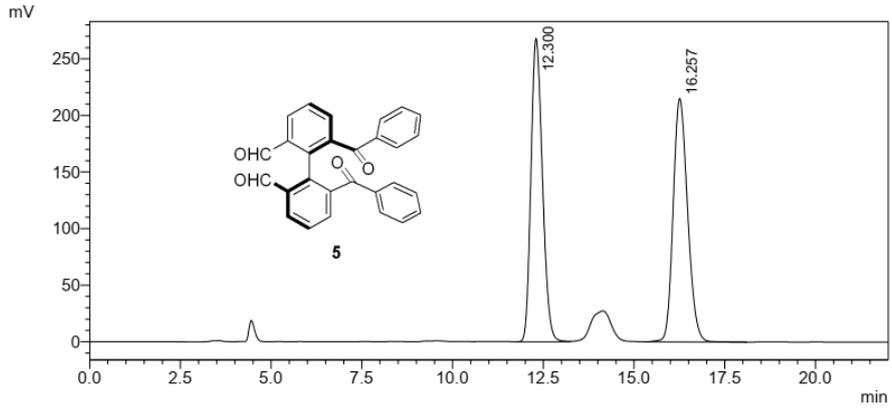
| Peak # | RetTime [min] | Type | Width [min] | Area [mAU*s] | Height [mAU] | Area % |
|--------|---------------|------|-------------|--------------|--------------|---------|
| 1 | 5.427 | MM | 0.1776 | 1065.67090 | 100.02626 | 51.1863 |
| 2 | 7.463 | MM | 0.7457 | 1016.27515 | 22.71397 | 48.8137 |



Signal 1: DAD1 A, Sig=254,4 Ref=360,100

| Peak # | RetTime [min] | Type | Width [min] | Area [mAU*s] | Height [mAU] | Area % |
|--------|---------------|------|-------------|--------------|--------------|---------|
| 1 | 5.511 | BB | 0.1684 | 1.26104e4 | 1128.08789 | 96.5156 |
| 2 | 8.120 | MM | 0.7375 | 455.25446 | 10.28883 | 3.4844 |

<Chromatogram>

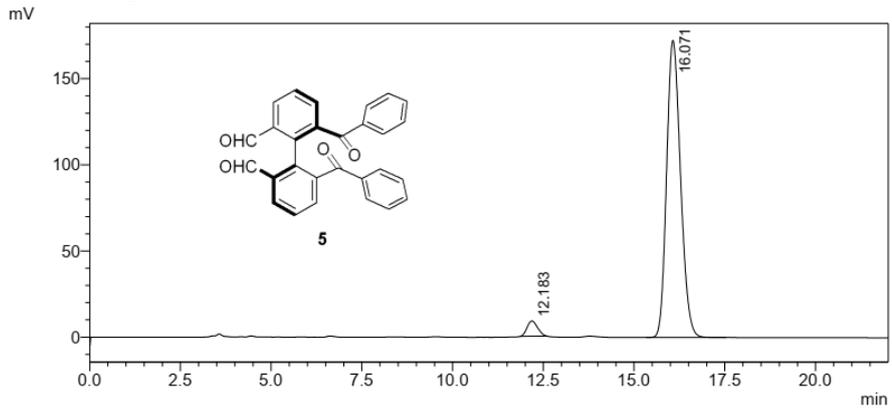


<Peak Table>

Detector A Channel 1 254nm

| Peak# | Ret. Time | Area | Height | Conc. | Unit | Mark | Name |
|-------|-----------|----------|--------|--------|------|------|------|
| 1 | 12.300 | 5920567 | 268079 | 49.761 | | | |
| 2 | 16.257 | 5977374 | 215171 | 50.239 | | | |
| Total | | 11897940 | 483250 | | | | |

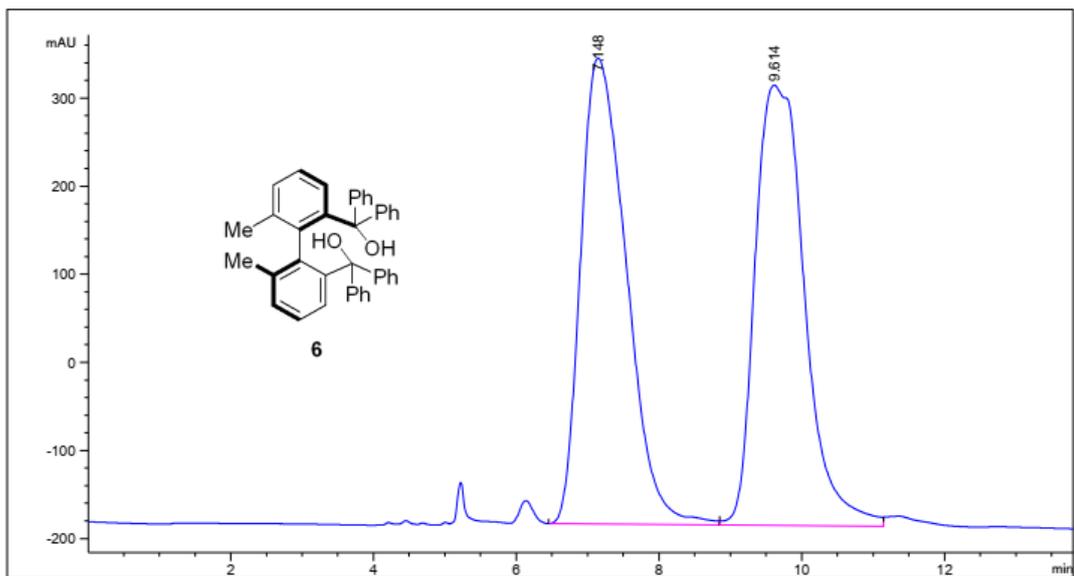
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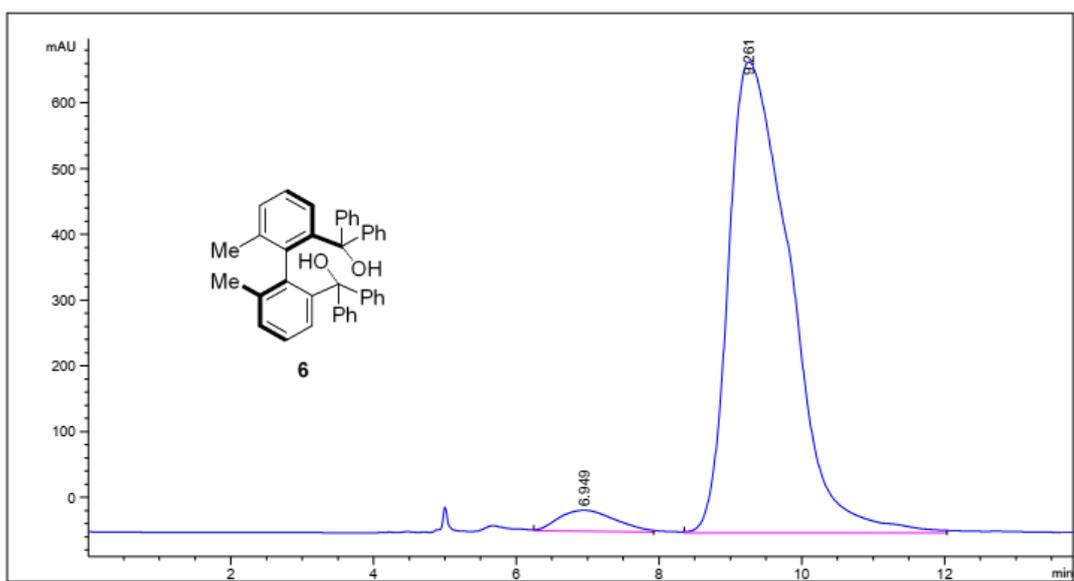
<Peak Table>

Detector A Channel 1 254nm

| Peak# | Ret. Time | Area | Height | Conc. | Unit | Mark | Name |
|-------|-----------|---------|--------|--------|------|------|------|
| 1 | 12.183 | 179033 | 8870 | 3.740 | | | |
| 2 | 16.071 | 4607472 | 172376 | 96.260 | | | |
| Total | | 4786505 | 181246 | | | | |



| Peak # | RetTime [min] | Type | Width [min] | Area [mAU*s] | Height [mAU] | Area % |
|--------|---------------|------|-------------|--------------|--------------|---------|
| 1 | 7.148 | VB | 0.7214 | 2.34489e4 | 528.77924 | 49.3565 |
| 2 | 9.614 | BB | 0.6736 | 2.40604e4 | 499.83356 | 50.6435 |



| Peak # | RetTime [min] | Type | Width [min] | Area [mAU*s] | Height [mAU] | Area % |
|--------|---------------|------|-------------|--------------|--------------|---------|
| 1 | 6.949 | MM | 0.9096 | 1745.80261 | 31.98970 | 3.9179 |
| 2 | 9.261 | MM | 0.9957 | 4.28138e4 | 716.62024 | 96.0821 |