Supporting Information

Synthesis of (2*H*)-Indazoles through Rh(III)-Catalyzed Annulation Reaction of Azobenzenes with Sulfoxonium Ylides

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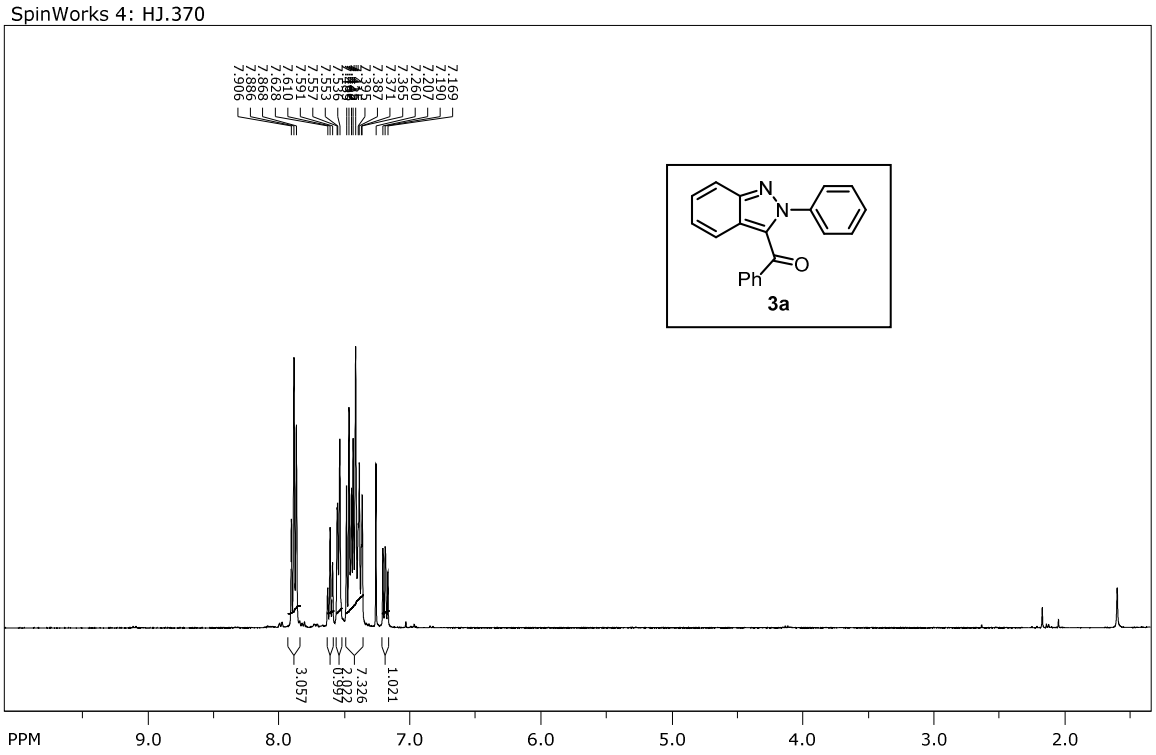
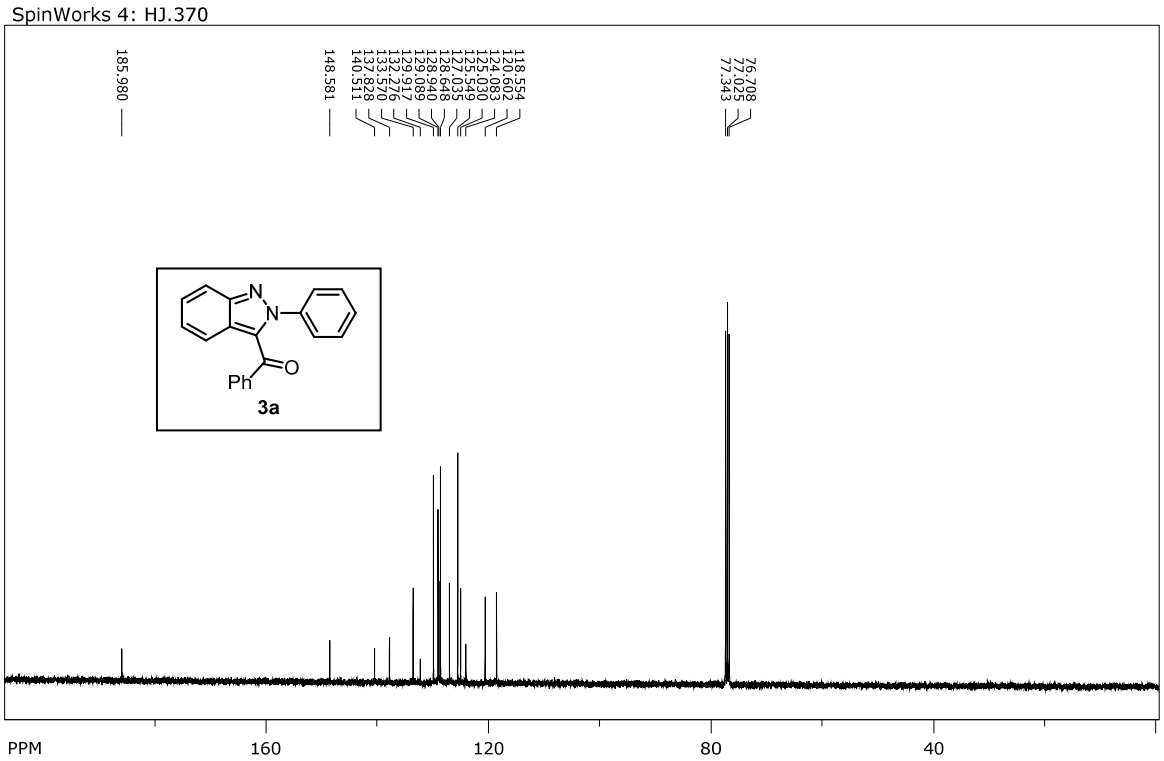
^{1}H NMR and ^{13}C NMR spectra of all compounds ---------- S2–S45

^{1}H and ^{13}C NMR spectra of all compounds





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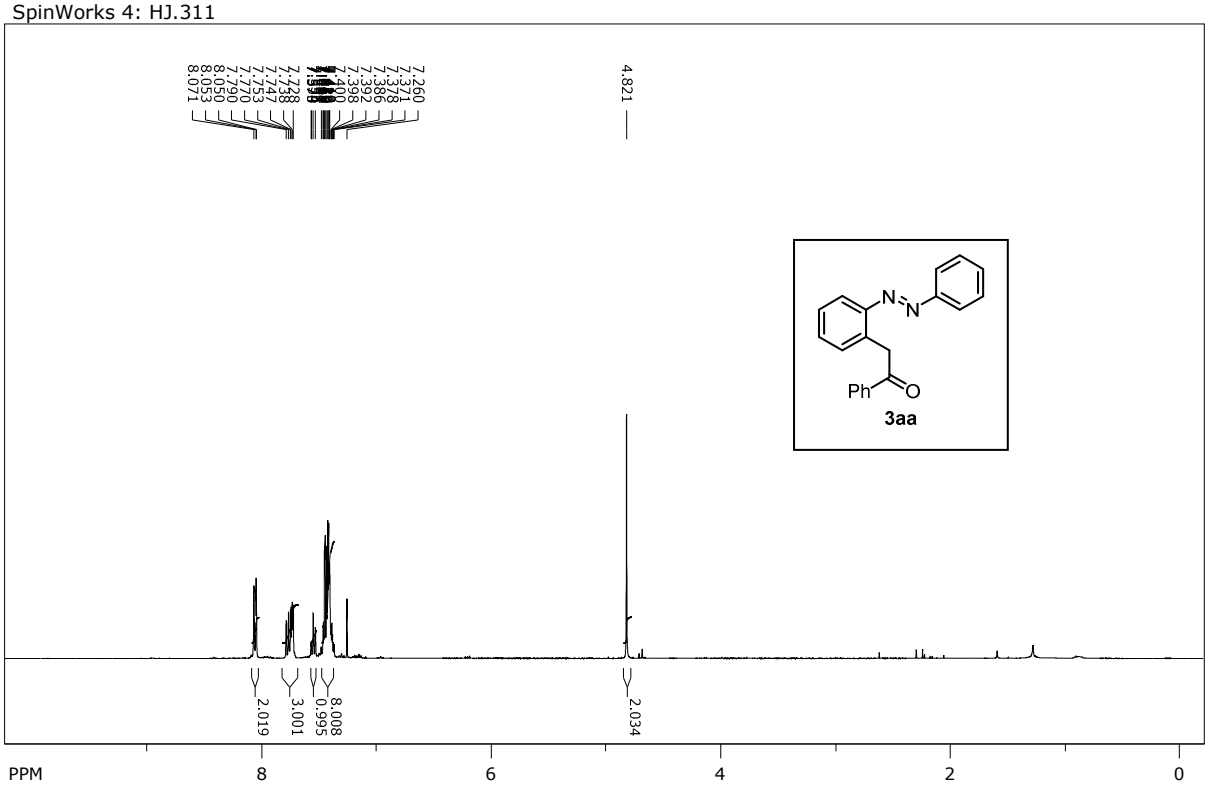

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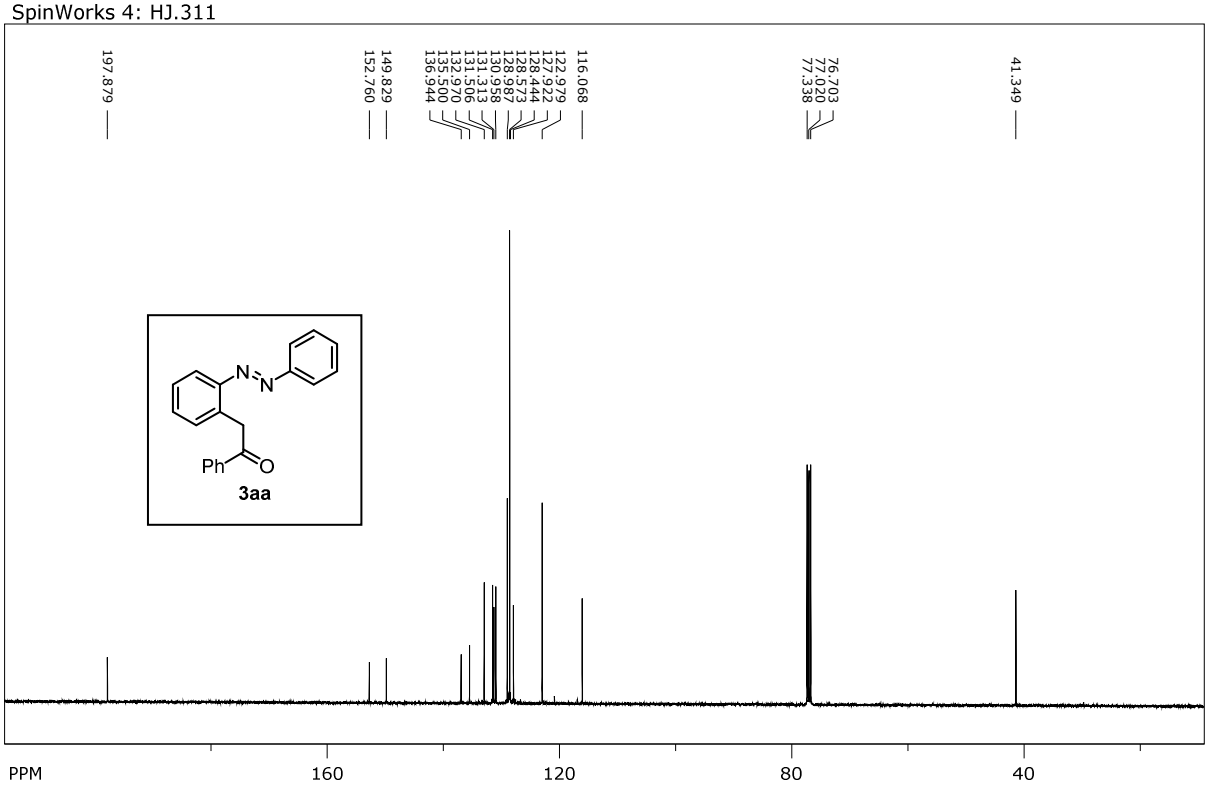

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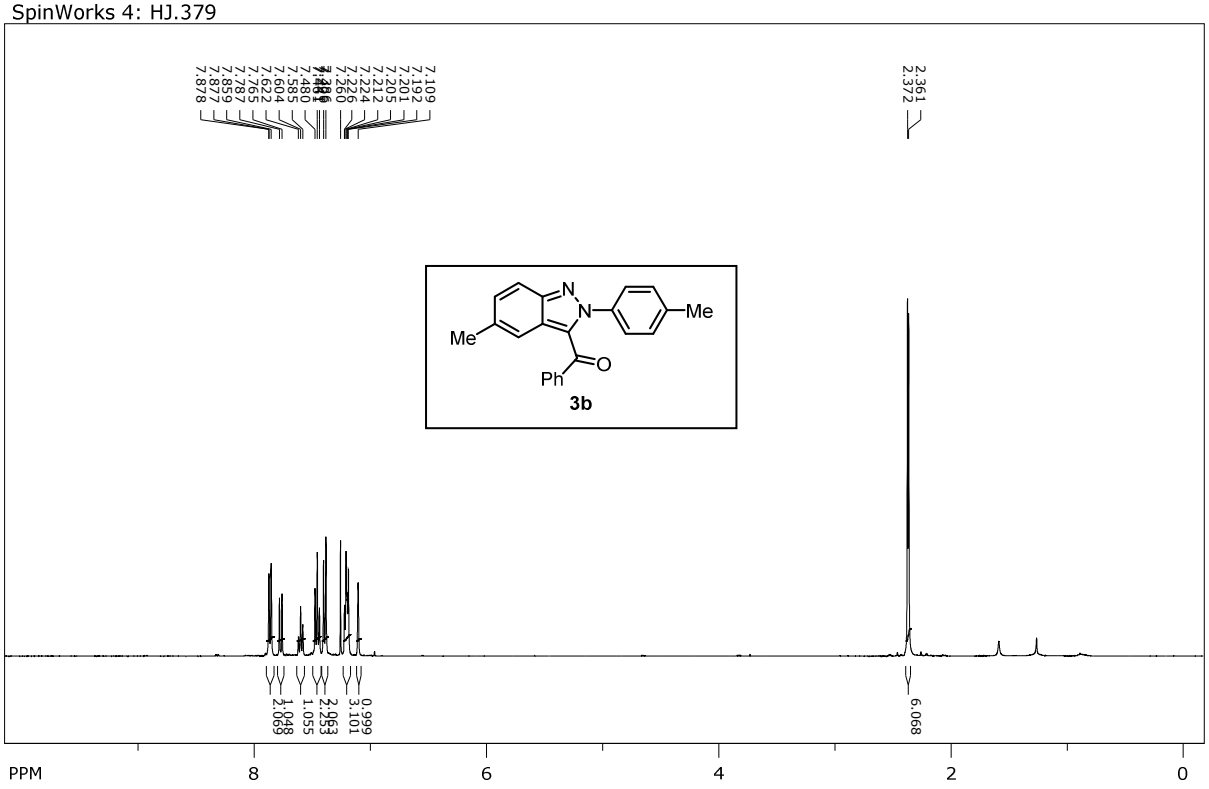

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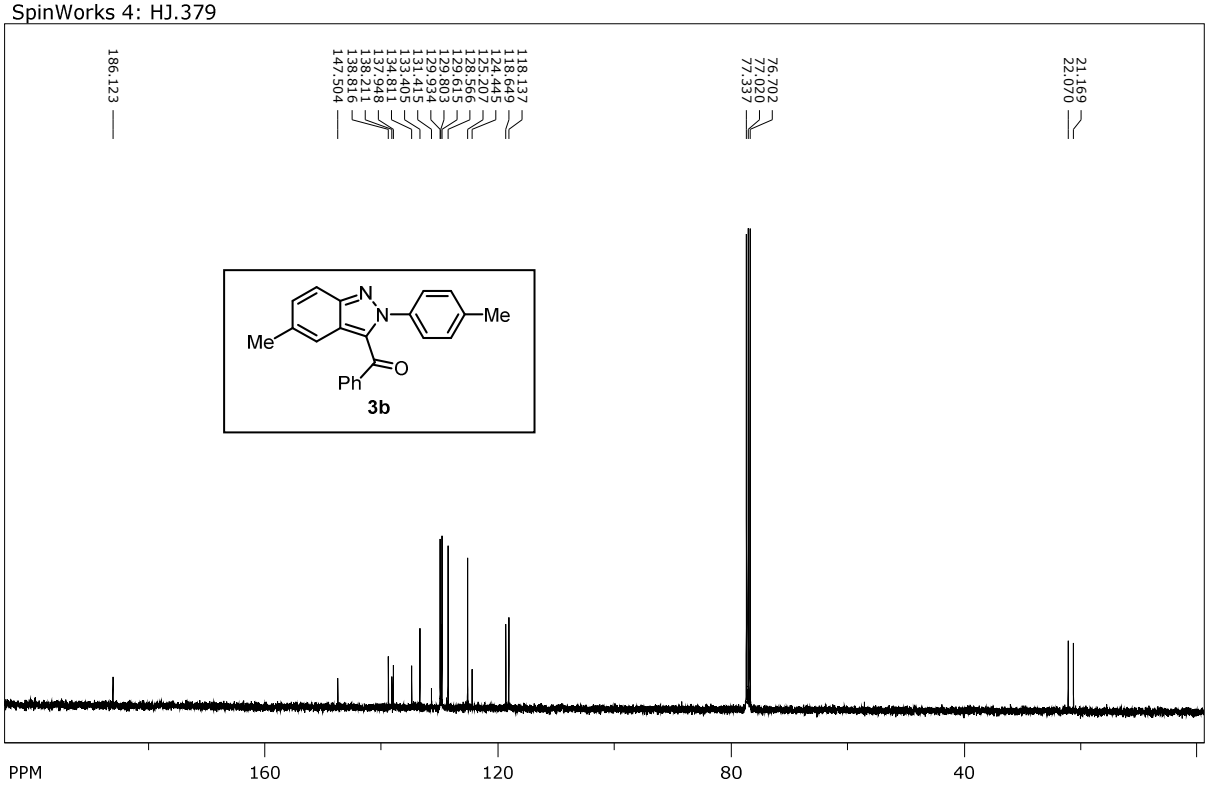

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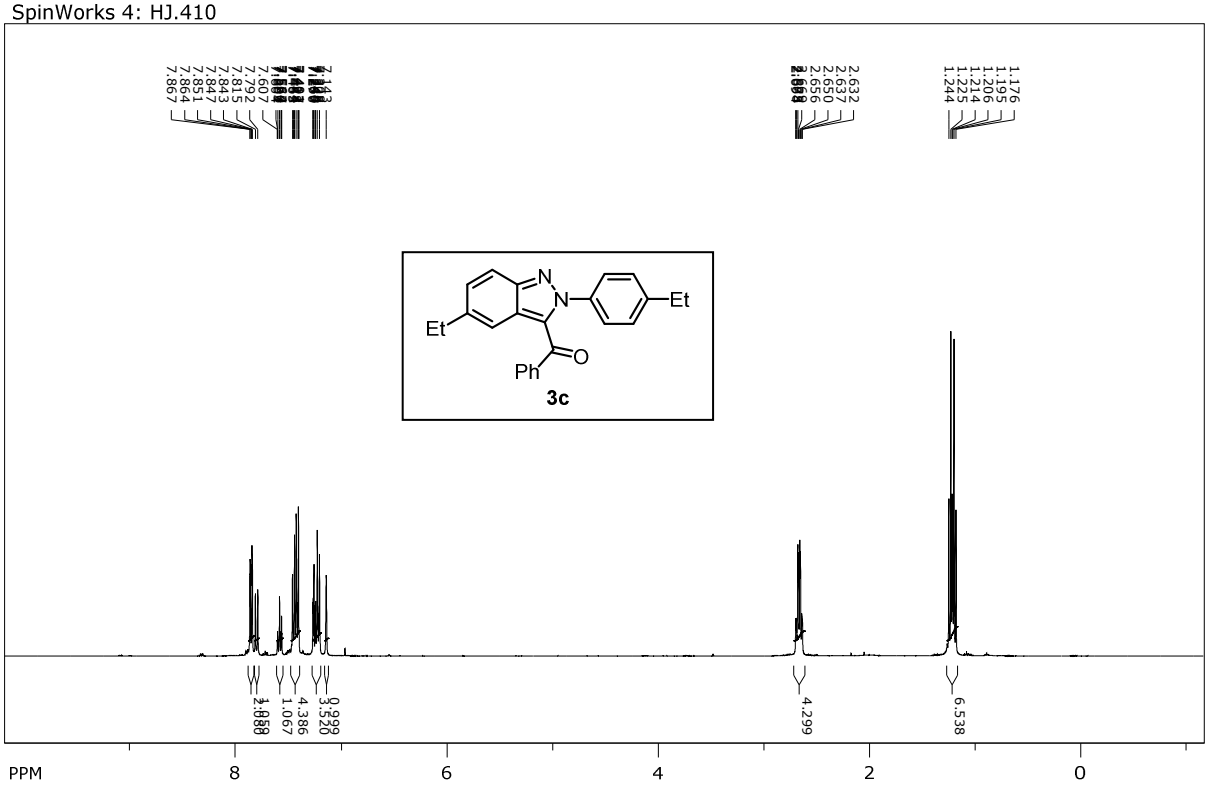

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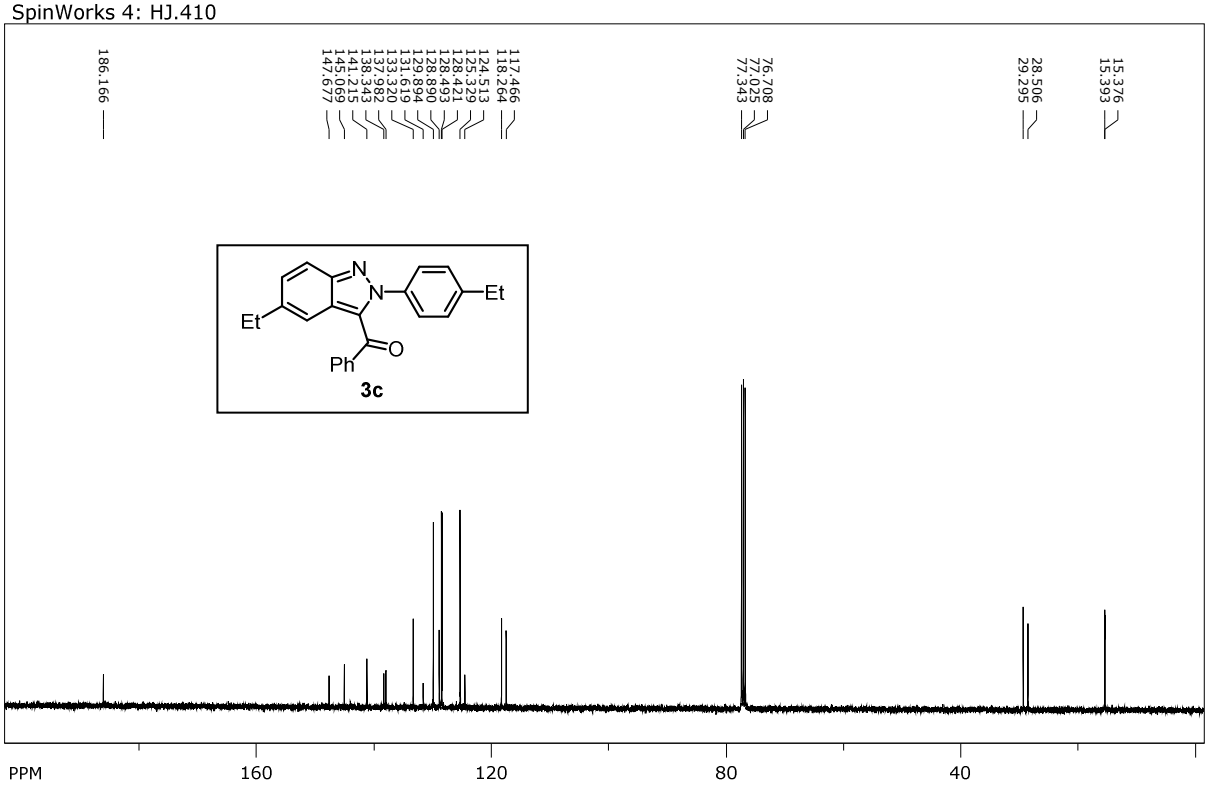

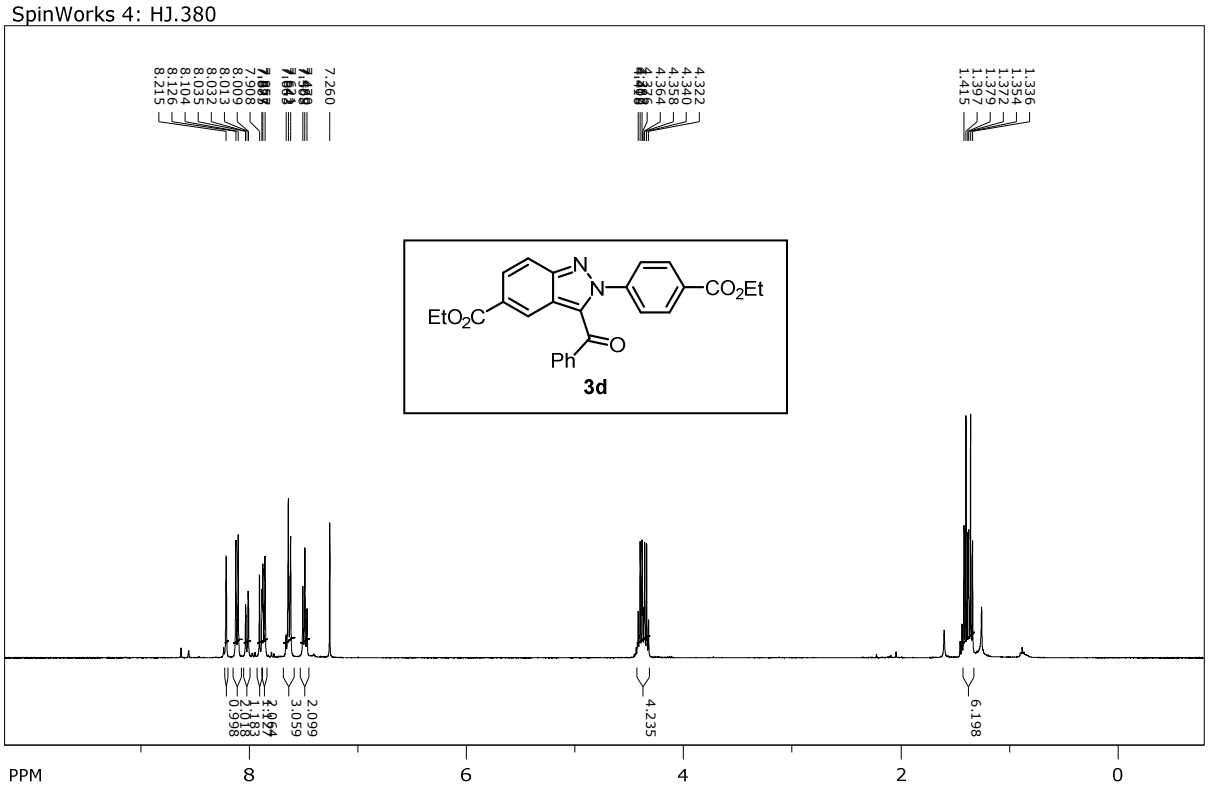
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7.908
7.260
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4.358
4.376
1.336
1.354
1.372
1.379
1.397
1.415
N
N
CO2Et
EtO2C
Ph
O
3d
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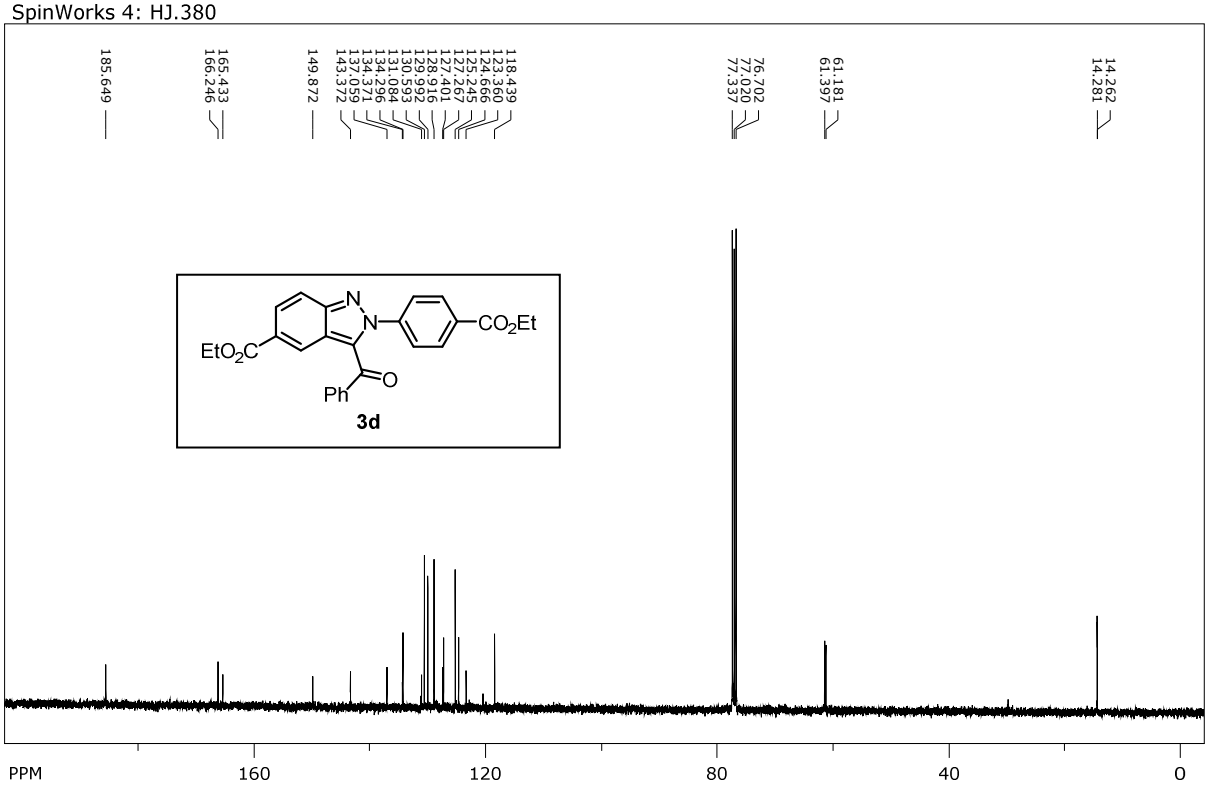
2.064
3.059
2.099
4.235
6.198
PPM
8
6
4
2
0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128.916
127.401
127.267
125.245
124.666
123.360
118.439
77.337
76.702
77.020
61.397
61.181
14.281
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EtO2C
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O
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PPM
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40
0

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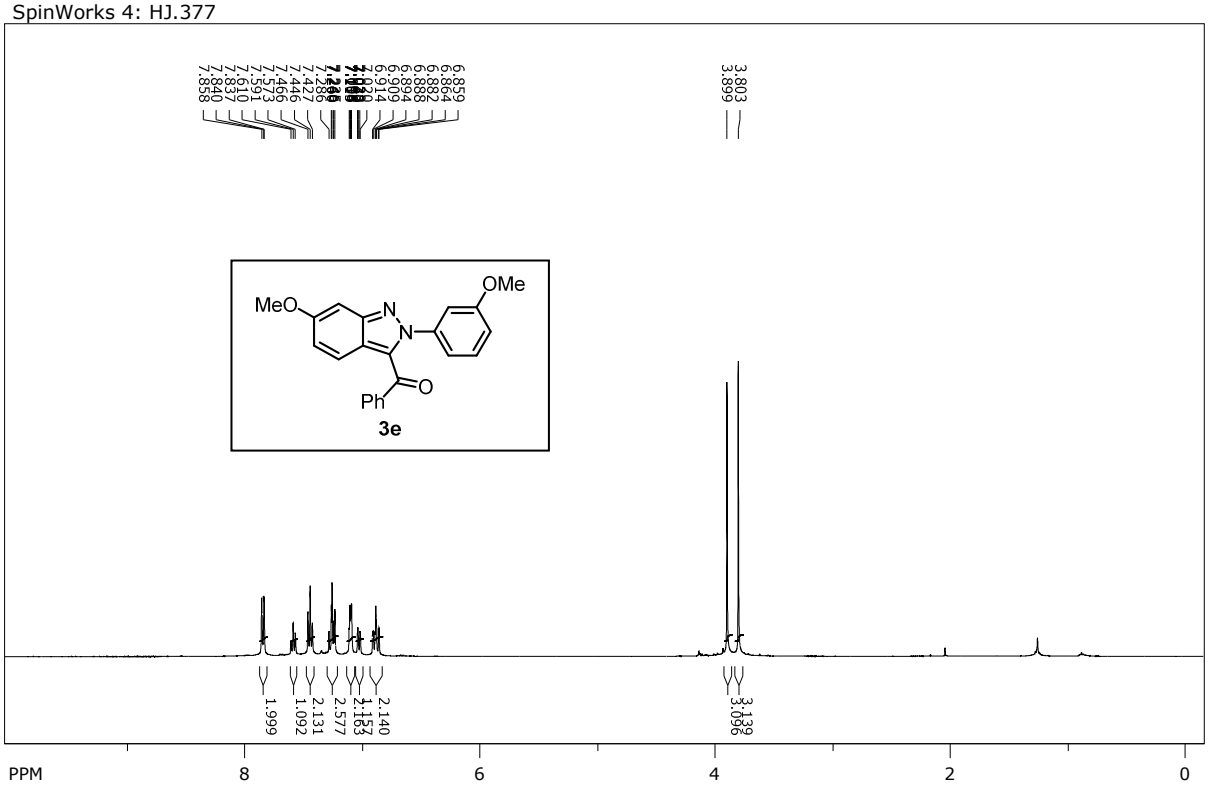

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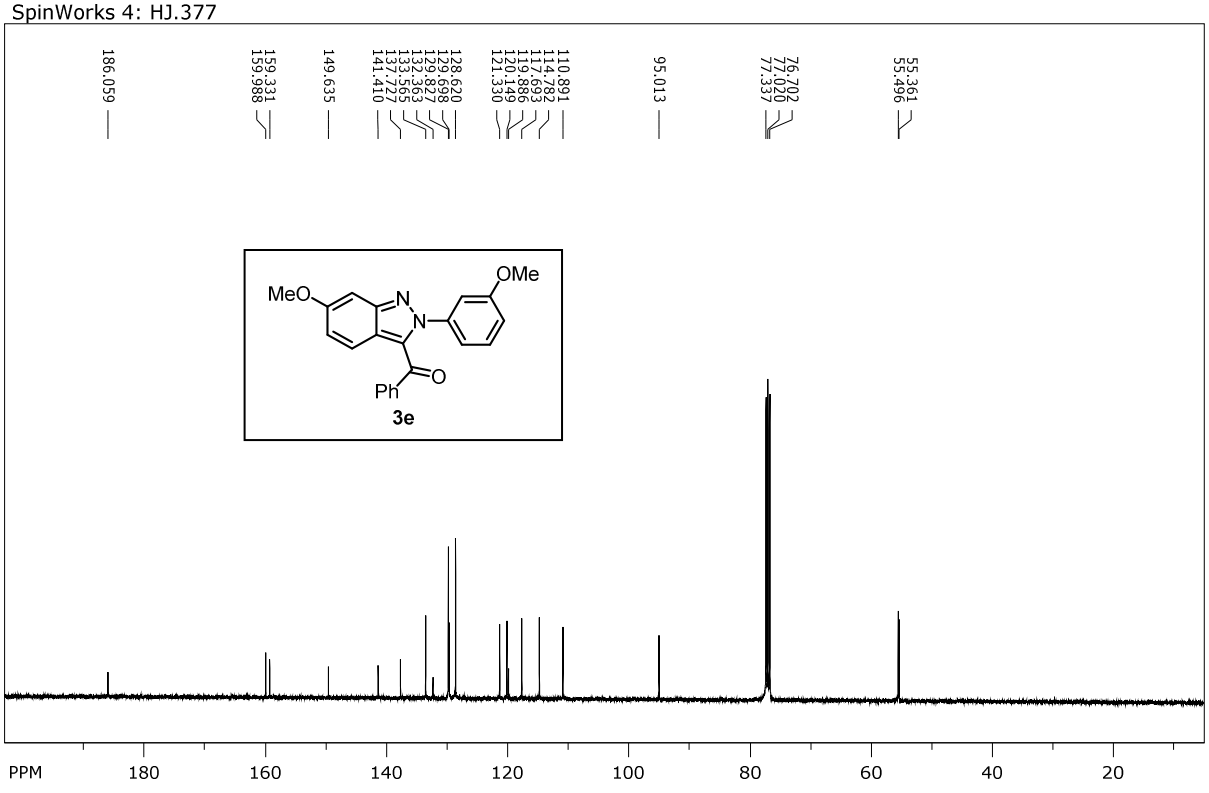

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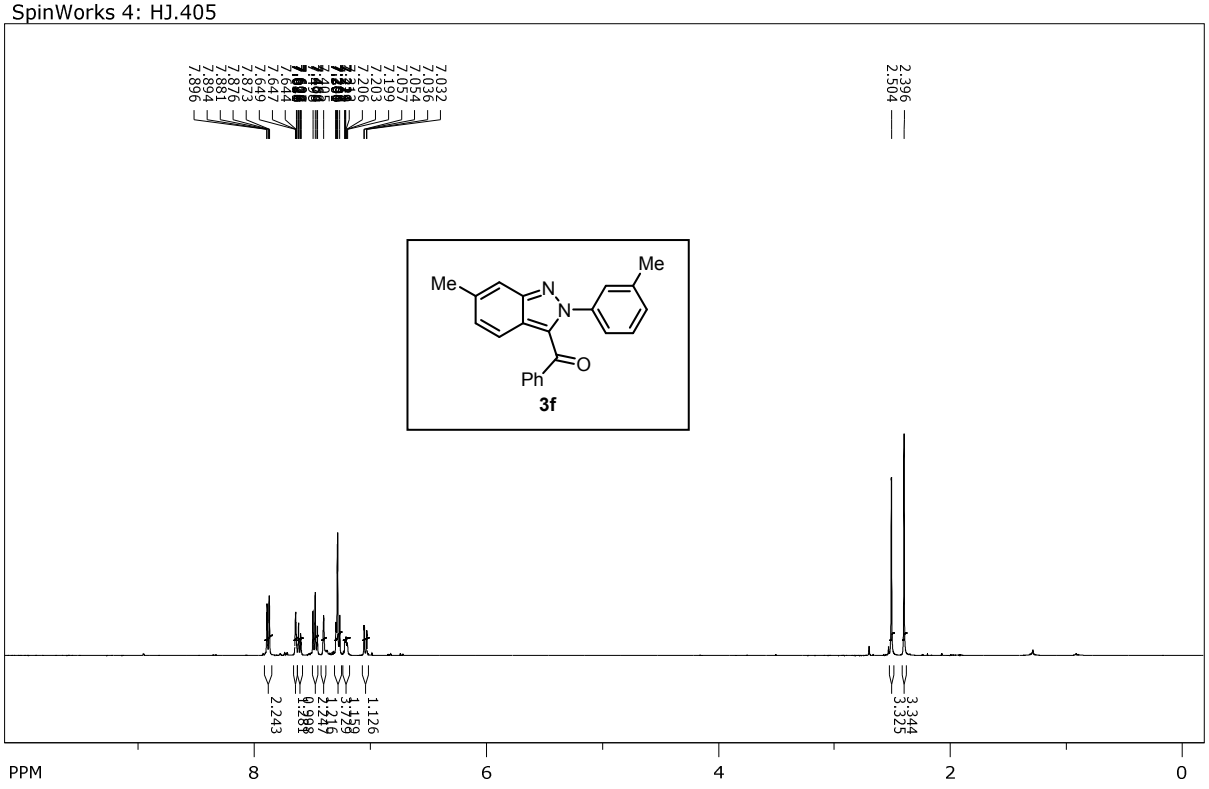

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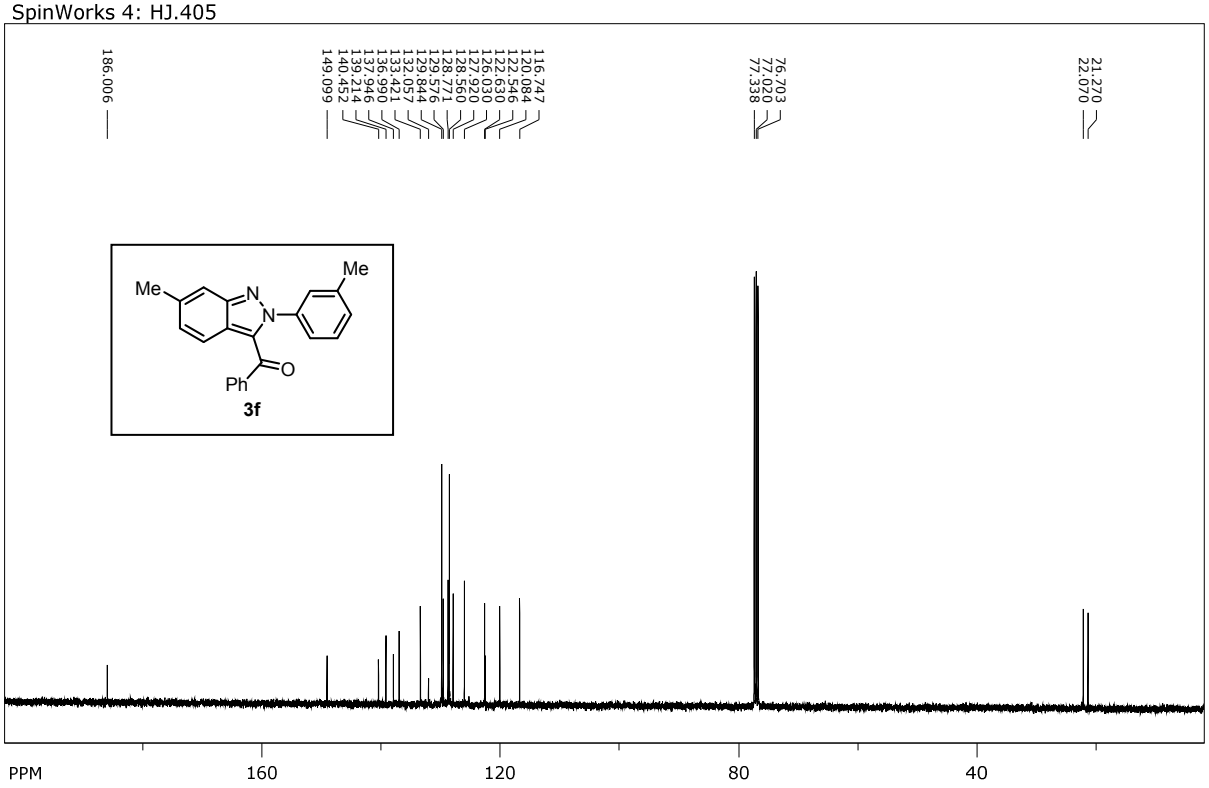

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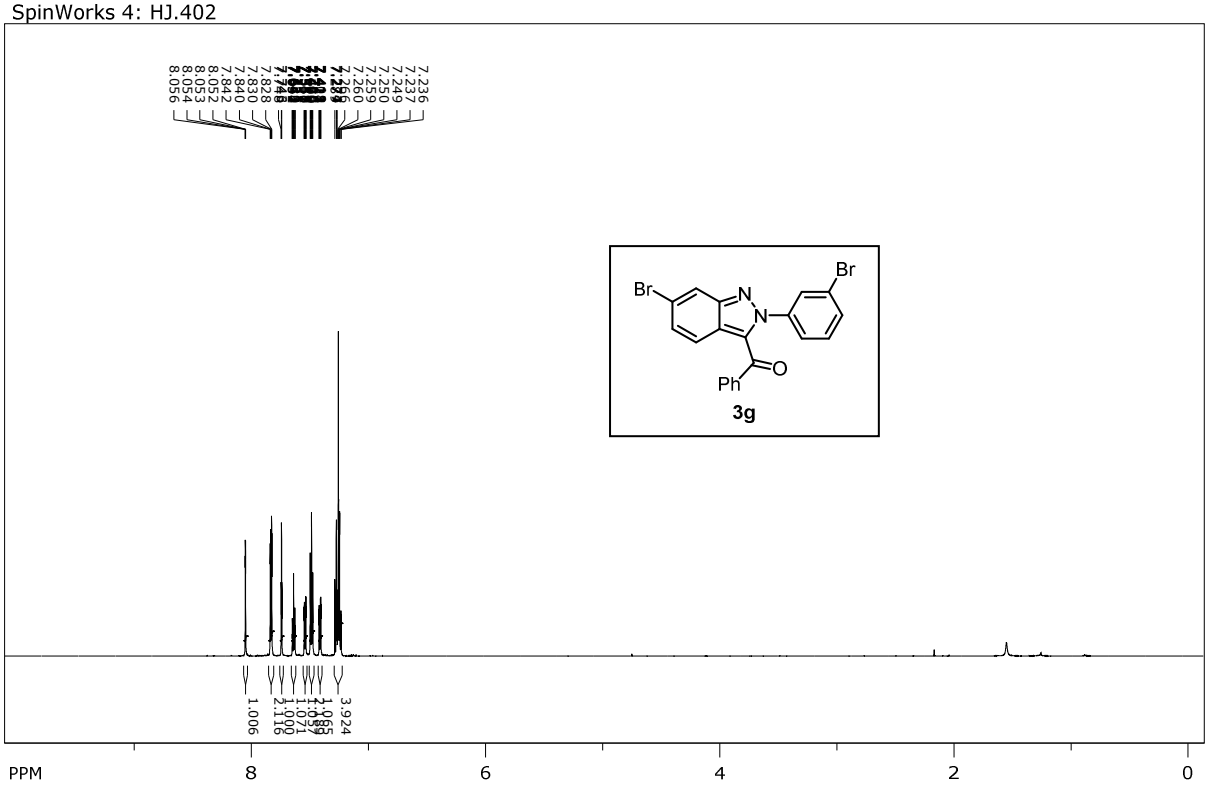

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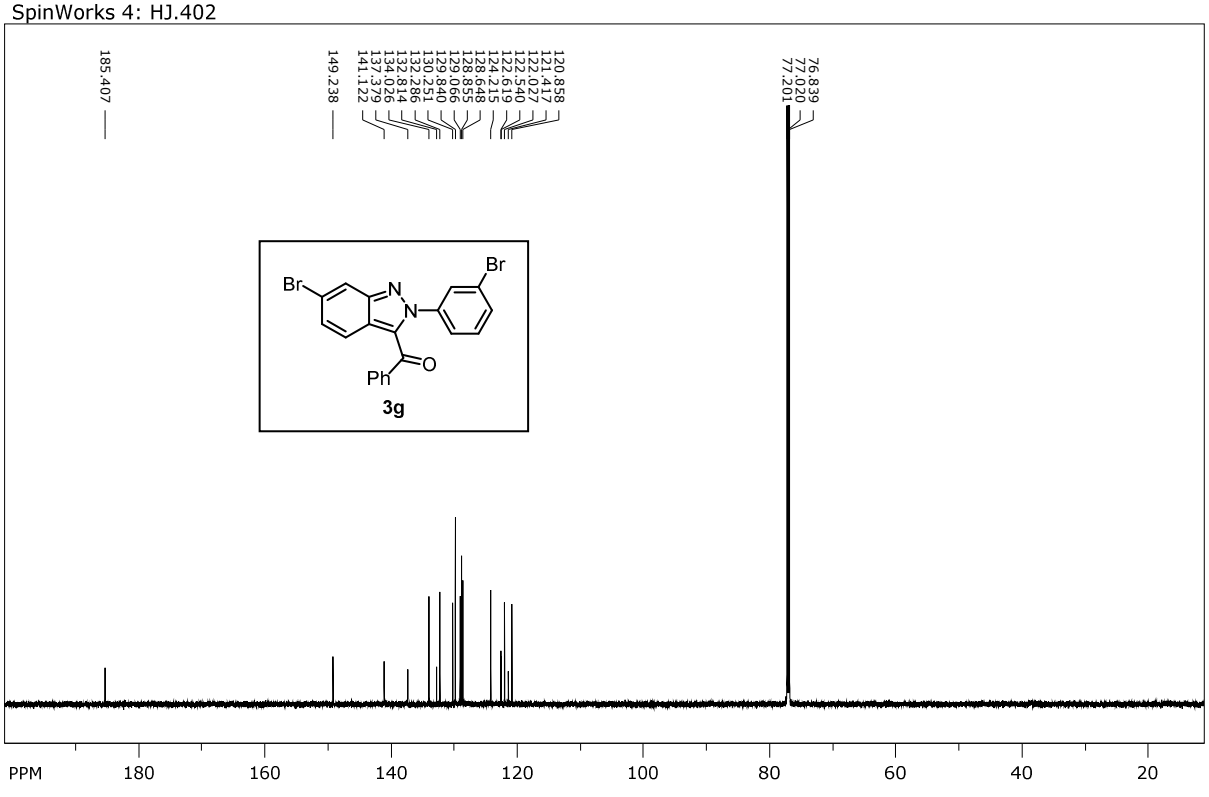

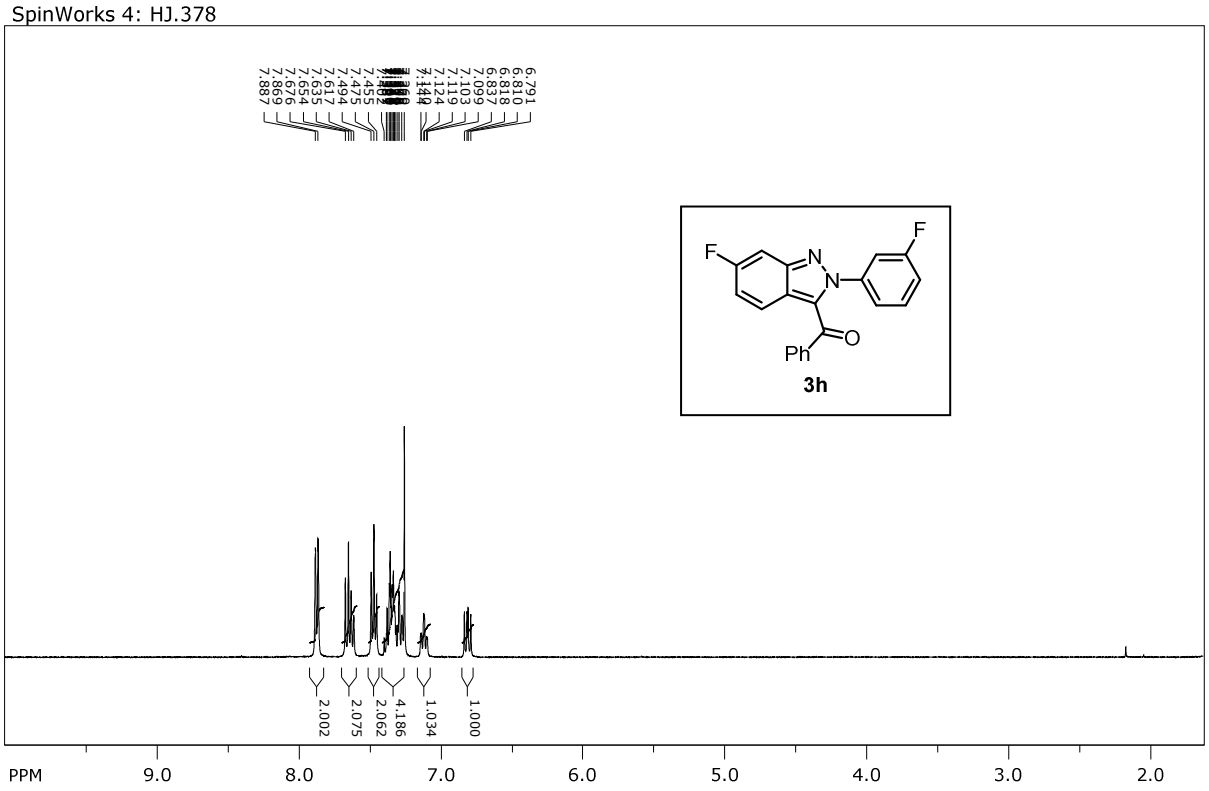
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7.475
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6.818
6.837
7.097
7.103
7.119
7.124
F
F
N
N
O
Ph
3h
2.002
2.075
2.062
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1.000
PPM
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8.0
7.0
6.0
5.0
4.0
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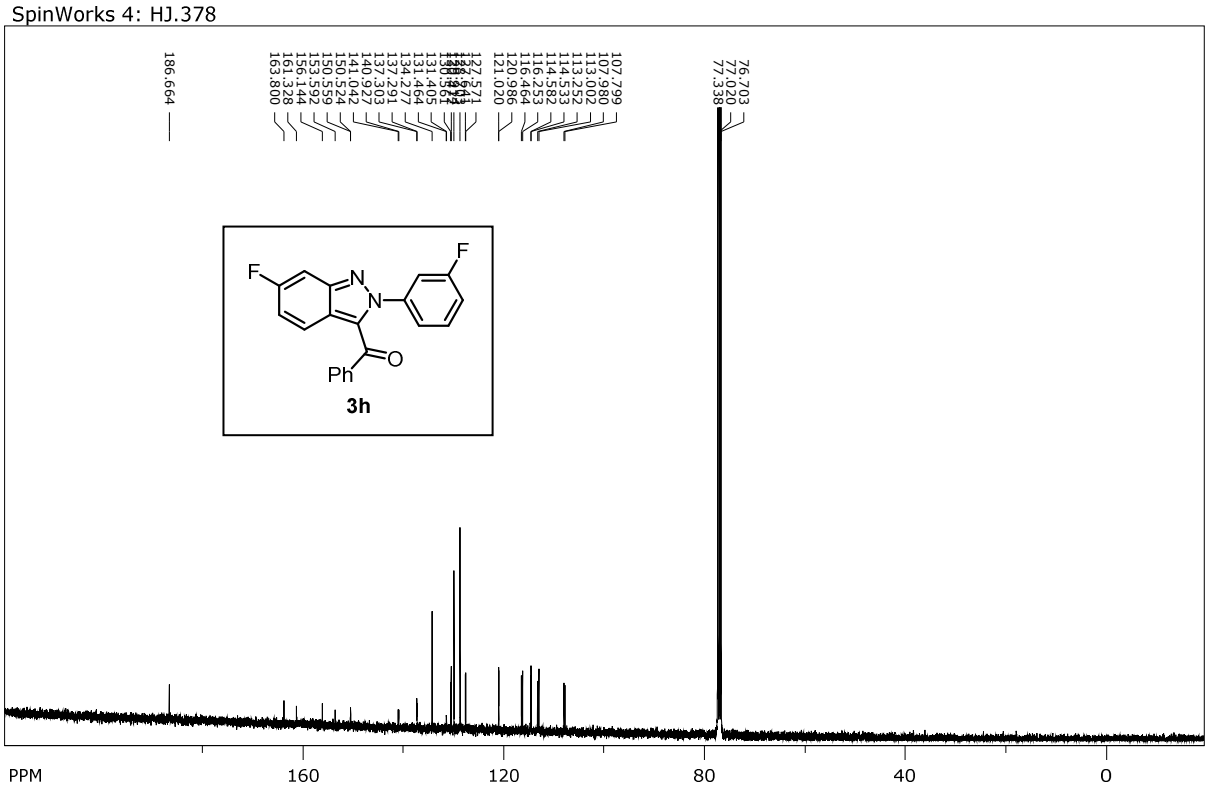
2.0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150.559
150.524
141.042
137.303
137.291
134.277
131.464
131.405
107.799
121.020
120.986
116.464
116.253
114.582
114.533
113.552
107.780
76.703
77.020
77.338
F
F
N
N
O
Ph
3h
PPM
160
120
80
40
0

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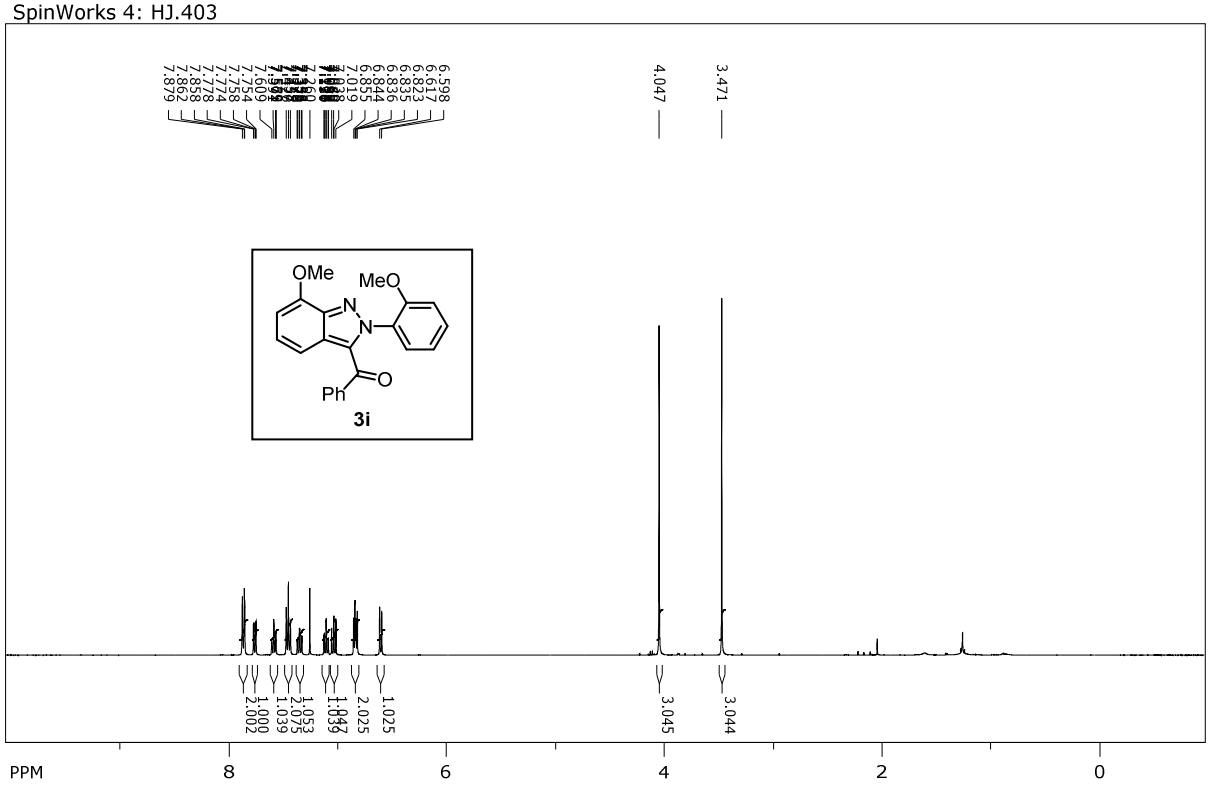

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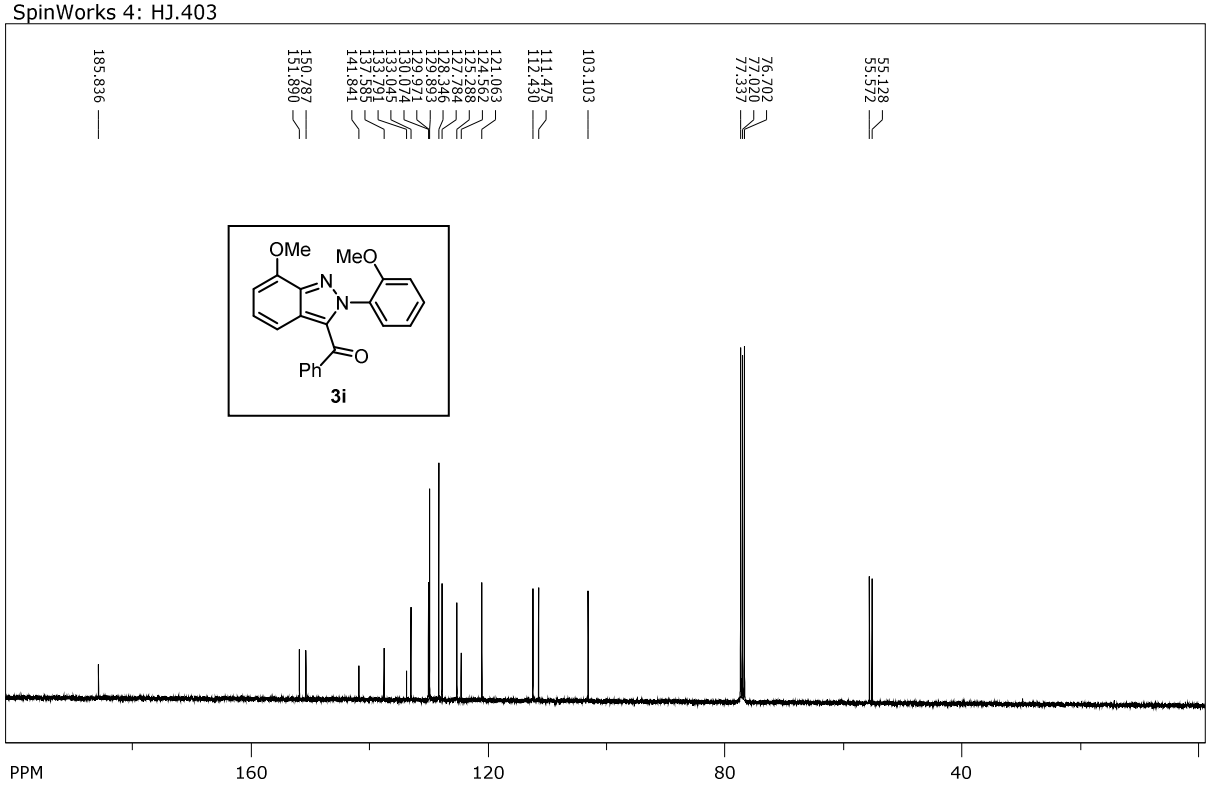

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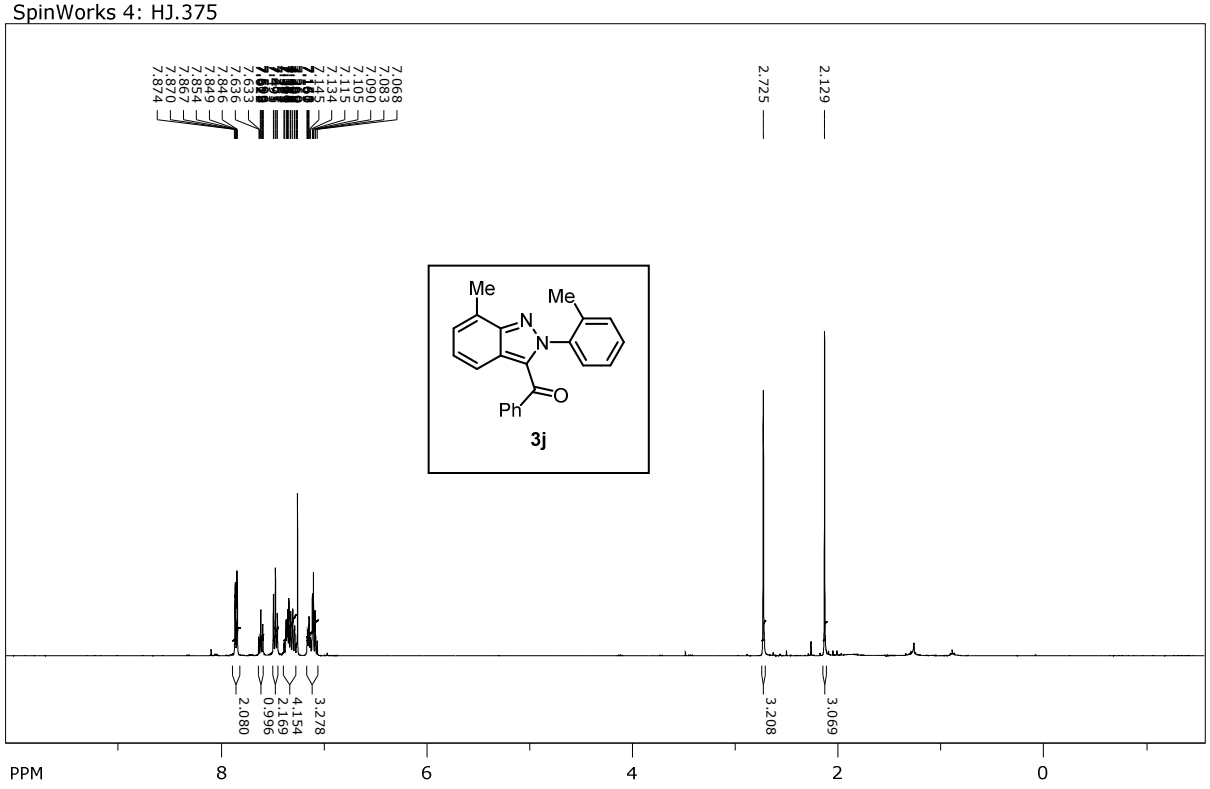

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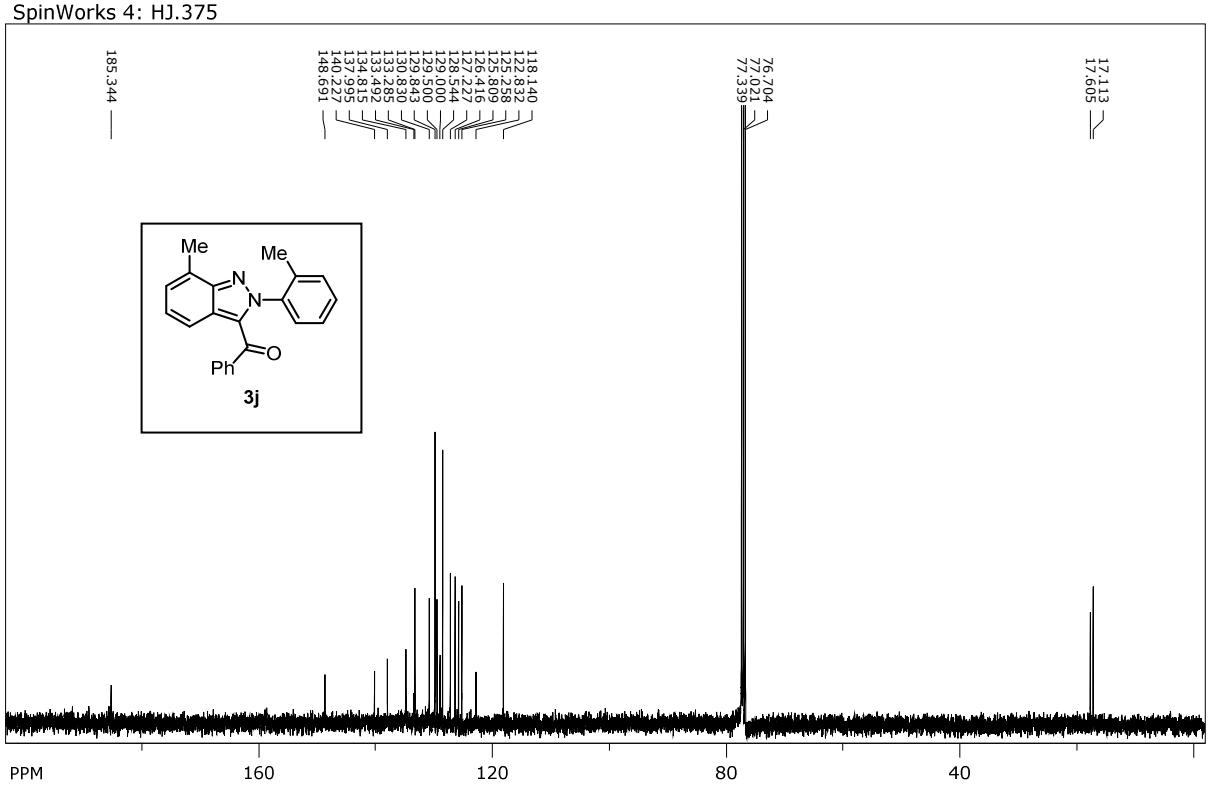

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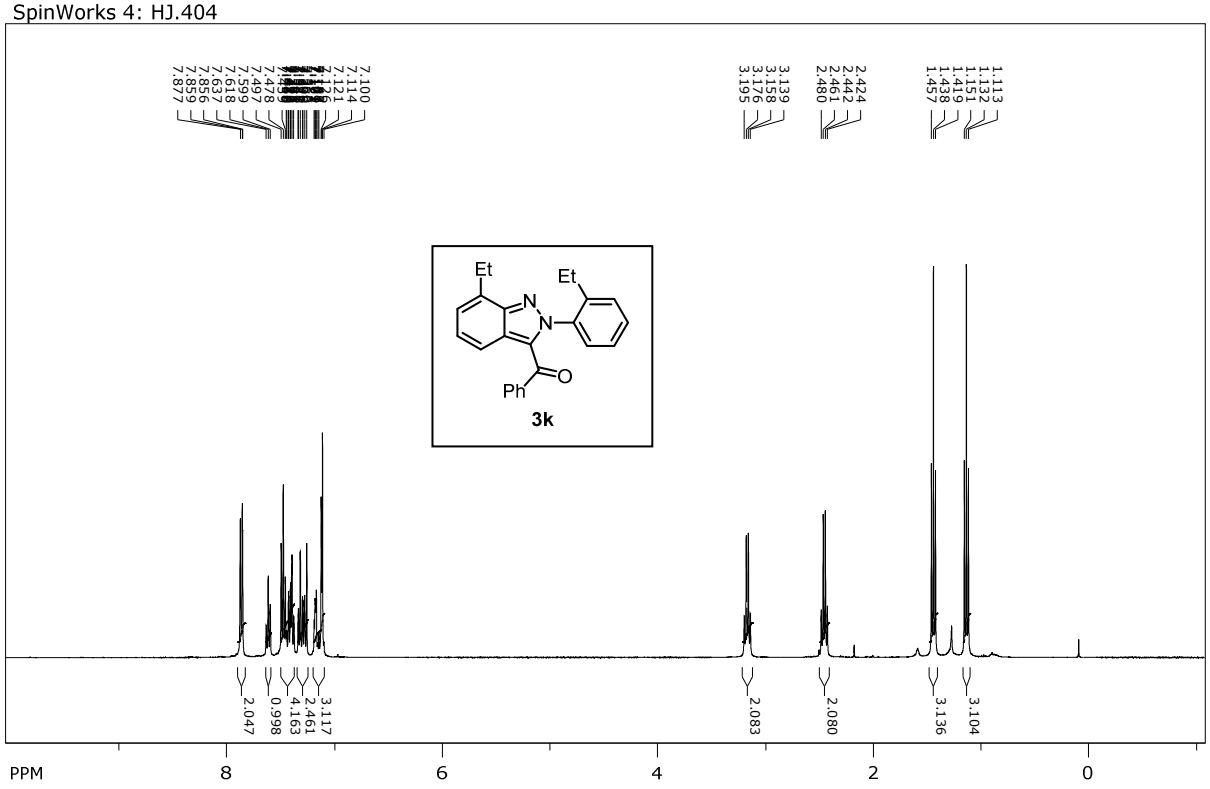

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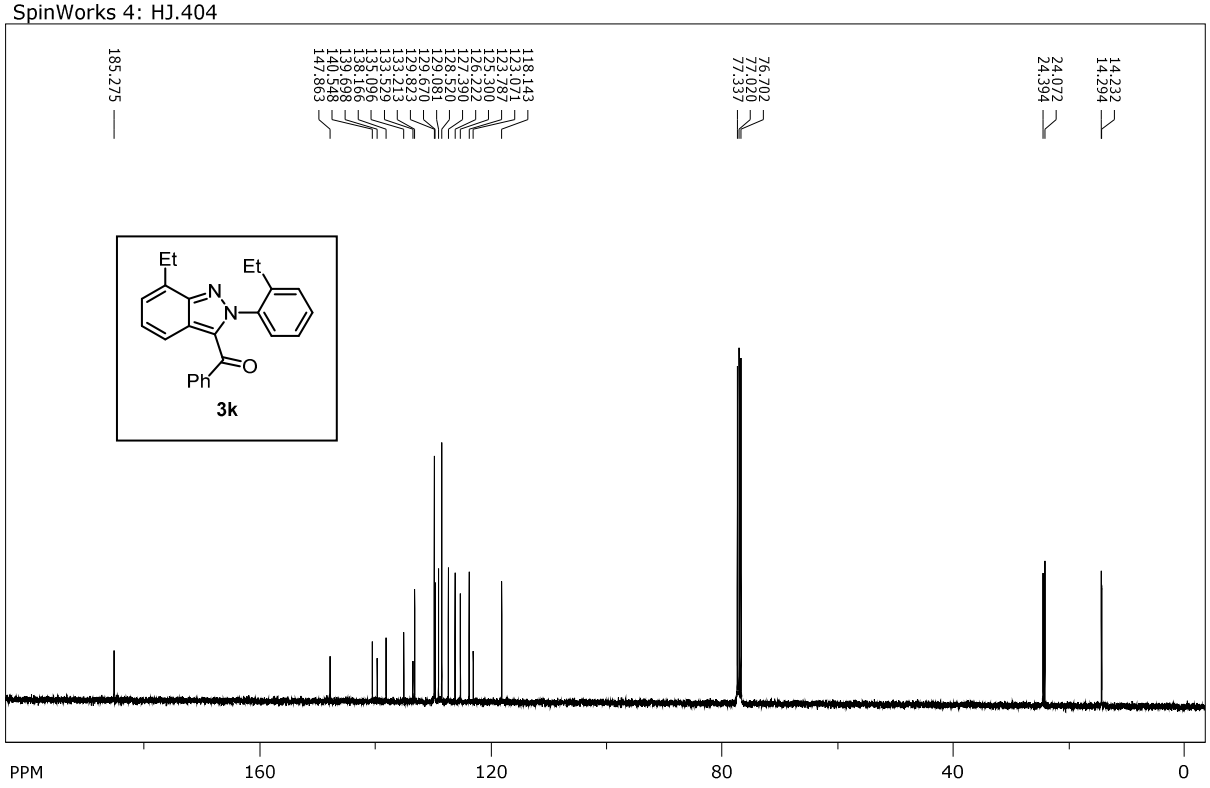

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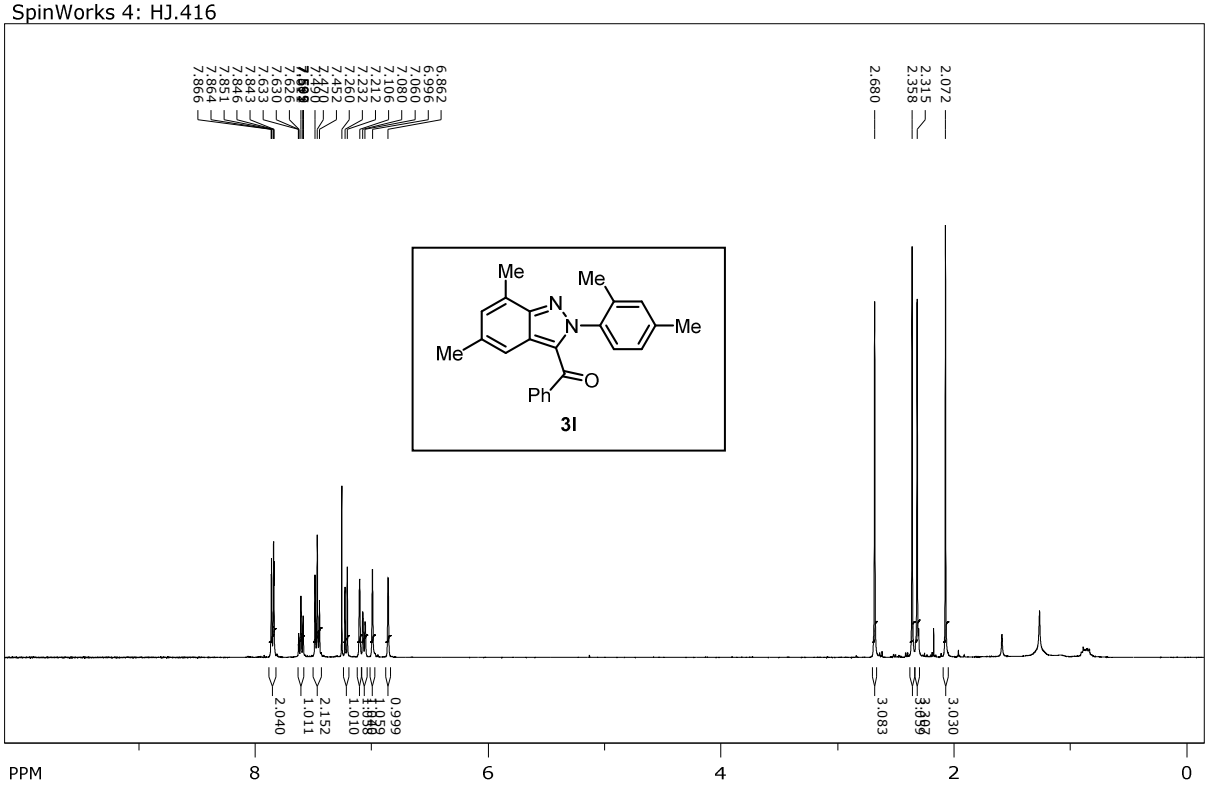

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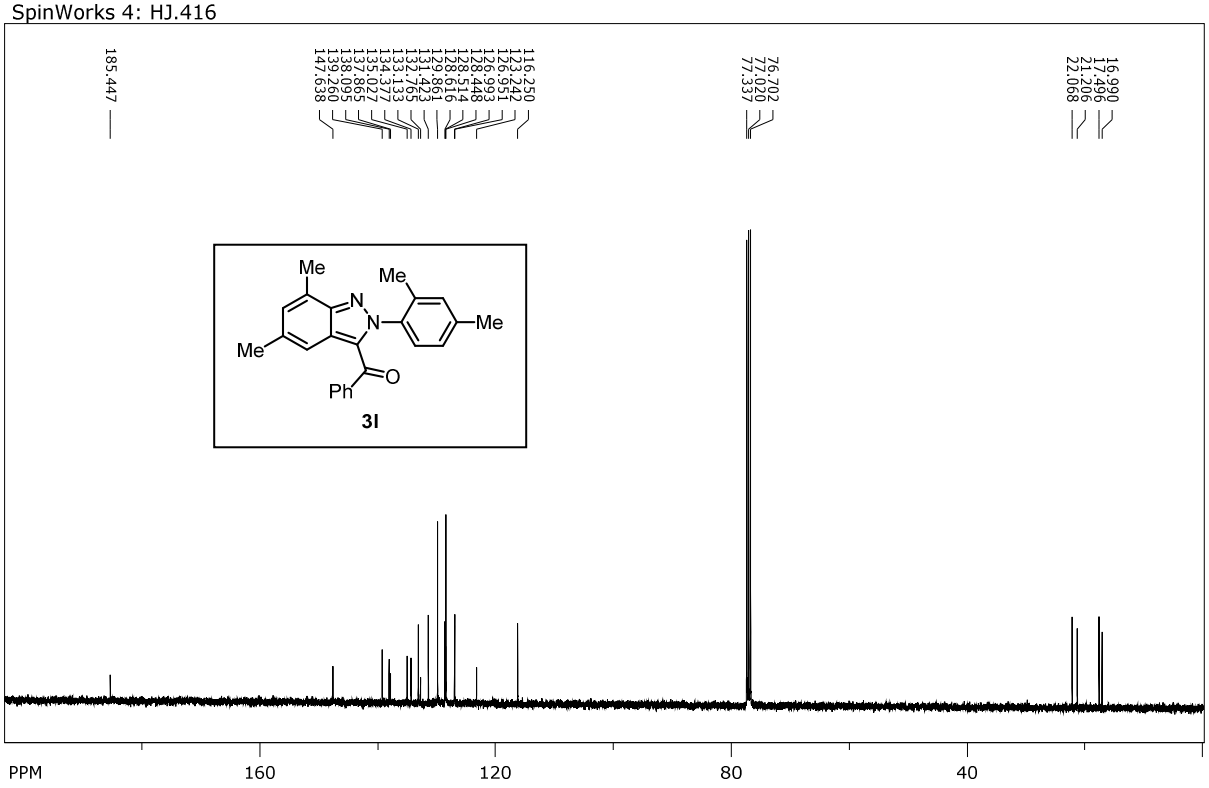

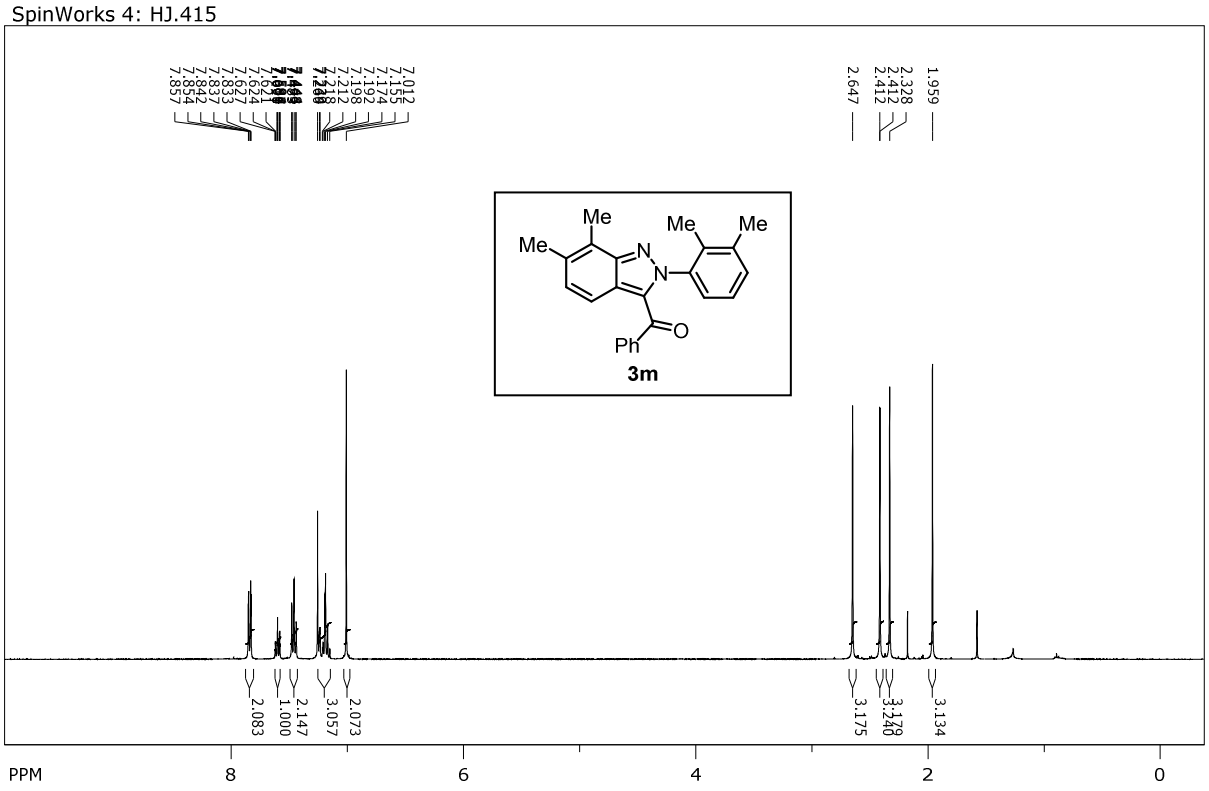
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7.854
7.842
7.837
7.833
7.624
7.621
7.155
7.012
7.198
7.192
7.172
2.647
2.412
2.412
2.328
1.959
Me
Me
Me
Me
N
N
O
Ph
3m
2.083
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2.073
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3.178
3.240
3.134
PPM
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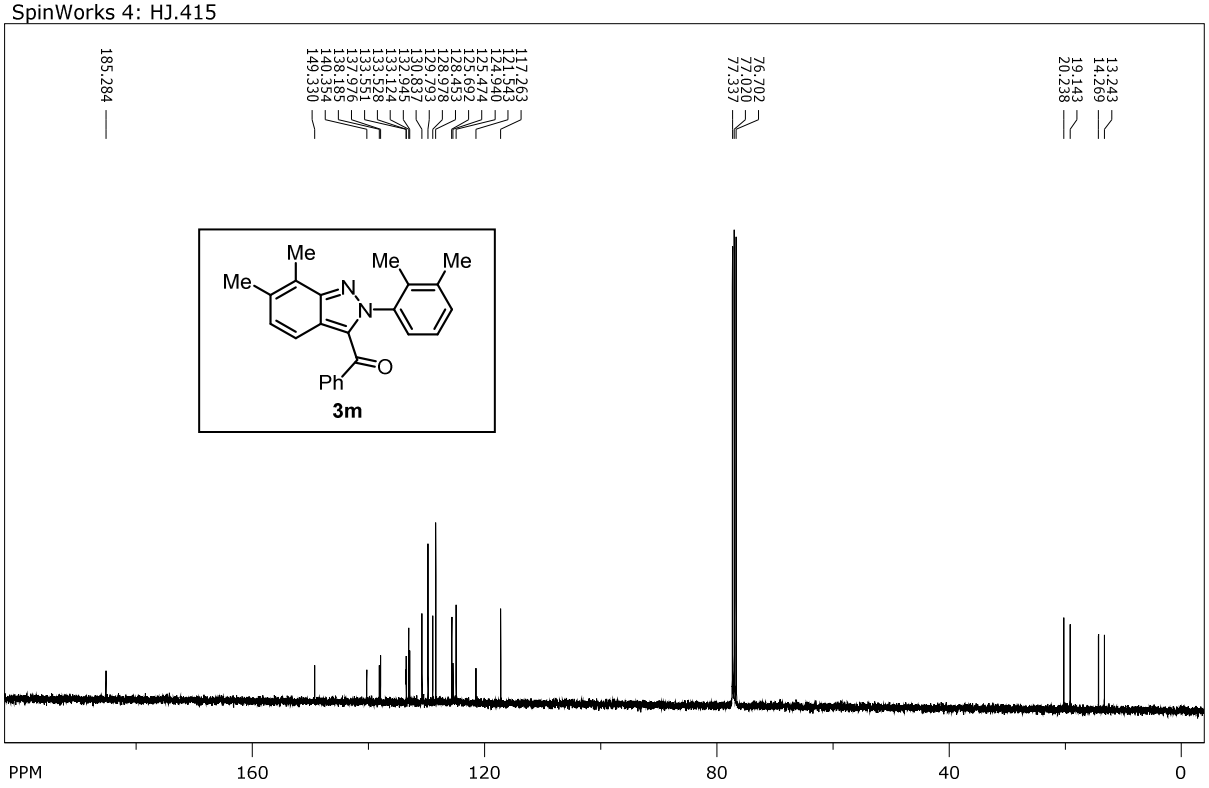
6
4
2
0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140.354
136.185
133.571
133.528
133.124
132.945
130.837
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129.978
128.453
125.692
125.474
124.940
121.543
117.263
77.337
77.020
76.702
20.238
19.143
14.269
13.243
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Me
Me
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Ph
3m
PPM
160
120
80
40
0

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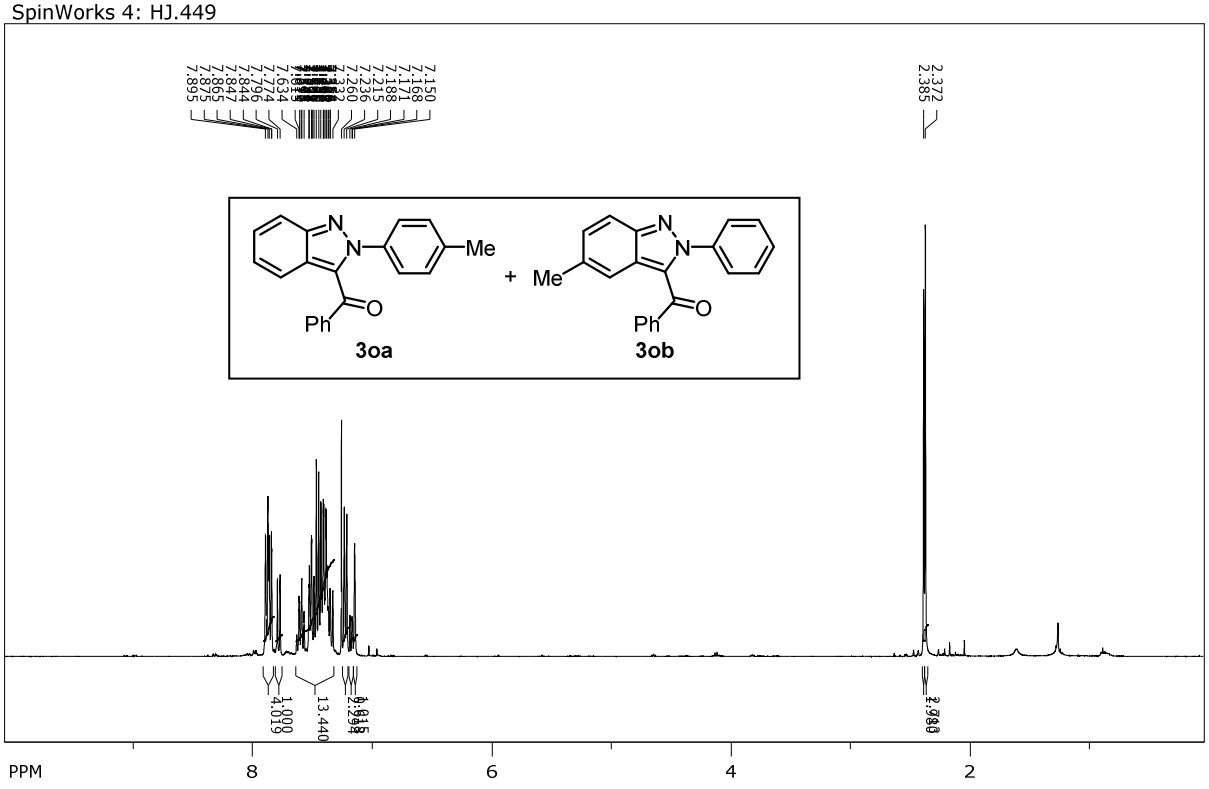

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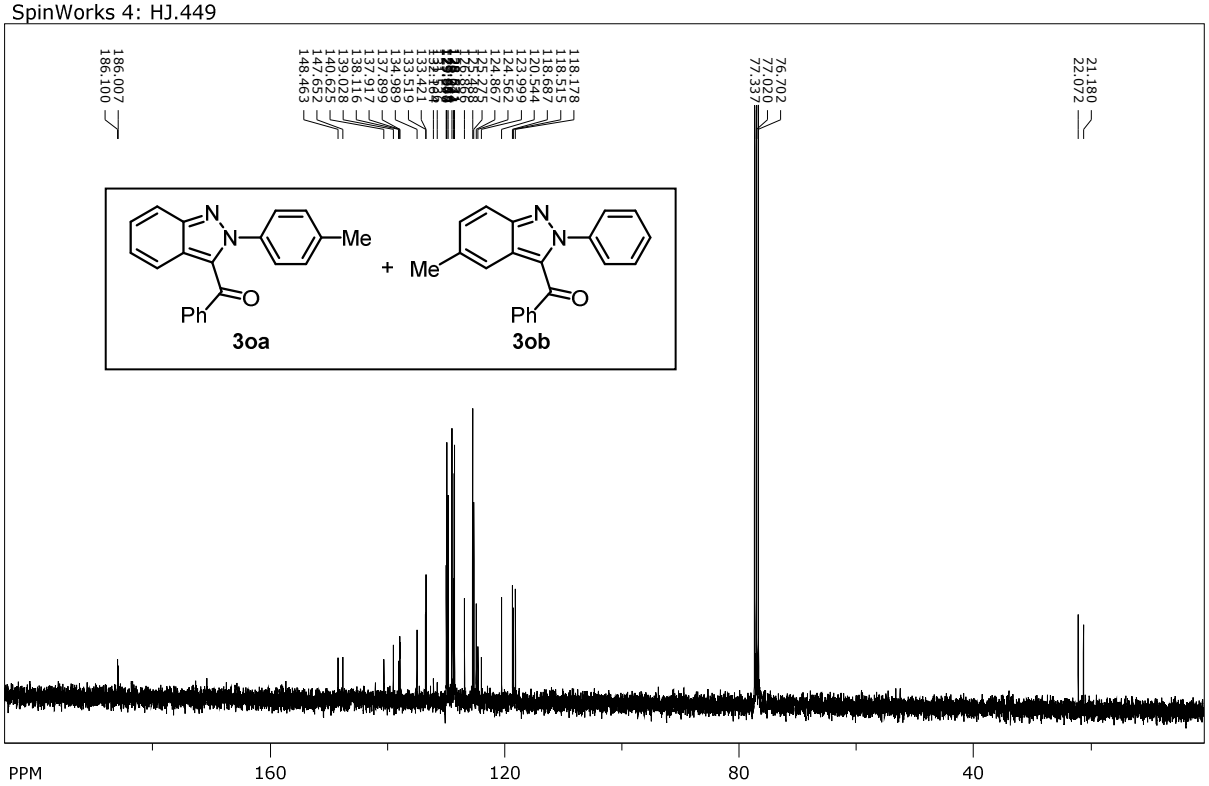

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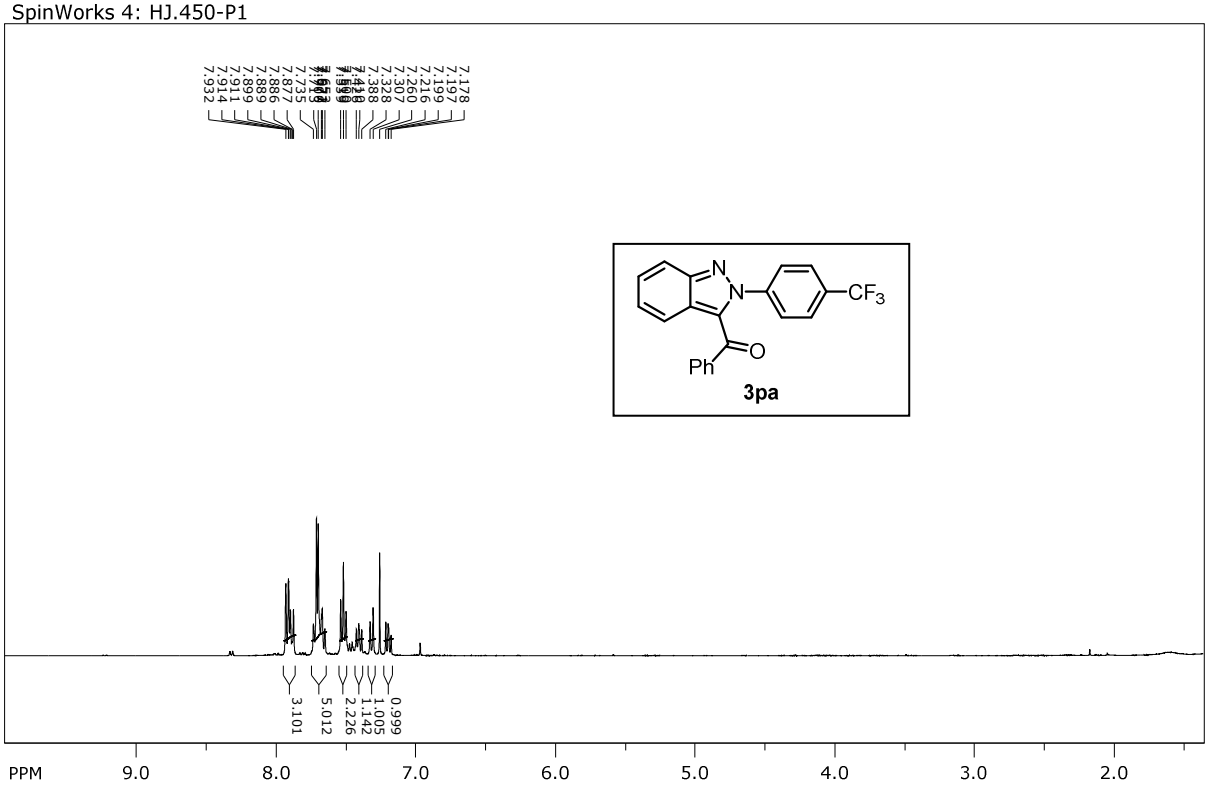

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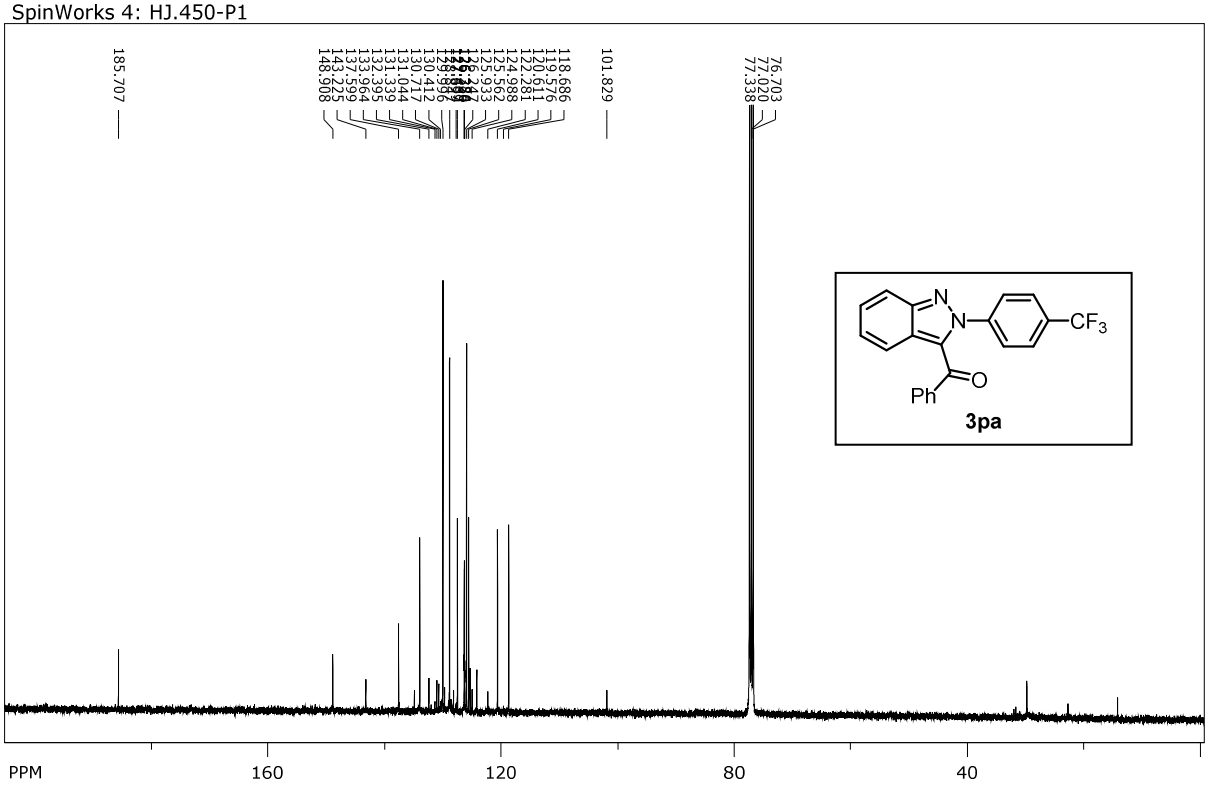

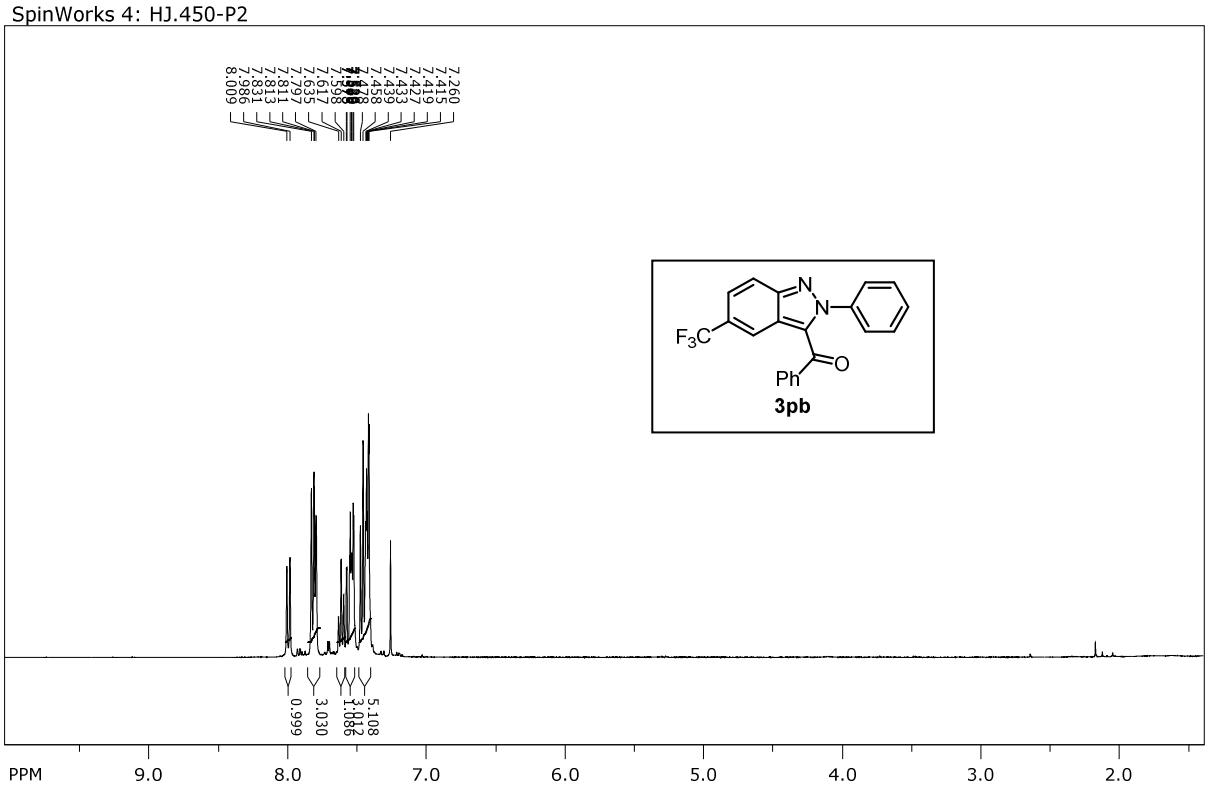
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7.813
7.617
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7.458
7.439
7.433
7.427
7.419
7.415
7.260
0.999
3.030
1.086
3.012
5.108
F3C
N
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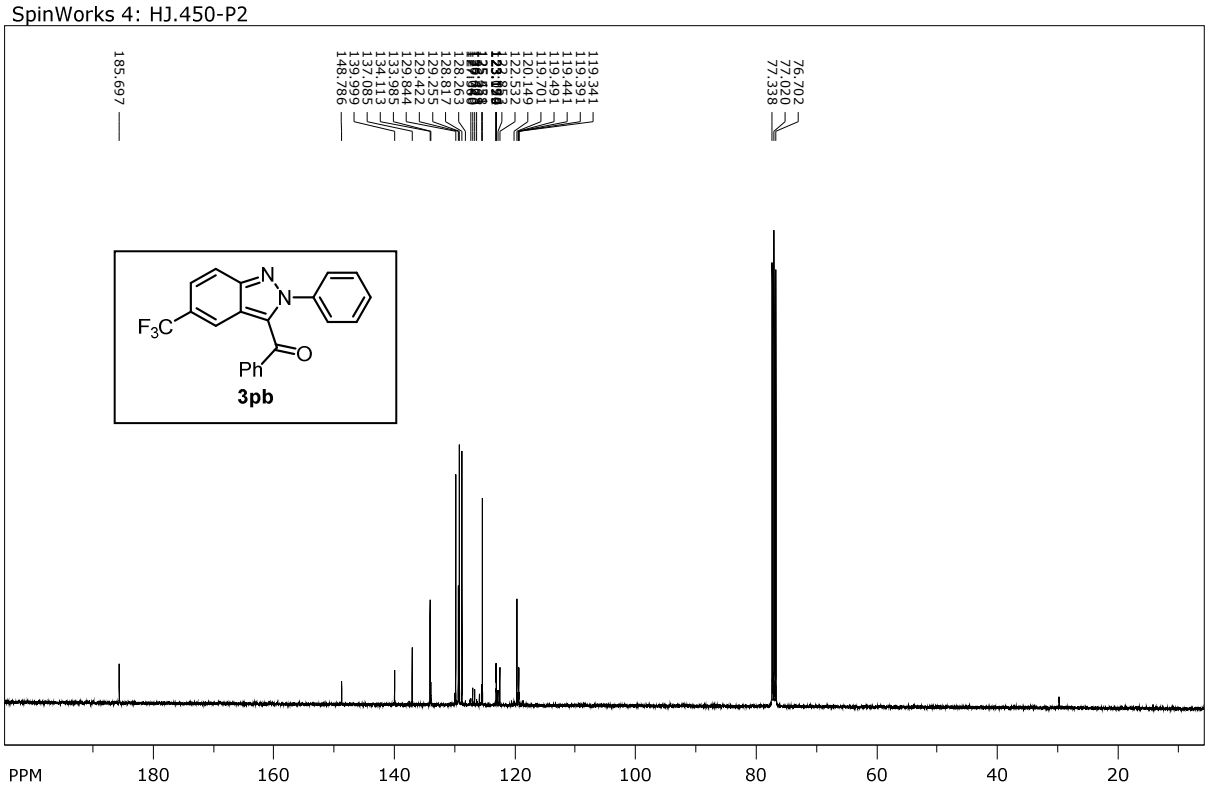
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119.341
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119.441
119.491
119.701
120.149
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76.702
77.920
77.338
F3C
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20

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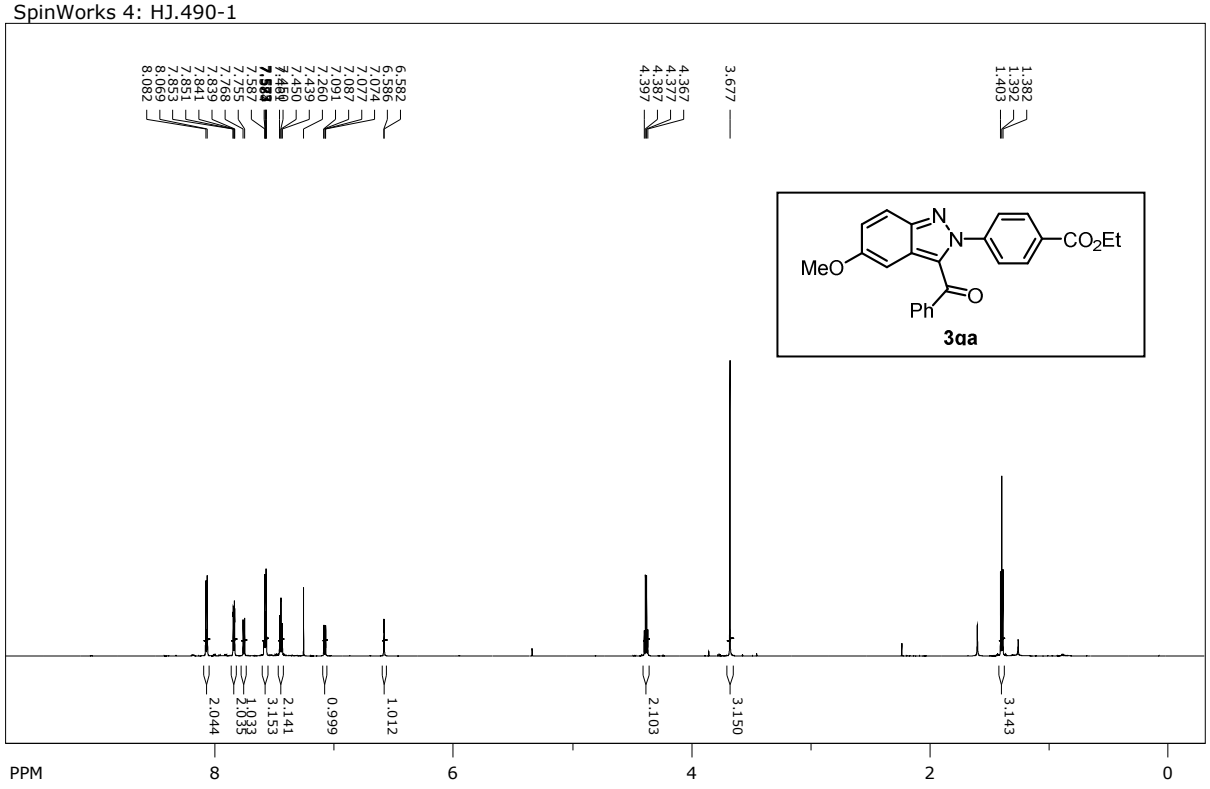

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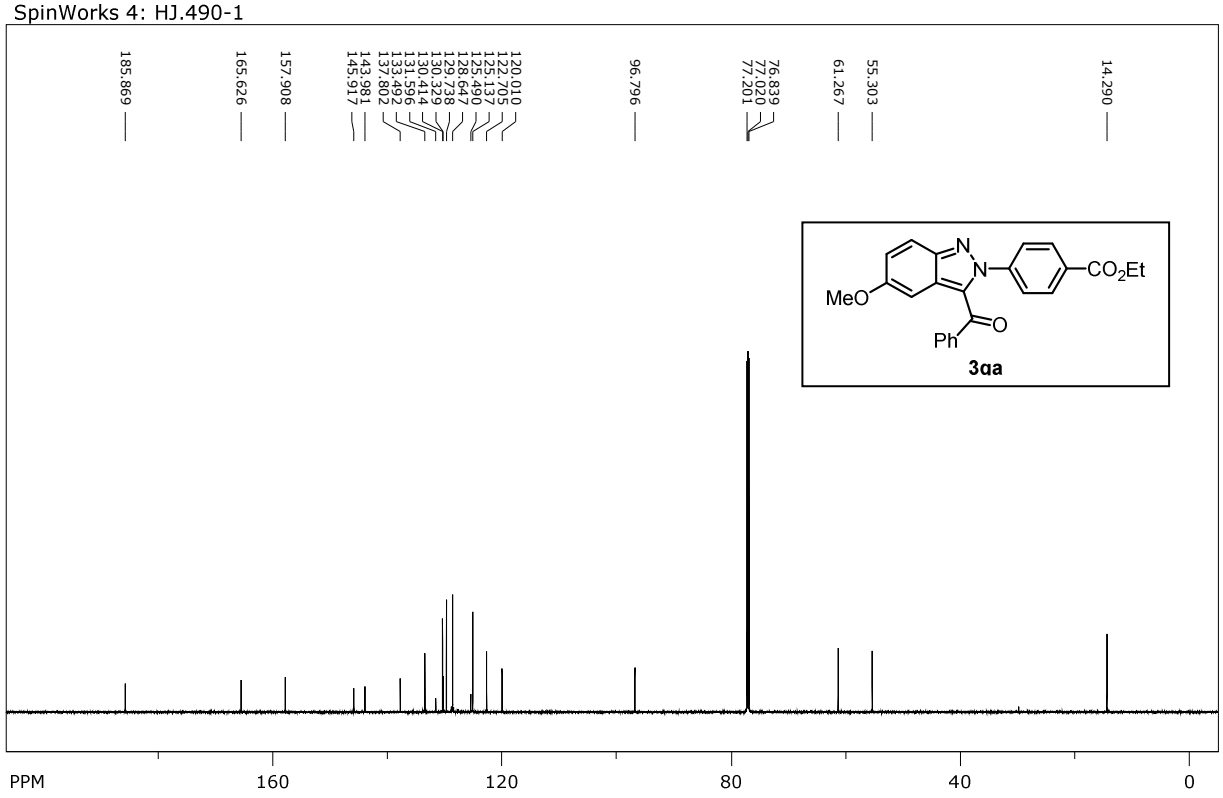

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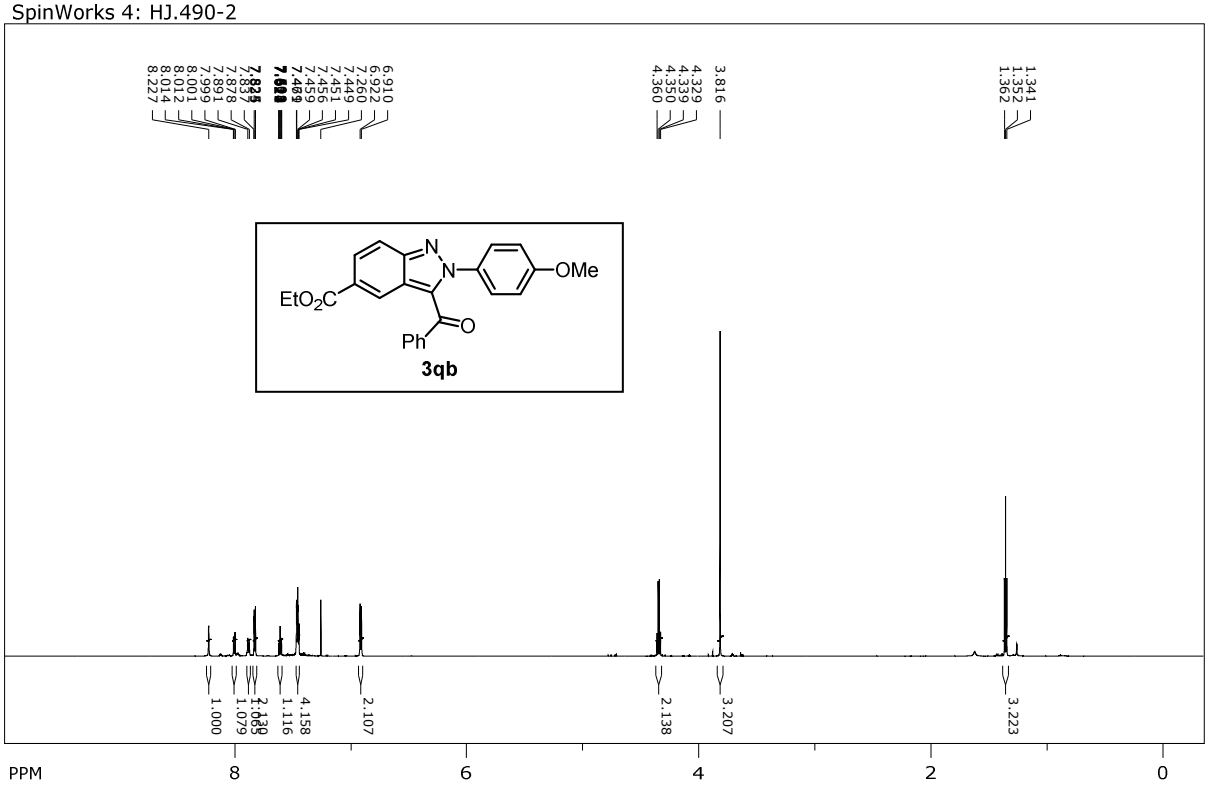

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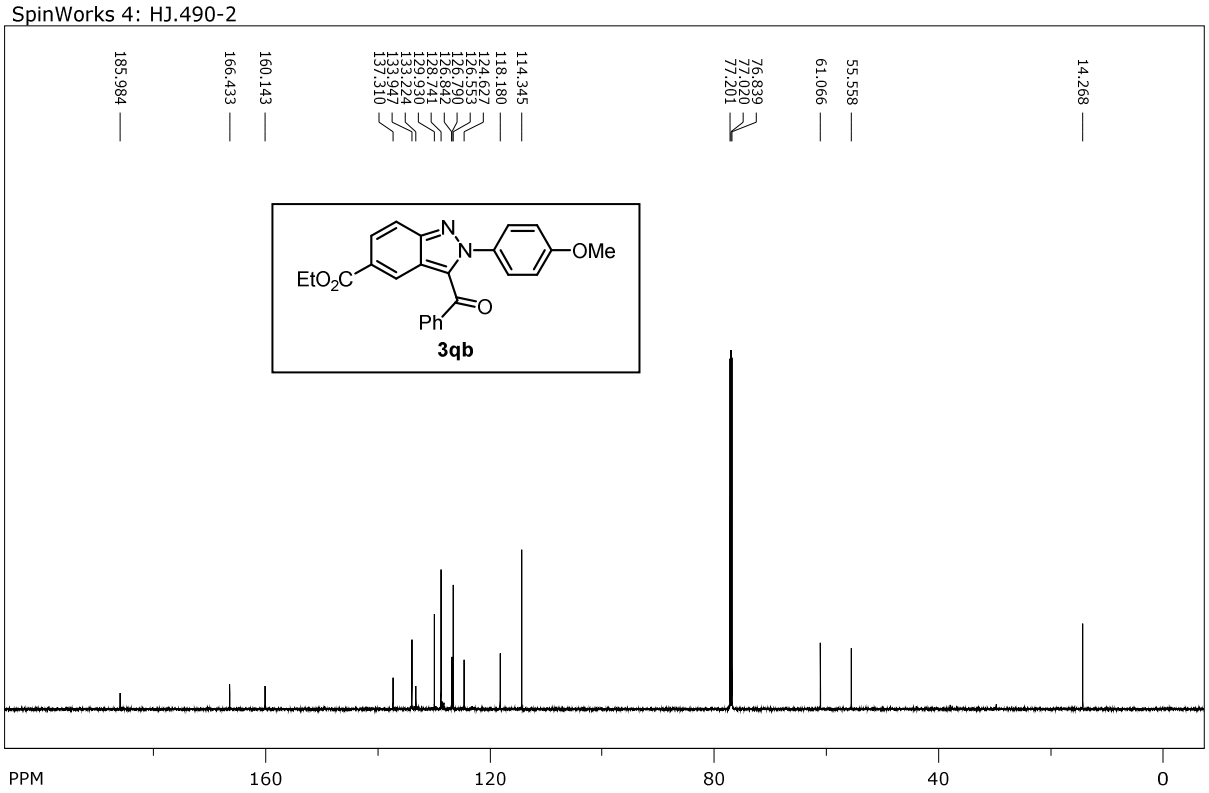

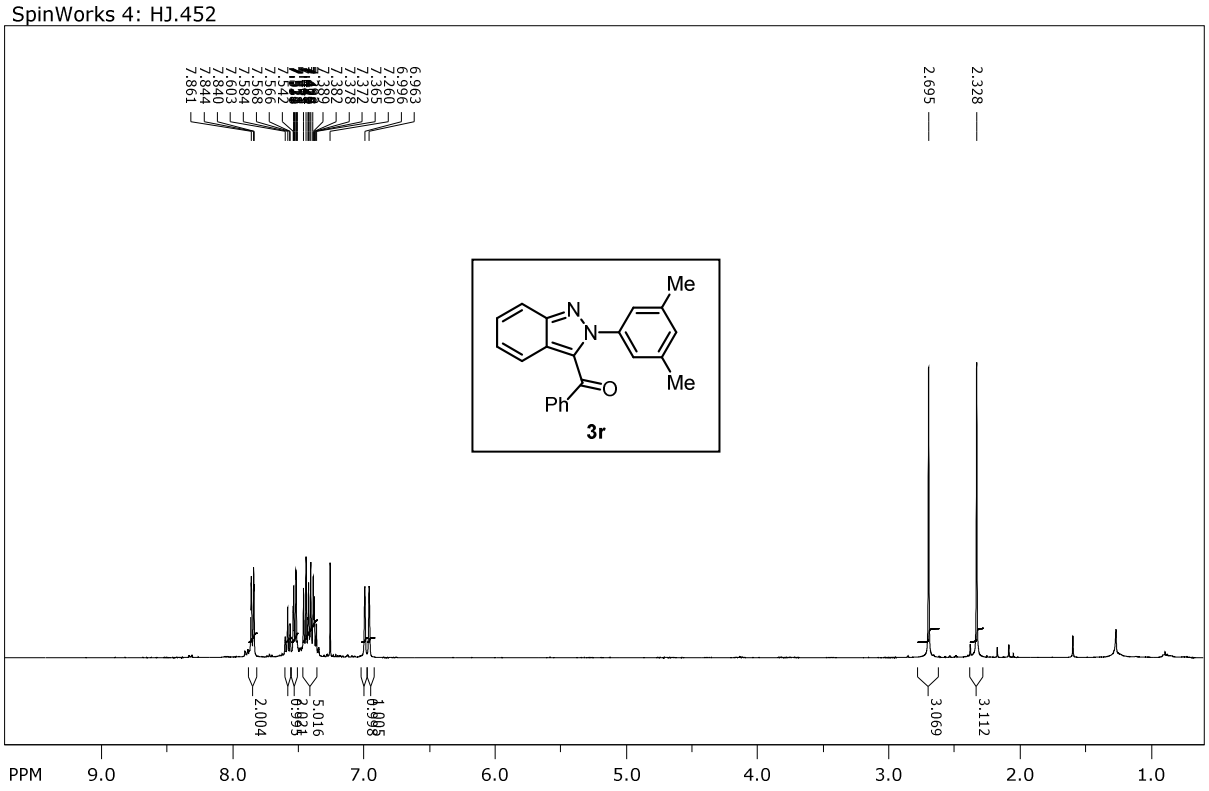
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7.584
7.568
7.562
7.382
7.378
7.372
7.365
7.260
6.996
6.963
2.695
2.328
Me
Me
N
N
O
Ph
3r
2.004
0.993
5.016
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PPM
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8.0
7.0
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5.0
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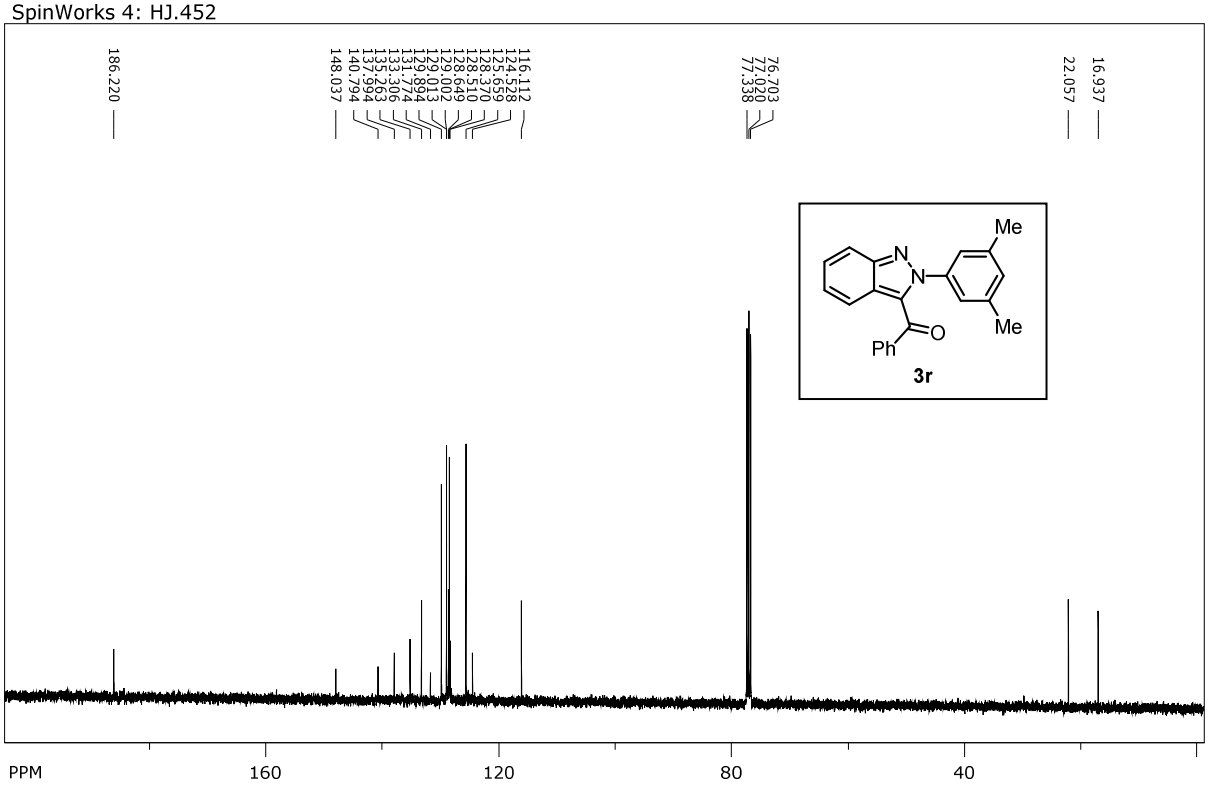
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148.037
140.794
133.694
133.366
131.774
129.994
129.013
129.002
128.649
128.510
128.370
125.659
124.528
116.112
77.320
76.703
77.338
22.057
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N
O
Ph
3r
PPM
160
120
80
40

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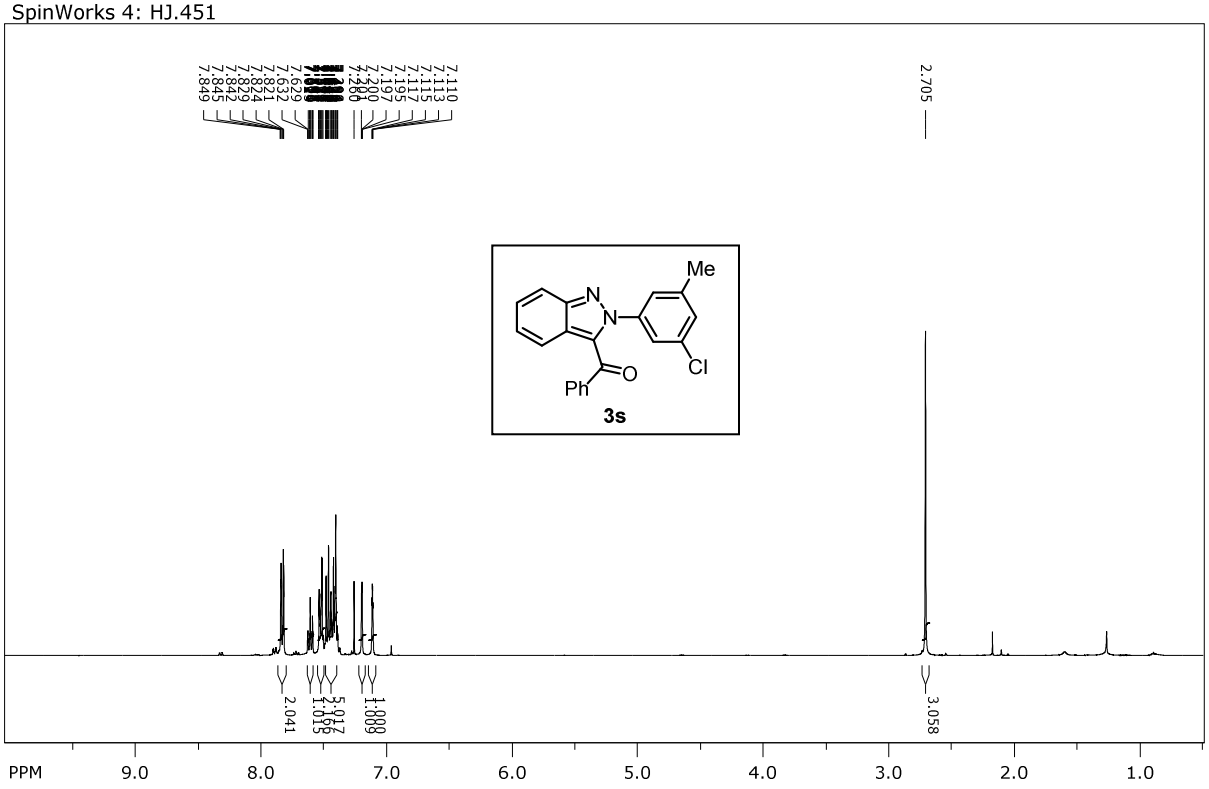

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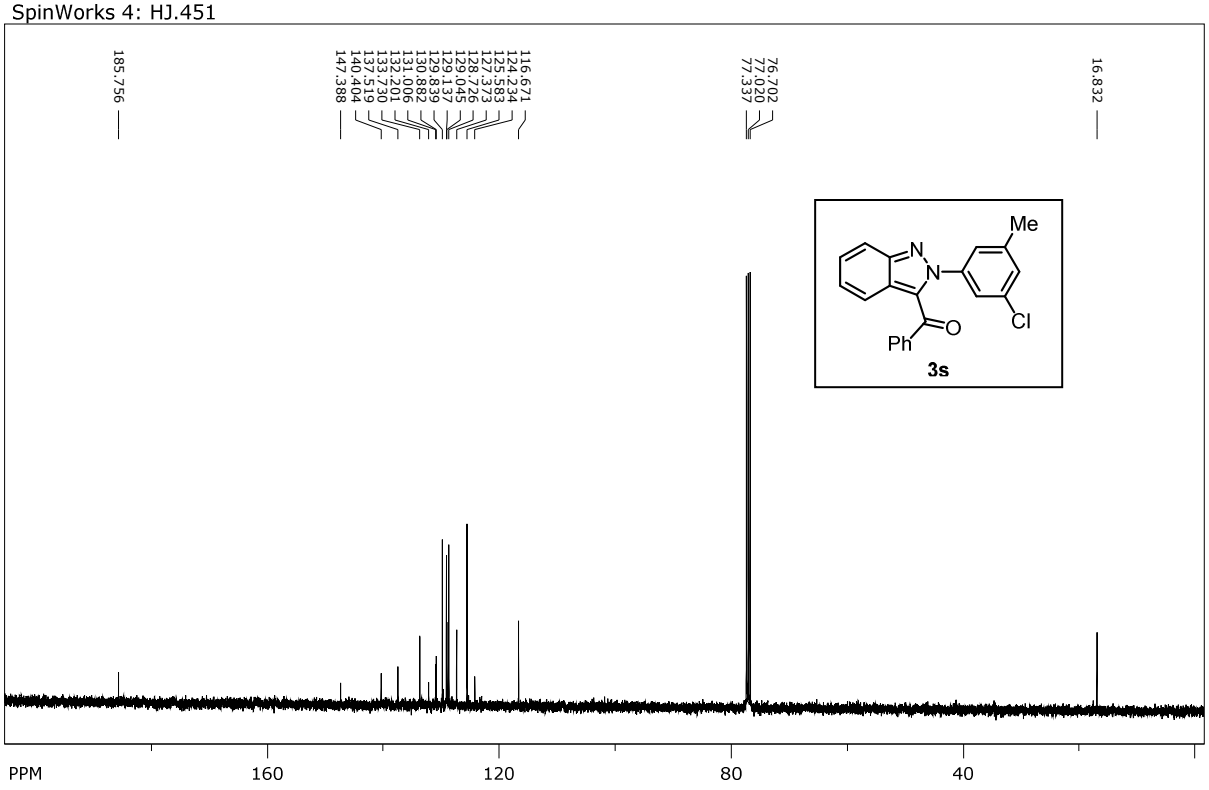

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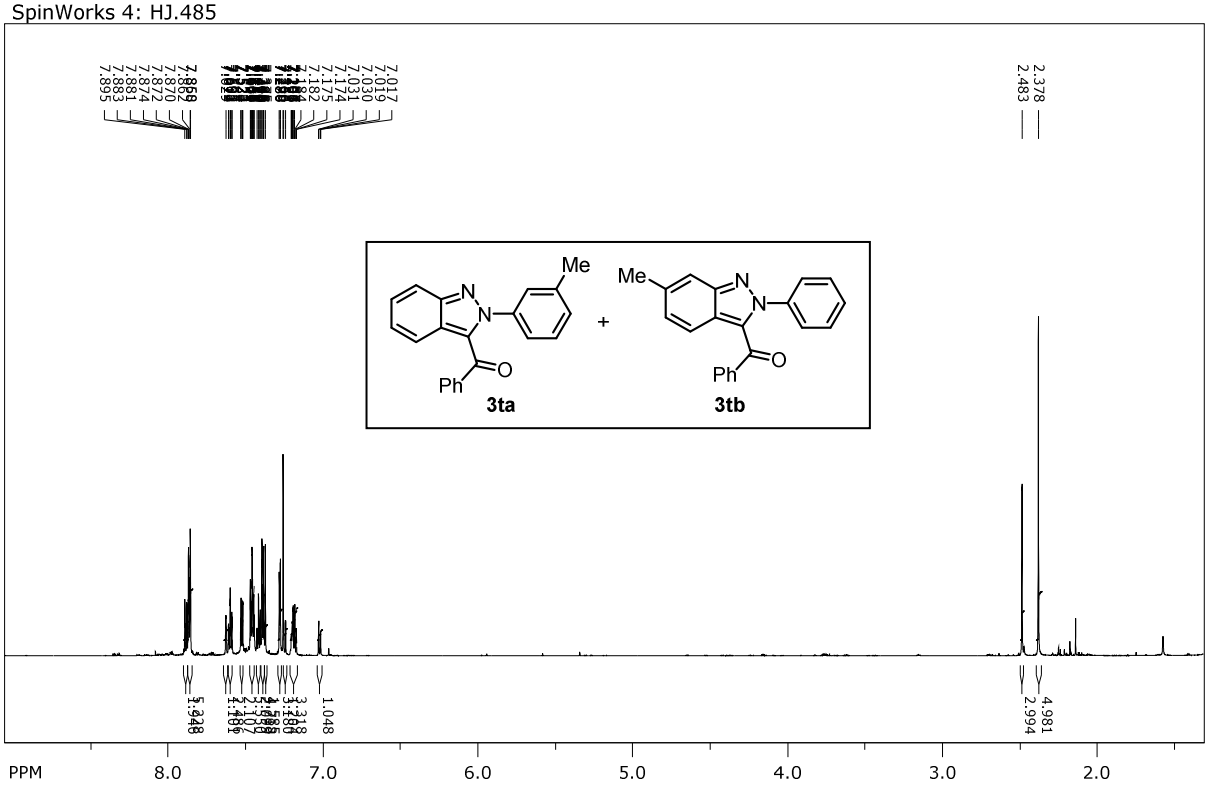
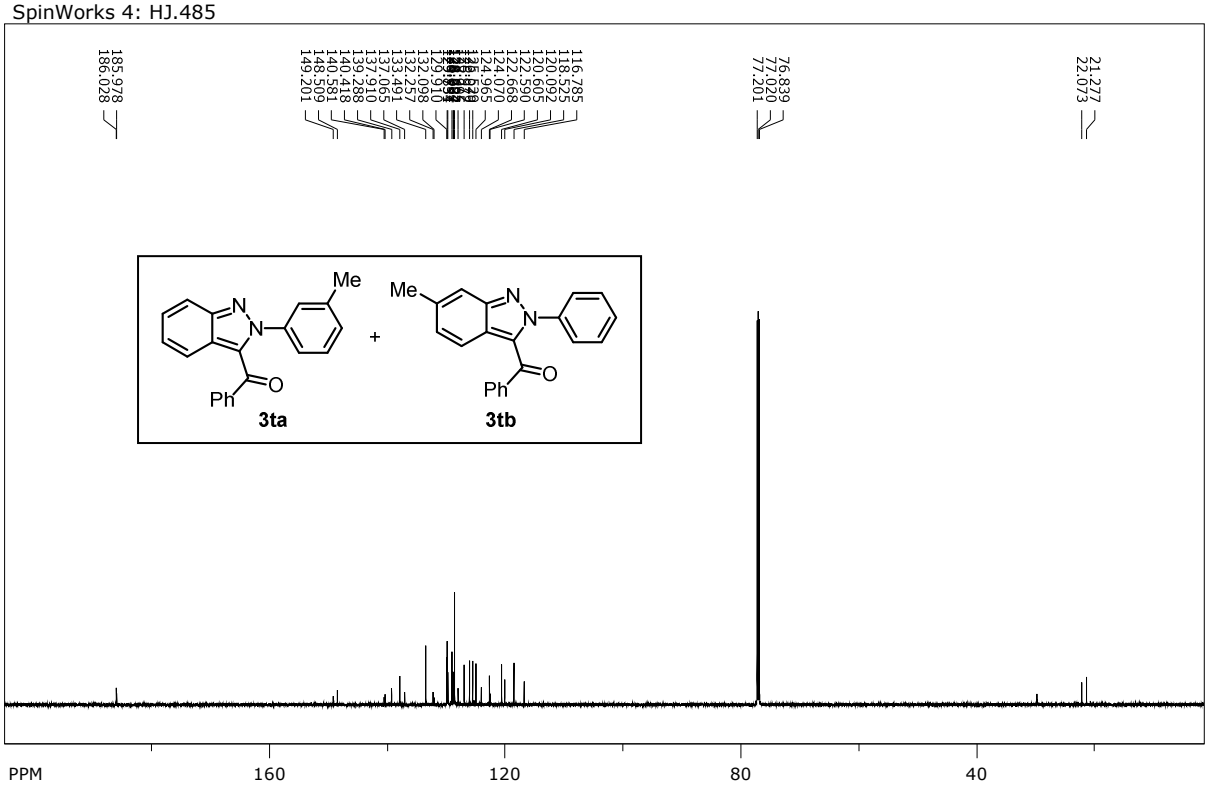
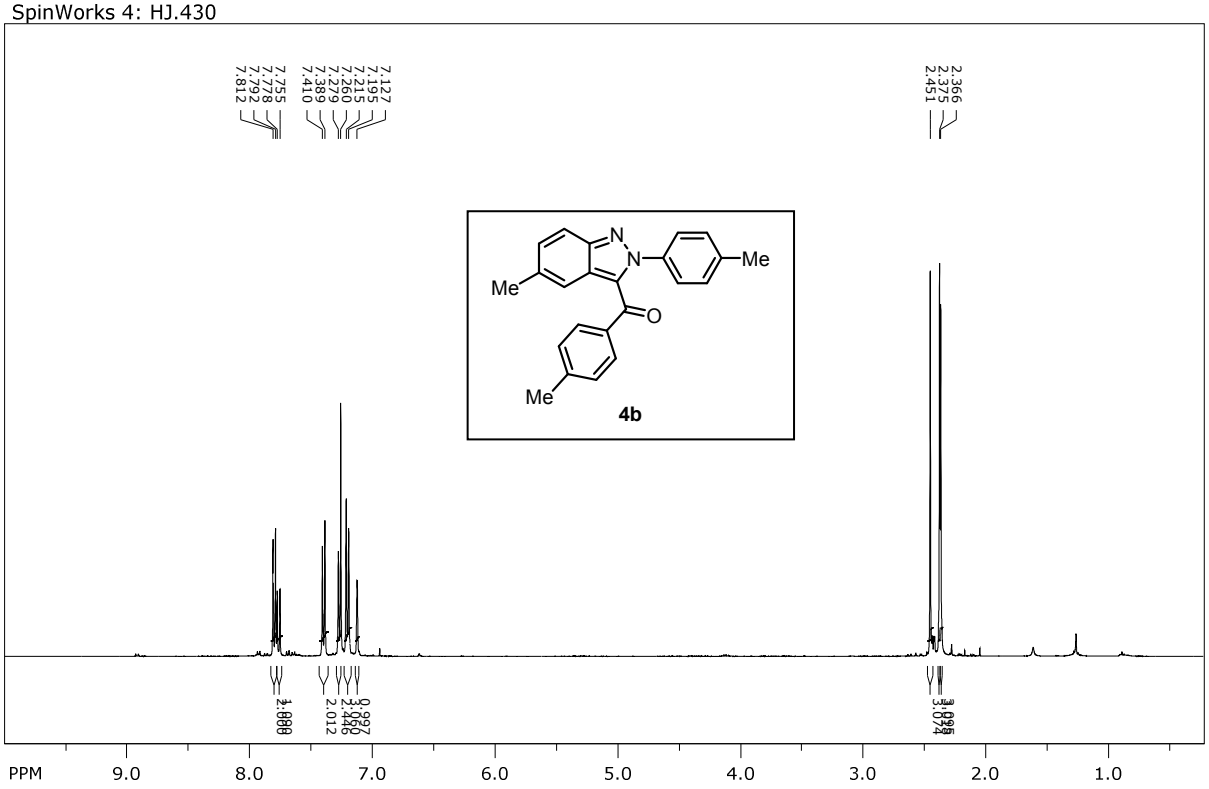


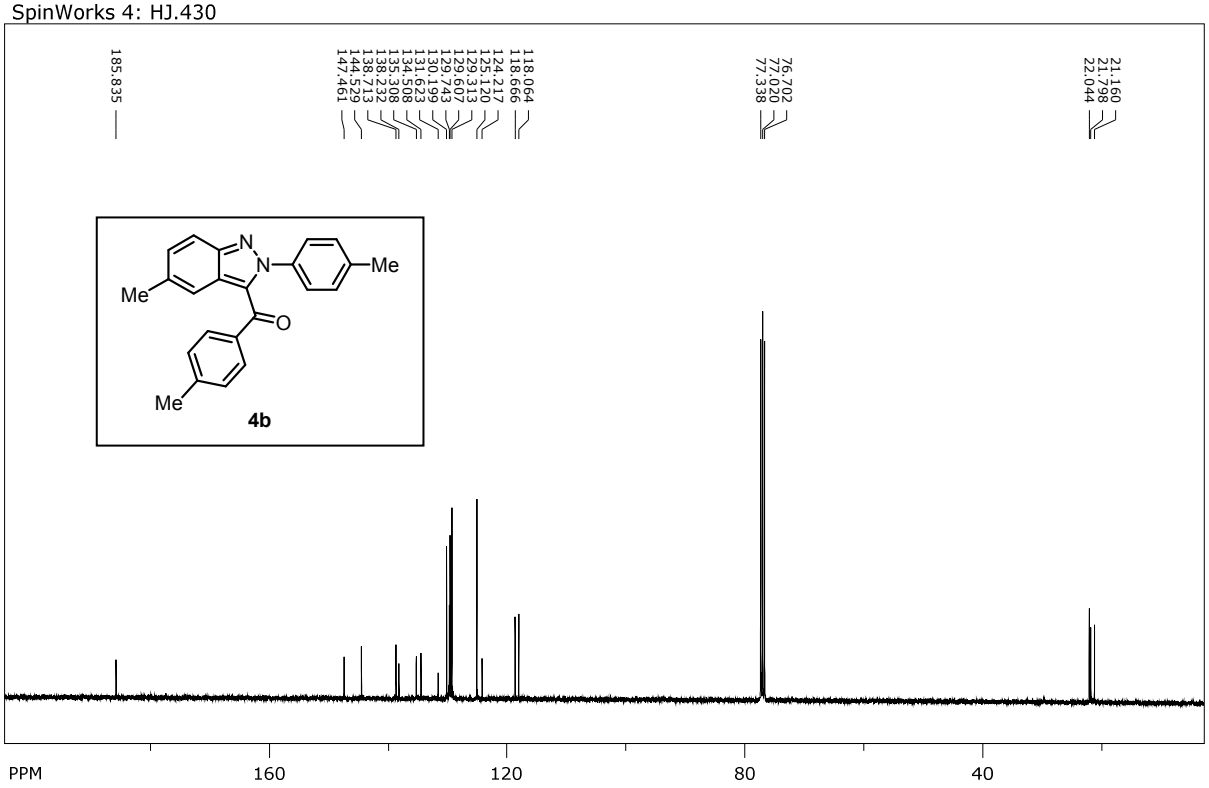
SpinWorks 4: HJ.485



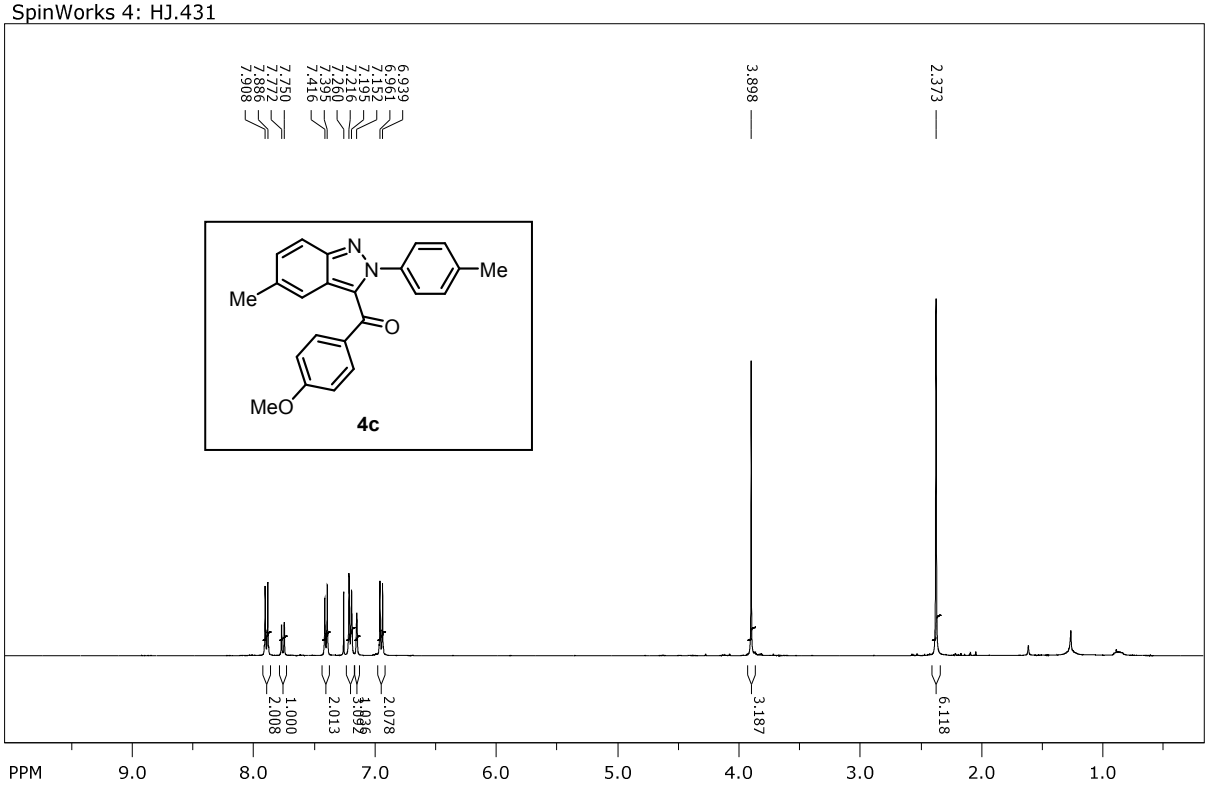
SpinWorks 4: HJ.430



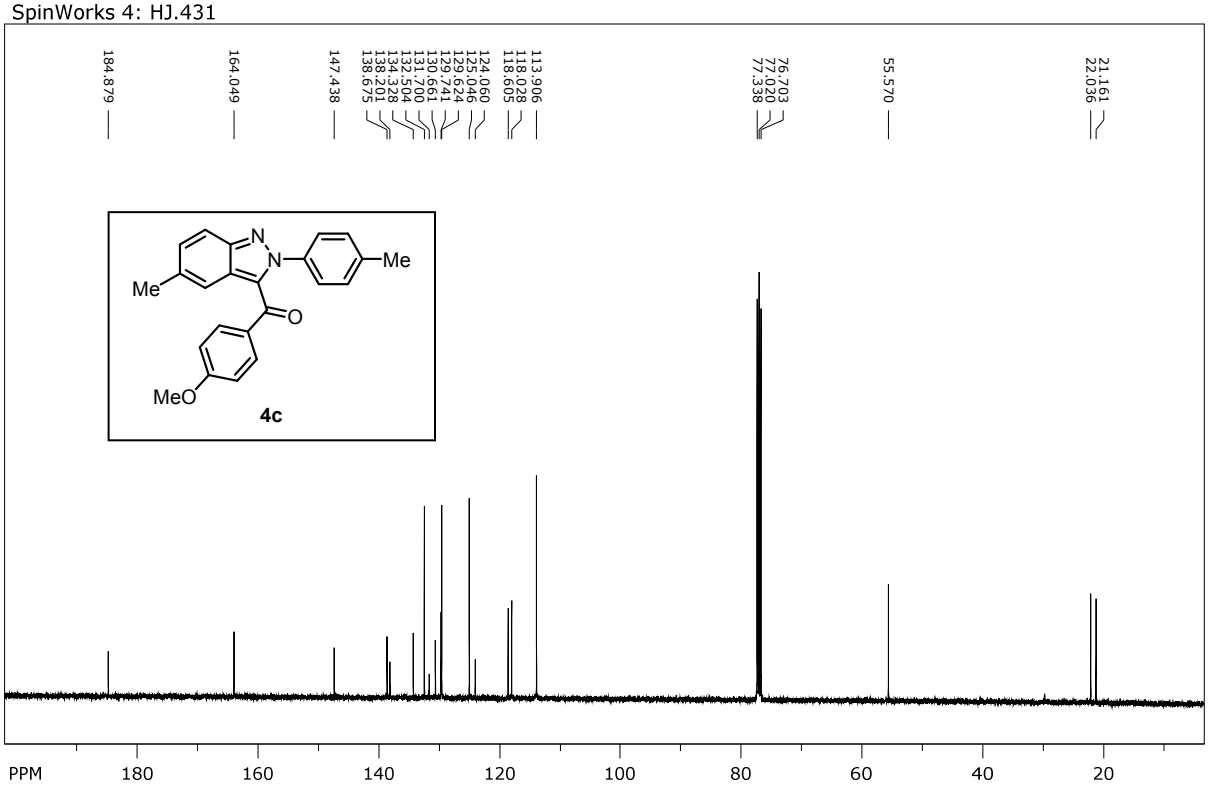
SpinWorks 4: HJ.430



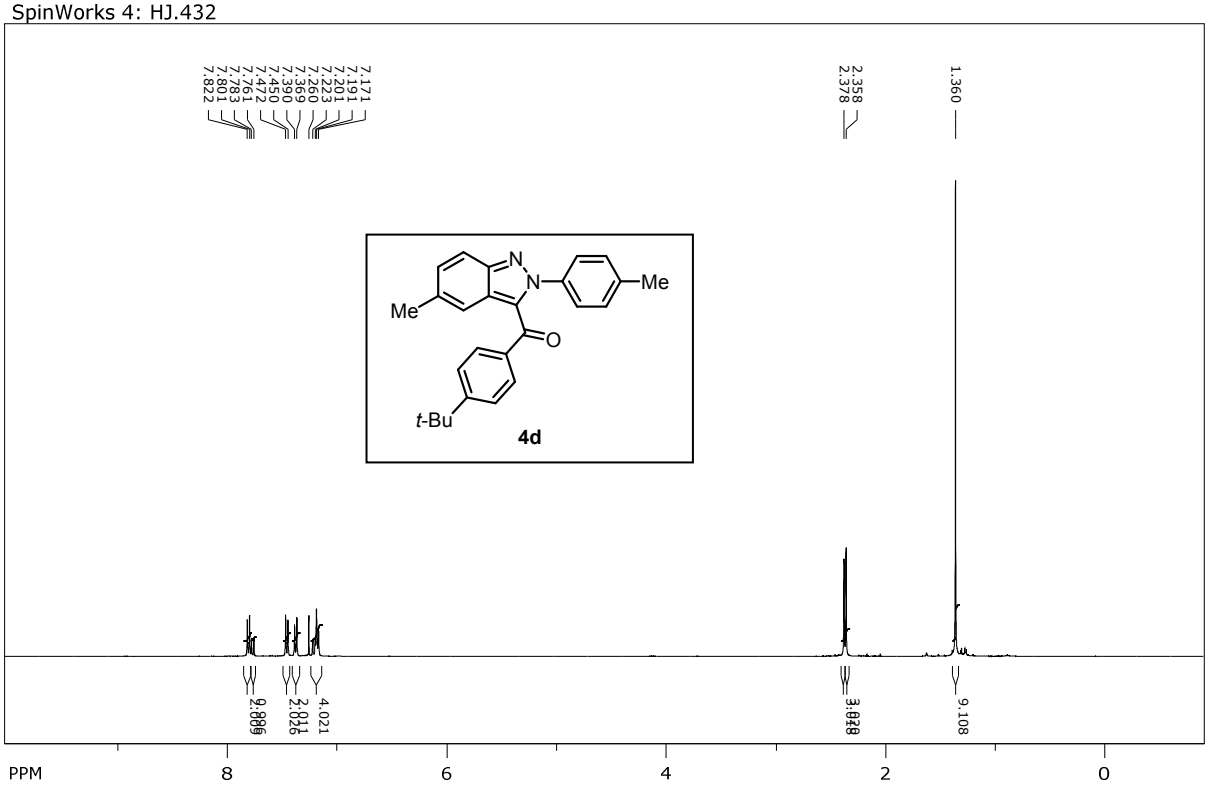
SpinWorks 4: HJ.431



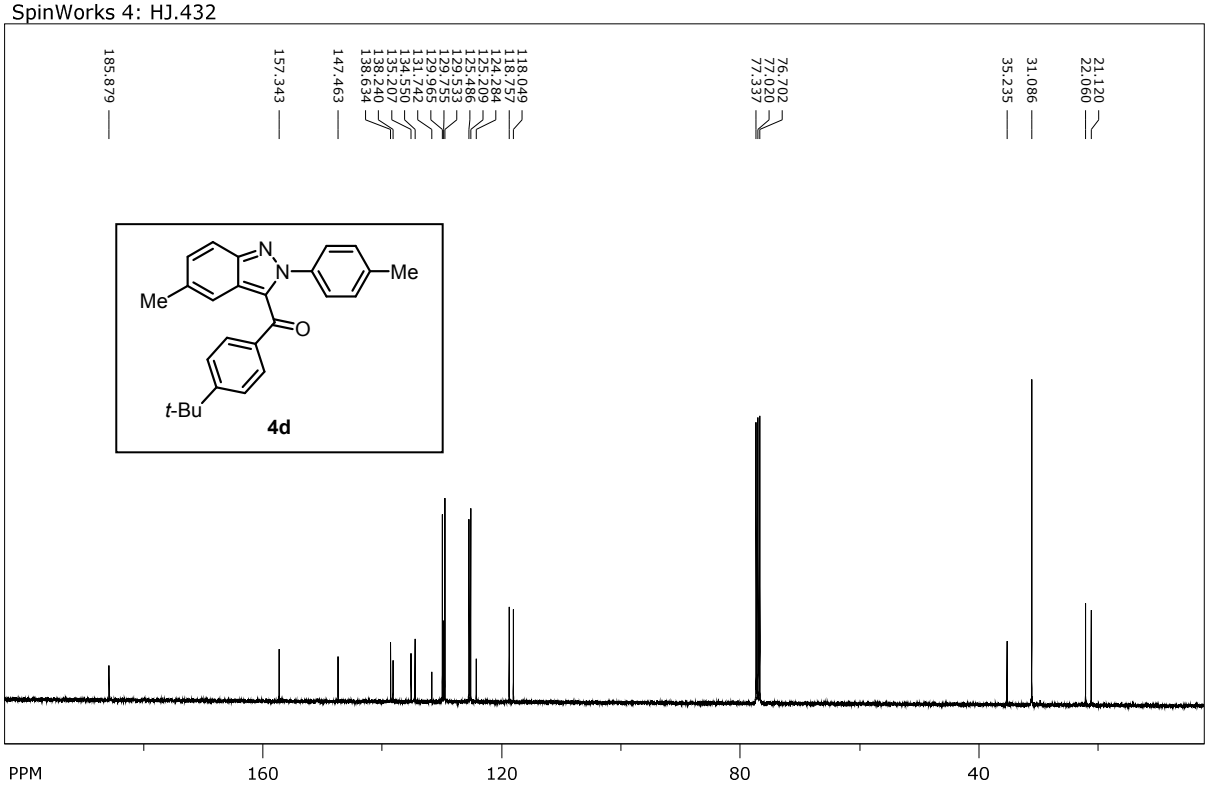
SpinWorks 4: HJ.431



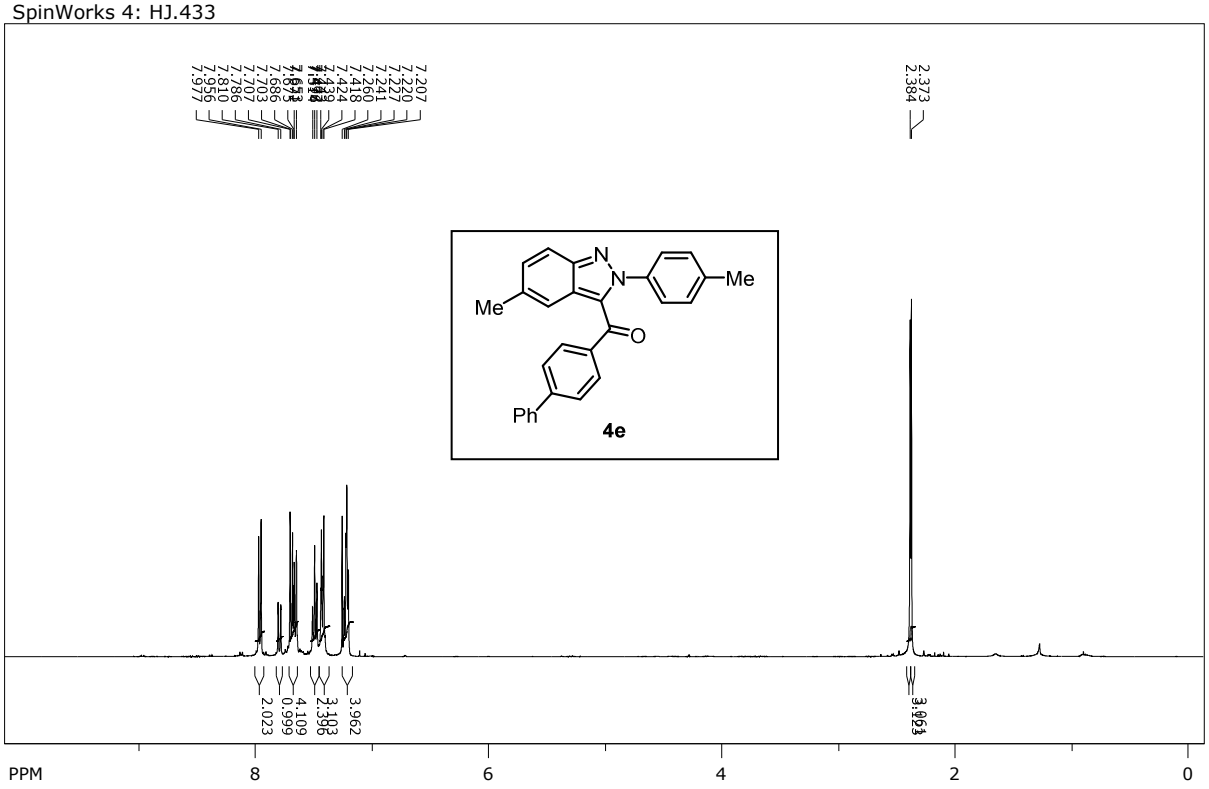
SpinWorks 4: HJ.432



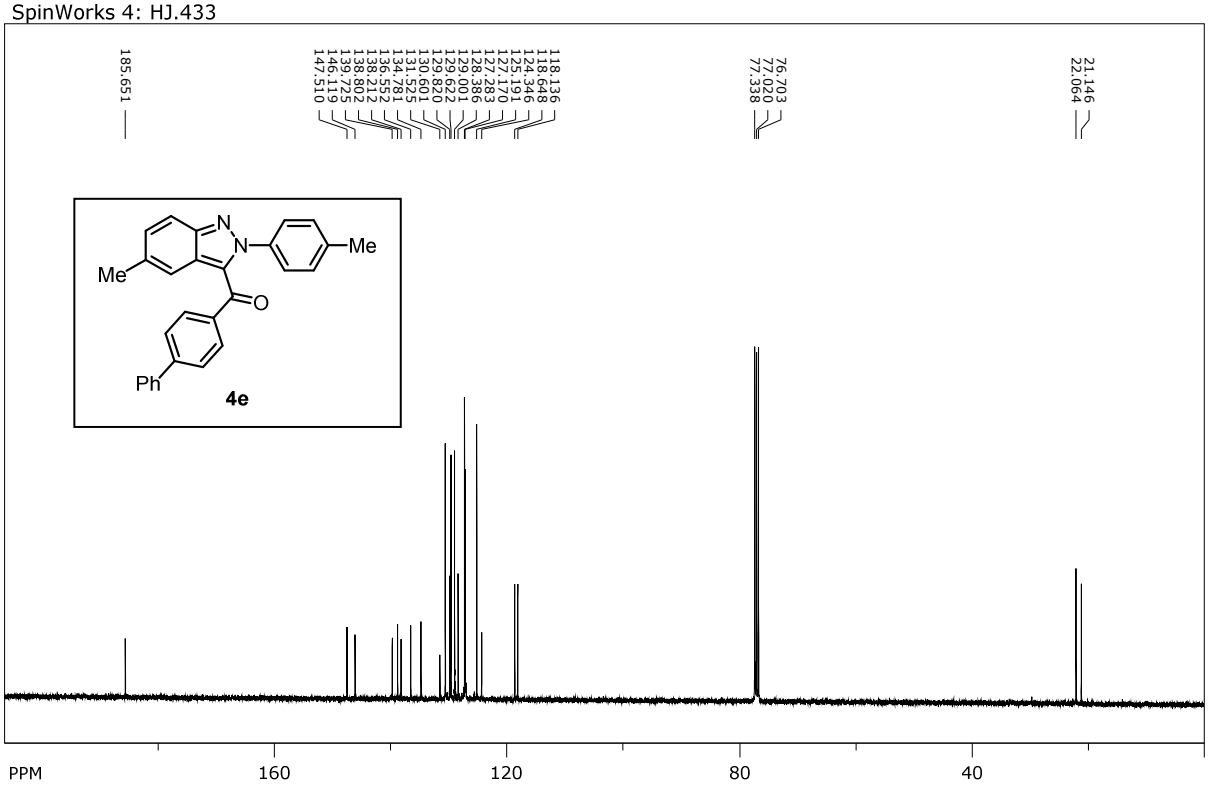
SpinWorks 4: HJ.432



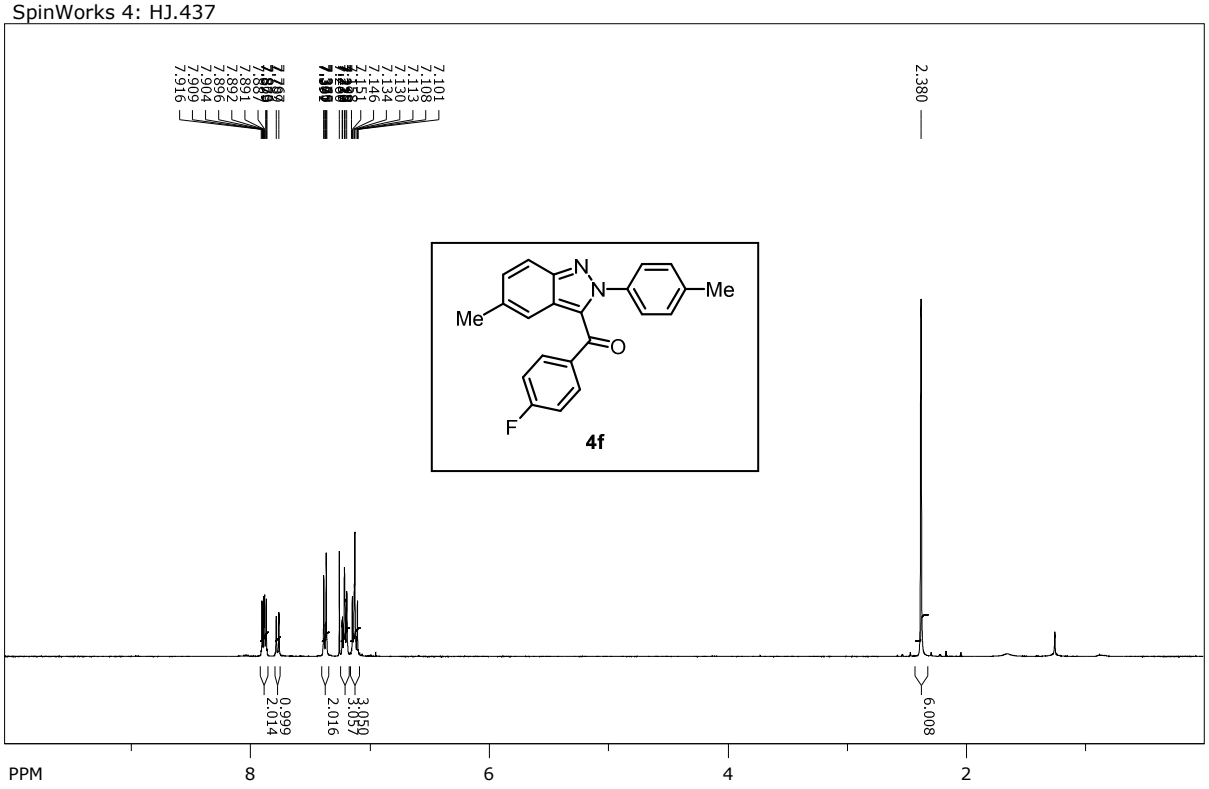
SpinWorks 4: HJ.433



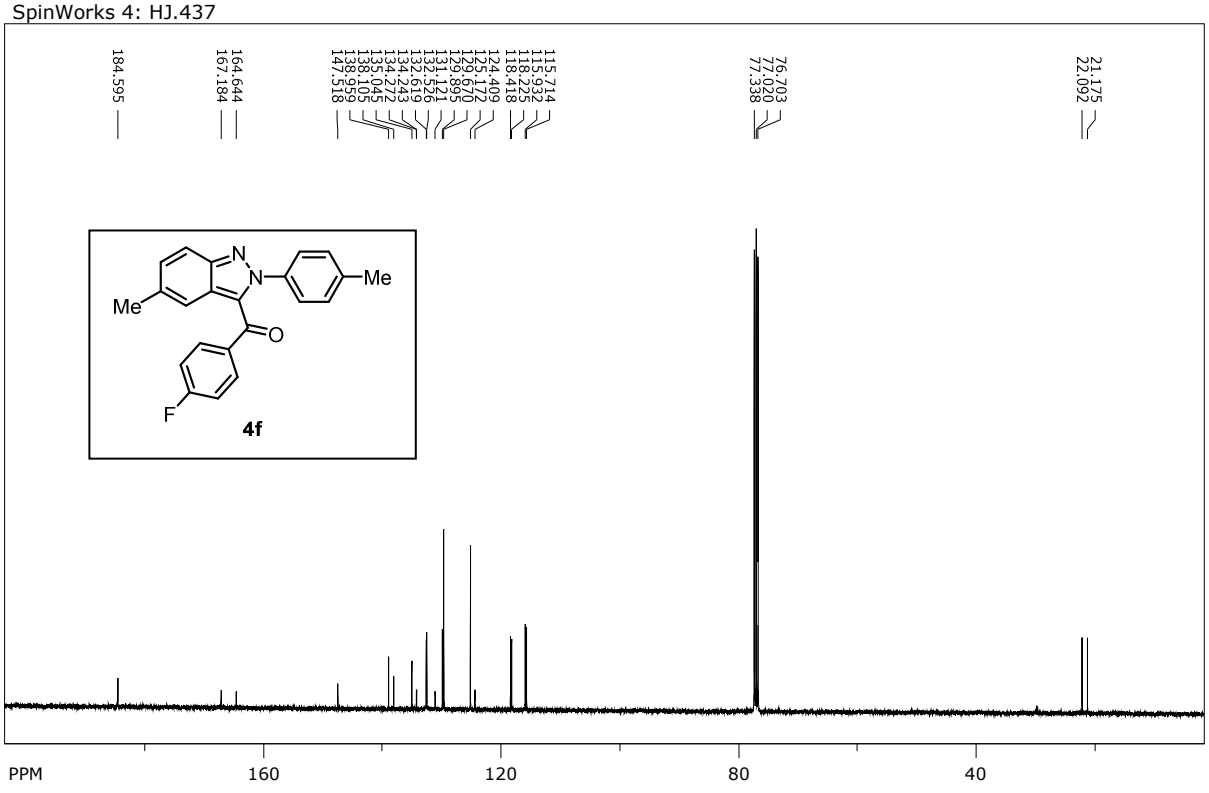
SpinWorks 4: HJ.433



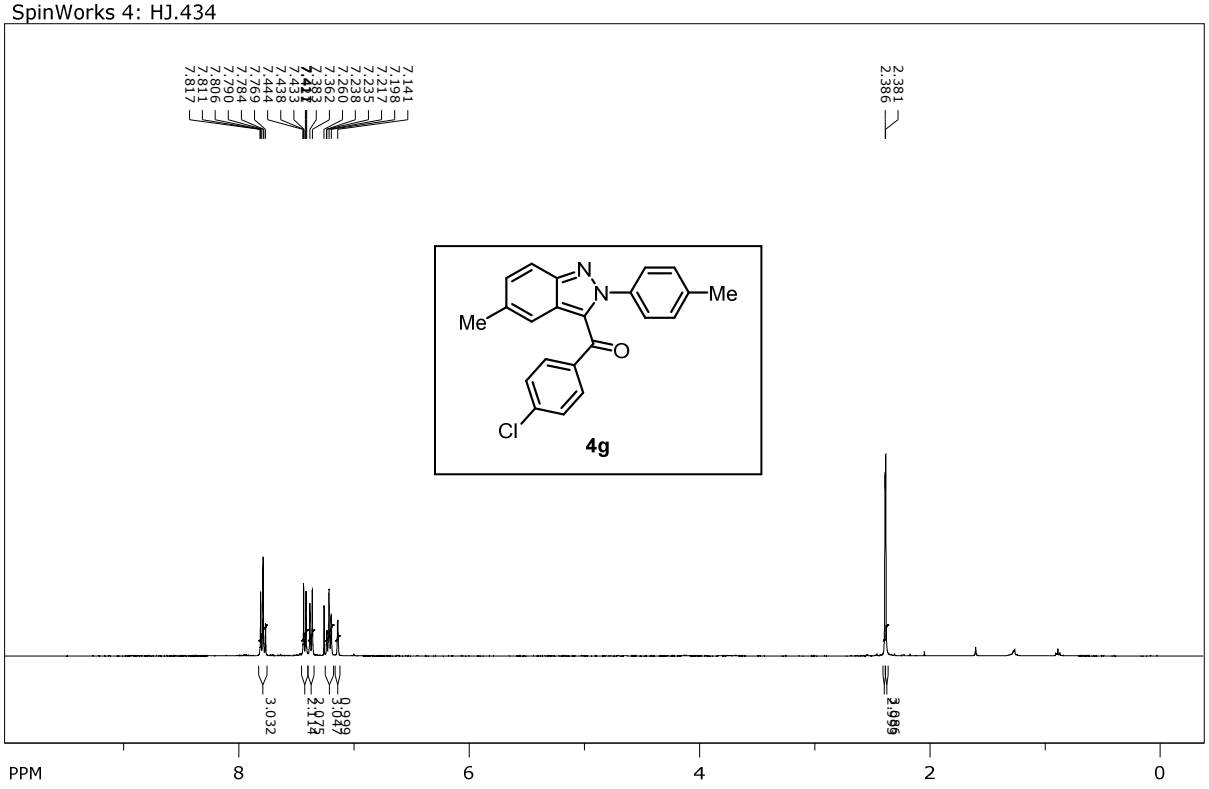
SpinWorks 4: HJ.437



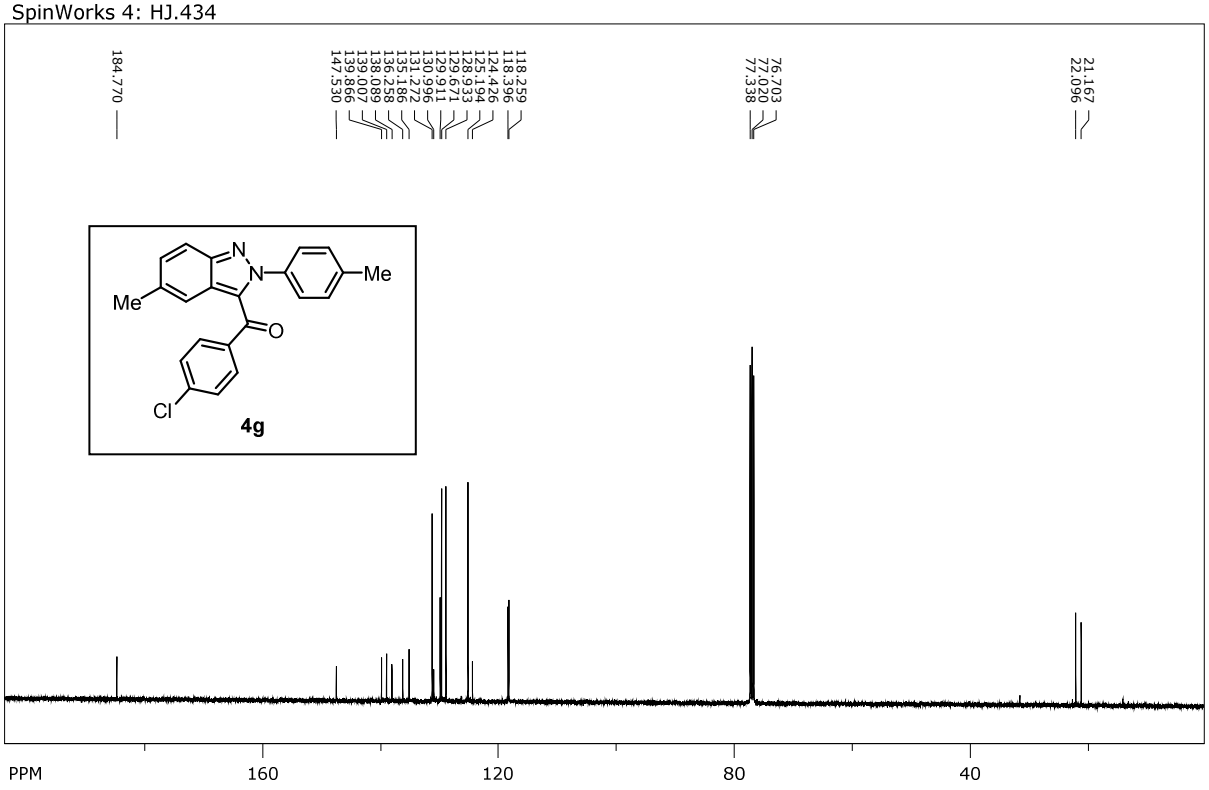
SpinWorks 4: HJ.437



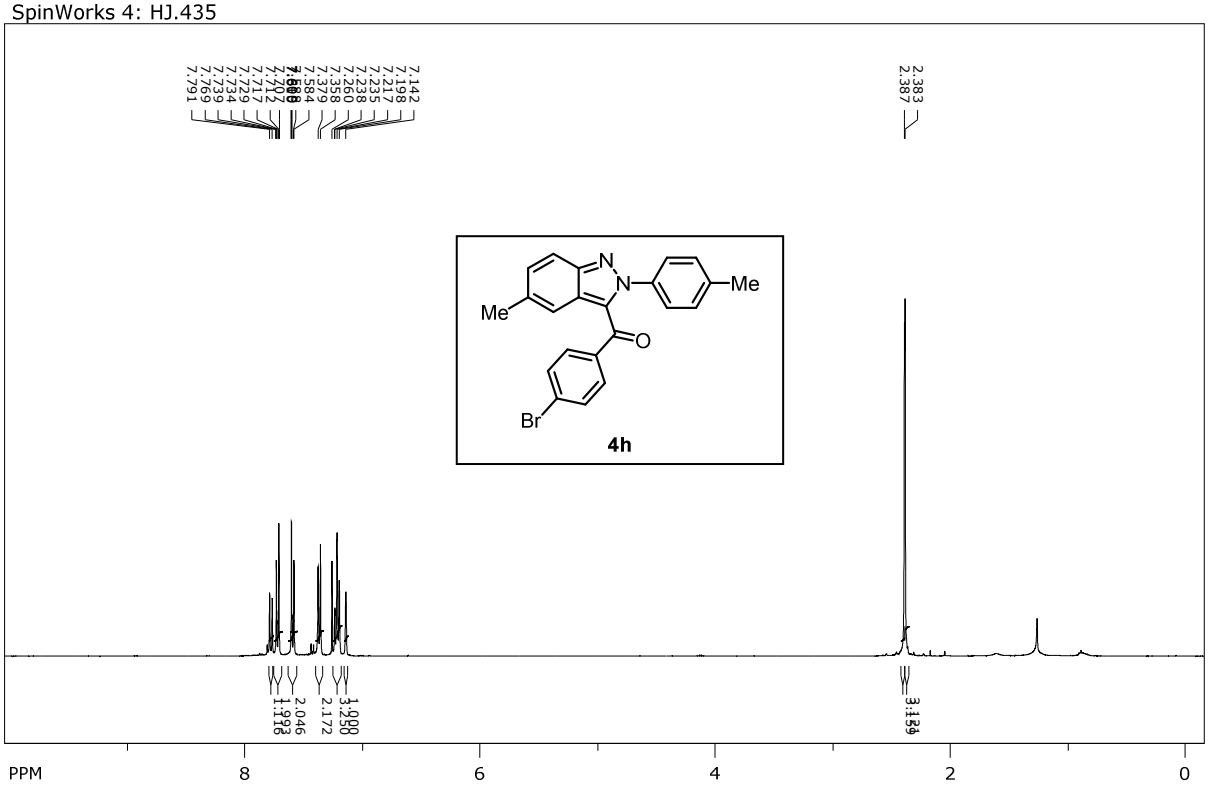
SpinWorks 4: HJ.434



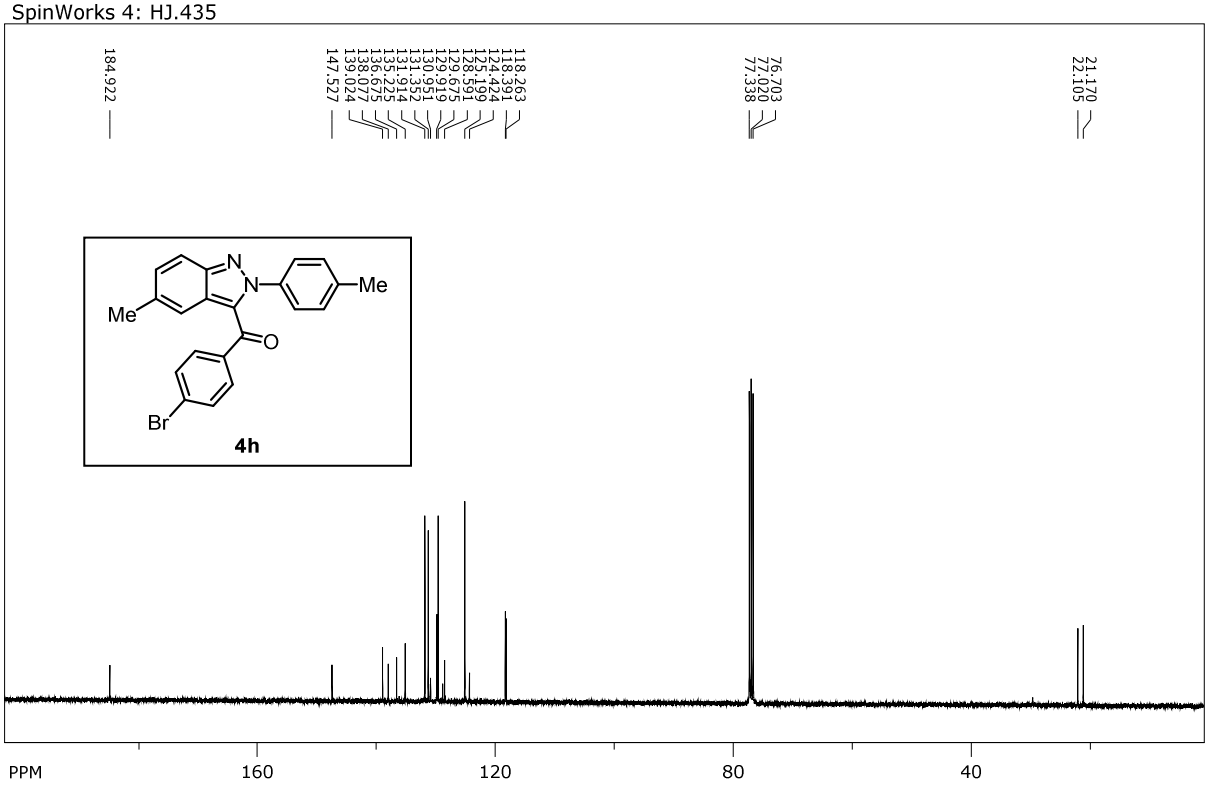
SpinWorks 4: HJ.434



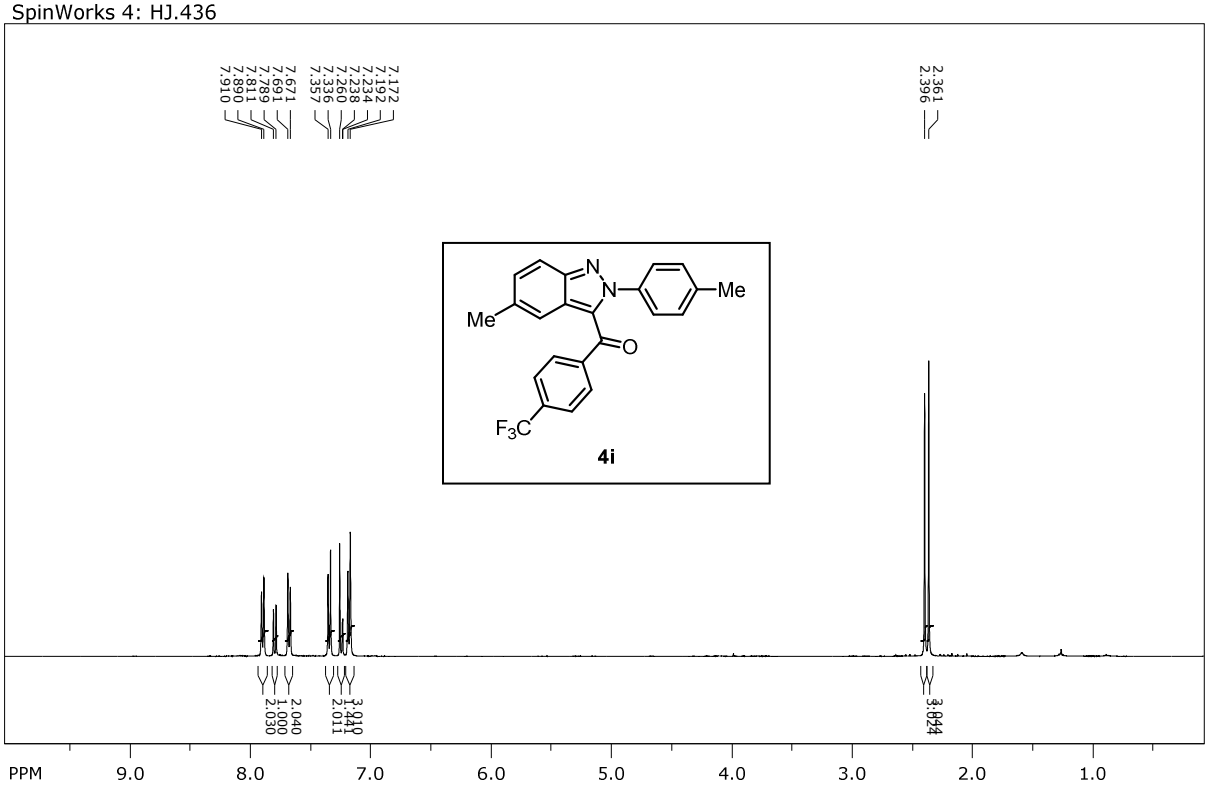
SpinWorks 4: HJ.435



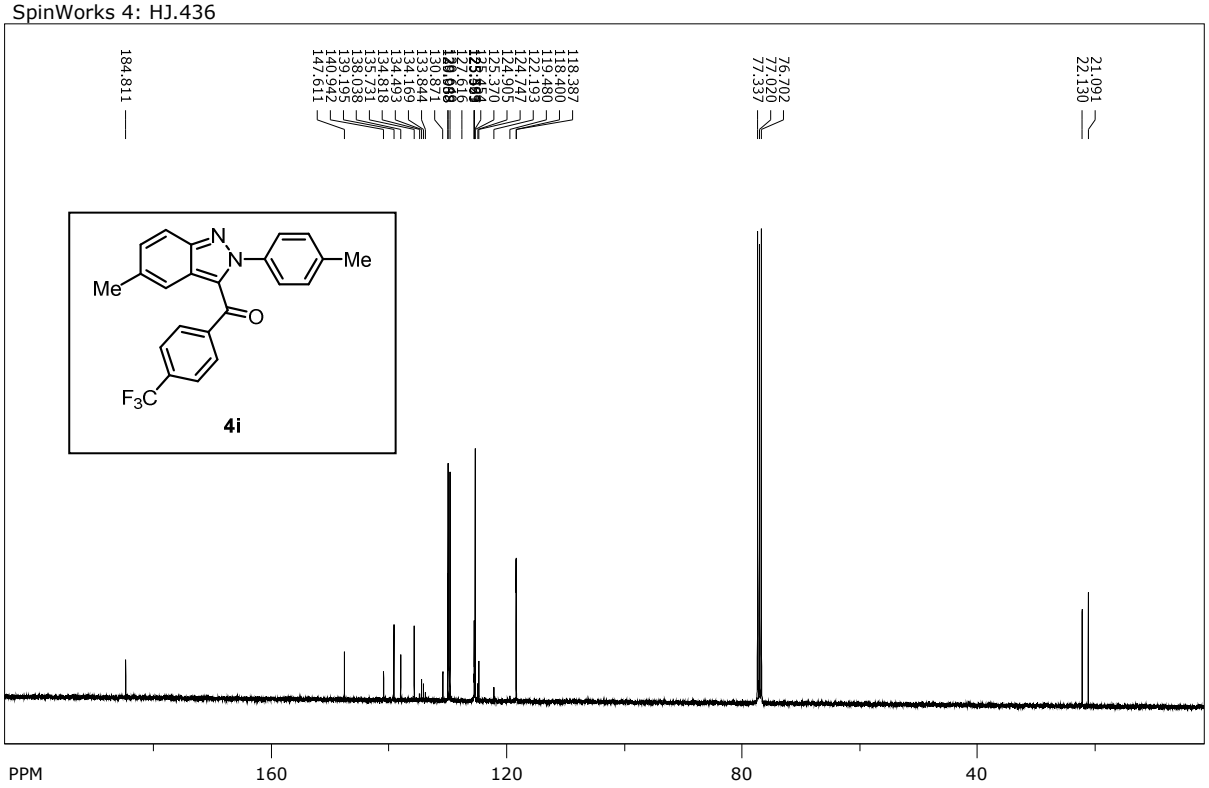
SpinWorks 4: HJ.435



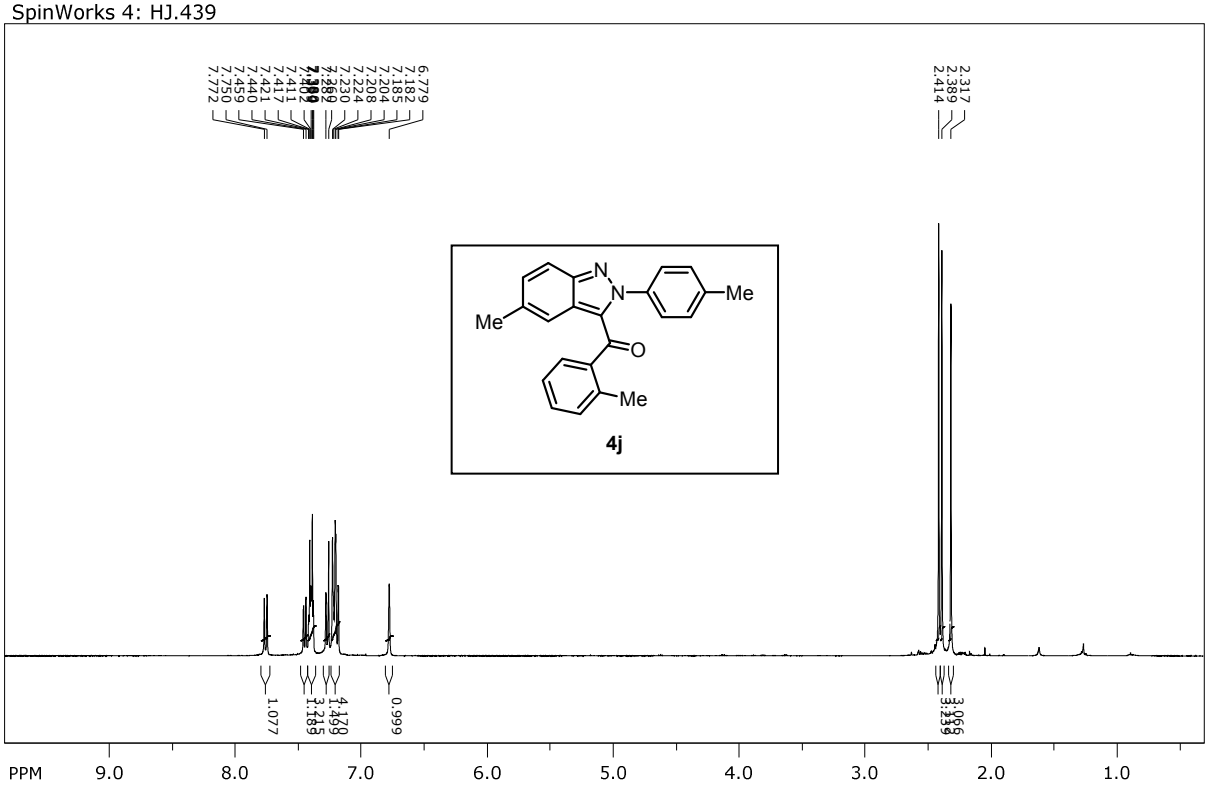
SpinWorks 4: HJ.436



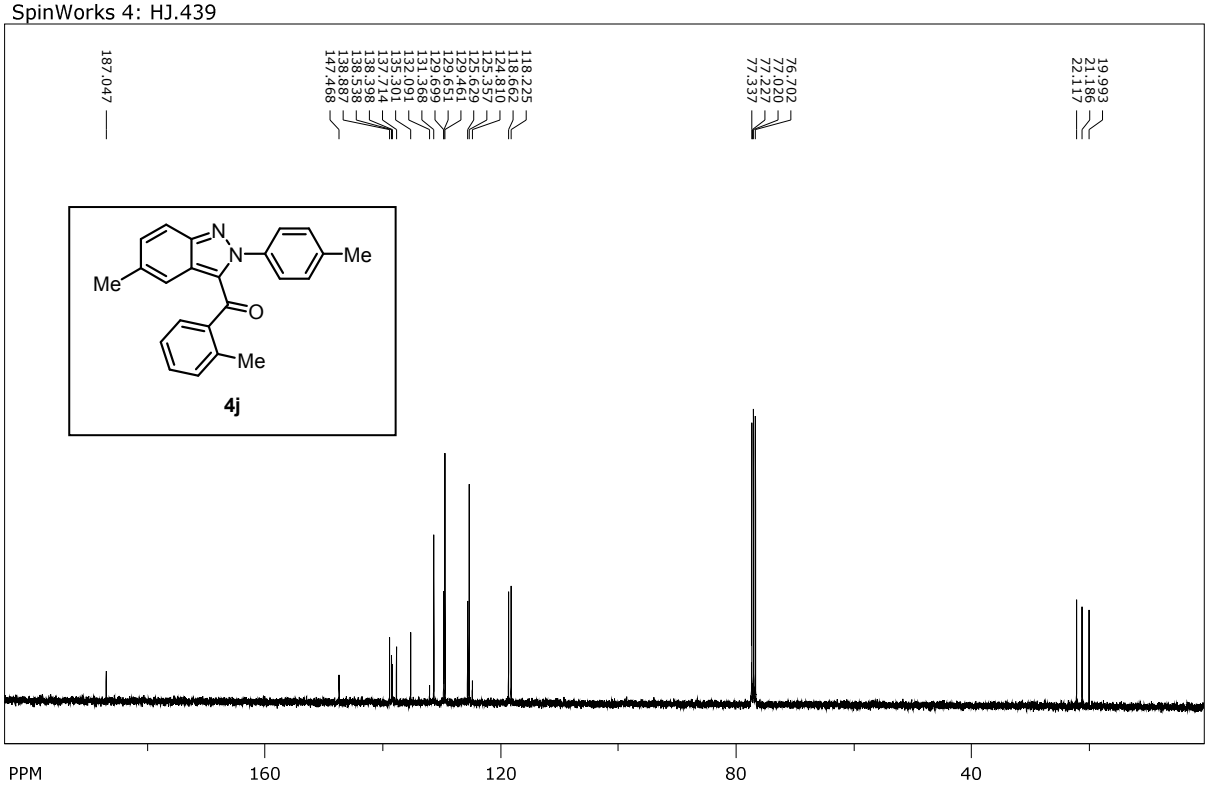
SpinWorks 4: HJ.436



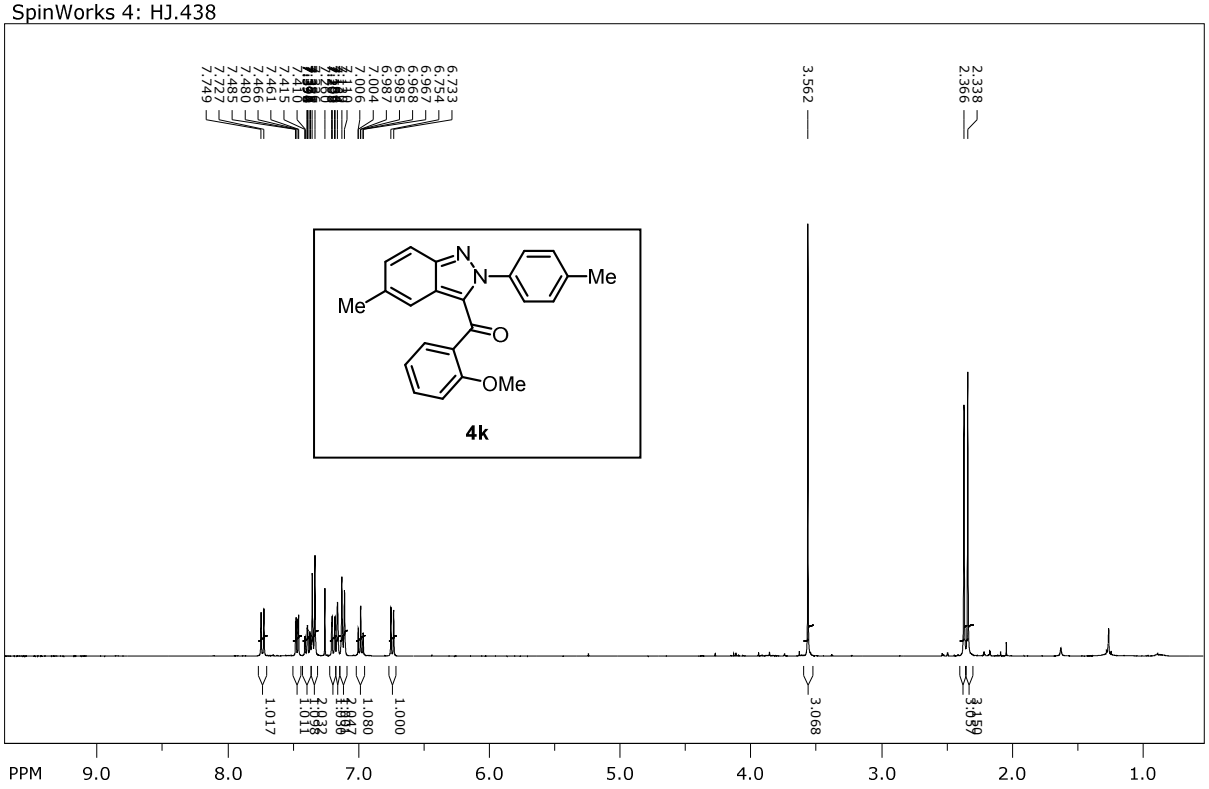
SpinWorks 4: HJ.439



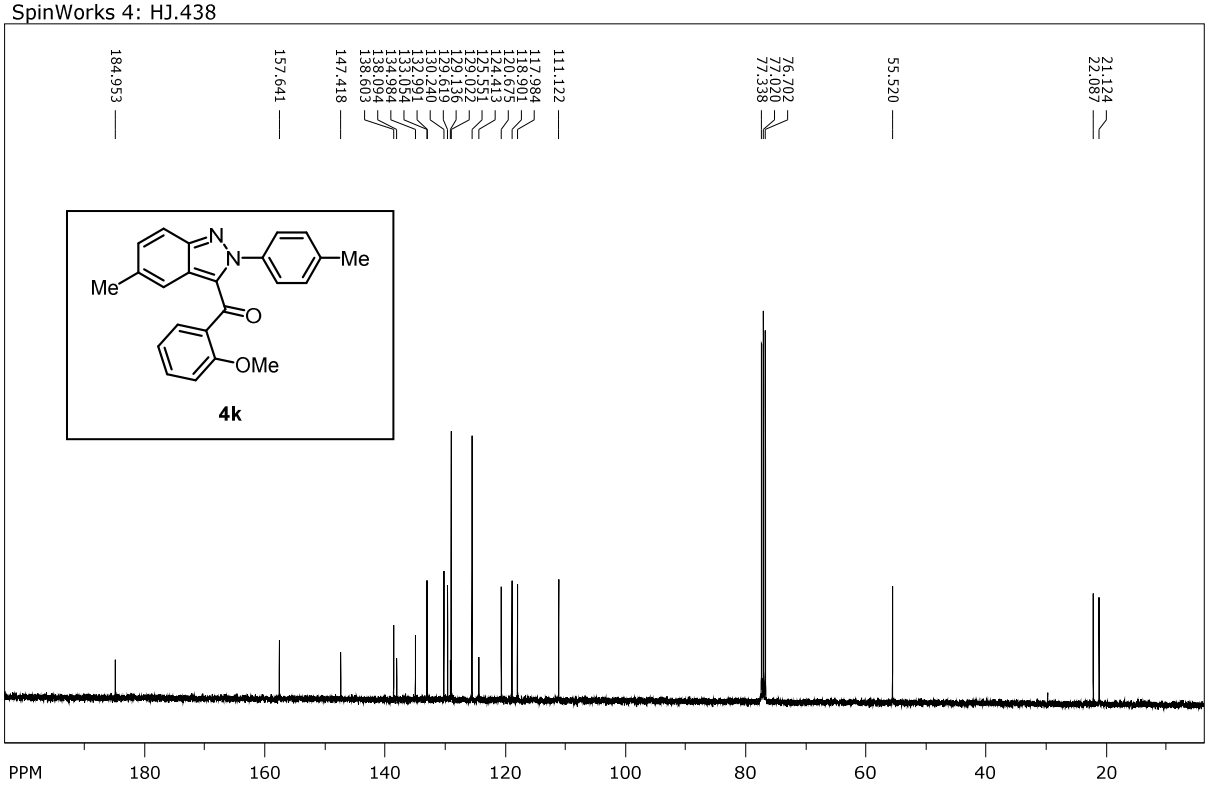
SpinWorks 4: HJ.439



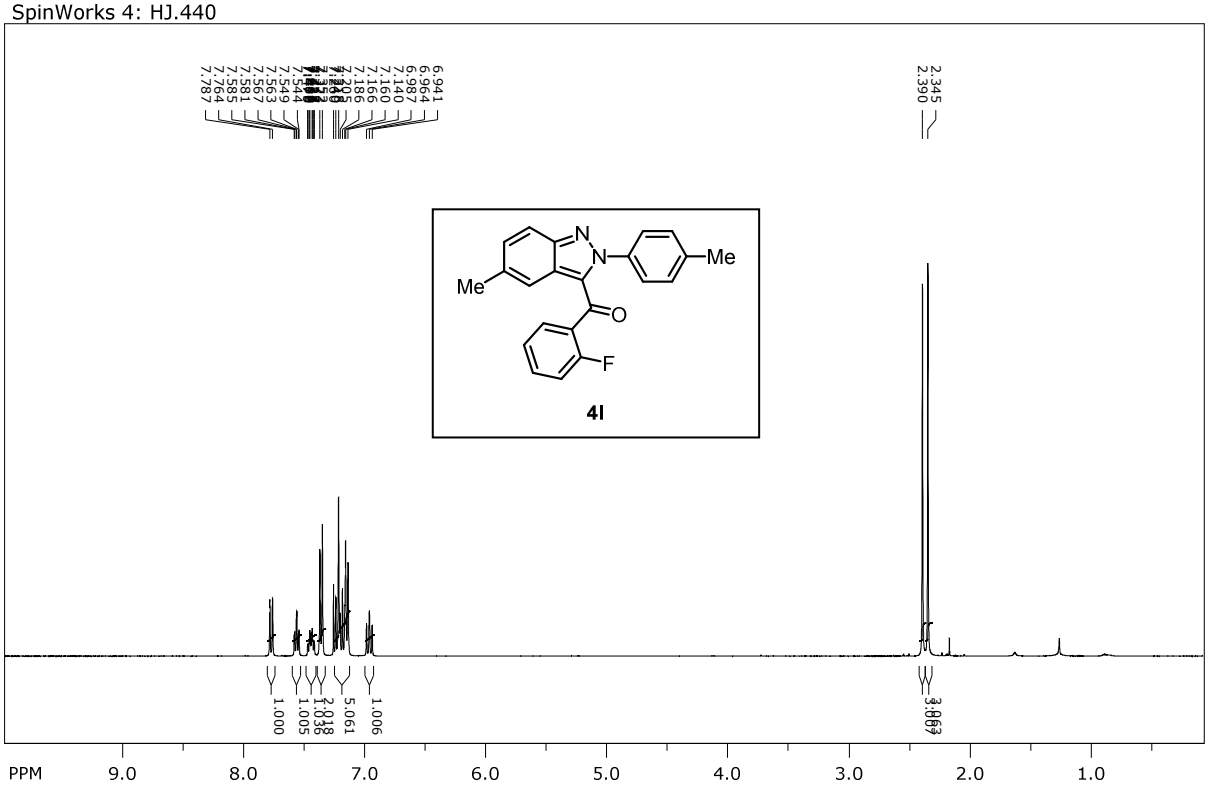
SpinWorks 4: HJ.438



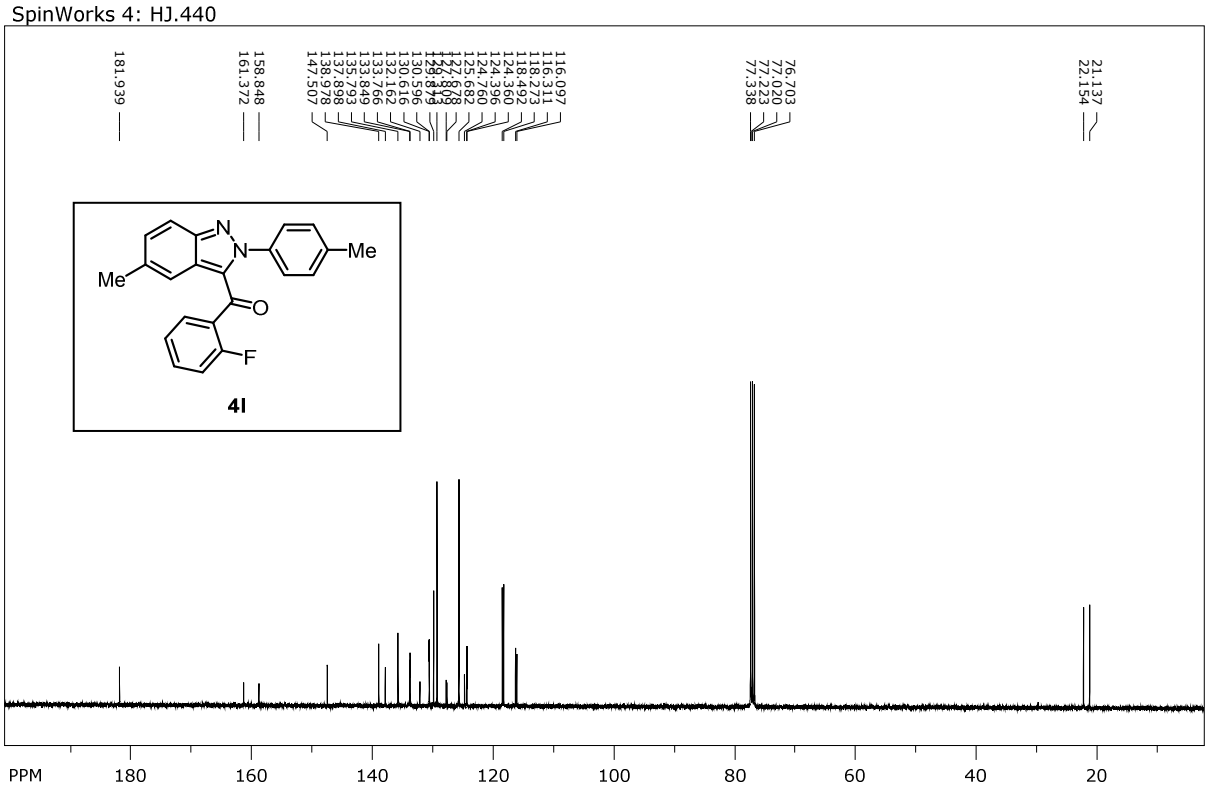
SpinWorks 4: HJ.438



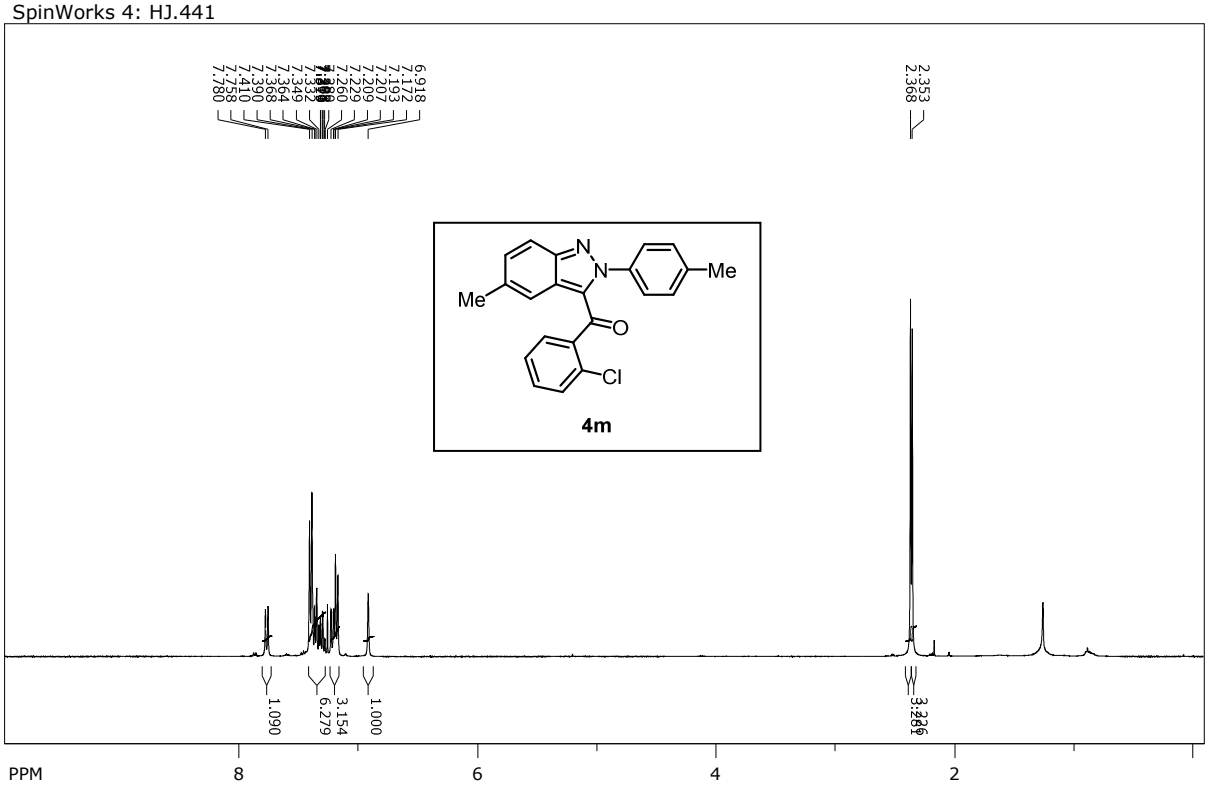
SpinWorks 4: HJ.440



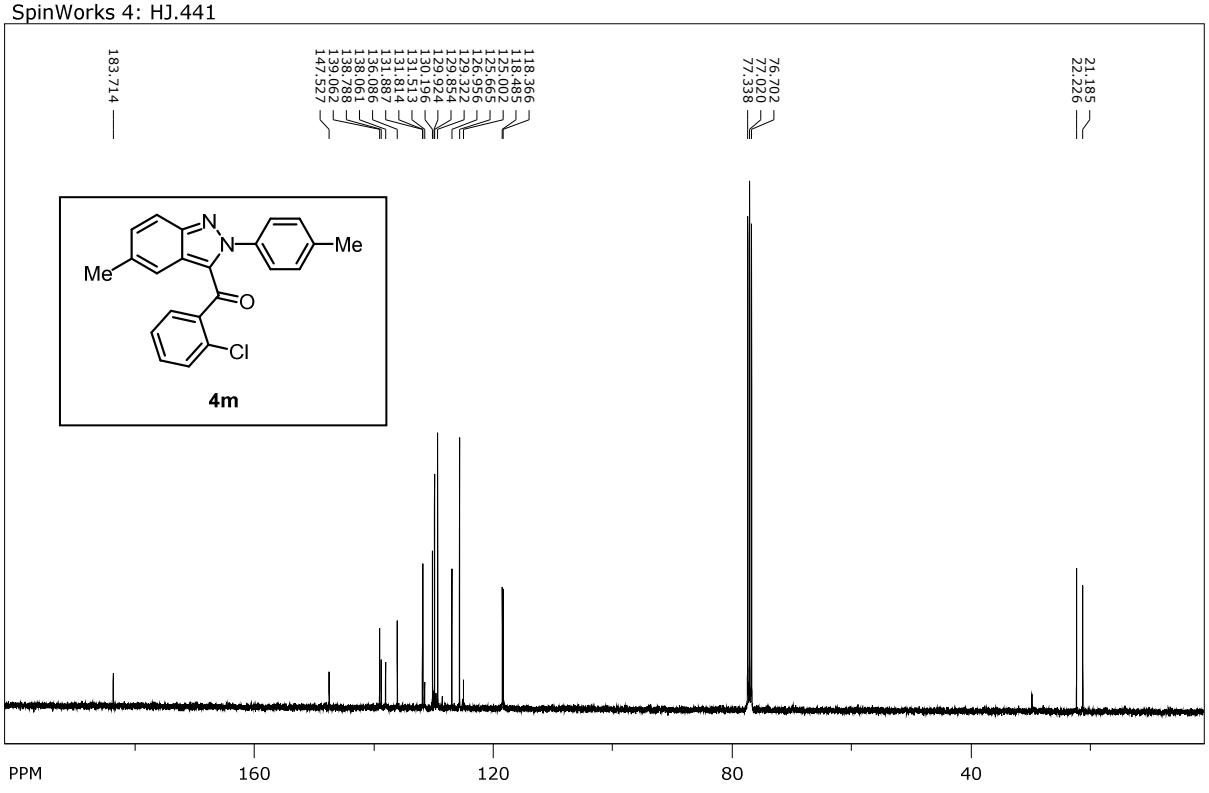
SpinWorks 4: HJ.440



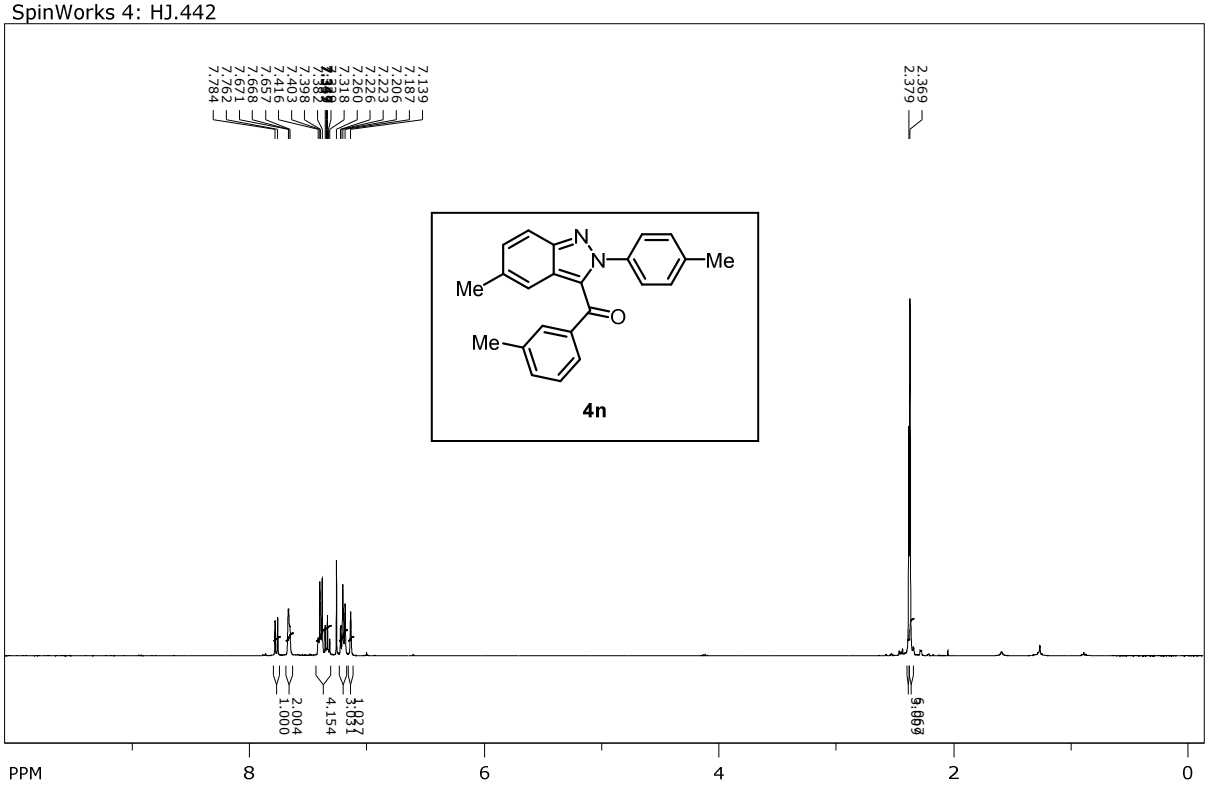
SpinWorks 4: HJ.441



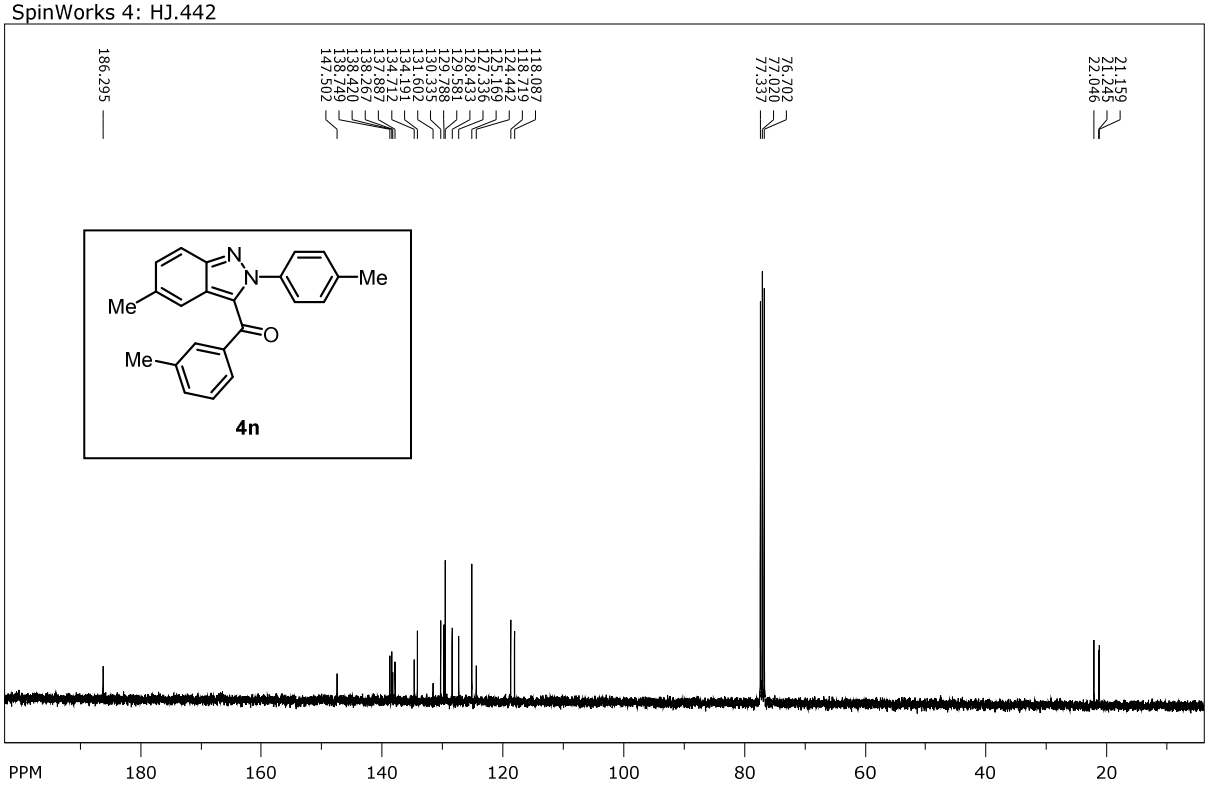
SpinWorks 4: HJ.441



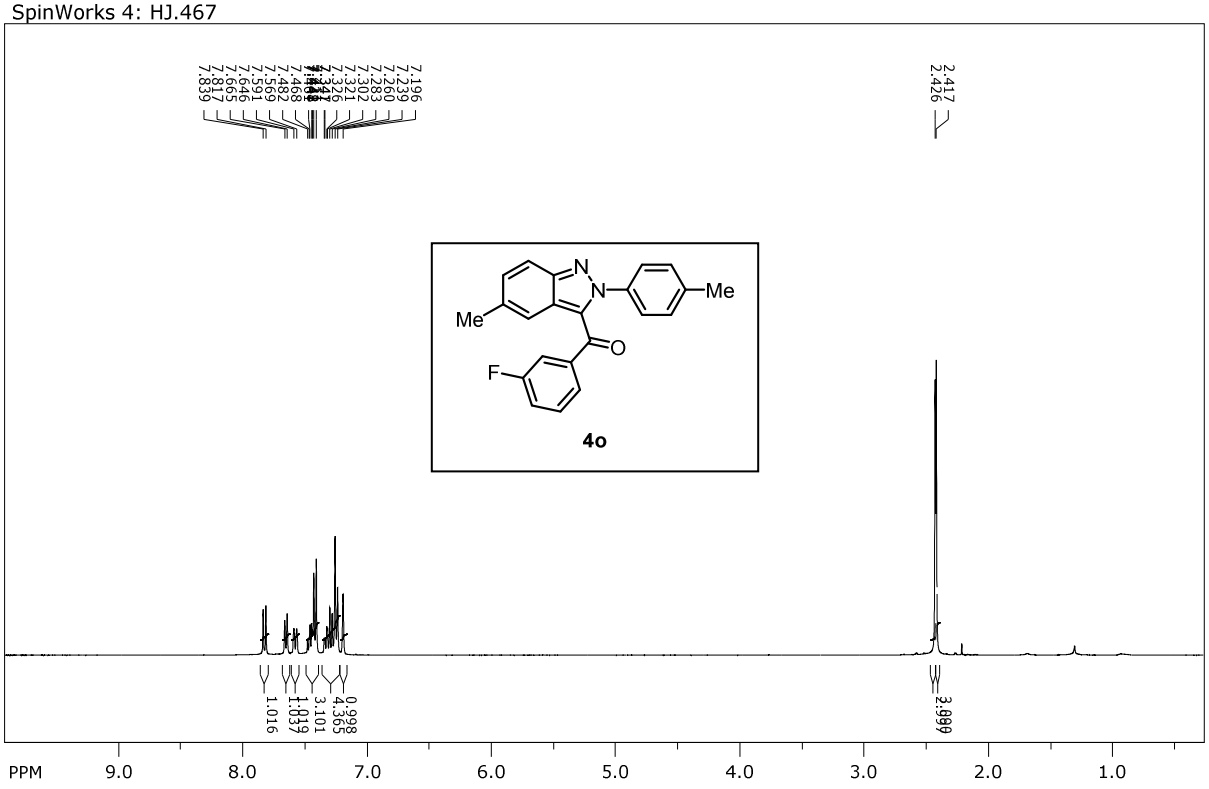
SpinWorks 4: HJ.442



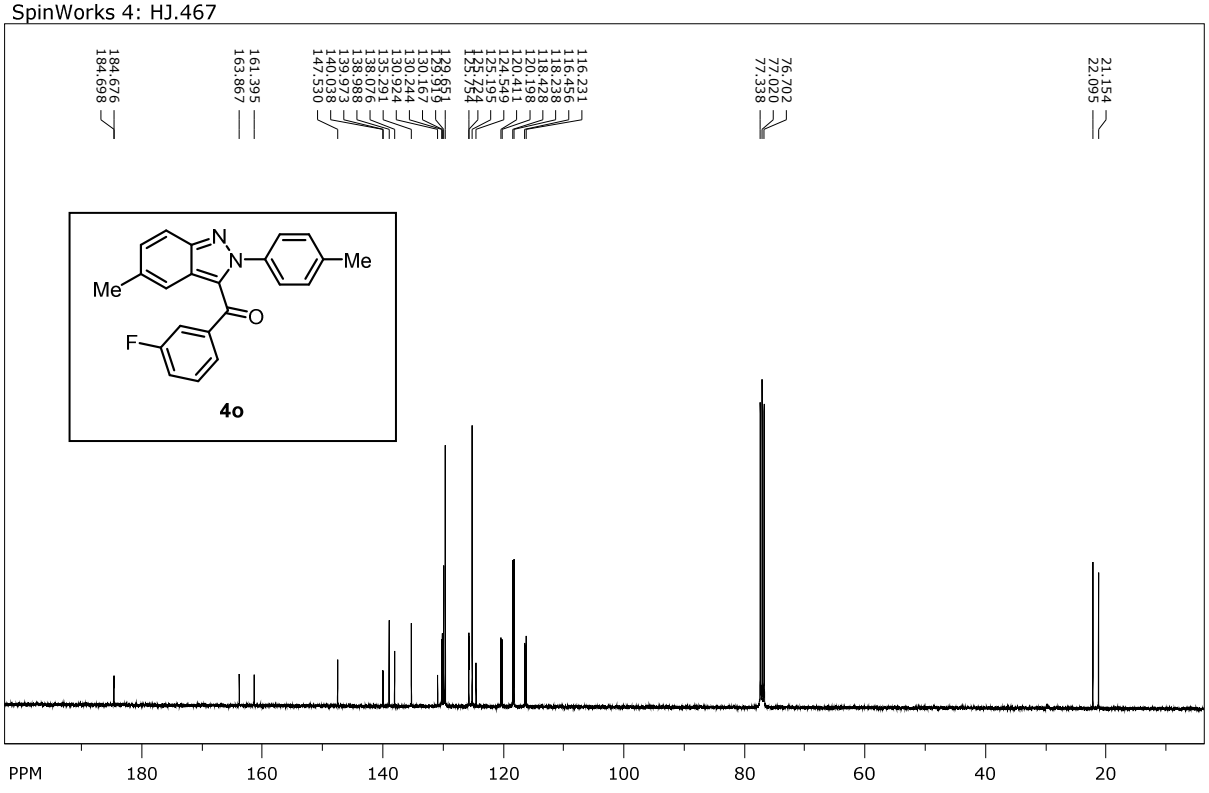
SpinWorks 4: HJ.442



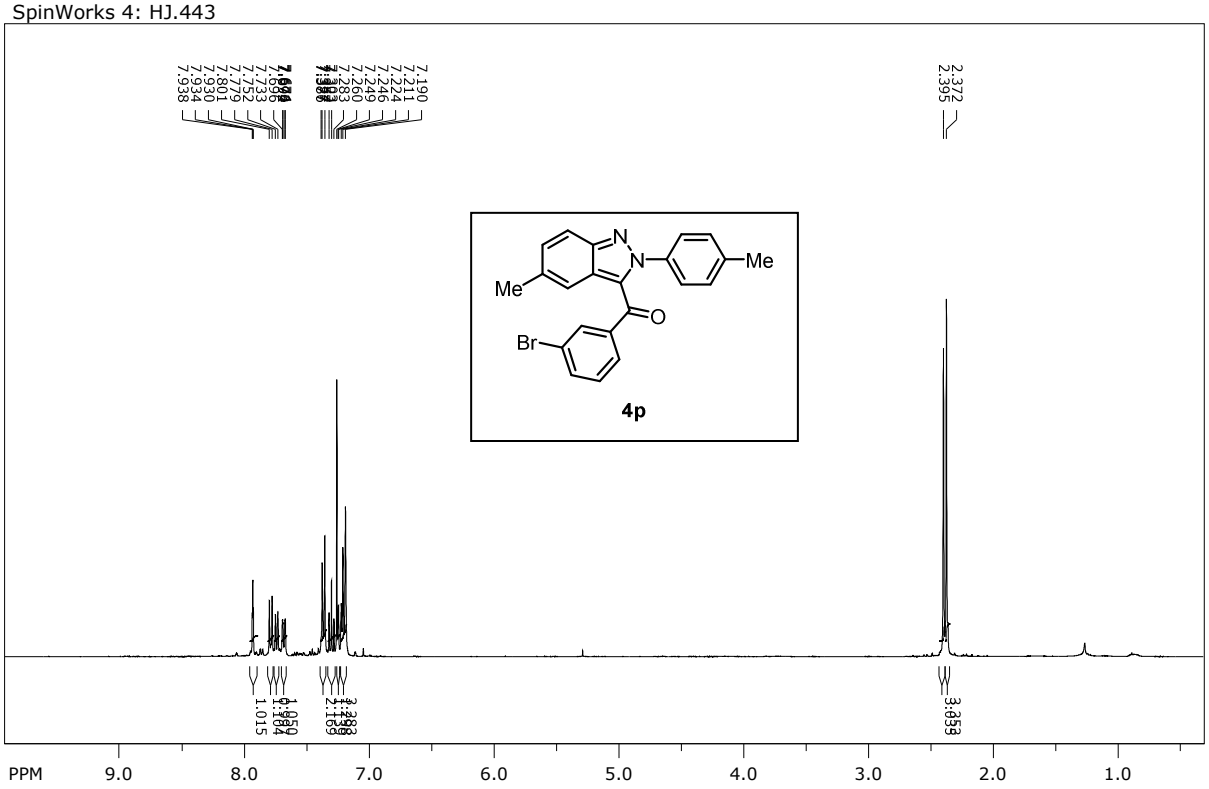
SpinWorks 4: HJ.467



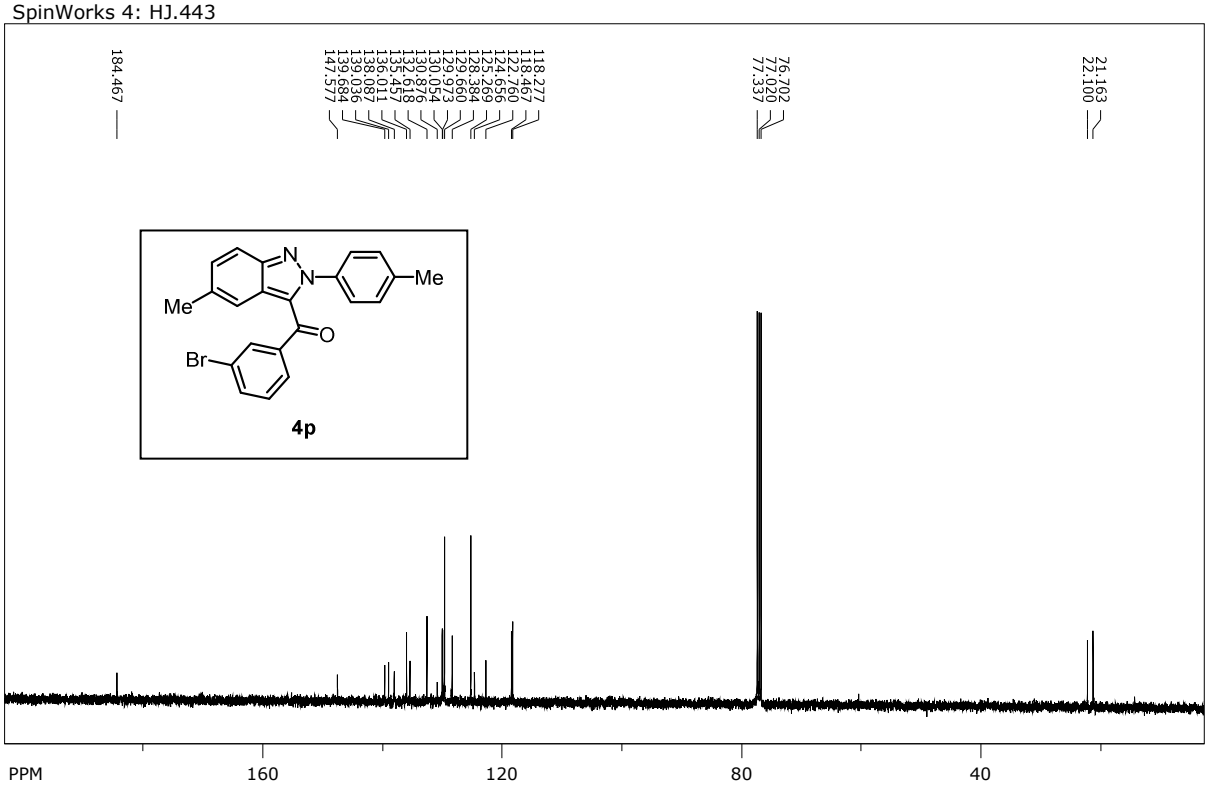
SpinWorks 4: HJ.467



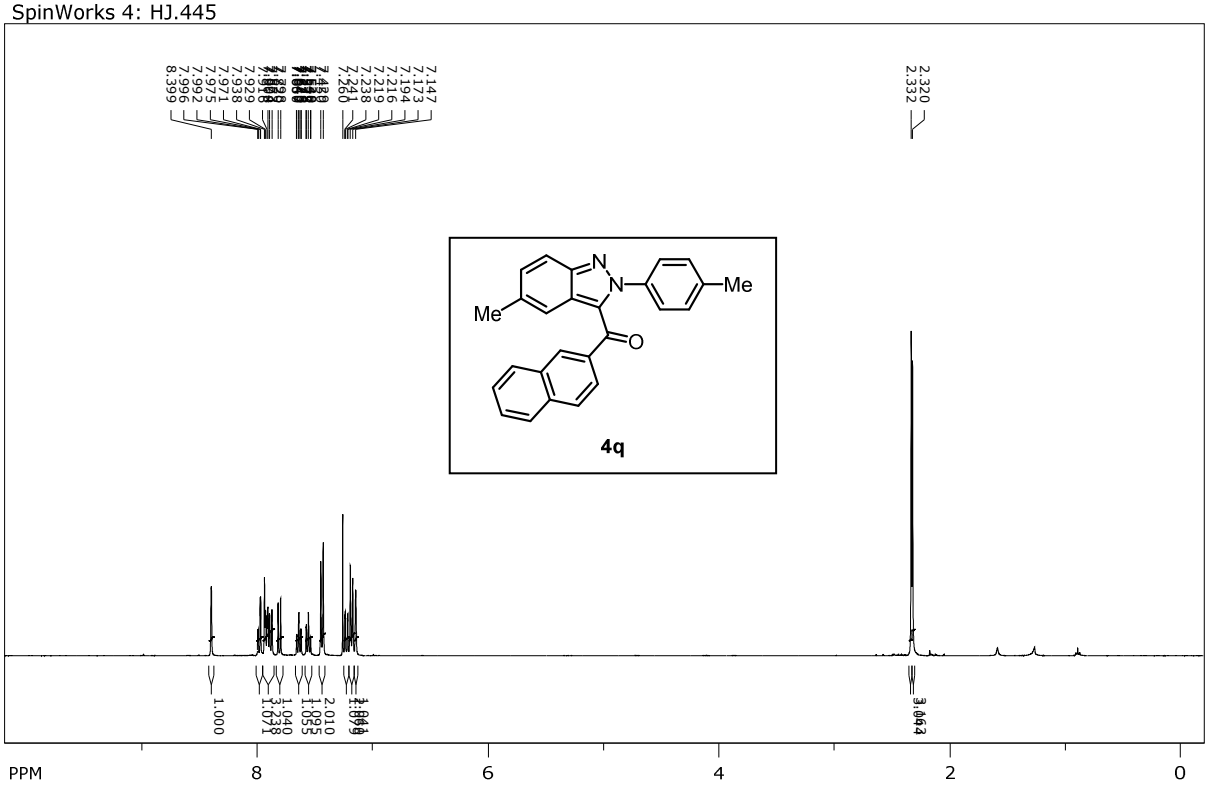
SpinWorks 4: HJ.443



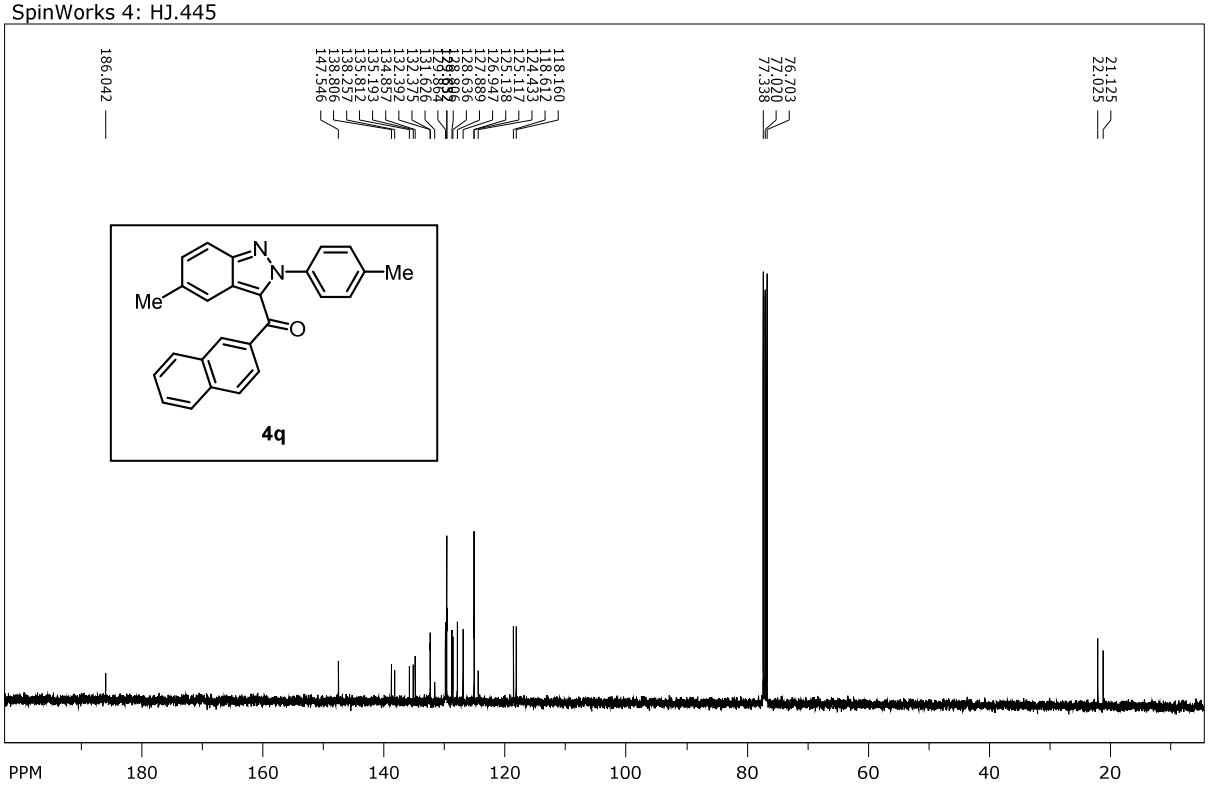
SpinWorks 4: HJ.443



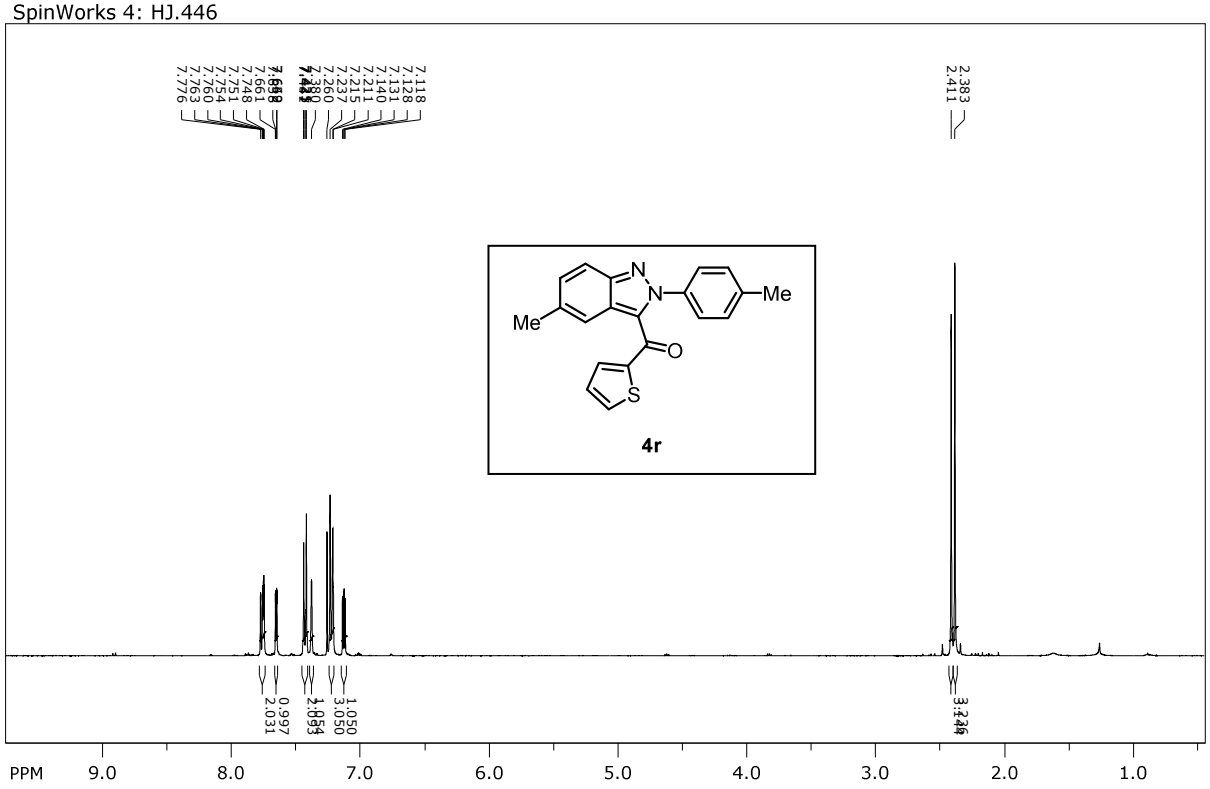
SpinWorks 4: HJ.445



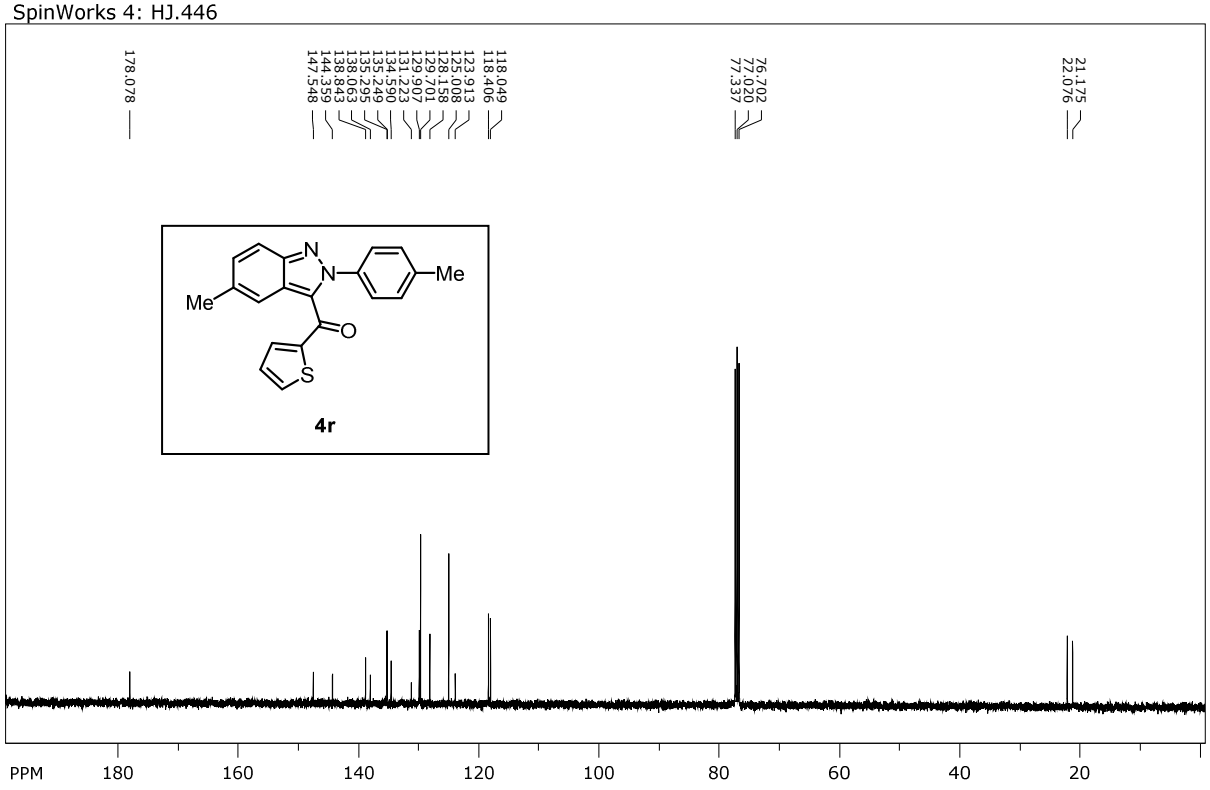
SpinWorks 4: HJ.445



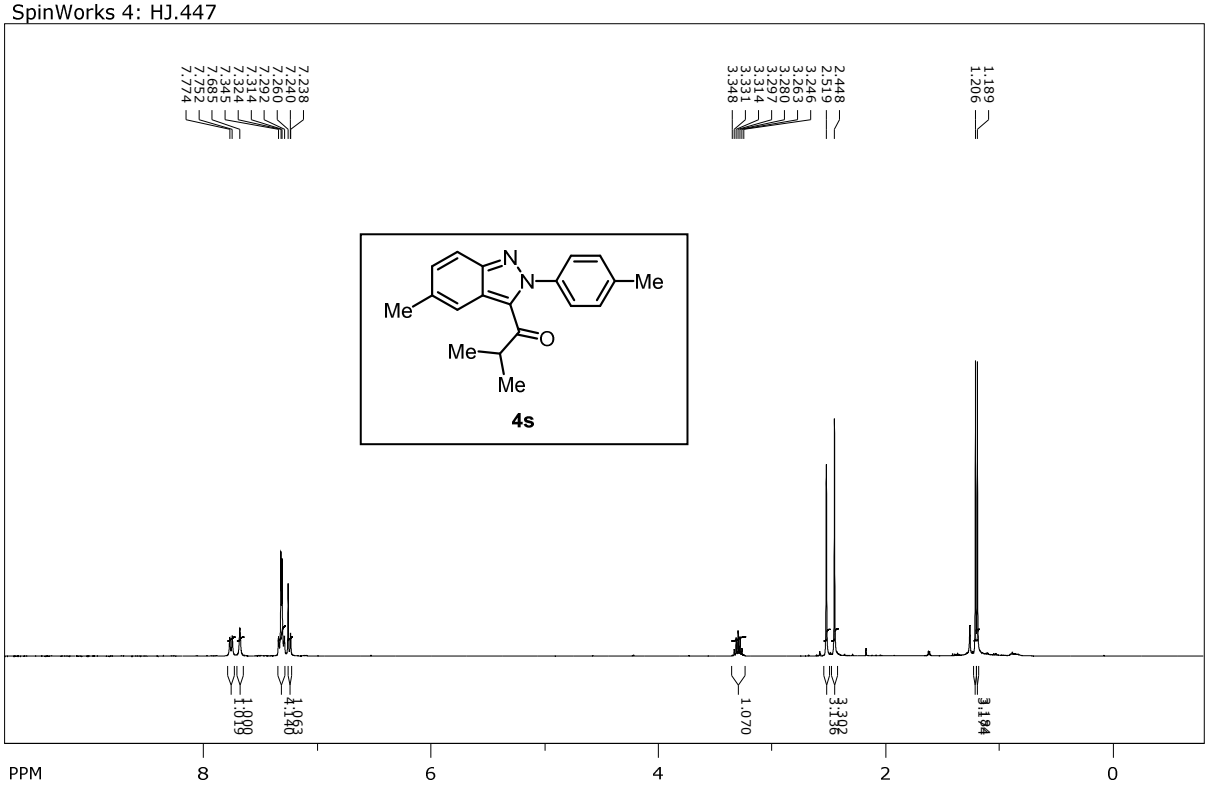
SpinWorks 4: HJ.446



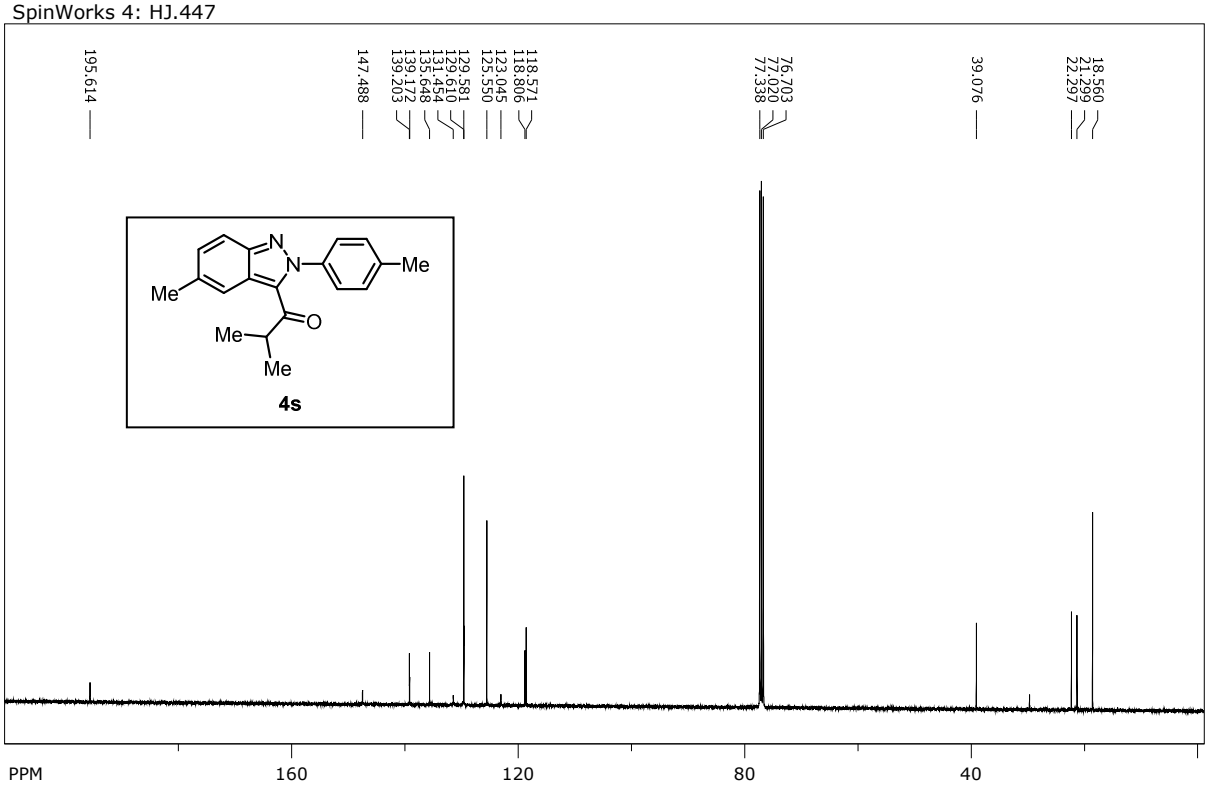
SpinWorks 4: HJ.446



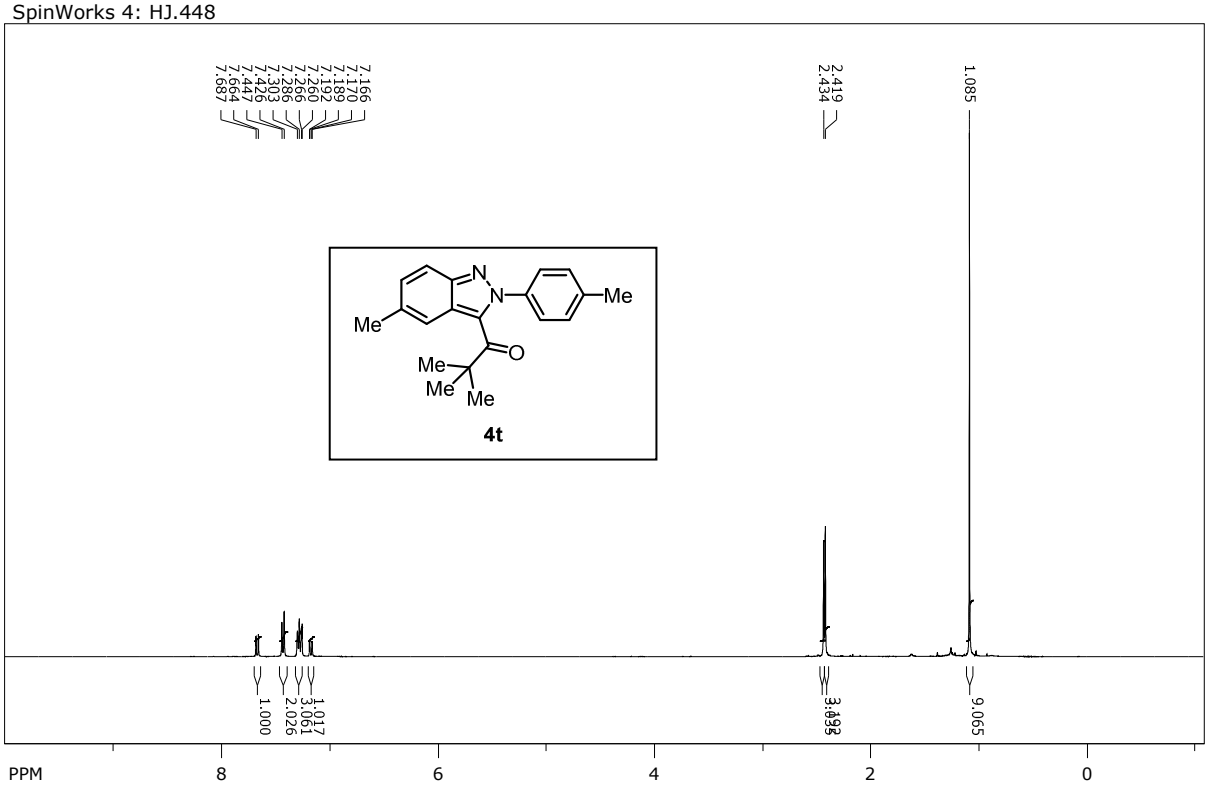
SpinWorks 4: HJ.447



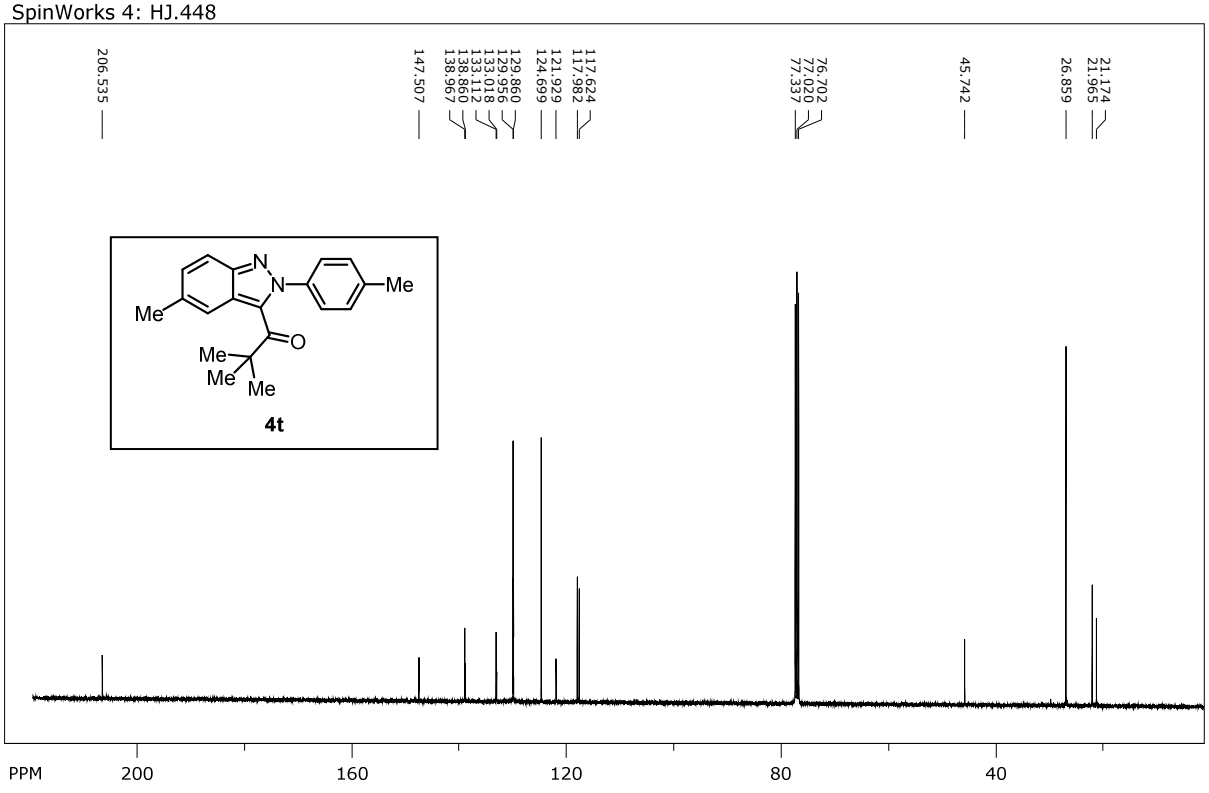
SpinWorks 4: HJ.447



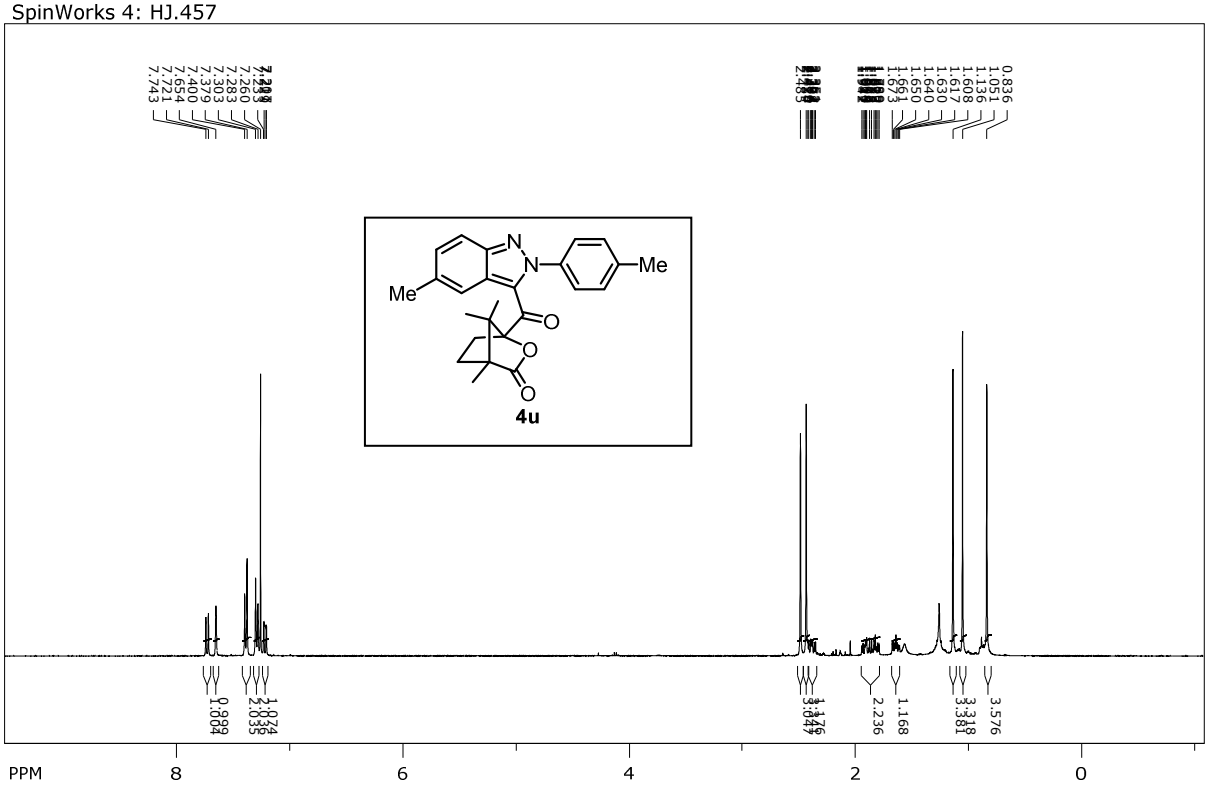
SpinWorks 4: HJ.448



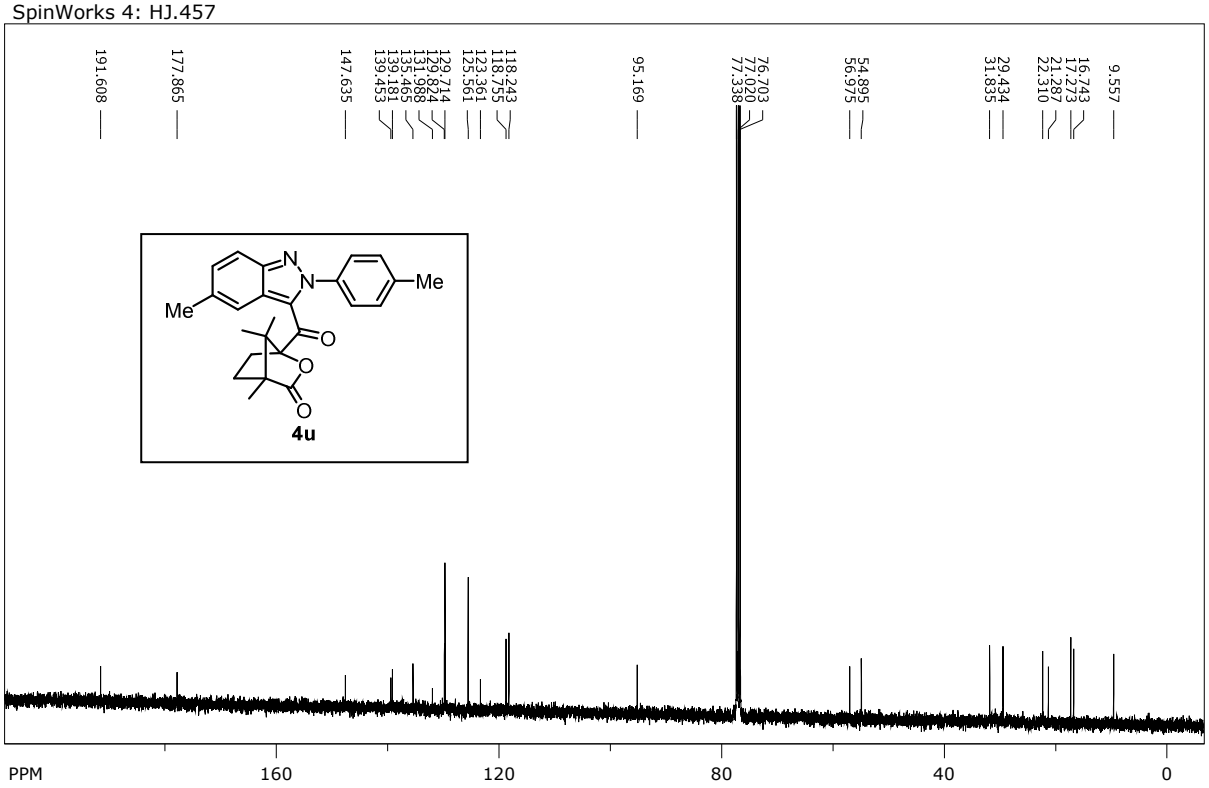
SpinWorks 4: HJ.448



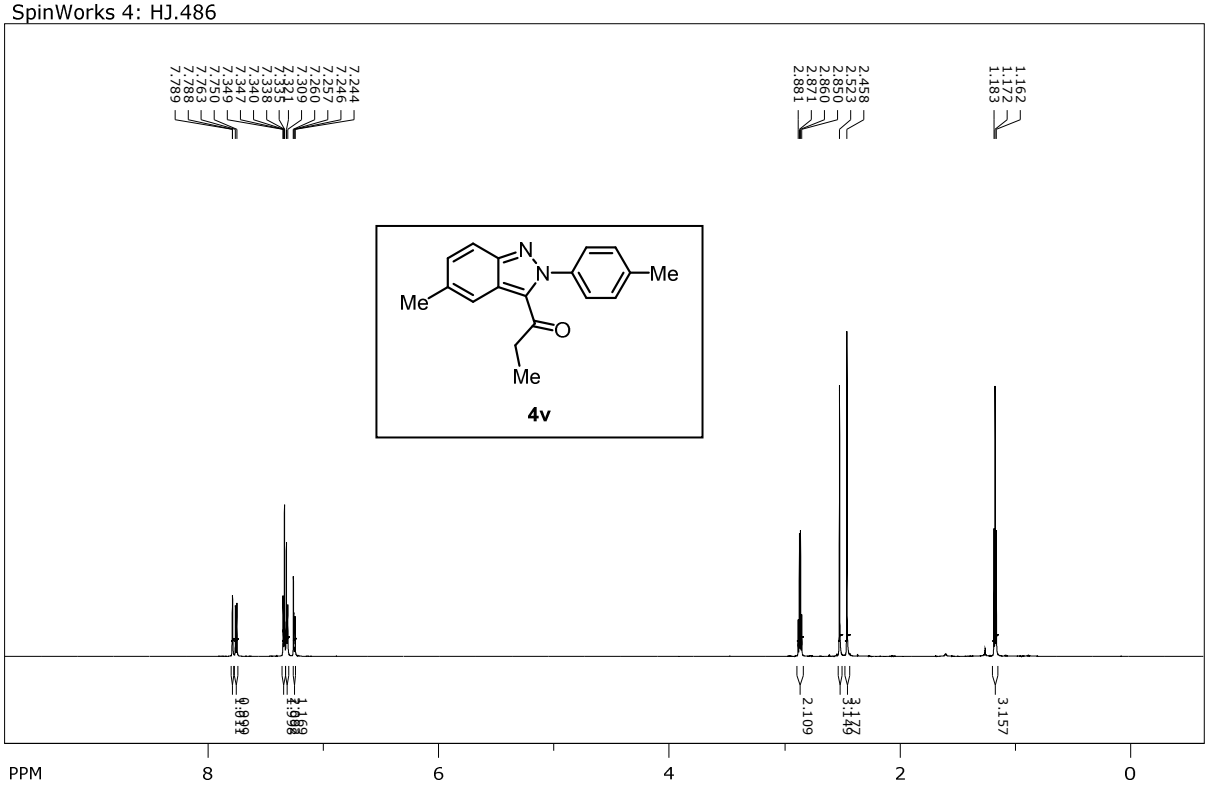
SpinWorks 4: HJ.457



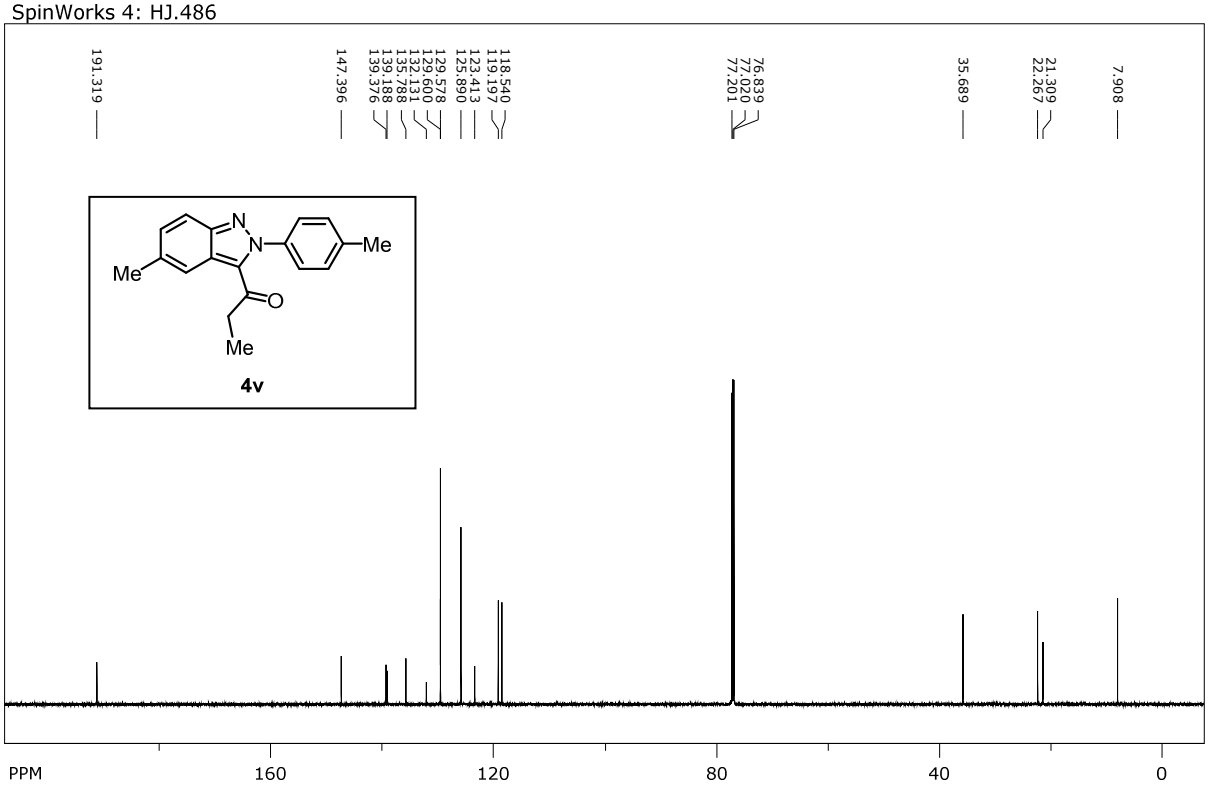
SpinWorks 4: HJ.457



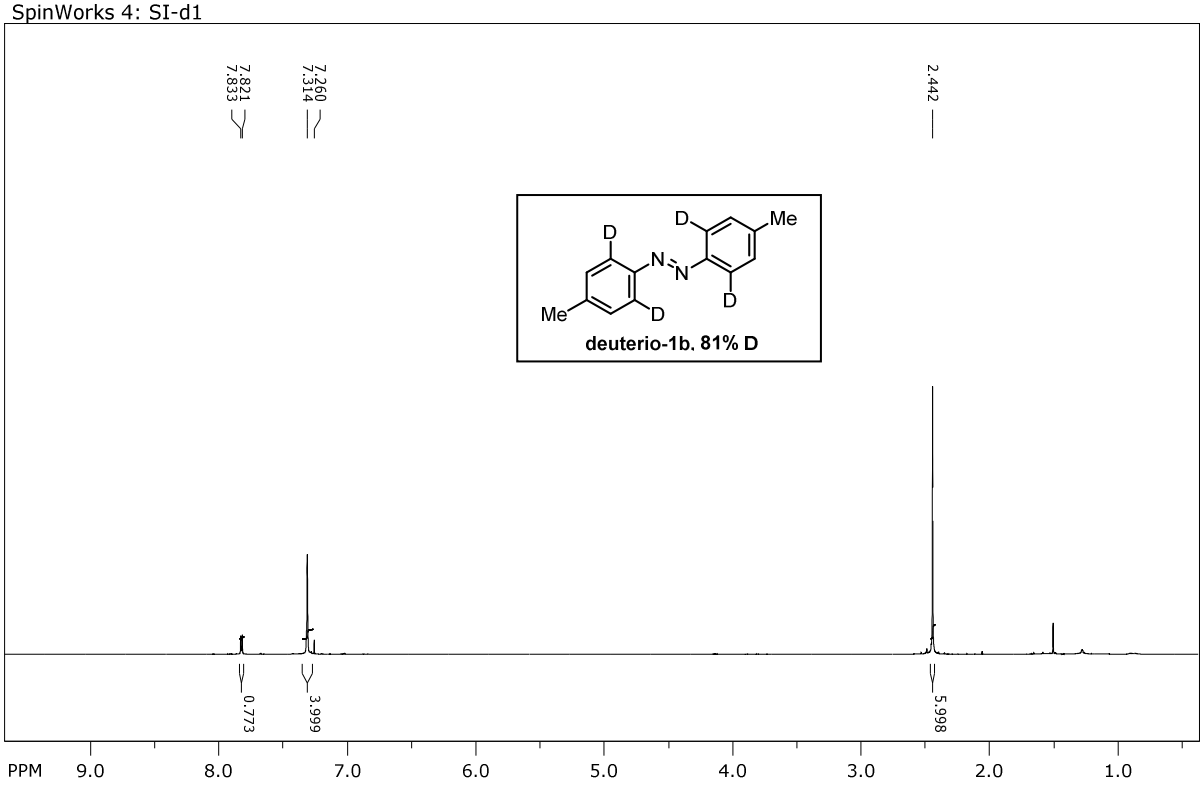
SpinWorks 4: HJ.486



SpinWorks 4: HJ.486



SpinWorks 4: SI-d1



SpinWorks 4: HJ.kH/kD