Supporting Information

2-Oxindole Act as a Synthon of 2-Aminobenzoyl Anion in the K_2CO_3-Catalyzed Reaction with Enones: Preparation of 1,4-Diketones Bearing an Amino Group and Their Further Transformations

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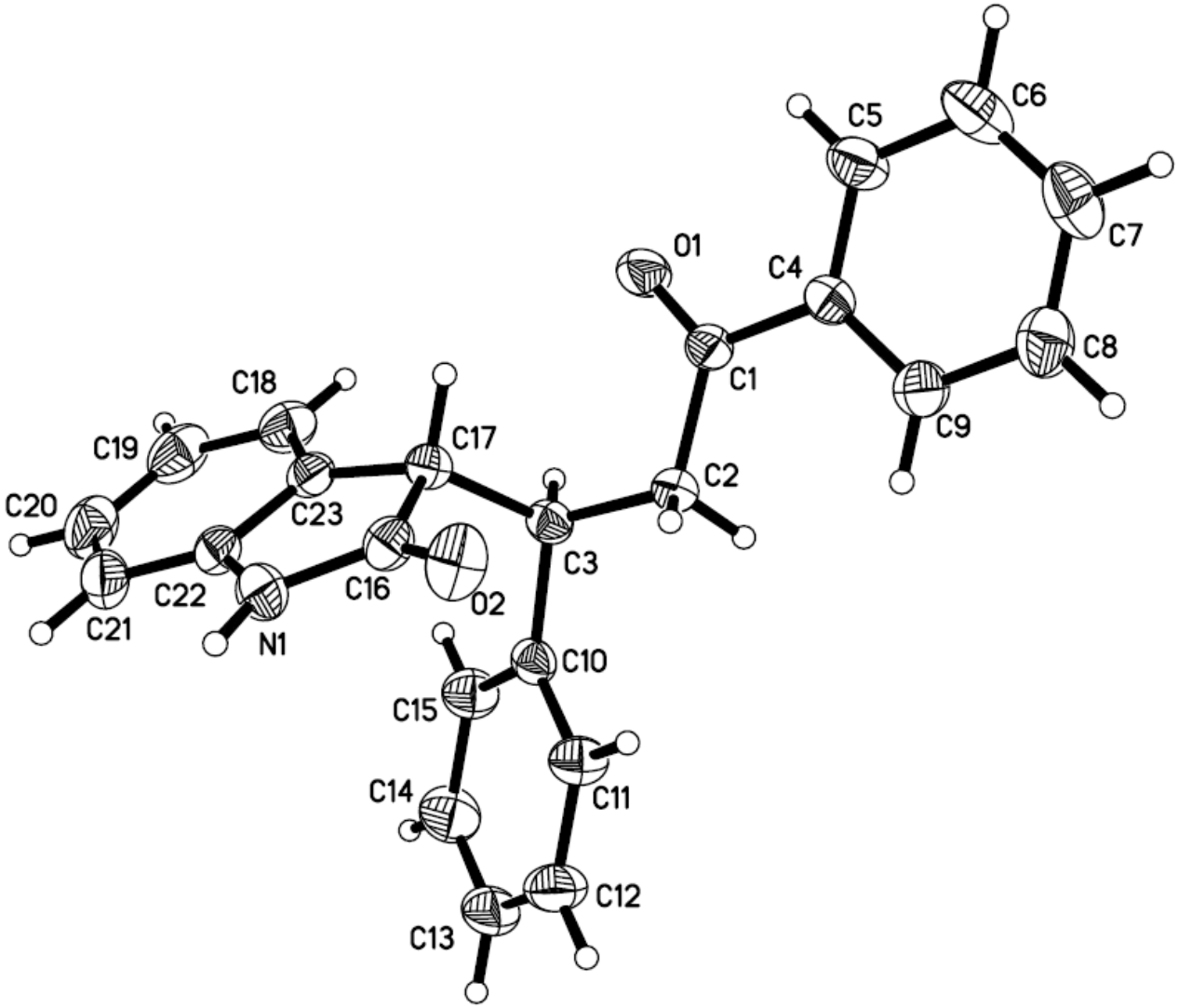
Email: estally@yahoo.com

The single crystals of compounds **3a**, **4al**, and **12** were obtained by slowly evaporating the solvent from the solution in mixed solvent of ethyl acetate/petroleum ether. Their molecular structure were drawn with 30% probability displacement ellipsoids.



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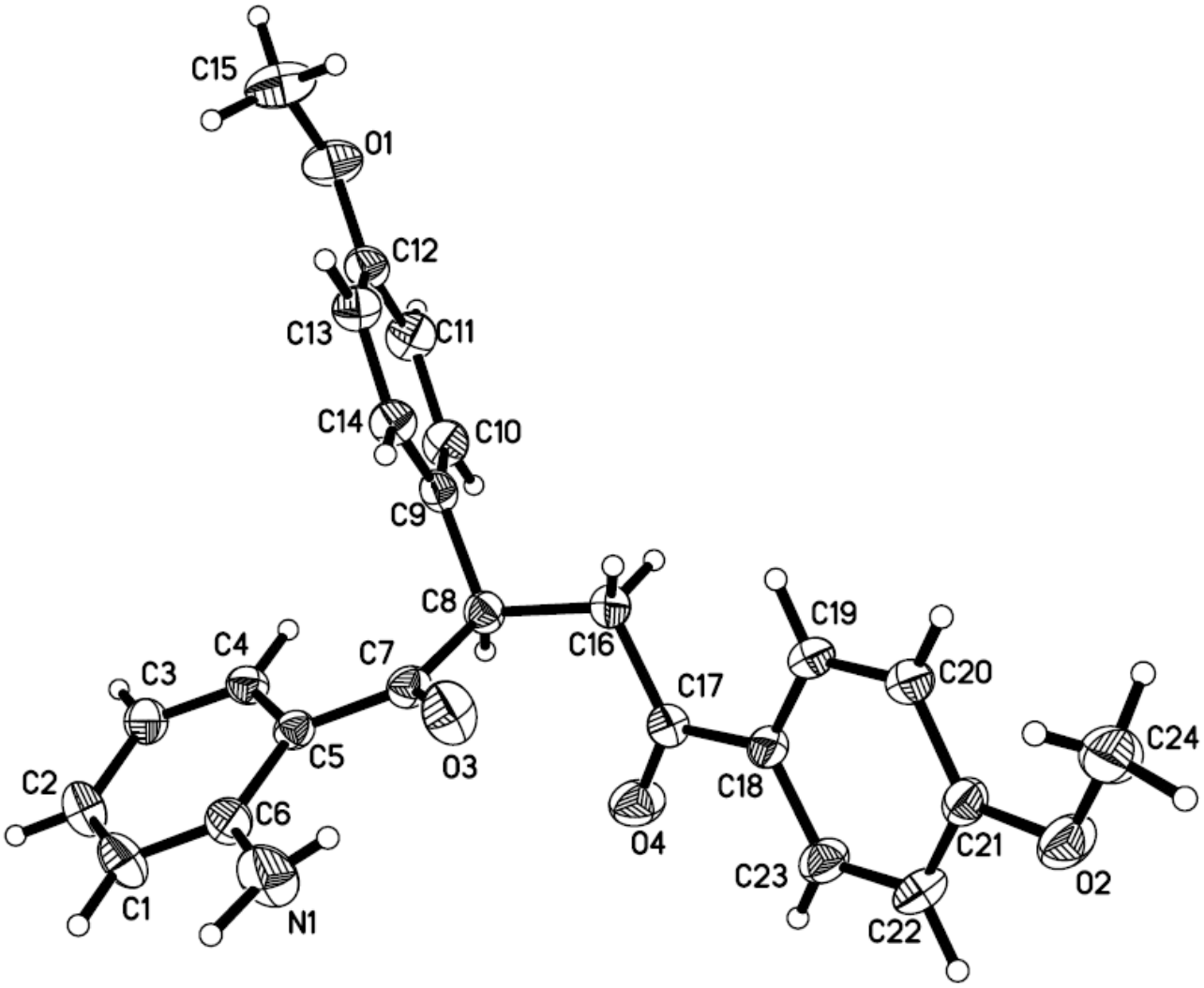

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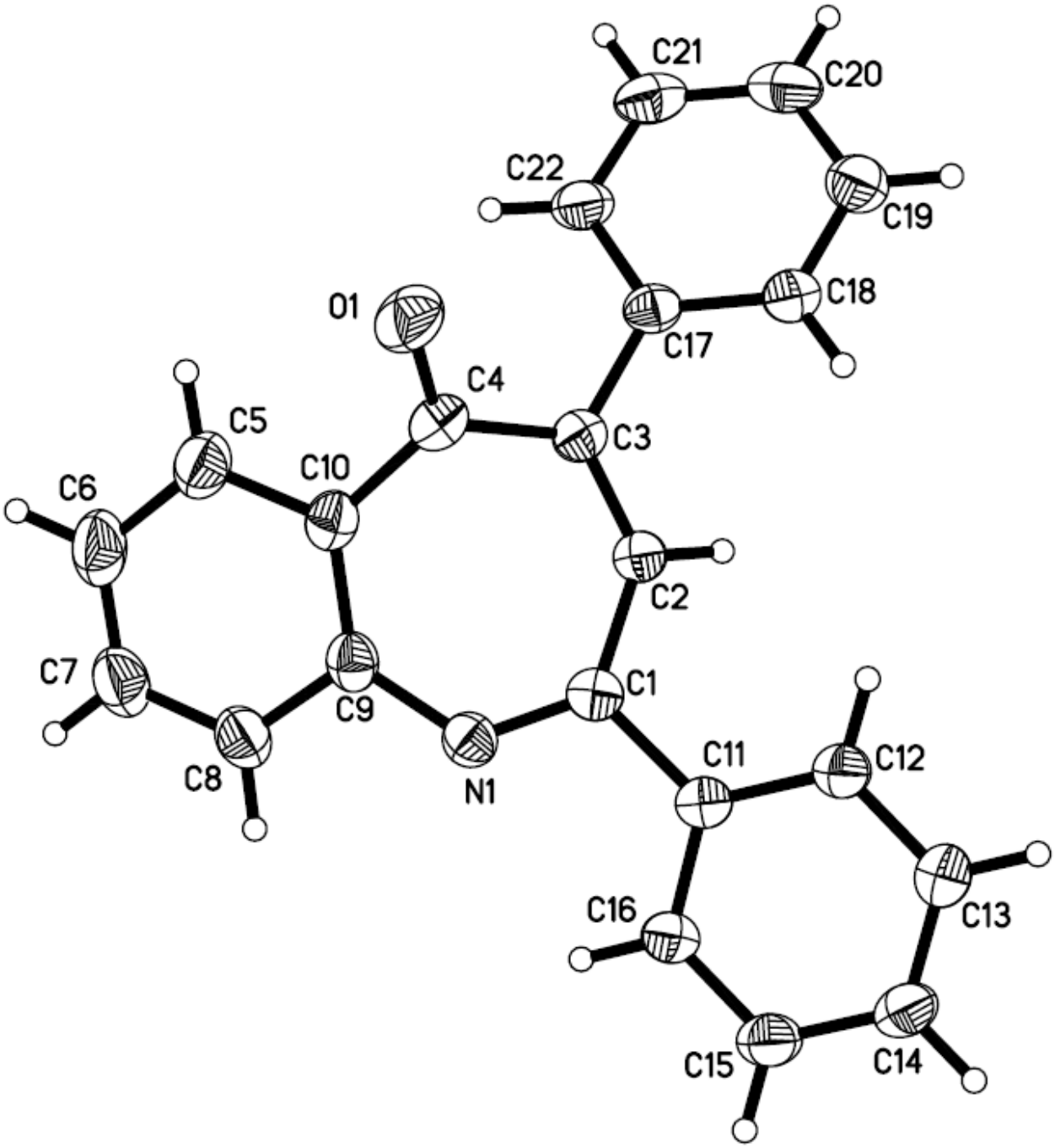

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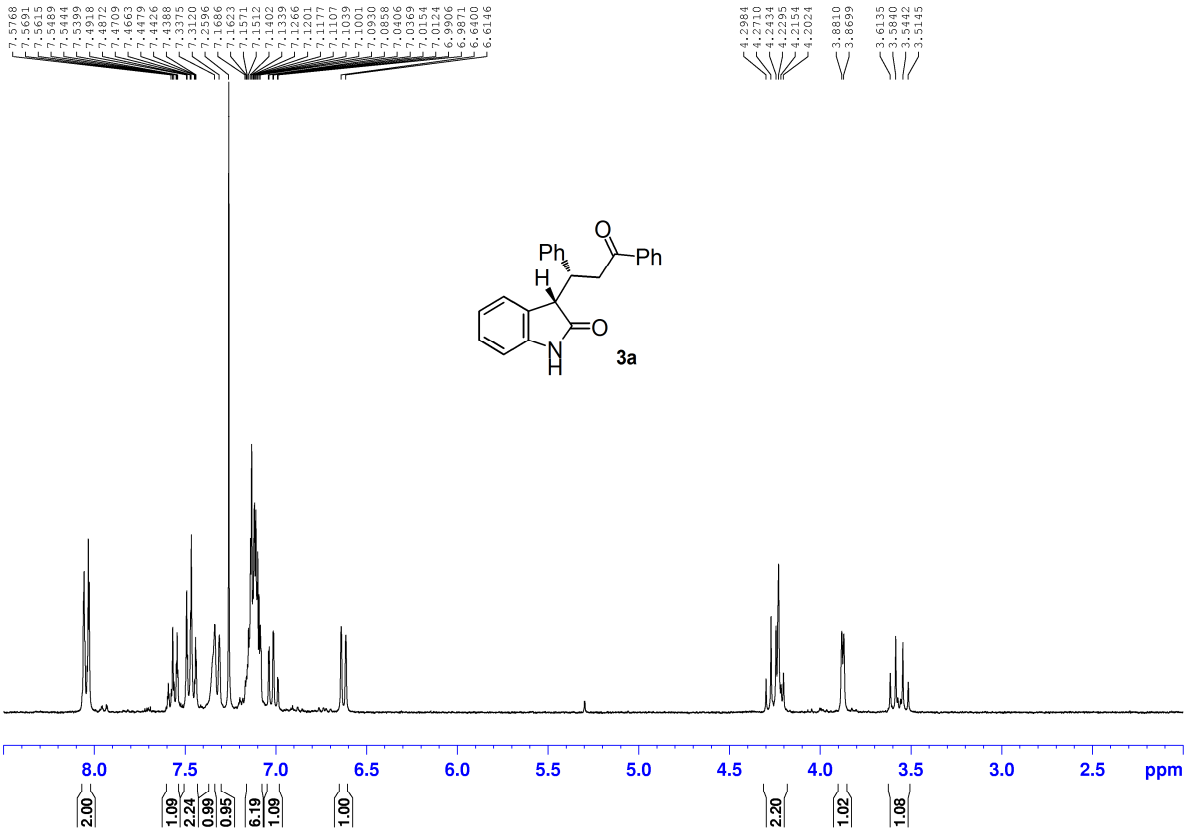
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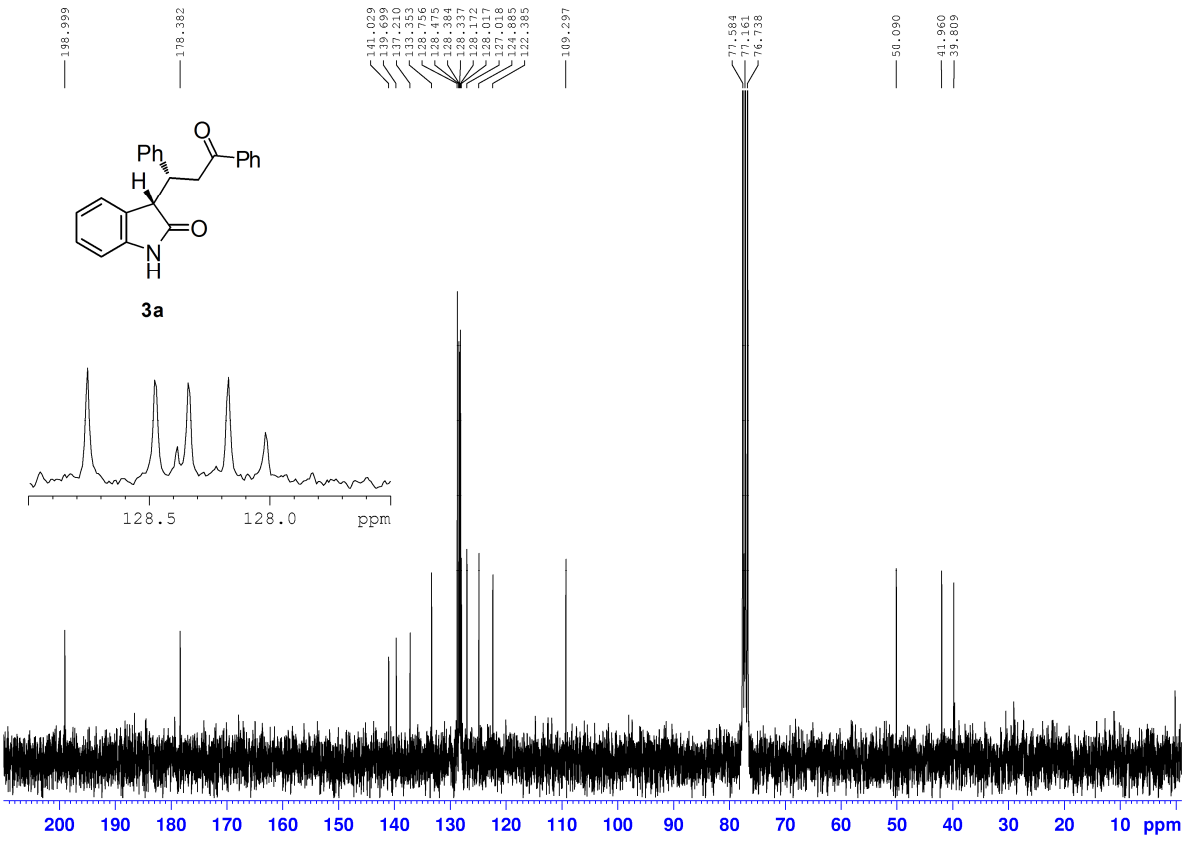
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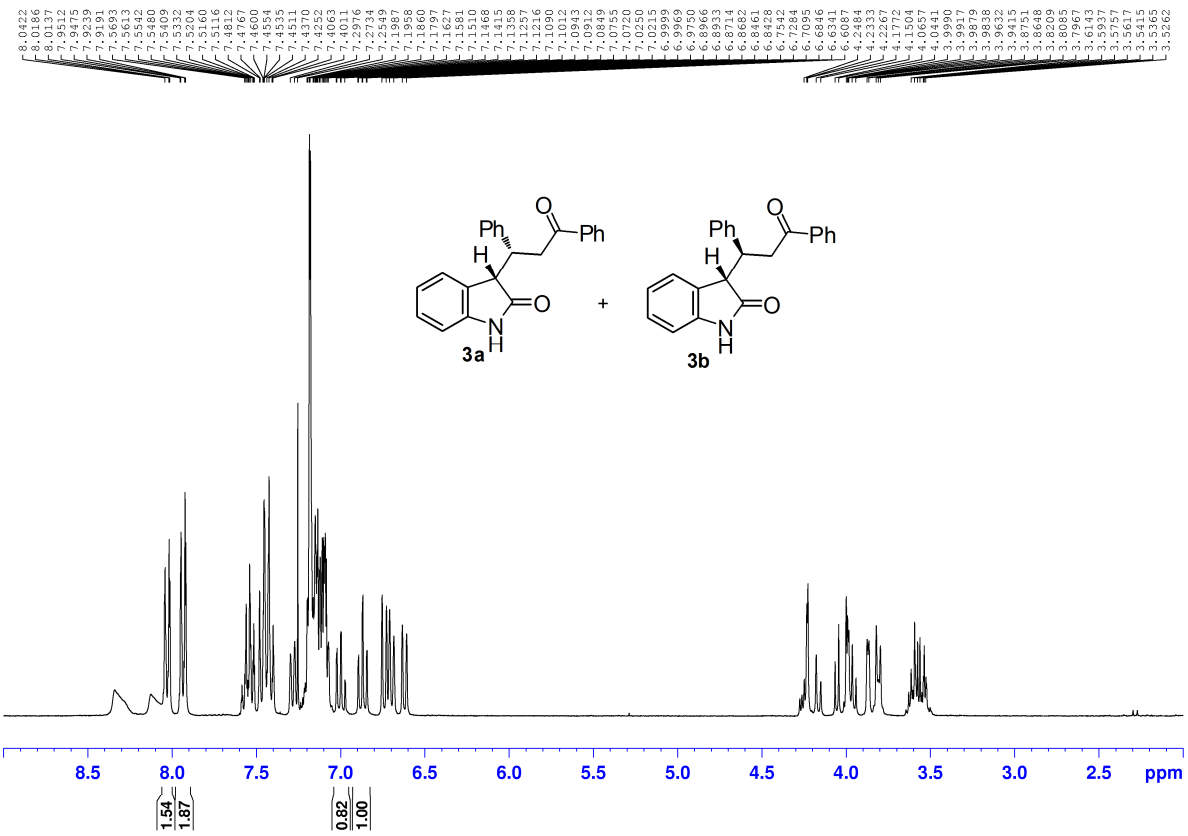
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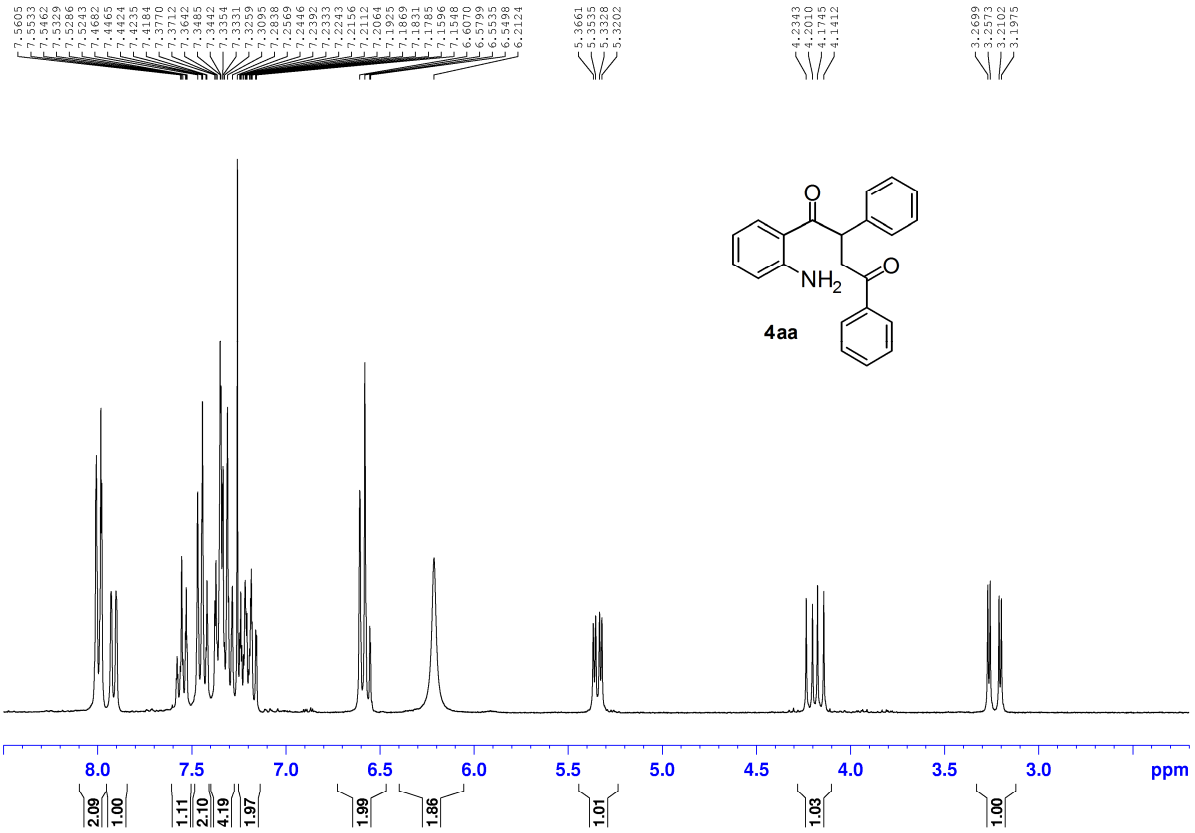
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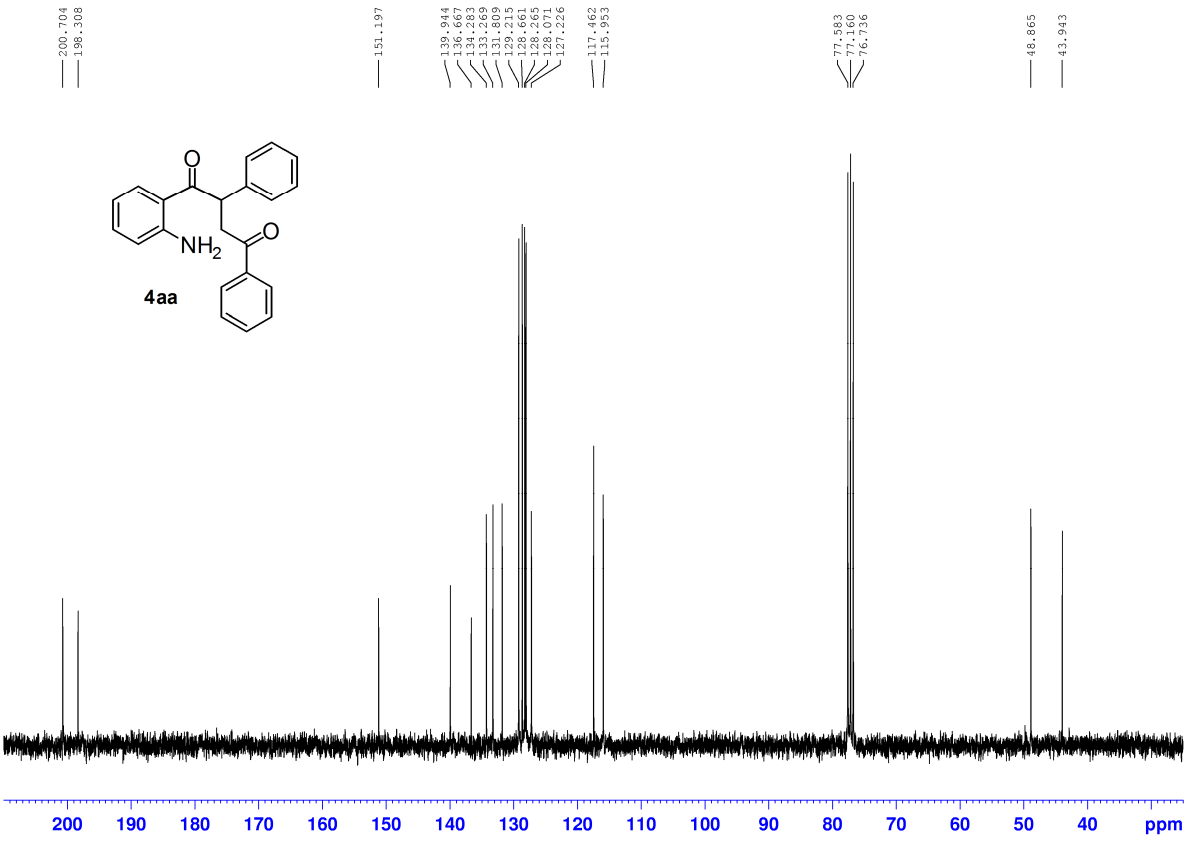
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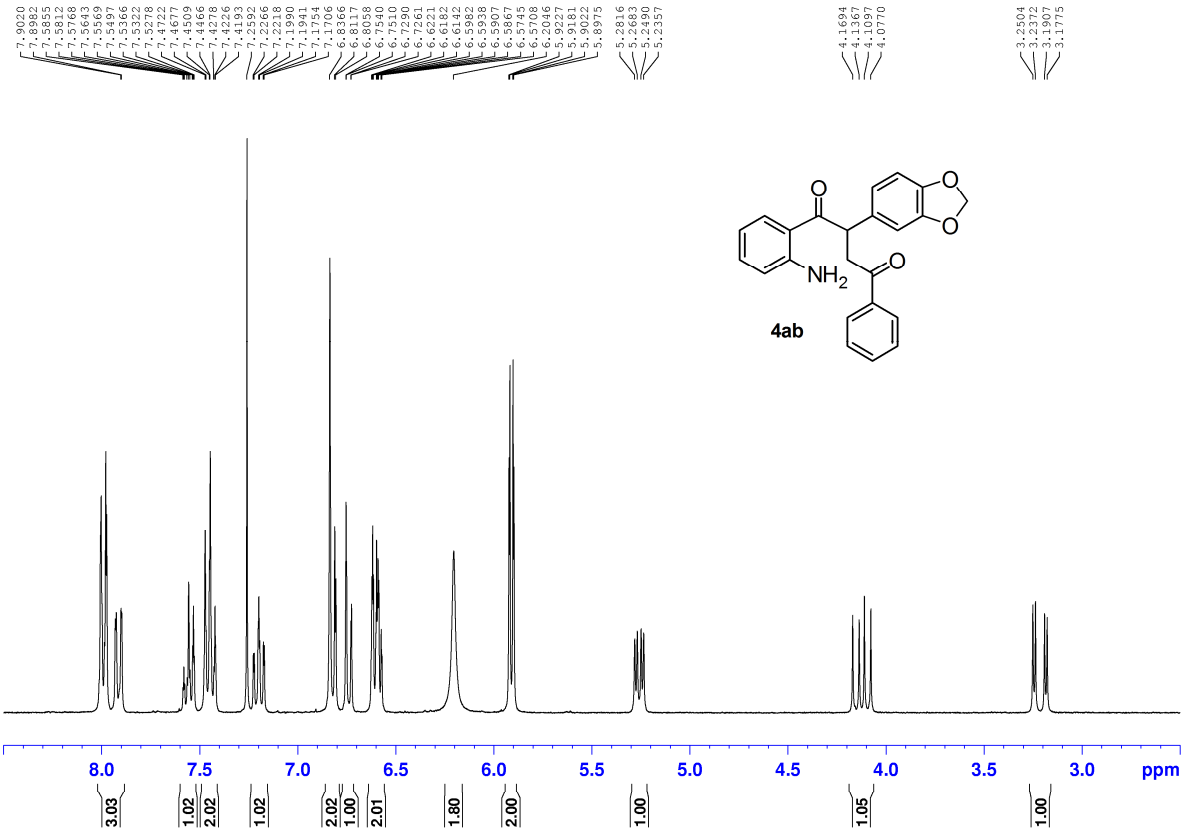
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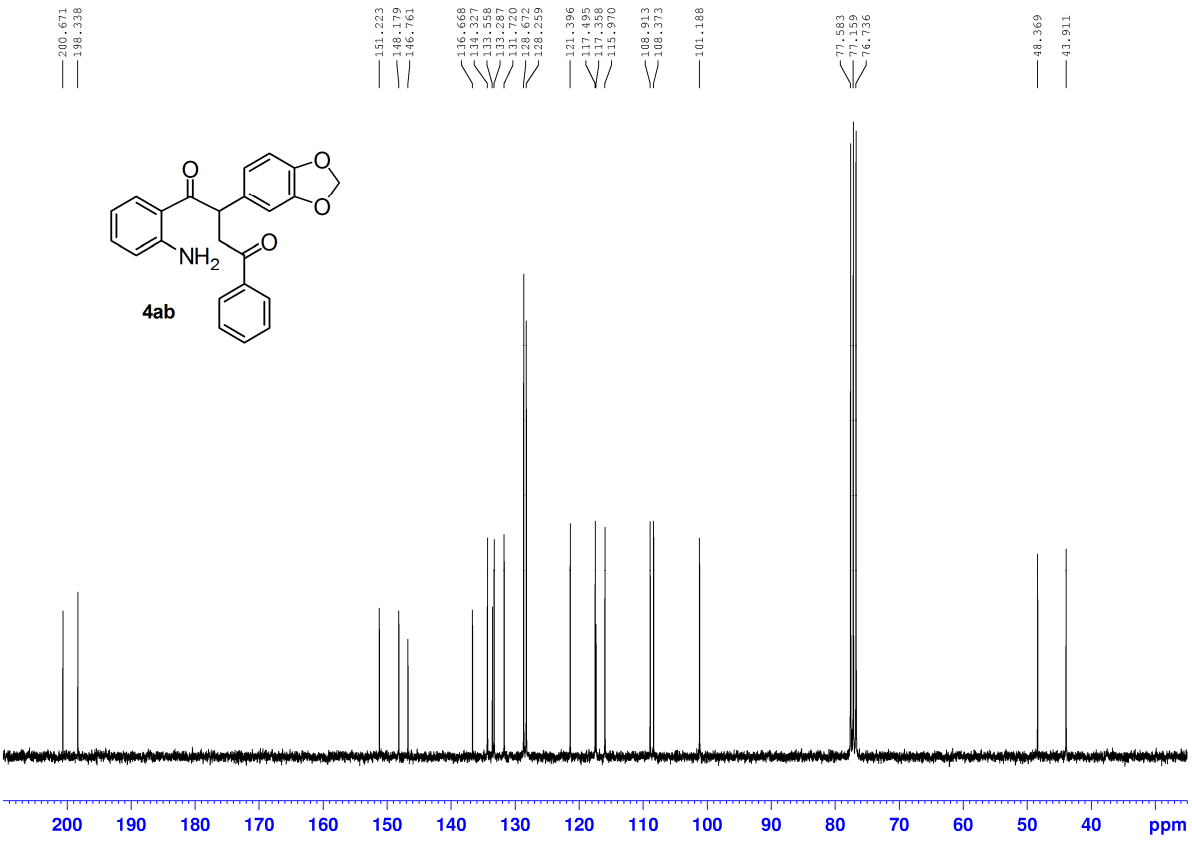
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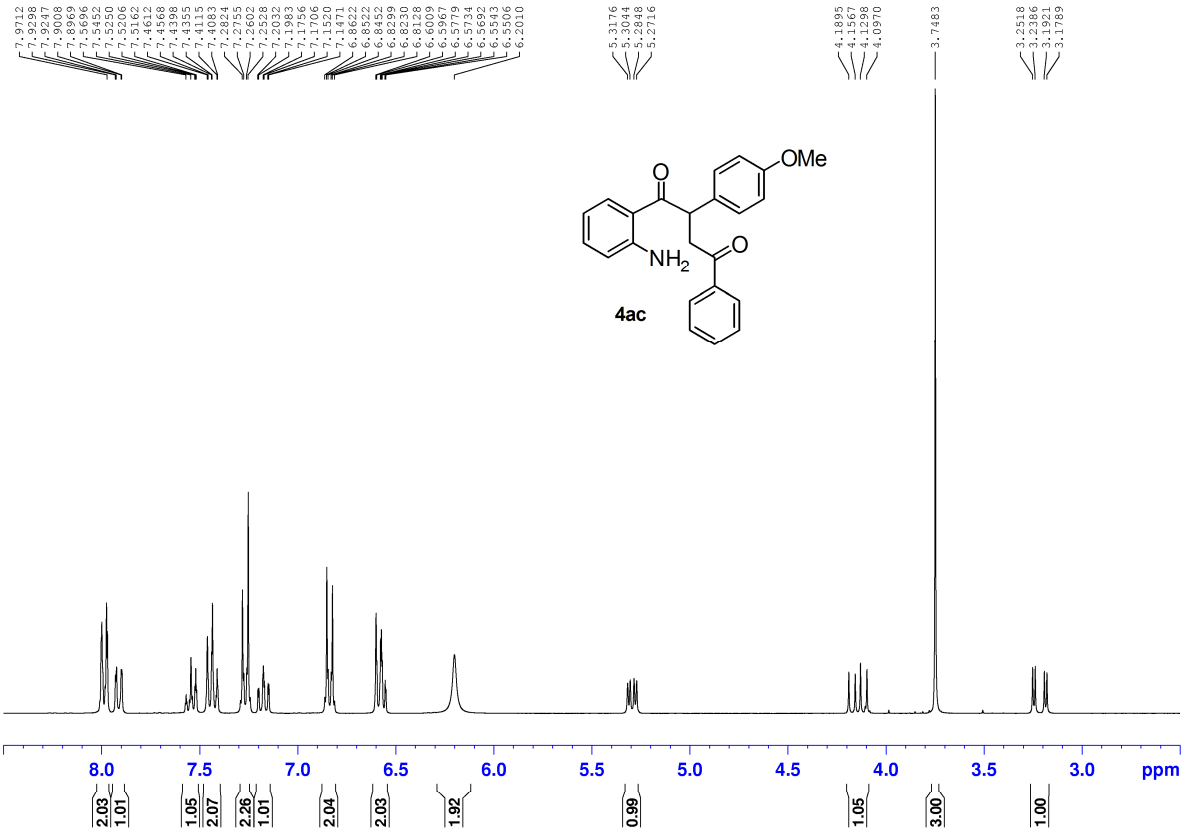
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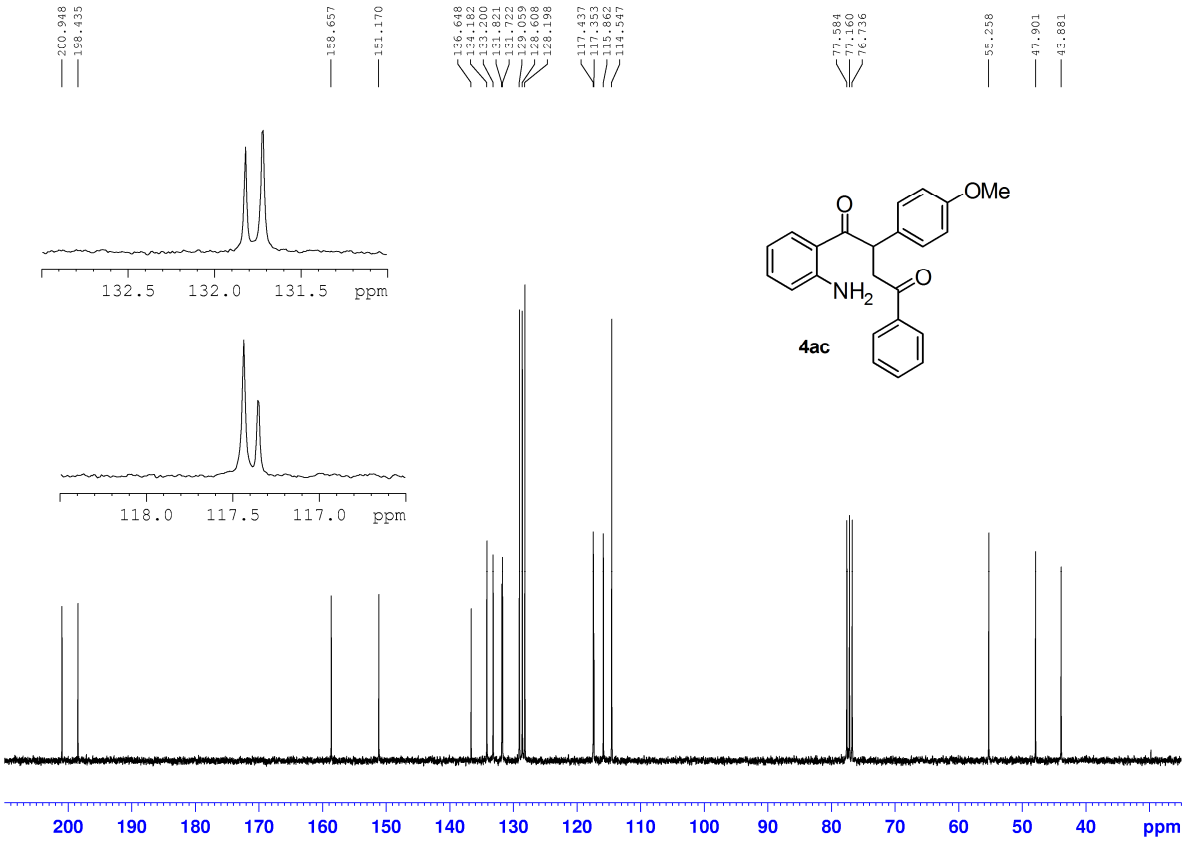
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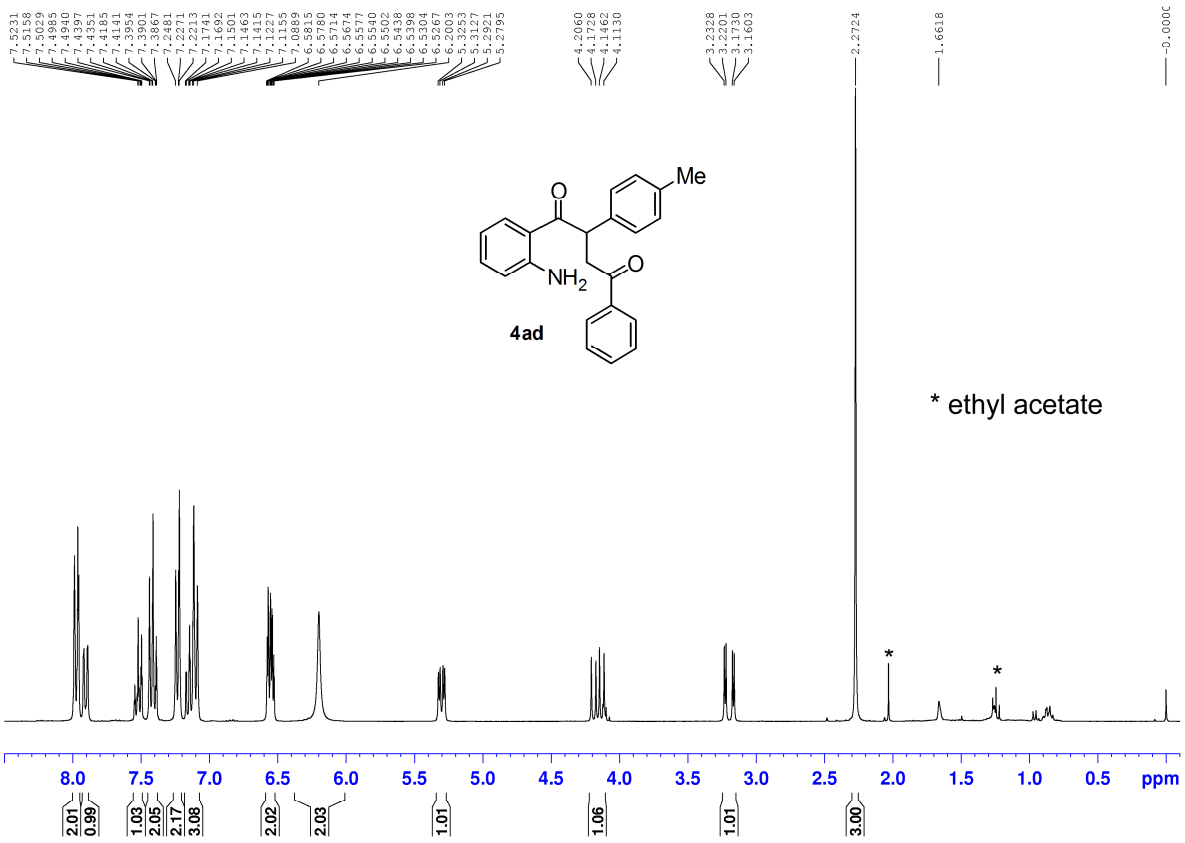
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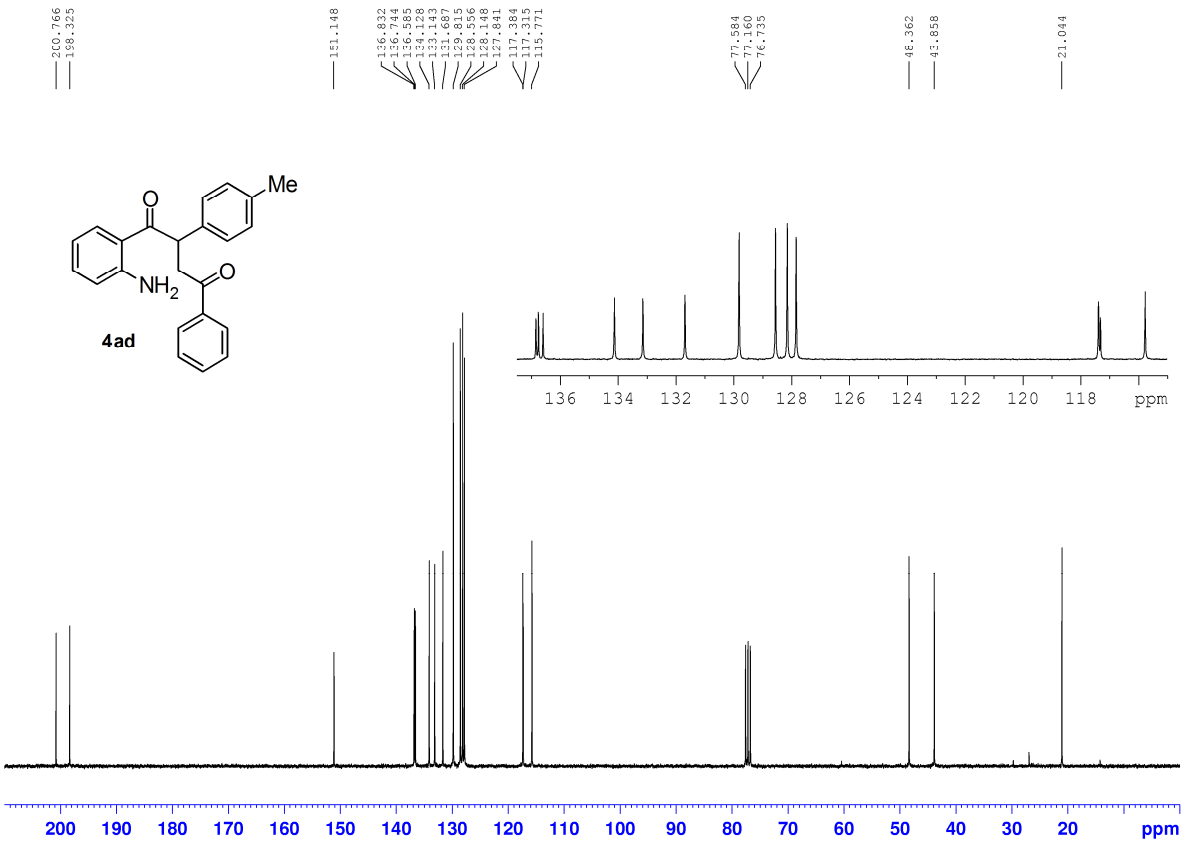
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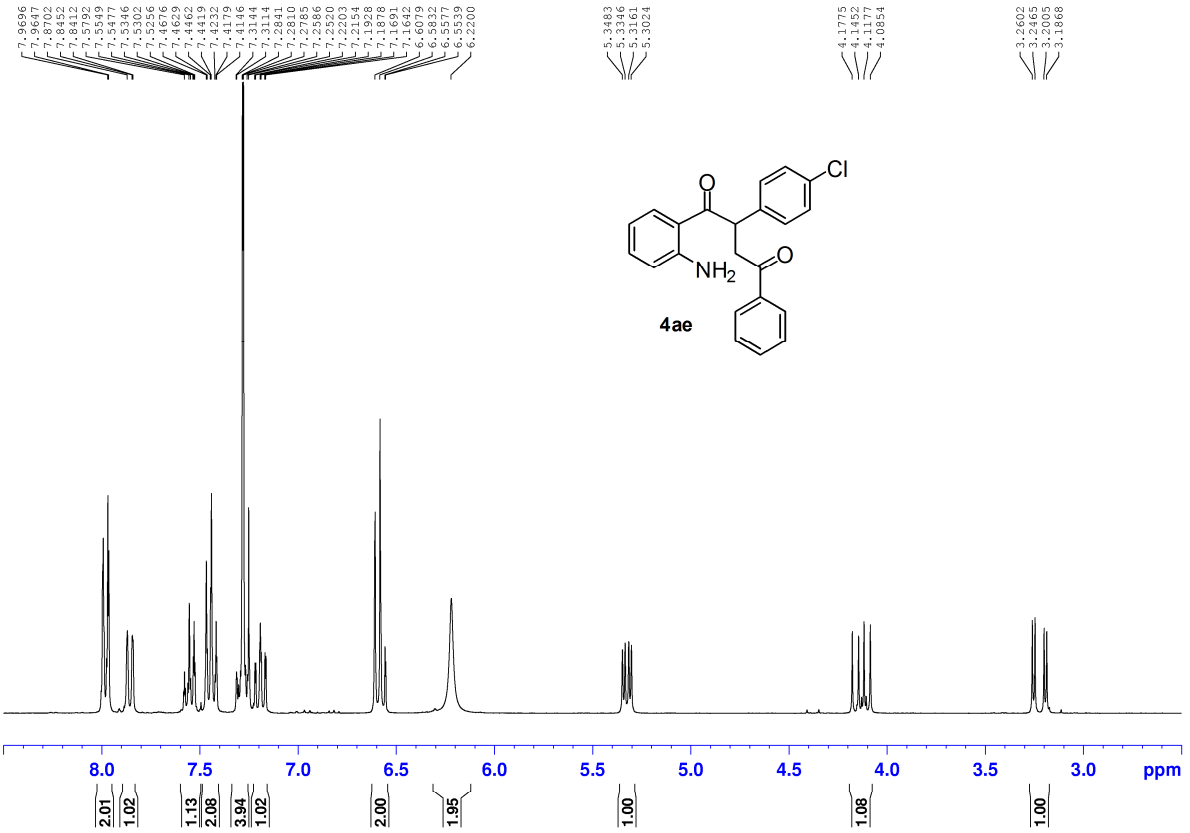
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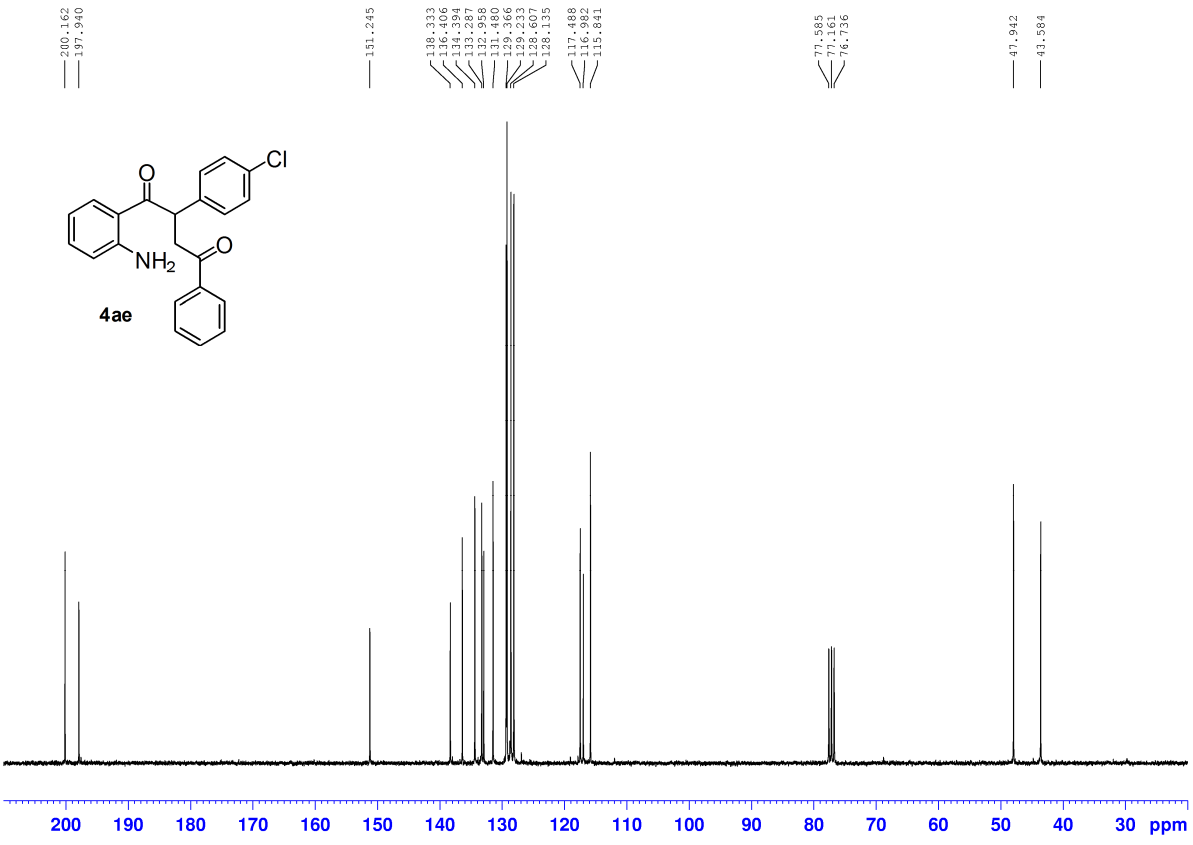
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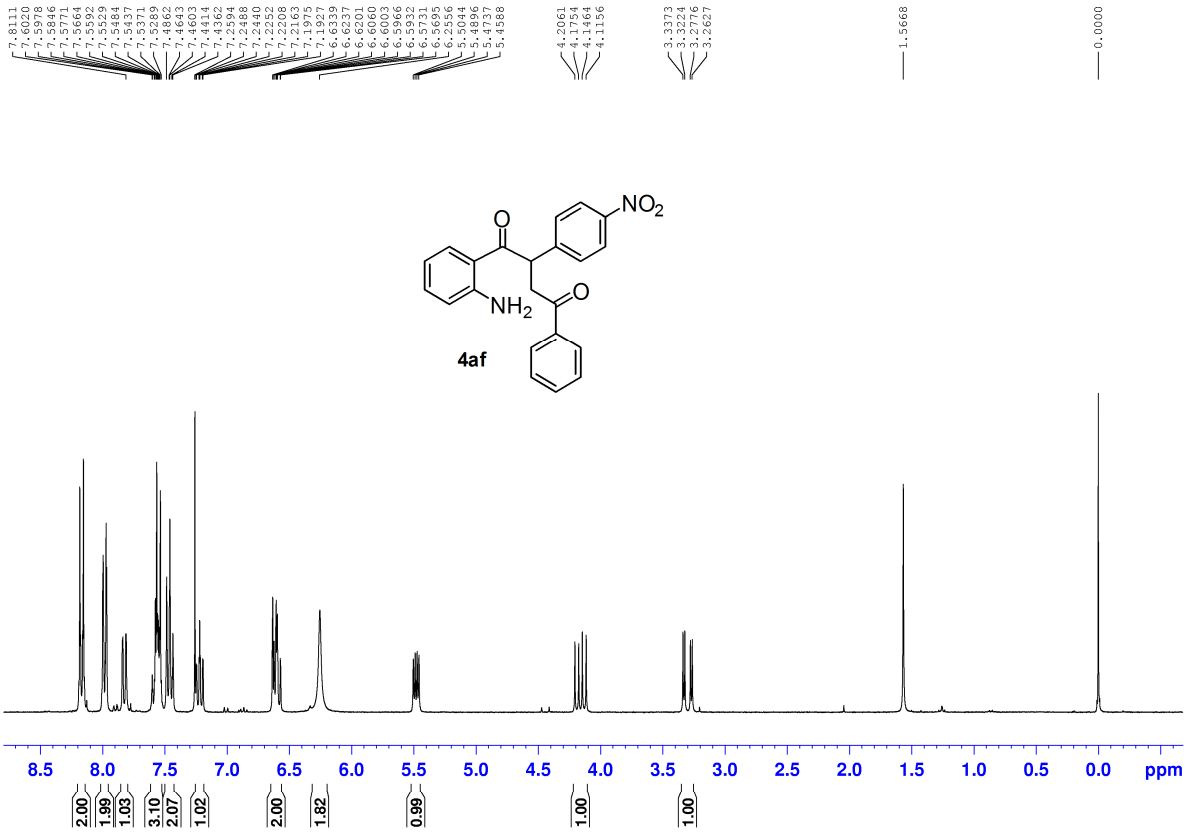
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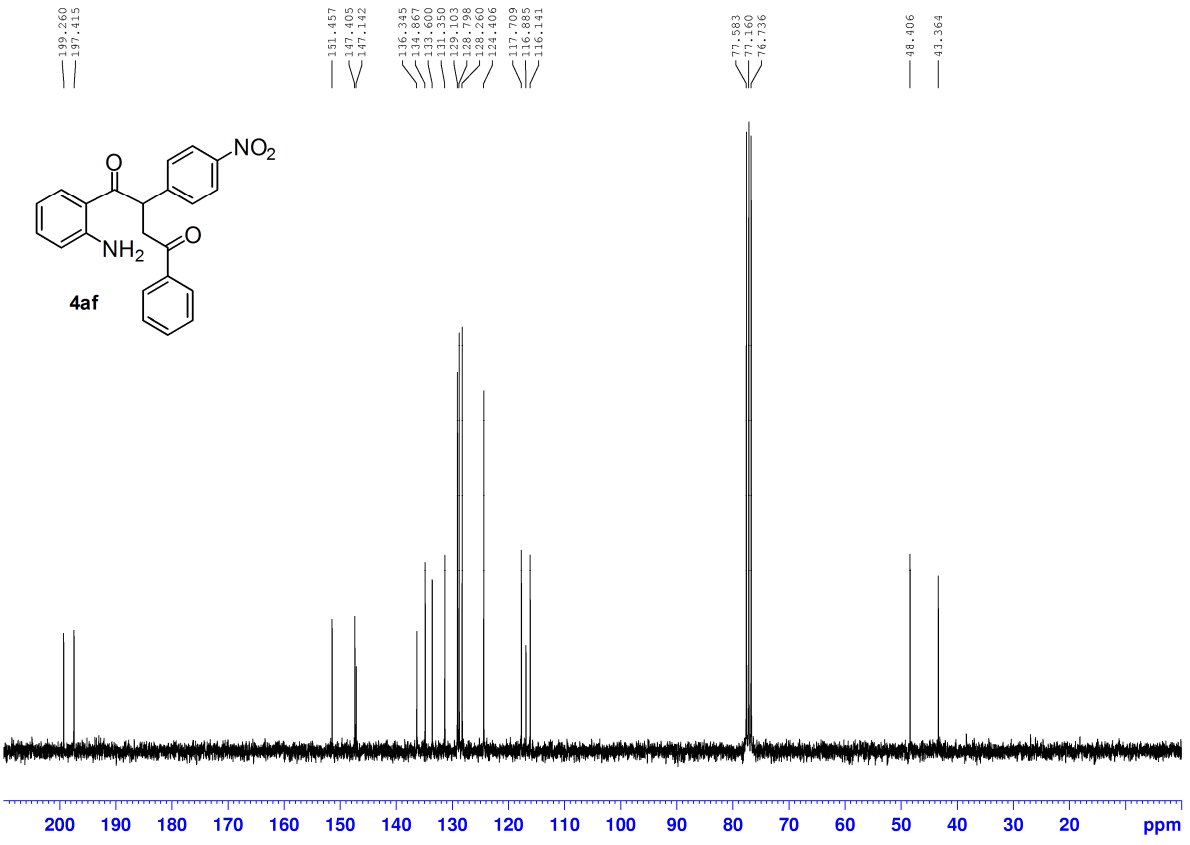
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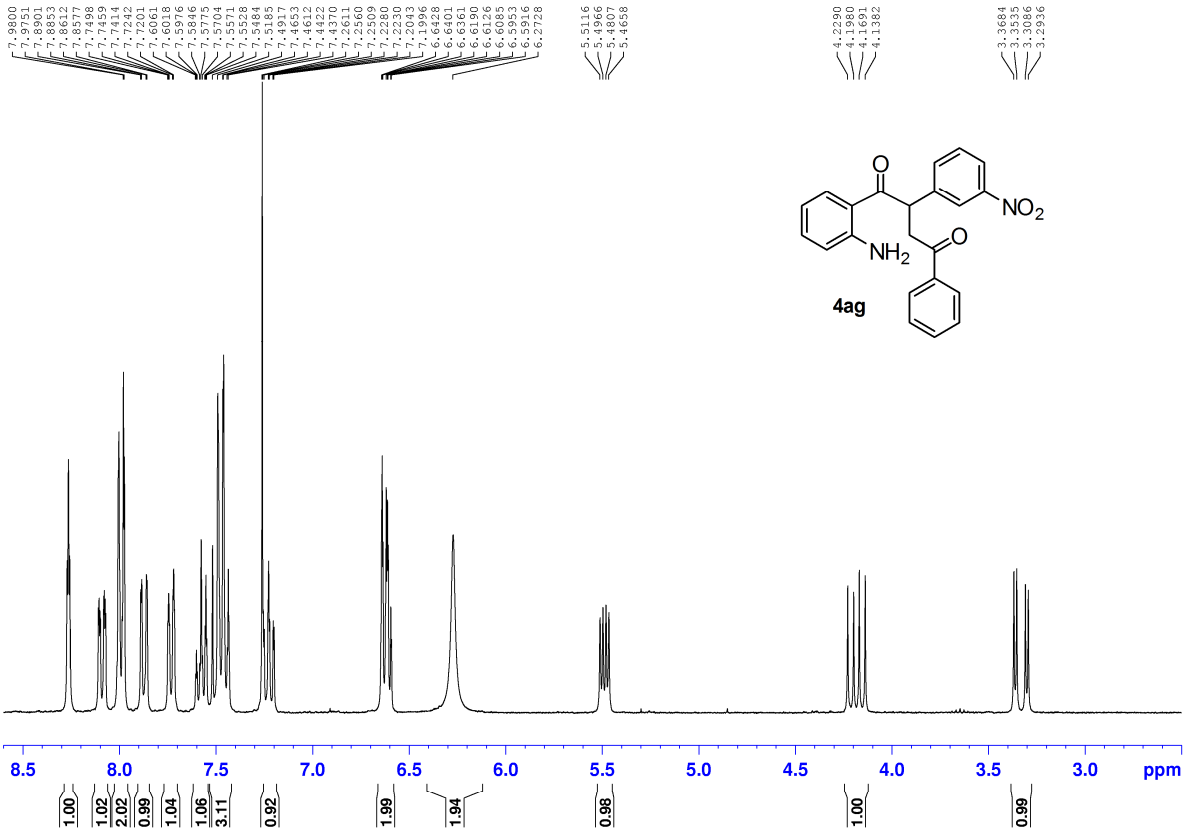
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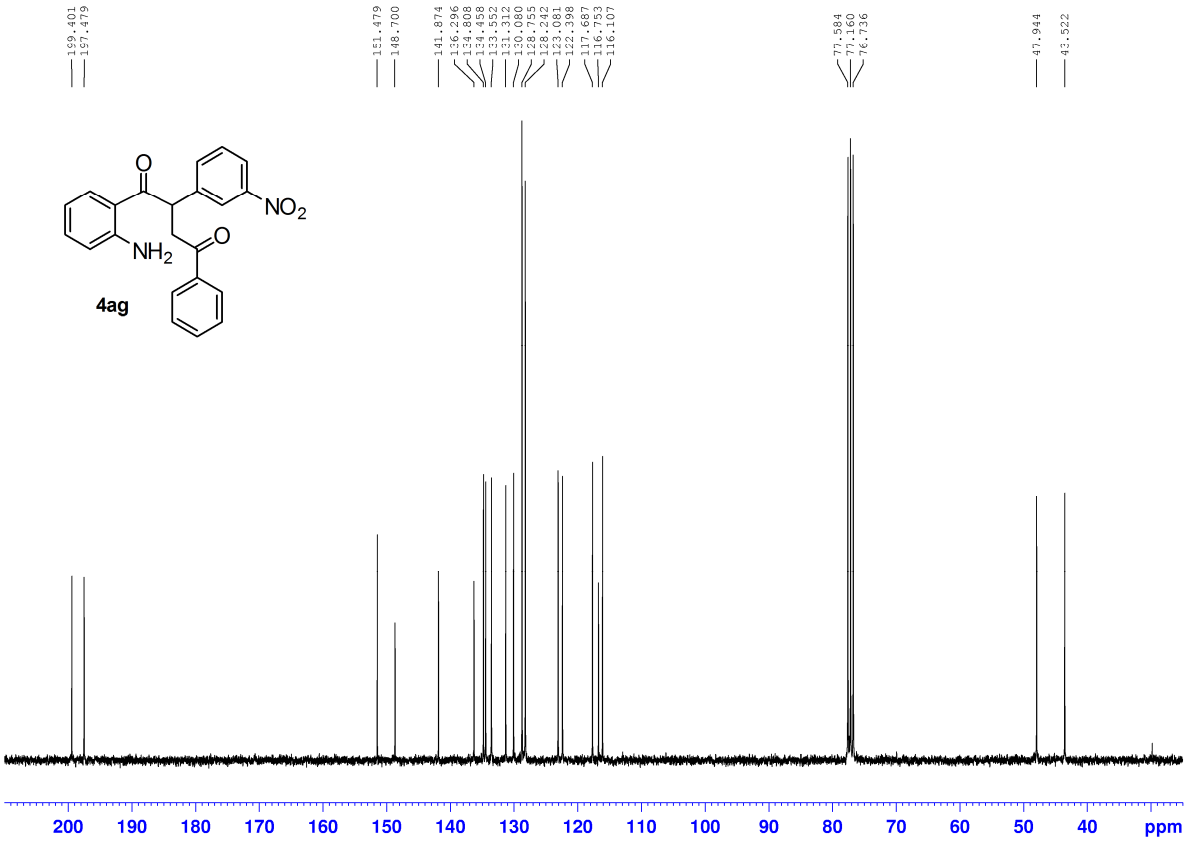
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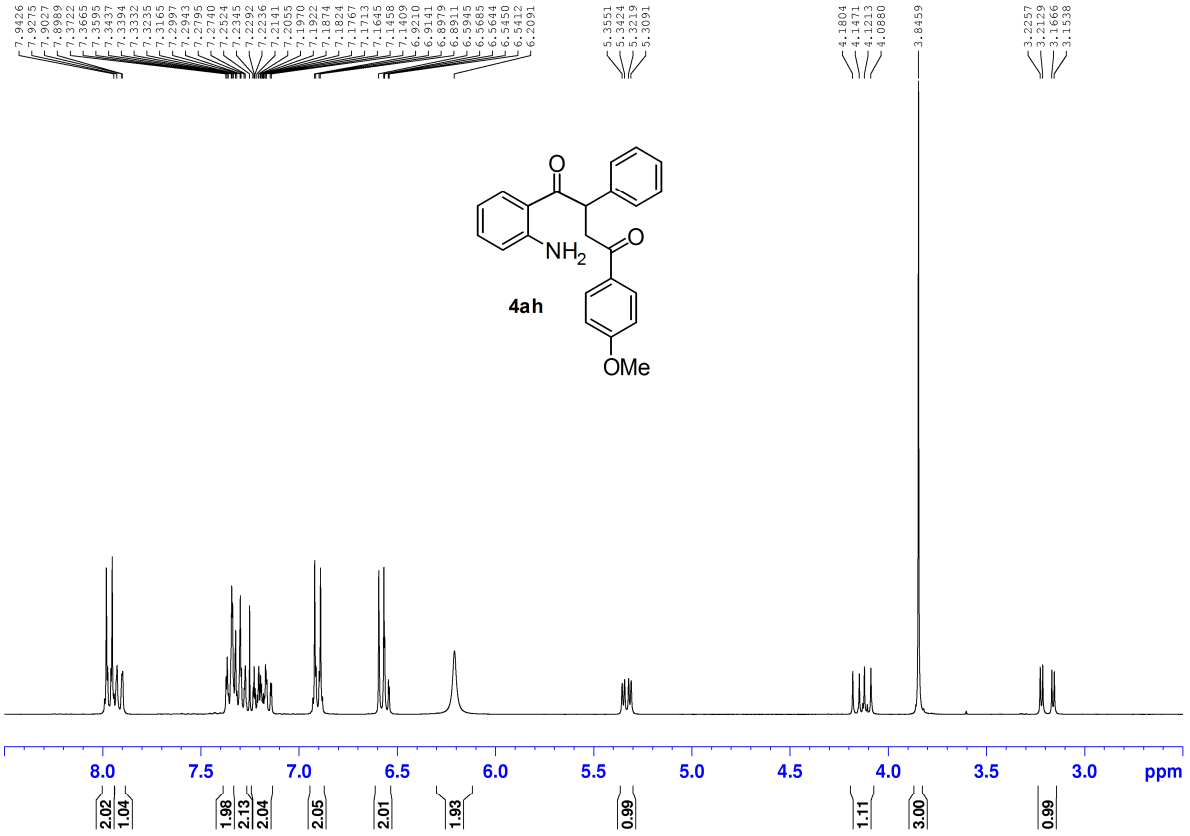
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7.3165
7.2997
7.2943
7.2795
7.2740
7.2594
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7.2236
7.2141
7.2055
7.1970
7.1922
7.1874
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7.1713
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7.1409
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6.8911
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6.2091
5.3551
5.3424
5.3219
5.3091
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4.1471
4.1133
4.0880
3.8459
3.2257
3.2129
3.1666
3.1538
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NH2
O
4ah
OMe
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7.0
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6.0
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5.0
4.5
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3.0
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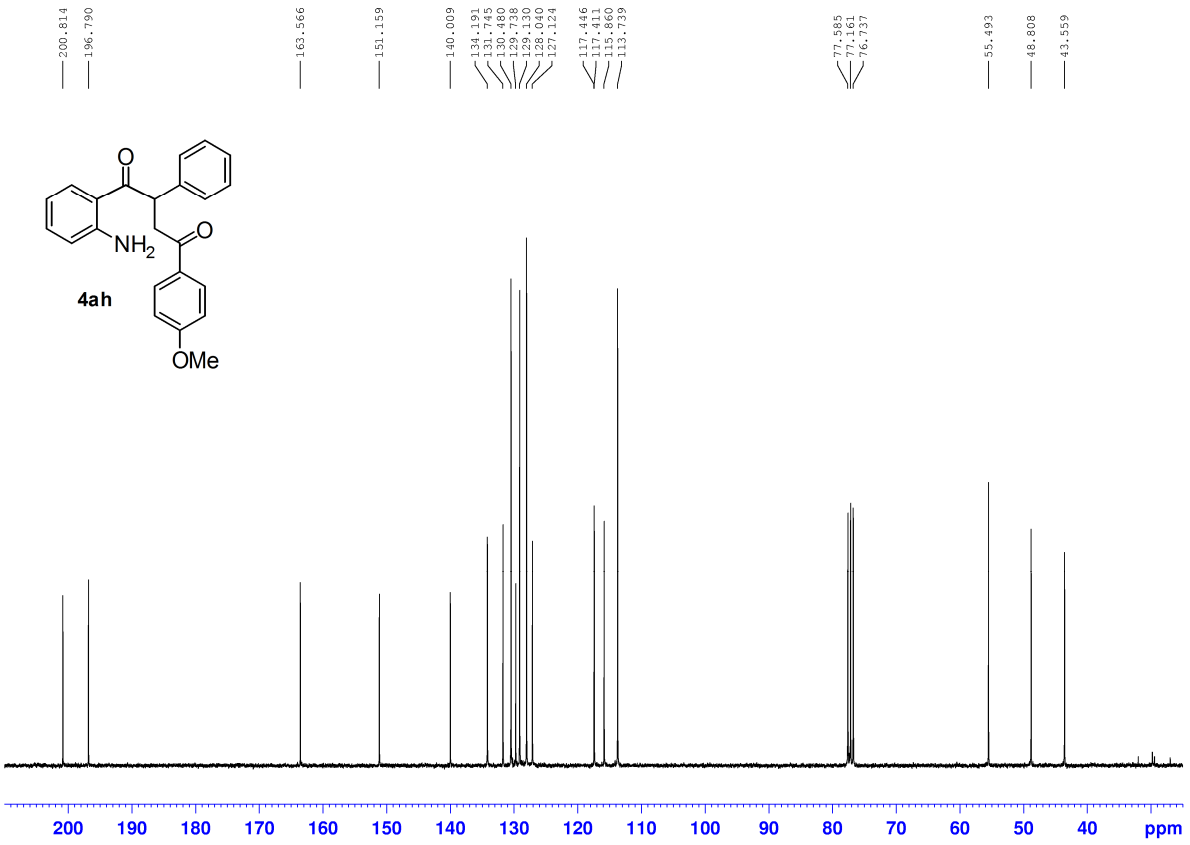
0.99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117.411
115.860
113.739
77.585
77.161
76.737
55.493
48.808
43.559
O
NH2
O
4ah
OMe
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40
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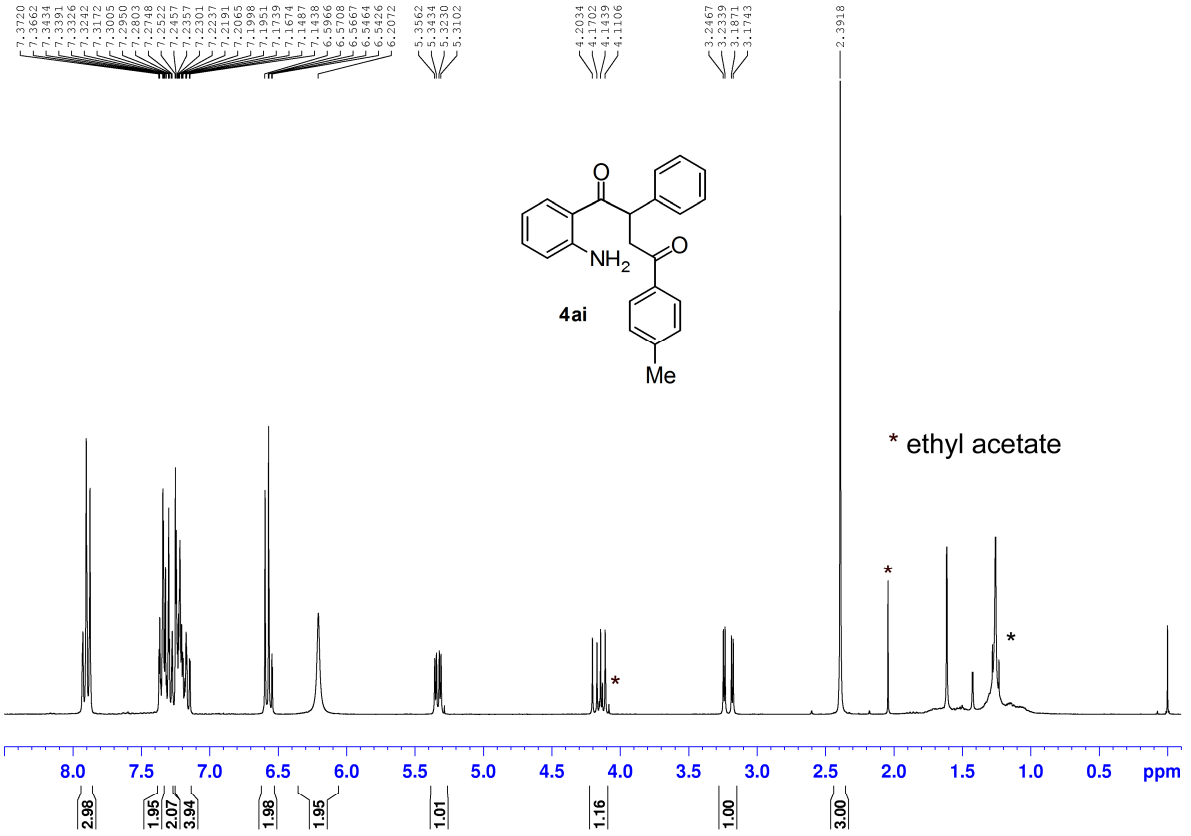
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Me
* ethyl acetate
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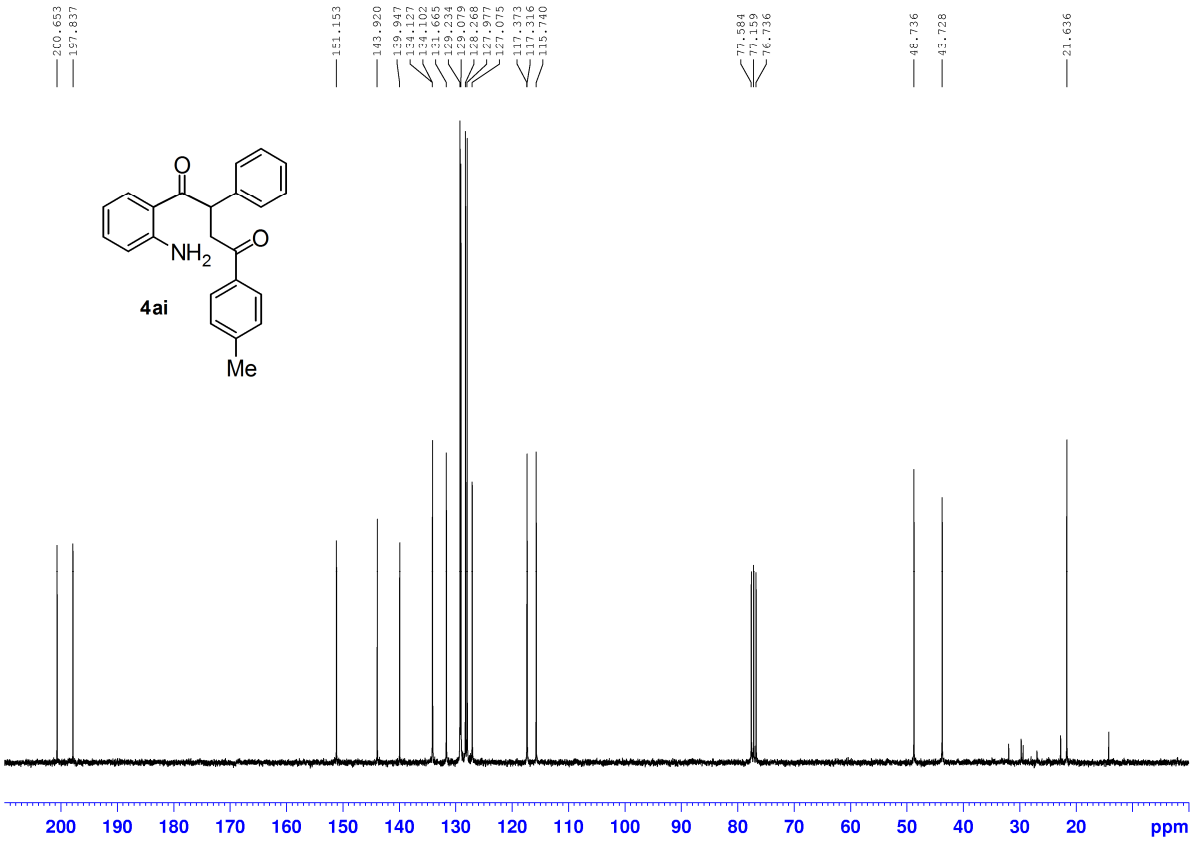
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20
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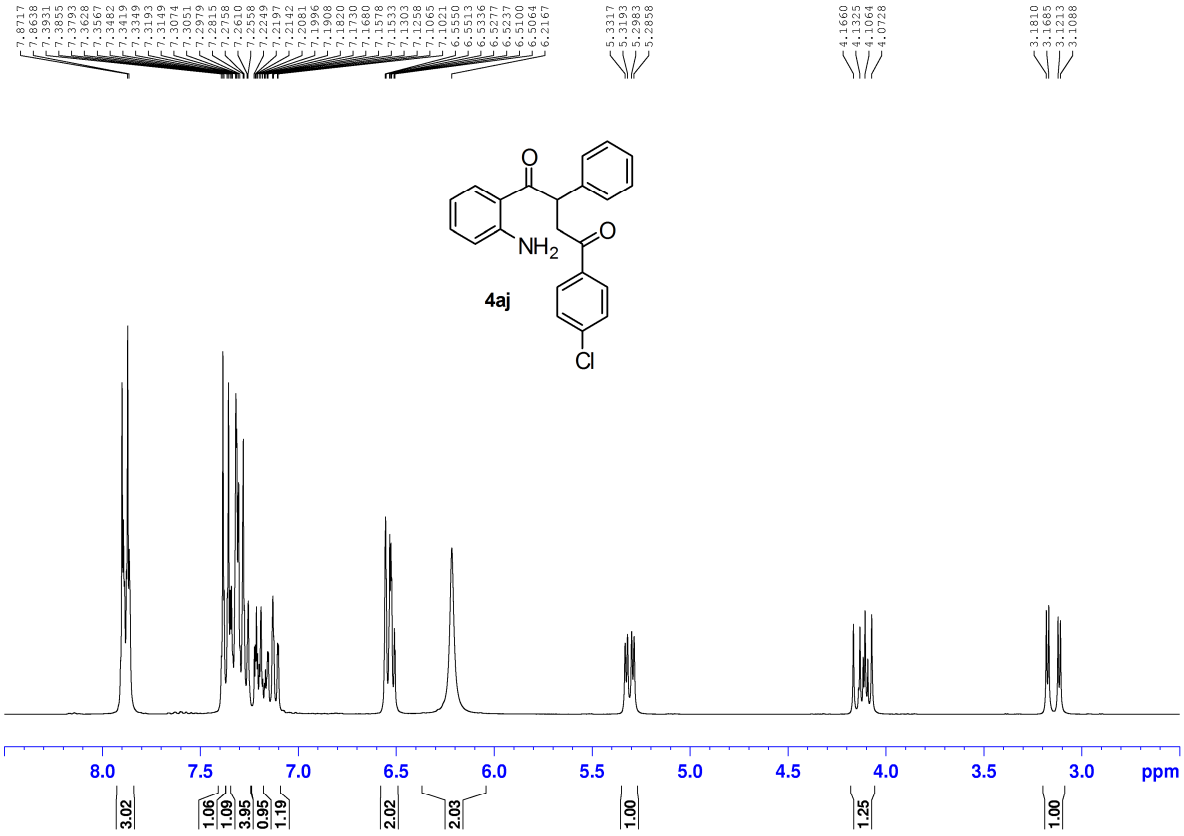
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7.2979
7.2815
7.2758
7.2610
7.2558
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7.2197
7.2142
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7.1533
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7.1258
7.1065
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6.5513
6.5336
6.5277
6.5237
6.5100
6.5064
6.2167
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5.2983
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4.1325
4.1064
4.0728
3.1810
3.1685
3.1213
3.1088
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NH2
O
Cl
4aj
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7.0
6.5
6.0
5.5
5.0
4.5
4.0
3.5
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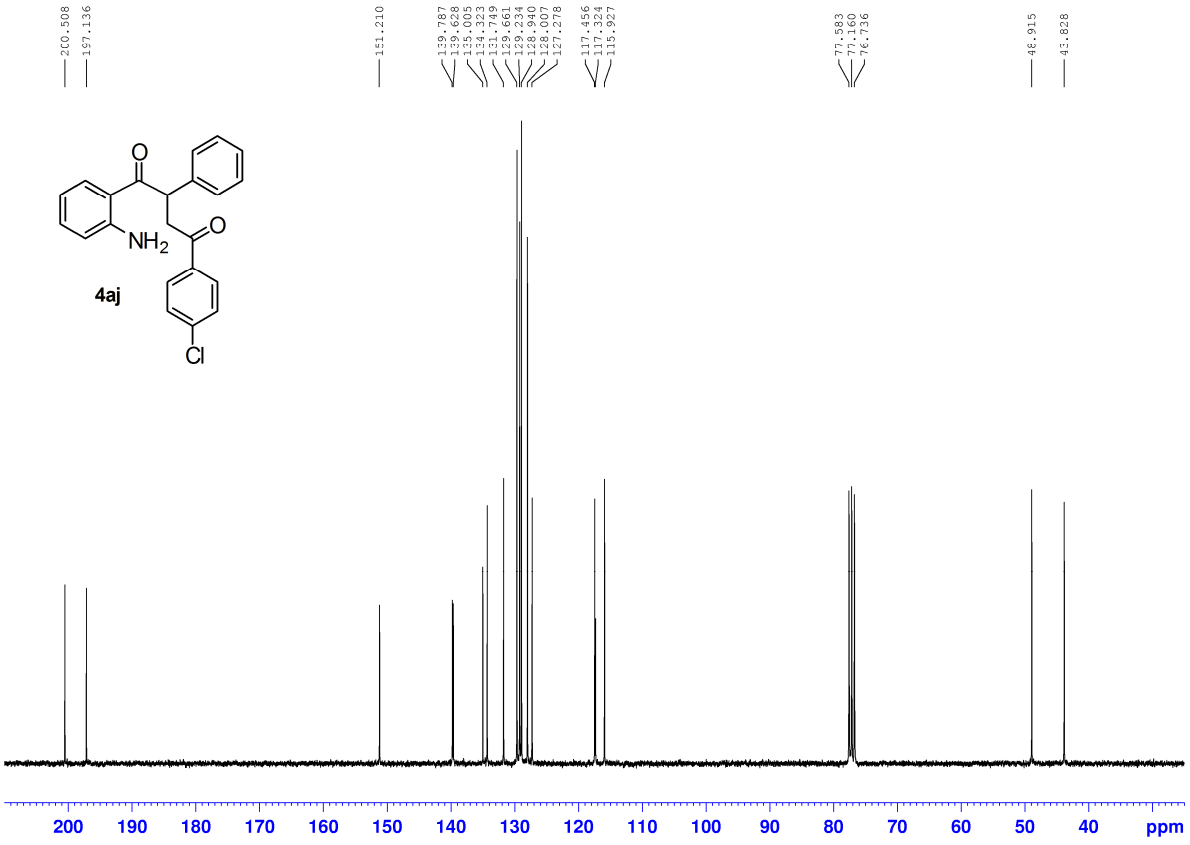
1.00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127.278
117.456
117.324
115.927
77.583
77.160
76.736
48.915
41.828
O
NH2
O
Cl
4aj
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190
180
170
160
150
140
130
120
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100
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60
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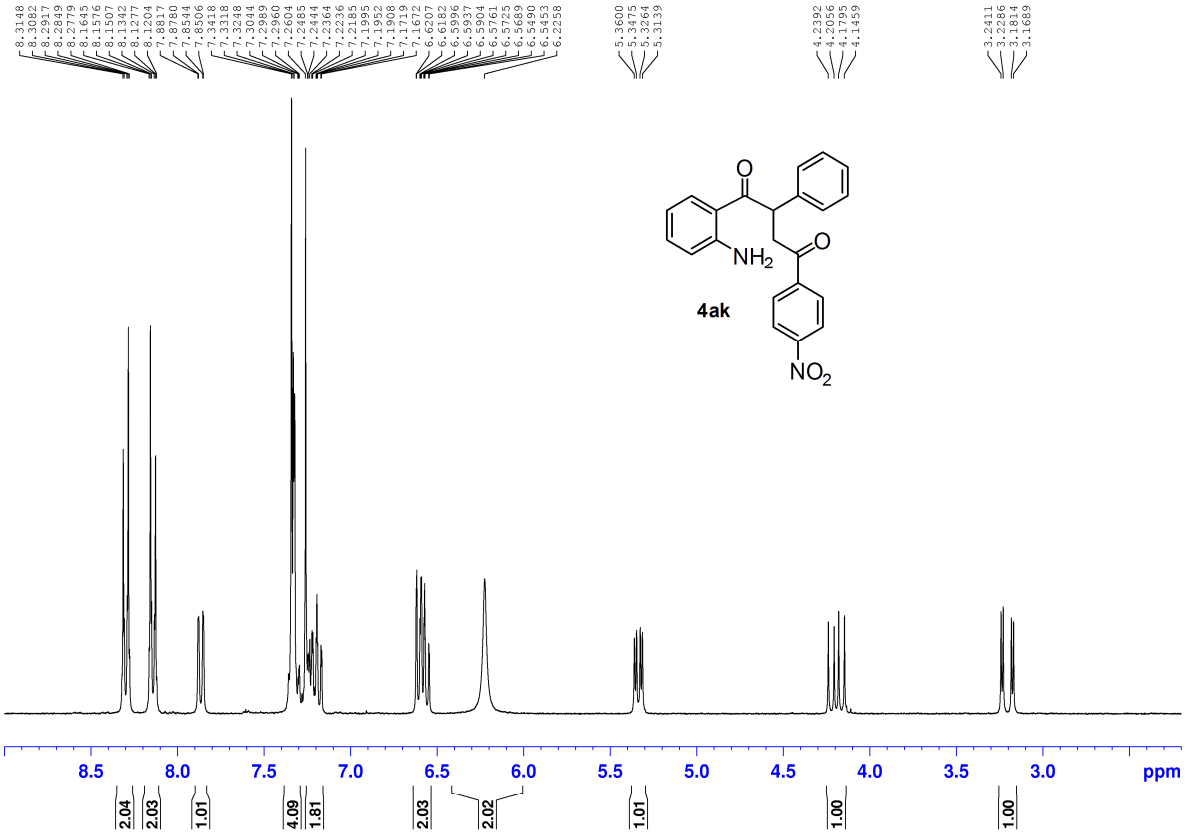
40
ppm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8.1277
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7.8780
7.8544
7.8506
7.3418
7.3318
7.3248
7.3044
7.2989
7.2960
7.2604
7.2485
7.2444
7.2364
7.2236
7.2185
7.1995
7.1952
7.1908
7.1719
7.1672
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6.6182
6.5996
6.5937
6.5904
6.5761
6.5725
6.5689
6.5490
6.5453
6.2258
5.3600
5.3475
5.3264
5.3139
4.2392
4.2056
4.1795
4.1459
3.2411
3.2286
3.1814
3.1689
O
NH2
O
4ak
NO2
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7.0
6.5
6.0
5.5
5.0
4.5
4.0
3.5
3.0
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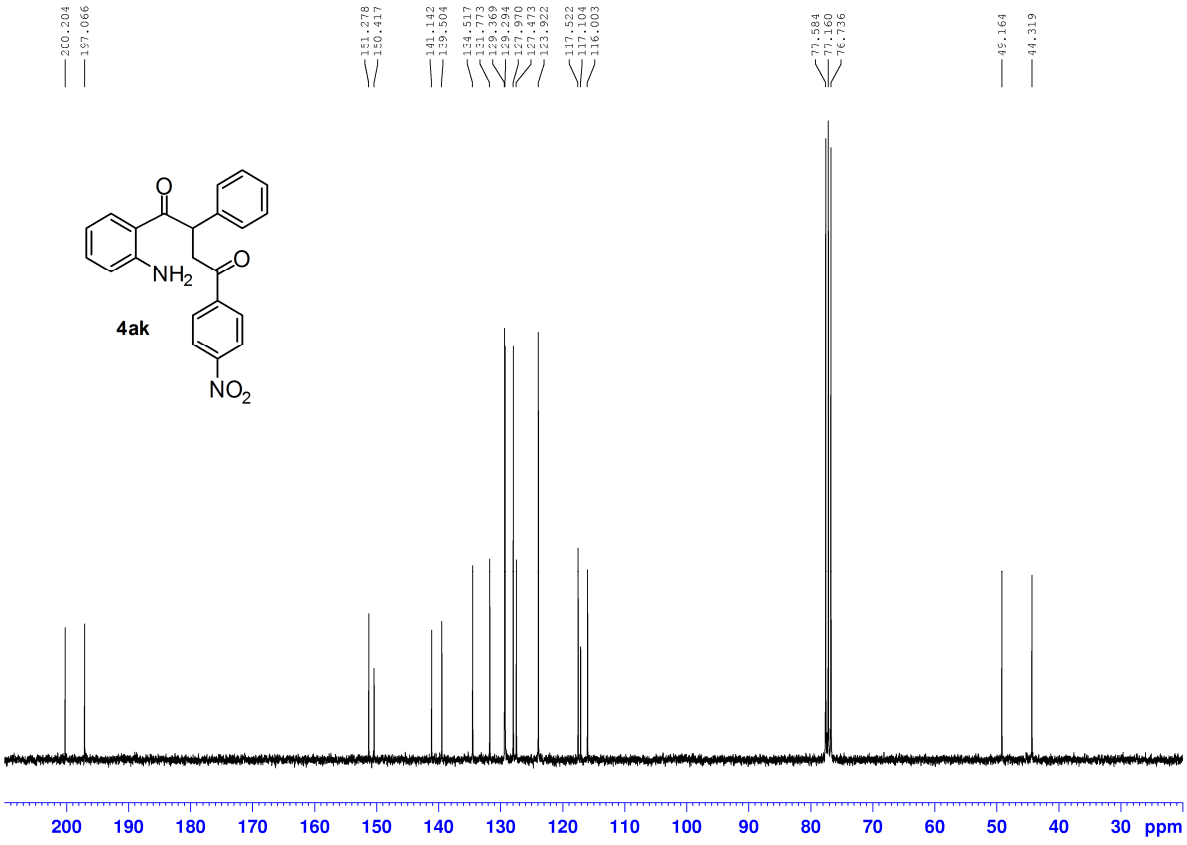
2.03
2.02
1.01
1.00
1.00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123.922
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117.104
116.003
77.584
77.160
76.736
49.164
44.319
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NH2
O
4ak
NO2
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160
150
140
130
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90
80
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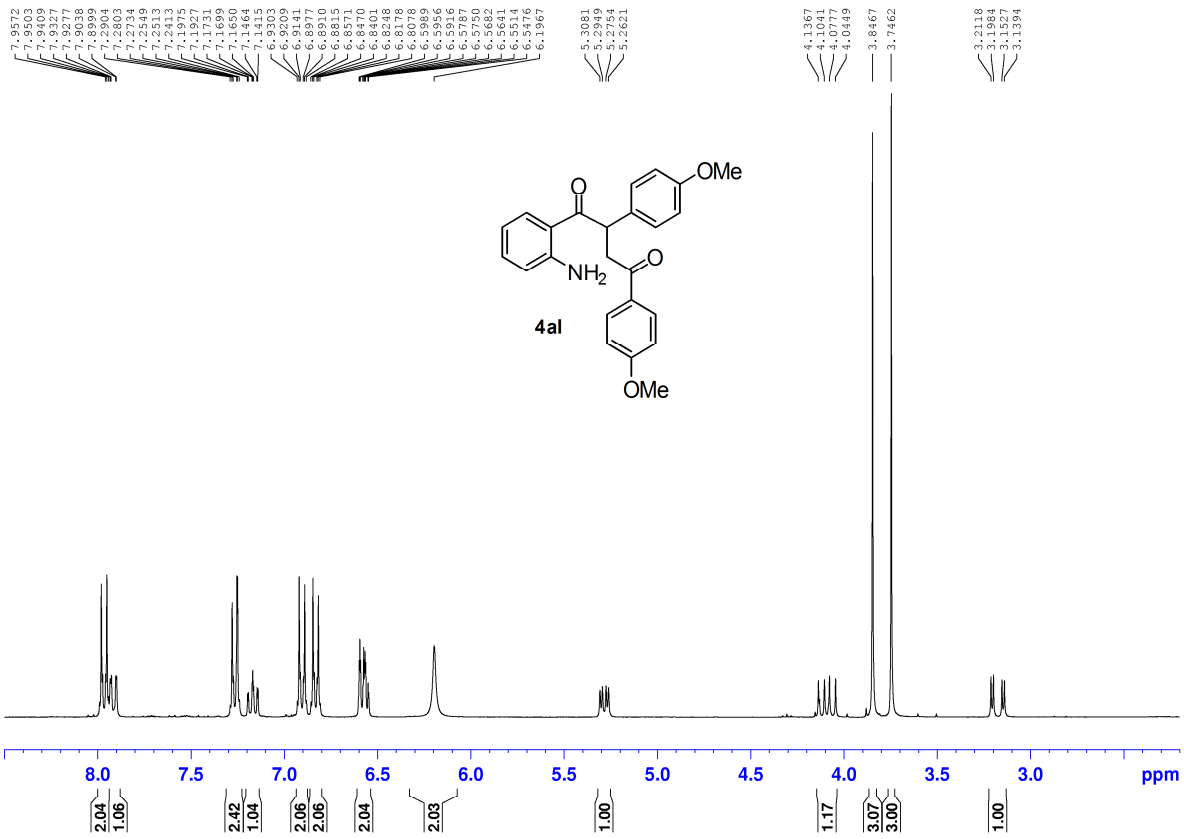
60
50
40
30
ppm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7.2549
7.2513
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7.1927
7.1731
7.1699
7.1650
7.1464
7.1415
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6.9141
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6.8815
6.8571
6.8470
6.8401
6.8248
6.8178
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6.5750
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6.5641
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6.5476
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4.0777
4.0449
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3.2118
3.1984
3.1527
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O
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O
4al
OMe
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6.5
6.0
5.5
5.0
4.5
4.0
3.5
3.0
ppm
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2.04
2.03
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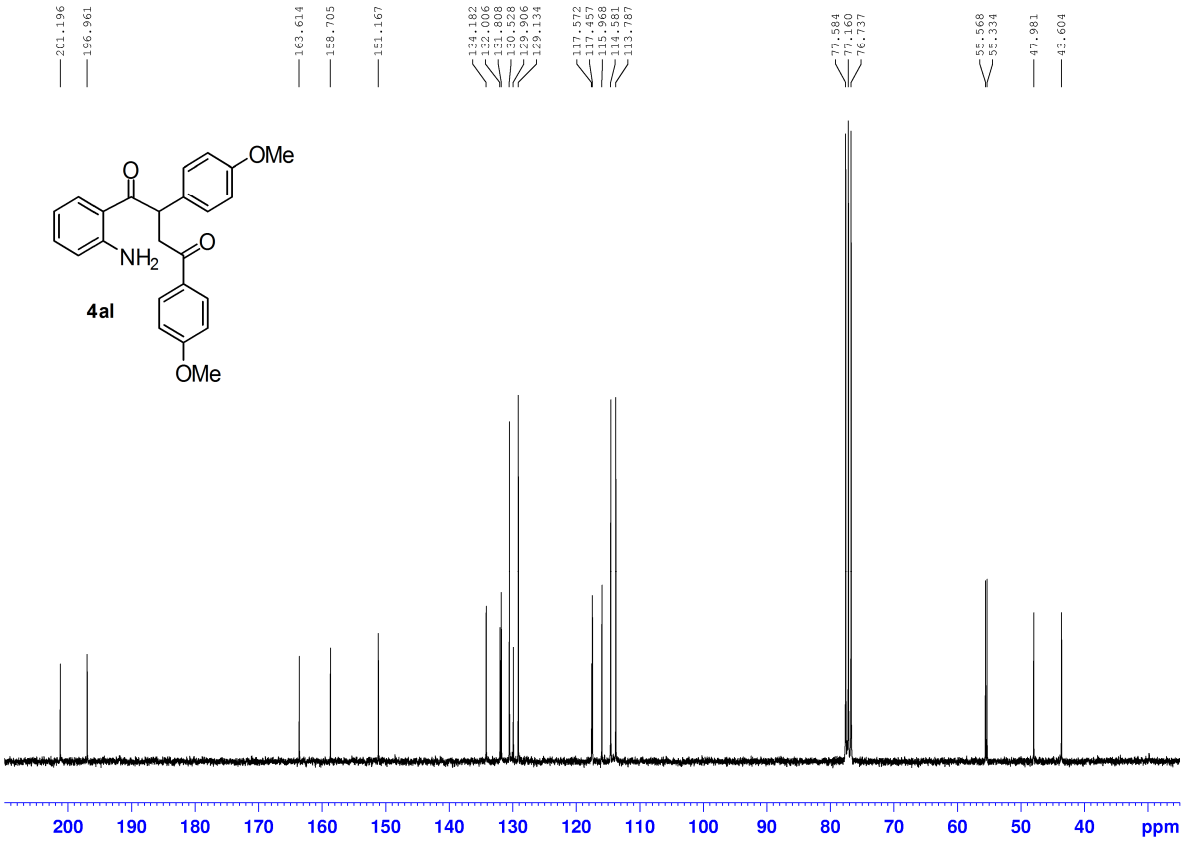
3.00
1.00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117.457
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114.581
113.787
77.584
77.160
76.737
55.568
55.334
47.981
42.604
OMe
O
NH2
O
4al
OMe
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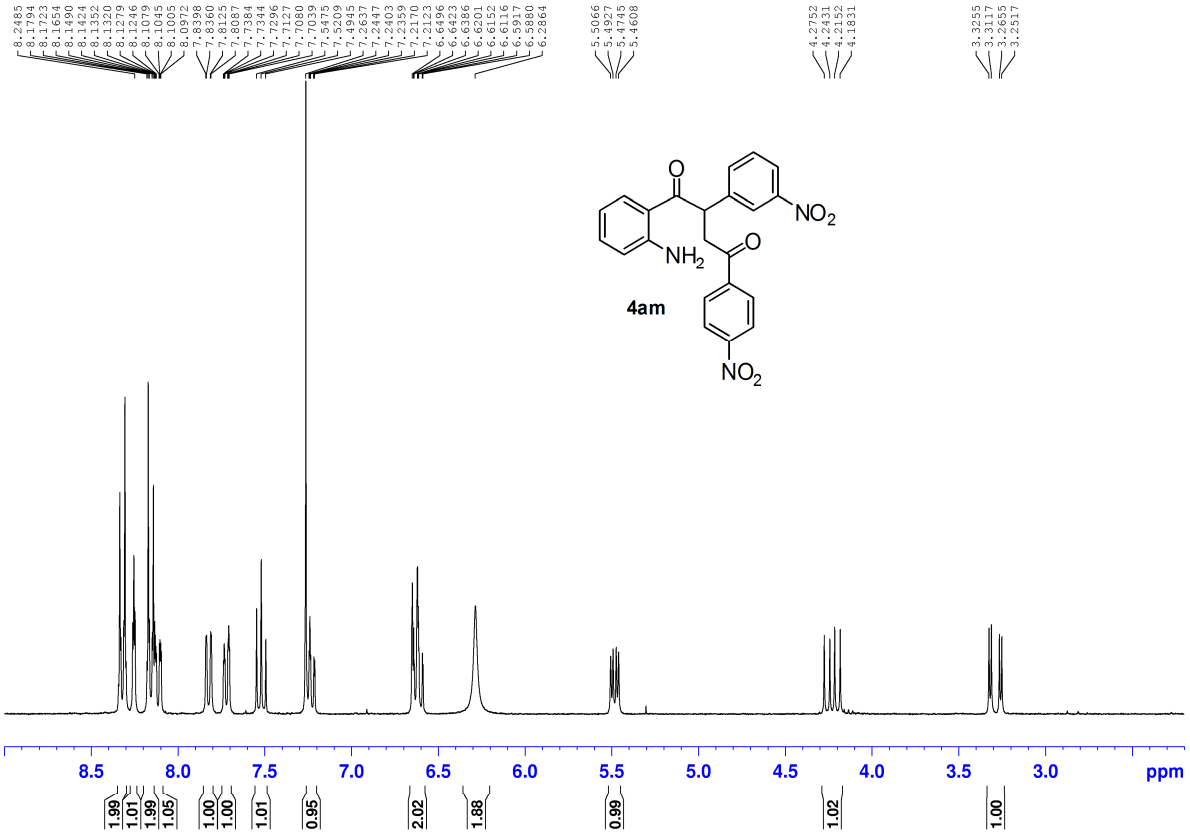
180
170
160
150
140
130
120
110
100
90
80
70
60
50
40
ppm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7.7384
7.7344
7.7296
7.7127
7.7080
7.7039
7.5475
7.3209
7.2945
7.2637
7.2447
7.2403
7.2359
7.2170
7.2123
6.6496
6.6423
6.6386
6.6201
6.6132
6.6116
6.5917
6.5880
6.2864
5.5066
5.4927
5.4745
5.4608
4.2752
4.2431
4.2152
4.1831
3.3255
3.3117
3.2655
3.2517
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NO2
NH2
O
4am
NO2
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6.0
5.5
5.0
4.5
4.0
3.5
3.0
ppm
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1.99
1.05
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1.00
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2.02
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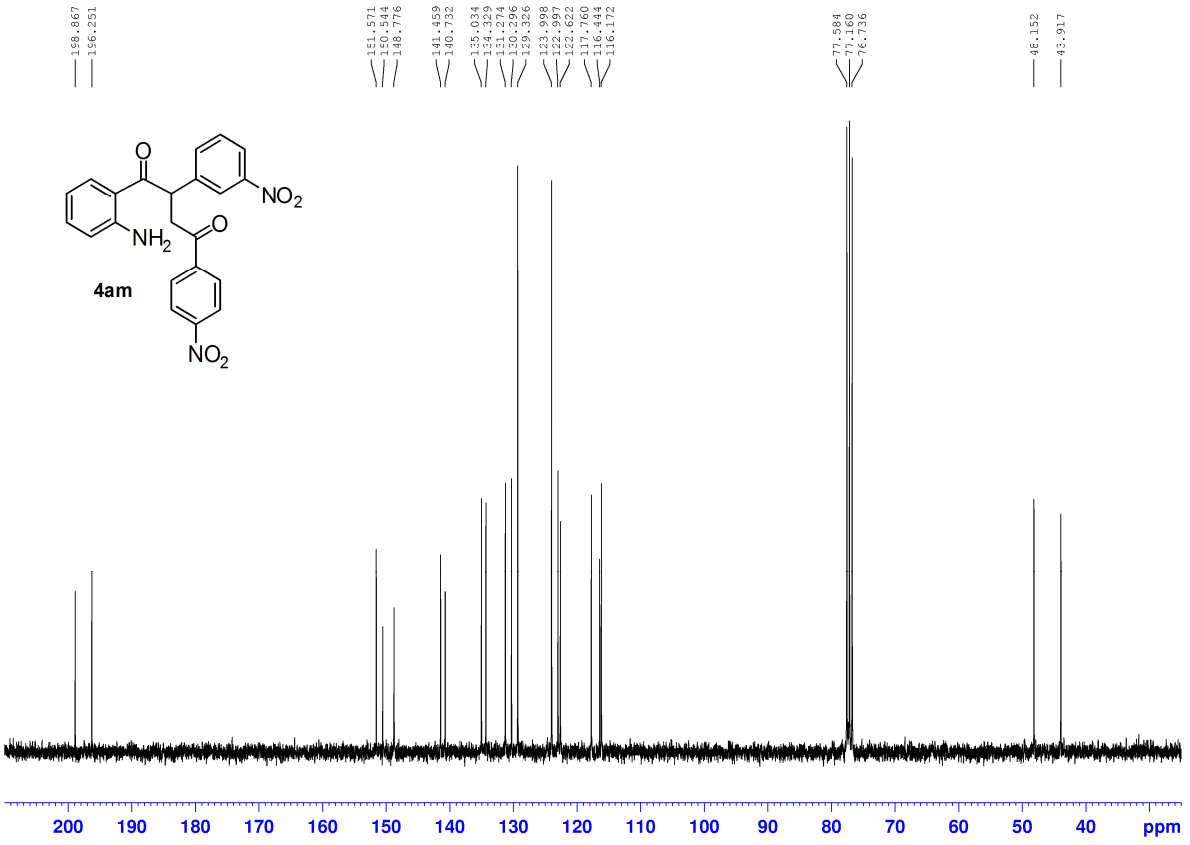
1.00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122.997
122.622
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116.172
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77.160
76.736
46.152
43.917
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NO2
NH2
O
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160
150
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100
90
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70
60
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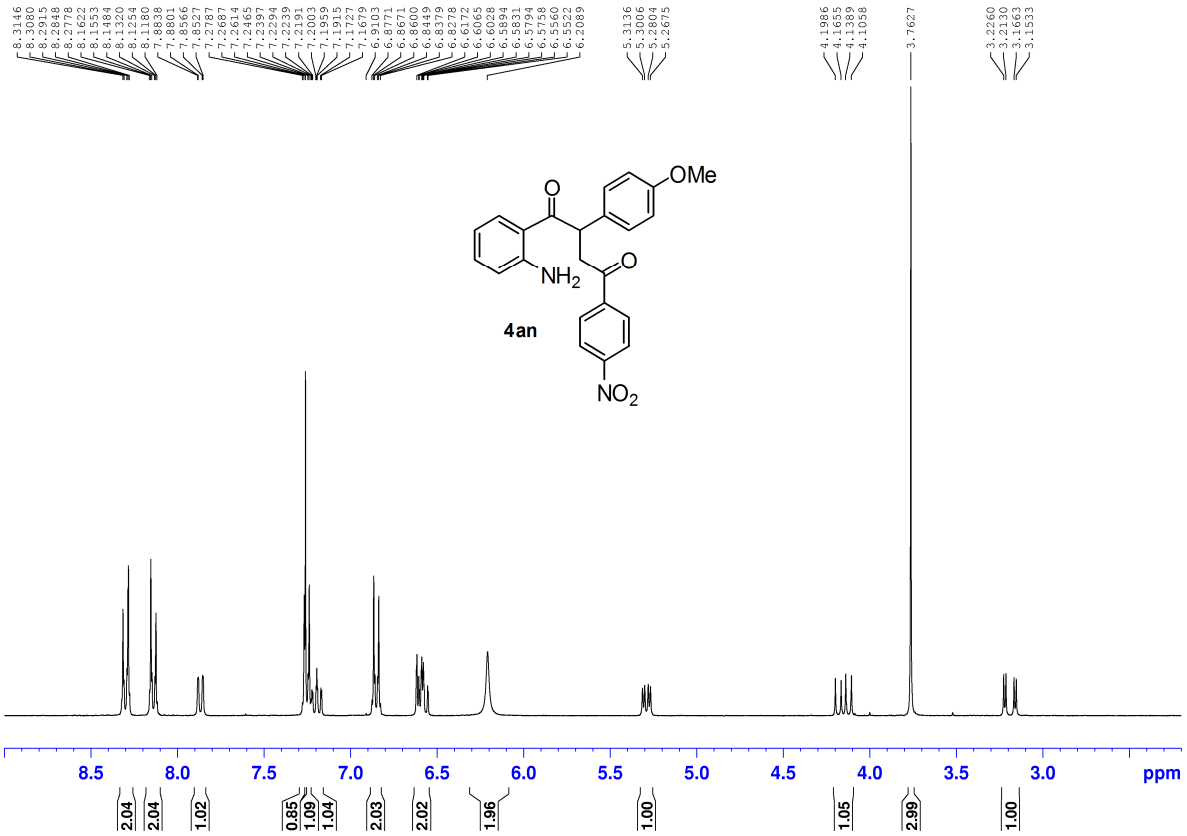
ppm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6.5831
6.5794
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6.5522
6.2089
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5.2675
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4.1389
4.1058
3.7627
3.2260
3.2130
3.1663
3.1533
OMe
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O
4an
NO2
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7.0
6.5
6.0
5.5
5.0
4.5
4.0
3.5
3.0
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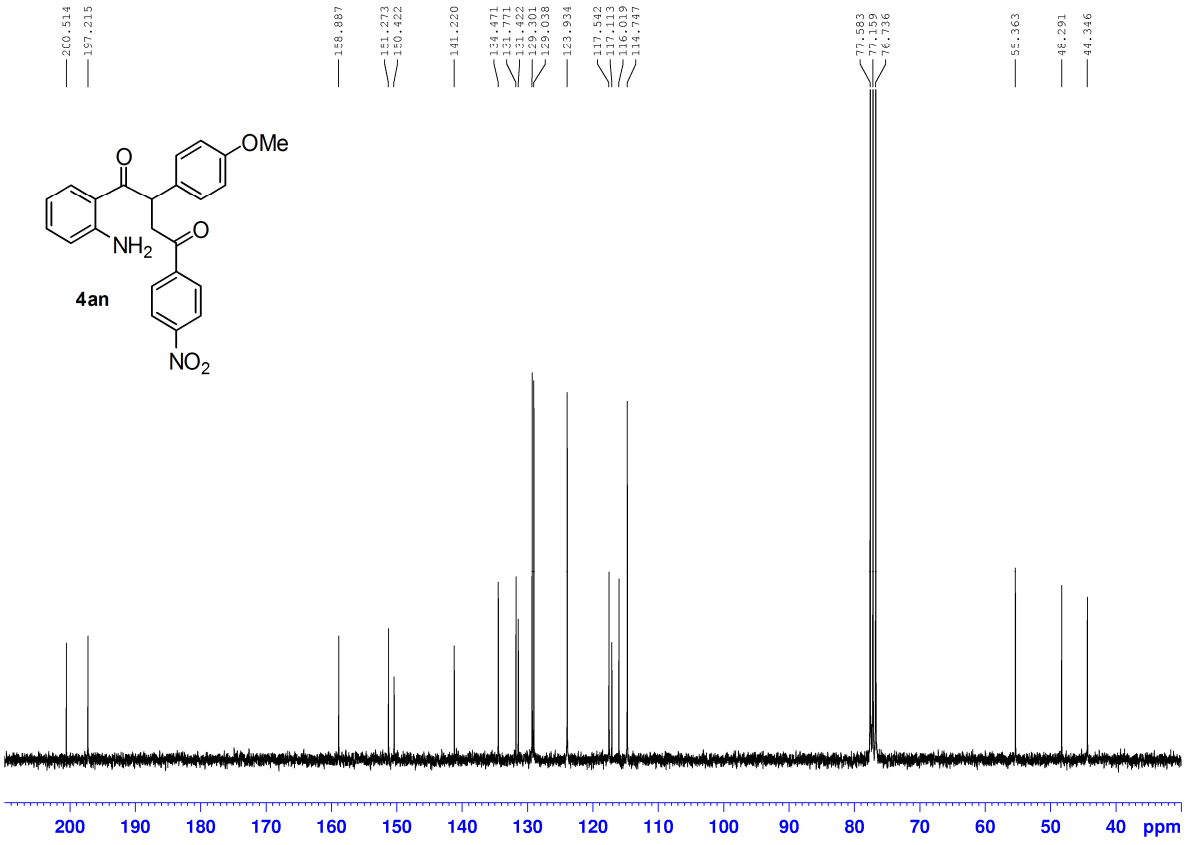
1.00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116.019
114.747
77.583
77.159
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46.291
44.346
OMe
O
NH2
O
4an
NO2
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100
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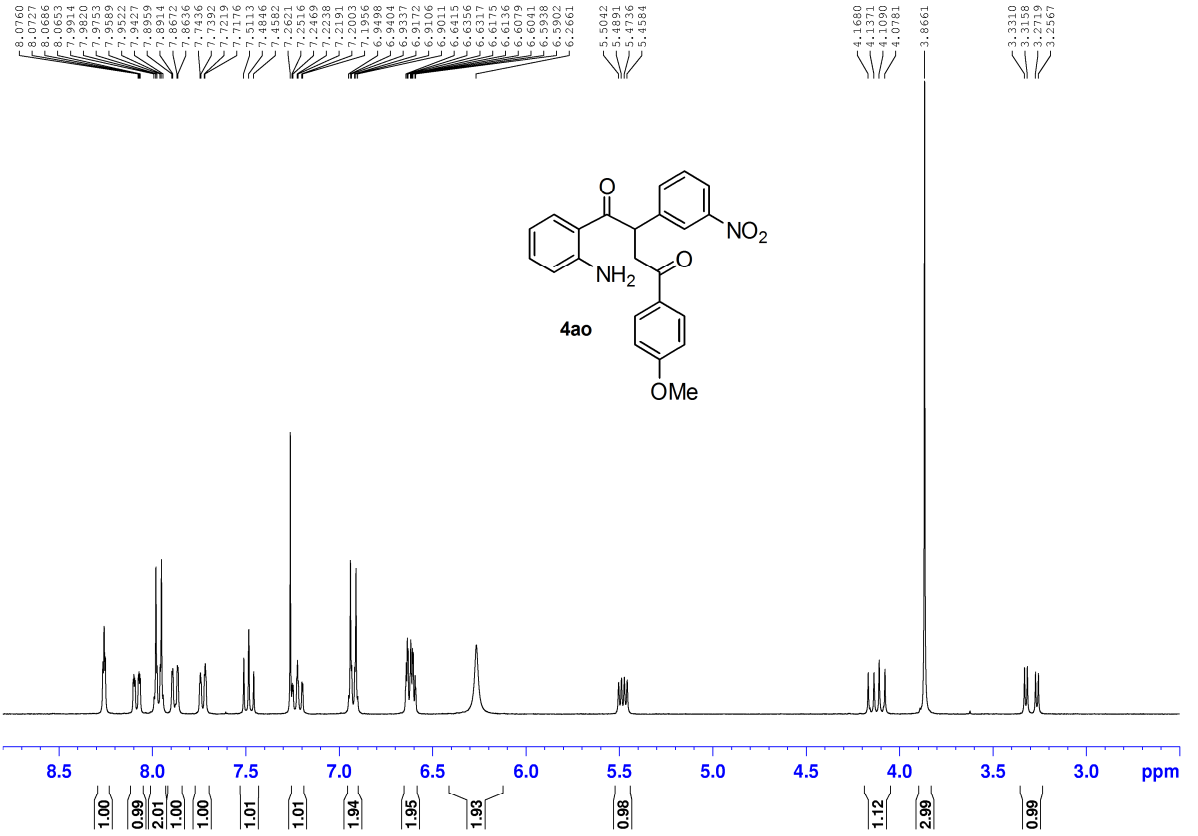
60
50
40
ppm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NO2
NH2
O
4ao
OMe
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5.5
5.0
4.5
4.0
3.5
3.0
ppm
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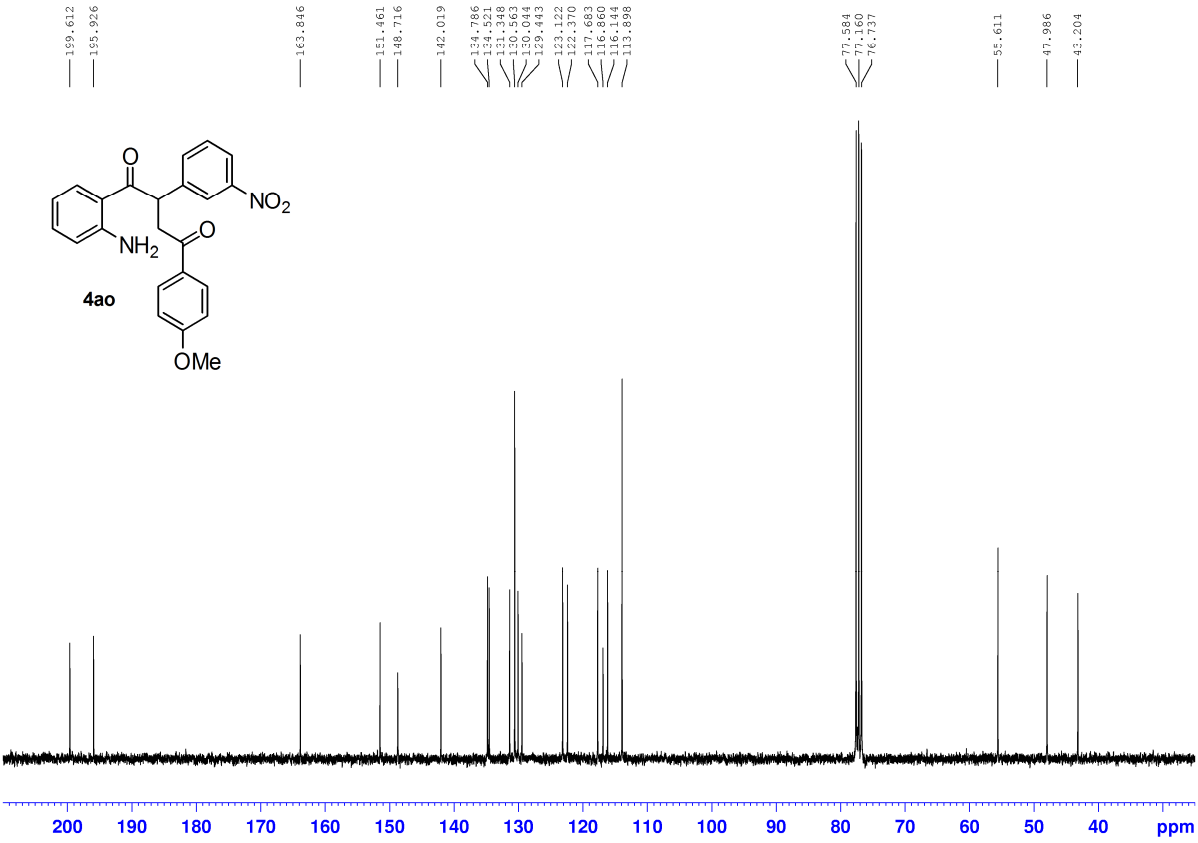
0.99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129.443
123.122
122.370
117.683
116.860
116.144
113.898
77.584
77.160
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55.611
47.986
43.204
O
NO2
NH2
O
4ao
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170
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150
140
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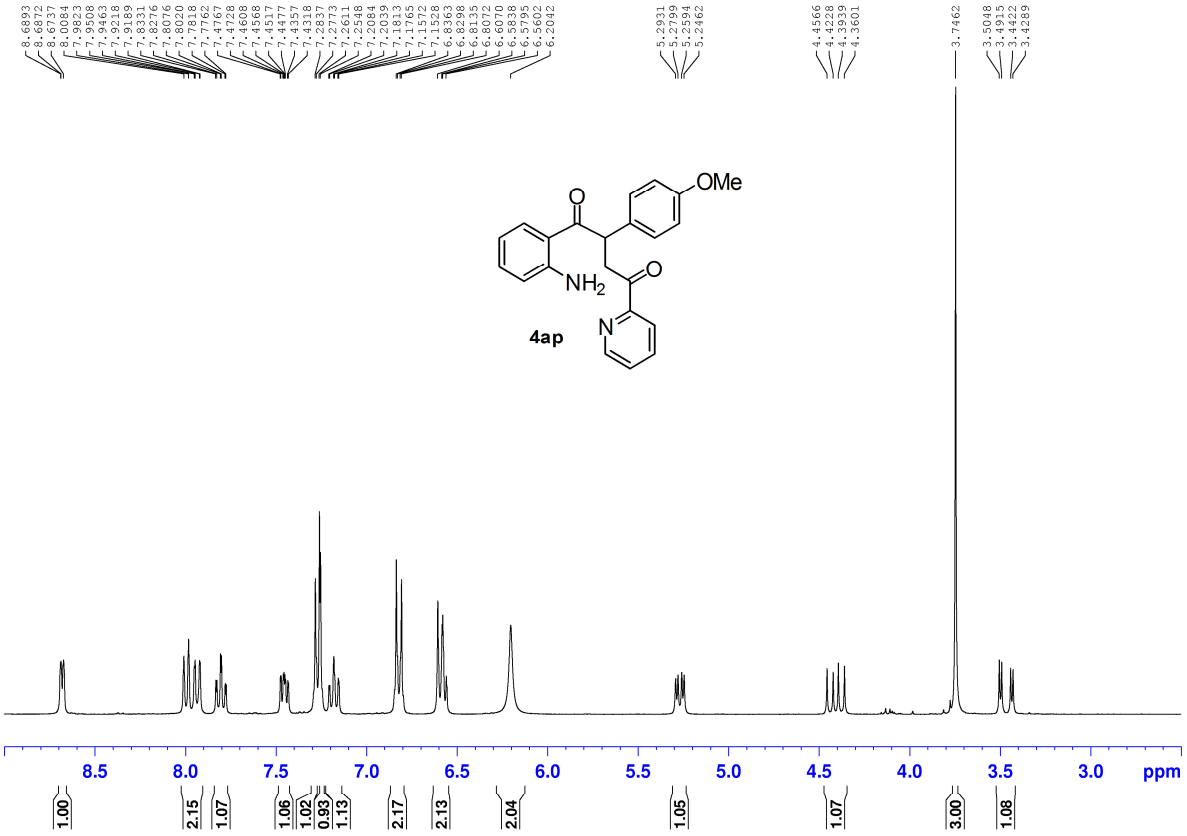
100
90
80
70
60
50
40
ppm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7.8076
7.8020
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7.7762
7.4767
7.4728
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7.4568
7.4517
7.4477
7.4437
7.4318
7.2837
7.2773
7.2611
7.2548
7.2084
7.2039
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7.1765
7.1572
7.1528
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6.8135
6.8072
6.6070
6.5838
6.5795
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5.2462
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3.4422
3.4289
OMe
O
NH2
O
N
4ap
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5.0
4.5
4.0
3.5
3.0
ppm
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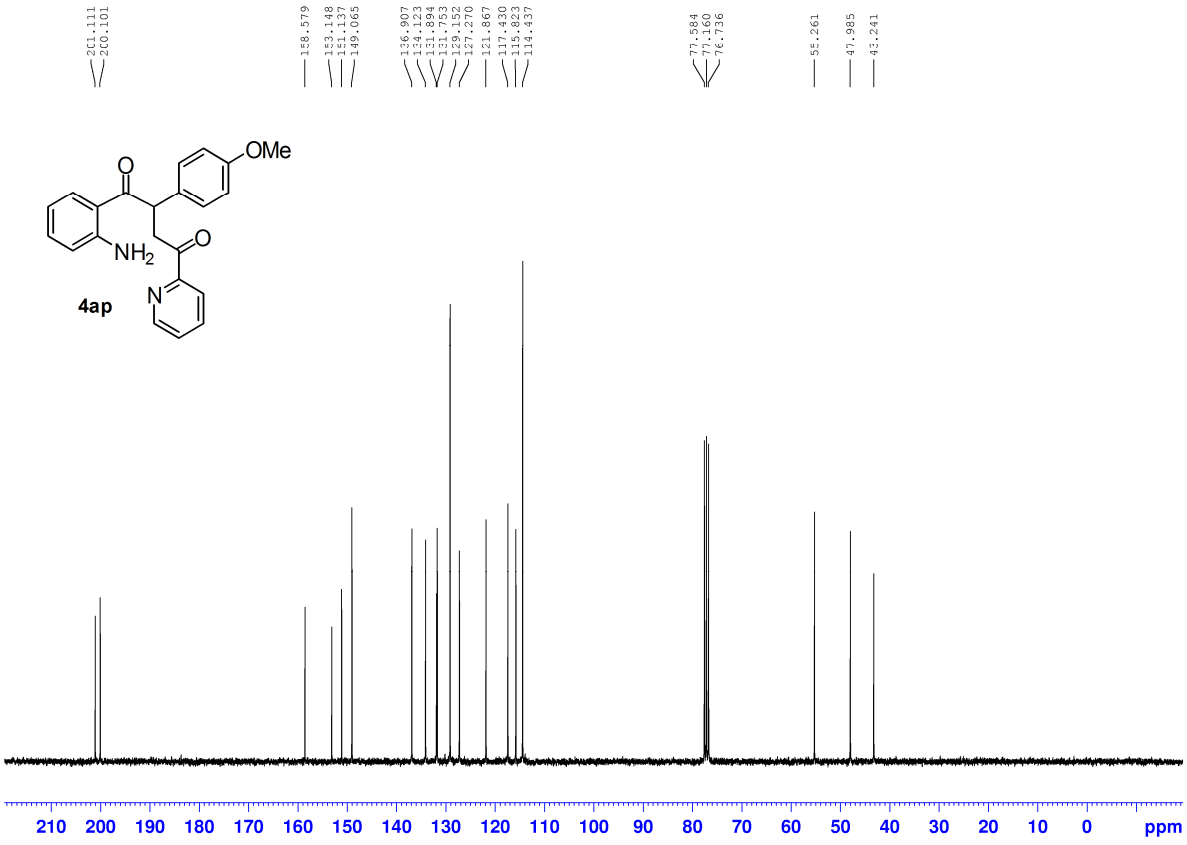
2.04
1.05
1.07
3.00
1.08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129.152
127.270
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115.823
114.437
77.584
77.160
76.736
55.261
47.985
43.241
OMe
O
NH2
O
N
4ap
210
200
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130
120
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100
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60
50
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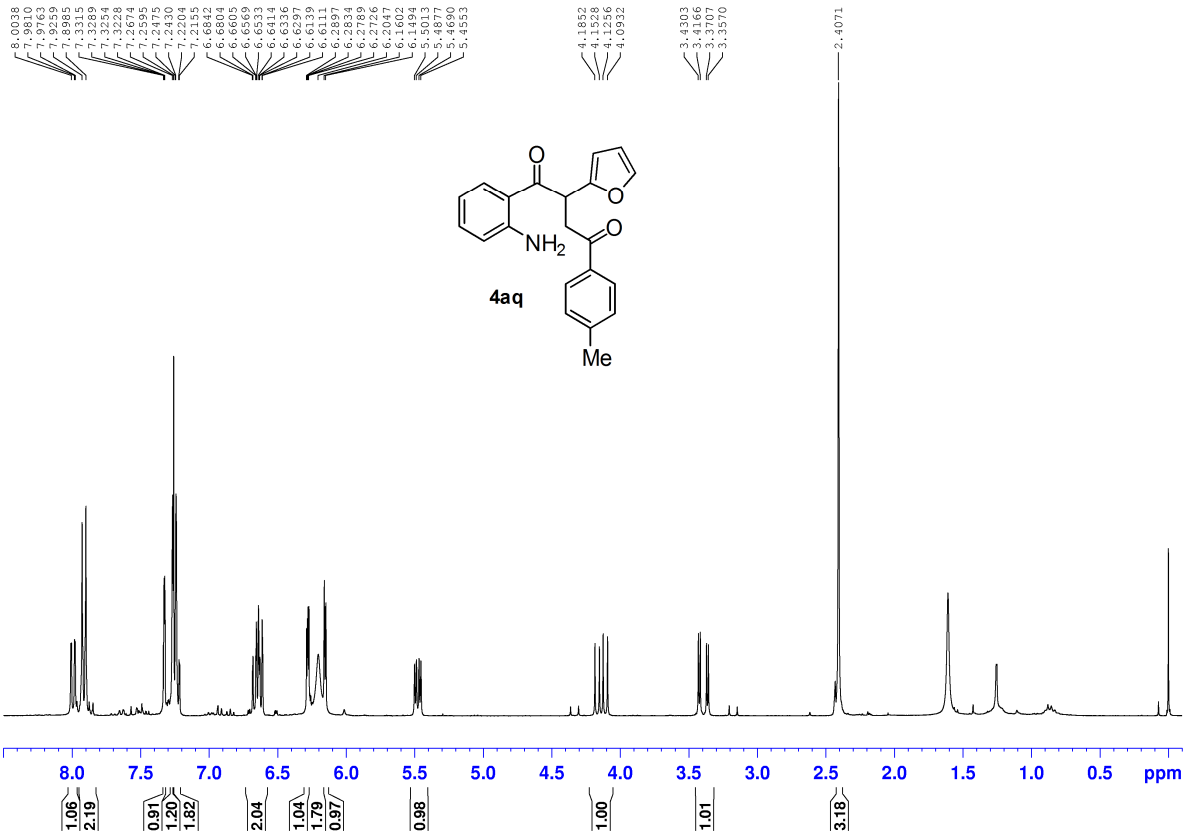
20
10
0
ppm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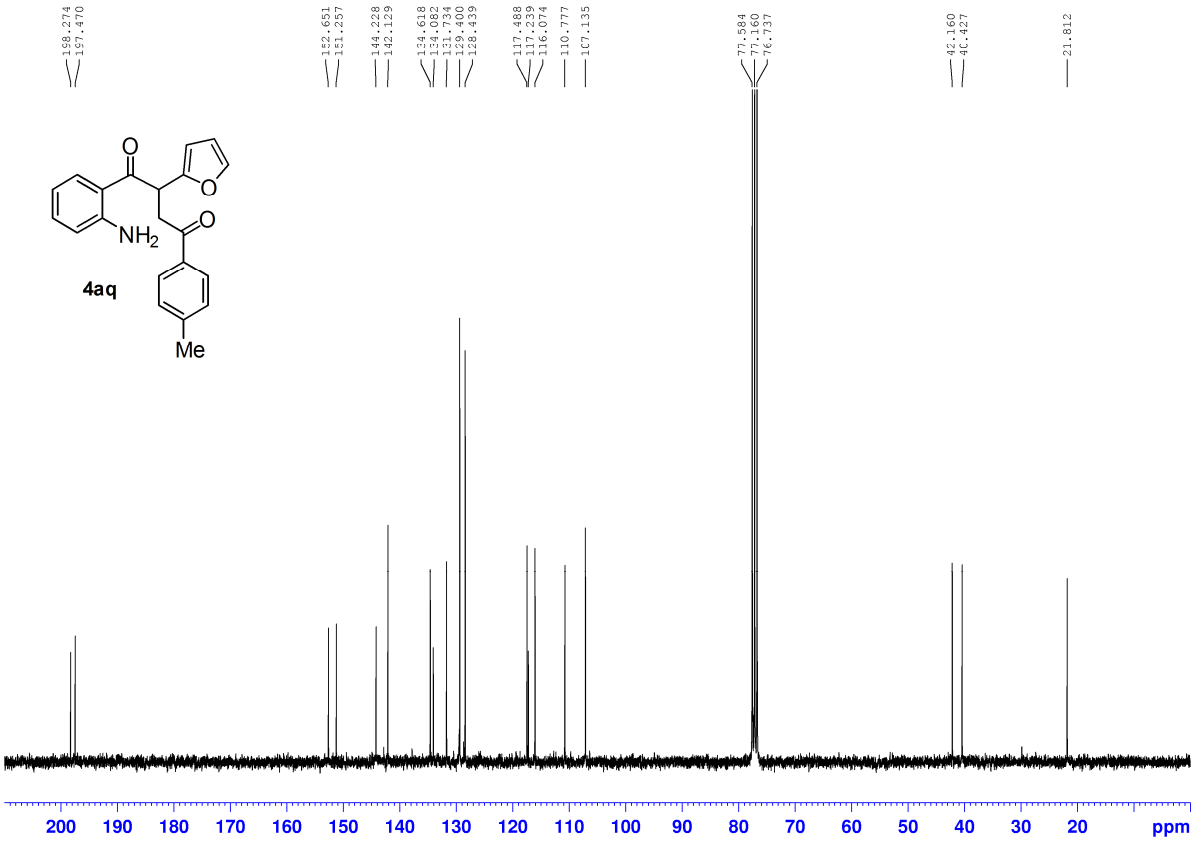
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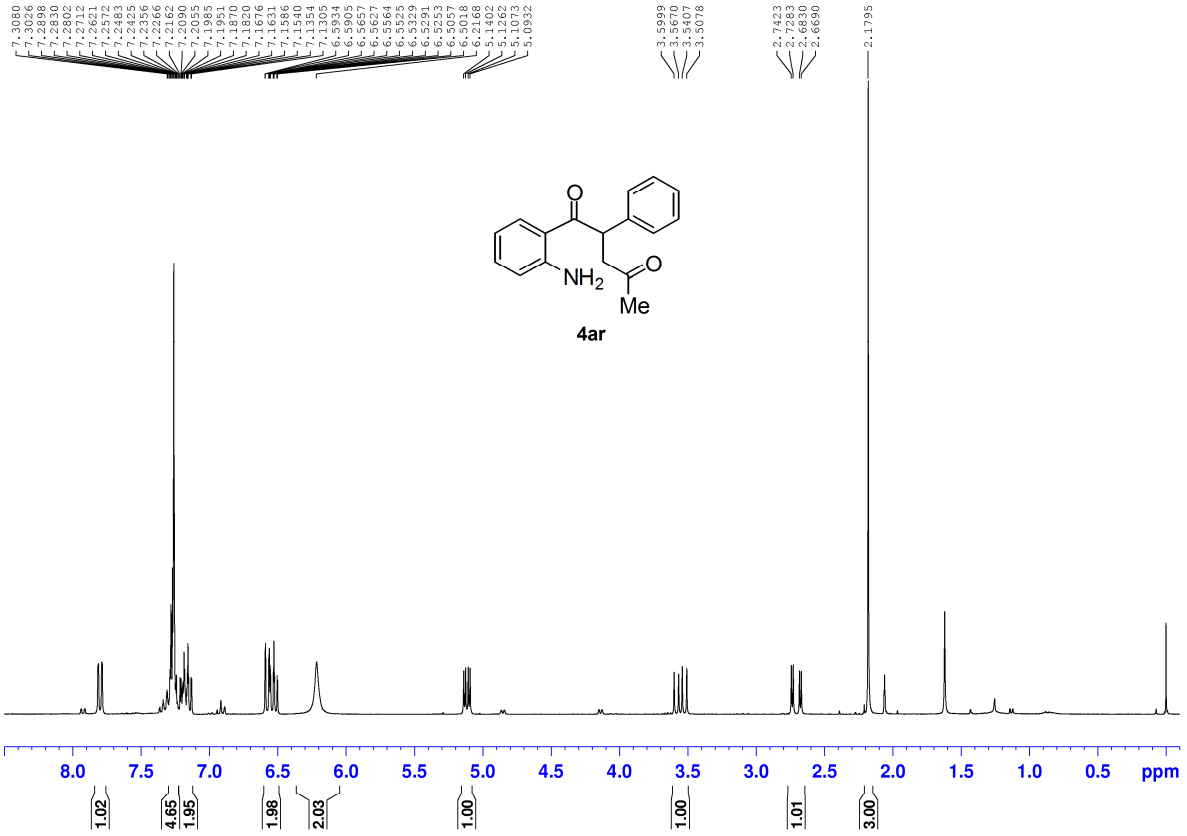
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7.1586
7.1540
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7.1305
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6.5525
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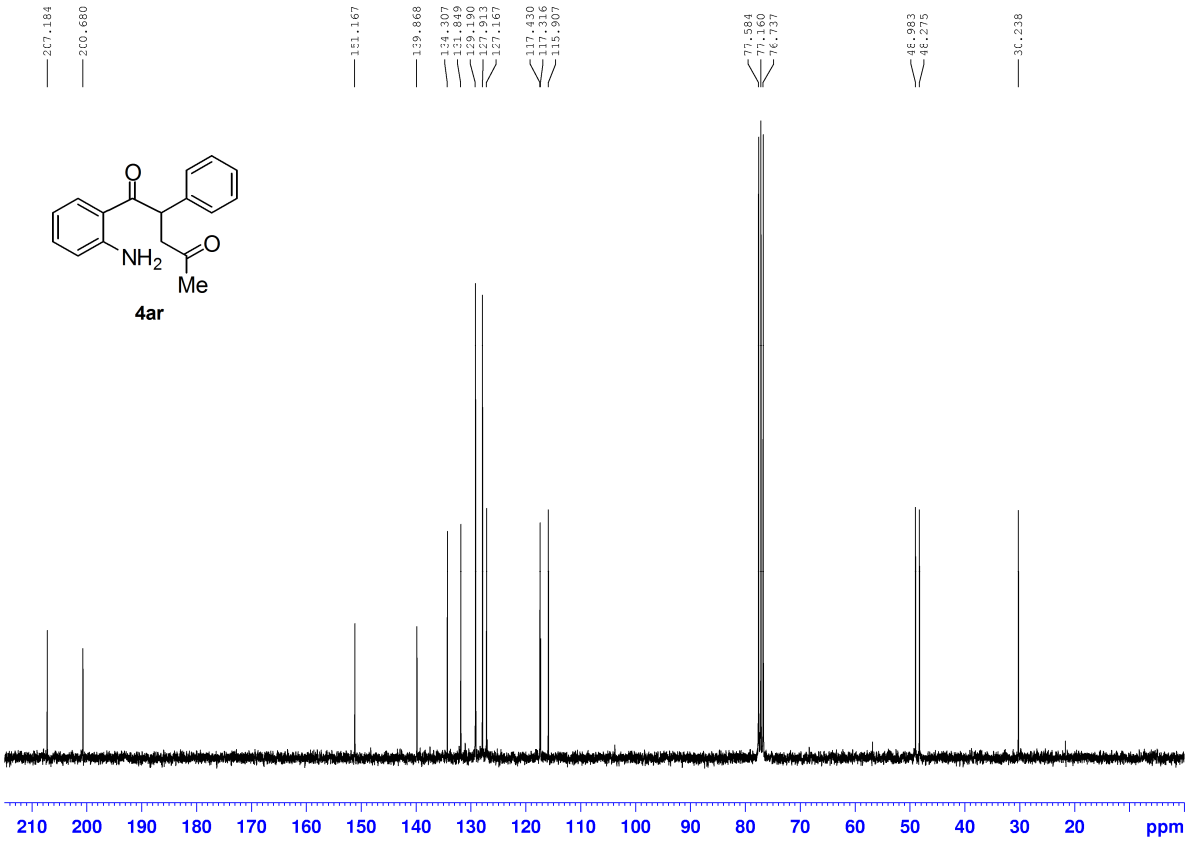
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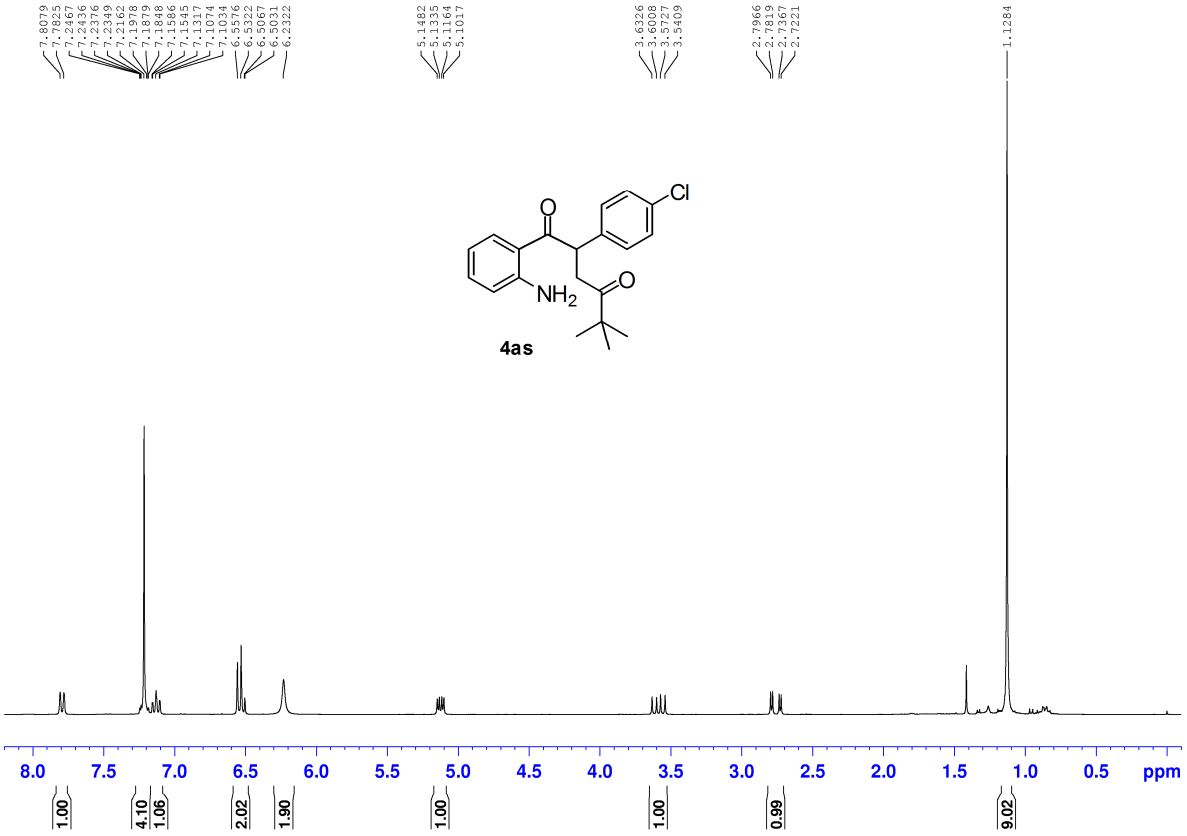
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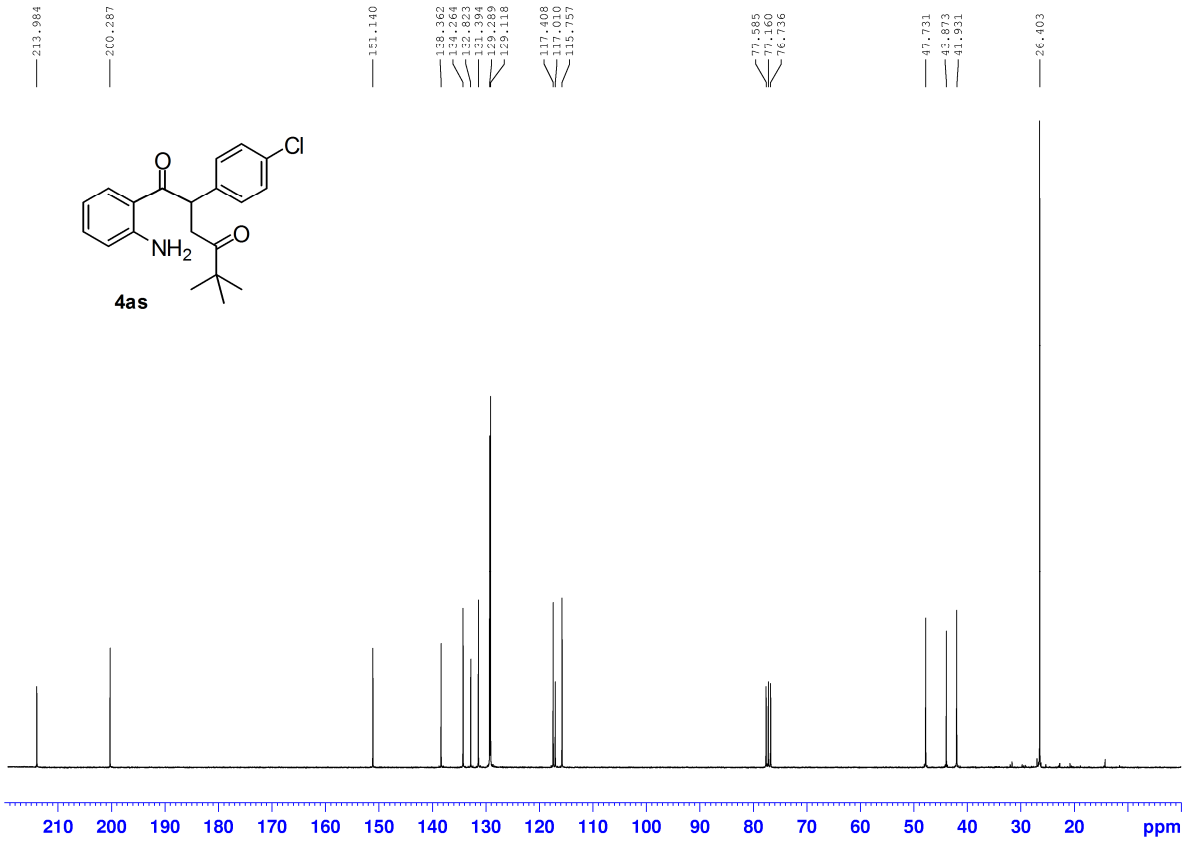
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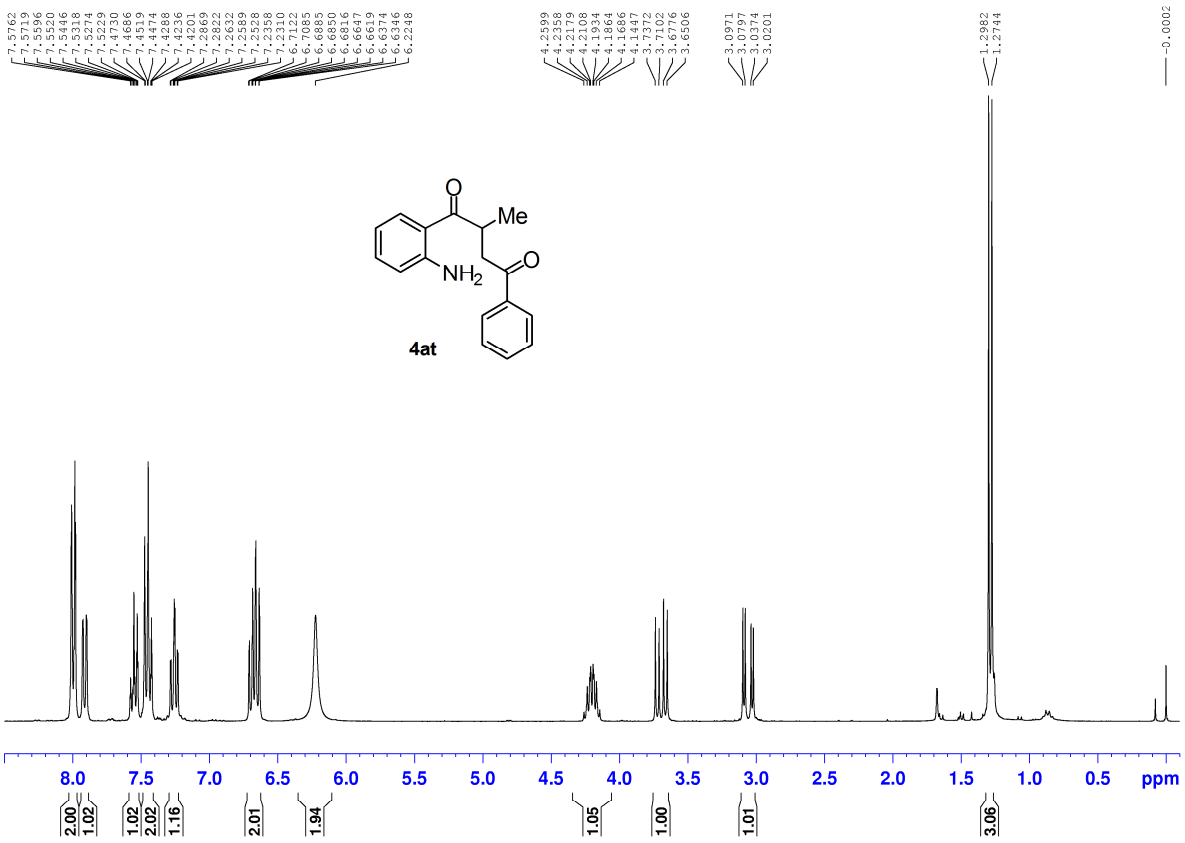
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1.0
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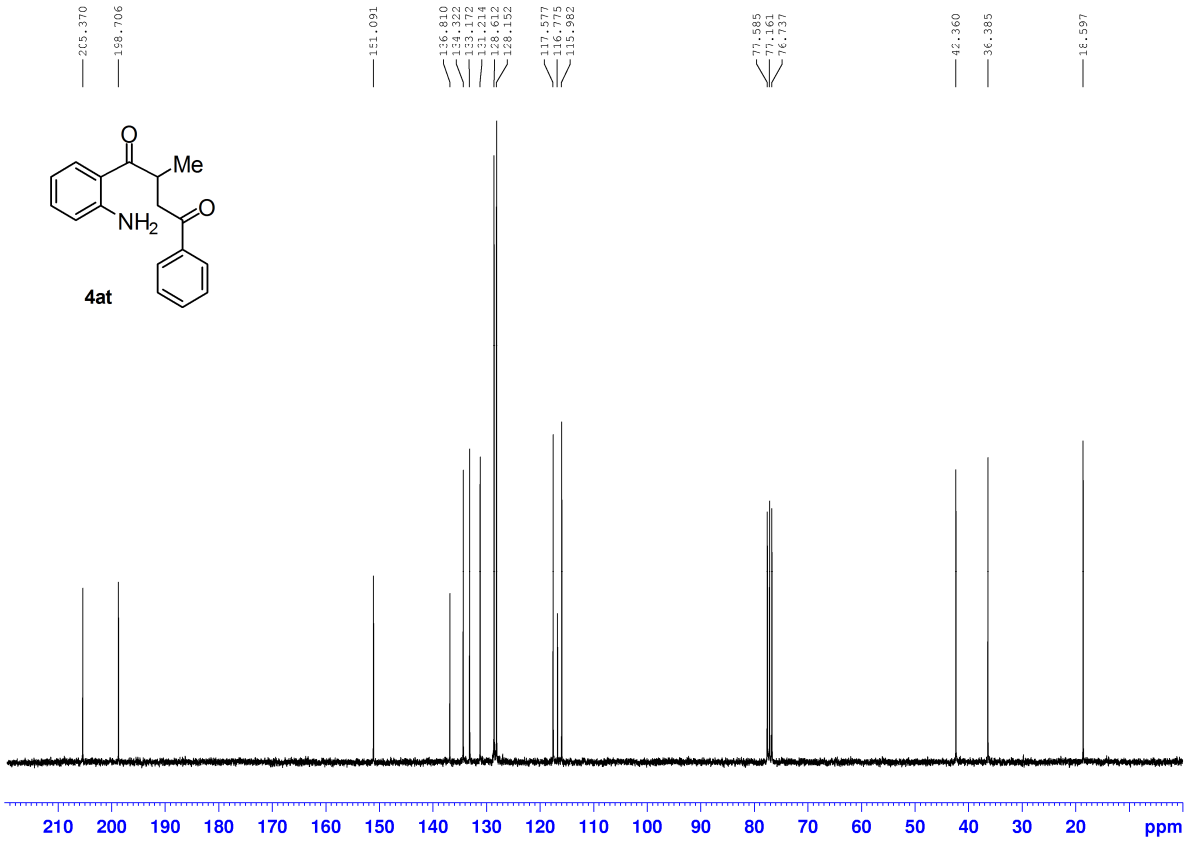
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NH2
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120
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20
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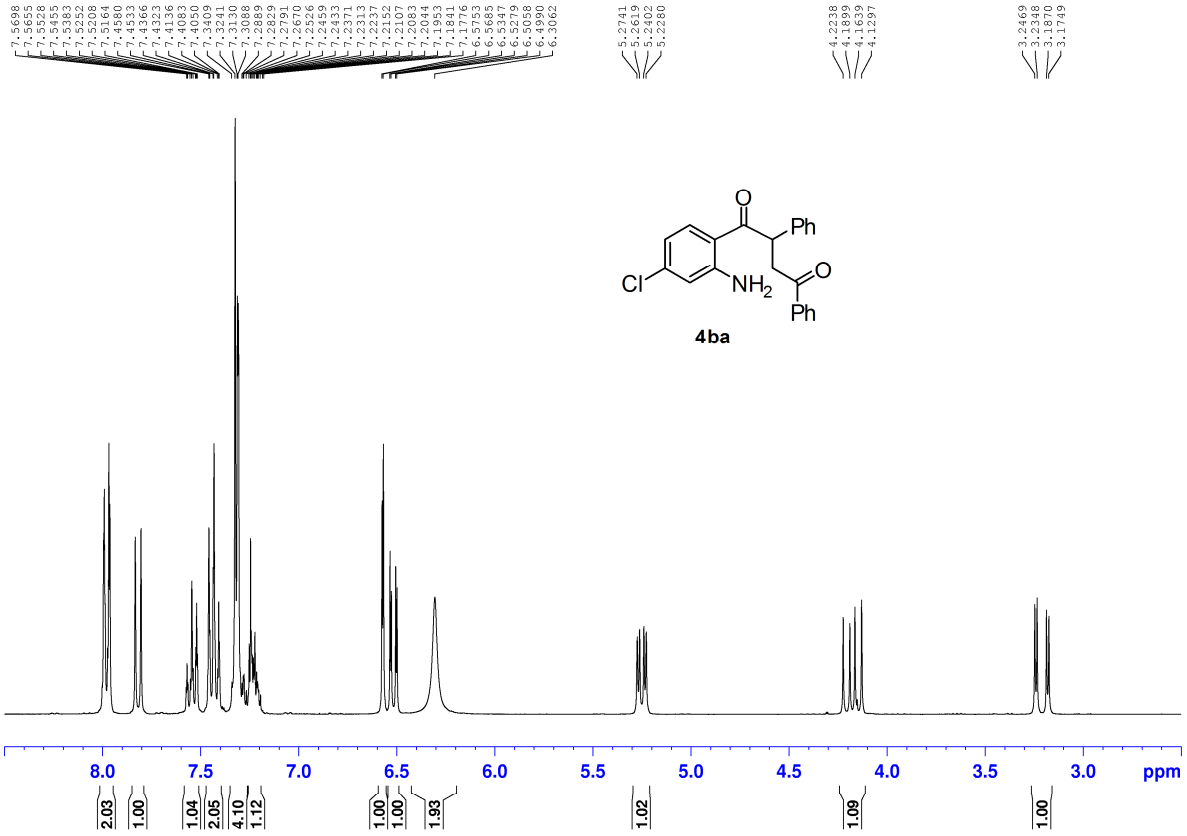
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5.2402
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3.1870
3.1749
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Ph
Cl
NH2
O
Ph
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6.0
5.5
5.0
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3.5
3.0
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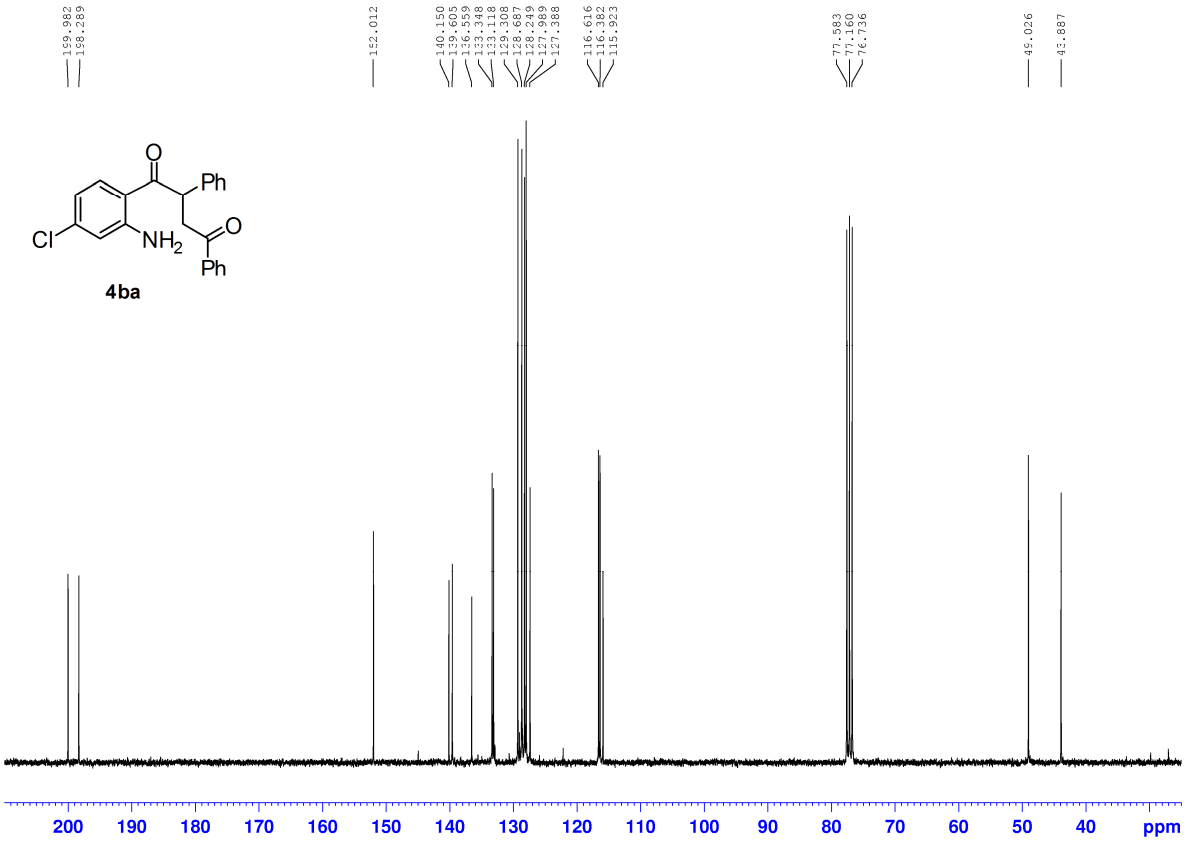
1.00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76.736
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Cl
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O
Ph
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160
150
140
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100
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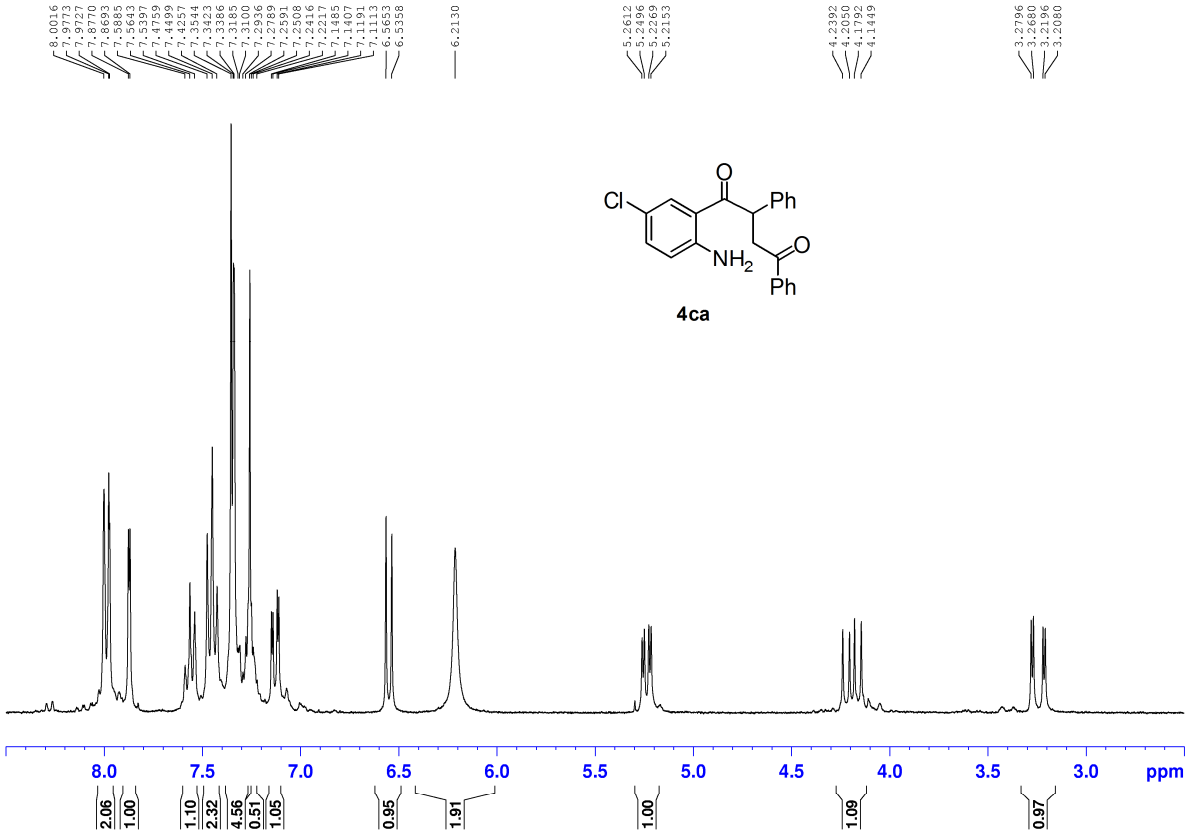
ppm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Ph
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Ph
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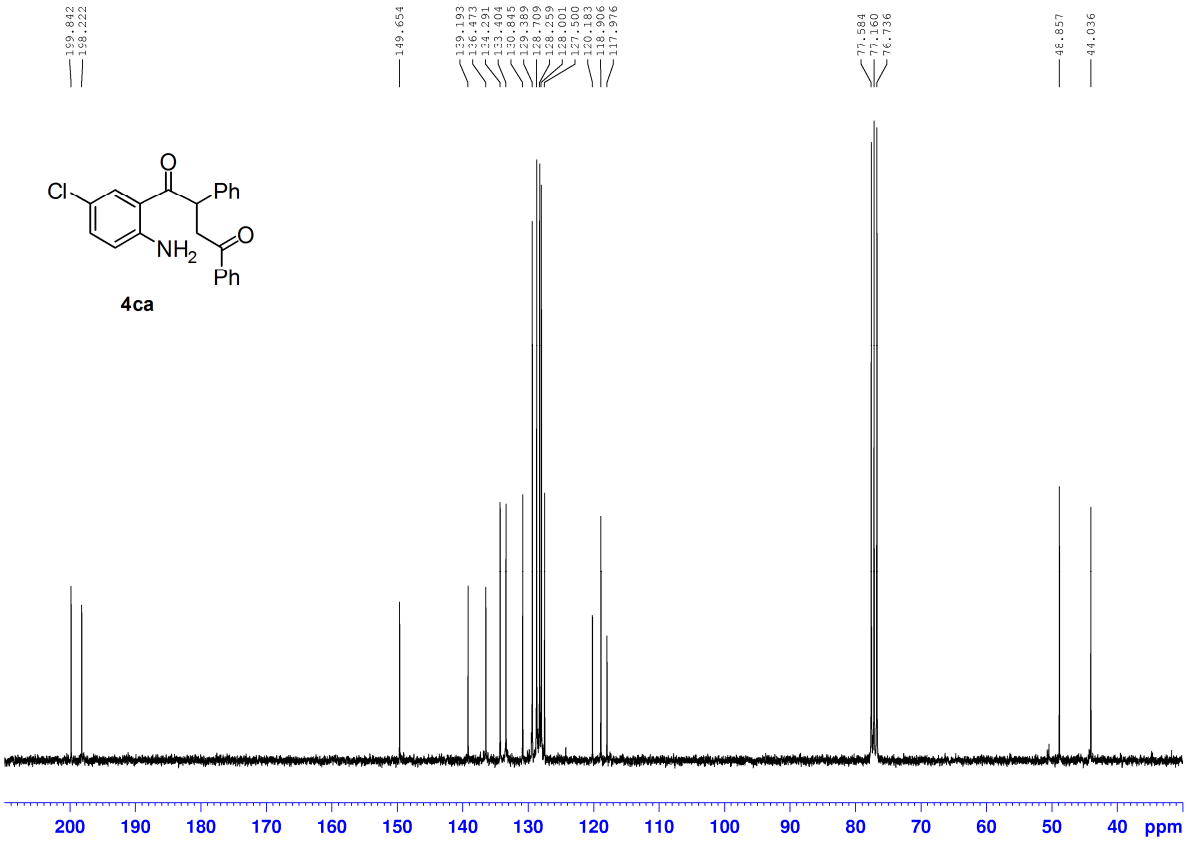
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127.580
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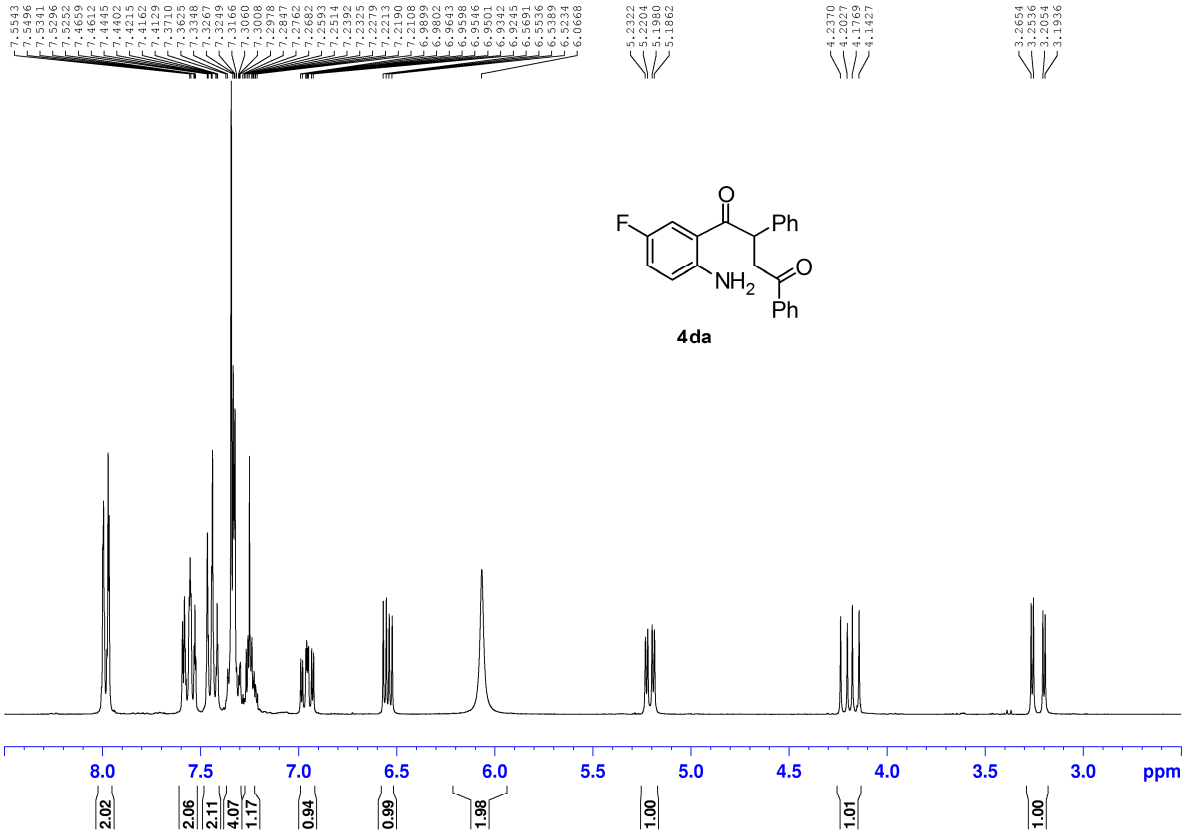
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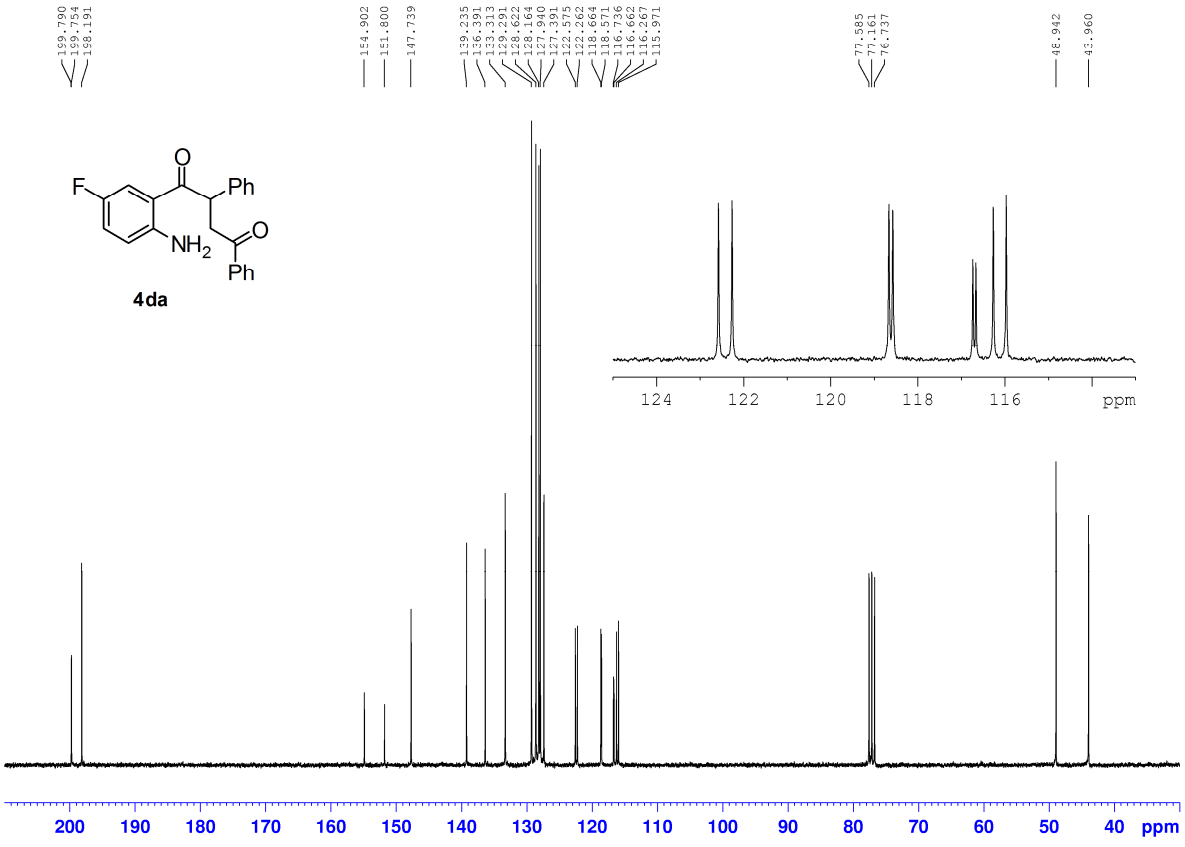
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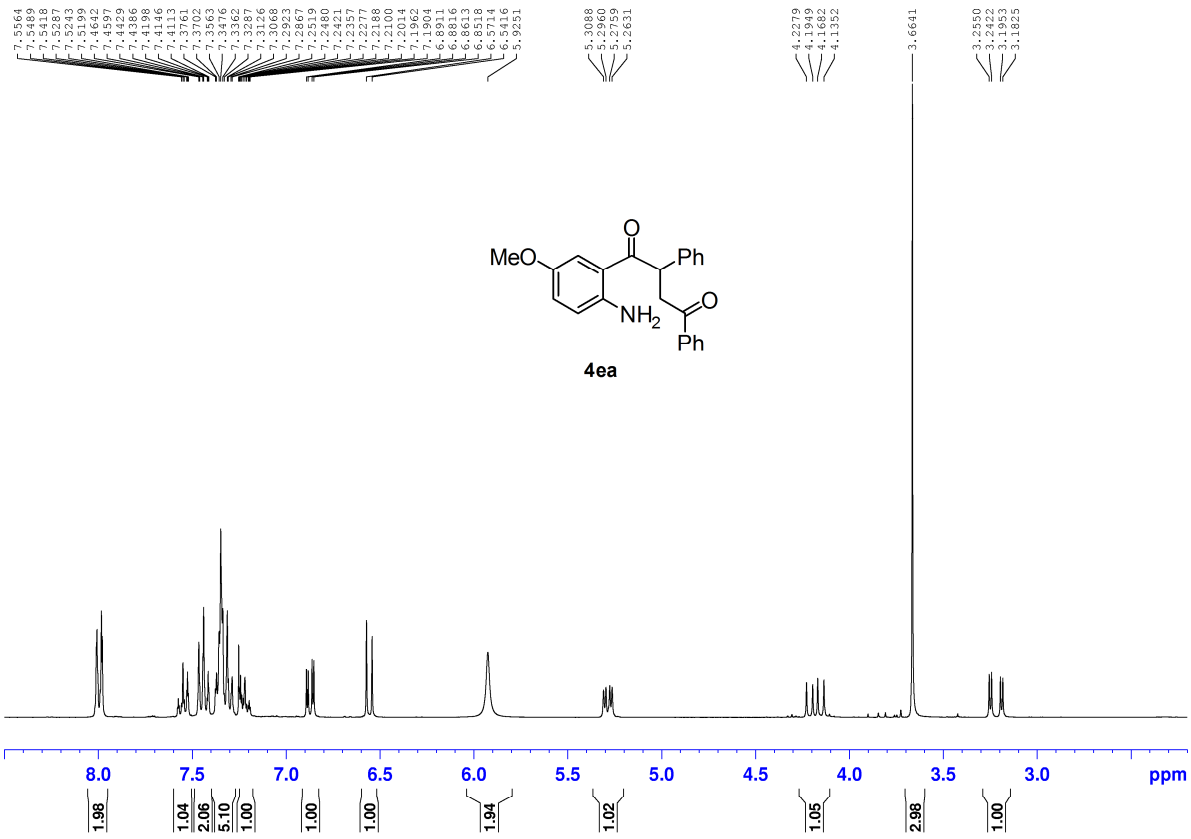
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Ph
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5.5
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4.0
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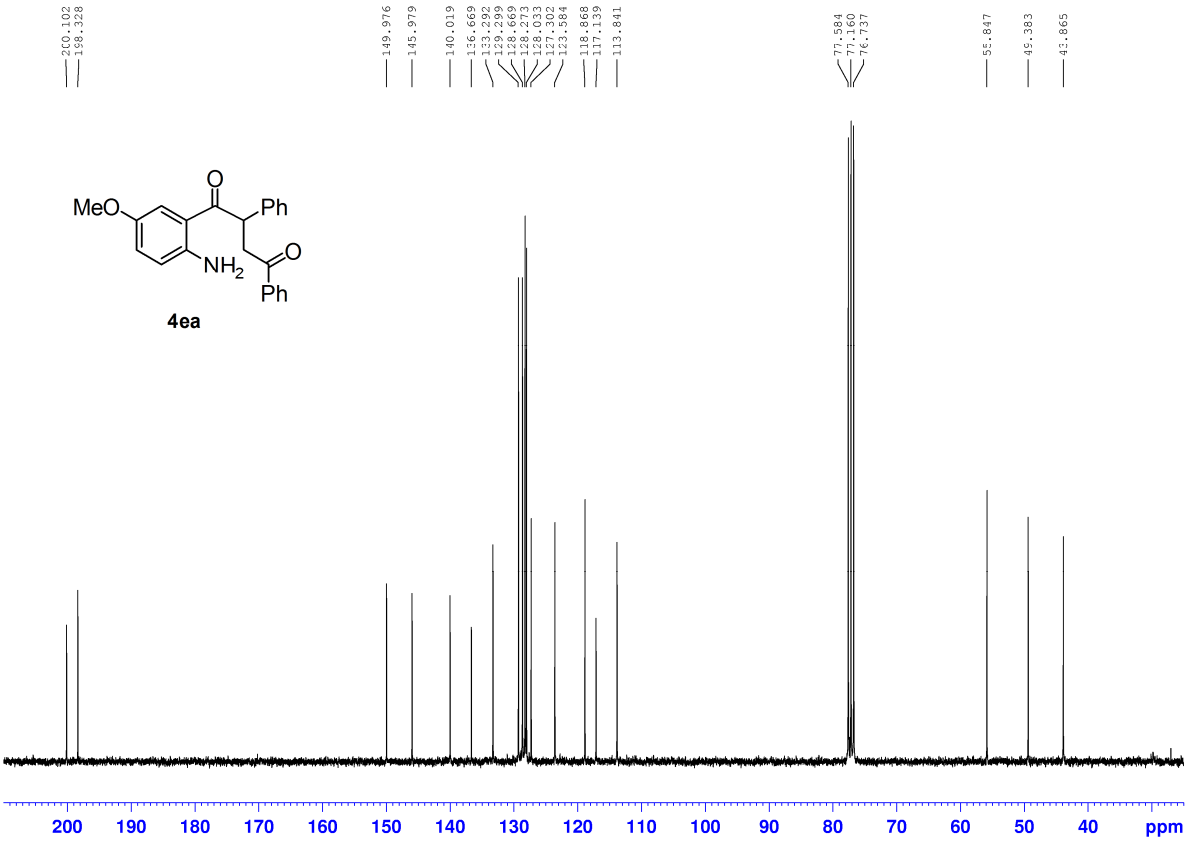
1.00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Ph
NH2
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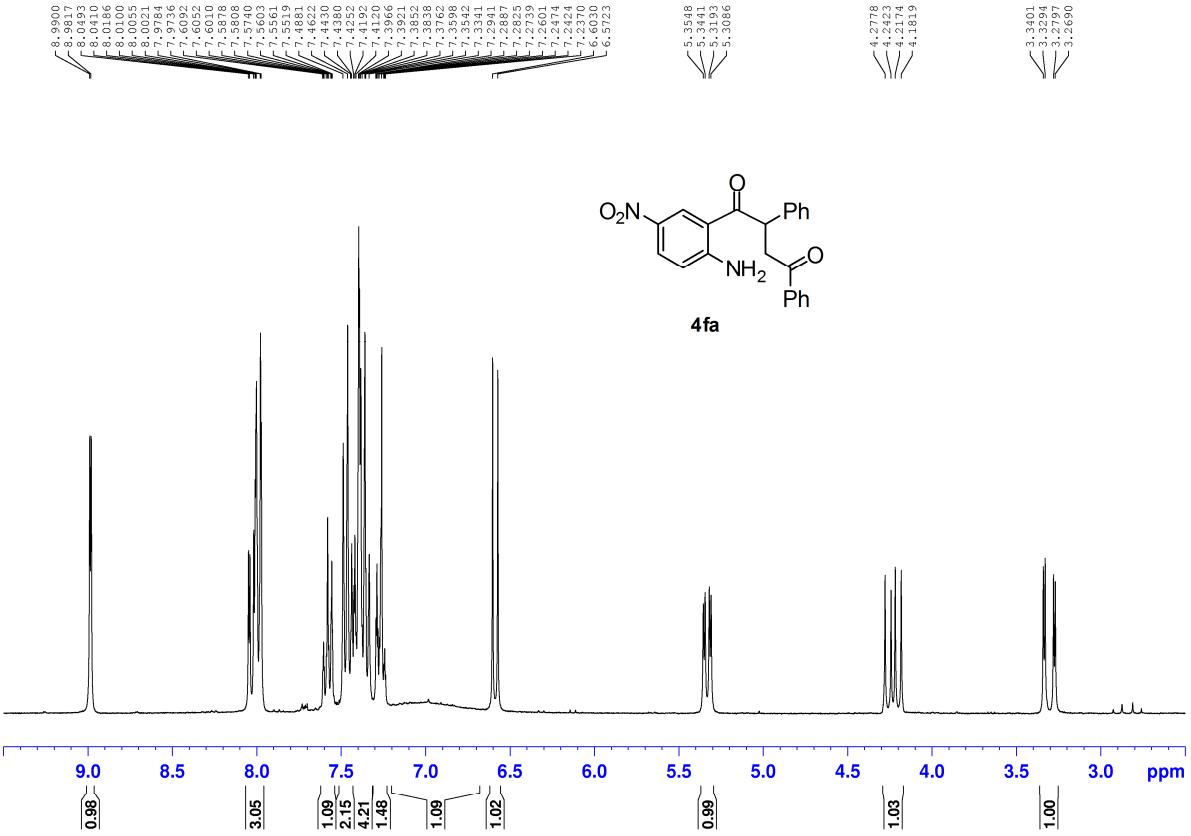
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Ph
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Ph
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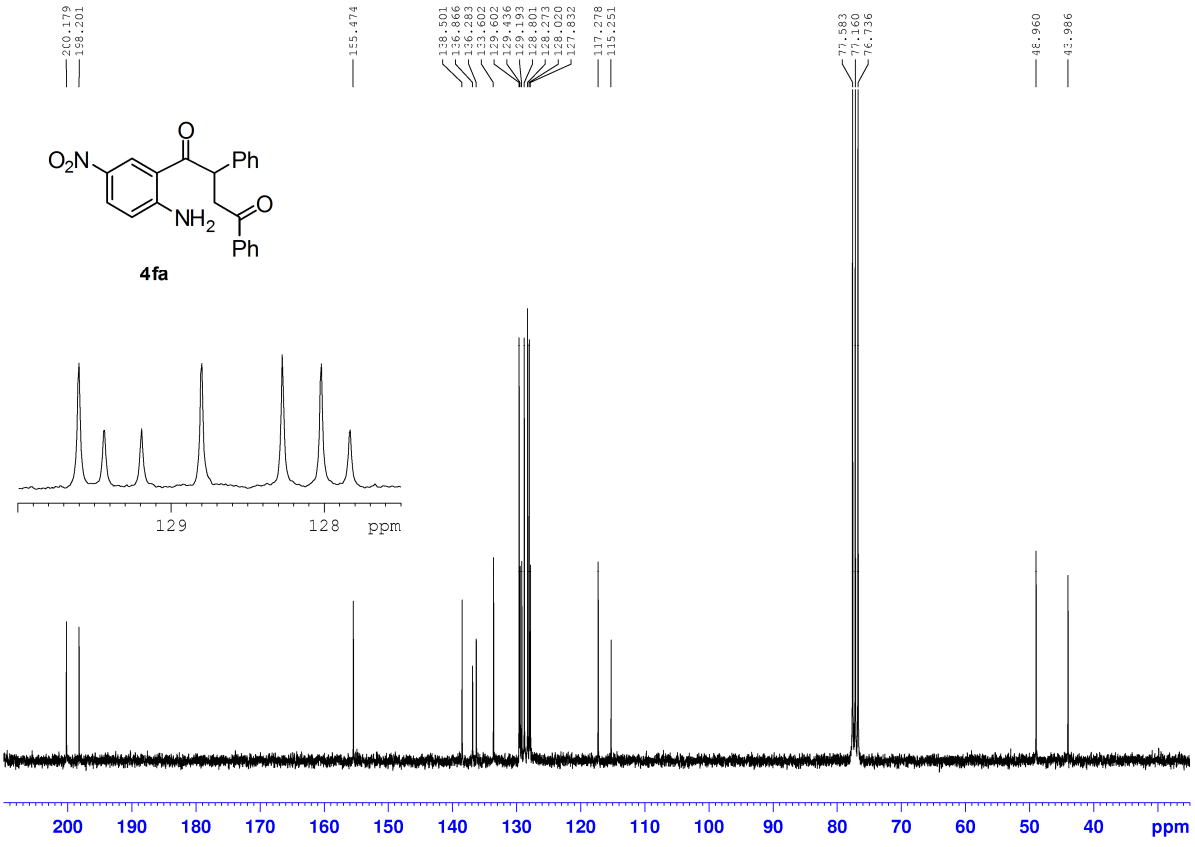
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Ph
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Ph
4fa
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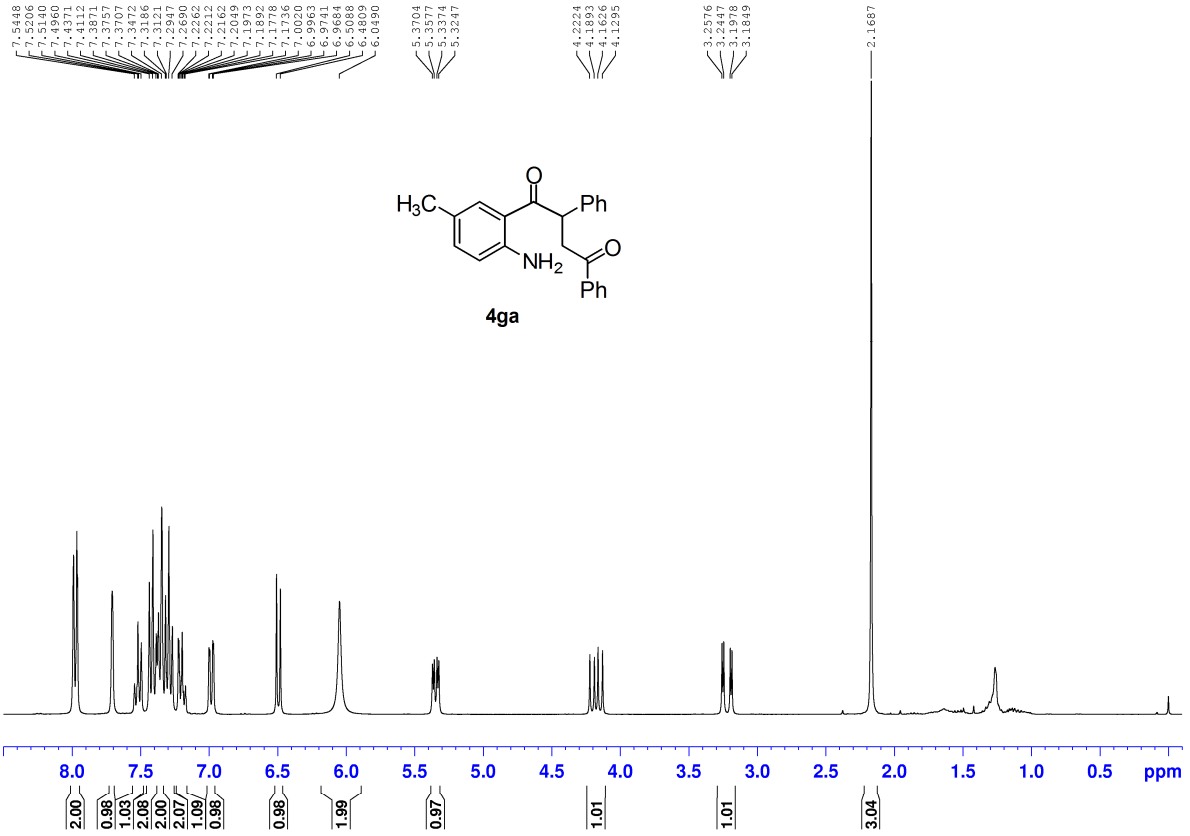
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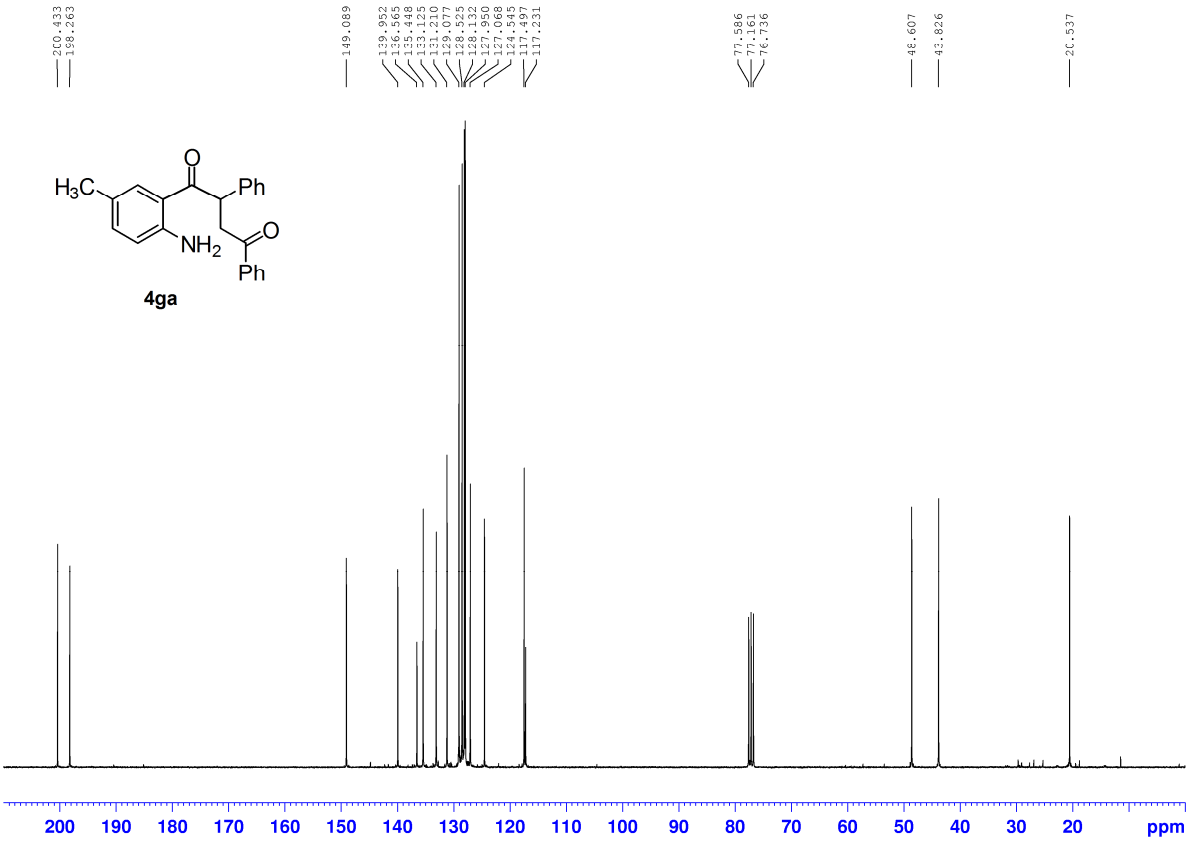
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117.231
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77.161
76.736
46.607
43.826
20.537
H3C
O
Ph
NH2
O
Ph
4ga
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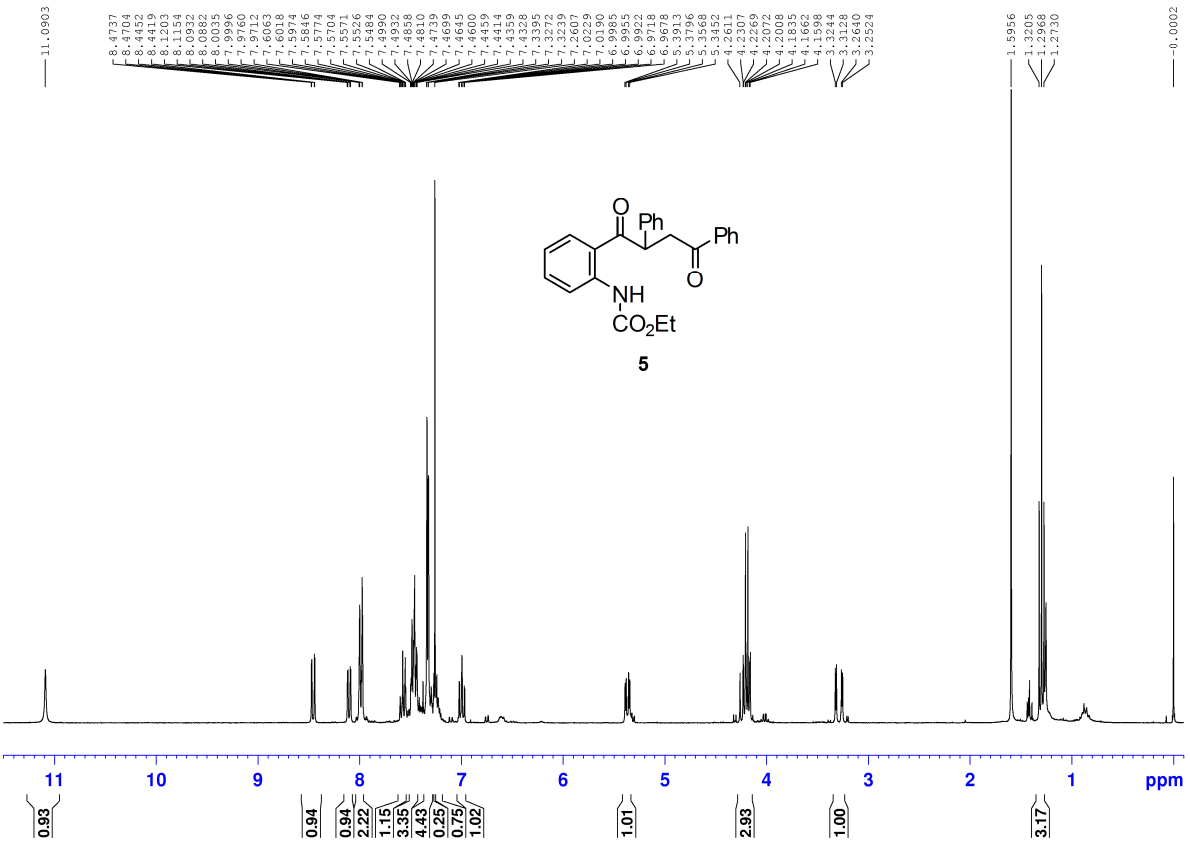
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5.2611
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4.2072
4.2008
4.1835
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Ph
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CO2Et
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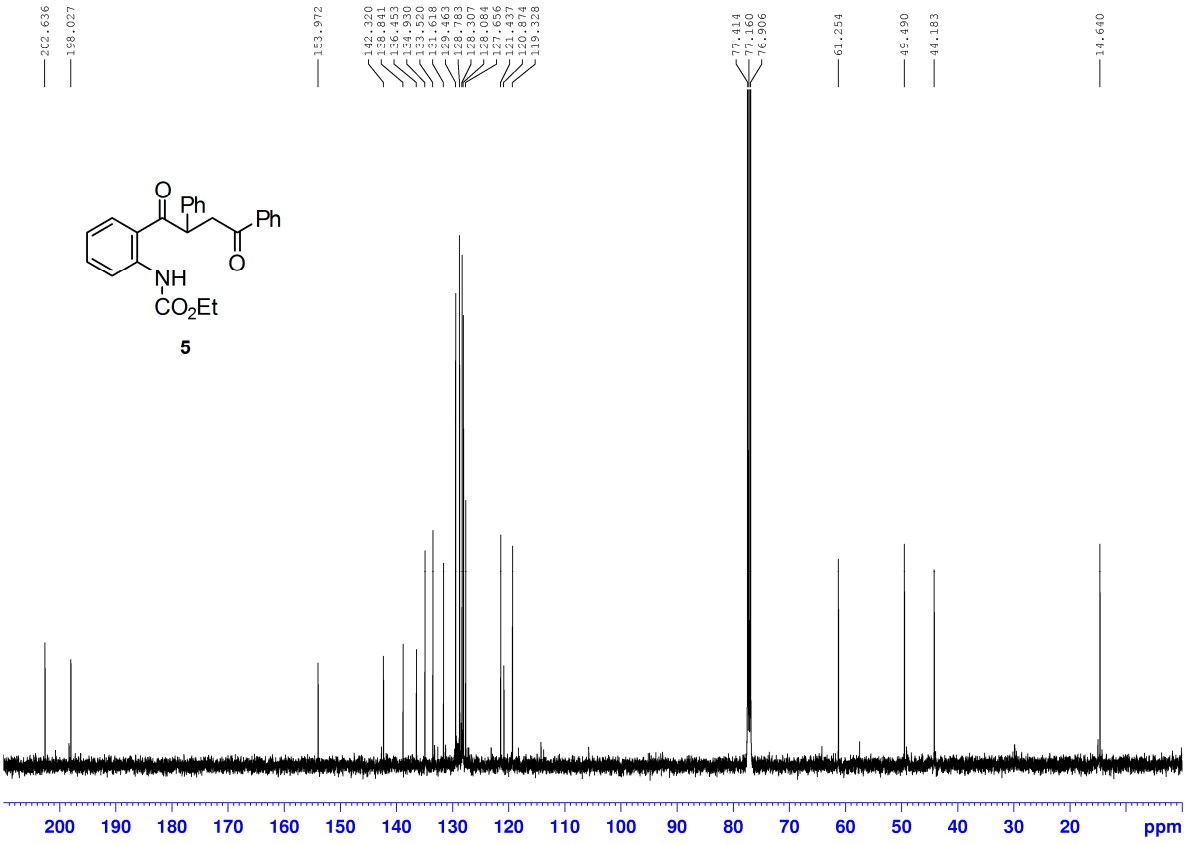
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Ph
Ph
O
NH
CO2Et
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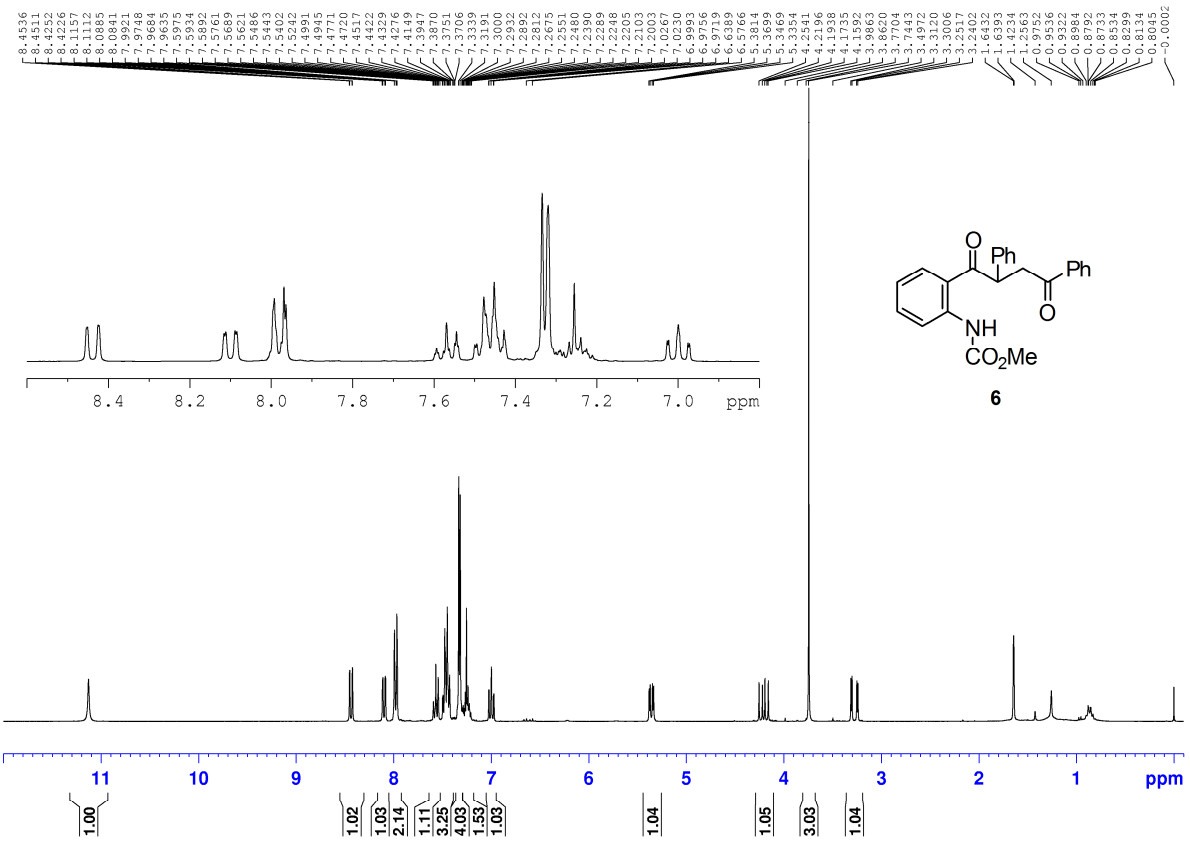
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7.5621
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7.5443
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7.5242
7.4991
7.4945
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7.4720
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7.4422
7.4329
7.4276
7.4149
7.3947
7.3870
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7.3706
7.3339
7.3191
7.3000
7.2932
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7.2812
7.2675
7.2581
7.2480
7.2390
7.2289
7.2248
7.2205
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7.2003
7.0267
7.0230
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6.9719
6.9489
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3.2517
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1.4234
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0.8792
0.8733
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7.2
7.0
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Ph
Ph
O
NH
CO2Me
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3
2
1
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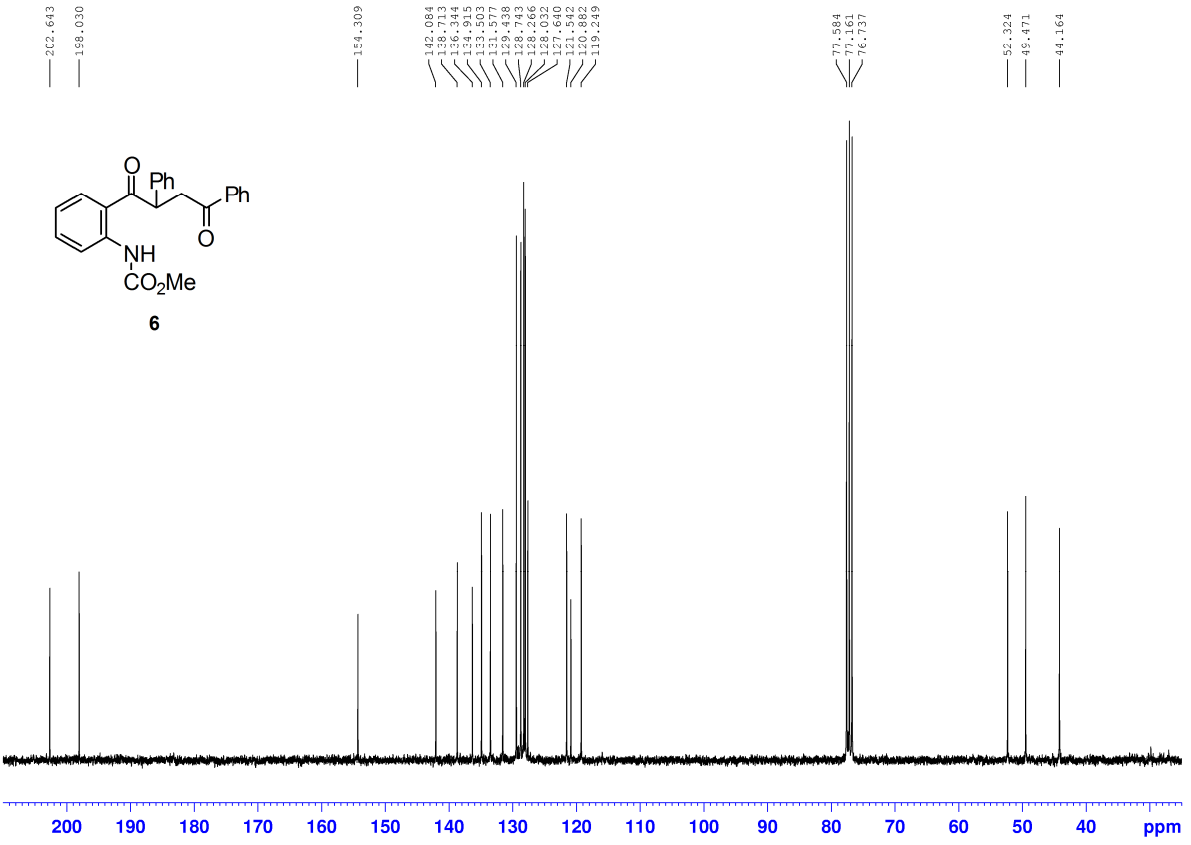
1.04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128.032
127.640
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120.882
119.249
77.584
77.161
76.737
52.324
45.471
44.164
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Ph
Ph
O
NH
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180
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100
90
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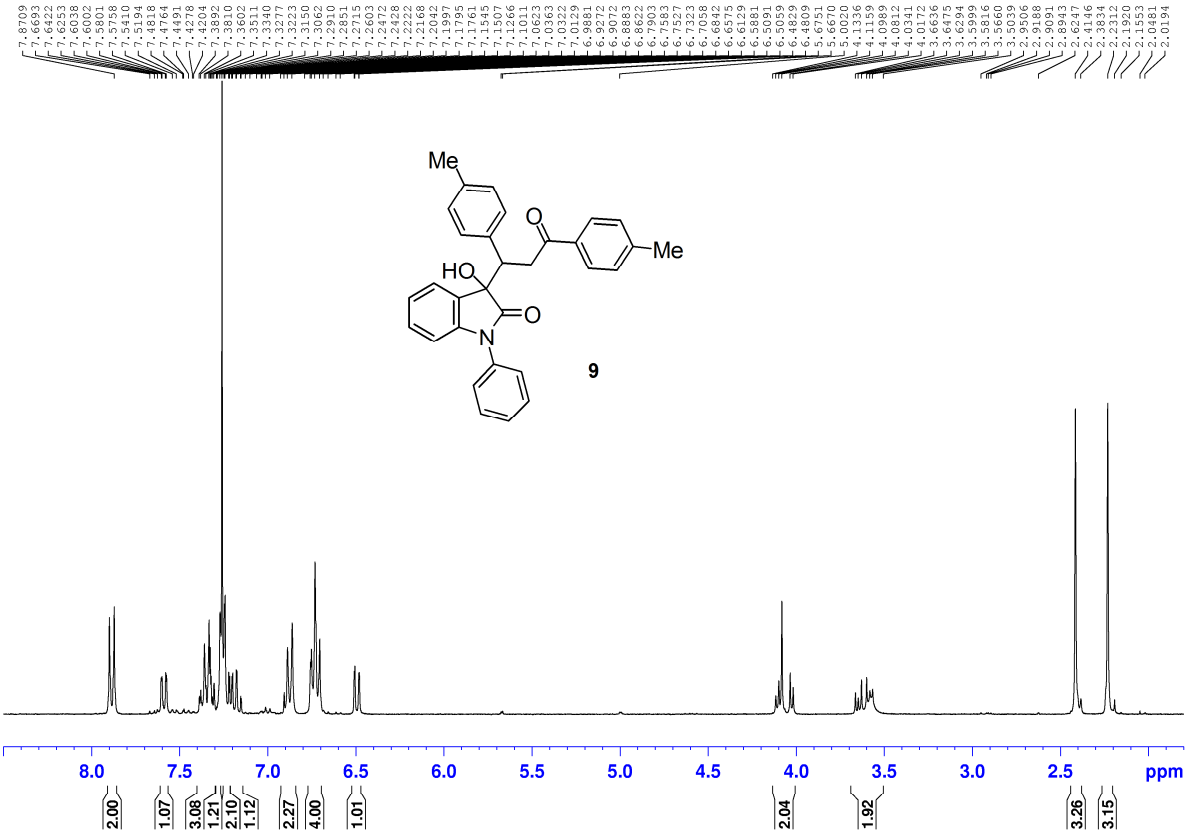
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Me
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5.0
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4.0
3.5
3.0
2.5
ppm
2.00
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1.21
2.10
1.12
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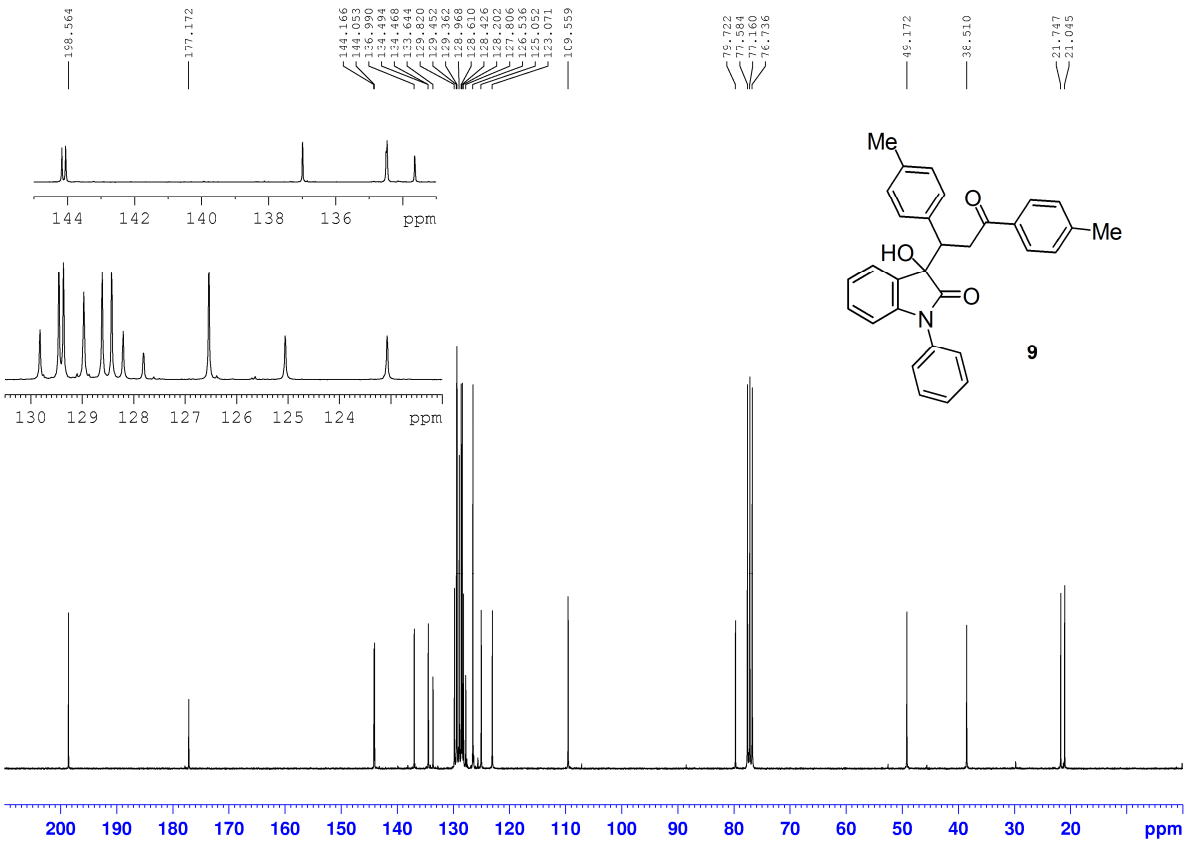
1.01
2.04
1.92
3.26
3.15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77.584
77.160
76.736
45.172
36.510
21.747
21.045
144
142
140
138
136
ppm
130
129
128
127
126
125
124
ppm
Me
O
Me
HO
O
N
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80
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50
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20
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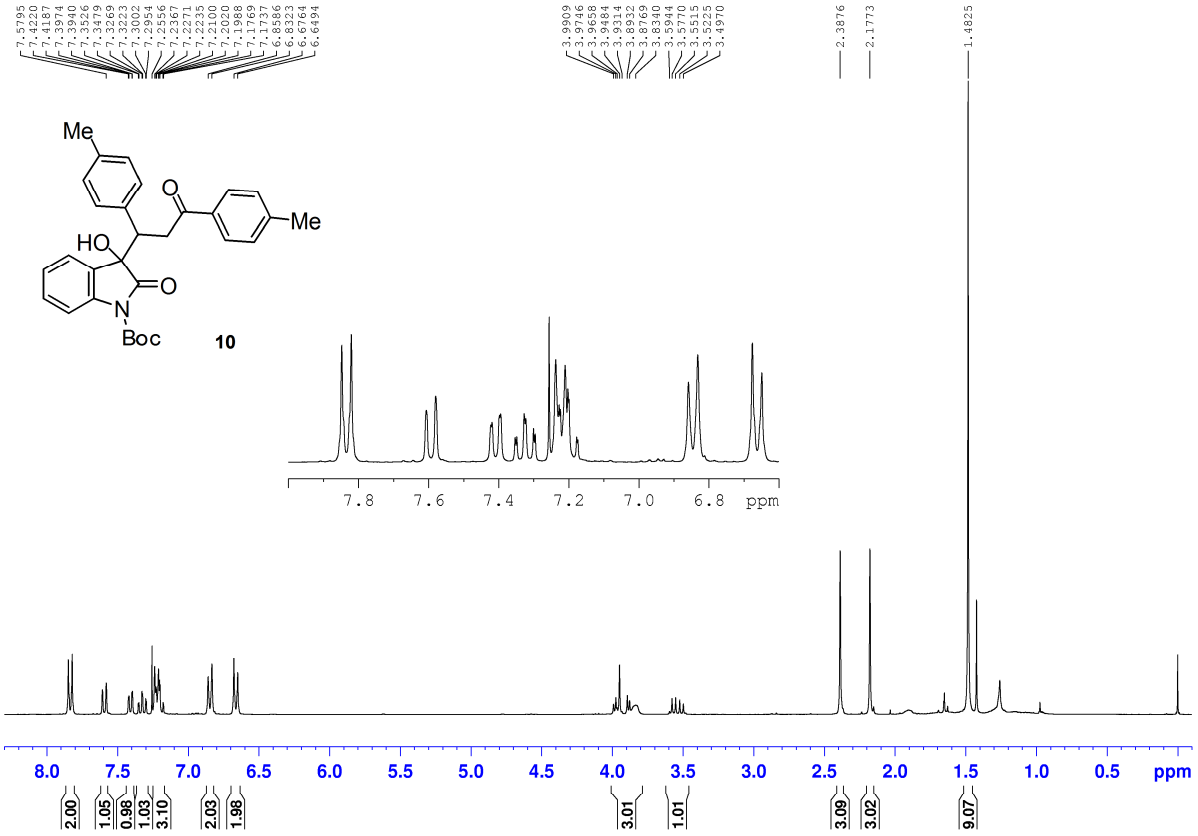
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HO
O
N
Boc
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6.8
ppm
8.0
7.5
7.0
6.5
6.0
5.5
5.0
4.5
4.0
3.5
3.0
2.5
2.0
1.5
1.0
0.5
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3.10
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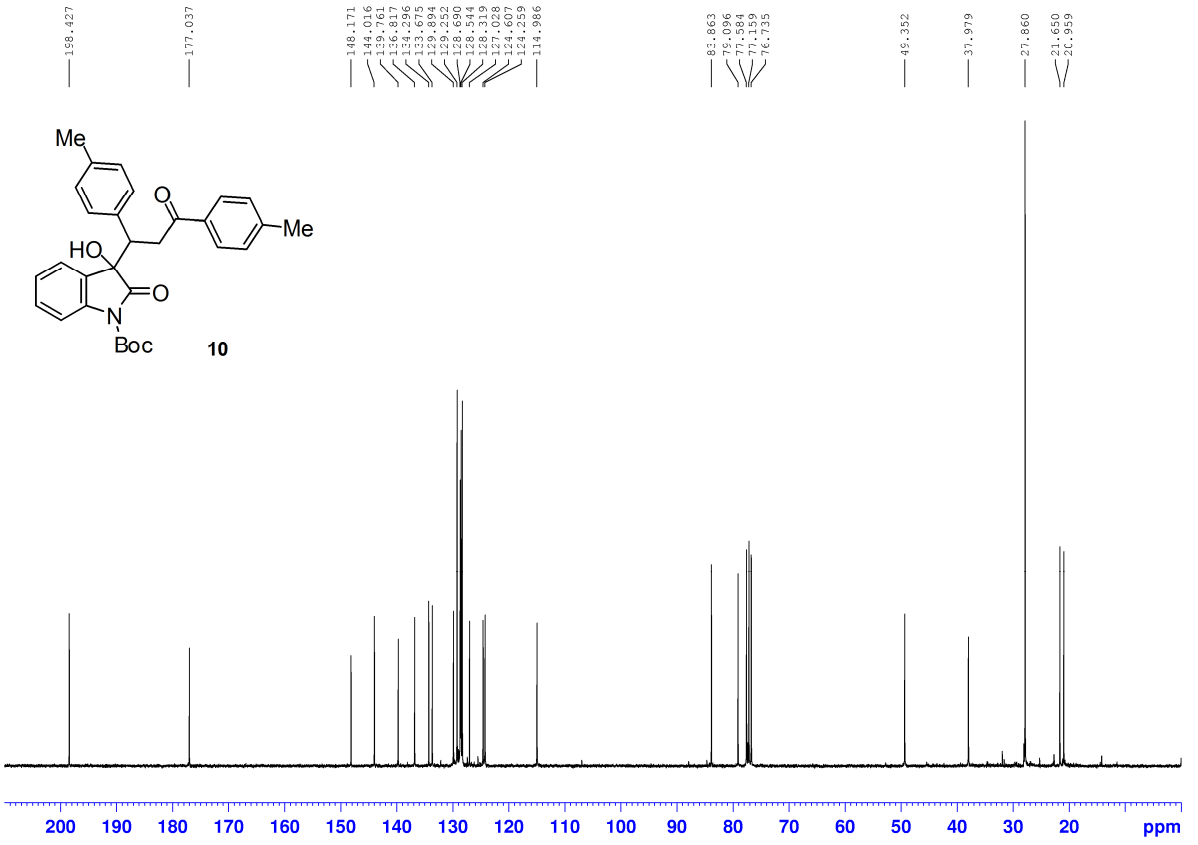
3.01
1.01
3.09
3.02
9.07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124.607
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81.863
79.096
77.584
77.159
76.735
49.352
31.979
27.860
21.650
20.959
Me
O
Me
HO
O
N
Boc
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150
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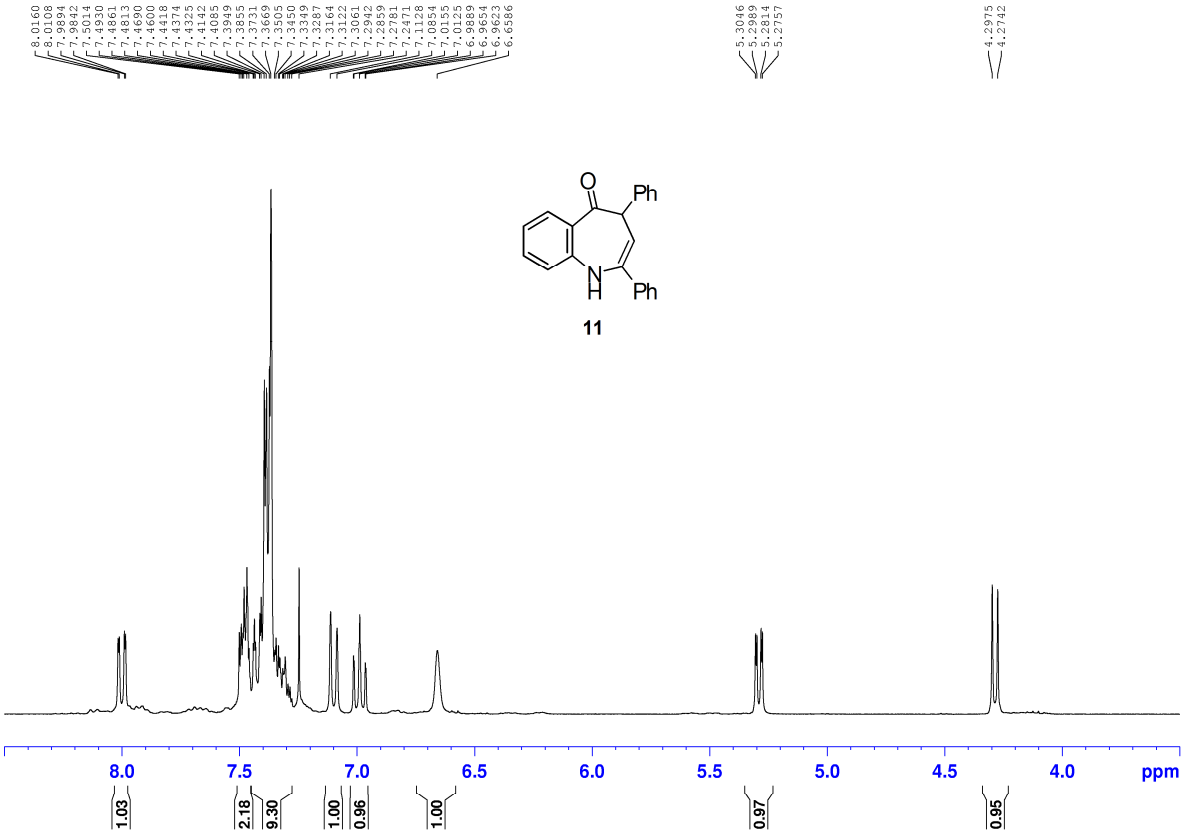
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7.4374
7.4325
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7.4085
7.3949
7.3855
7.3721
7.3669
7.3505
7.3450
7.3349
7.3287
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7.2942
7.2859
7.2781
7.2471
7.1128
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7.0155
7.0125
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6.9623
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5.2814
5.2757
4.2975
4.2742
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Ph
N
H
Ph
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6.0
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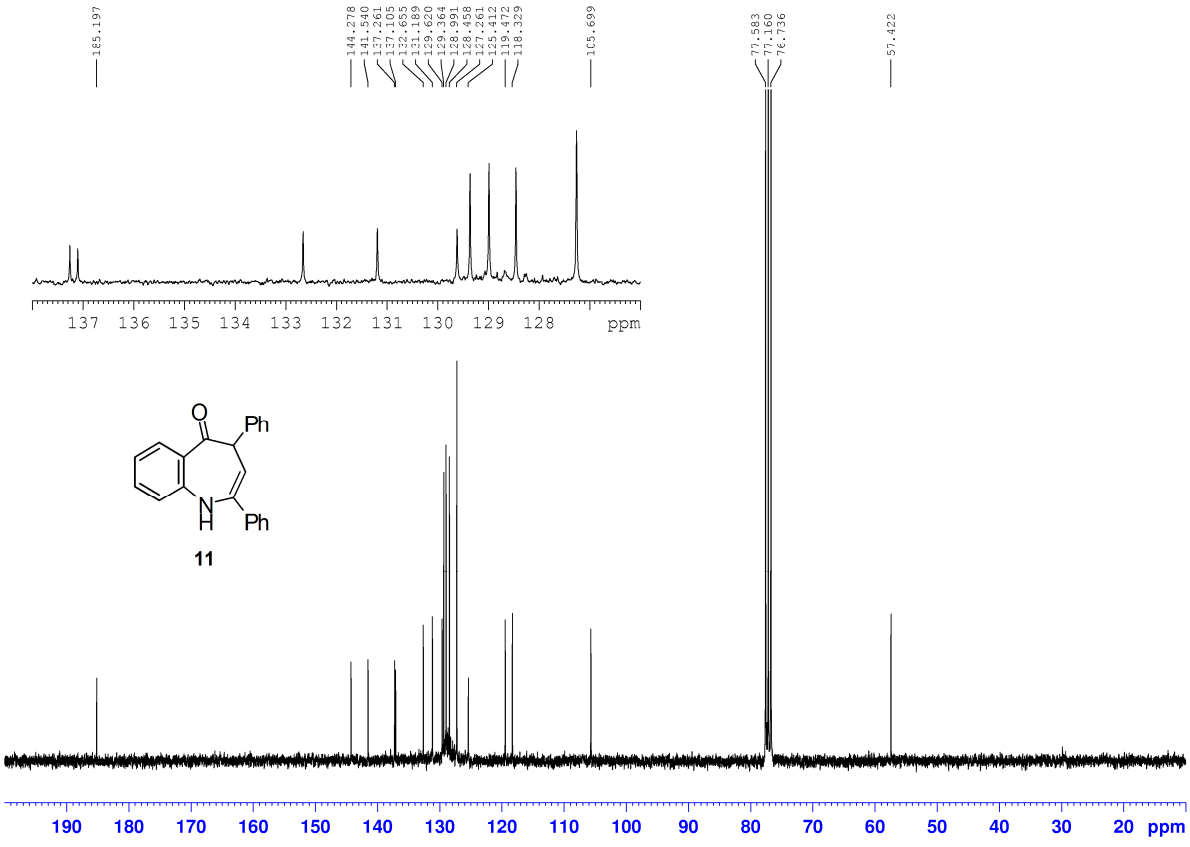
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118.329
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77.160
76.736
57.422
137
136
135
134
133
132
131
130
129
128
ppm
O
Ph
N
H
Ph
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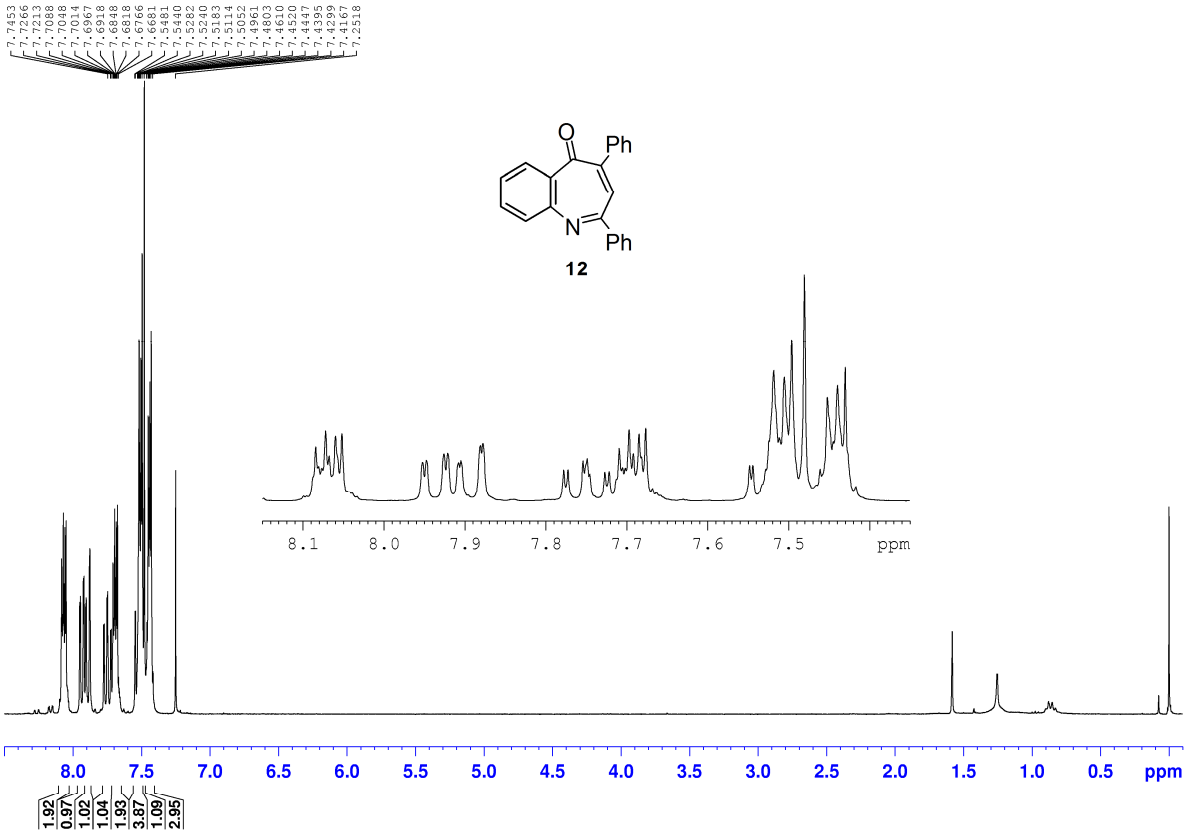
ppm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7.6681
7.5481
7.5440
7.5282
7.5240
7.5183
7.5114
7.5052
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Ph
N
Ph
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7.6
7.5
ppm
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7.0
6.5
6.0
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5.0
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4.0
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3.0
2.5
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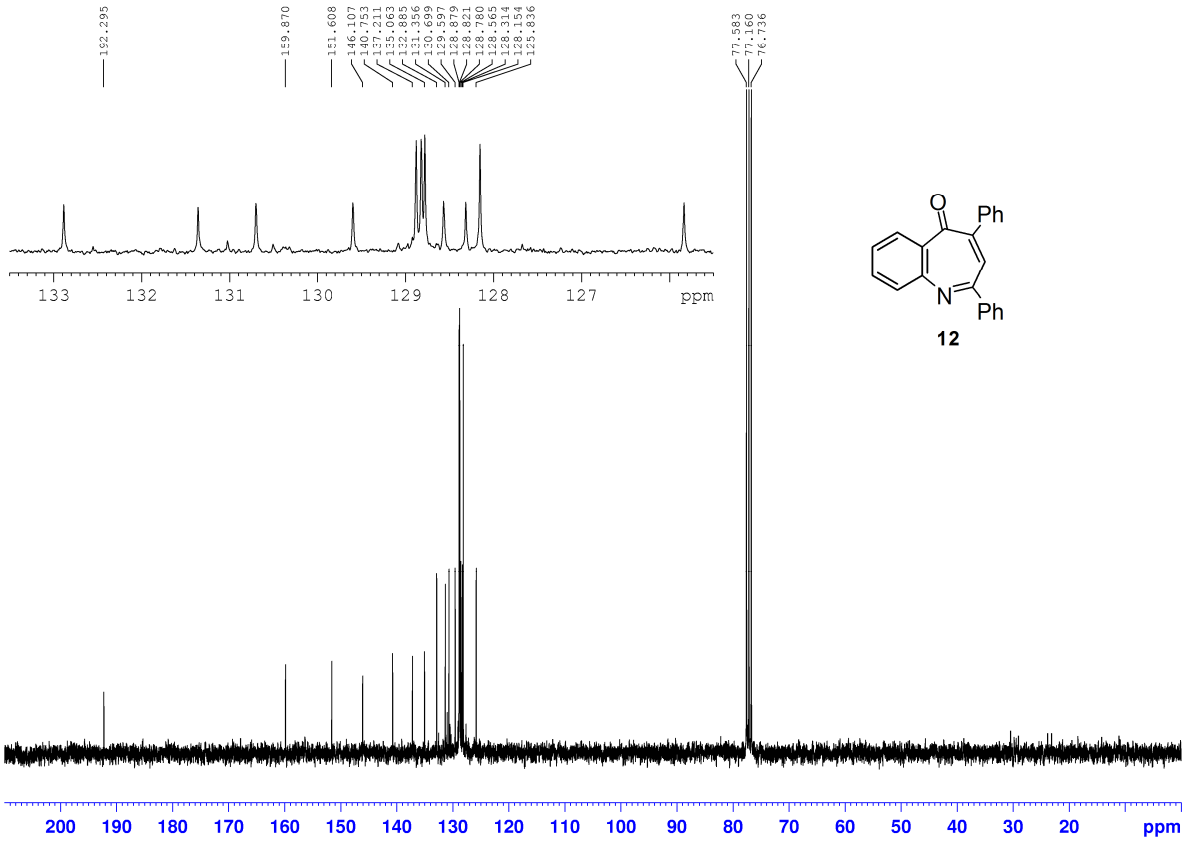
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77.583
77.160
76.736
O
Ph
N
Ph
12
133
132
131
130
129
128
127
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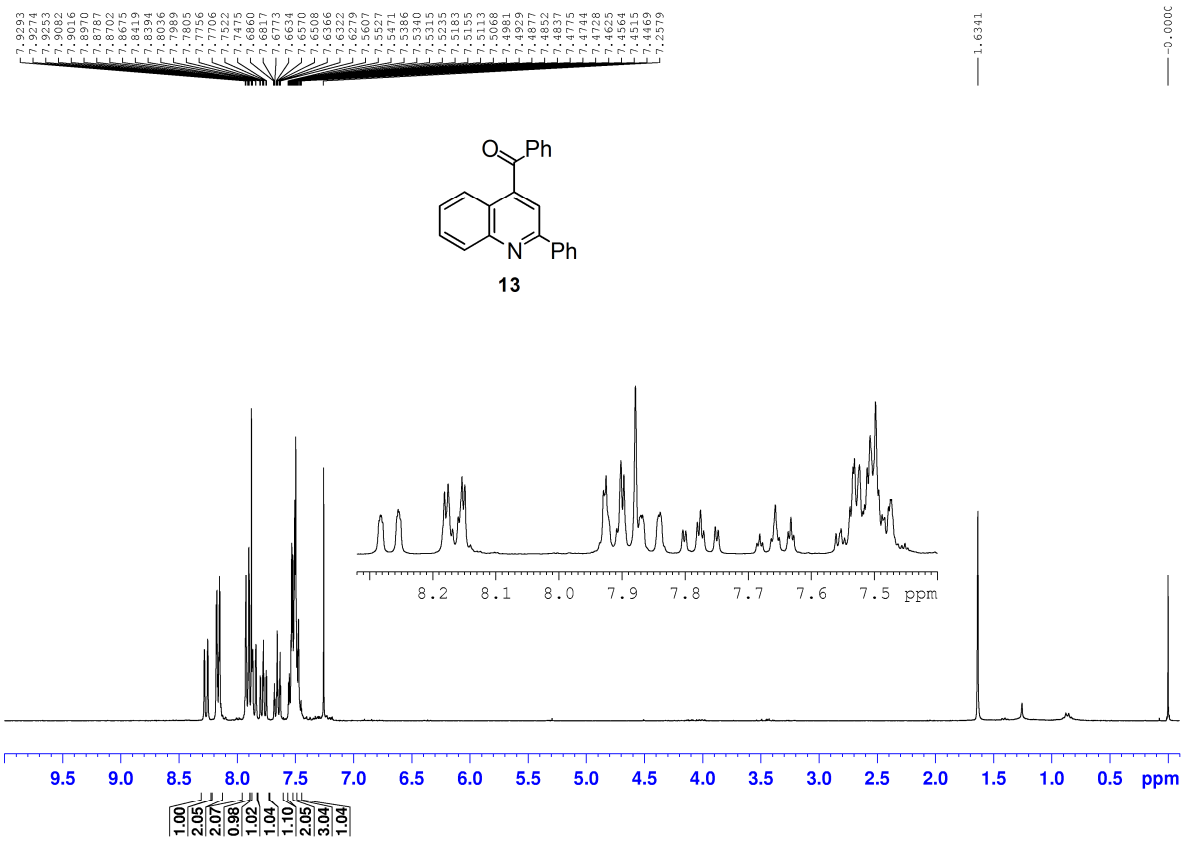
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7.6817
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Ph
N
Ph
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7.5
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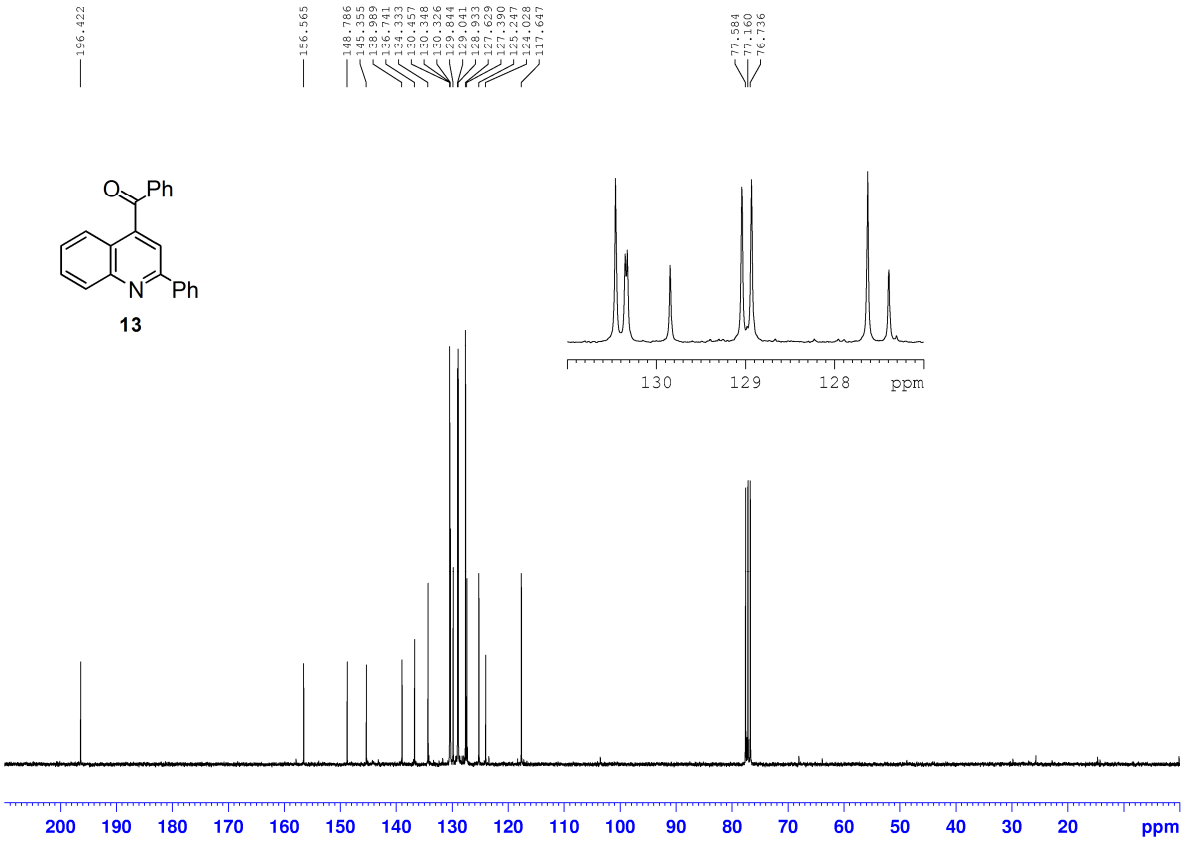
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124.028
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77.160
76.736
O
Ph
N
Ph
13
130
129
128
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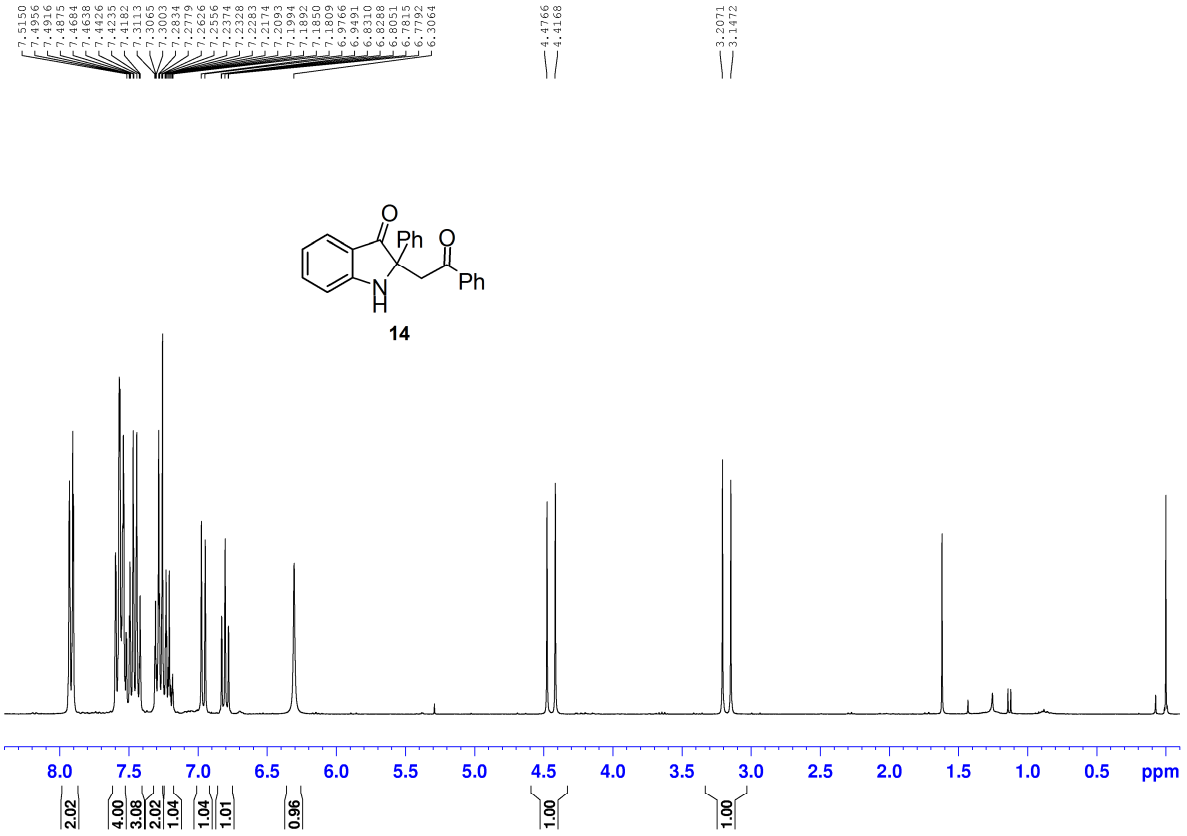
ppm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7.2233
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7.1809
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6.8310
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Ph
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N
H
Ph
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5.0
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4.0
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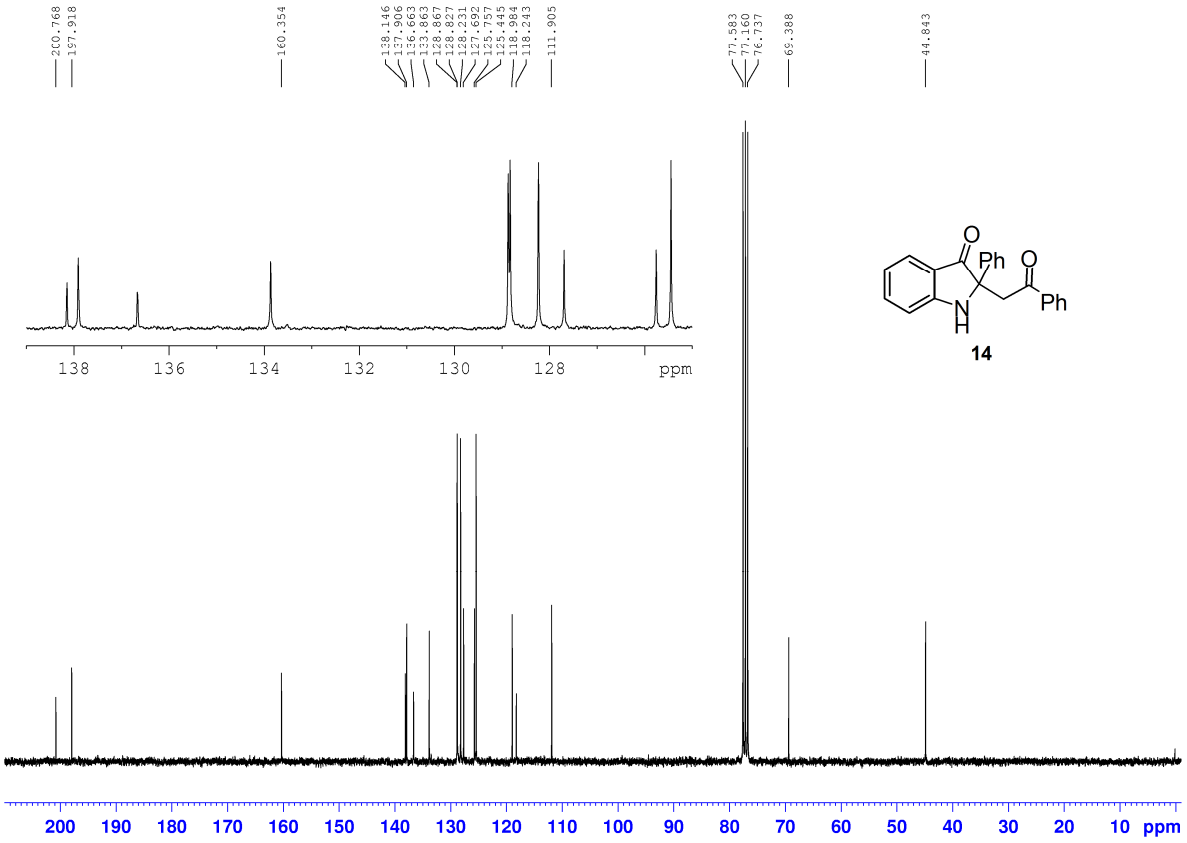
1.00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132
130
128
ppm
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Ph
O
N
H
Ph
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100
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70
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