

Supporting Information-III

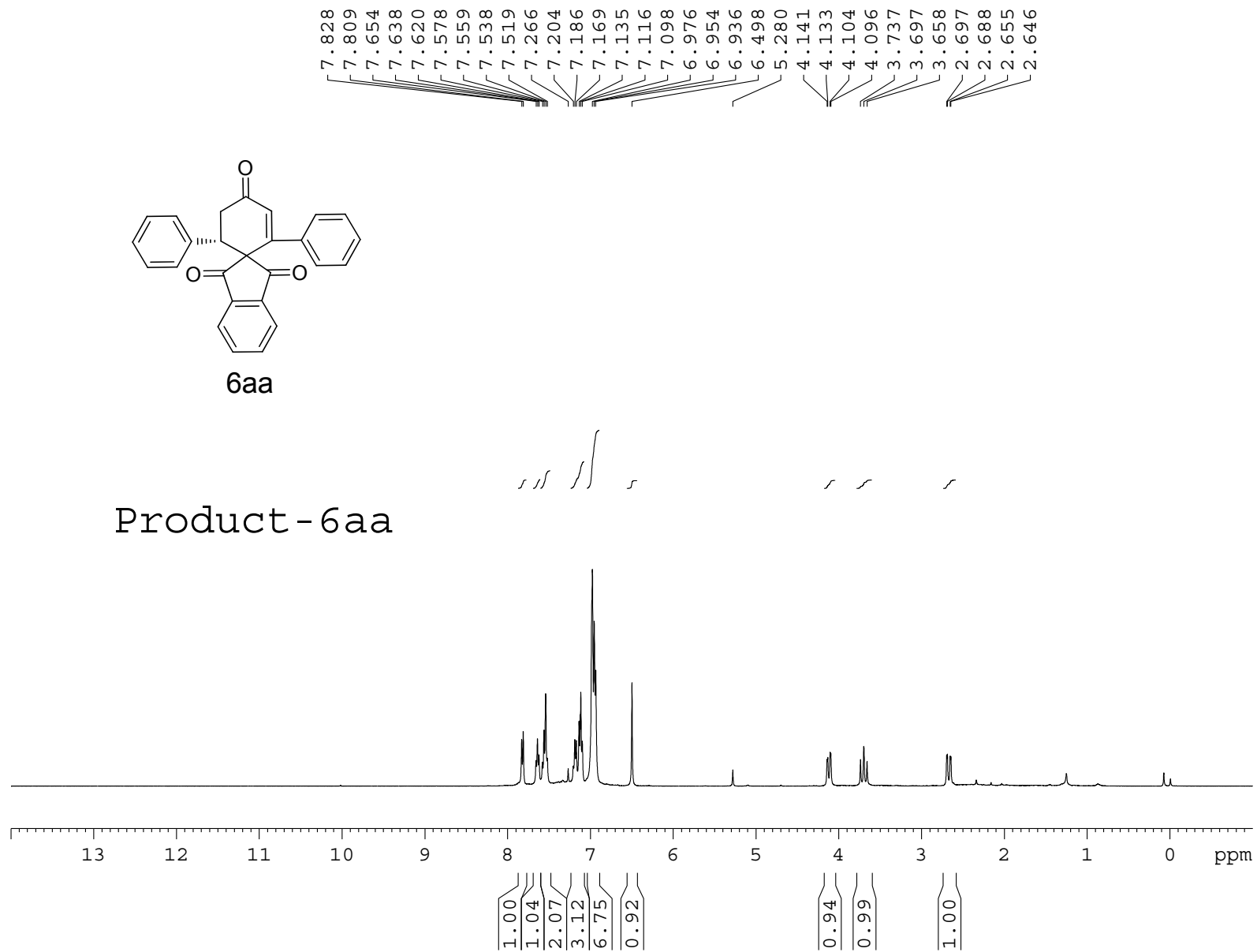
Discovery of 2-Aminobuta-1,3-enynes in Asymmetric Organocascade Catalysis:
Construction of Drug-like Spirocyclic Cyclohexanes Having Five to Six Contiguous
Stereocenters

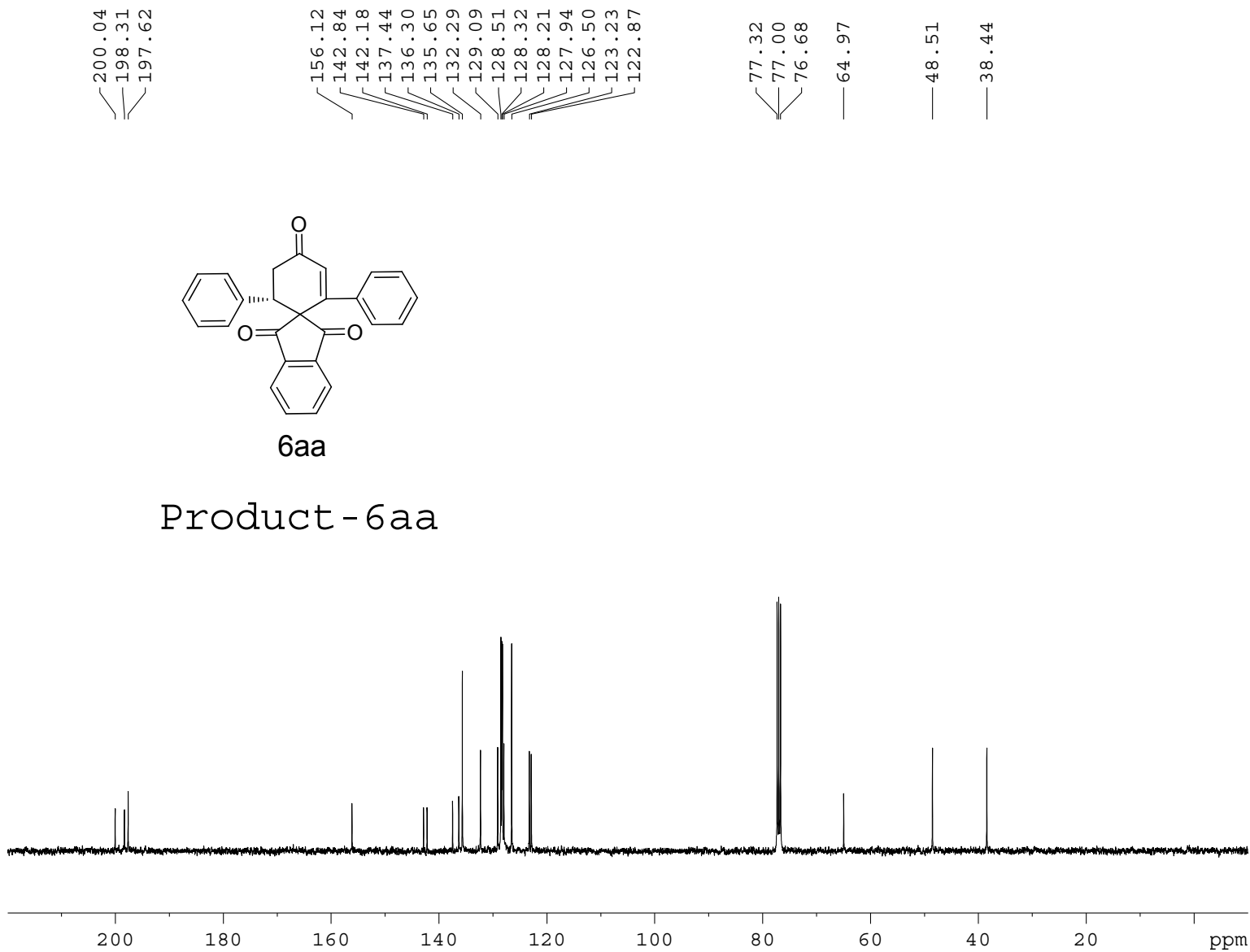
Dhevalapally B. Ramachary,* Chintalapudi Venkaiah, and Patoju Murali Krishna

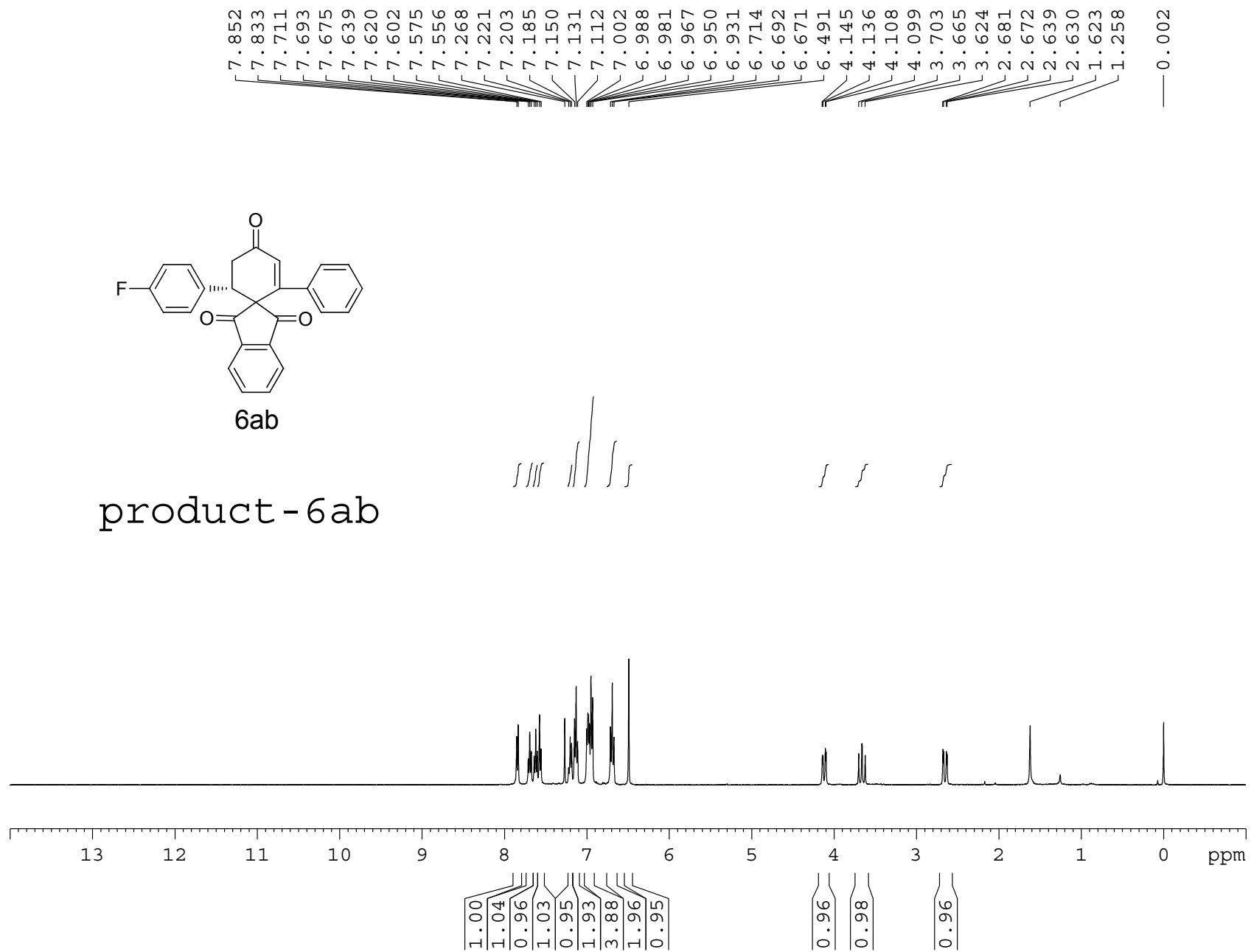
School of Chemistry, University of Hyderabad, Central University (P.O.),

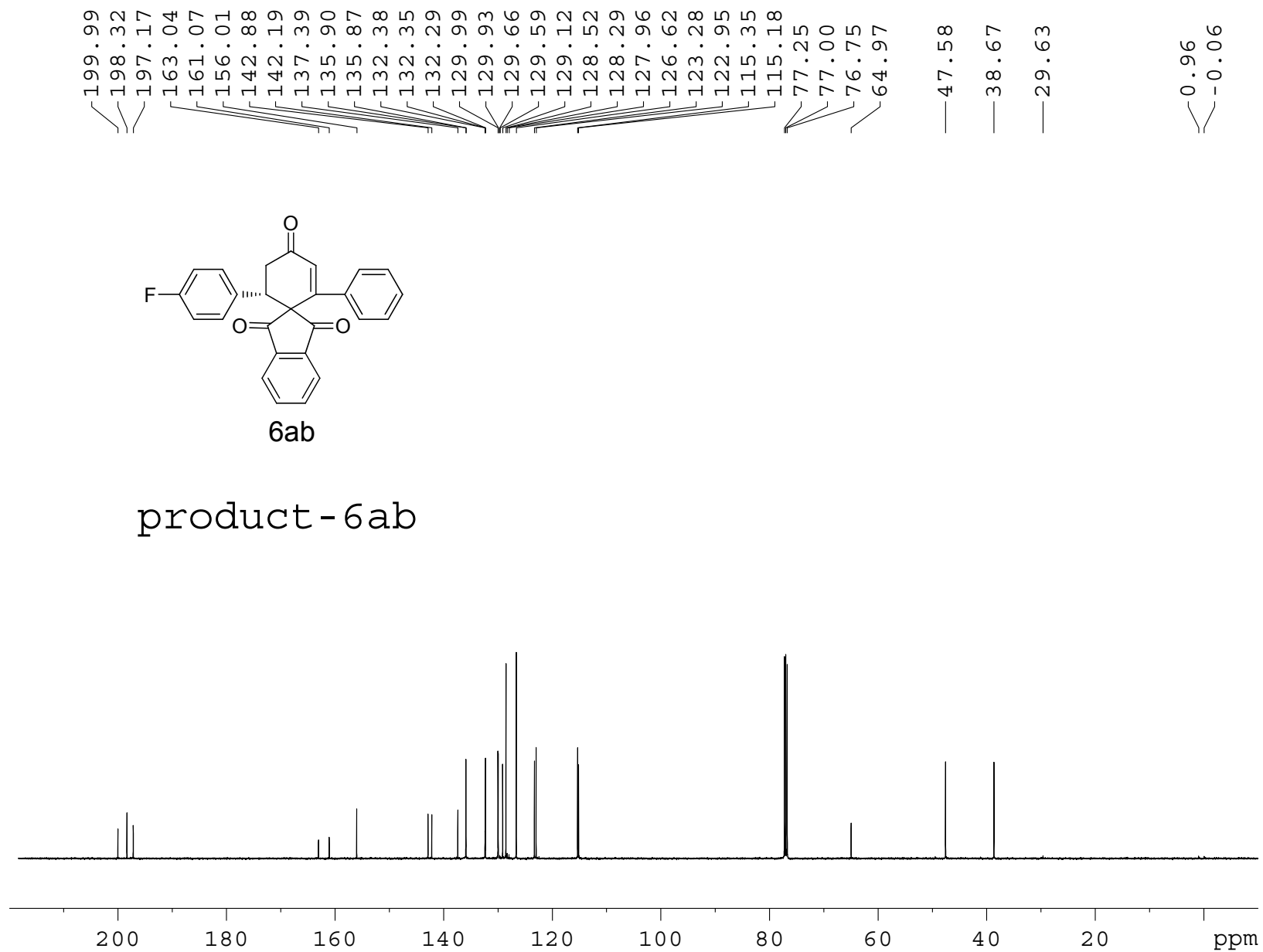
Hyderabad 500 046, India

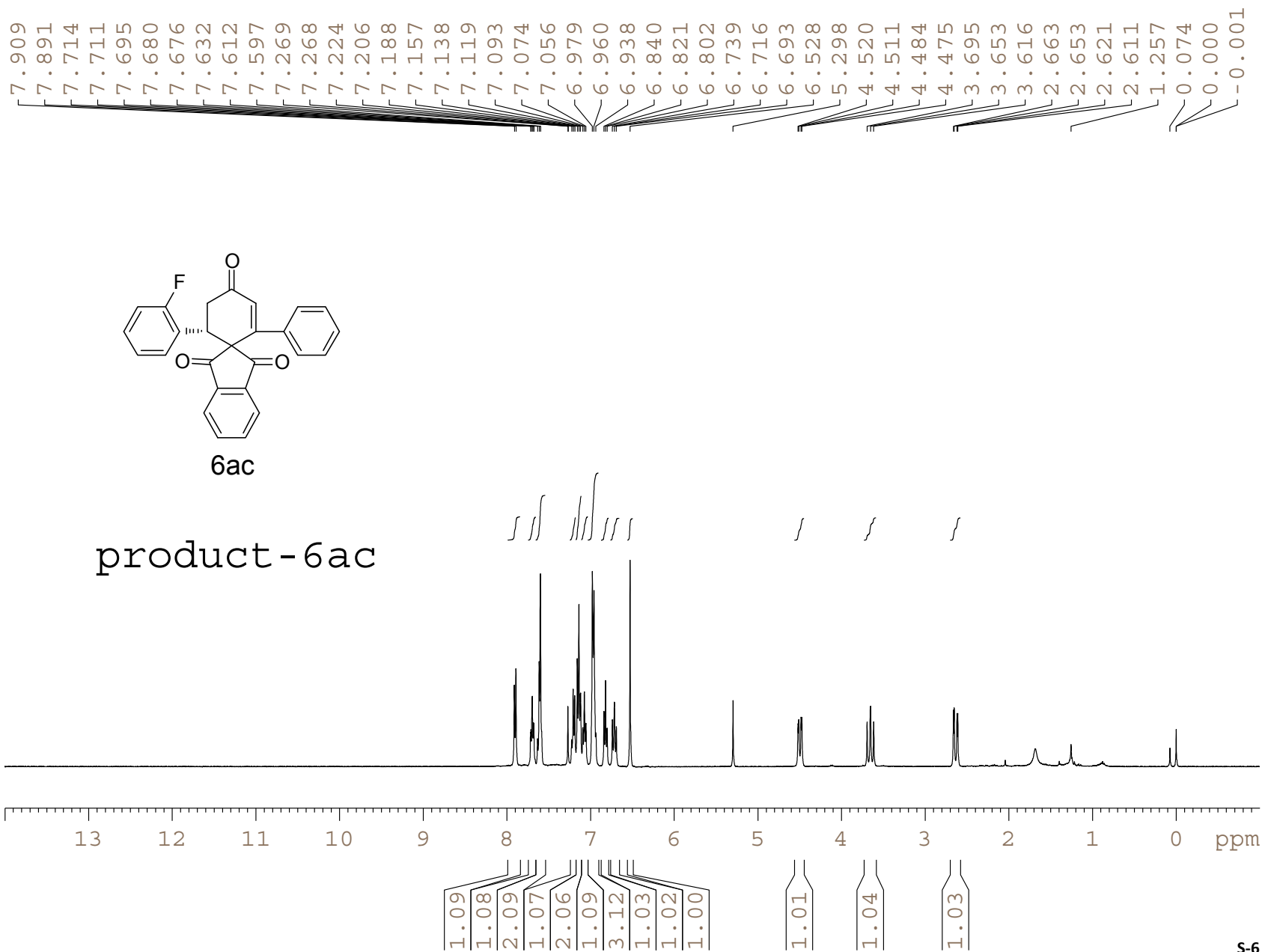
ramsc@uohyd.ernet.in

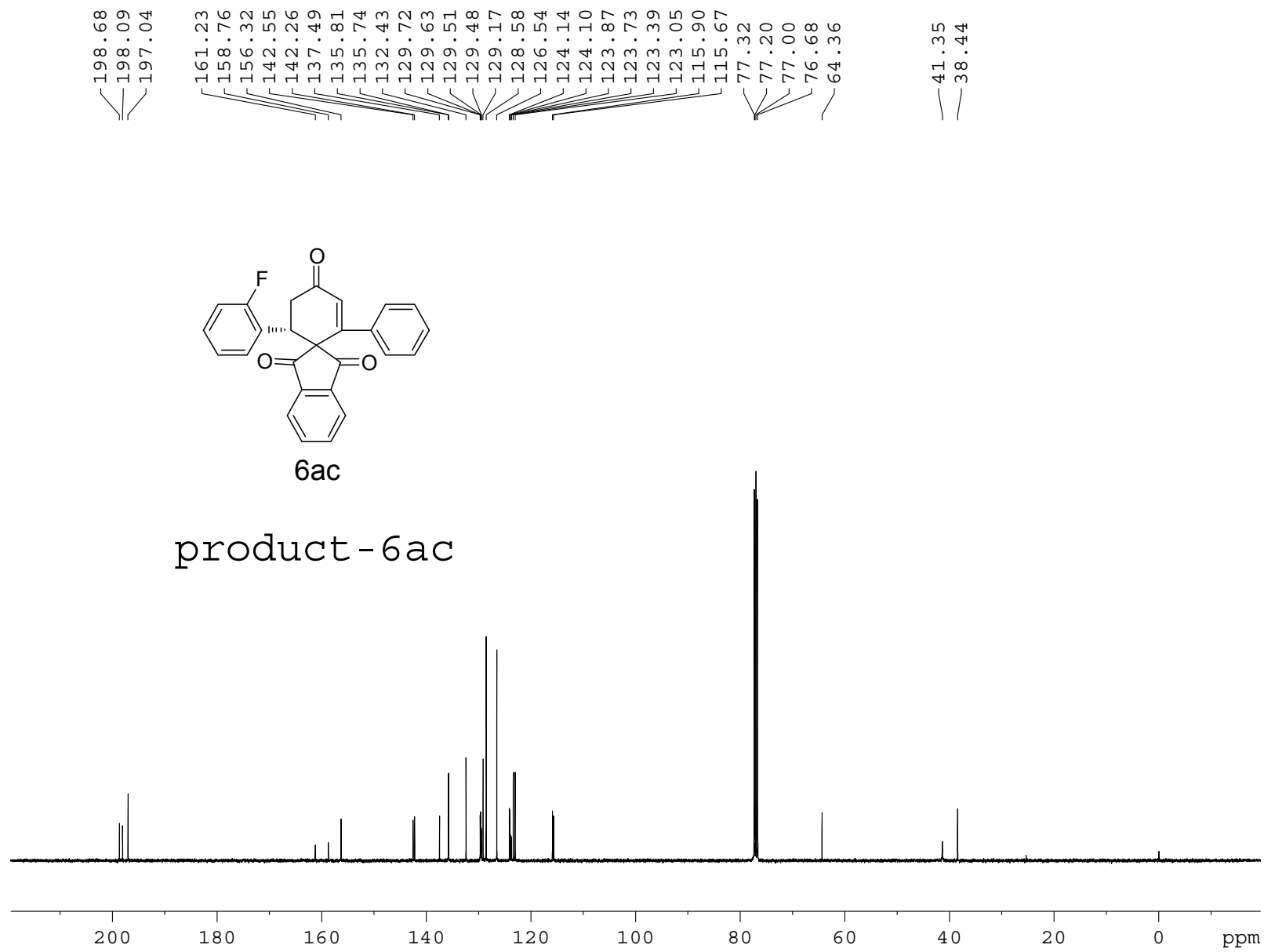


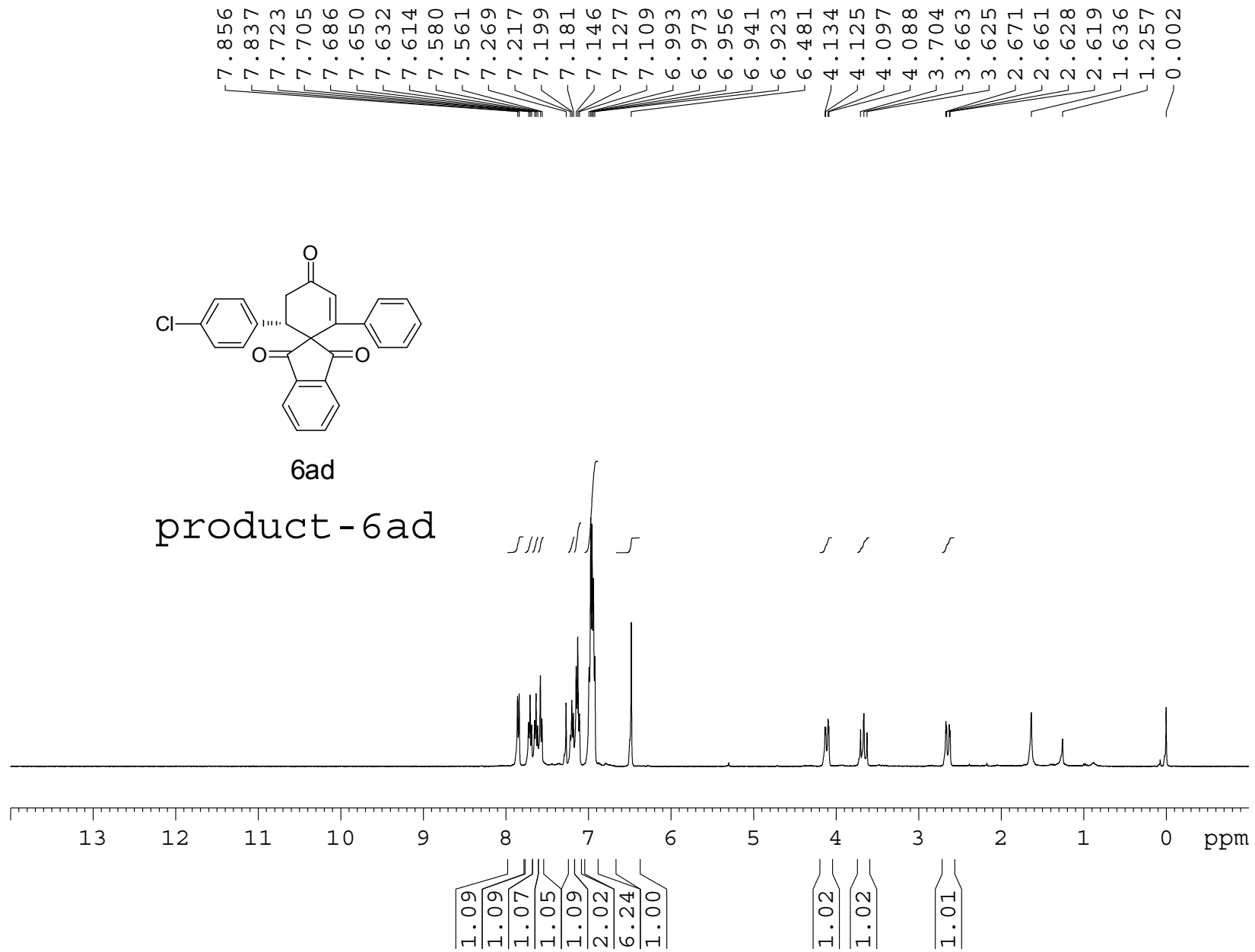


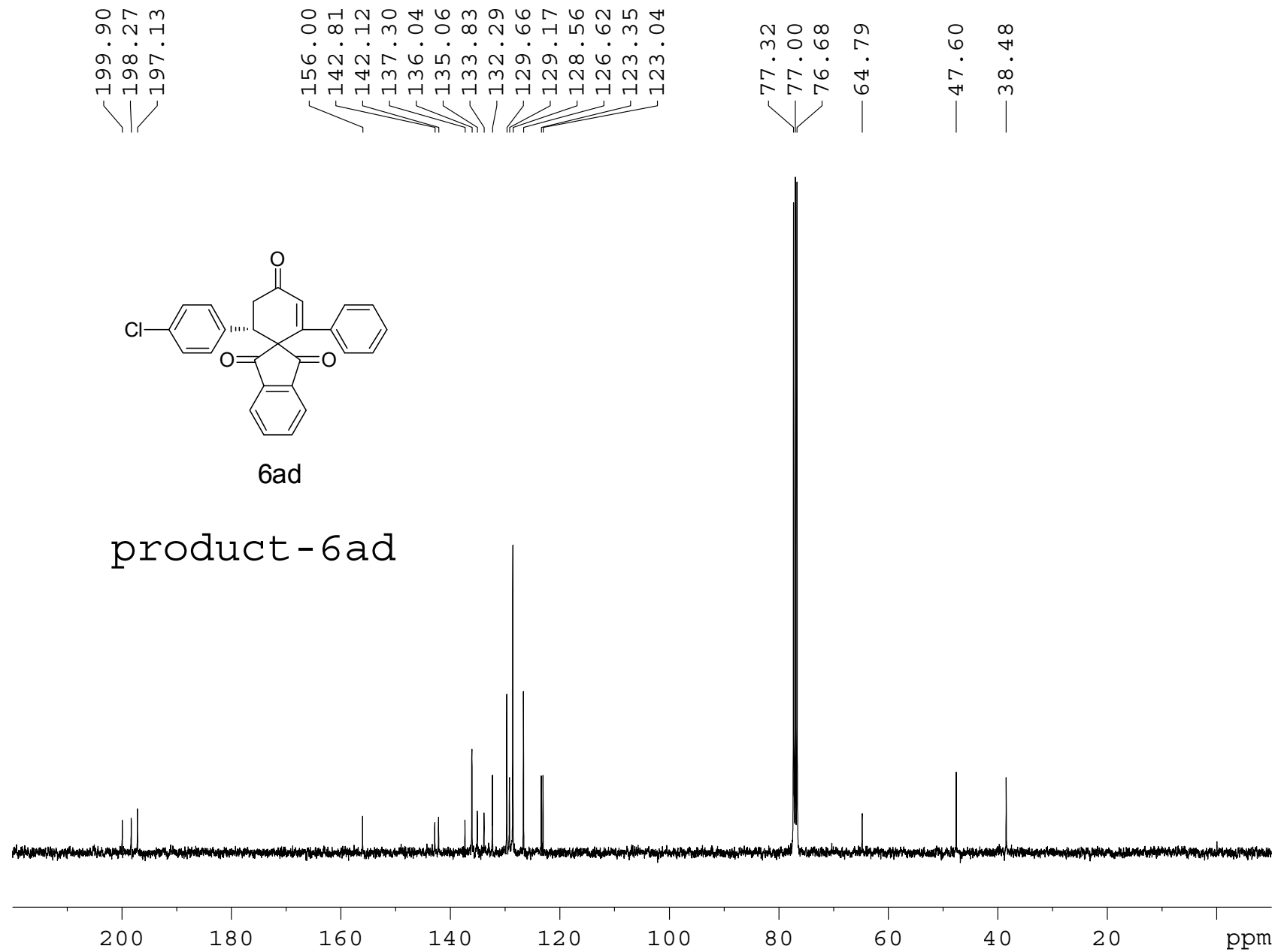




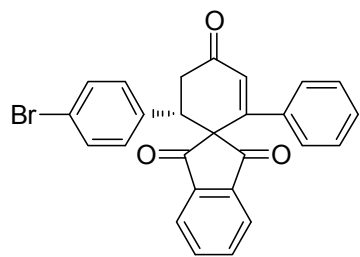






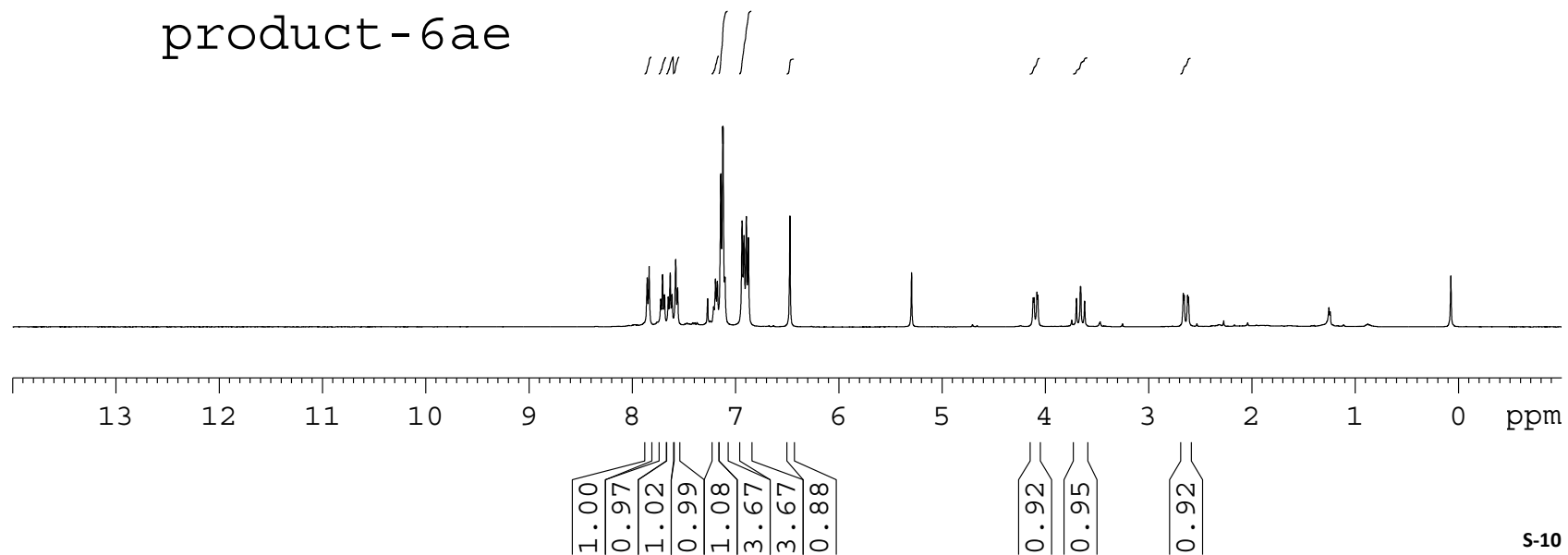


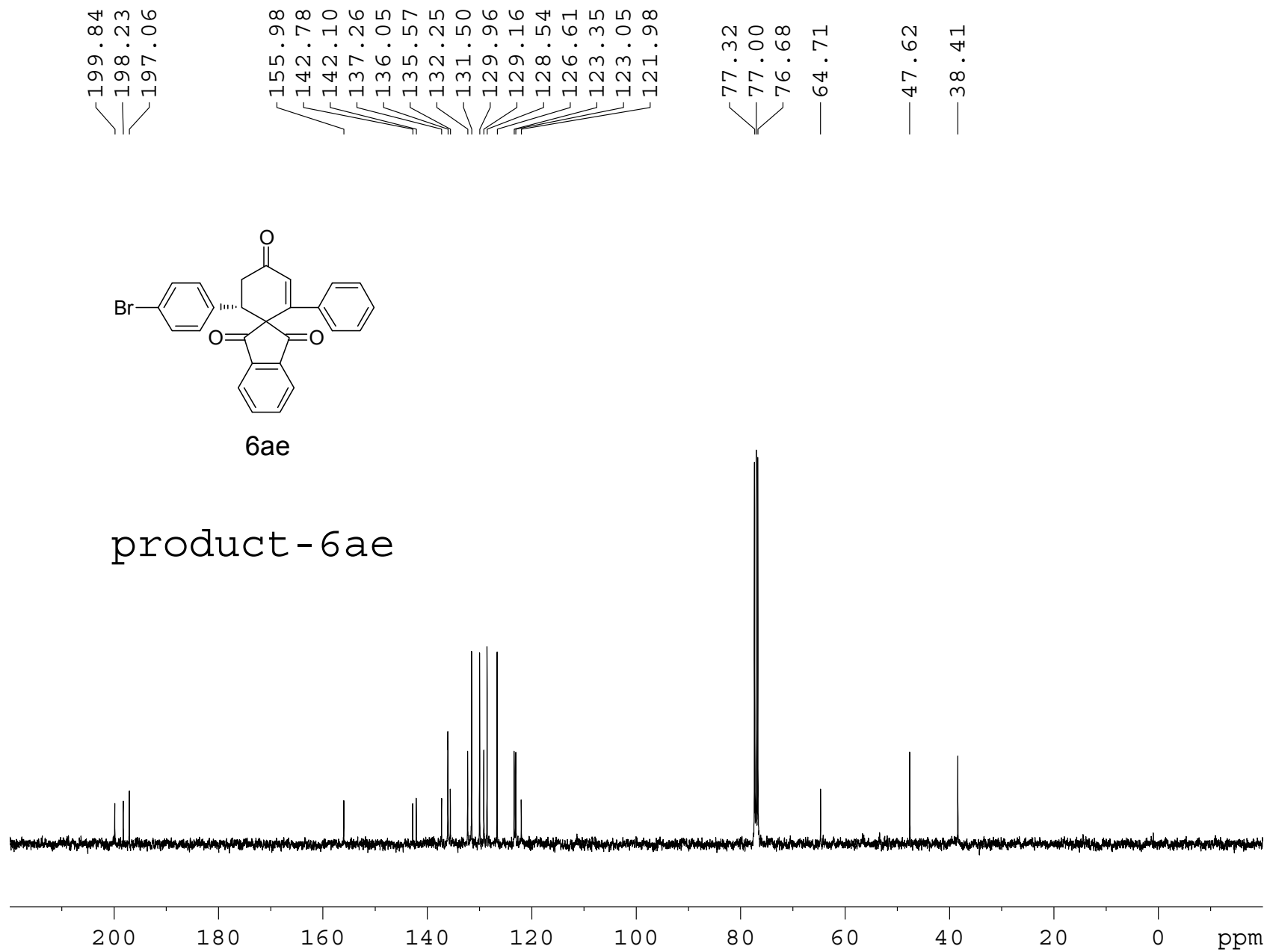
7.853
7.834
7.757
7.721
7.704
7.685
7.649
7.630
7.612
7.576
7.558
7.410
7.391
7.370
7.267
7.242
7.209
7.191
7.173
7.140
7.120
7.102
6.936
6.917
6.895
6.874
6.473
5.295
4.117
4.109
4.081
4.072
3.744
3.698
3.659
3.619
3.469
2.664
2.655
2.622
2.613
2.272
2.040
1.253
1.241
0.072

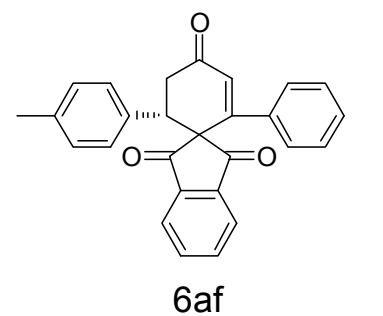


6ae

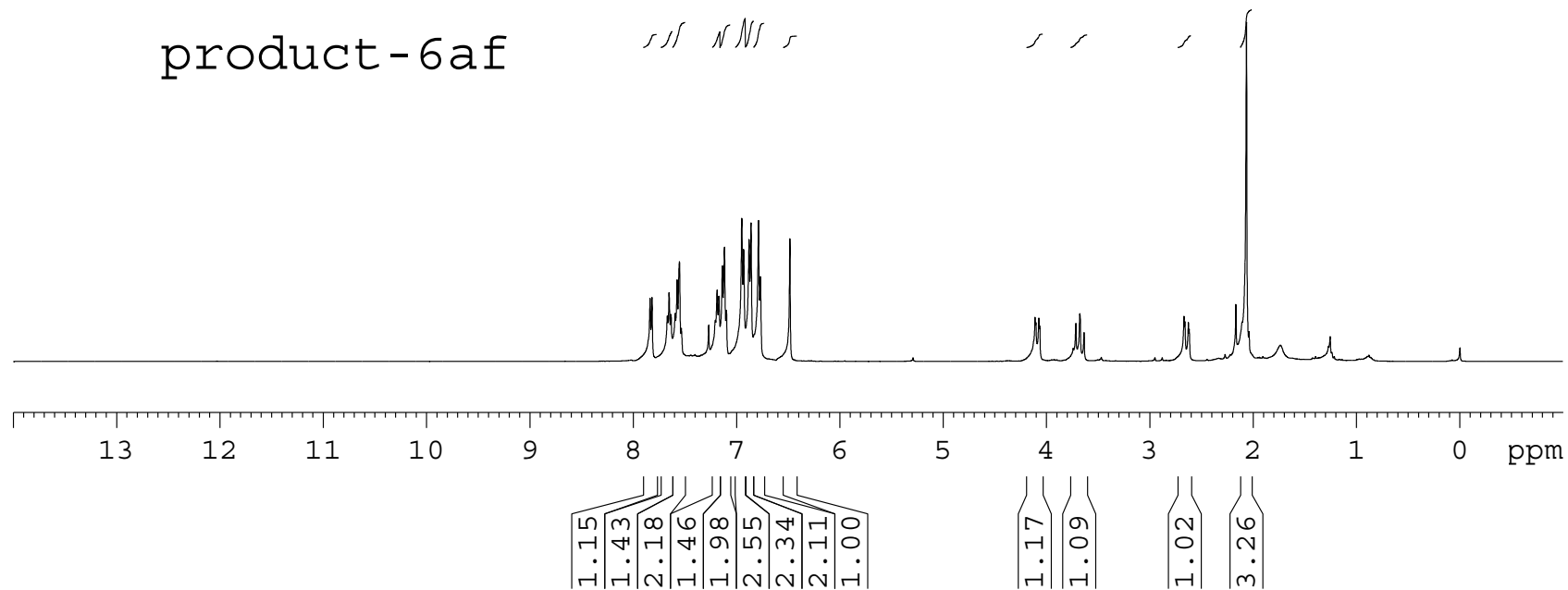
product - 6ae

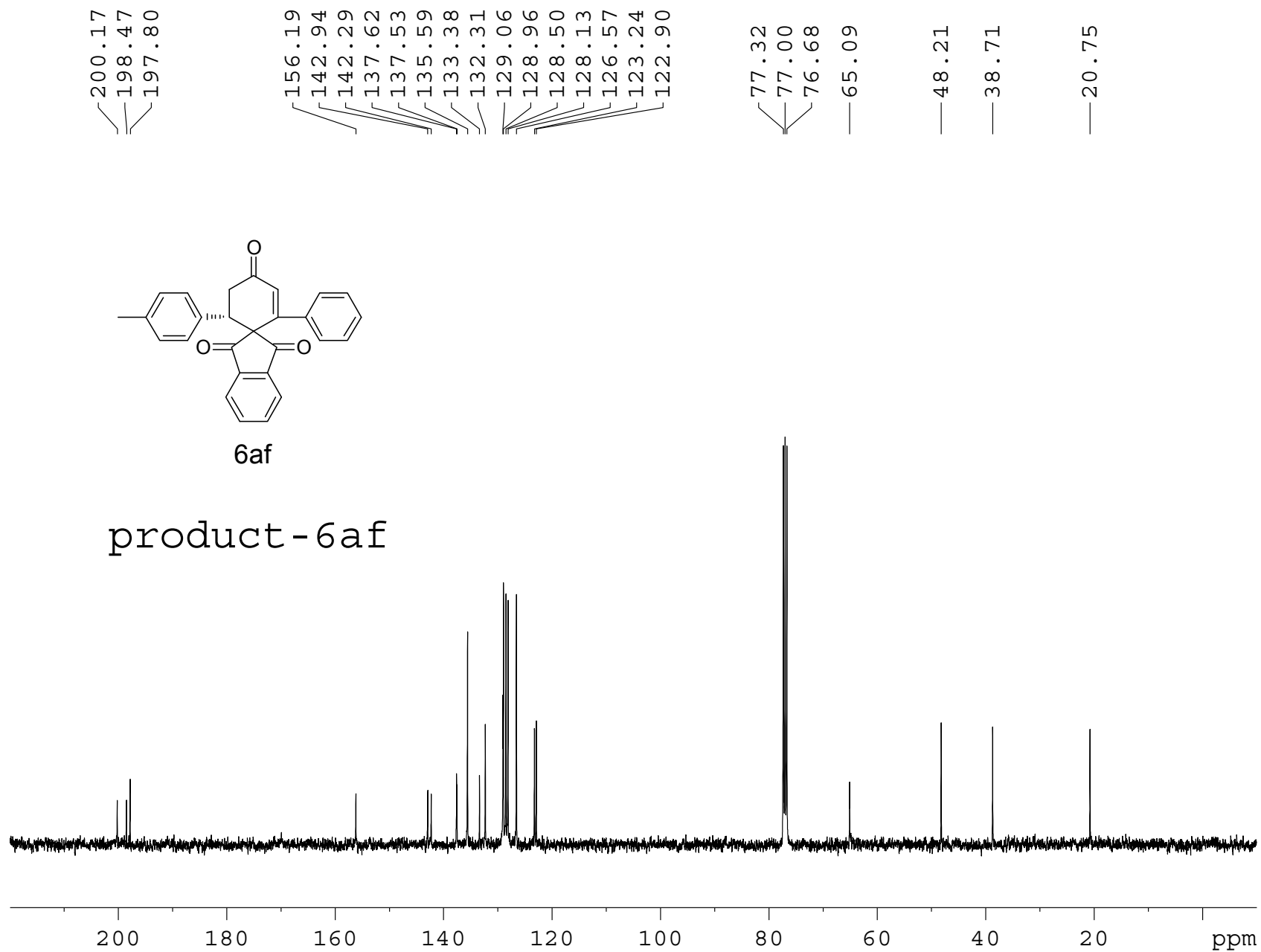




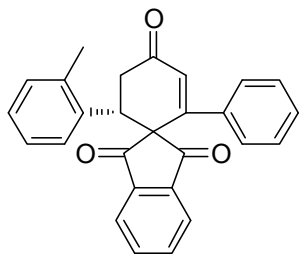


product - 6af



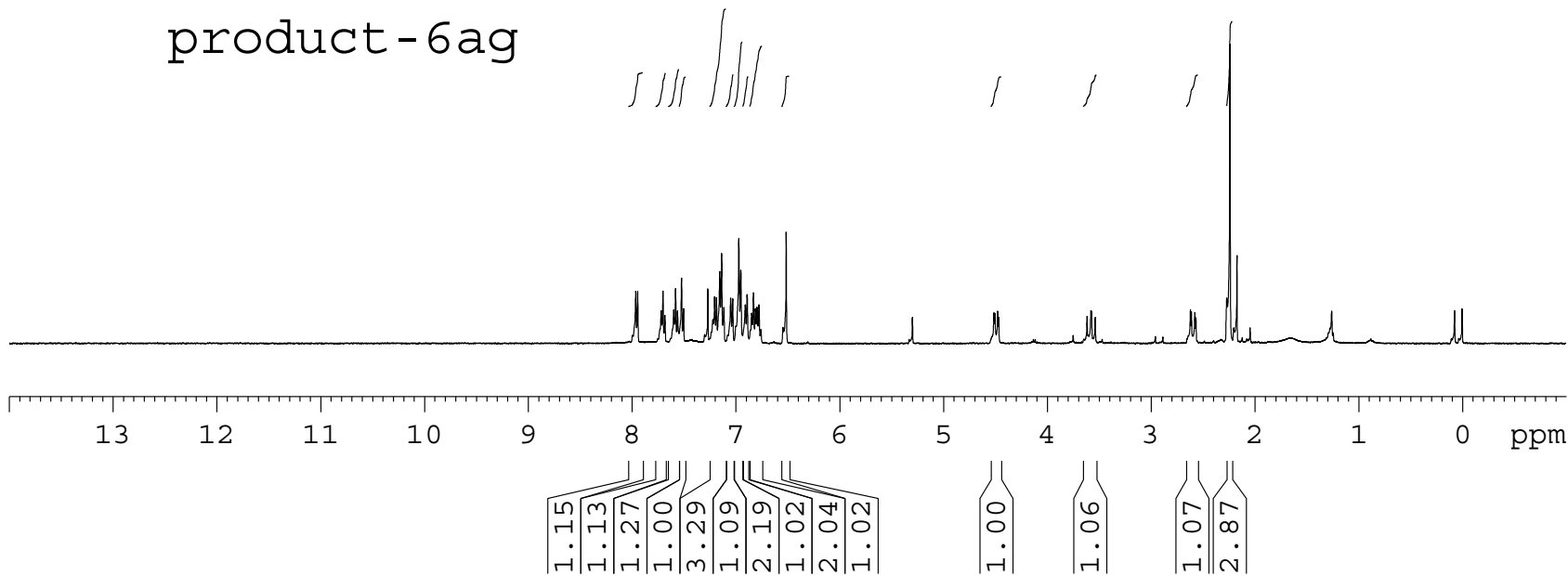


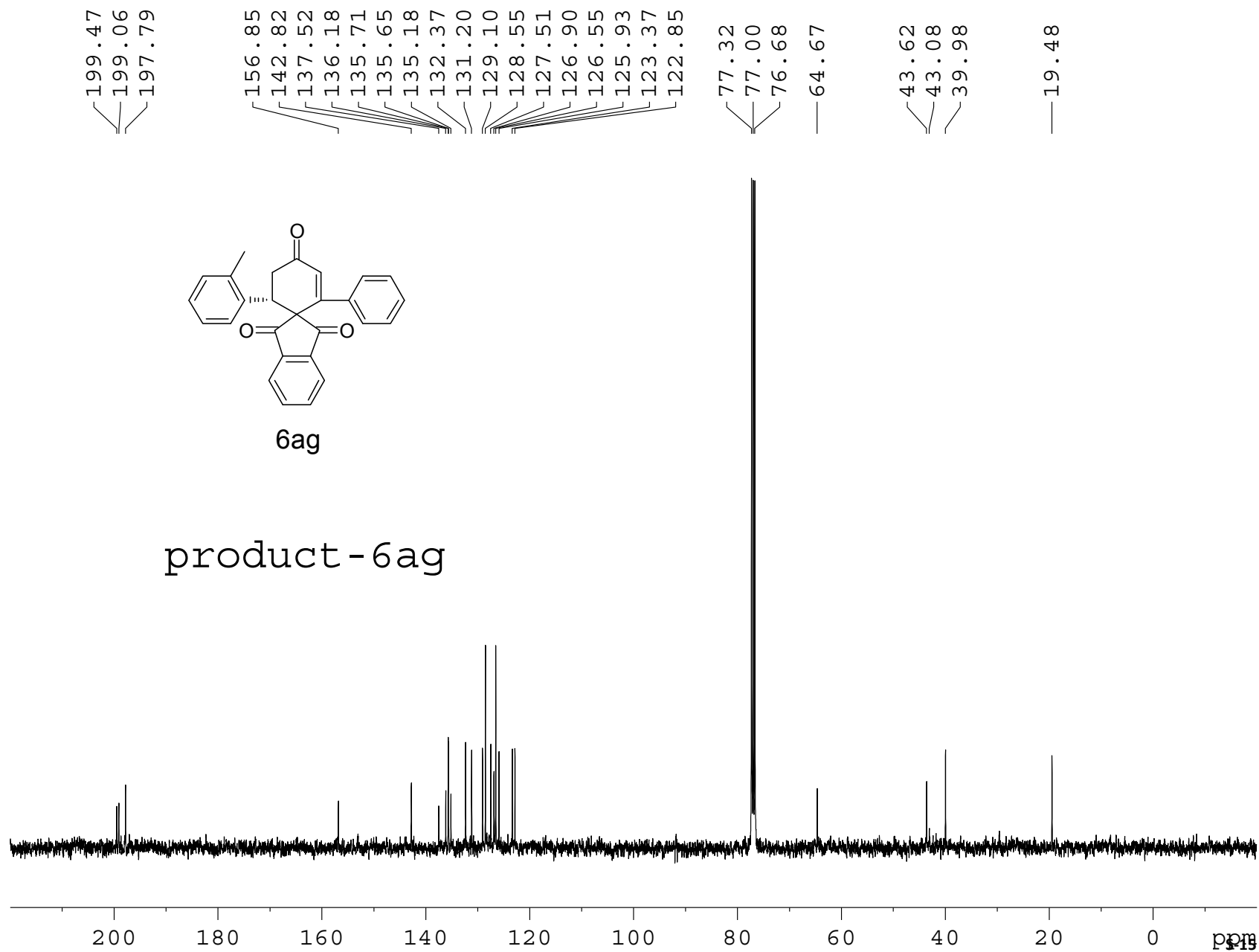
7.963
7.944
7.718
7.700
7.681
7.597
7.579
7.560
7.521
7.502
7.268
7.203
7.185
7.154
7.135
7.117
7.050
7.031
6.972
6.953
6.910
6.892
6.848
6.831
6.812
6.798
6.778
6.516
5.300
4.514
4.505
4.478
4.468
3.617
3.581
3.575
3.538
2.622
2.612
2.579
2.569
2.272
2.241
2.174
1.262
0.077
0.005

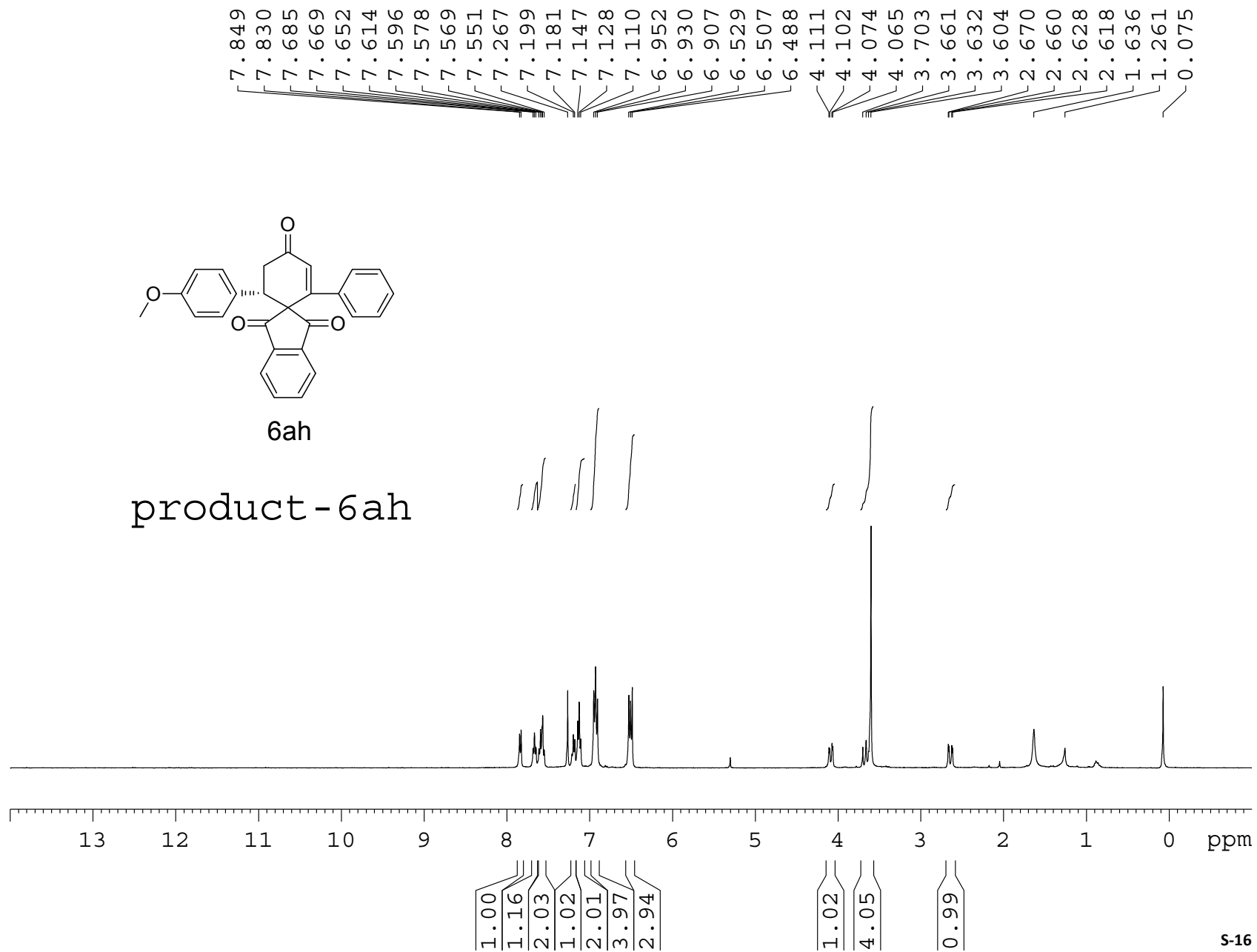


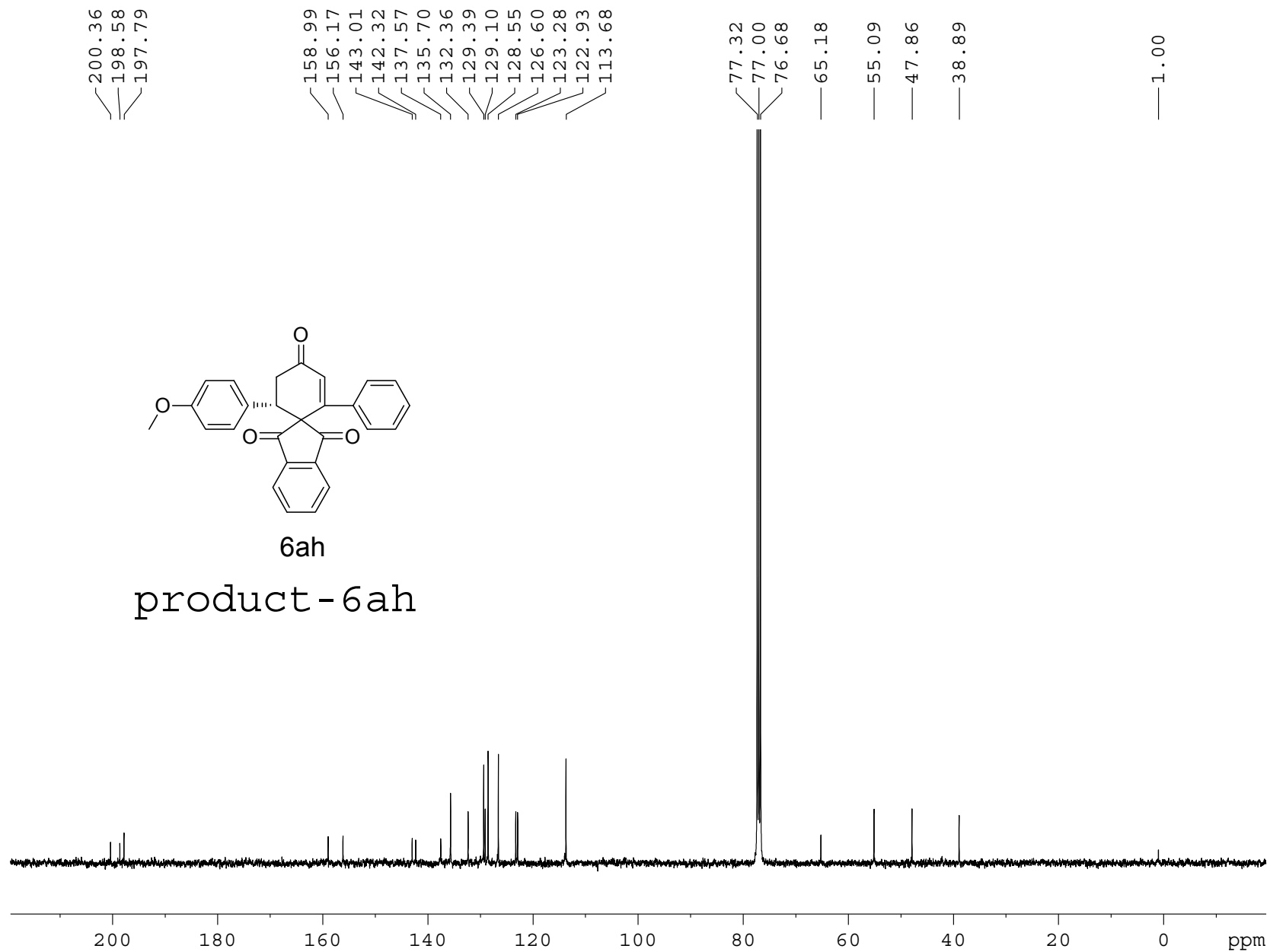
6ag

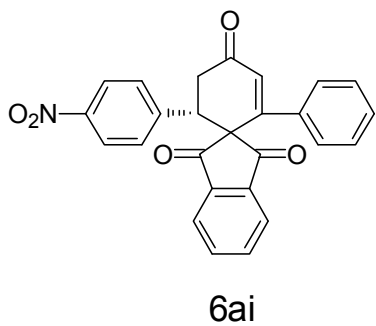
product - 6ag



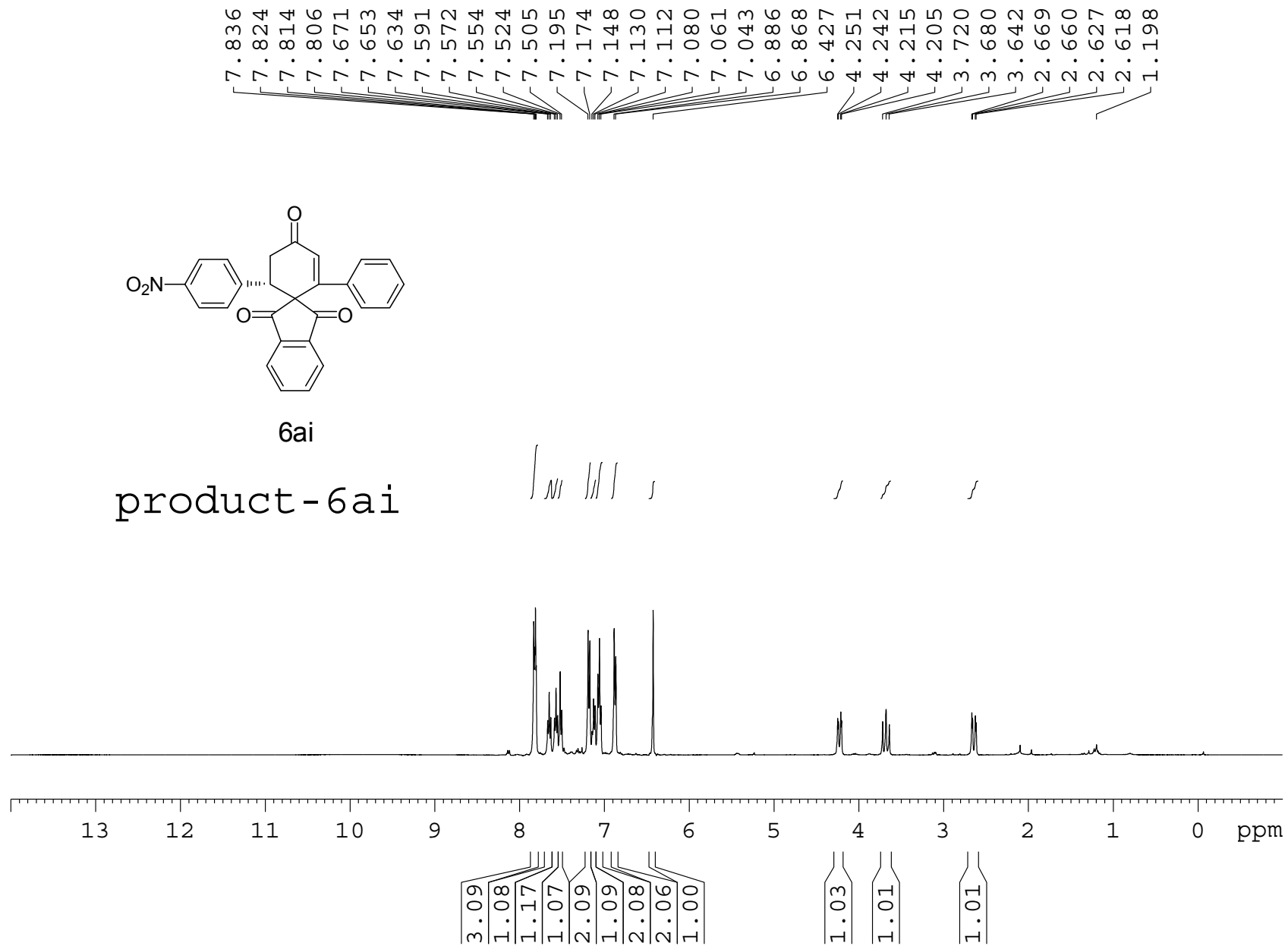








product-6ai

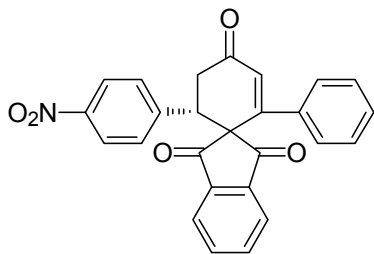


199.13
197.63
196.03

155.61
147.08
143.73
142.32
141.64
136.77
136.24
132.92
131.95
129.28
129.09
128.39
126.43
123.51
123.29
122.96

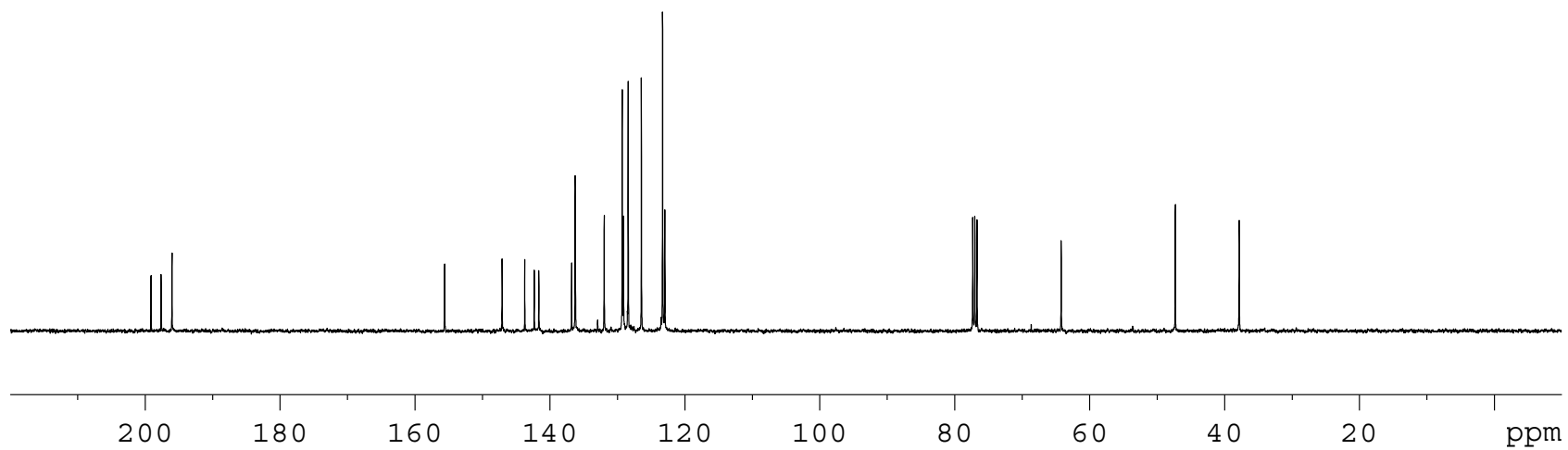
77.32
77.01
76.69
64.21

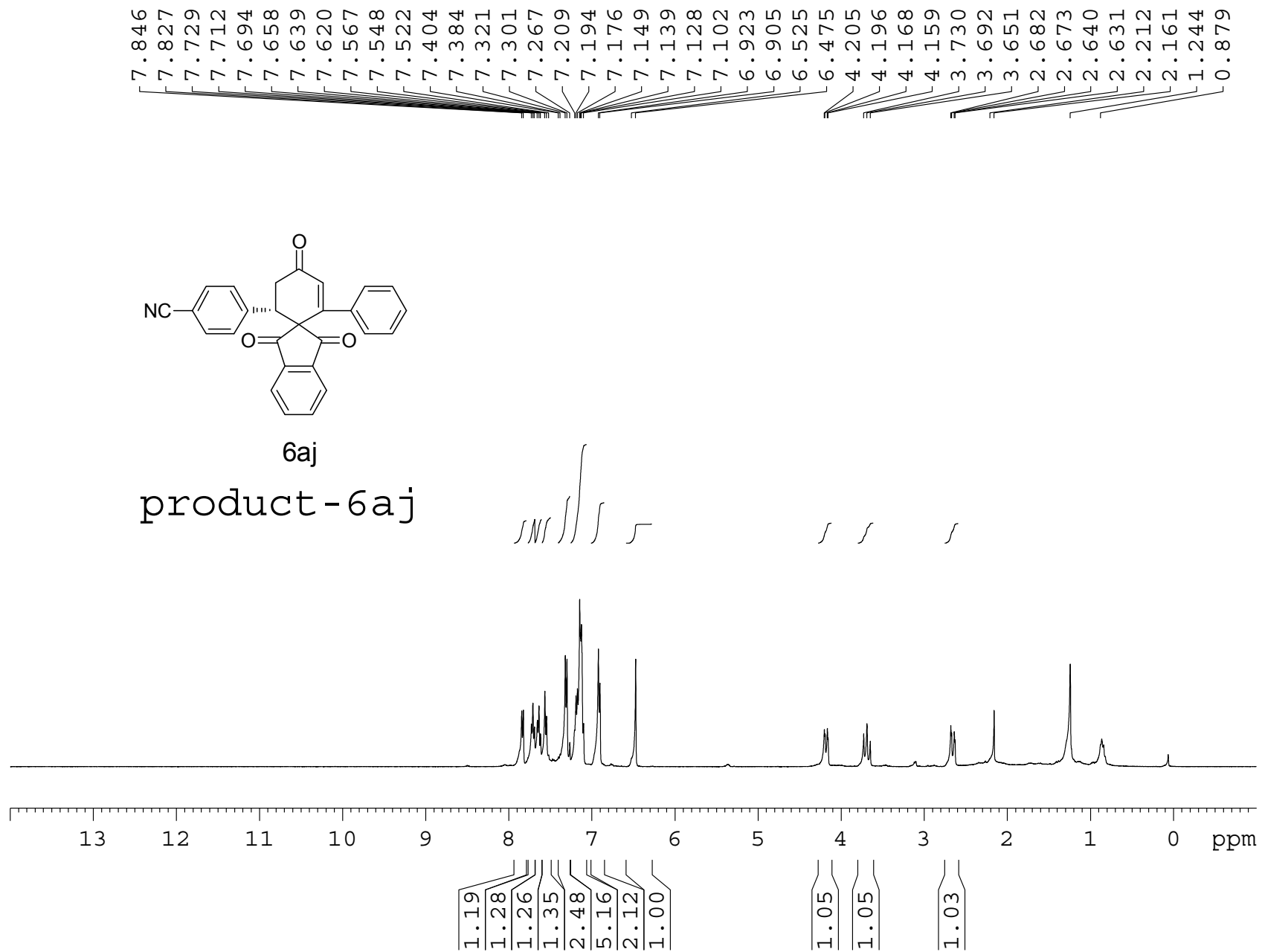
47.33
37.86



6ai

product - 6ai





199.41
197.85
196.38

155.76
142.56
141.86
136.98
136.31
132.18
132.12
129.26
129.17
128.57
126.58
123.38
123.08
117.97
111.94

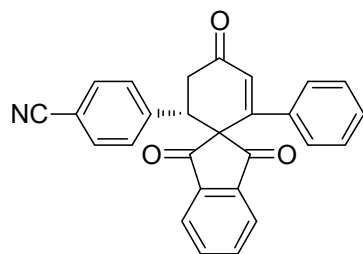
77.32
77.00
76.68

64.44

47.83

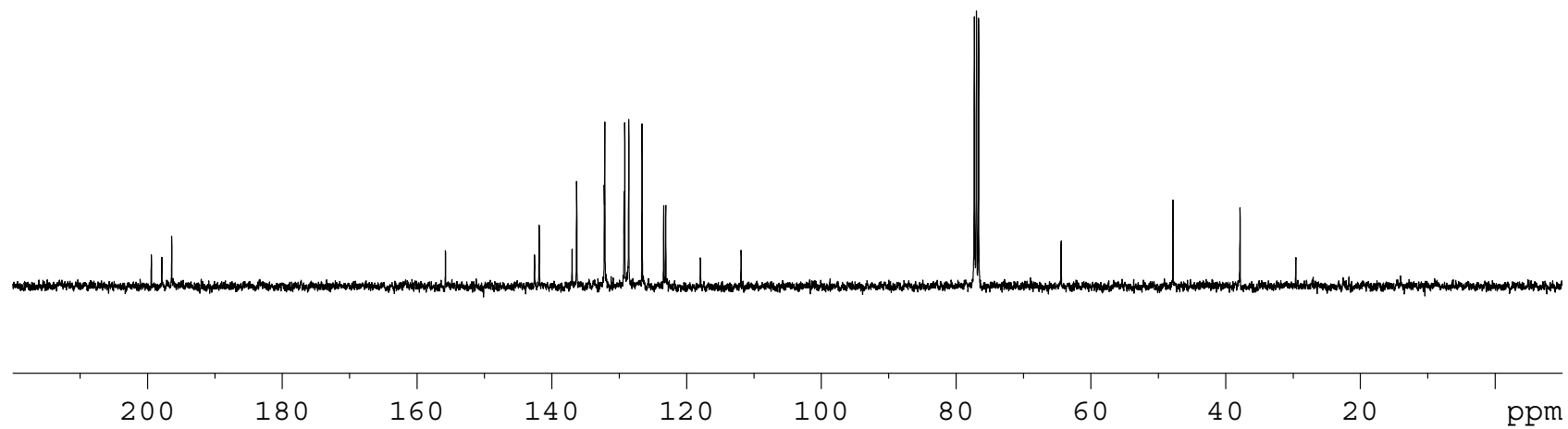
37.89

29.61



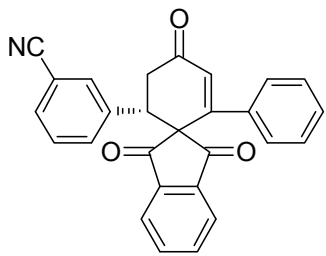
6aj

product - 6aj



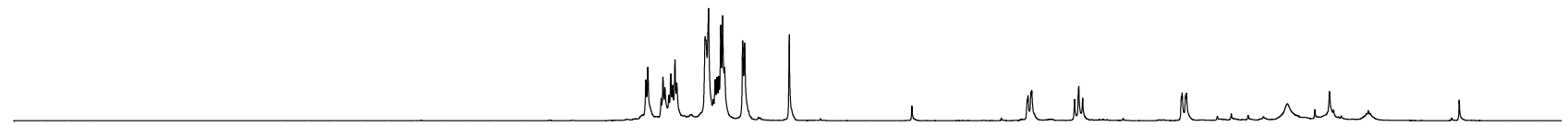
ppm

7.910
7.876
7.857
7.728
7.710
7.692
7.654
7.635
7.617
7.594
7.576
7.444
7.430
7.302
7.295
7.269
7.224
7.205
7.187
7.170
7.151
7.132
7.114
6.938
6.920
6.487
5.299
4.184
4.175
4.147
4.138
3.724
3.684
3.646
2.690
2.681
2.649
2.640
2.206
1.664
1.396
1.255



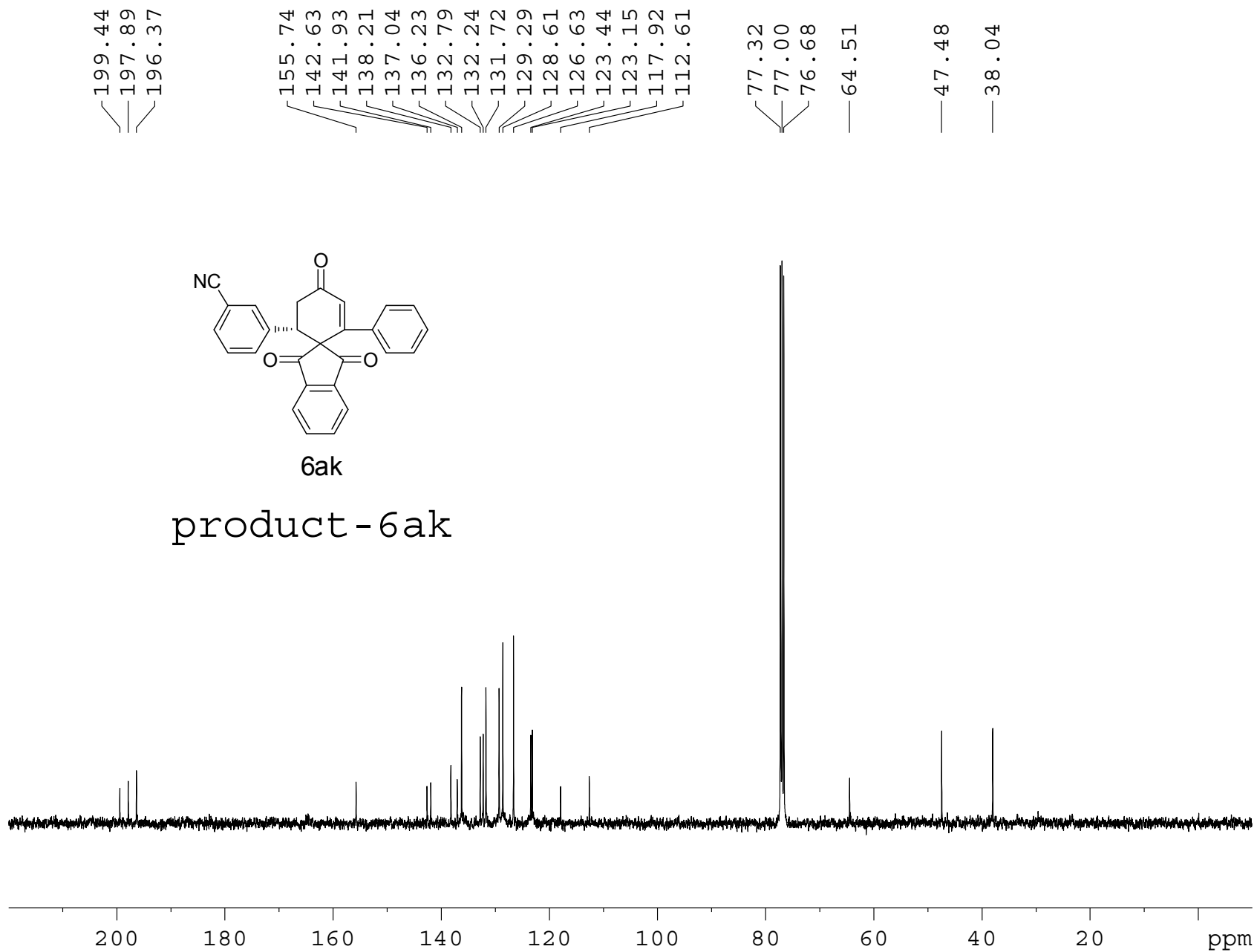
6ak

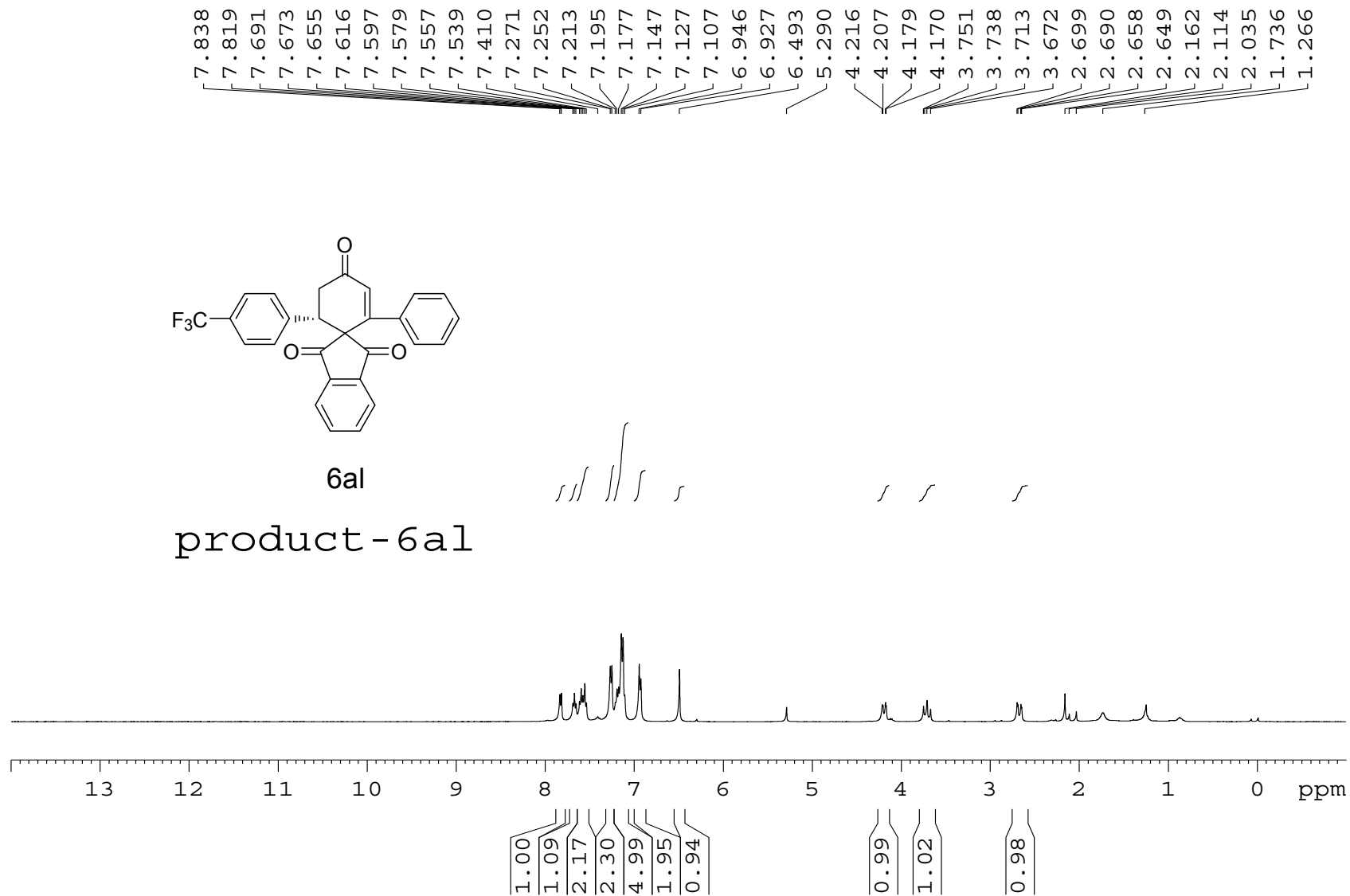
product - 6ak

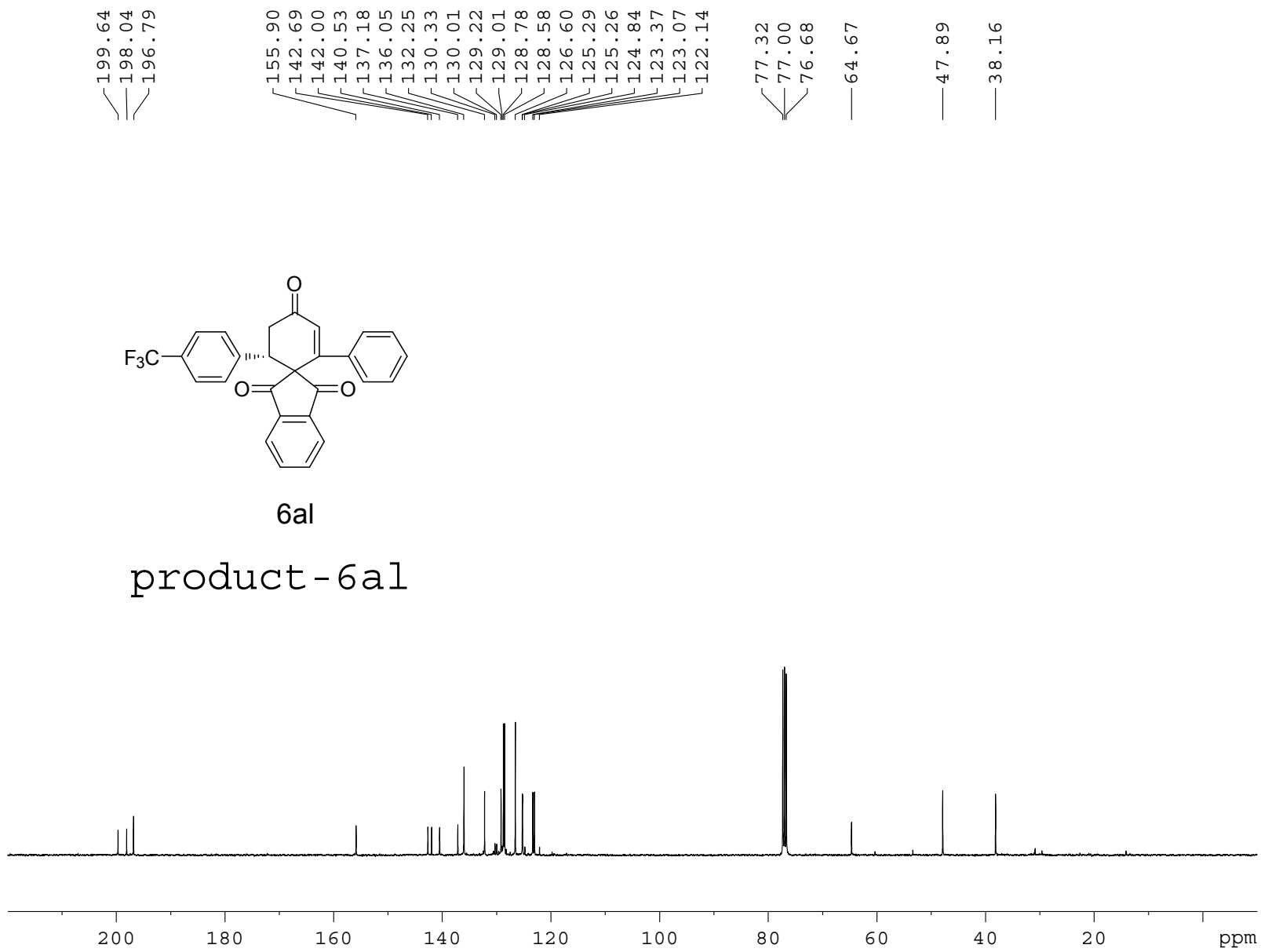


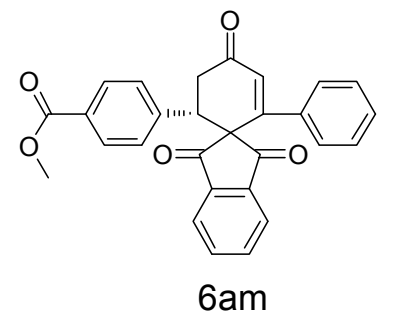
13 12 11 10 9 8 7 6 5 4 3 2 1 0 ppm

1.29
1.07
2.29
3.59
4.28
2.06
1.00
0.99
0.97
0.97

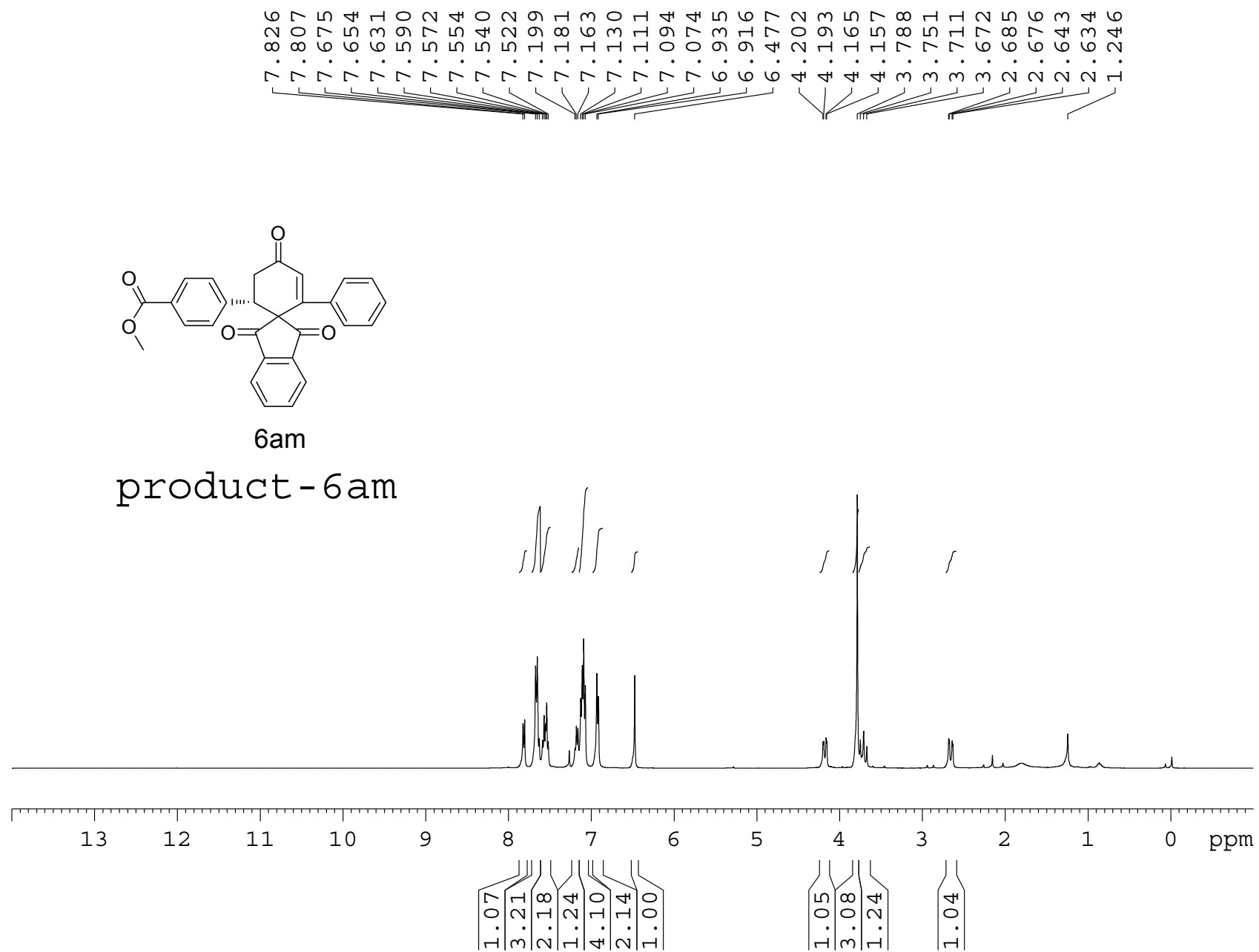








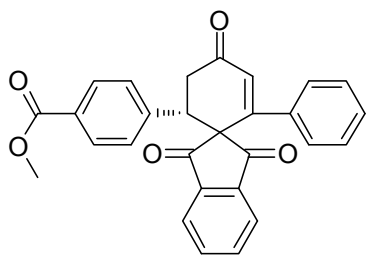
product - 6am



199.63
198.07
196.91

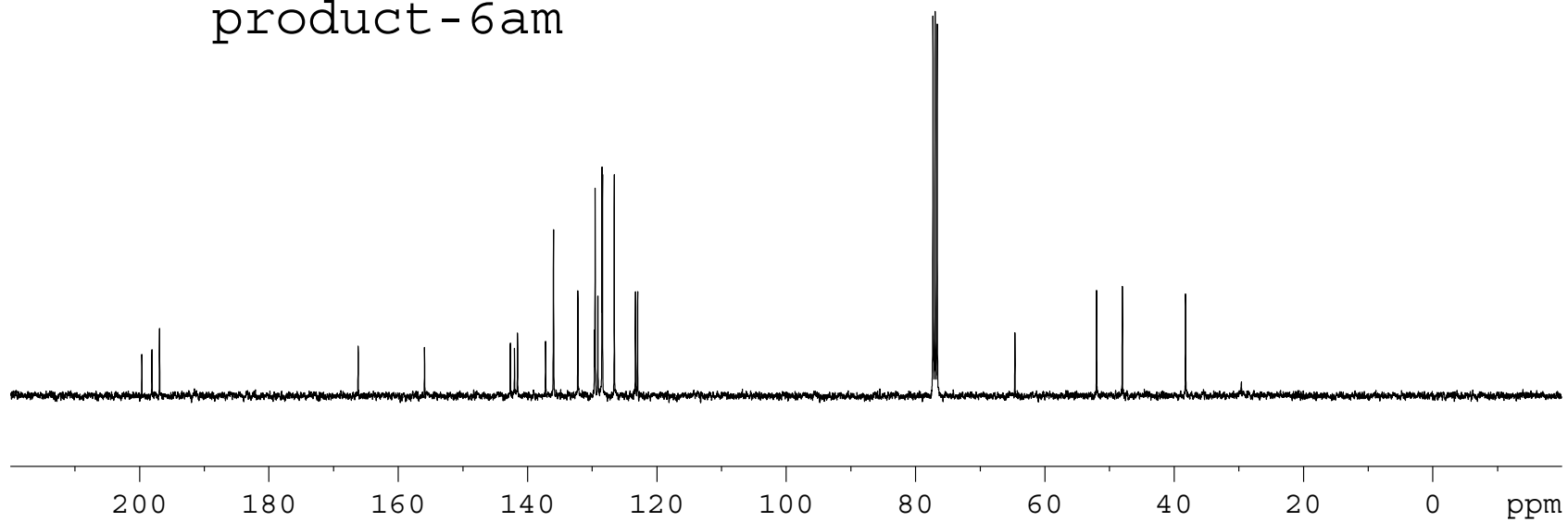
166.23
155.96
142.69
142.04
141.57
137.24
136.01
132.25
129.68
129.57
129.14
128.52
128.44
126.61
123.33
123.01

77.32
77.00
76.68
— 64.65
— 52.03
— 48.04
— 38.25
— 29.62

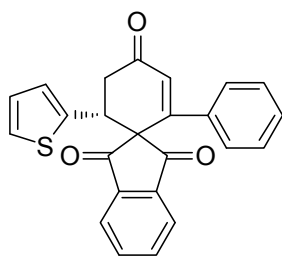


6am

product - 6am

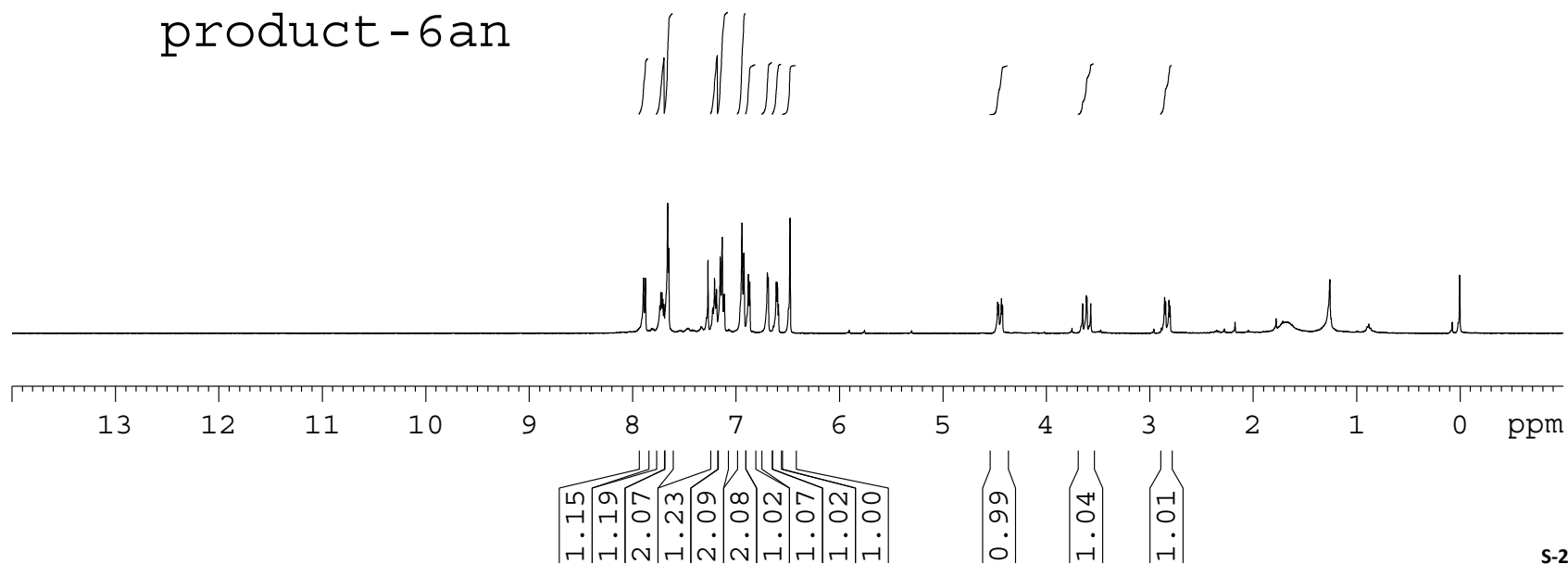


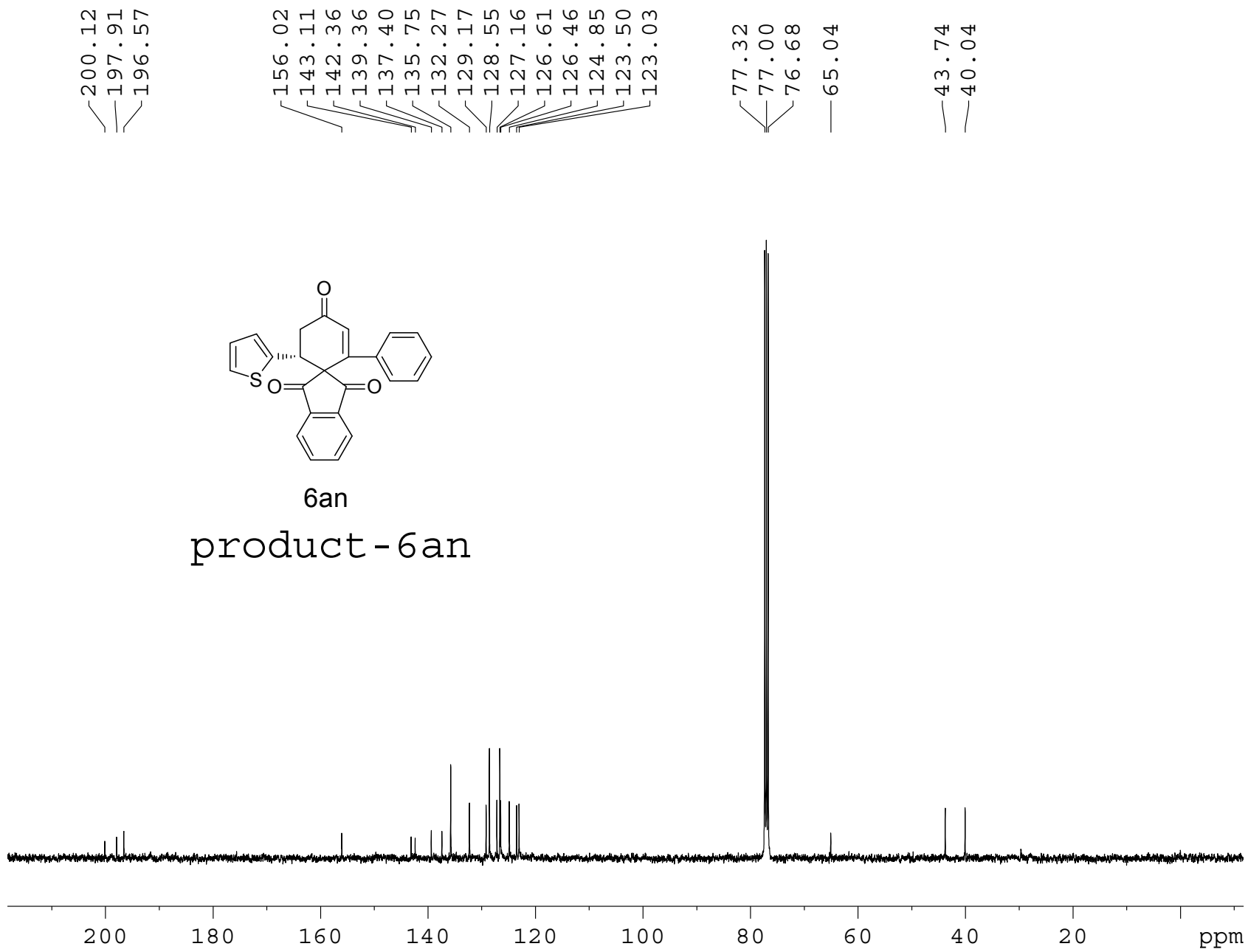
7.891
7.873
7.733
7.723
7.713
7.704
7.694
7.657
7.647
7.283
7.267
7.222
7.204
7.186
7.149
7.130
7.112
6.942
6.923
6.880
6.867
6.696
6.688
6.610
6.601
6.588
6.491
6.477
4.469
4.459
4.433
4.423
3.648
3.612
3.606
3.570
2.856
2.845
2.813
2.803
2.174
1.777
1.713
1.688
1.258
0.074
0.002

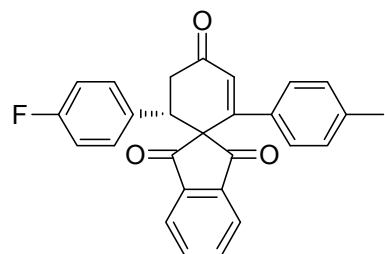


6an

product - 6an

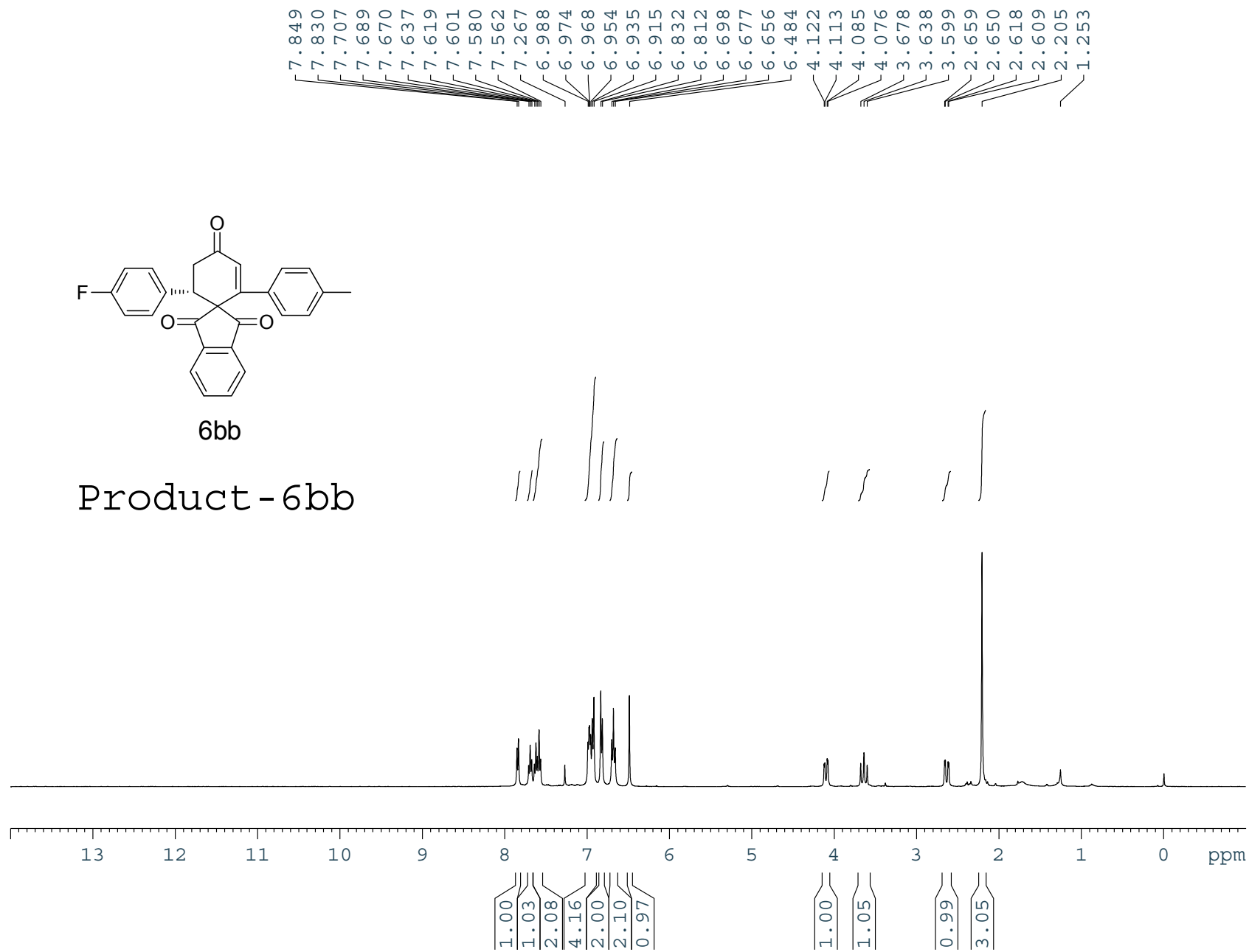






6bb

Product - 6bb



200.19
198.37
197.27

163.25
160.79
156.11
142.87
142.15
139.38
135.88
135.85
134.52
132.37
131.89
129.97
129.89
129.29
126.44
123.30
122.95
115.36
115.14

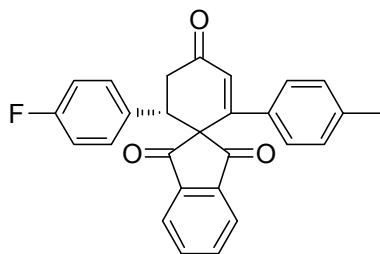
77.32
77.00
76.68

— 64.86

— 47.77

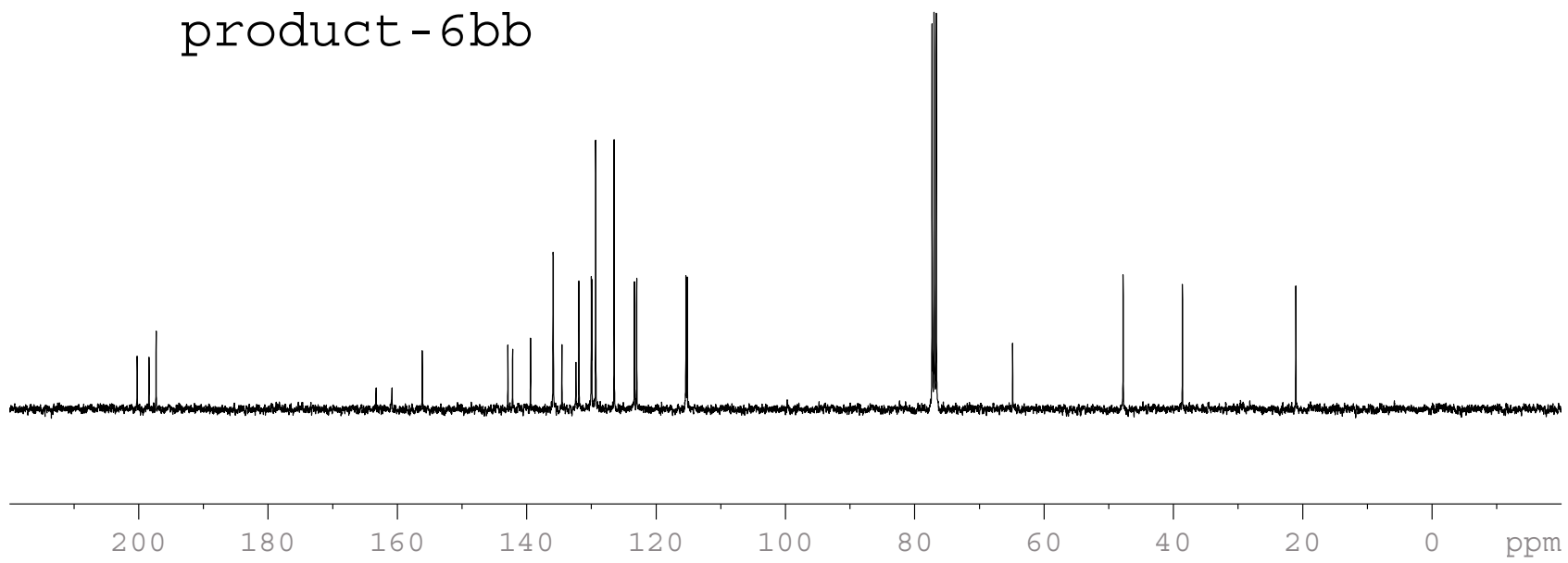
— 38.62

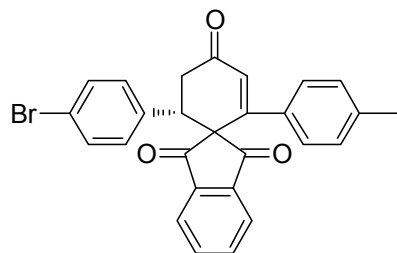
— 21.07



6bb

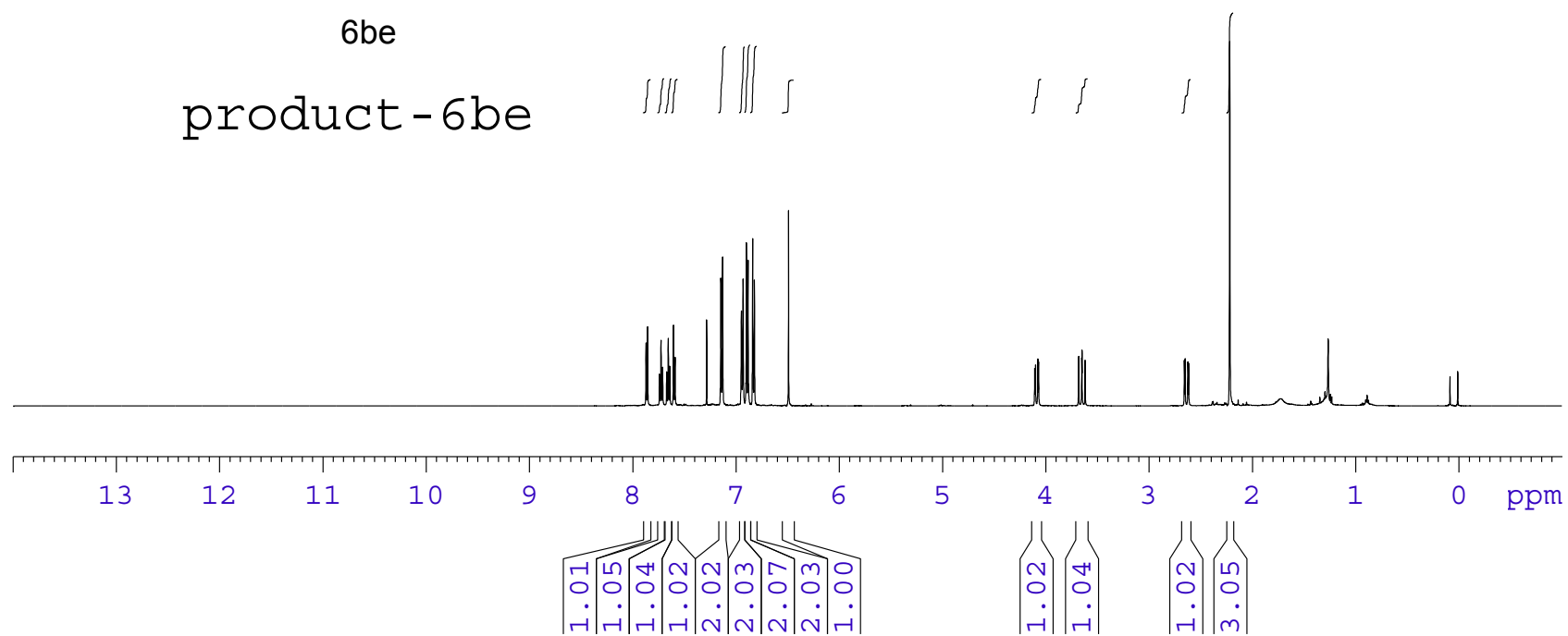
product - 6bb

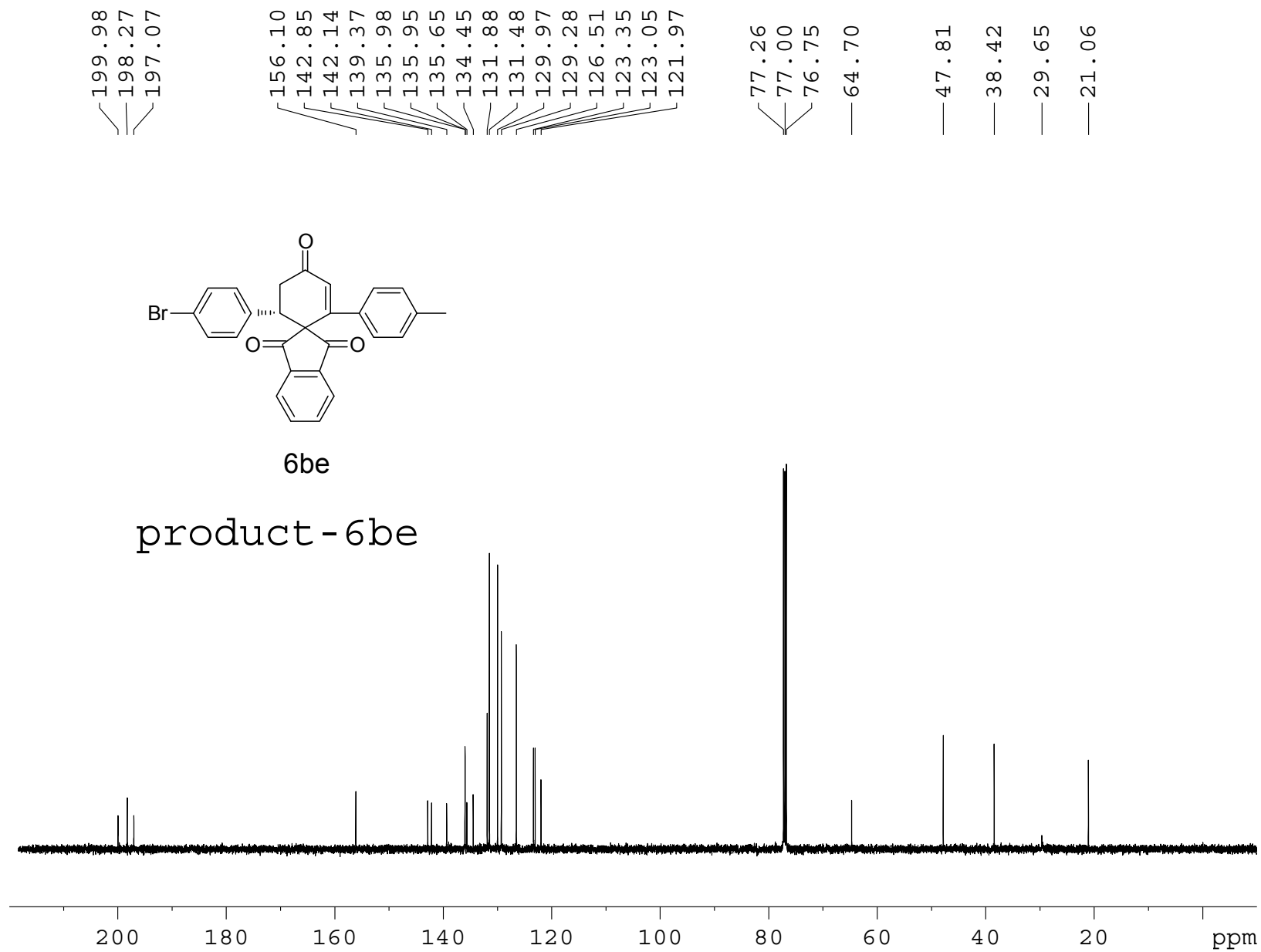




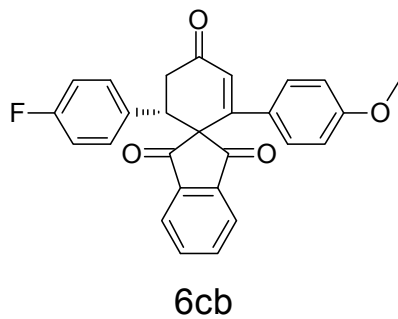
6be

product - 6be

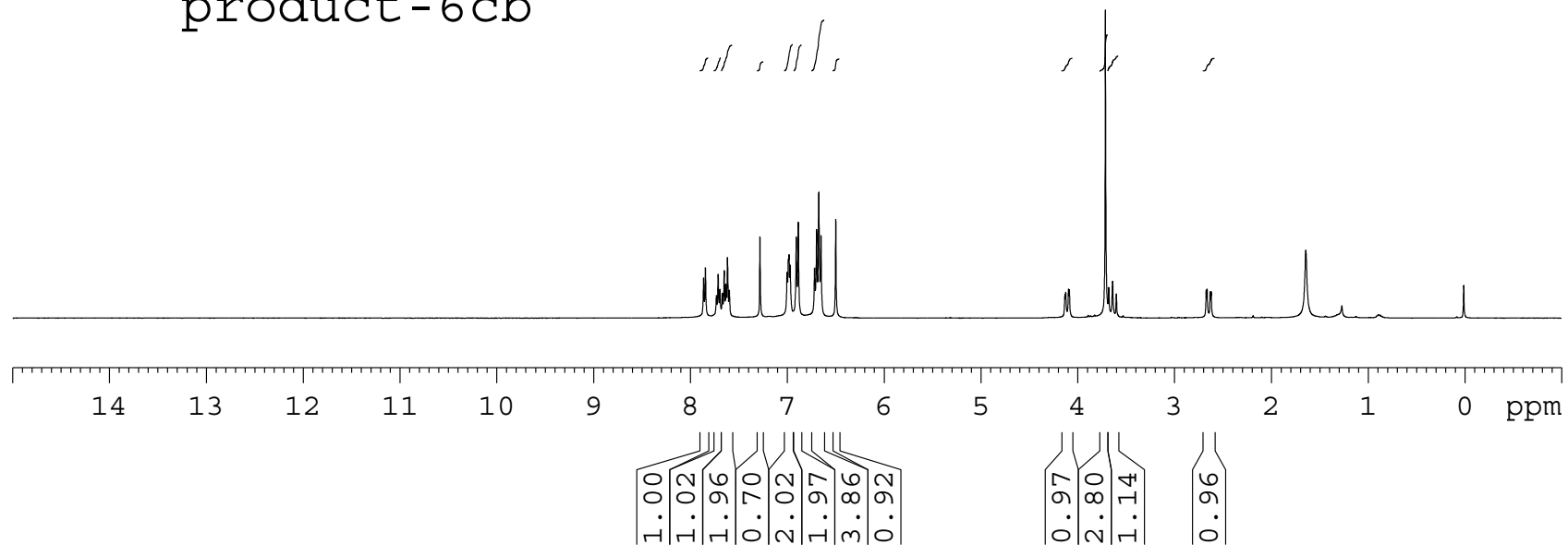


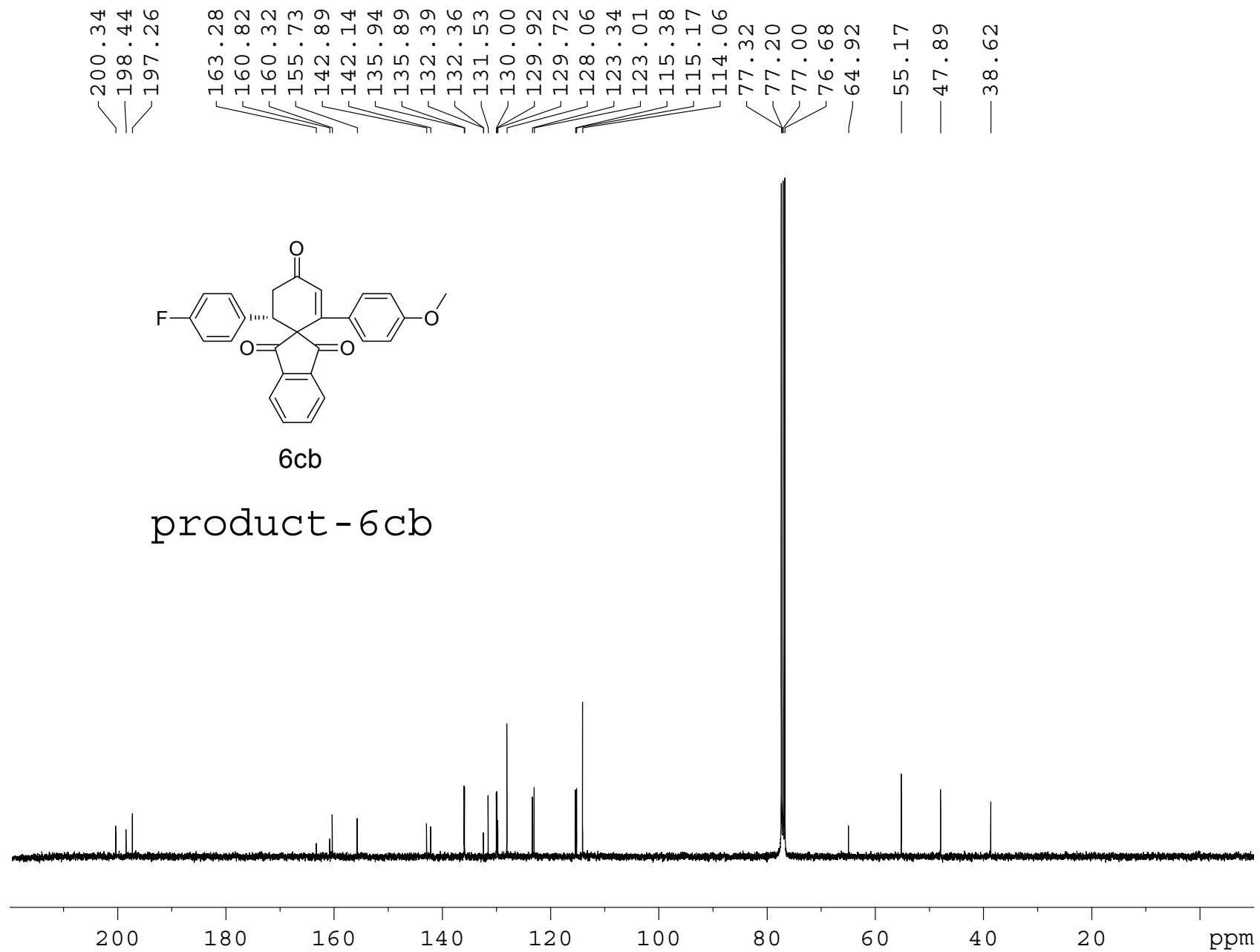


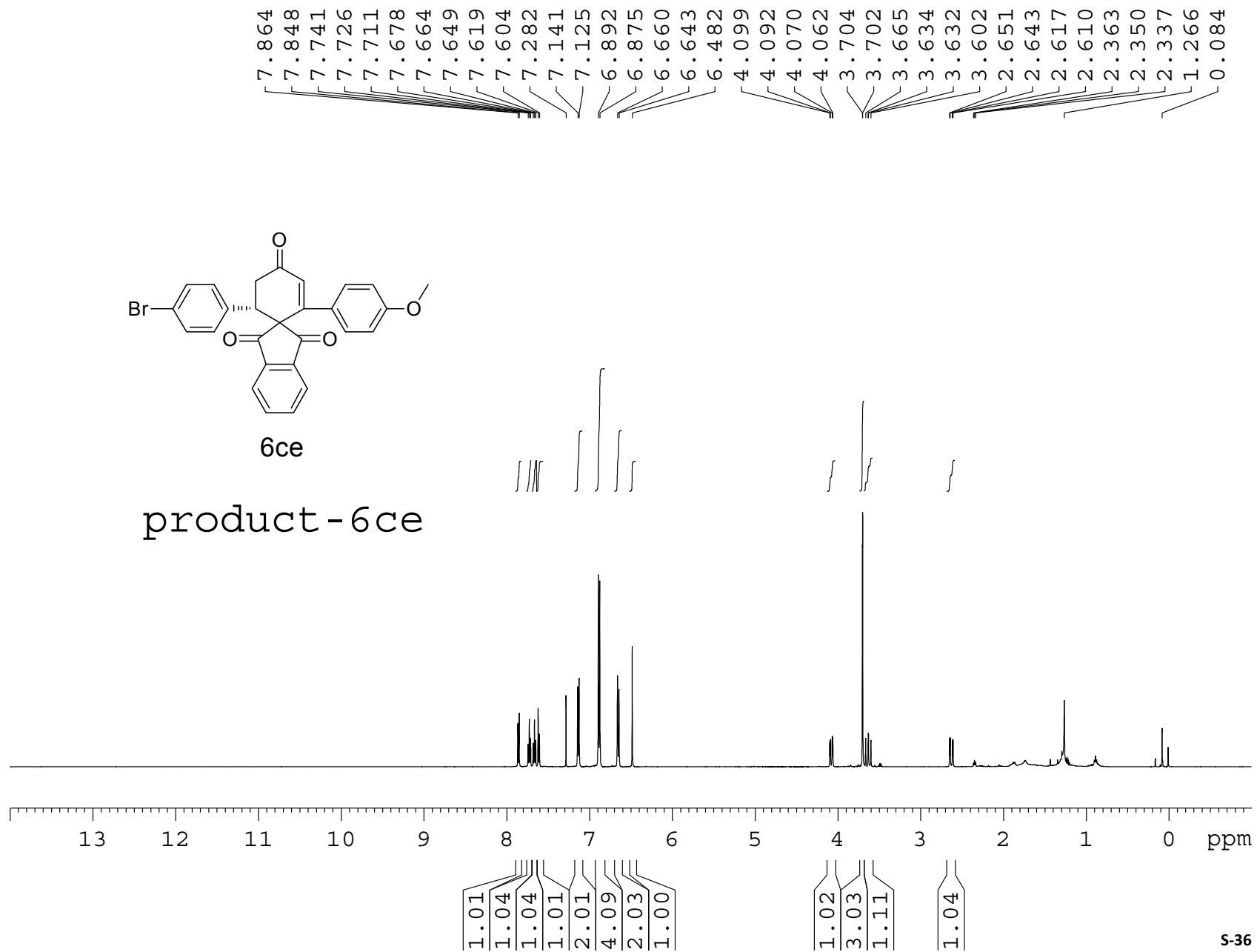
7.864
7.845
7.731
7.713
7.695
7.670
7.651
7.633
7.617
7.599
7.281
7.078
7.002
6.988
6.981
6.968
6.907
6.886
6.820
6.718
6.697
6.673
6.651
6.499
4.132
4.123
4.095
4.086
3.891
3.867
3.826
3.713
3.680
3.638
3.601
3.531
2.672
2.663
2.631
2.622
2.188
1.644
1.271
0.896
0.871
0.016



product - 6cb



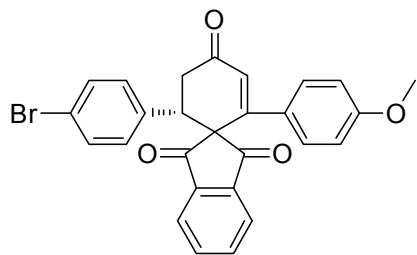




200.10
198.32
197.03

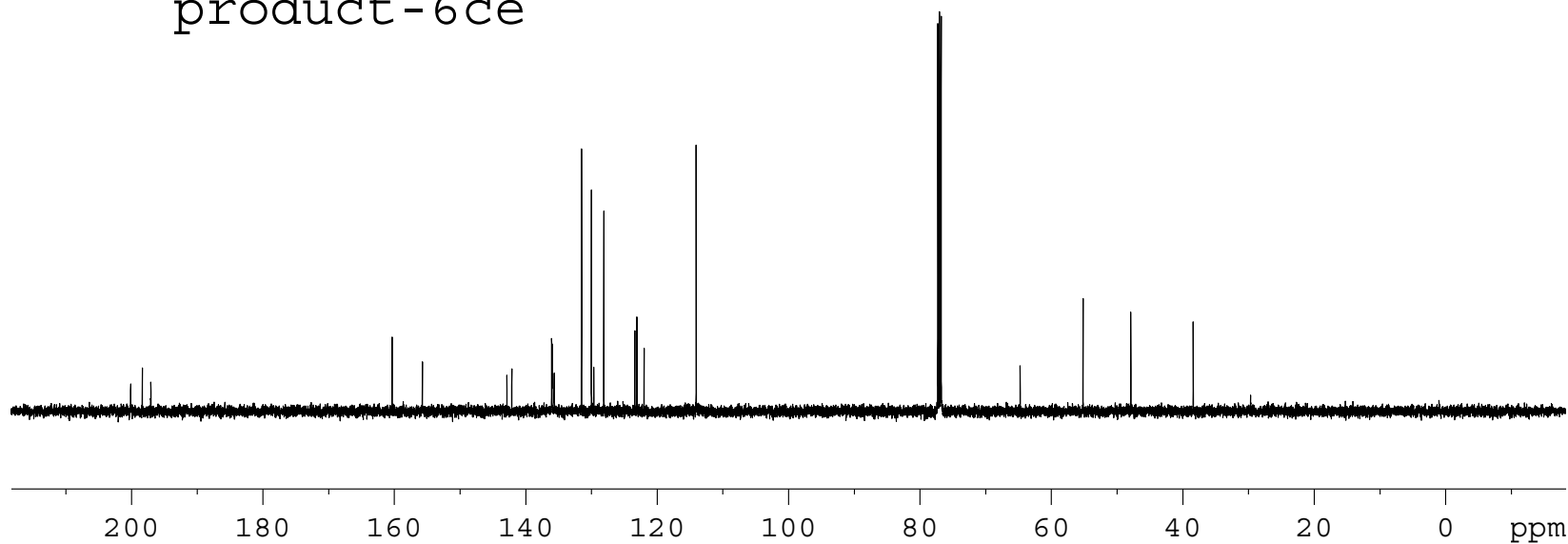
160.32
155.71
142.84
142.10
136.03
135.98
135.65
131.50
131.48
129.98
129.64
128.09
123.37
123.07
121.96
114.04

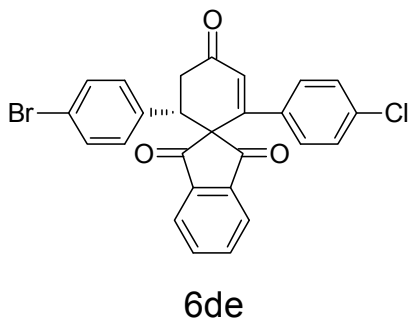
77.26
77.00
76.75
64.74
55.15
47.90
38.39
29.65



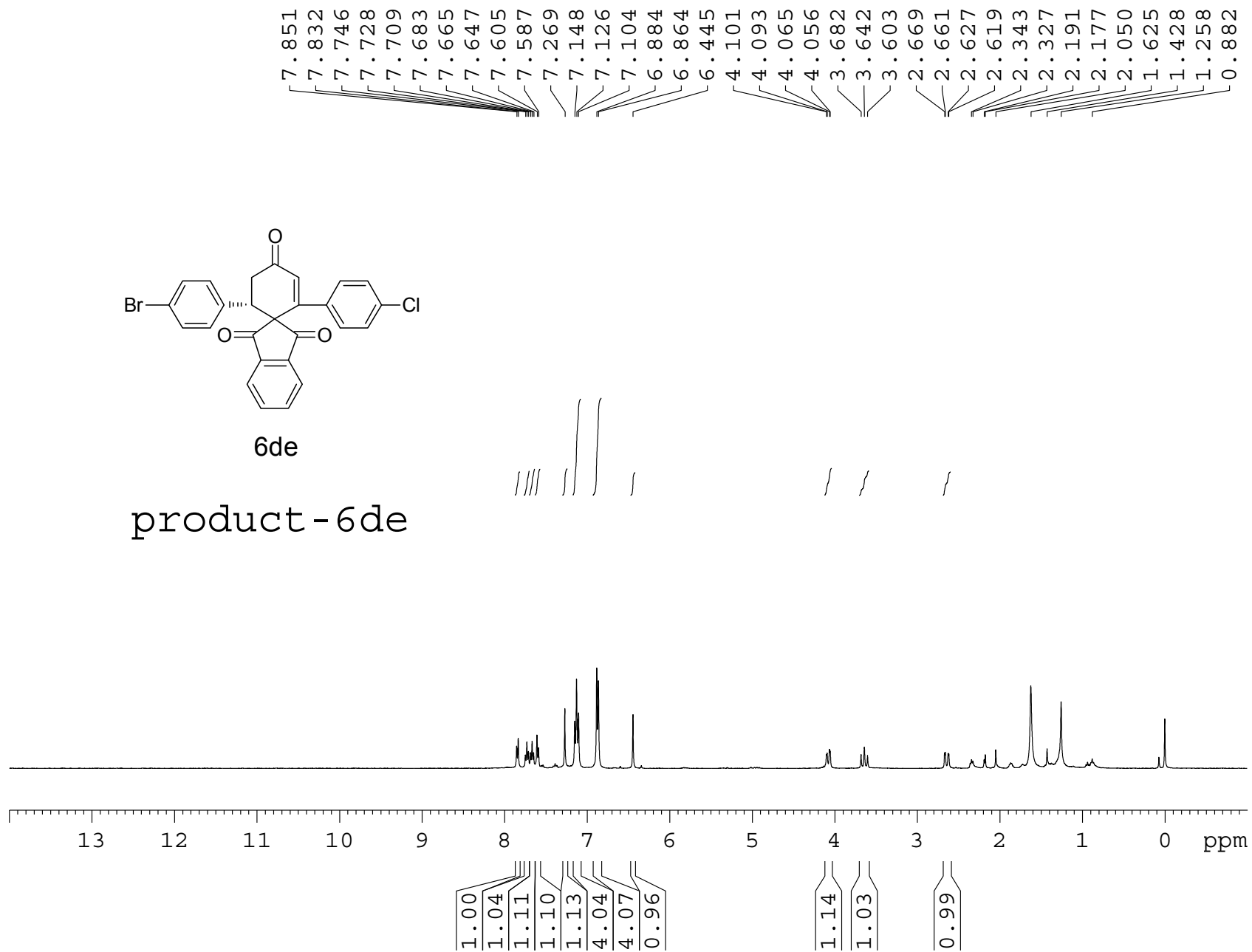
6ce

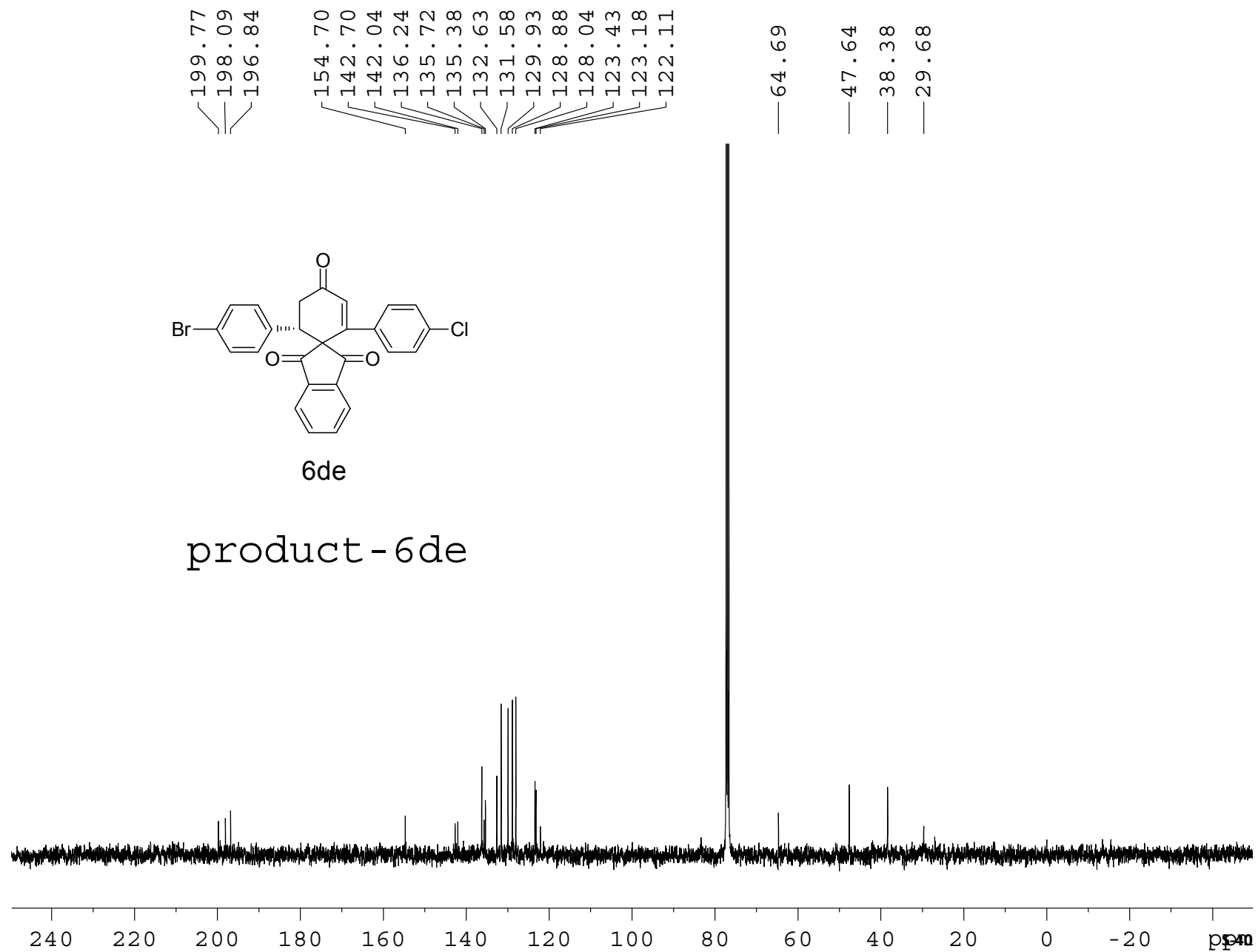
product - 6ce

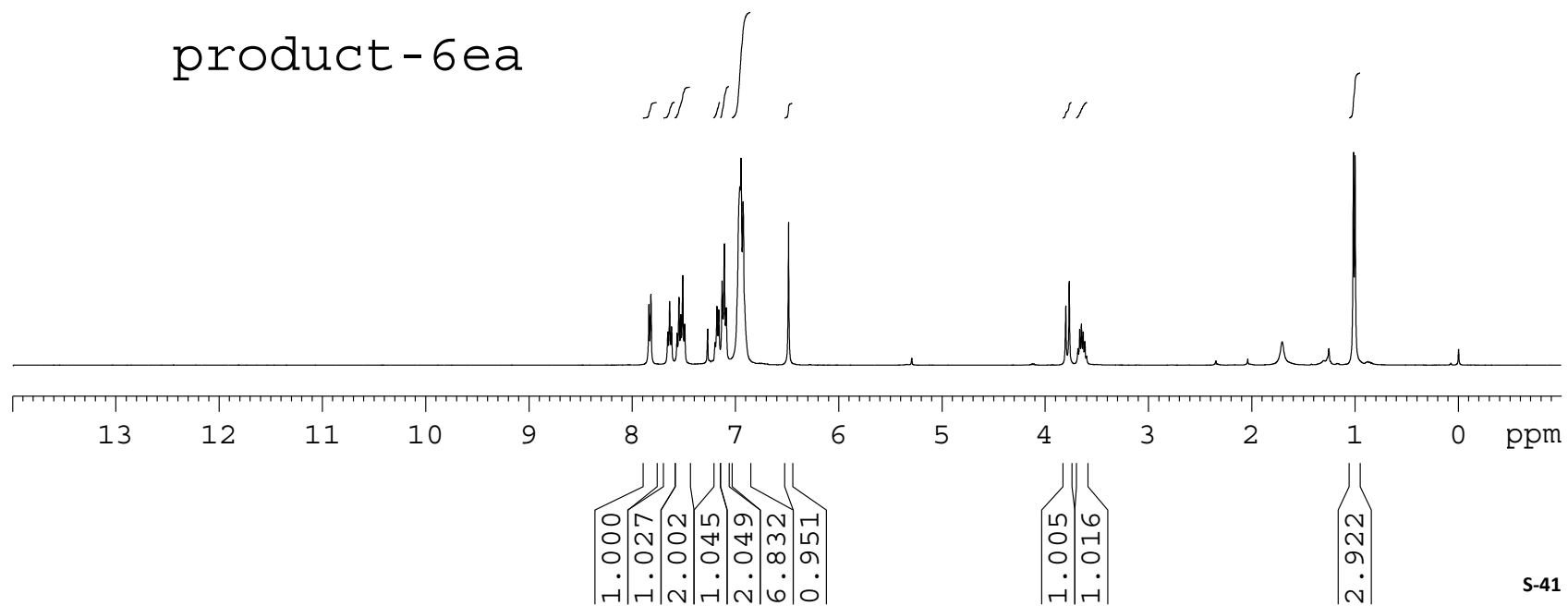
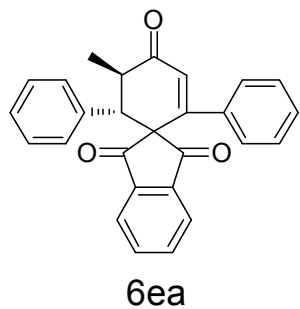




product - 6de



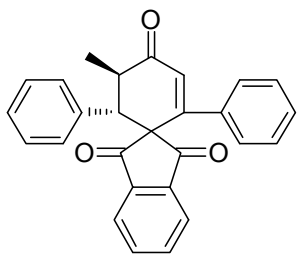




200.14
199.75
198.88

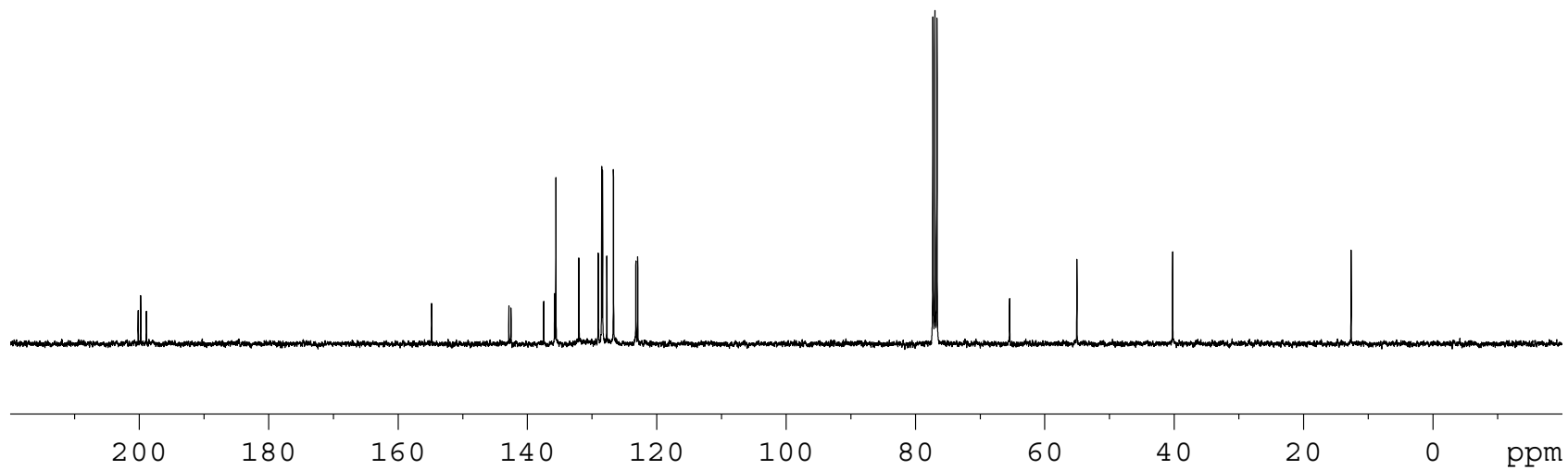
154.77
142.83
142.51
137.45
135.77
135.56
132.00
129.00
128.48
128.34
127.68
126.66
123.19
122.91

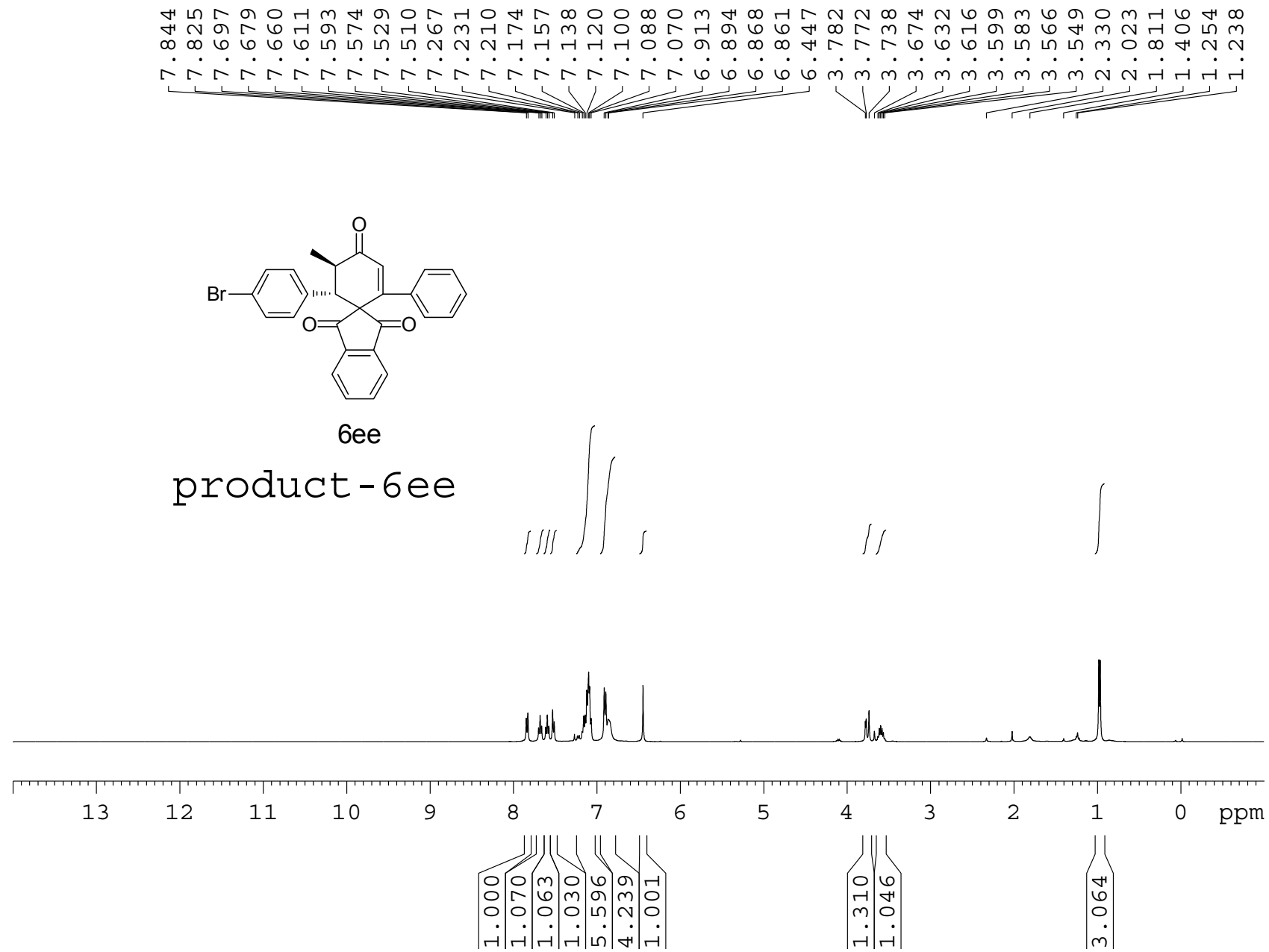
77.32
77.00
76.68
— 65.45
— 55.05
— 40.24
— 12.66

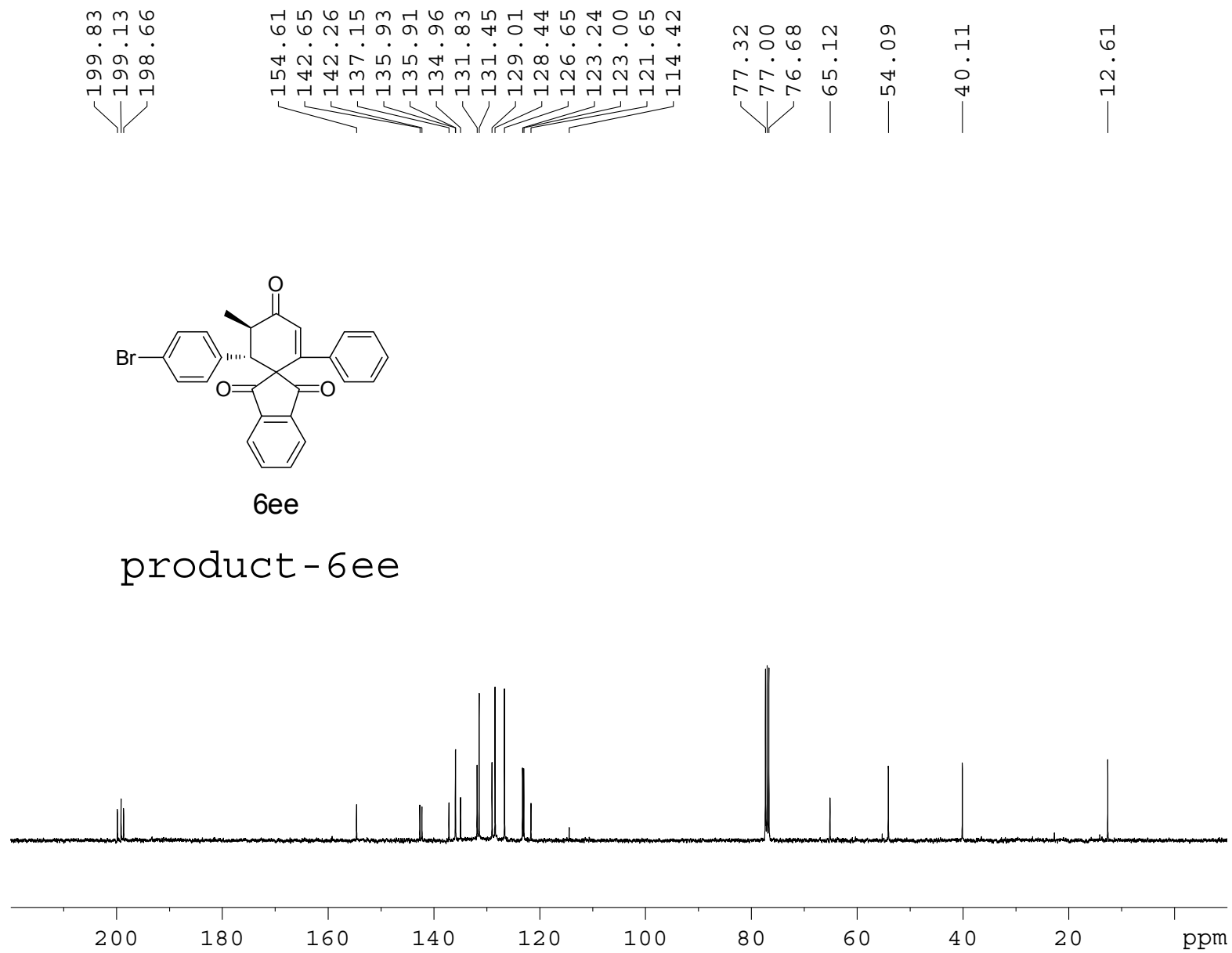


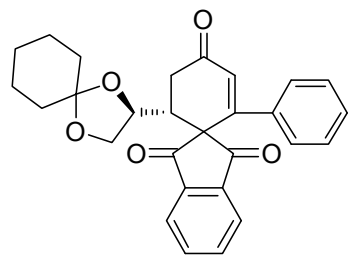
6ea

product - 6ea



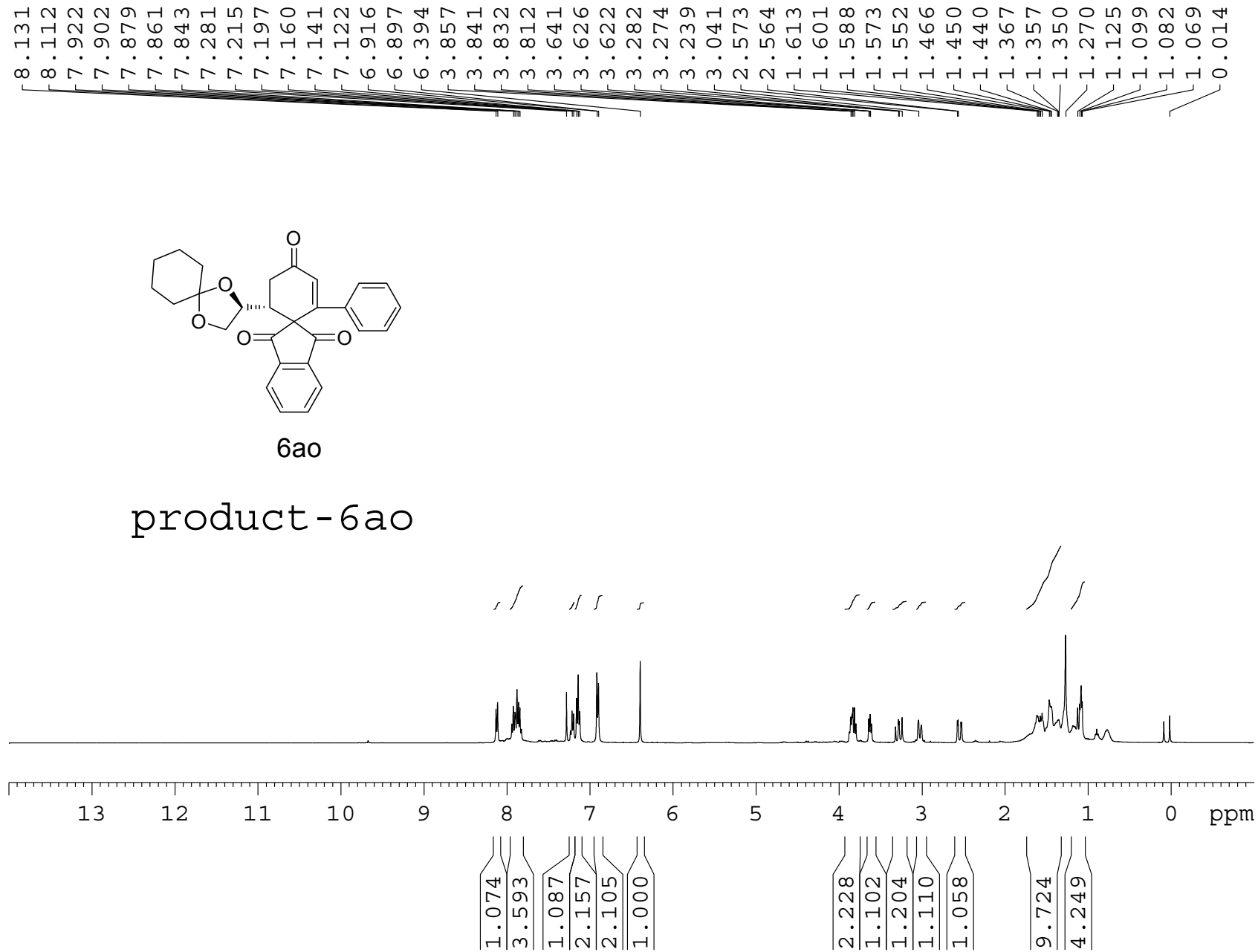


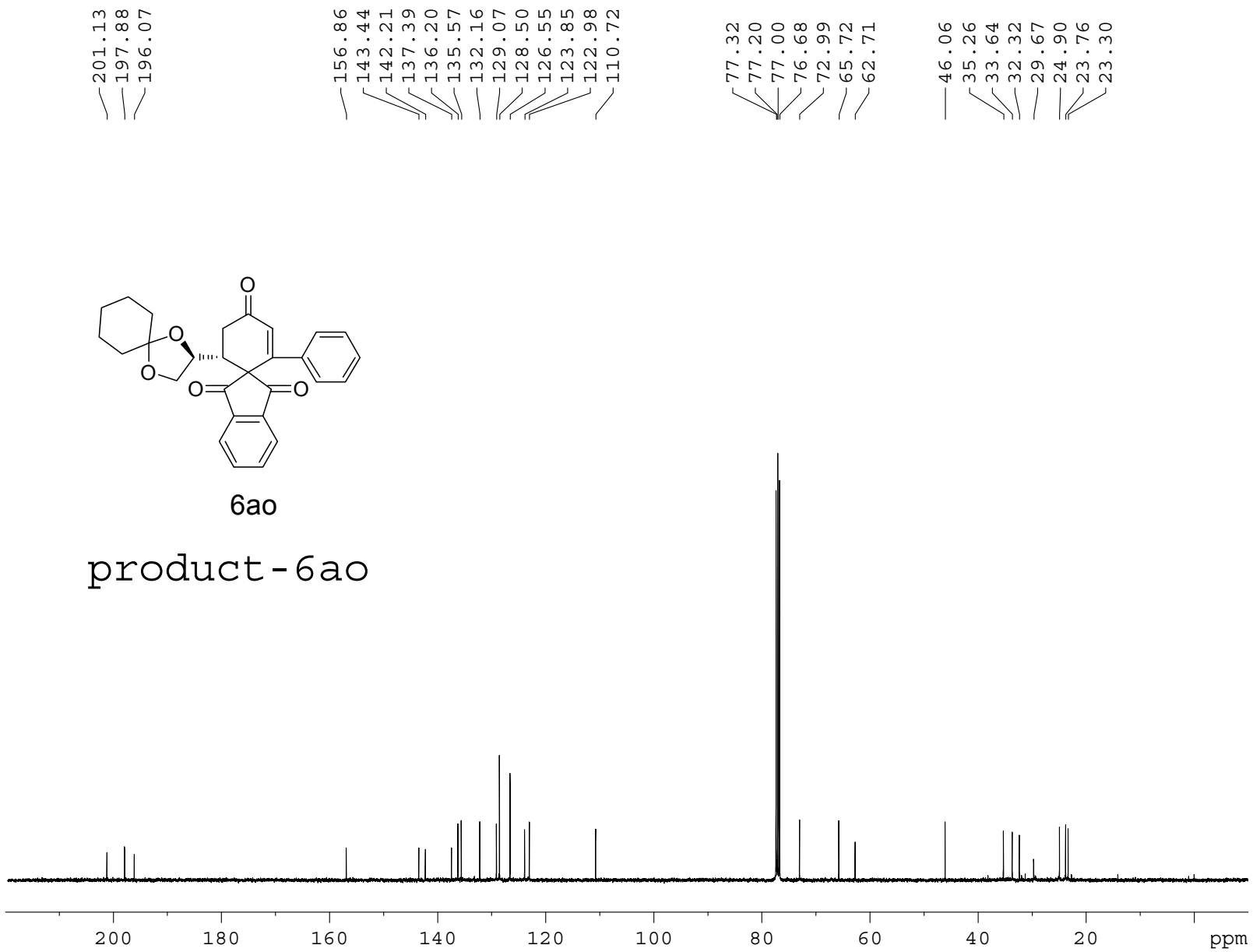




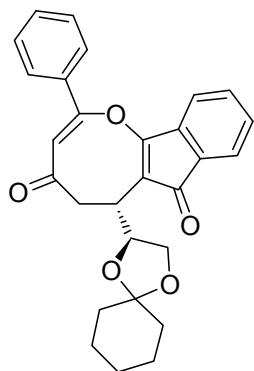
6ao

product - 6ao



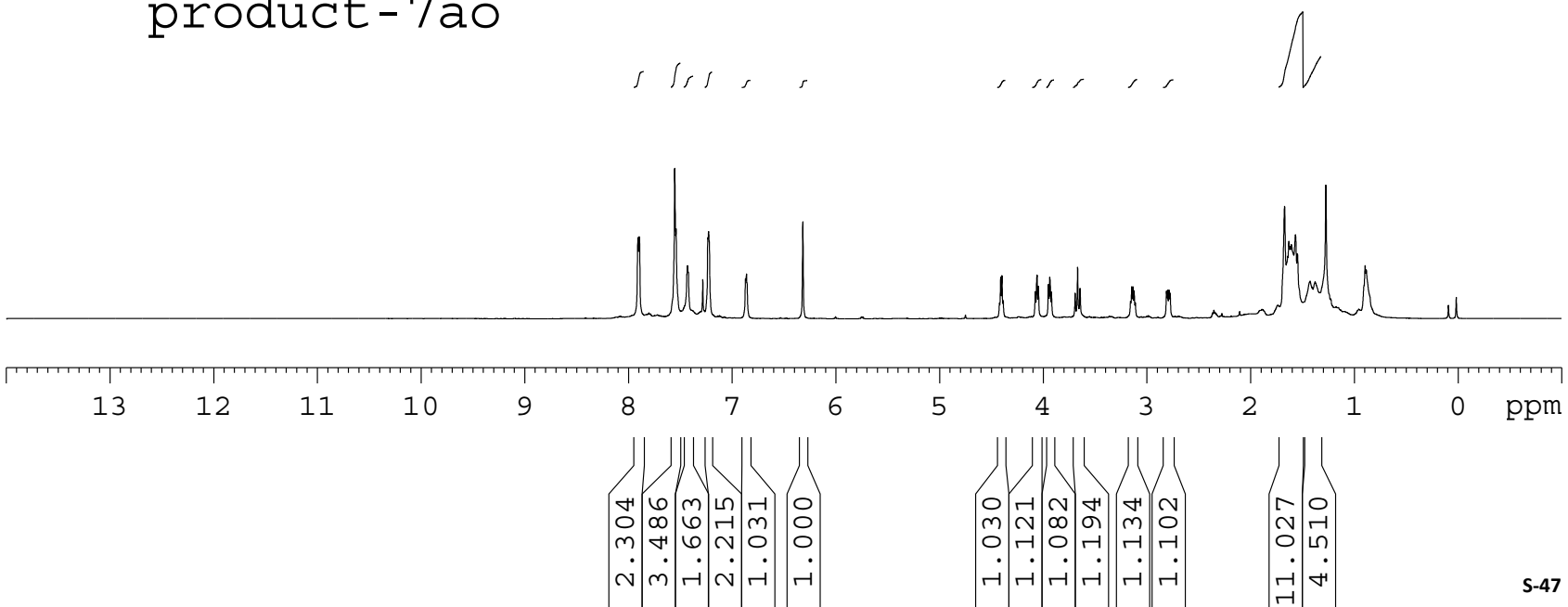


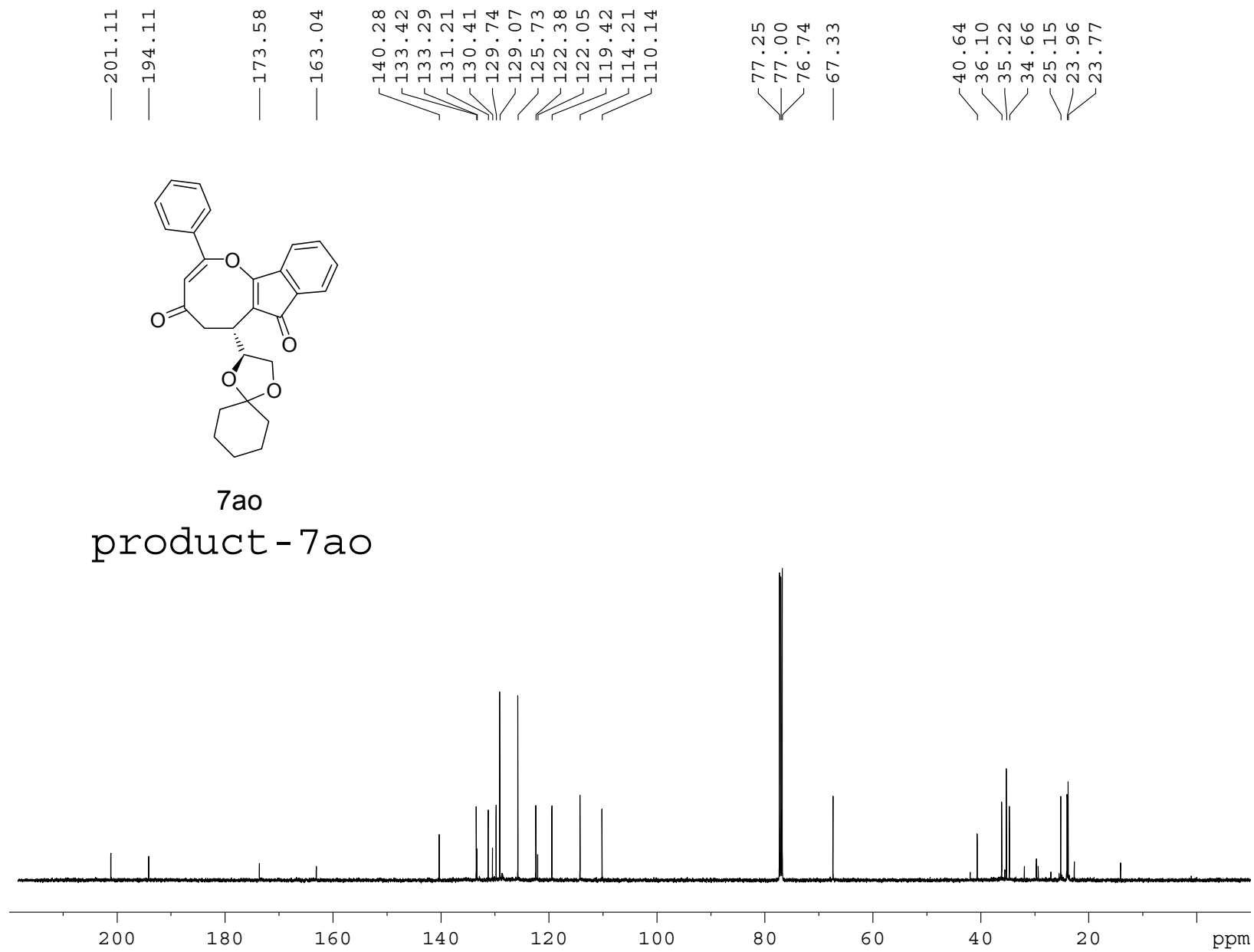
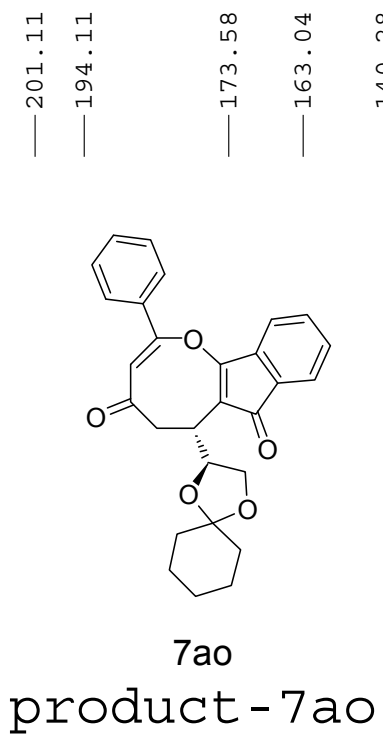
7.908
7.896
7.552
7.540
7.430
7.422
7.282
7.233
7.226
6.870
6.861
6.317
4.409
4.397
4.385
4.075
4.059
4.045
3.949
3.936
3.919
3.691
3.667
3.644
3.146
3.134
3.122
2.809
2.799
2.786
2.776
1.672
1.641
1.630
1.617
1.606
1.567
1.547
1.425
1.404
1.377
1.273
1.225
0.894
0.882
0.015

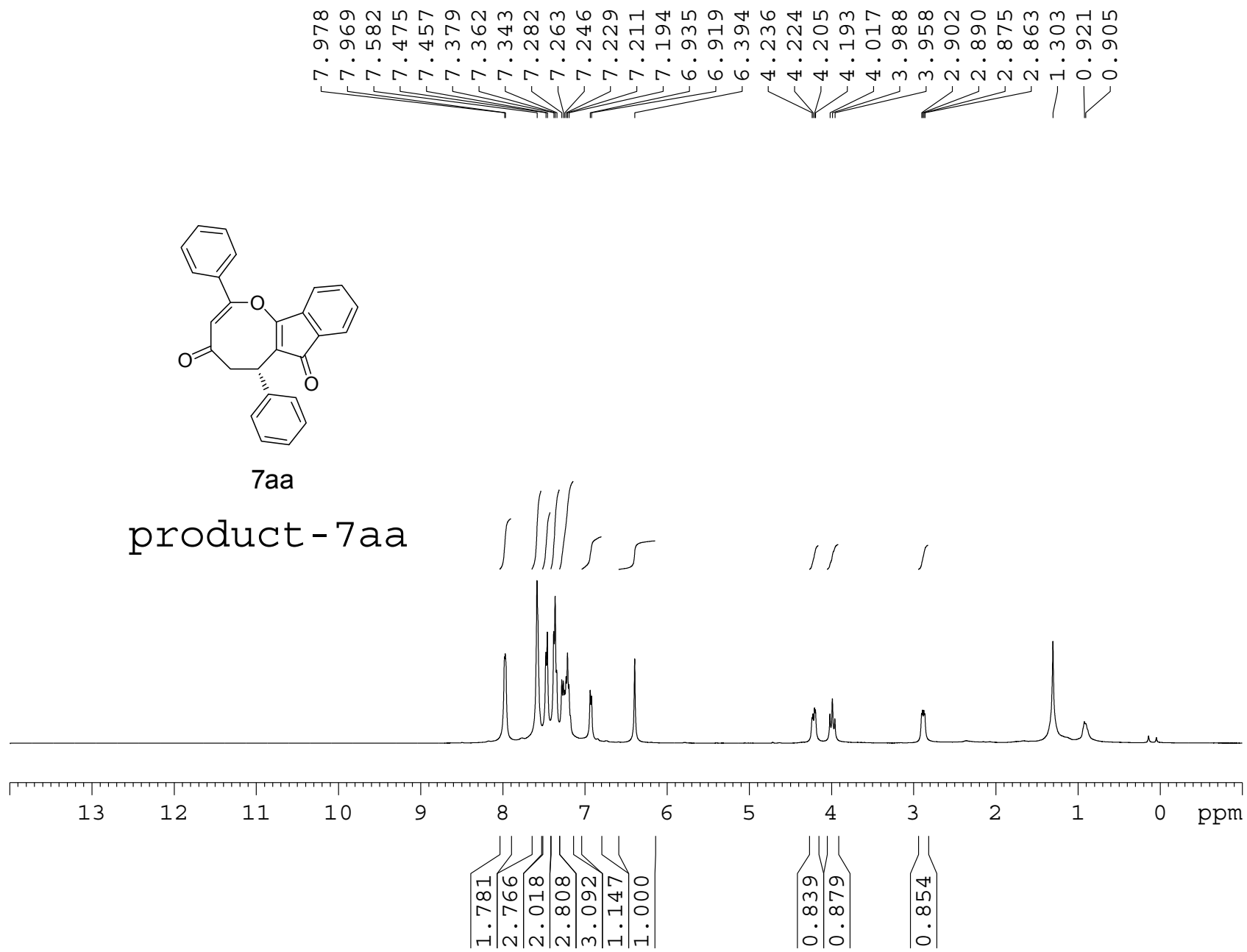


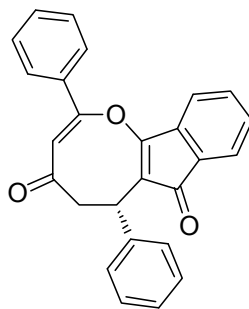
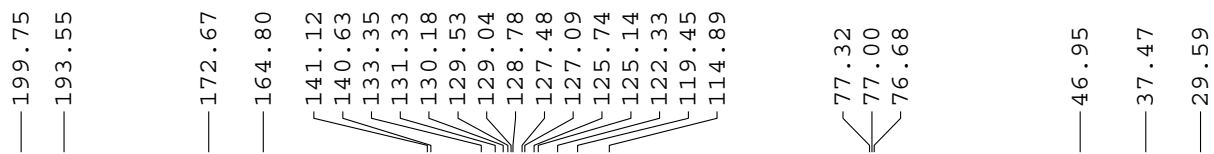
7ao

product - 7ao



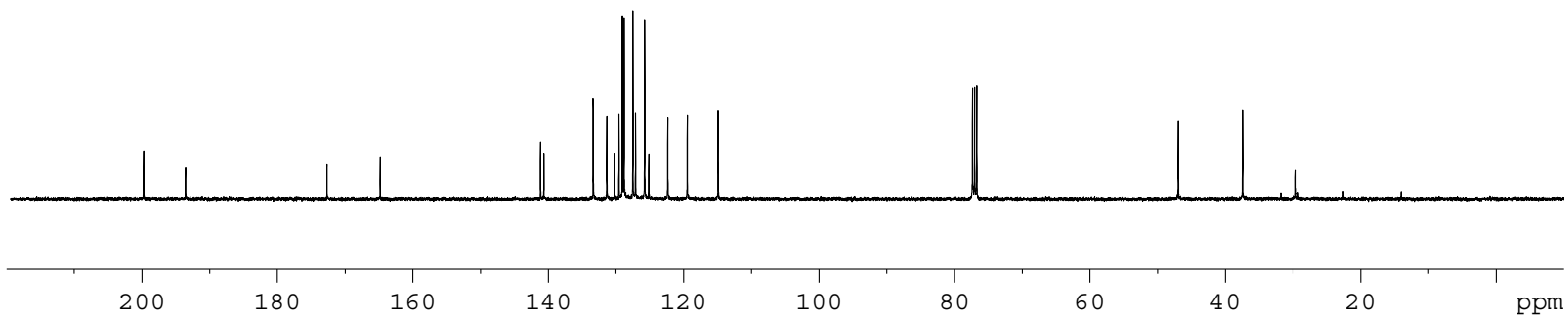


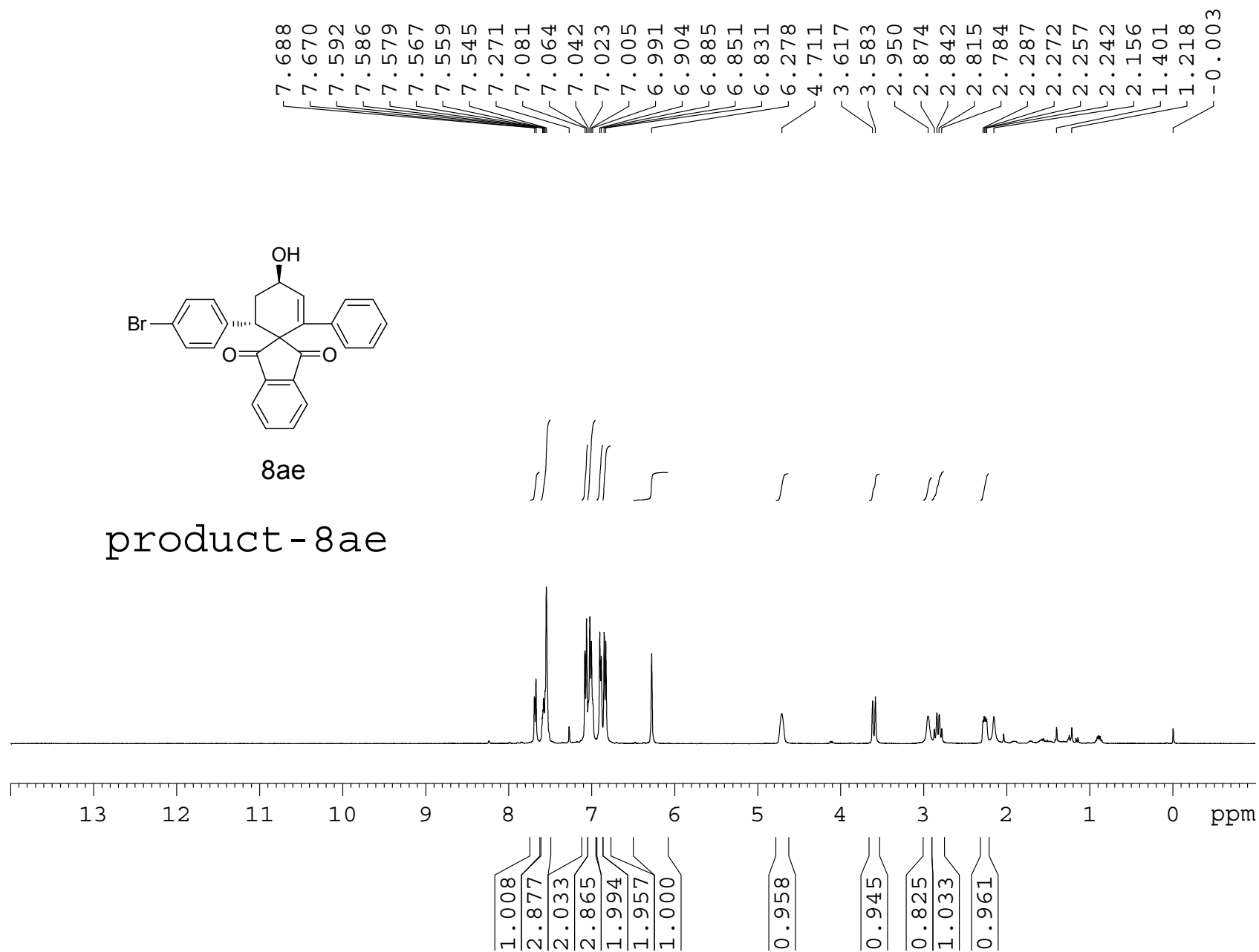


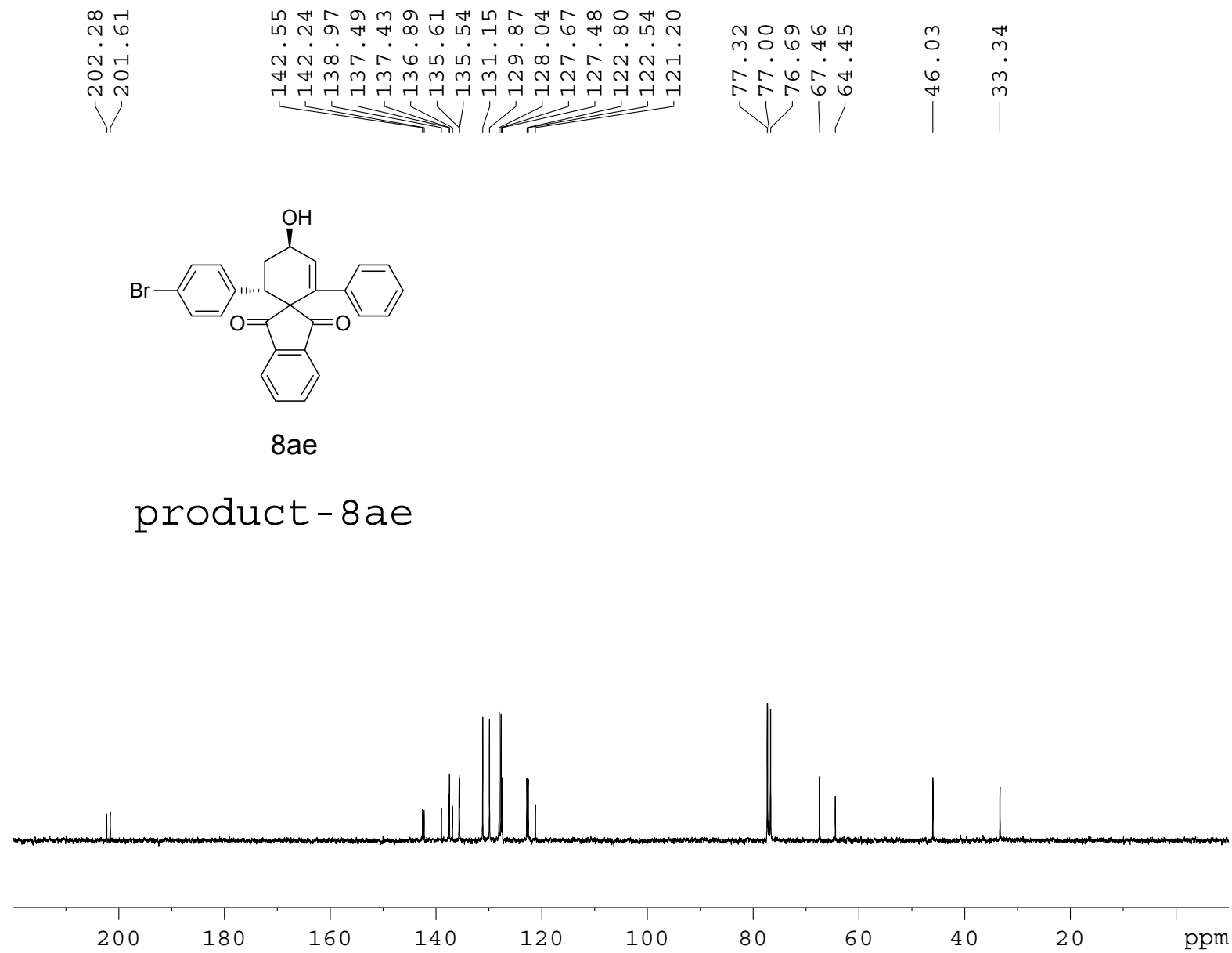


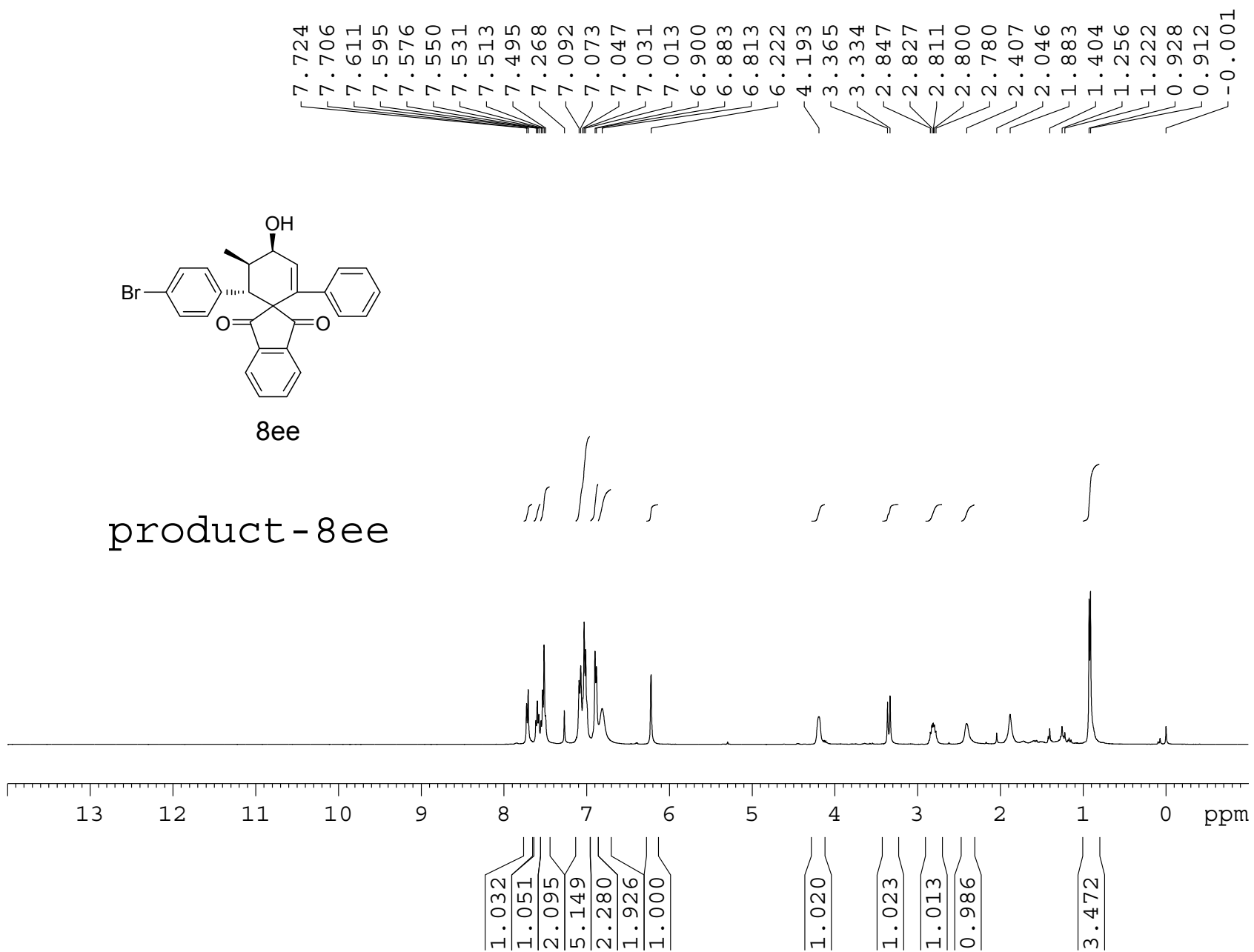
7aa

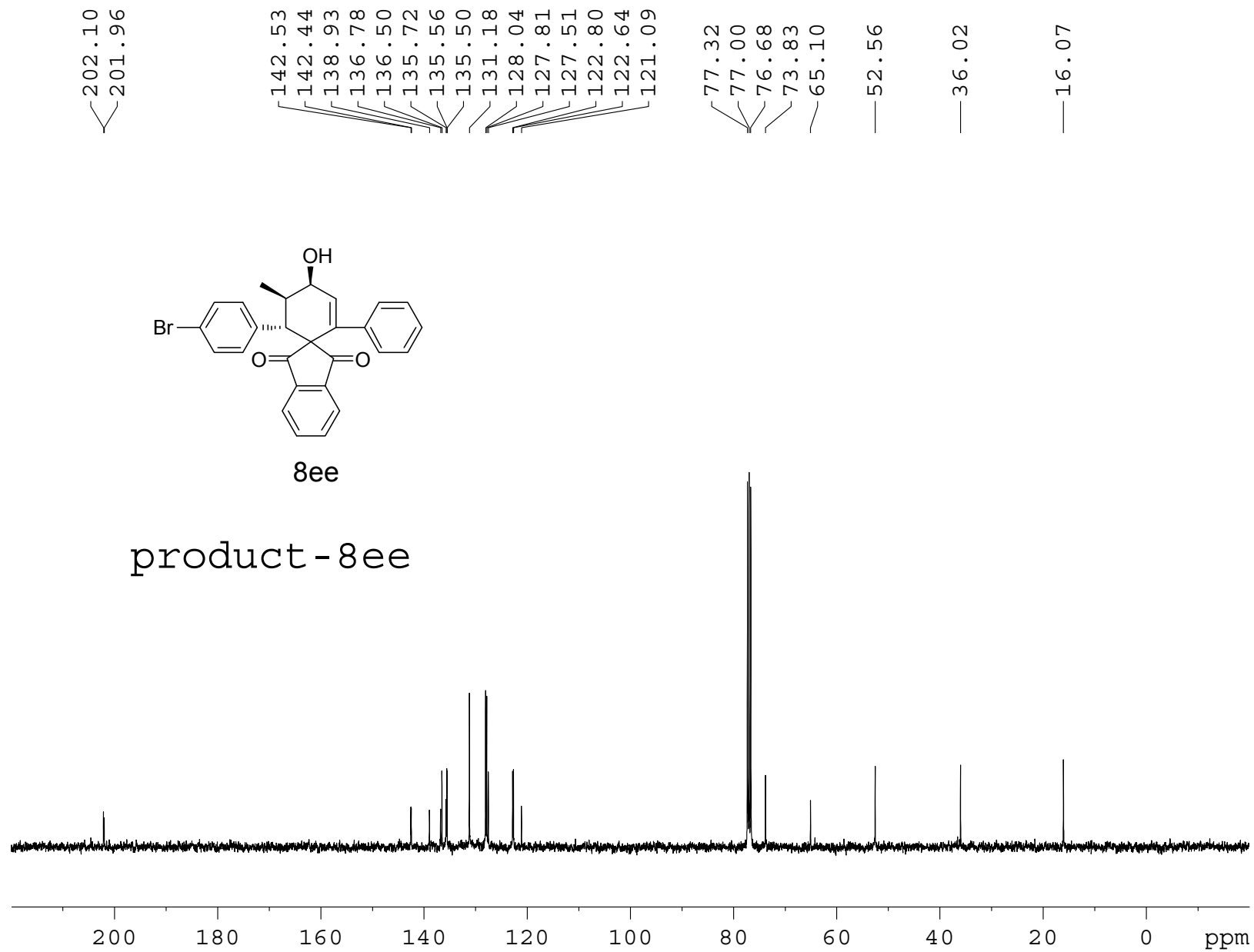
product - 7aa

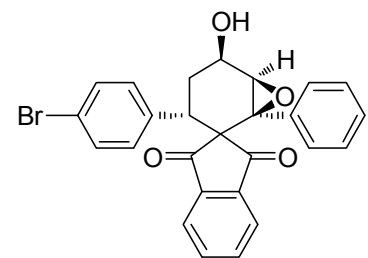






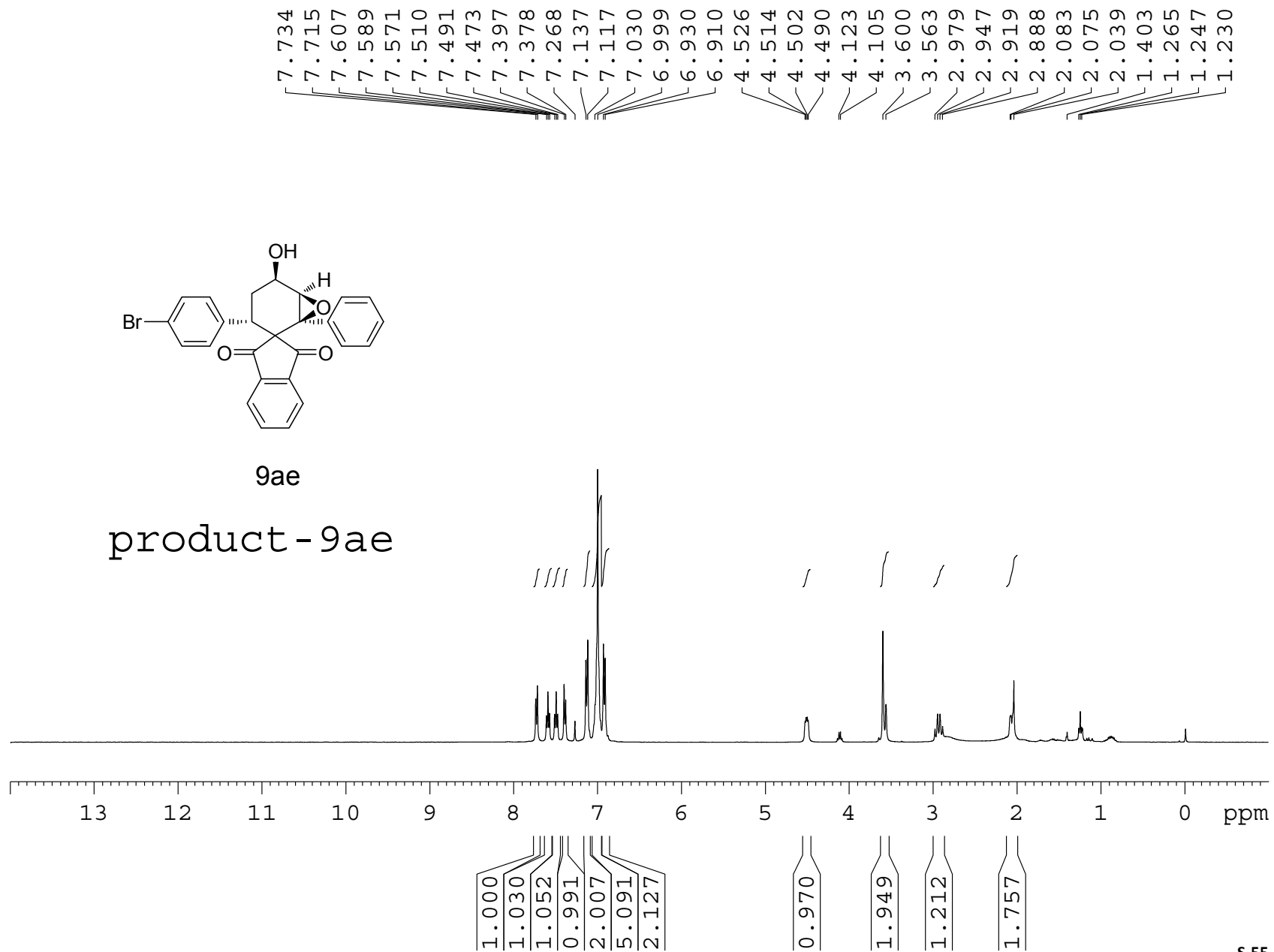






9ae

product - 9ae



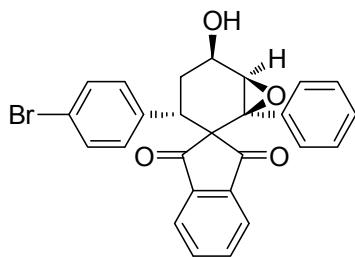
200.76
197.75

142.97
142.10
137.39
136.17
135.65
135.40
131.16
130.50
128.30
128.25
127.64
122.68
122.63
121.18

77.32
77.00
76.68
68.65
67.67
61.71
60.38
60.12
43.90

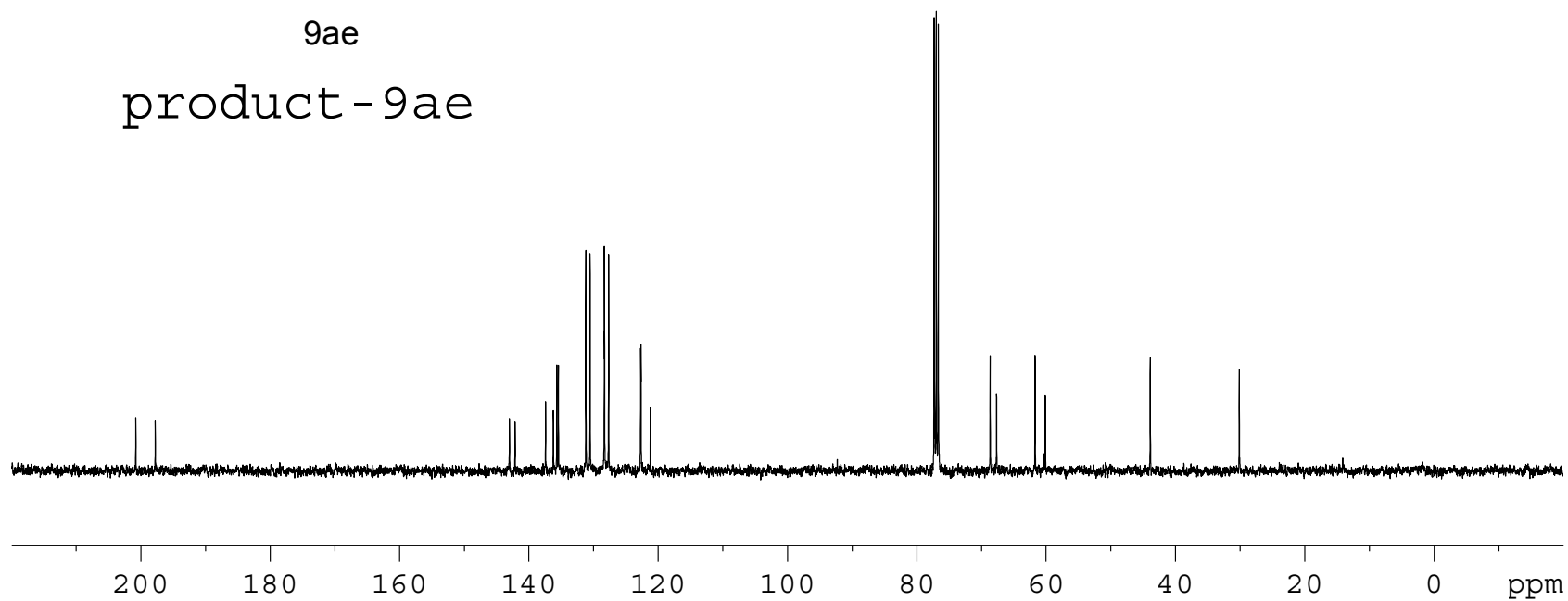
30.13

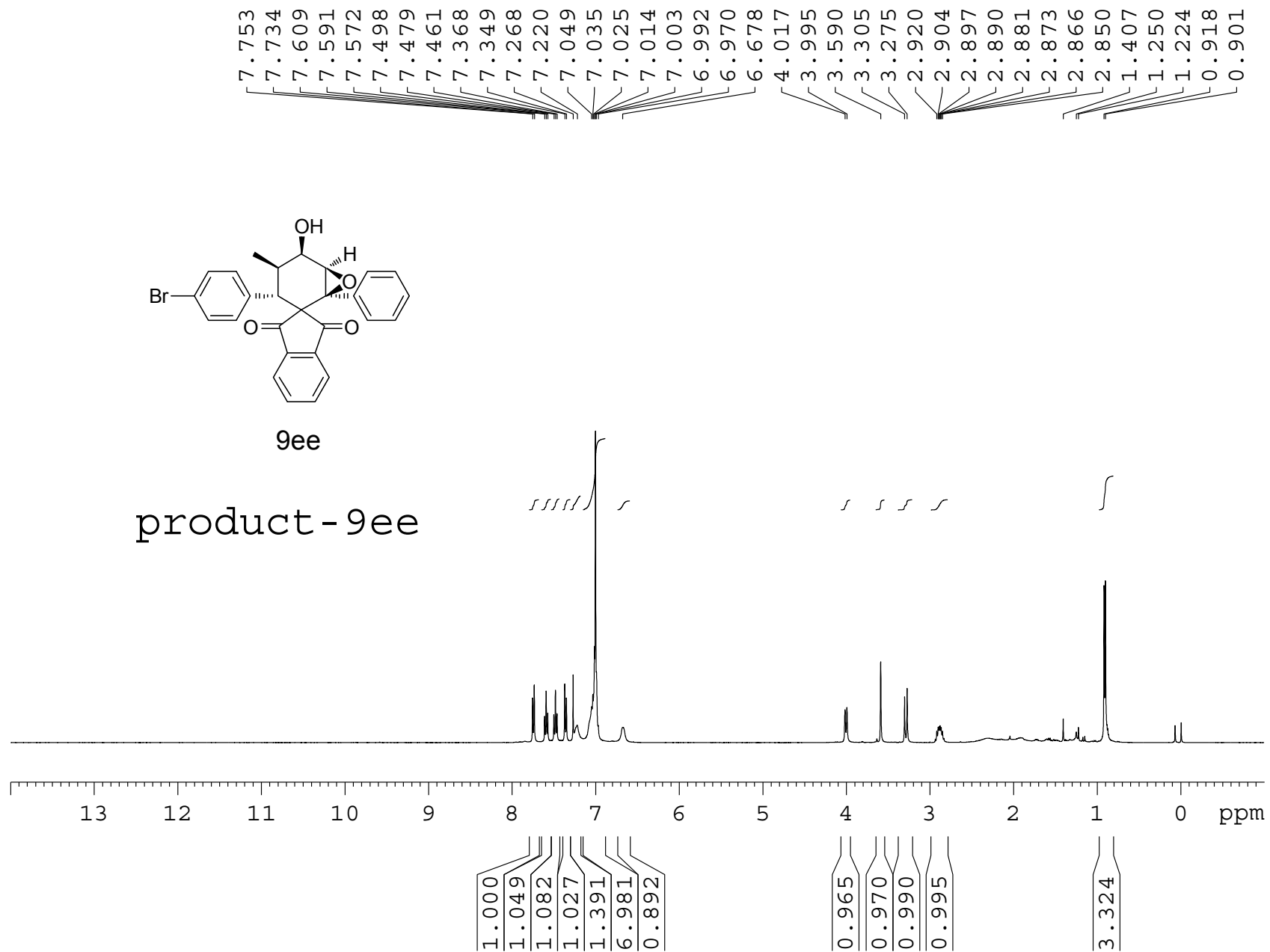
14.14

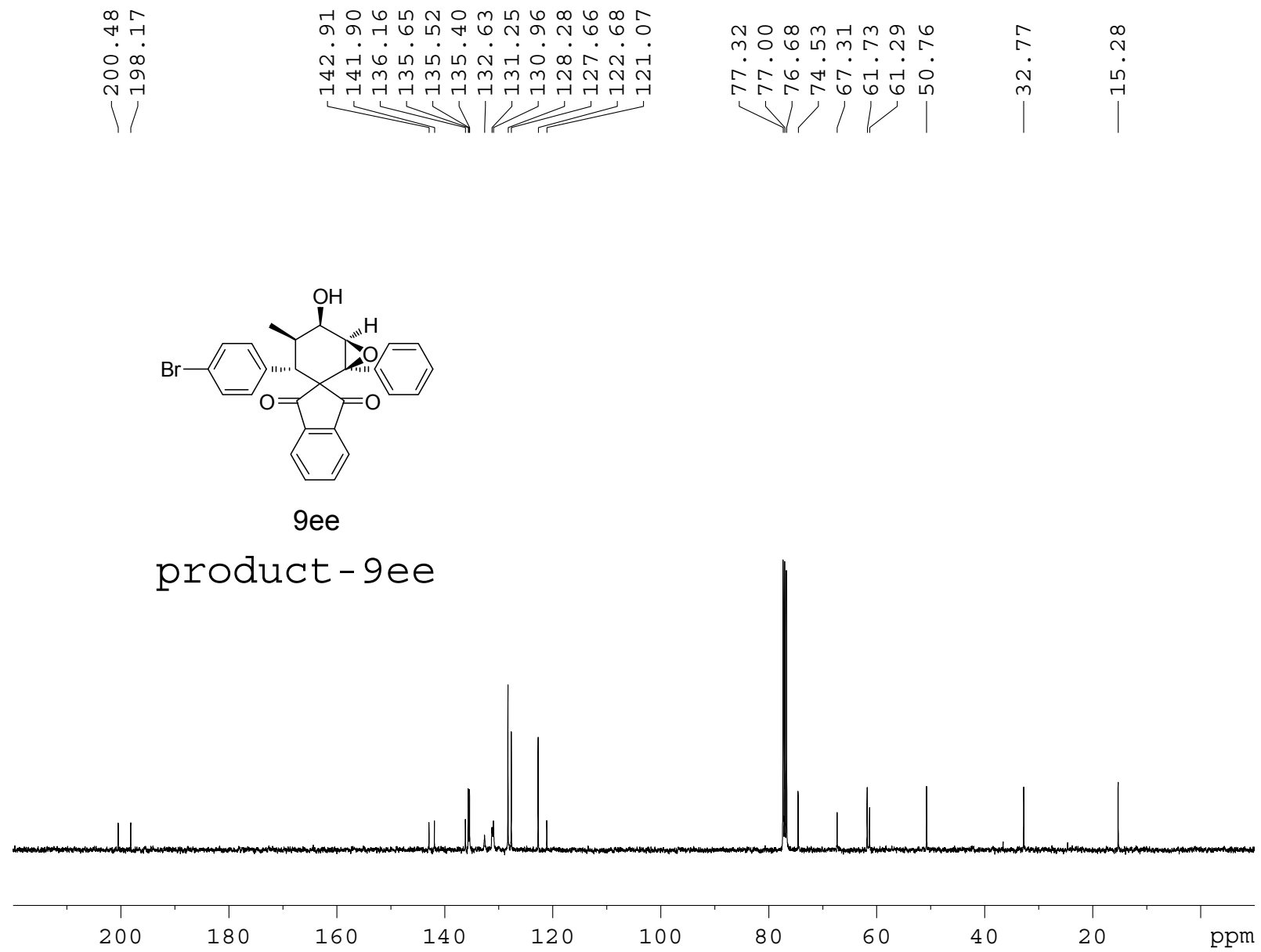


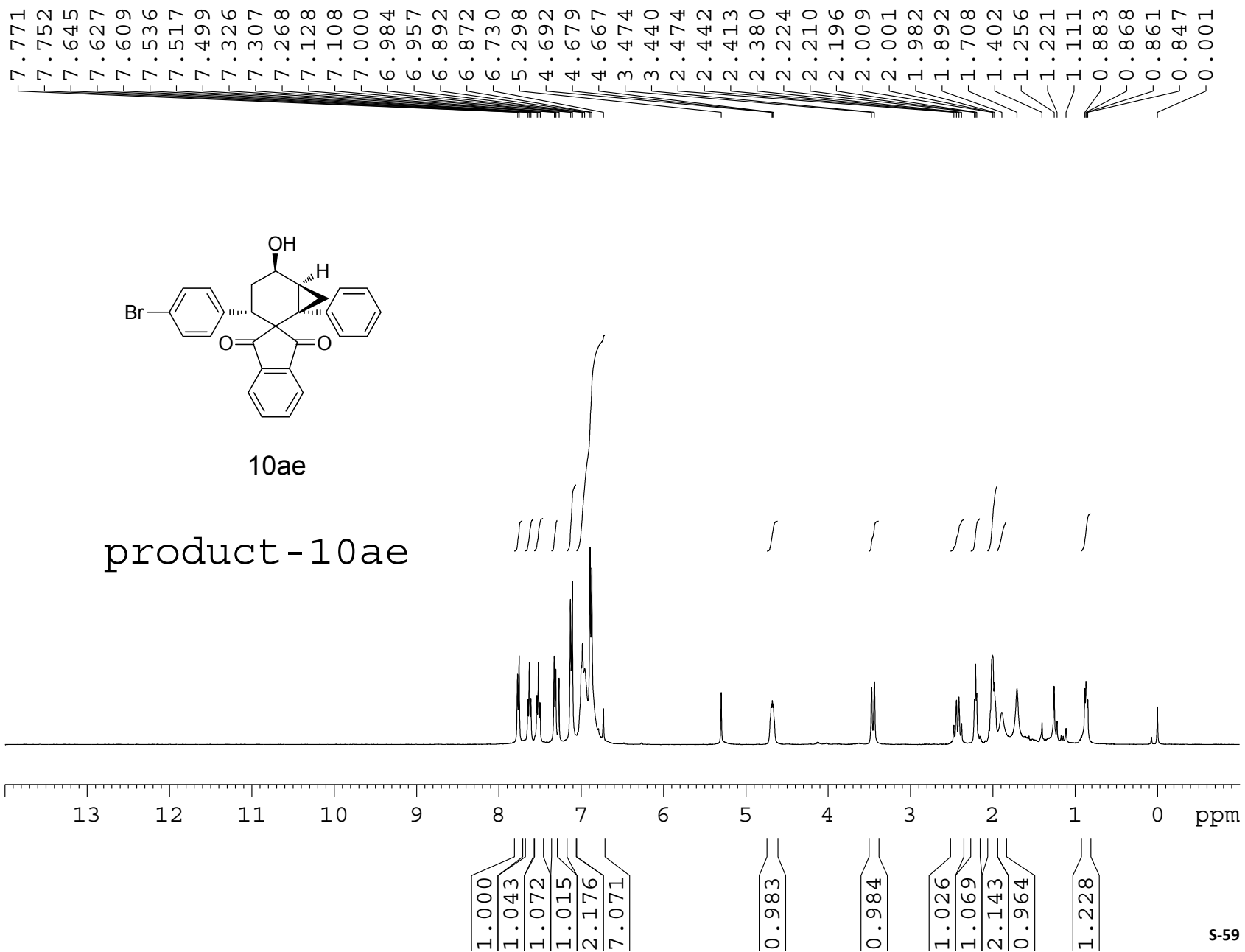
9ae

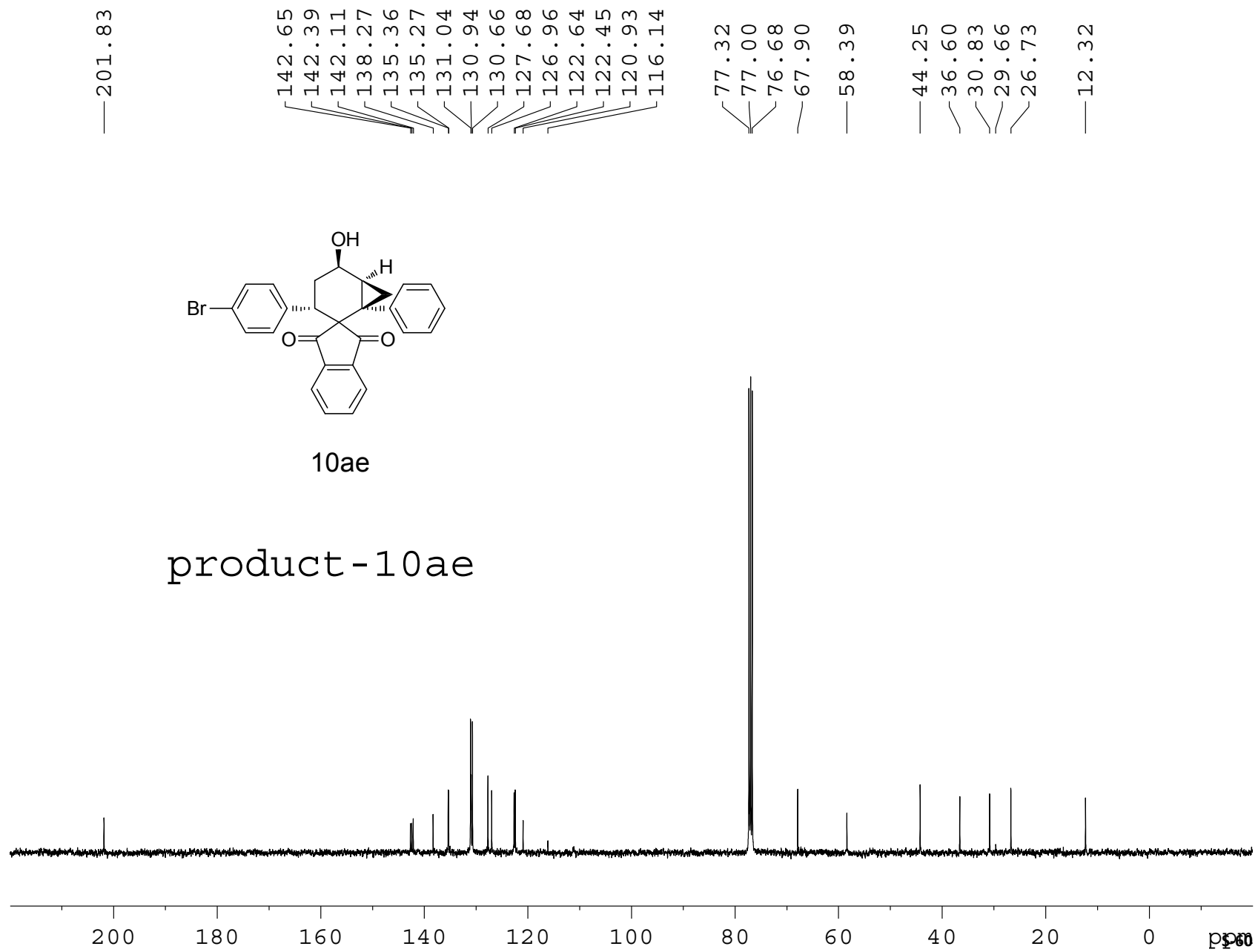
product - 9ae





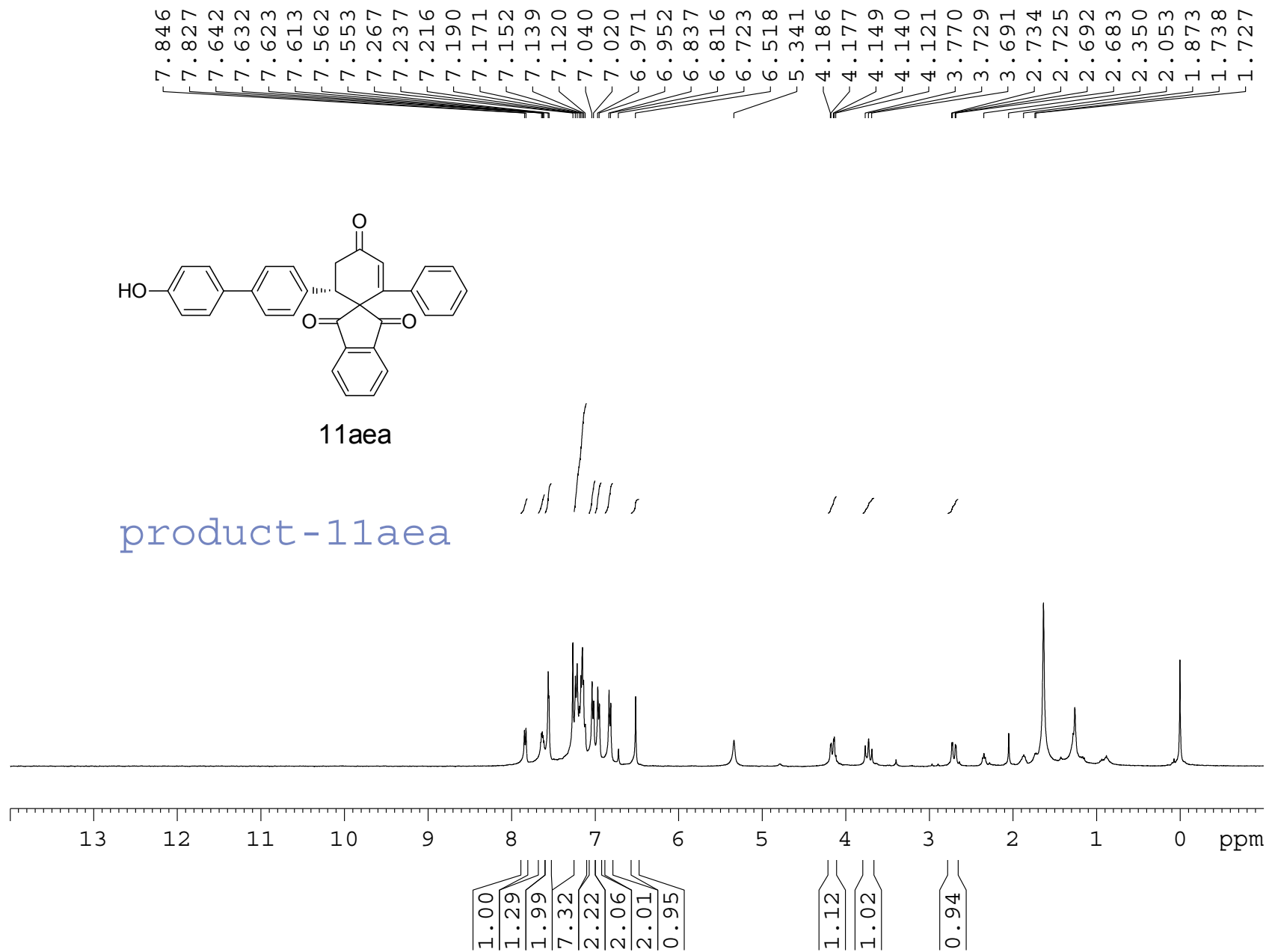






product-10ae

10ae

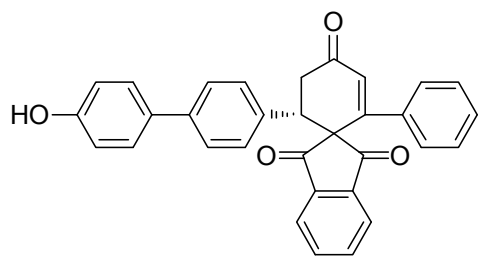


200.25
198.53
198.33

156.91
155.93
142.84
142.18
140.41
137.29
135.79
134.35
132.11
132.00
129.22
128.55
127.85
126.50
126.33
123.33
122.97
115.69

77.32
77.00
76.69
— 65.10

— 48.22
— 38.48



11aea

product-11aea

