Direct Allylation of Quinones with Allylboronates

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Supporting Information

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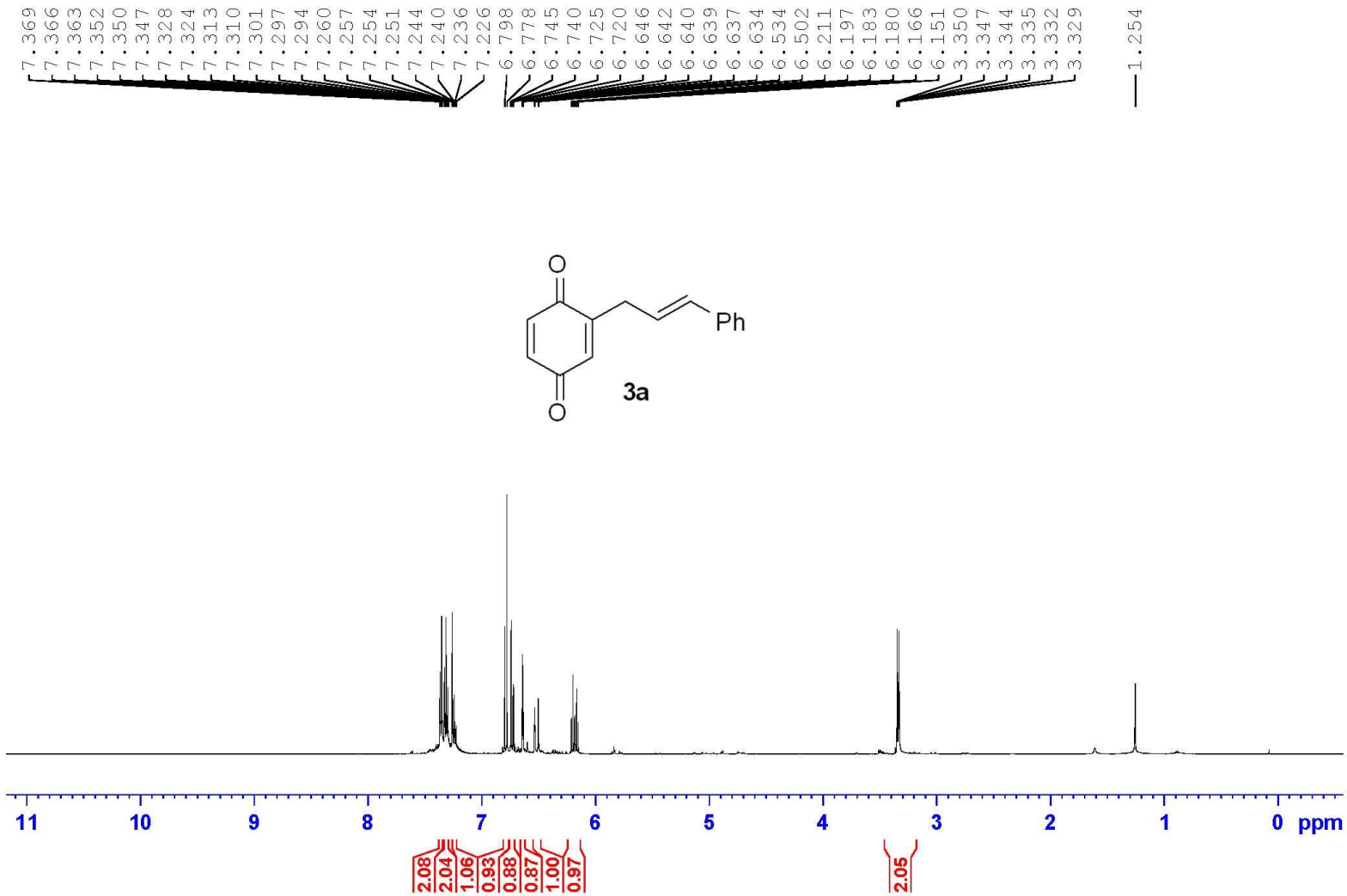
^{1}H and ^{13}C NMR spectra S2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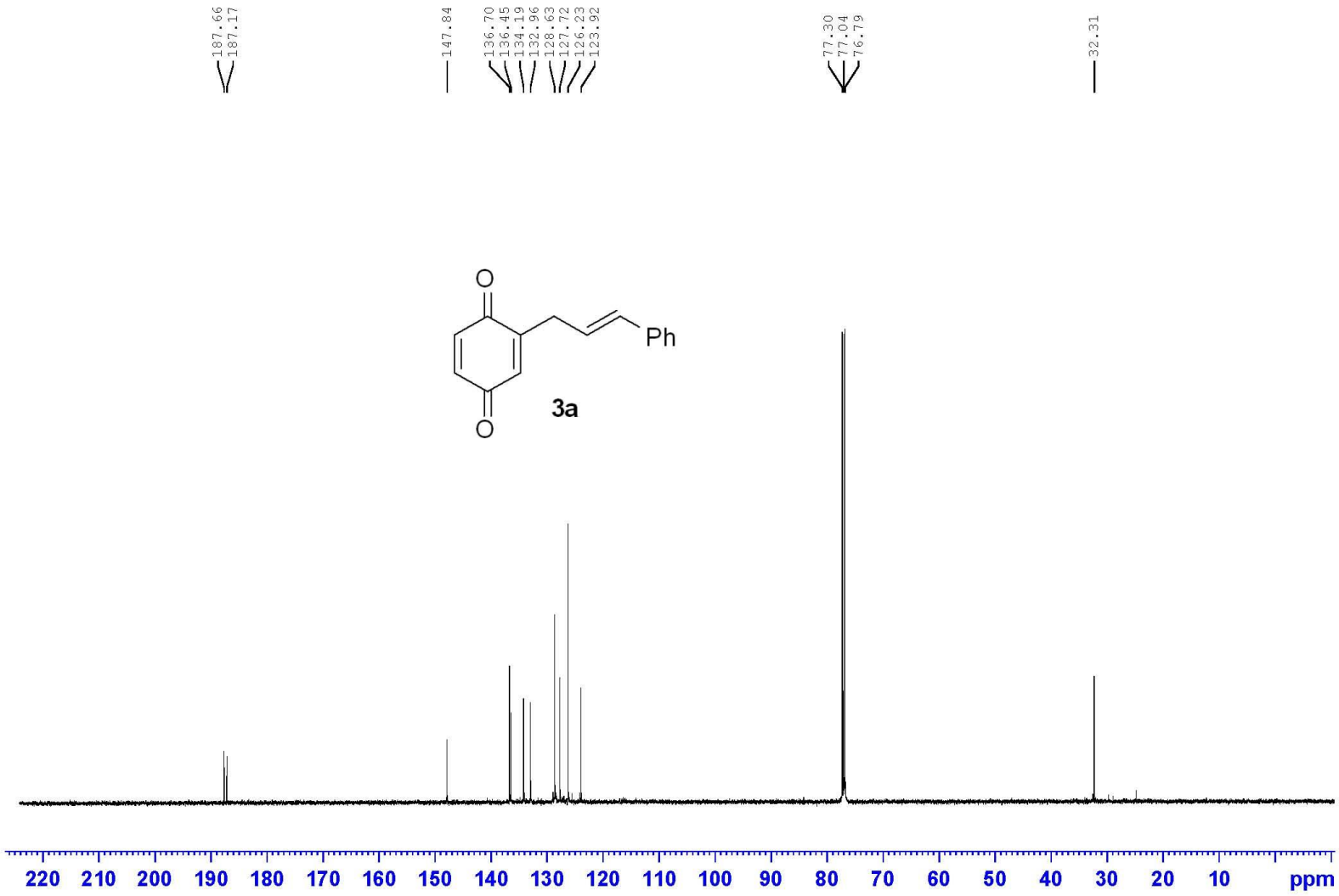
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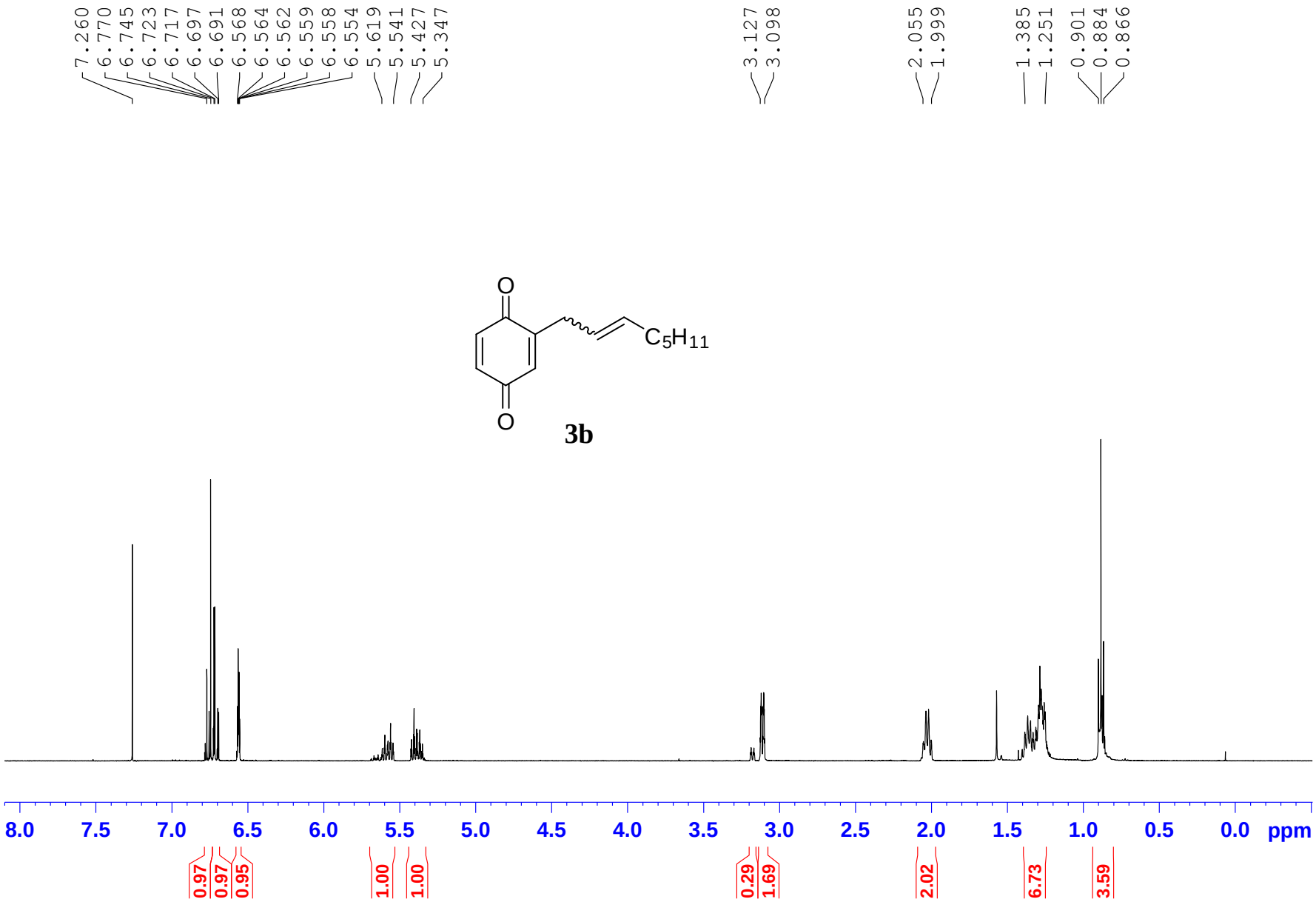
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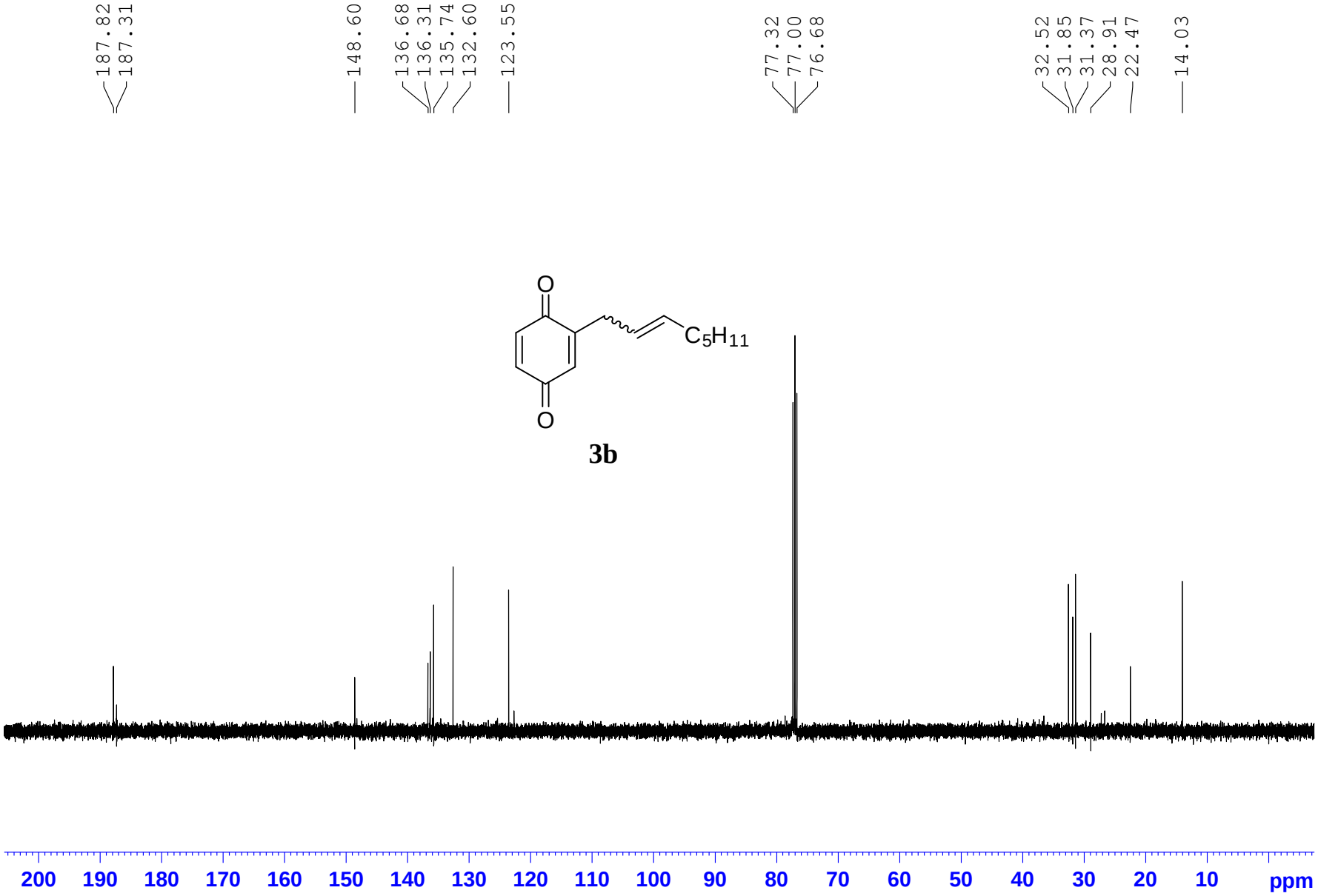
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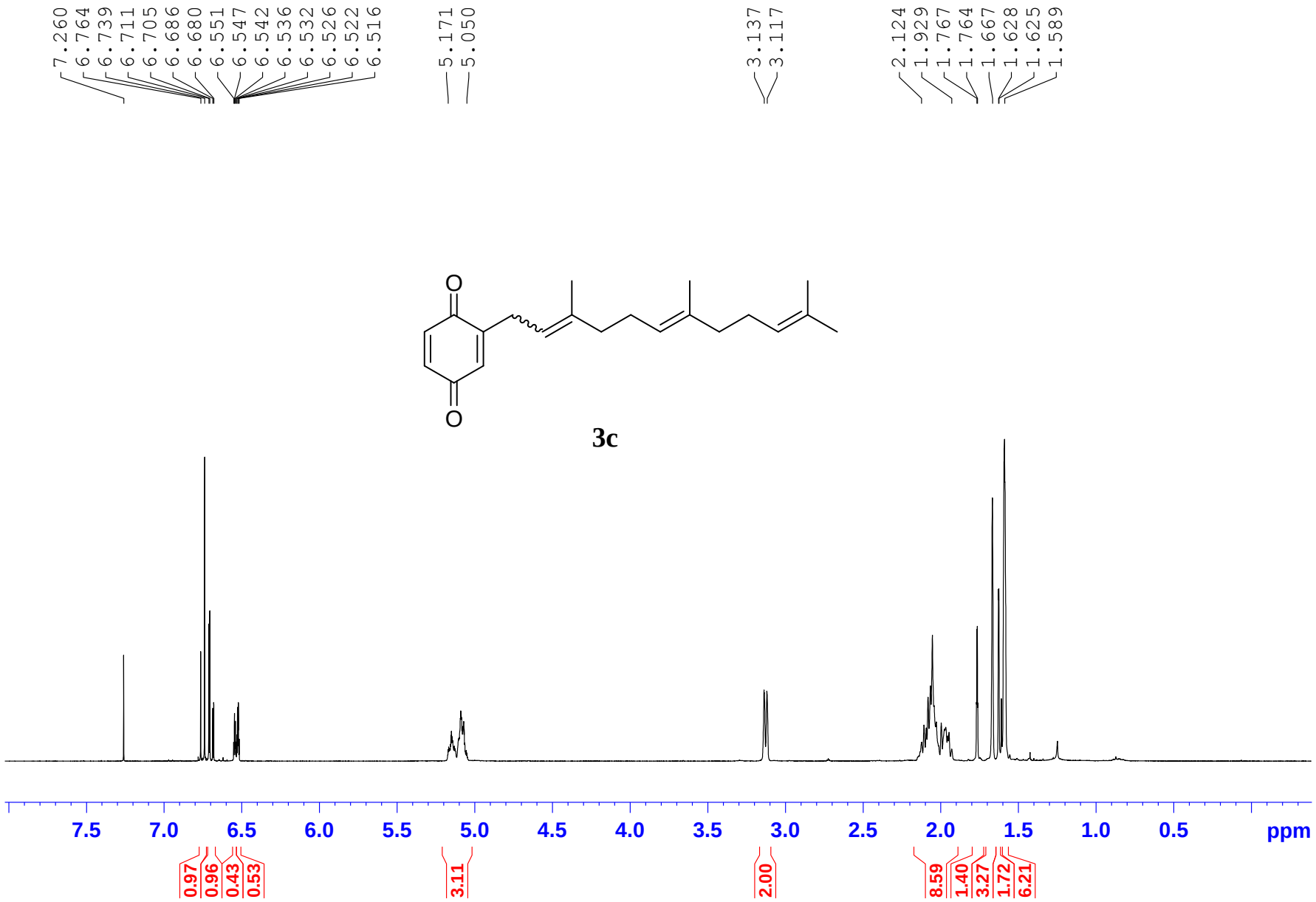
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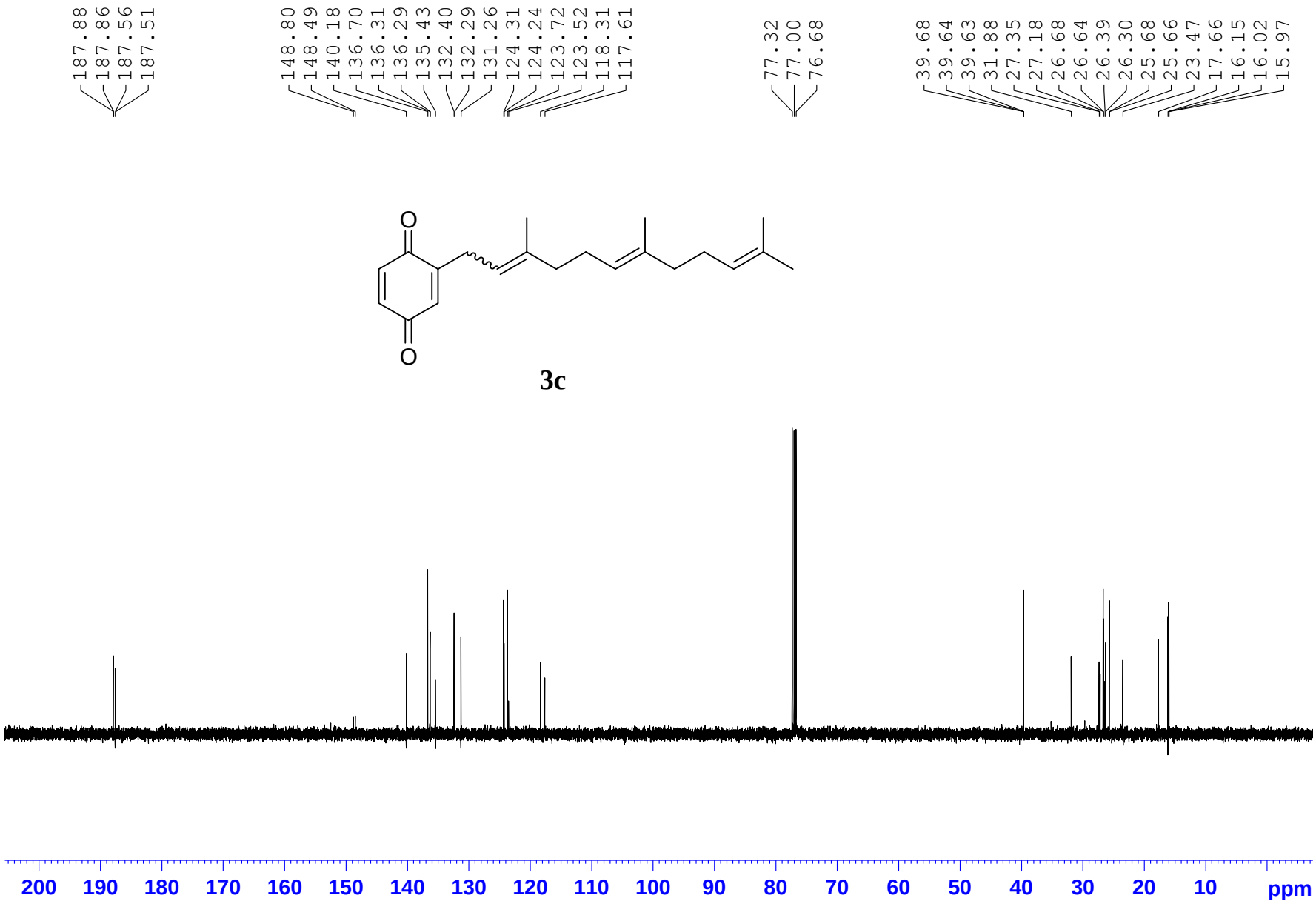
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26.64
26.39
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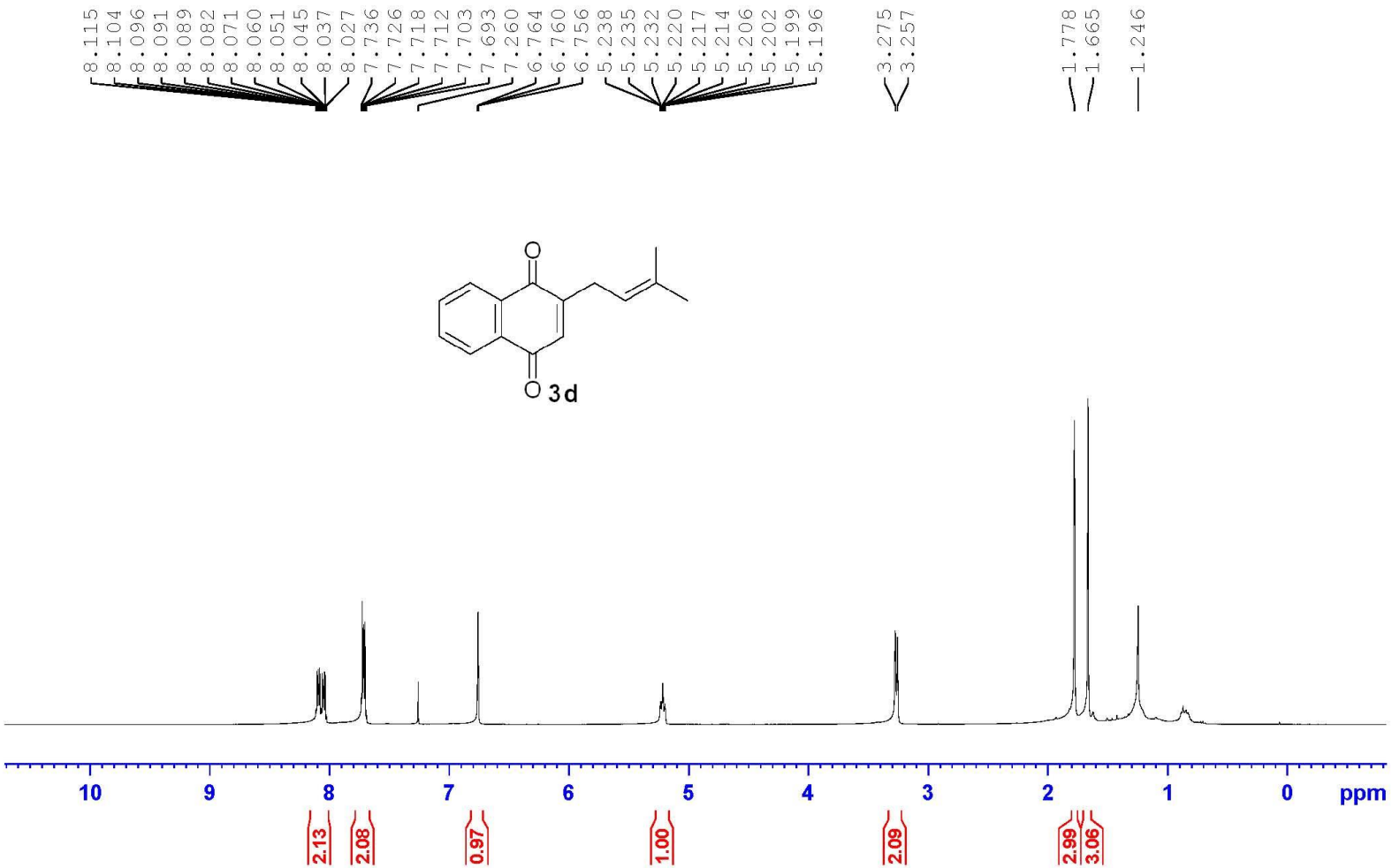
3c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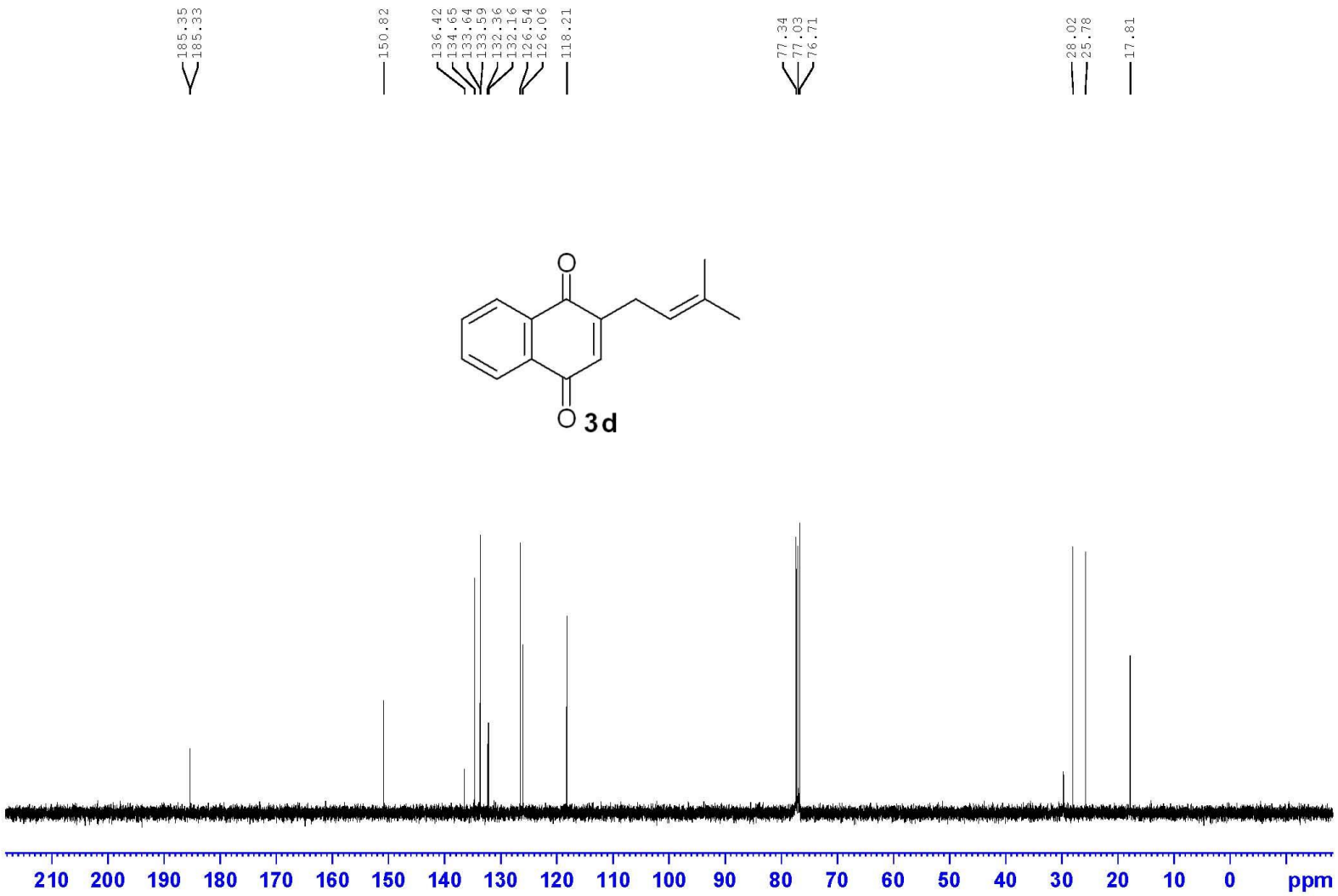
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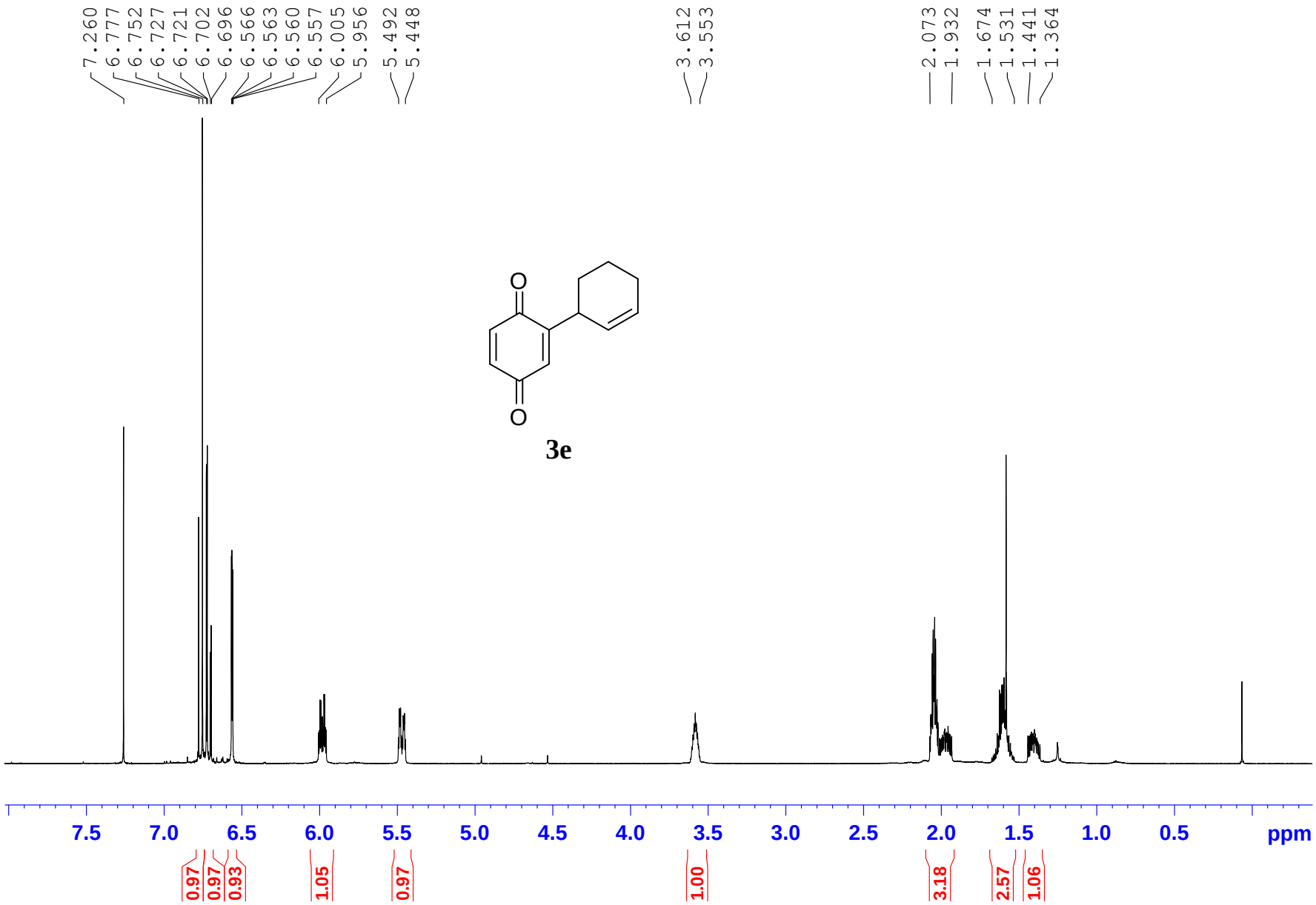
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O
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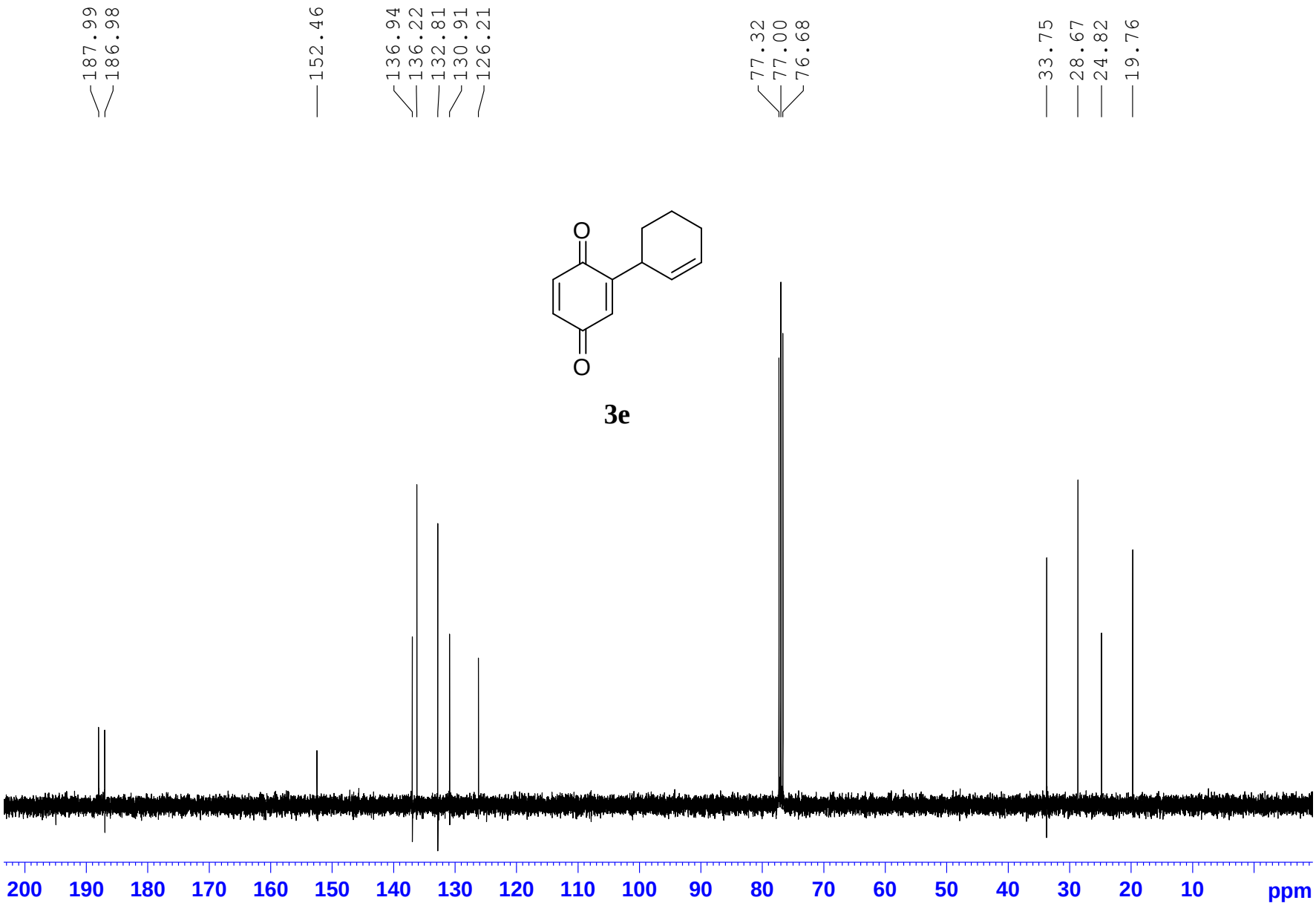
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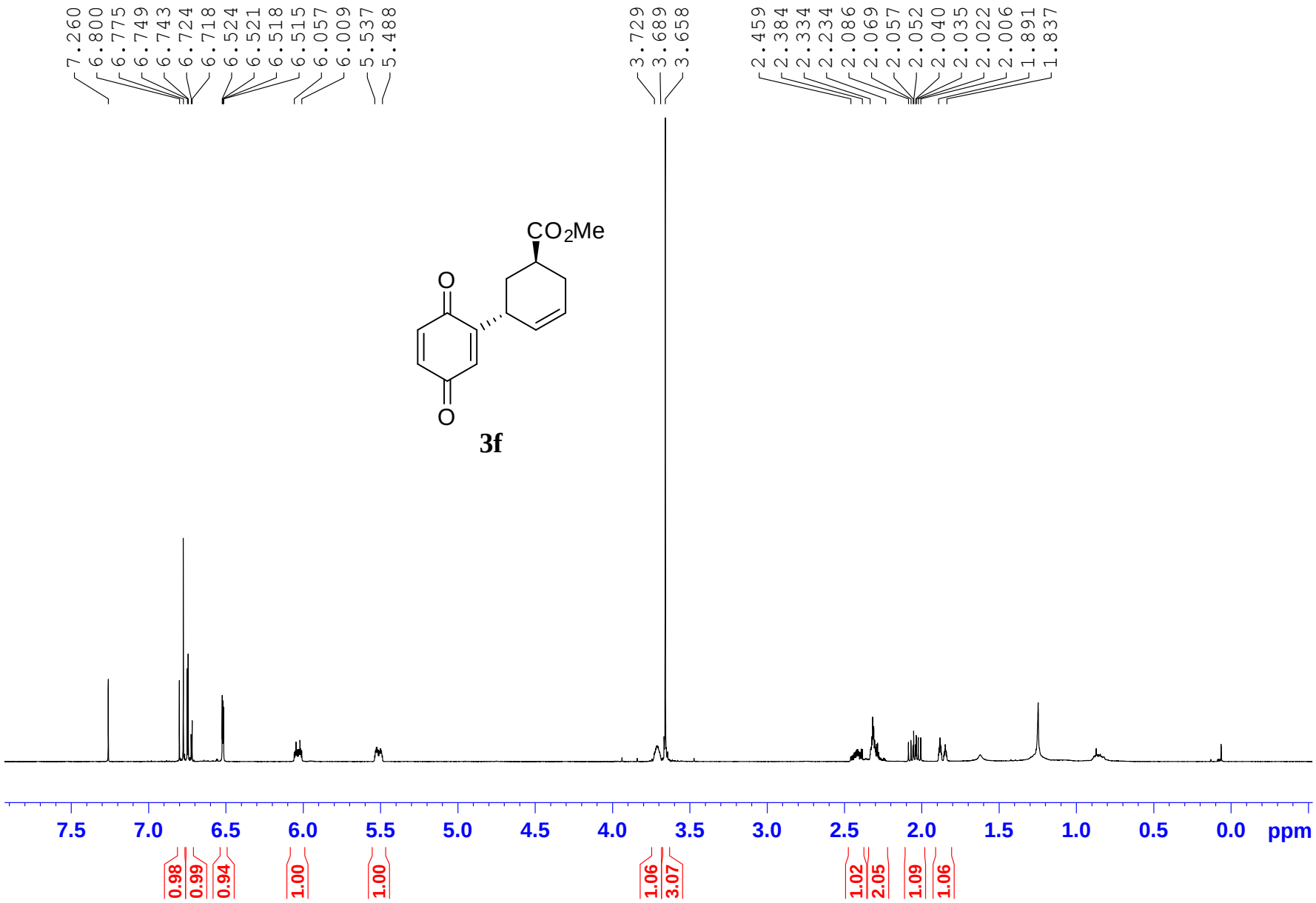
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O
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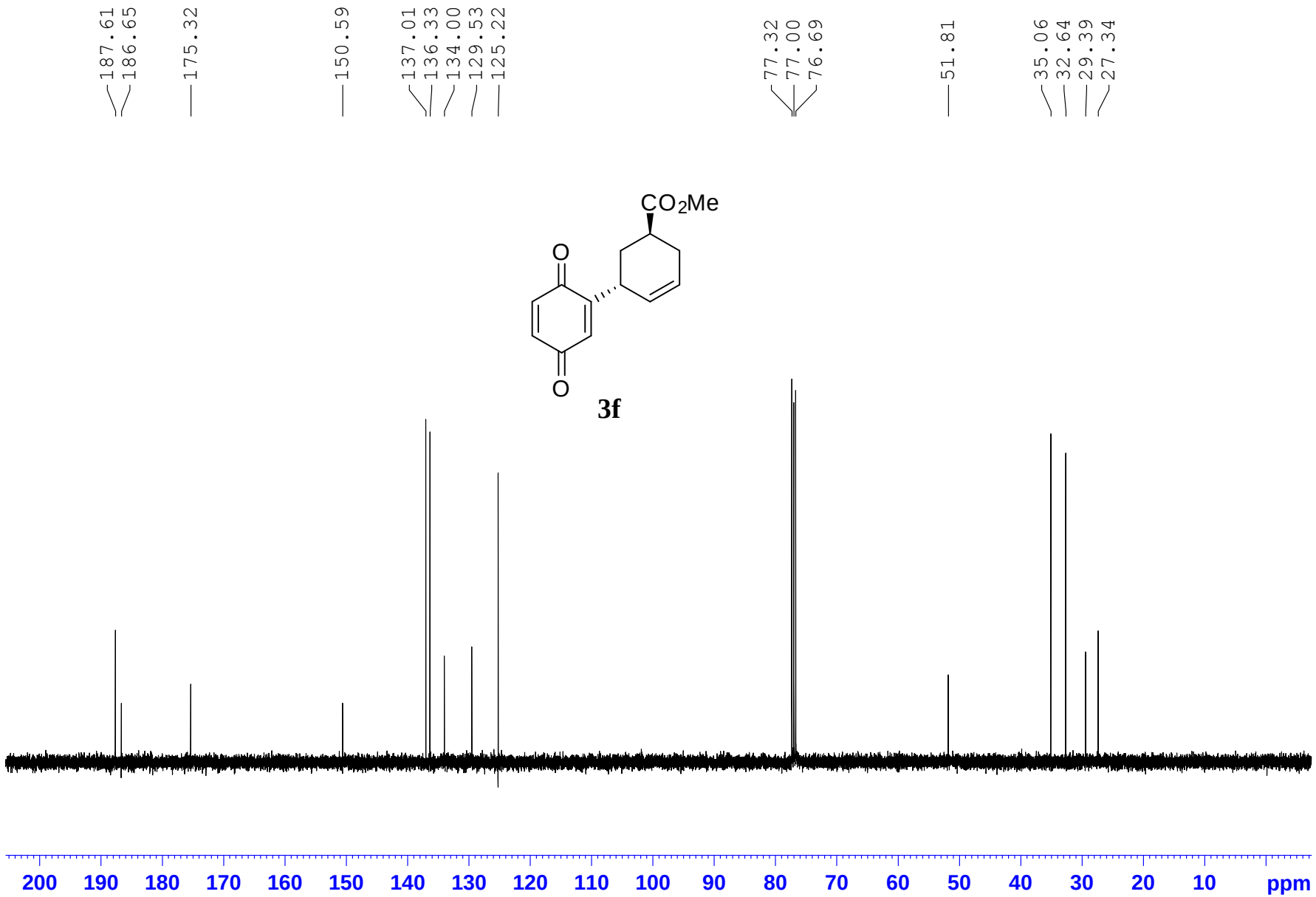
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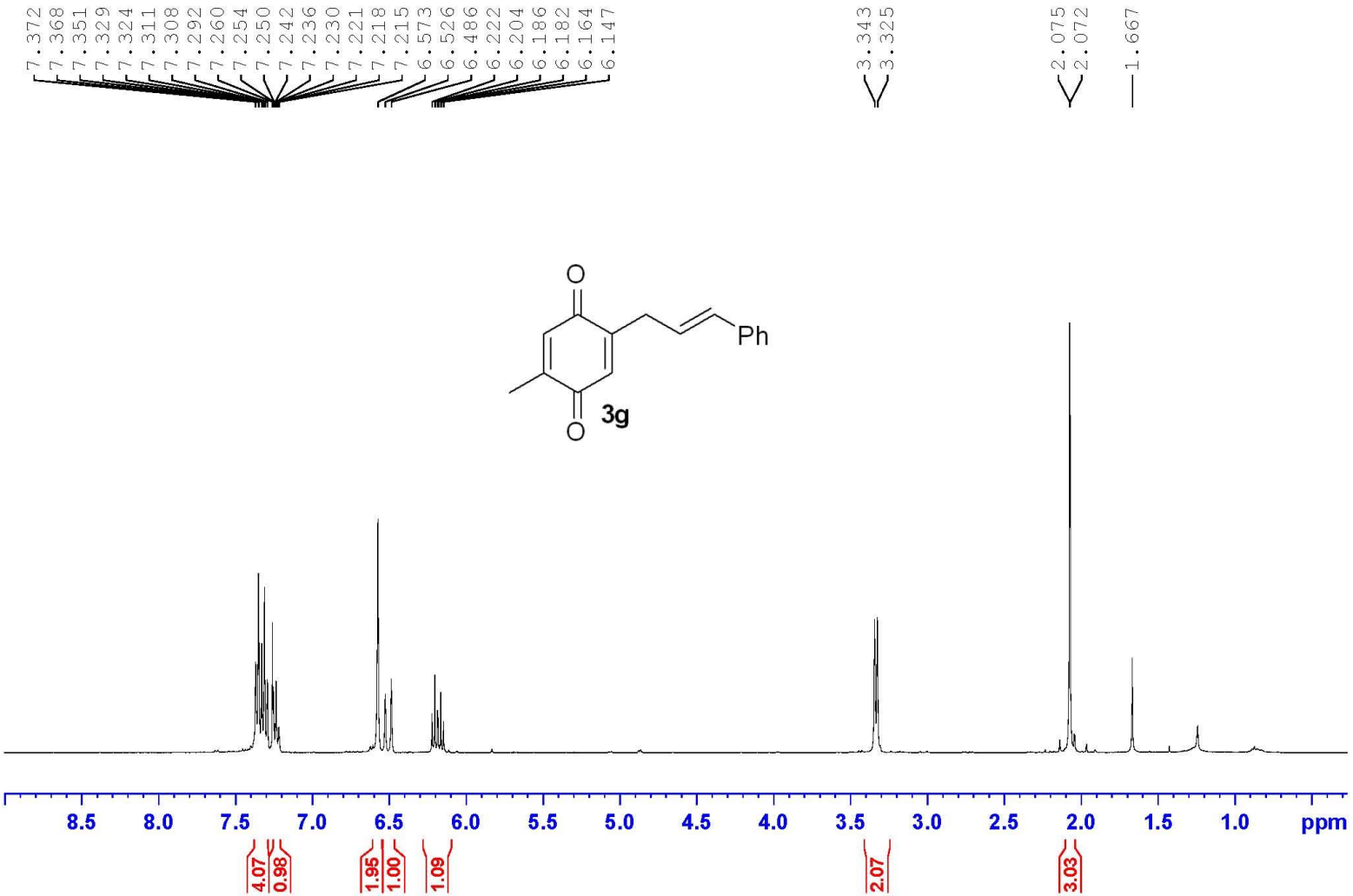
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O
Ph
O
3g
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5.0
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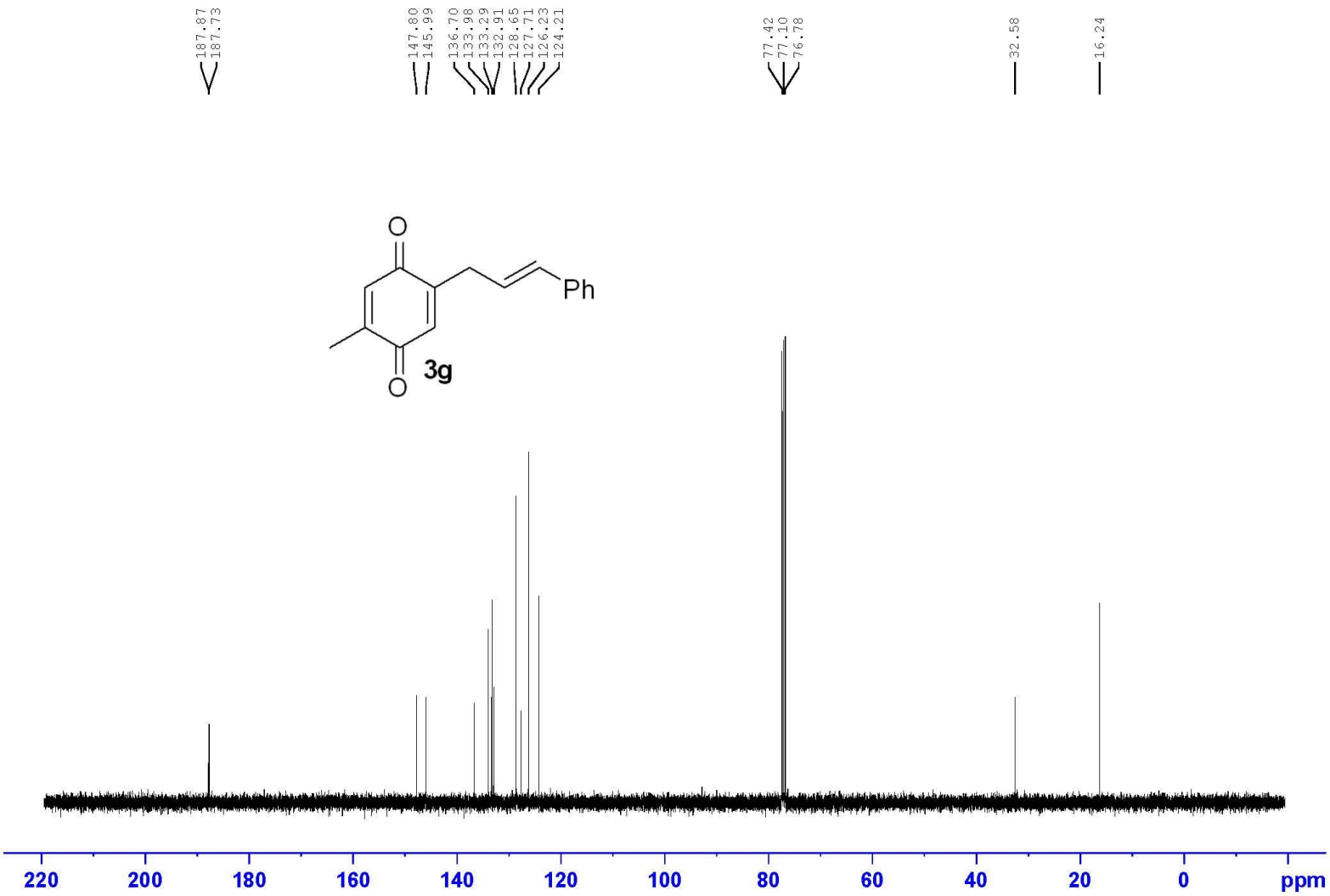
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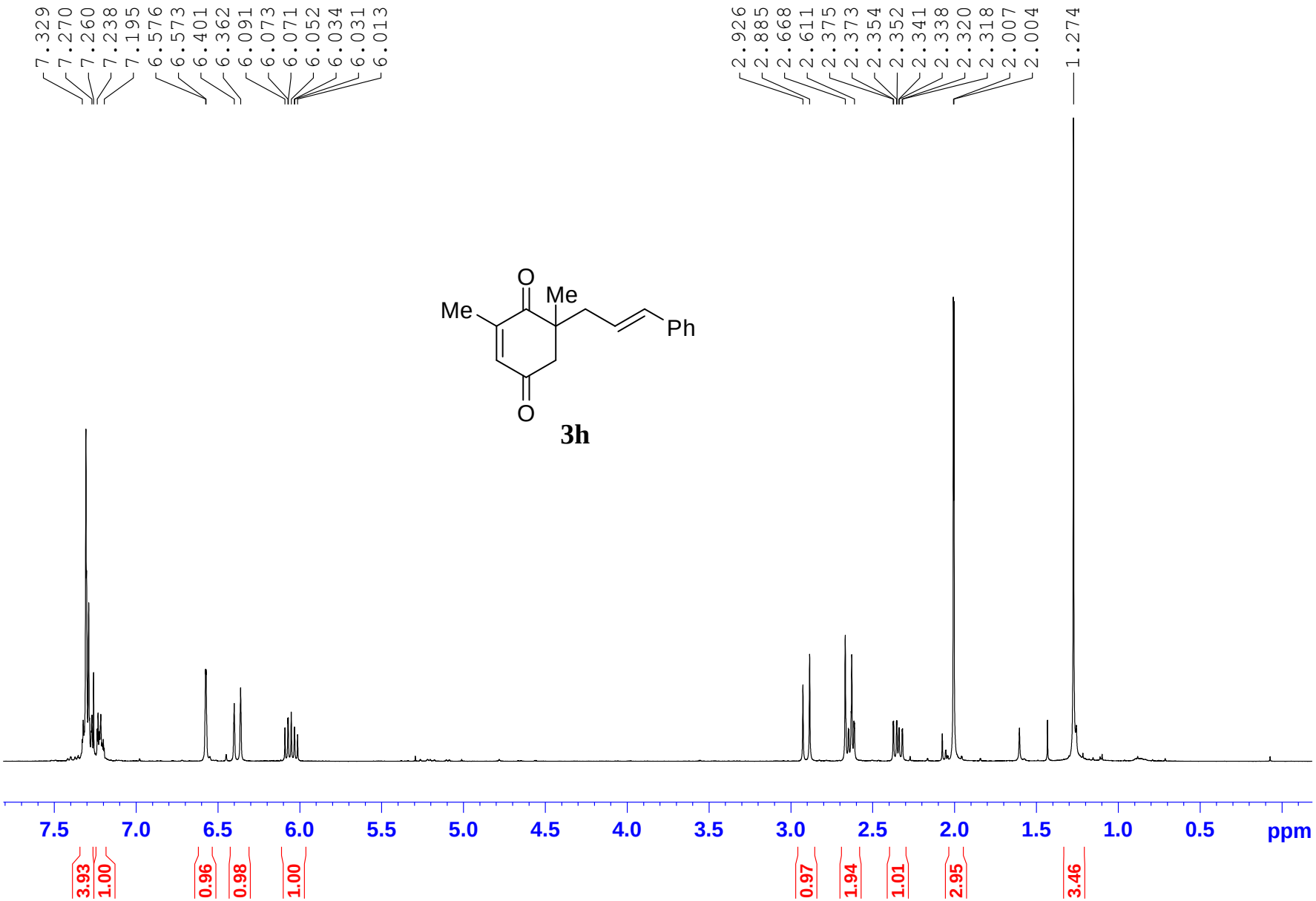
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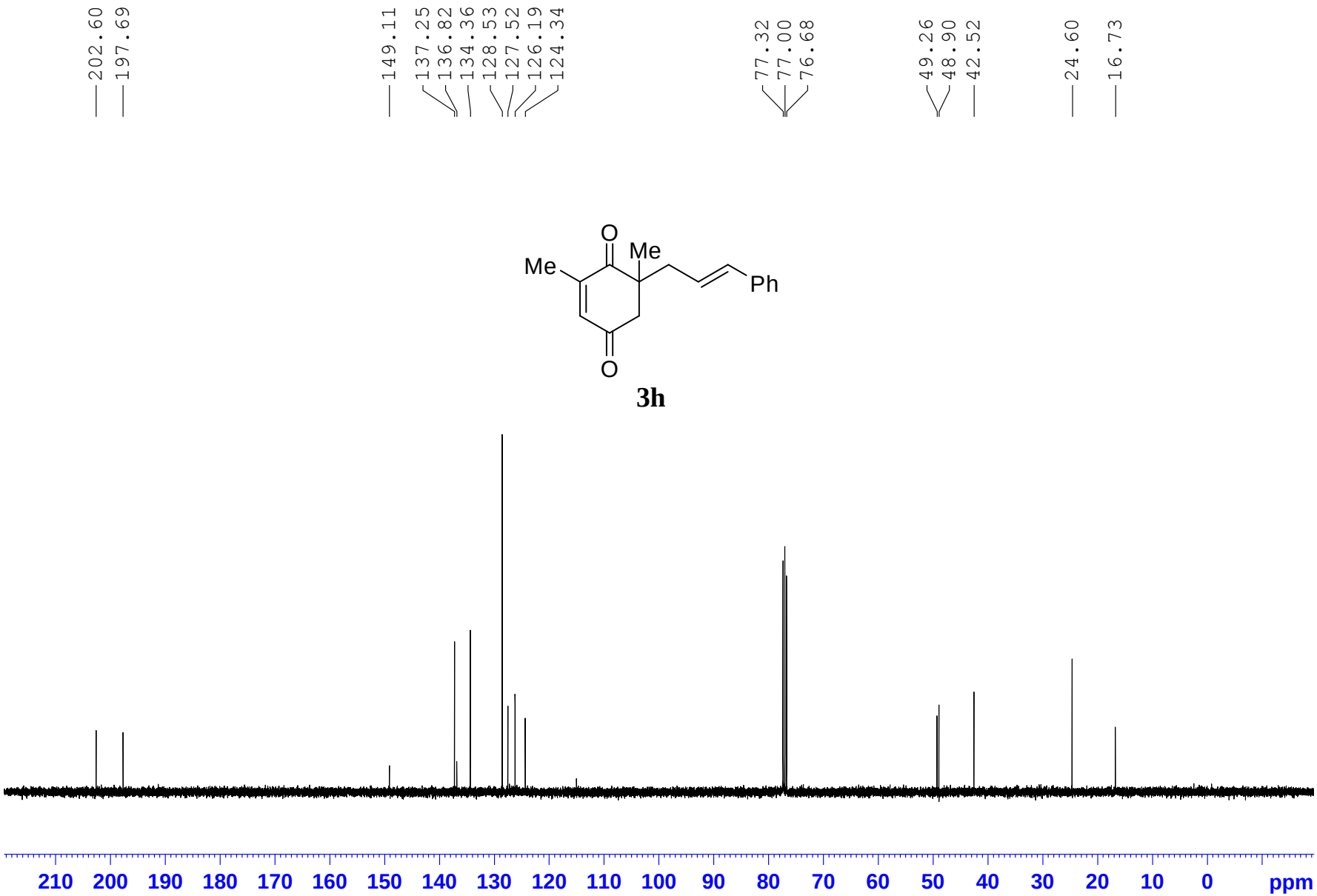
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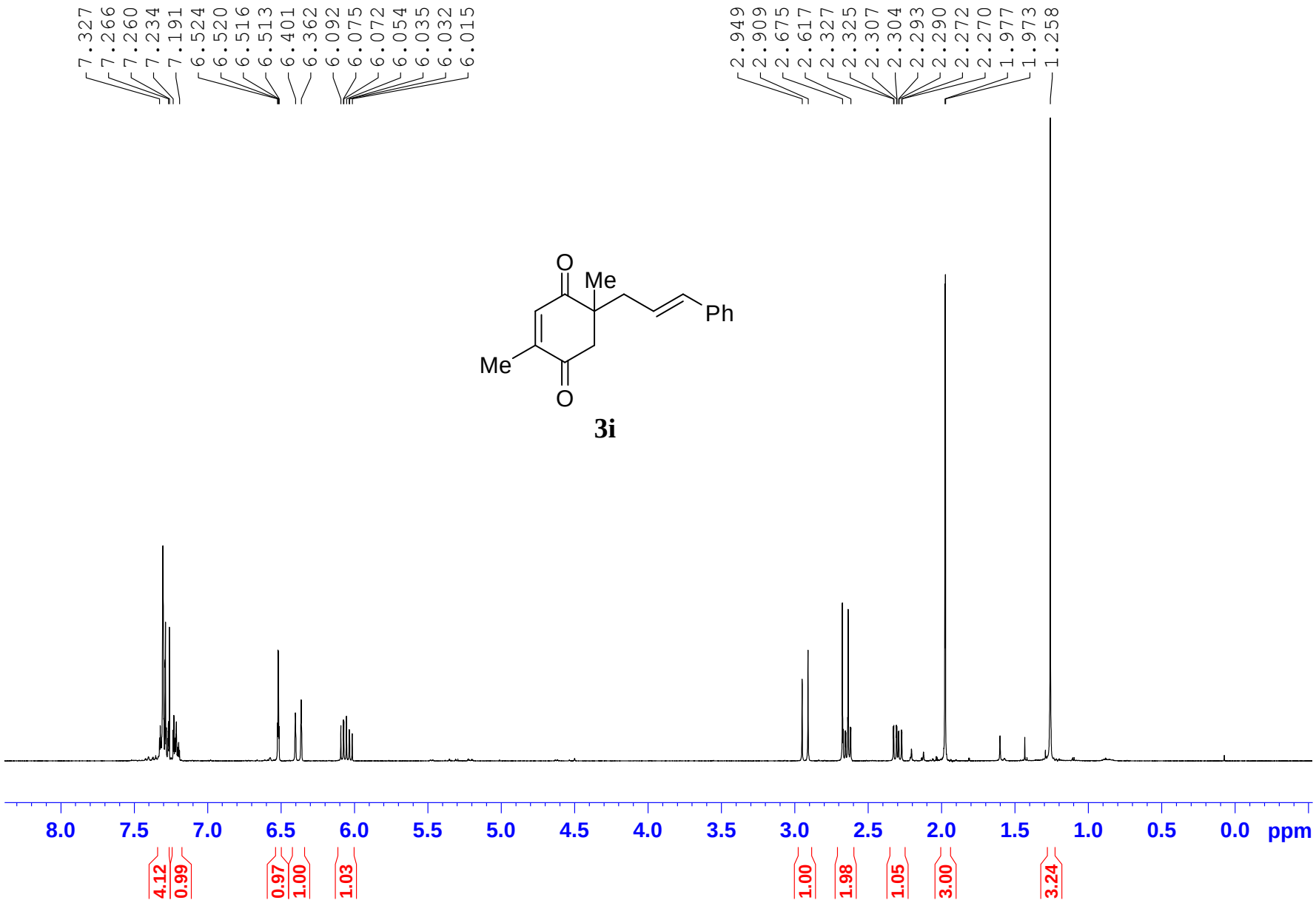
3h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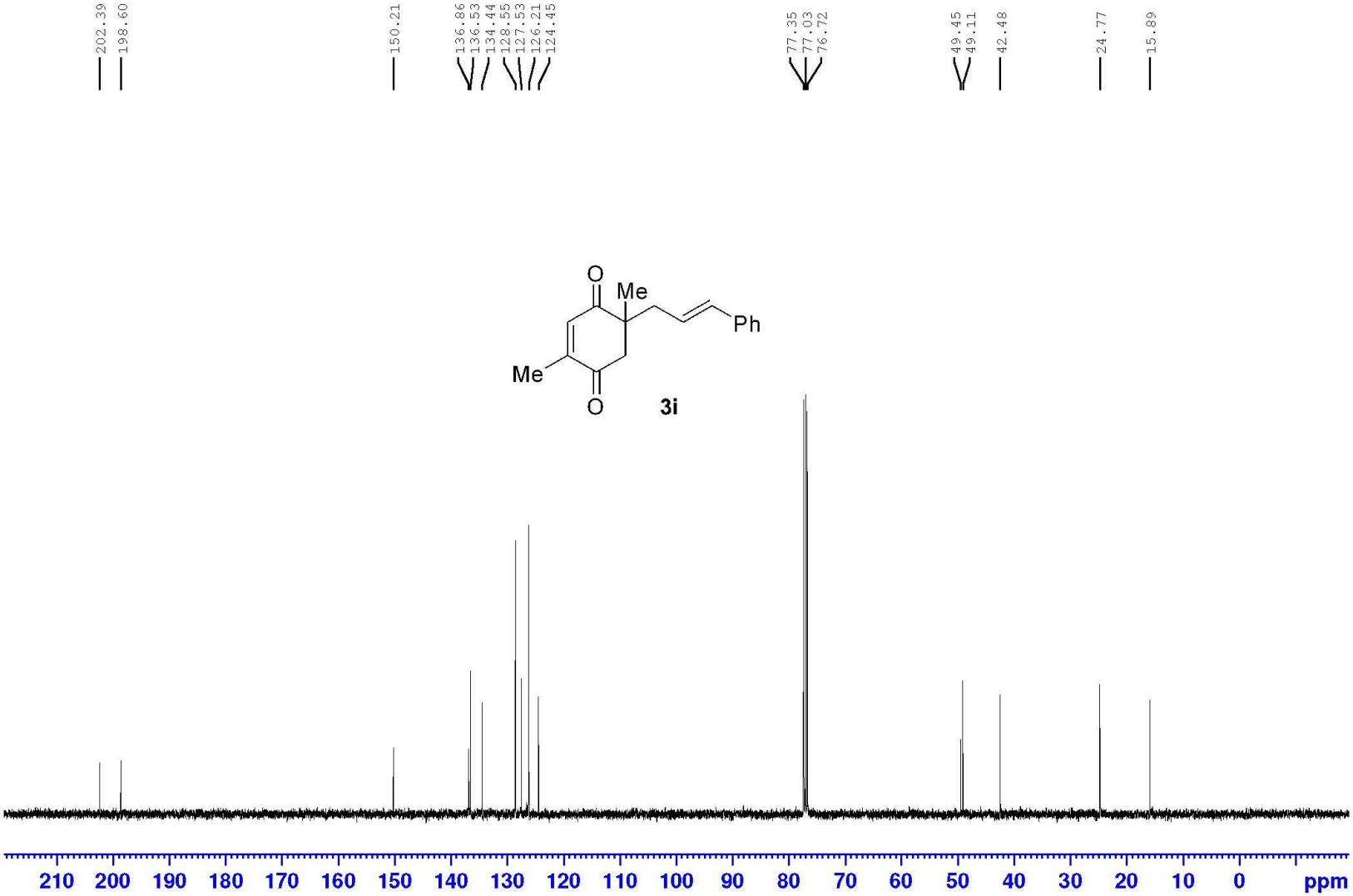
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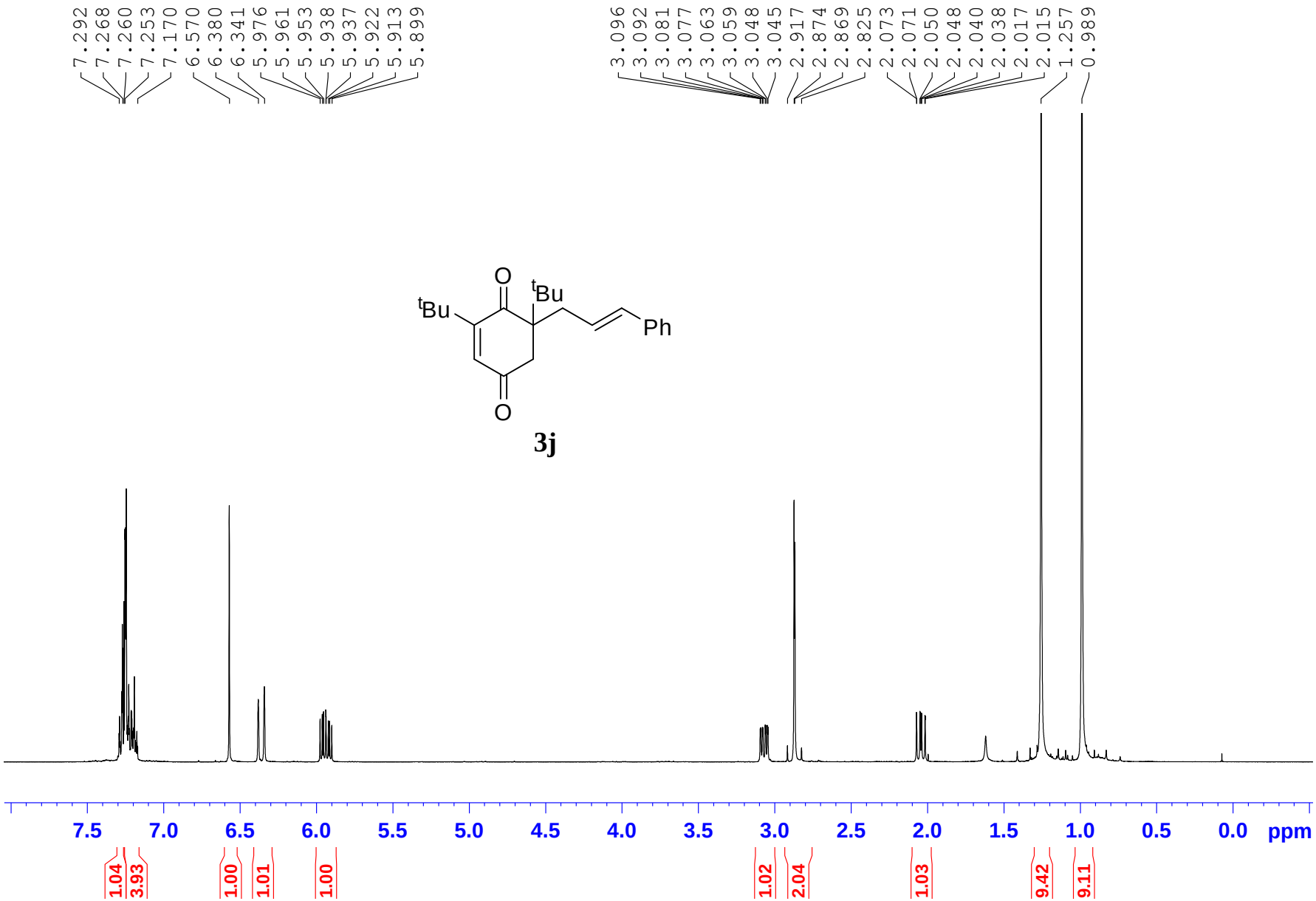
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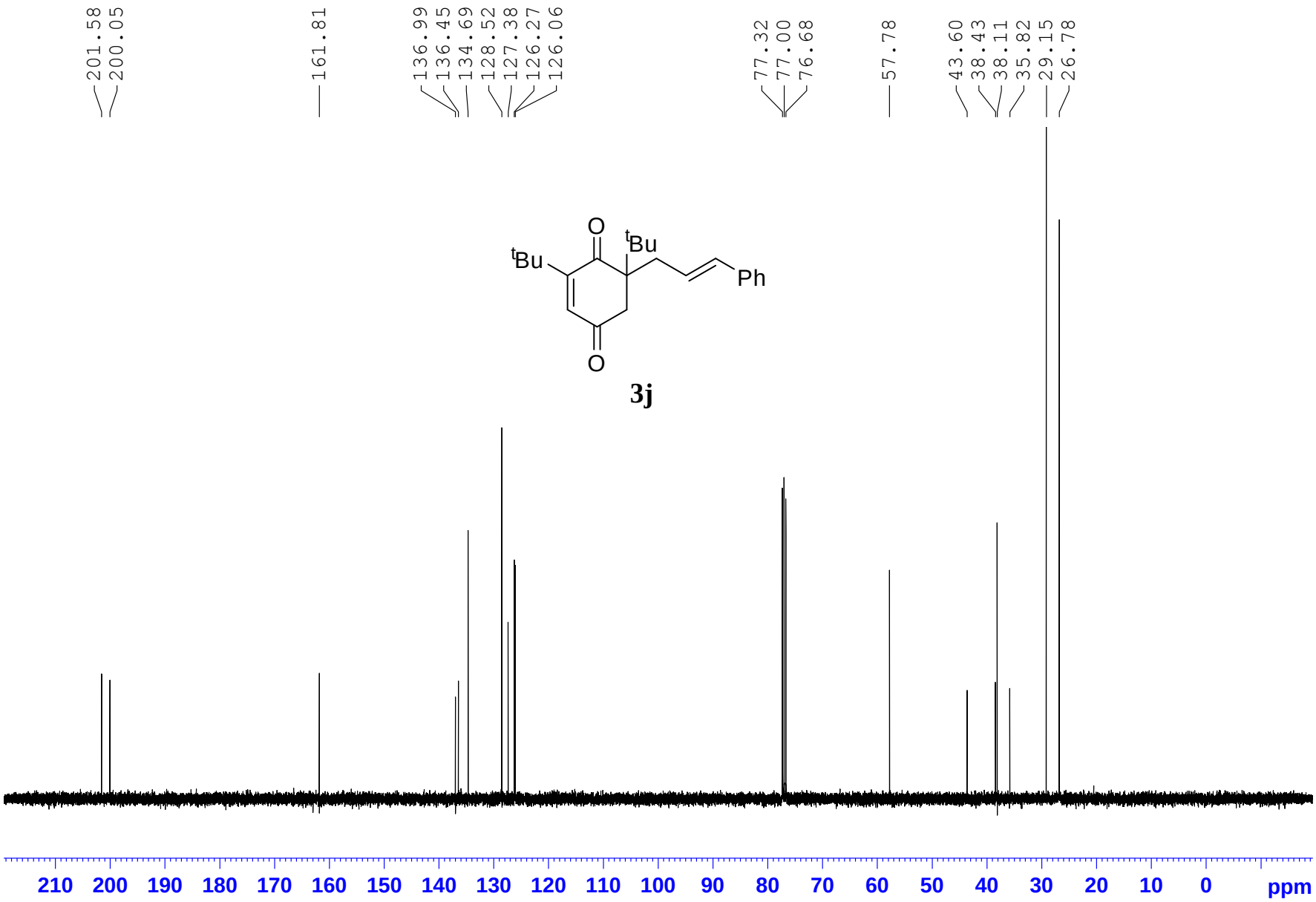
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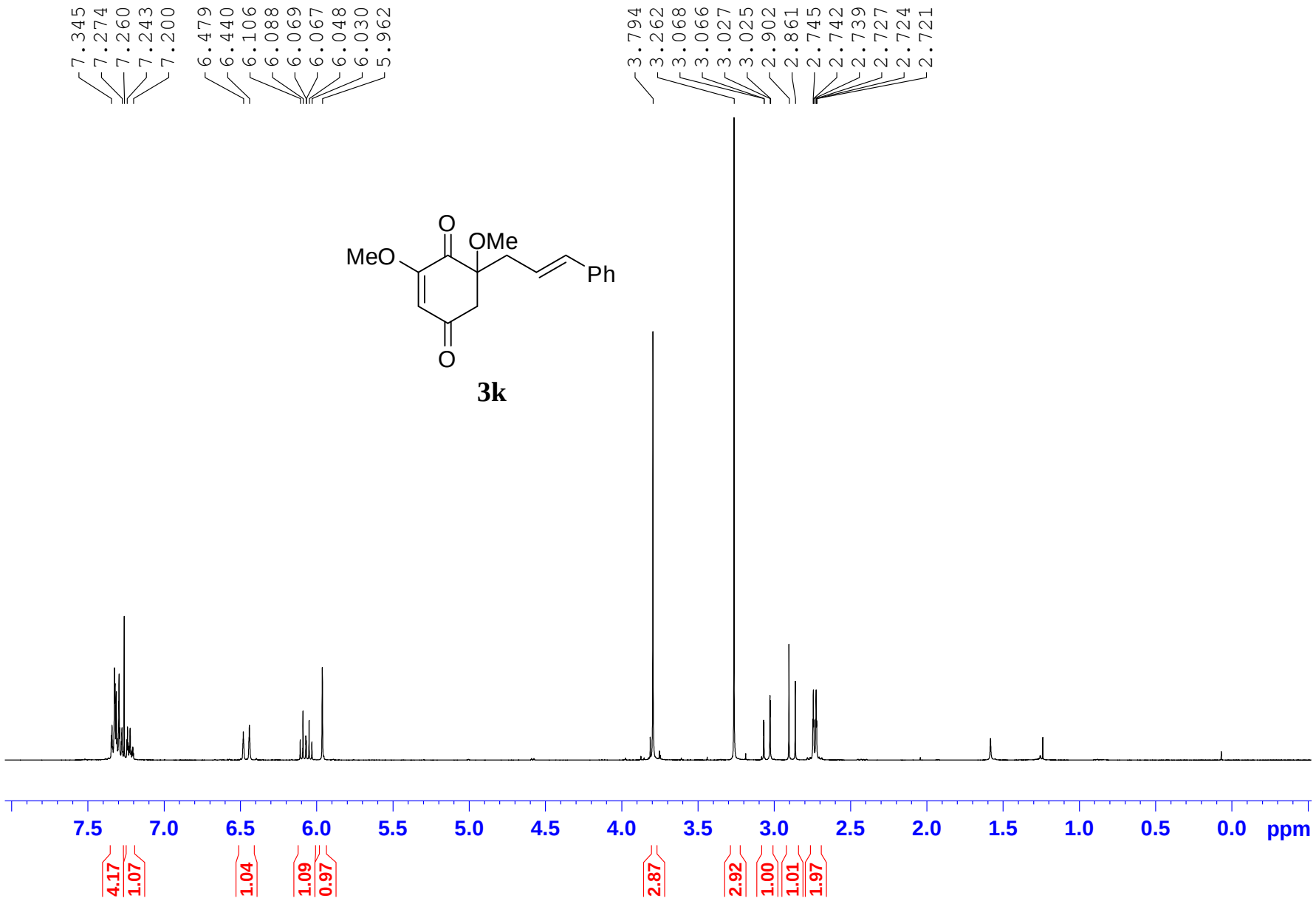
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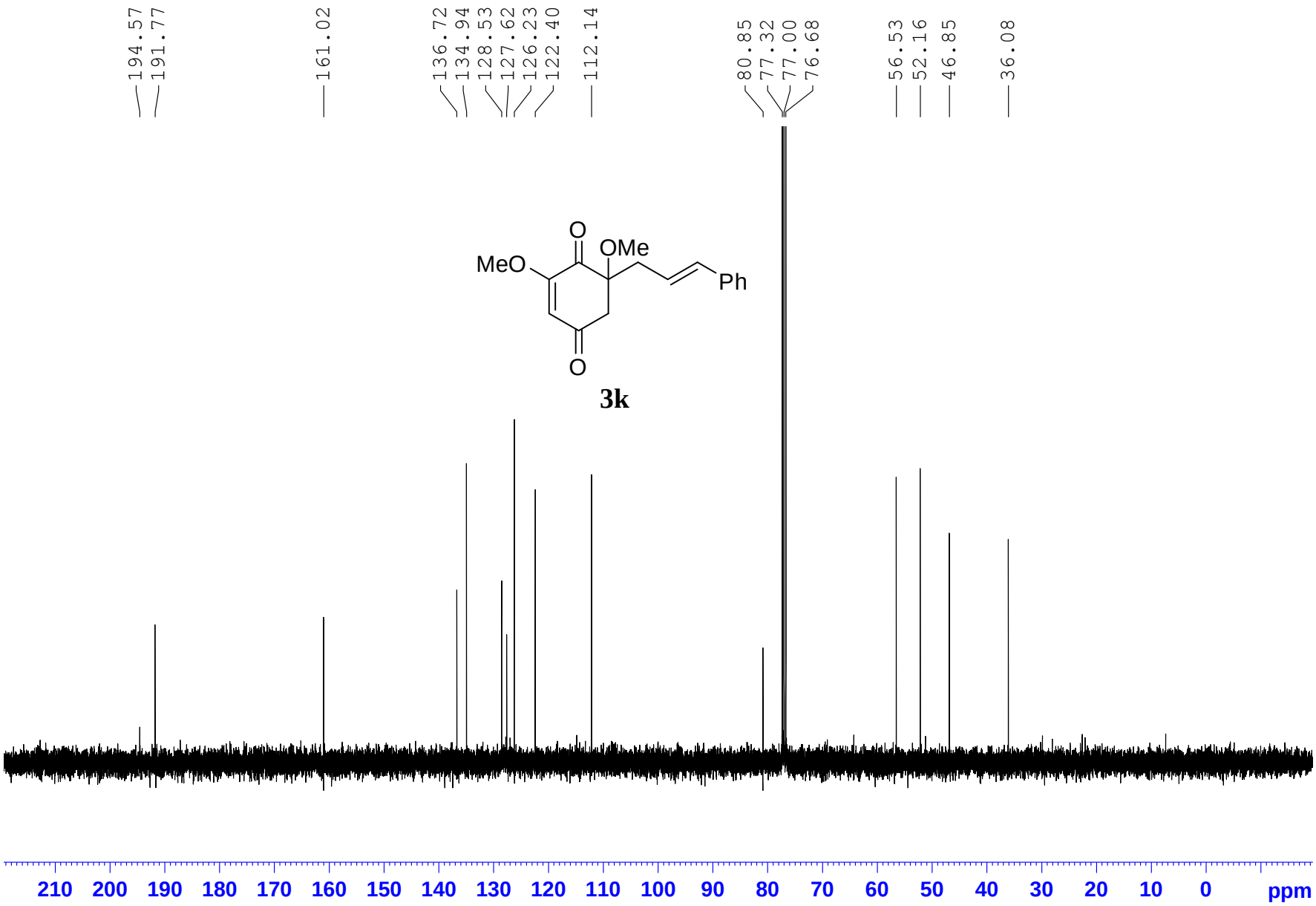
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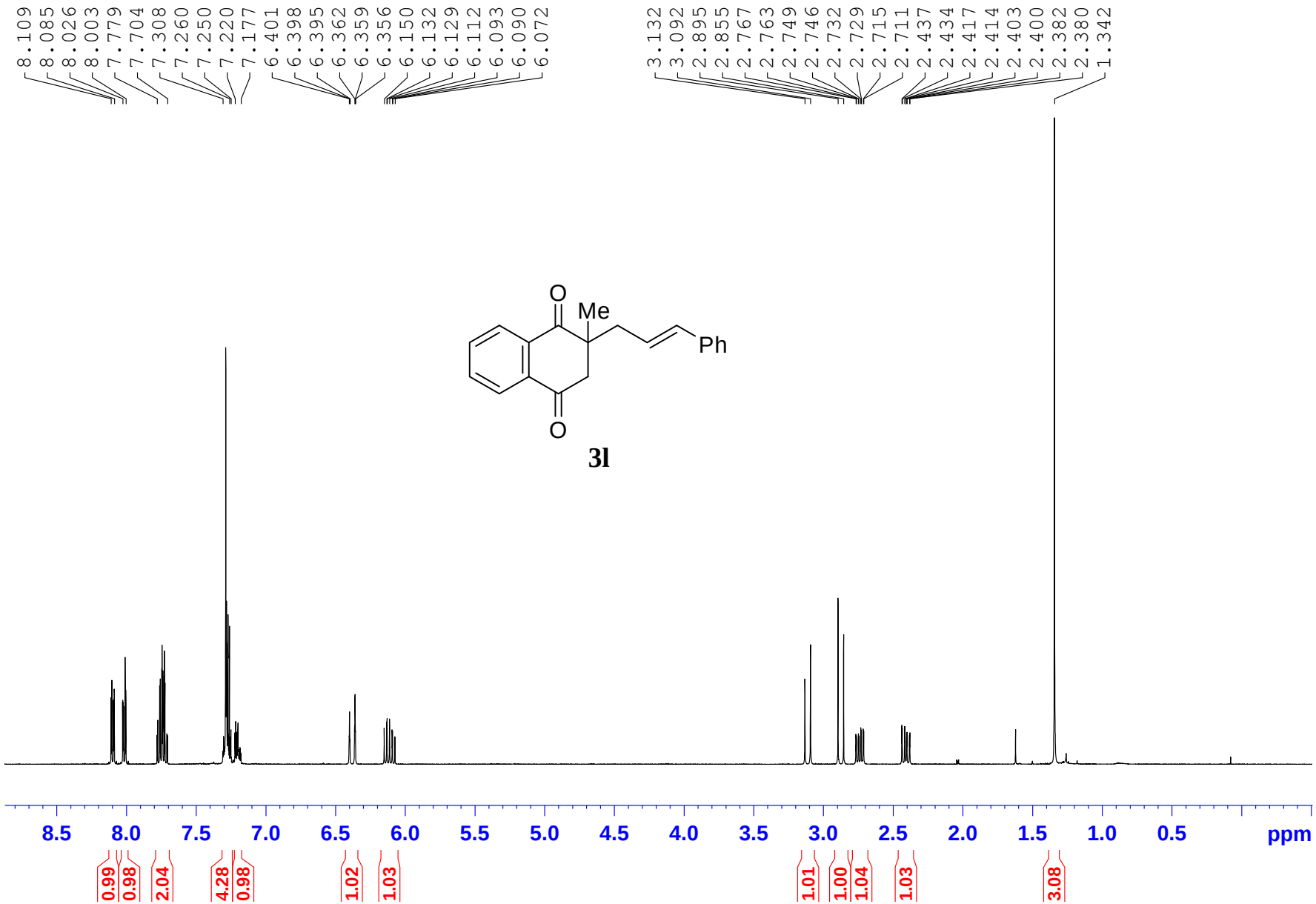
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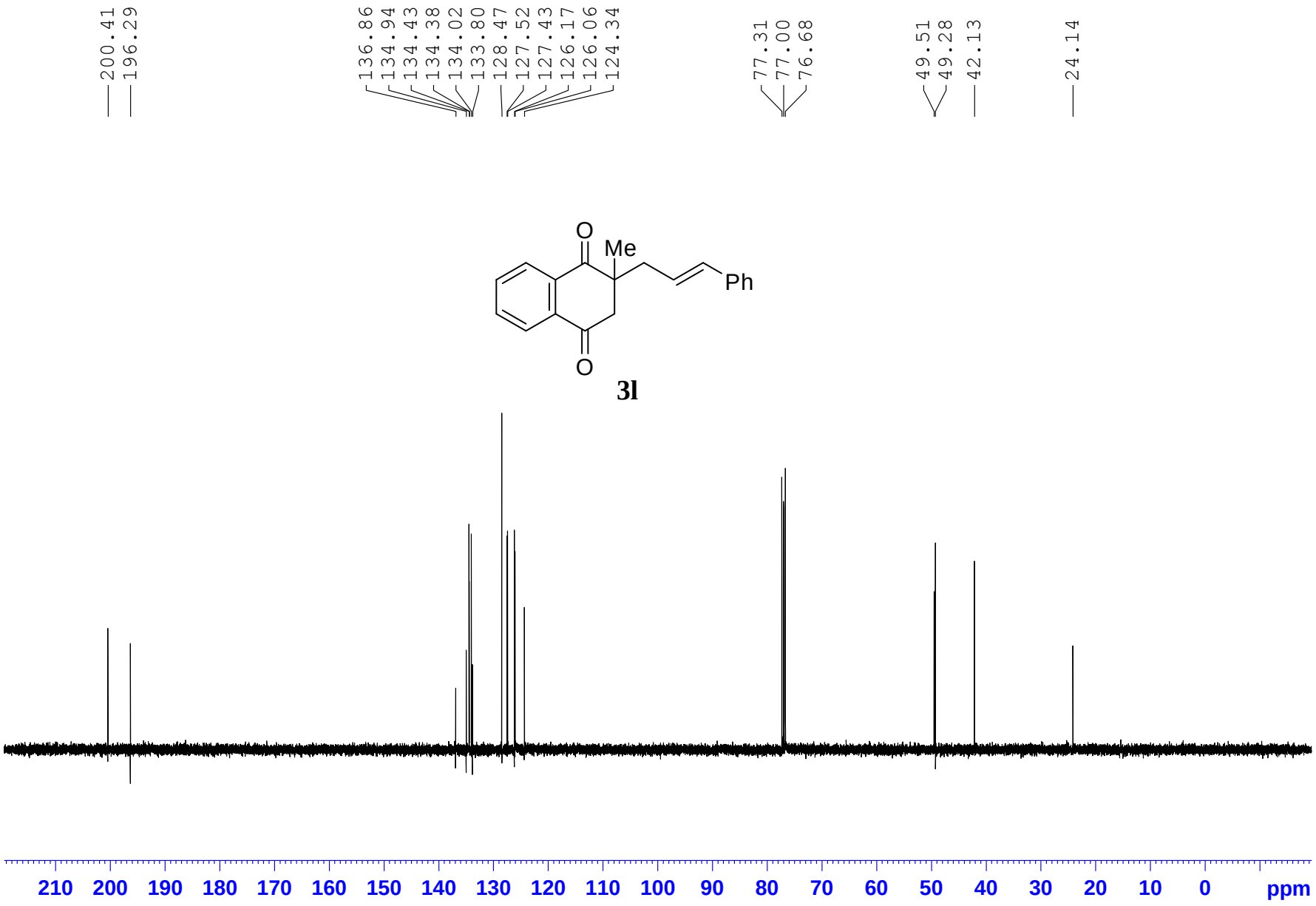
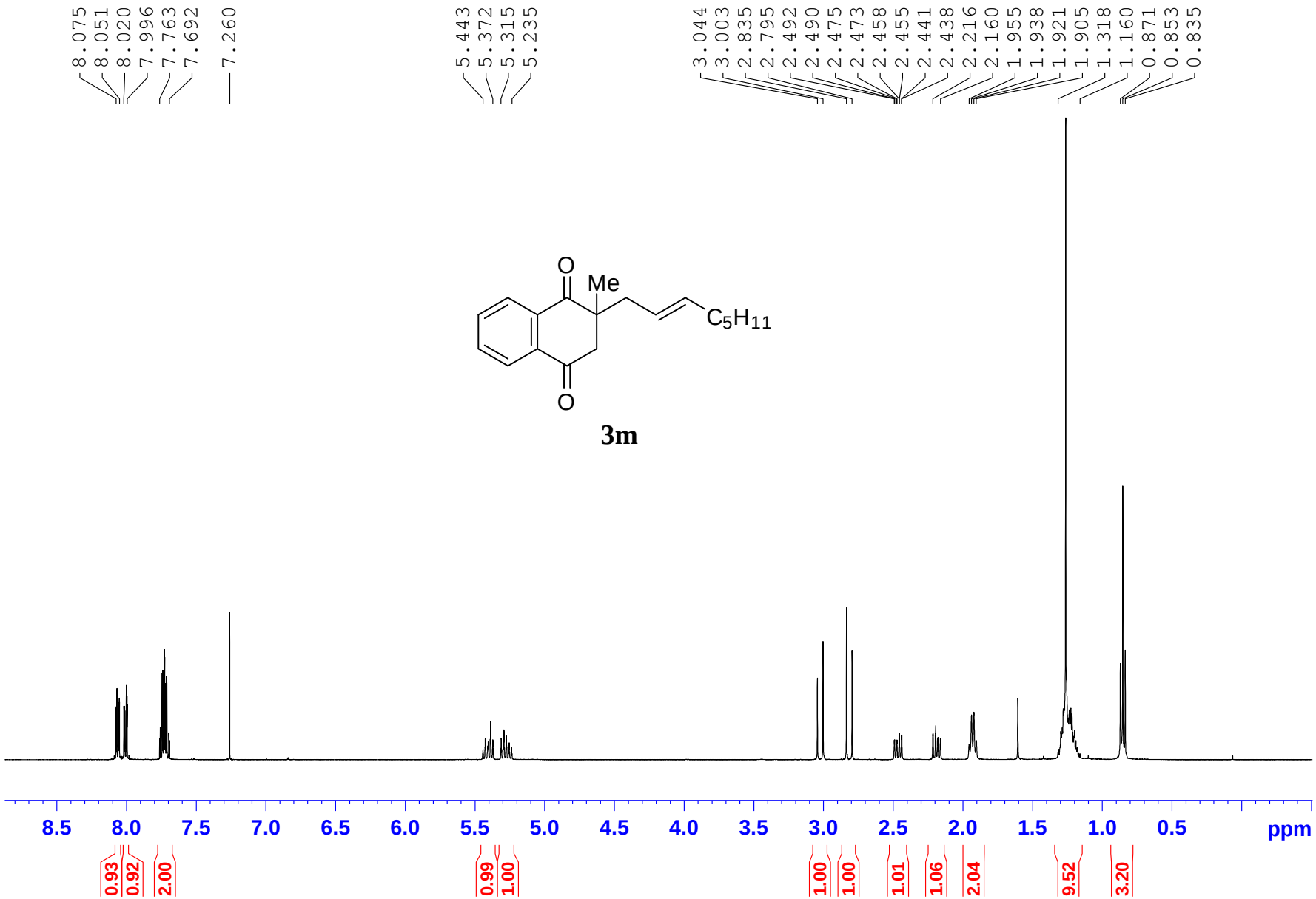
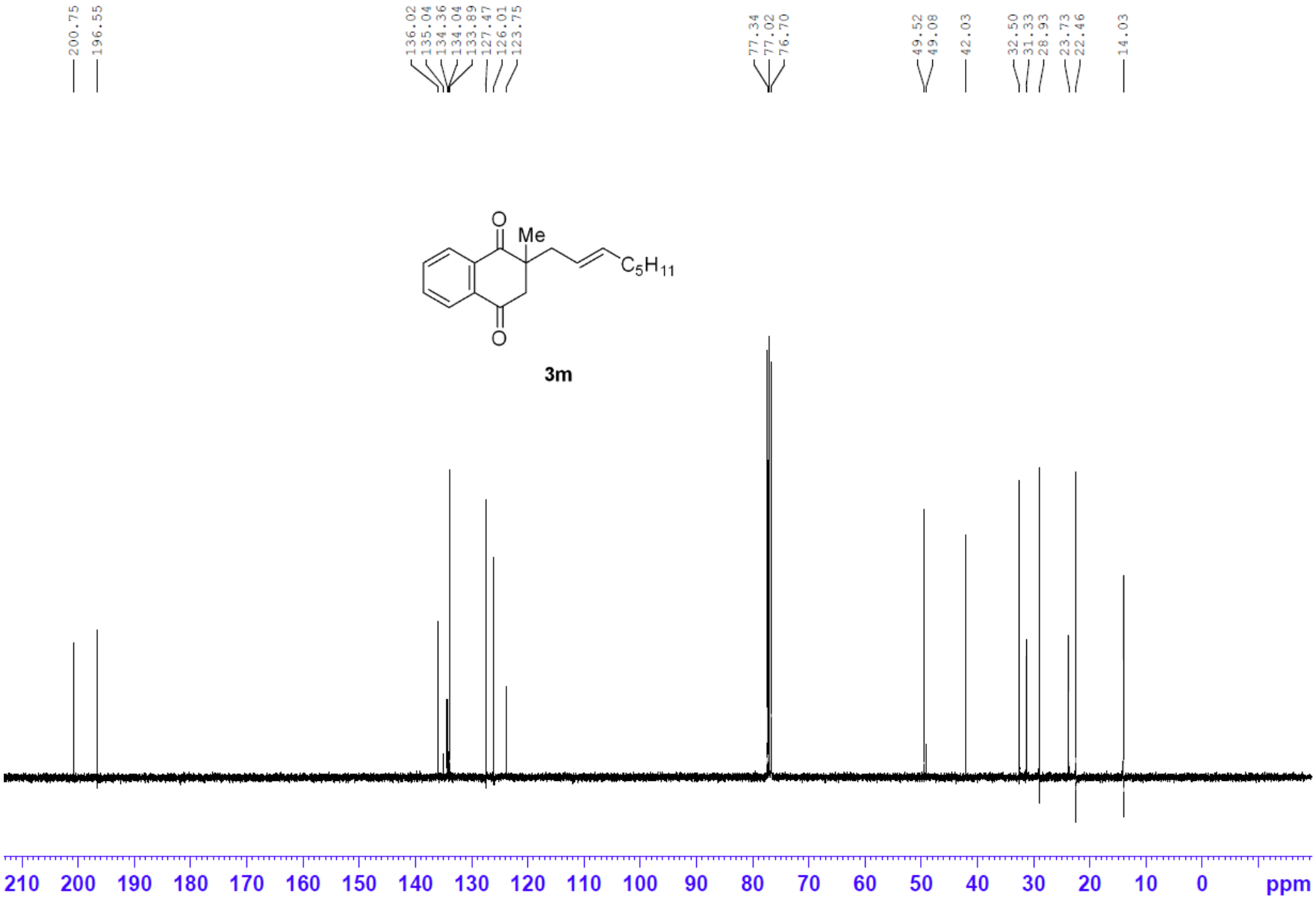
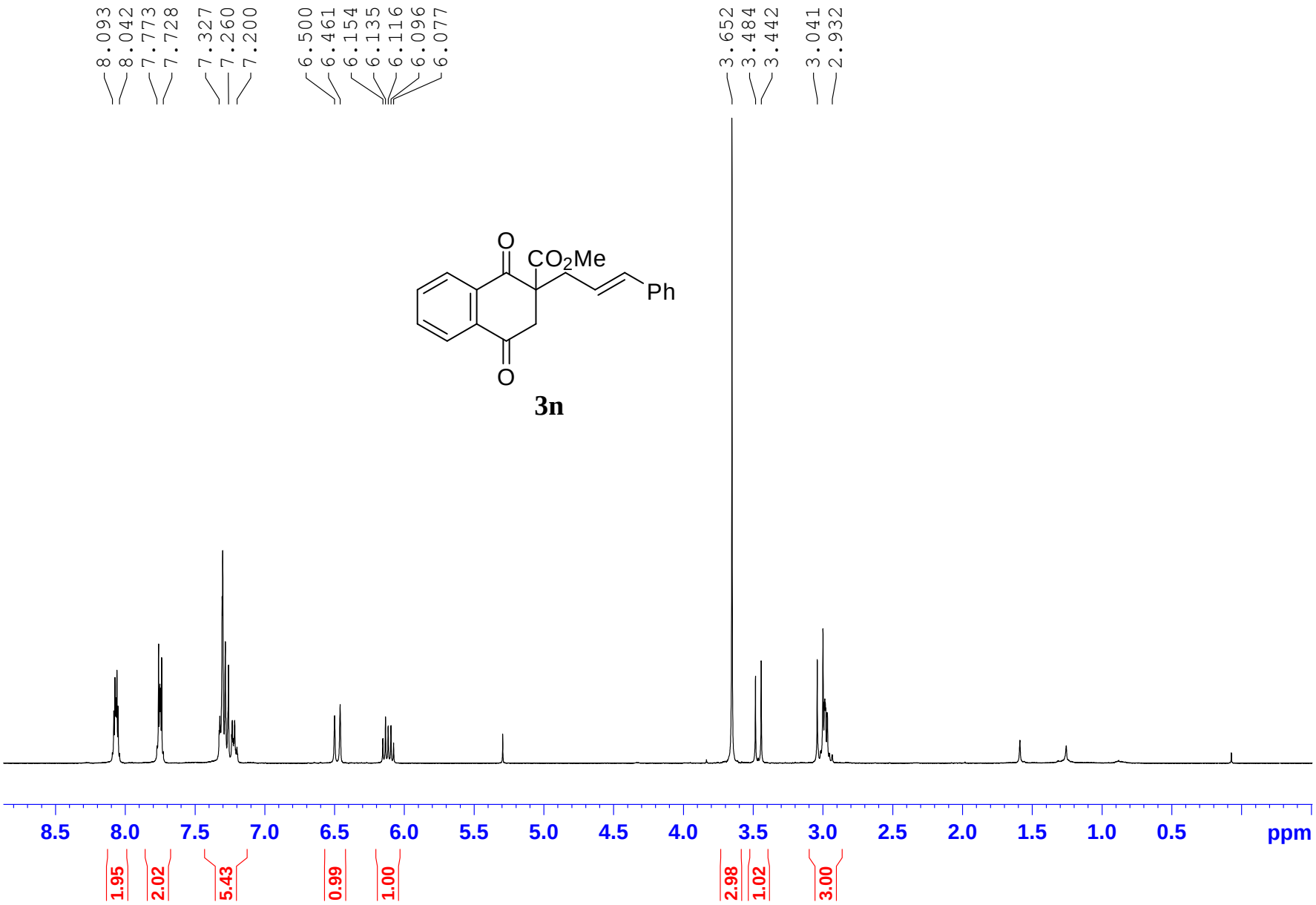
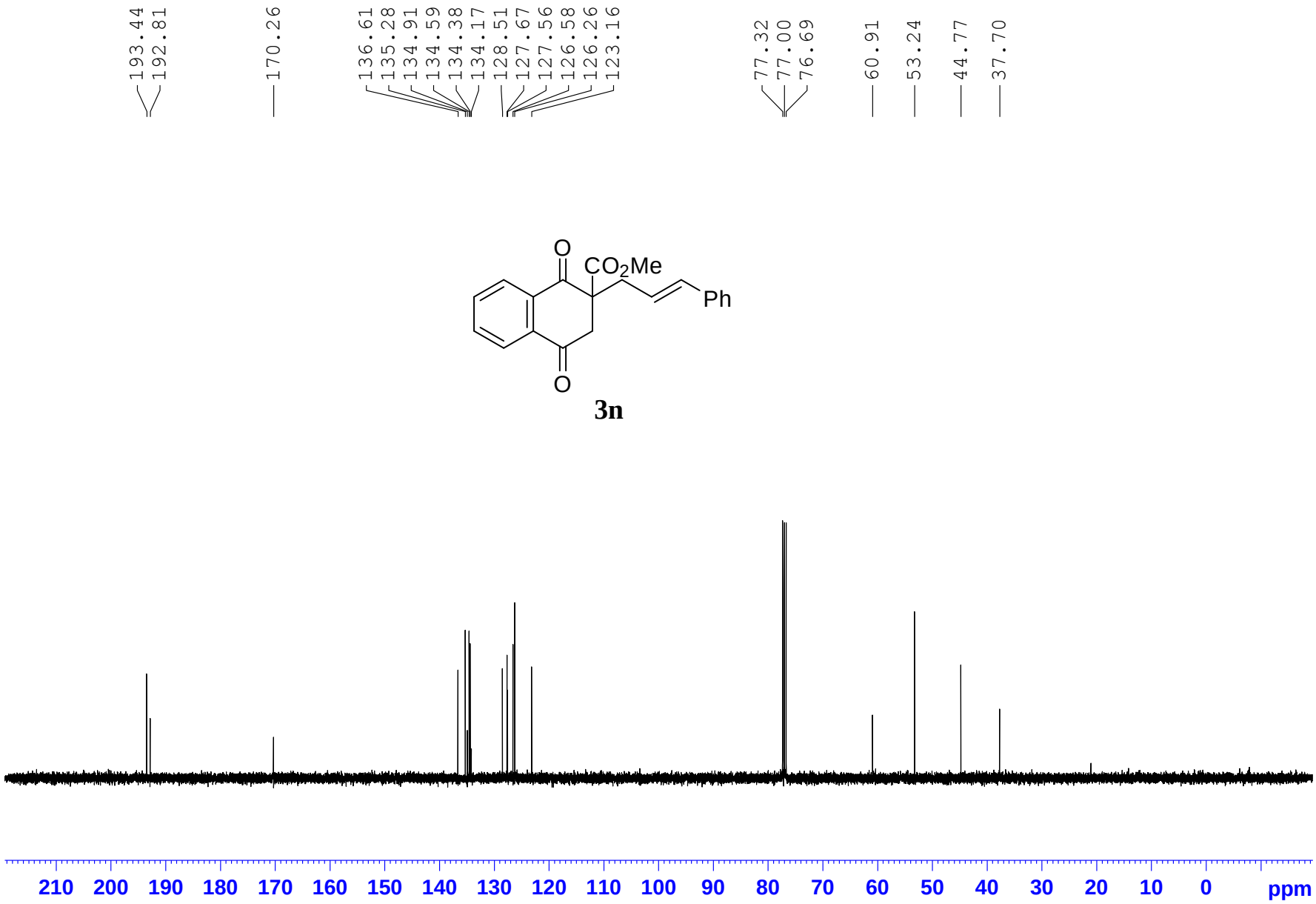
8.085
8.026
8.003
7.779
7.704
7.308
7.260
7.250
7.220
7.177
6.401
6.398
6.395
6.362
6.359
6.356
6.150
6.132
6.129
6.112
6.093
6.090
6.072
3.132
3.092
2.895
2.855
2.767
2.763
2.749
2.746
2.732
2.729
2.715
2.711
2.437
2.434
2.417
2.414
2.403
2.400
2.382
2.380
1.342
O
Me
Ph
O
3l
8.5
8.0
7.5
7.0
6.5
6.0
5.5
5.0
4.5
4.0
3.5
3.0
2.5
2.0
1.5
1.0
0.5
ppm
0.99
0.98
2.04
4.28
0.98
1.02
1.03
1.01
1.00
1.04
1.03
3.08


200.41
196.29
136.86
134.94
134.43
134.38
134.02
133.80
128.47
127.52
127.43
126.17
126.06
124.34
77.31
77.00
76.68
49.51
49.28
42.13
24.14
O
Me
Ph
O
3l
210 200 190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 ppm

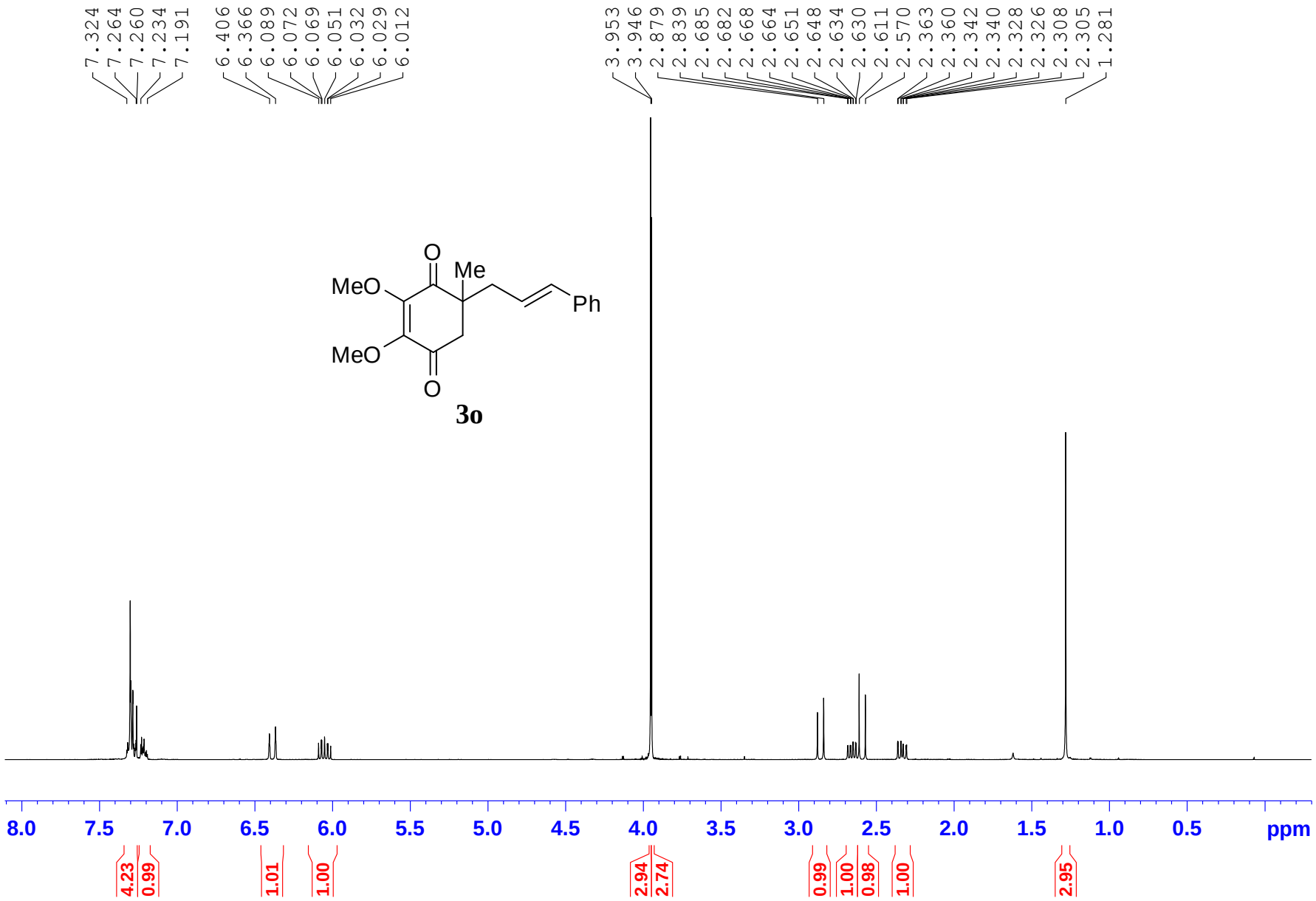

8.075
8.051
8.020
7.996
7.763
7.692
7.260
5.443
5.372
5.315
5.235
3.044
3.003
2.835
2.795
2.492
2.490
2.475
2.473
2.458
2.455
2.441
2.438
2.216
2.160
1.955
1.938
1.921
1.905
1.318
1.160
0.871
0.853
0.835
O
Me
C5H11
O
3m
8.5
8.0
7.5
7.0
6.5
6.0
5.5
5.0
4.5
4.0
3.5
3.0
2.5
2.0
1.5
1.0
0.5
ppm
0.93
0.92
2.00
0.99
1.00
1.00
1.00
1.01
1.06
2.04
9.52
3.20


200.75
196.55
136.02
135.04
134.36
134.04
133.89
127.47
126.01
123.75
77.34
77.02
76.70
49.52
49.08
42.03
32.50
31.33
28.93
23.73
22.46
14.03
O
Me
C5H11
O
3m
210 200 190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 ppm


8.093
8.042
7.773
7.728
7.327
7.260
7.200
6.500
6.461
6.154
6.135
6.116
6.096
6.077
3.652
3.484
3.442
3.041
2.932
O
CO2Me
Ph
O
3n
8.5
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
ppm
1.95
2.02
5.43
0.99
1.00
2.98
1.02
3.00


193.44
192.81
170.26
136.61
135.28
134.91
134.59
134.38
134.17
128.51
127.67
127.56
126.58
126.26
123.16
77.32
77.00
76.69
60.91
53.24
44.77
37.70
O
CO2Me
Ph
O
210 200 190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 ppm

3n


7.324
7.264
7.260
7.234
7.191
6.406
6.366
6.089
6.072
6.069
6.051
6.032
6.029
6.012
3.953
3.946
2.879
2.839
2.685
2.682
2.668
2.664
2.651
2.648
2.634
2.630
2.611
2.570
2.363
2.360
2.342
2.340
2.328
2.326
2.308
2.305
1.281
O
Me
MeO
Ph
MeO
O
3o
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
ppm
4.23
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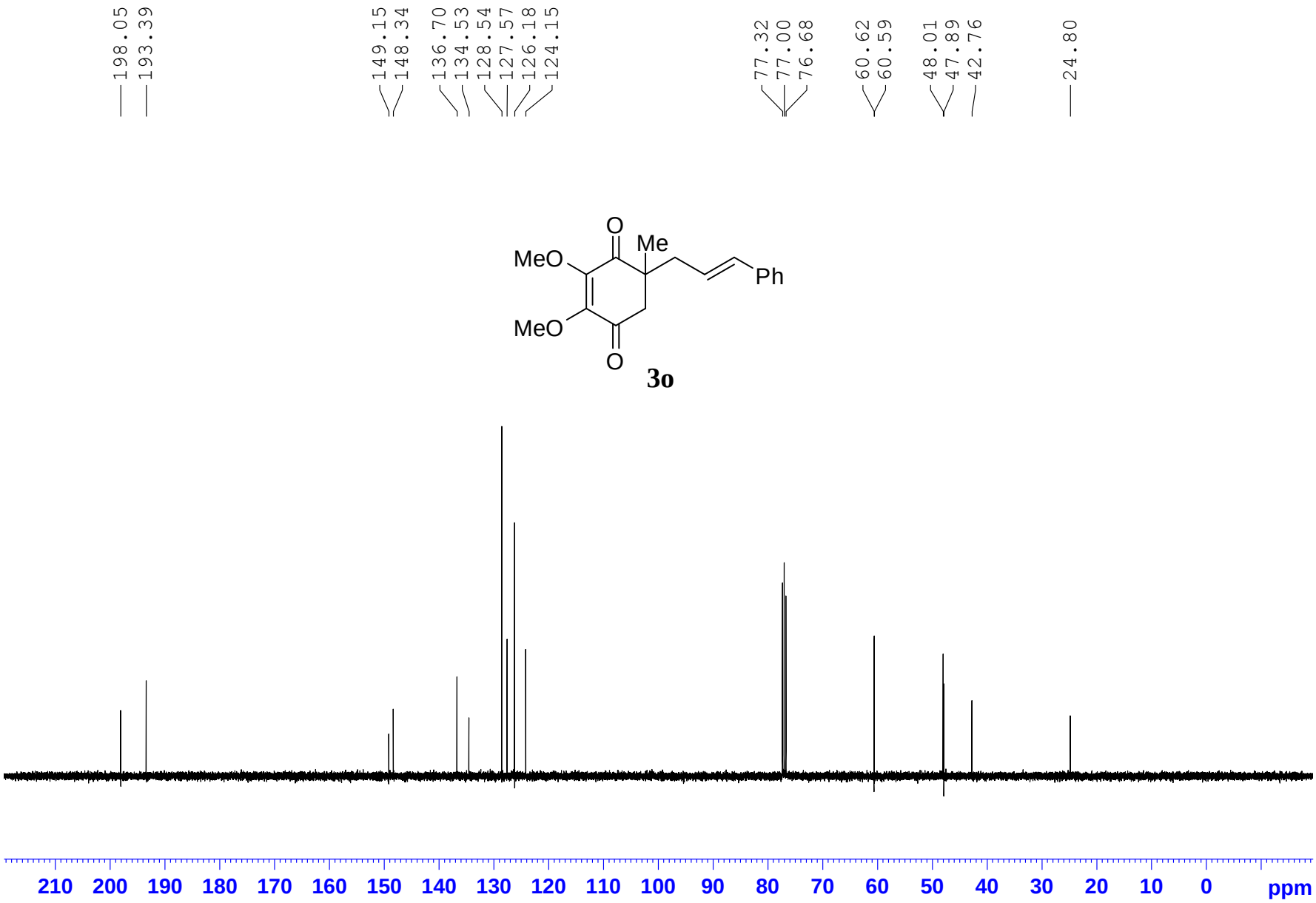
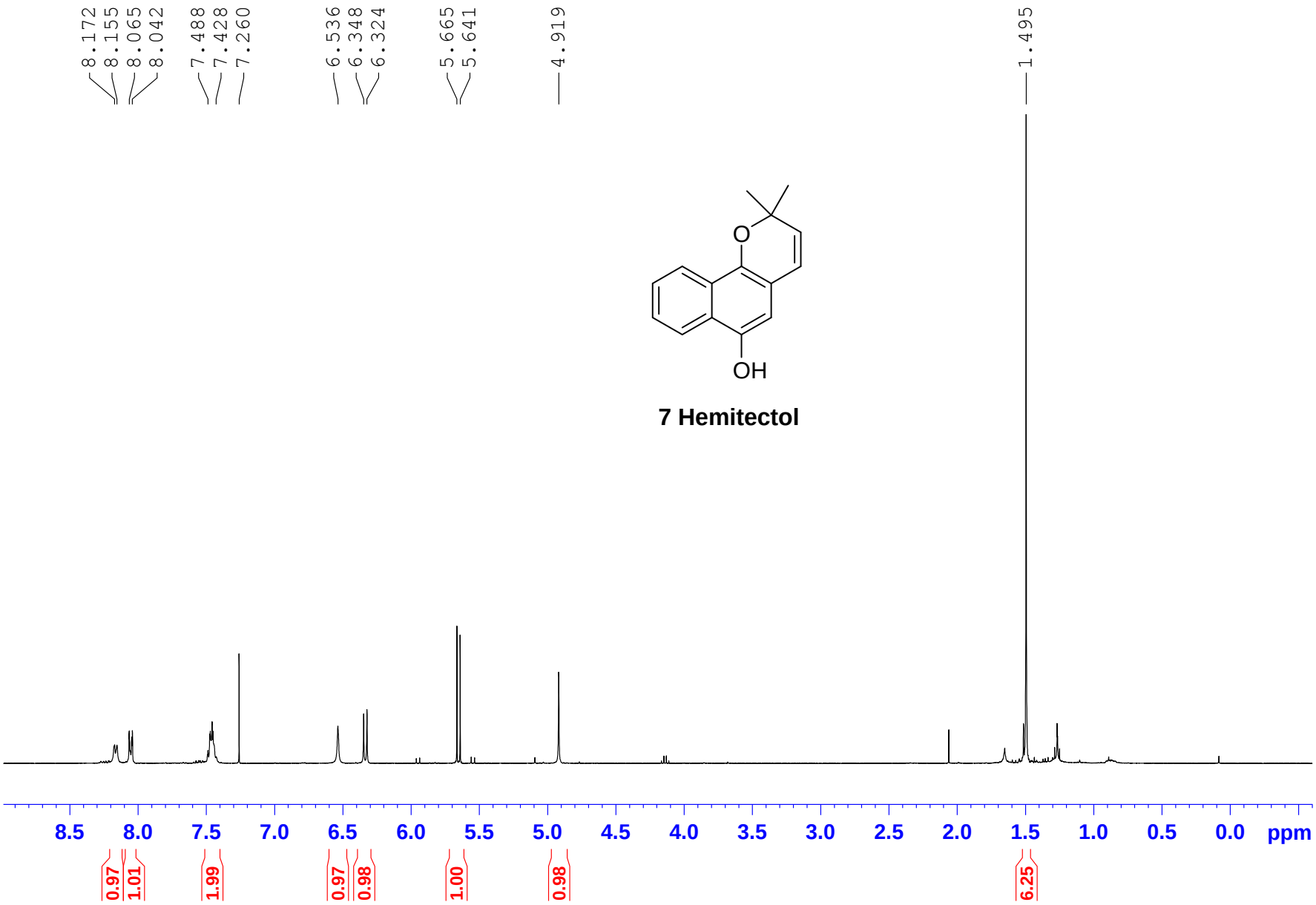
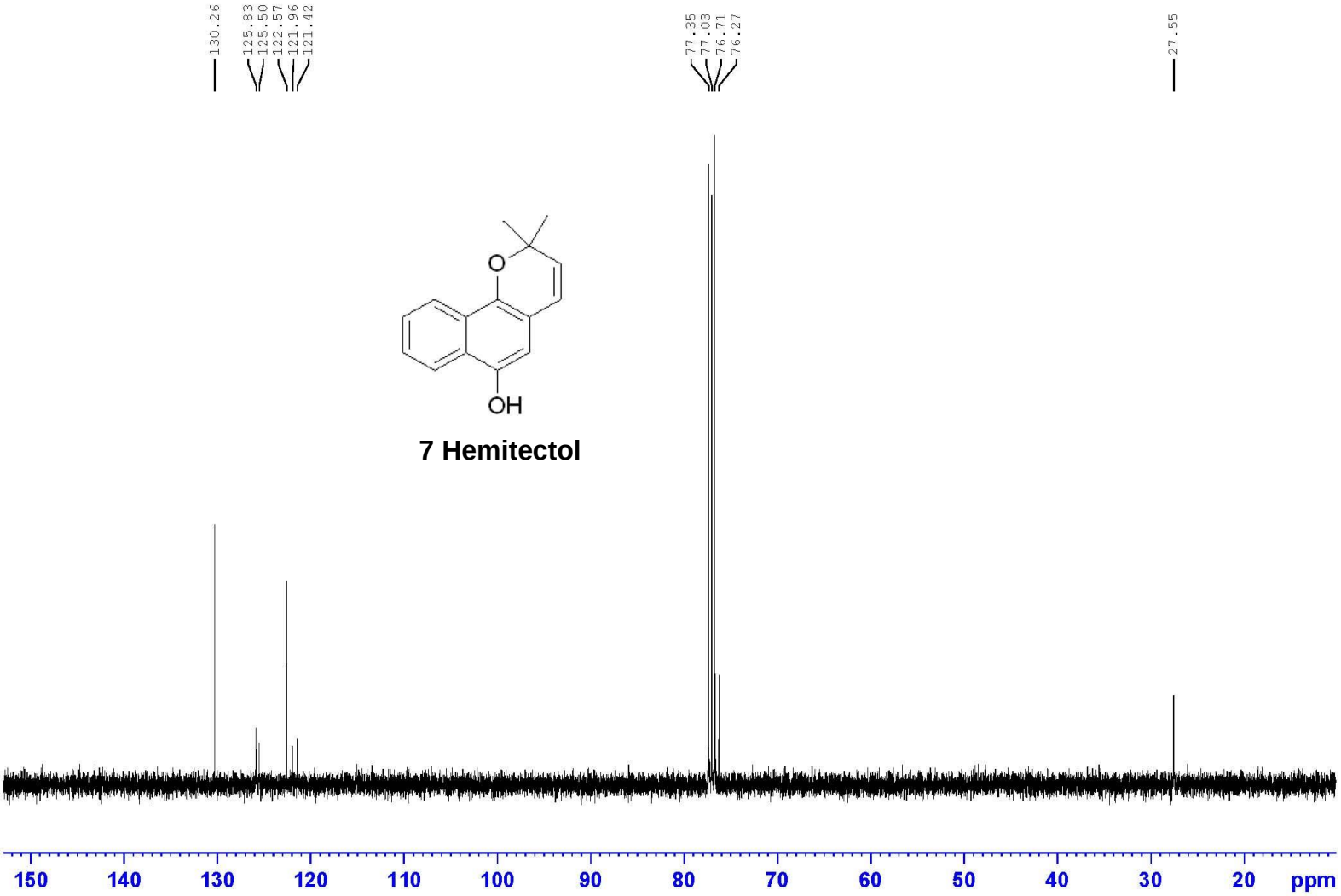
1.01
1.00
2.94
2.74
0.99
1.00
0.98
1.00
2.95


198.05
193.39
149.15
148.34
136.70
134.53
128.54
127.57
126.18
124.15
77.32
77.00
76.68
60.62
60.59
48.01
47.89
42.76
24.80
O
Me
MeO
Ph
MeO
O
3o
210 200 190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 ppm


8.172
8.155
8.065
8.042
7.488
7.428
7.260
6.536
6.348
6.324
5.665
5.641
4.919
1.495
O
OH
7 Hemitectol
8.5
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
0.0
ppm
0.97
1.01
1.99
0.97
0.98
1.00
0.98
6.25


130.26
125.83
125.50
122.57
121.96
121.42
77.35
77.03
76.71
76.27
27.55
O
OH
7 Hemitectol
150
140
130
120
110
100
90
80
70
60
50
40
30
20
ppm