Supporting Information for:

Stereoselective Synthesis of 2,6-*trans*-4-Oxopiperidines using an Acid-Mediated 6-*endo-trig* Cyclisation

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1. Characterisation Data for Minor *cis*-Isomers 12a–i

***tert*-butyl (2*R*,6*S*)-2-methyl-4-oxo-6-propylpiperidine-1-carboxylate (12a):** ν_{max}/cm^{-1} (neat) 2969 (CH), 1719 (C=O), 1690 (C=O), 1403, 1354, 1174, 1116; $[\alpha]_D^{22}$ −14.2 (*c* 0.5, $CHCl_3$); δ_H (500 MHz, $CDCl_3$) 0.91 (3H, t, *J* 7.3 Hz, 3''-H_3), 1.16–1.38 (5H, m, 1'-H_3 and 2''-H_2), 1.40–1.52 (10H, m, 1''-*H*H and 3 × CH_3), 1.54–1.62 (1H, m, 1''-H*H*), 2.23–2.35 (2H, m, 3-*H*H and 5-*H*H), 2.65 (1H, dd, *J* 15.0, 7.5 Hz, 5-H*H*), 2.70 (1H, dd, *J* 15.0, 8.0 Hz, 3-H*H*), 4.52–4.62 (1H, m, 6-H), 4.64–4.76 (1H, m, 2-H); δ_C (126 MHz, $CDCl_3$) 14.0 (CH_3), 20.2 (CH_2), 22.8 (CH_3), 28.6 (3 × CH_3), 39.3 (CH_2), 43.9 (CH_2), 45.6 (CH_2), 48.5 (CH), 52.6 (CH), 80.3 (C), 154.9 (C), 208.9 (C); *m/z* (ESI) 278.1715 (MNa^+. $C_{14}H_{25}NNaO_3$ requires 278.1727).

***tert*-Butyl (2*R*,6*S*)-6-butyl-2-methyl-4-oxopiperidine-1-carboxylate (12b).** ν_{max}/cm^{-1} 2929 (C-H), 1692 (C=O), 1367, 1175; $[\alpha]_D^{20}$ −9.2 (*c* 0.1, $CHCl_3$); δ_H (500 MHz, $CDCl_3$) 0.89 (3H, t, *J* 7.1 Hz, 4''-H_3), 1.26 (3H, d, *J* 7.0 Hz, 1'-H_3), 1.29–1.38 (4H, m, 2''-H_2 and 3''-H_2), 1.44–1.53 (10H, m, 3 × CH_3 and 1''-*H*H), 1.55–1.66 (1H, m, 1''-H*H*), 2.28 (1H, ddd, *J* 15.0, 4.0, 1.8 Hz, 3-*H*H), 2.33 (1H, dt, *J* 15.0, 1.8 Hz, 5-*H*H), 2.67 (1H, ddd, *J* 15.0, 7.5, 1.0 Hz, 5-H*H*), 2.72 (1H, ddd, *J* 15.0, 8.0, 1.0 Hz, 3-H*H*), 4.48–4.64 (1H, m, 6-H), 4.64–4.80 (1H, m, 2-H); δ_C (126 MHz, $CDCl_3$) 14.1 (CH_3), 22.6 (CH_2), 22.8 (CH_3), 28.6 (3 × CH_3), 29.3 (CH_2), 36.8 (CH_2), 44.0 (CH_2), 45.7 (CH_2), 48.5 (CH), 52.9 (CH), 80.3 (C), 155.0 (C), 208.9 (C); *m/z* (ESI) 292.1887 (MNa^+. $C_{15}H_{27}NNaO_3$ requires 292.1889).

***tert*-Butyl (2*R*,6*S*)-2-methyl-4-oxo-6-pentylpiperidine-1-carboxylate (12c).** ν_{max}/cm^{-1} 2931 (C-H), 1690 (C=O), 1350, 1173, 1072; $[\alpha]_D^{20}$ −20.8 (*c* 0.2, $CHCl_3$); δ_H (500 MHz, $CDCl_3$) 0.81 (3H, t, *J* 7.1 Hz, 5''-H_3), 1.15–1.30 (9H, m, 1'-H_3, 2''-H_2, 3''-H_2 and 4''-H_2), 1.38–1.47 (10H, m, 3 × CH_3 and 1''-*H*H), 1.49–1.57 (1H, m, 1''-H*H*), 2.21 (1H, ddd, *J* 15.0, 3.5, 1.5 Hz, 3-*H*H), 2.26 (1H, dt, *J* 15.0, 1.5 Hz, 5-*H*H), 2.59 (1H, ddd, *J* 15.0, 8.0, 1.0 Hz, 5-H*H*), 2.64 (1H, ddd, *J* 15.0, 8.0, 1.0 Hz, 3-H*H*), 4.43–4.57 (1H, m, 6-H), 4.58–4.74 (1H, m, 2-H); δ_C (126 MHz, $CDCl_3$) 14.1 (CH_3), 22.7 (CH_2), 22.8 (CH_3), 26.8 (CH_2), 28.6 (3 × CH_3), 31.7 (CH_2), 37.1 (CH_2), 44.0 (CH_2), 45.7 (CH_2), 48.5 (CH), 52.9 (CH), 80.3 (C), 155.0 (C), 209.0 (C); *m/z* (ESI) 306.2039 (MNa^+. $C_{16}H_{29}NNaO_3$ requires 306.2040).

***tert*-Butyl (2*R*,6*S*)-2-methyl-6-octyl-4-oxopiperidine-1-carboxylate (12d).** ν_{max}/cm^{-1} 2924 (C-H), 1721 (C=O), 1690 (C=O), 1350, 1173; $[\alpha]_D^{30}$ −15.4 (*c* 0.2, $CHCl_3$); δ_H (500 MHz, $CDCl_3$) 0.87 (3H, t, *J* 7.0 Hz, 8''-H_3), 1.15–1.39 (15H, m, 1'-H_3, 2''-H_2, 3''-H_2, 4''-H_2, 5''-H_2, 6''-H_2 and 7''-H_2), 1.48–1.64 (11H, m, 3 × CH_3 and 1''-H_2), 2.27 (1H, ddd, *J* 15.0, 3.5, 1.5 Hz, 3-*H*H), 2.32 (1H, dt, *J* 15.0, 1.5 Hz, 5-*H*H), 2.66 (1H, dd, *J* 15.0, 7.5 Hz, 5-H*H*), 2.72 (1H, dd, *J* 15.0, 8.0 Hz, 3-H*H*), 4.49–

4.62 (1H, m, 6-H), 4.64–4.76 (1H, m, 2-H); δ_C (126 MHz, $CDCl_3$) 14.2 (CH_3), 22.8 (CH_2 and CH_3), 27.1 (CH_2), 28.6 (3 × CH_3), 29.3 (CH_2), 29.5 (CH_2), 29.7 (CH_2), 32.0 (CH_2), 37.2 (CH_2), 44.0 (CH_2), 45.7 (CH_2), 48.5 (CH), 52.9 (CH), 80.3 (C), 154.9 (C), 209.0 (C); *m/z* (ESI) 348.2494 (MNa^+. $C_{19}H_{35}NNaO_3$ requires 348.2509).

***tert*-Butyl (2*R*,6*S*)-2-methyl-6-nonyl-4-oxopiperidine-1-carboxylate (12e).[1]** Spectroscopic data were consistent with the literature.[1] $[\alpha]_D^{23}$ −13.4 (*c* 0.9, $CHCl_3$); δ_H (500 MHz, $CDCl_3$) 0.87 (3H, t, *J* 7.0 Hz, 9''-H_3), 1.17–1.40 (17H, m, 1'-H_3, 2''-H_2, 3''-H_2, 4''-H_2, 5''-H_2, 6''-H_2, 7''-H_2 and 8''-H_2), 1.44–1.65 (11H, 3 × CH_3 and 1''-H_2), 2.27 (1H, ddd, *J* 15.0, 4.0, 2.0 Hz, 3-*H*H), 2.32 (1H, dt, *J* 15.0, 2.0 Hz, 5-*H*H), 2.66 (1H, dd, *J* 15.0, 7.5 Hz, 5-H*H*), 2.71 (1H, dd, *J* 15.0, 8.0 Hz, 3-H*H*), 4.53–4.63 (1H, m, 6-H), 4.66–4.76 (1H, m, 2-H); δ_C (126 MHz, $CHCl_3$) 14.2 (CH_3), 22.8 (CH_2 and CH_3), 27.1 (CH_2), 28.6 (3 × CH_3), 29.4 (CH_2), 29.5 (CH_2), 29.6 (CH_2), 29.7 (CH_2), 32.0 (CH_2), 37.2 (CH_2), 44.0 (CH_2), 45.7 (CH_2), 48.5 (CH), 52.9 (CH), 80.3 (C), 154.9 (C), 209.0 (C); *m/z* (ESI) 362 (MNa^+, 100%).

***tert*-Butyl (2*R*,6*S*)-2-methyl-4-oxo-6-undecylpiperidine-1-carboxylate (12f).[1]** Spectroscopic data were consistent with the literature.[1] $[\alpha]_D^{24}$ −11.0 (*c* 0.9, $CHCl_3$); δ_H (400 MHz, $CDCl_3$) 0.88 (3H, t, *J* 6.9 Hz, 11''-H_3), 1.18–1.40 (21H, m, 1'-H_3, 2''-H_2, 3''-H_2, 4''-H_2, 5''-H_2, 6''-H_2, 7''-H_2, 8''-H_2, 9''-H_2 and 10''-H_2), 1.45–1.65 (11H, 3 × CH_3 and 1''-H_2), 2.28 (1H, ddd, *J* 15.0, 3.6, 1.6 Hz, 3-*H*H), 2.32 (1H, dt, *J* 15.0, 1.6 Hz, 5-*H*H), 2.66 (1H, dd, *J* 15.0, 7.6 Hz, 5-H*H*), 2.71 (1H, dd, *J* 15.0, 8.0 Hz, 3-H*H*), 4.51–4.64 (1H, m, 6-H), 4.65–4.80 (1H, m, 2-H); δ_C (101 MHz, $CHCl_3$) 14.2 (CH_3), 22.8 (CH_2 and CH_3), 27.1 (CH_2), 28.6 (3 × CH_3), 29.5 (2 × CH_2), 29.7 (4 × CH_2), 32.0 (CH_2), 37.2 (CH_2), 44.0 (CH_2), 45.7 (CH_2), 48.5 (CH), 52.9 (CH), 80.3 (C), 154.9 (C), 208.9 (C); *m/z* (ESI) 390 (MNa^+, 100%).

***tert*-Butyl (2*R*,6*S*)-6-(4''-chlorobutyl)-2-methyl-4-oxopiperidine-1-carboxylate (12g).** ν_{max}/cm^{-1} (neat) 2970 (CH), 1720 (C=O), 1682 (C=O), 1350, 1165; $[\alpha]_D^{24}$ −10.2 (*c* 1.2, $CHCl_3$); δ_H (400 MHz, $CDCl_3$) 1.26 (3H, d, *J* 7.0 Hz, 1'-H_3), 1.41–1.57 (12H, m, 3 × CH_3, 1''-*H*H and 2''-H_2), 1.60–1.69 (1H, m, 1''-H*H*), 1.72–1.85 (2H, m, 3''-H_2), 2.27 (1H, ddd, *J* 14.8, 3.6, 1.8 Hz, 3-*H*H), 2.32 (1H, dt, *J* 14.8, 1.8 Hz, 5-*H*H), 2.68 (1H, dd, *J* 14.8, 7.6 Hz, 5-H*H*), 2.73 (1H, dd, *J* 14.8, 8.0 Hz, 3-H*H*), 3.52 (2H, t, *J* 6.5 Hz, 4''-H_2), 4.53–4.66 (1H, m, 6-H), 4.67–4.80 (1H, m, 2-H); δ_C (101 MHz, $CDCl_3$) 22.7 (CH_3), 24.2 (CH_2), 28.4 (3 × CH_3), 32.1 (CH_2), 36.2 (CH_2), 43.8 (CH_2), 44.8 (CH_2), 45.5 (CH_2), 48.5 (CH), 52.5 (CH), 80.4 (C), 154.8 (C), 208.5 (C); *m/z* (ESI) 326.1480 (MNa^+. $C_{15}H_{26}{}^{35}ClNNaO_3$ requires 326.1493).

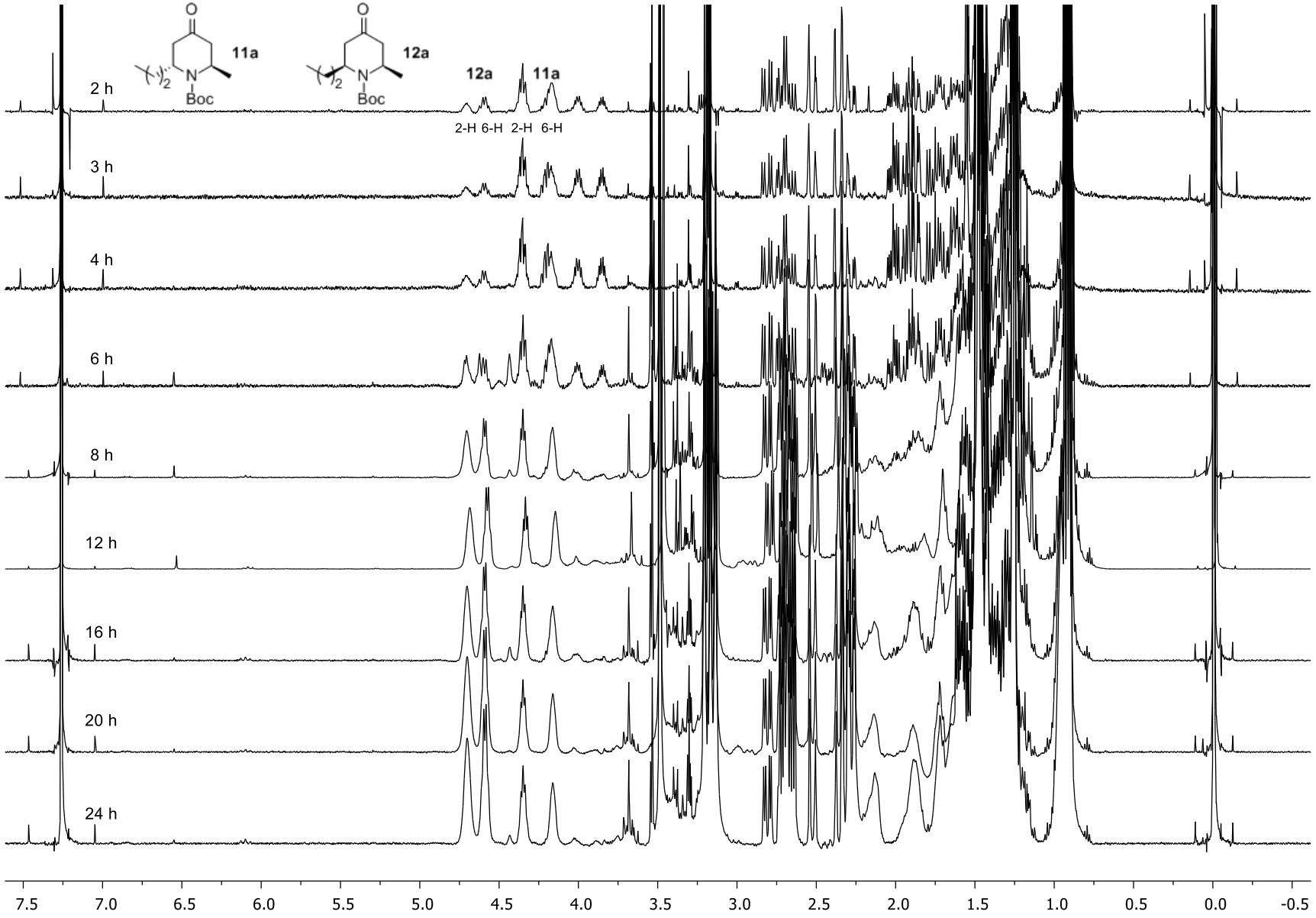
***tert*-Butyl (2*R*,6*S*)-6-(2''-cyclohexylethyl)-2-methyl-4-oxopiperidine-1-carboxylate (12h).** ν_{max}/cm^{-1} (neat) 2924 (CH), 1721 (C=O), 1690 (C=O), 1358, 1173; $[\alpha]_D^{25}$ −12.3 (*c* 0.3, $CHCl_3$); δ_H (400 MHz, $CDCl_3$) 0.78–0.95 (2H, m, CH_2), 1.04–1.35 (10H, m, 1'-H_3, 2''-H_2, 3''-H and 2 × CH_2), 1.40–1.48 (10H, m, 3 × CH_3 and 1''-*H*H), 1.60–1.74 (5H, m, 1''-H*H* and 2 × CH_2), 2.27 (1H, ddd, *J* 15.0, 4.0, 1.6 Hz, 3-*H*H), 2.31 (1H, dt, *J* 15.0, 1.6 Hz, 5-*H*H), 2.66 (1H, dd, *J* 15.0, 7.6 Hz, 5-H*H*), 2.71 (1H, dd, *J* 15.0, 8.0 Hz, 3-H*H*), 4.46–4.62 (1H, m, 6-H), 4.63–4.78 (1H, m, 2-H); δ_C (101 MHz, $CDCl_3$) 22.7 (CH_3), 26.3 (2 × CH_2), 26.6 (CH_2), 28.4 (3 × CH_3), 33.3 (CH_2), 33.4 (CH_2), 34.3 (CH_2), 34.7 (CH_2), 37.5 (CH), 43.9 (CH_2), 45.6 (CH_2), 48.4 (CH), 53.1 (CH), 80.2 (C), 154.8 (C), 208.8 (C); *m/z* (ESI) 346.2341 (MNa^+. $C_{19}H_{33}NNaO_3$ requires 346.2353).

***tert*-Butyl (2*R*,6*S*)-2-methyl-4-oxo-6-(2''-phenylethyl)piperidine-1-carboxylate (12i).** ν_{max}/cm^{-1} (neat) 2974 (CH), 1719 (C=O), 1687 (C=O), 1353, 1169; $[\alpha]_D^{19}$ +6.1 (*c* 1.0, $CHCl_3$); δ_H (400 MHz, $CDCl_3$) 1.31 (3H, d, *J* 6.9 Hz, 1'-H_3), 1.48 (9H, s, 3 × CH_3), 1.75–2.01 (2H, m, 1''-H_2), 2.30 (1H, dd, *J* 15.2, 3.6 Hz, 3-*H*H), 2.38 (1H, br d, *J* 15.2 Hz, 5-*H*H), 2.58 (1H, dd, *J* 15.2, 5.6 Hz, 5-H*H*), 2.64 (1H, dd, *J* 15.2, 6.0 Hz, 3-H*H*), 2.66–2.77 (2H, m, 2''-H_2), 4.60–4.82 (2H, m, 2-H and 6-H), 7.13–7.33 (5H, m, Ph); δ_C (101 MHz, $CDCl_3$) 22.8 (CH_3), 28.4 (3 × CH_3), 33.4 (CH_2), 39.0 (CH_2), 43.7 (CH_2), 45.5 (CH_2), 48.4 (CH), 52.6 (CH), 80.4 (C), 126.1 (CH), 128.3 (2 × CH), 128.5 (2 × CH), 141.2 (C), 154.8 (C), 208.3 (C); *m/z* (ESI) 340.1878 (MNa^+. $C_{19}H_{27}NNaO_3$ requires 340.1883).

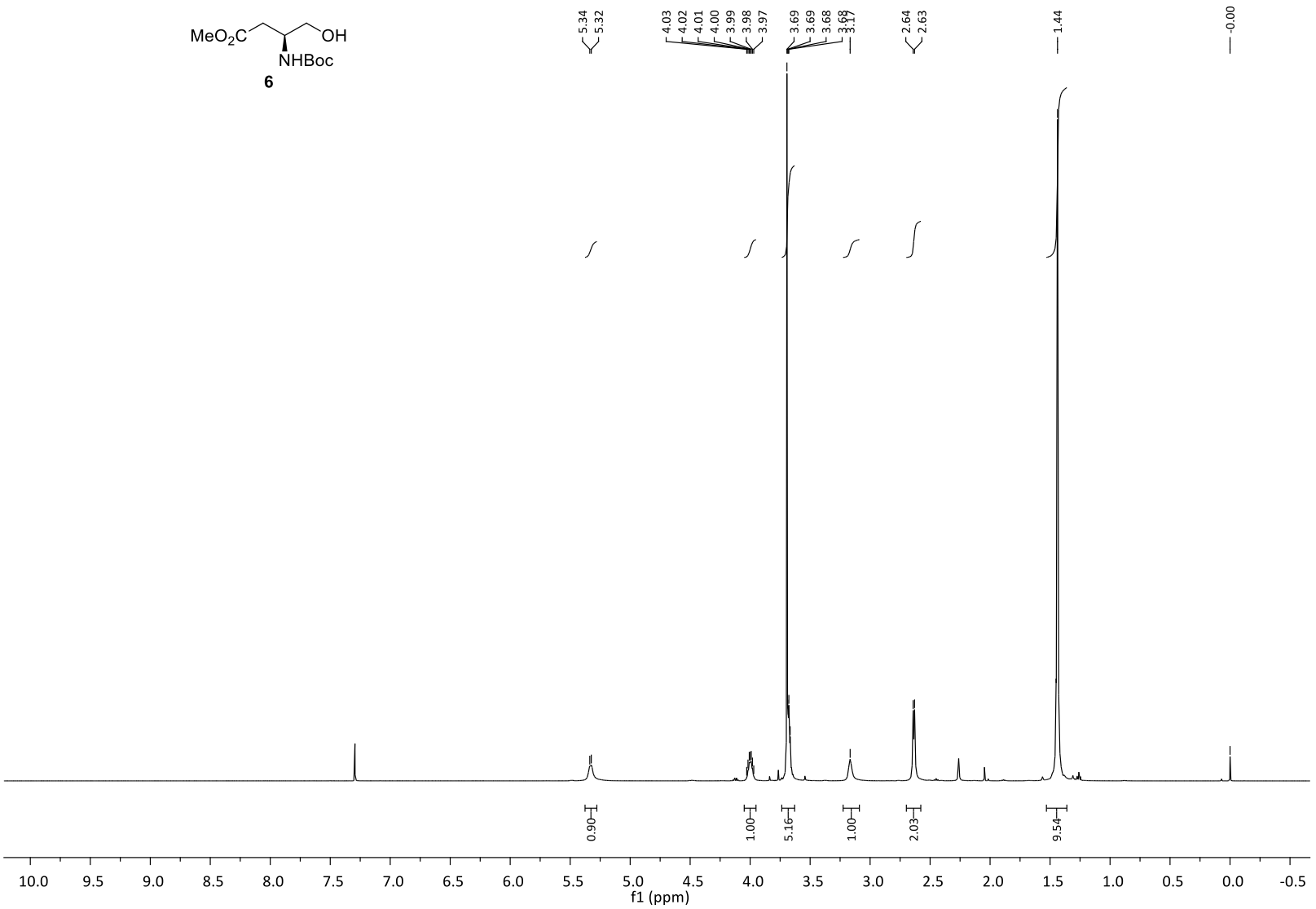
2. Reference

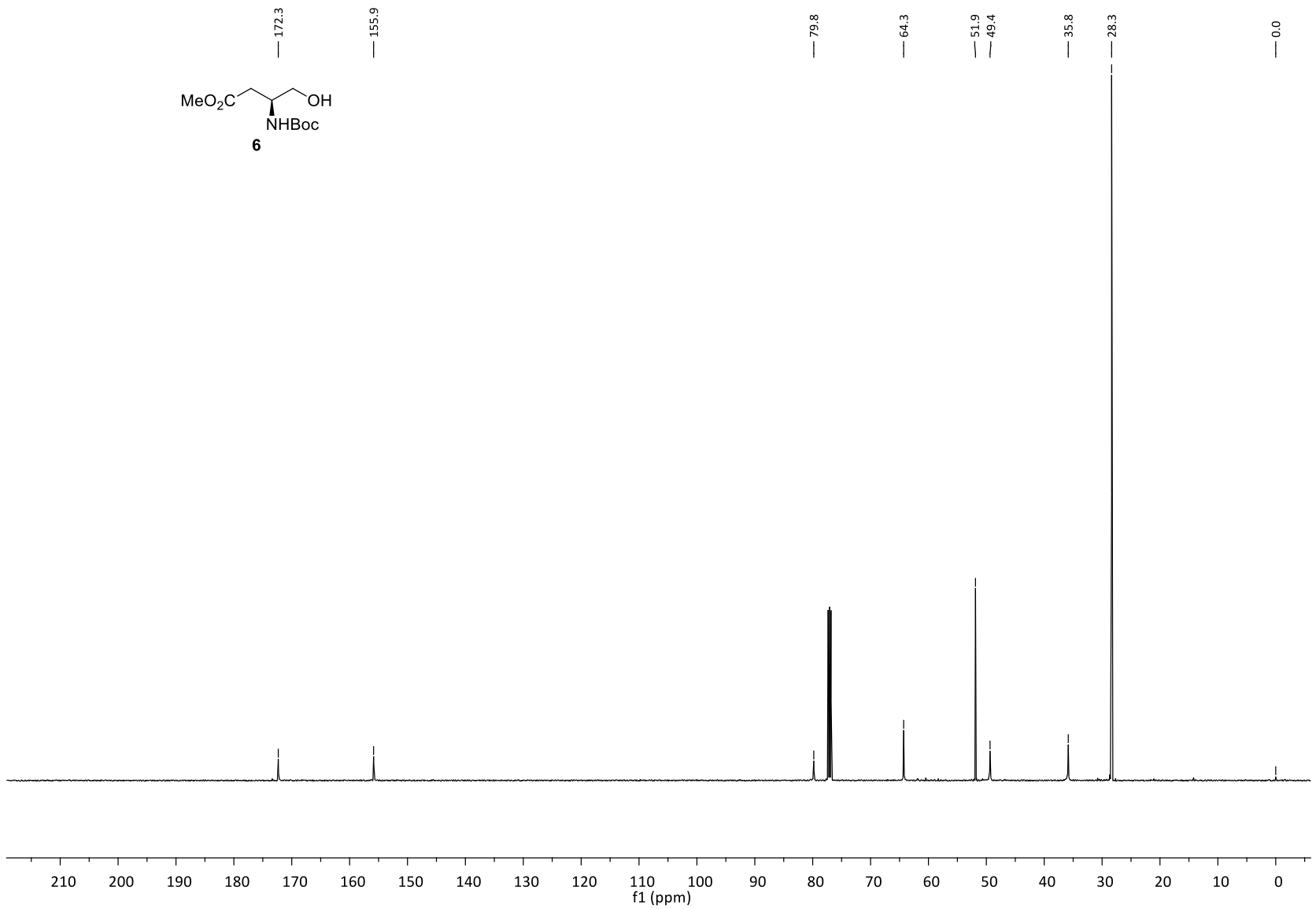
1. N. Gouault, M. Le Roch, G. de Campos Pinto and M. David, O*rg. Biomol. Chem.,* 2012, **10**, 5541.

3. ^{1}H NMR Spectra for Cyclisation of 10a from 2–24 h



4. ^{1}H NMR and ^{13}C NMR Spectra of All Compounds

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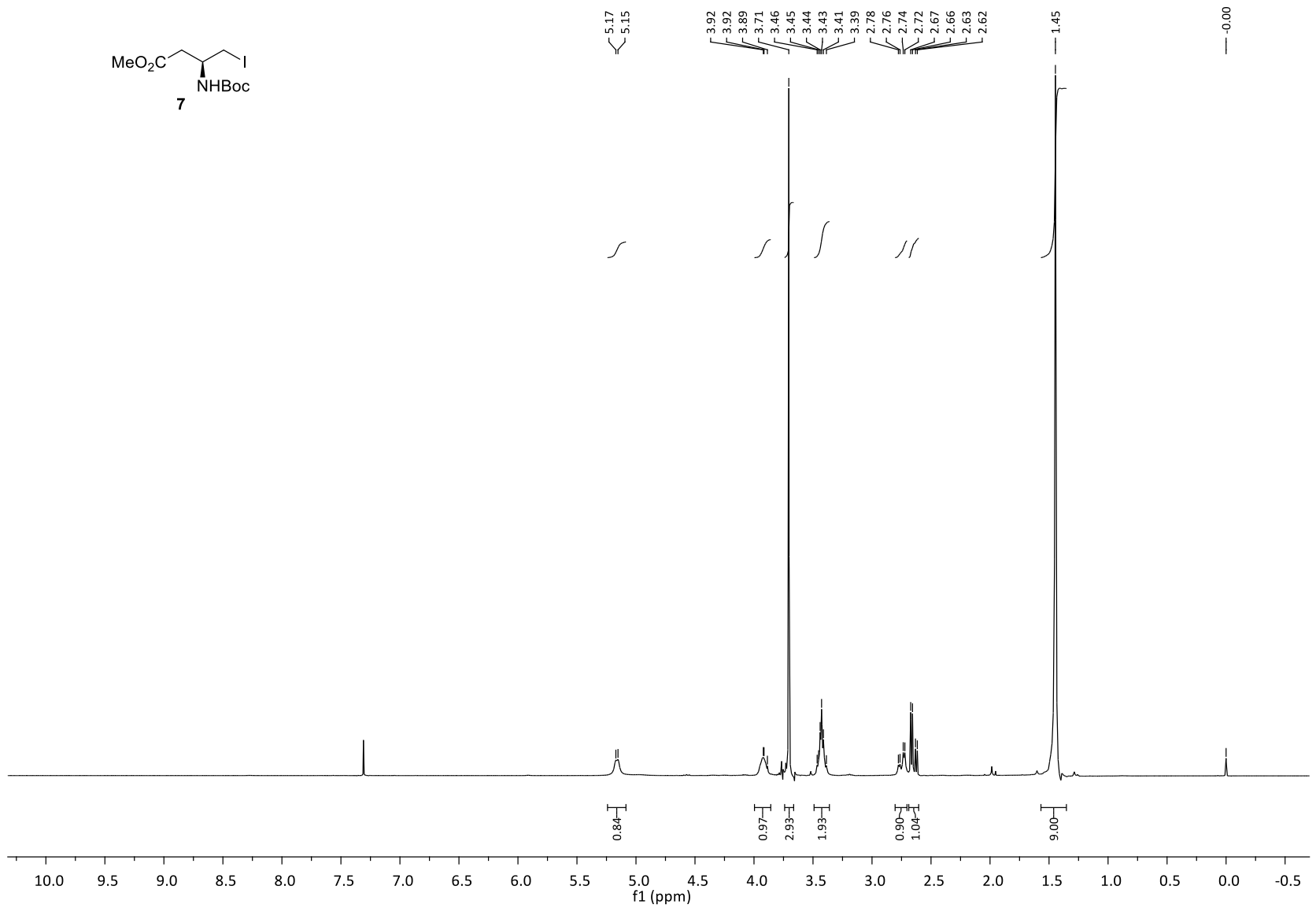
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2.72
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2.62
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0.97
2.93
1.93
0.90
1.04
9.00
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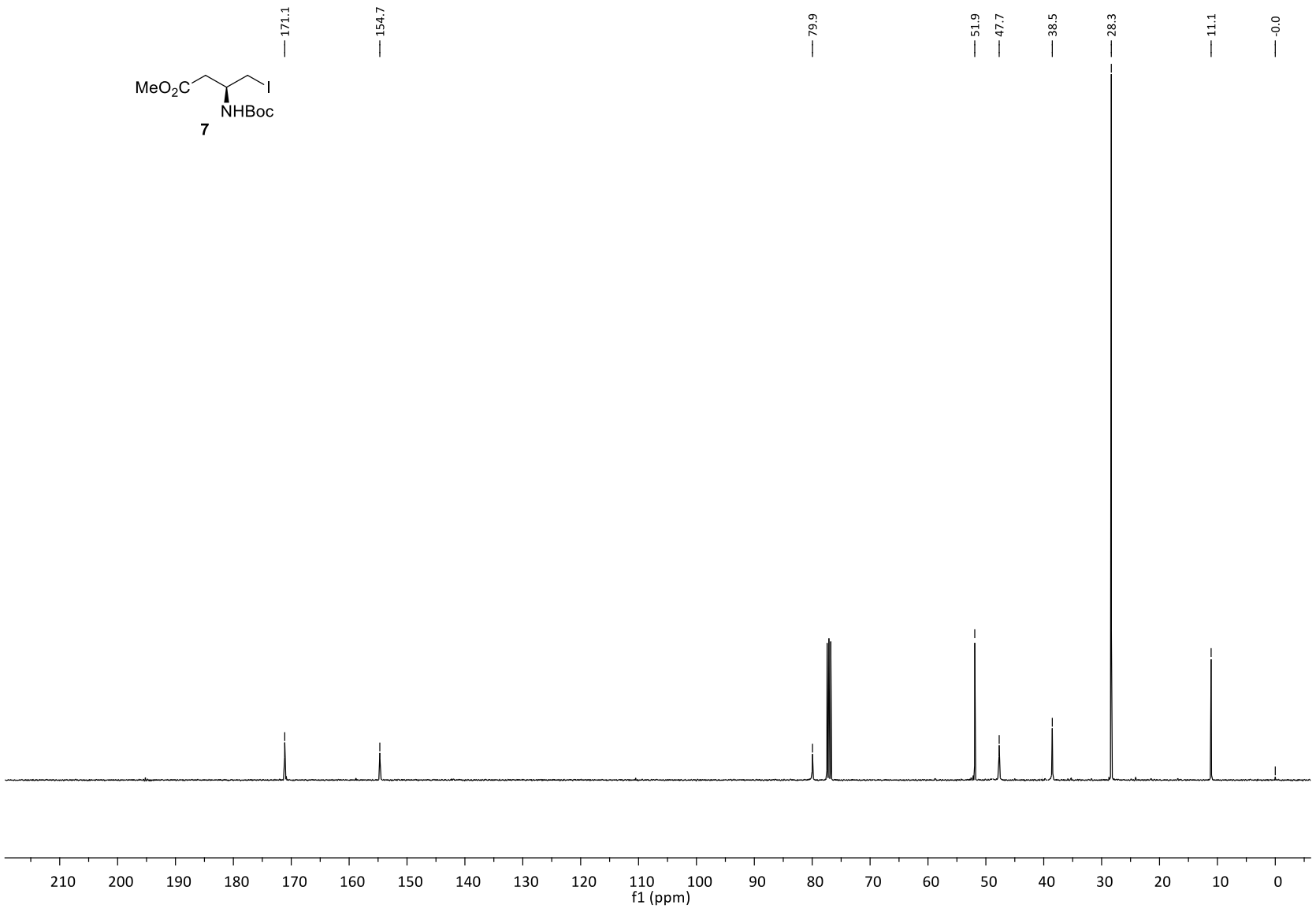
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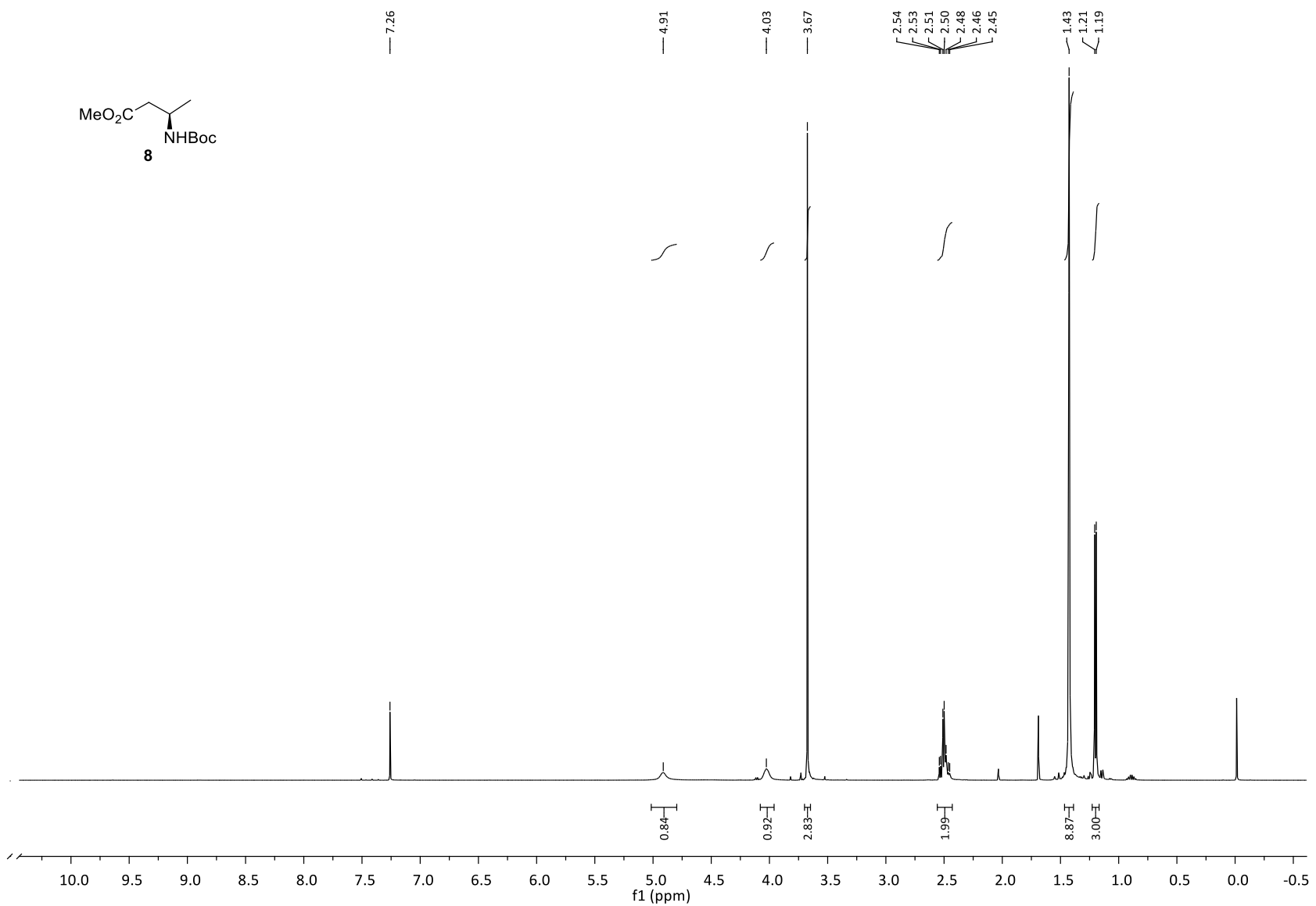
f1 (ppm)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8.87
3.00
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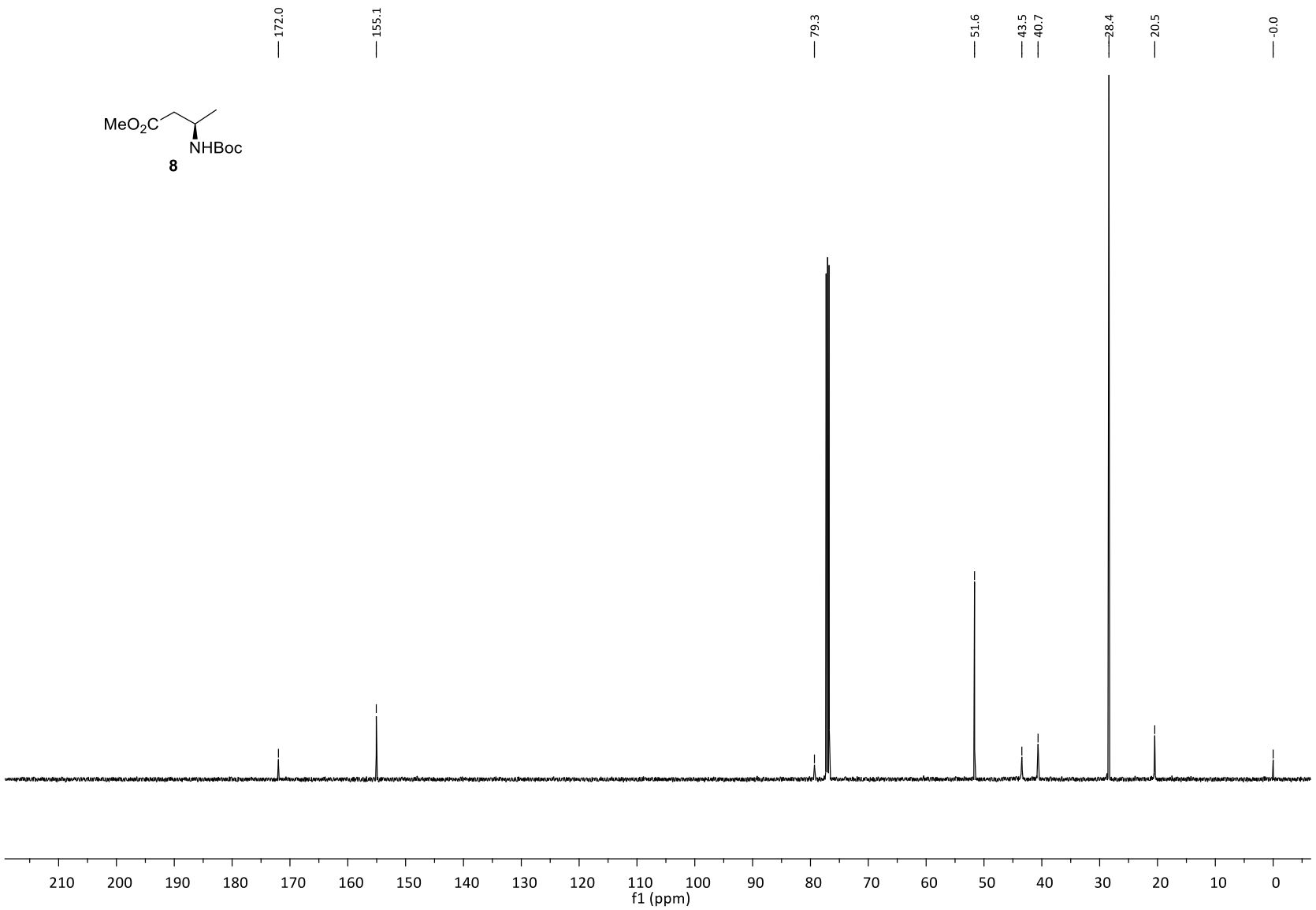
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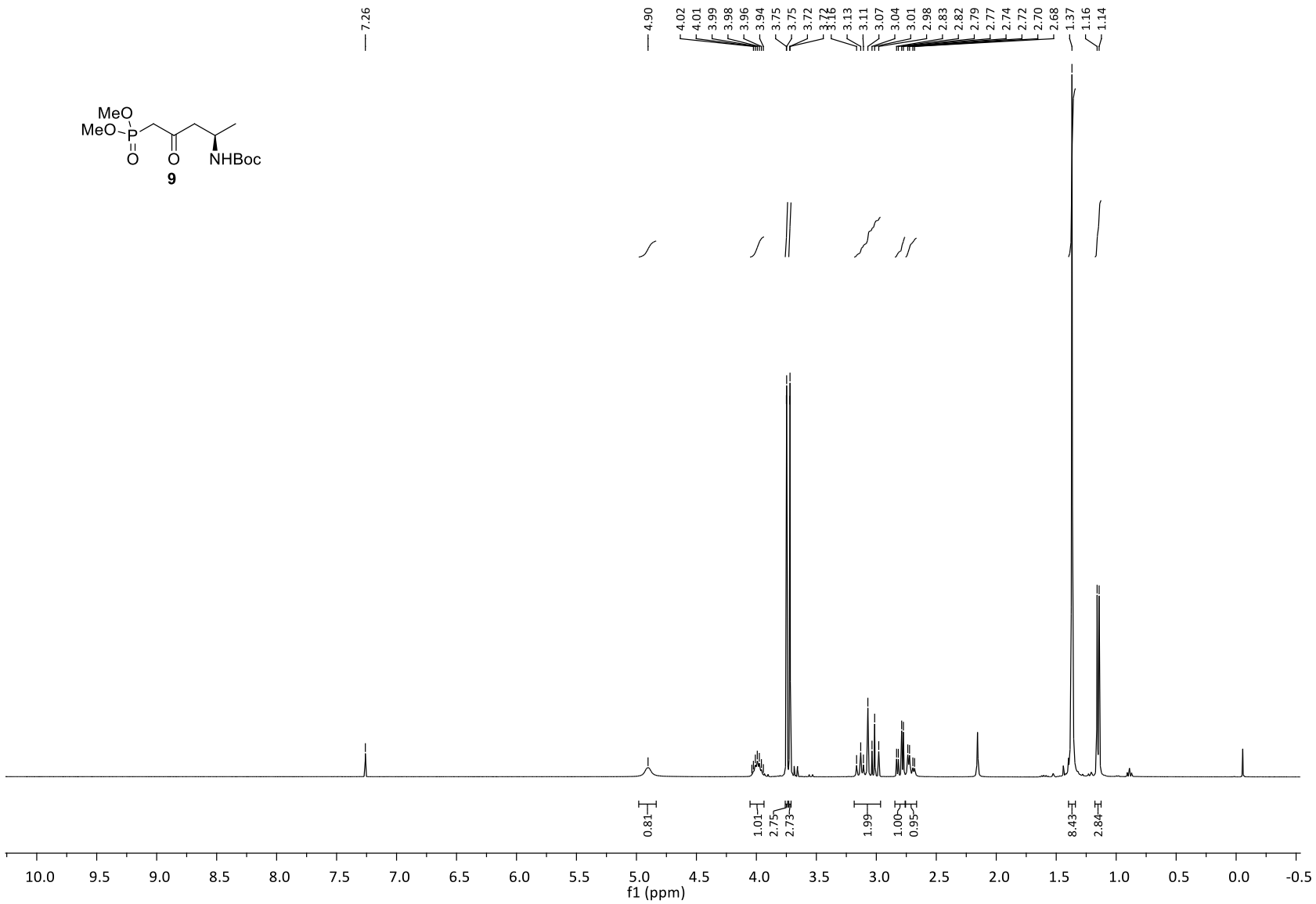
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2.98
2.83
2.82
2.79
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2.72
2.70
2.68
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1.14
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1.01
2.75
2.73
1.99
1.00
0.95
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2.84
10.0
9.5
9.0
8.5
8.0
7.5
7.0
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5.0
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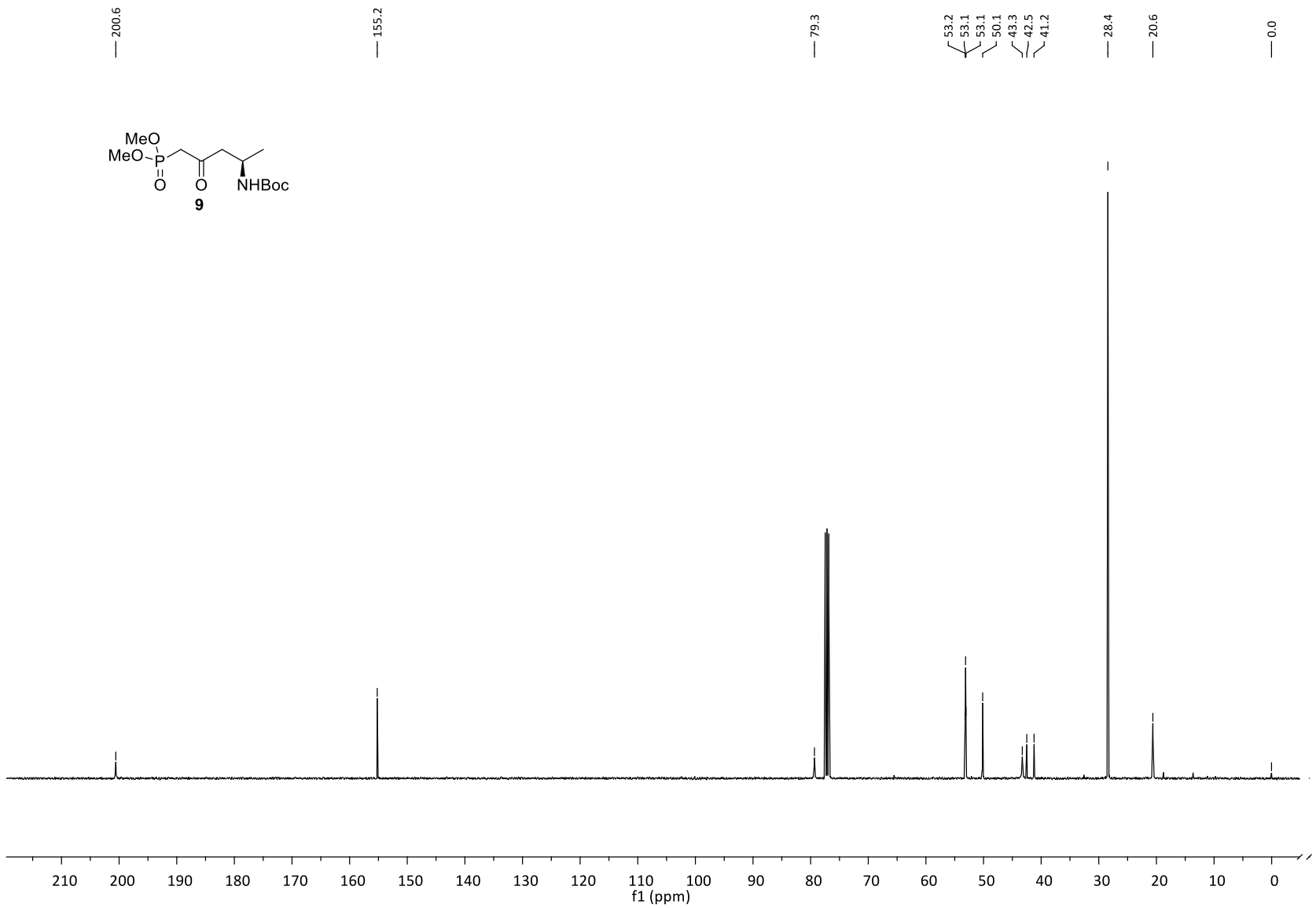
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NHBoc
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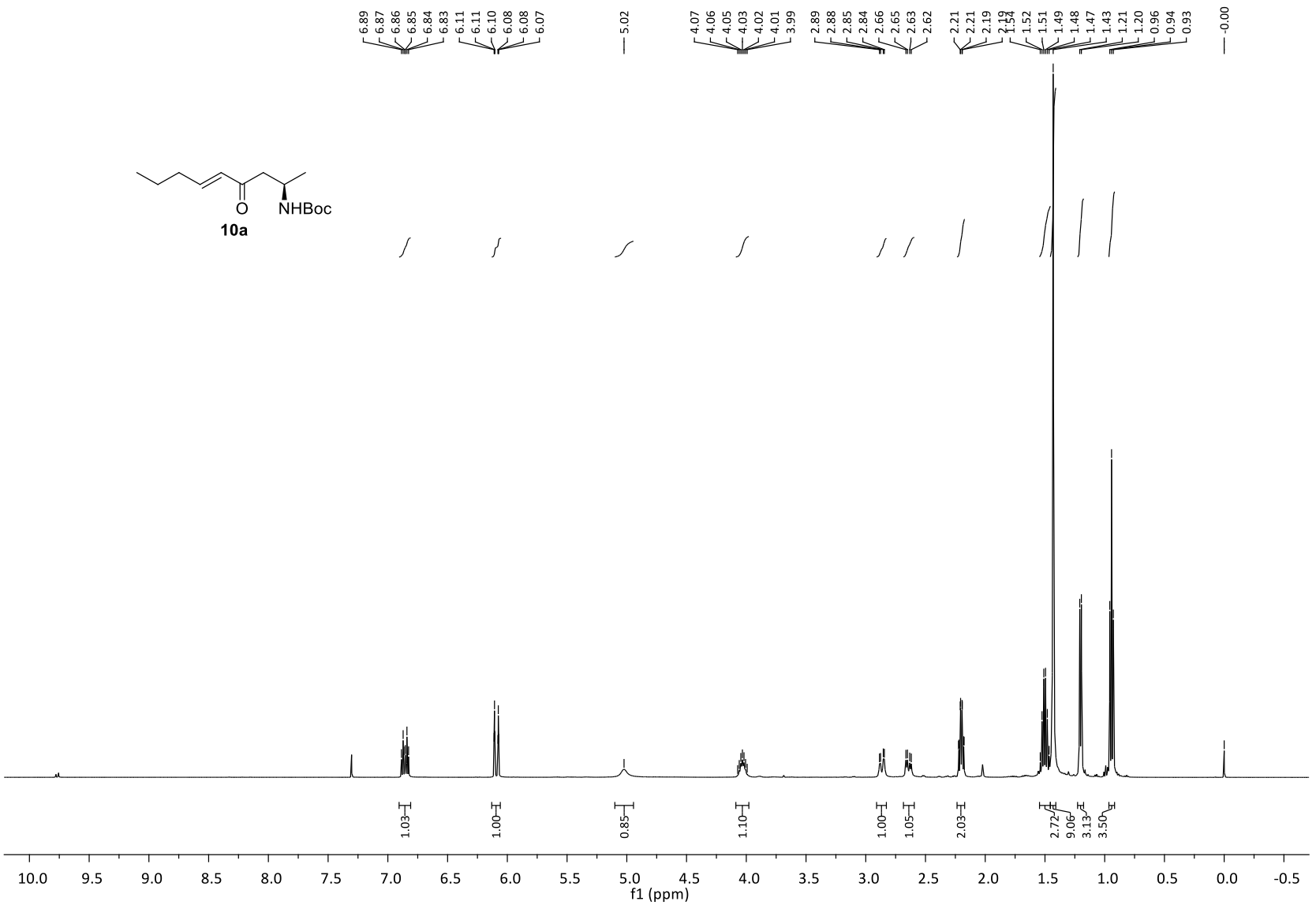
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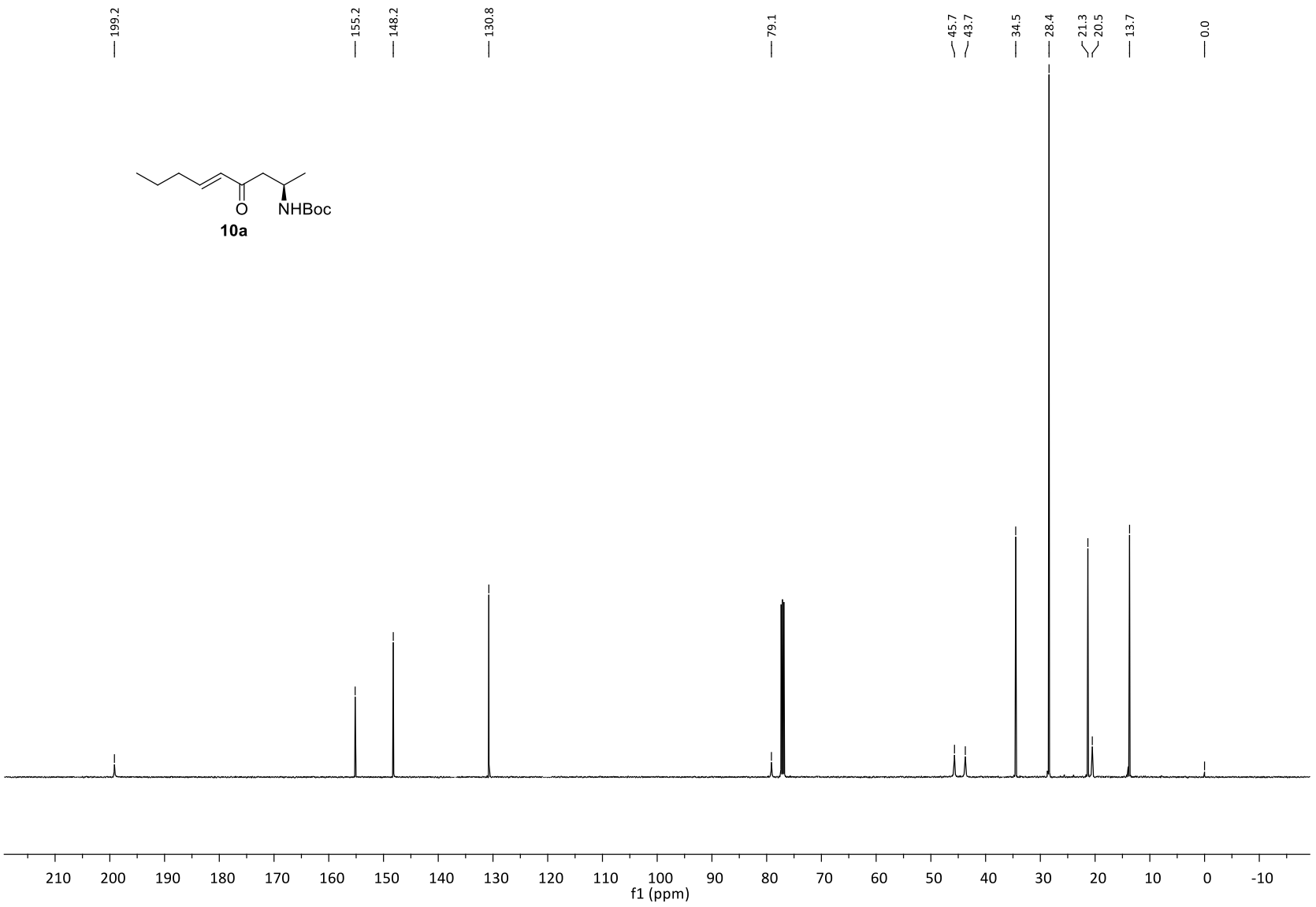
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10a
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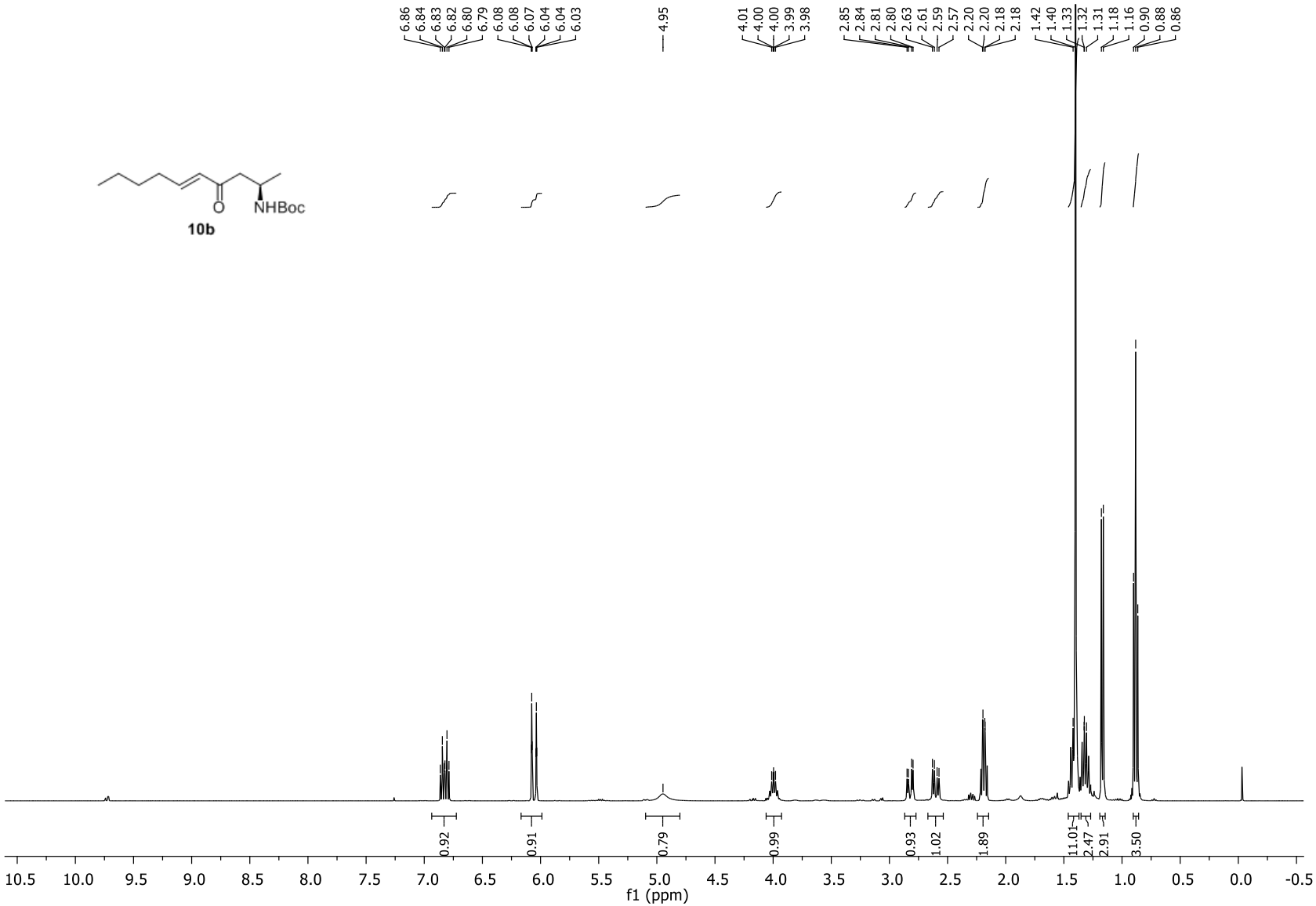
f1 (ppm)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6.04
6.03
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4.01
4.00
4.00
3.99
3.98
2.85
2.84
2.81
2.80
2.63
2.61
2.59
2.57
2.20
2.20
2.18
2.18
1.42
1.40
1.33
1.32
1.31
1.18
1.16
0.90
0.88
0.86
O
NHBoc
10b
0.92
0.91
0.79
0.99
0.93
1.02
1.89
11.01
2.47
2.91
3.50
10.5
10.0
9.5
9.0
8.5
8.0
7.5
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6.5
6.0
5.5
5.0
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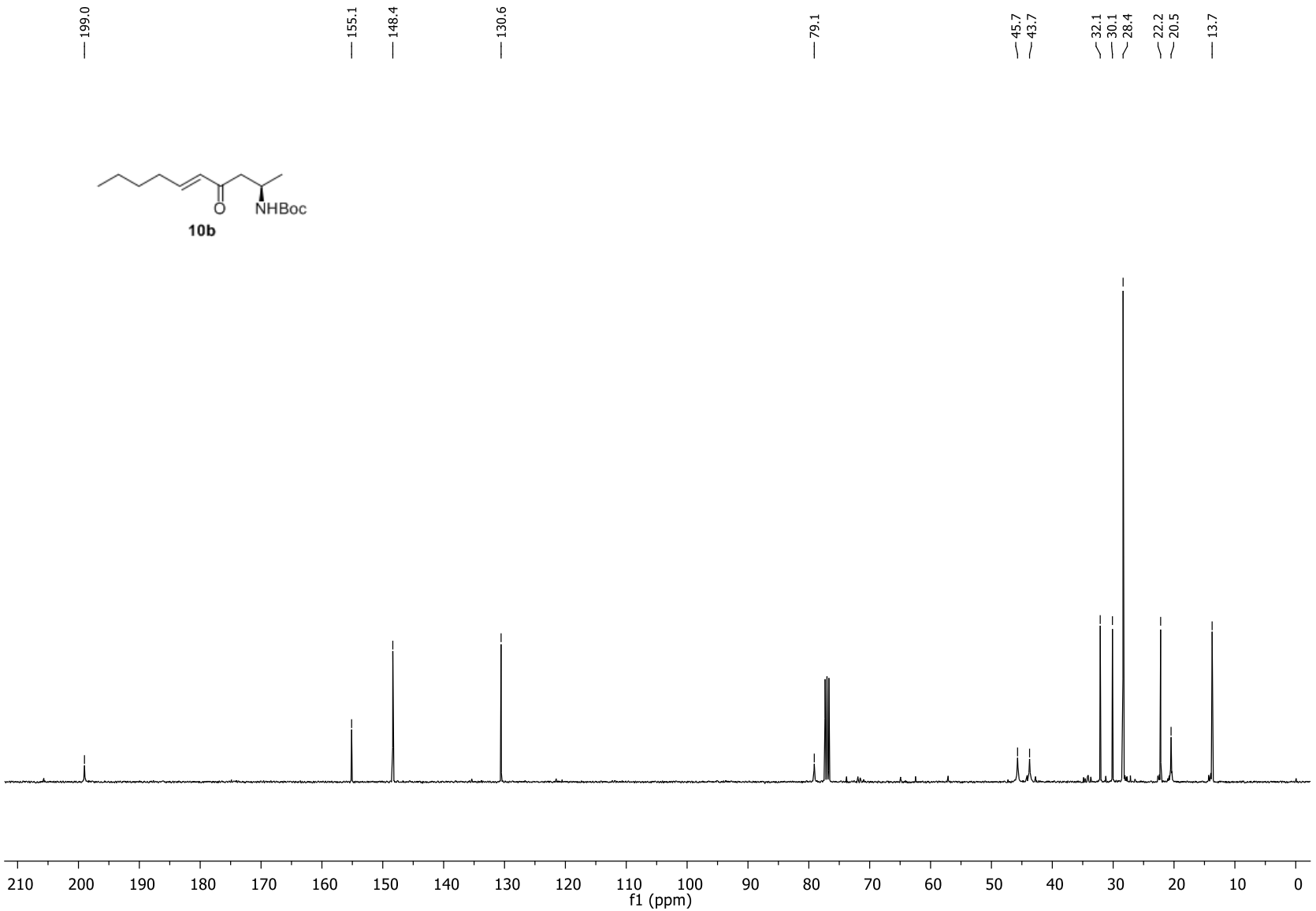
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32.1
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28.4
22.2
20.5
13.7
O
NHBoc
10b
210
200
190
180
170
160
150
140
130
120
110
100
90
80
70
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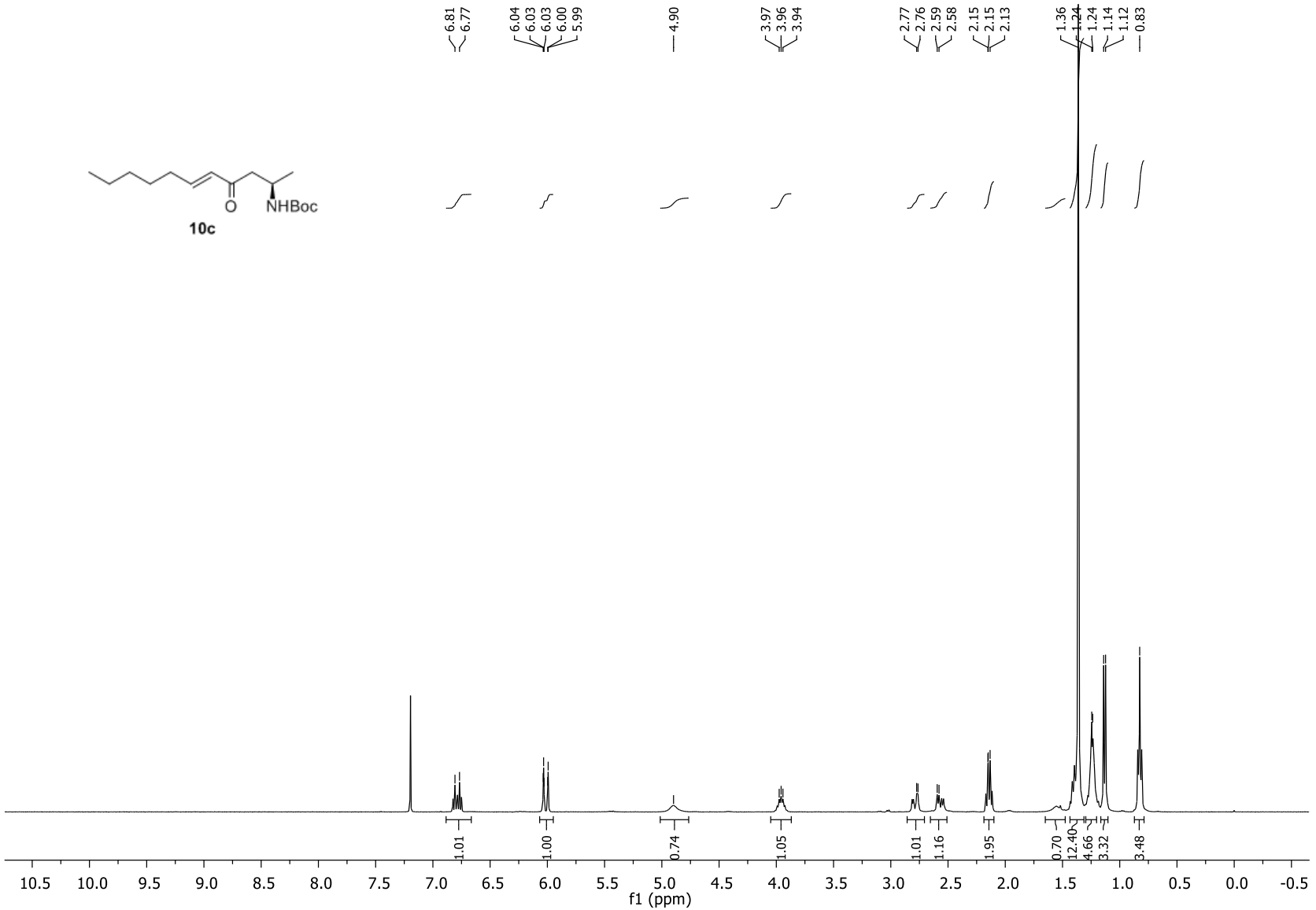
50
40
30
20
10
0
f1 (ppm)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2.76
2.59
2.58
2.15
2.15
2.13
1.36
1.24
1.24
1.14
1.12
0.83
O
NHBoc
10c
1.01
1.00
0.74
1.05
1.01
1.16
1.95
0.70
12.40
4.66
3.32
3.48
10.5
10.0
9.5
9.0
8.5
8.0
7.5
7.0
6.5
6.0
5.5
5.0
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3.0
2.5
2.0
1.5
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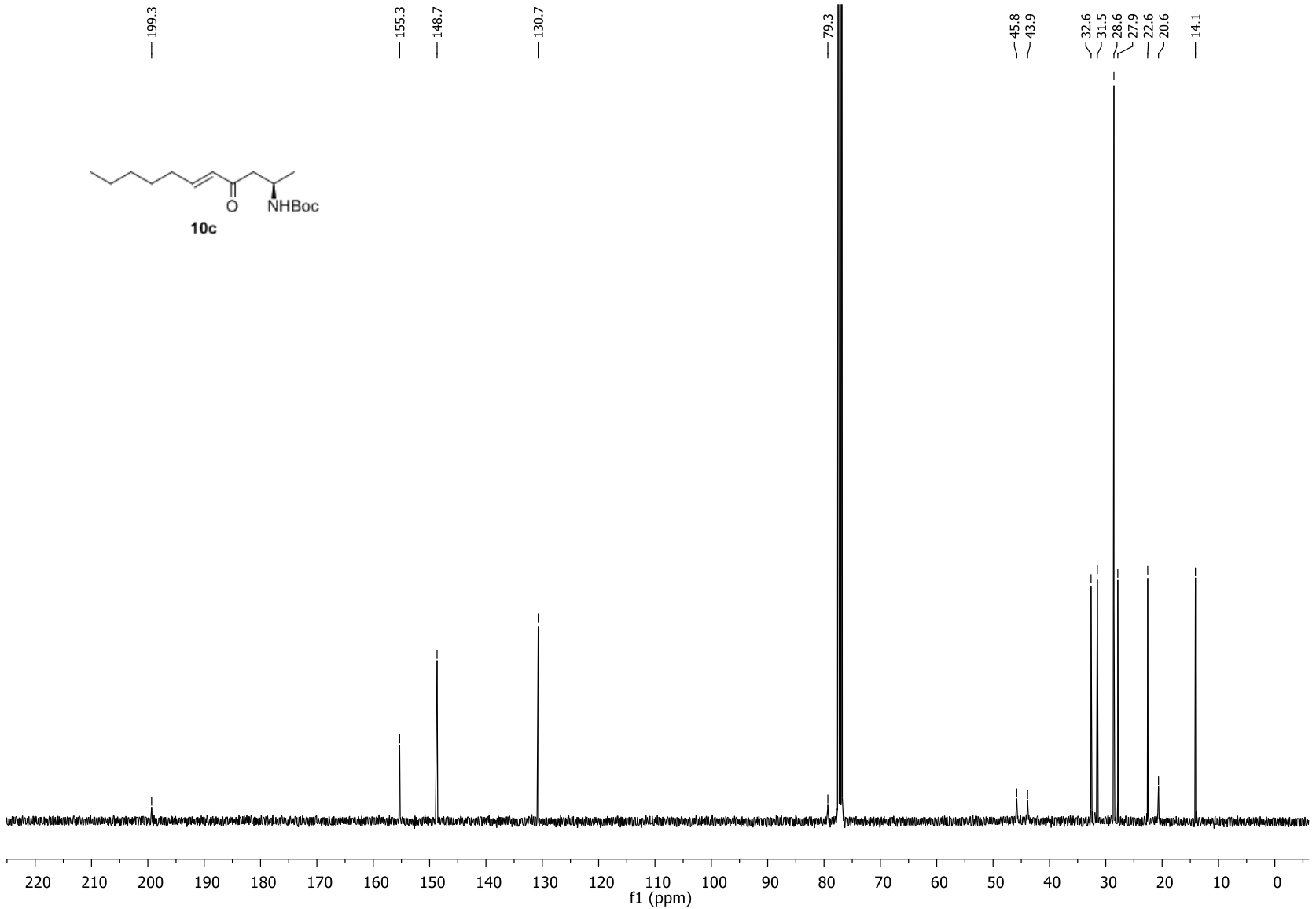
0.5
0.0
-0.5
f1 (ppm)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155.3
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43.9
32.6
31.5
28.6
27.9
22.6
20.6
14.1
O
NHBoc
10c
220
210
200
190
180
170
160
150
140
130
120
110
100
90
80
70
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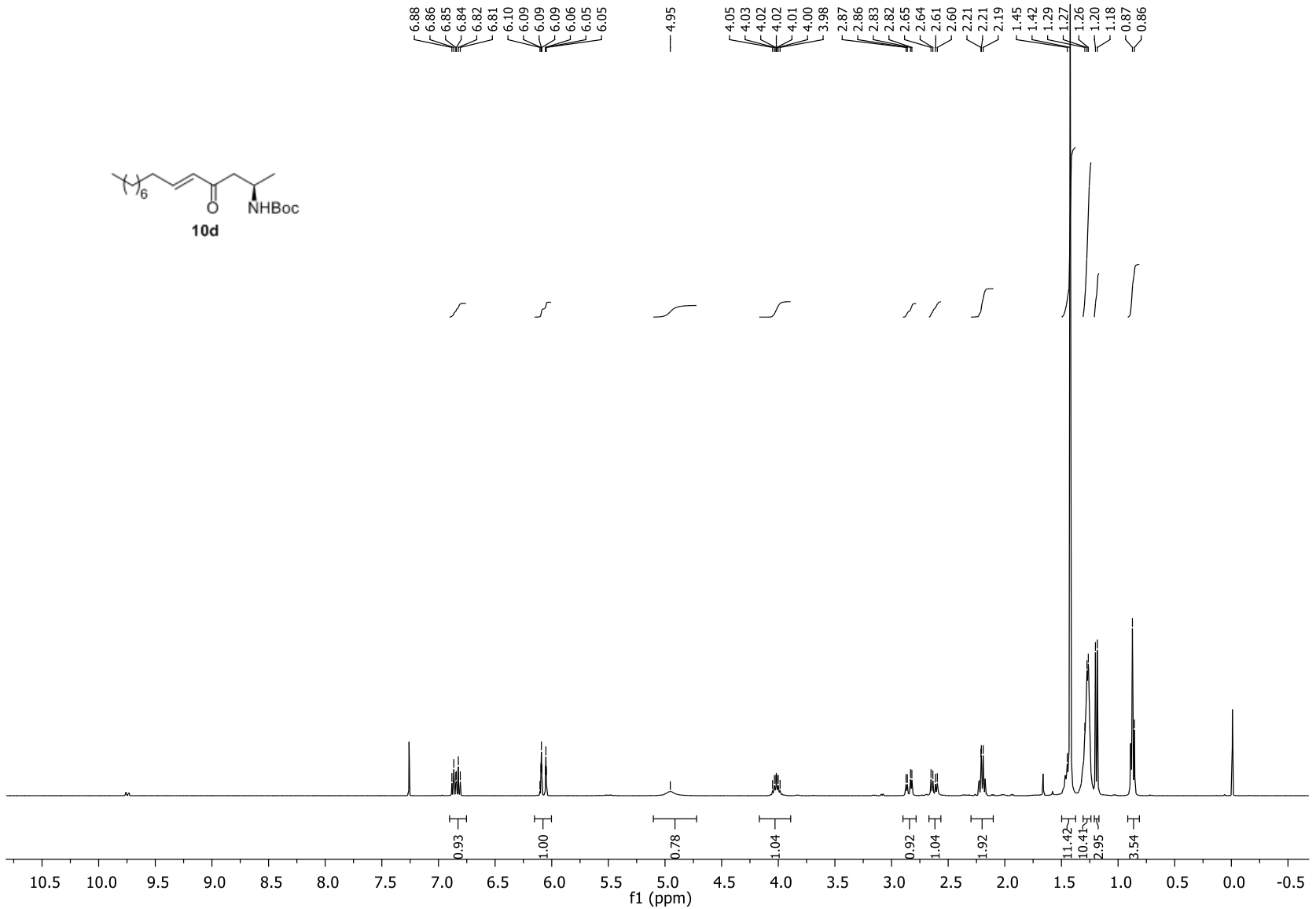
50
40
30
20
10
0
f1 (ppm)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6.05
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4.95
4.05
4.03
4.02
4.02
4.01
4.00
3.98
2.87
2.86
2.83
2.82
2.65
2.64
2.61
2.60
2.21
2.21
2.19
1.45
1.42
1.29
1.27
1.26
1.20
1.18
0.87
0.86
NHBoc
10d
0.93
1.00
0.78
1.04
0.92
1.04
1.92
11.42
10.41
2.95
3.54
10.5
10.0
9.5
9.0
8.5
8.0
7.5
7.0
6.5
6.0
5.5
5.0
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2.5
2.0
1.5
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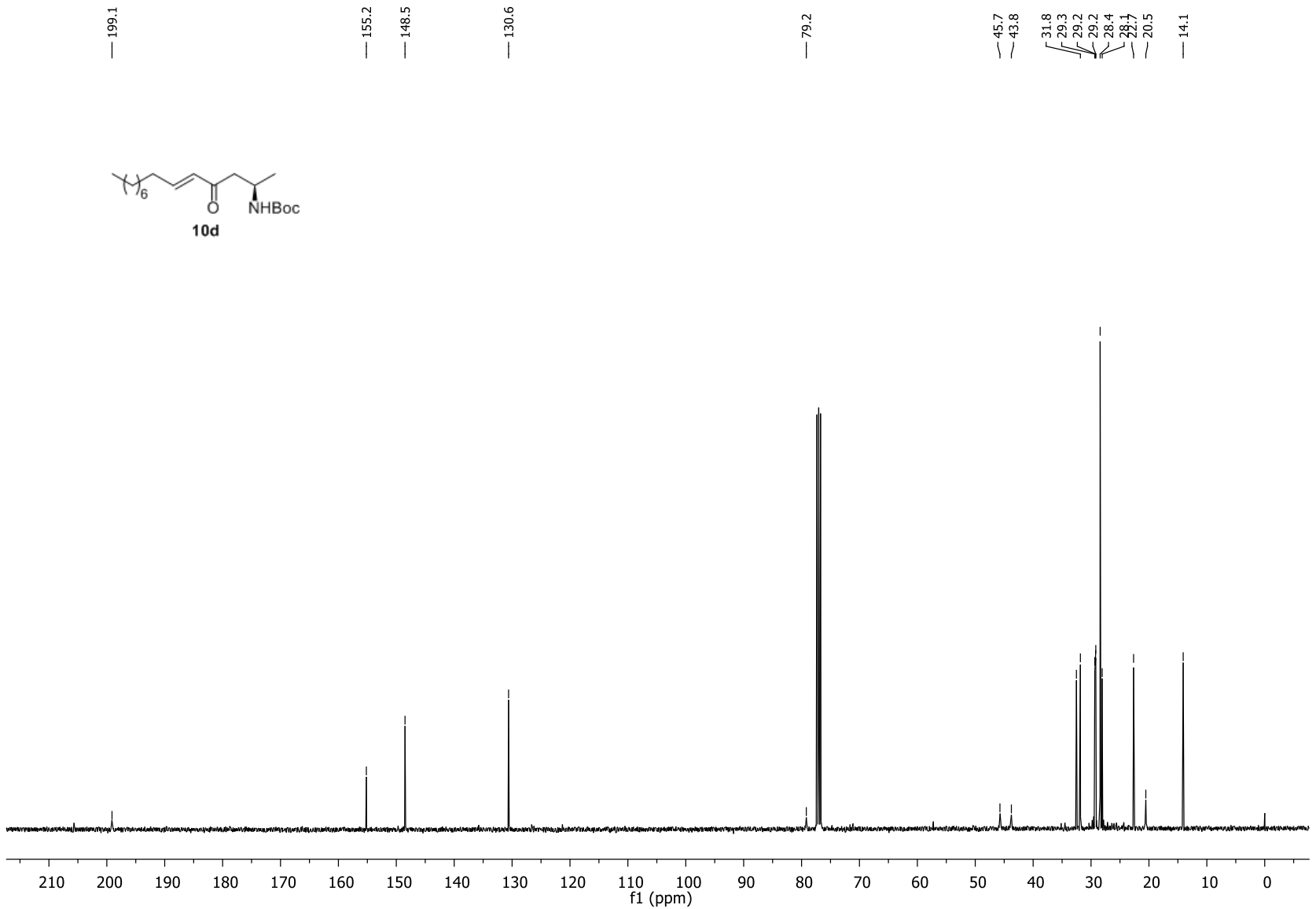
0.5
0.0
-0.5
f1 (ppm)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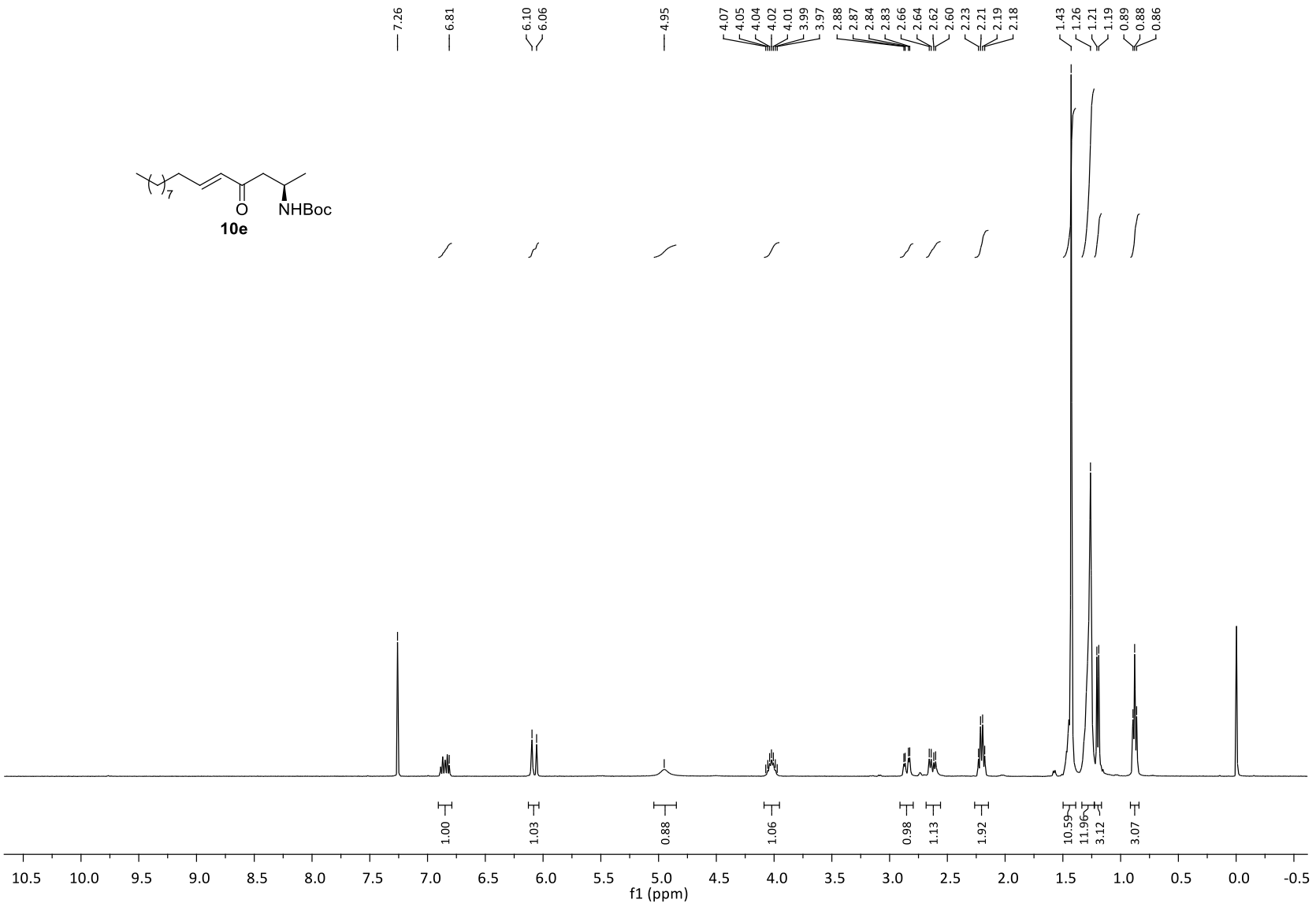
43.8
31.8
29.3
29.2
29.2
28.4
28.1
22.7
20.5
14.1
6
O
NHBoc
10d
210
200
190
180
170
160
150
140
130
120
110
100
90
80
70
60
50
40
30
20
10
0
f1 (ppm)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6.10
6.06
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4.07
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4.04
4.02
4.01
3.99
3.97
2.88
2.87
2.84
2.83
2.66
2.64
2.62
2.60
2.23
2.21
2.19
2.18
1.43
1.26
1.21
1.19
0.89
0.88
0.86
O
NHBoc
10e
1.00
1.03
0.88
1.06
0.98
1.13
1.92
10.59
11.96
3.12
3.07
10.5
10.0
9.5
9.0
8.5
8.0
7.5
7.0
6.5
6.0
5.5
5.0
4.5
4.0
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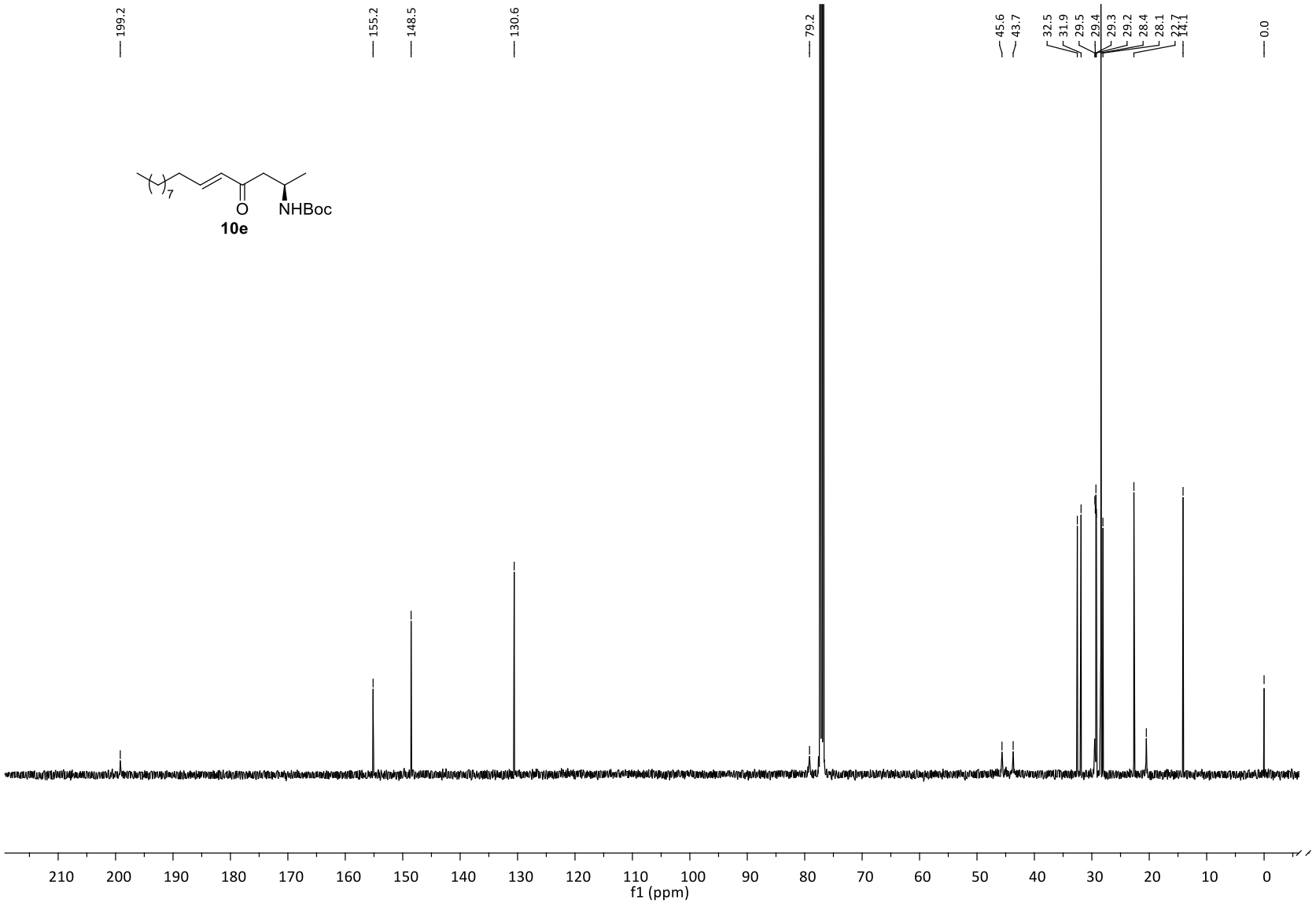
3.0
2.5
2.0
1.5
1.0
0.5
0.0
-0.5
f1 (ppm)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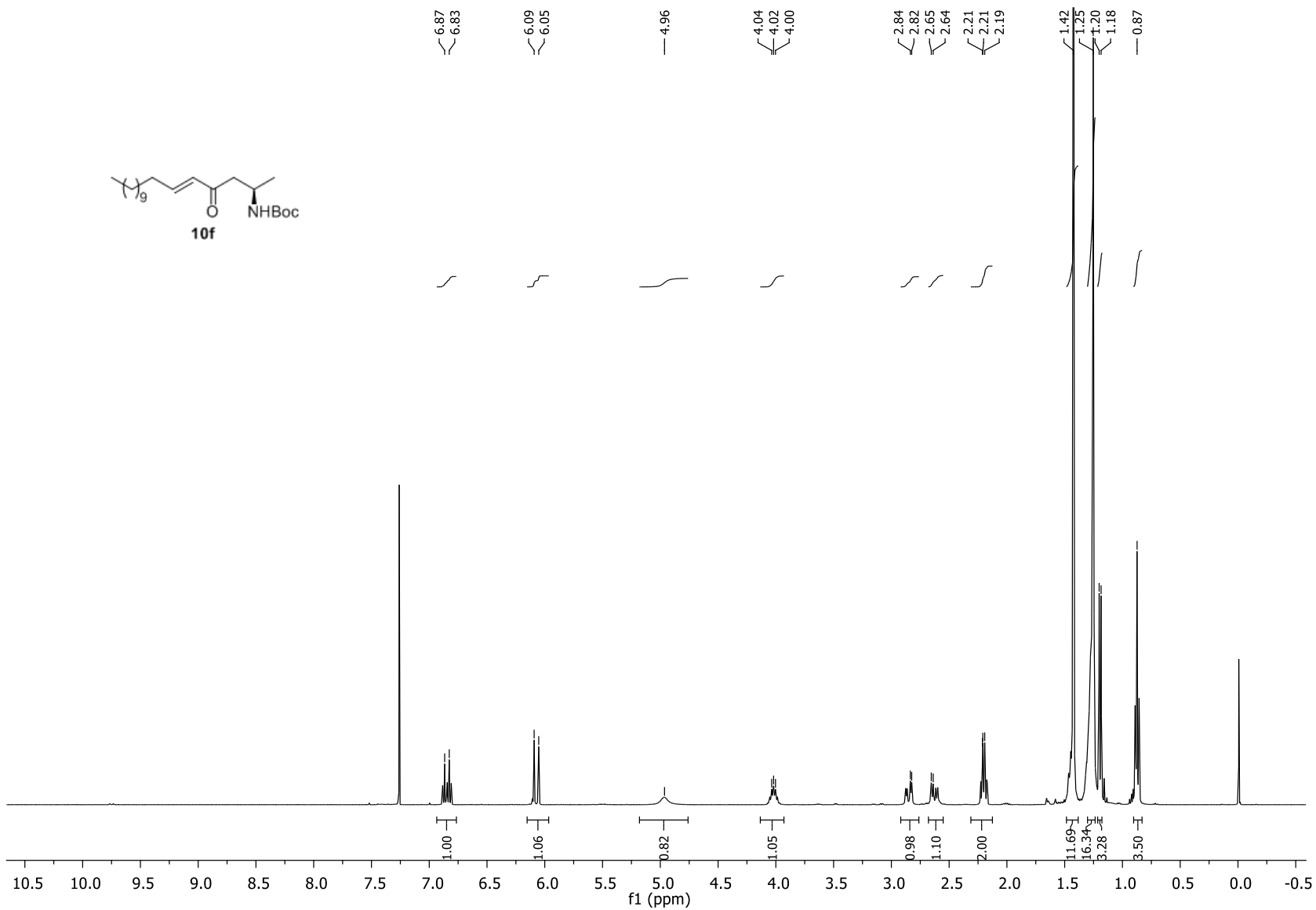
148.5
130.6
79.2
45.6
43.7
32.5
31.9
29.5
29.4
29.3
29.2
28.4
28.1
22.7
14.1
0.0
O
NHBoc
10e
210
200
190
180
170
160
150
140
130
120
110
100
90
80
70
60
50
40
30
20
10
0
f1 (ppm)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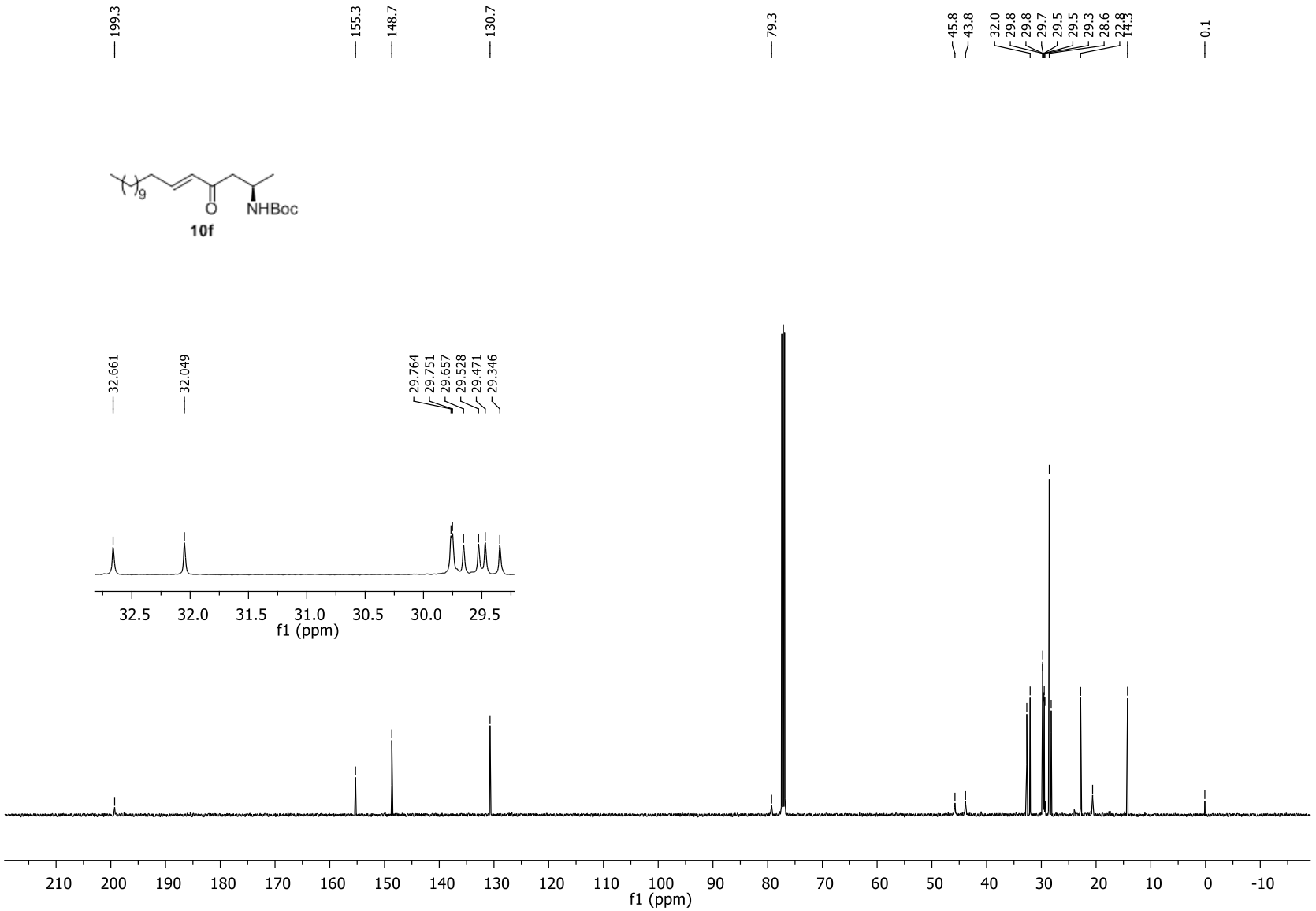
6.83
6.09
6.05
4.96
4.04
4.02
4.00
2.84
2.82
2.65
2.64
2.21
2.21
2.19
1.42
1.25
1.20
1.18
0.87
O
NHBoc
9
10f
1.00
1.06
0.82
1.05
0.98
1.10
2.00
11.69
16.34
3.28
3.50
10.5
10.0
9.5
9.0
8.5
8.0
7.5
7.0
6.5
6.0
5.5
5.0
4.5
4.0
3.5
3.0
2.5
2.0
1.5
1.0
0.5
0.0
-0.5
f1 (ppm)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155.3
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45.8
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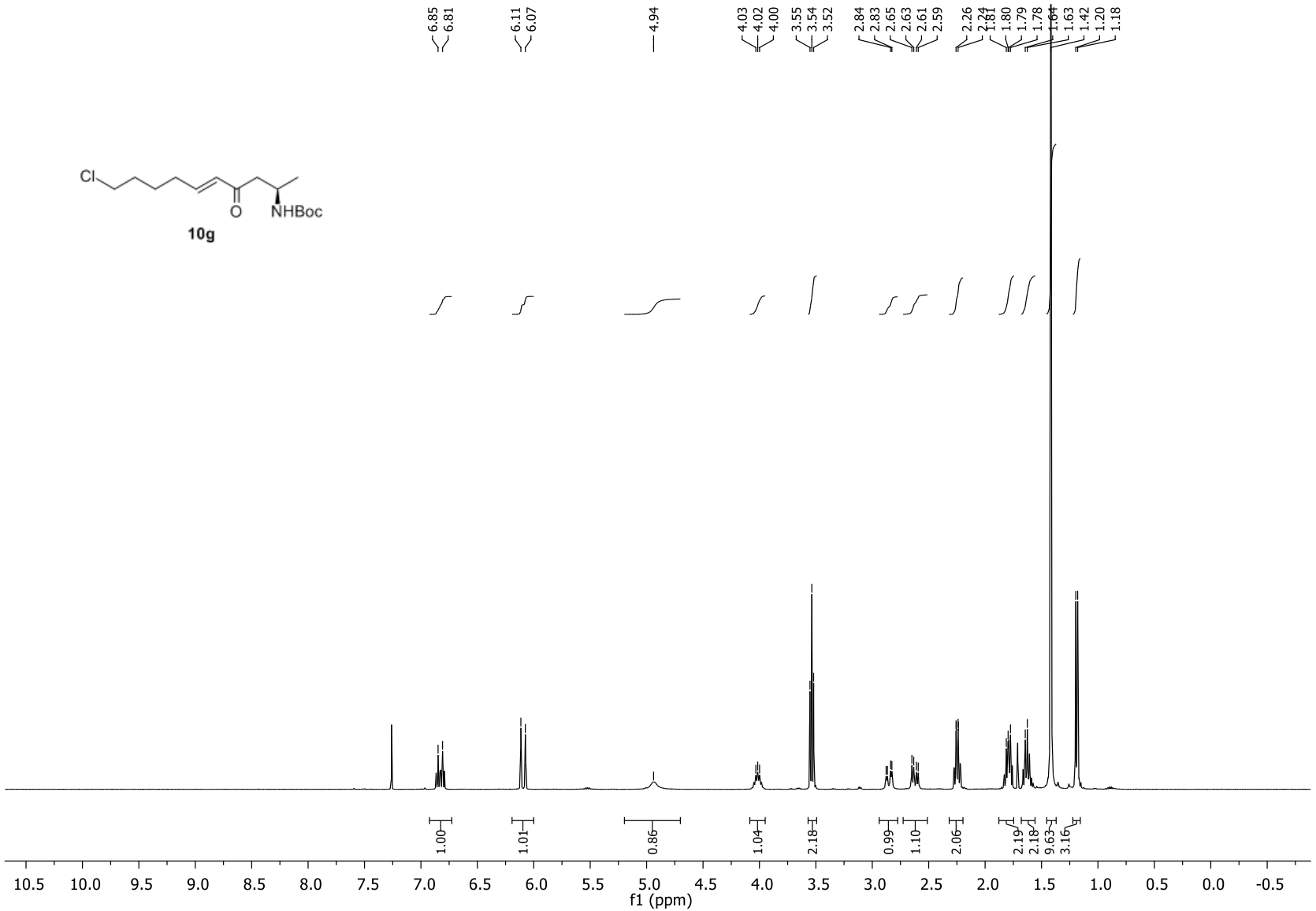
29.8
29.7
29.5
29.5
29.3
28.6
22.8
14.3
0.1
9
O
NHBoc
10f
32.661
32.049
29.764
29.751
29.657
29.528
29.471
29.346
32.5
32.0
31.5
31.0
30.5
30.0
29.5
f1 (ppm)
210
200
190
180
170
160
150
140
130
120
110
100
90
80
70
60
50
40
30
20
10
0
-10
f1 (ppm)


Cl
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NHBoc
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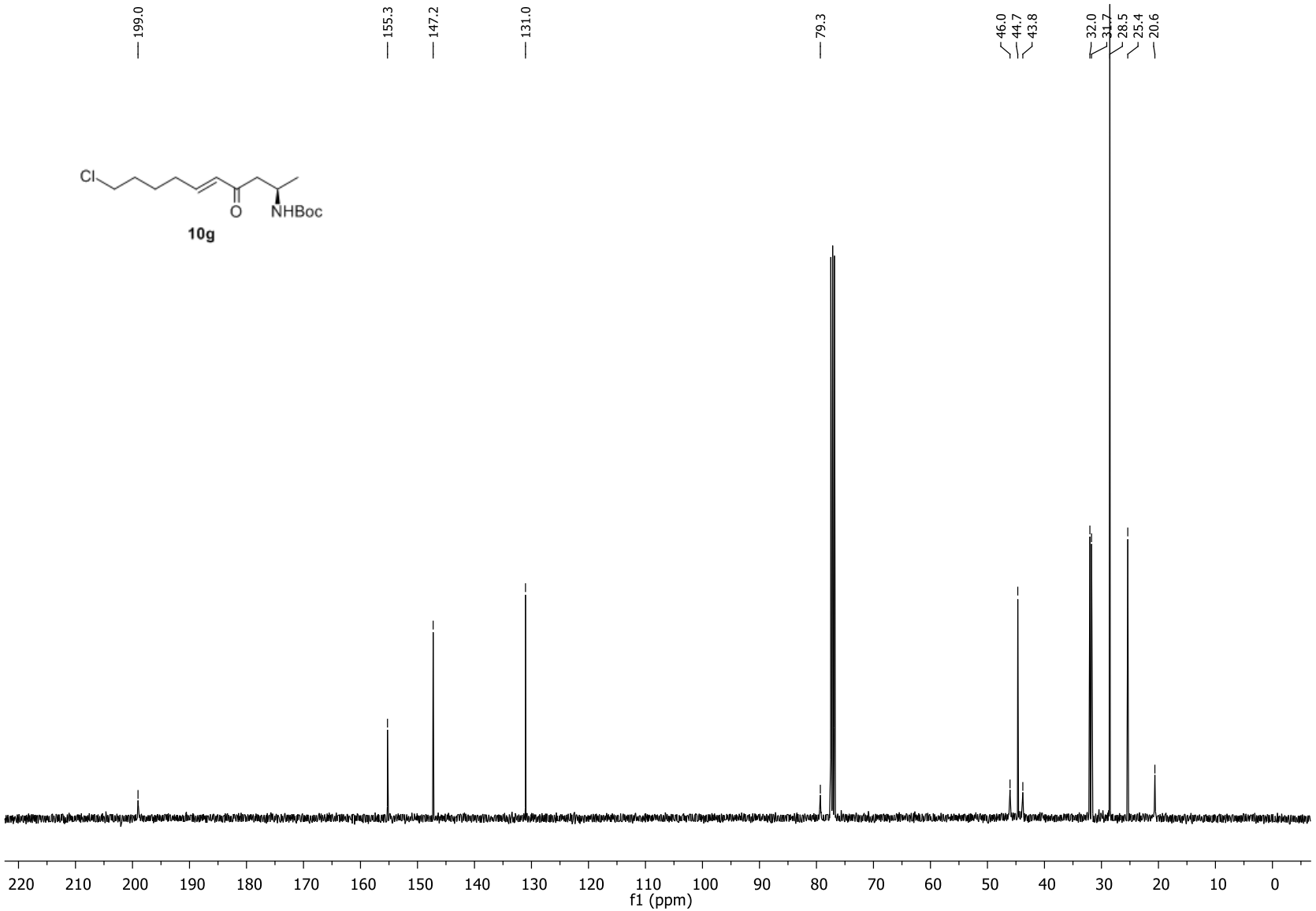
6.11
6.07
4.94
4.03
4.02
4.00
3.55
3.54
3.52
2.84
2.83
2.65
2.63
2.61
2.59
2.26
2.24
1.81
1.80
1.79
1.78
1.64
1.63
1.42
1.20
1.18
1.00
1.01
0.86
1.04
2.18
0.99
1.10
2.06
2.19
2.18
9.63
3.16
10.5 10.0 9.5 9.0 8.5 8.0 7.5 7.0 6.5 6.0 5.5 5.0 4.5 4.0 3.5 3.0 2.5 2.0 1.5 1.0 0.5 0.0 -0.5
f1 (ppm)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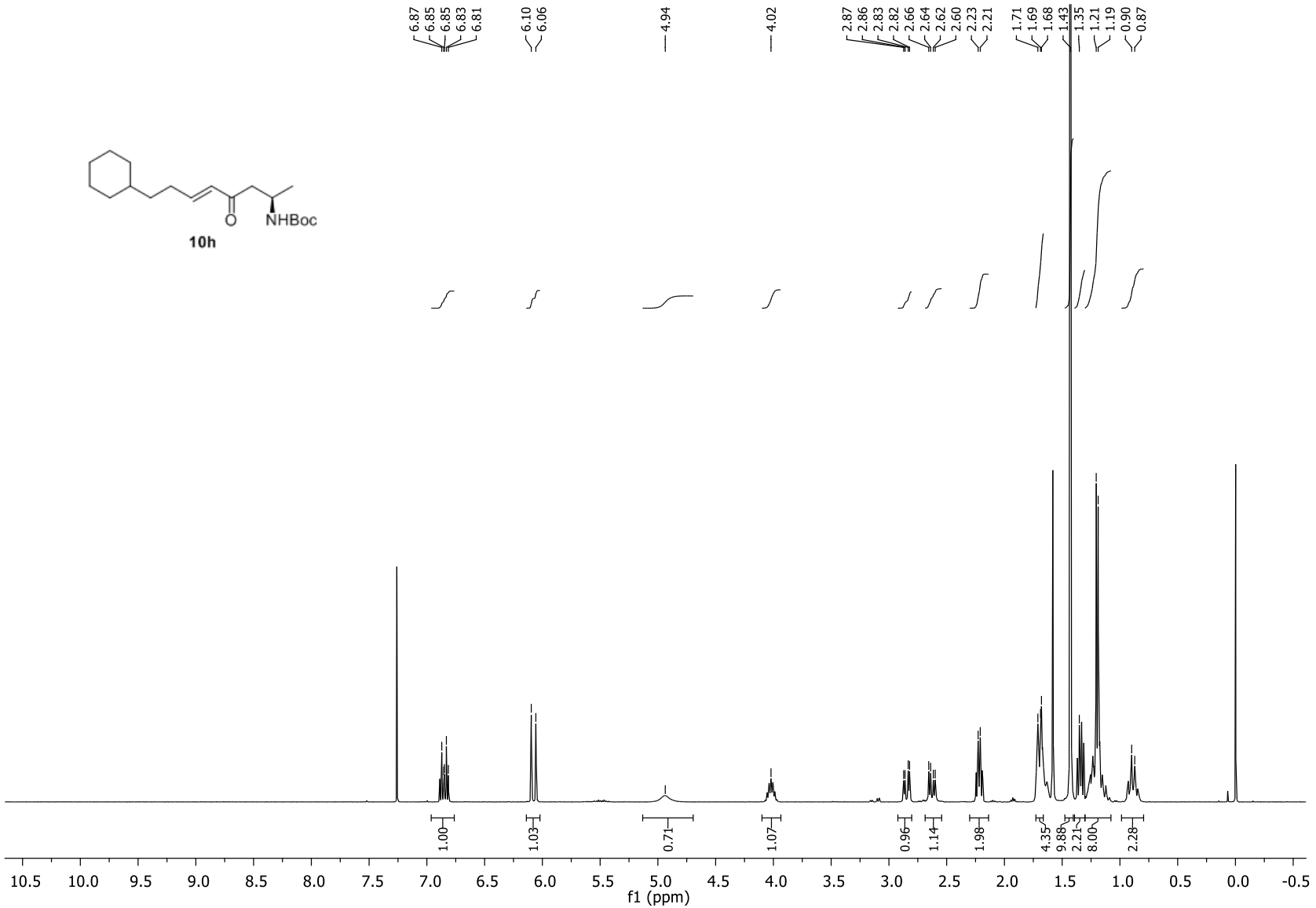
131.0
79.3
46.0
44.7
43.8
32.0
31.7
28.5
25.4
20.6
Cl
O
NHBoc
10g
220
210
200
190
180
170
160
150
140
130
120
110
100
90
80
70
60
50
40
30
20
10
0
f1 (ppm)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6.85
6.85
6.83
6.81
6.10
6.06
4.94
4.02
2.87
2.86
2.83
2.82
2.66
2.64
2.62
2.60
2.23
2.21
1.71
1.69
1.68
1.43
1.35
1.21
1.19
0.90
0.87
O
NHBoc
10h
1.00
1.03
0.71
1.07
0.96
1.14
1.98
4.35
9.88
2.21
8.00
2.28
10.5
10.0
9.5
9.0
8.5
8.0
7.5
7.0
6.5
6.0
5.5
5.0
4.5
4.0
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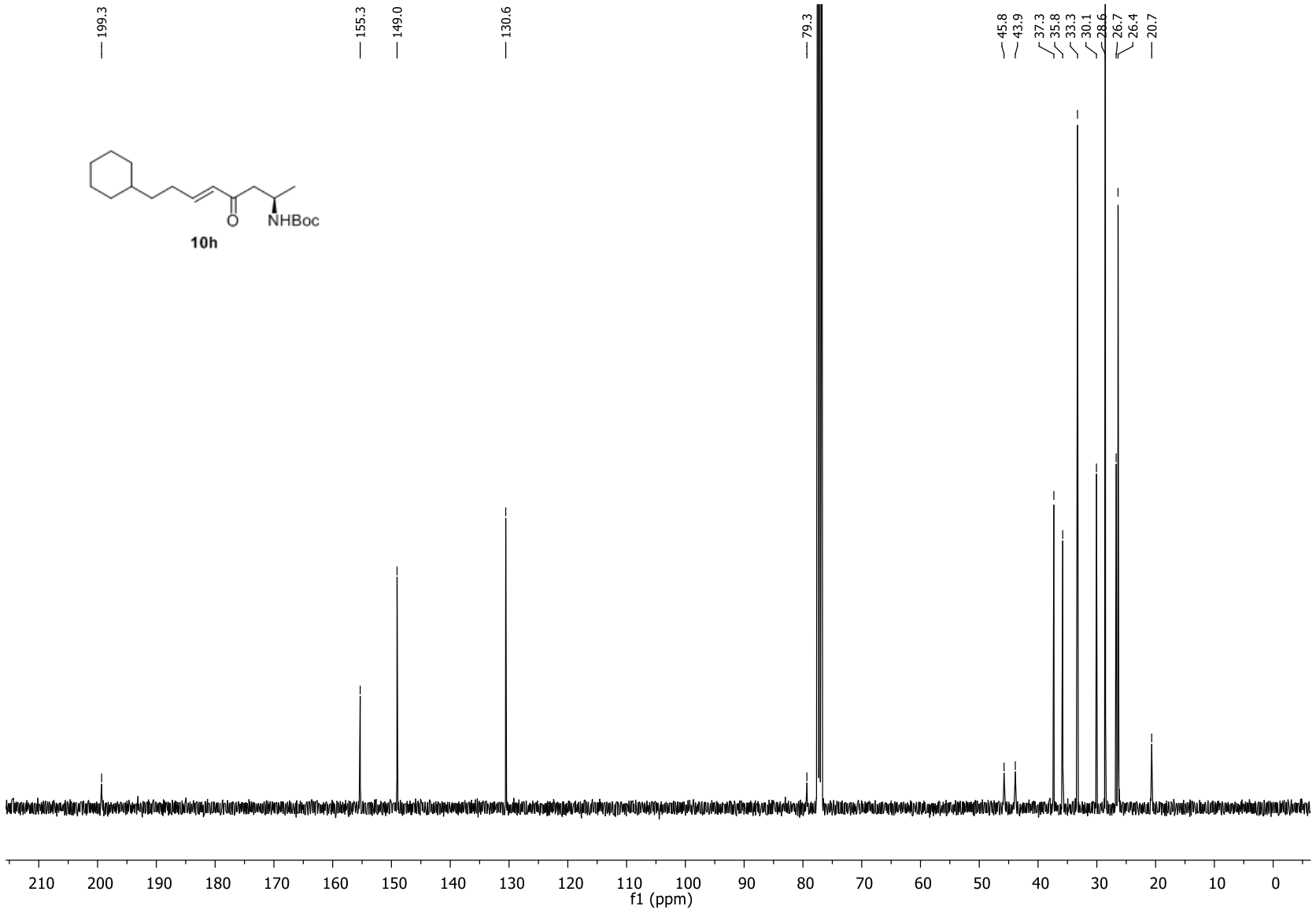
3.0
2.5
2.0
1.5
1.0
0.5
0.0
-0.5
f1 (ppm)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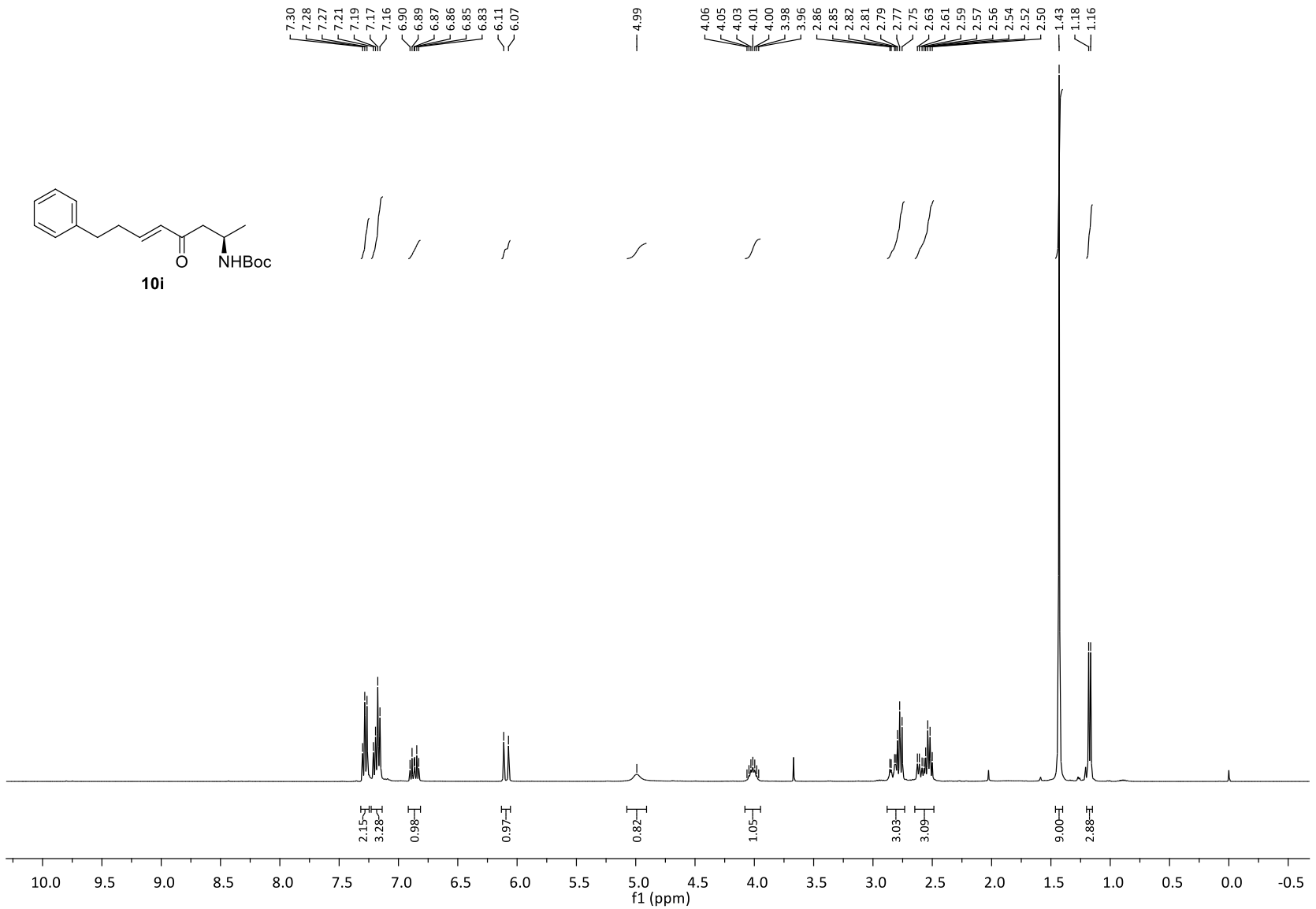
35.8
33.3
30.1
28.6
26.7
26.4
20.7
O
NHBoc
10h
210
200
190
180
170
160
150
140
130
120
110
100
90
80
70
60
50
40
30
20
10
0
f1 (ppm)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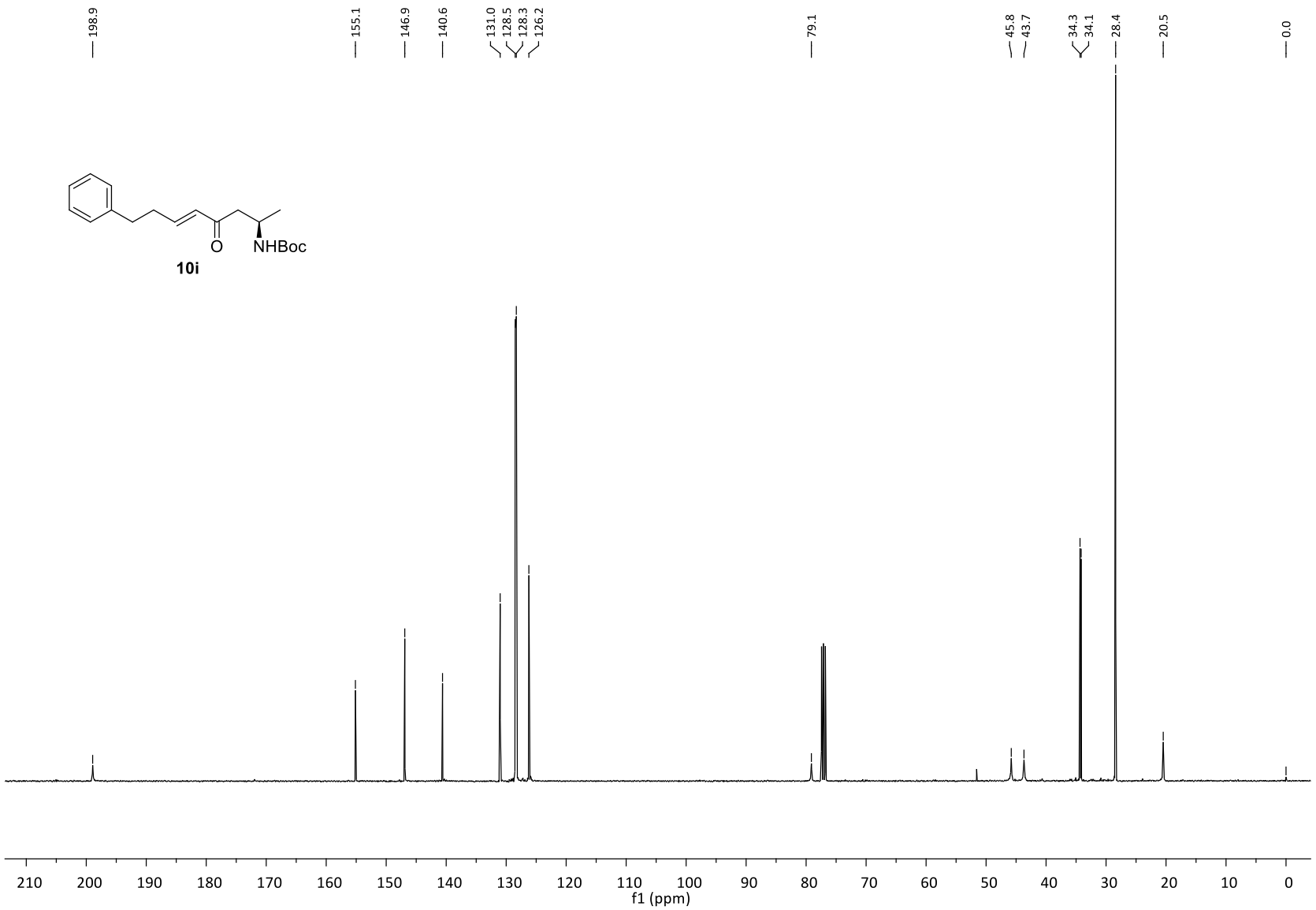
6.90
6.89
6.87
6.86
6.85
6.83
6.11
6.07
4.99
4.06
4.05
4.03
4.01
4.00
3.98
3.96
2.86
2.85
2.82
2.81
2.79
2.77
2.75
2.63
2.61
2.59
2.57
2.56
2.54
2.52
2.50
1.43
1.18
1.16
O
NHBoc
10i
2.15
3.28
0.98
0.97
0.82
1.05
3.03
3.09
9.00
2.88
10.0
9.5
9.0
8.5
8.0
7.5
7.0
6.5
6.0
5.5
5.0
4.5
4.0
3.5
3.0
2.5
2.0
1.5
1.0
0.5
0.0
-0.5
f1 (ppm)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126.2
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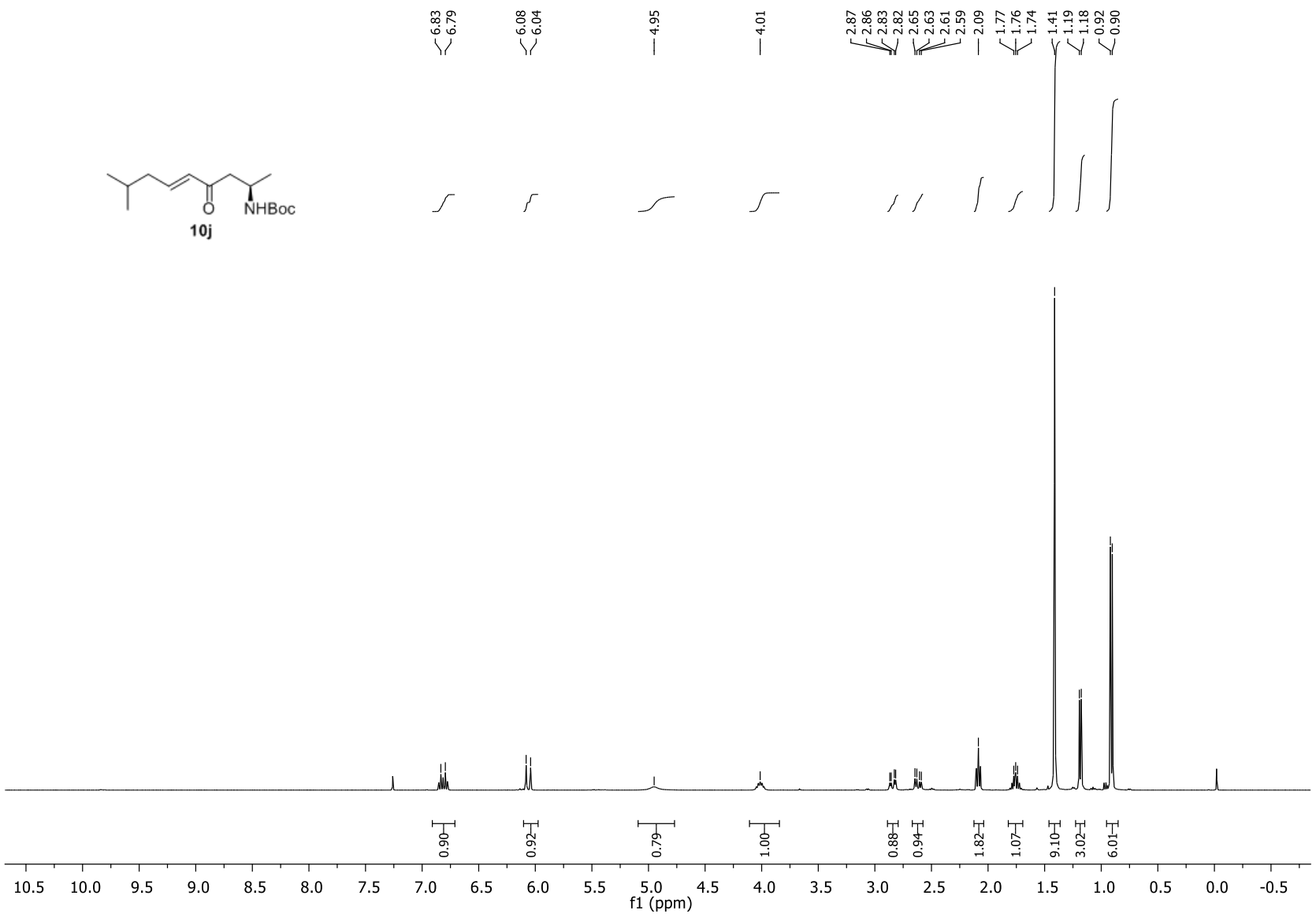
43.7
34.3
34.1
28.4
20.5
0.0
O
NHBoc
10i
210
200
190
180
170
160
150
140
130
120
110
100
90
80
70
60
50
40
30
20
10
0
f1 (ppm)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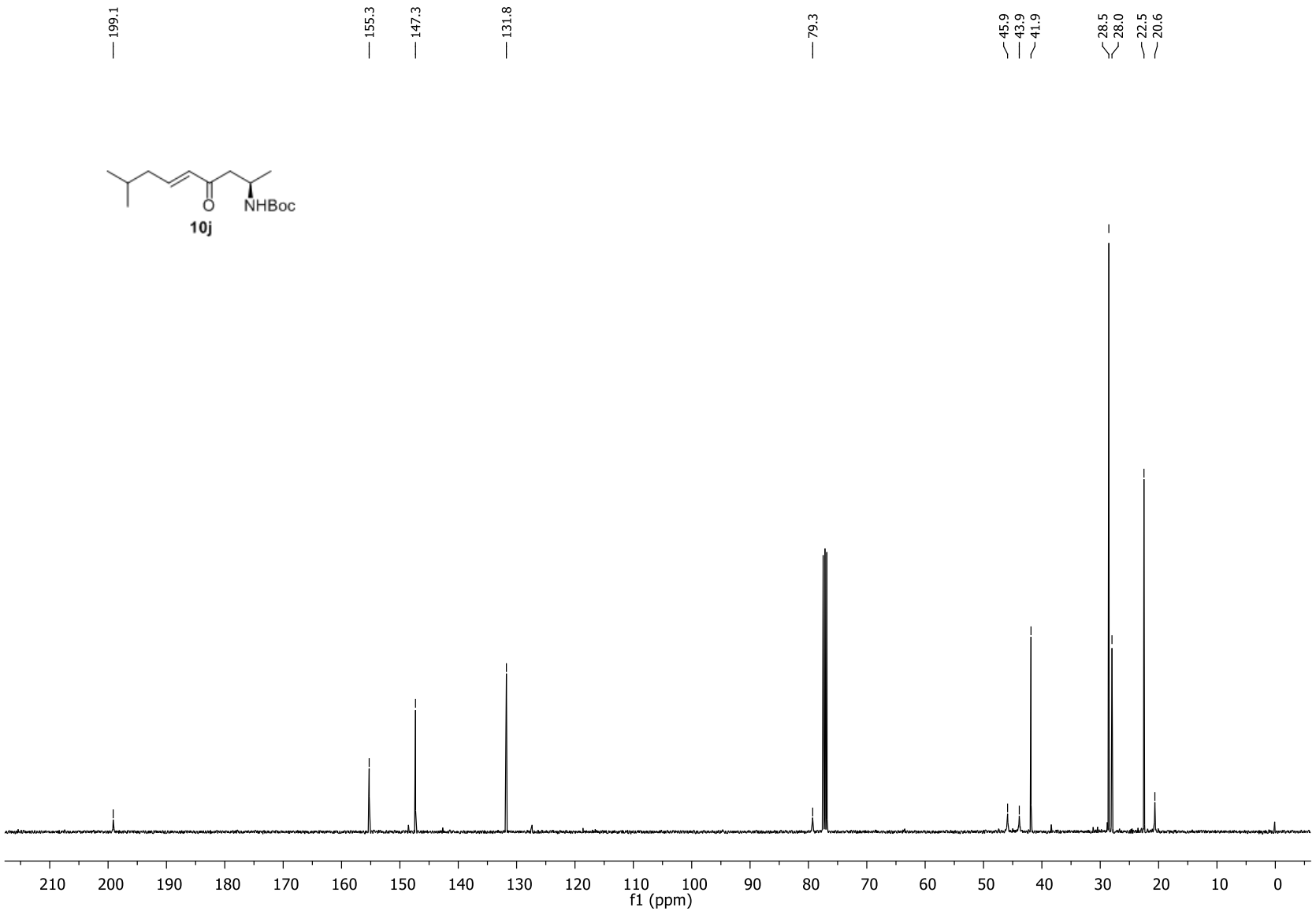
4.01
2.87
2.86
2.83
2.82
2.65
2.63
2.61
2.59
2.09
1.77
1.76
1.74
1.41
1.19
1.18
0.92
0.90
O
NHBoc
10j
0.90
0.92
0.79
1.00
0.88
0.94
1.82
1.07
9.10
3.02
6.01
10.5 10.0 9.5 9.0 8.5 8.0 7.5 7.0 6.5 6.0 5.5 5.0 4.5 4.0 3.5 3.0 2.5 2.0 1.5 1.0 0.5 0.0 -0.5
f1 (ppm)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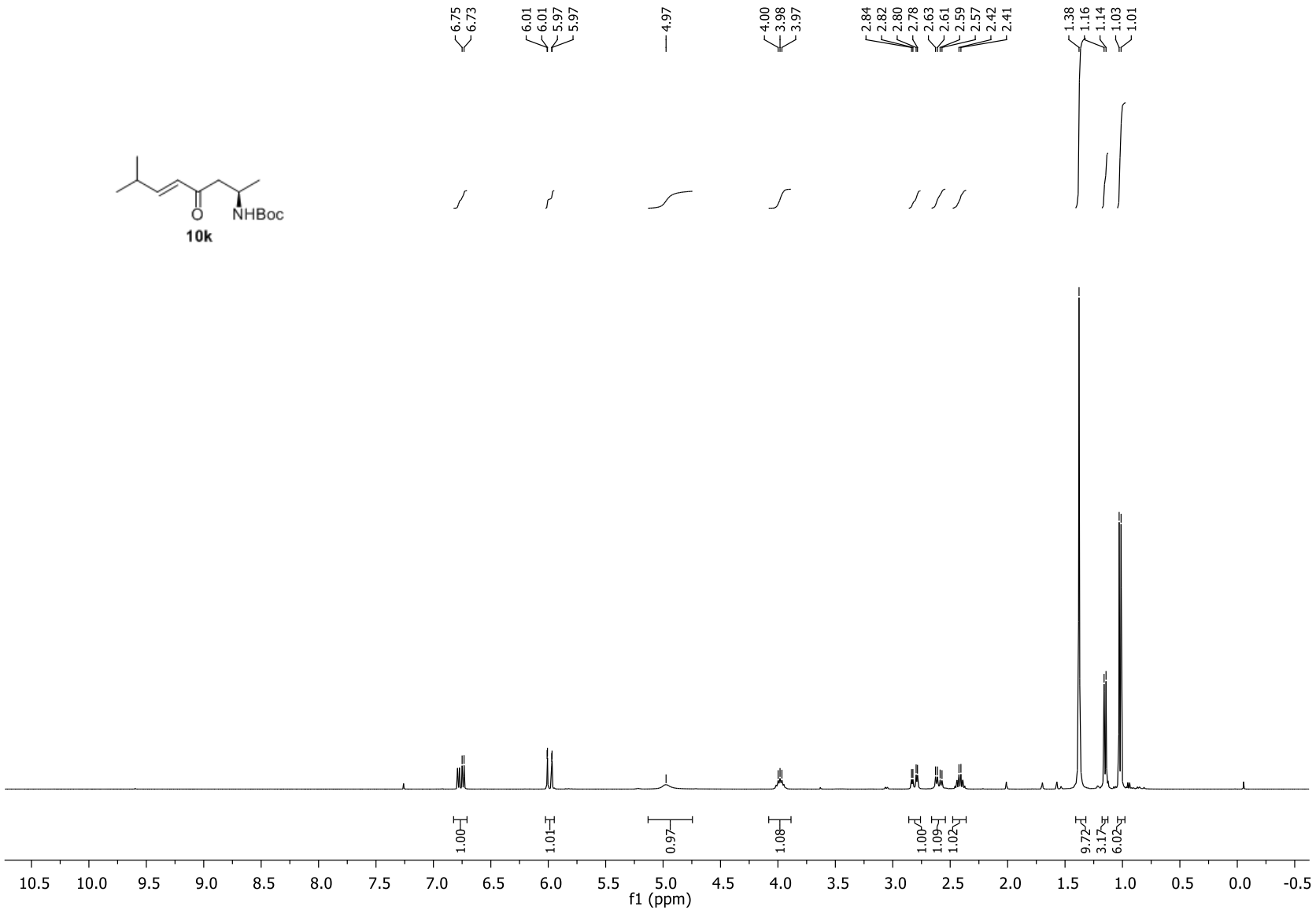
147.3
131.8
79.3
45.9
43.9
41.9
28.5
28.0
22.5
20.6
O
NHBoc
10j
210
200
190
180
170
160
150
140
130
120
110
100
90
80
70
60
50
40
30
20
10
0
f1 (ppm)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4.00
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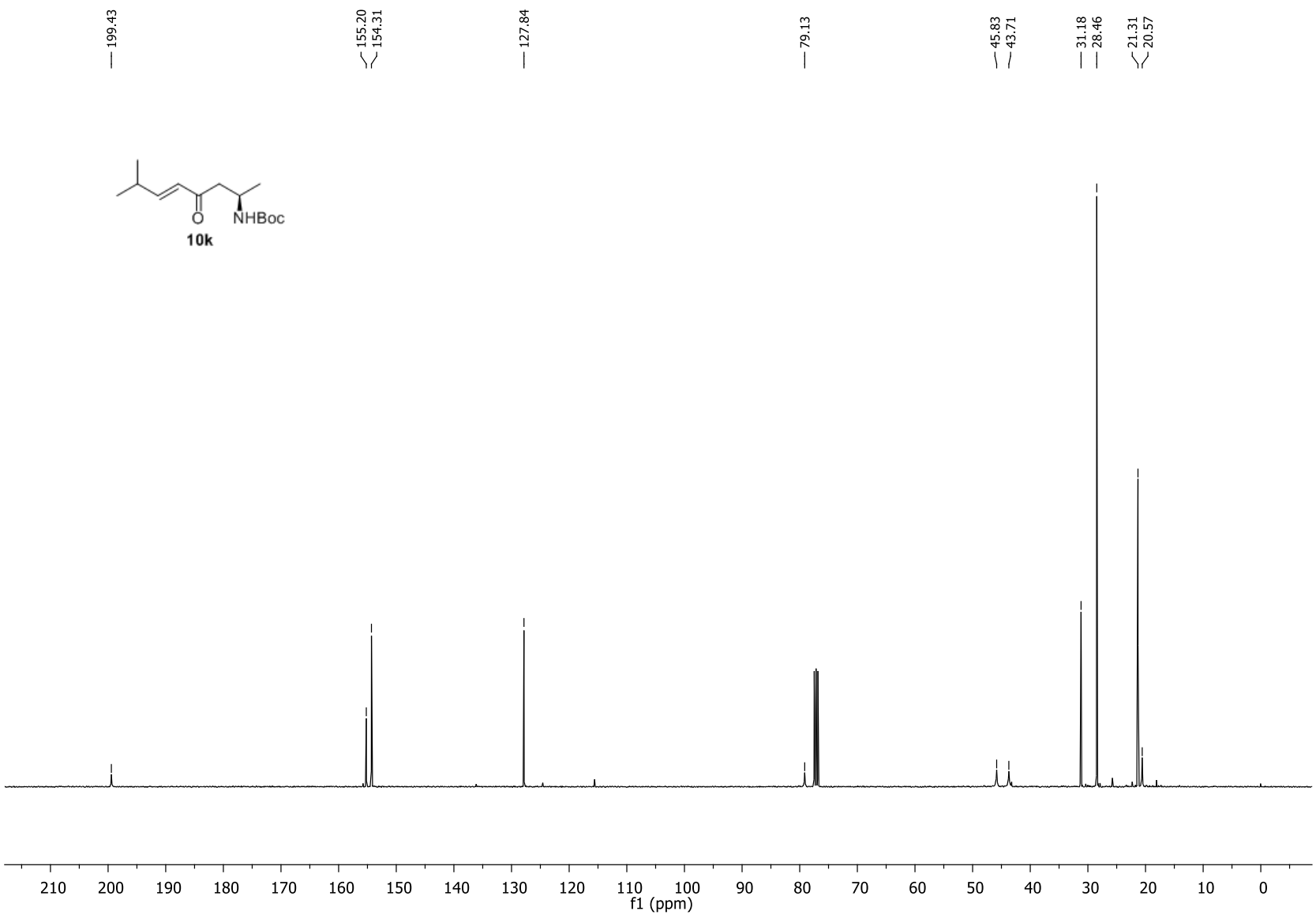
3.97
2.84
2.82
2.80
2.78
2.63
2.61
2.59
2.57
2.42
2.41
1.38
1.16
1.14
1.03
1.01
O
NHBoc
10k
1.00
1.01
0.97
1.08
1.00
1.09
1.02
9.72
3.17
6.02
10.5
10.0
9.5
9.0
8.5
8.0
7.5
7.0
6.5
6.0
5.5
5.0
4.5
4.0
3.5
3.0
2.5
2.0
1.5
1.0
0.5
0.0
-0.5
f1 (ppm)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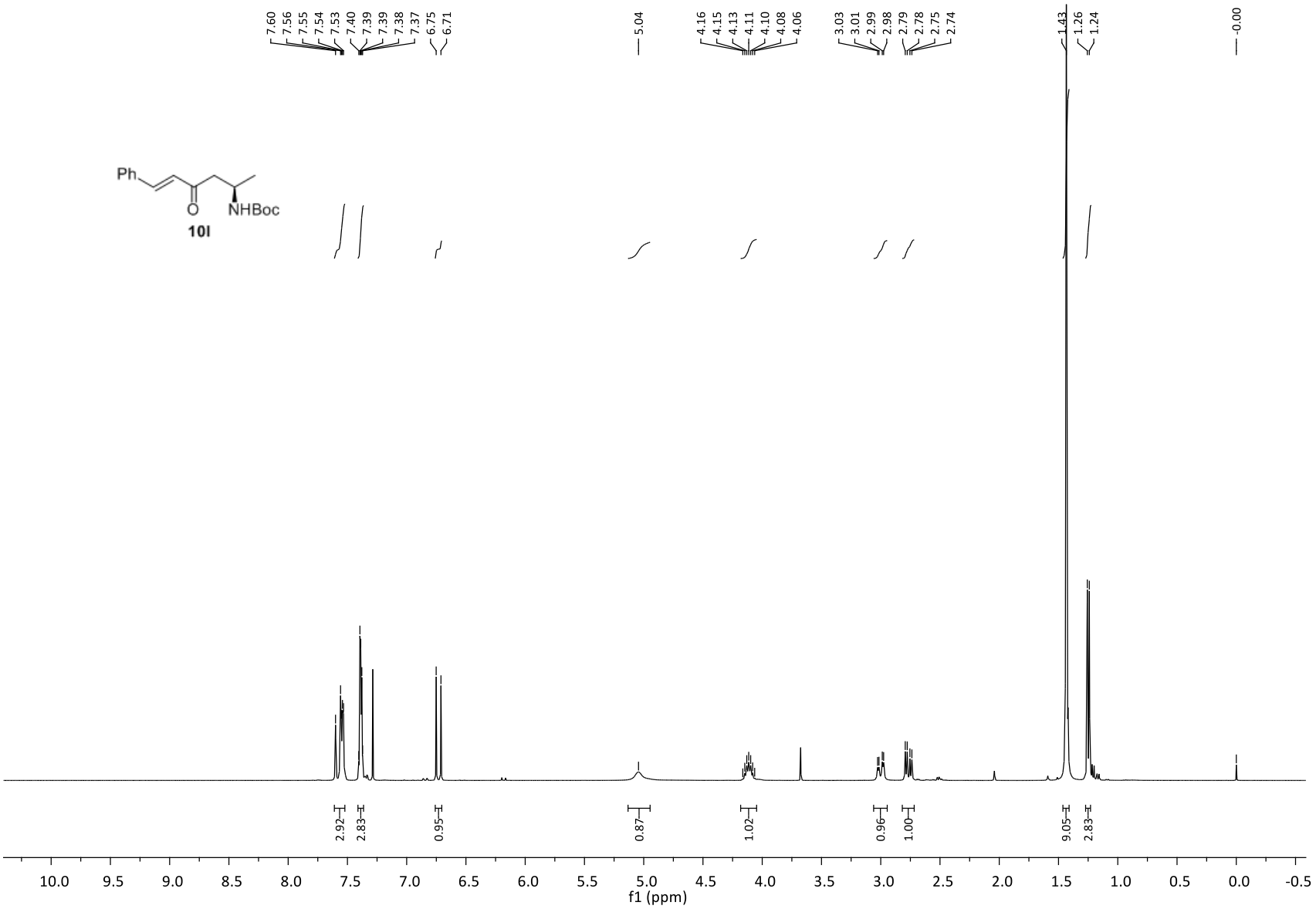
127.84
79.13
45.83
43.71
31.18
28.46
21.31
20.57
O
NHBoc
10k
210
200
190
180
170
160
150
140
130
120
110
100
90
80
70
60
50
40
30
20
10
0
f1 (ppm)


7.60
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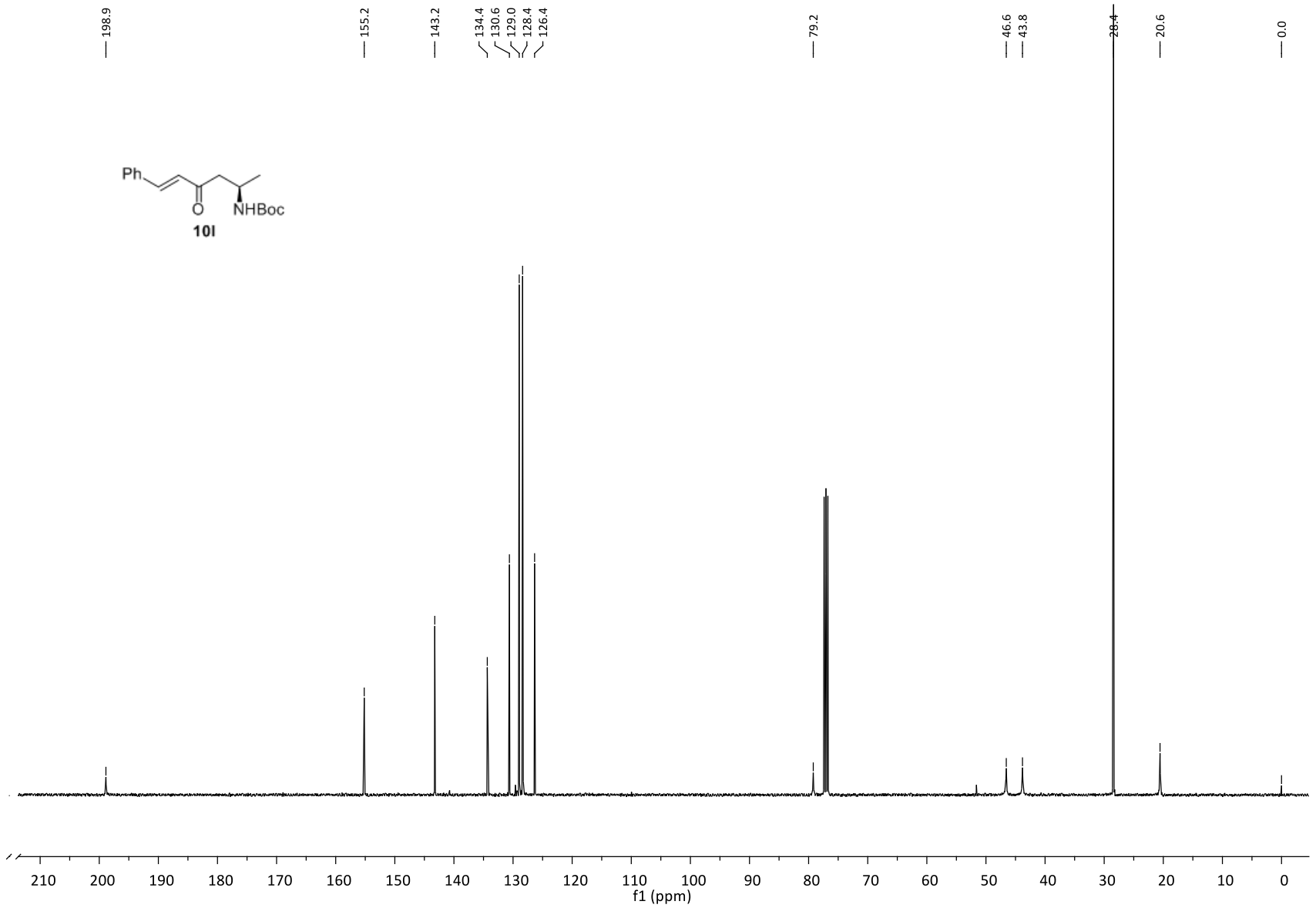
7.55
7.54
7.53
7.40
7.39
7.39
7.38
7.37
6.75
6.71
5.04
4.16
4.15
4.13
4.11
4.10
4.08
4.06
3.03
3.01
2.99
2.98
2.79
2.78
2.75
2.74
1.43
1.26
1.24
-0.00
Ph
O
NHBoc
10l
2.92
2.83
0.95
0.87
1.02
0.96
1.00
9.05
2.83
10.0
9.5
9.0
8.5
8.0
7.5
7.0
6.5
6.0
5.5
5.0
4.5
4.0
3.5
3.0
2.5
2.0
1.5
1.0
0.5
0.0
-0.5
f1 (ppm)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128.4
126.4
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43.8
28.4
20.6
0.0
Ph
O
NHBoc
10l
210
200
190
180
170
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150
140
130
120
110
100
90
80
70
60
50
40
30
20
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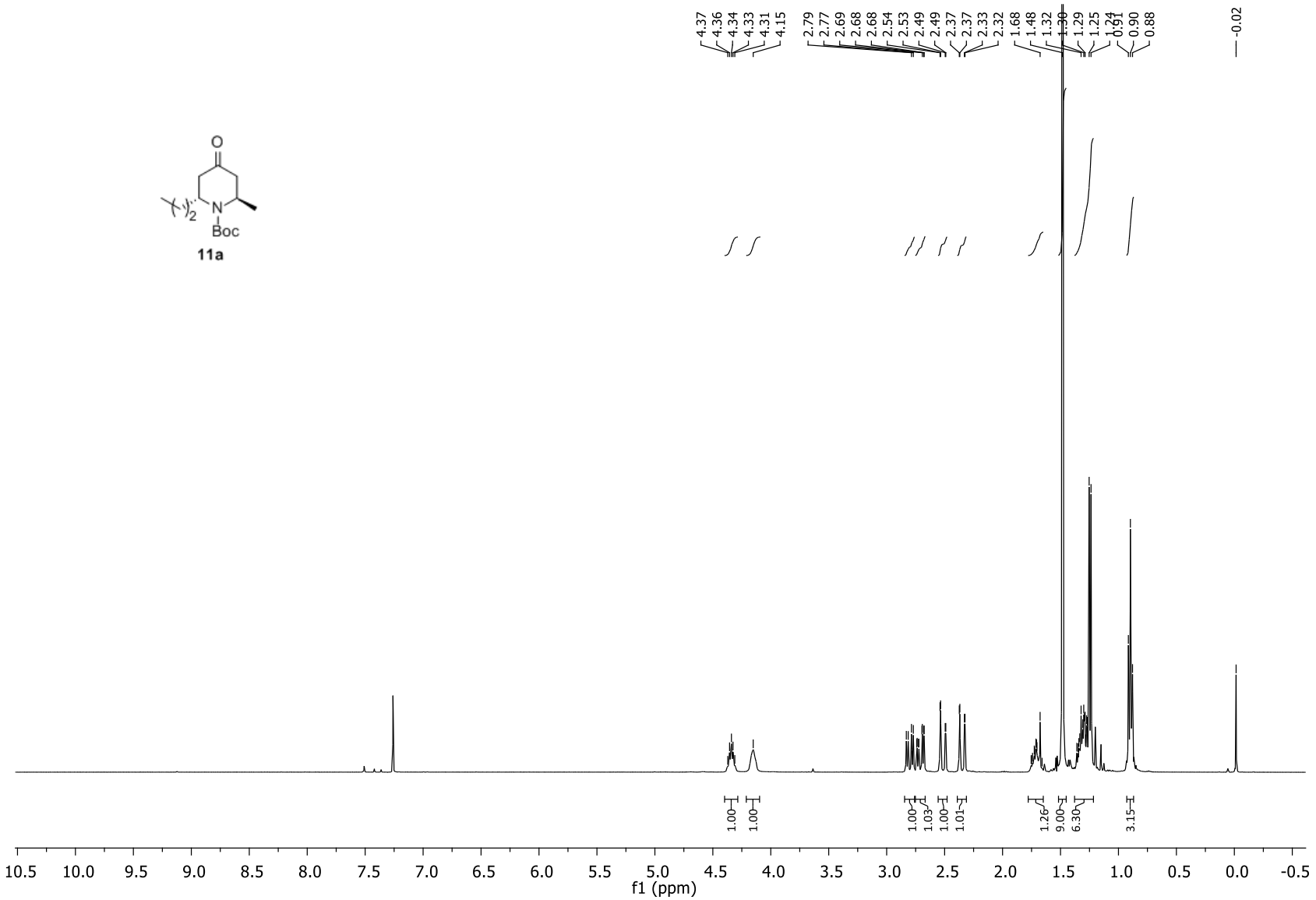
f1 (ppm)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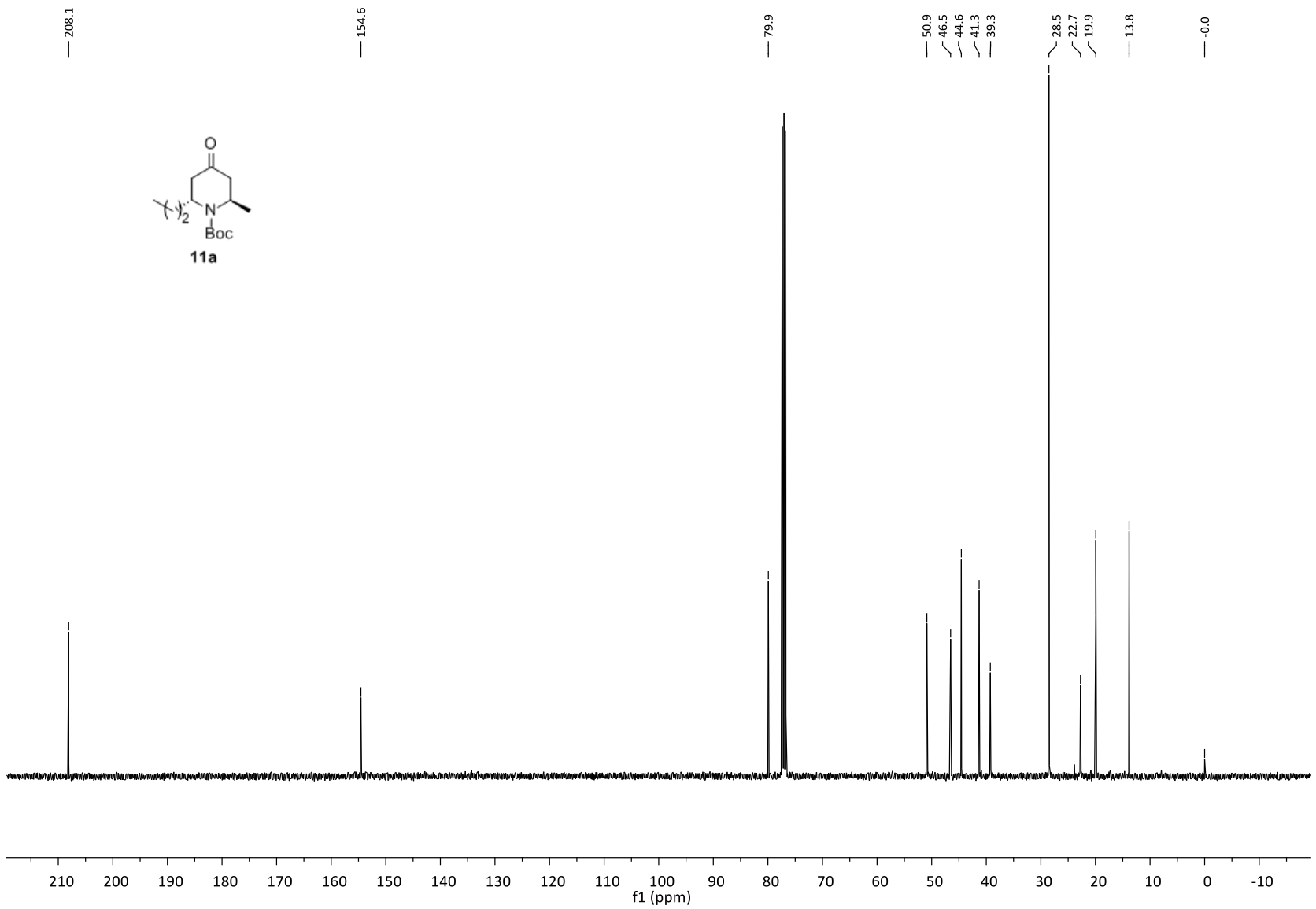
2.53
2.49
2.49
2.37
2.37
2.33
2.32
1.68
1.48
1.32
1.30
1.29
1.25
1.24
0.91
0.90
0.88
-0.02
O
N
Boc
11a
1.00
1.00
1.00
1.03
1.00
1.01
1.26
9.00
6.30
3.15
10.5 10.0 9.5 9.0 8.5 8.0 7.5 7.0 6.5 6.0 5.5 5.0 4.5 4.0 3.5 3.0 2.5 2.0 1.5 1.0 0.5 0.0 -0.5
f1 (ppm)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39.3
28.5
22.7
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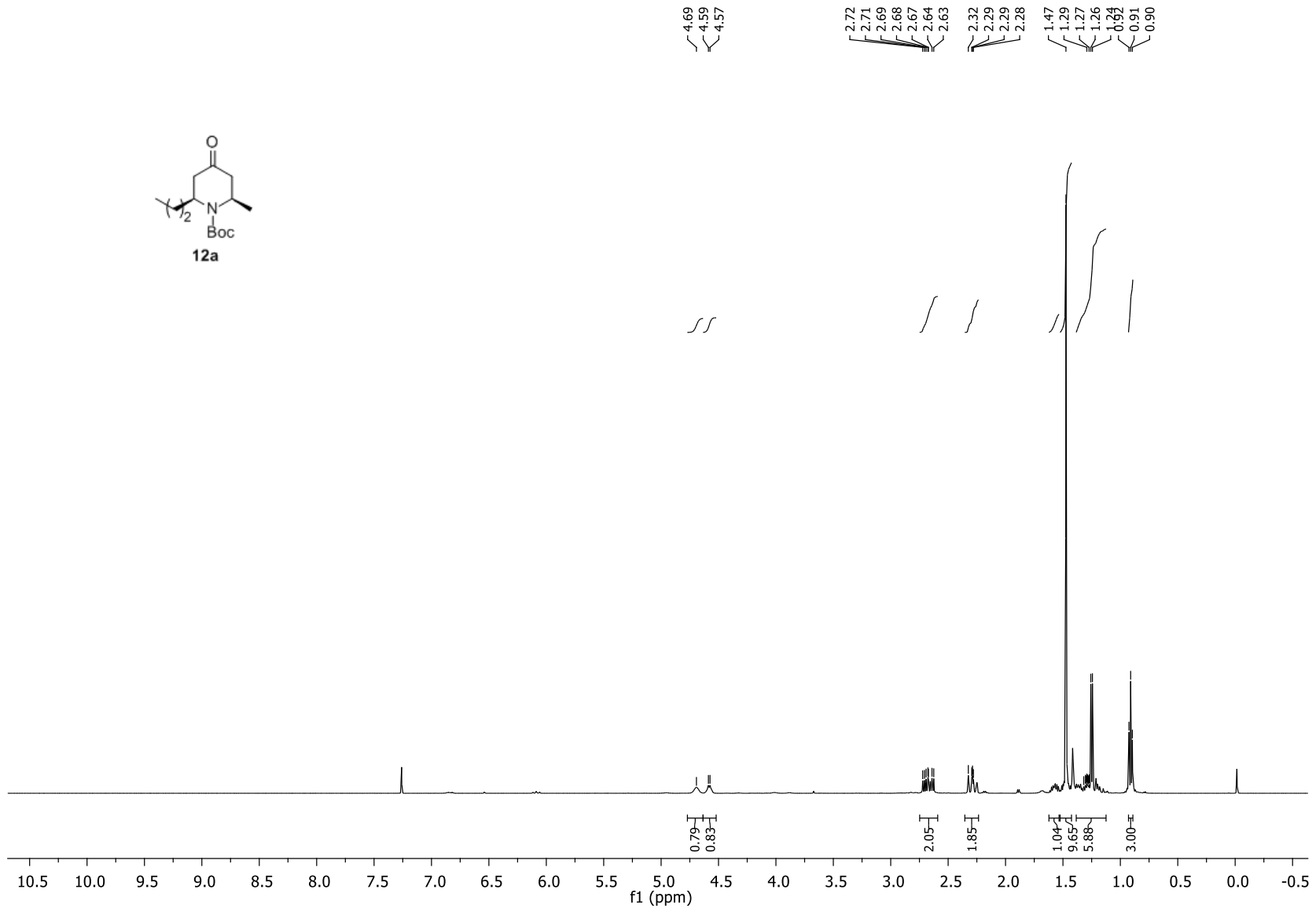
O
N
Boc
11a
210 200 190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 -10
f1 (ppm)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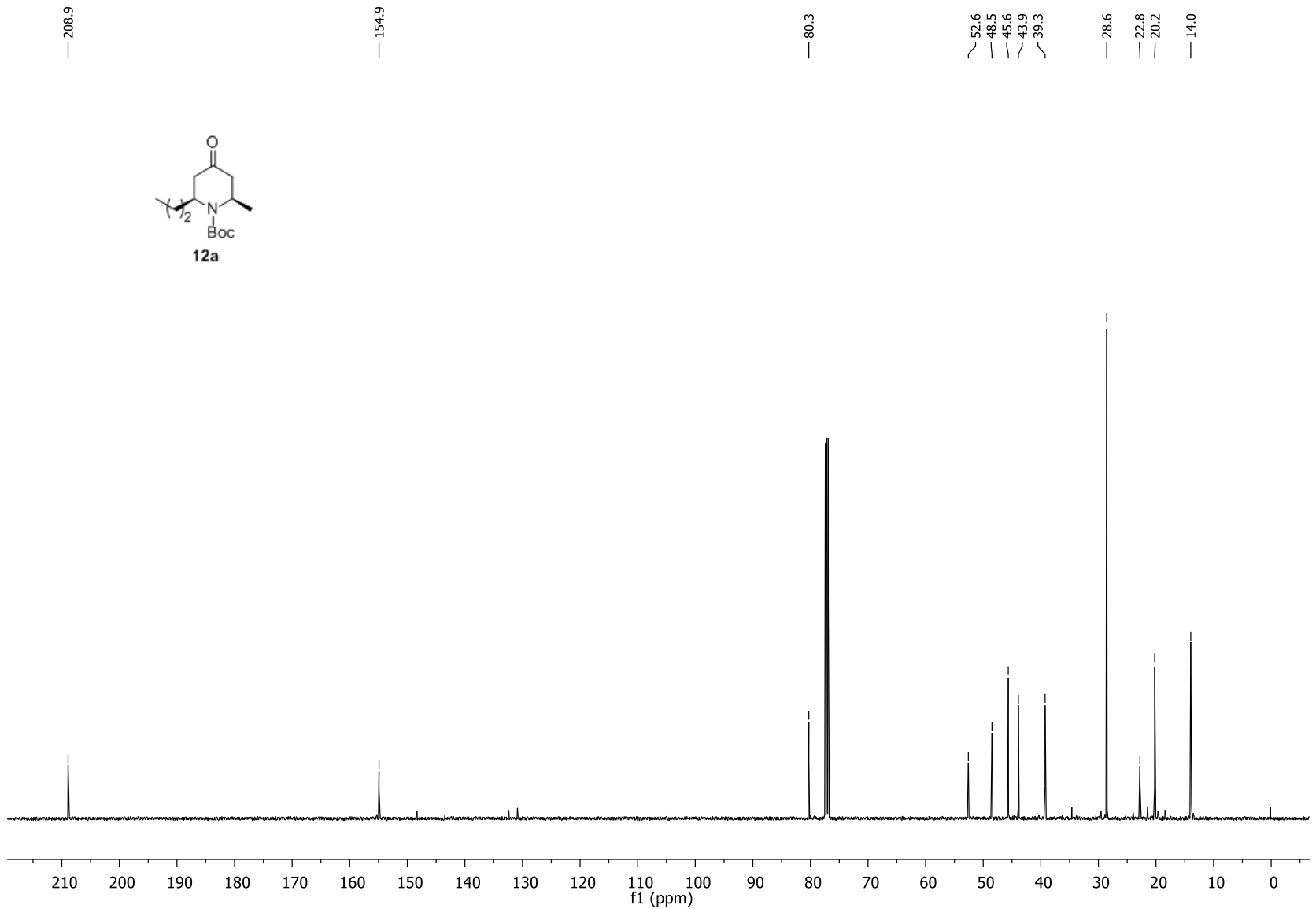
2.29
2.29
2.28
1.47
1.29
1.27
1.26
0.92
0.91
0.90
O
N
Boc
12a
0.79
0.83
2.05
1.85
1.04
9.65
5.88
3.00
10.5 10.0 9.5 9.0 8.5 8.0 7.5 7.0 6.5 6.0 5.5 5.0 4.5 4.0 3.5 3.0 2.5 2.0 1.5 1.0 0.5 0.0 -0.5
f1 (ppm)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43.9
39.3
28.6
22.8
20.2
14.0
O
N
Boc
12a
210
200
190
180
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110
100
90
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70
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50
40
30
20
10
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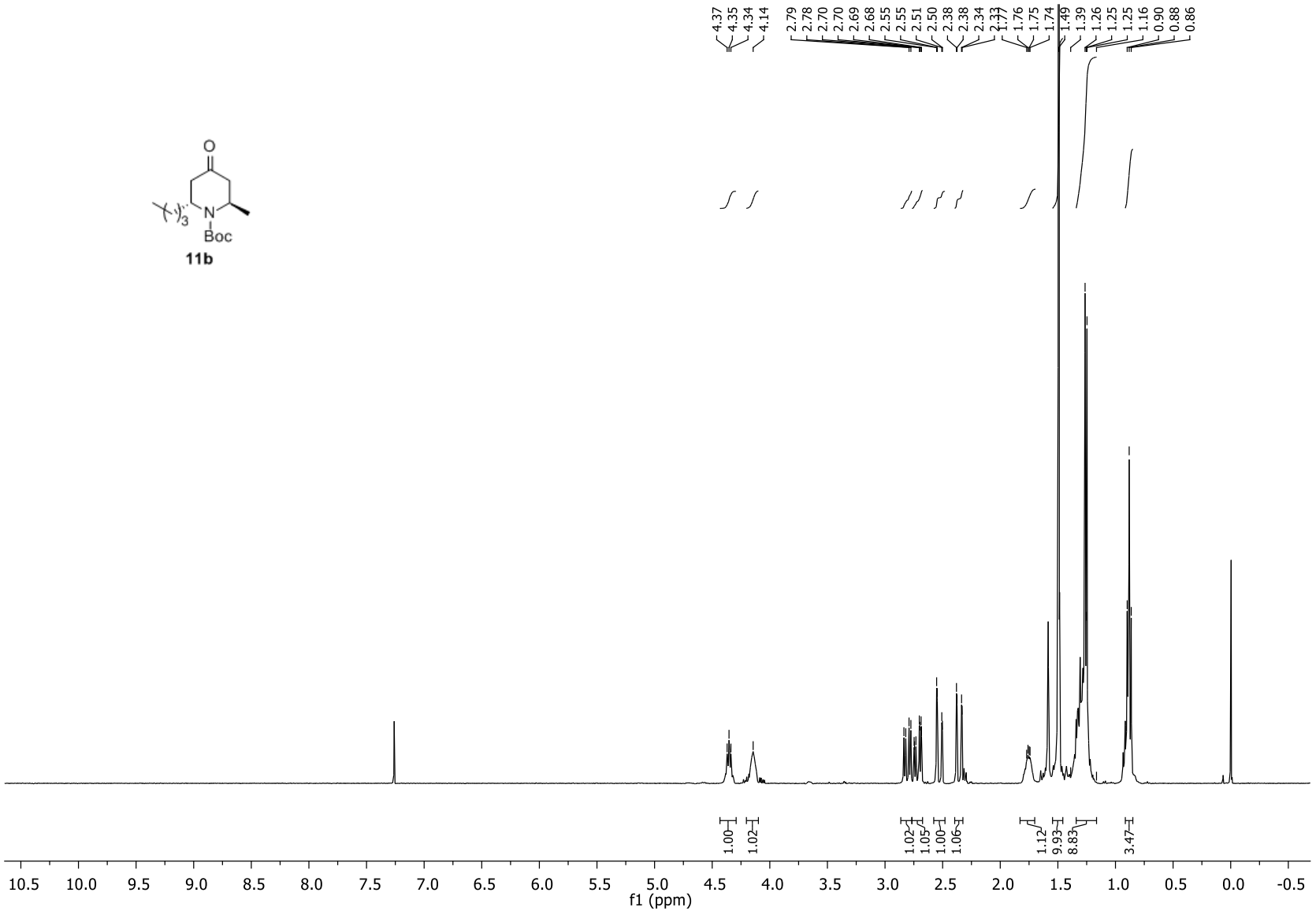
f1 (ppm)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2.68
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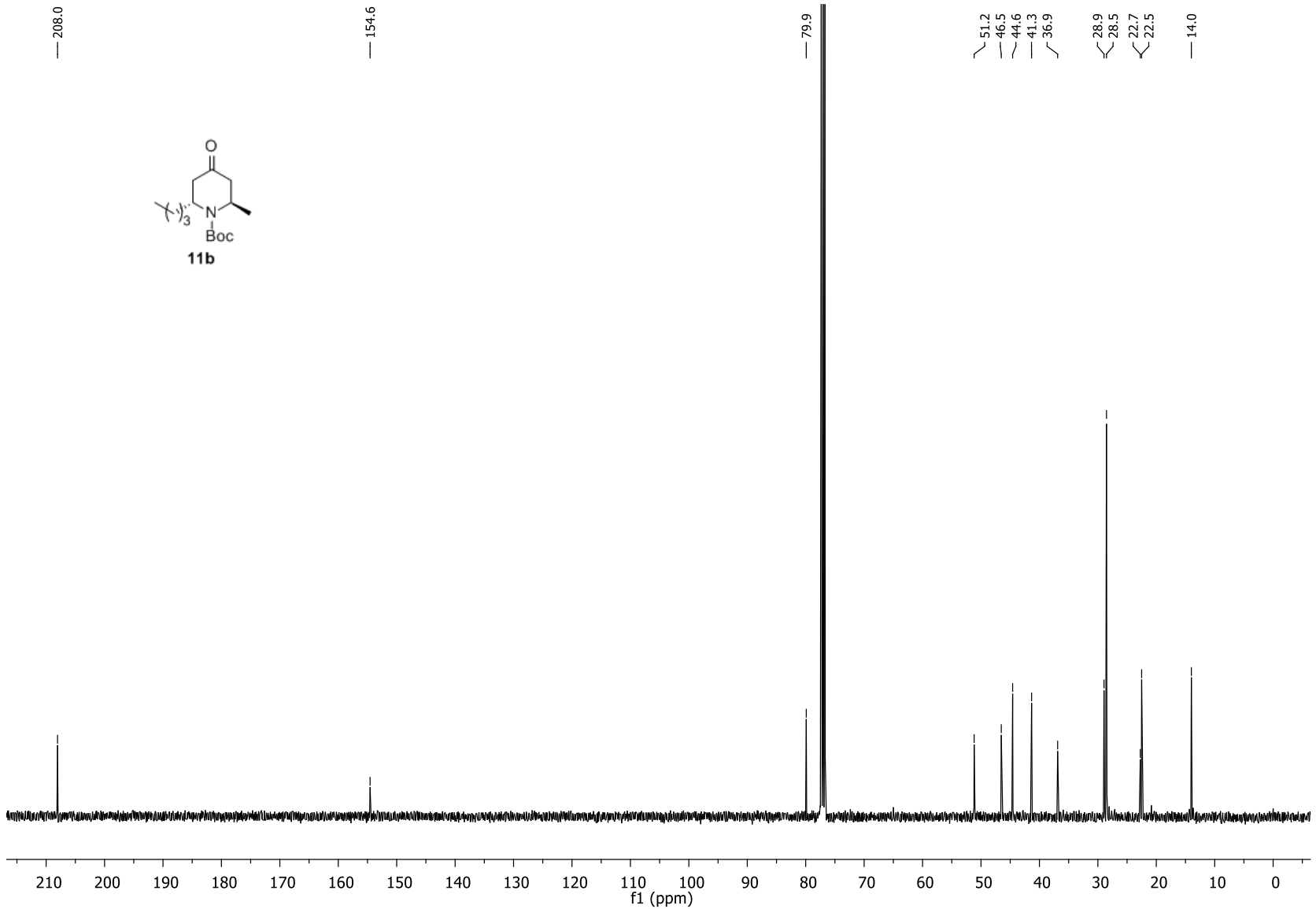
2.51
2.50
2.38
2.38
2.34
2.33
1.77
1.76
1.75
1.74
1.49
1.39
1.26
1.25
1.25
1.16
0.90
0.88
0.86
O
N
Boc
11b
1.00
1.02
1.02
1.05
1.00
1.06
1.12
9.93
8.83
3.47
10.5 10.0 9.5 9.0 8.5 8.0 7.5 7.0 6.5 6.0 5.5 5.0 4.5 4.0 3.5 3.0 2.5 2.0 1.5 1.0 0.5 0.0 -0.5
f1 (ppm)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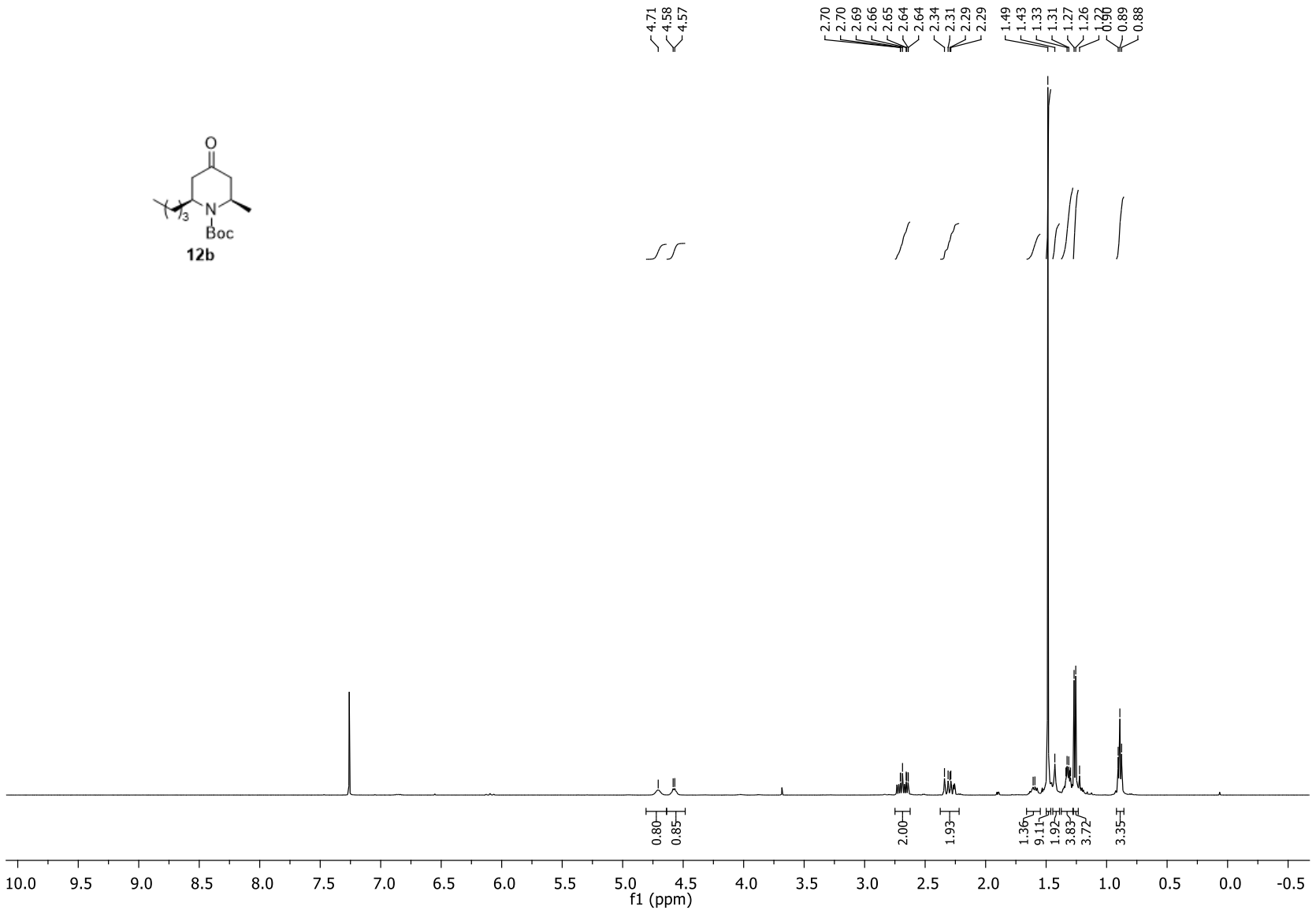
46.5
44.6
41.3
36.9
28.9
28.5
22.7
22.5
14.0
O
N
Boc
11b
210
200
190
180
170
160
150
140
130
120
110
100
90
80
70
60
50
40
30
20
10
0
f1 (ppm)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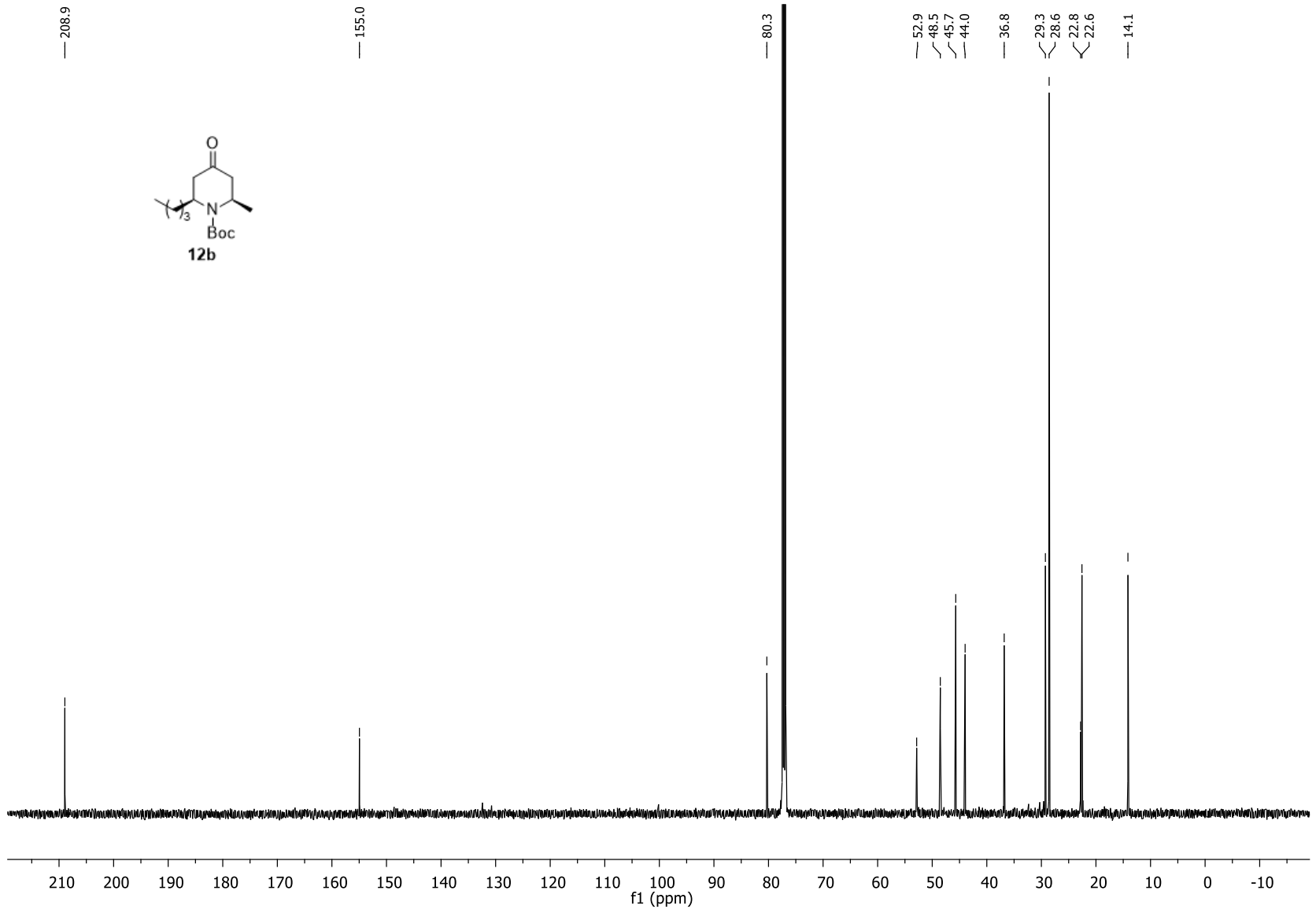
2.29
2.29
1.49
1.43
1.33
1.31
1.27
1.26
0.90
0.89
0.88
O
N
Boc
12b
0.80
0.85
2.00
1.93
1.36
9.11
1.92
3.83
3.72
3.35
10.0 9.5 9.0 8.5 8.0 7.5 7.0 6.5 6.0 5.5 5.0 4.5 4.0 3.5 3.0 2.5 2.0 1.5 1.0 0.5 0.0 -0.5
f1 (ppm)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44.0
36.8
29.3
28.6
22.8
22.6
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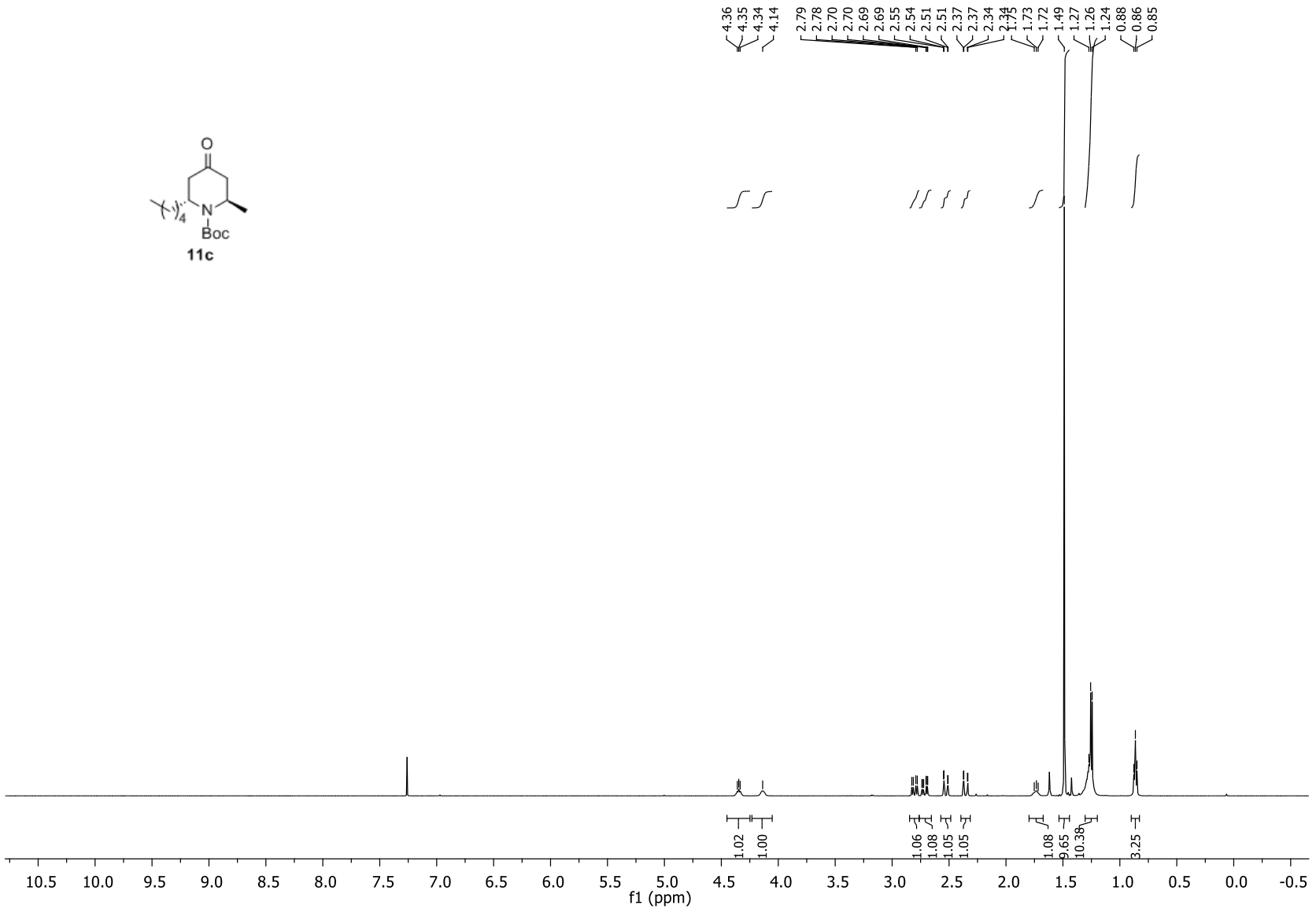
O
N
Boc
12b
210 200 190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 -10
f1 (ppm)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4.35
4.34
4.14
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2.69
2.69
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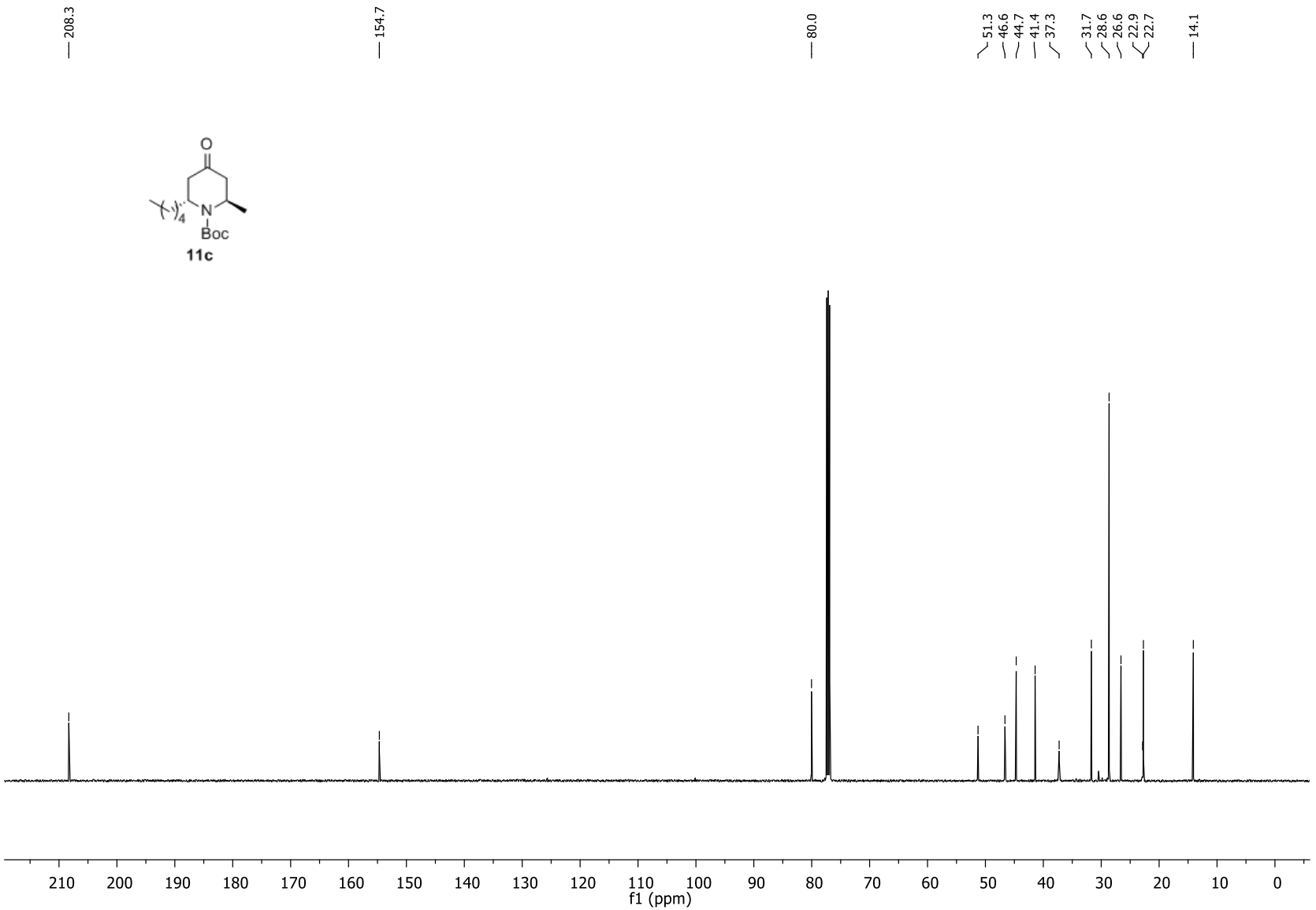
2.51
2.37
2.37
2.34
2.34
1.75
1.73
1.72
1.49
1.27
1.26
1.24
0.88
0.86
0.85
O
N
Boc
11c
1.02
1.00
1.06
1.08
1.05
1.05
1.08
9.65
10.38
3.25
10.5
10.0
9.5
9.0
8.5
8.0
7.5
7.0
6.5
6.0
5.5
5.0
4.5
4.0
3.5
3.0
2.5
2.0
1.5
1.0
0.5
0.0
-0.5
f1 (ppm)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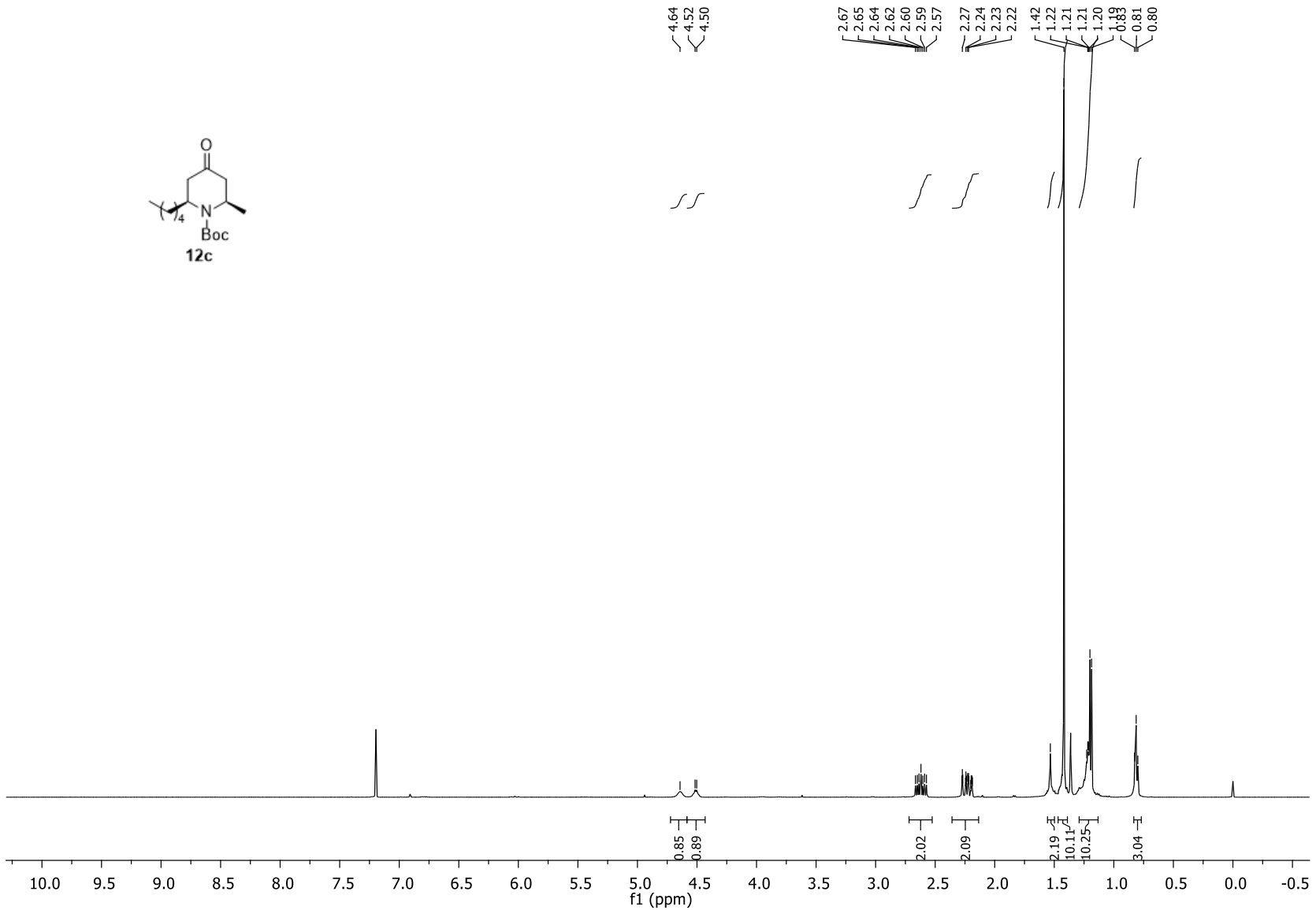
44.7
41.4
37.3
31.7
28.6
26.6
22.9
22.7
14.1
O
N
Boc
11c
210 200 190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0
f1 (ppm)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2.59
2.57
2.27
2.24
2.23
2.22
1.42
1.22
1.21
1.21
1.20
1.19
0.83
0.81
0.80
O
N
Boc
12c
0.85
0.89
2.02
2.09
2.19
10.11
10.25
3.04
10.0
9.5
9.0
8.5
8.0
7.5
7.0
6.5
6.0
5.5
5.0
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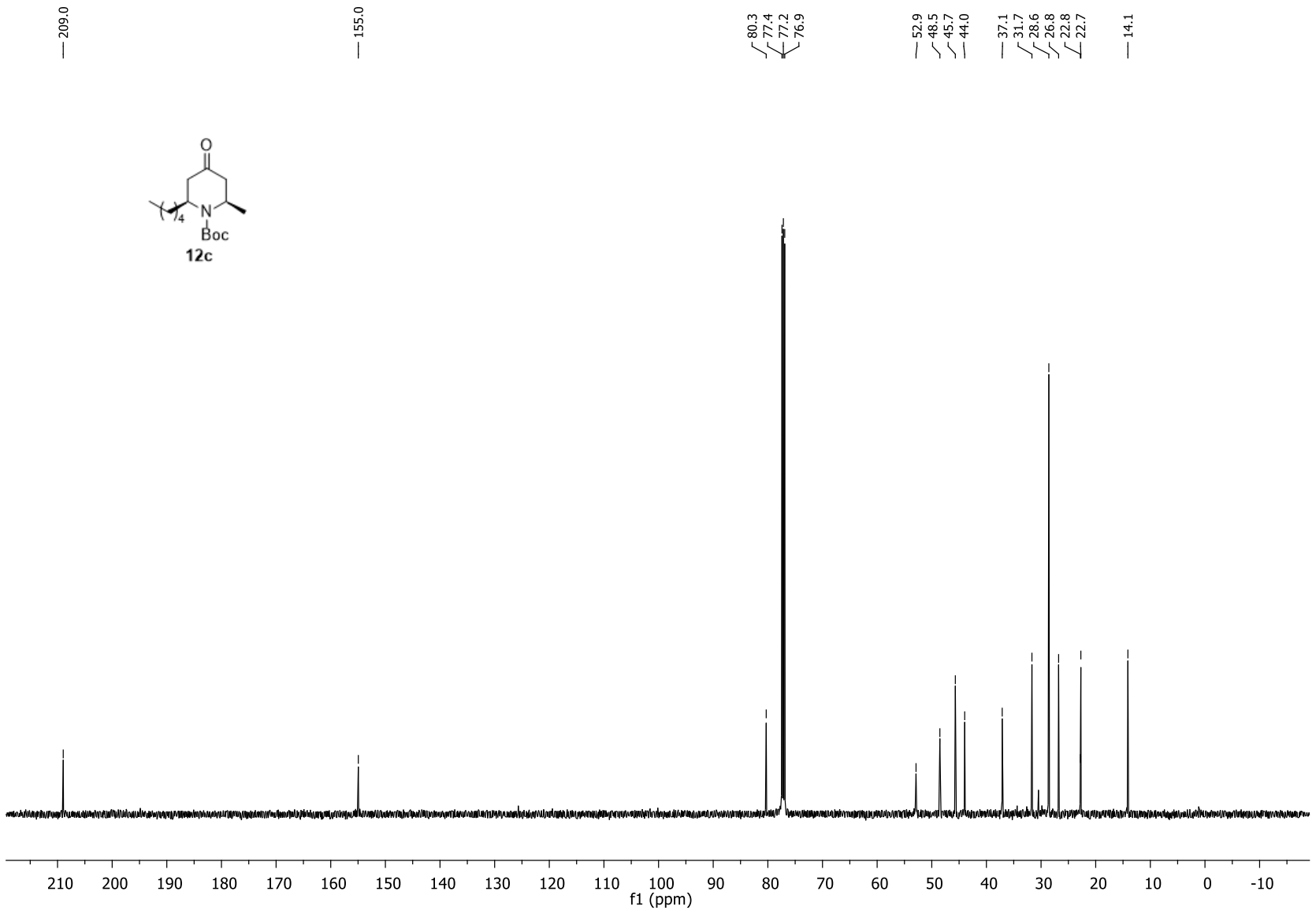
4.0
3.5
3.0
2.5
2.0
1.5
1.0
0.5
0.0
-0.5
f1 (ppm)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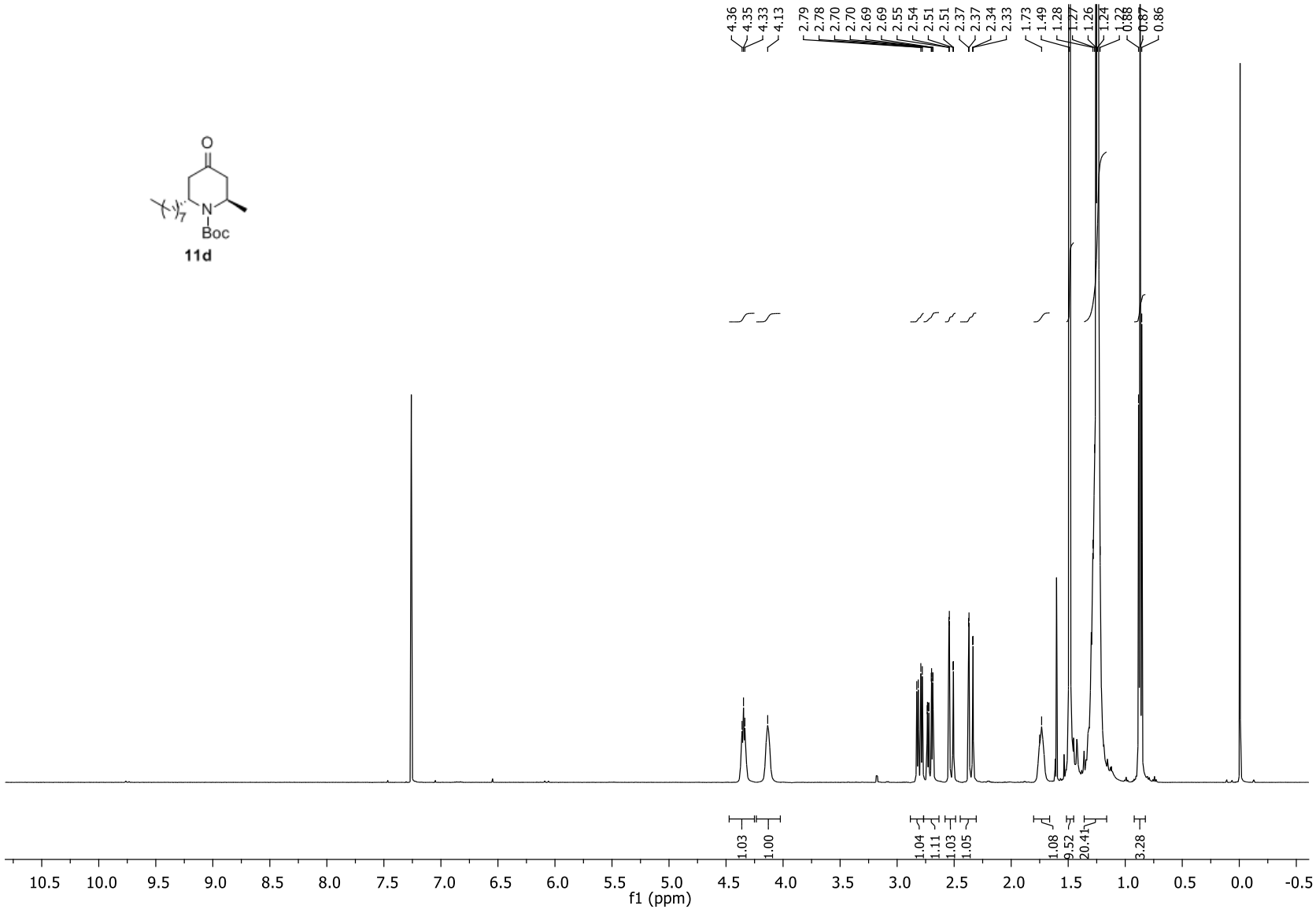
45.7
44.0
37.1
31.7
28.6
26.8
22.8
22.7
14.1
O
N
Boc
12c
210 200 190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 -10
f1 (ppm)


O
N
Boc
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4.33
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2.70
2.70
2.69
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2.55
2.54
2.51
2.51
2.37
2.37
2.34
2.33
1.73
1.49
1.28
1.27
1.26
1.24
0.88
0.87
0.86
1.03
1.00
1.04
1.11
1.03
1.05
1.08
9.52
20.41
3.28
10.5
10.0
9.5
9.0
8.5
8.0
7.5
7.0
6.5
6.0
5.5
5.0
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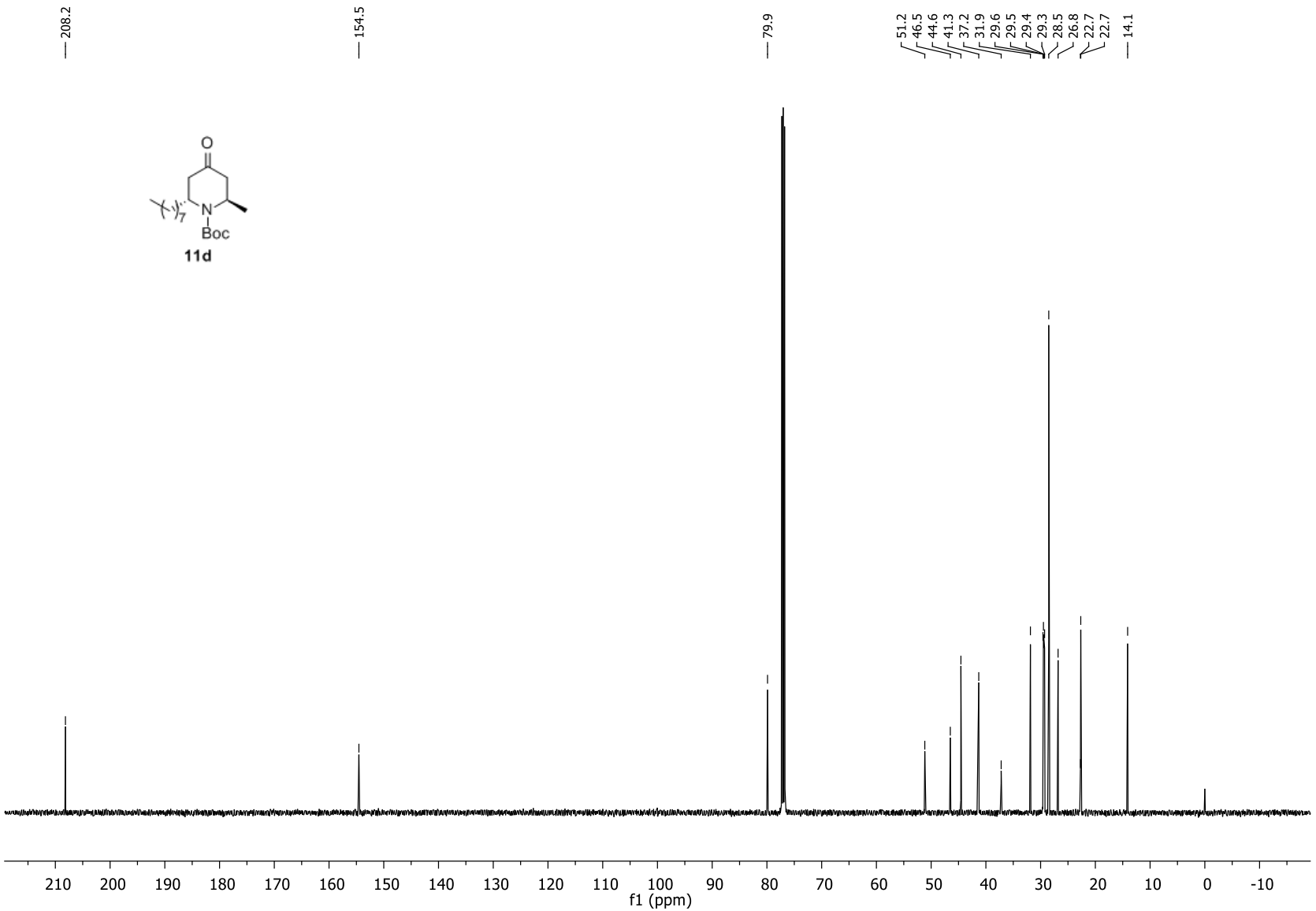
3.0
2.5
2.0
1.5
1.0
0.5
0.0
-0.5
f1 (ppm)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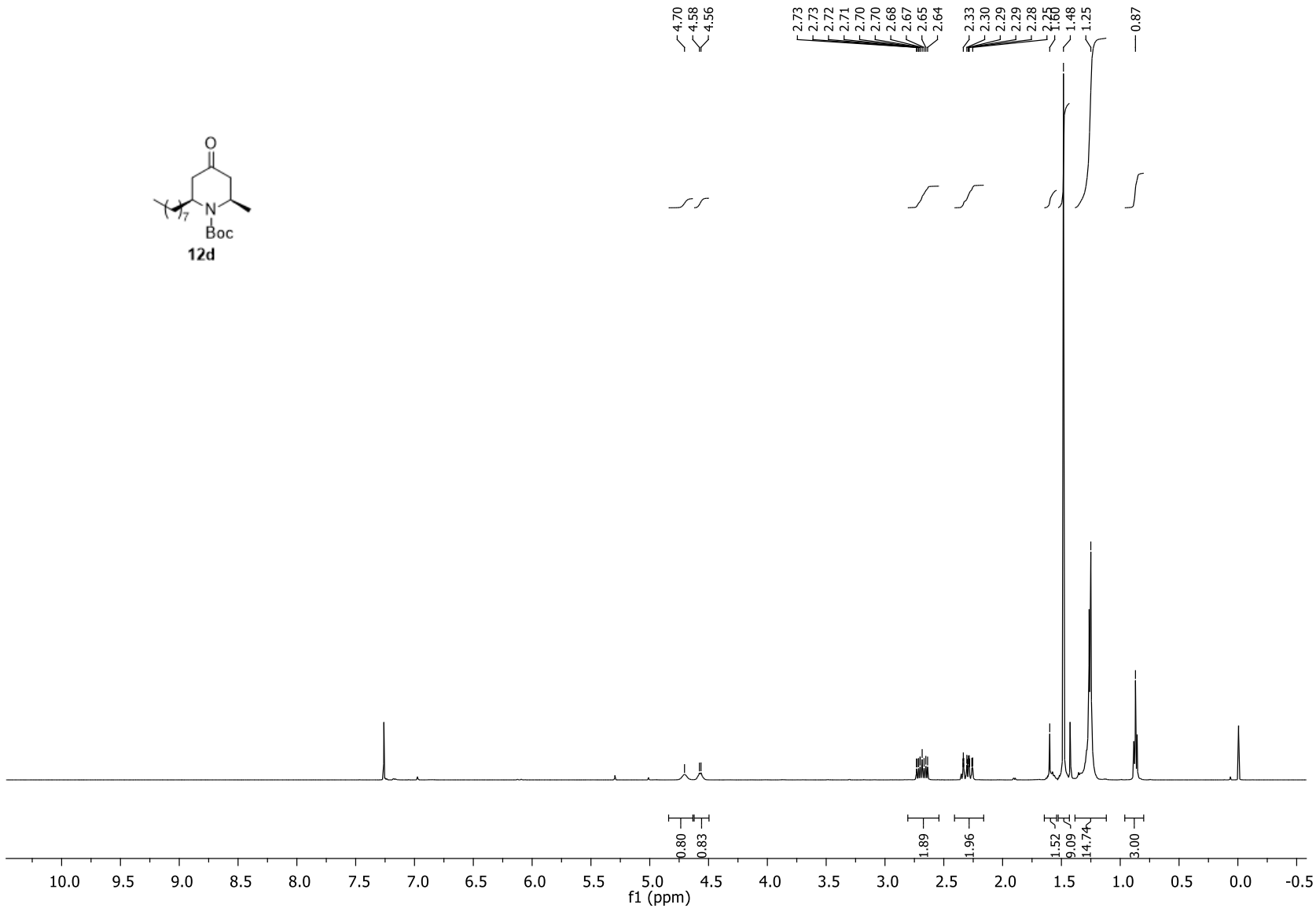
41.3
37.2
31.9
29.6
29.5
29.4
29.3
28.5
26.8
22.7
22.7
14.1
O
N
Boc
11d
210
200
190
180
170
160
150
140
130
120
110
100
90
80
70
60
50
40
30
20
10
0
-10
f1 (ppm)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2.68
2.67
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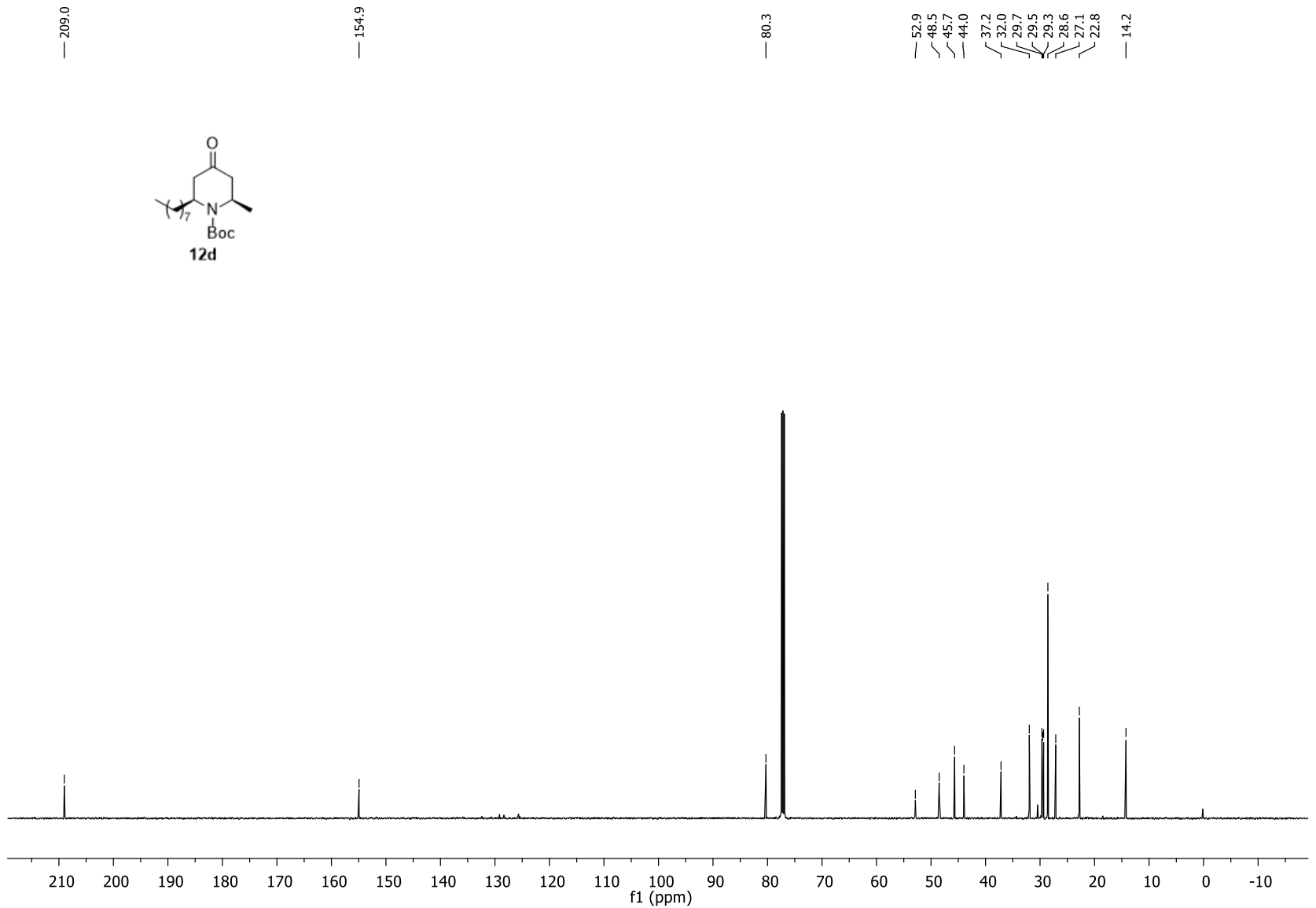
2.64
2.33
2.30
2.29
2.29
2.28
2.25
1.60
1.48
1.25
0.87
O
N
Boc
12d
0.80
0.83
1.89
1.96
1.52
9.09
14.74
3.00
10.0
9.5
9.0
8.5
8.0
7.5
7.0
6.5
6.0
5.5
5.0
4.5
4.0
3.5
3.0
2.5
2.0
1.5
1.0
0.5
0.0
-0.5
f1 (ppm)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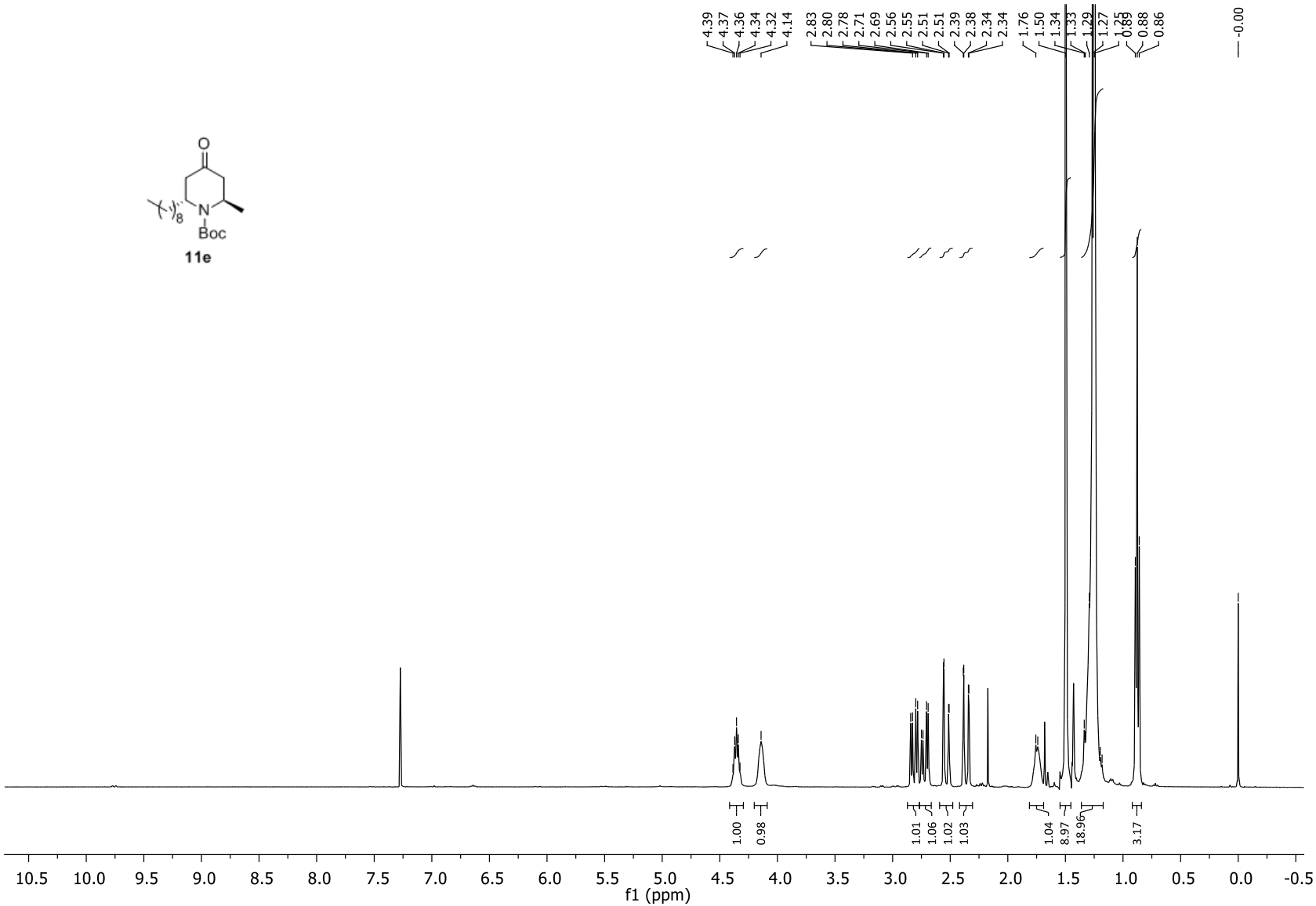
52.9
48.5
45.7
44.0
37.2
32.0
29.7
29.5
29.3
28.6
27.1
22.8
14.2
O
N
Boc
7
12d
210 200 190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 -10
f1 (ppm)


O
N
Boc
8
11e
4.39
4.37
4.36
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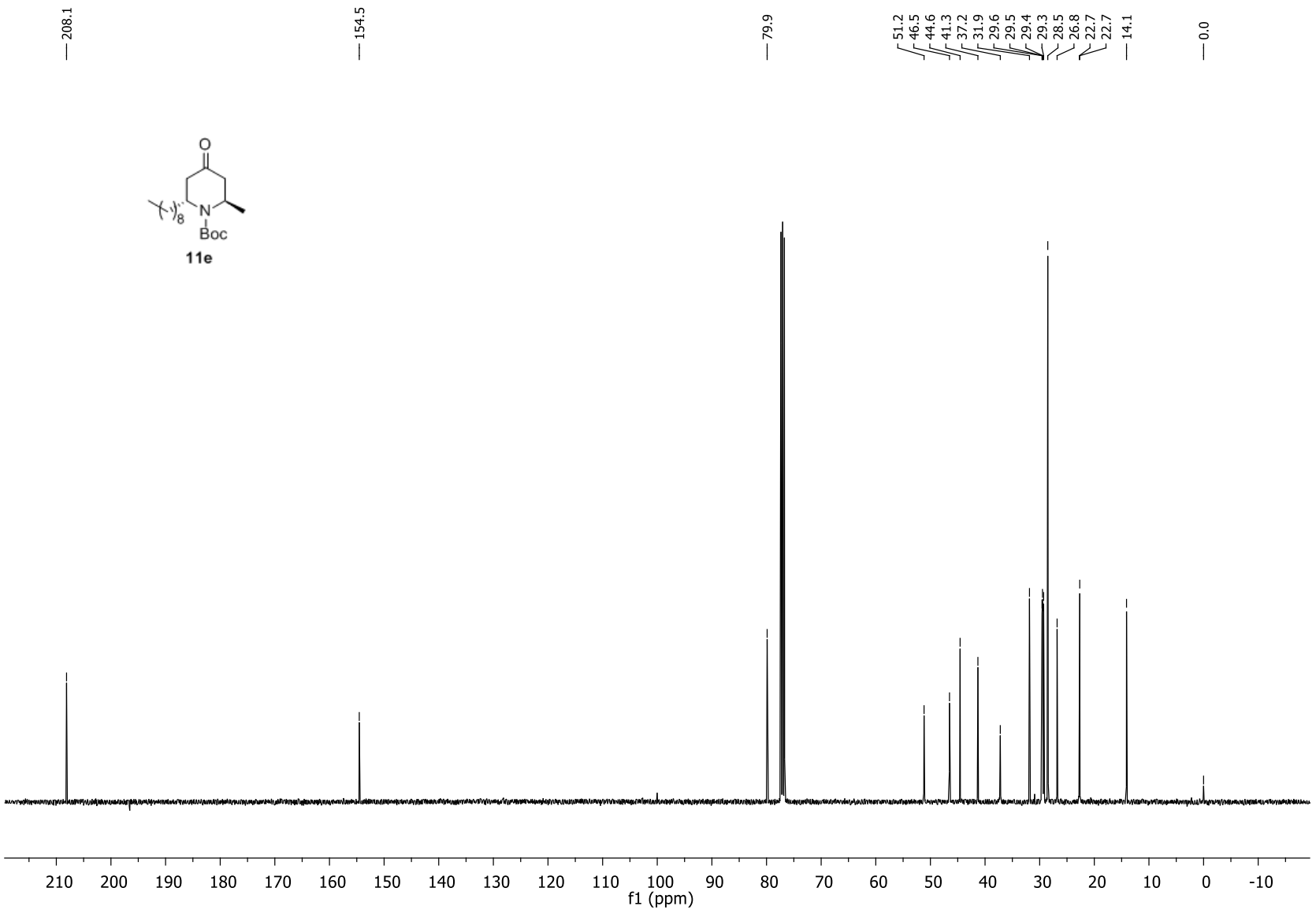
4.32
4.14
2.83
2.80
2.78
2.71
2.69
2.56
2.55
2.51
2.51
2.39
2.38
2.34
2.34
1.76
1.50
1.34
1.33
1.29
1.27
1.25
0.89
0.88
0.86
-0.00
1.00
0.98
1.01
1.06
1.02
1.03
1.04
8.97
18.96
3.17
10.5 10.0 9.5 9.0 8.5 8.0 7.5 7.0 6.5 6.0 5.5 5.0 4.5 4.0 3.5 3.0 2.5 2.0 1.5 1.0 0.5 0.0 -0.5
f1 (ppm)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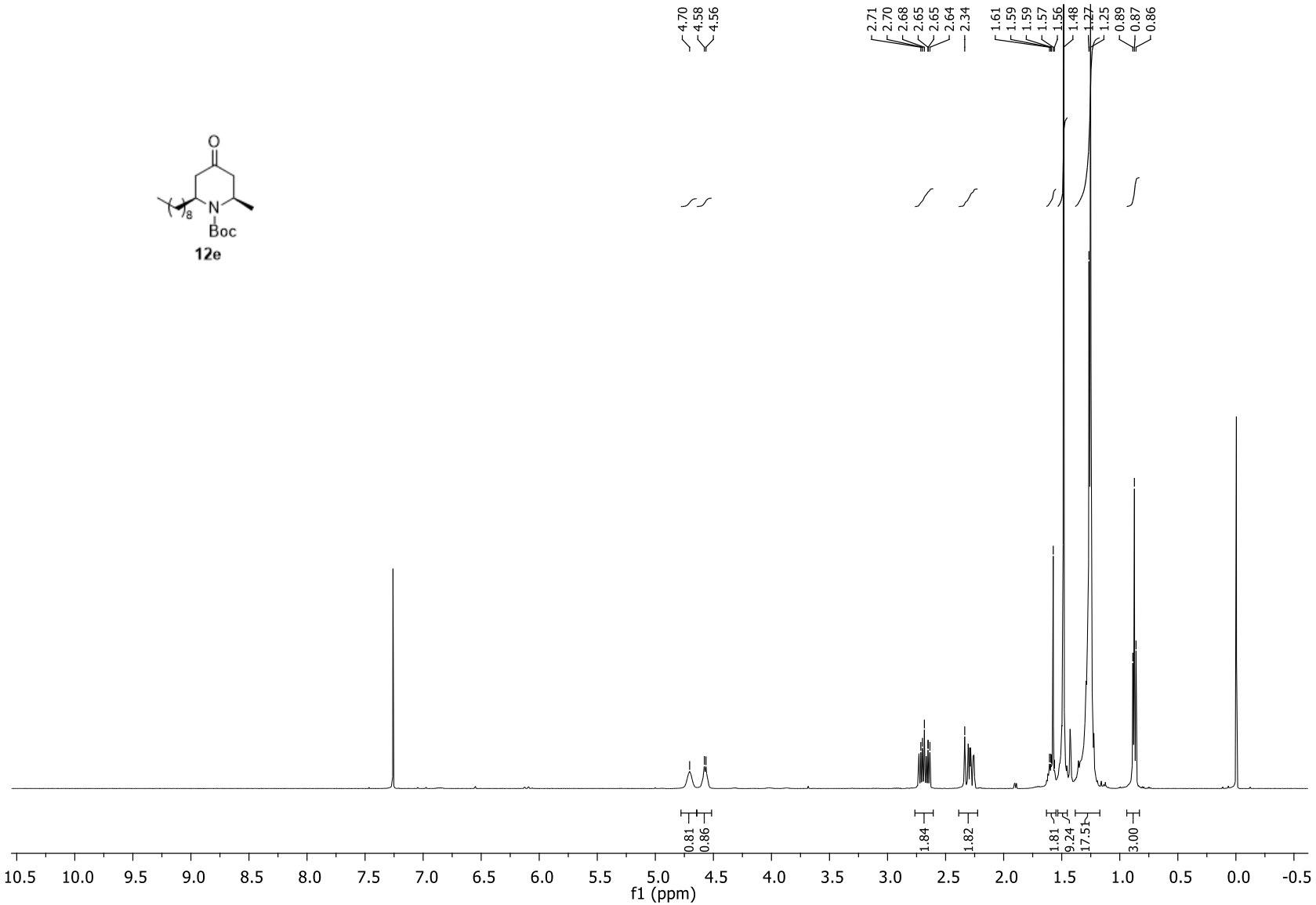
44.6
41.3
37.2
31.9
29.6
29.5
29.4
29.3
28.5
26.8
22.7
22.7
14.1
0.0
O
N
Boc
8
11e
210 200 190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 -10
f1 (ppm)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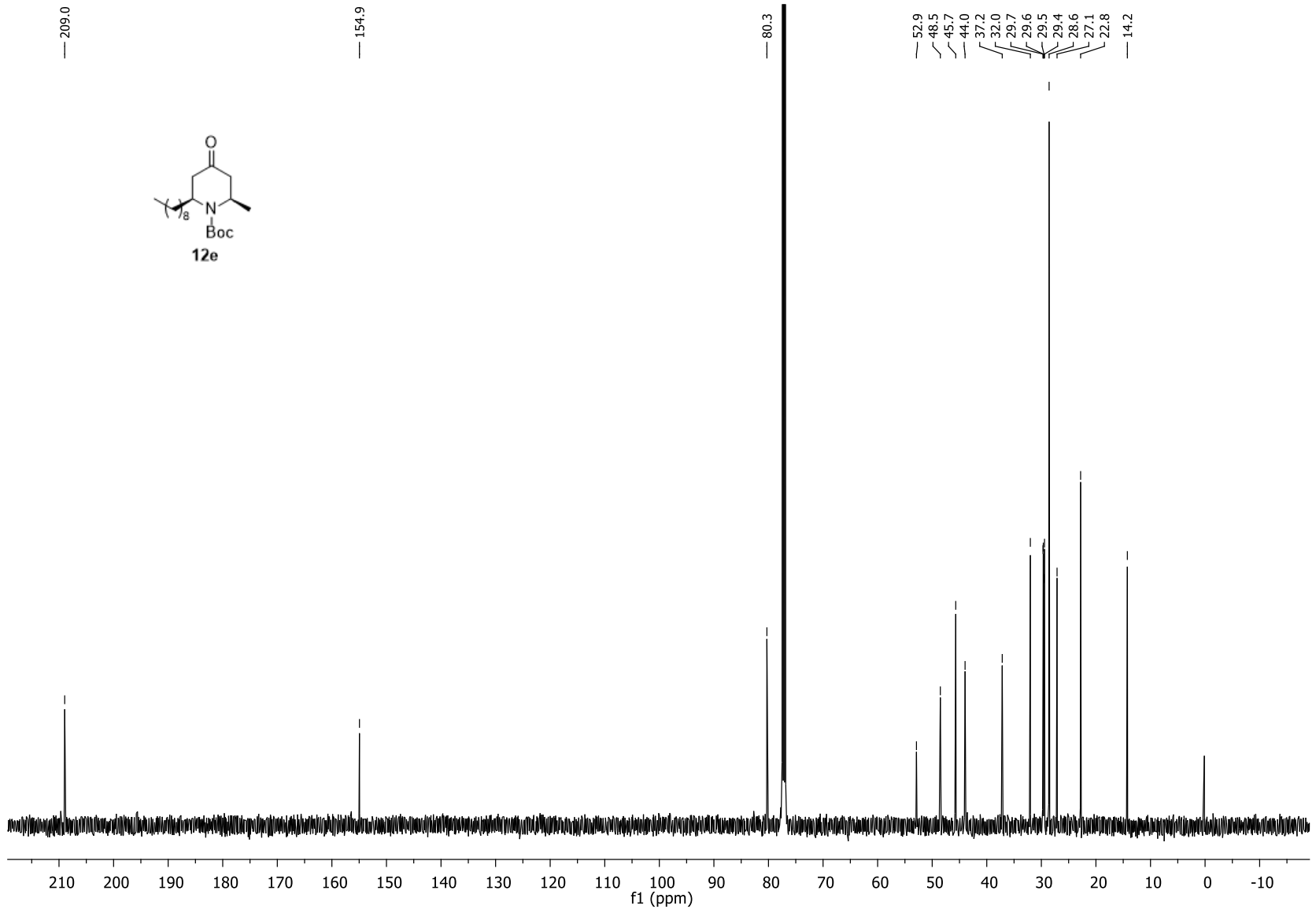
2.64
2.34
1.61
1.59
1.59
1.57
1.56
1.48
1.27
1.25
0.89
0.87
0.86
O
N
Boc
8
12e
0.81
0.86
1.84
1.82
1.81
9.24
17.51
3.00
10.5
10.0
9.5
9.0
8.5
8.0
7.5
7.0
6.5
6.0
5.5
5.0
4.5
4.0
3.5
3.0
2.5
2.0
1.5
1.0
0.5
0.0
-0.5
f1 (ppm)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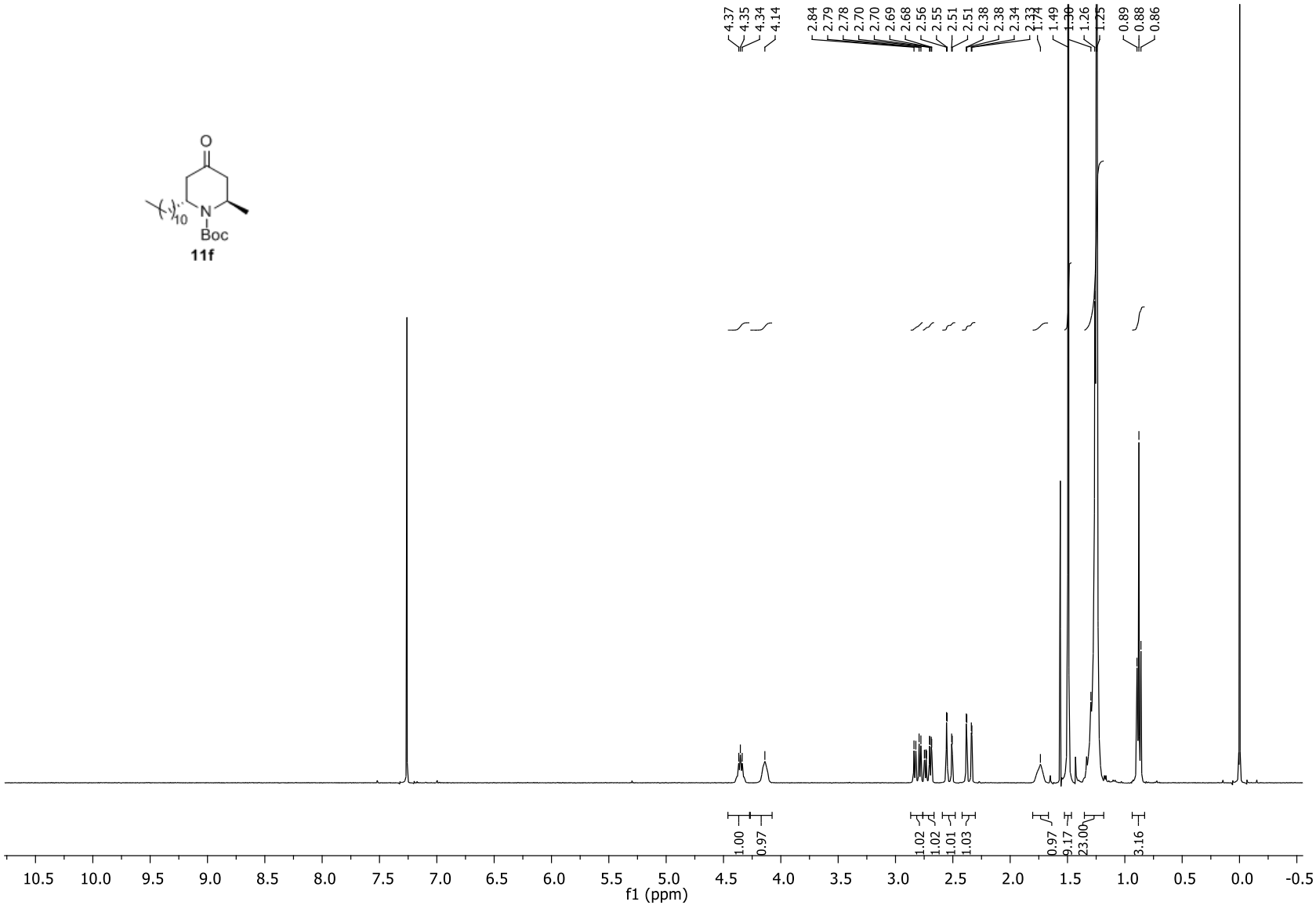
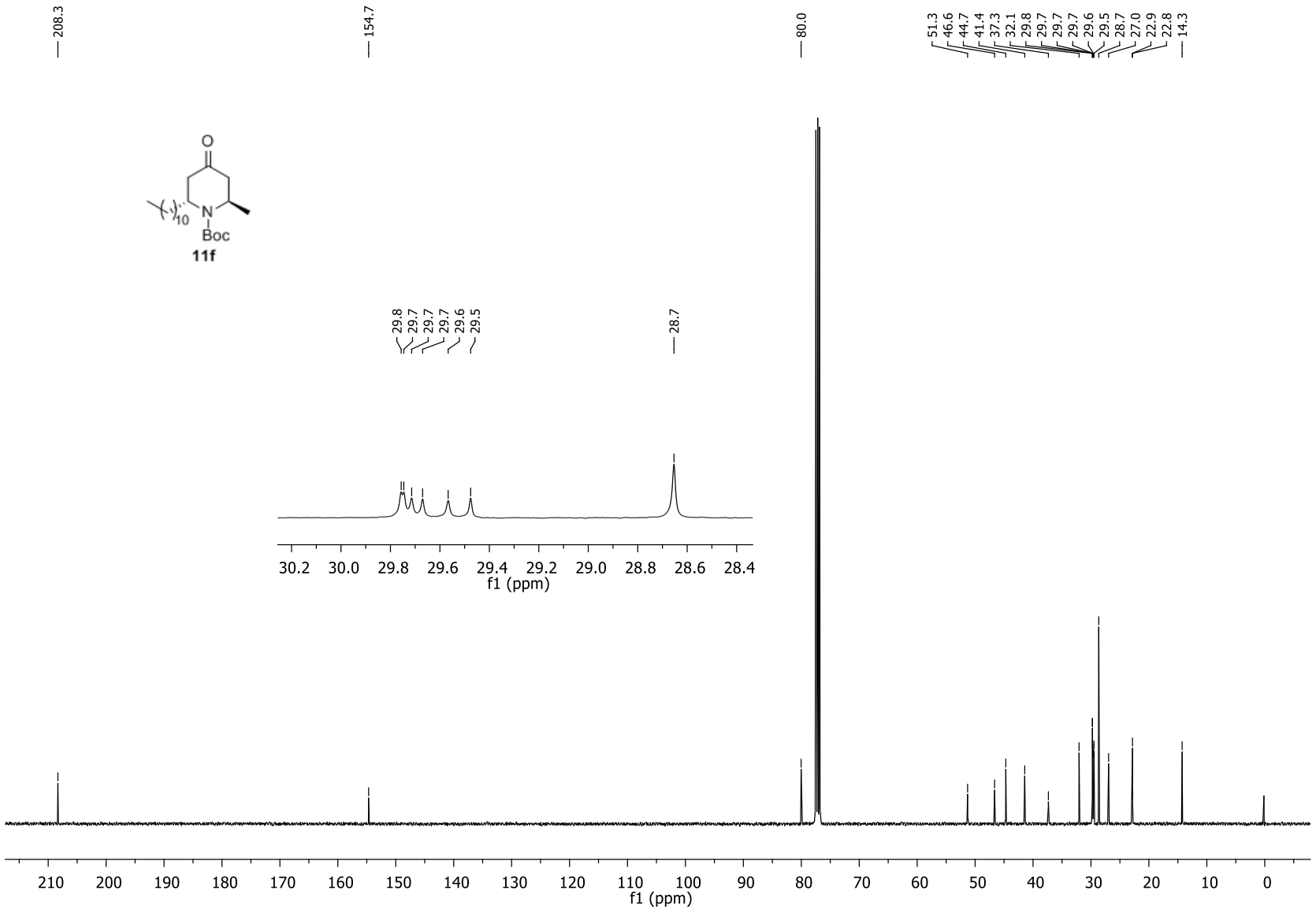
154.9
80.3
52.9
48.5
45.7
44.0
37.2
32.0
29.7
29.6
29.5
29.4
28.6
27.1
22.8
14.2
O
N
Boc
8
12e
210
200
190
180
170
160
150
140
130
120
110
100
90
80
70
60
50
40
30
20
10
0
-10
f1 (ppm)


O
N
Boc
10
11f
4.37
4.35
4.34
4.14
2.84
2.79
2.78
2.70
2.70
2.69
2.68
2.56
2.55
2.51
2.51
2.38
2.38
2.34
2.33
1.74
1.49
1.30
1.26
1.25
0.89
0.88
0.86
1.00
0.97
1.02
1.02
1.01
1.03
0.97
9.17
23.00
3.16
10.5
10.0
9.5
9.0
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
-0.5
f1 (ppm)


208.3
154.7
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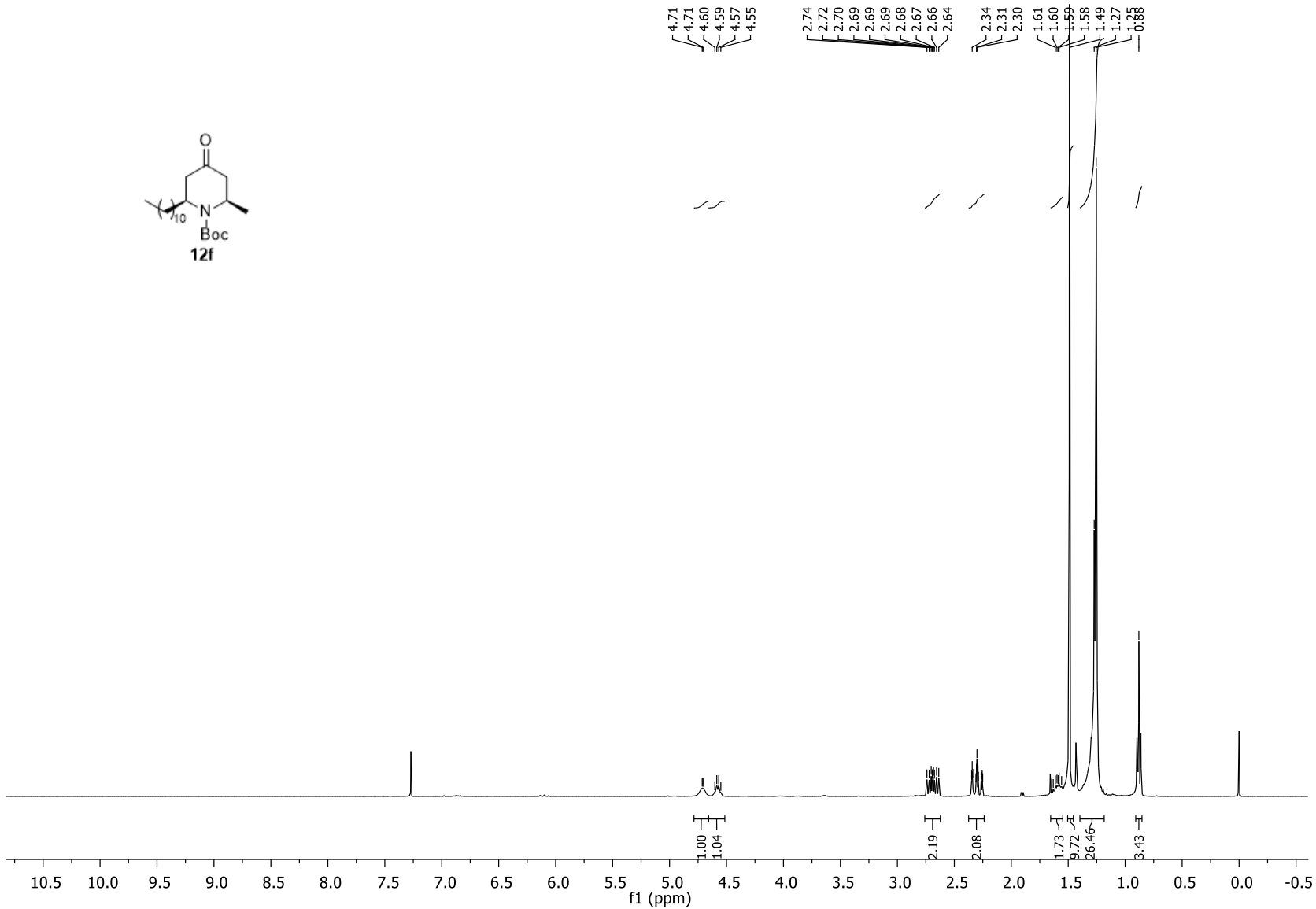
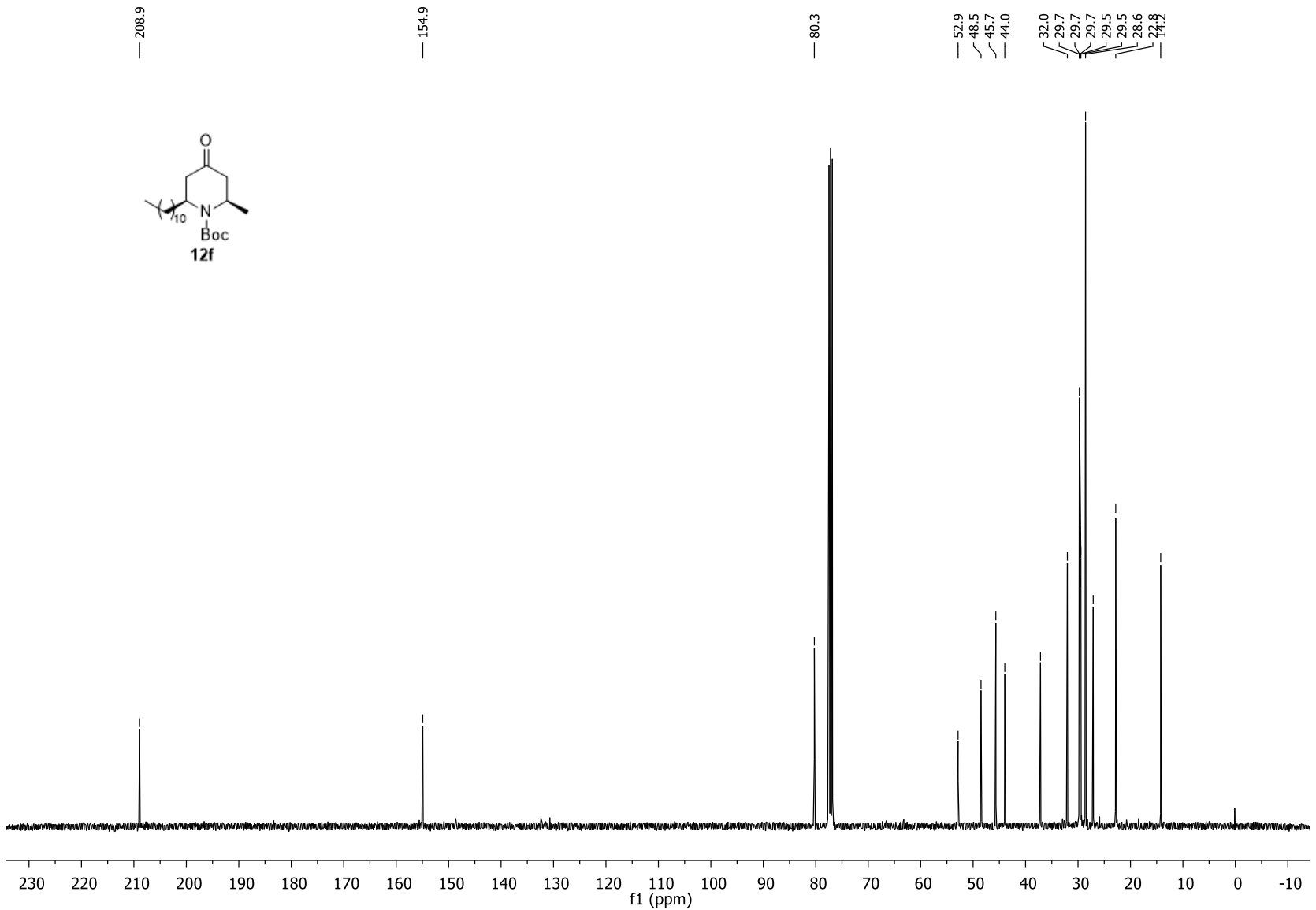
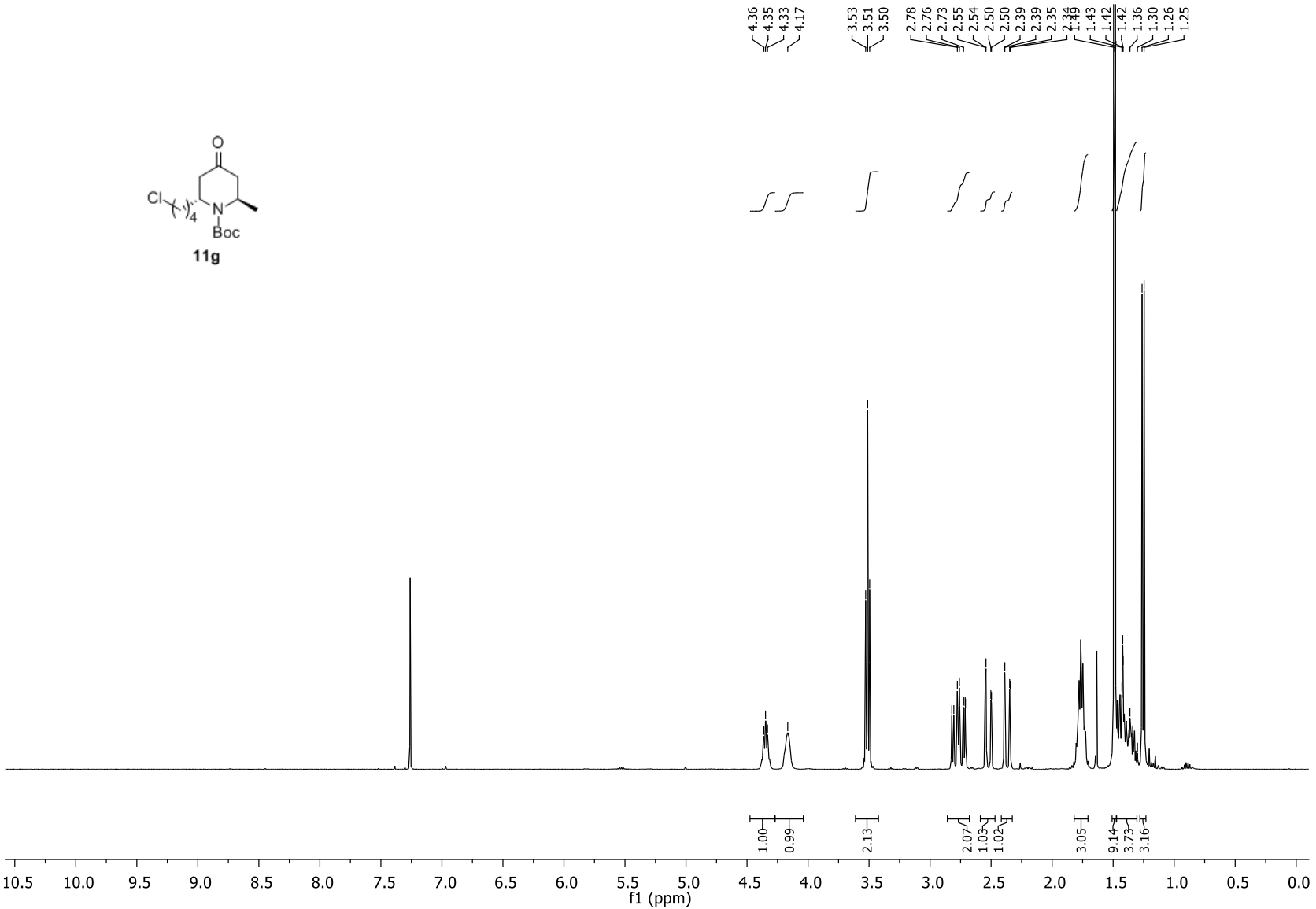
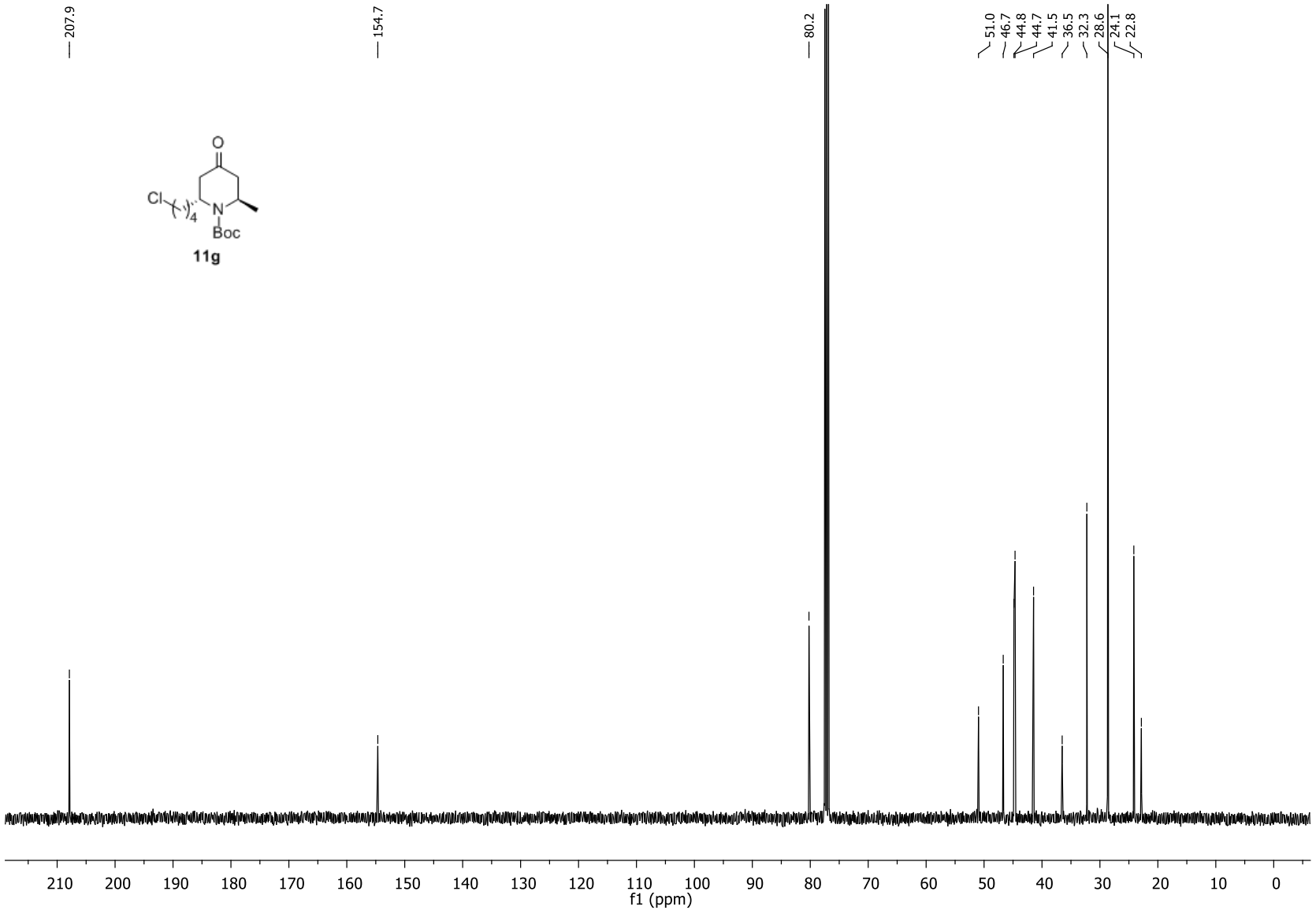
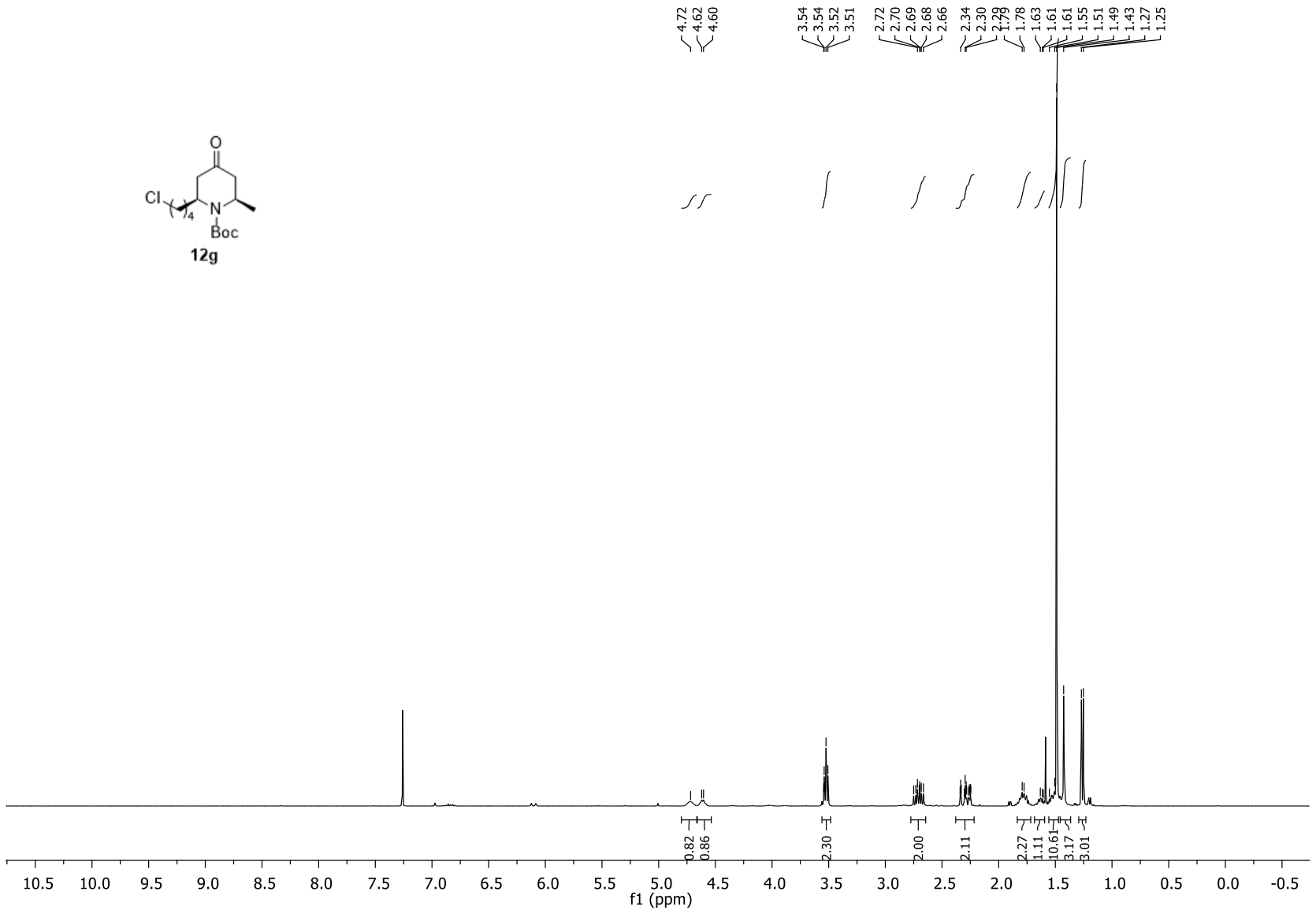
51.3
46.6
44.7
41.4
37.3
32.1
29.8
29.7
29.7
29.7
29.6
29.5
28.7
27.0
22.9
22.8
14.3
O
N
Boc
10
11f
29.8
29.7
29.7
29.7
29.6
29.5
28.7
30.2 30.0 29.8 29.6 29.4 29.2 29.0 28.8 28.6 28.4
f1 (ppm)
210 200 190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0
f1 (ppm)

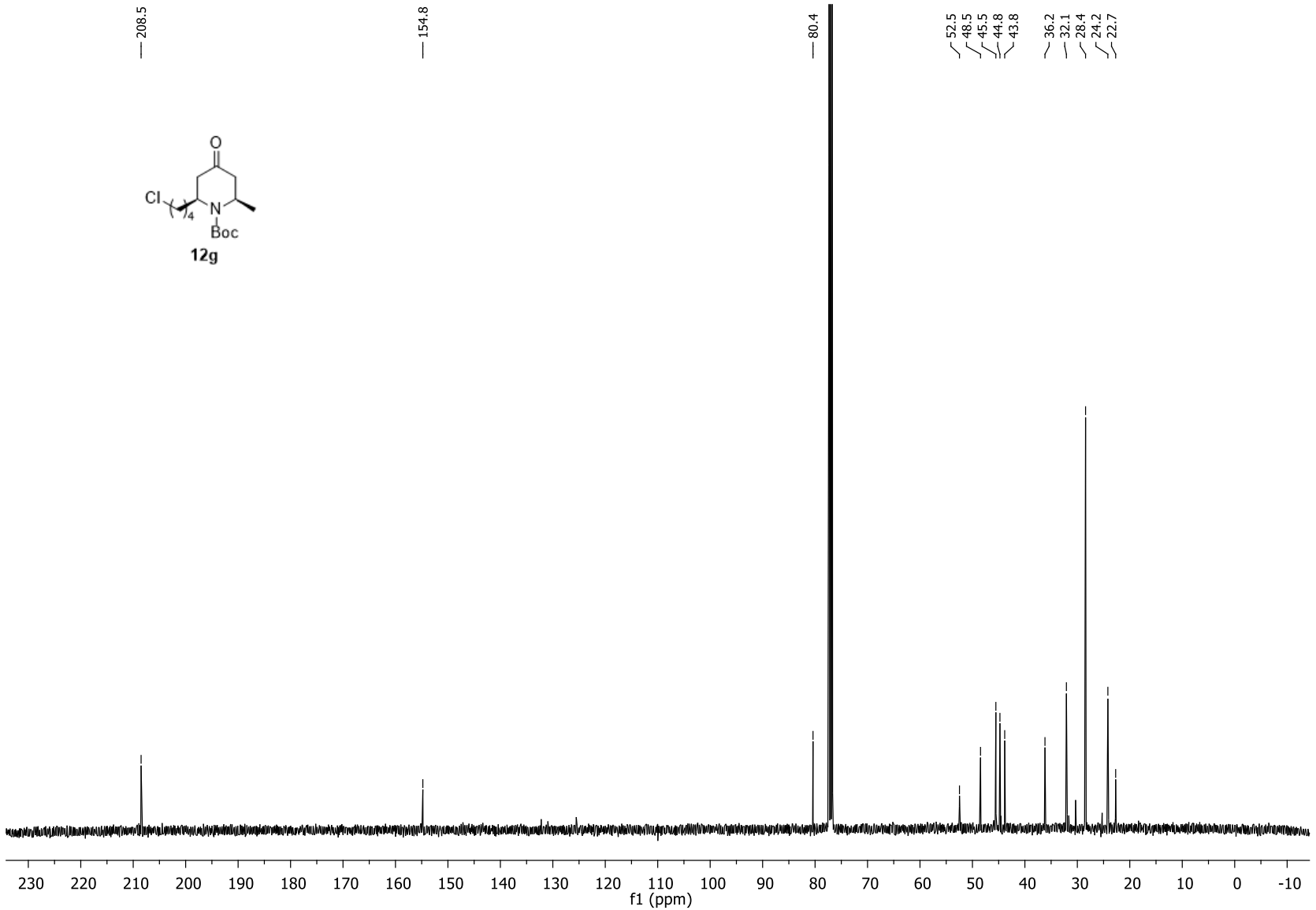

O
N
Boc
12f
4.71
4.71
4.60
4.59
4.57
4.55
2.74
2.72
2.70
2.69
2.69
2.69
2.68
2.67
2.66
2.64
2.34
2.31
2.30
1.61
1.60
1.59
1.58
1.49
1.27
0.88
1.00
1.04
2.19
2.08
1.73
9.72
26.46
3.43
10.5
10.0
9.5
9.0
8.5
8.0
7.5
7.0
6.5
6.0
5.5
5.0
4.5
4.0
3.5
3.0
2.5
2.0
1.5
1.0
0.5
0.0
-0.5
f1 (ppm)

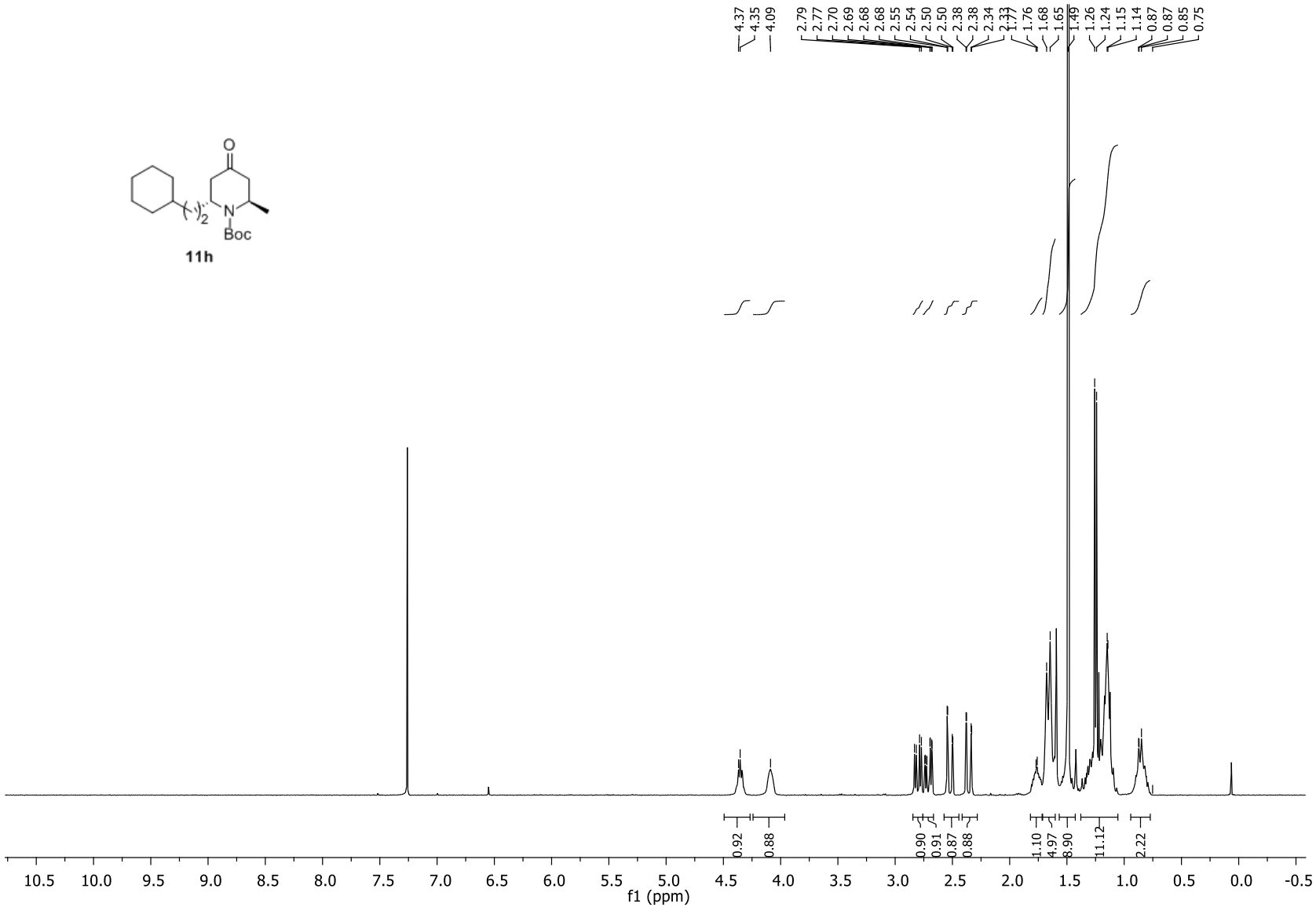

208.9
154.9
80.3
52.9
48.5
45.7
44.0
32.0
29.7
29.7
29.7
29.5
29.5
28.6
22.8
14.2
O
N
Boc
10
12f
230 220 210 200 190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 -10
f1 (ppm)

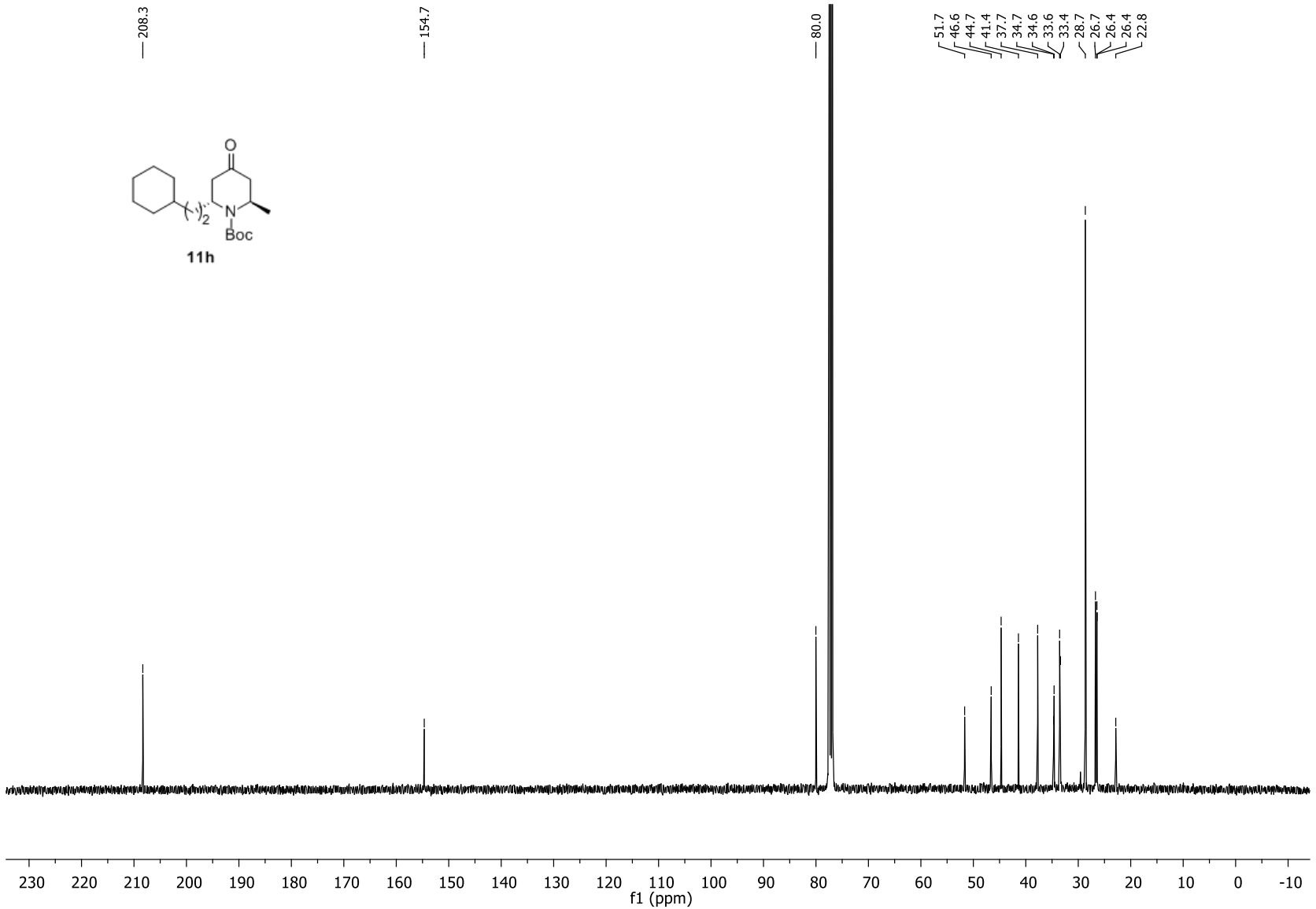

4.36
4.35
4.33
4.17
3.53
3.51
3.50
2.78
2.76
2.73
2.55
2.54
2.50
2.50
2.39
2.39
2.35
1.43
1.42
1.42
1.36
1.30
1.26
1.25
O
Cl
4
N
Boc
11g
1.00
0.99
2.13
2.07
1.03
1.02
3.05
9.14
3.73
3.16
10.5
10.0
9.5
9.0
8.5
8.0
7.5
7.0
6.5
6.0
5.5
5.0
4.5
4.0
3.5
3.0
2.5
2.0
1.5
1.0
0.5
0.0
f1 (ppm)

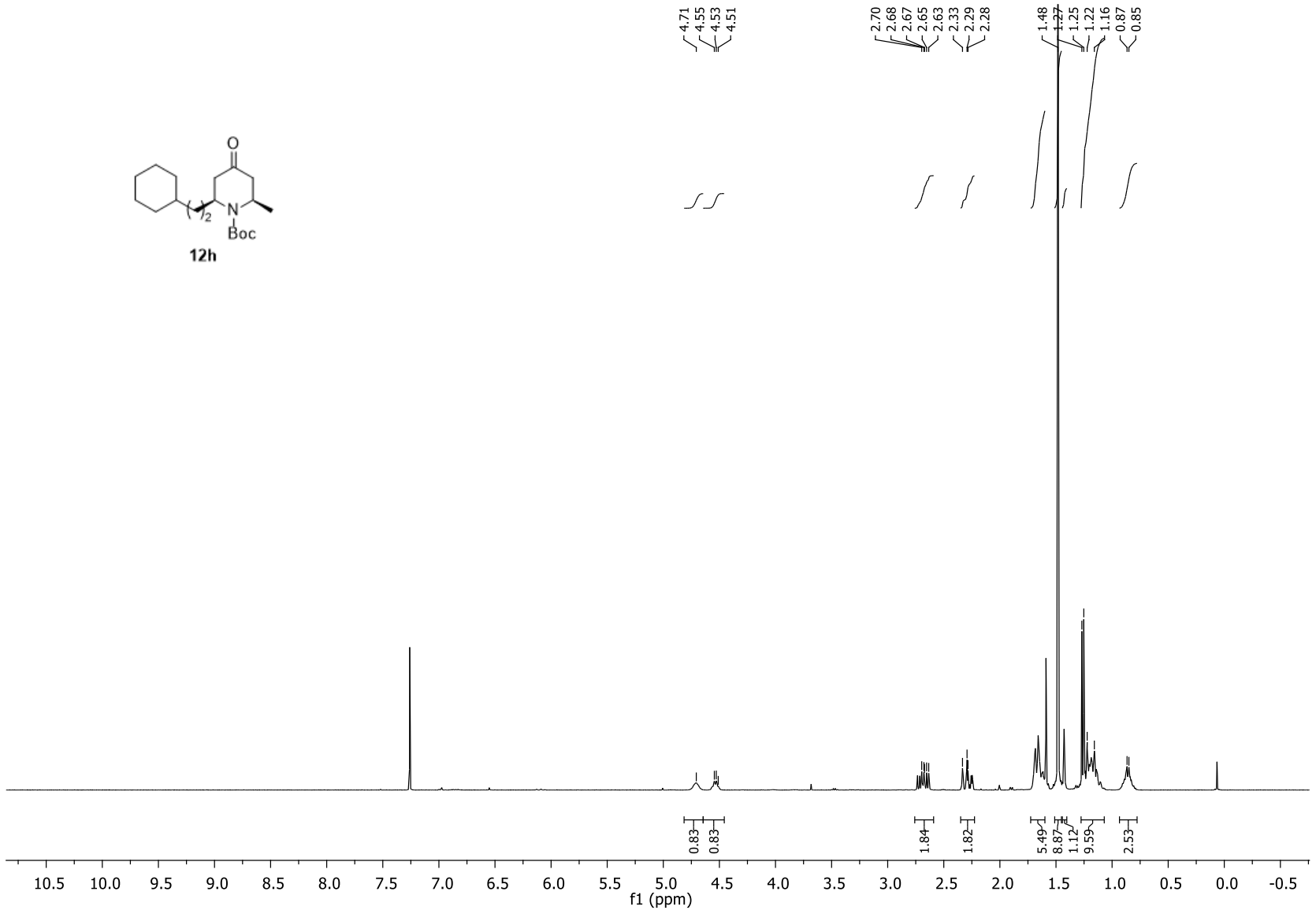

207.9
154.7
80.2
51.0
46.7
44.8
44.7
41.5
36.5
32.3
28.6
24.1
22.8
O
Cl
4
N
Boc
11g
210
200
190
180
170
160
150
140
130
120
110
100
90
80
70
60
50
40
30
20
10
0
f1 (ppm)

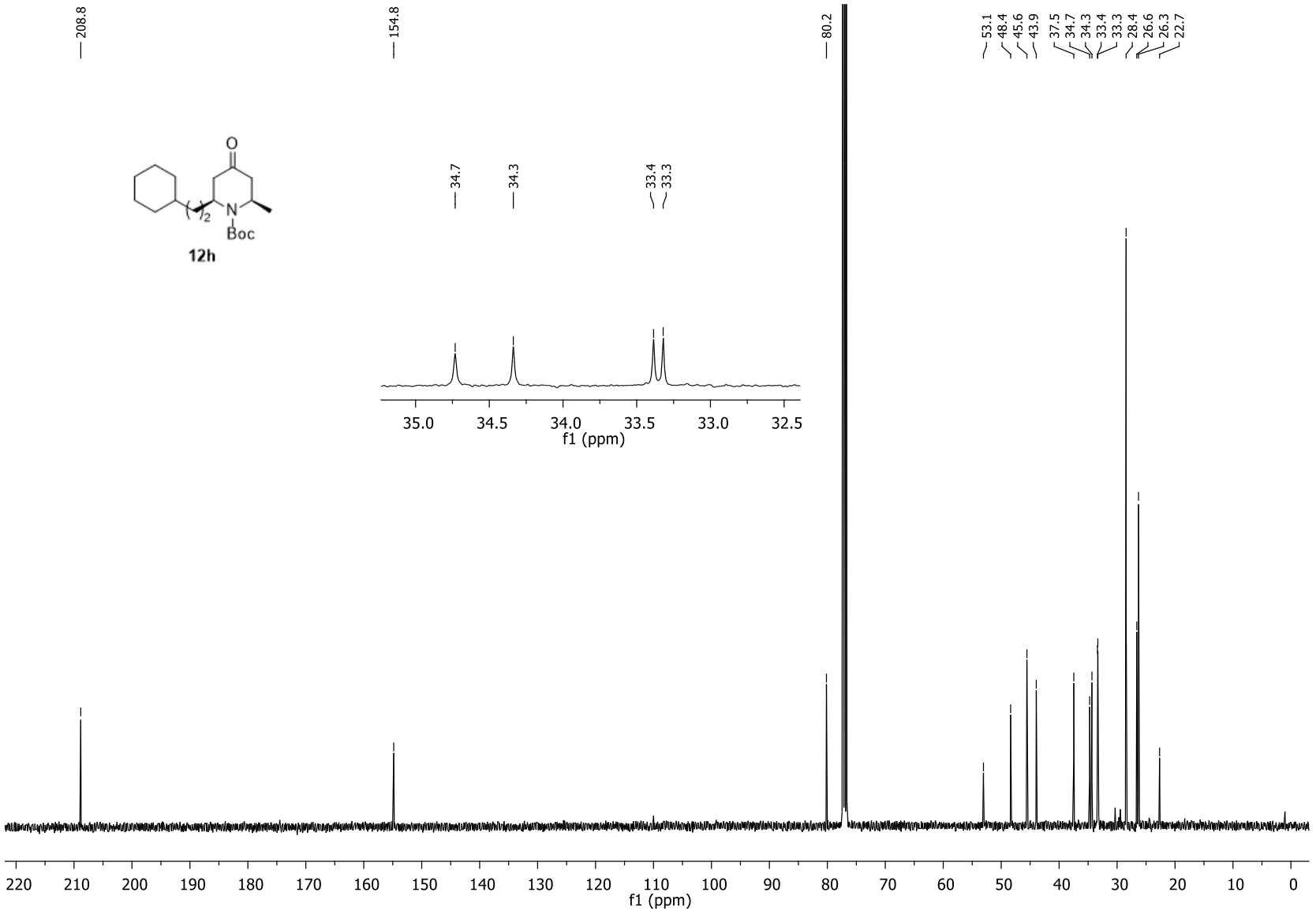

12g
4.72
4.62
4.60
3.54
3.54
3.52
3.51
2.72
2.70
2.69
2.68
2.66
2.34
2.30
2.29
1.78
1.63
1.61
1.61
1.55
1.51
1.49
1.43
1.27
1.25
0.82
0.86
2.30
2.00
2.11
2.27
1.11
10.61
3.17
3.01
f1 (ppm)

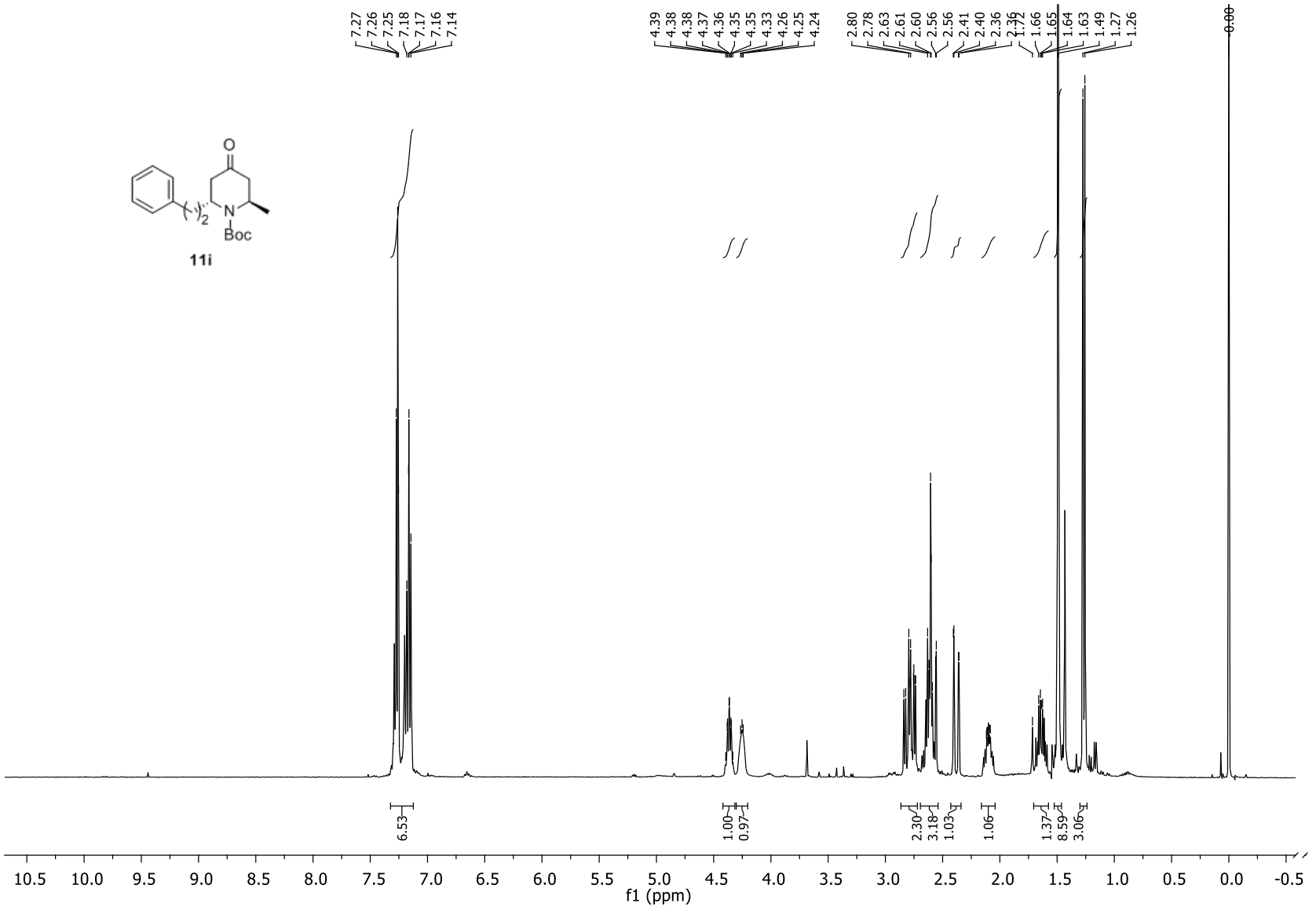

208.5
154.8
80.4
52.5
48.5
45.5
44.8
43.8
36.2
32.1
28.4
24.2
22.7
O
Cl
4
N
Boc
12g
230 220 210 200 190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 -10
f1 (ppm)

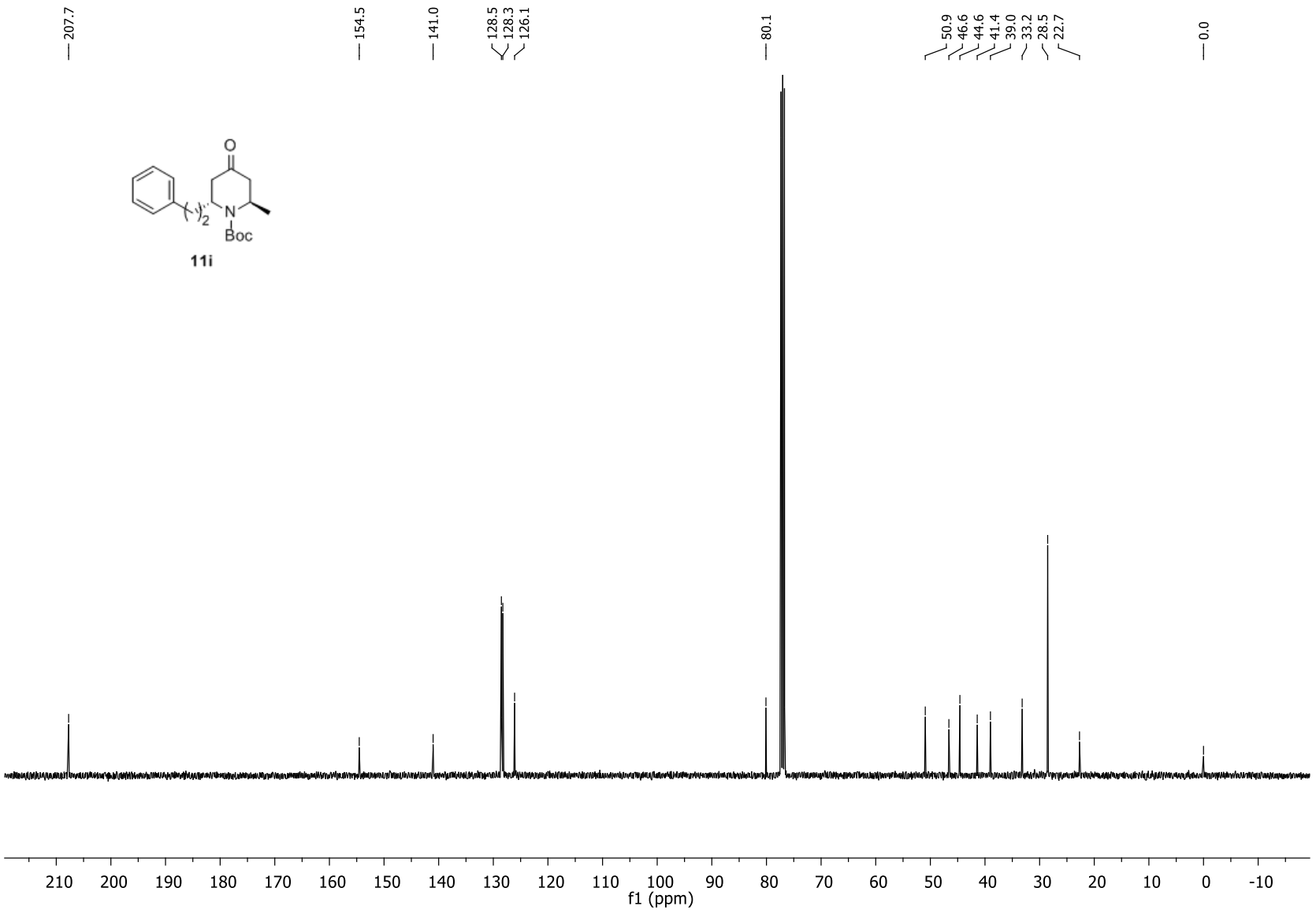

O
N
Boc
11h
4.37
4.35
4.09
2.79
2.77
2.70
2.69
2.68
2.68
2.55
2.54
2.50
2.50
2.38
2.38
2.34
2.33
1.76
1.68
1.65
1.49
1.26
1.24
1.15
1.14
0.87
0.87
0.85
0.75
0.92
0.88
0.90
0.91
0.87
0.88
1.10
4.97
8.90
11.12
2.22
10.5
10.0
9.5
9.0
8.5
8.0
7.5
7.0
6.5
6.0
5.5
5.0
4.5
4.0
3.5
3.0
2.5
2.0
1.5
1.0
0.5
0.0
-0.5
f1 (ppm)

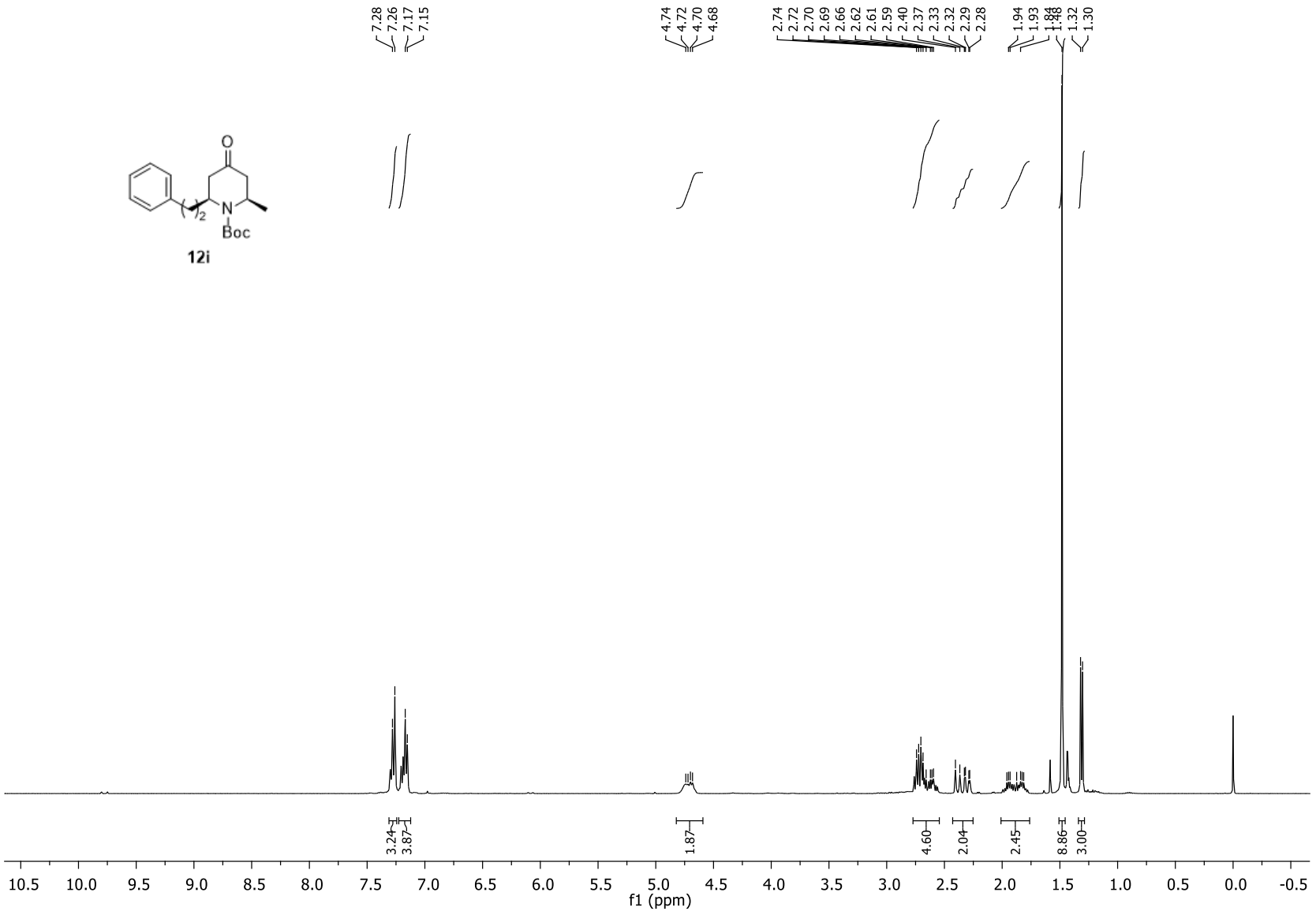

208.3
154.7
80.0
51.7
46.6
44.7
41.4
37.7
34.7
34.6
33.6
33.4
28.7
26.7
26.4
26.4
22.8
O
N
Boc
2
11h
230 220 210 200 190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 -10
f1 (ppm)

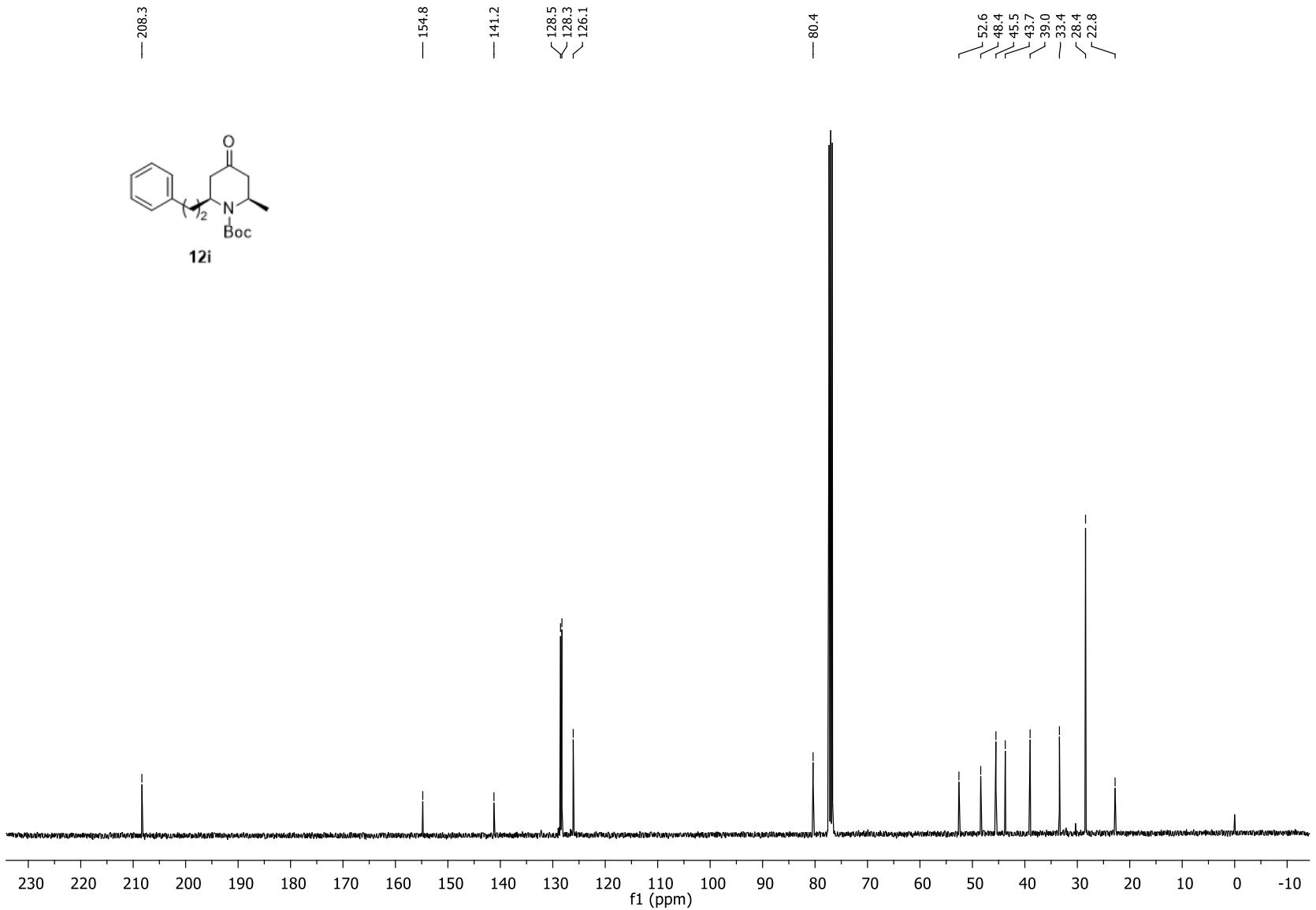

4.71
4.55
4.53
4.51
2.70
2.68
2.67
2.65
2.63
2.33
2.29
2.28
1.48
1.27
1.25
1.22
1.16
0.87
0.85
O
N
Boc
12h
0.83
0.83
1.84
1.82
5.49
8.87
1.12
9.59
2.53
10.5 10.0 9.5 9.0 8.5 8.0 7.5 7.0 6.5 6.0 5.5 5.0 4.5 4.0 3.5 3.0 2.5 2.0 1.5 1.0 0.5 0.0 -0.5
f1 (ppm)

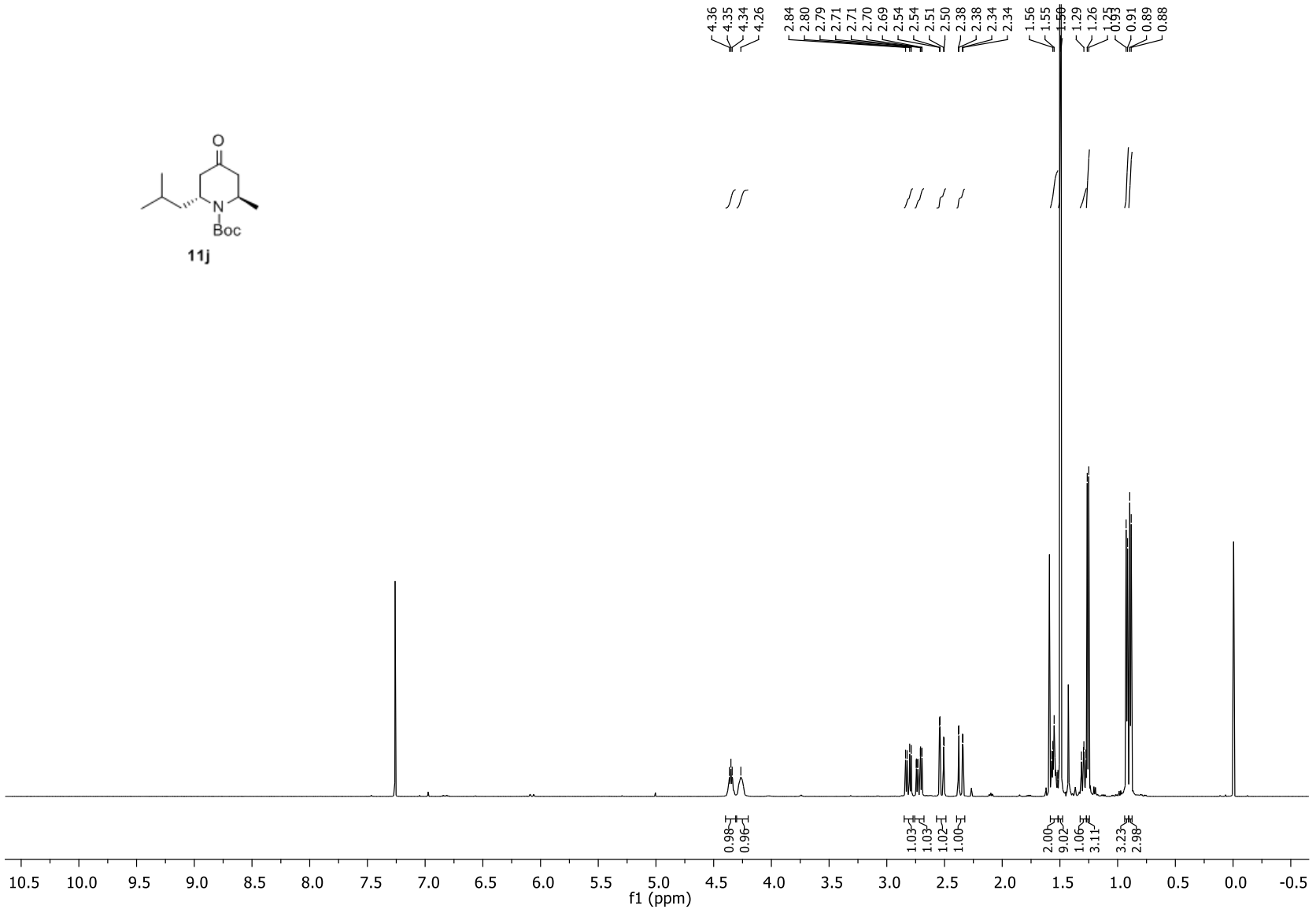

208.8
154.8
80.2
53.1
48.4
45.6
43.9
37.5
34.7
34.3
33.4
33.3
28.4
26.6
26.3
22.7
O
N
Boc
12h
34.7
34.3
33.4
33.3
35.0
34.5
34.0
33.5
33.0
32.5
f1 (ppm)
220
210
200
190
180
170
160
150
140
130
120
110
100
90
80
70
60
50
40
30
20
10
0
f1 (ppm)

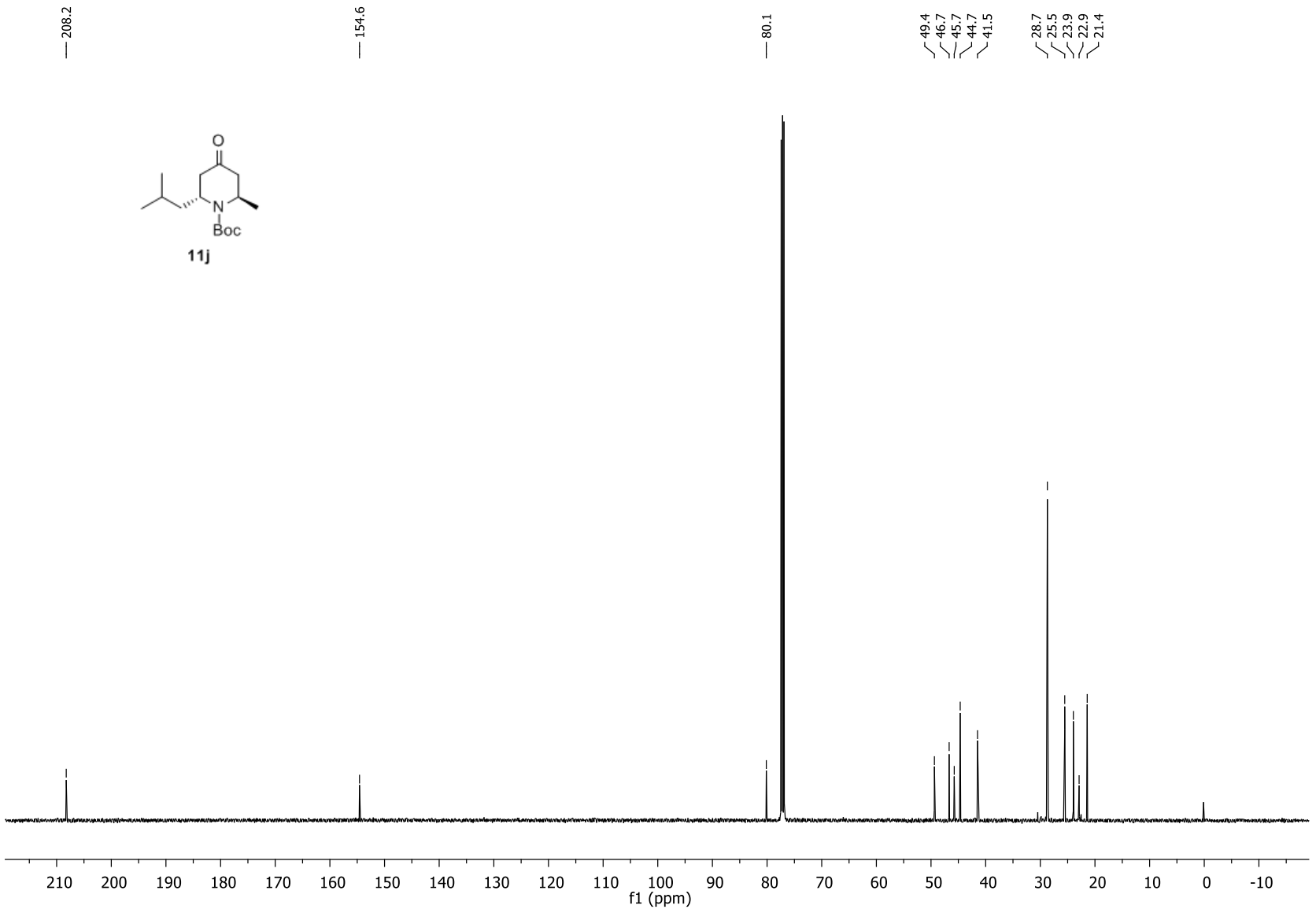

11i
7.27
7.26
7.25
7.18
7.17
7.16
7.14
4.39
4.38
4.38
4.37
4.36
4.35
4.35
4.33
4.26
4.25
4.24
2.80
2.78
2.63
2.61
2.60
2.56
2.56
2.41
2.40
2.36
1.66
1.65
1.64
1.63
1.49
1.27
1.26
0.00
6.53
1.00
0.97
2.30
3.18
1.03
1.06
1.37
8.59
3.06
10.5
10.0
9.5
9.0
8.5
8.0
7.5
7.0
6.5
6.0
5.5
5.0
4.5
4.0
3.5
3.0
2.5
2.0
1.5
1.0
0.5
0.0
-0.5
f1 (ppm)

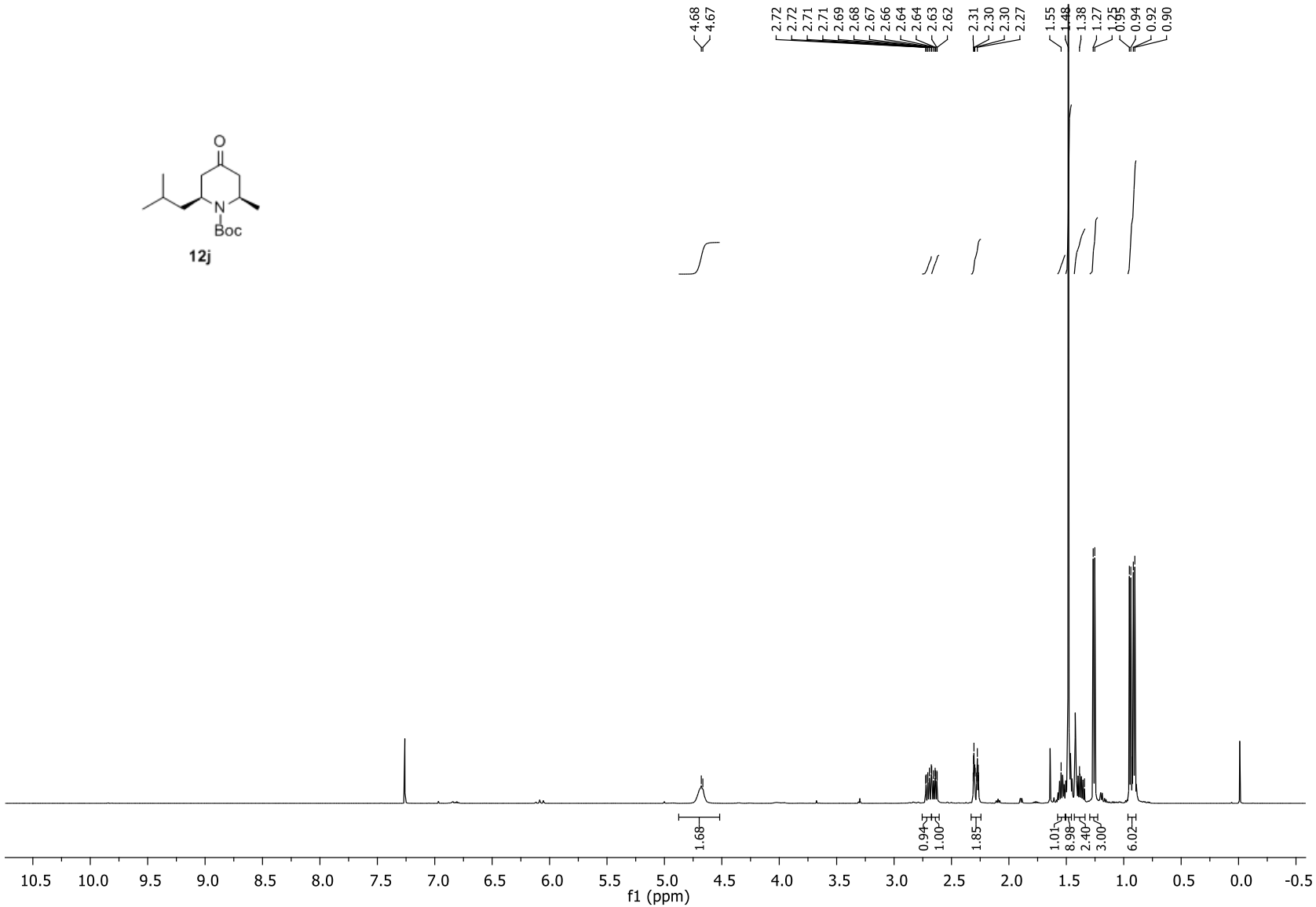

207.7
154.5
141.0
128.5
128.3
126.1
80.1
50.9
46.6
44.6
41.4
39.0
33.2
28.5
22.7
0.0
O
N
Boc
11i
210 200 190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 -10
f1 (ppm)

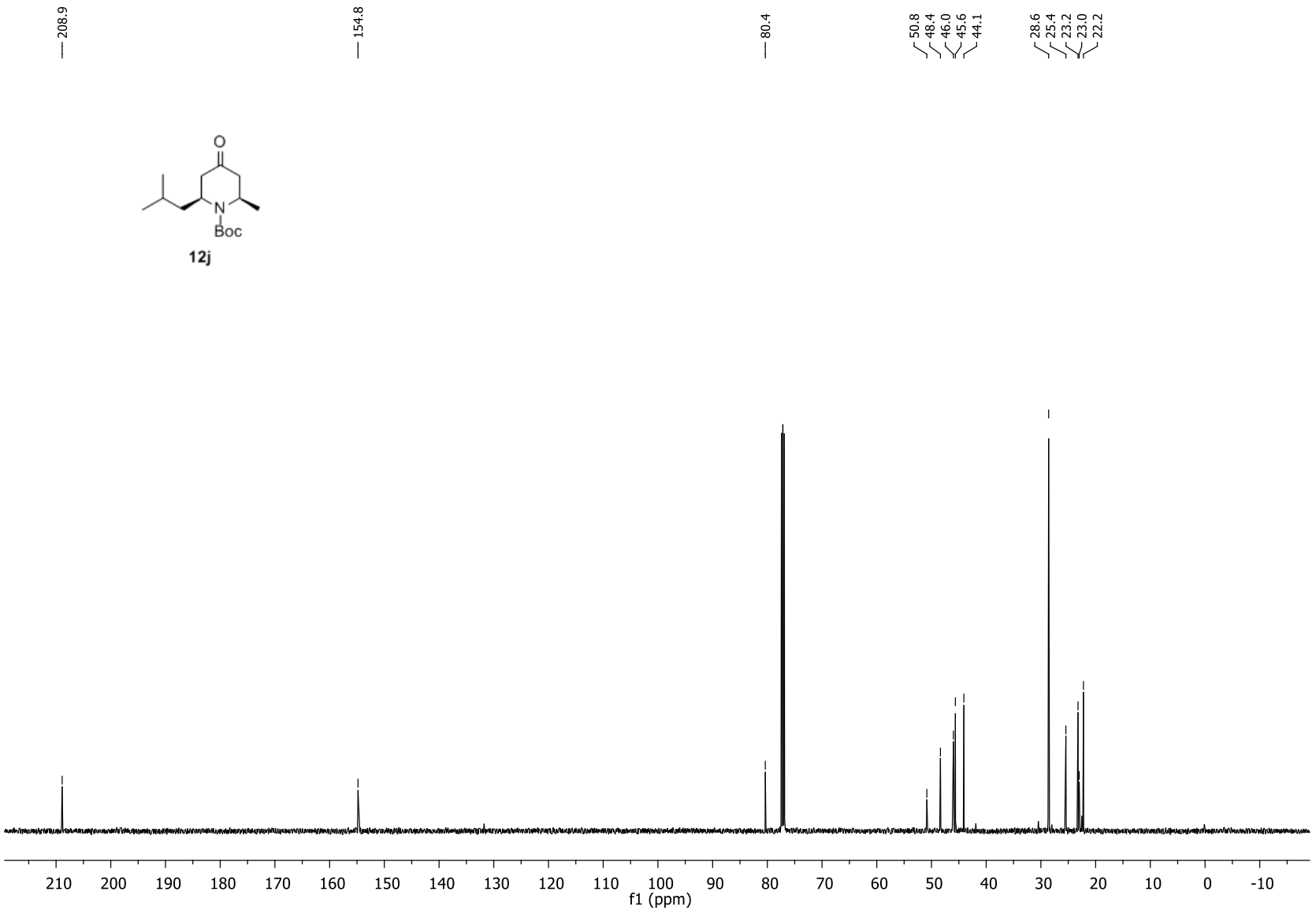

7.28
7.26
7.17
7.15
4.74
4.72
4.70
4.68
2.74
2.72
2.70
2.69
2.66
2.62
2.61
2.59
2.40
2.37
2.33
2.32
2.29
2.28
1.94
1.93
1.84
1.48
1.32
1.30
O
N
Boc
12i
3.24
3.87
1.87
4.60
2.04
2.45
8.86
3.00
10.5 10.0 9.5 9.0 8.5 8.0 7.5 7.0 6.5 6.0 5.5 5.0 4.5 4.0 3.5 3.0 2.5 2.0 1.5 1.0 0.5 0.0 -0.5
f1 (ppm)

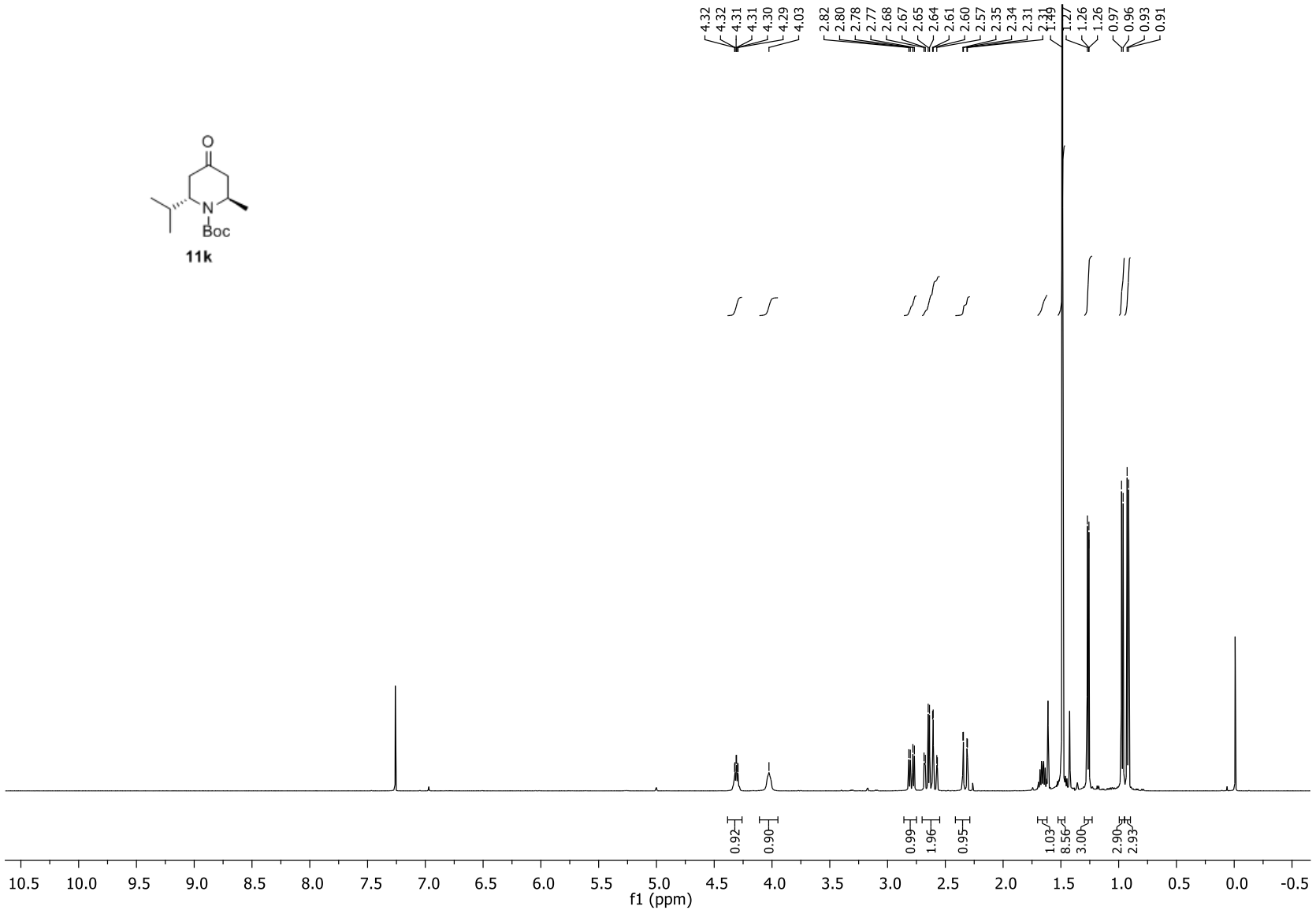

208.3
154.8
141.2
128.5
128.3
126.1
80.4
52.6
48.4
45.5
43.7
39.0
33.4
28.4
22.8
O
N
Boc
12i
230 220 210 200 190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 -10
f1 (ppm)

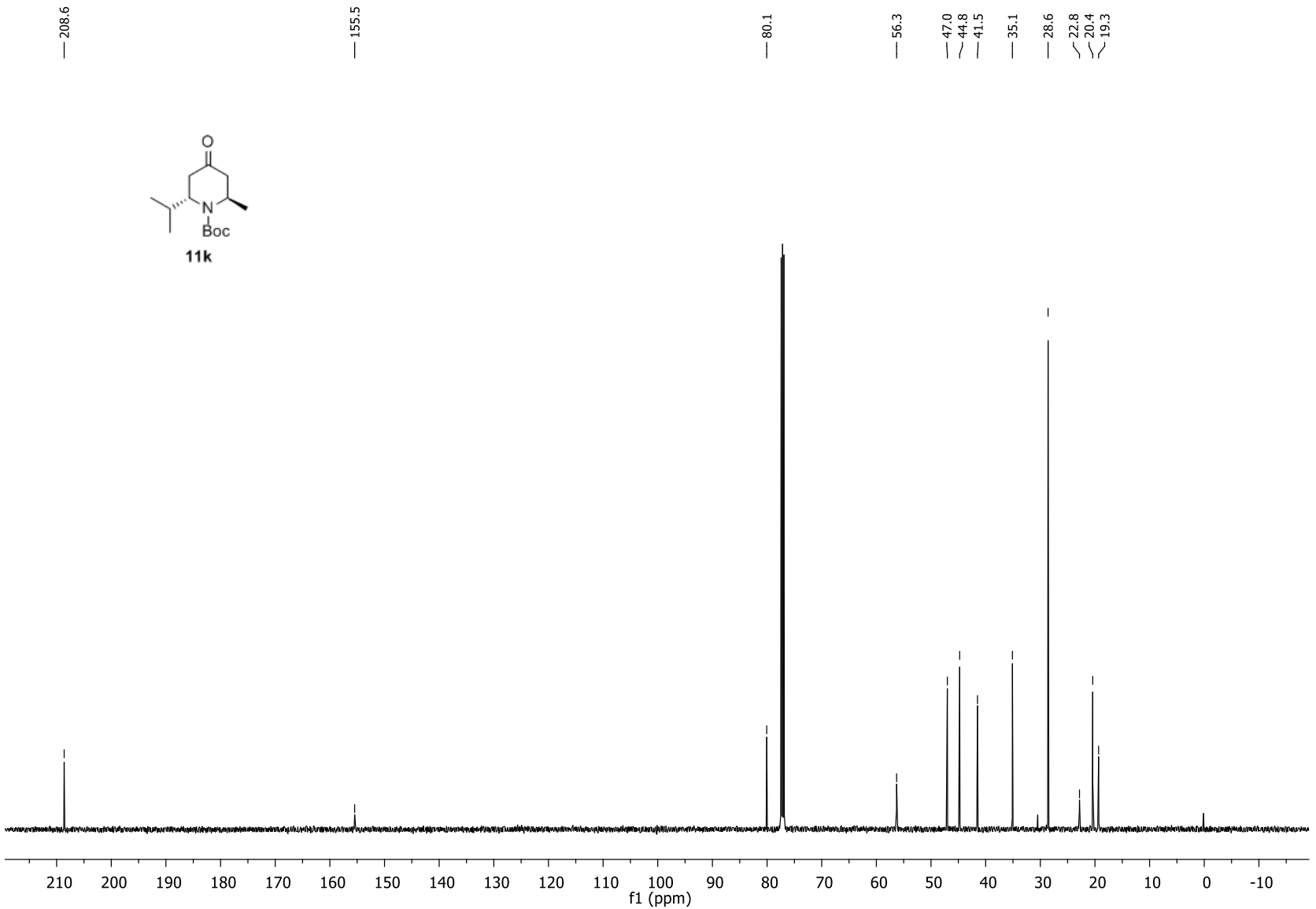

O
N
Boc
11j
4.36
4.35
4.34
4.26
2.84
2.80
2.79
2.71
2.71
2.70
2.69
2.54
2.54
2.51
2.50
2.38
2.38
2.34
2.34
1.56
1.55
1.50
1.29
1.26
0.93
0.91
0.89
0.88
0.98
0.96
1.03
1.03
1.02
1.00
2.00
9.02
1.06
3.11
3.23
2.98
10.5
10.0
9.5
9.0
8.5
8.0
7.5
7.0
6.5
6.0
5.5
5.0
4.5
4.0
3.5
3.0
2.5
2.0
1.5
1.0
0.5
0.0
-0.5
f1 (ppm)

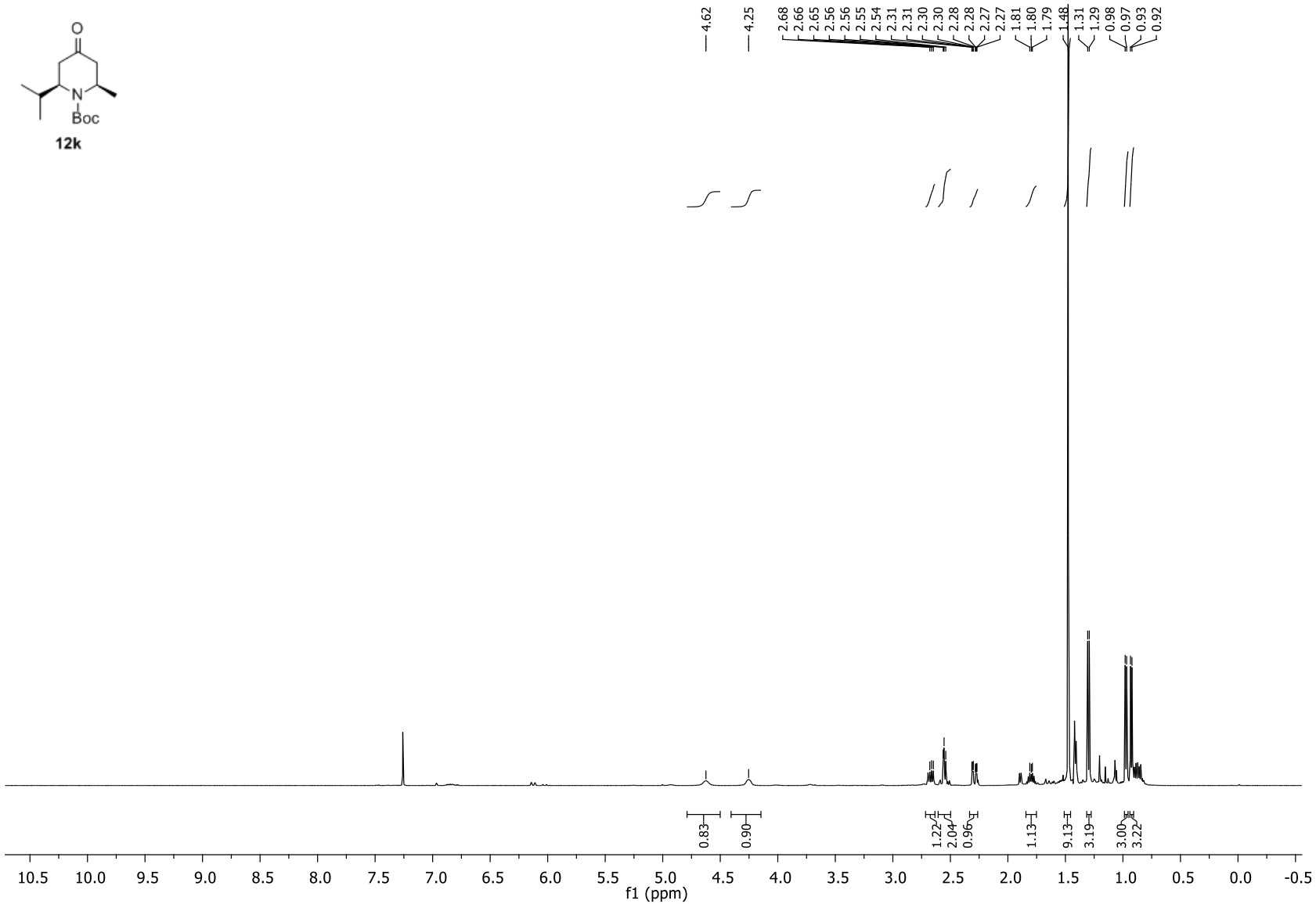

208.2
154.6
80.1
49.4
46.7
45.7
44.7
41.5
28.7
25.5
23.9
22.9
21.4
O
N
Boc
11j
210 200 190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 -10
f1 (ppm)

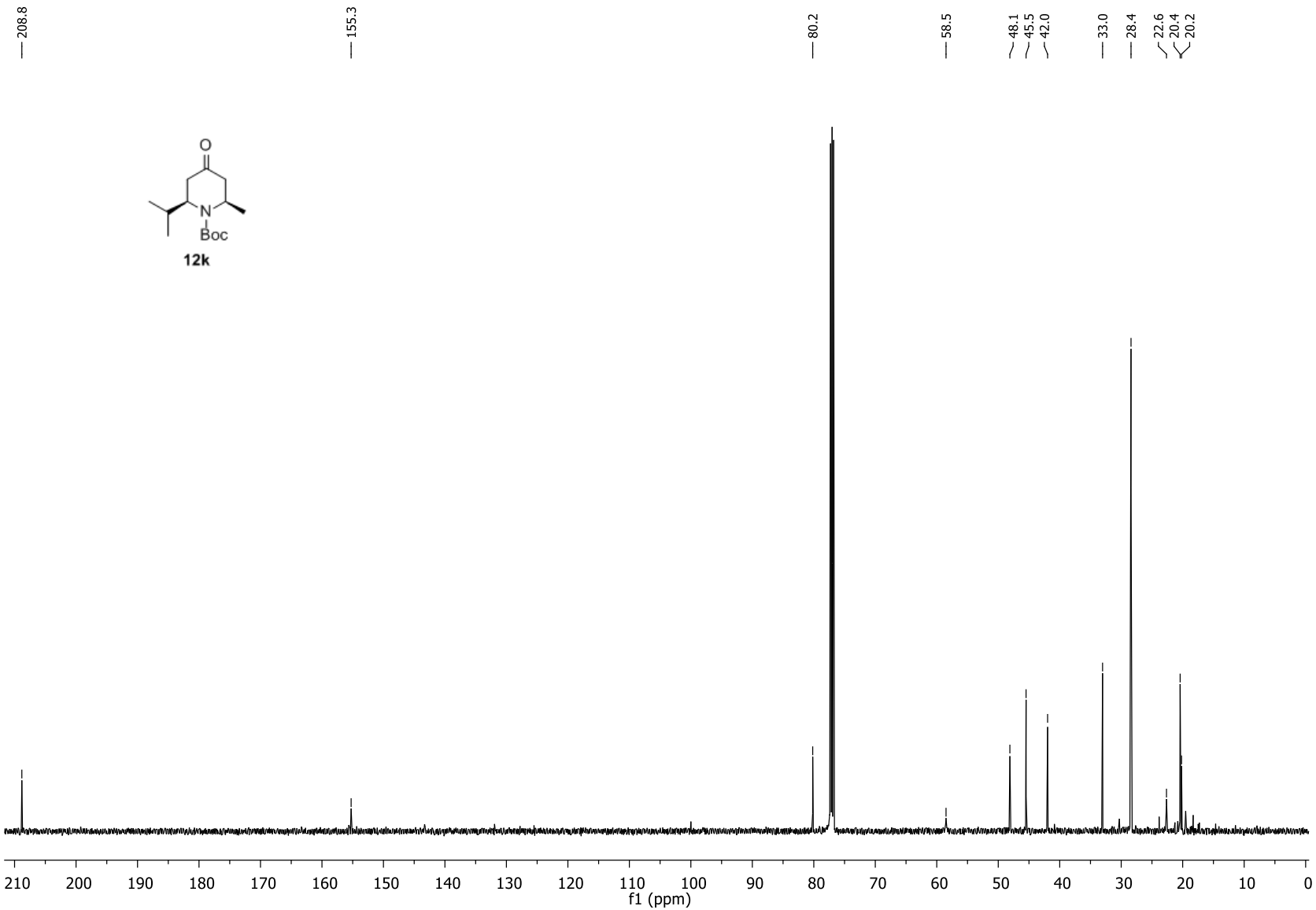

O
N
Boc
12j
4.68
4.67
2.72
2.72
2.71
2.71
2.69
2.68
2.67
2.66
2.64
2.64
2.63
2.62
2.31
2.30
2.30
2.27
1.55
1.48
1.38
1.27
1.25
0.95
0.94
0.92
0.90
1.68
0.94
1.00
1.85
1.01
8.98
2.40
3.00
6.02
10.5
10.0
9.5
9.0
8.5
8.0
7.5
7.0
6.5
6.0
5.5
5.0
4.5
4.0
3.5
3.0
2.5
2.0
1.5
1.0
0.5
0.0
-0.5
f1 (ppm)

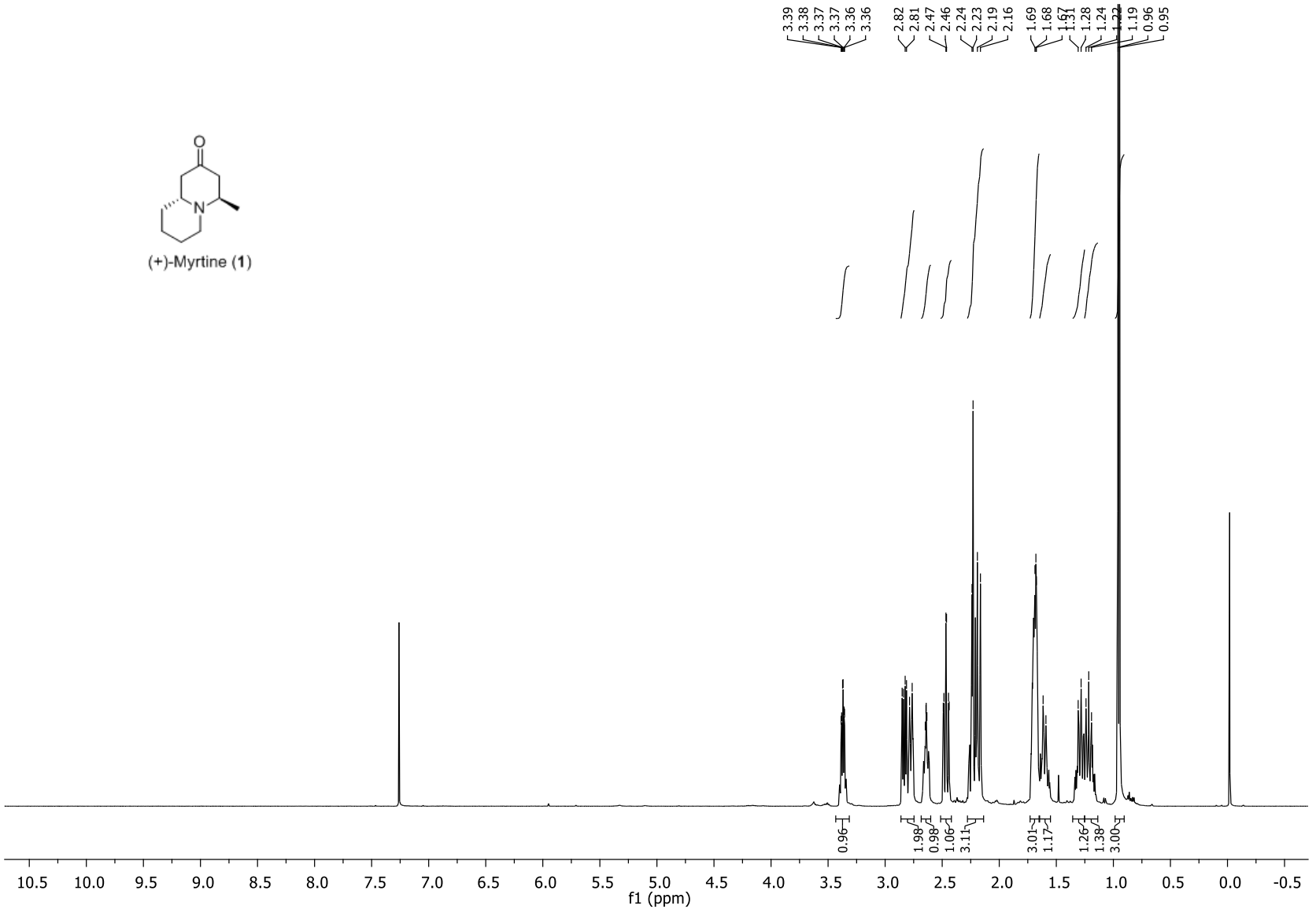

208.9
154.8
80.4
50.8
48.4
46.0
45.6
44.1
28.6
25.4
23.2
23.0
22.2
O
N
Boc
12j
210
200
190
180
170
160
150
140
130
120
110
100
90
80
70
60
50
40
30
20
10
0
-10
f1 (ppm)

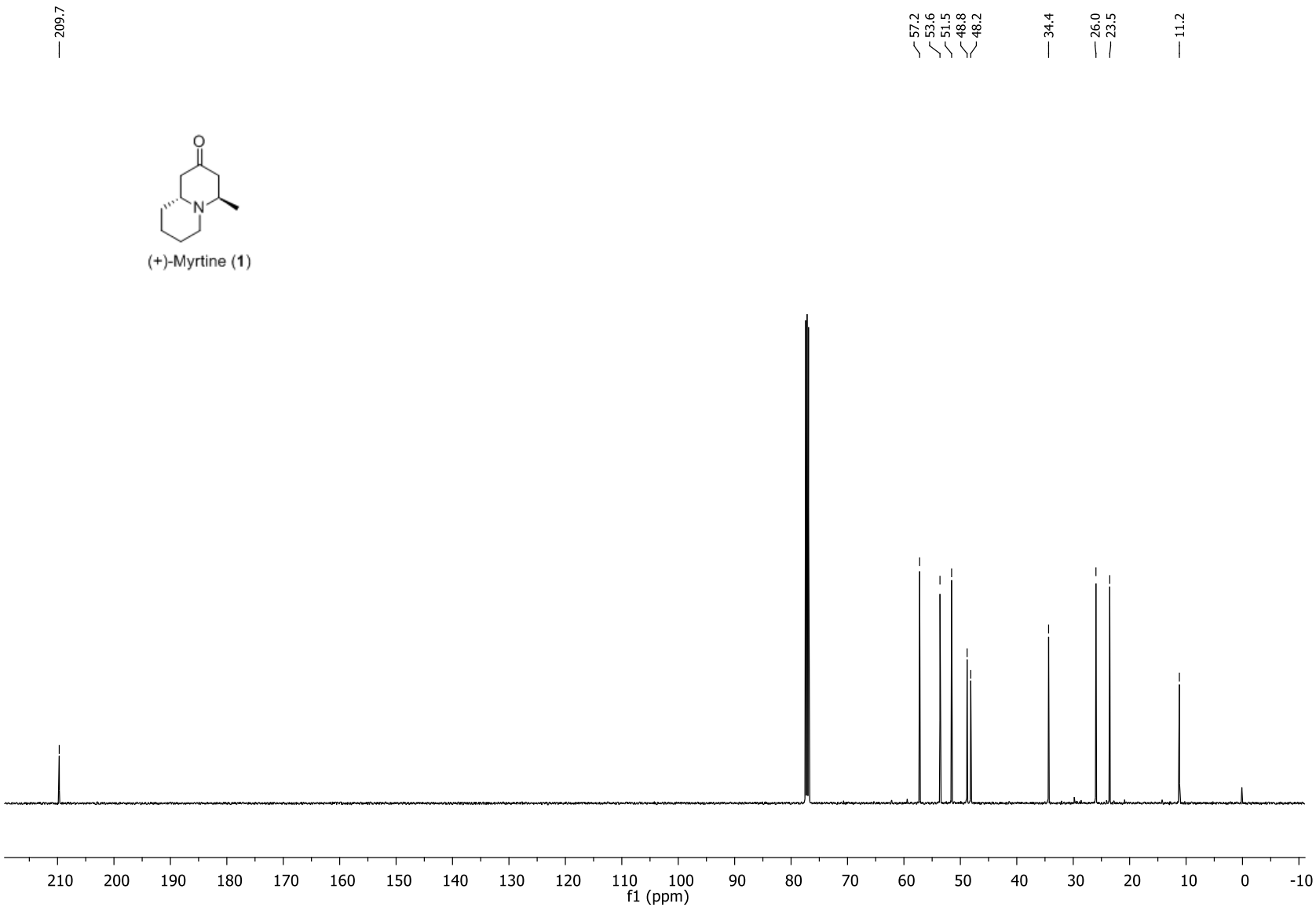

4.32
4.32
4.31
4.31
4.30
4.29
4.03
2.82
2.80
2.78
2.77
2.68
2.67
2.65
2.64
2.61
2.60
2.57
2.35
2.34
2.31
1.27
1.26
1.26
0.97
0.96
0.93
0.91
O
N
Boc
11k
0.92
0.90
0.99
1.96
0.95
1.03
8.56
3.00
2.90
2.93
10.5 10.0 9.5 9.0 8.5 8.0 7.5 7.0 6.5 6.0 5.5 5.0 4.5 4.0 3.5 3.0 2.5 2.0 1.5 1.0 0.5 0.0 -0.5
f1 (ppm)

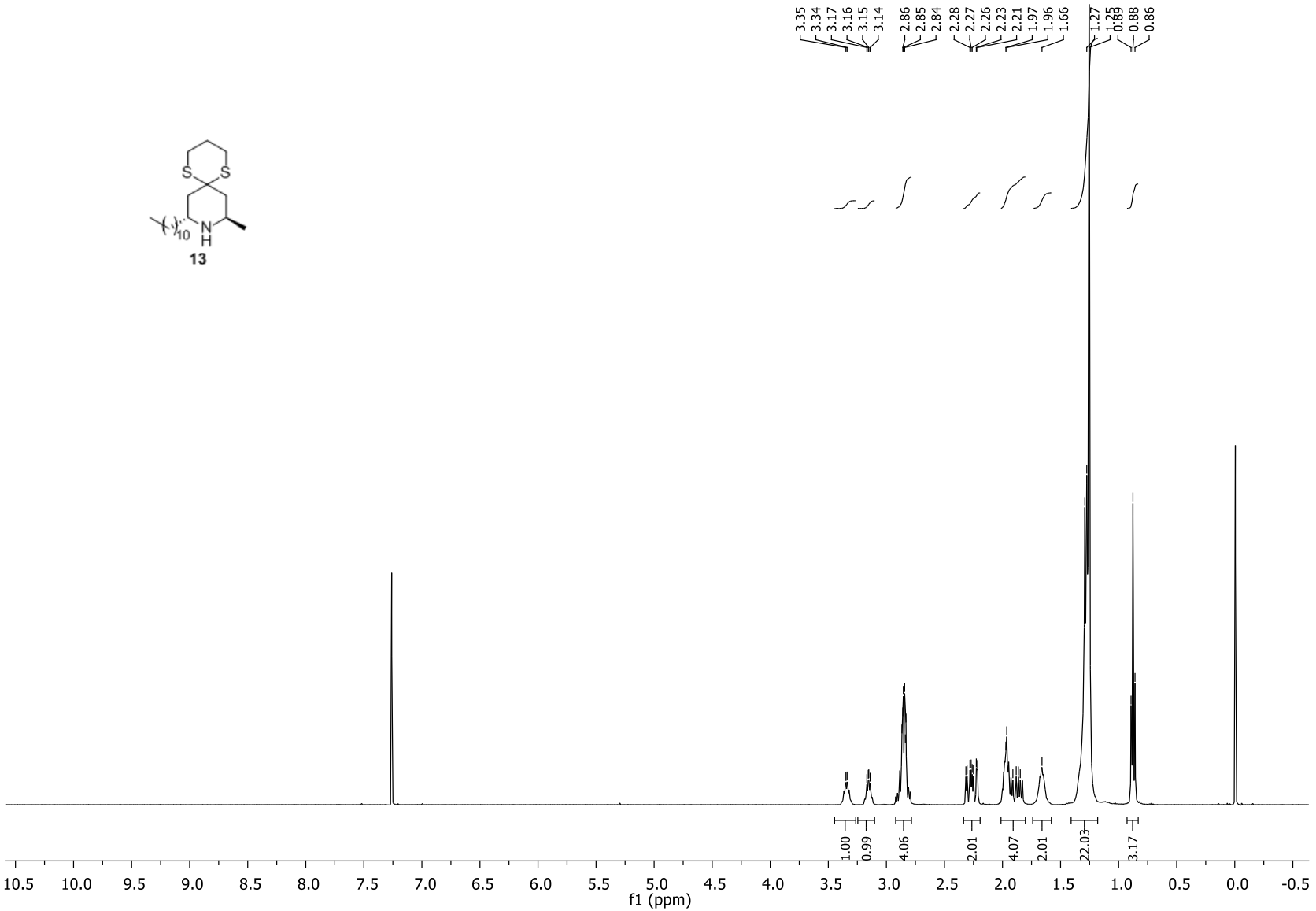

208.6
155.5
80.1
56.3
47.0
44.8
41.5
35.1
28.6
22.8
20.4
19.3
O
N
Boc
11k
210 200 190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 -10
f1 (ppm)

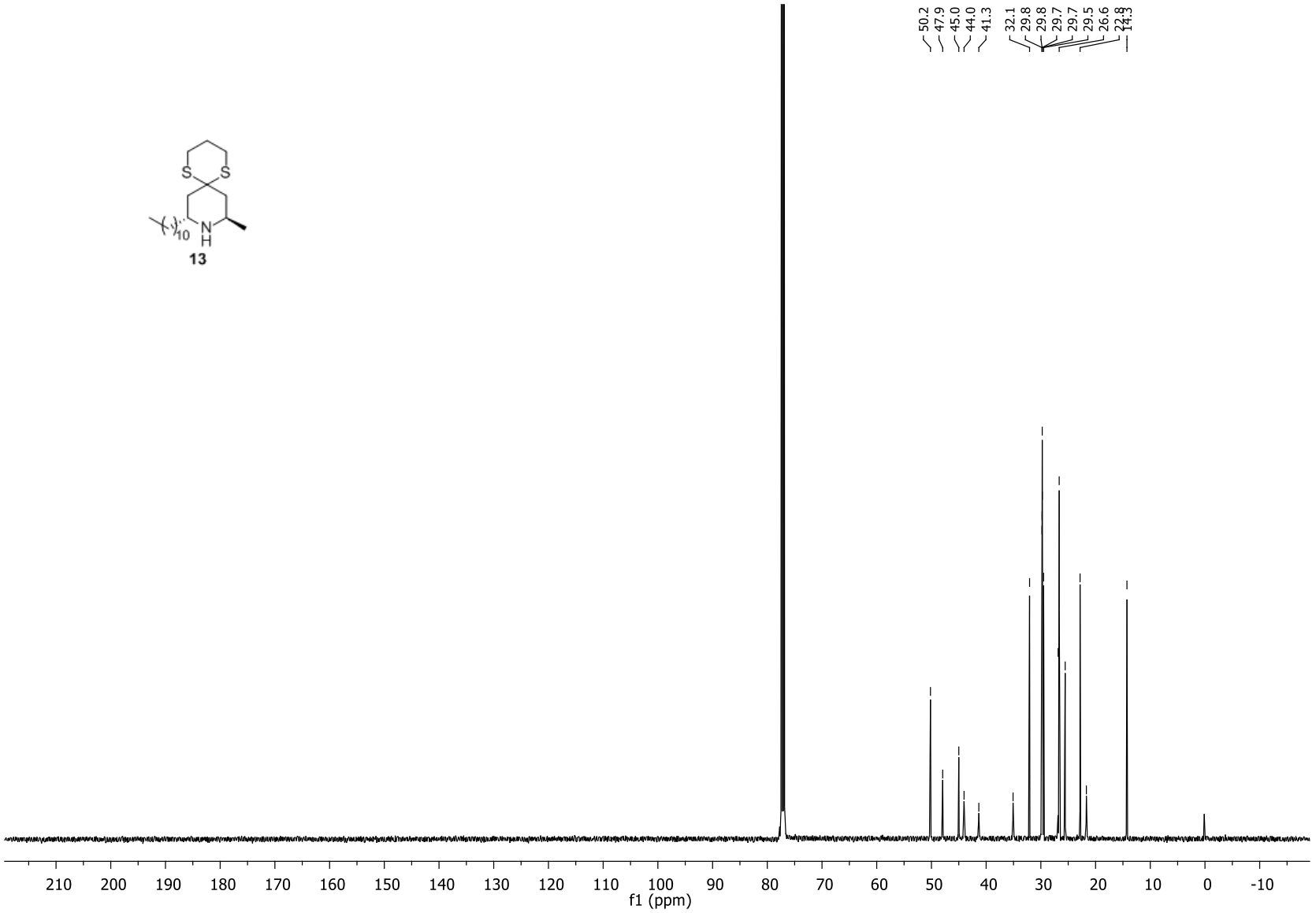

O
N
Boc
12k
4.62
4.25
2.68
2.66
2.65
2.56
2.56
2.55
2.54
2.31
2.31
2.30
2.30
2.28
2.28
2.27
2.27
1.81
1.80
1.79
1.48
1.31
1.29
0.98
0.97
0.93
0.92
0.83
0.90
1.22
2.04
0.96
1.13
9.13
3.19
3.00
3.22
10.5 10.0 9.5 9.0 8.5 8.0 7.5 7.0 6.5 6.0 5.5 5.0 4.5 4.0 3.5 3.0 2.5 2.0 1.5 1.0 0.5 0.0 -0.5
f1 (ppm)

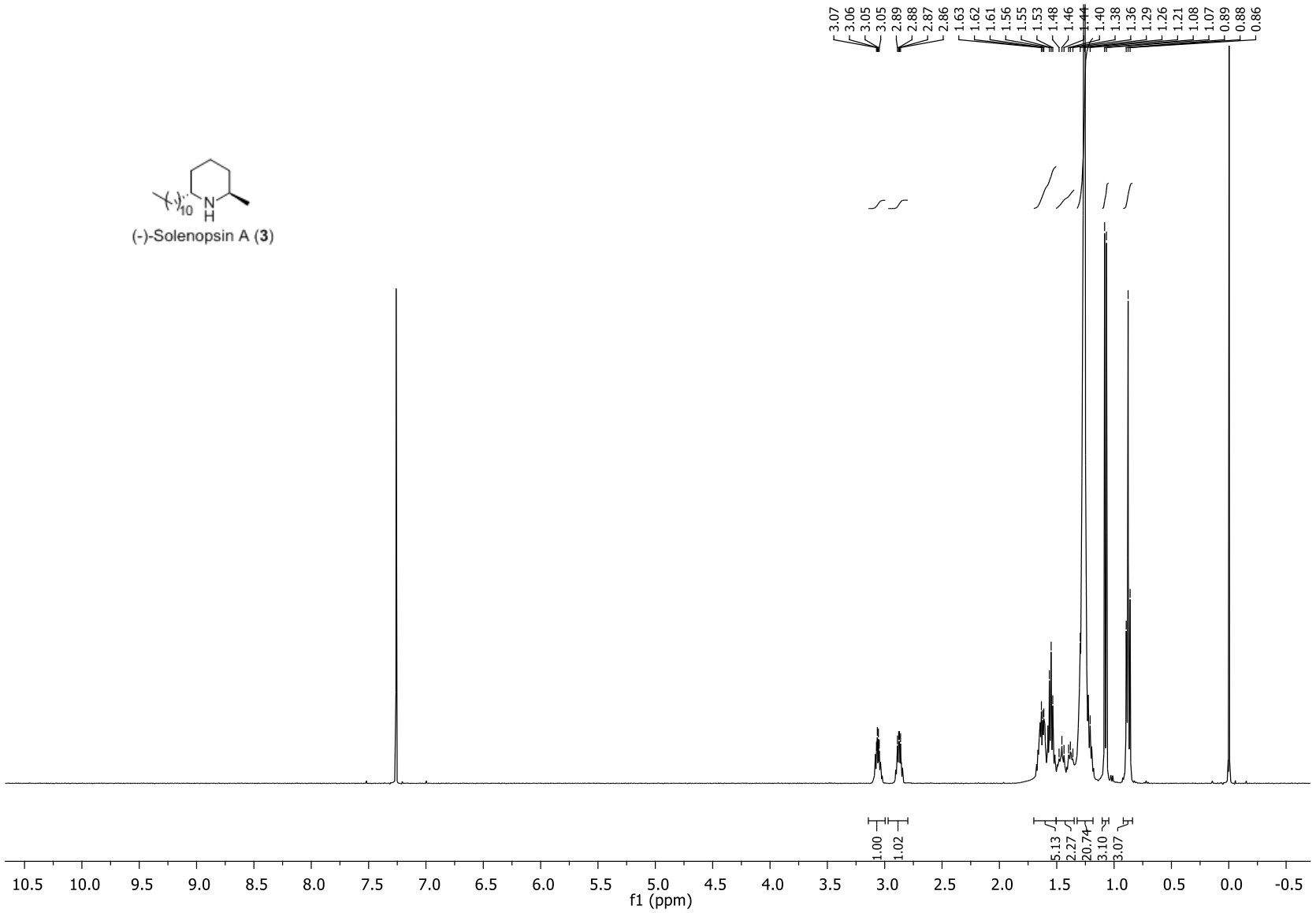

208.8
155.3
80.2
58.5
48.1
45.5
42.0
33.0
28.4
22.6
20.4
20.2
O
N
Boc
12k
210 200 190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0
f1 (ppm)

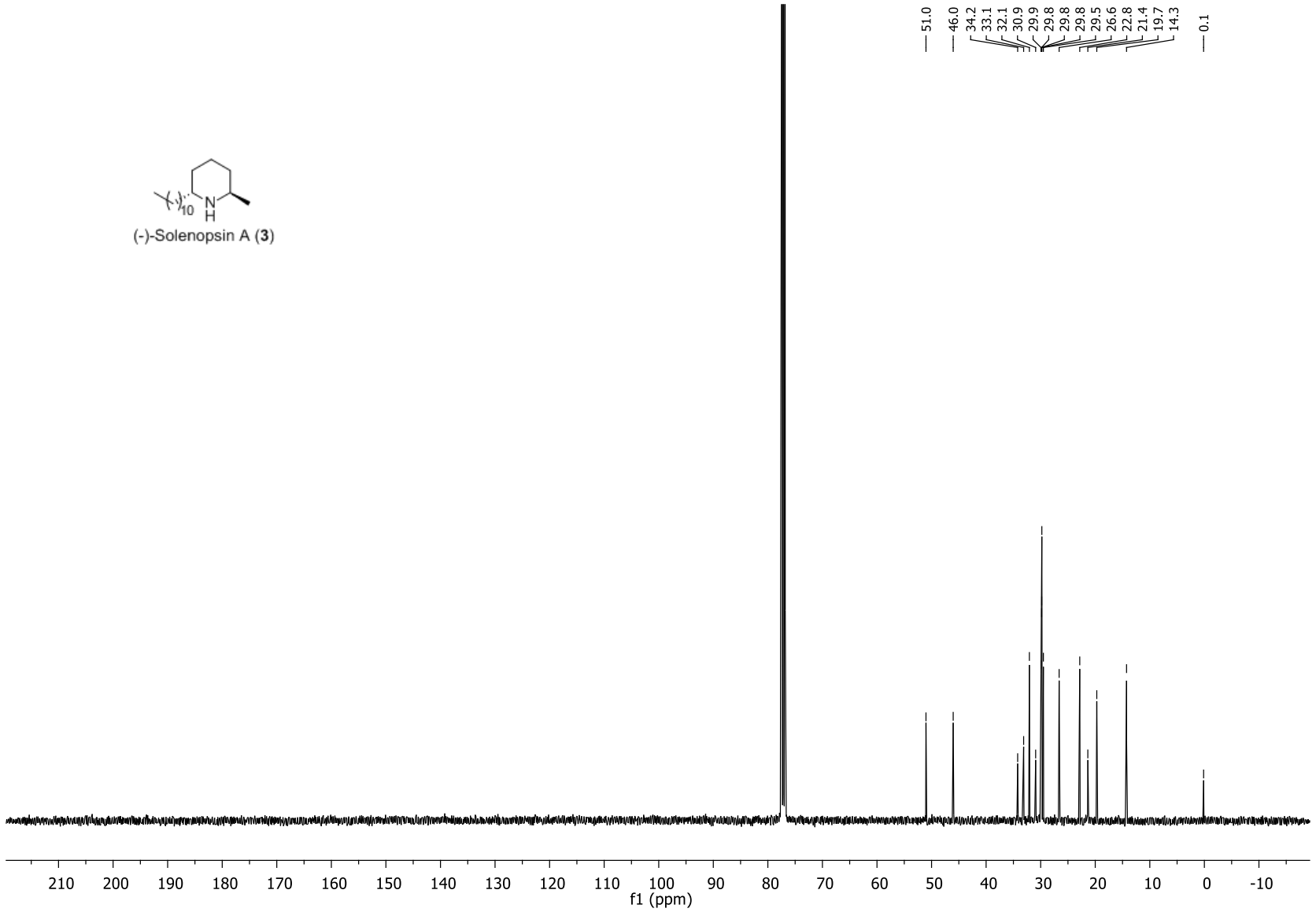

(+)-Myrtine (1)
3.39
3.38
3.37
3.37
3.36
3.36
2.82
2.81
2.47
2.46
2.24
2.23
2.19
2.16
1.69
1.68
1.67
1.31
1.28
1.24
1.22
1.19
0.96
0.95
0.96
1.98
0.98
1.06
3.11
3.01
1.17
1.26
1.38
3.00
10.5
10.0
9.5
9.0
8.5
8.0
7.5
7.0
6.5
6.0
5.5
5.0
4.5
4.0
3.5
3.0
2.5
2.0
1.5
1.0
0.5
0.0
-0.5
f1 (ppm)


209.7
57.2
53.6
51.5
48.8
48.2
34.4
26.0
23.5
11.2
O
N
(+)-Myrtine (1)
210 200 190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 -10
f1 (ppm)


13
3.35
3.34
3.17
3.16
3.15
3.14
2.86
2.85
2.84
2.28
2.27
2.26
2.23
2.21
1.97
1.96
1.66
1.27
0.89
0.88
0.86
1.00
0.99
4.06
2.01
4.07
2.01
22.03
3.17
10.5
10.0
9.5
9.0
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
-0.5
f1 (ppm)


50.2
47.9
45.0
44.0
41.3
32.1
29.8
29.8
29.7
29.7
29.5
26.6
22.8
14.3
S
S
N
H
10
13
210
200
190
180
170
160
150
140
130
120
110
100
90
80
70
60
50
40
30
20
10
0
-10
f1 (ppm)


(-)-Solenopsin A (3)
3.07
3.06
3.05
3.05
2.89
2.88
2.87
2.86
1.63
1.62
1.61
1.56
1.55
1.53
1.48
1.46
1.44
1.40
1.38
1.36
1.29
1.26
1.21
1.08
1.07
0.89
0.88
0.86
1.00
1.02
5.13
2.27
20.74
3.10
3.07
10.5
10.0
9.5
9.0
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
-0.5
f1 (ppm)


51.0
46.0
34.2
33.1
32.1
30.9
29.9
29.8
29.8
29.8
29.5
26.6
22.8
21.4
19.7
14.3
0.1
10
N
H
(-)-Solenopsin A (3)
210 200 190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 -10
f1 (ppm)