Supporting information for:

Diastereoselective 1,4-Conjugate Addition of Alkyl-Cuprates to Methyl Cyclopent-1-enecarboxylates

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Content:

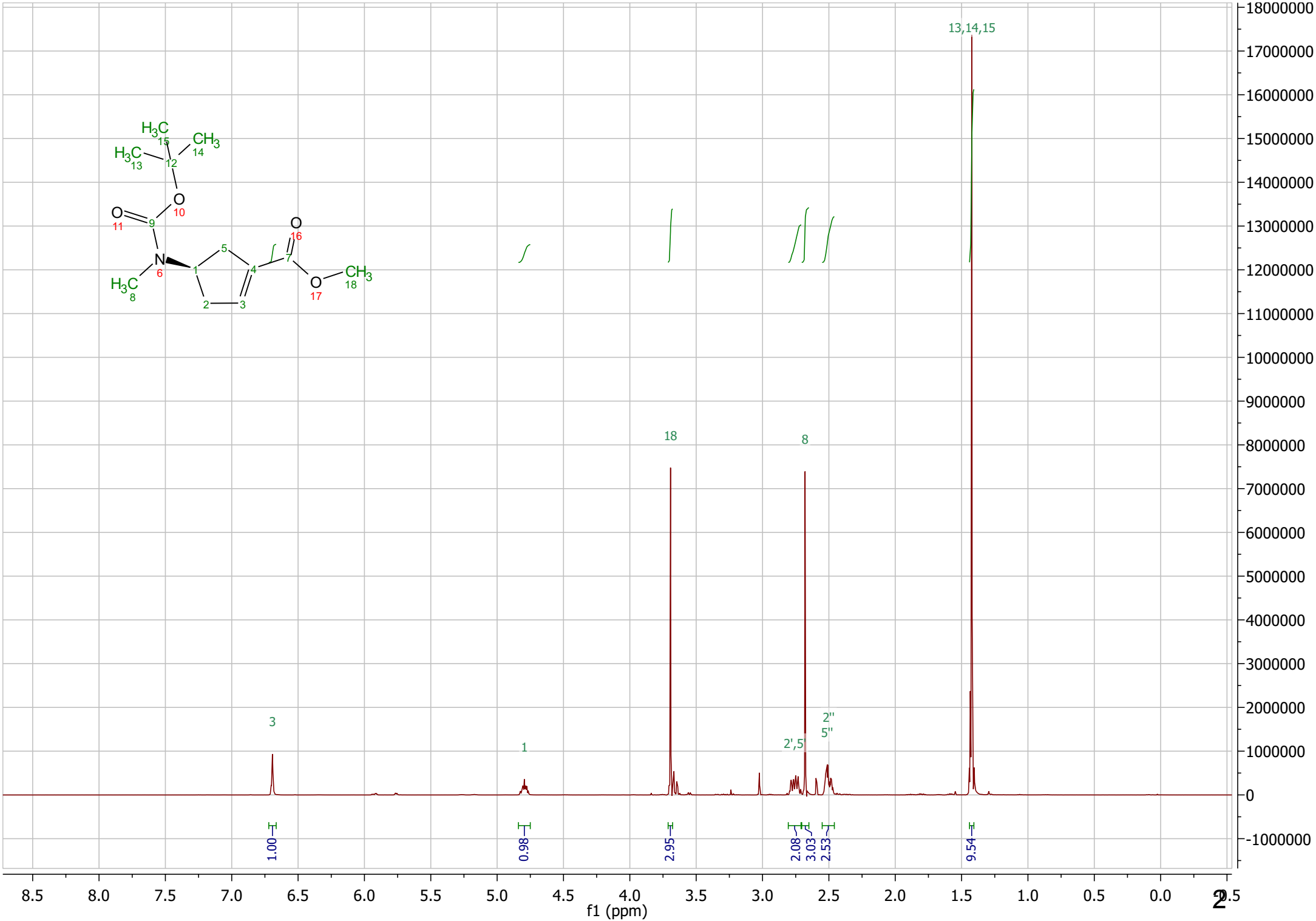
S 2-3 ^{1}H NMR, ^{13}C NMR for compound **3**

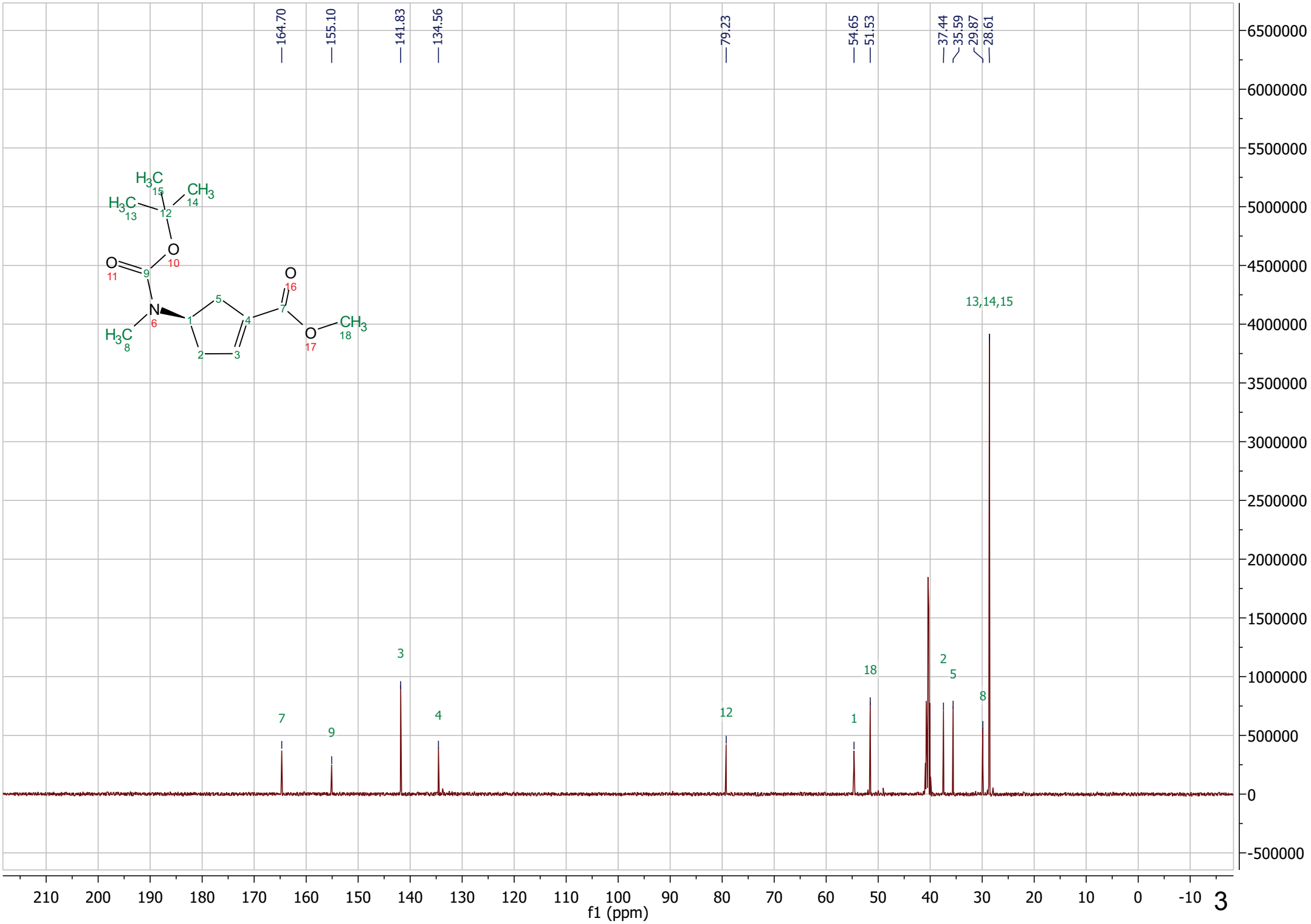
S 4-9 ^{1}H NMR, ^{13}C NMR, 2D NMR for compound **7**

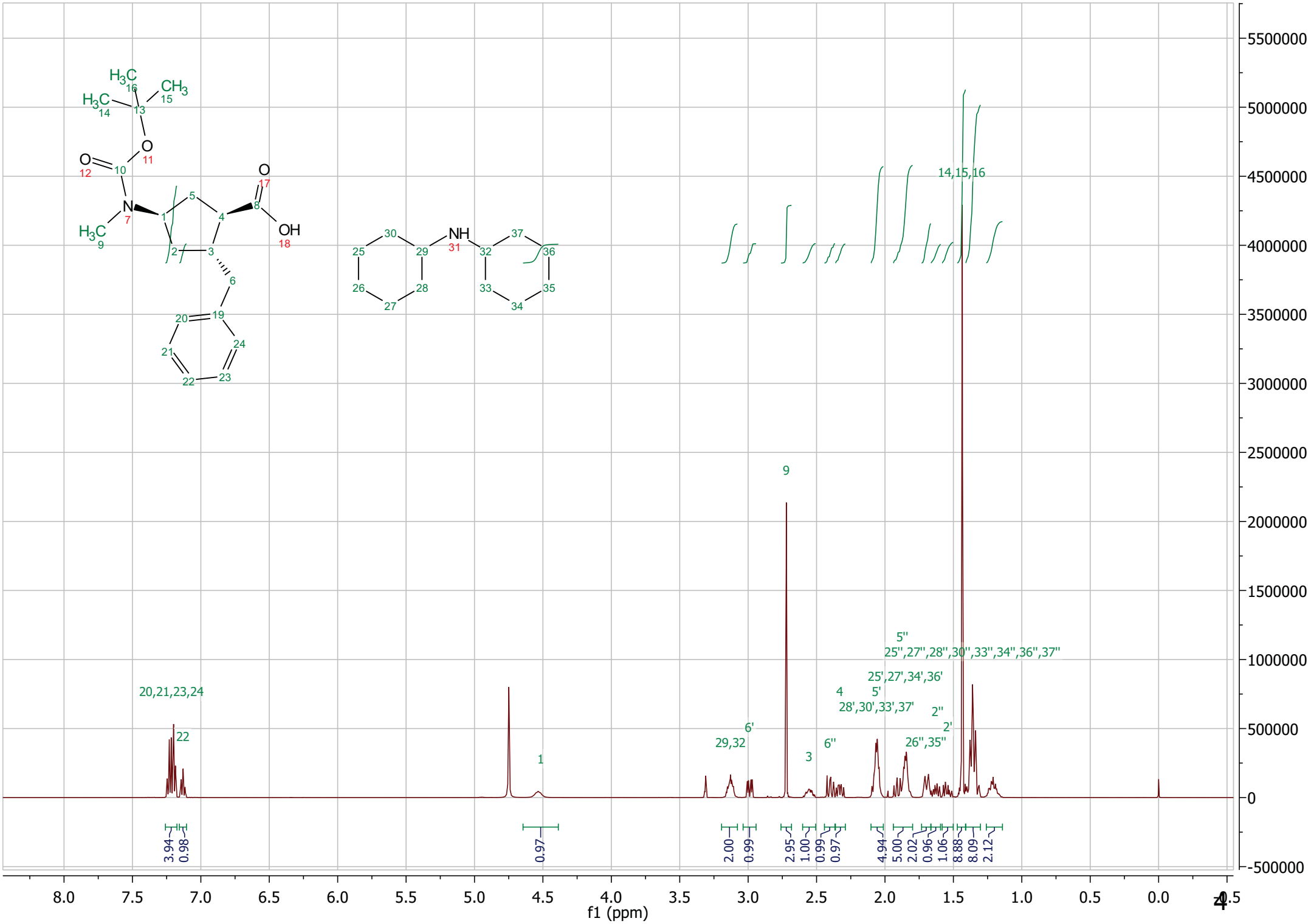
S 10-14 ^{1}H NMR, ^{13}C NMR, 2D NMR for compound **8**

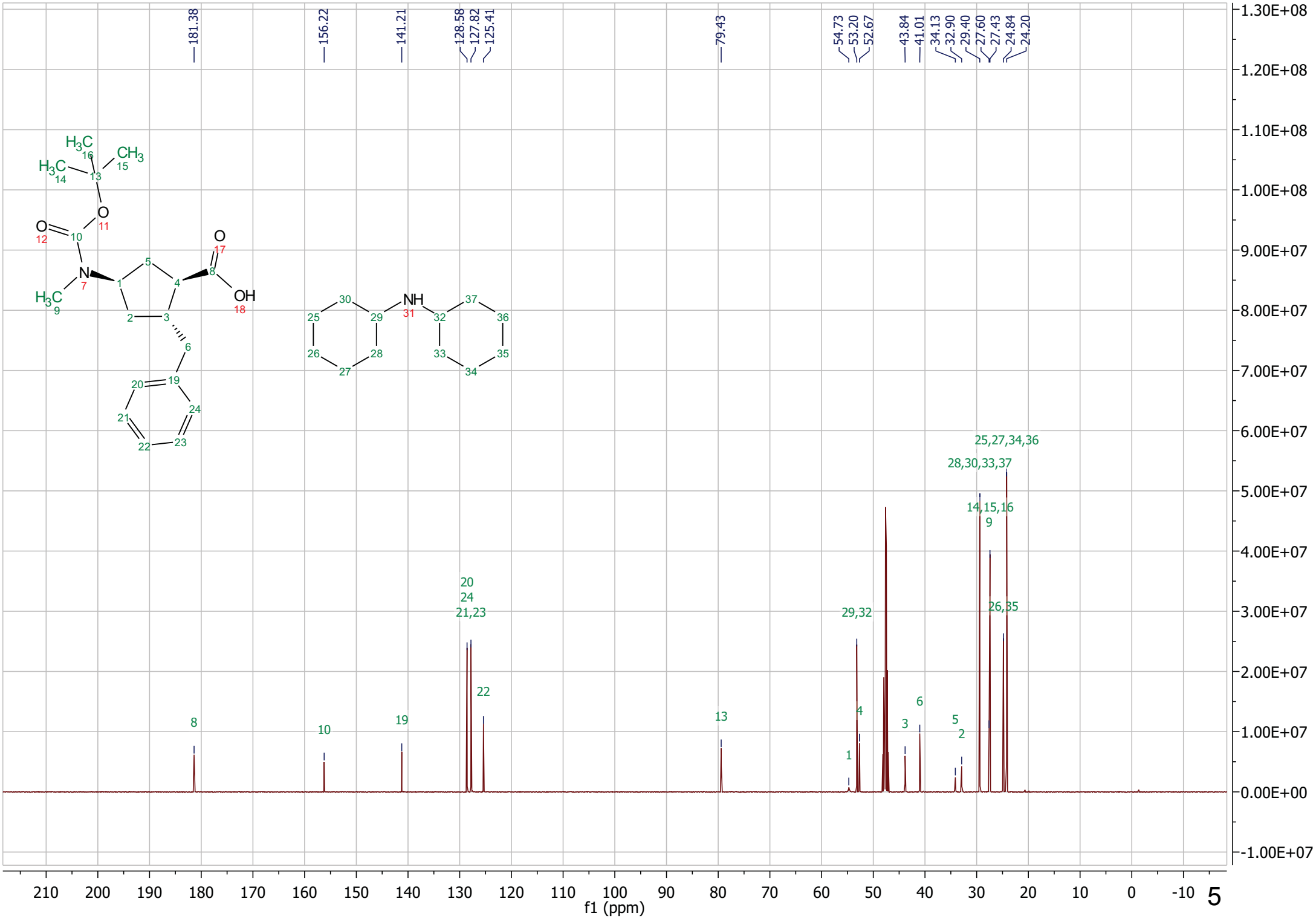
S 15-16 ^{1}H NMR, ^{13}C NMR for compound **1**

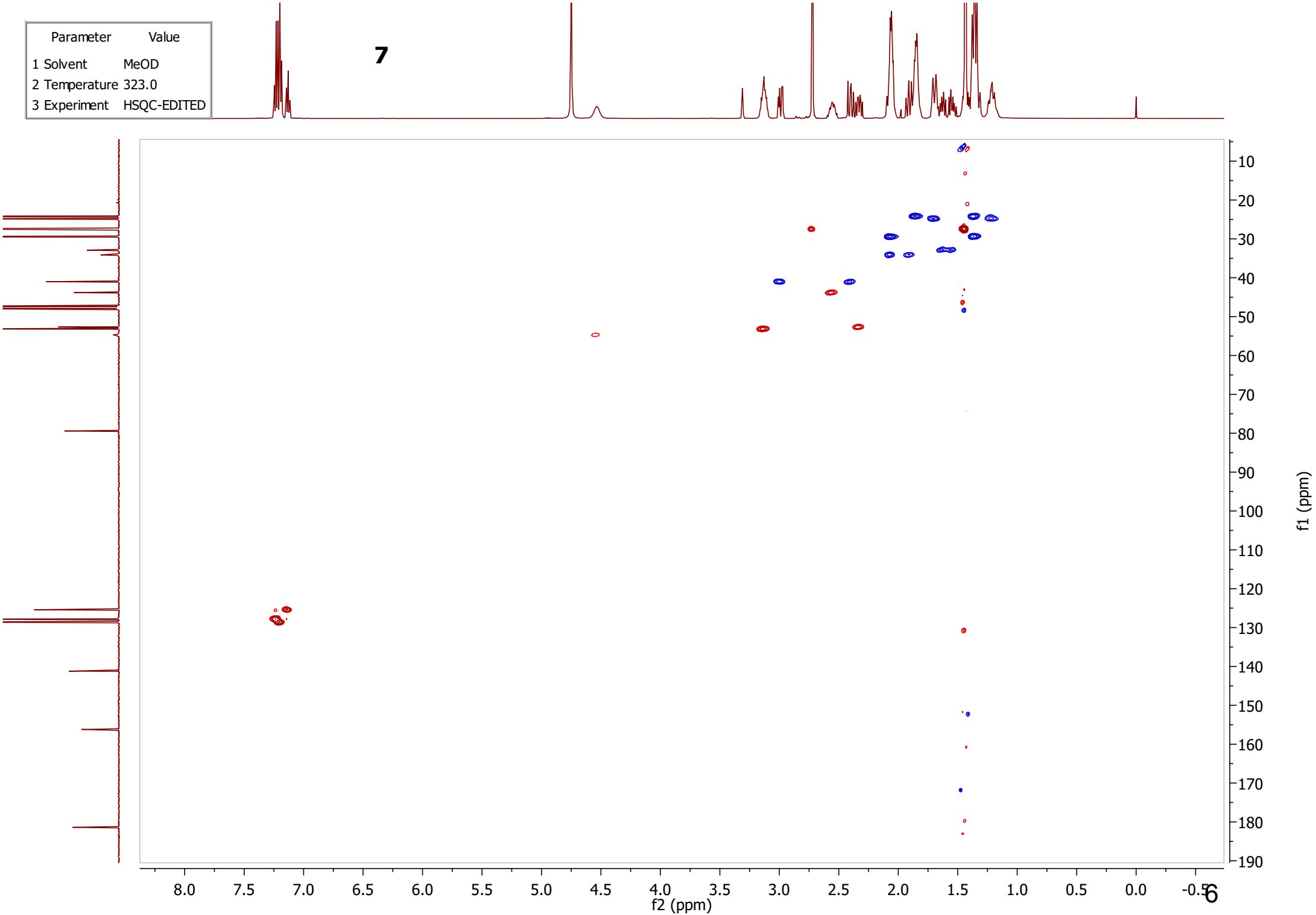
S 17-18 ^{1}H NMR, ^{13}C NMR for compound **2**

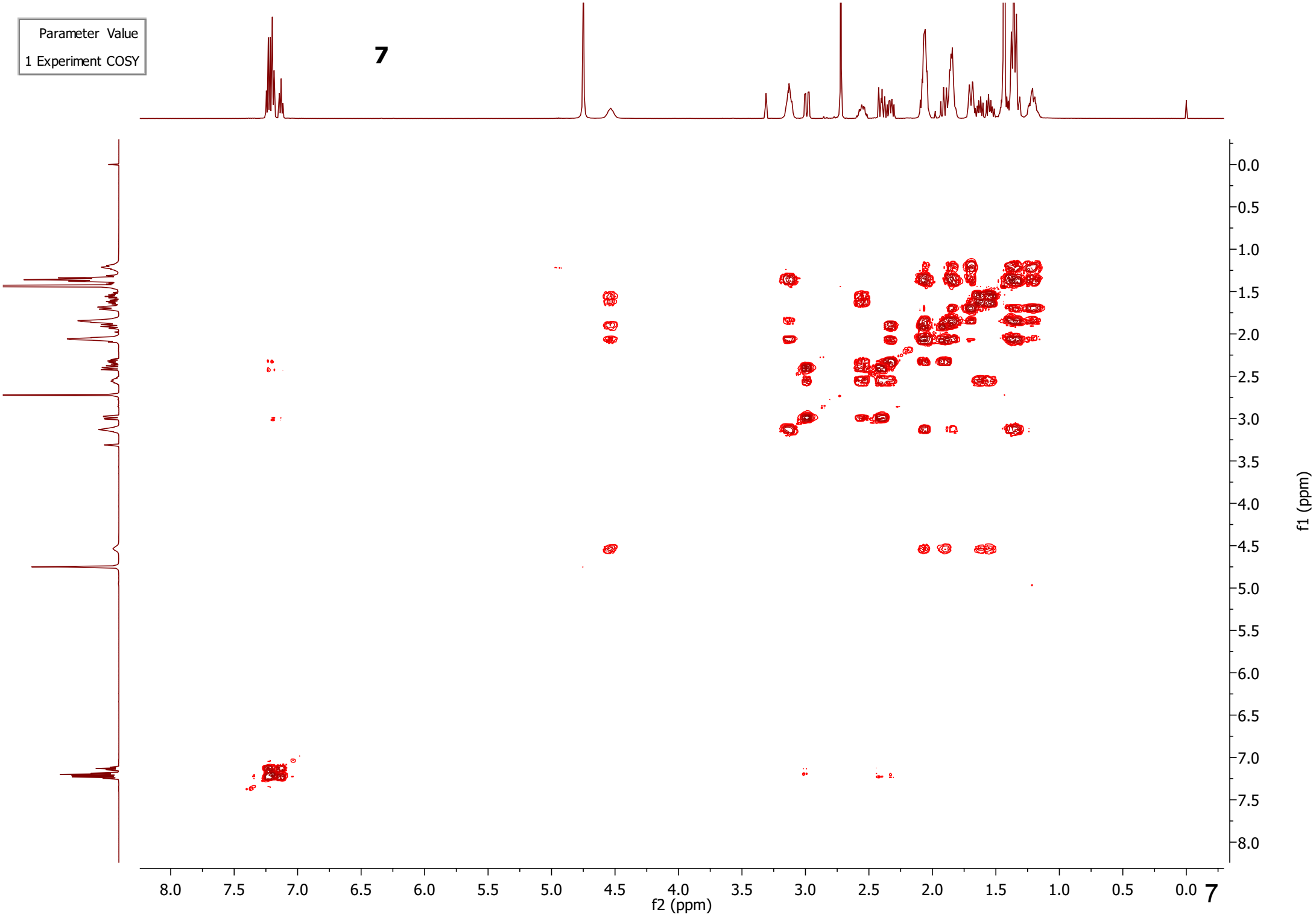

13,14,15
18
8
3
1
2'
5'
2''
5''
1.00
0.98
2.95
2.08
3.03
2.53
9.54
f1 (ppm)

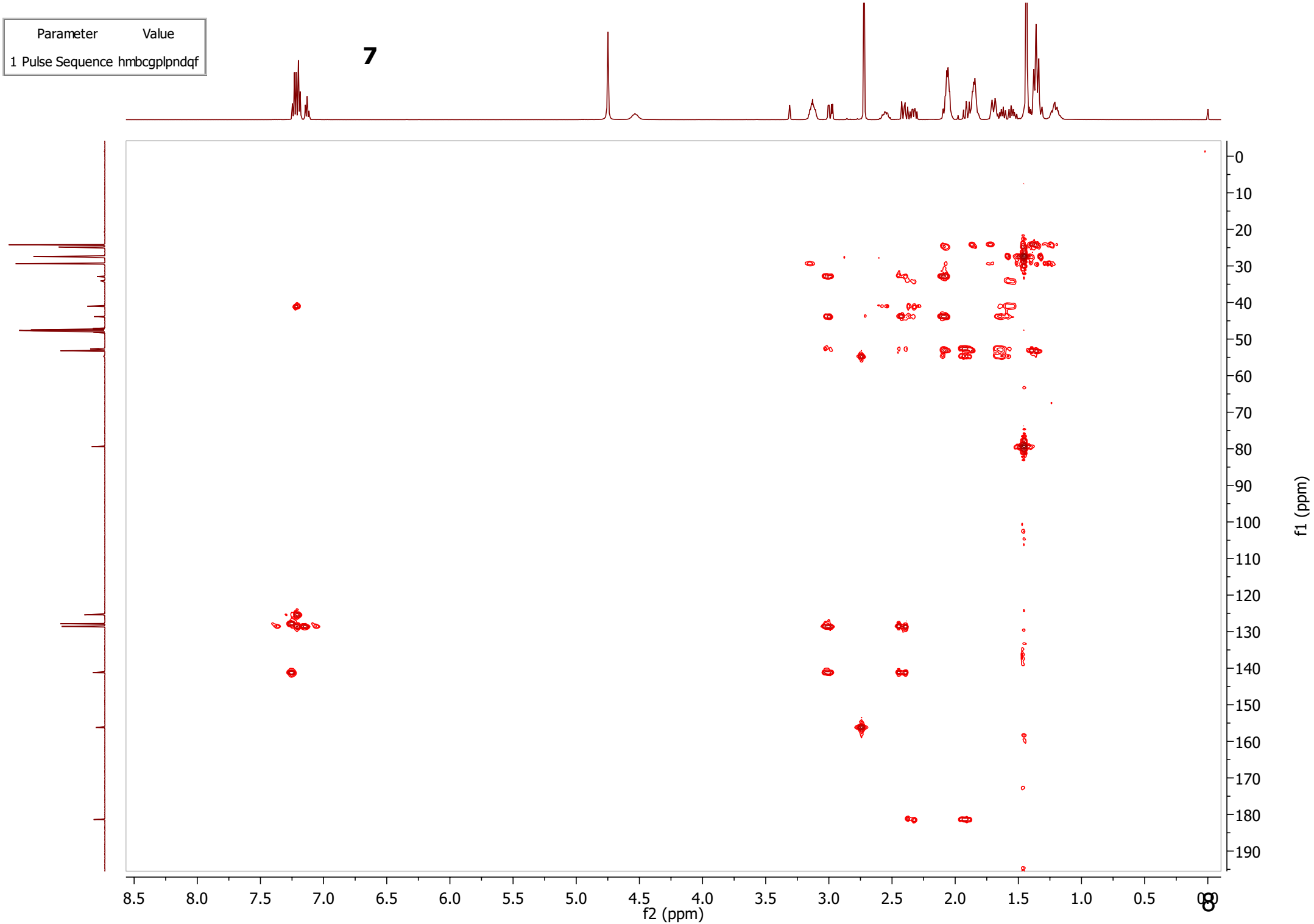

164.70
155.10
141.83
134.56
79.23
54.65
51.53
37.44
35.59
29.87
28.61
13,14,15
7
9
3
4
12
1
18
2
5
8
f1 (ppm)

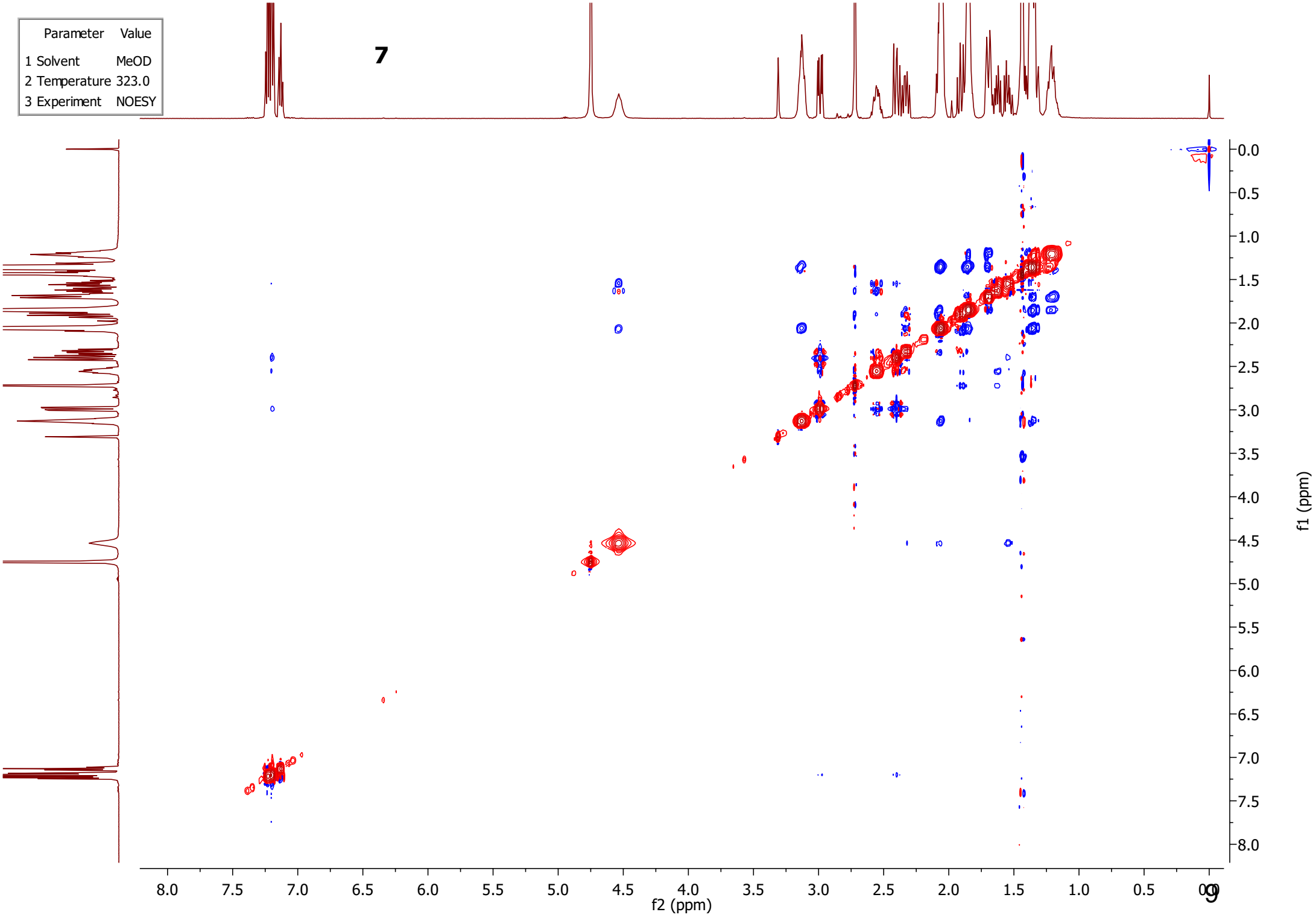

f1 (ppm)
20,21,23,24
22
1
29,32
6'
9
3
6''
4
28',30',33',37'
5'
25',27',34',36'
5''
25'',27'',28'',30'',33'',34'',36'',37''
2''
2'
26'',35''
14,15,16
3.94
0.98
0.97
2.00
0.99
2.95
1.00
0.99
0.97
4.94
5.00
2.02
0.96
1.06
8.88
8.09
2.12

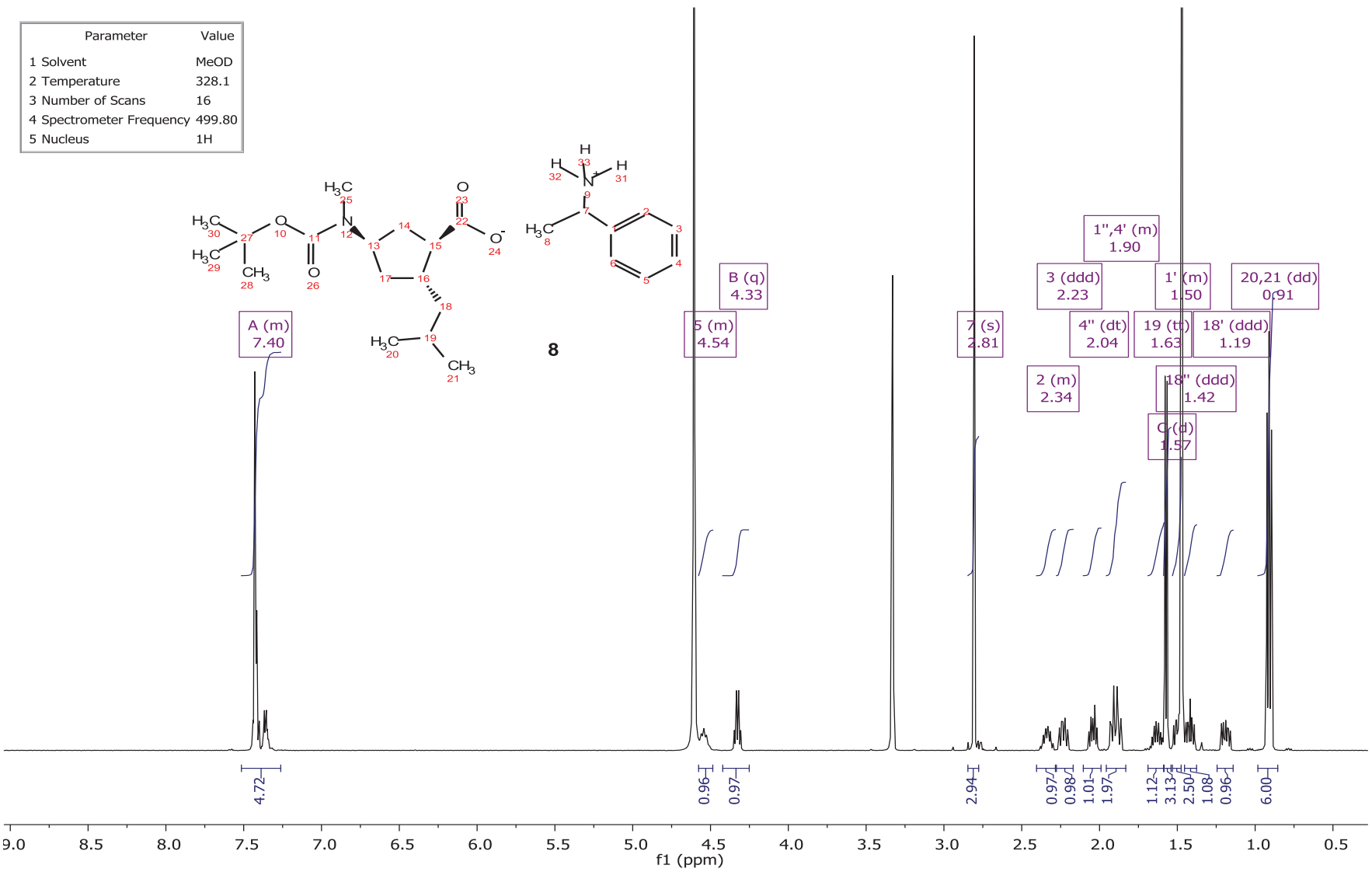

181.38
156.22
141.21
128.58
127.82
125.41
79.43
54.73
53.20
52.67
43.84
41.01
34.13
32.90
29.40
27.60
27.43
24.84
24.20
25,27,34,36
28,30,33,37
14,15,16
9
26,35
29,32
20
24
21,23
22
8
10
19
13
4
1
3
6
5
2
f1 (ppm)


Parameter Value
1 Solvent MeOD
2 Temperature 323.0
3 Experiment HSQC-EDITED
7
f2 (ppm)
f1 (ppm)


Parameter Value
1 Experiment COSY
7
f2 (ppm)
f1 (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
0.0
7

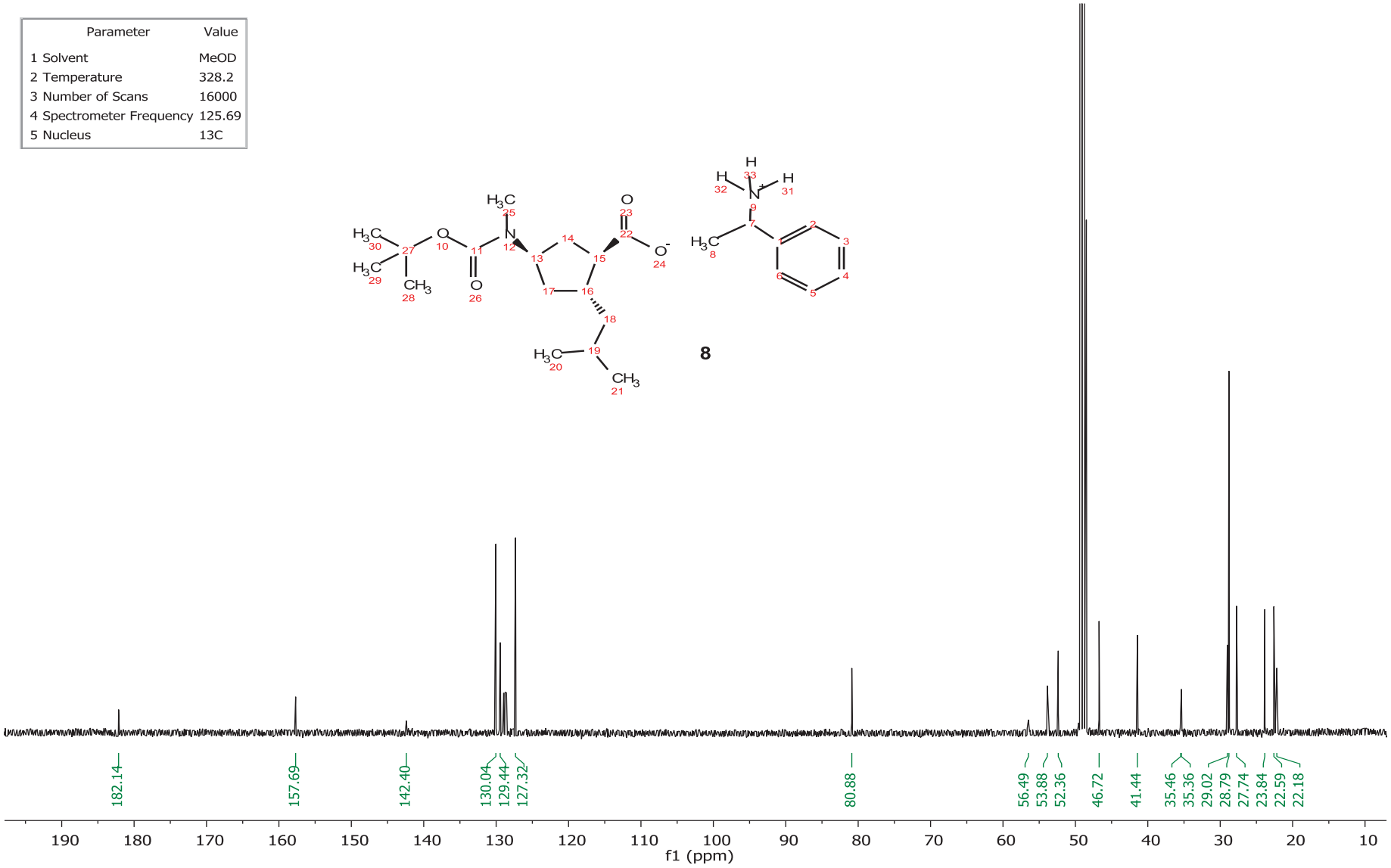

Parameter Value
1 Pulse Sequence hmbcgplpndqf
7
f2 (ppm)
f1 (ppm)
8.5 8.0 7.5 7.0 6.5 6.0 5.5 5.0 4.5 4.0 3.5 3.0 2.5 2.0 1.5 1.0 0.5 0.0
0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 160 170 180 190


Parameter Value
1 Solvent MeOD
2 Temperature 323.0
3 Experiment NOESY
7
f2 (ppm)
f1 (ppm)


Parameter Value
1 Solvent MeOD
2 Temperature 328.1
3 Number of Scans 16
4 Spectrometer Frequency 499.80
5 Nucleus 1H
8
A (m) 7.40
5 (m) 4.54
B (q) 4.33
7 (s) 2.81
2 (m) 2.34
3 (ddd) 2.23
4'' (dt) 2.04
1'',4' (m) 1.90
1' (m) 1.50
19 (tt) 1.63
18'' (ddd) 1.42
C (d) 1.57
18' (ddd) 1.19
20,21 (dd) 0.91
4.72
0.96
0.97
2.94
0.97
0.98
1.01
1.97
1.12
3.13
2.50
1.08
0.96
6.00
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
f1 (ppm)

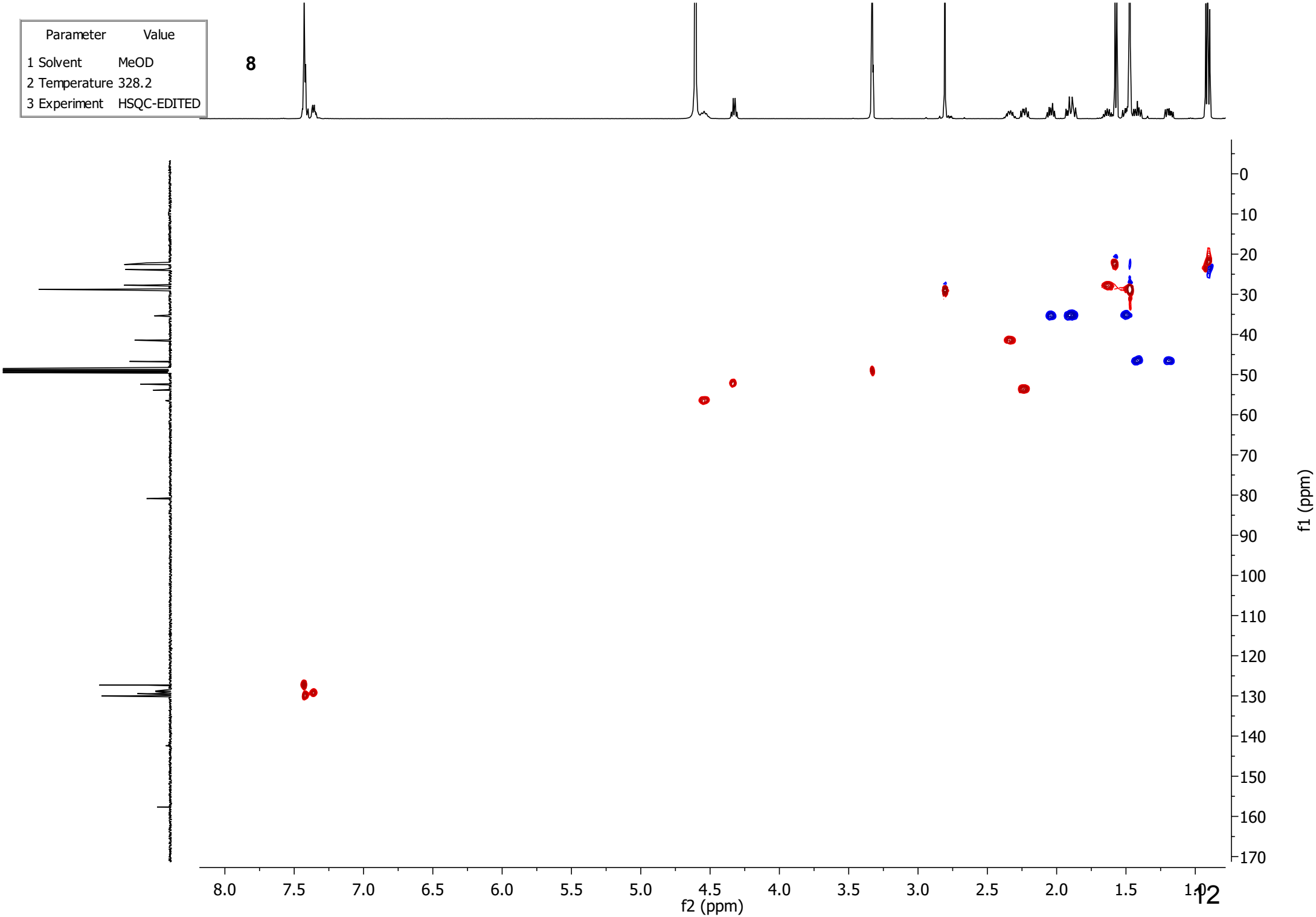
Parameter	Value
1 Solvent	MeOD
2 Temperature	328.2
3 Number of Scans	16000
4 Spectrometer Frequency	125.69
5 Nucleus	13C

8



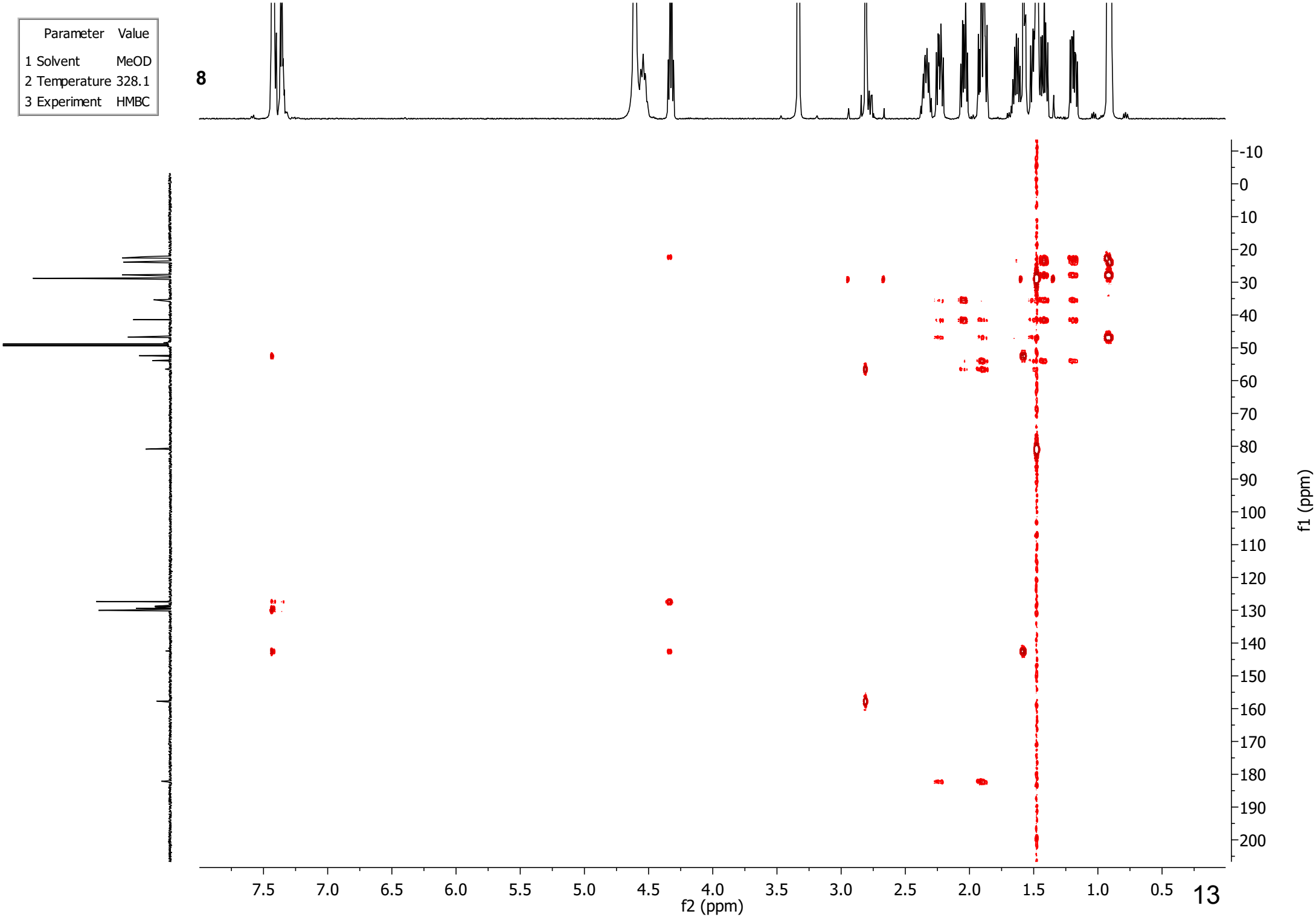
Parameter	Value
1 Solvent	MeOD
2 Temperature	328.2
3 Experiment	HSQC-EDITED

8



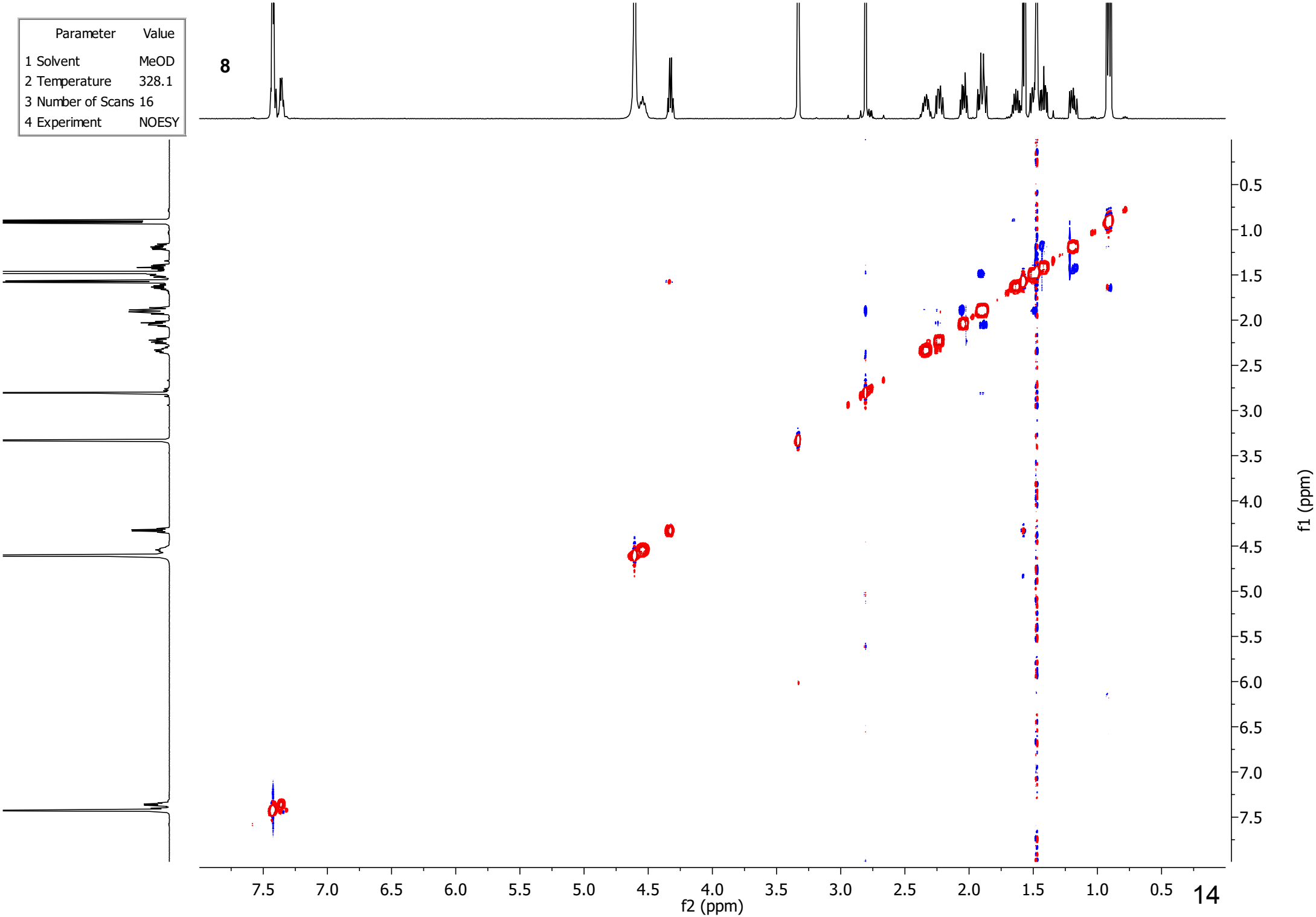
Parameter	Value
1 Solvent	MeOD
2 Temperature	328.1
3 Experiment	HMBC

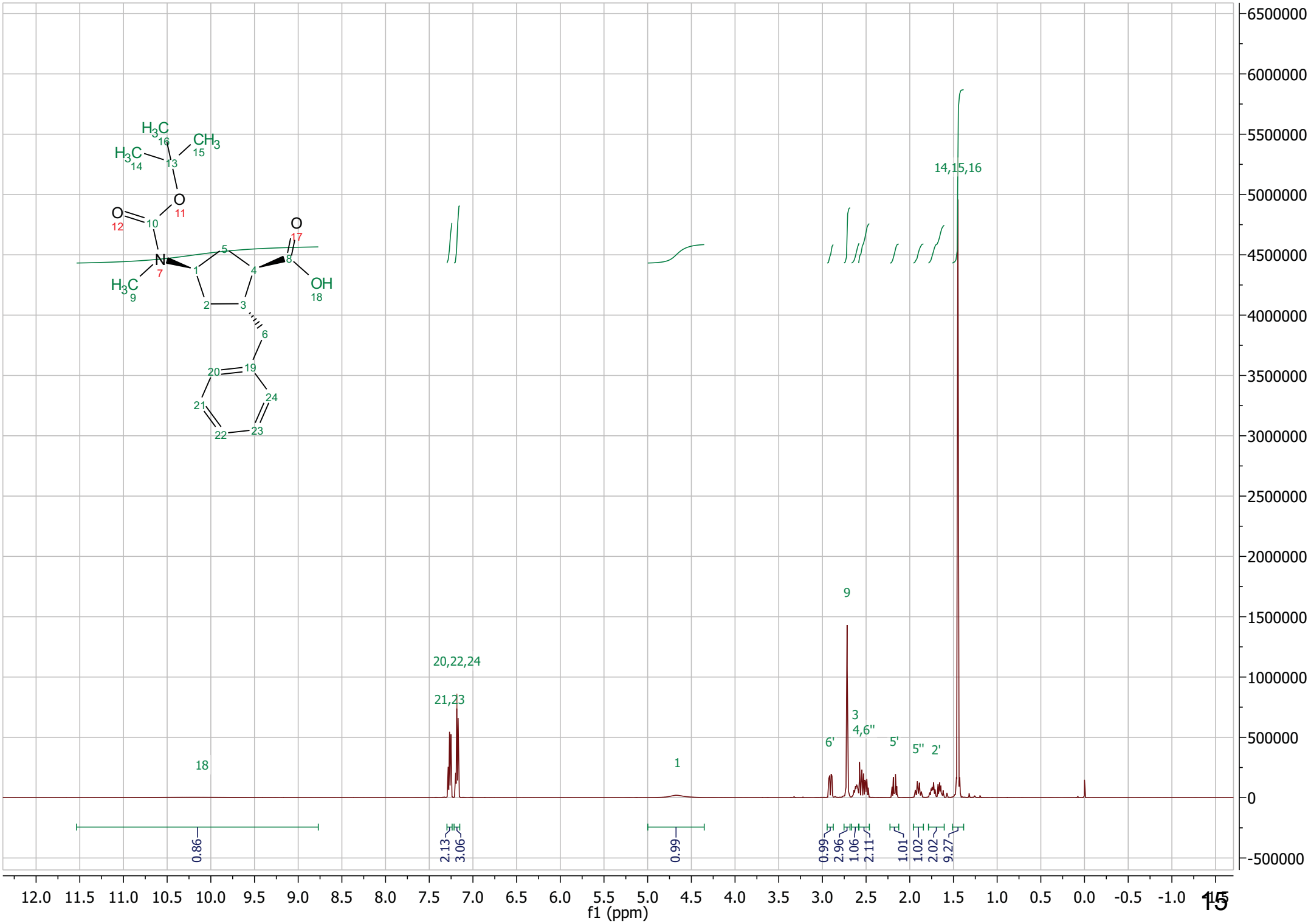
8

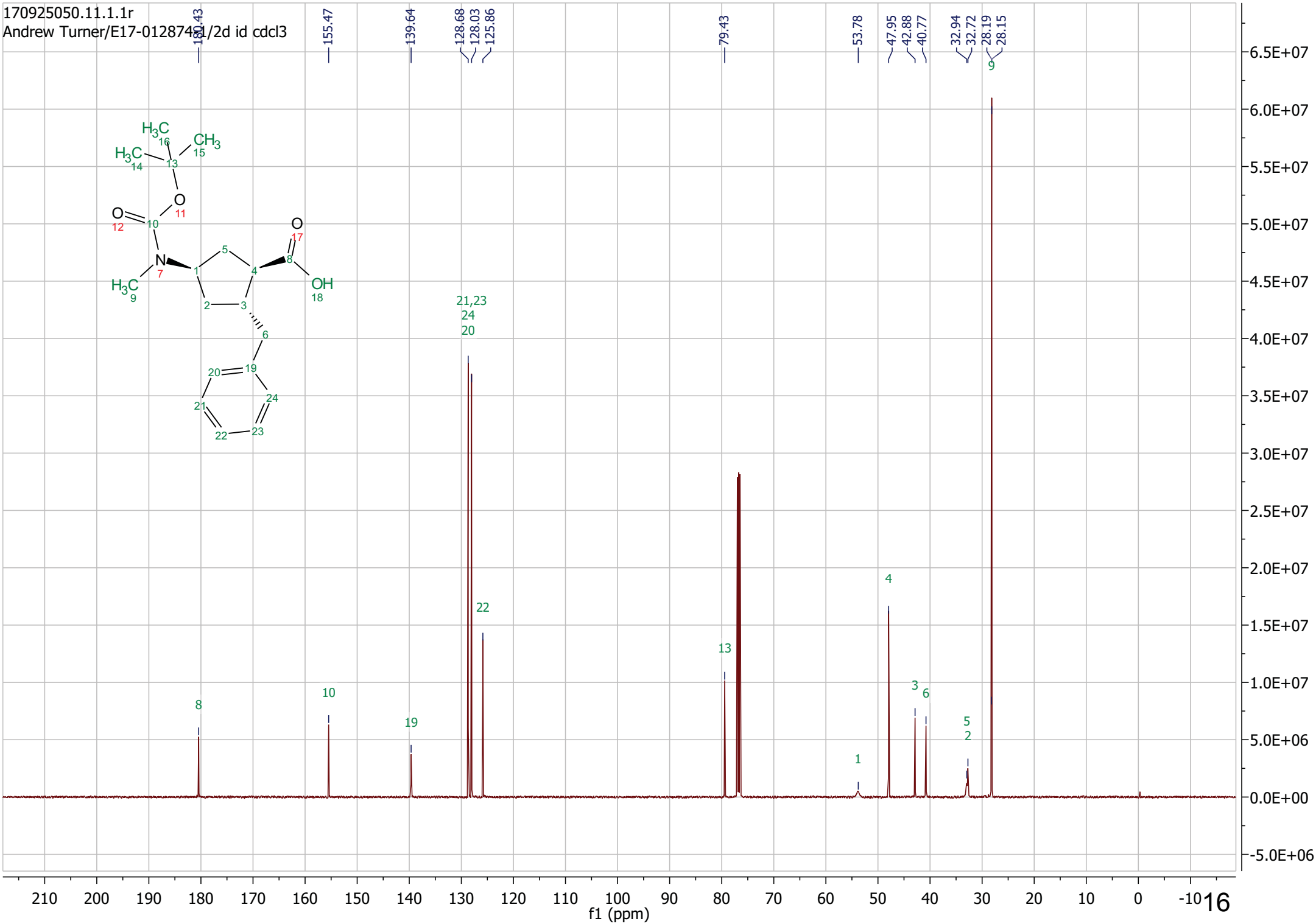


Parameter	Value
1 Solvent	MeOD
2 Temperature	328.1
3 Number of Scans	16
4 Experiment	NOESY

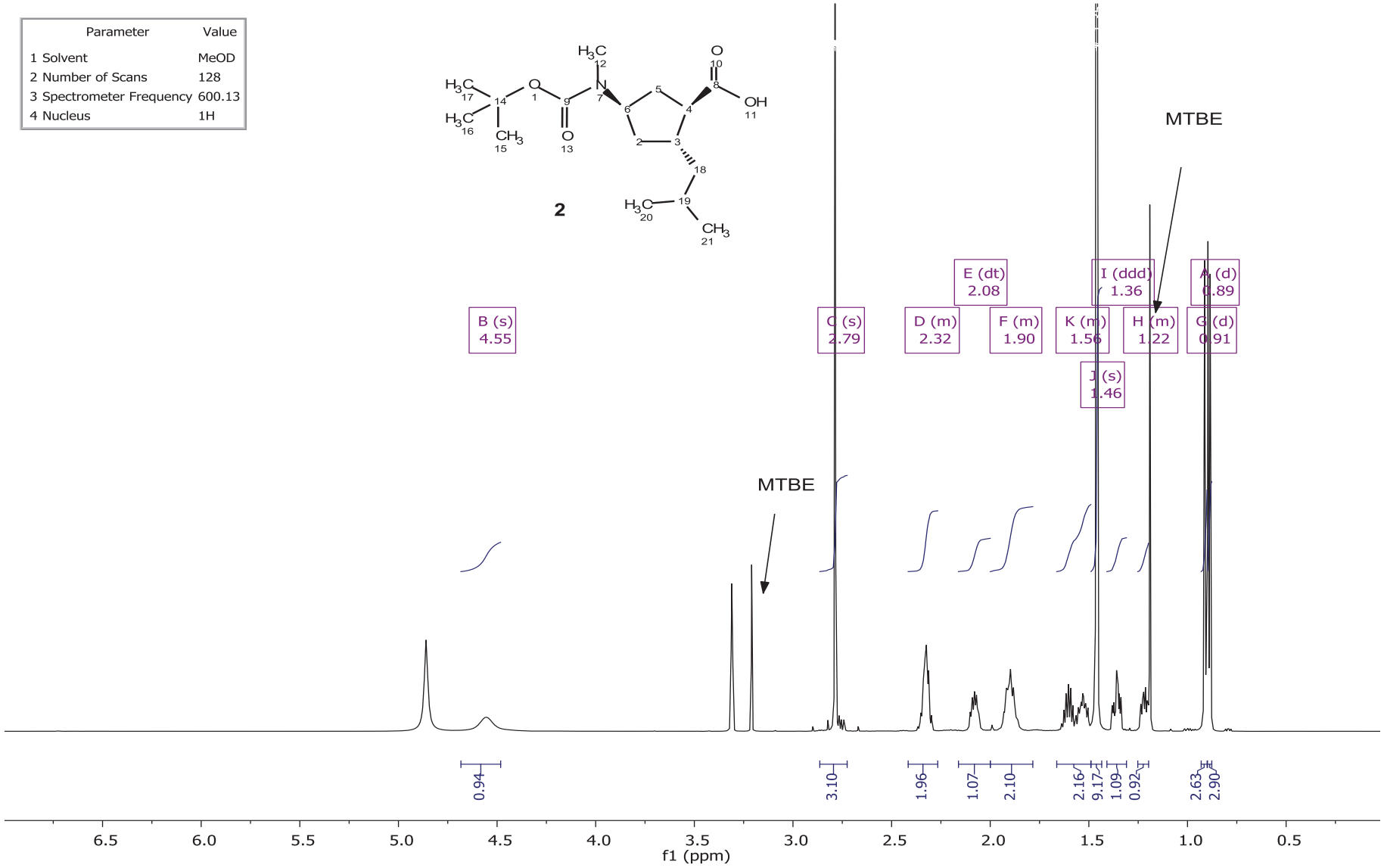
8




14,15,16
9
20,22,24
21,23
3
4,6''
6'
5'
5''
2'
18
1
0.86
2.13
3.06
0.99
0.99
2.96
1.06
2.11
1.01
1.02
2.02
9.27
f1 (ppm)


170925050.11.1.1r
Andrew Turner/E17-0128740 1/2d id cdcl3
180.43
155.47
139.64
128.68
128.03
125.86
79.43
53.78
47.95
42.88
40.77
32.94
32.72
28.19
28.15
21,23
24
20
22
13
4
8
10
19
3
6
5
2
1
9
f1 (ppm)

Parameter	Value
1 Solvent	MeOD
2 Number of Scans	128
3 Spectrometer Frequency	600.13
4 Nucleus	1H



Parameter	Value
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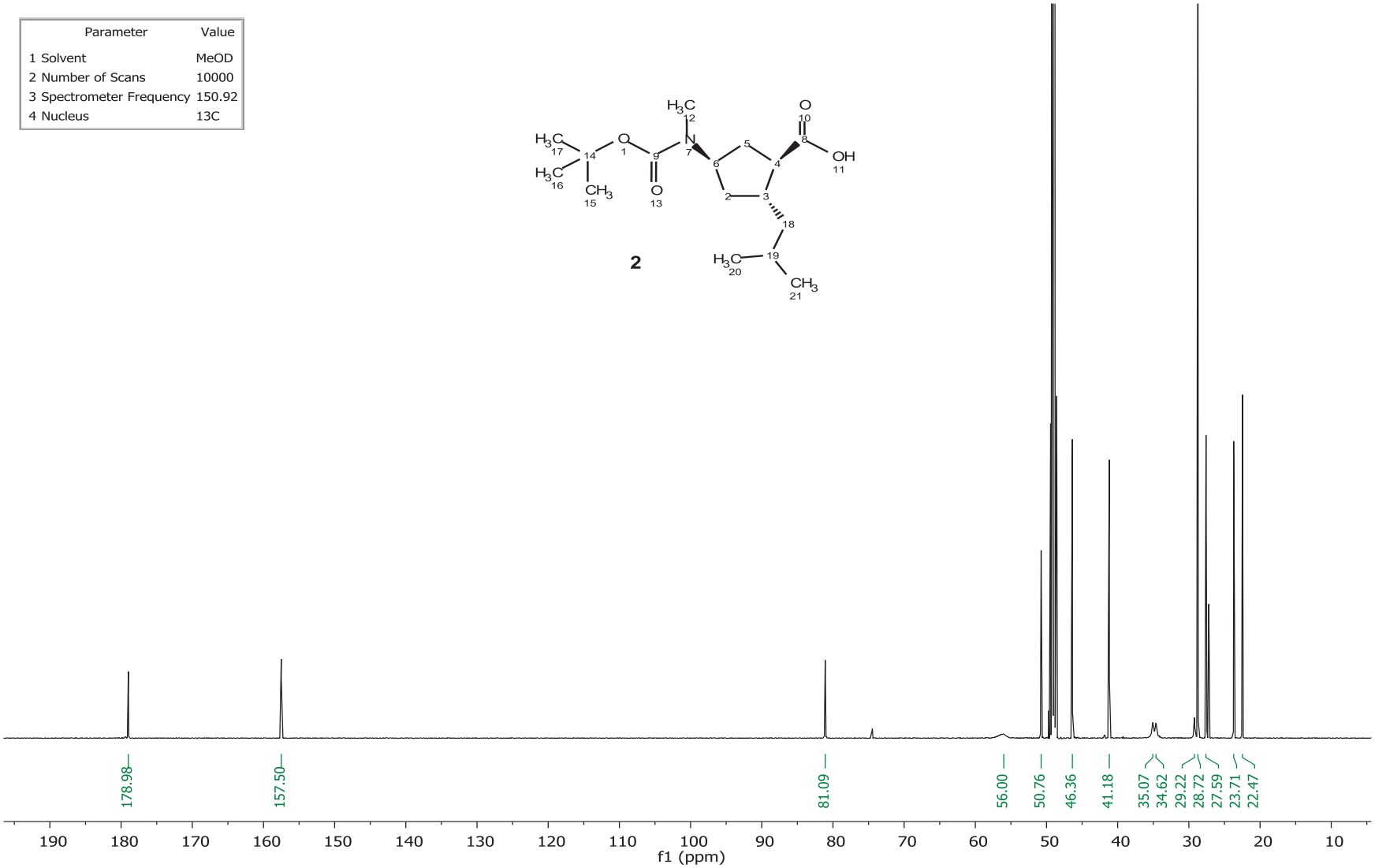
2 Number of Scans	10000
3 Spectrometer Frequency	150.92
4 Nucleus	13C

2