

## Supporting Information File 2

for

# Synthesis of divalent ligands of $\beta$ -thio- and $\beta$ -N-galactopyranosides and related lactosides and their evaluation as substrates and inhibitors of *Trypanosoma cruzi* trans-sialidase

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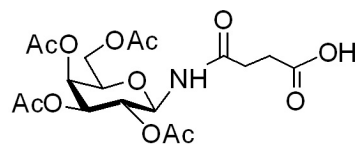
E-mail: María Laura Uhrig - mluhrig@qo.fcen.uba.ar; Rosa M. de Lederkremer - lederk@qo.fcen.uba.ar

\*Corresponding author

§Contributed equally to this work.

**Copies of <sup>1</sup>H and <sup>13</sup>C NMR spectra of compounds 2, 3, 5, 6, 8, 10–13, 15–22 and 25**

# Compound 2

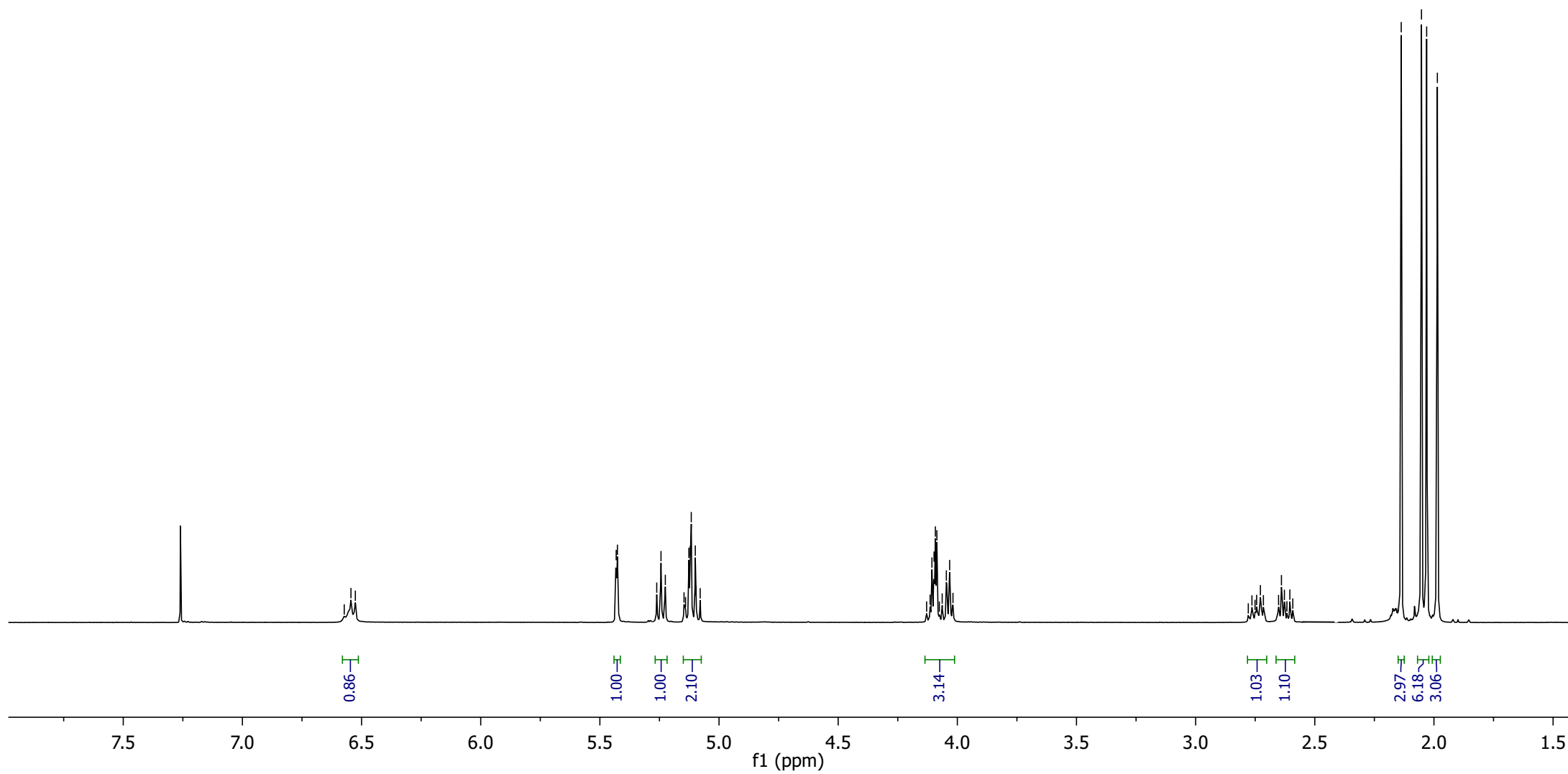


6.57  
6.54  
6.53

5.43  
5.43  
5.29  
5.26  
5.24  
5.23  
5.15  
5.14  
5.13  
5.12  
5.12  
5.10  
5.10  
5.08

4.13  
4.11  
4.11  
4.10  
4.09  
4.09  
4.08  
4.06  
4.05  
4.03  
4.02

2.78  
2.76  
2.75  
2.74  
2.73  
2.72  
2.65  
2.64  
2.63  
2.62  
2.60  
2.59  
4  
2.05  
2.03  
1.99

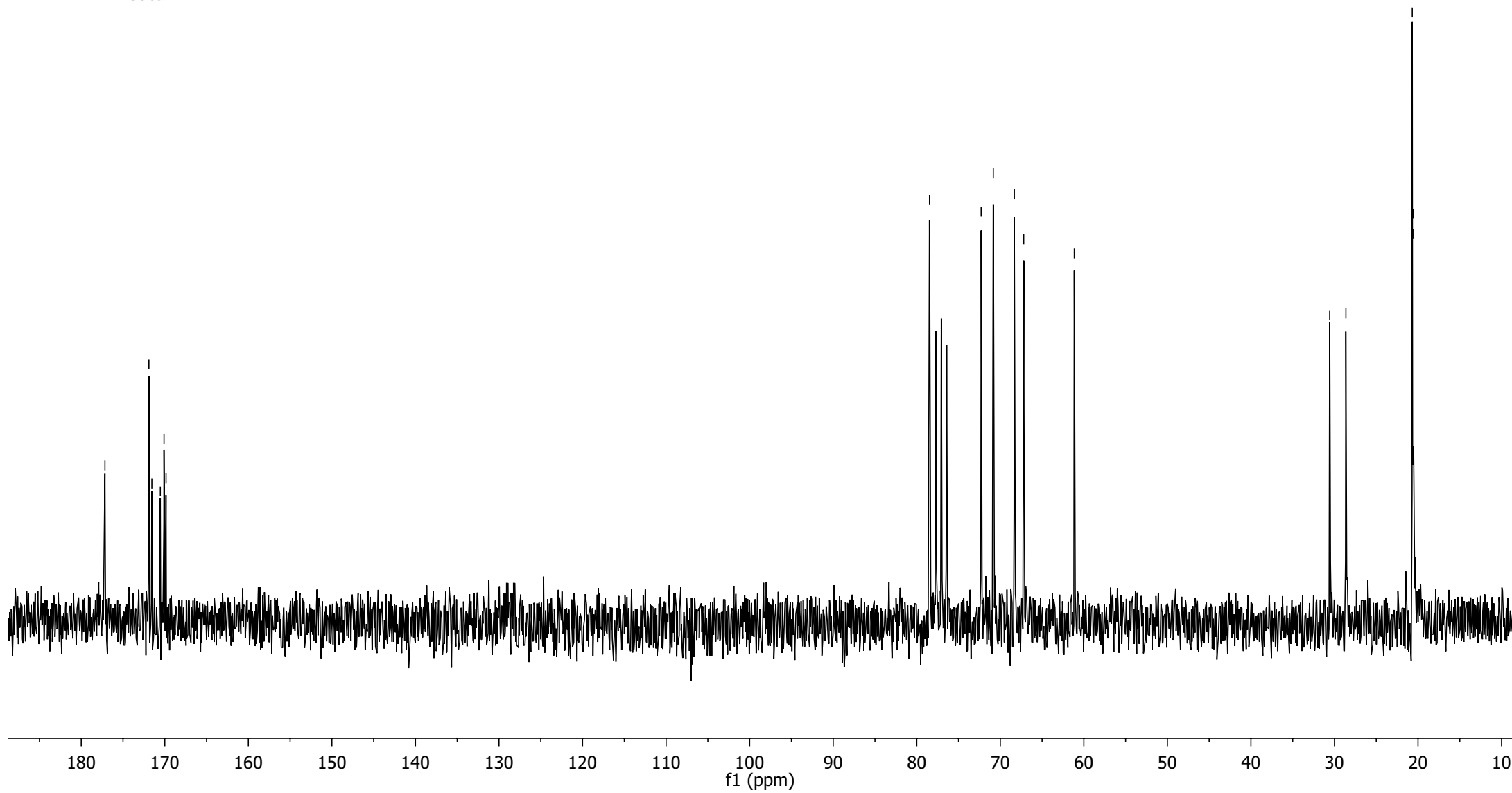
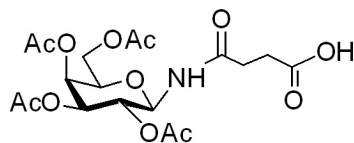


177.16  
171.90  
171.55  
170.53  
170.09  
169.85

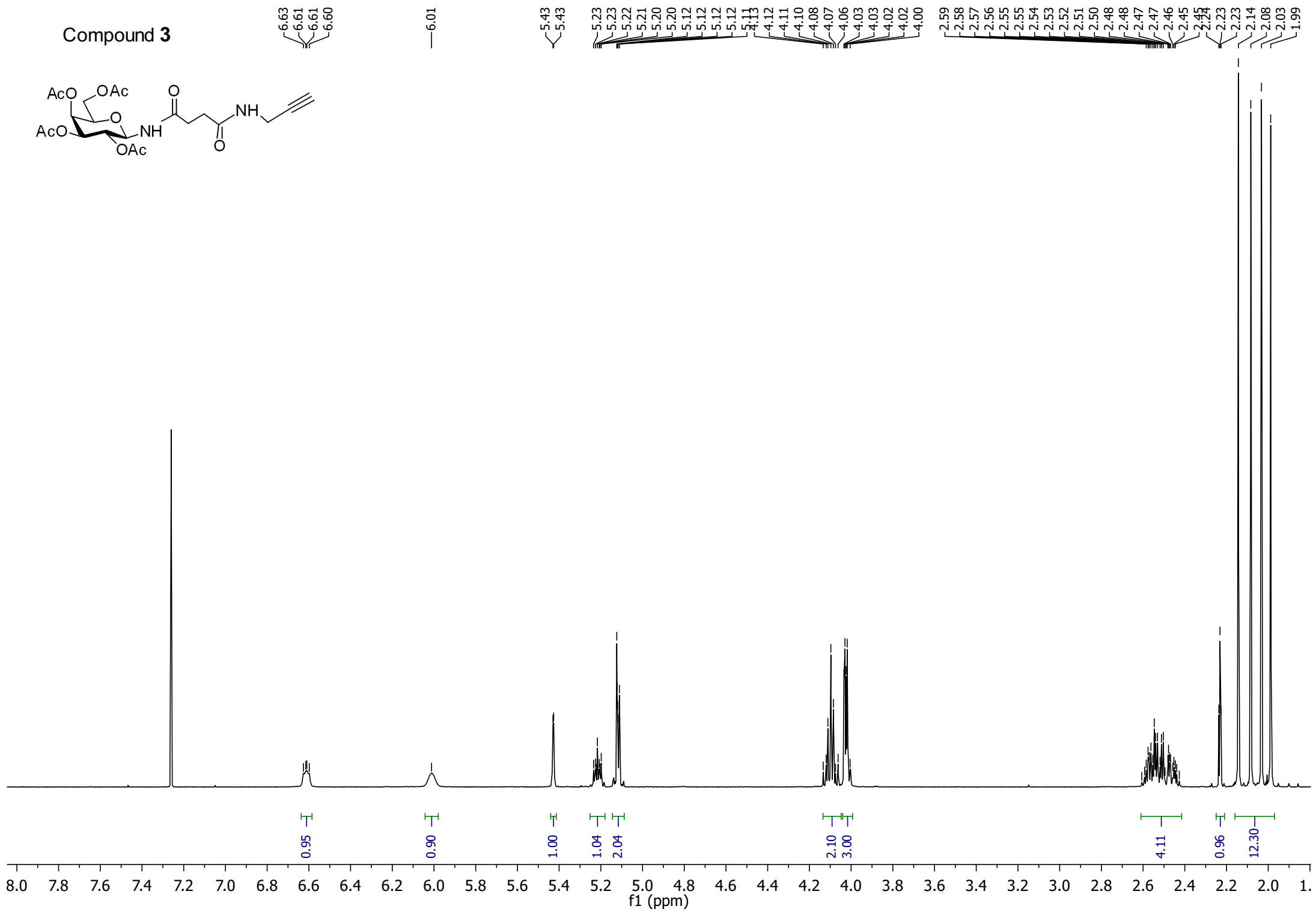
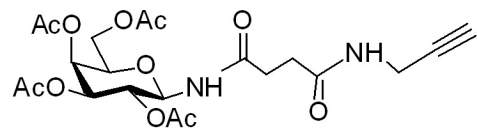
78.47  
72.29  
70.84  
68.32  
67.20  
61.14

30.57  
28.63  
20.69  
20.61  
20.56

### Compound 2

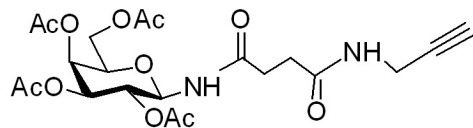


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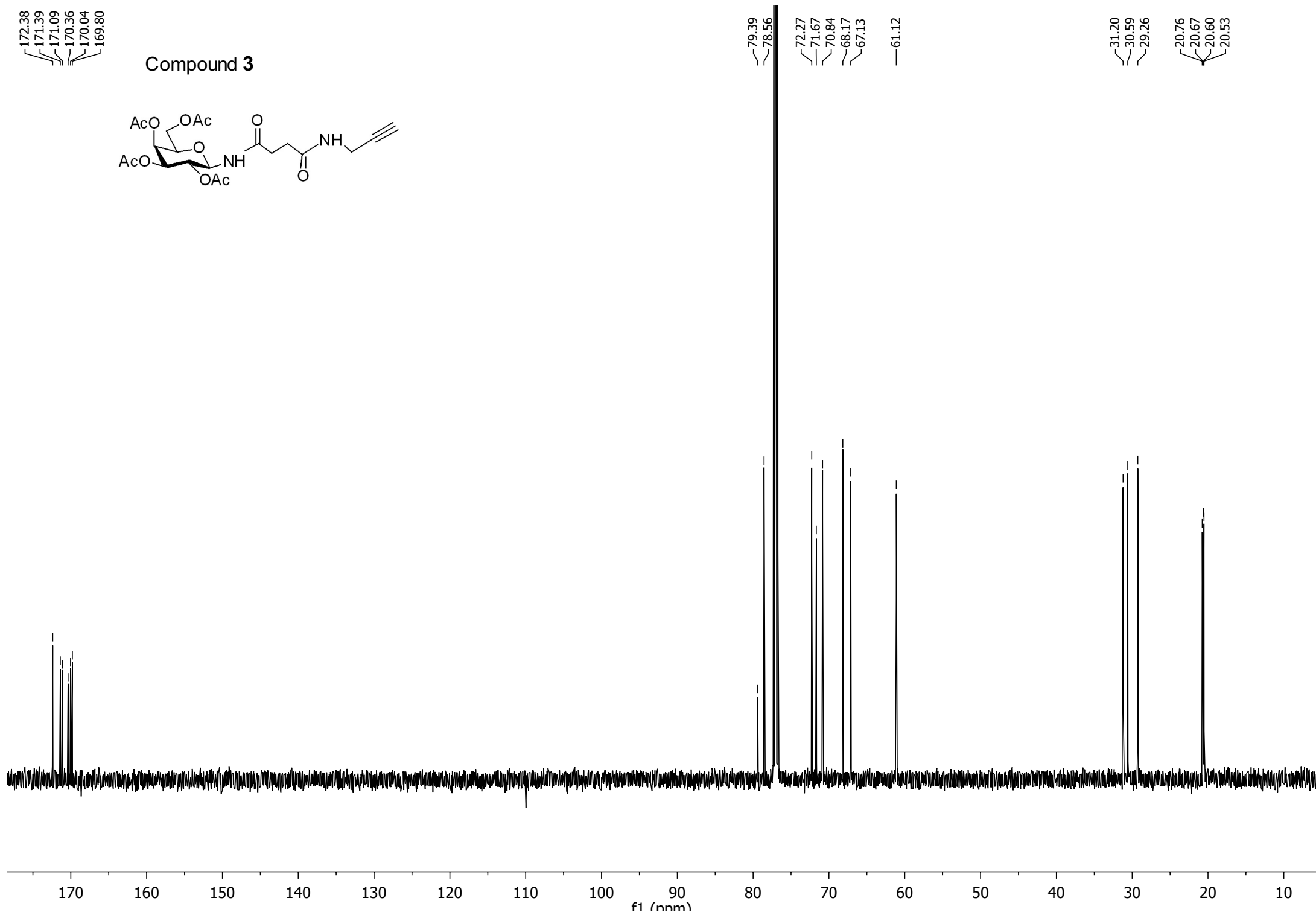
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171.39  
171.09  
170.36  
170.04  
169.80

### Compound 3

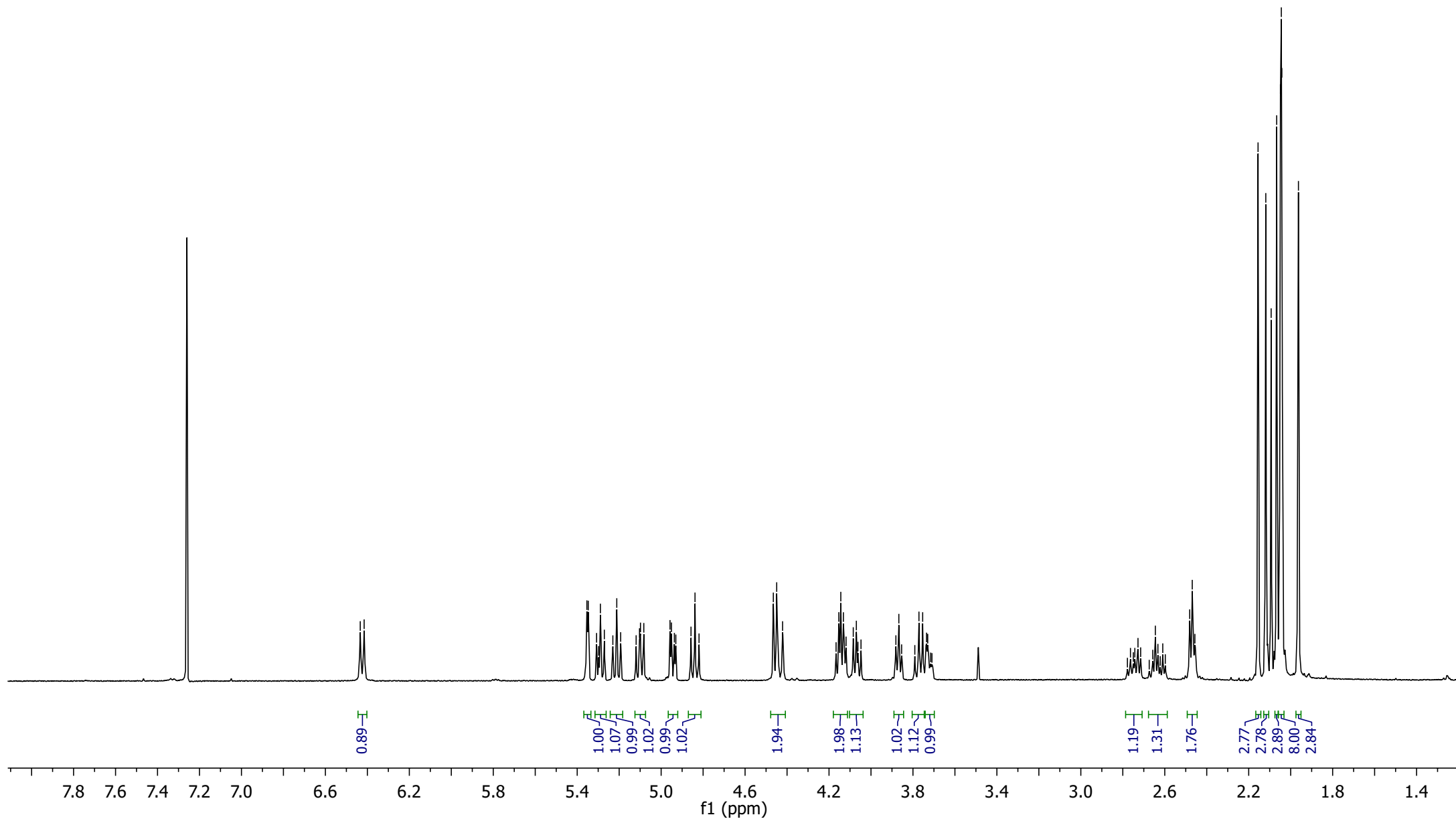
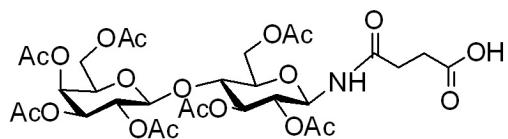


79.39  
78.56  
72.27  
71.67  
70.84  
68.17  
67.13  
61.12

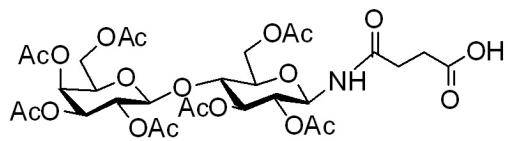
31.20  
30.59  
29.26  
20.76  
20.67  
20.60  
20.53



# Compound 5



Compound 5

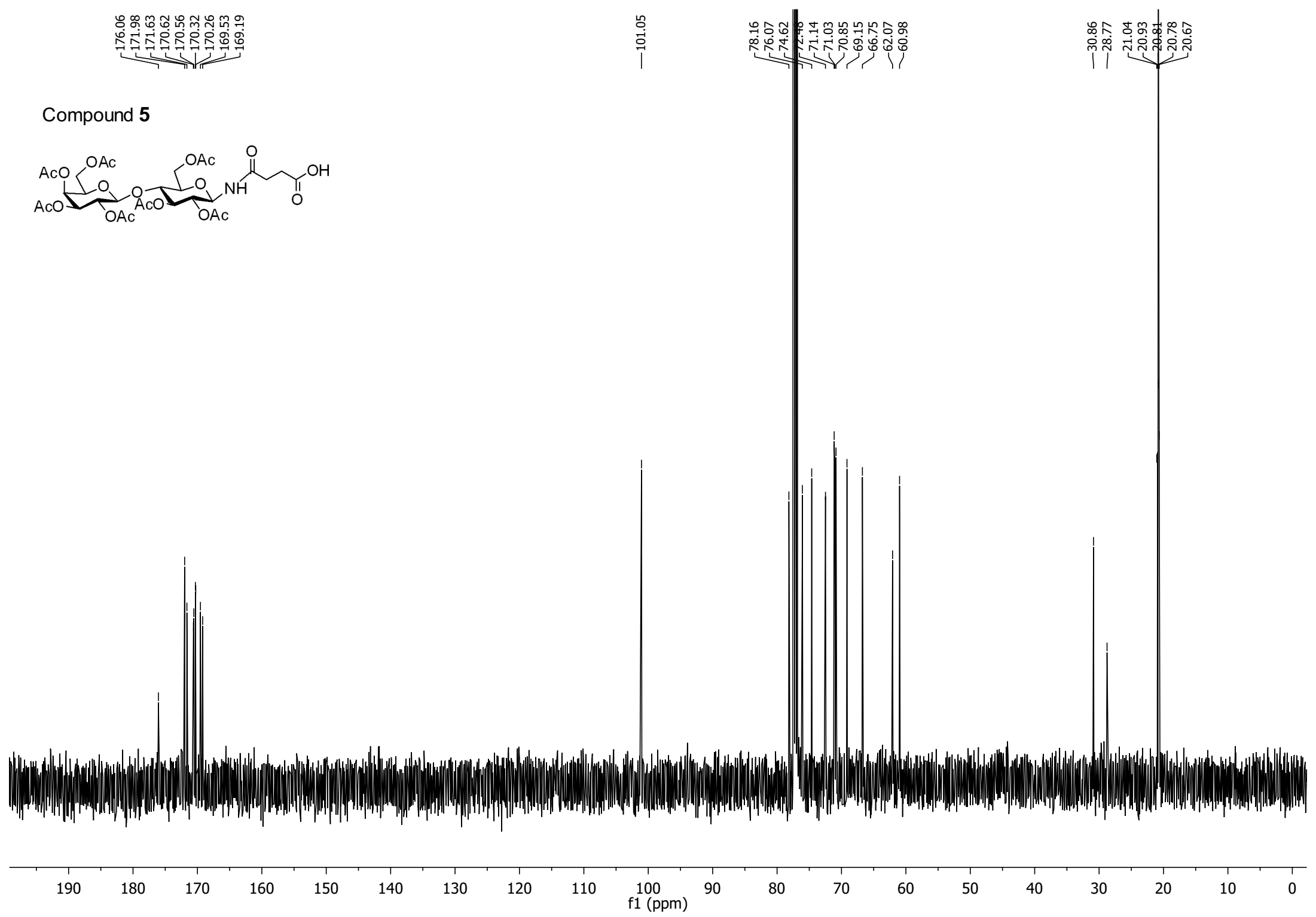


176.06  
171.98  
171.63  
170.62  
170.56  
170.32  
170.26  
169.53  
169.19

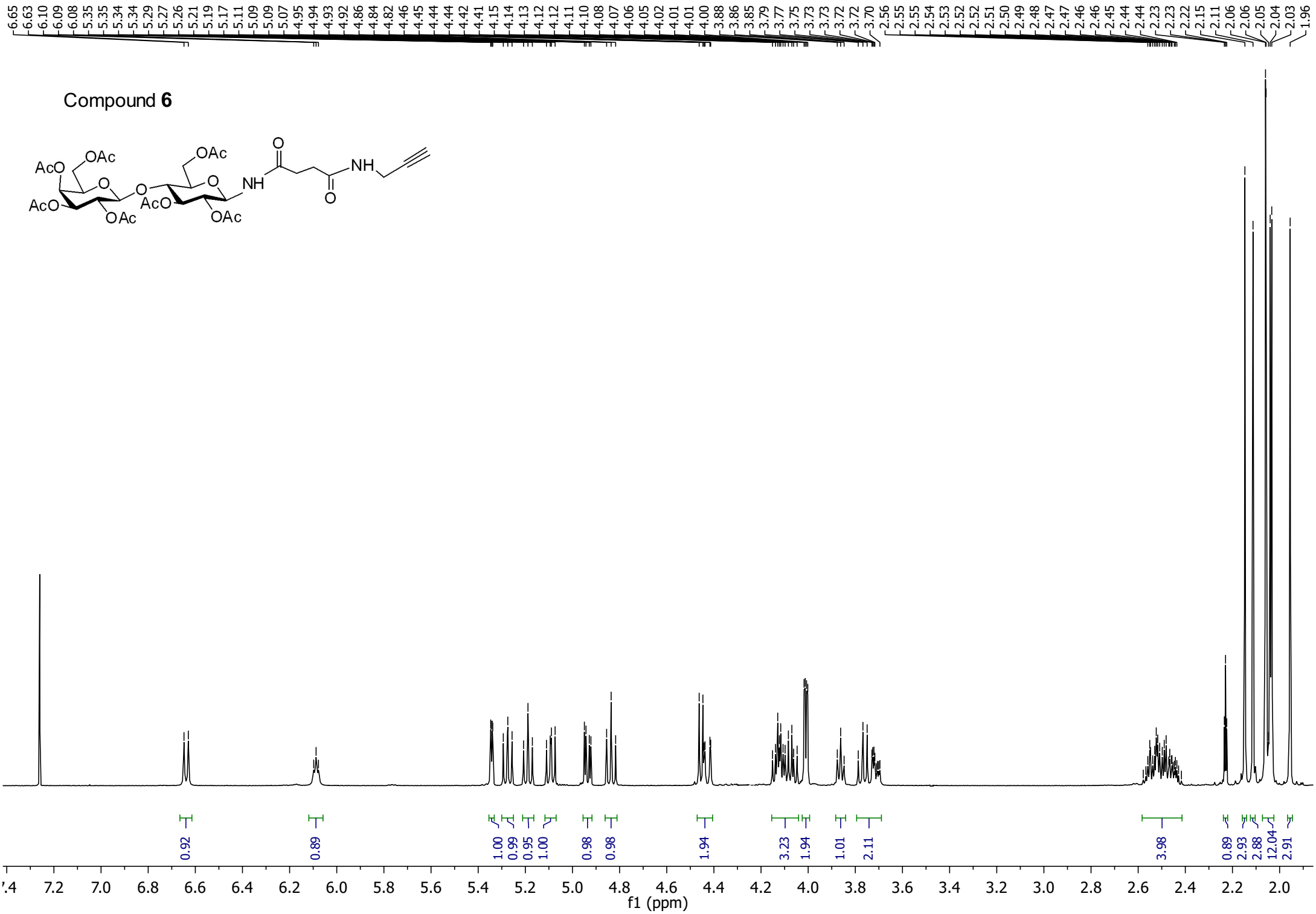
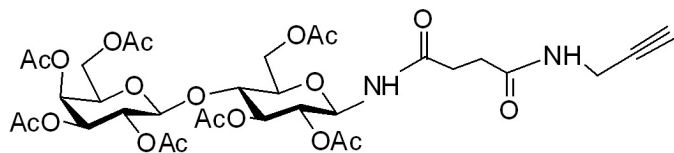
101.05

78.16  
76.07  
74.62  
72.76  
71.14  
71.03  
70.85  
69.15  
66.75  
62.07  
60.98

30.86  
28.77  
21.04  
20.93  
20.81  
20.78  
20.67

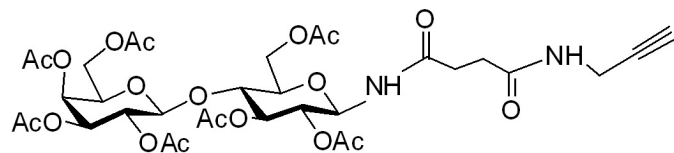


# Compound 6





Compound 6

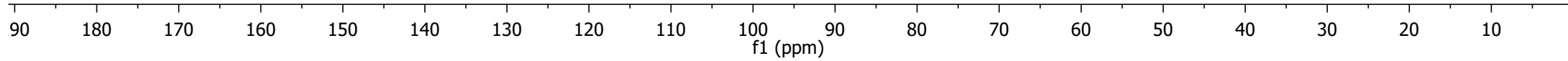


172.41  
171.20  
170.33  
170.12  
170.05  
169.37  
168.97

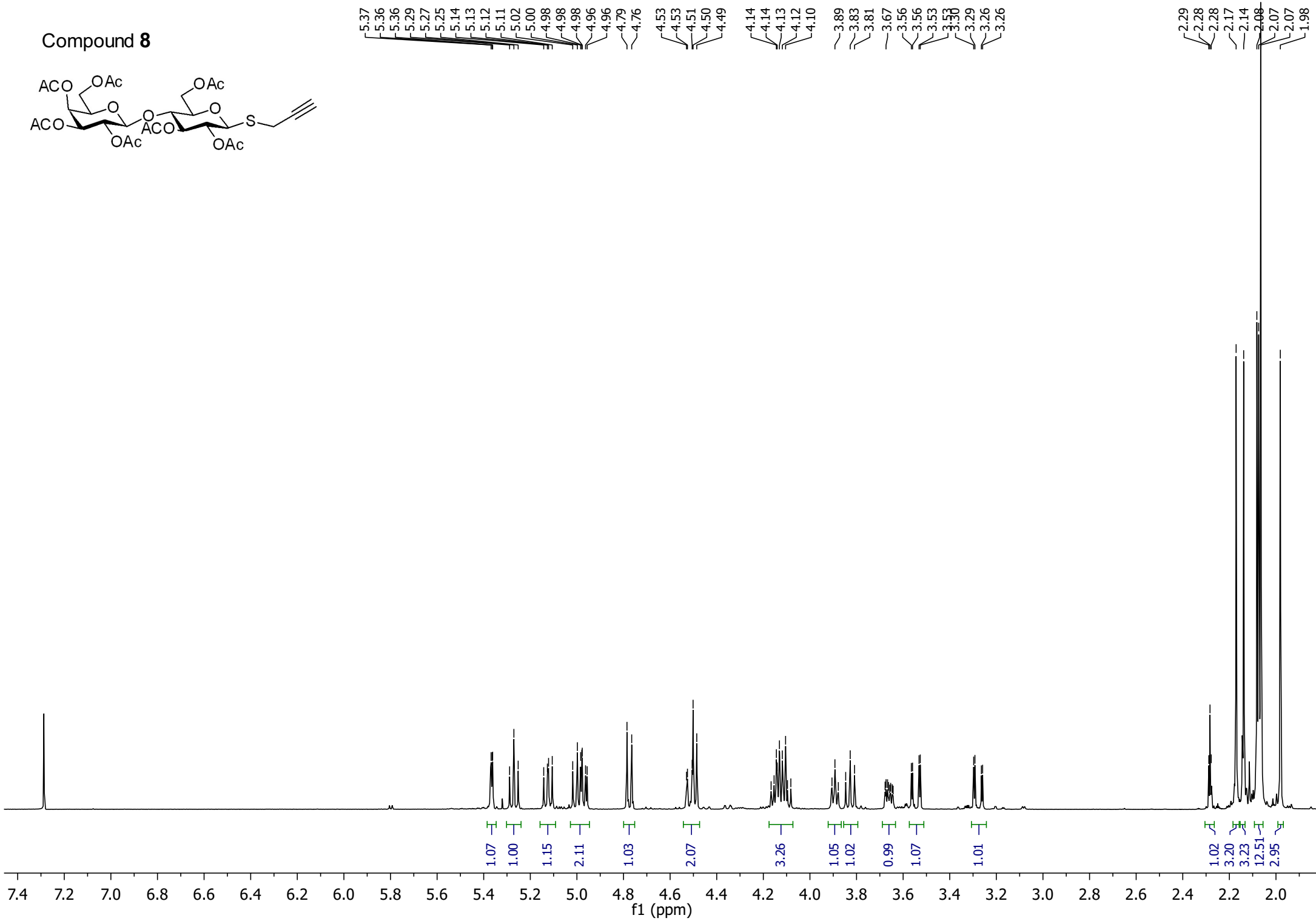
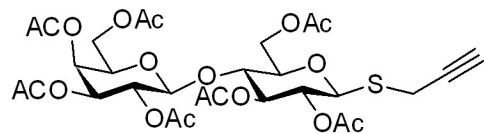
100.90

79.40  
78.01  
77.25  
77.00  
76.75  
75.92  
74.41  
72.42  
71.66  
70.97  
70.77  
70.69  
68.99  
66.60  
61.90  
60.82

31.22  
30.61  
29.22  
20.87  
20.75  
20.68  
20.62  
20.59  
20.48

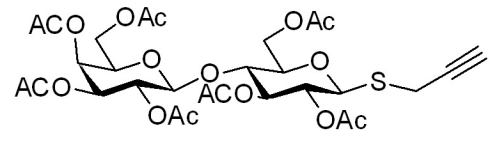


Compound 8



170.33  
170.13  
170.04  
169.71  
169.70  
169.05

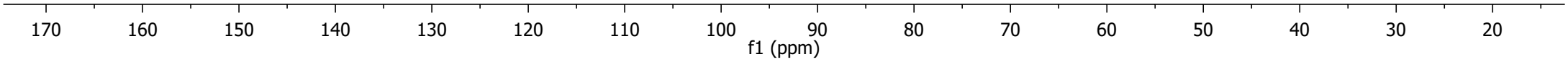
### Compound 8



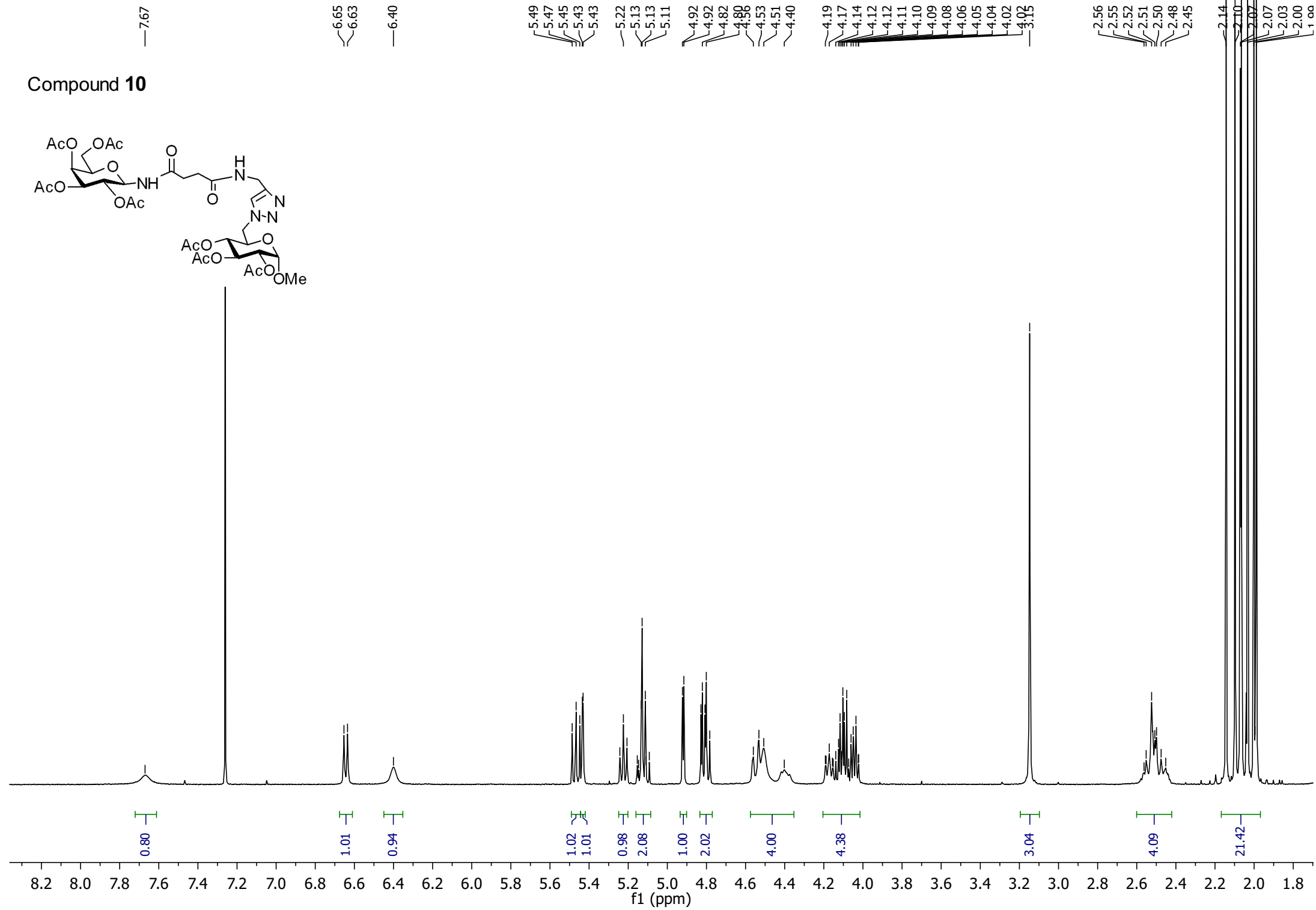
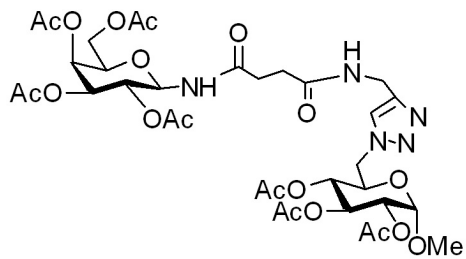
101.06

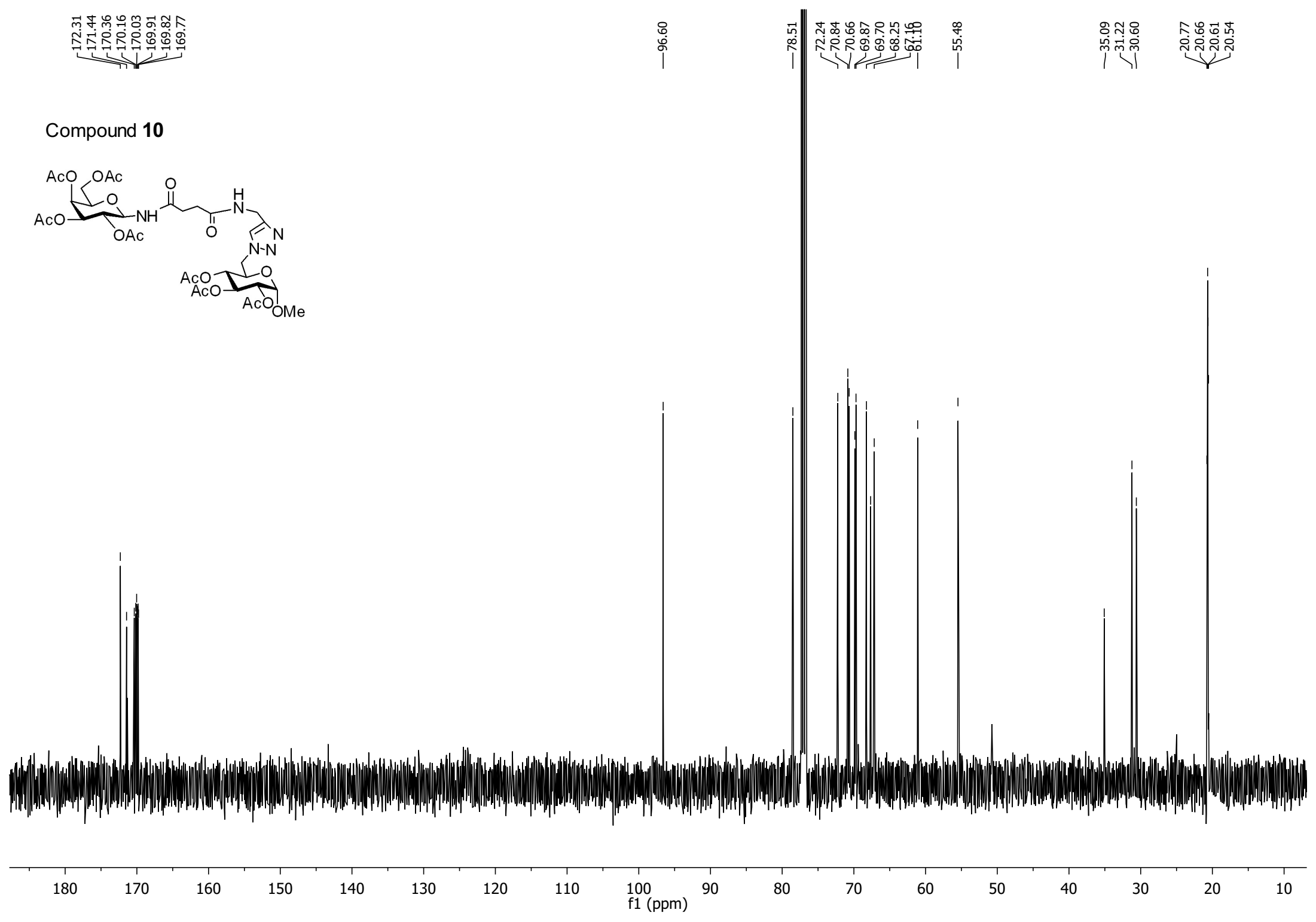
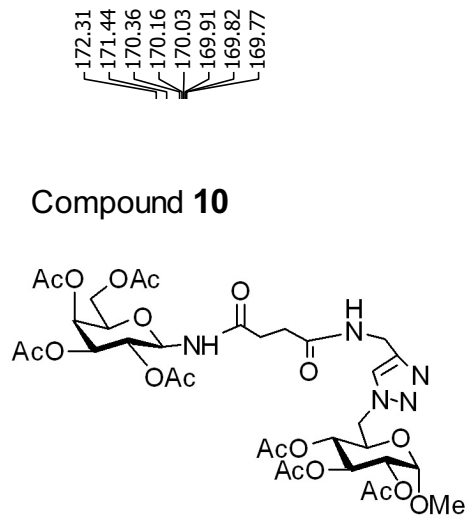
81.74  
78.67  
77.29  
77.03  
76.78  
76.44  
73.67  
71.91  
70.98  
70.73  
70.18  
69.09  
66.62  
62.04  
60.85

20.85  
20.79  
20.70  
20.64  
20.51  
17.55



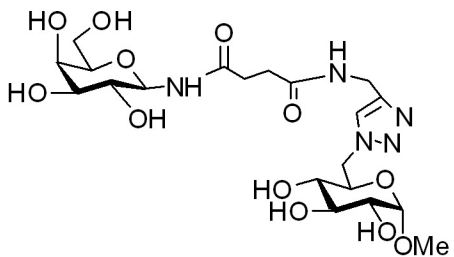
Compound 10







# Compound 11



175.95  
174.63

144.81

124.75

99.08

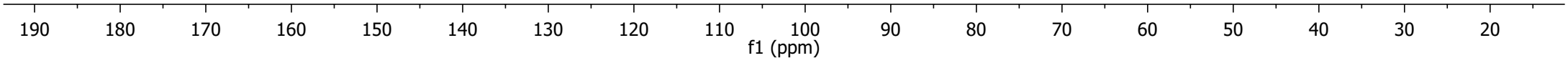
79.70  
76.67  
73.35  
73.00  
71.03  
70.82  
69.88  
69.33  
68.63

60.93

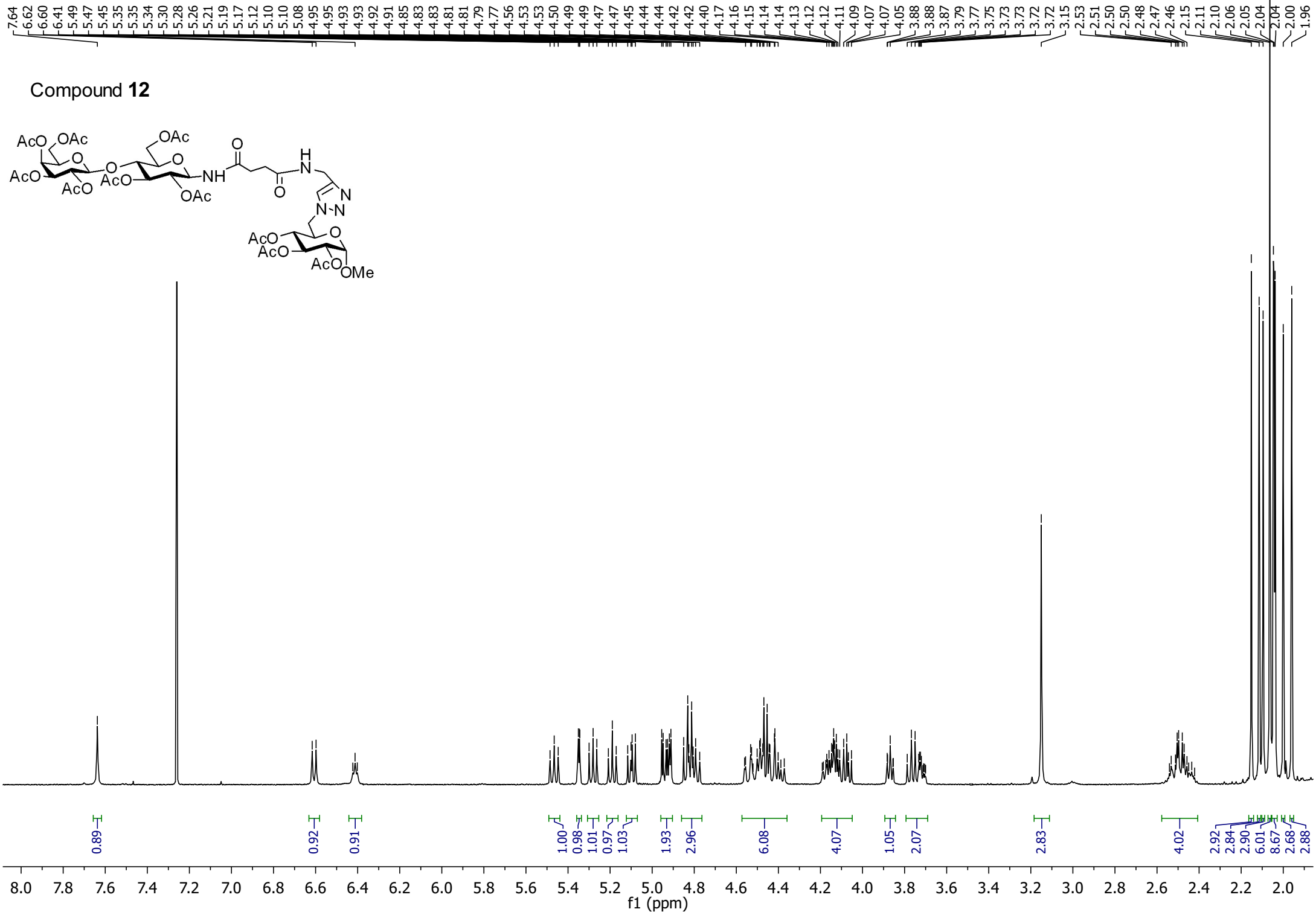
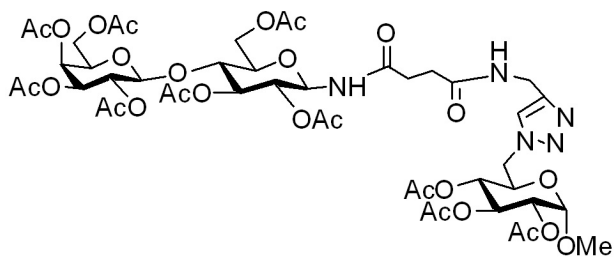
54.69

50.86

34.43  
30.69  
30.32



# Compound 12





172.45  
171.66  
171.33  
170.50  
170.49  
170.31  
170.29  
170.21  
170.08  
169.96  
169.51  
169.12

144.77

123.78

101.08

96.78

78.16  
76.14  
74.58  
72.57  
71.16  
71.01  
70.86  
70.79  
69.98  
69.89  
69.15  
67.84  
66.77  
62.11  
60.98

55.64

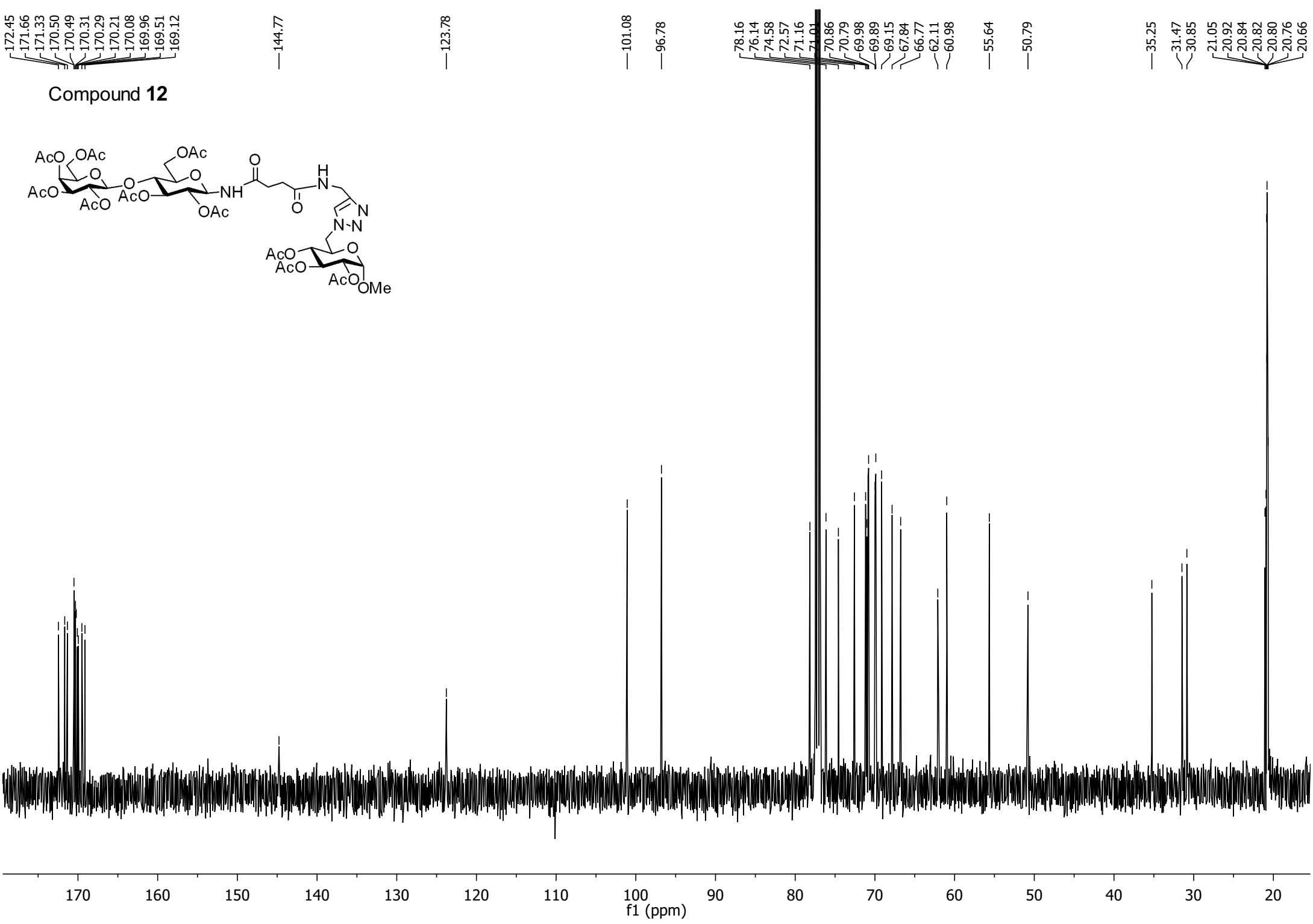
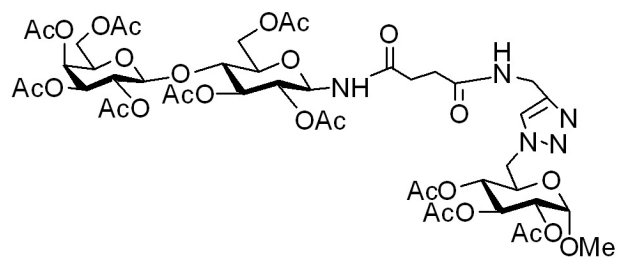
50.79

35.25

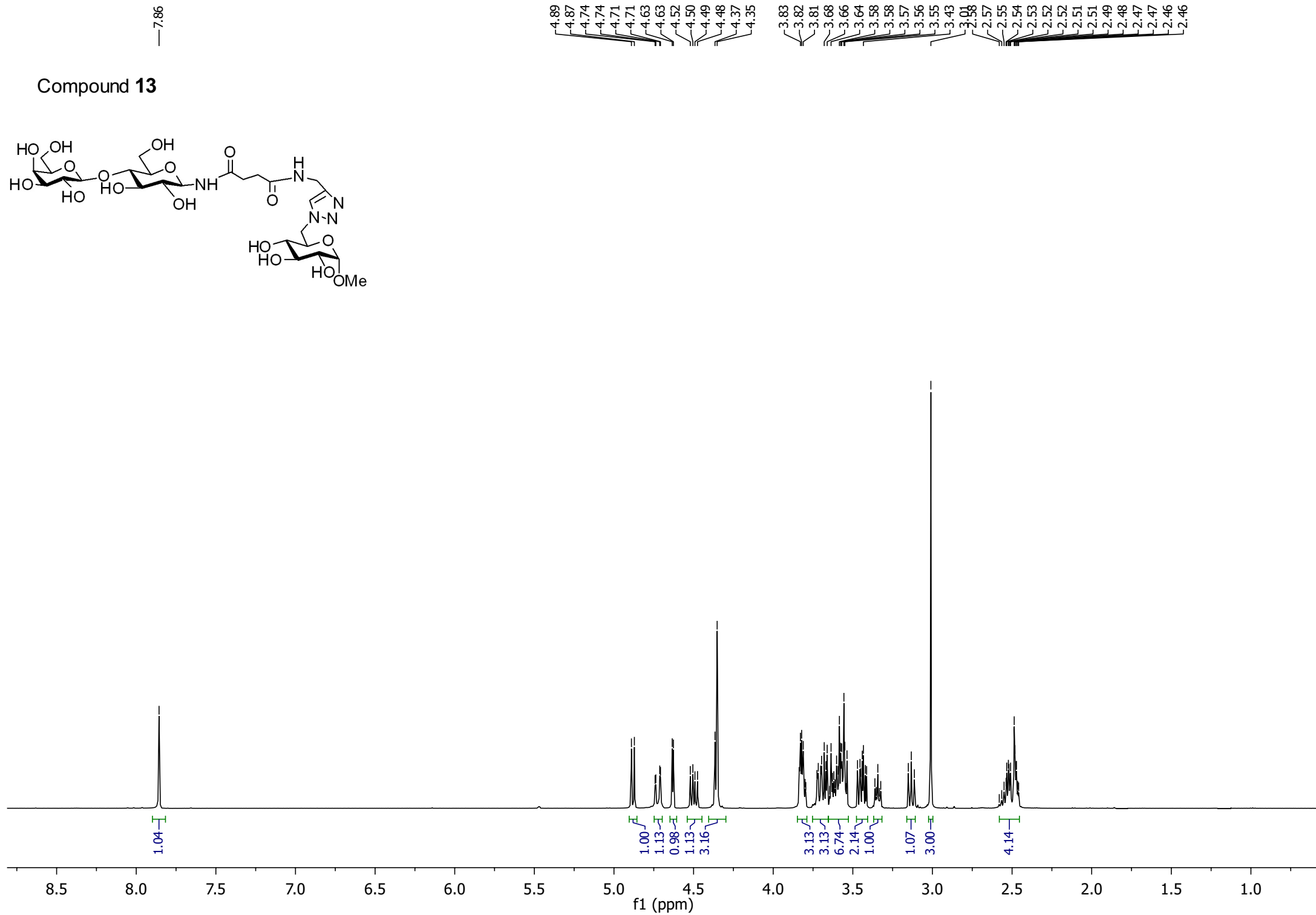
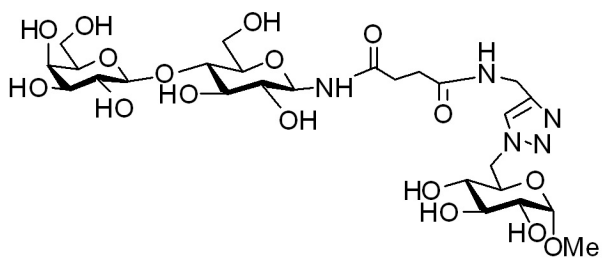
31.47  
30.85

21.05  
20.92  
20.84  
20.82  
20.80  
20.76  
20.66

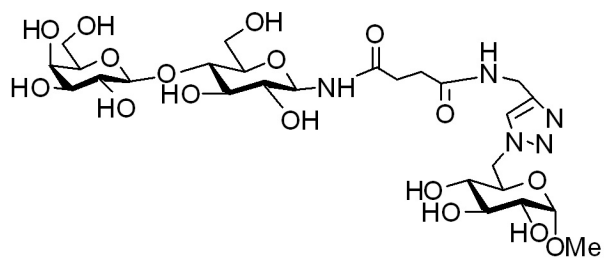
### Compound 12



Compound **13**



Compound **13**



175.91  
174.62

144.84

124.76

102.86

99.08

79.11

77.77

76.34

75.35

75.05

73.01

72.50

71.47

71.04

70.94

70.83

69.89

68.55

61.04

59.86

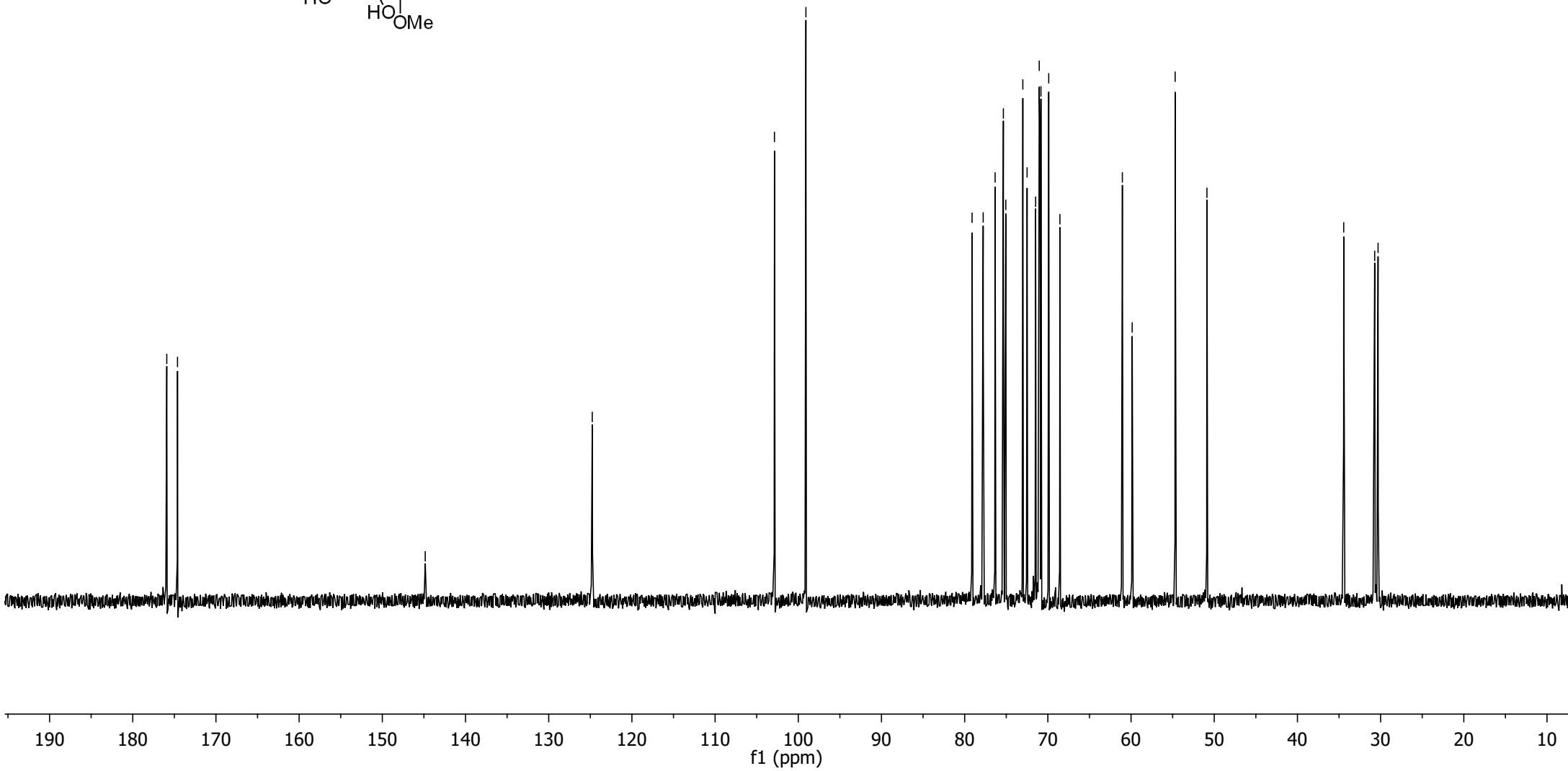
54.70

50.88

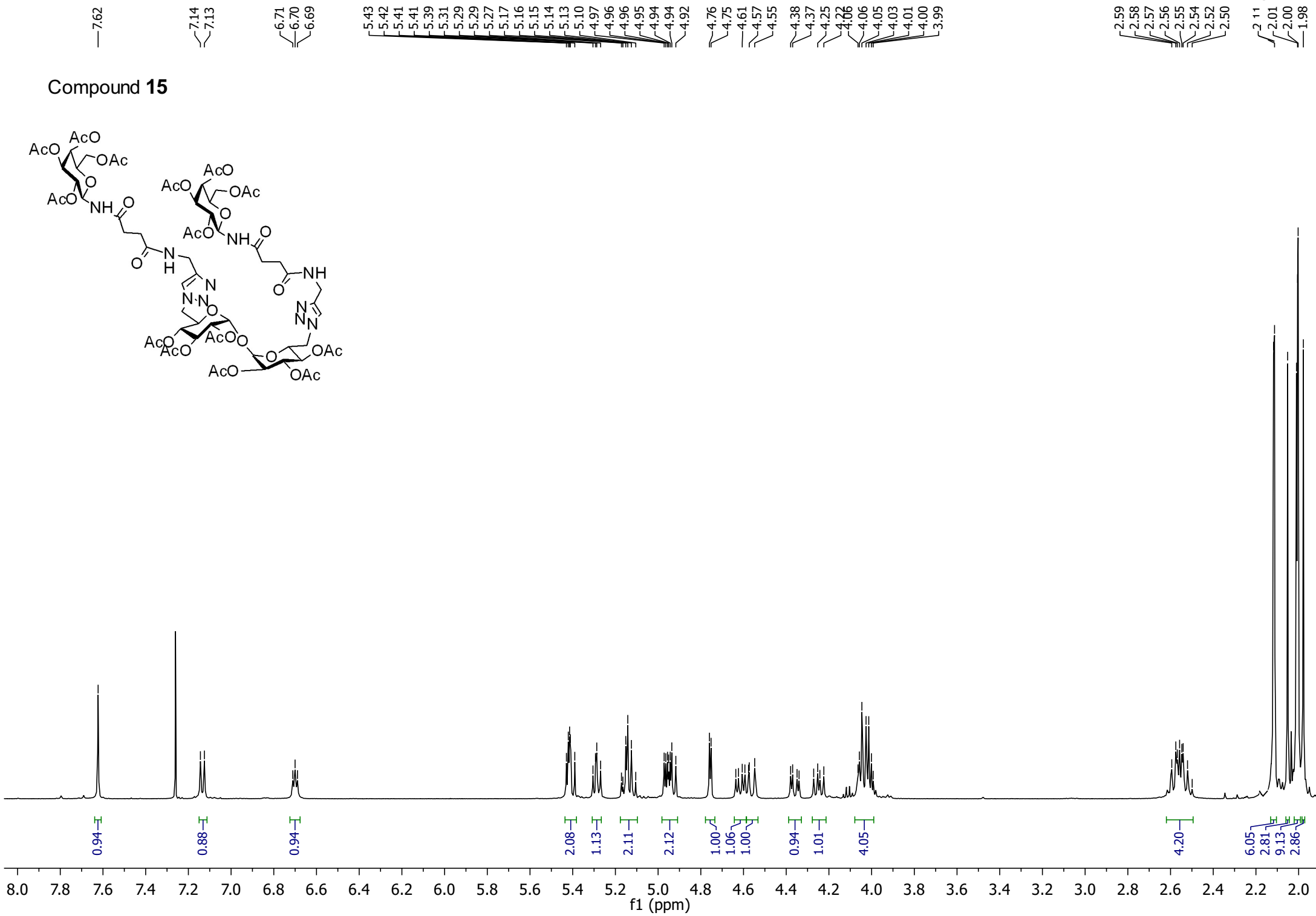
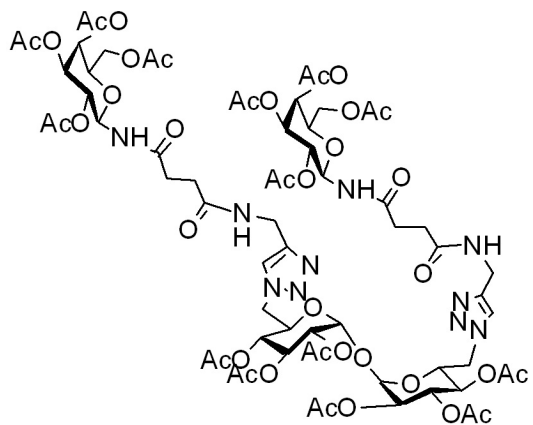
34.44

30.71

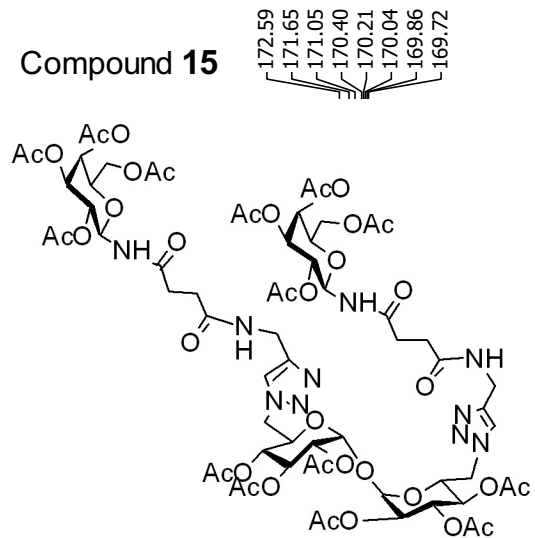
30.31



# Compound 15



Compound 15



172.59  
171.65  
171.05  
170.40  
170.21  
170.04  
169.86  
169.72

145.12

123.88

91.58

78.45

72.18

70.98

69.72

69.26

68.28

67.02

50.53

35.05

31.28

30.56

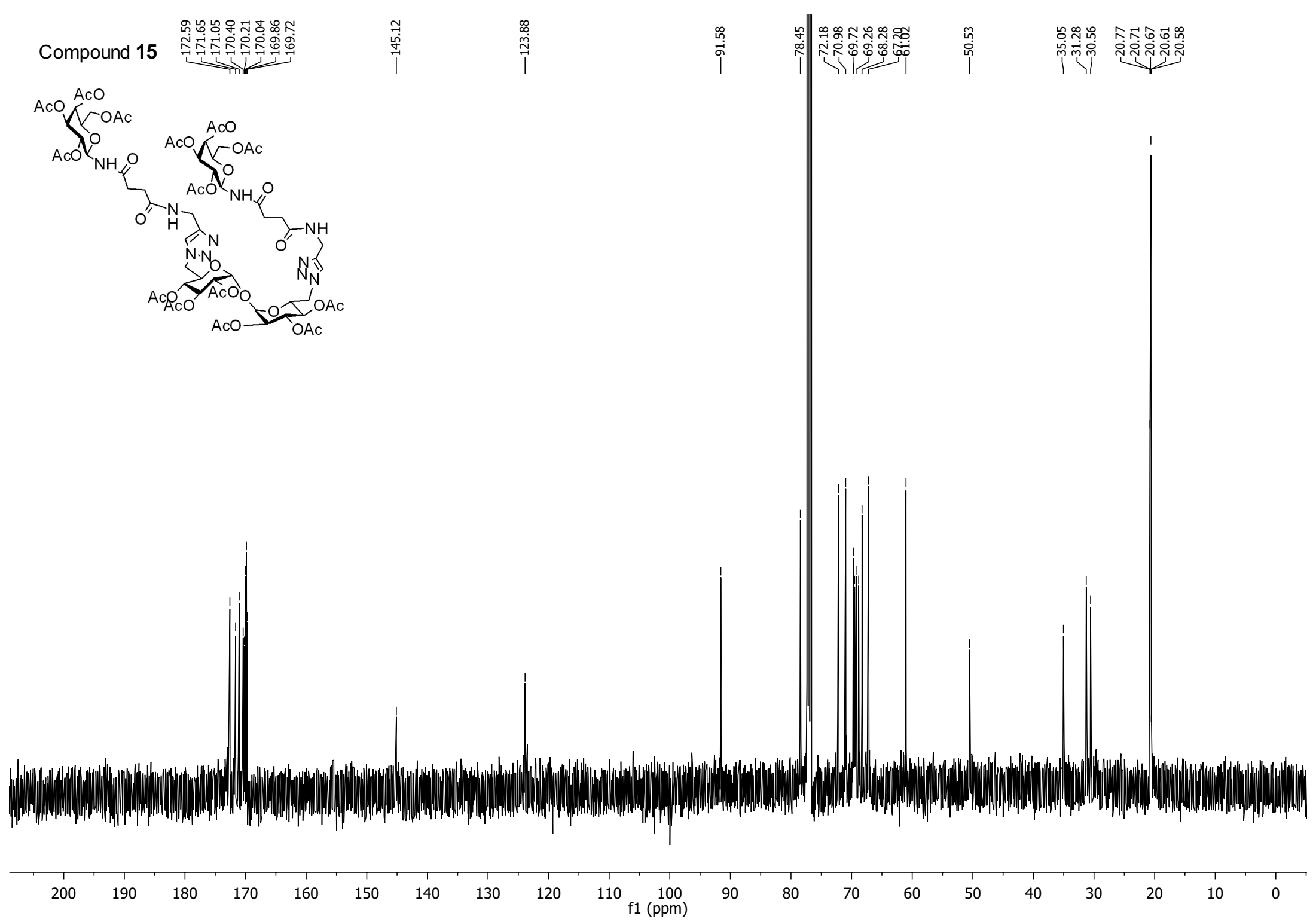
20.77

20.71

20.67

20.61

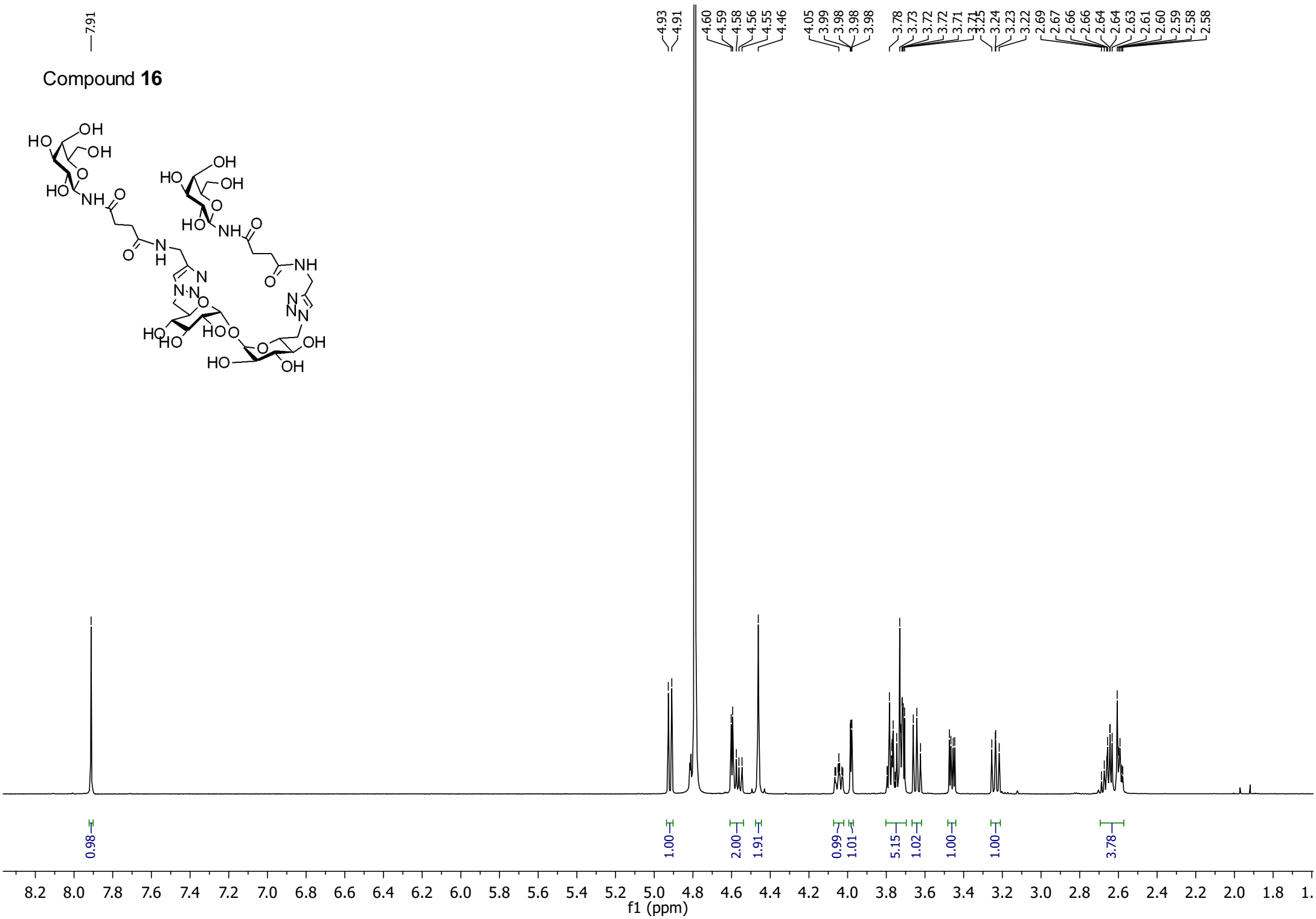
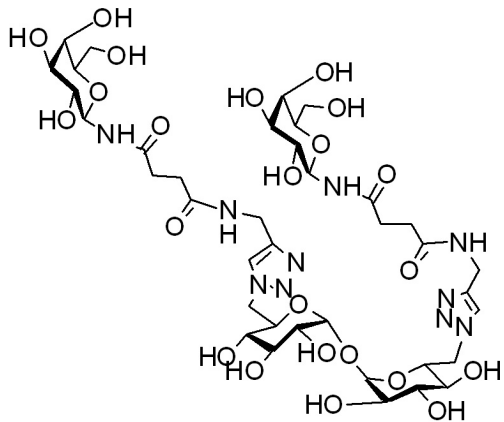
20.58



200 190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0

f1 (ppm)

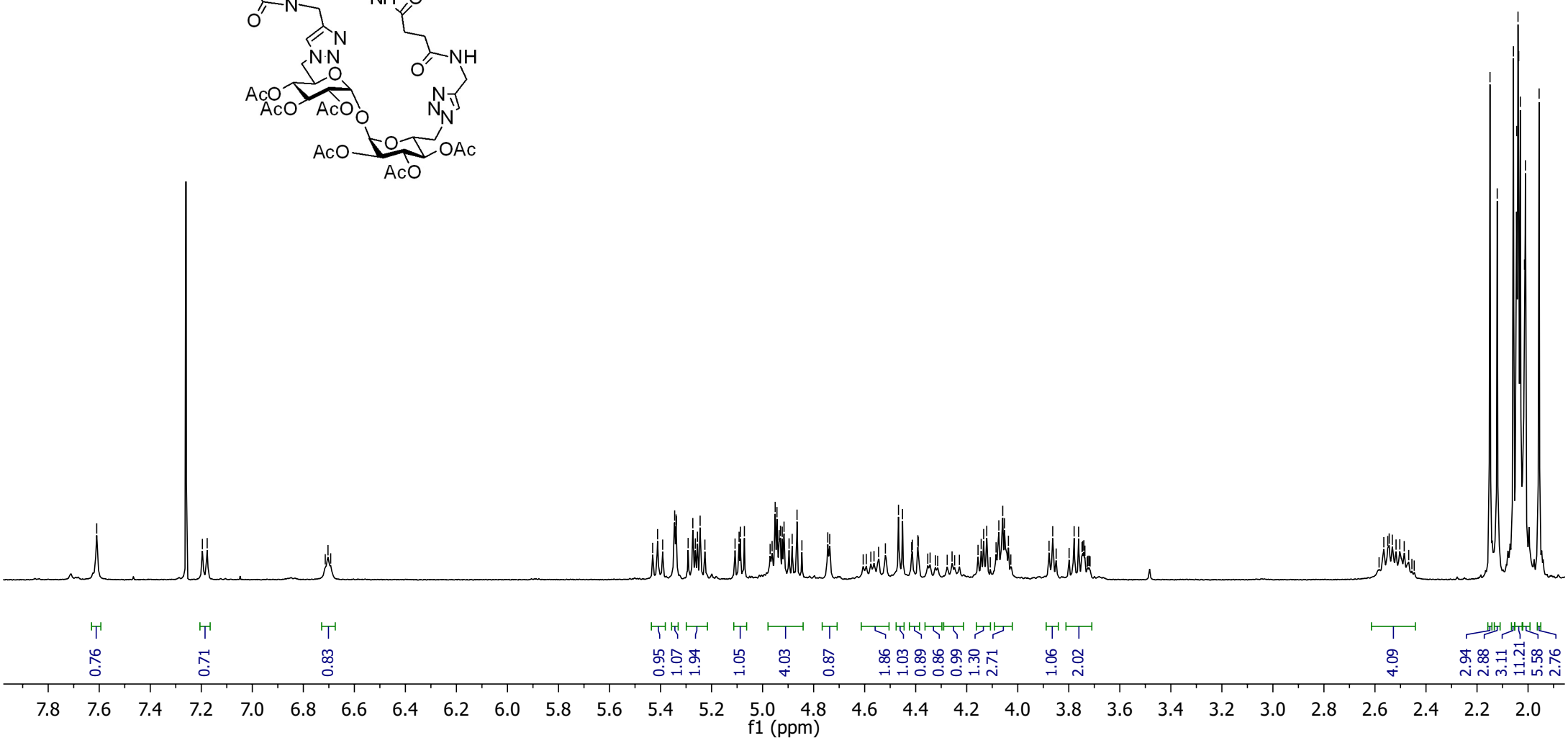
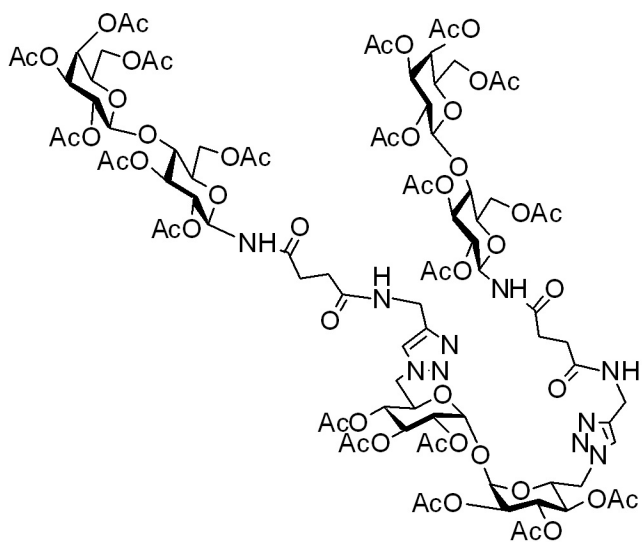
Compound 16





7.61  
7.20  
7.18  
6.71  
6.69  
5.43  
5.41  
5.39  
5.34  
5.34  
5.34  
5.29  
5.27  
5.26  
5.26  
5.24  
5.23  
5.11  
5.09  
5.07  
5.07  
4.97  
4.96  
4.95  
4.94  
4.94  
4.93  
4.92  
4.92  
4.90  
4.88  
4.87  
4.85  
4.85  
4.74  
4.74  
4.59  
4.58  
4.56  
4.55  
4.52  
4.47  
4.45  
4.42  
4.42  
4.41  
4.39  
4.39  
4.35  
4.34  
4.26  
4.16  
4.14  
4.13  
4.12  
4.09  
4.07  
4.06  
4.05  
4.04  
3.88  
3.86  
3.85  
3.80  
3.78  
3.76  
3.75  
3.74  
3.74  
3.74  
2.57  
2.55  
2.54  
2.53  
2.52  
2.50  
2.49  
2.47  
2.15  
2.12  
2.06  
2.04  
2.04  
2.04  
2.03  
2.01  
2.01  
1.96

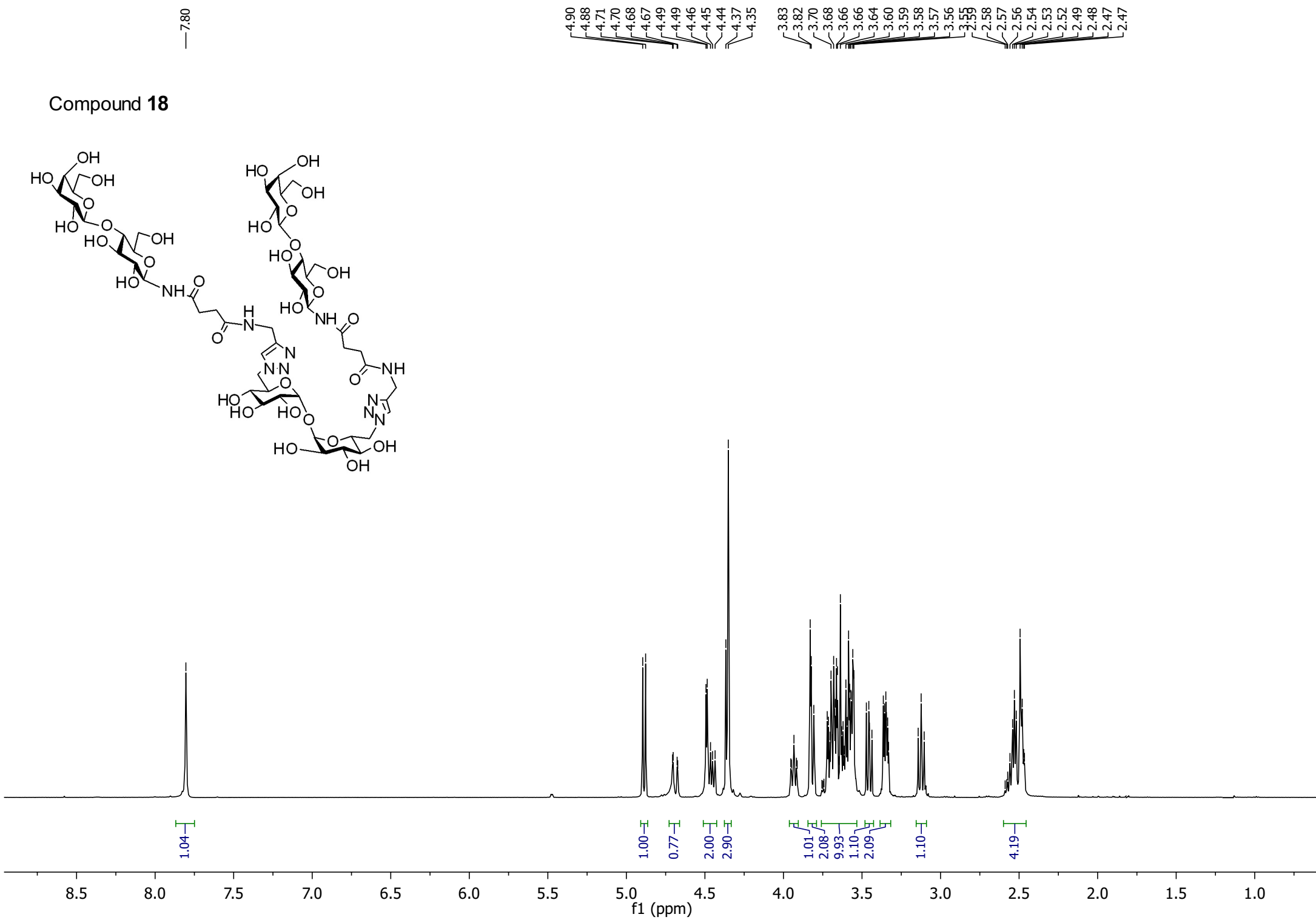
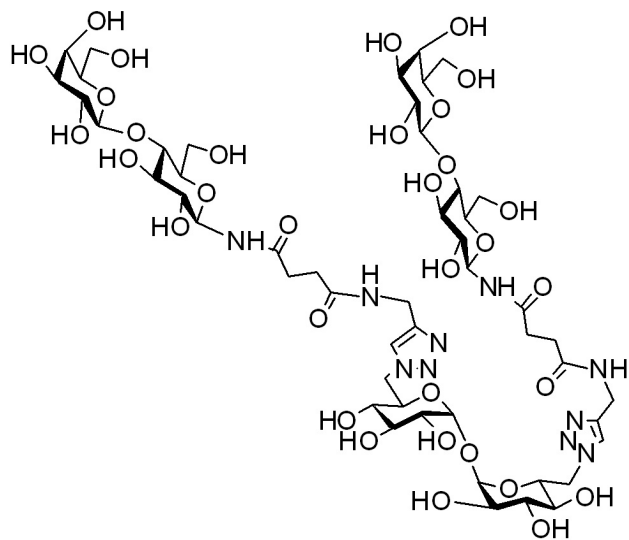
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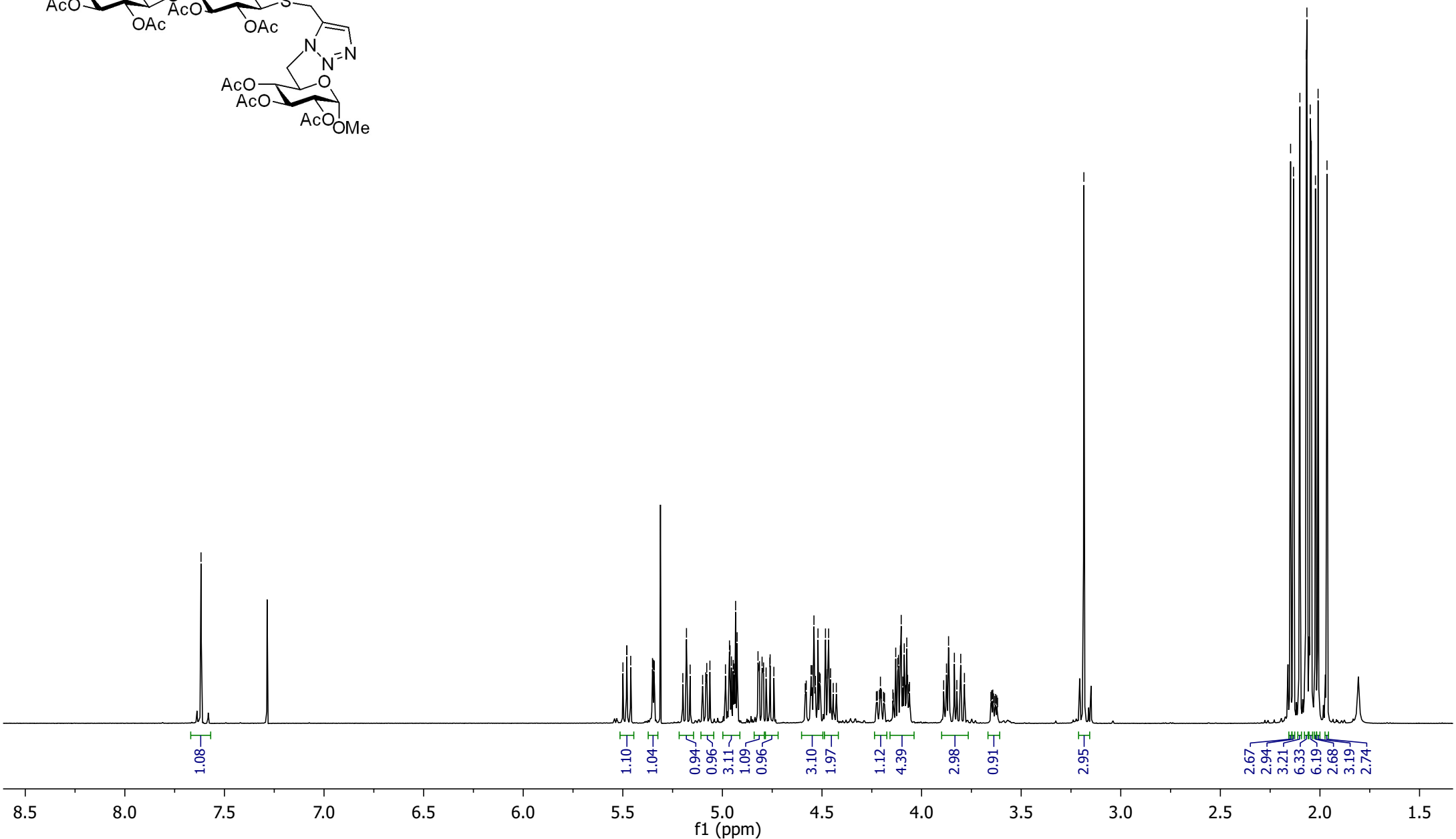
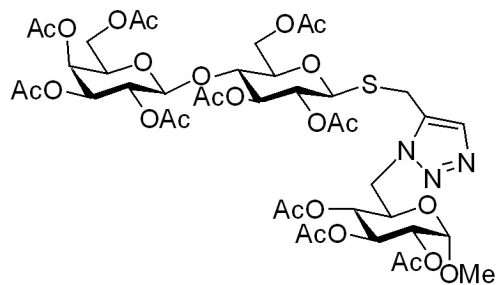
Compound 18





7.62 5.50 5.48 5.46 5.35 5.34 5.20 5.18 5.16 5.10 5.08 5.08 5.06 4.98 4.96 4.95 4.94 4.93 4.93 4.82 4.81 4.80 4.79 4.78 4.76 4.74 4.74 4.58 4.58 4.55 4.55 4.54 4.53 4.52 4.51 4.51 4.48 4.48 4.47 4.47 4.46 4.44 4.44 4.43 4.43 4.22 4.22 4.21 4.21 4.20 4.20 4.19 4.19 4.14 4.14 4.13 4.13 4.12 4.12 4.11 4.11 4.10 4.10 4.09 4.09 4.08 4.08 4.07 4.07 4.06 4.06 4.06 3.89 3.89 3.87 3.87 3.86 3.86 3.84 3.84 3.82 3.82 3.80 3.80 3.78 3.78 3.65 3.65 3.65 3.64 3.64 3.19 3.19 2.15 2.15 2.13 2.13 2.10 2.10 2.07 2.07 2.05 2.05 2.04 2.04 2.01 2.01 1.96 1.96

### Compound 19



170.32  
170.29  
170.17  
170.10  
170.03  
170.02  
169.72  
169.65  
169.54  
168.97

145.03

123.56

101.05

96.69

82.37

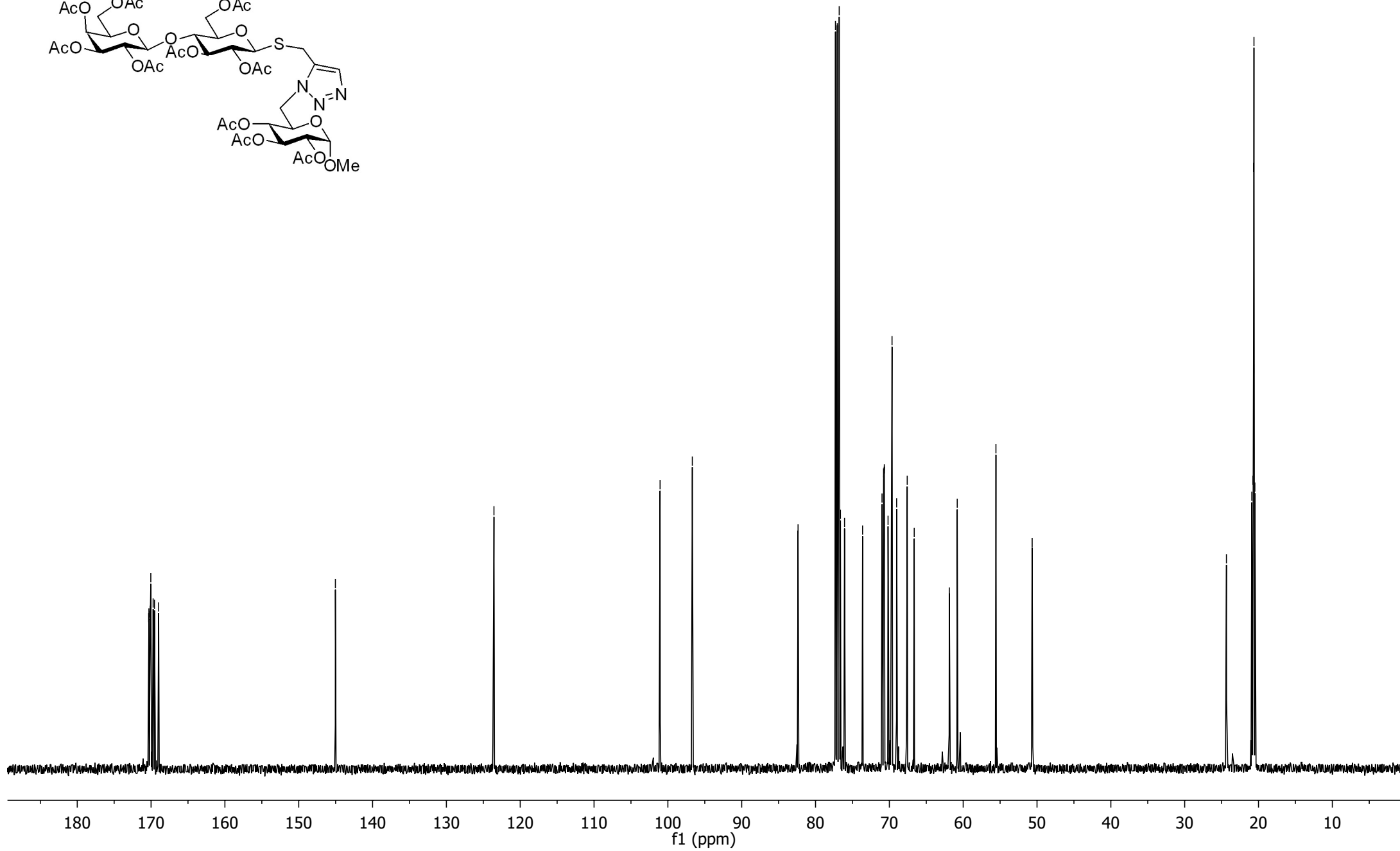
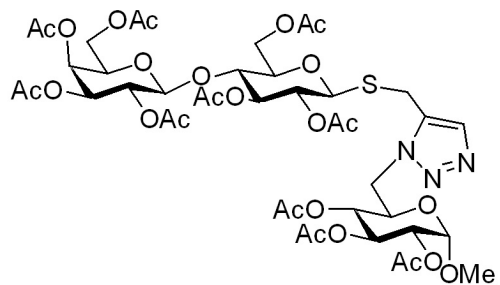
77.30  
77.05  
76.79  
70.99  
70.79  
70.68  
69.64  
67.88  
61.88  
60.81

55.56

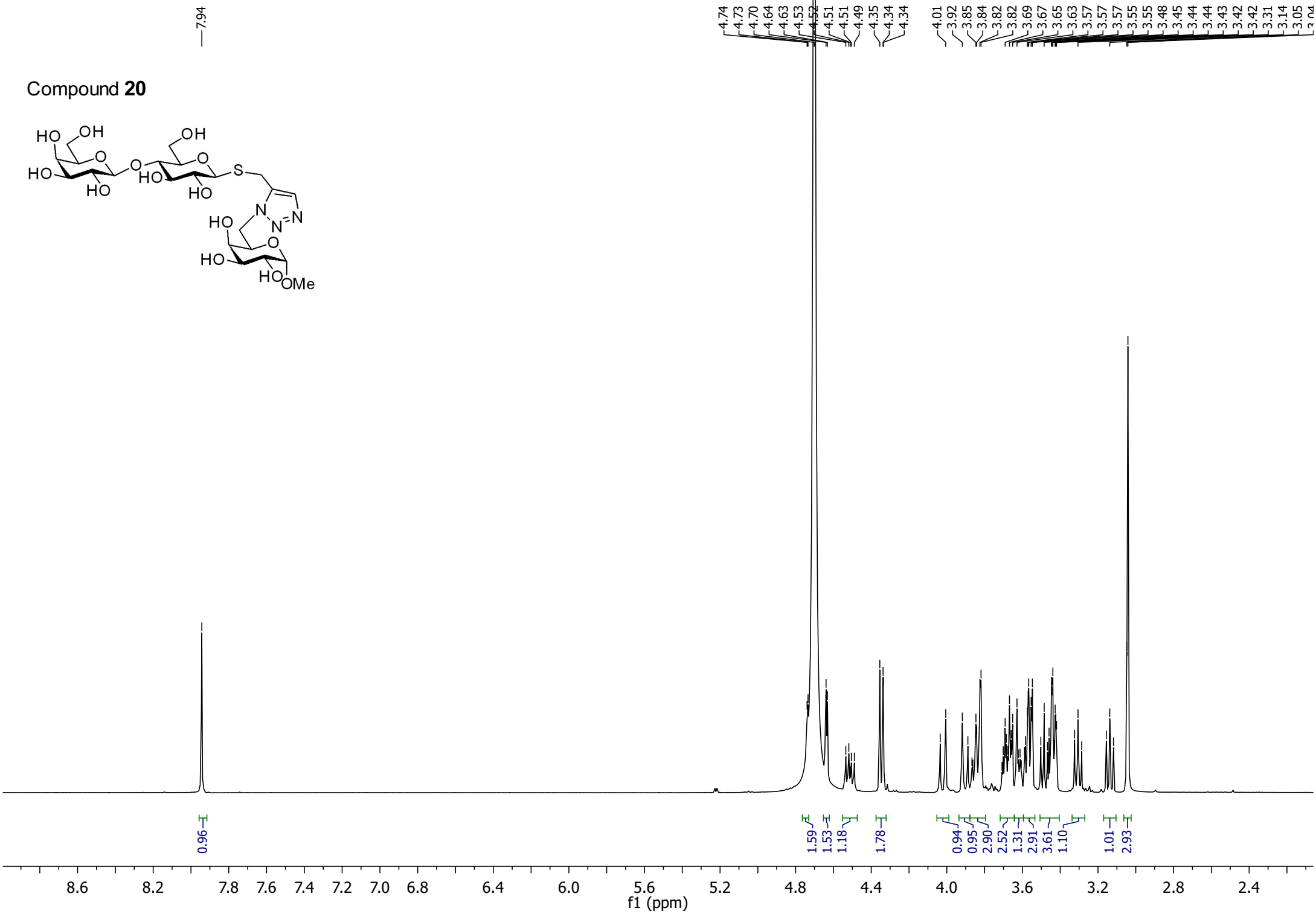
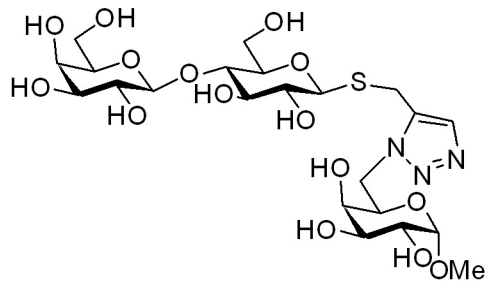
50.66

24.34  
20.91  
20.75  
20.67  
20.64  
20.61  
20.49

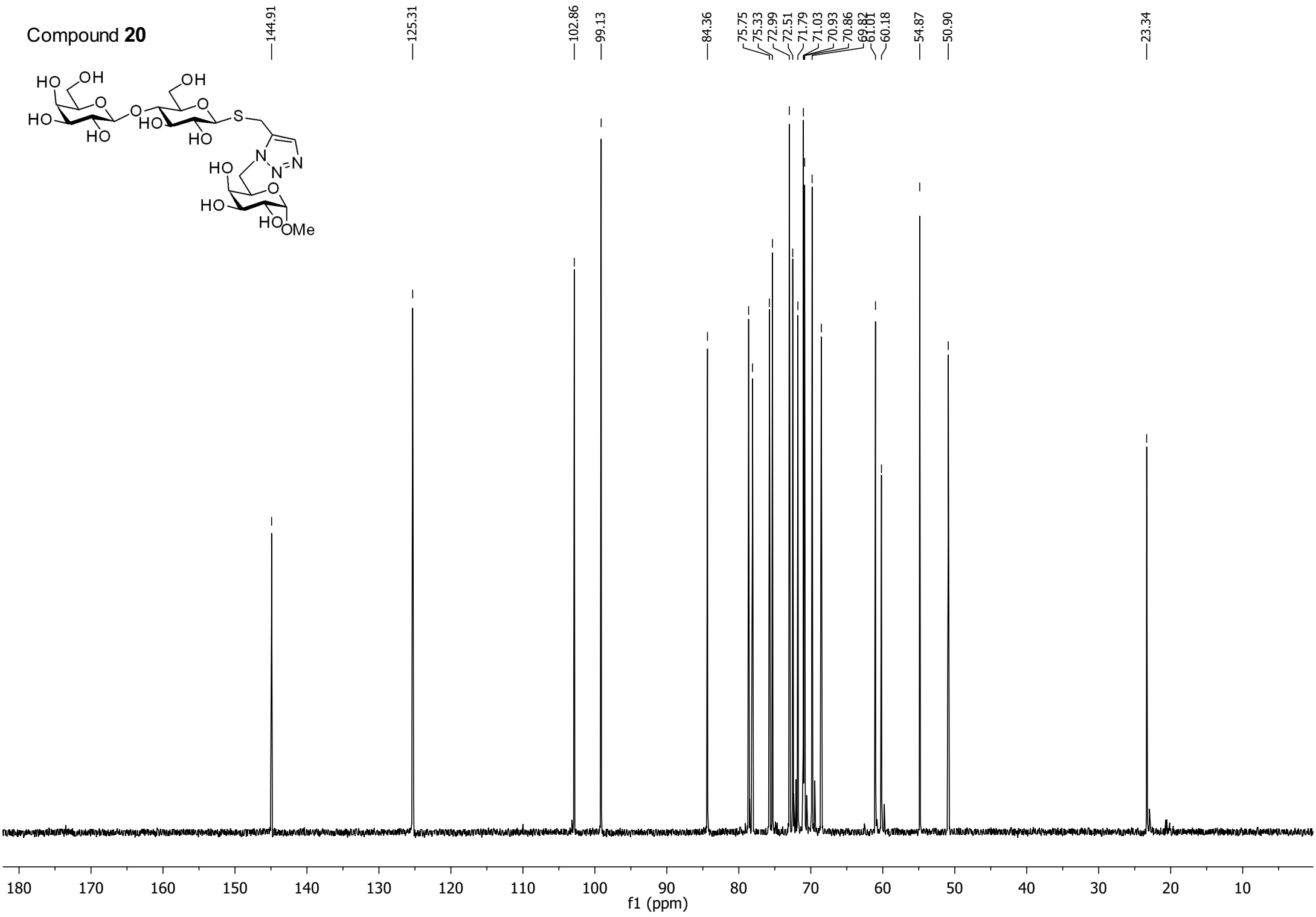
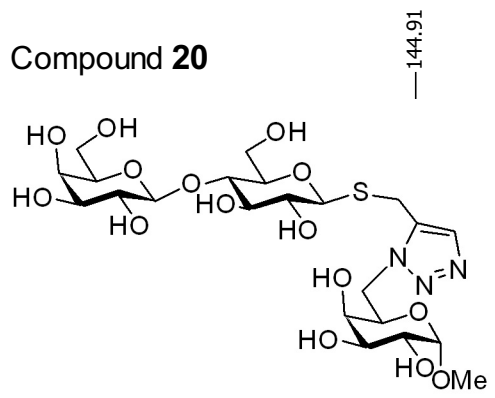
### Compound 19



Compound **20**



Compound **20**







170.32  
170.30  
170.29  
170.07  
169.83  
169.63  
169.58  
168.99

145.21

123.40

101.06

91.86

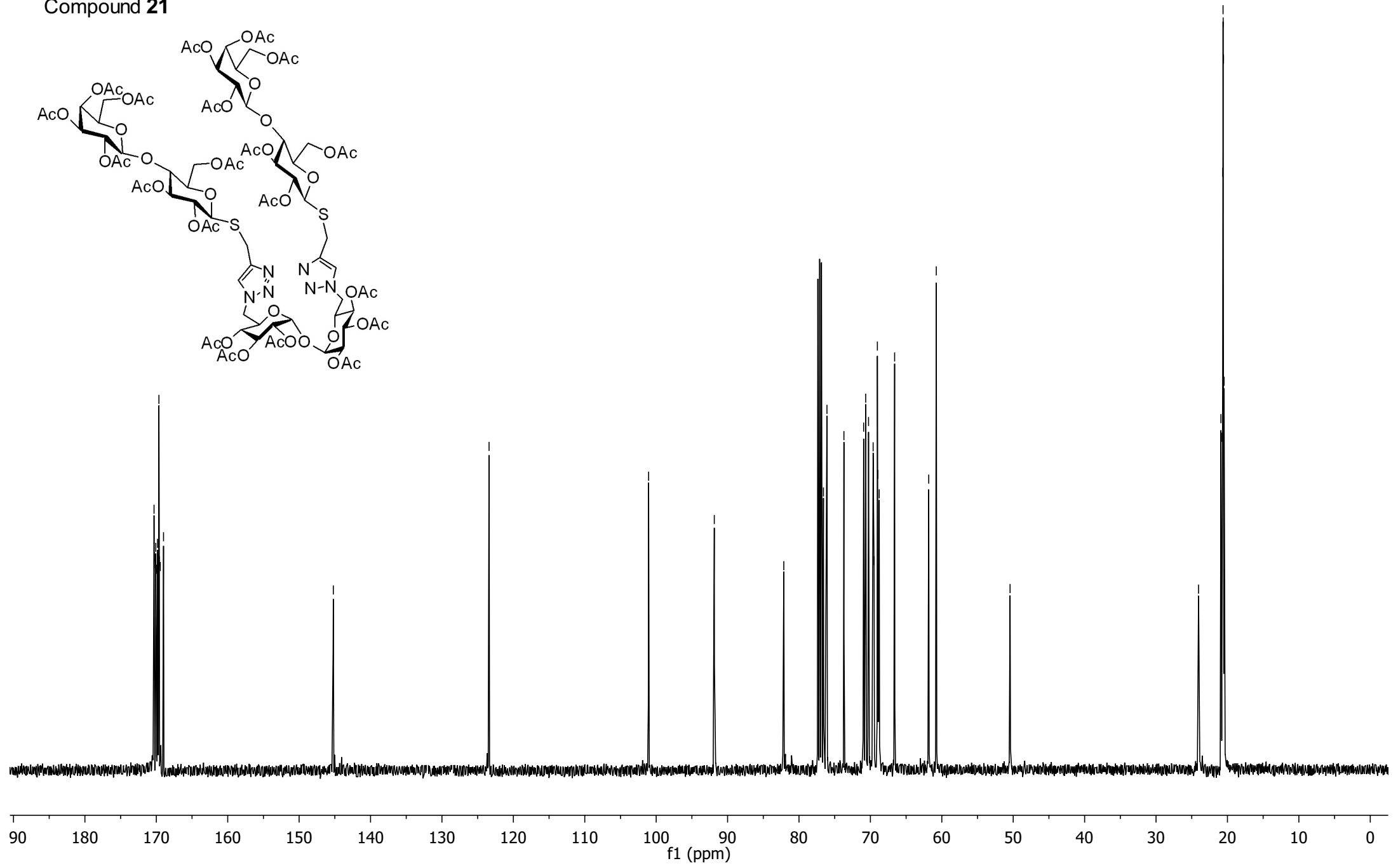
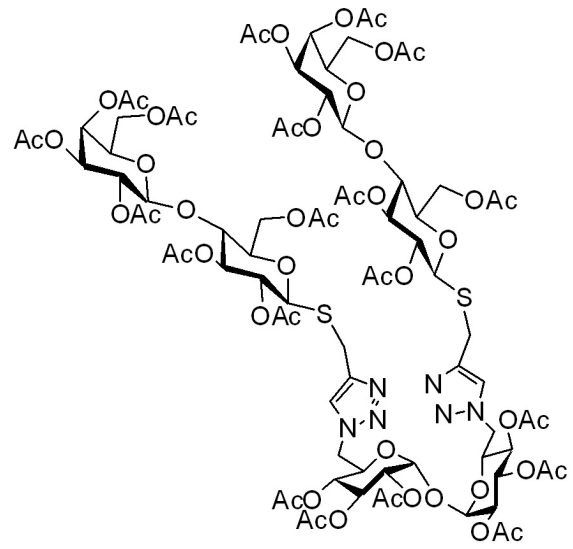
82.13

76.08  
73.71  
70.95  
70.66  
70.26  
69.02  
66.83  
61.83  
60.77

50.44

24.05  
20.91  
20.76  
20.65  
20.62  
20.60  
20.55  
20.47

Compound **21**





—145.02

—125.15

—102.90

—93.07

—84.41

78.63

78.10

75.73

75.34

72.62

72.52

71.75

70.95

70.55

70.44

68.54

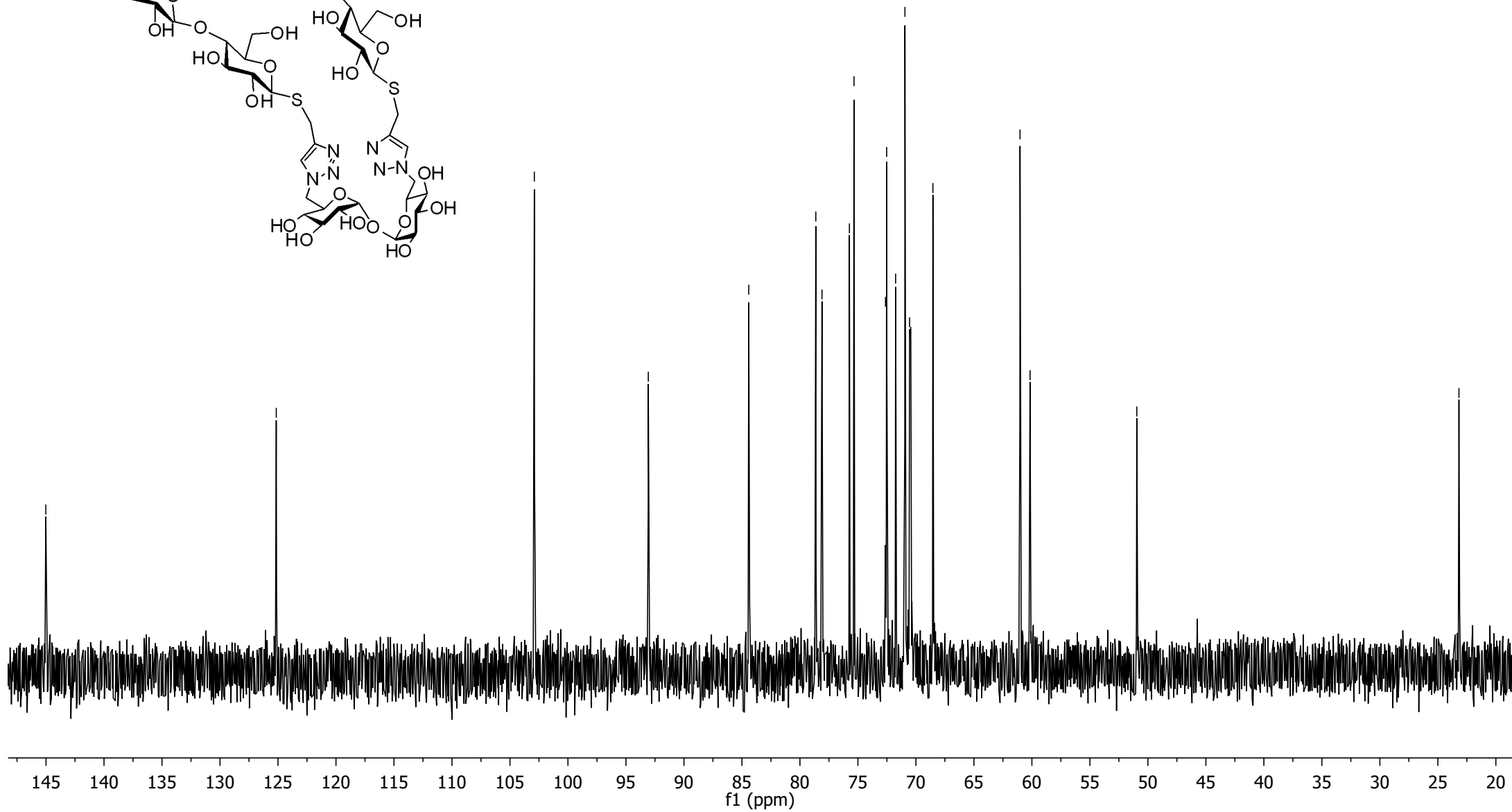
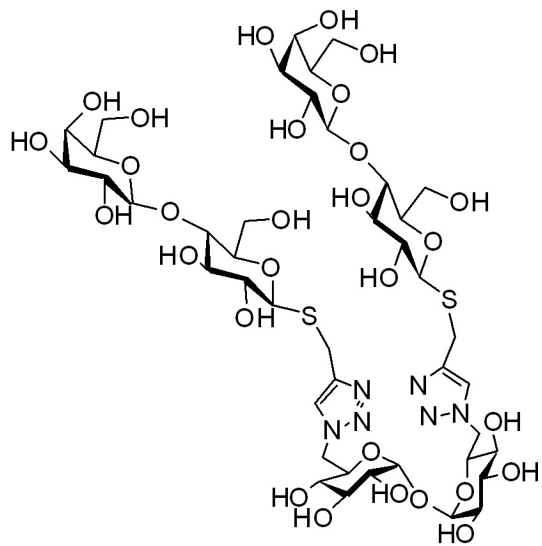
61.03

60.16

—50.96

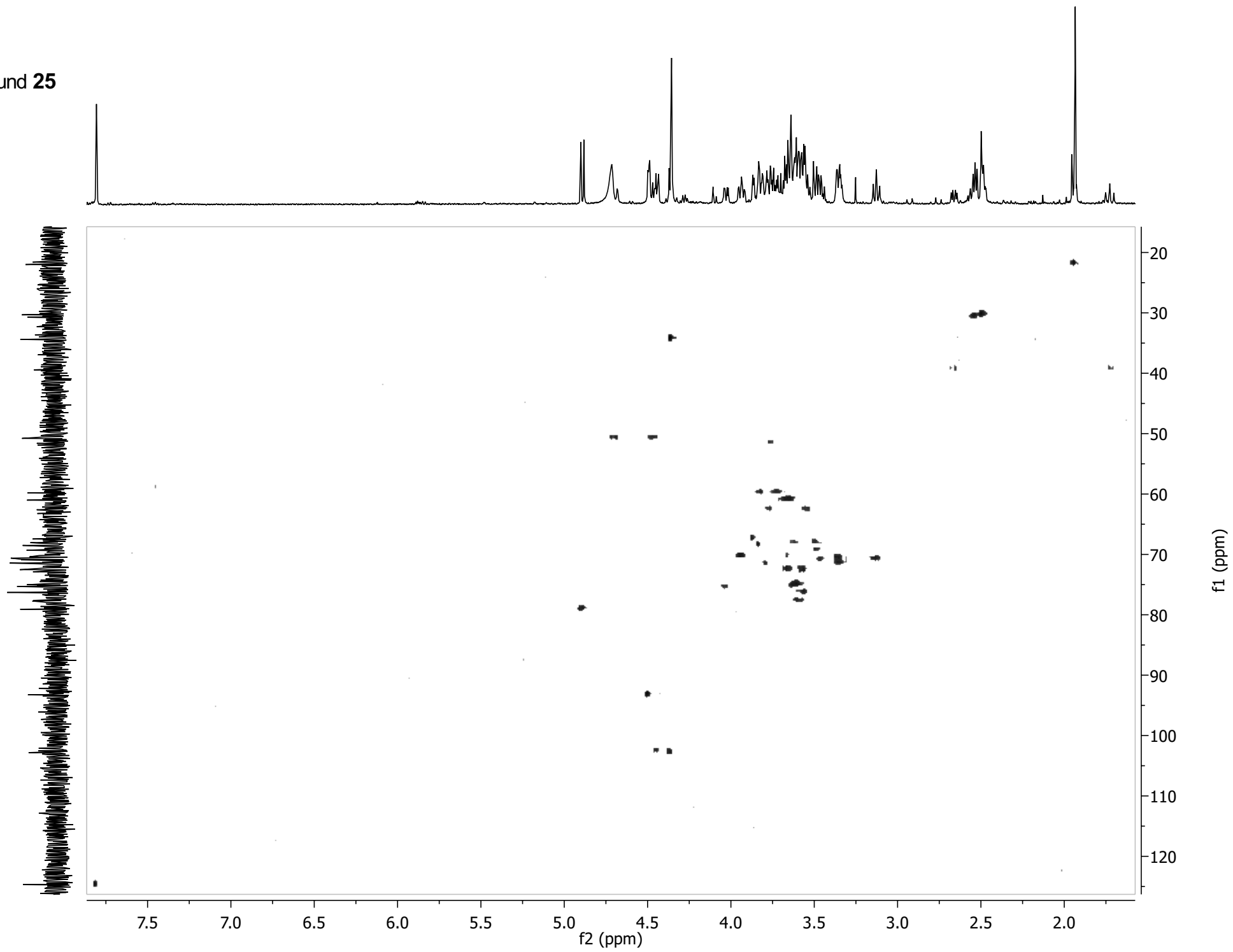
—23.18

### Compound 22

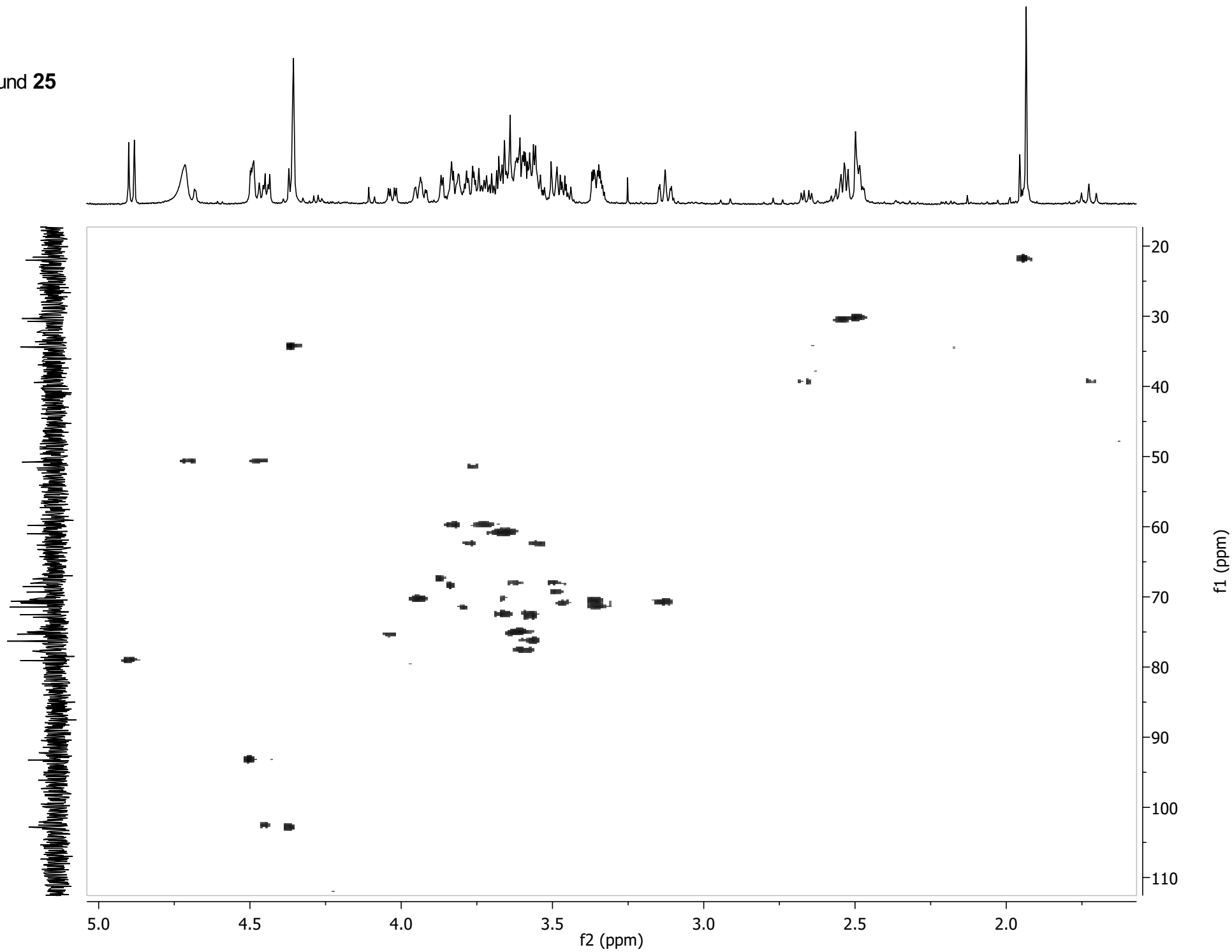




Compound 25



Compound 25



Compound 25

