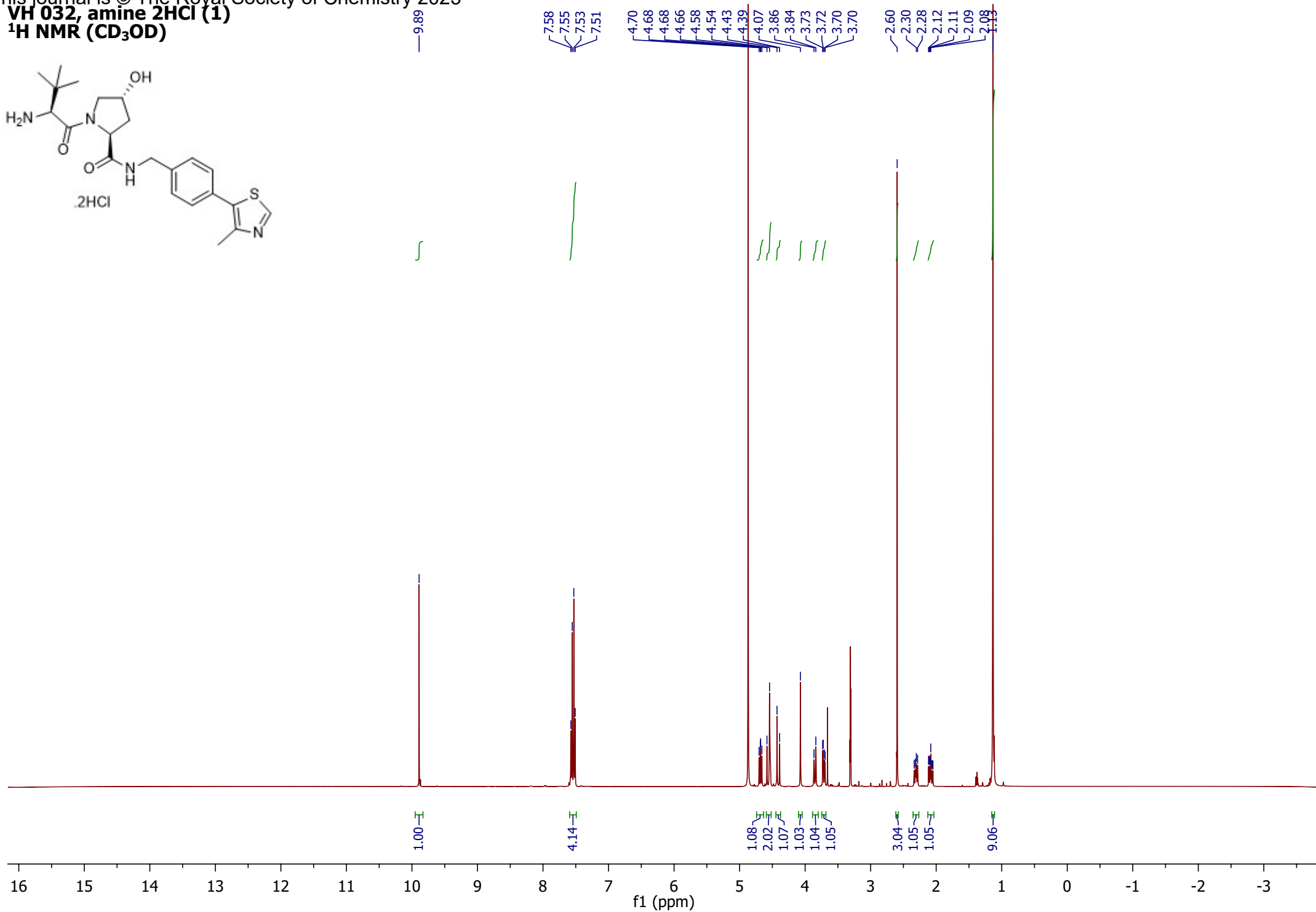
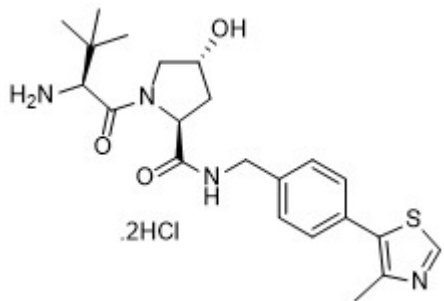
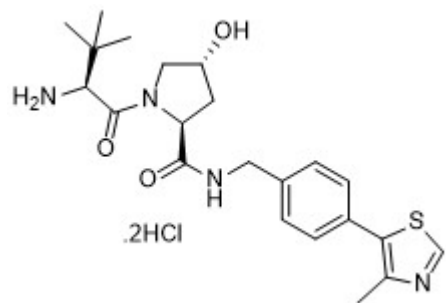


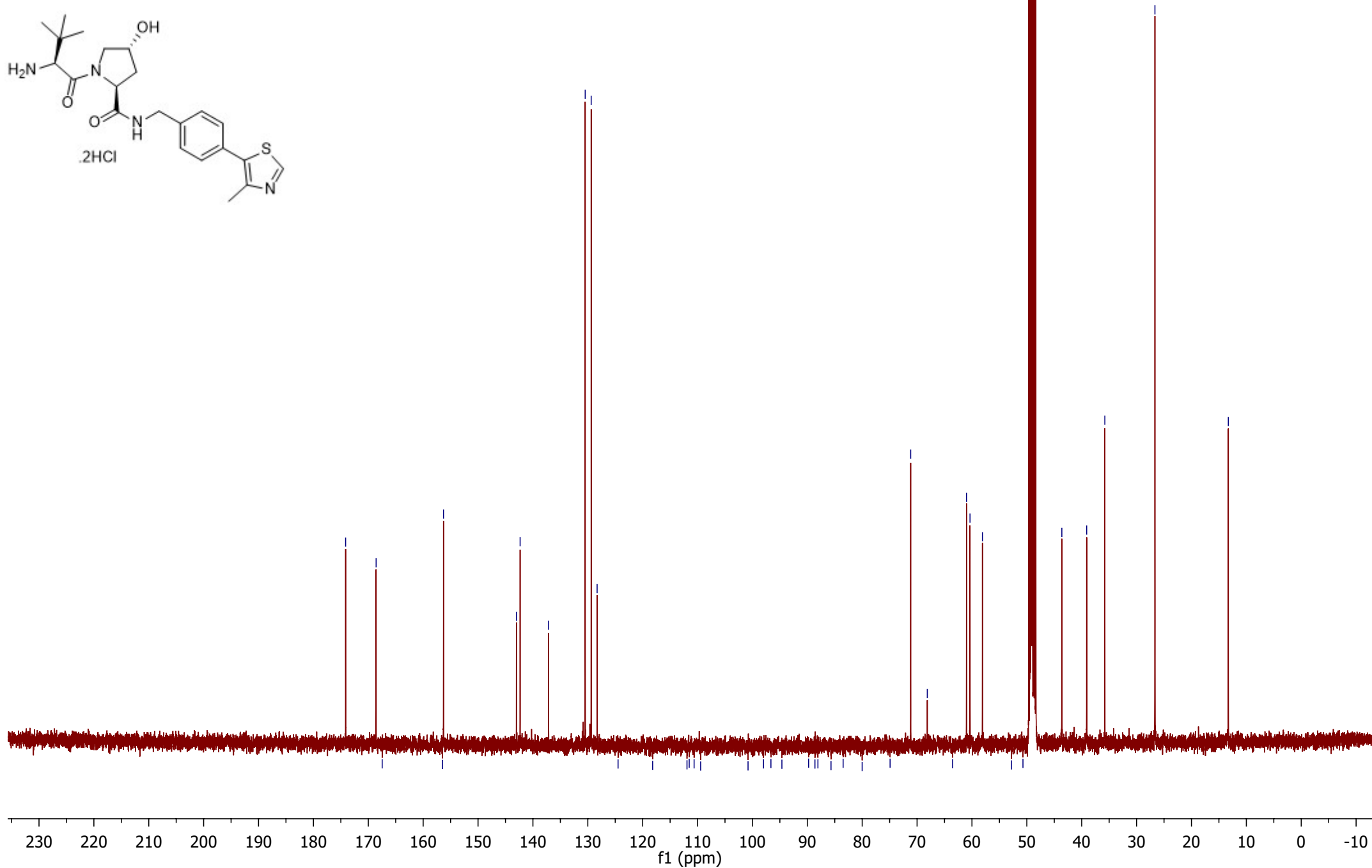
VH 032, amine 2HCl (1)
¹H NMR (CD₃OD)

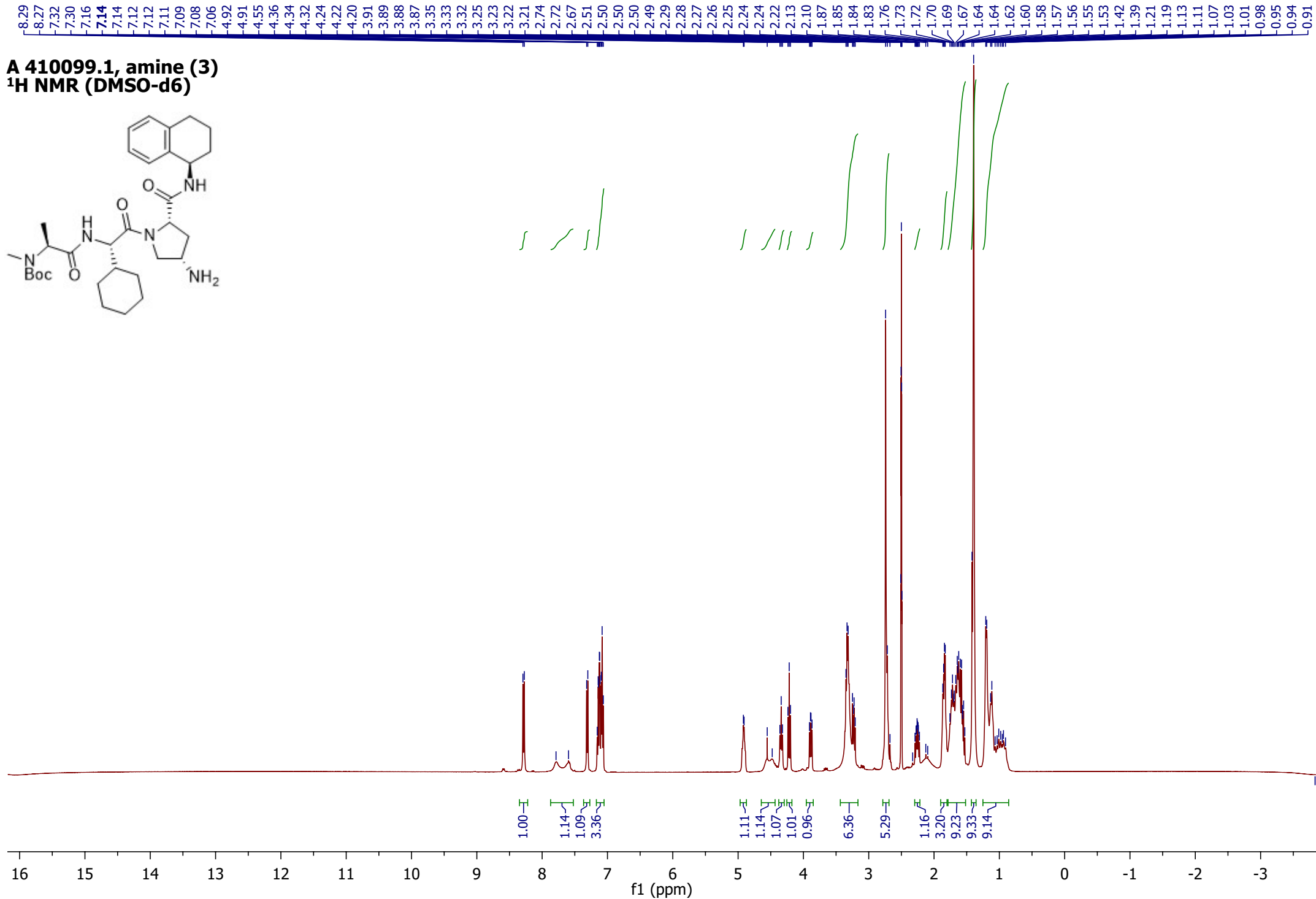
VH 032, amine (1)

¹³C NMR (CD₃OD)

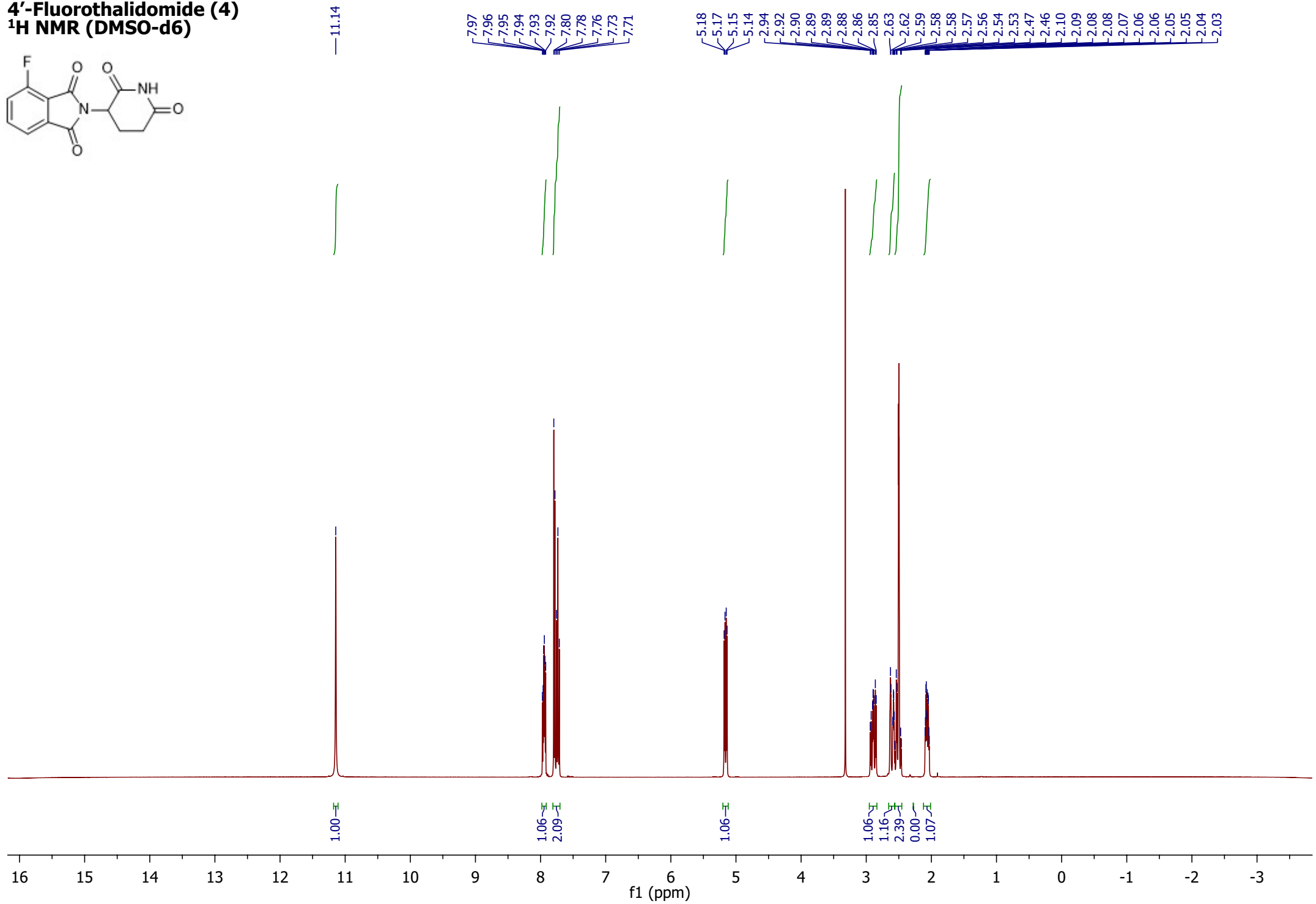
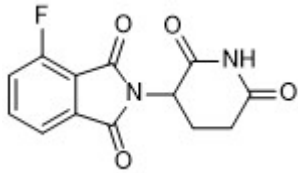


174.13
168.57
167.47
156.48
156.29
143.00
142.33
137.15
130.47
129.38
128.30
124.49
118.18
111.92
110.63
109.43
100.80
97.98
96.63
94.63
88.61
88.07
85.68
80.01
71.16
68.14
63.53
60.99
60.35
58.09
52.81
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49.00
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48.57
48.36
43.62
39.09
35.78
26.66
13.28



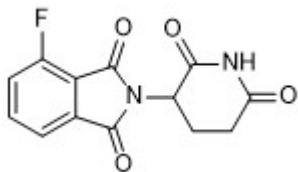


4'-Fluorothalidomide (4)
¹H NMR (DMSO-d6)



4'-Fluorothalidomide (4)

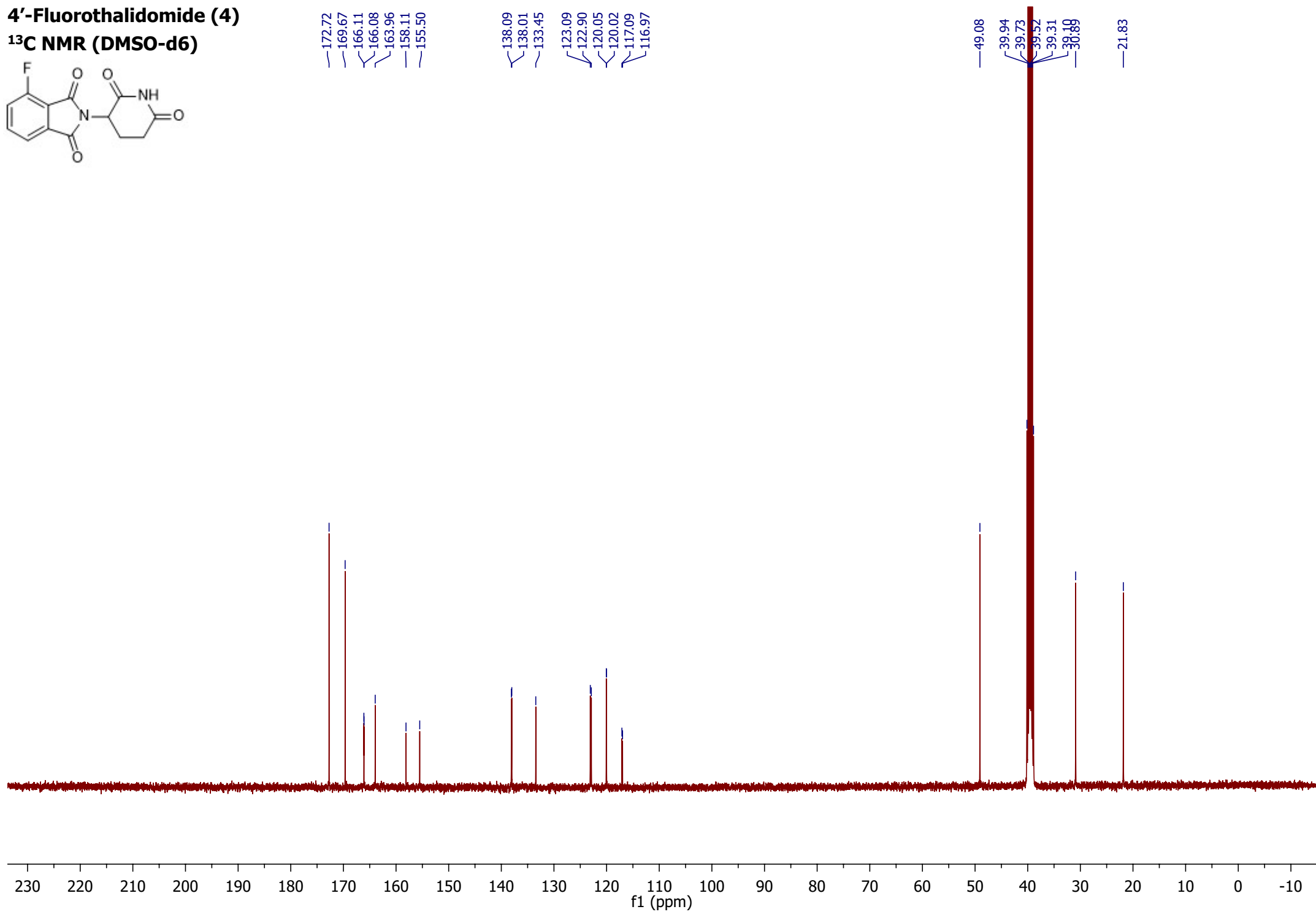
¹³C NMR (DMSO-d6)



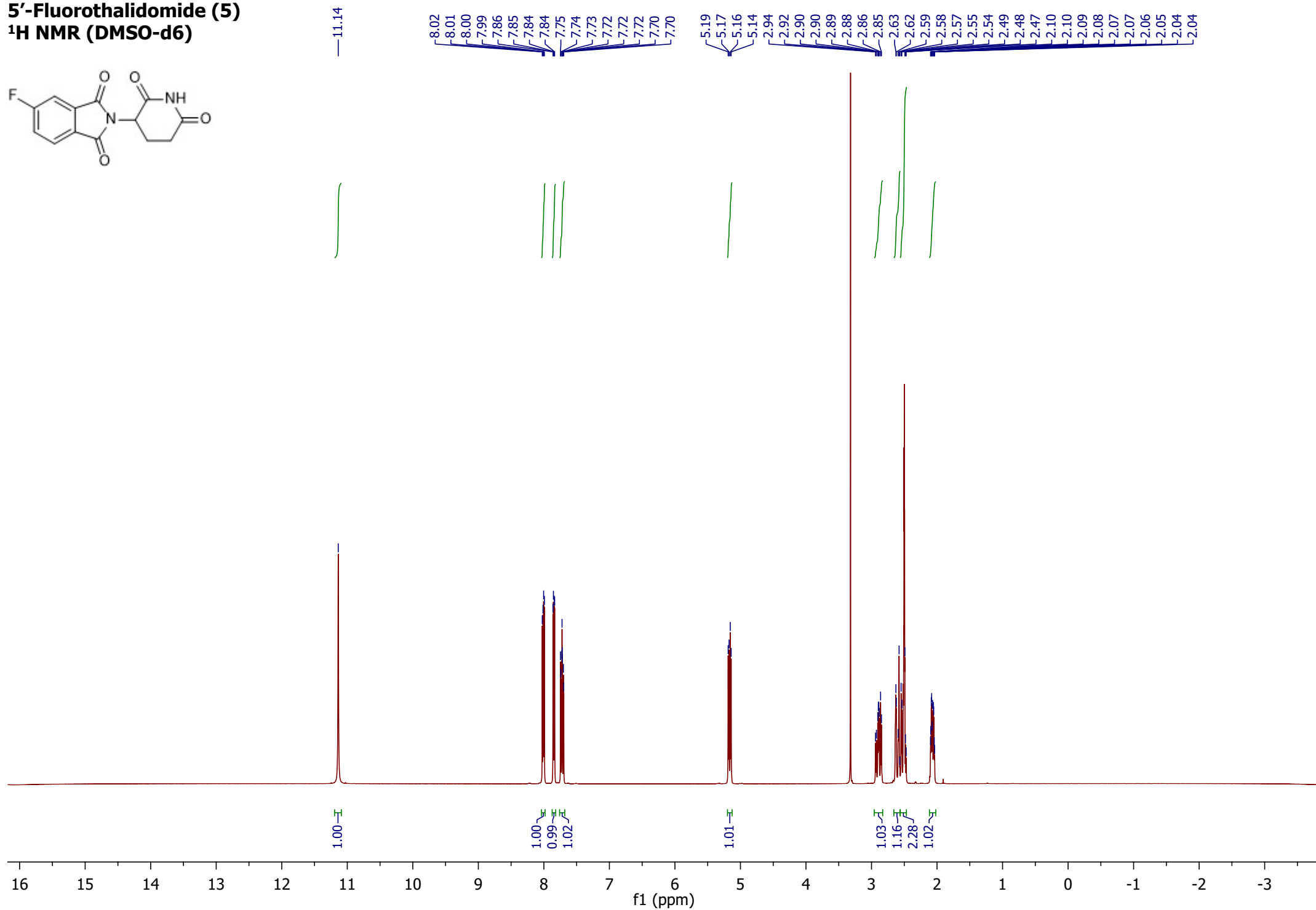
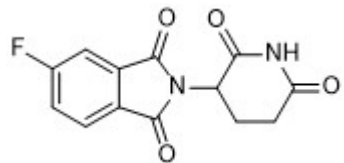
172.72
169.67
166.11
166.08
163.96
158.11
155.50

138.09
138.01
133.45
123.09
122.90
120.05
120.02
117.09
116.97

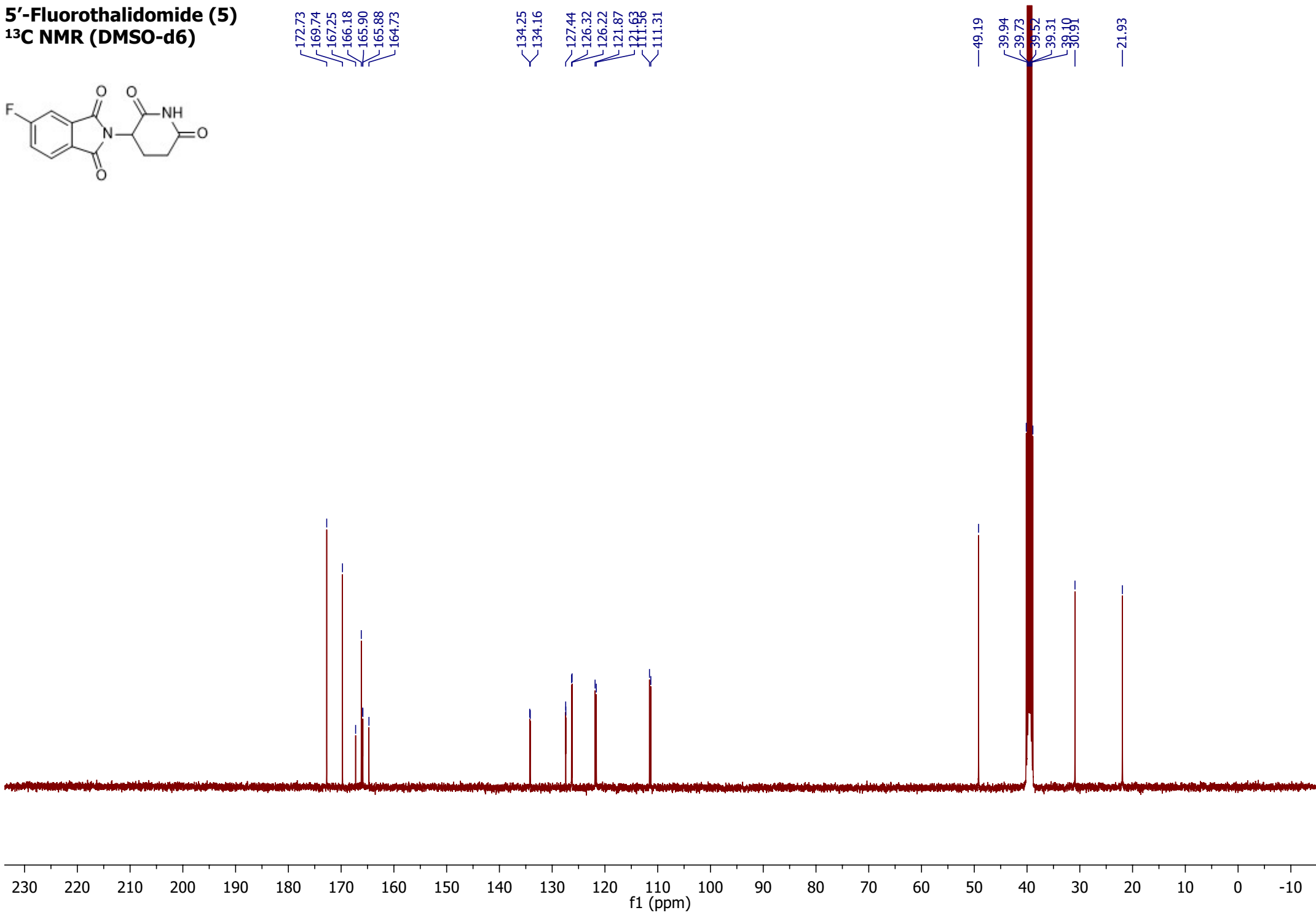
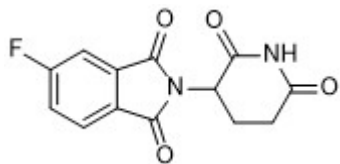
49.08
39.94
39.73
39.52
39.31
38.89
21.83



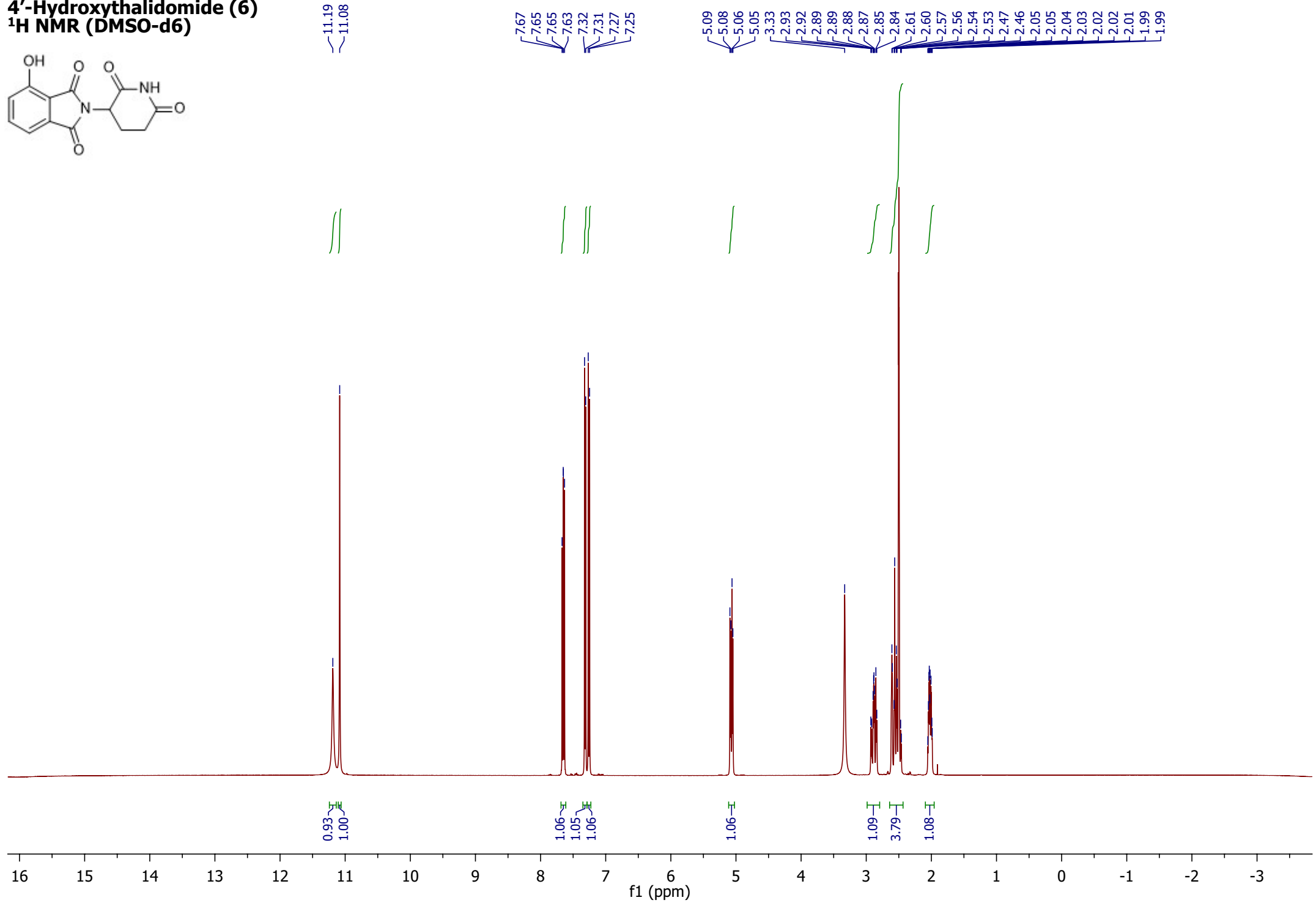
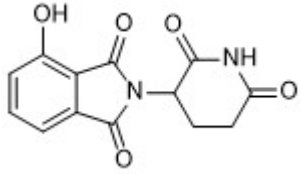
5'-Fluorothalidomide (5)
¹H NMR (DMSO-d6)



5'-Fluorothalidomide (5)
¹³C NMR (DMSO-d6)

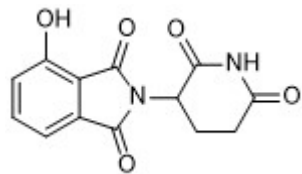


4'-Hydroxythalidomide (6)
¹H NMR (DMSO-d6)

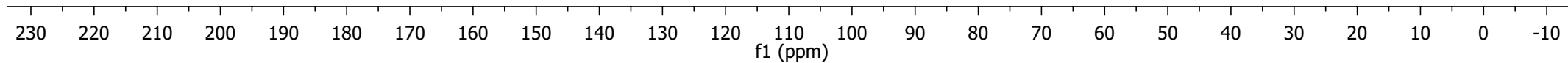


4'-Hydroxythalidomide (6)

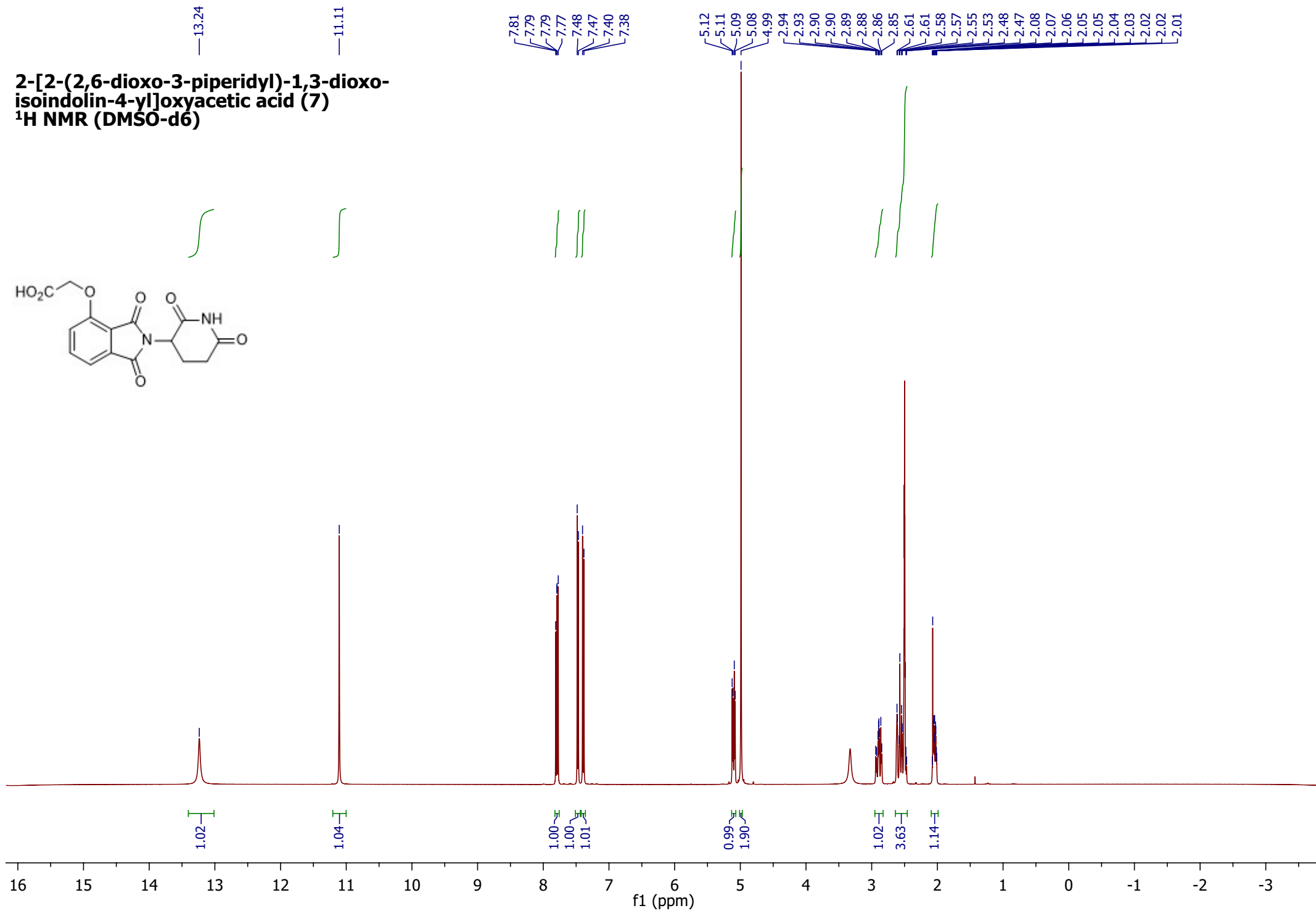
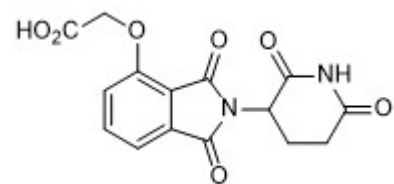
¹³C NMR (DMSO-d6)



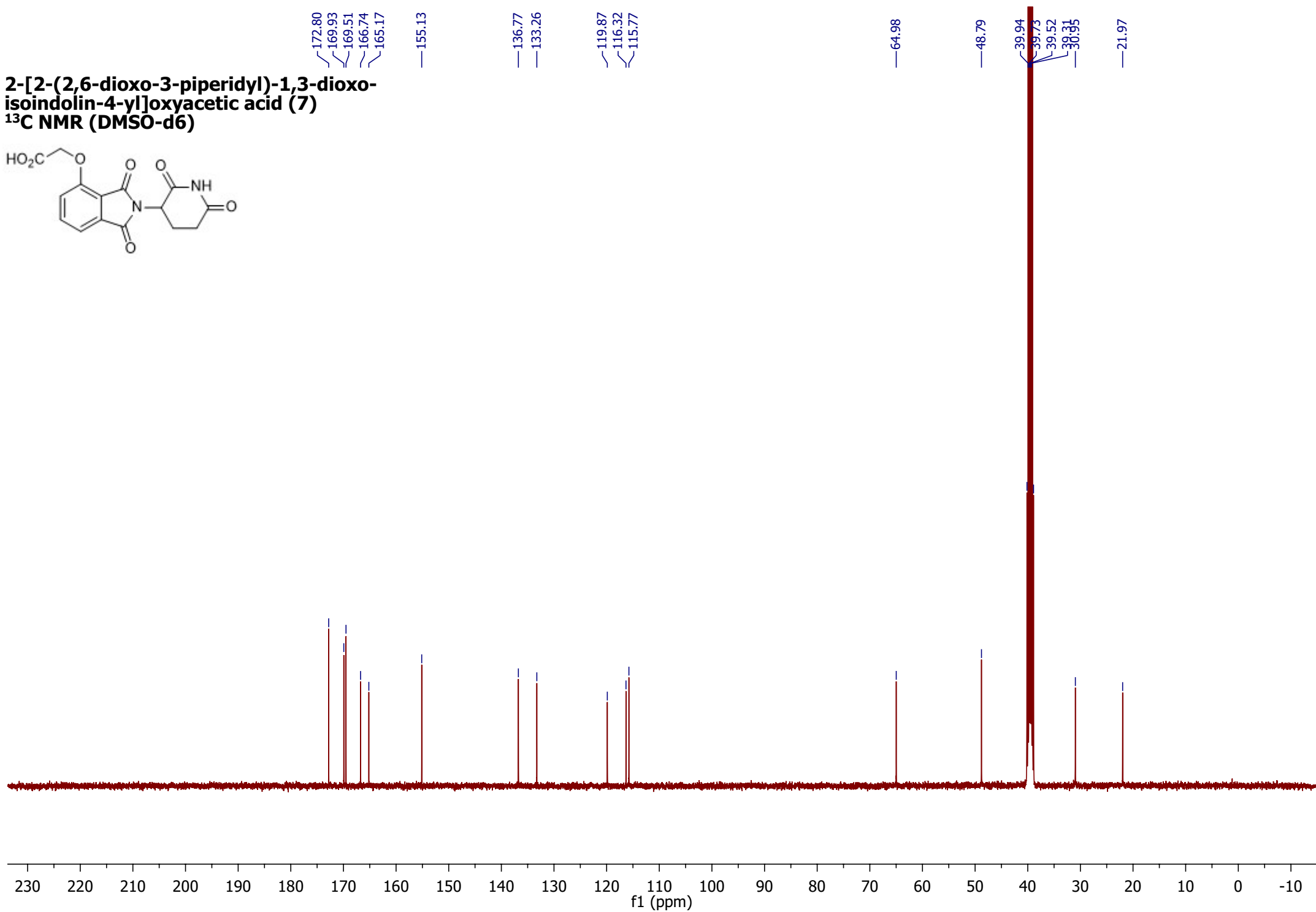
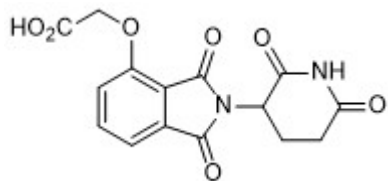
—172.81
—170.02
—167.03
—165.82
—155.49
—136.38
—133.15
—123.57
—114.36
—114.27
—48.63
39.73
39.52
39.31
38.98
30.96
—22.03



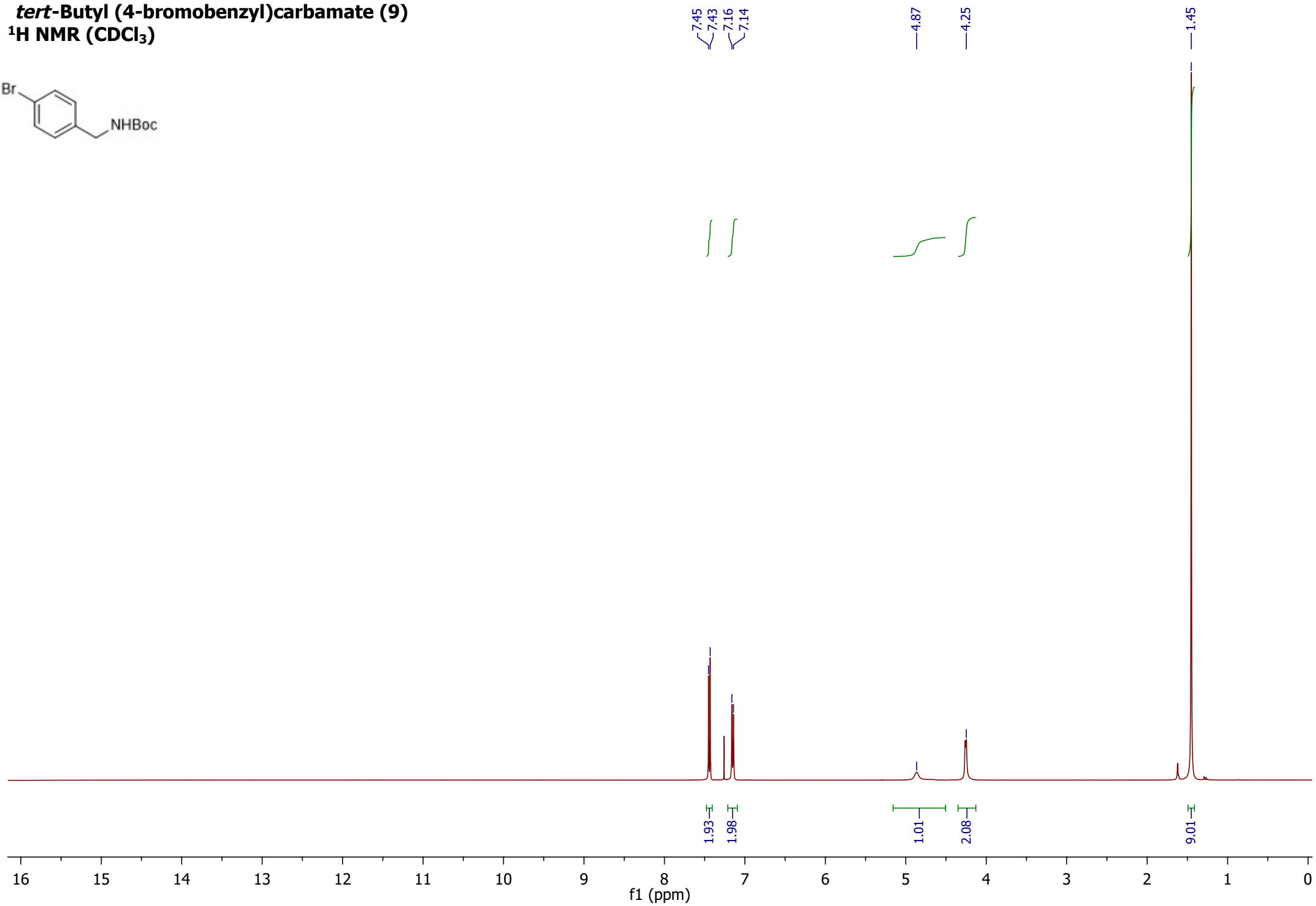
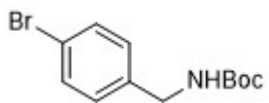
2-[2-(2,6-dioxo-3-piperidyl)-1,3-dioxo-isoindolin-4-yl]oxyacetic acid (7)
¹H NMR (DMSO-d6)



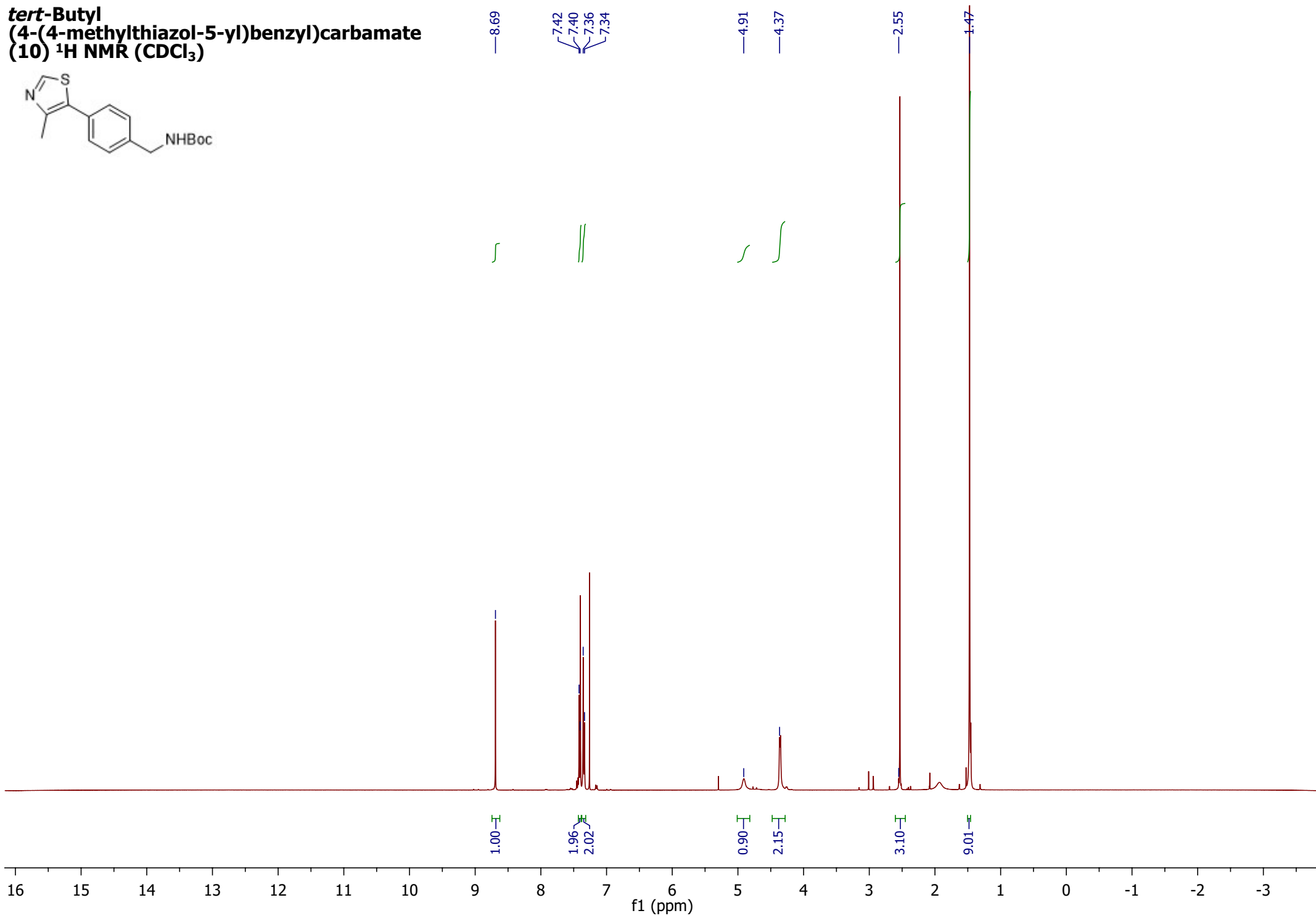
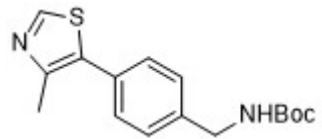
2-[2-(2,6-dioxo-3-piperidyl)-1,3-dioxo-isoindolin-4-yl]oxyacetic acid (7)
¹³C NMR (DMSO-d6)



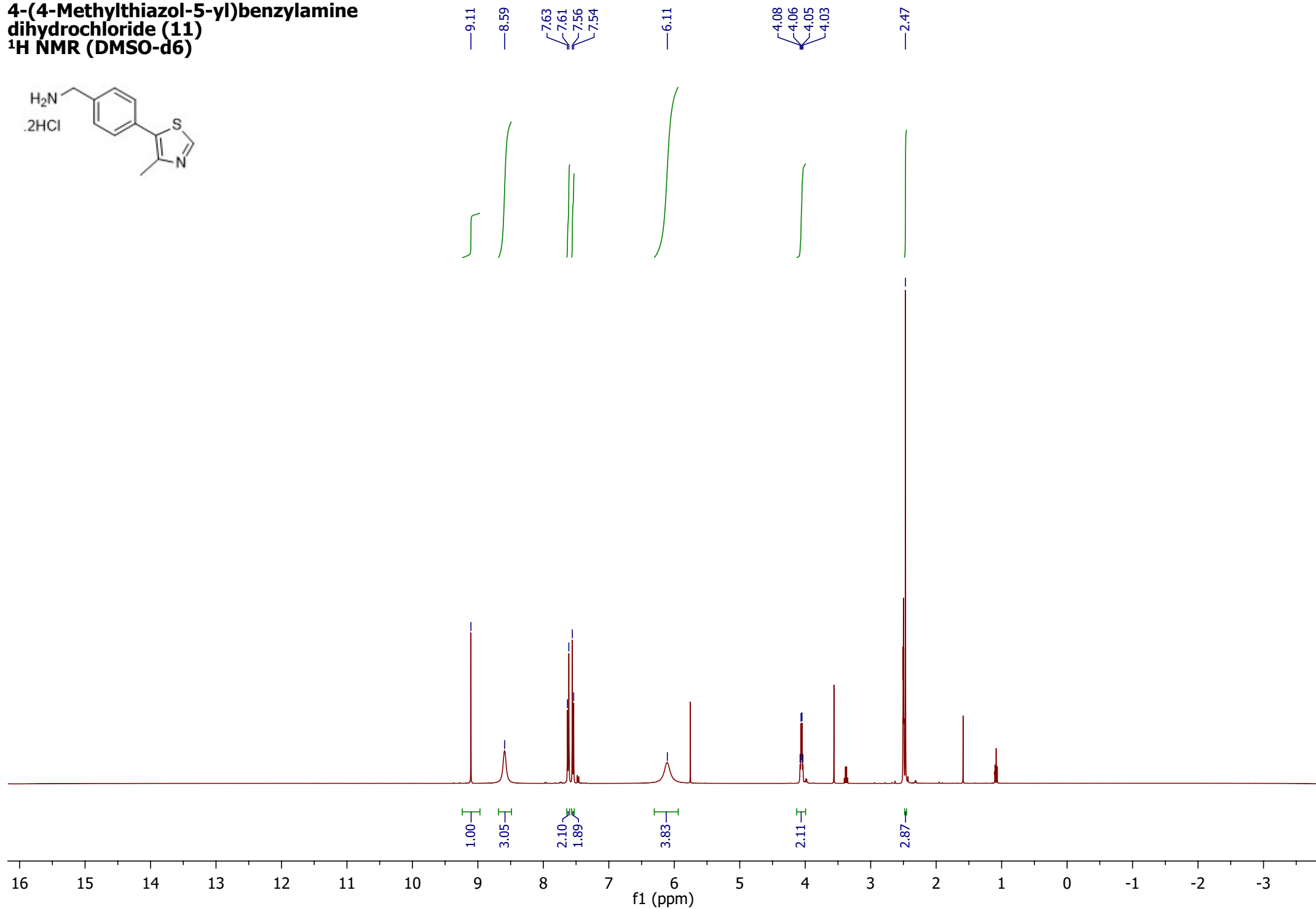
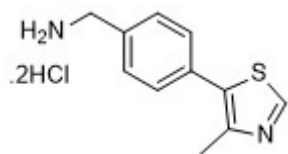
***tert*-Butyl (4-bromobenzyl)carbamate (9)**
¹H NMR (CDCl₃)



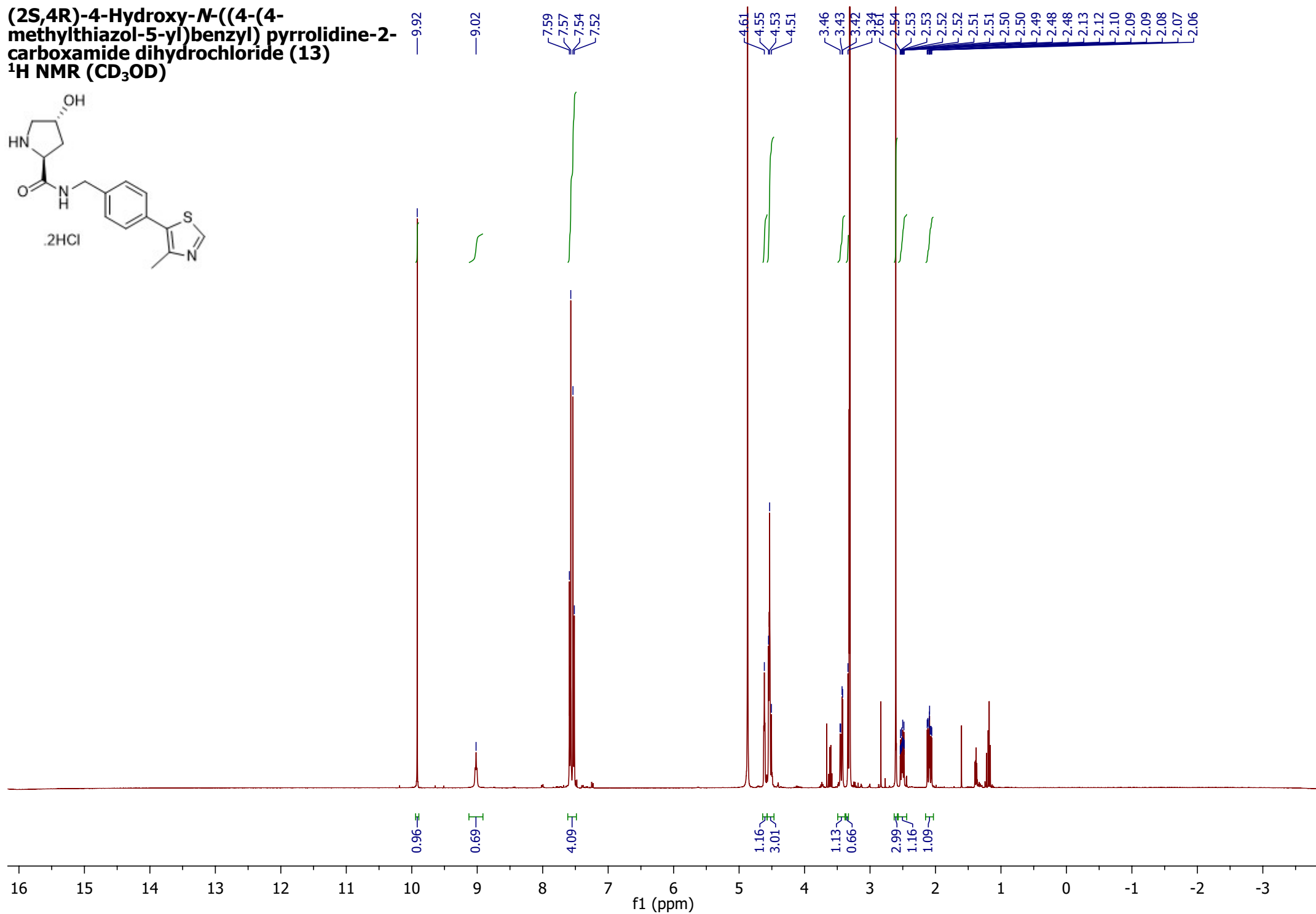
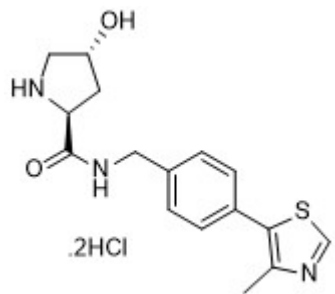
***tert*-Butyl
(4-(4-methylthiazol-5-yl)benzyl)carbamate
(10) ¹H NMR (CDCl₃)**



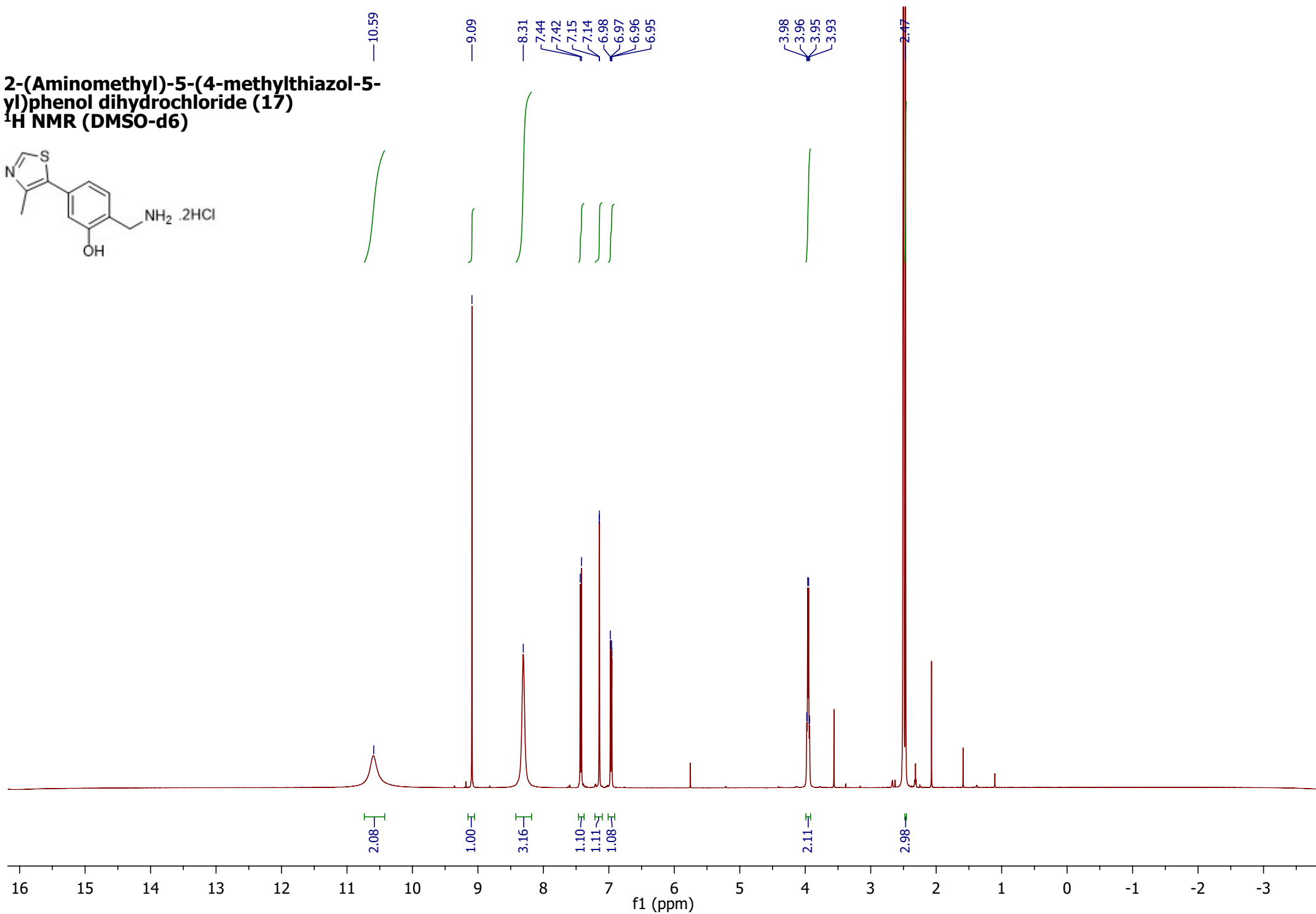
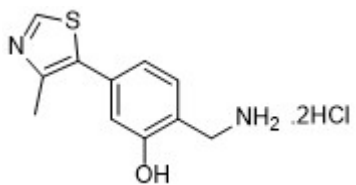
**4-(4-Methylthiazol-5-yl)benzylamine
dihydrochloride (11)**
¹H NMR (DMSO-d₆)



(2S,4R)-4-Hydroxy-N-((4-(4-methylthiazol-5-yl)benzyl)pyrrolidine-2-carboxamide dihydrochloride (13)
¹H NMR (CD₃OD)

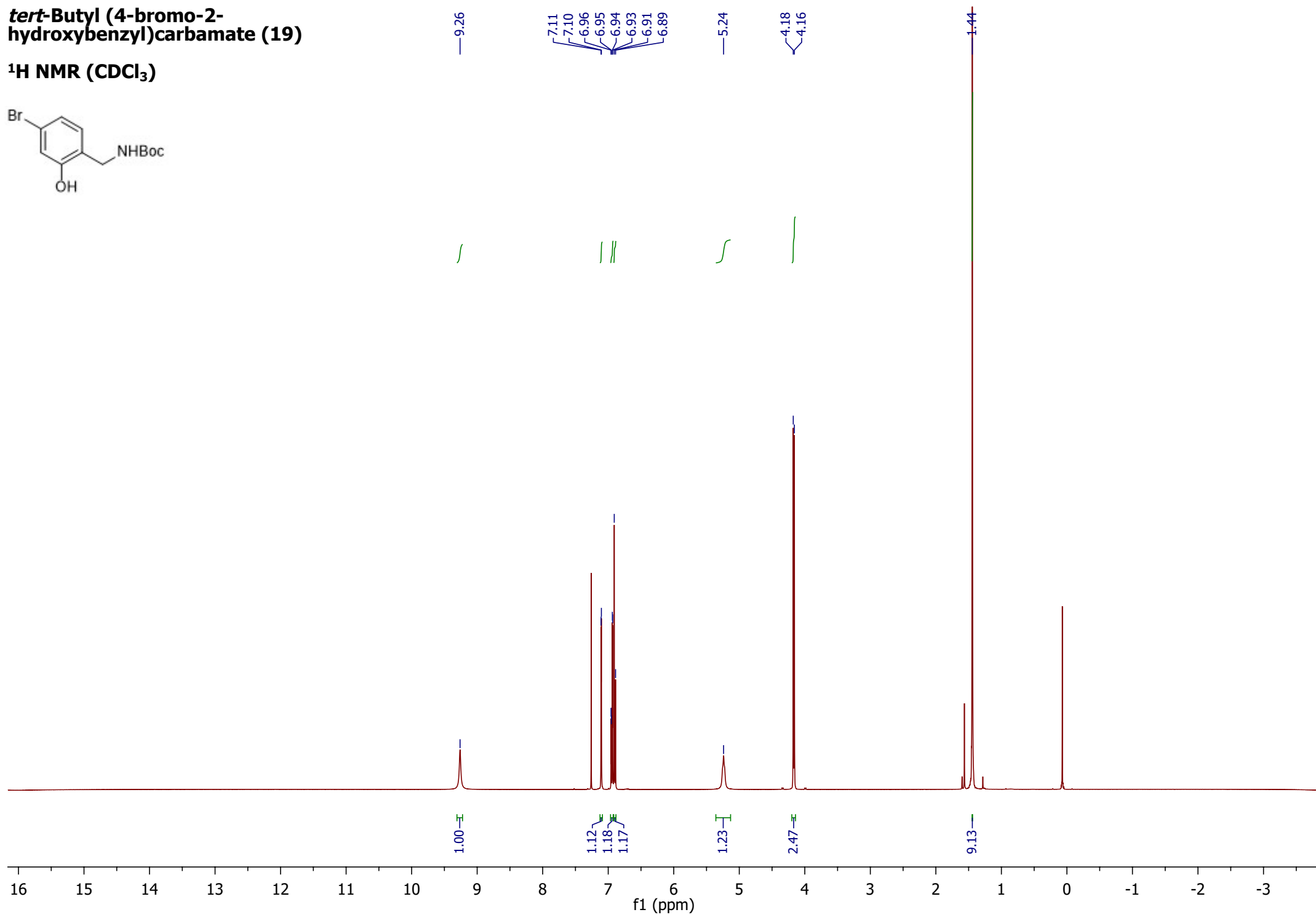
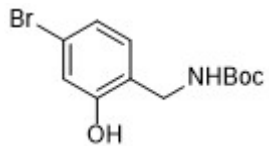


2-(Aminomethyl)-5-(4-methylthiazol-5-yl)phenol dihydrochloride (17)
¹H NMR (DMSO-d6)

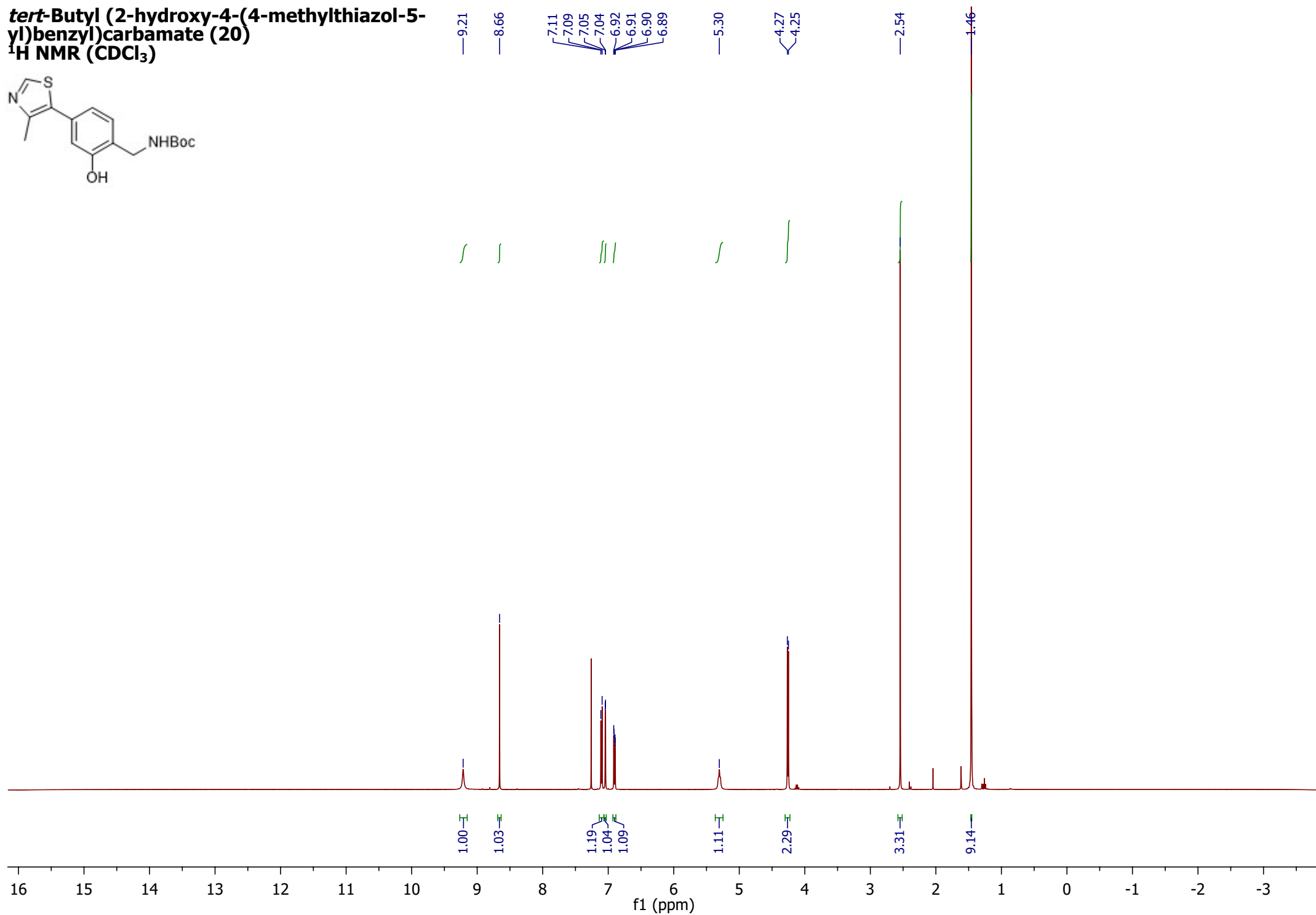
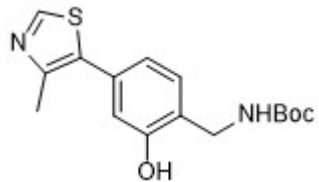


***tert*-Butyl (4-bromo-2-hydroxybenzyl)carbamate (19)**

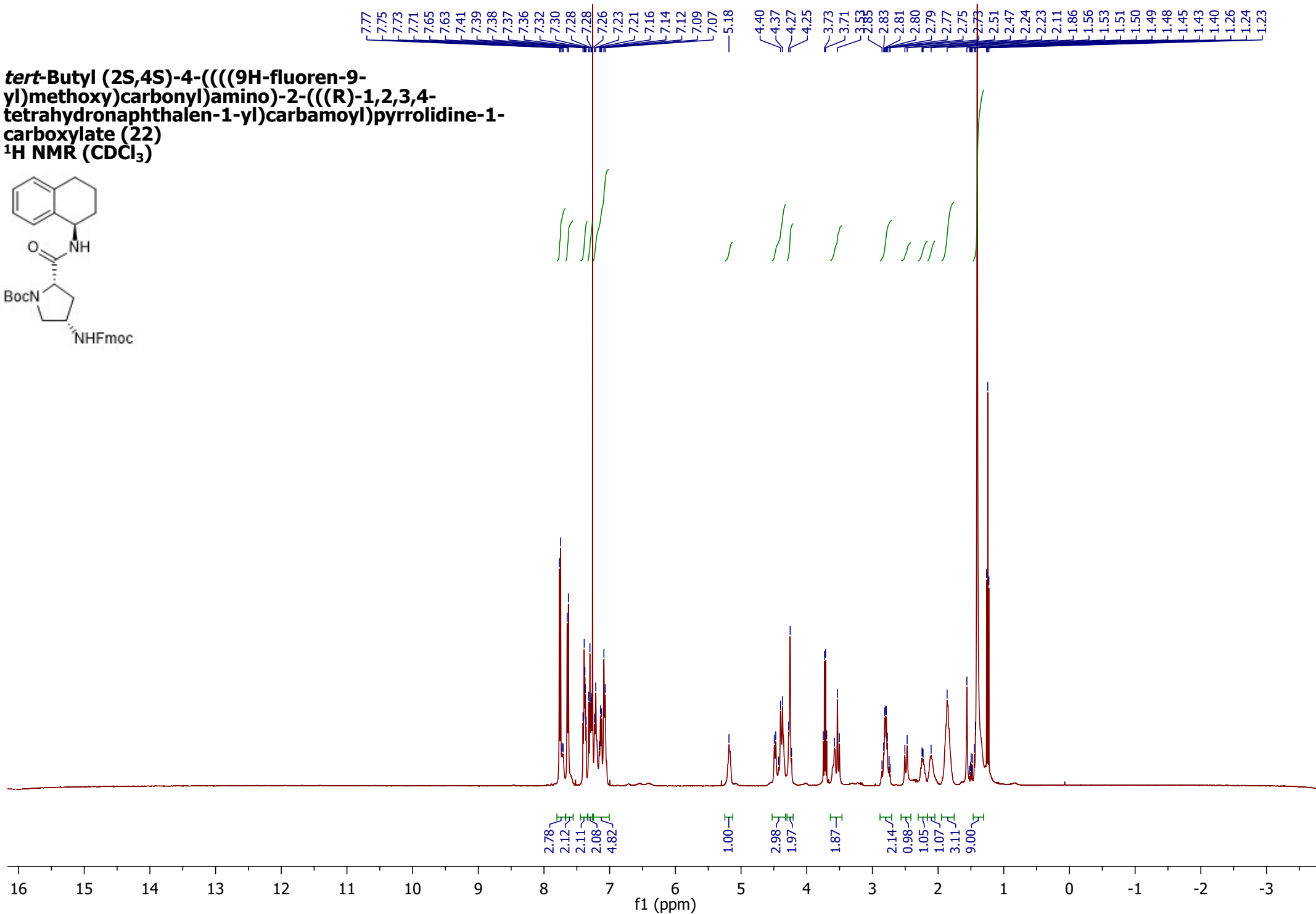
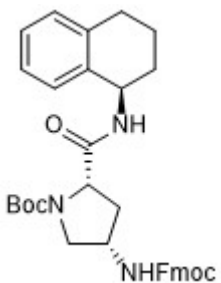
¹H NMR (CDCl₃)



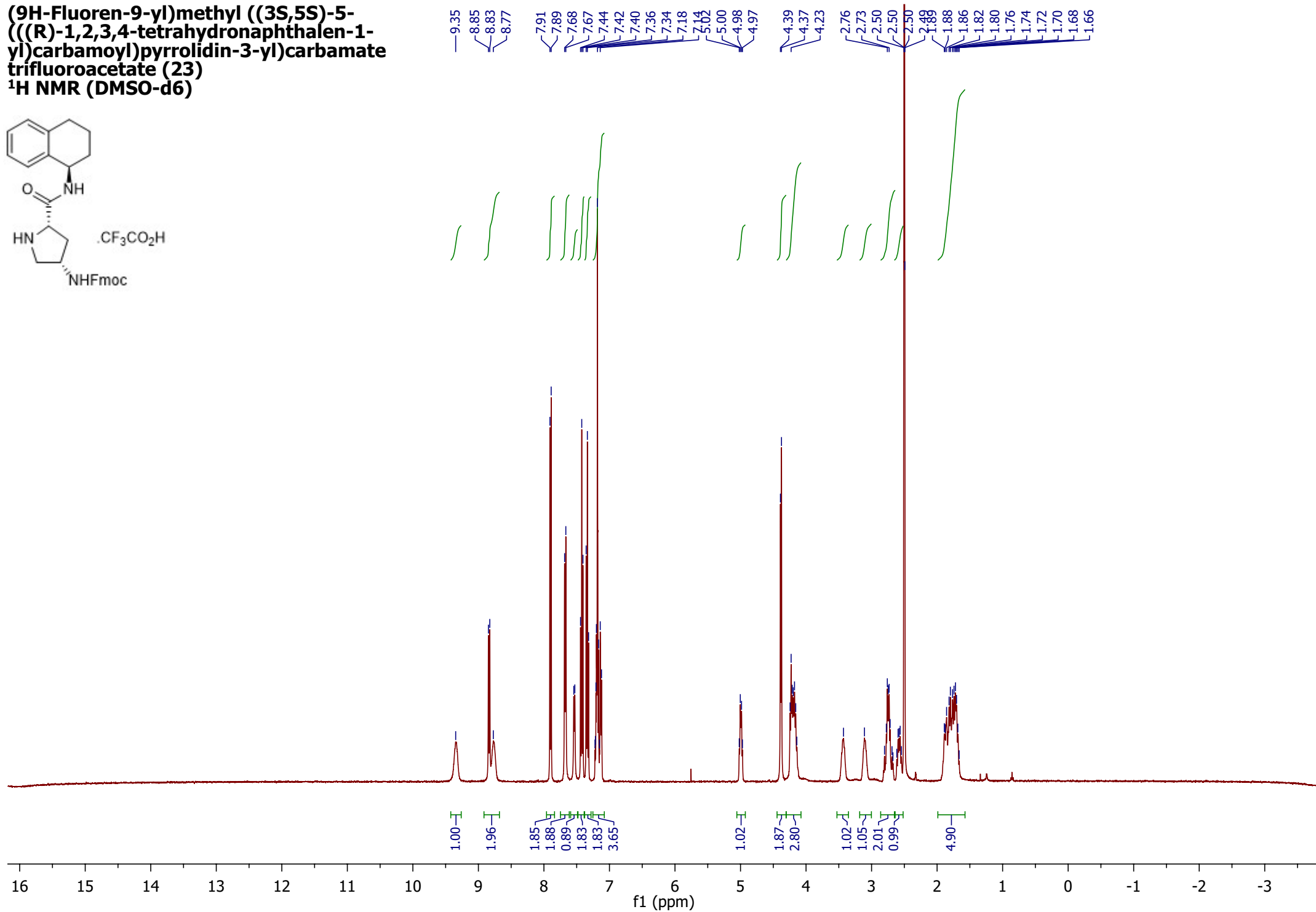
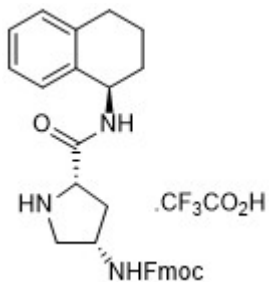
***tert*-Butyl (2-hydroxy-4-(4-methylthiazol-5-yl)benzyl)carbamate (20)**
¹H NMR (CDCl₃)



***tert*-Butyl (2*S*,4*S*)-4-(((9*H*-fluoren-9-yl)methoxy)carbonyl)amino)-2-(((*R*)-1,2,3,4-tetrahydronaphthalen-1-yl)carbamoyl)pyrrolidine-1-carboxylate (22)
¹H NMR (CDCl₃)**

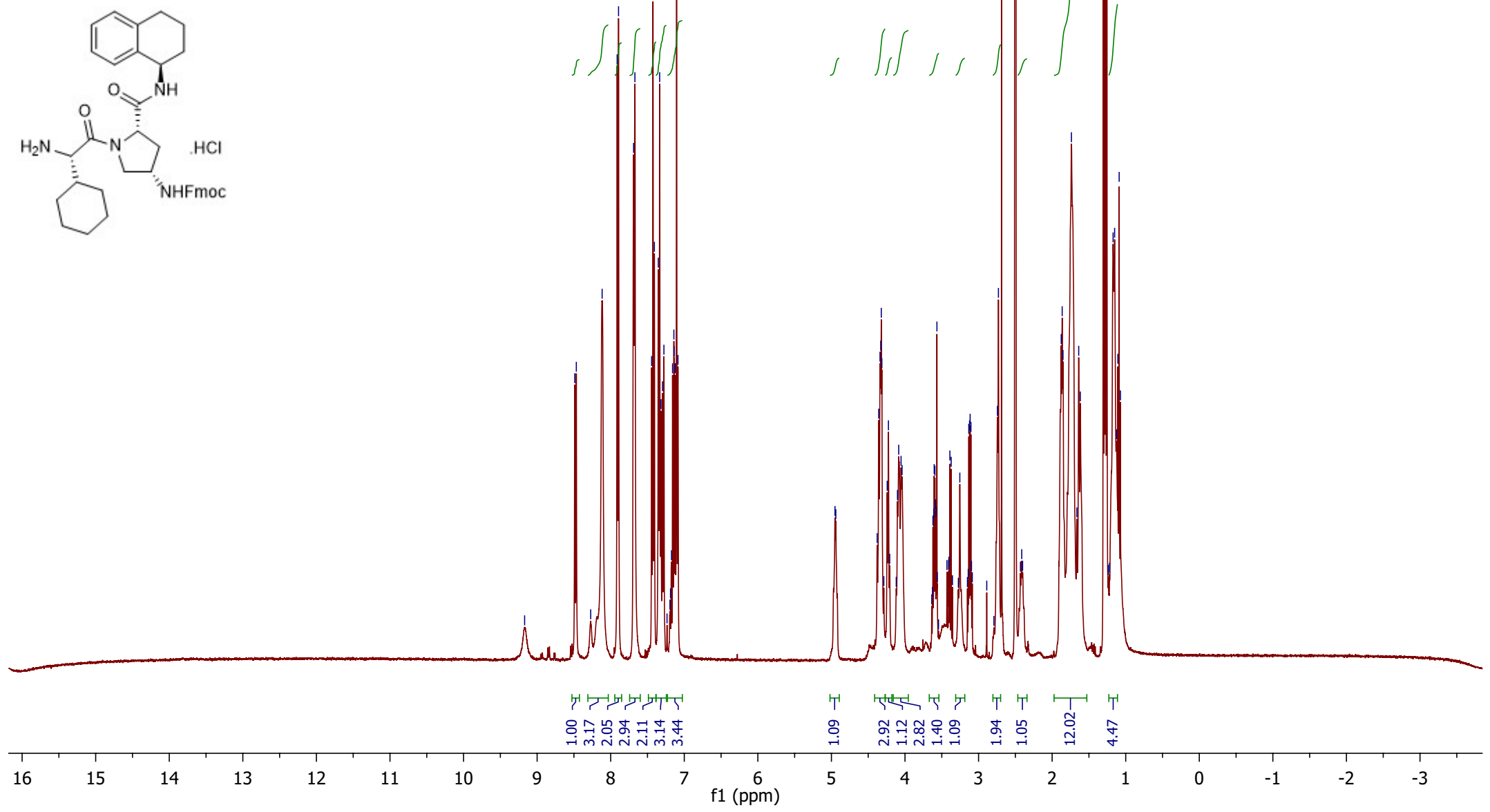
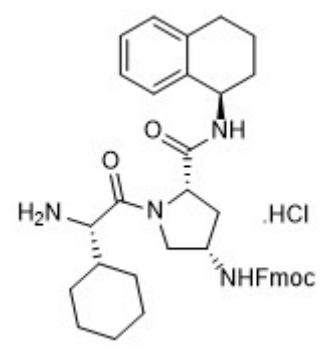


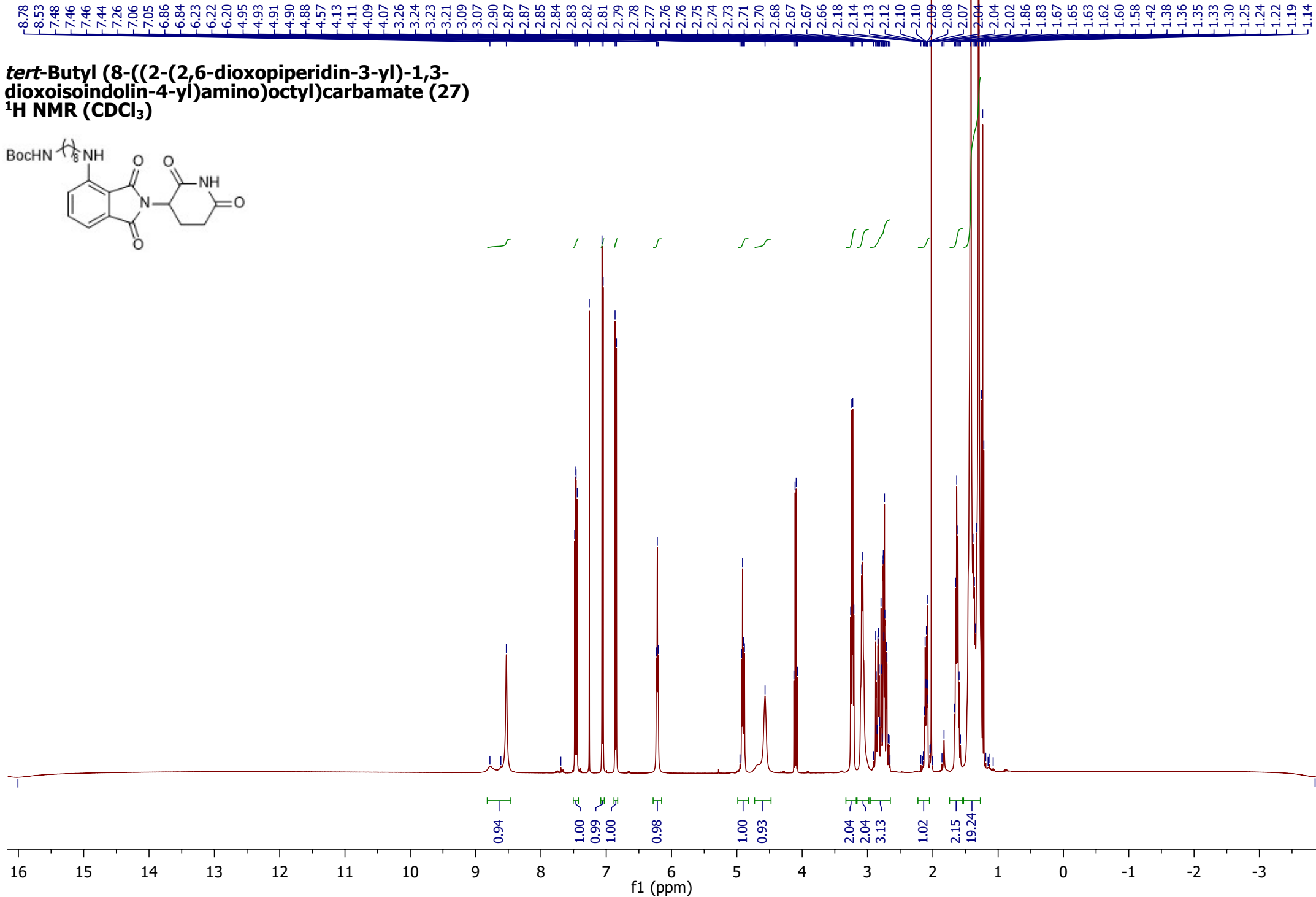
(9H-Fluoren-9-yl)methyl ((3S,5S)-5-(((R)-1,2,3,4-tetrahydronaphthalen-1-yl)carbamoyl)pyrrolidin-3-yl)carbamate trifluoroacetate (23)
¹H NMR (DMSO-d6)



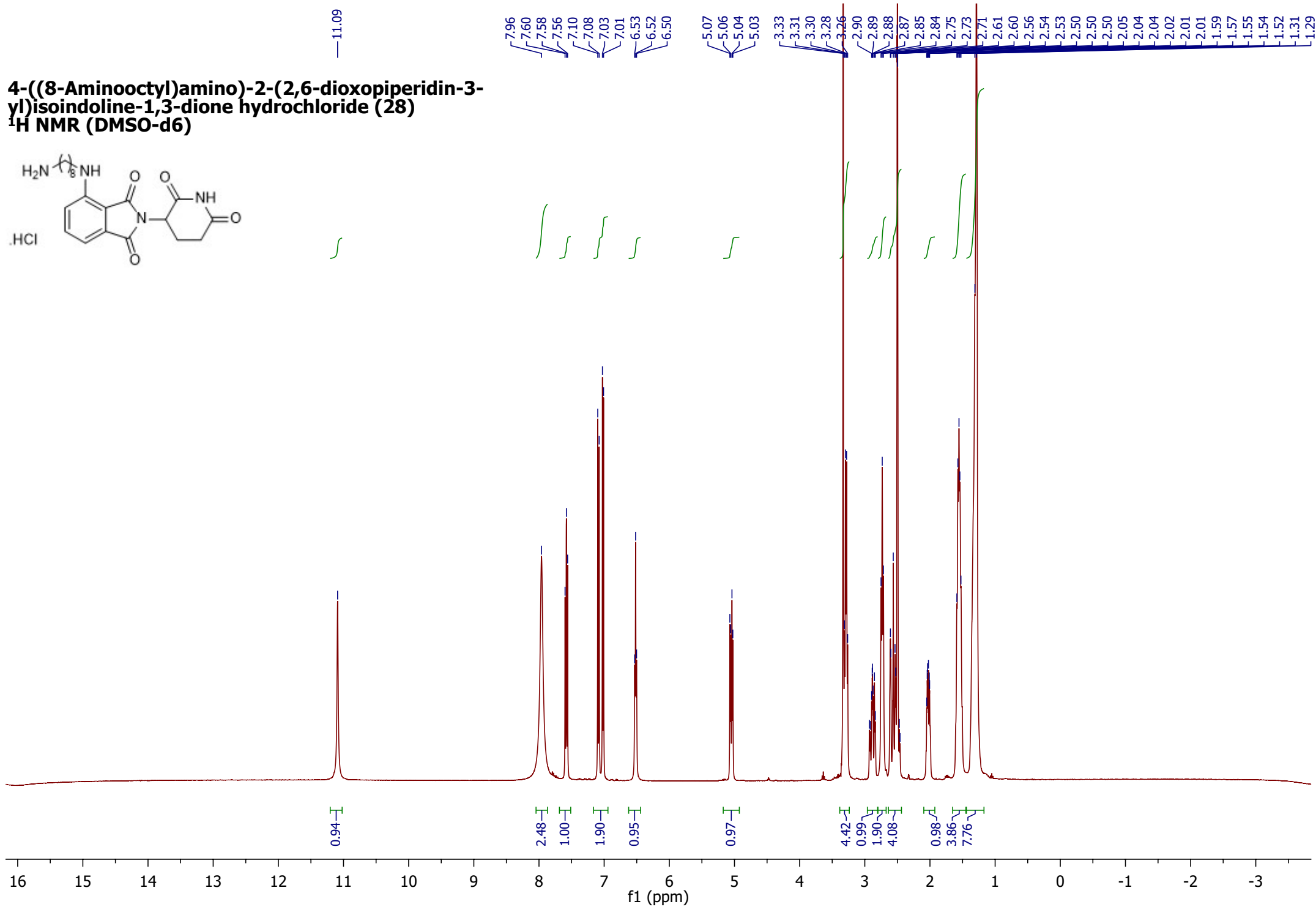
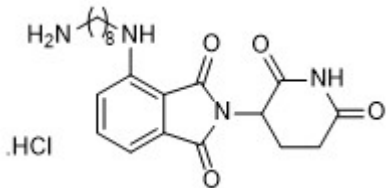
8.49
8.47
8.12
7.91
7.89
7.69
7.67
7.44
7.43
7.41
7.35
7.33
7.32
7.30
7.28
7.17
7.16
7.14
7.14
7.12
7.10
7.09
7.09
4.95
4.94
4.38
4.36
4.34
4.33
4.32
4.31
4.24
4.23
4.21
4.10
4.09
4.05
4.04
3.62
3.61
3.60
3.59
3.59
3.58
3.57
3.43
3.41
3.40
3.39
3.37
3.25
3.13
3.13
3.12
3.11
3.10
3.10
2.74
2.73
2.69
2.51
2.50
2.50
2.50
2.49
2.43
2.41
2.40
1.88
1.86
1.85
1.74
1.66
1.64
1.62
1.30
1.29
1.27
1.26
1.17
1.15
1.13
1.11
1.09
1.07

(9H-Fluoren-9-yl)methyl ((3S,5S)-1-((S)-2-amino-2-cyclohexylacetyl)-5-(((R)-1,2,3,4-tetrahydronaphthalen-1-yl)carbamoyl)pyrrolidin-3-yl)carbamate hydrochloride (25)
¹H NMR (DMSO-d₆)



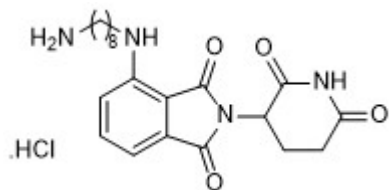


4-((8-Aminoocetyl)amino)-2-(2,6-dioxopiperidin-3-yl)isoindoline-1,3-dione hydrochloride (28)
¹H NMR (DMSO-d6)



4-((8-Aminoethyl)amino)-2-(2,6-dioxopiperidin-3-yl)isoindoline-1,3-dione hydrochloride (28)

¹³C NMR (DMSO-d₆)



172.55
169.83
168.69
167.03

146.16

136.03

131.92

116.92

110.13

108.73

48.27

39.67

39.46

39.25

38.94

28.37

28.28

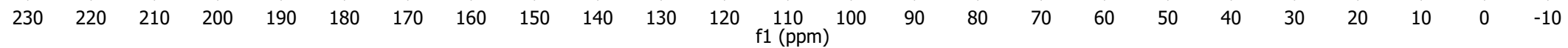
28.18

26.63

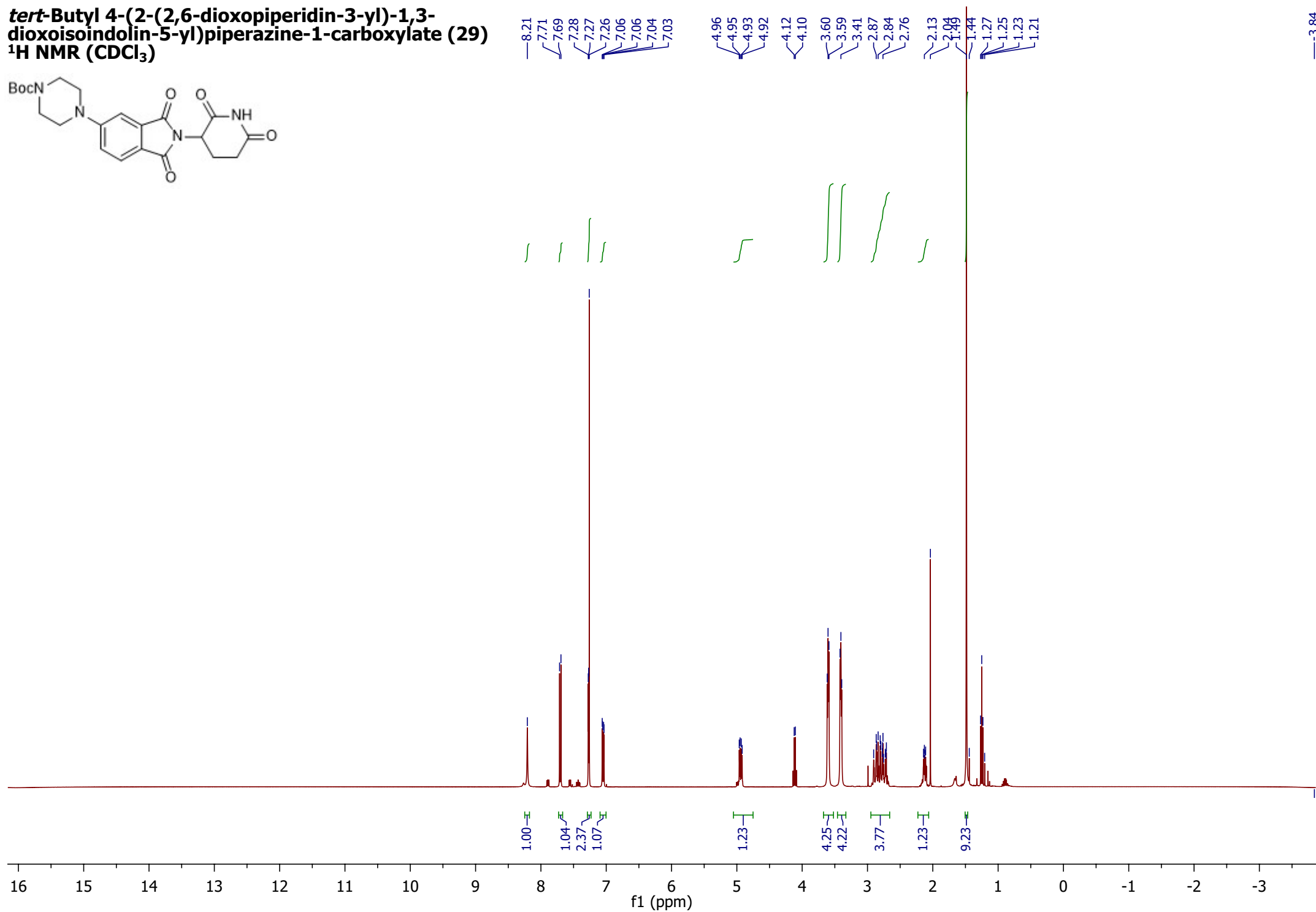
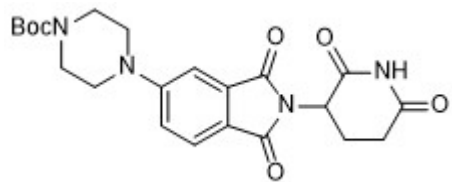
25.94

25.51

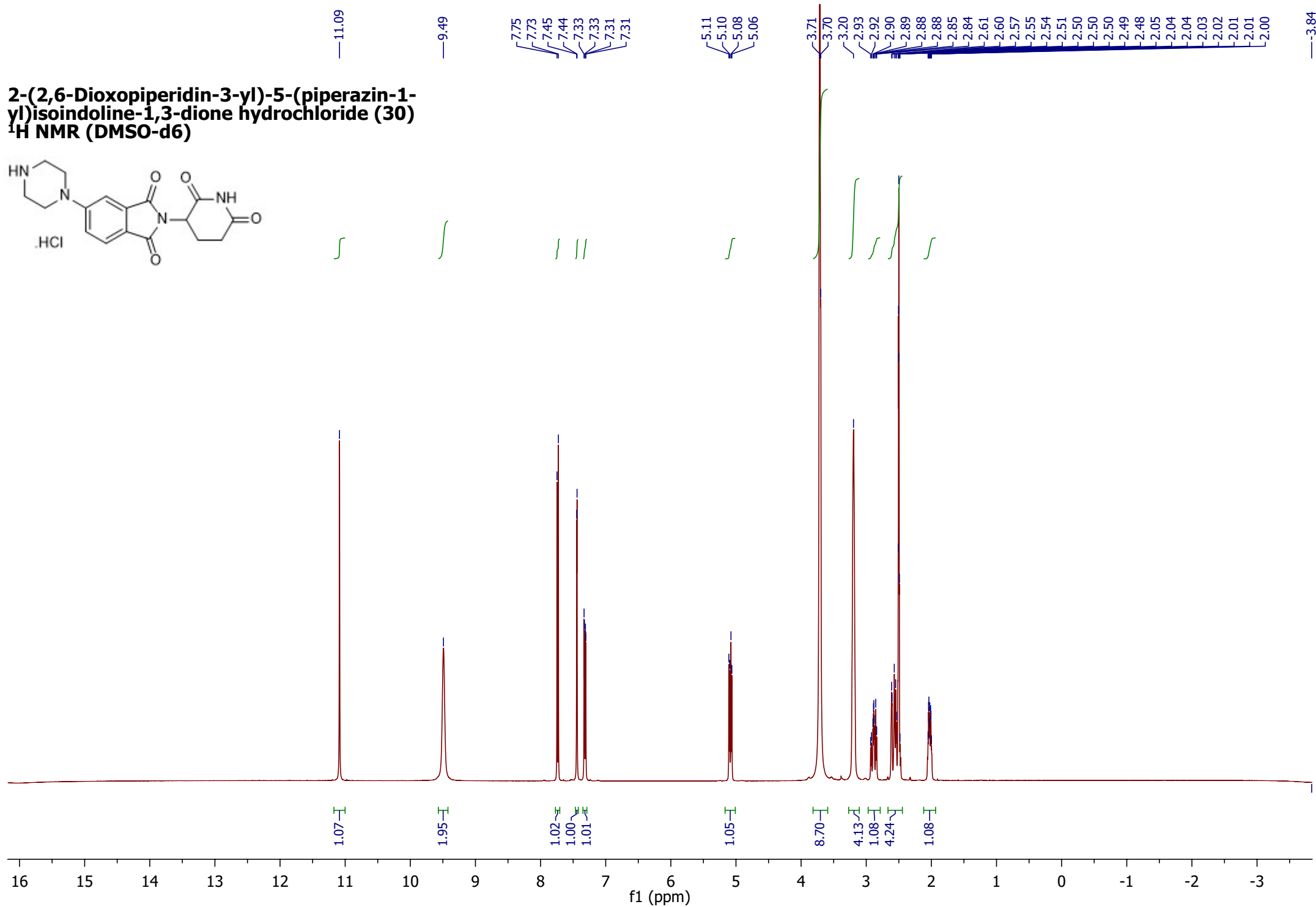
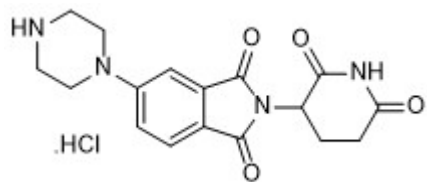
21.88



***tert*-Butyl 4-(2-(2,6-dioxopiperidin-3-yl)-1,3-dioxoisoindolin-5-yl)piperazine-1-carboxylate (29)**
¹H NMR (CDCl₃)

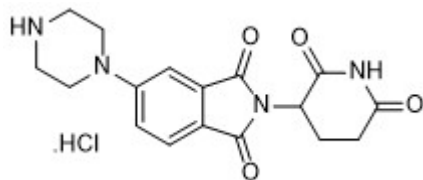


2-(2,6-Dioxopiperidin-3-yl)-5-(piperazin-1-yl)isoindoline-1,3-dione hydrochloride (30)
¹H NMR (DMSO-d6)



2-(2,6-Dioxopiperidin-3-yl)-5-(piperazin-1-yl)isoindoline-1,3-dione hydrochloride (30)

¹³C NMR (DMSO-d6)



172.80
170.03
167.41
166.90
154.43

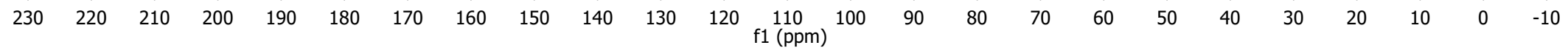
133.80

124.99
119.64
118.57

108.86

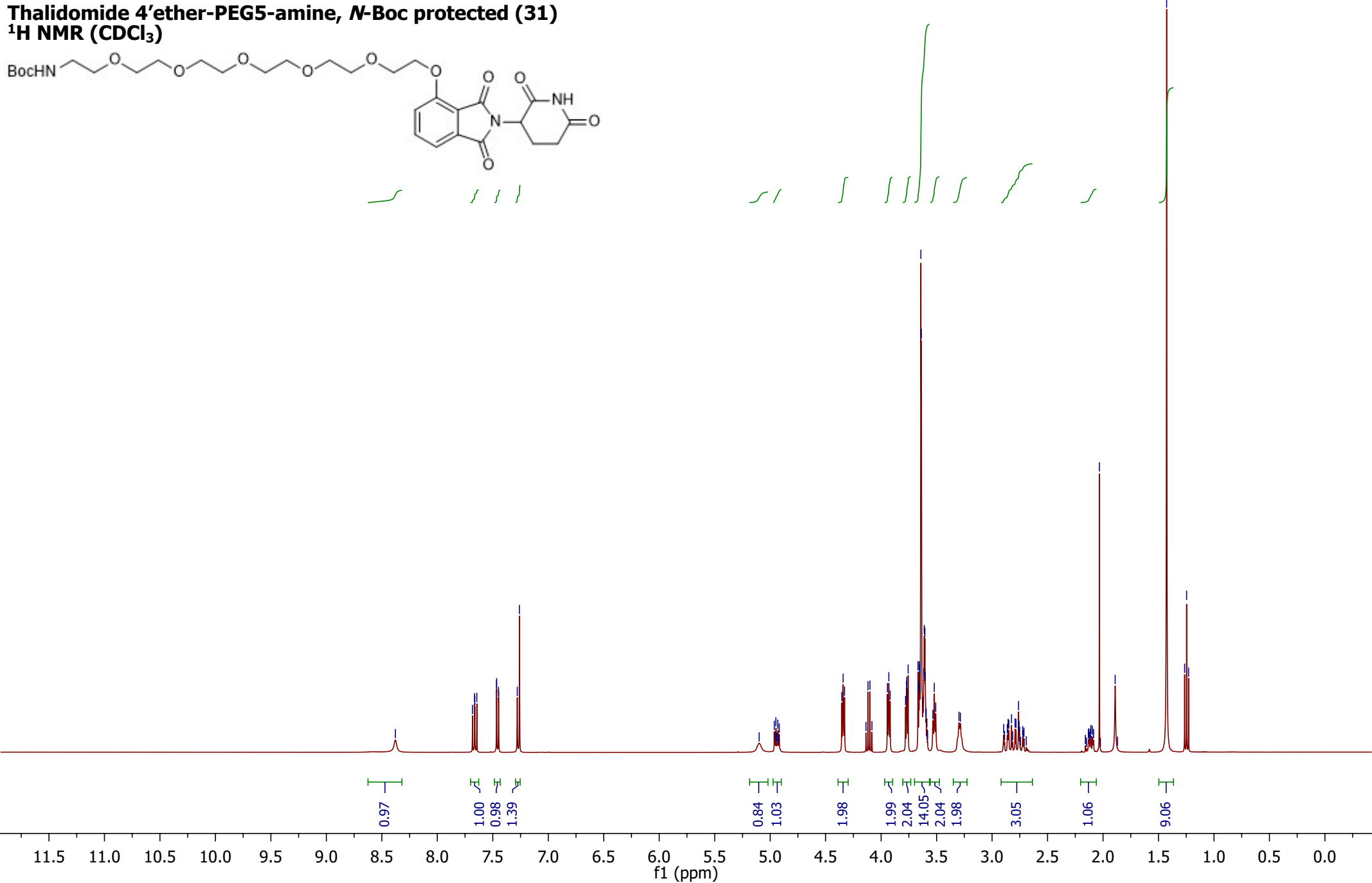
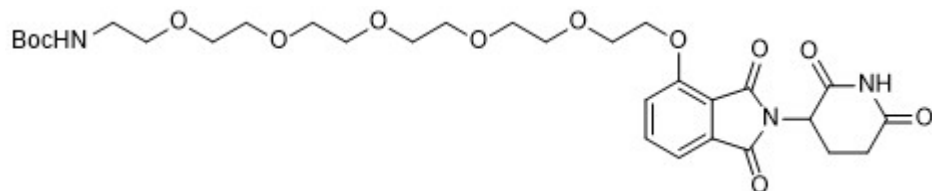
48.84
44.12
42.10
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39.94
39.73
39.52
39.31
39.10
38.89
30.98

22.14



8.38
7.68
7.66
7.66
7.64
7.47
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2.13
2.13
2.12
2.11
2.11
2.10
2.08
2.03
1.89
1.43
1.26
1.25
1.23

Thalidomide 4'ether-PEG5-amine, N-Boc protected (31)
¹H NMR (CDCl₃)



N-Boc-PEG6-OTs (34)
¹H NMR (CDCl₃)

