Electronic Supplementary Material (ESI) for Organic Chemistry Frontiers.

Supporting Information

A Diastereoselective Approach to Amino Alcohols and Application for Divergent Synthesis of Dolastatin 10

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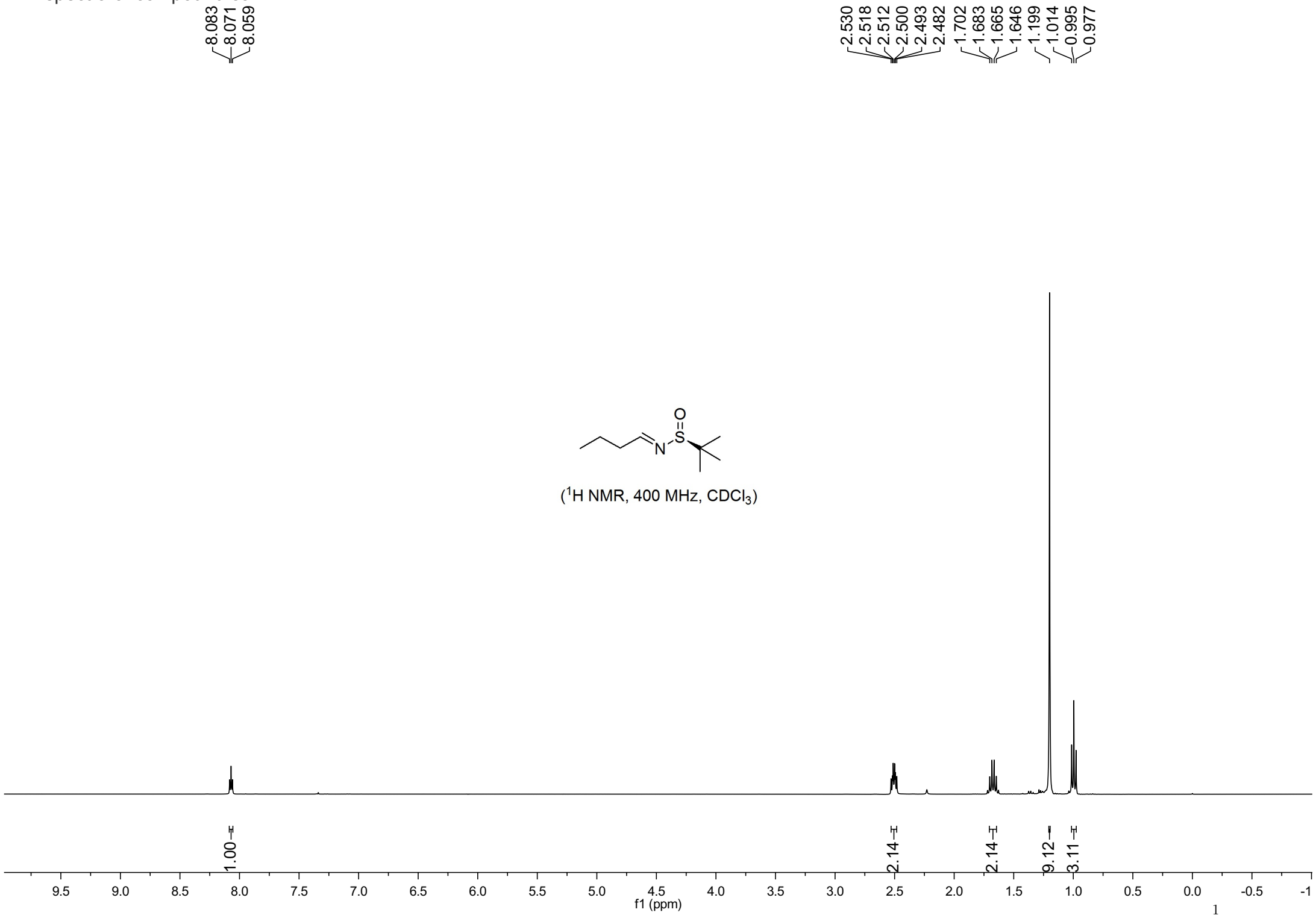
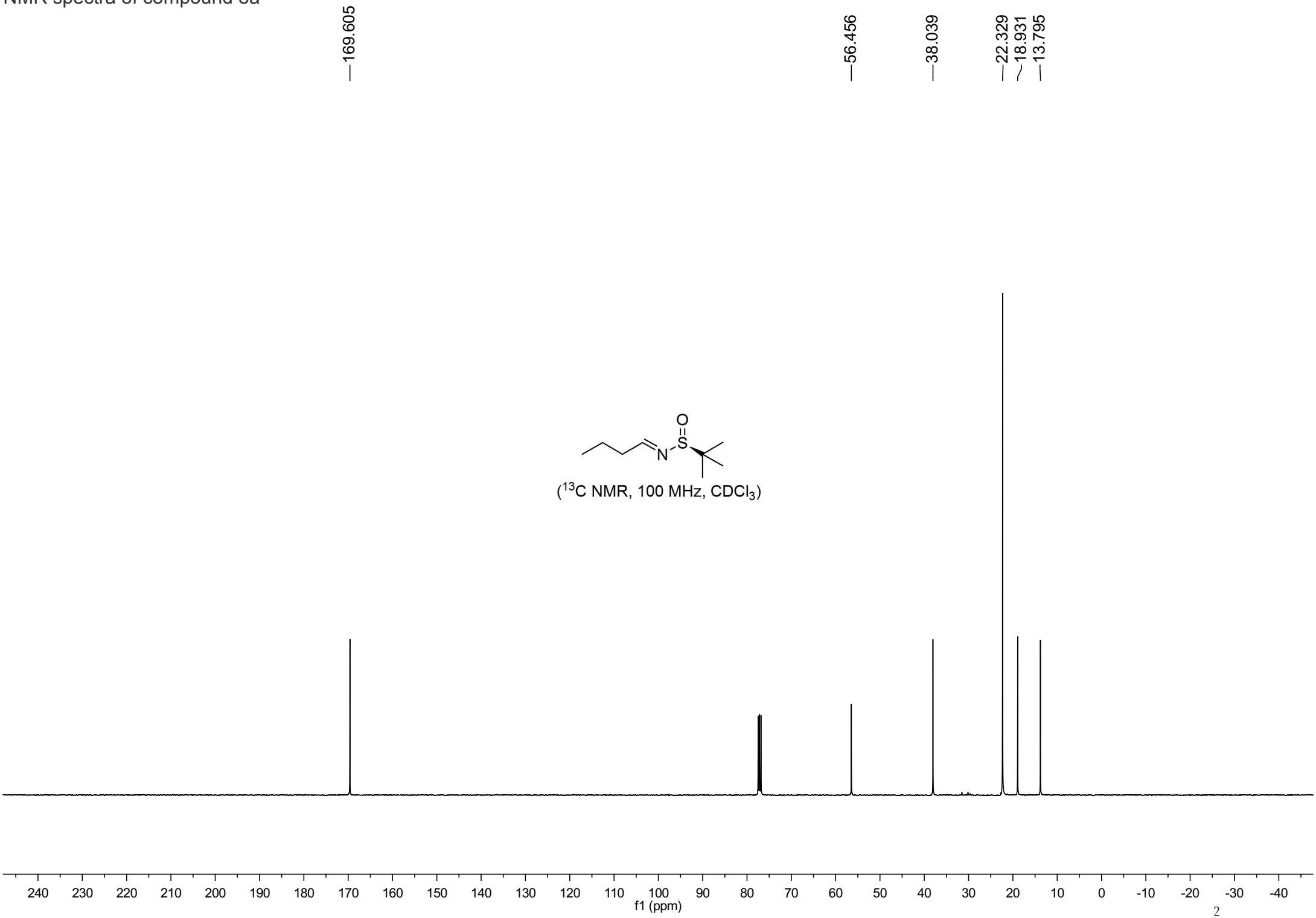
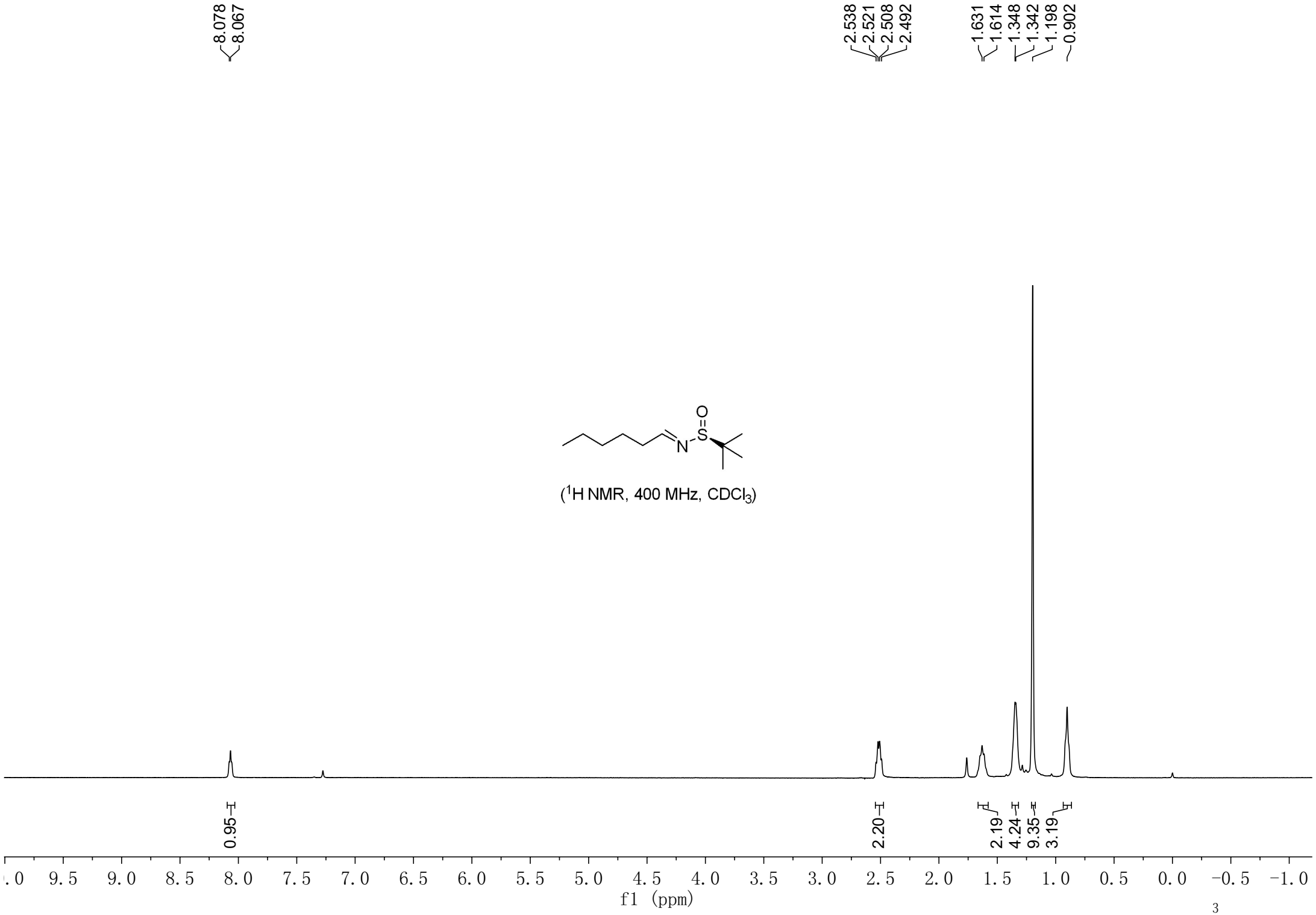
NMR spectra of compound 8a



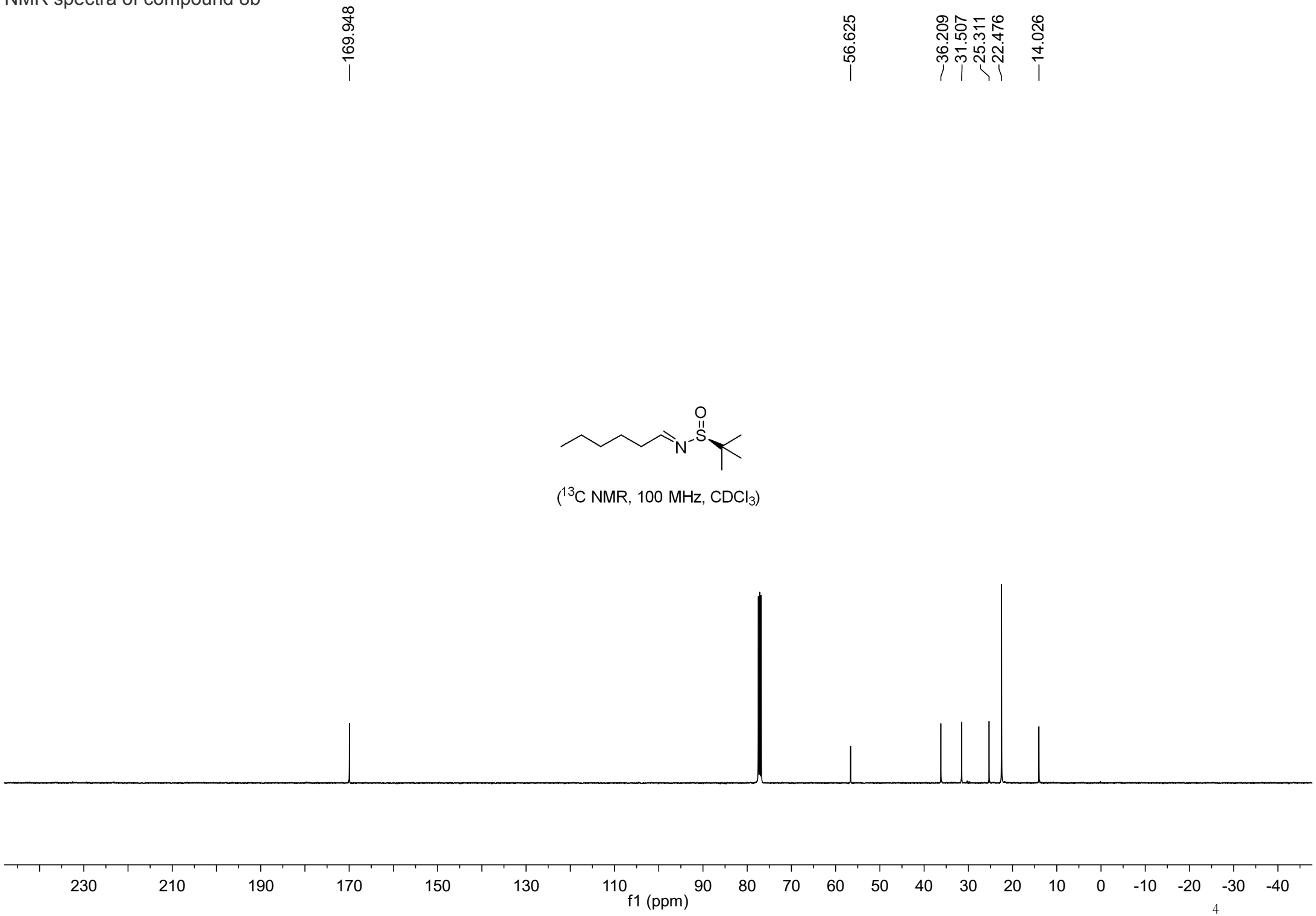
NMR spectra of compound 8a



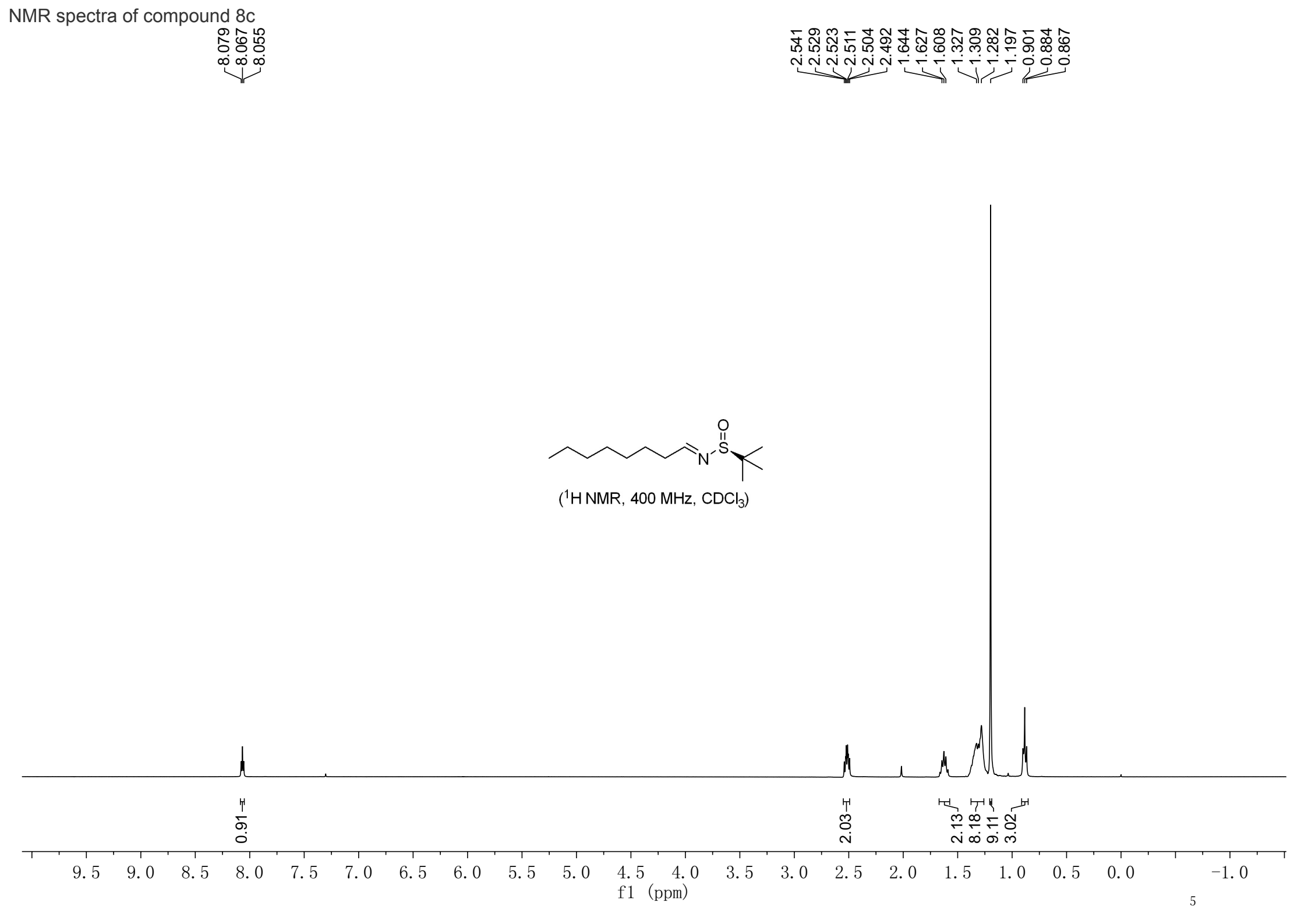
NMR spectra of compound 8b



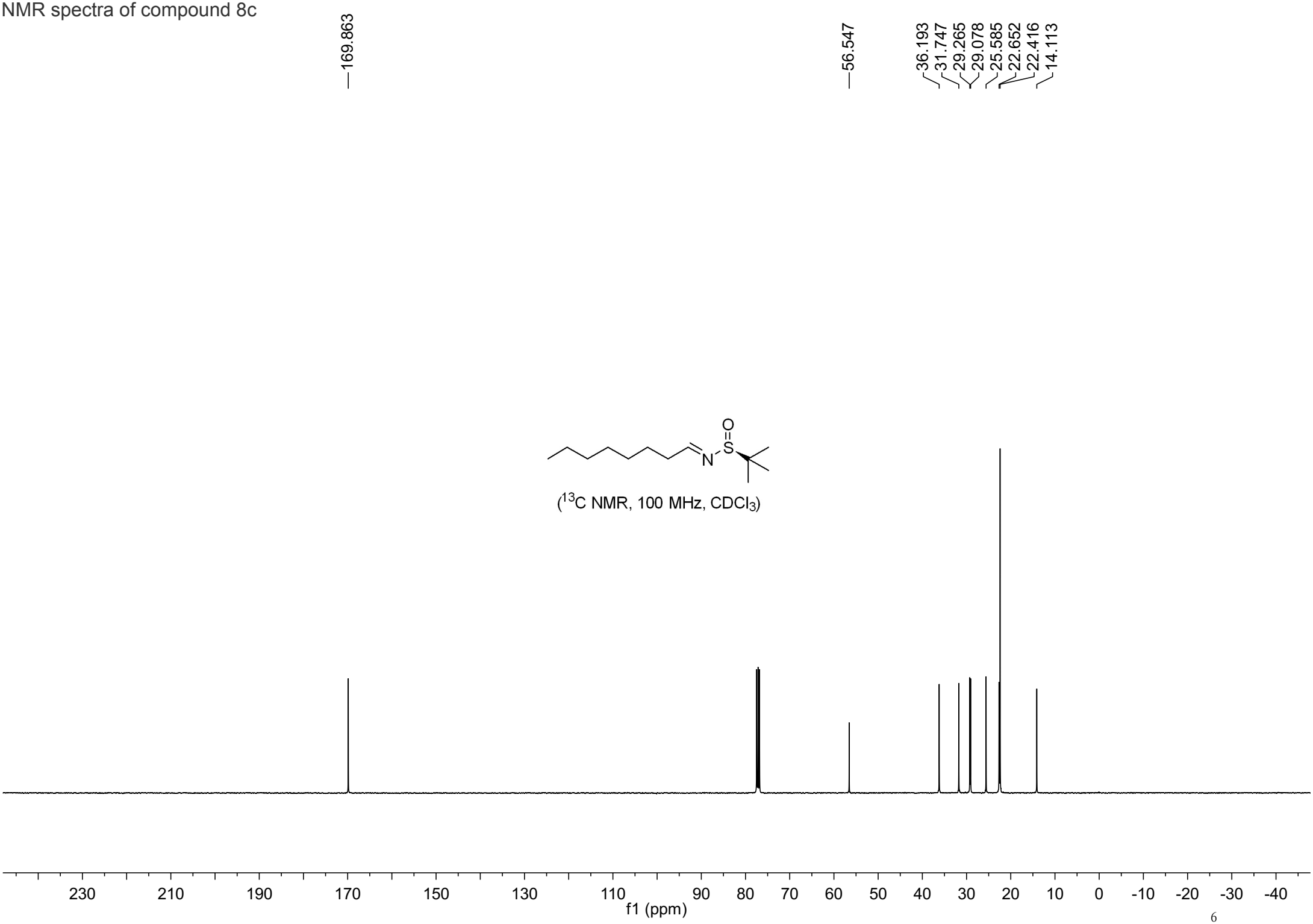
NMR spectra of compound 8b



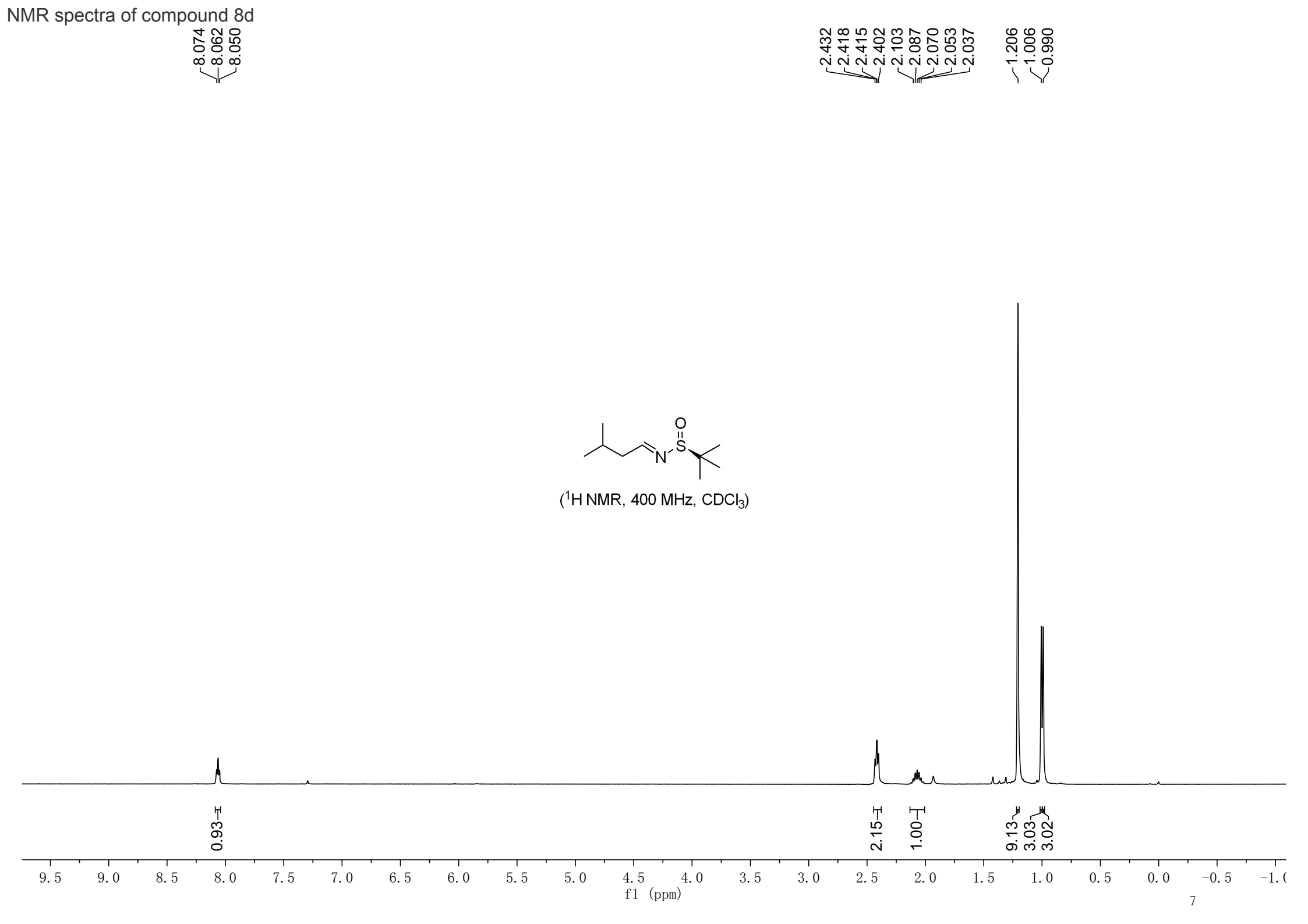
NMR spectra of compound 8c



NMR spectra of compound 8c



NMR spectra of compound 8d



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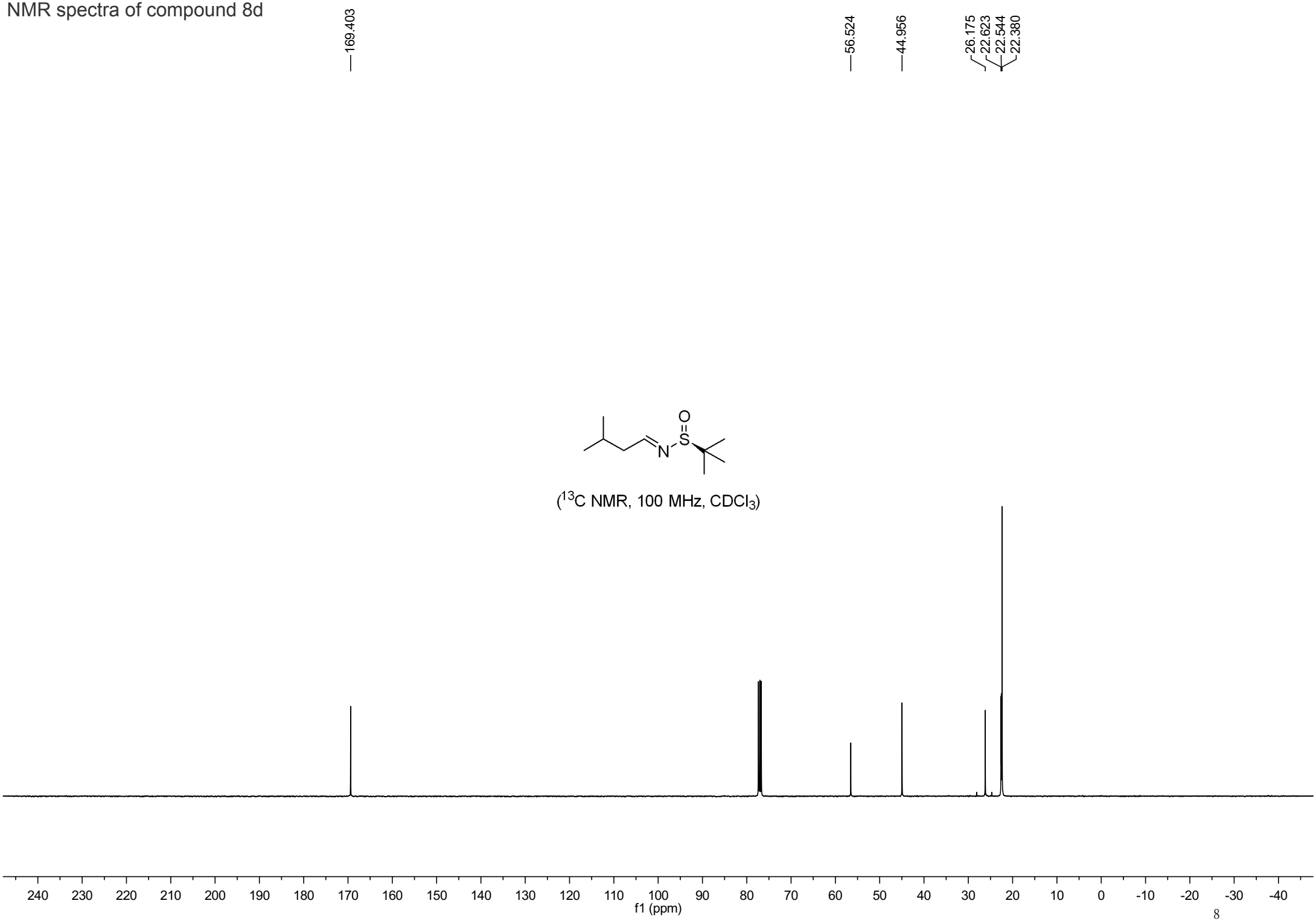

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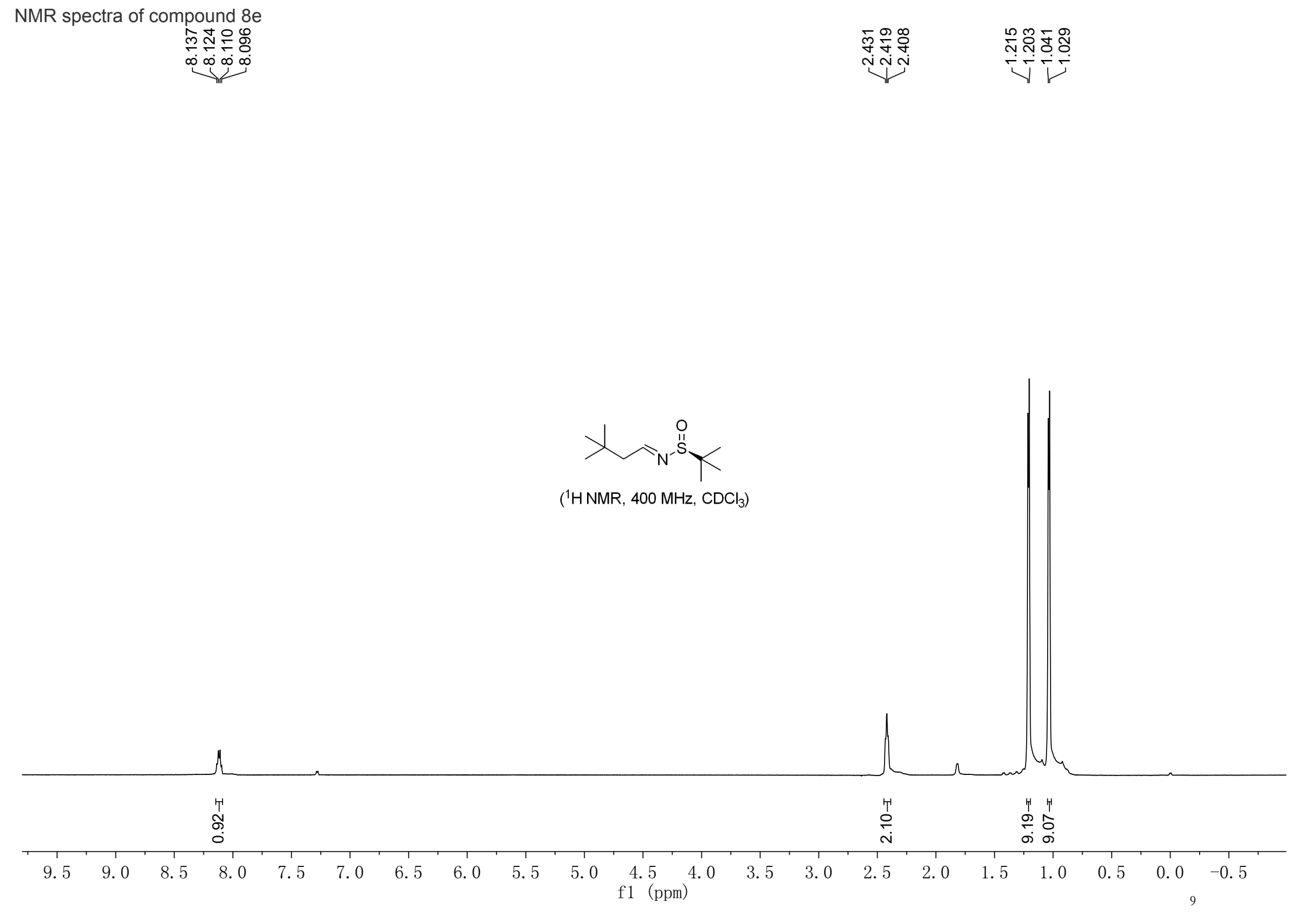

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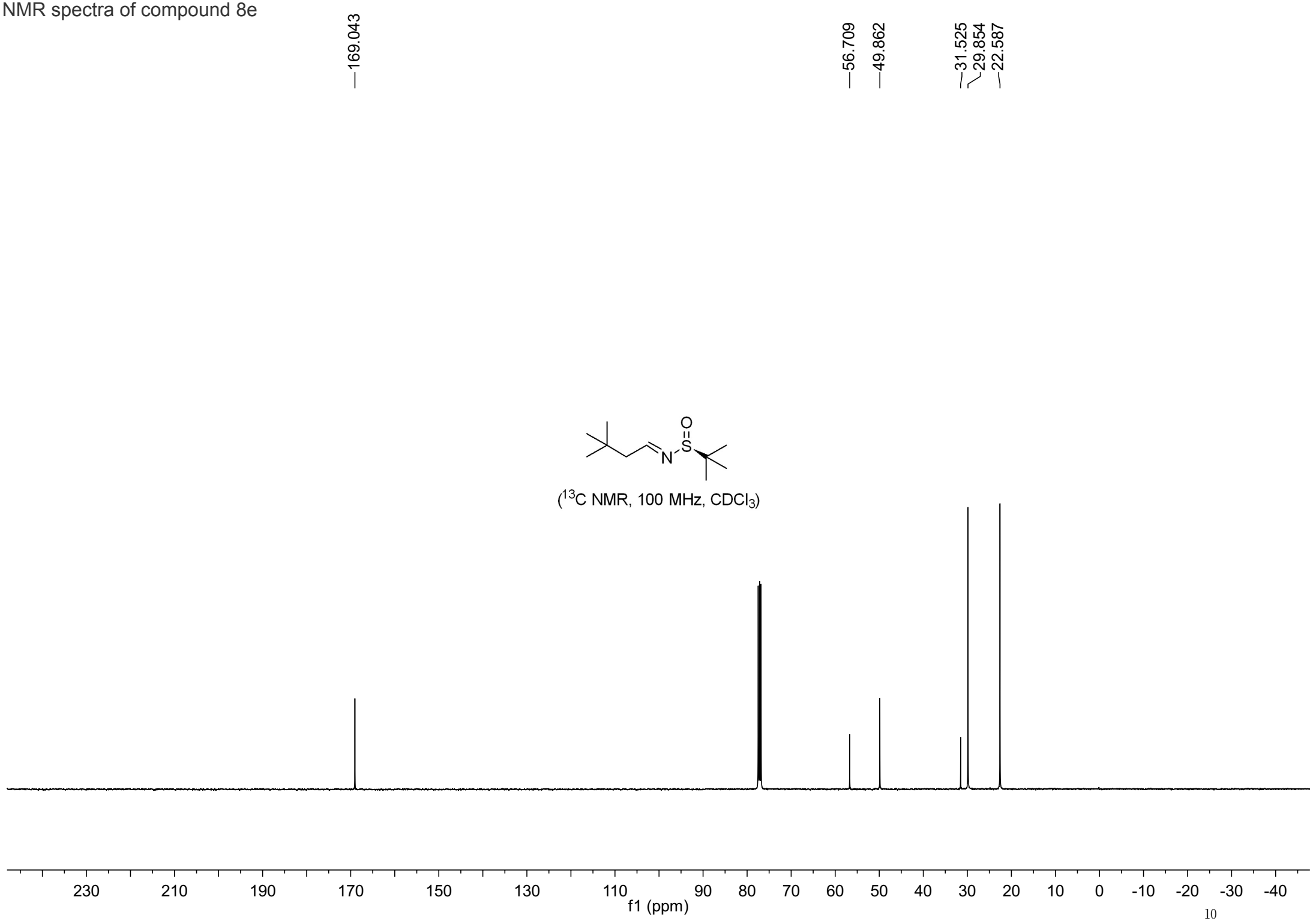

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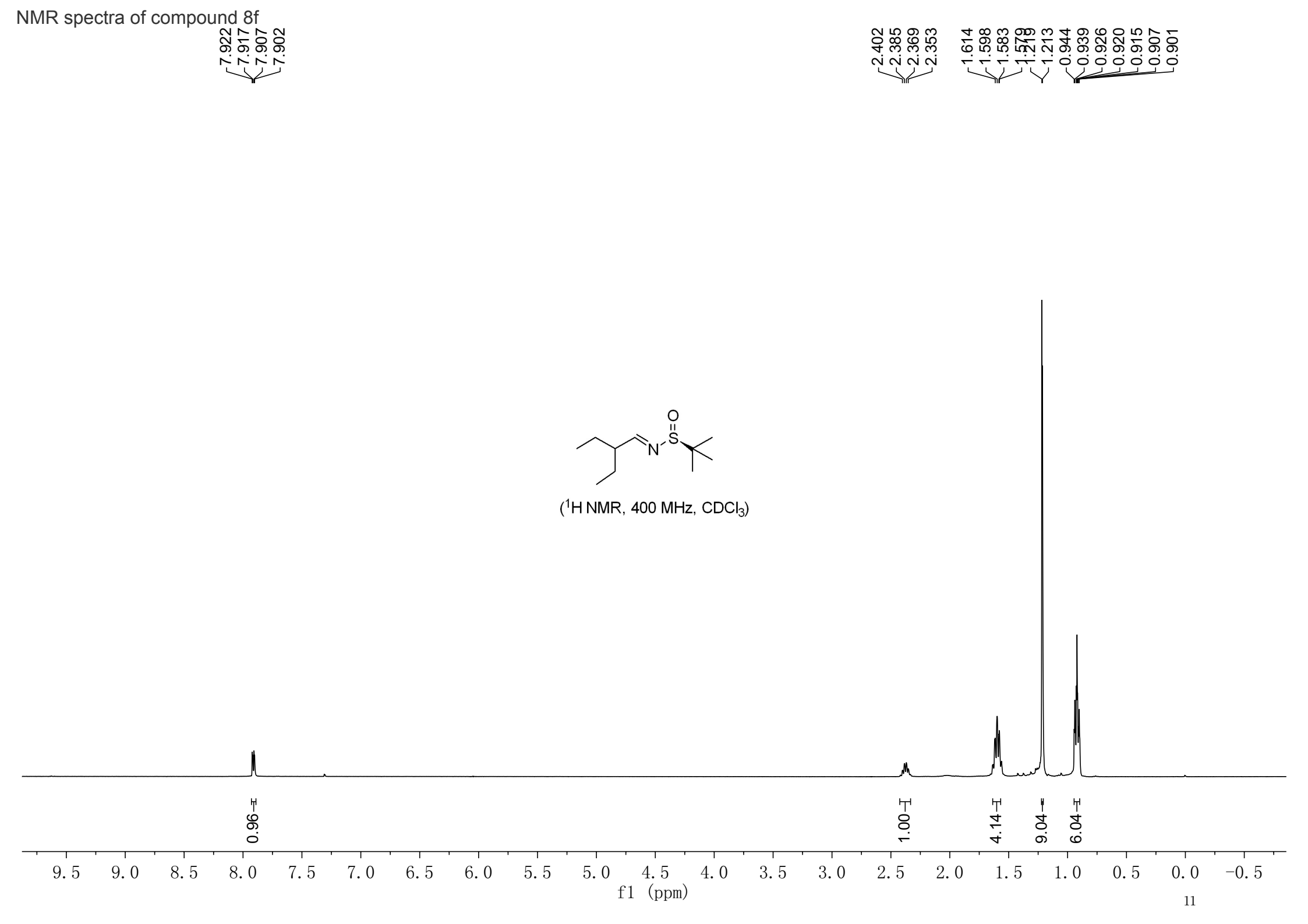
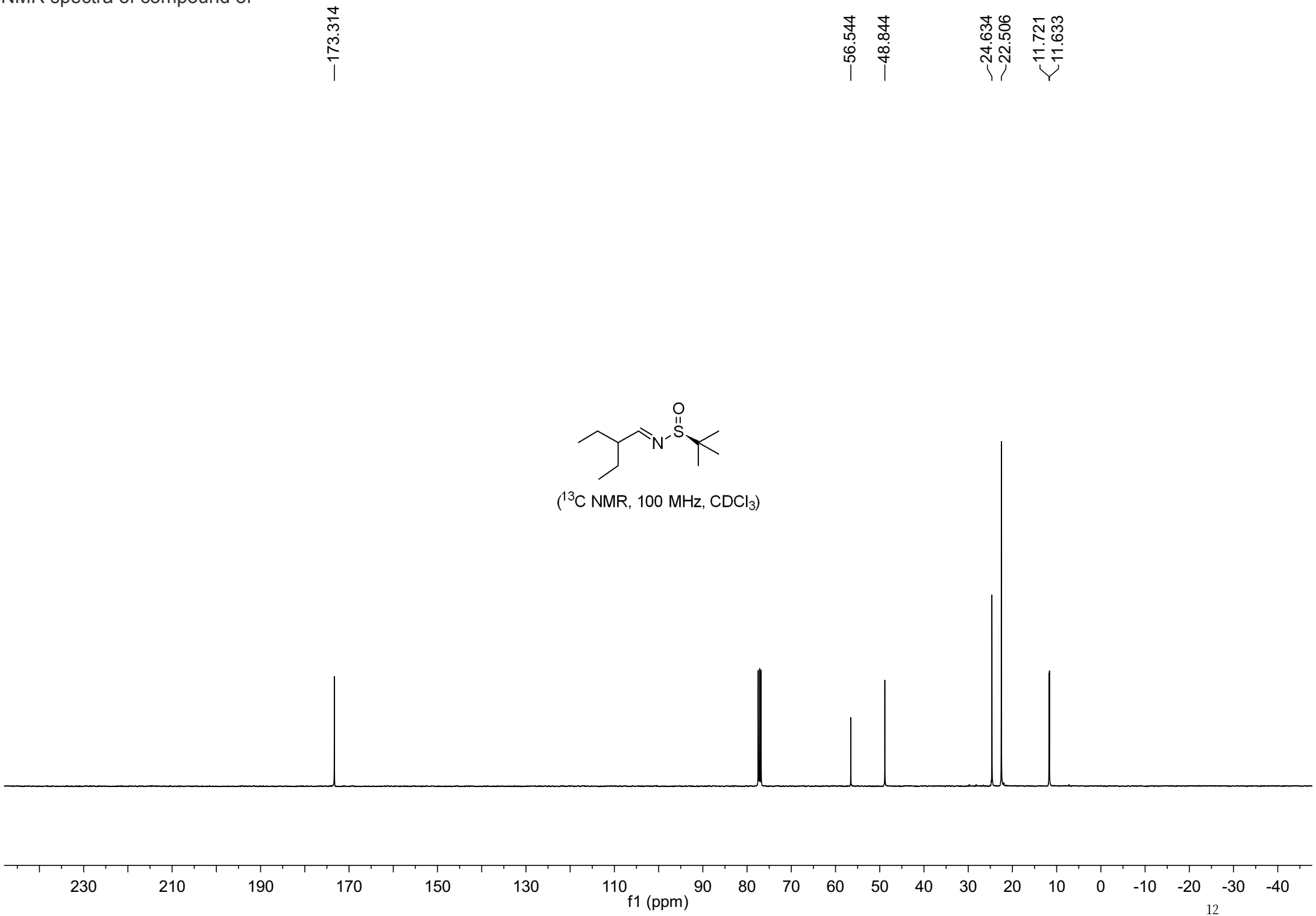


NMR spectra of compound 8f



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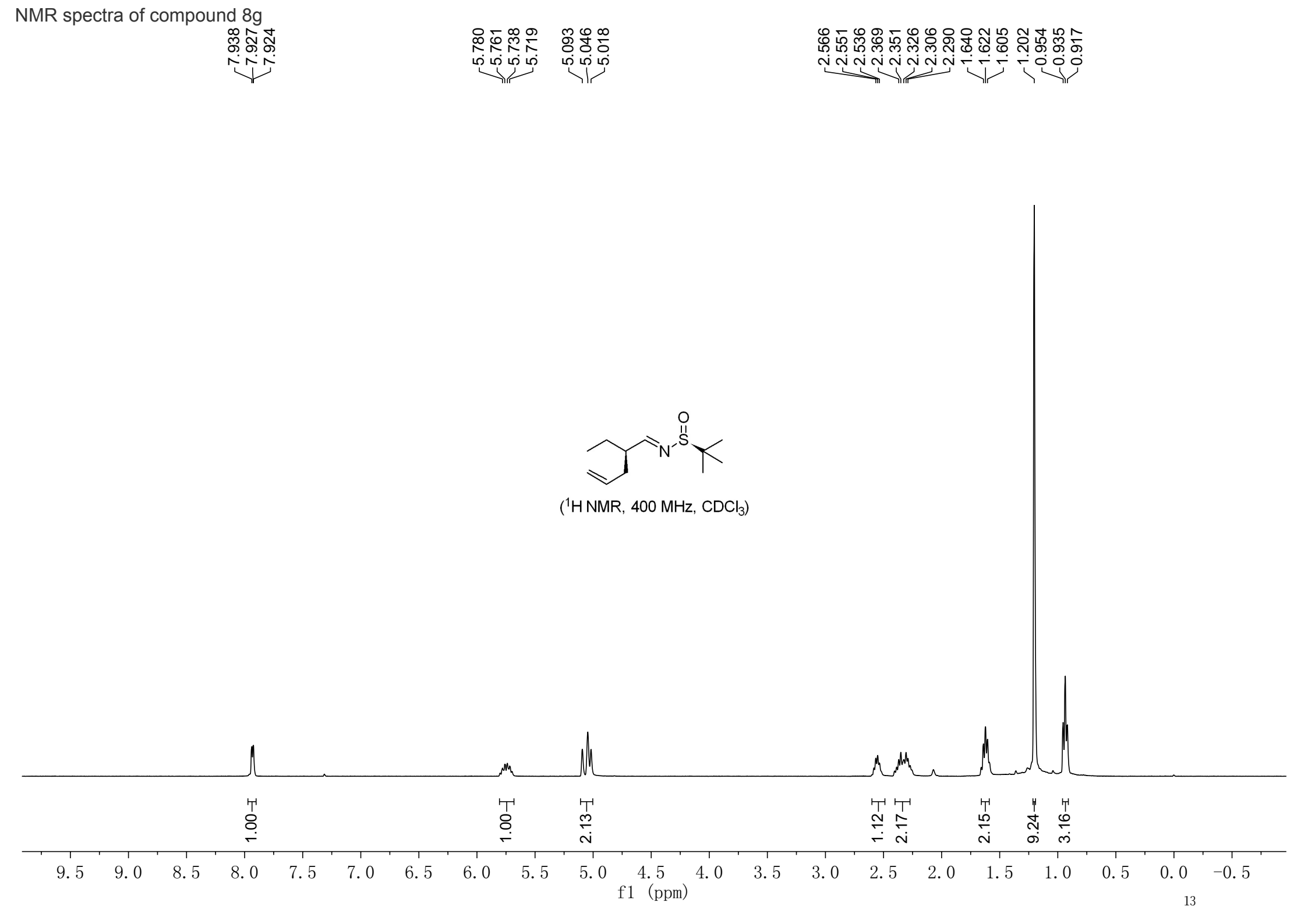
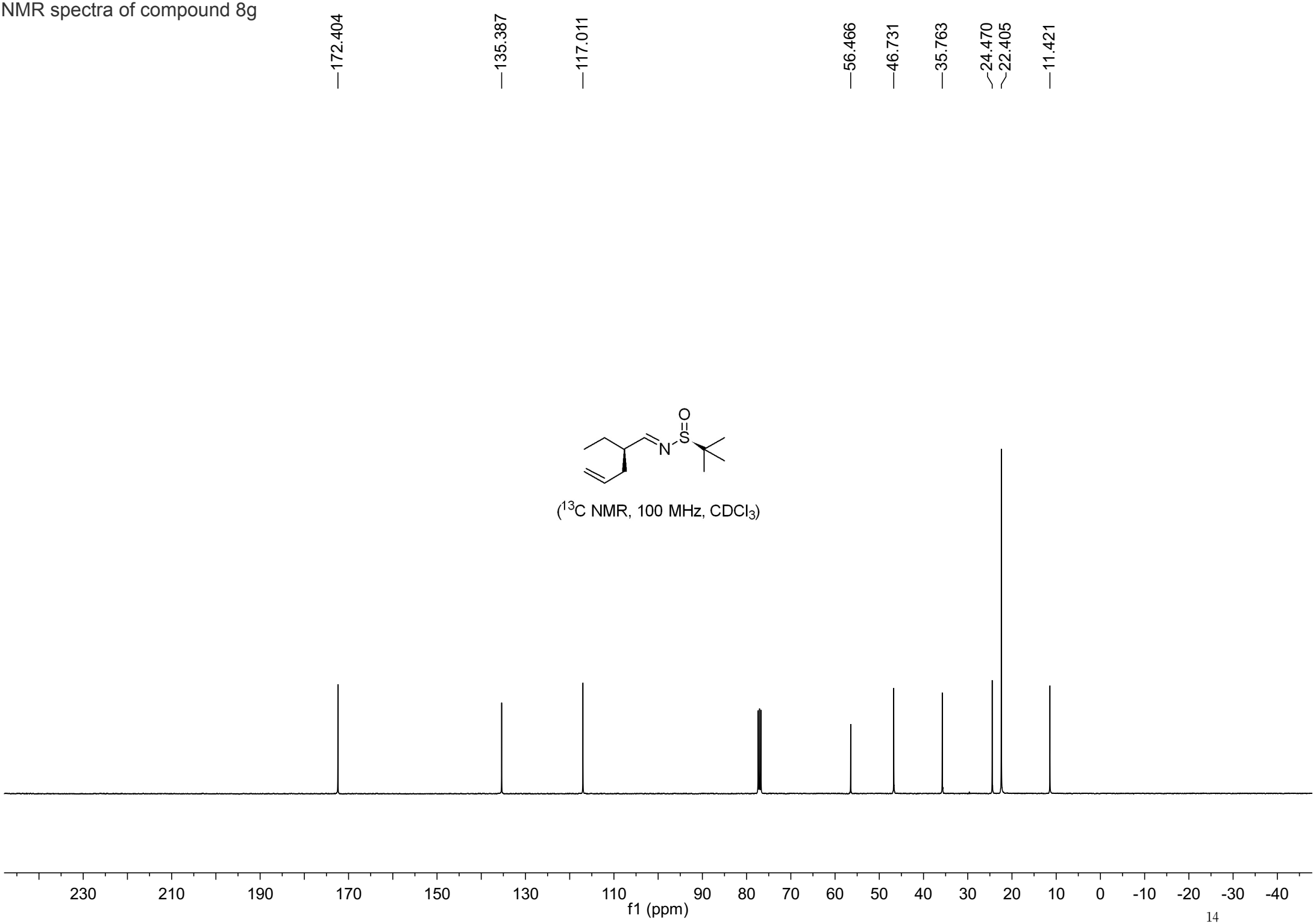


NMR spectra of compound 8g



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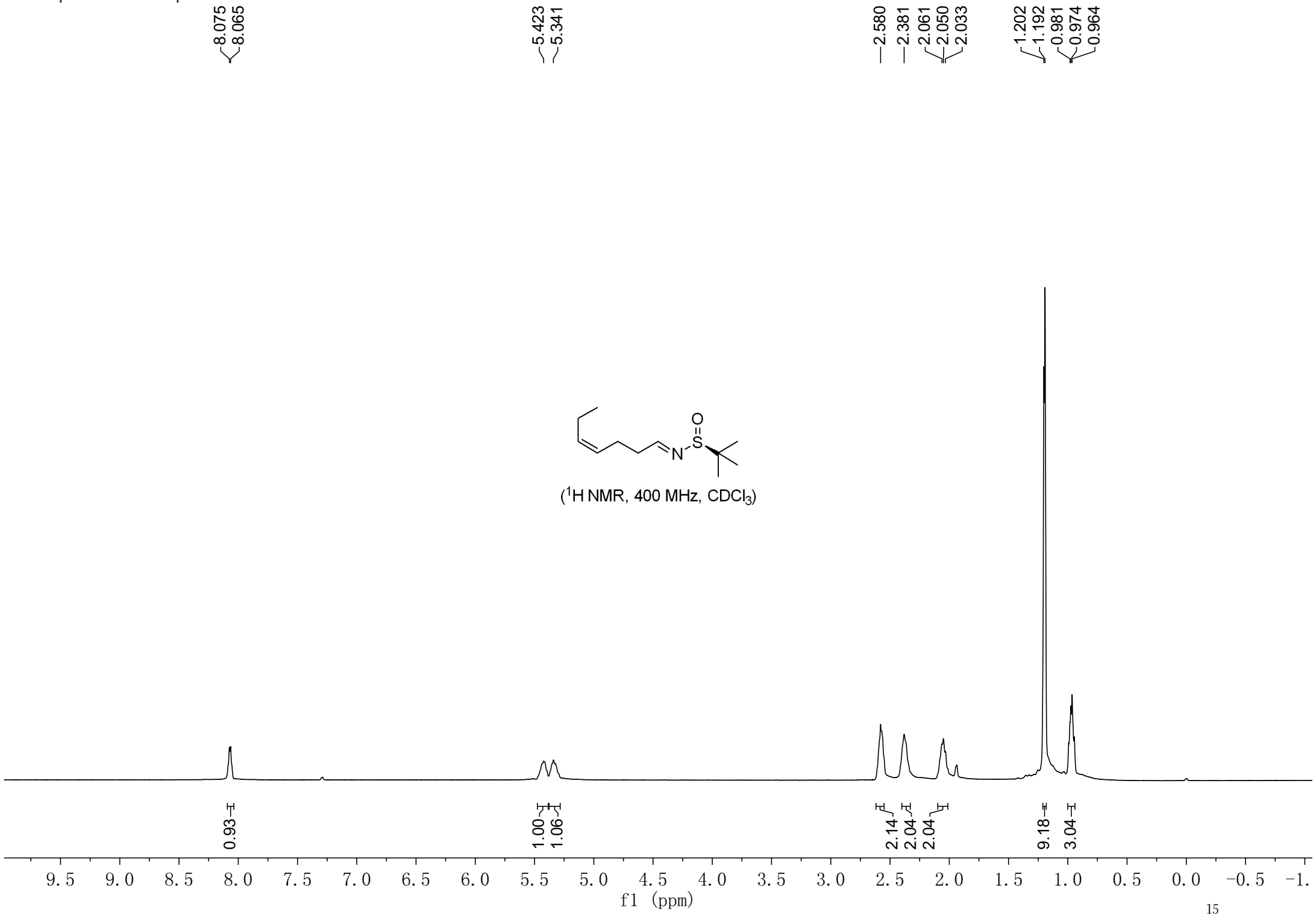
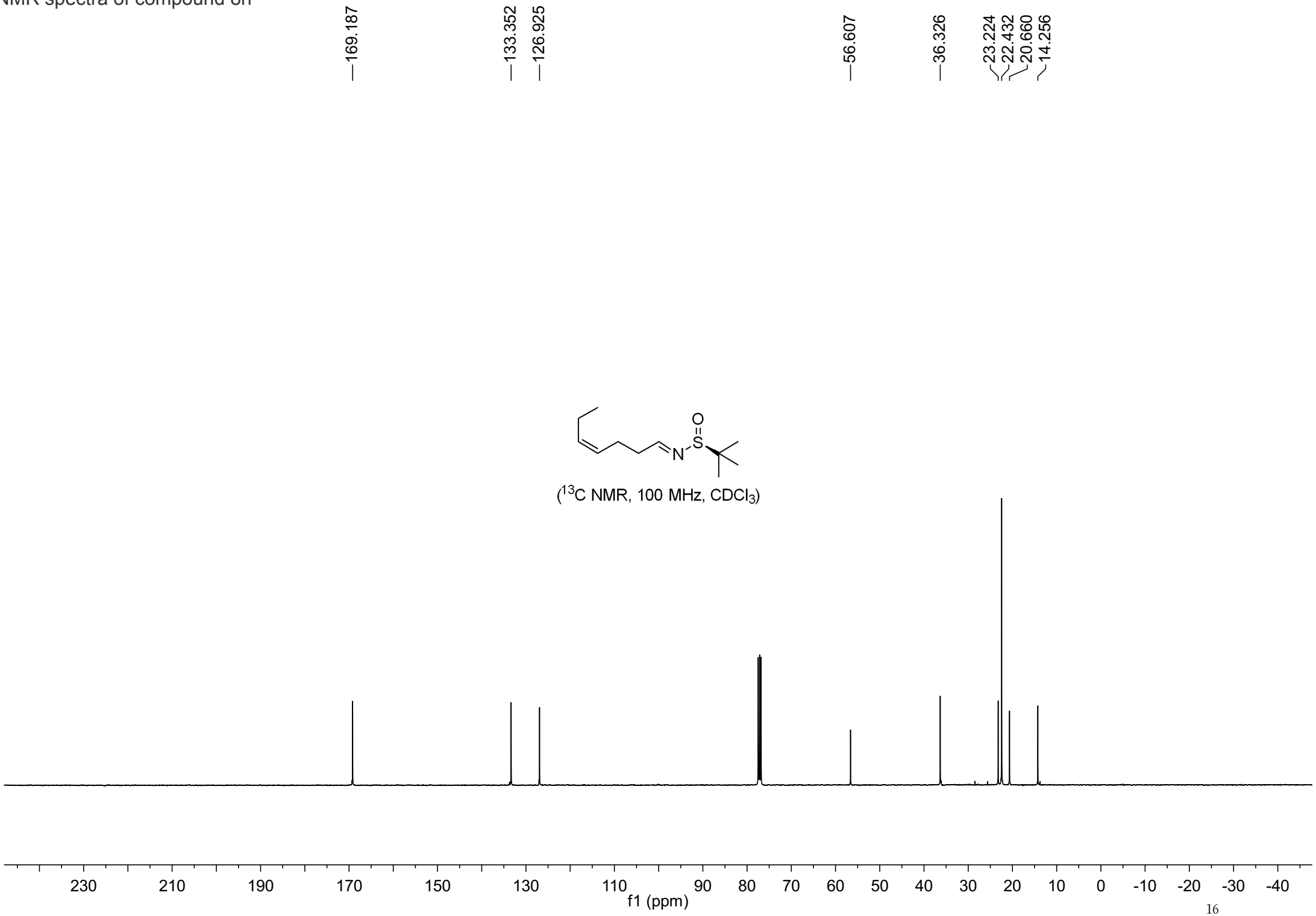


NMR spectra of compound 8h



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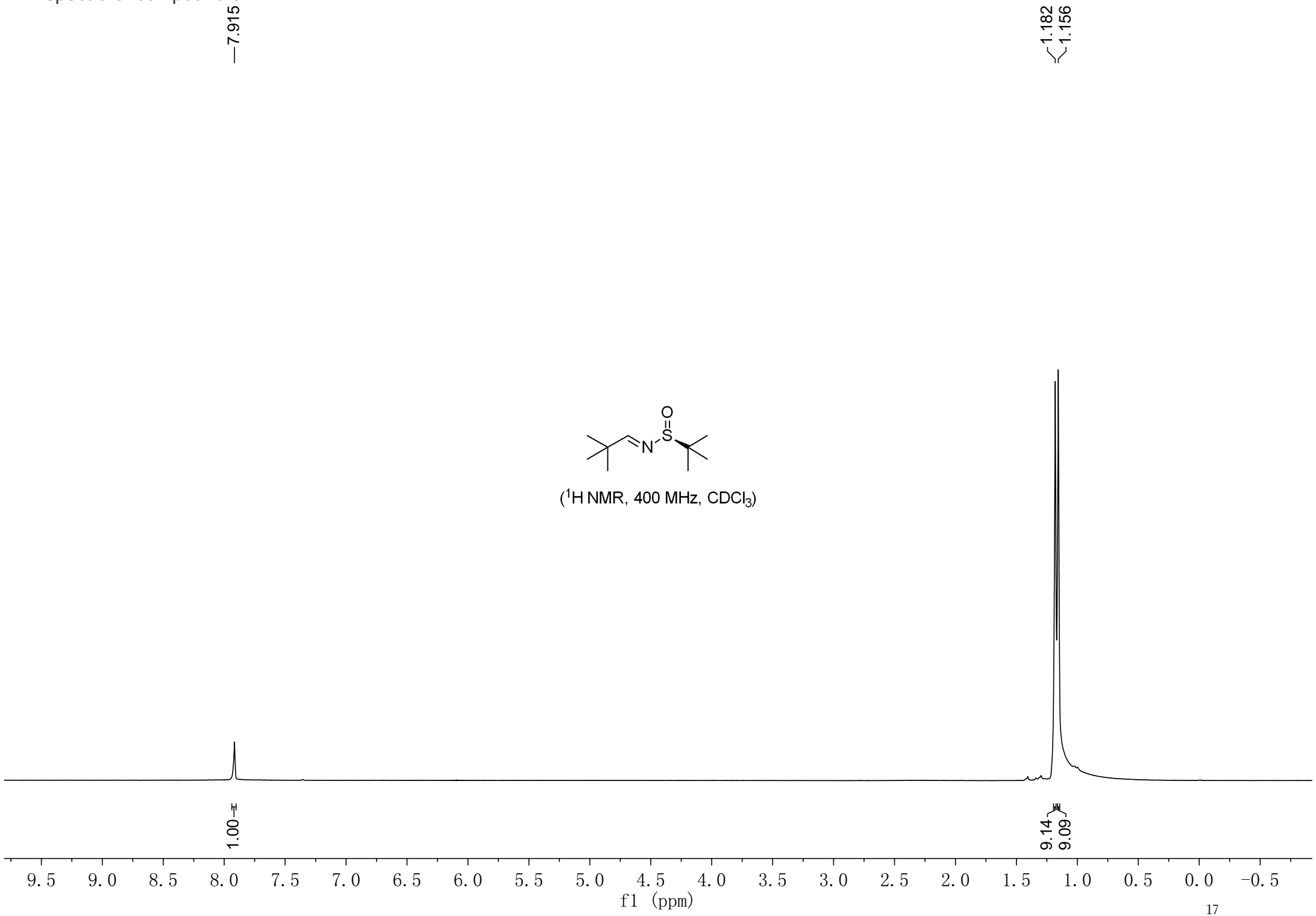

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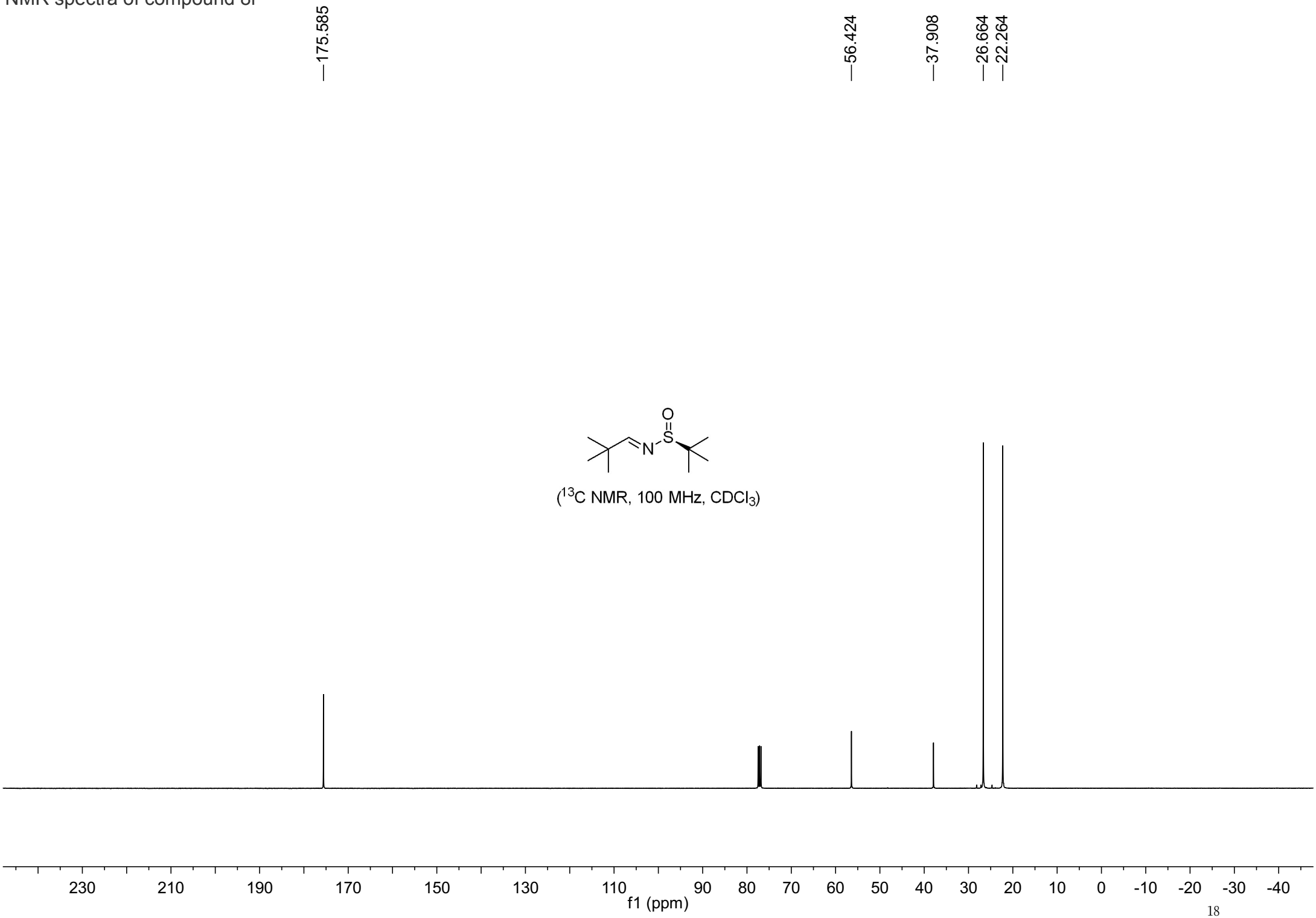

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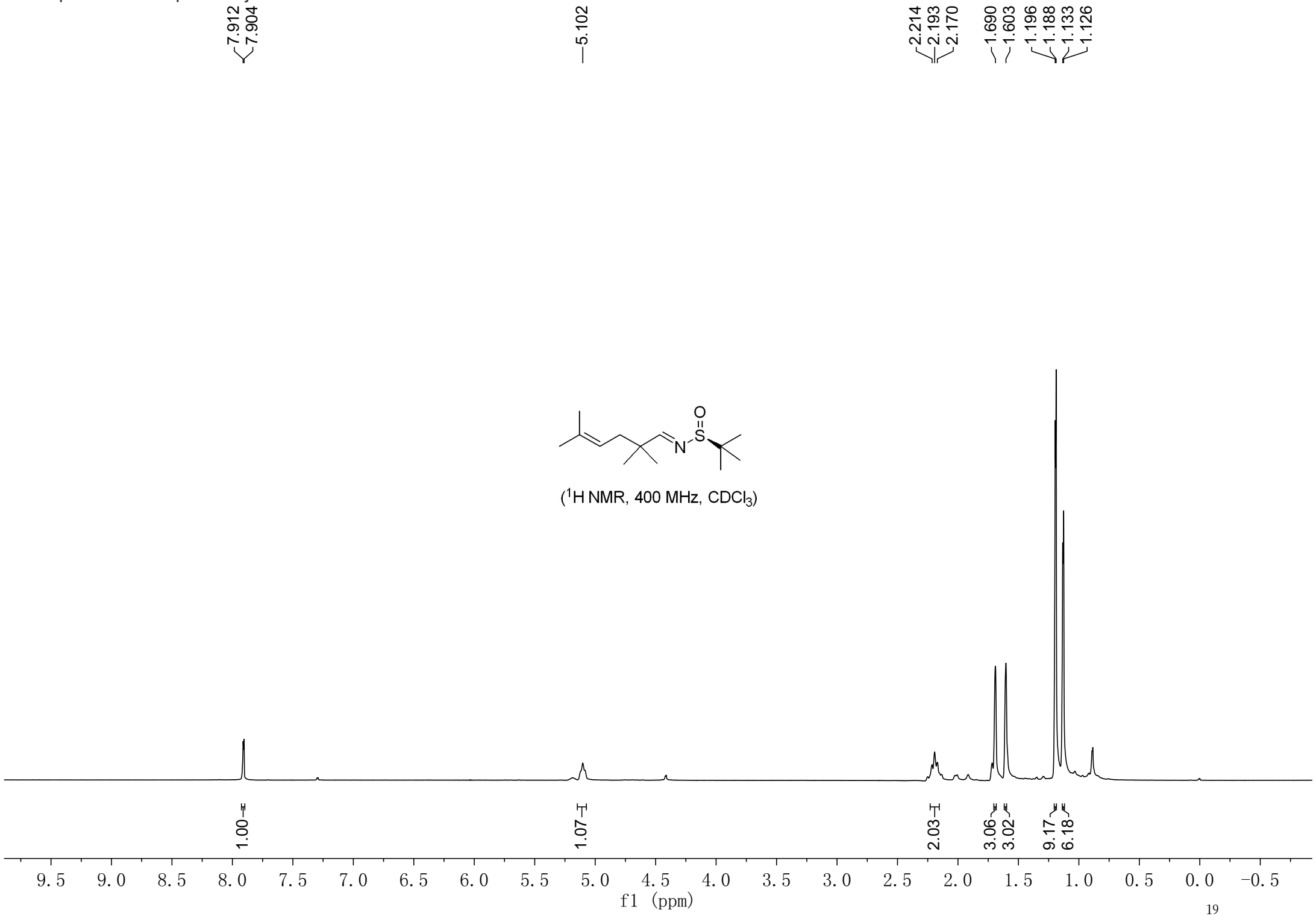

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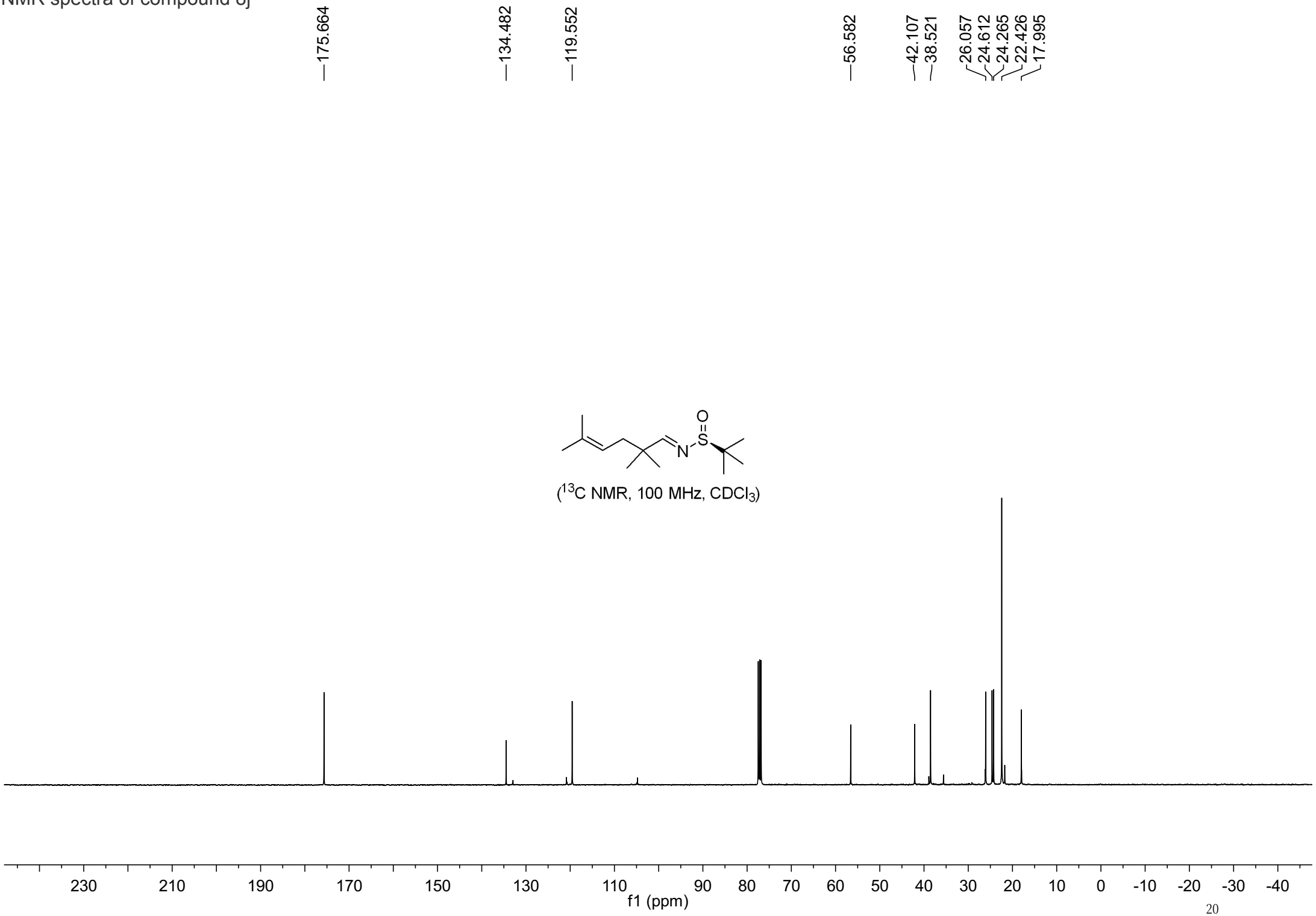

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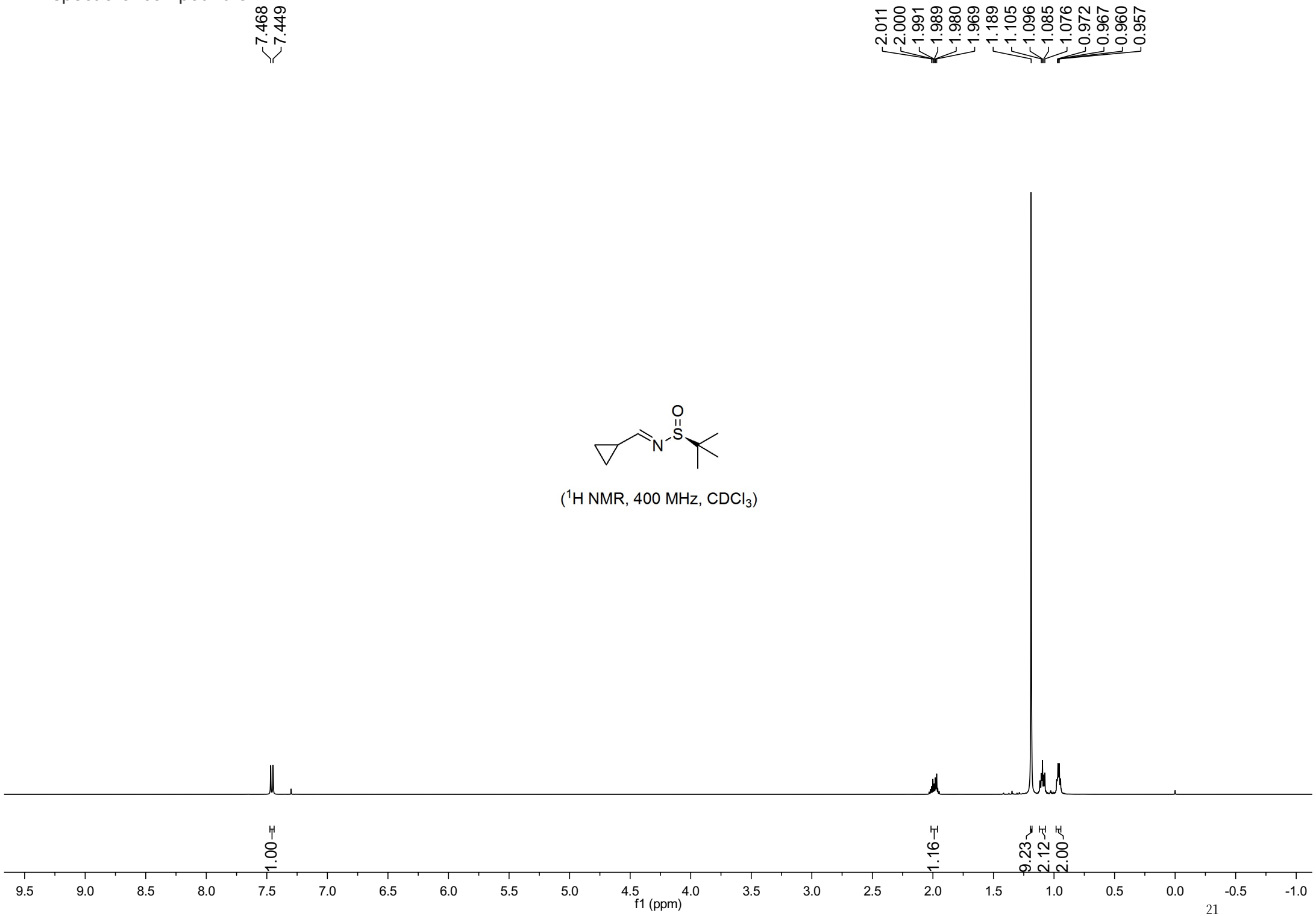

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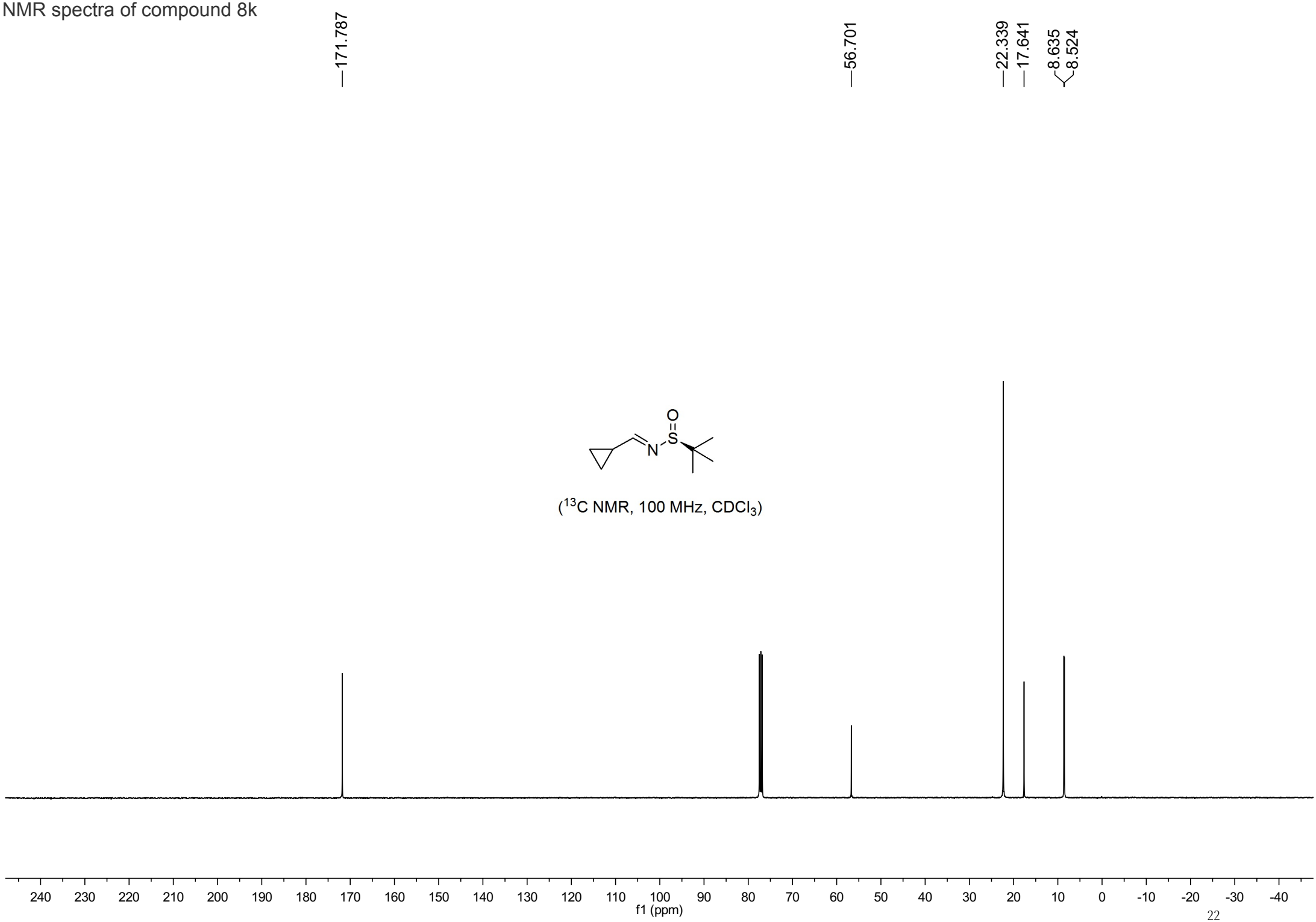

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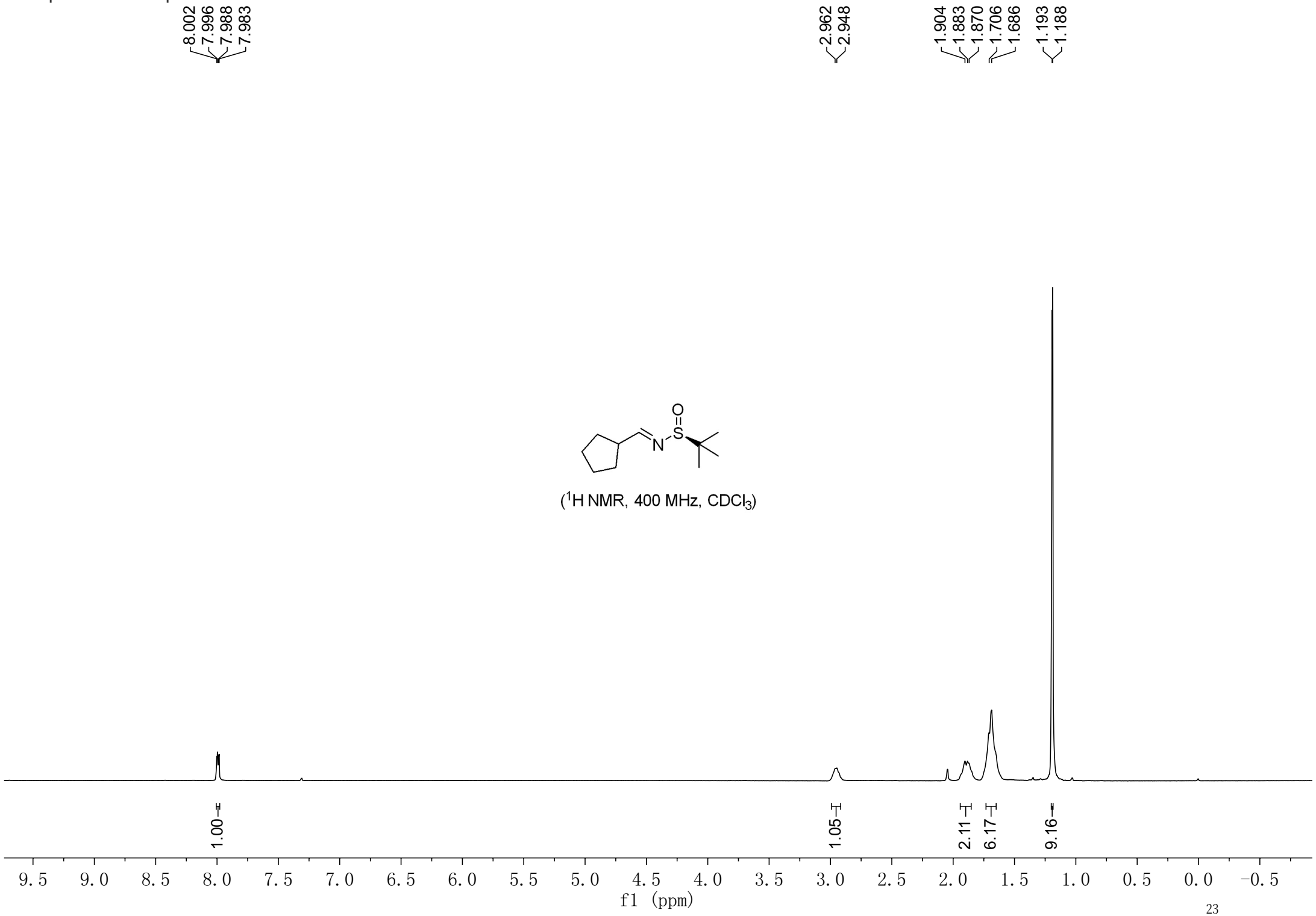
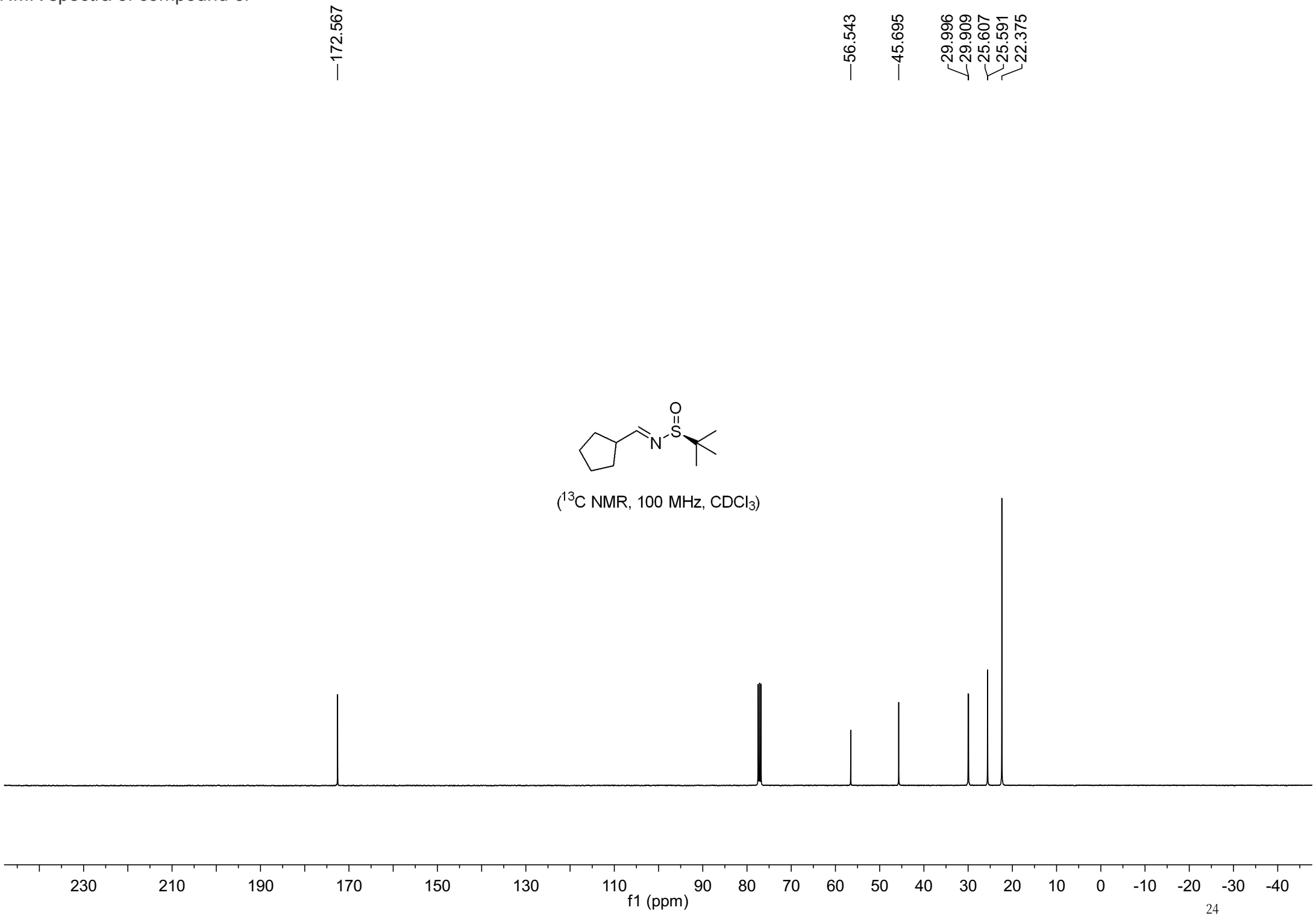
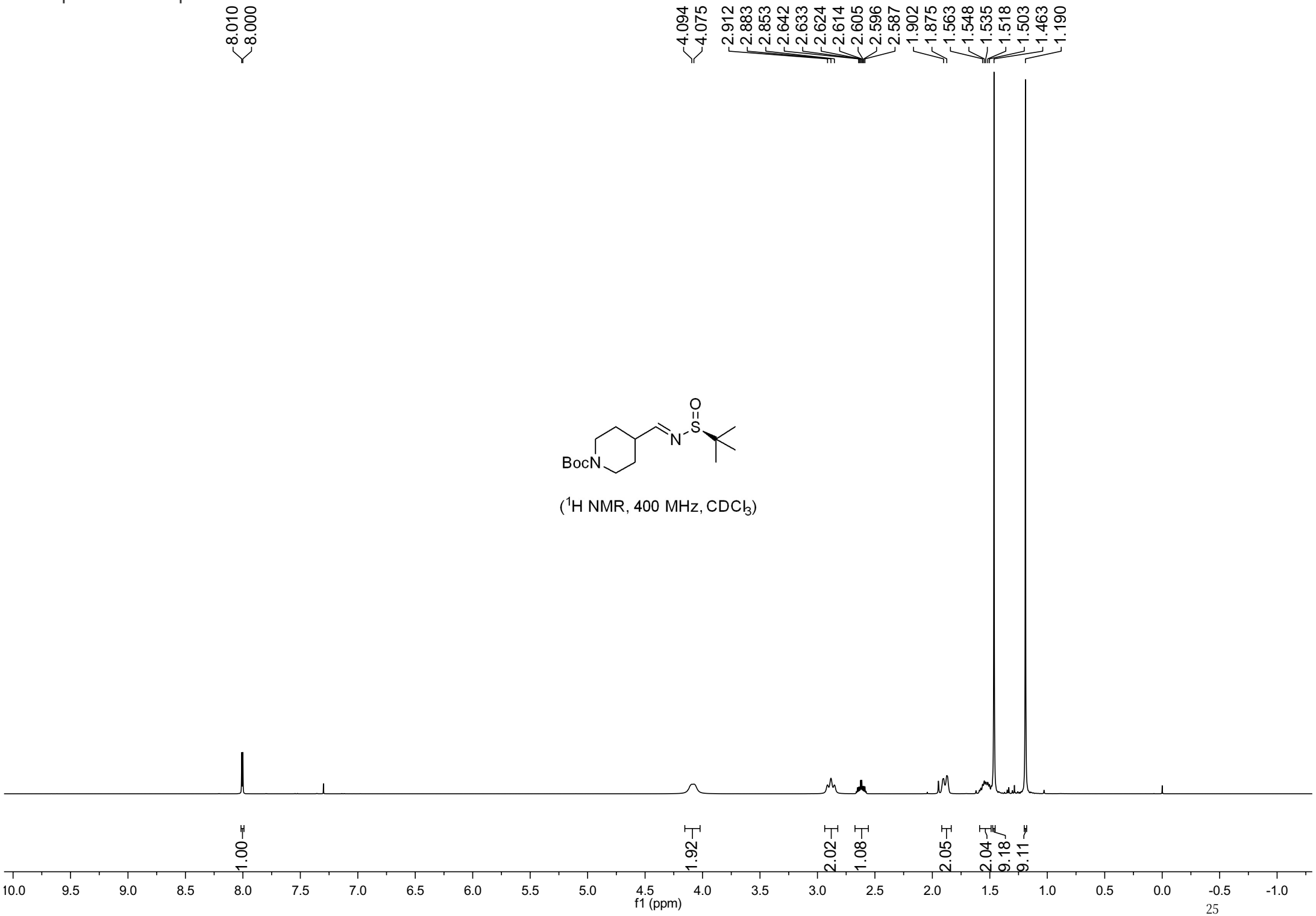


NMR spectra of compound 8l

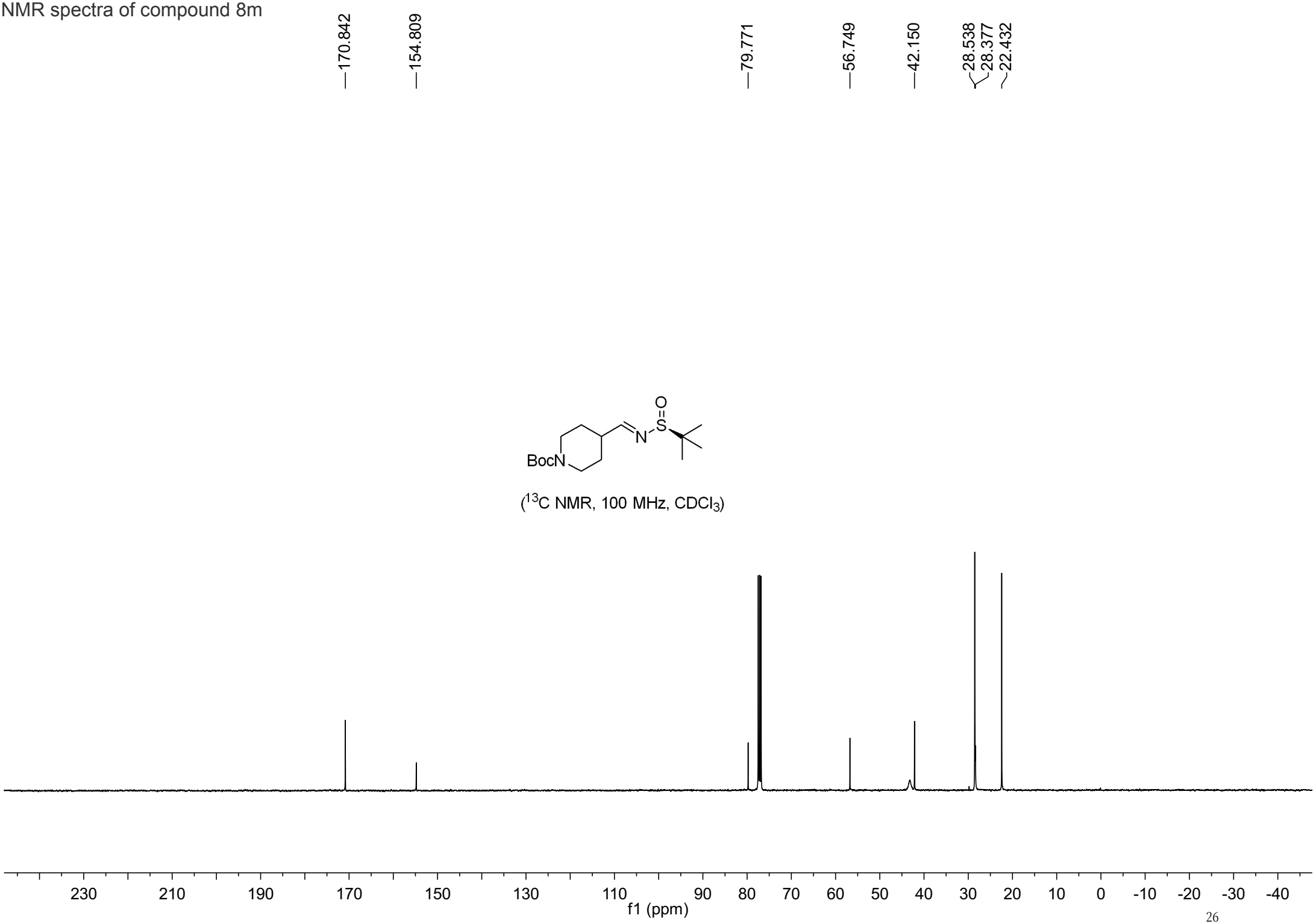


NMR spectra of compound 8m

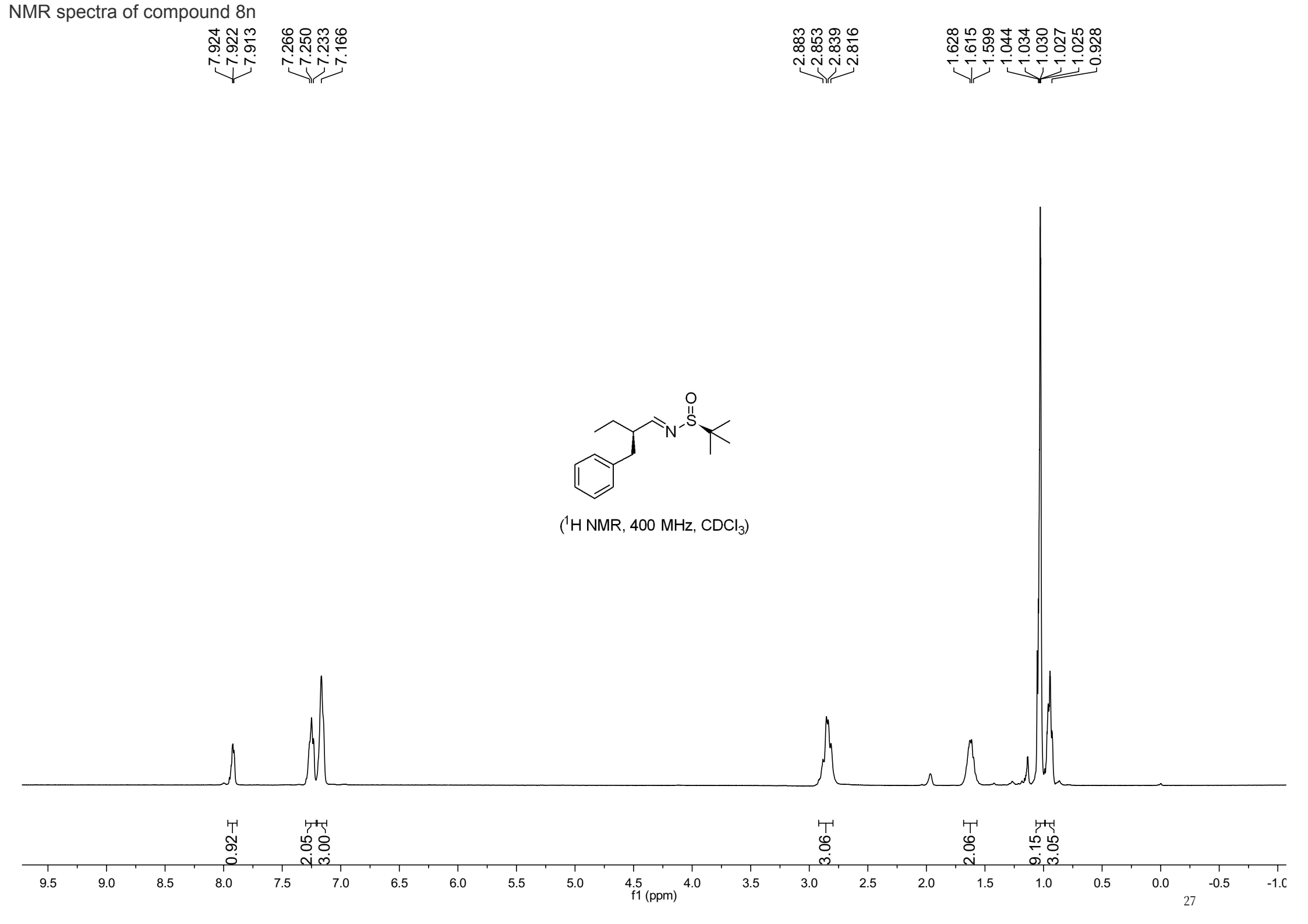


(^{1}H NMR, 400 MHz, $CDCl_3$)

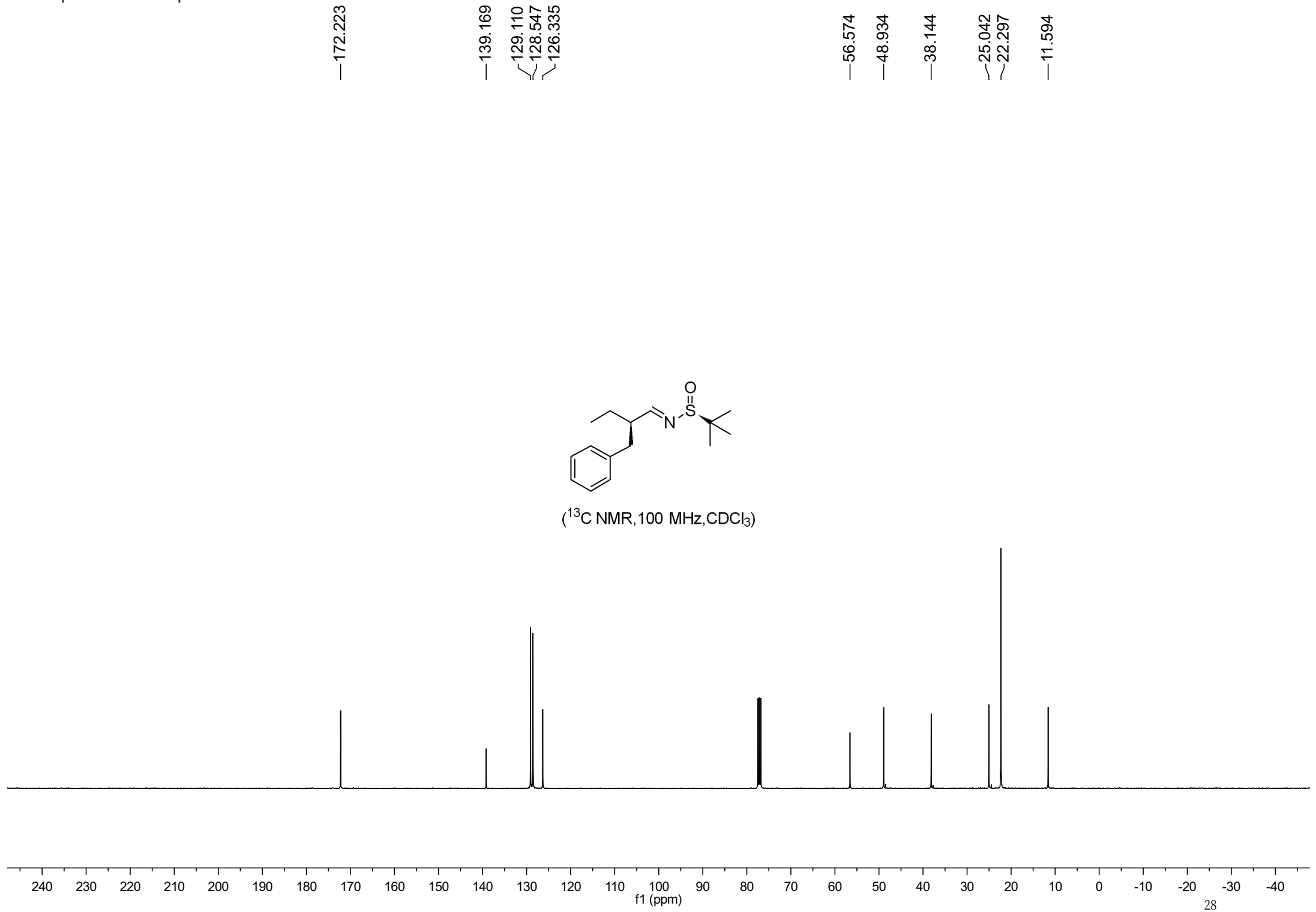
NMR spectra of compound 8m



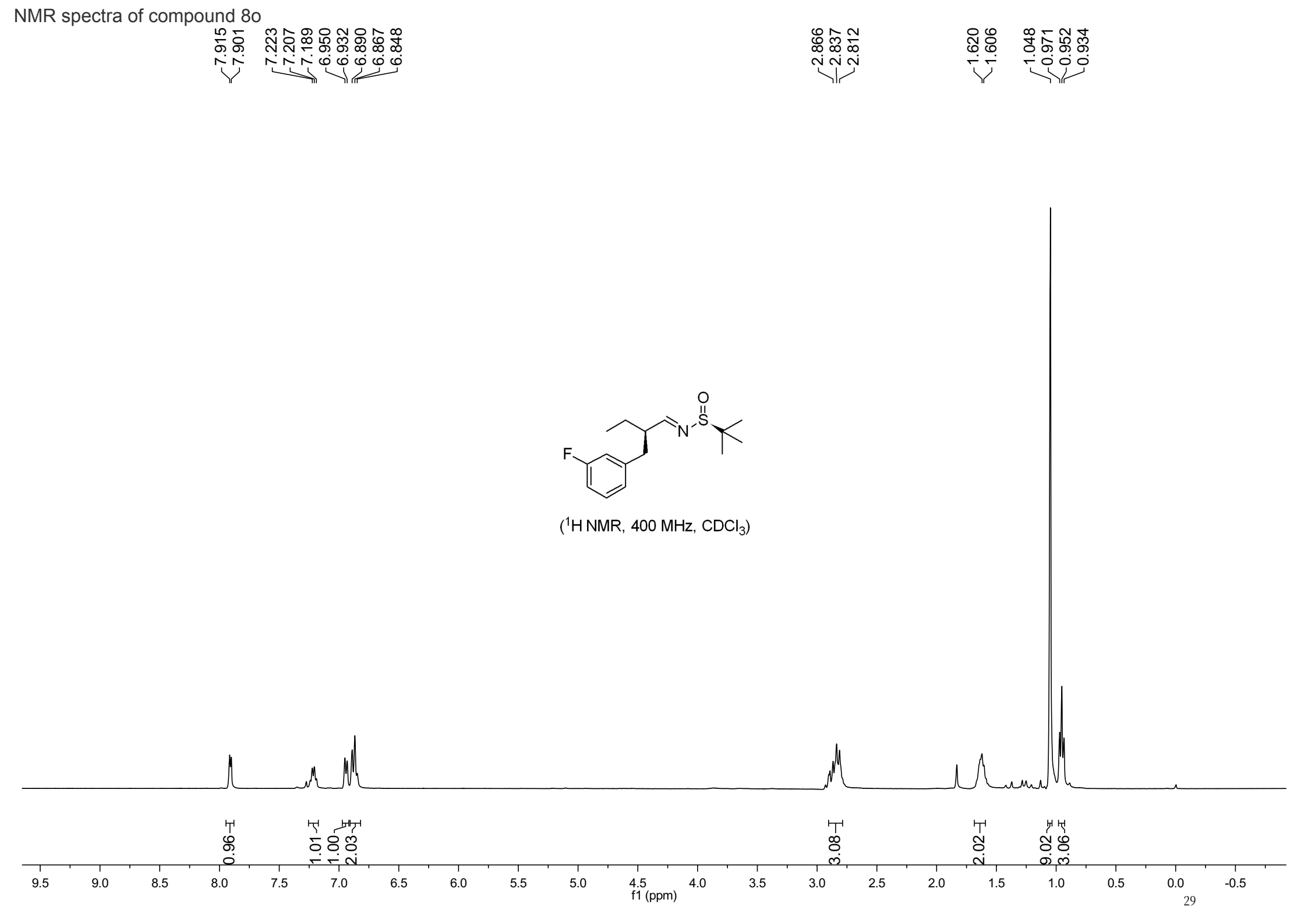
NMR spectra of compound 8n



NMR spectra of compound 8n



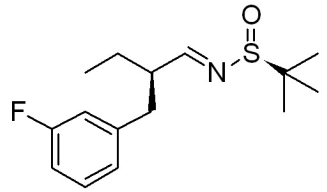
NMR spectra of compound 8o



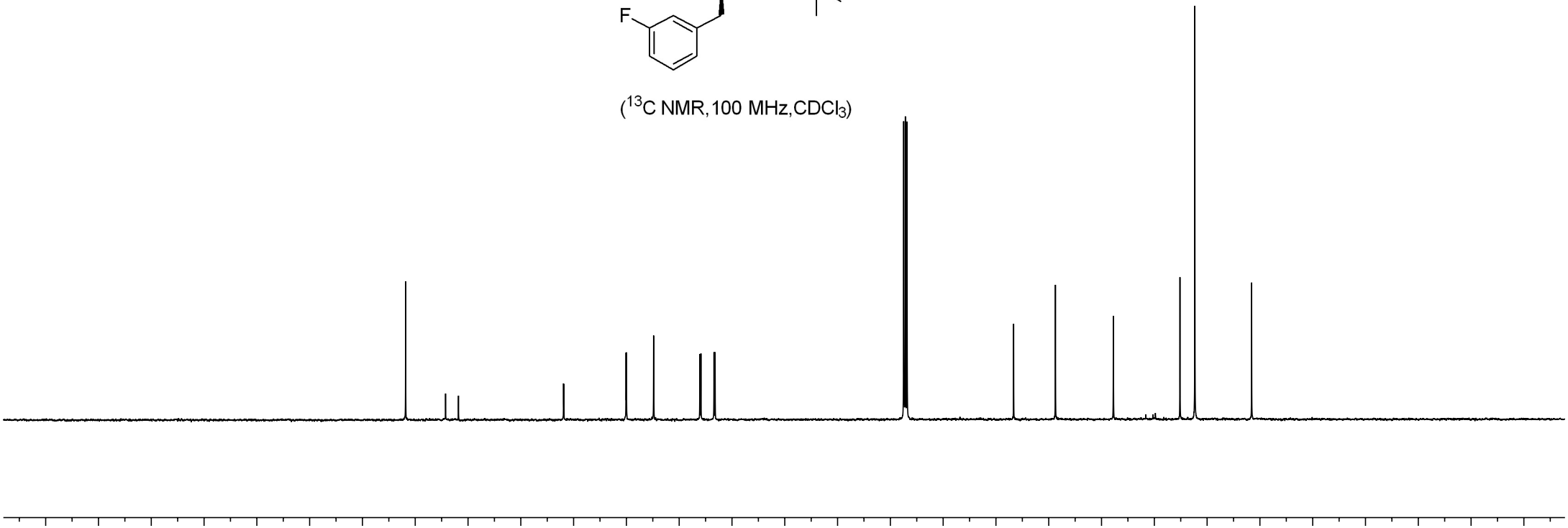
(^{1}H NMR, 400 MHz, $CDCl_3$)

NMR spectra of compound 8o

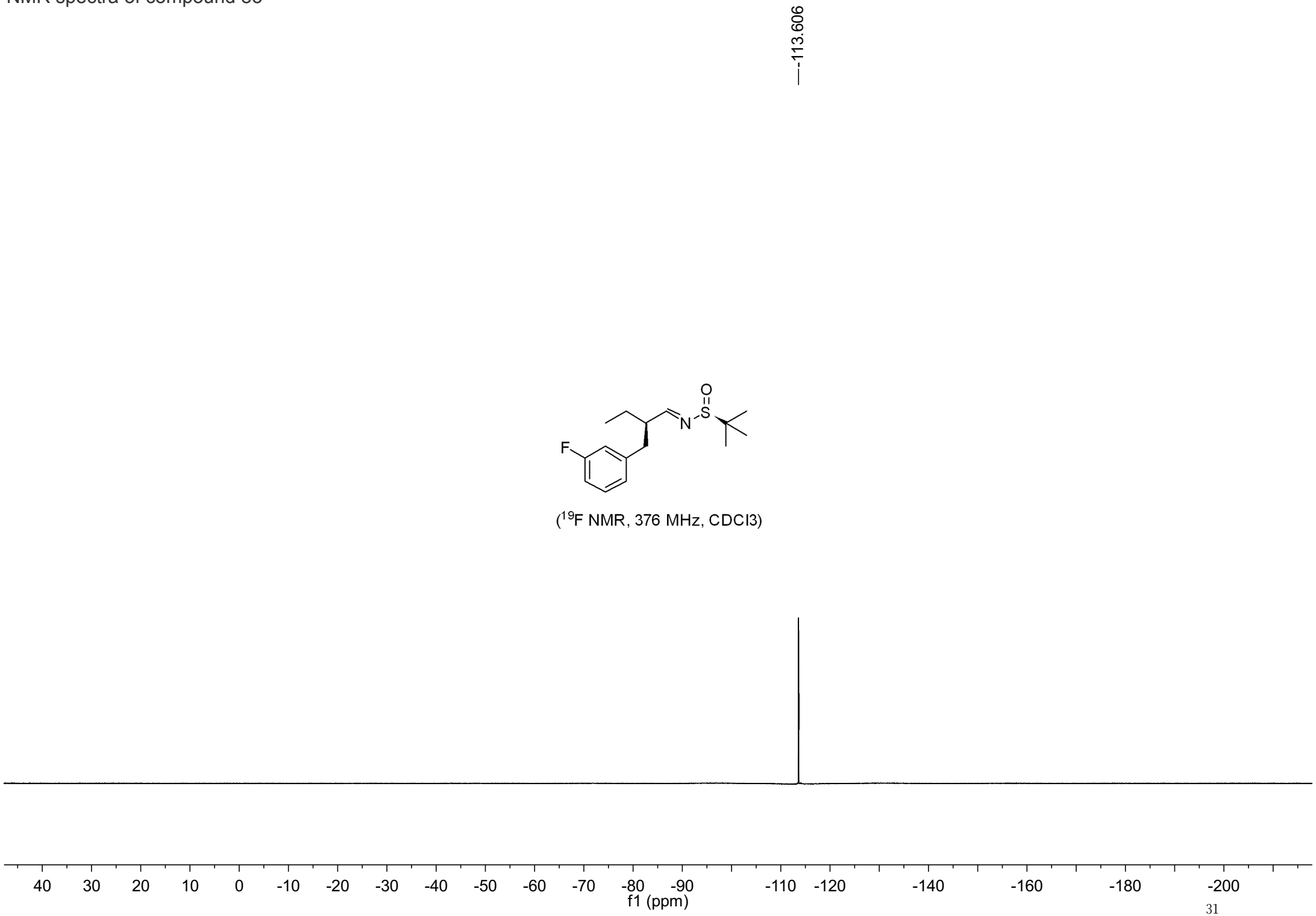
171.817
164.255
161.812
141.908
141.836
130.069
129.986
124.842
124.820
116.089
115.880
113.407
113.198
56.650
48.732
37.754
25.143
22.324
11.569



(^{13}C NMR, 100 MHz, $CDCl_3$)

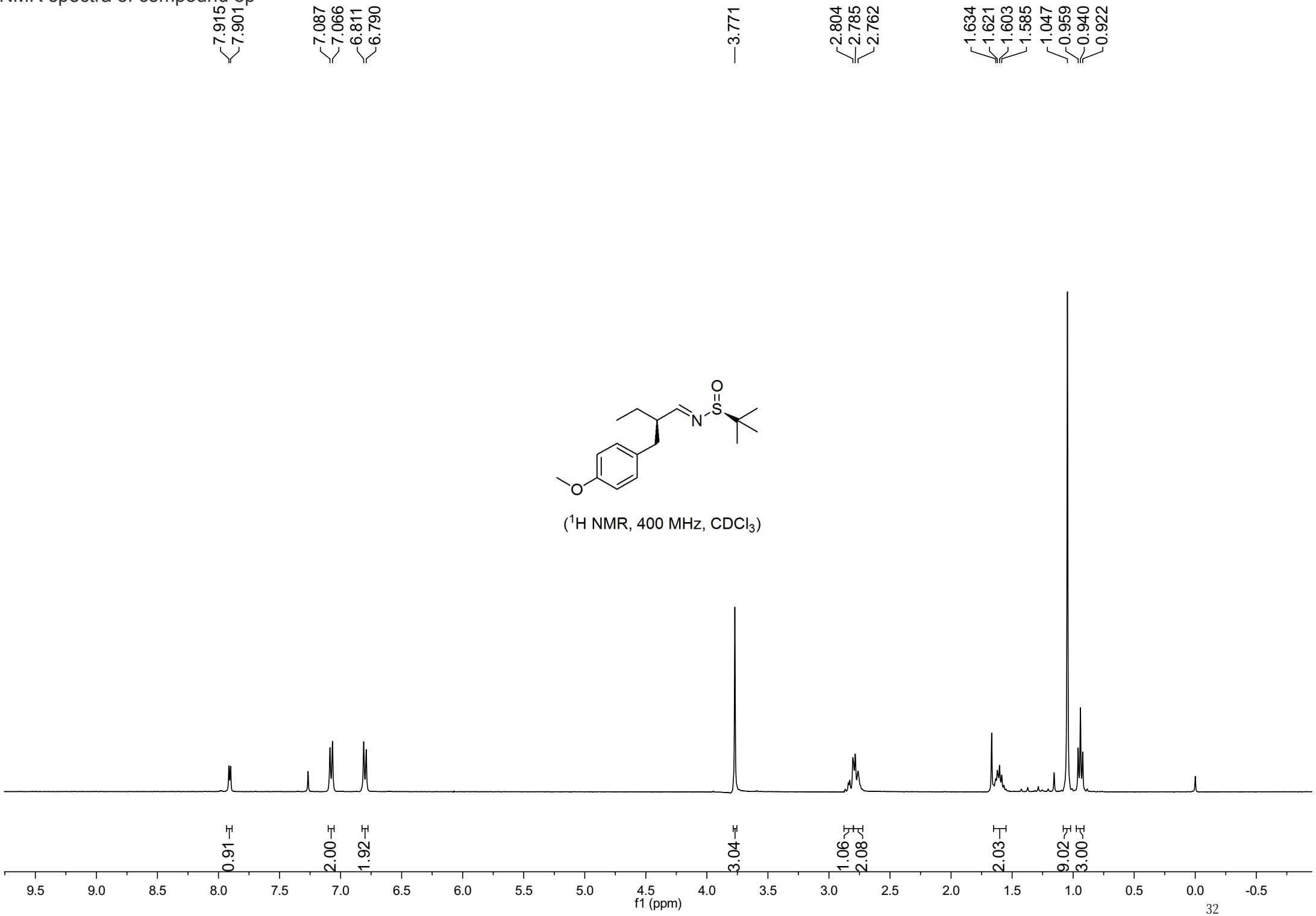


NMR spectra of compound 8o

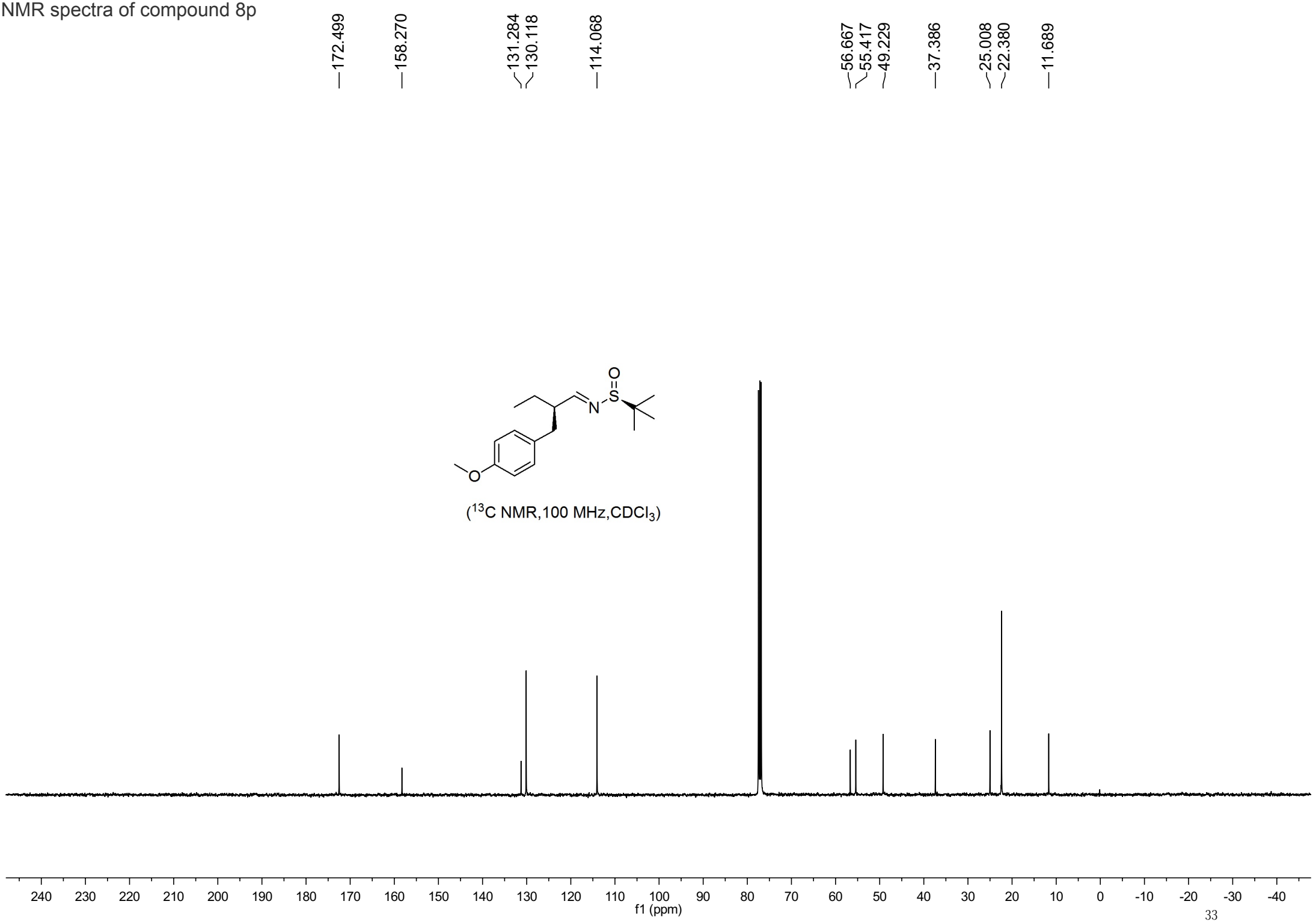


(^{19}F NMR, 376 MHz, CDCl3)

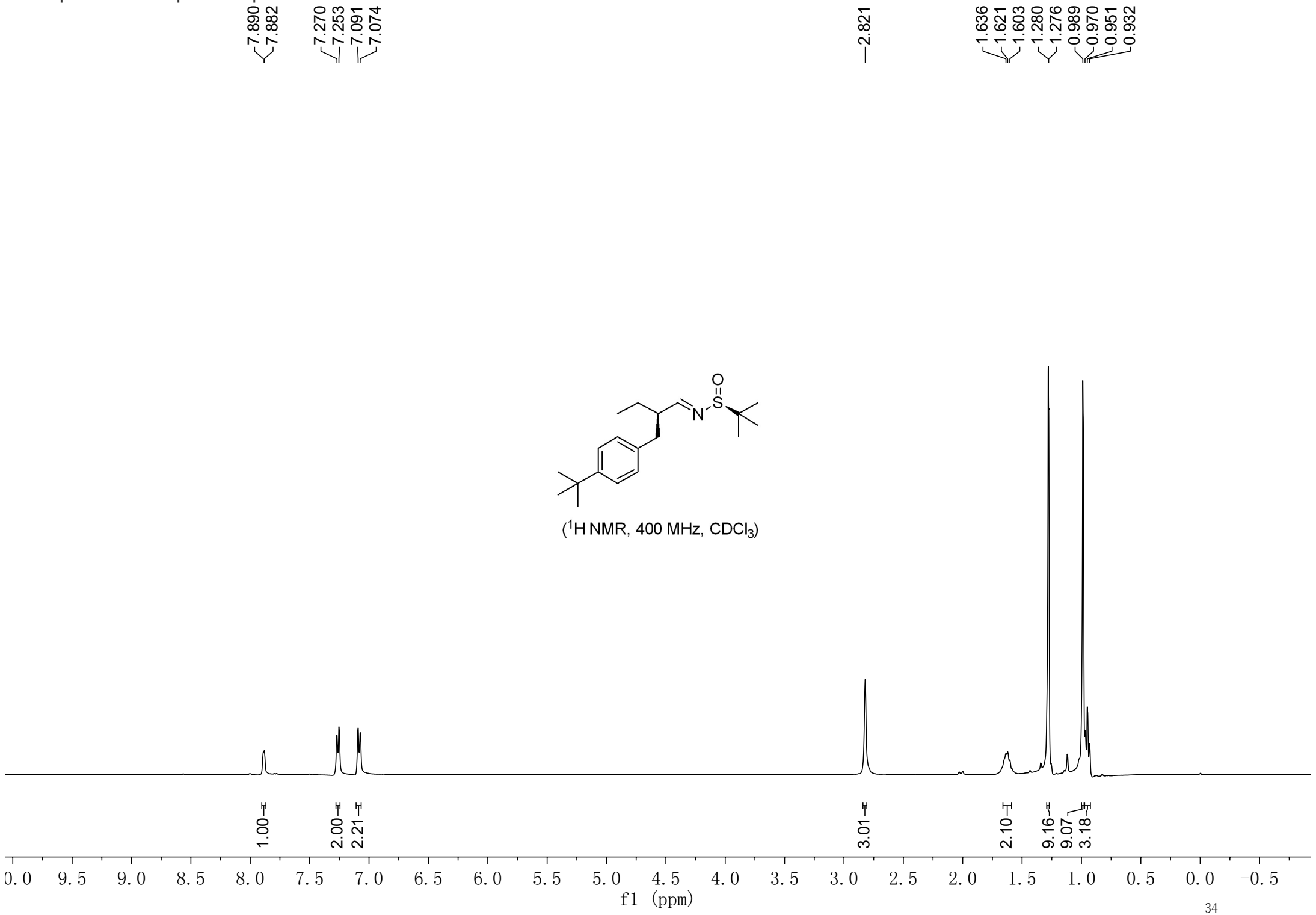
NMR spectra of compound 8p



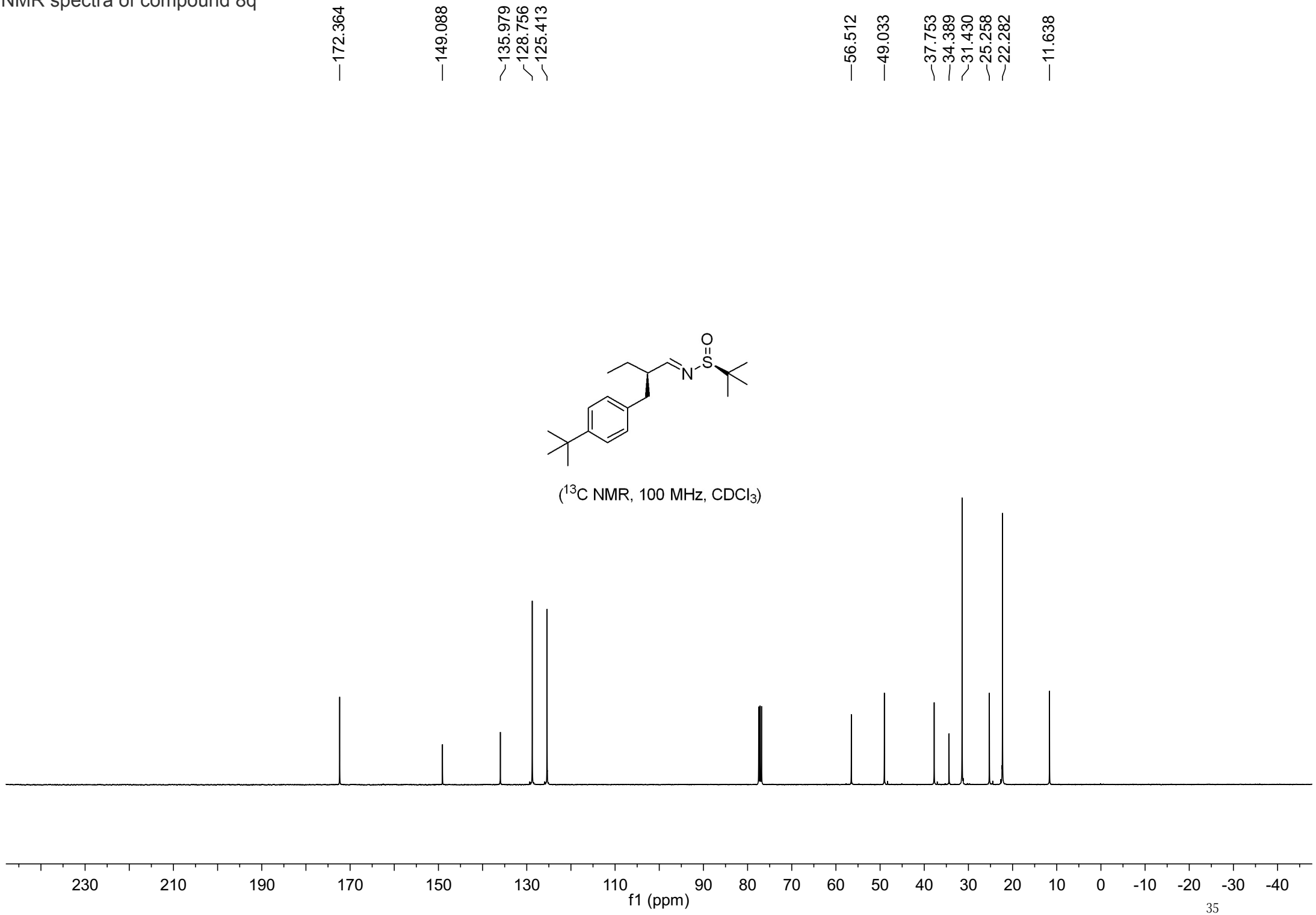
NMR spectra of compound 8p



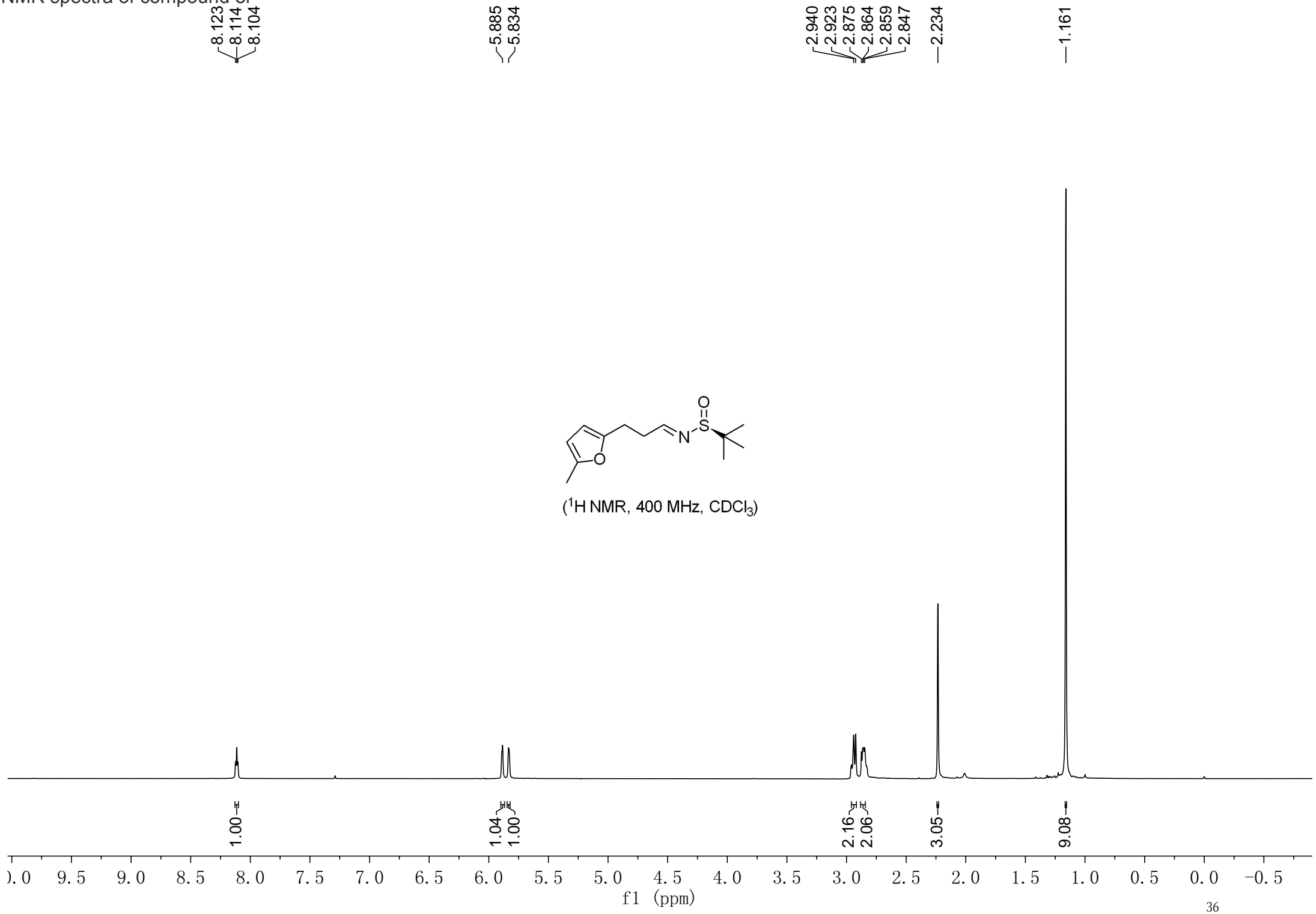
NMR spectra of compound 8q



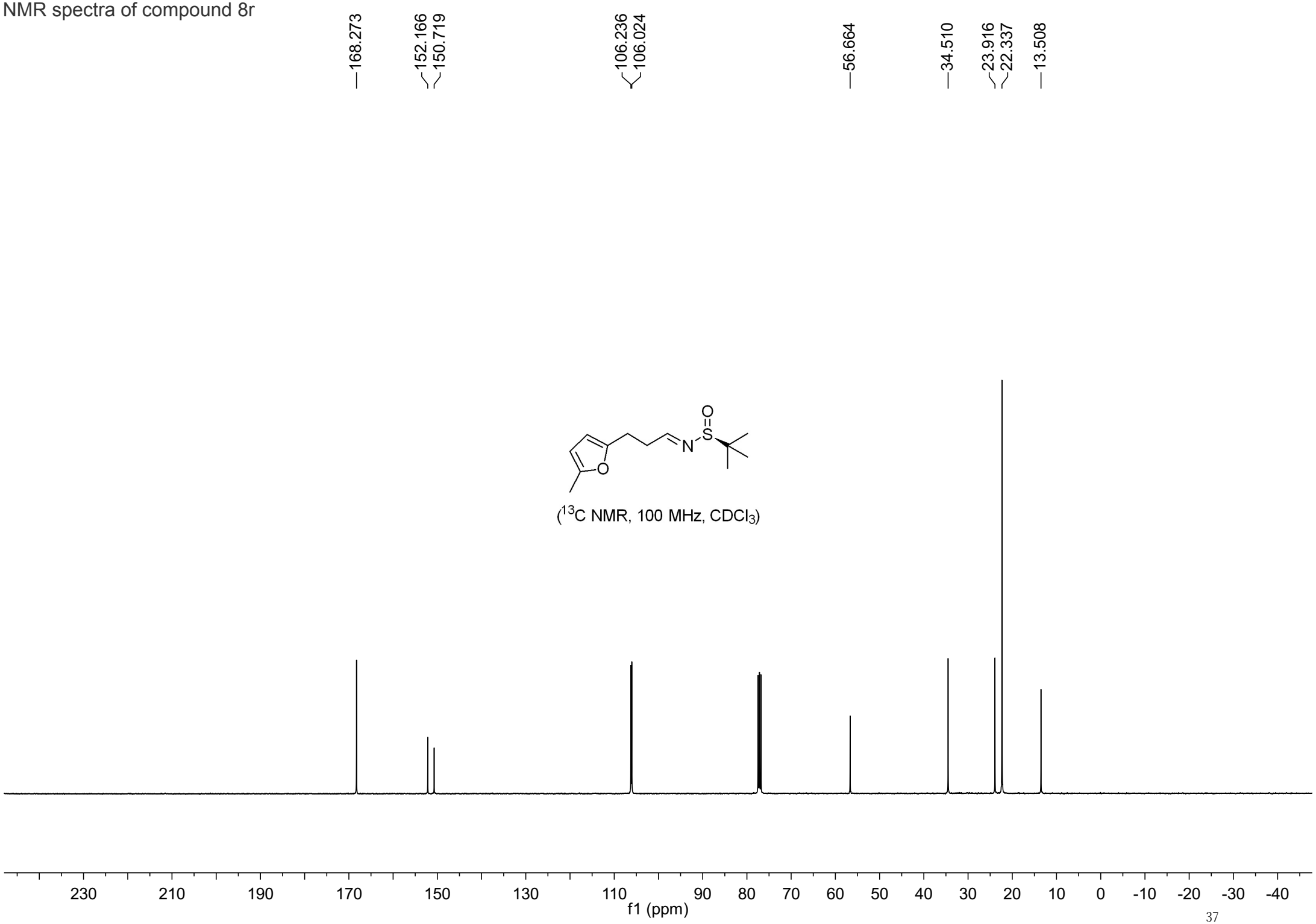
NMR spectra of compound 8q



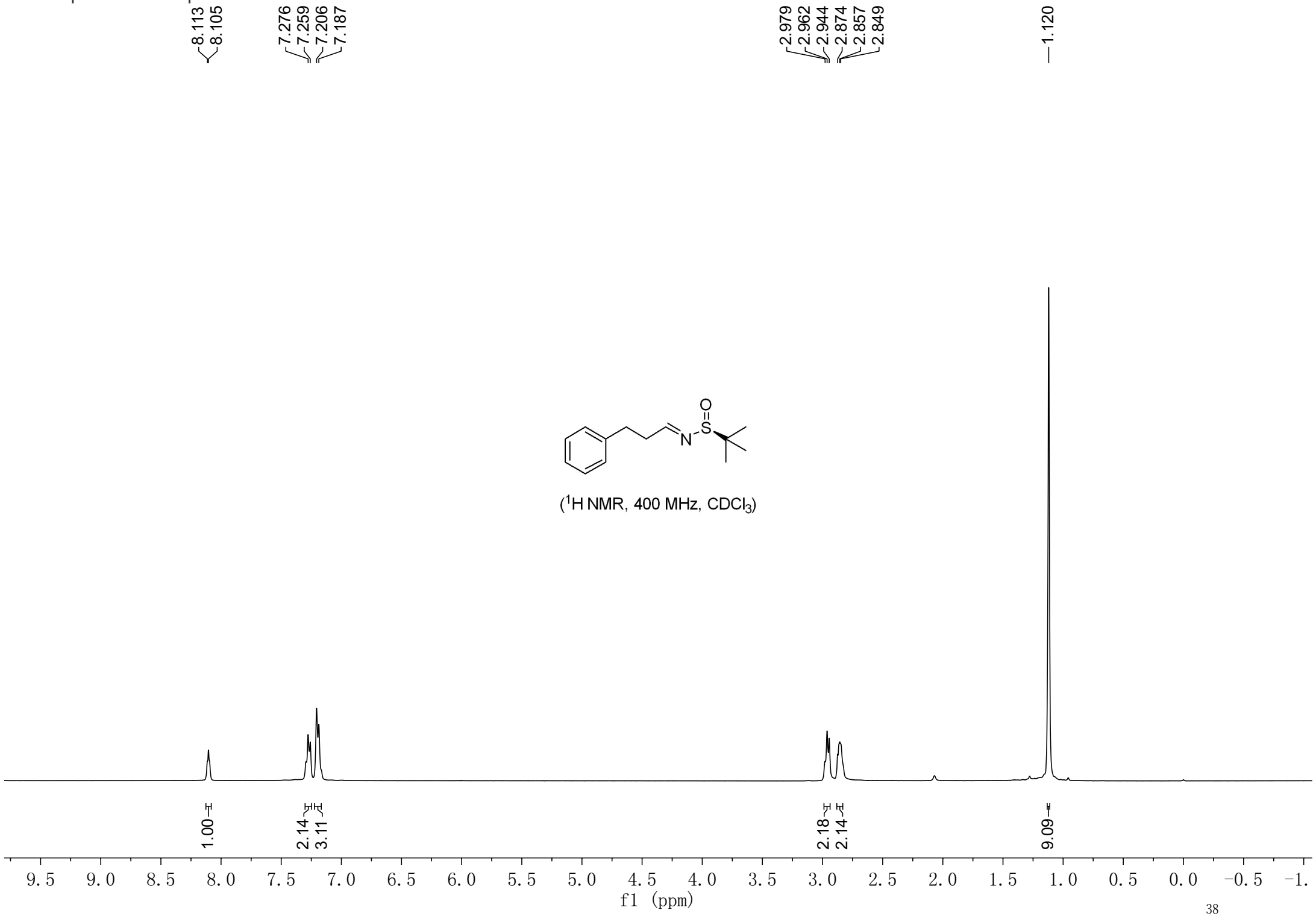
NMR spectra of compound 8r



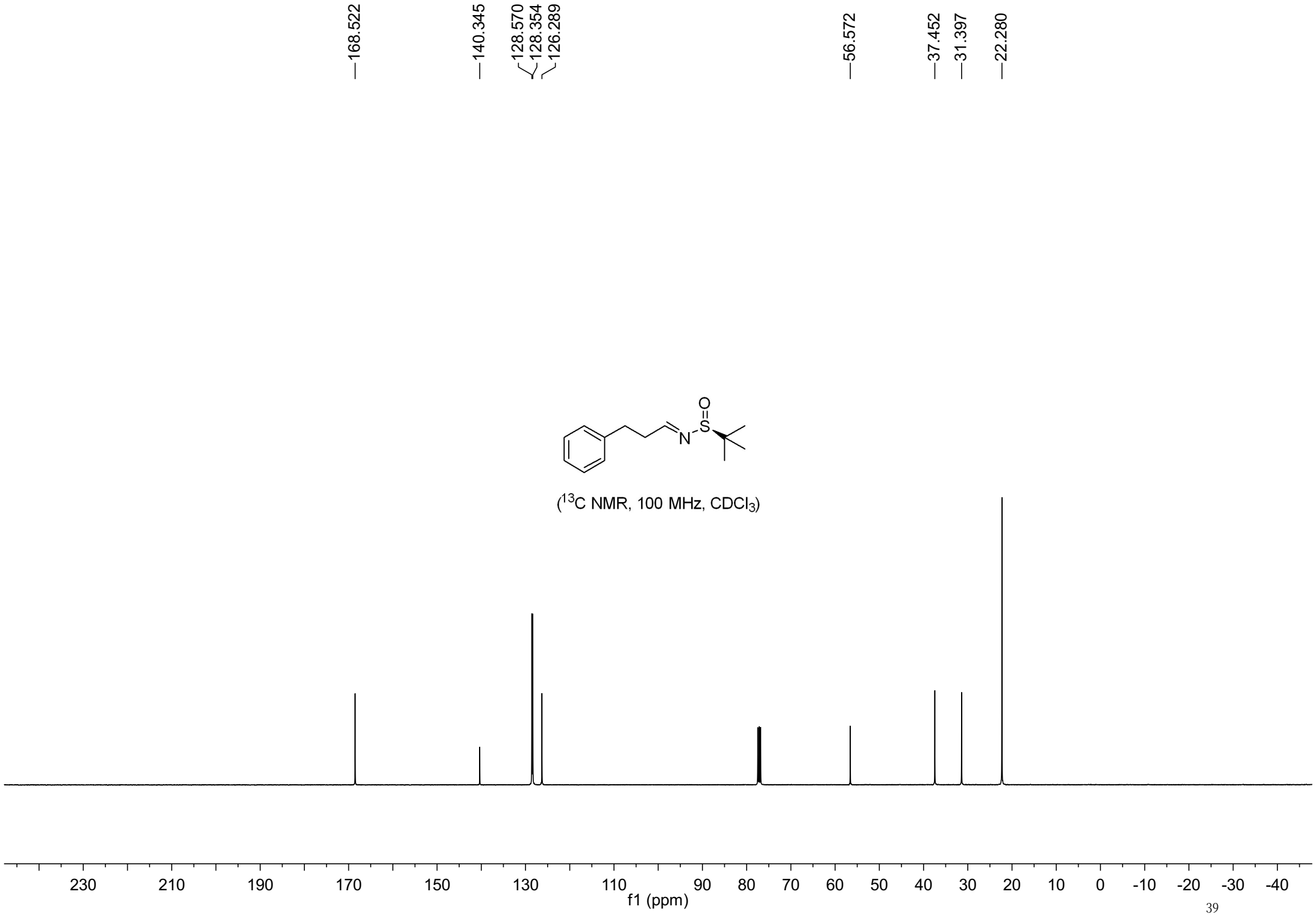
NMR spectra of compound 8r



NMR spectra of compound 8s

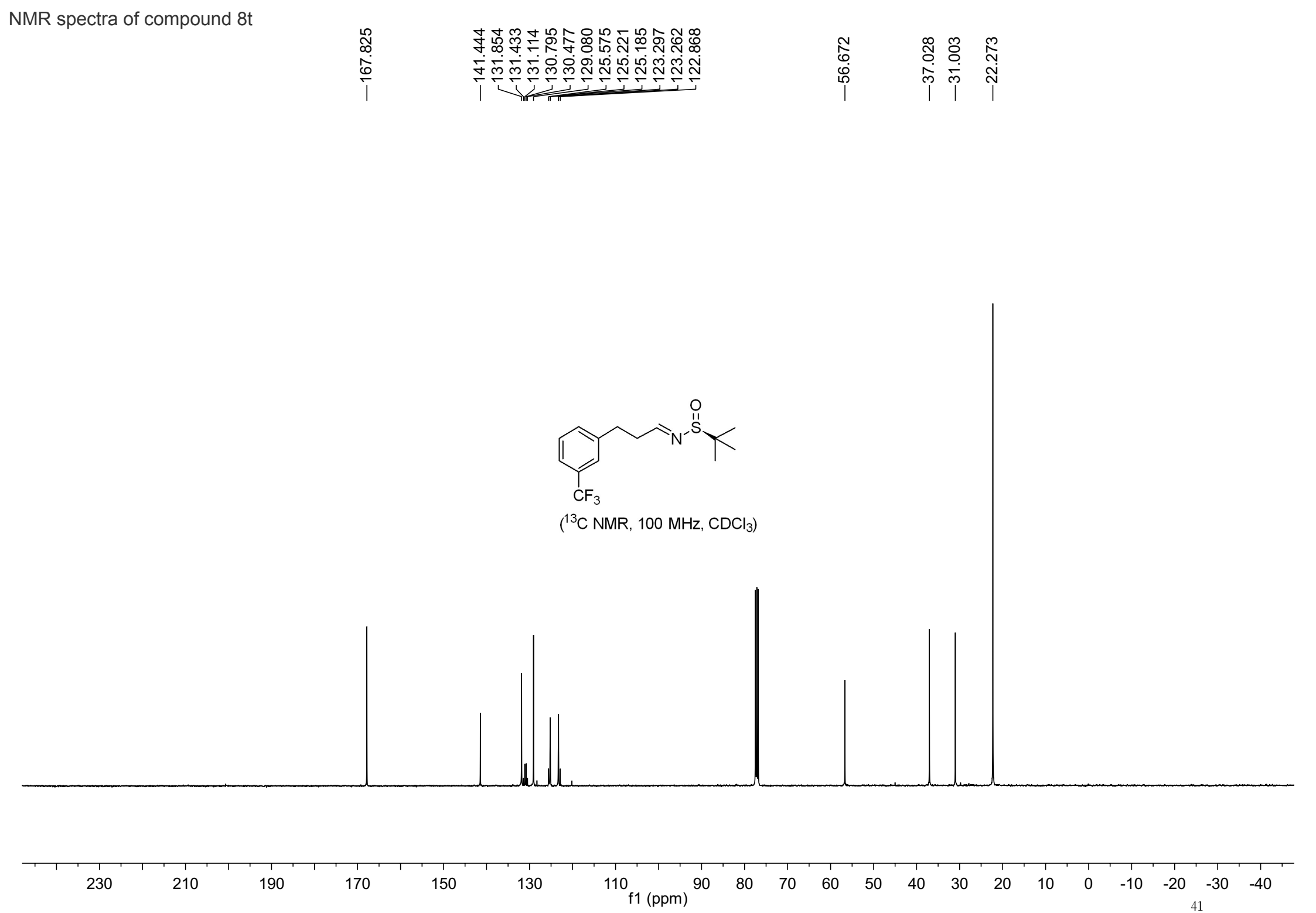


NMR spectra of compound 8s

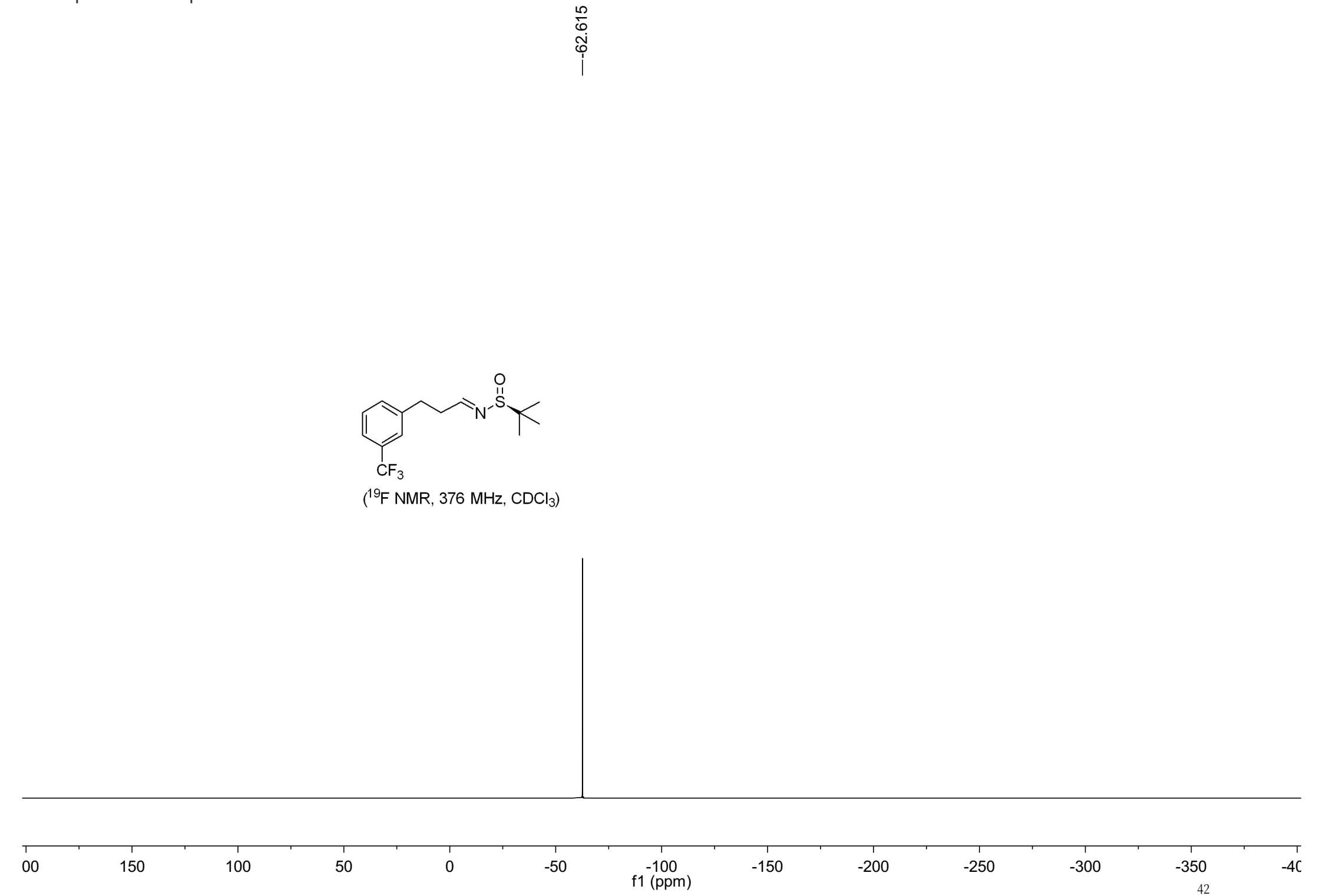


NMR spectra of compound 8t

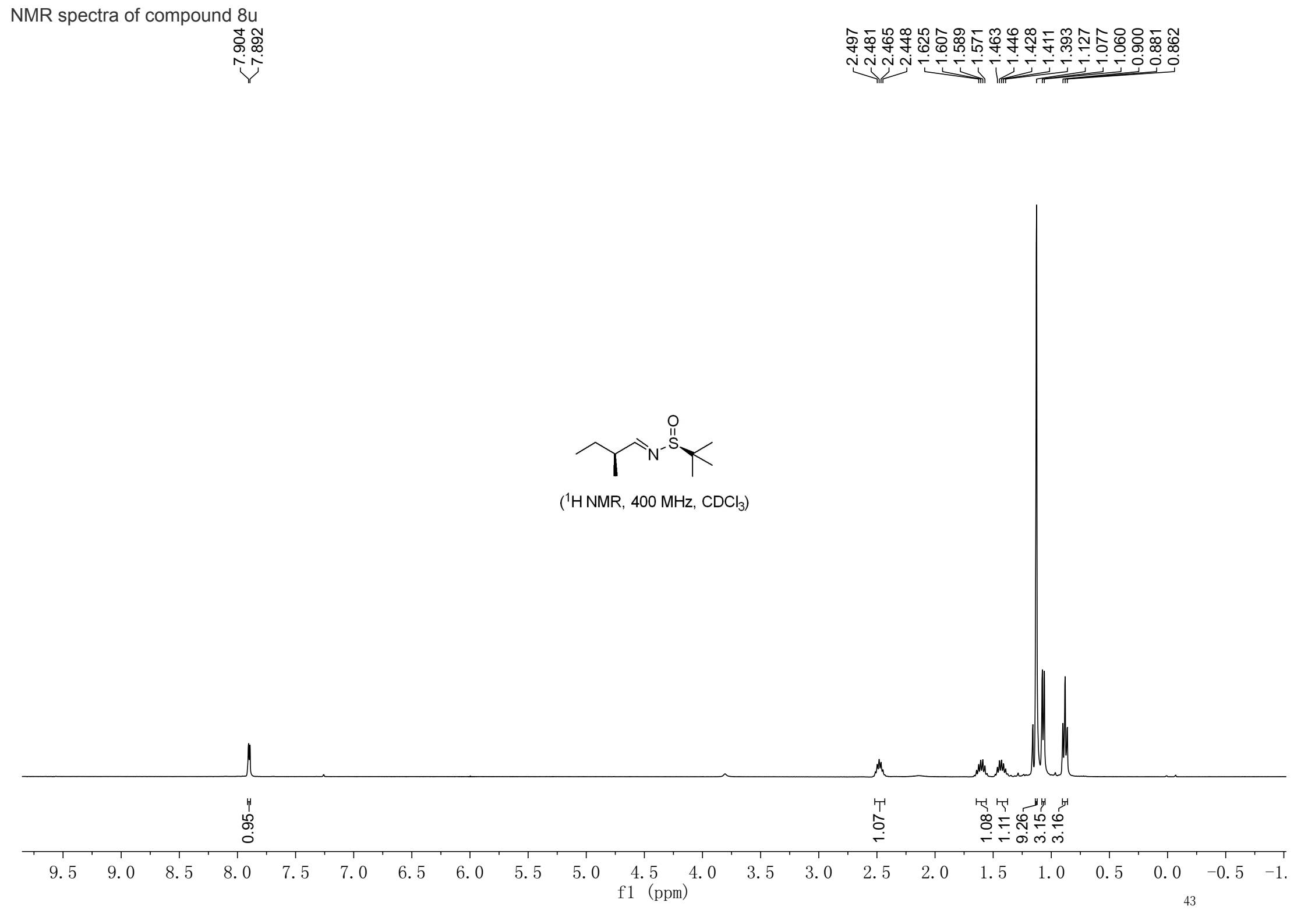
NMR spectra of compound 8t



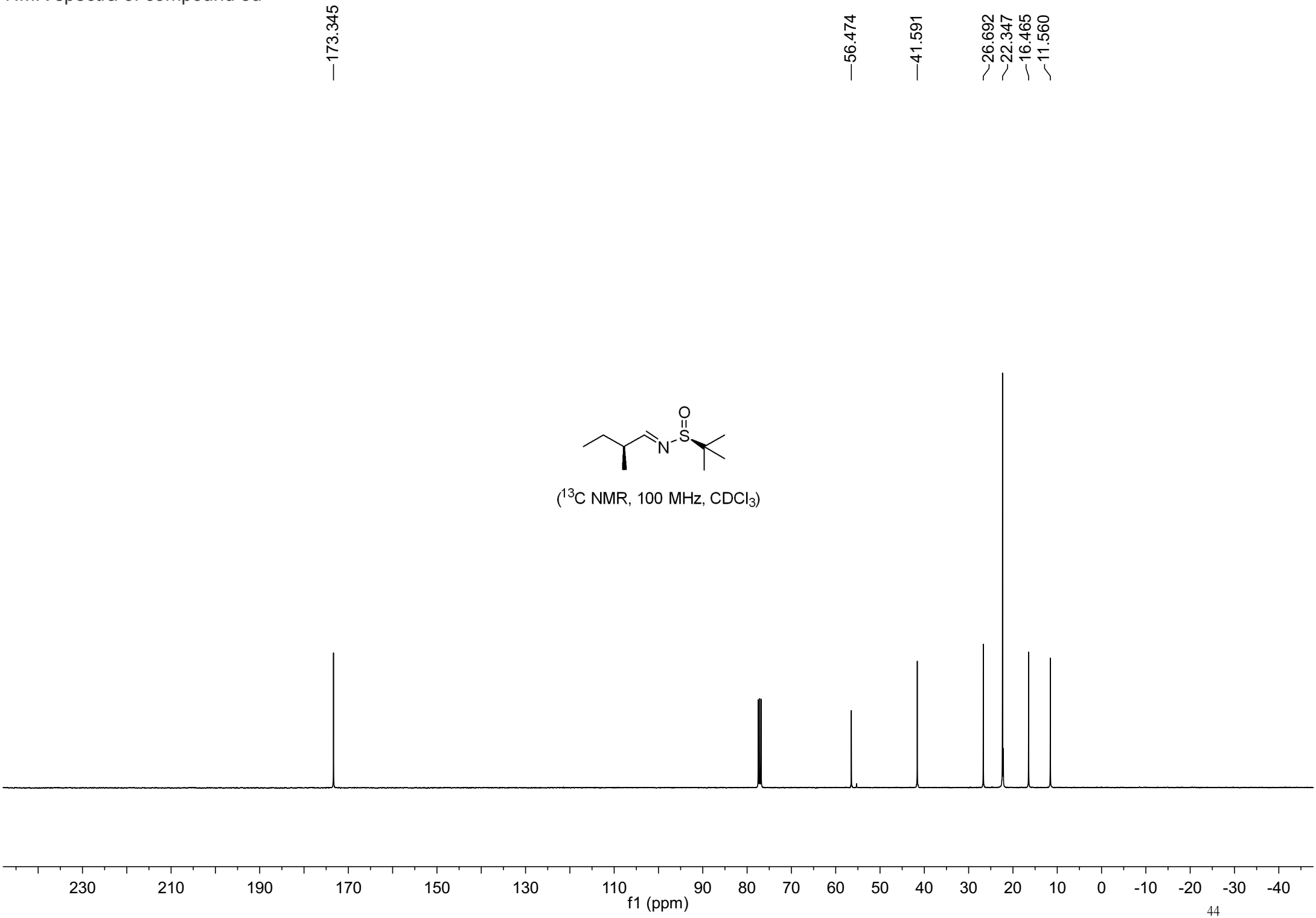
NMR spectra of compound 8t



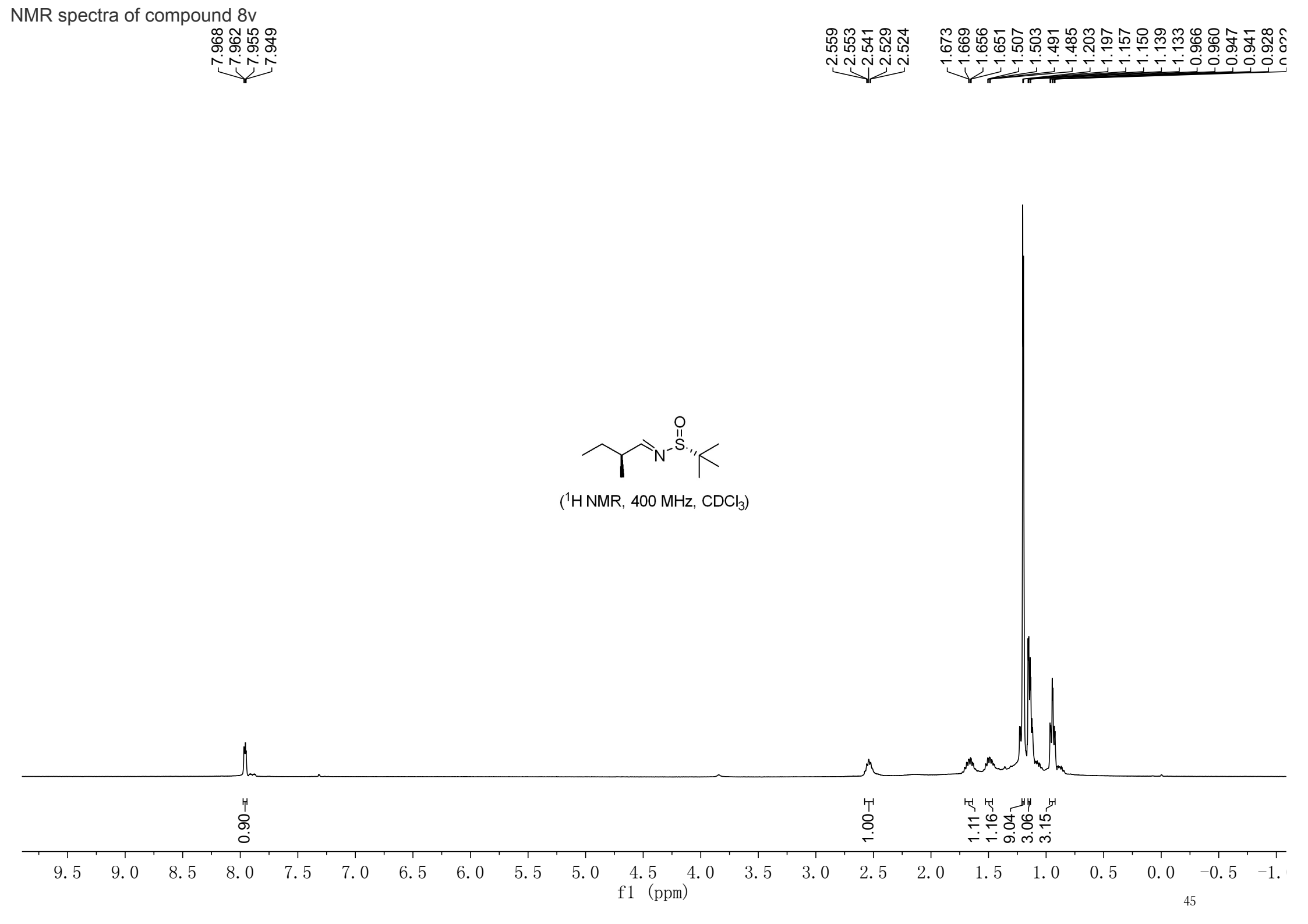
NMR spectra of compound 8u



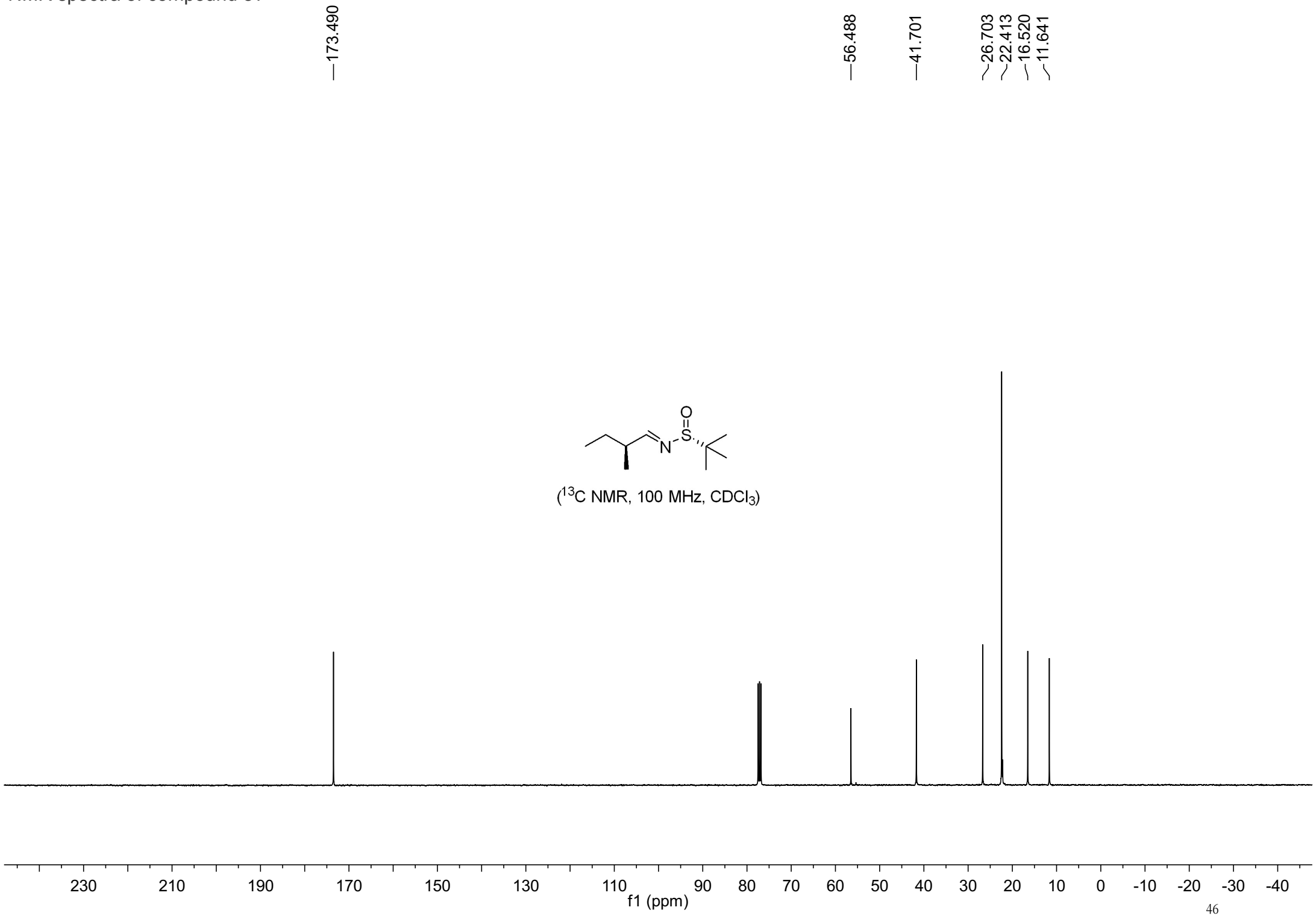
NMR spectra of compound 8u



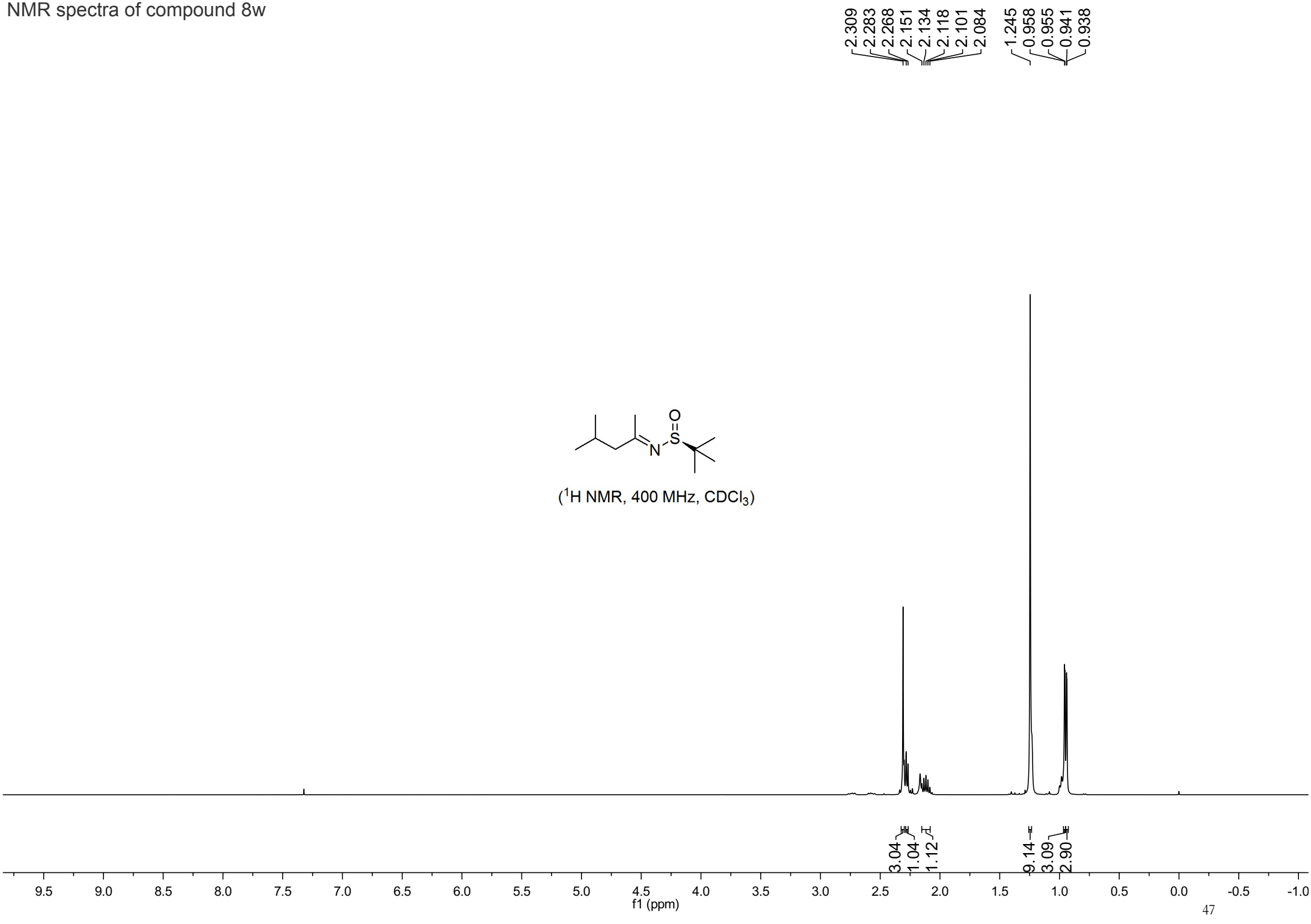
NMR spectra of compound 8v



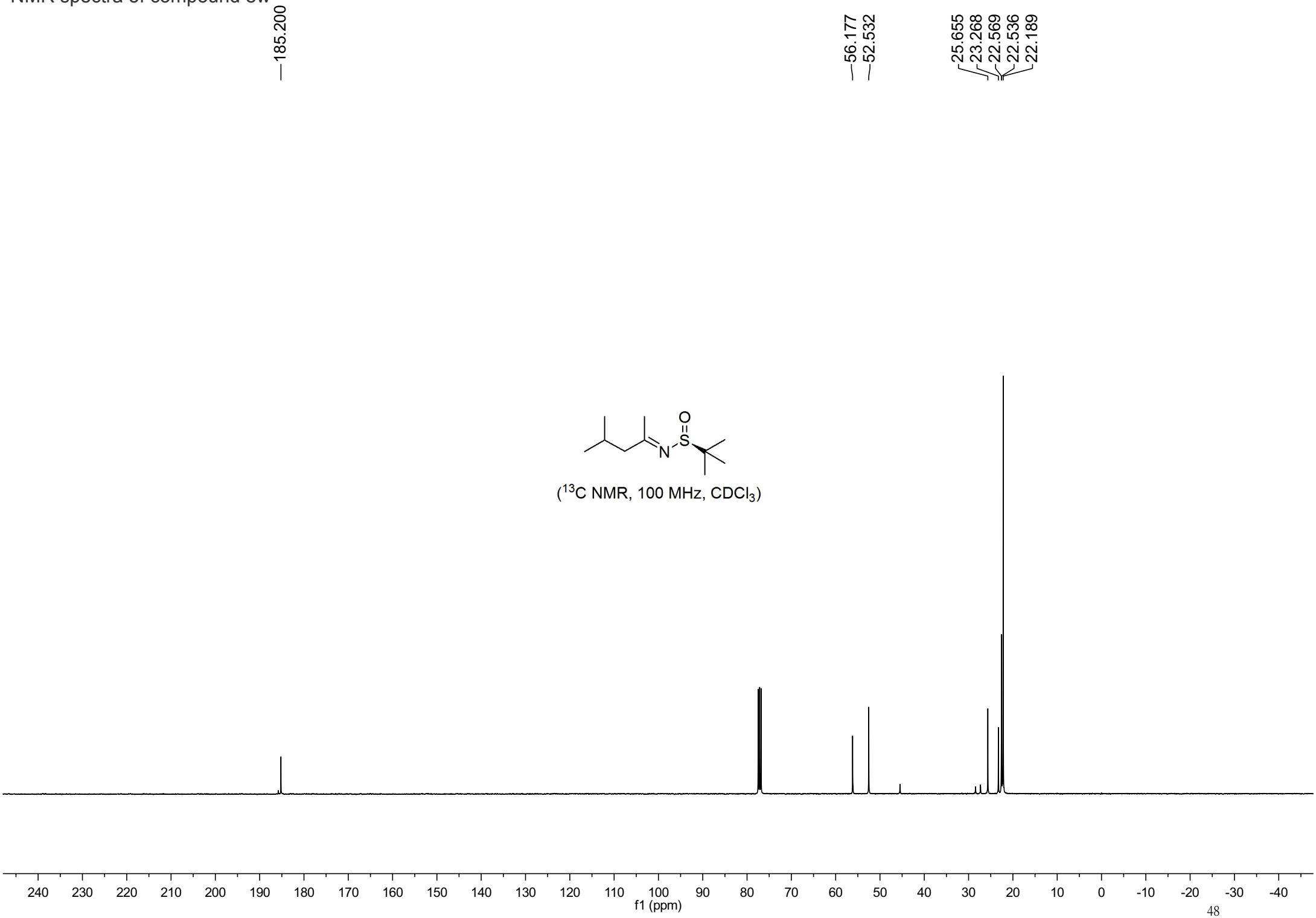
NMR spectra of compound 8v



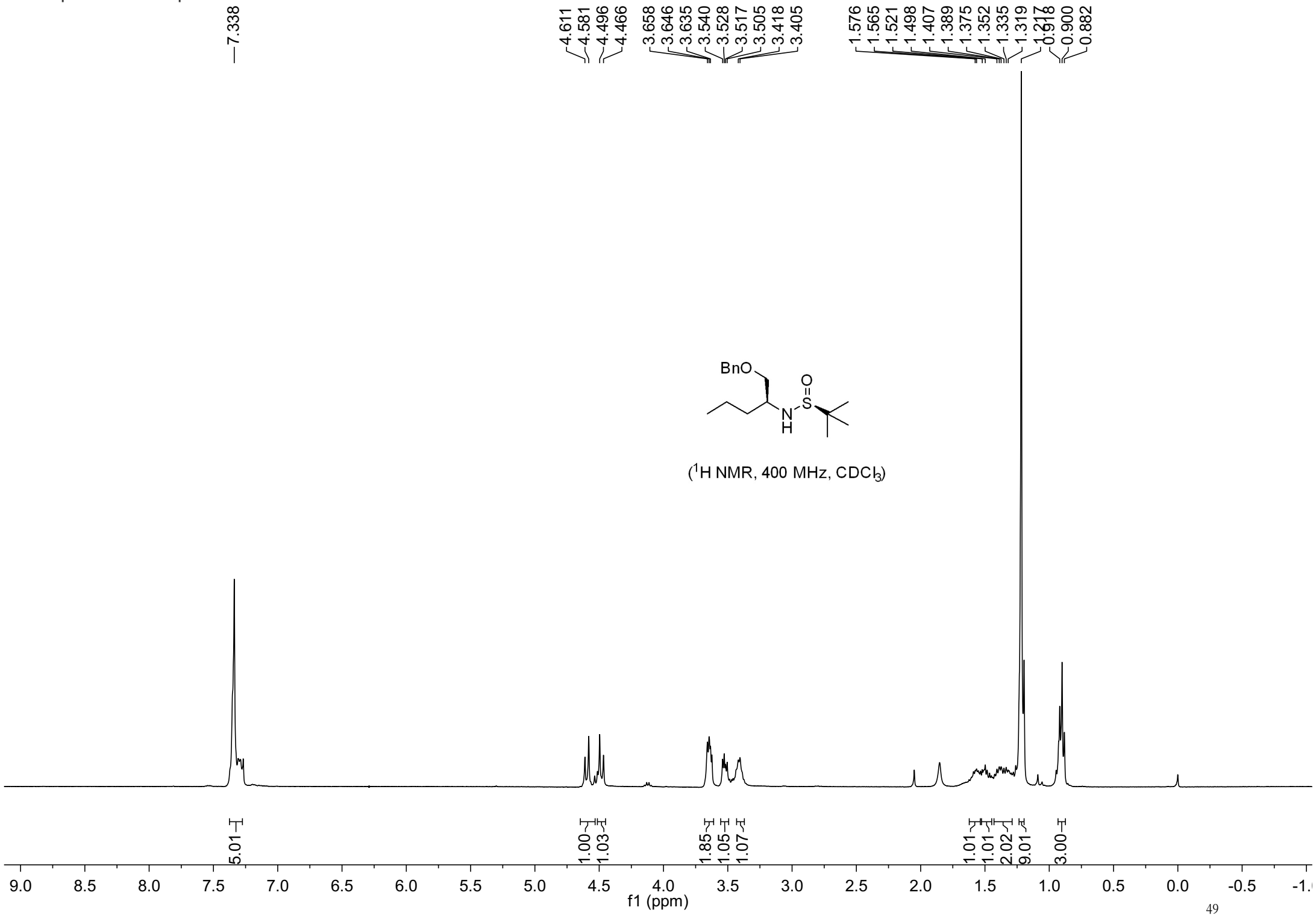
NMR spectra of compound 8w



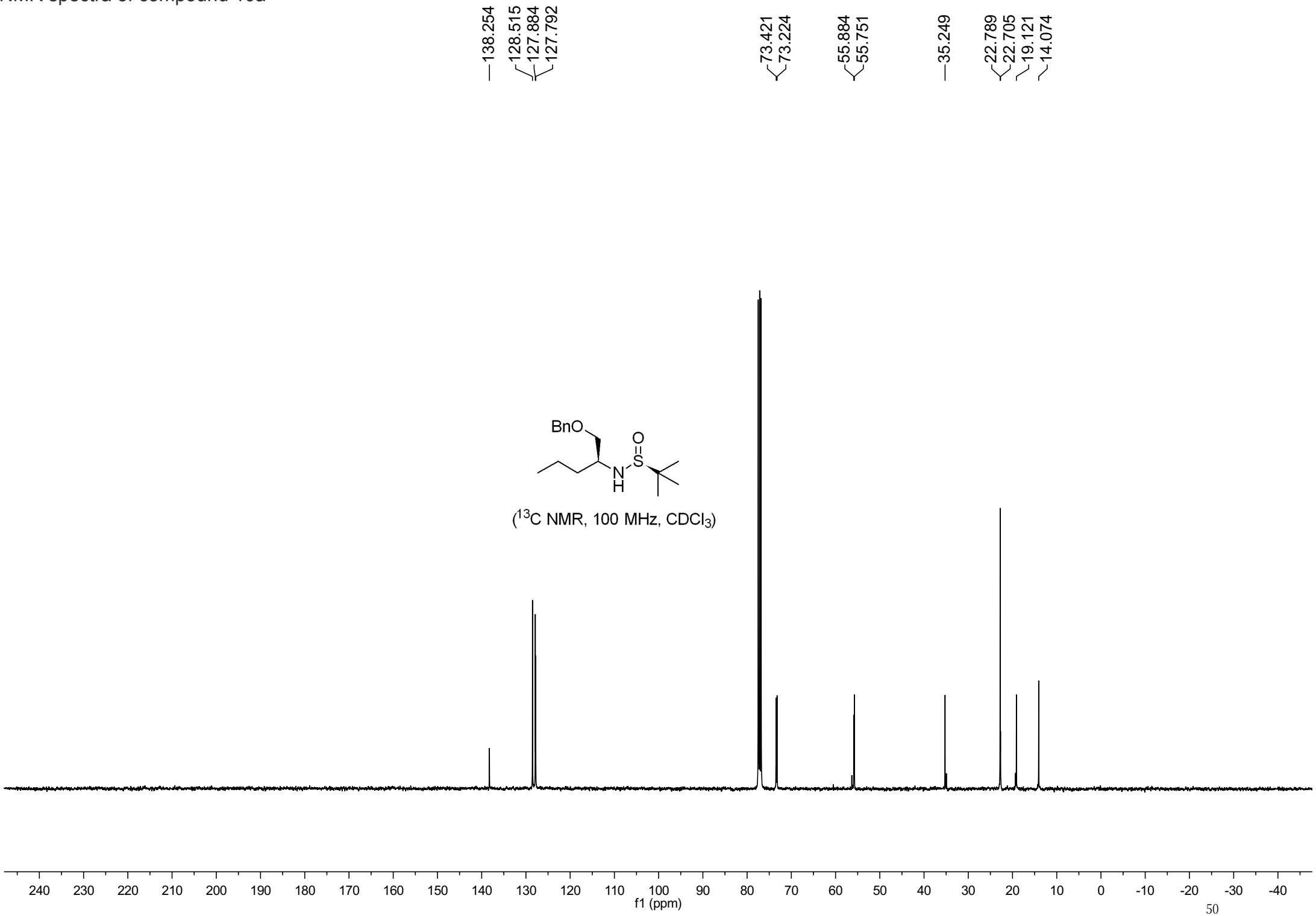
NMR spectra of compound 8w



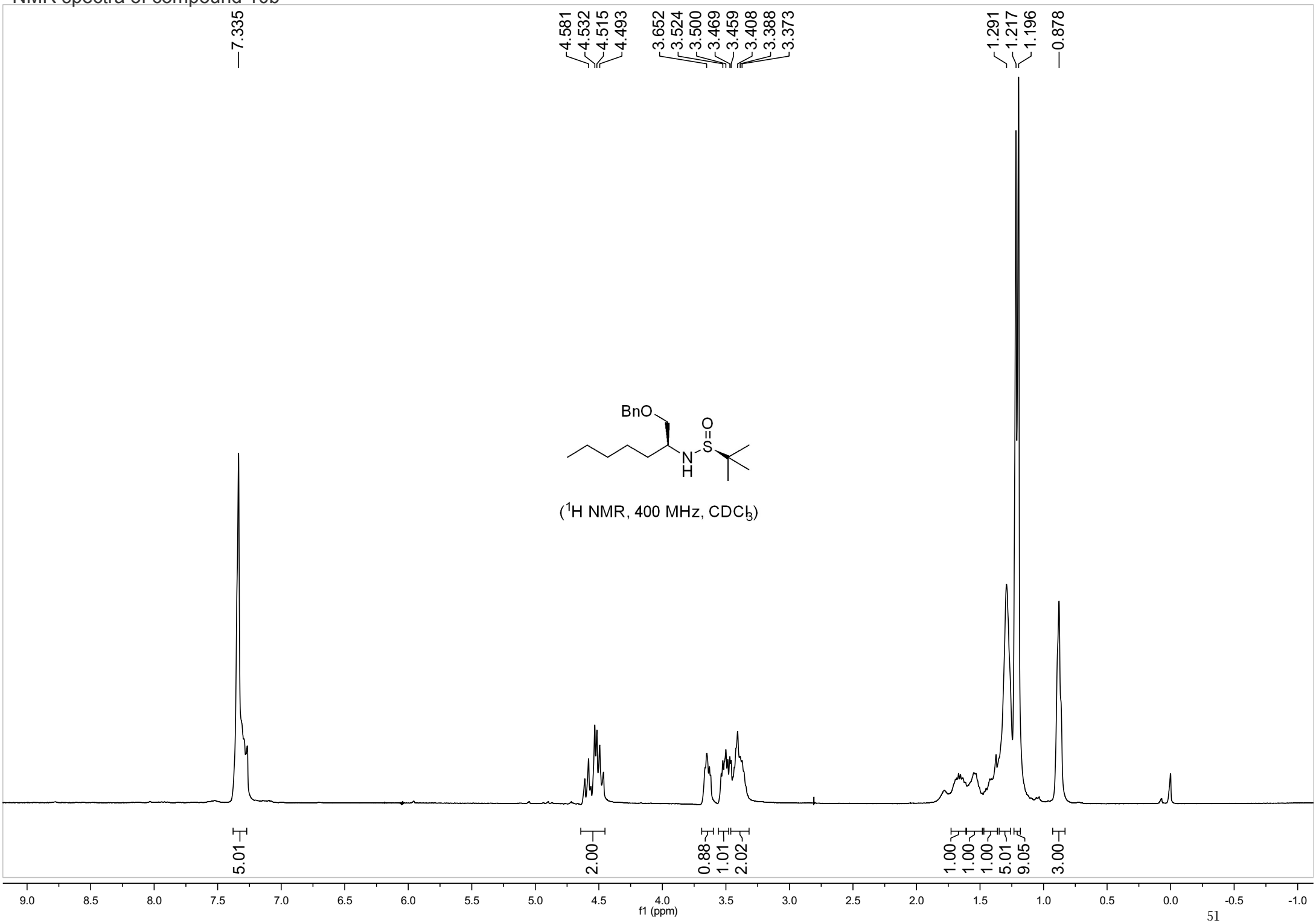
NMR spectra of compound 10a



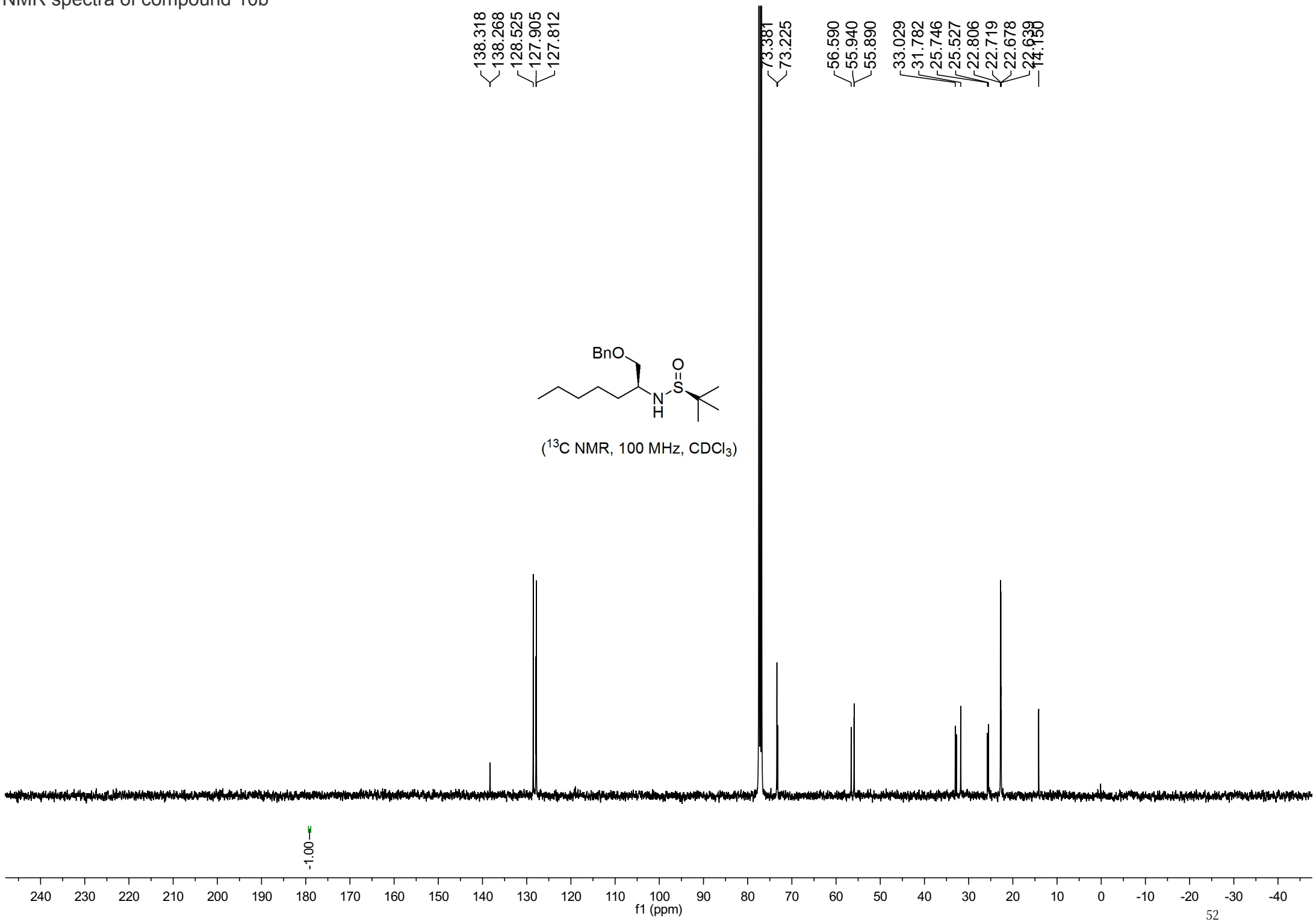
NMR spectra of compound 10a



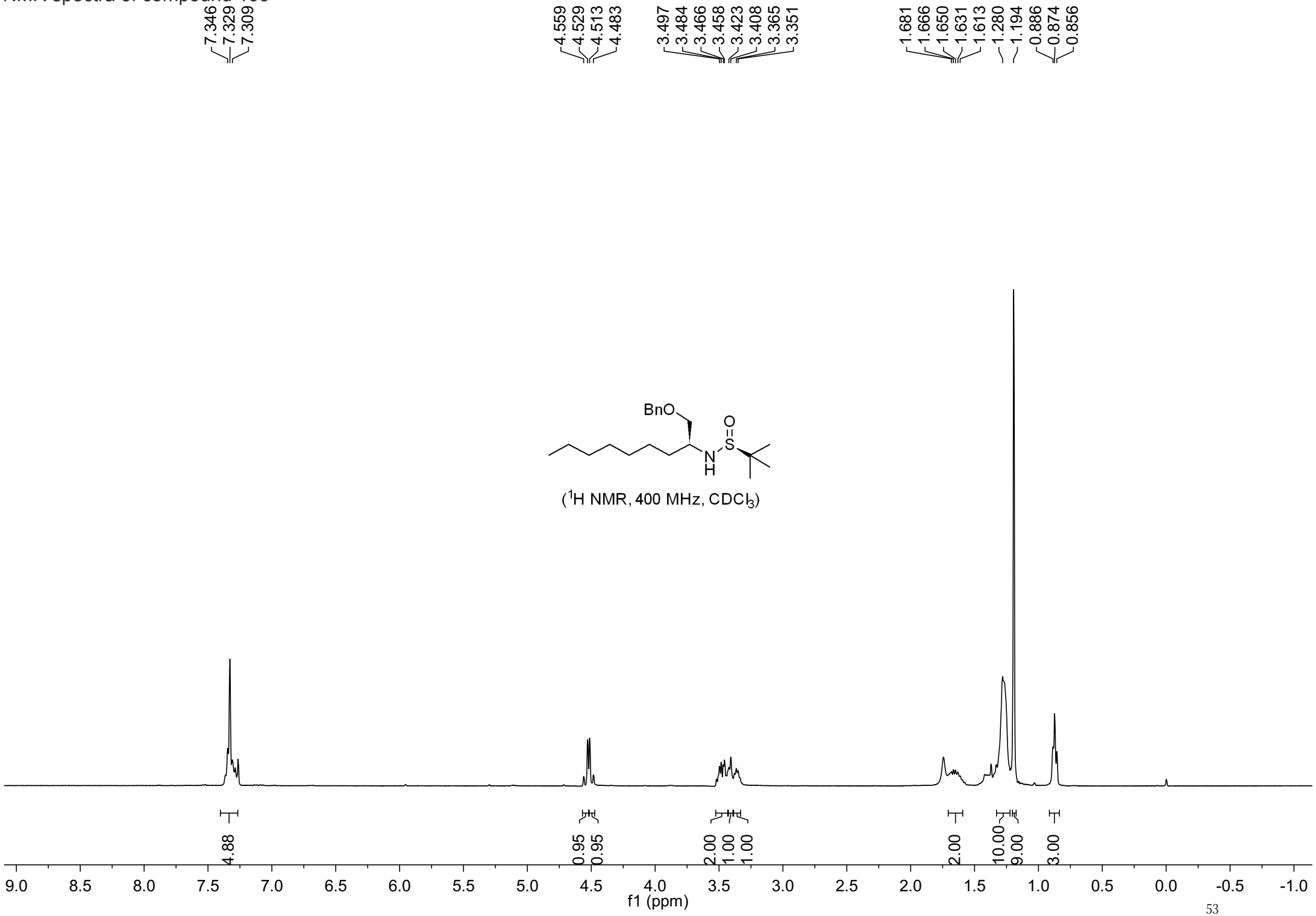
NMR spectra of compound 10b



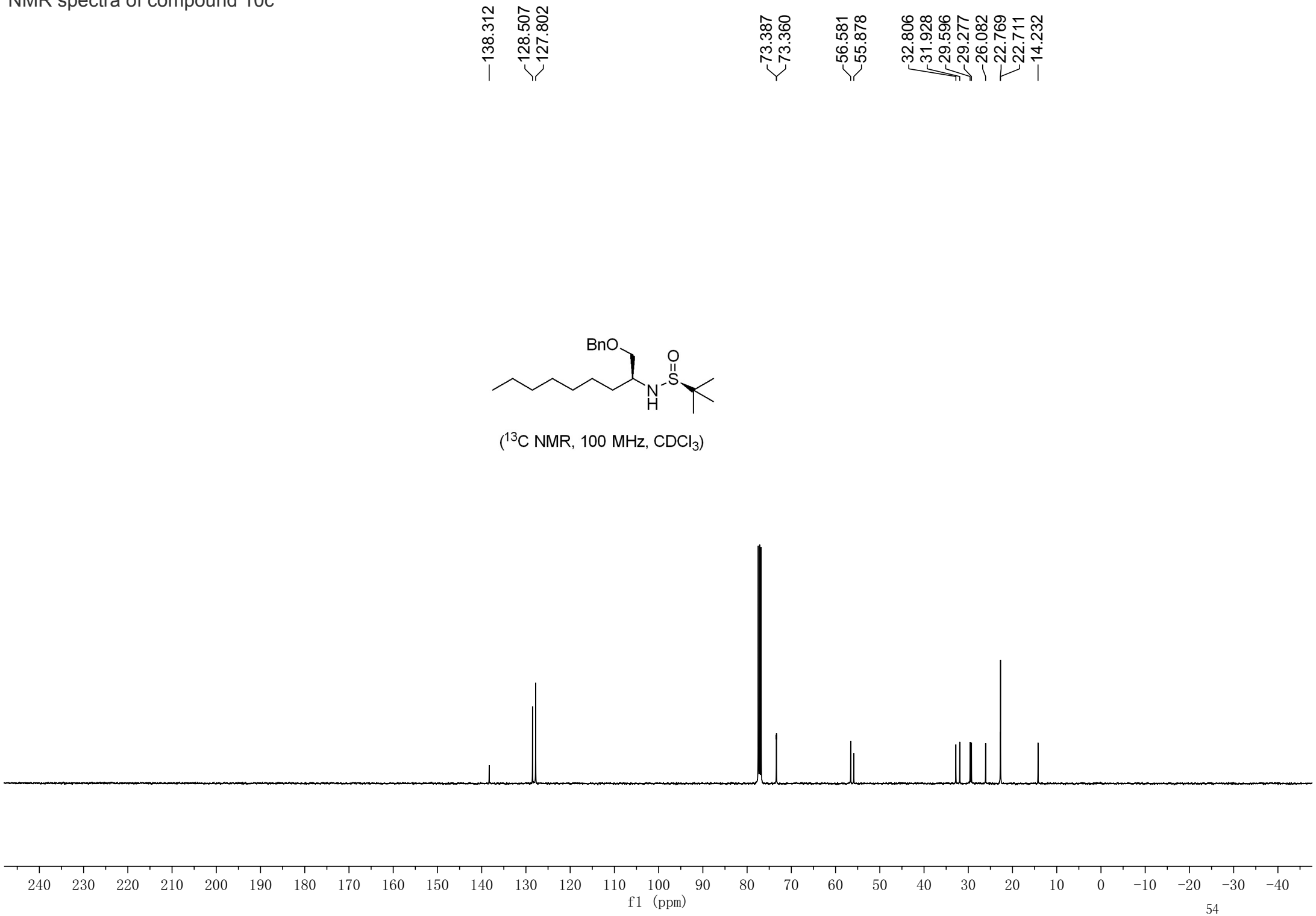
NMR spectra of compound 10b



NMR spectra of compound 10c

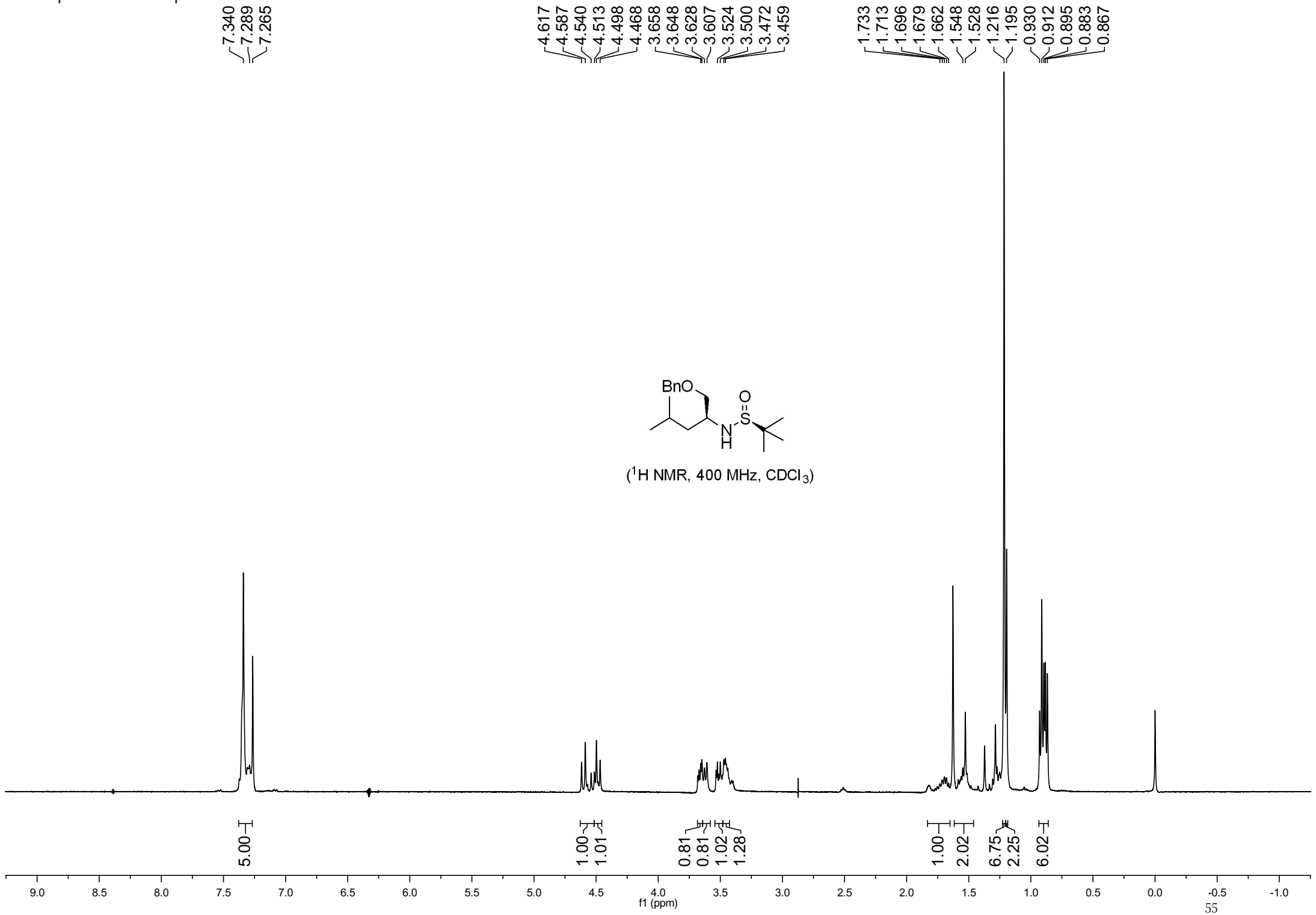


NMR spectra of compound 10c



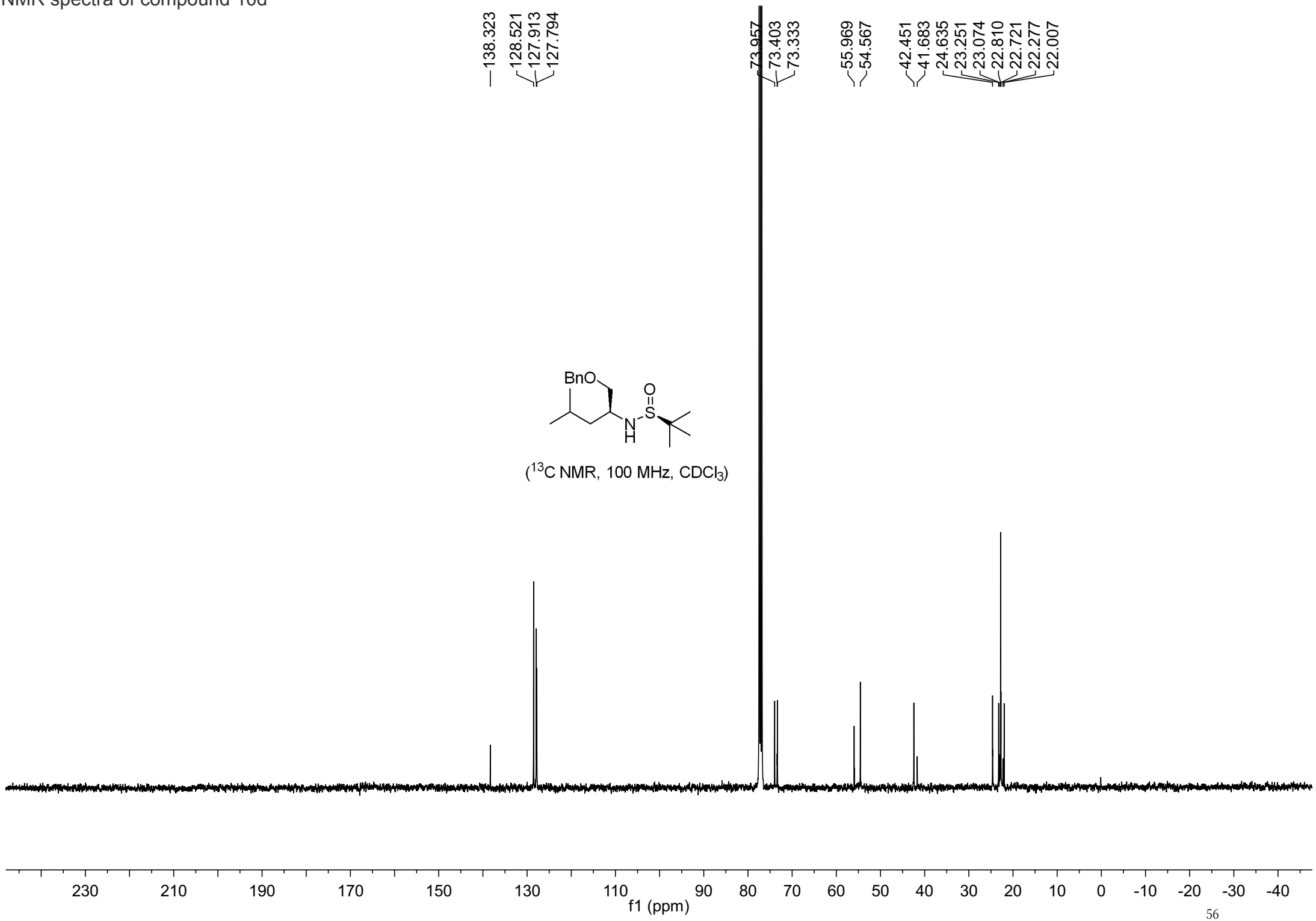
(^{13}C NMR, 100 MHz, $CDCl_3$)

NMR spectra of compound 10d

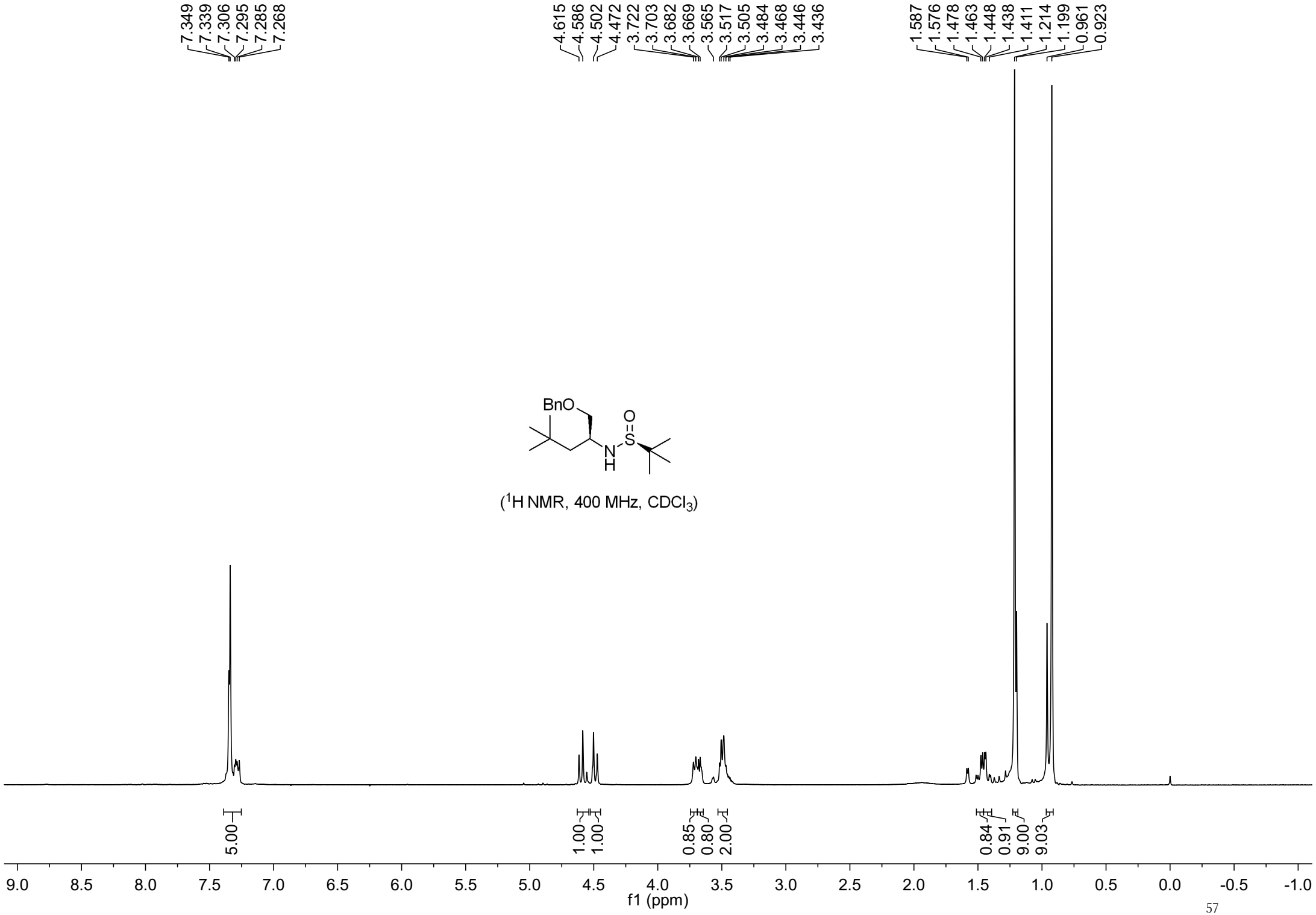


(^{1}H NMR, 400 MHz, $CDCl_3$)

NMR spectra of compound 10d

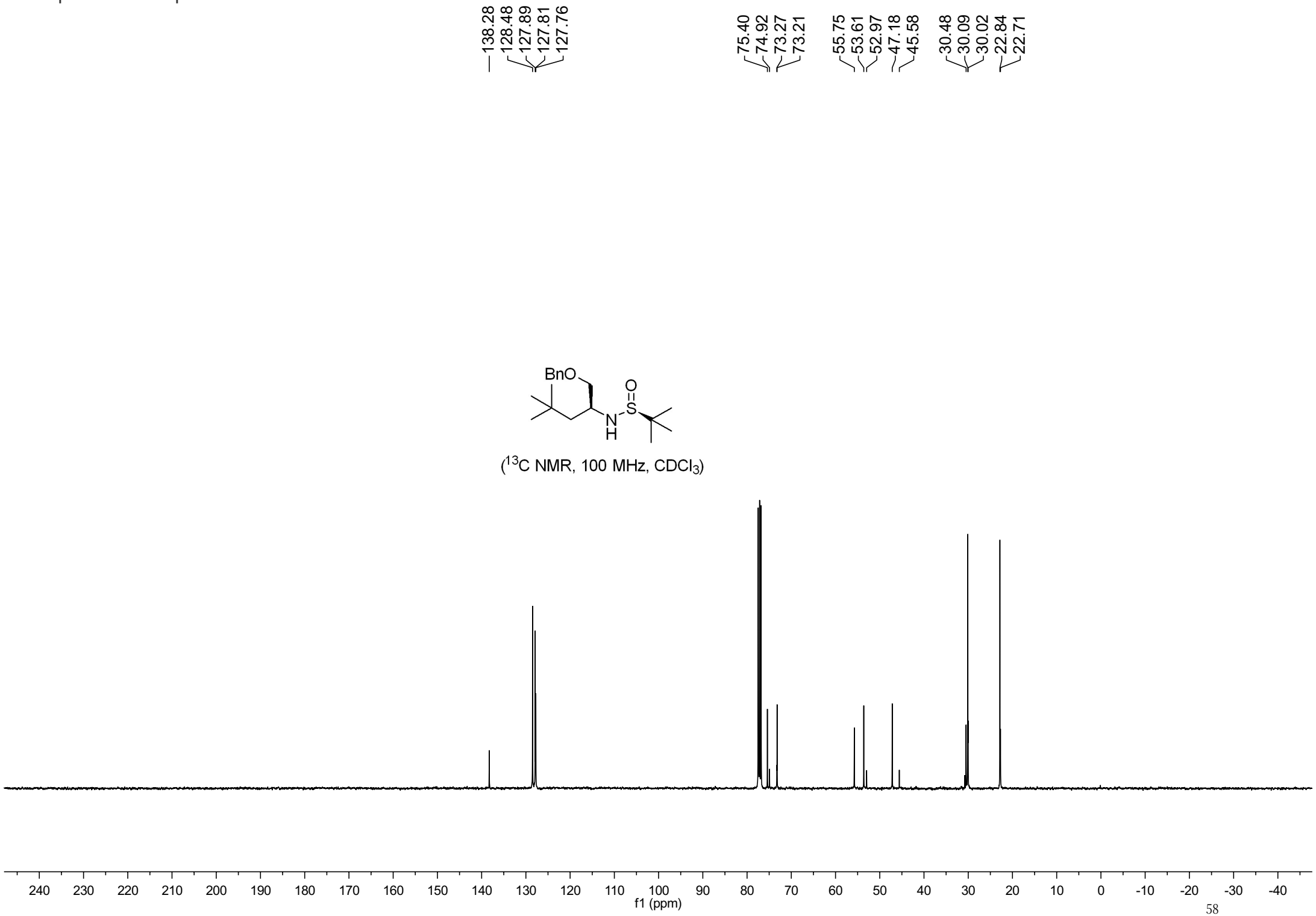


NMR spectra of compound 10e

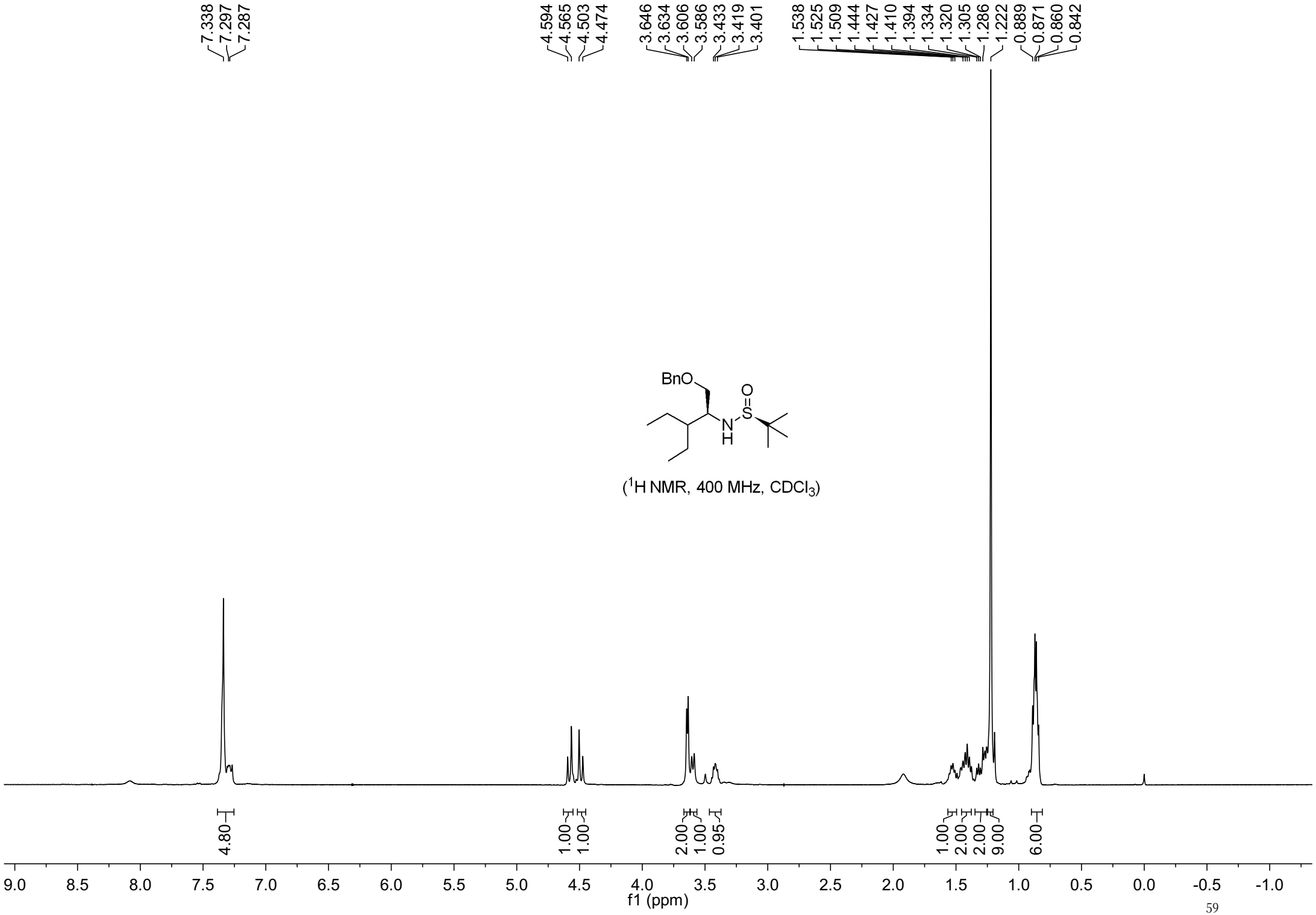


(^{1}H NMR, 400 MHz, $CDCl_3$)

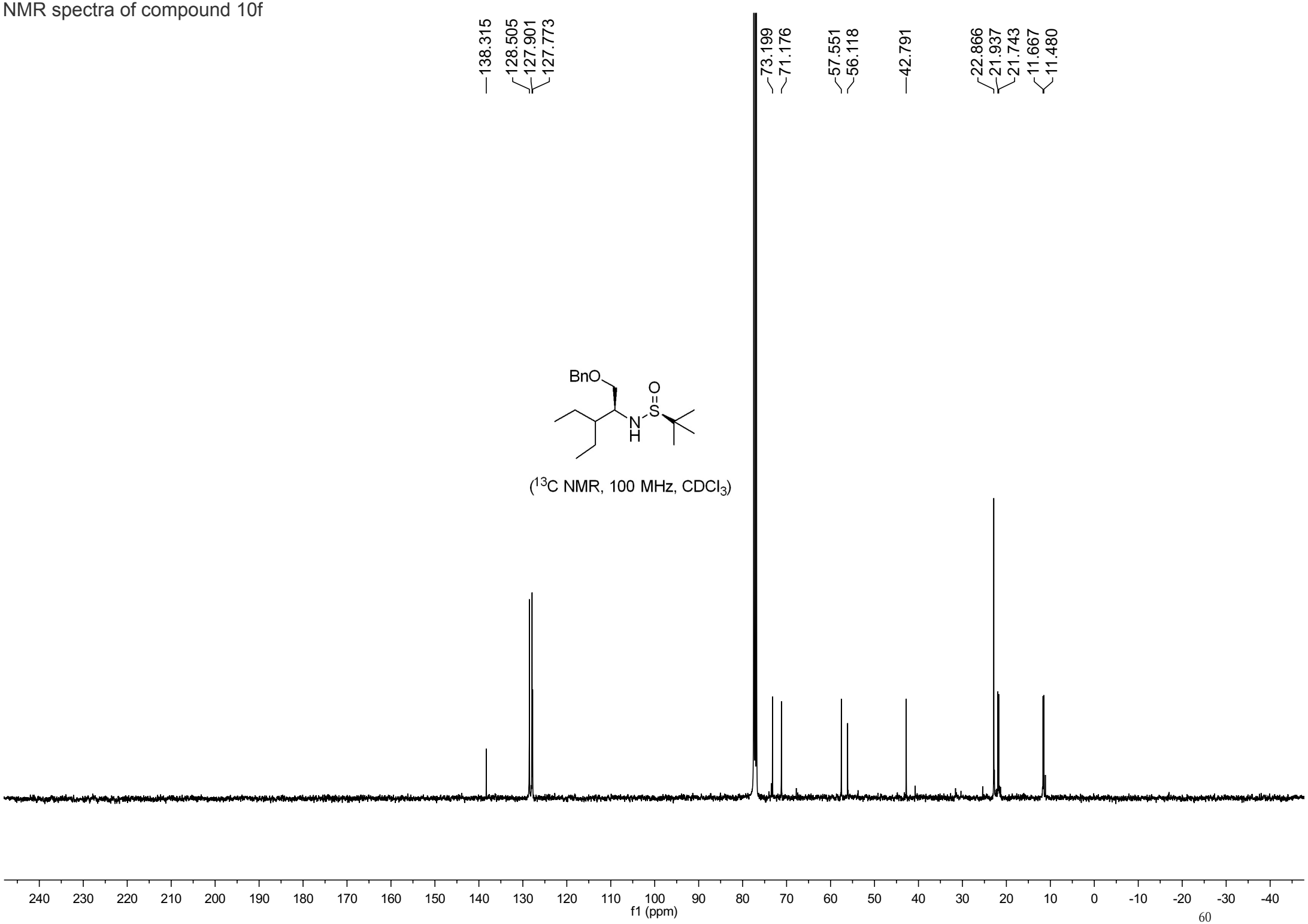
NMR spectra of compound 10e



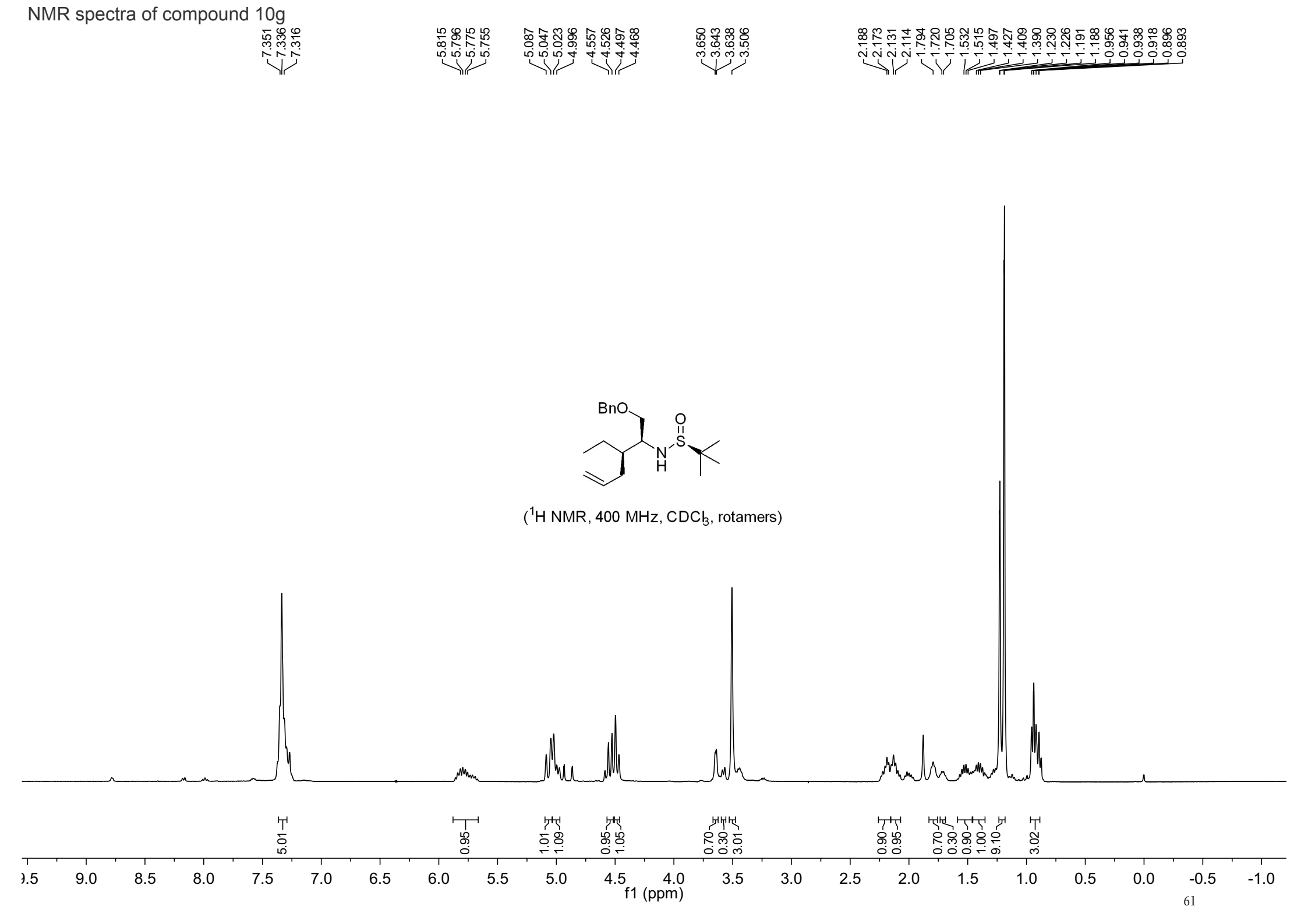
NMR spectra of compound 10f



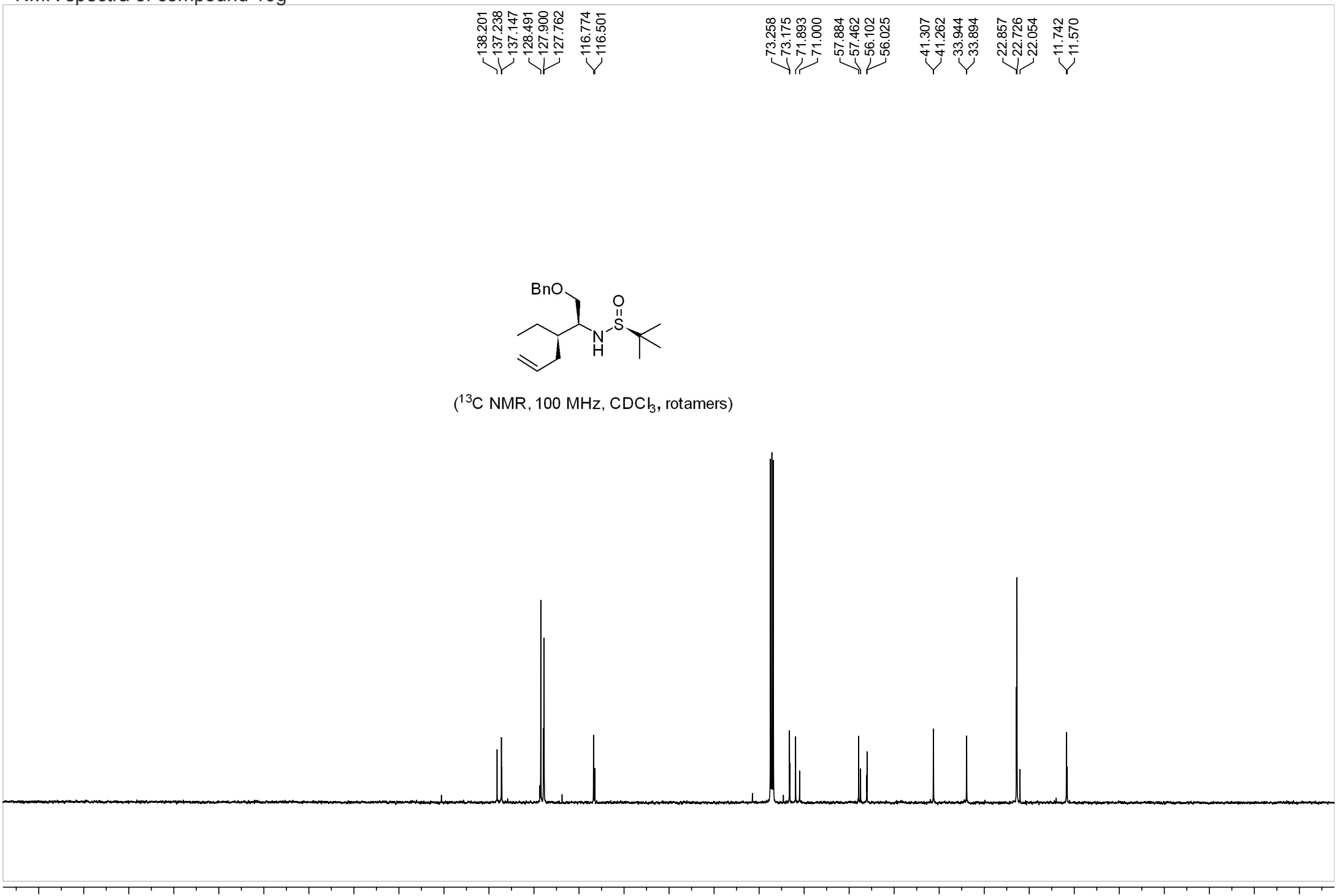
NMR spectra of compound 10f



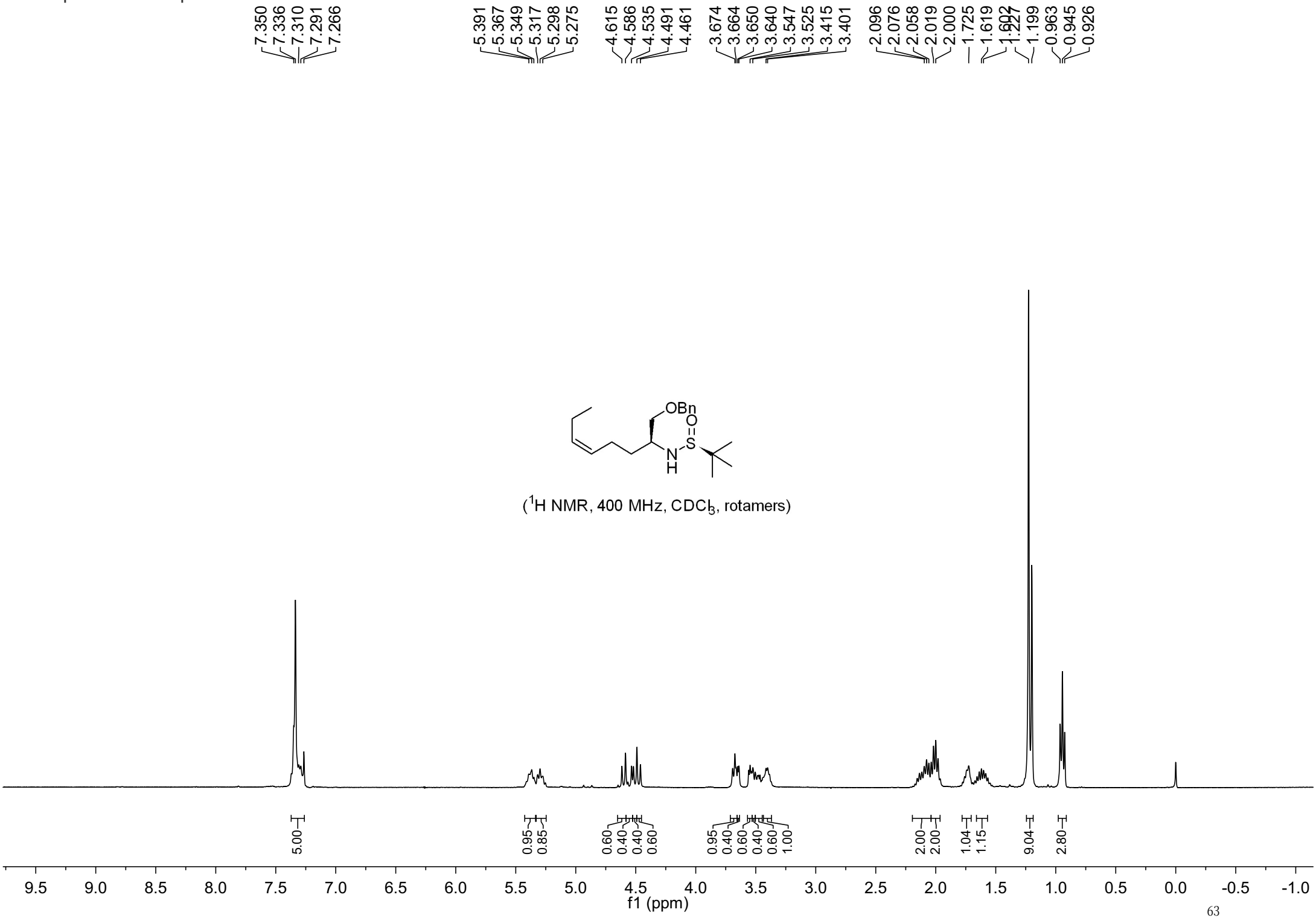
NMR spectra of compound 10g



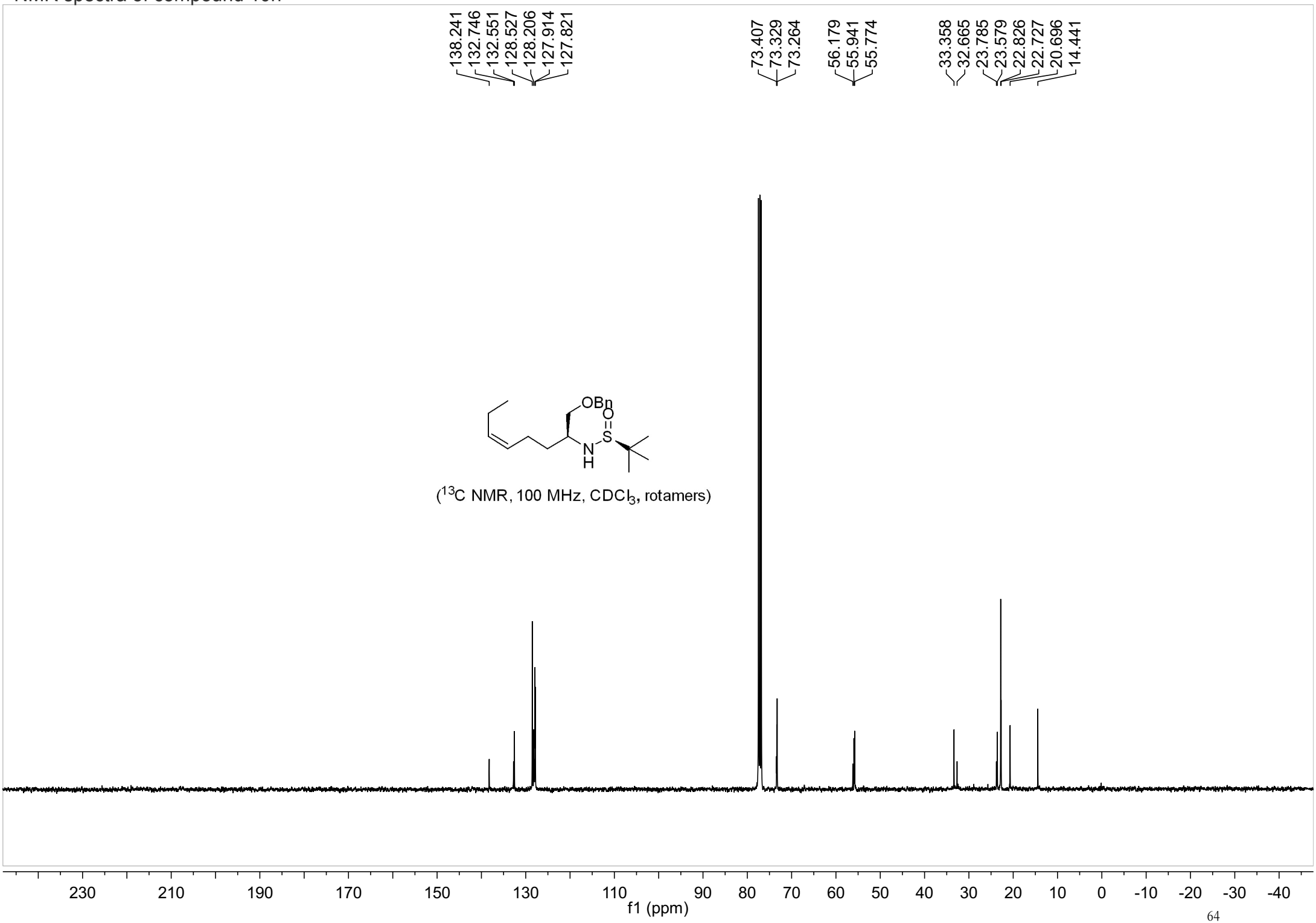
NMR spectra of compound 10g



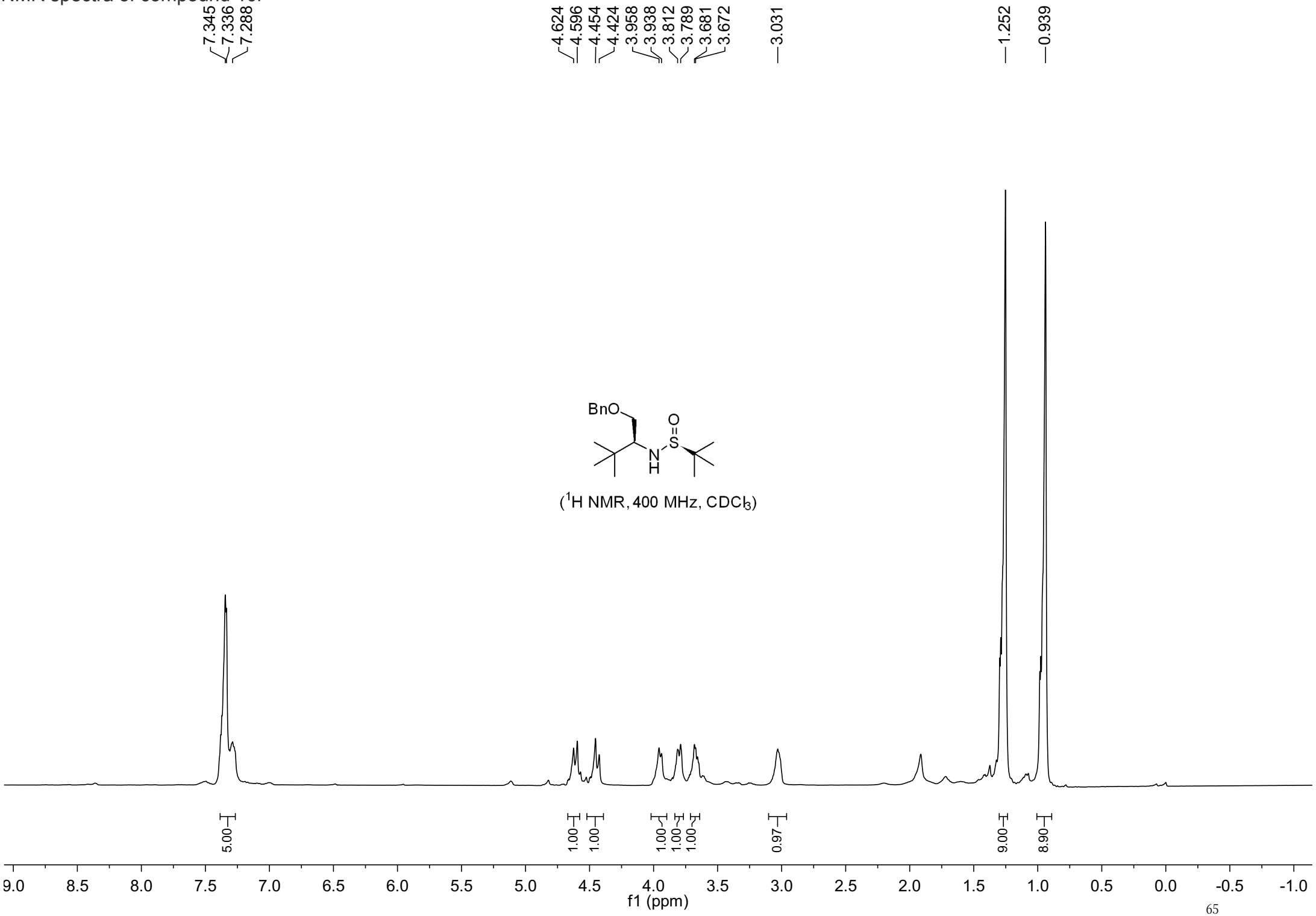
NMR spectra of compound 10h



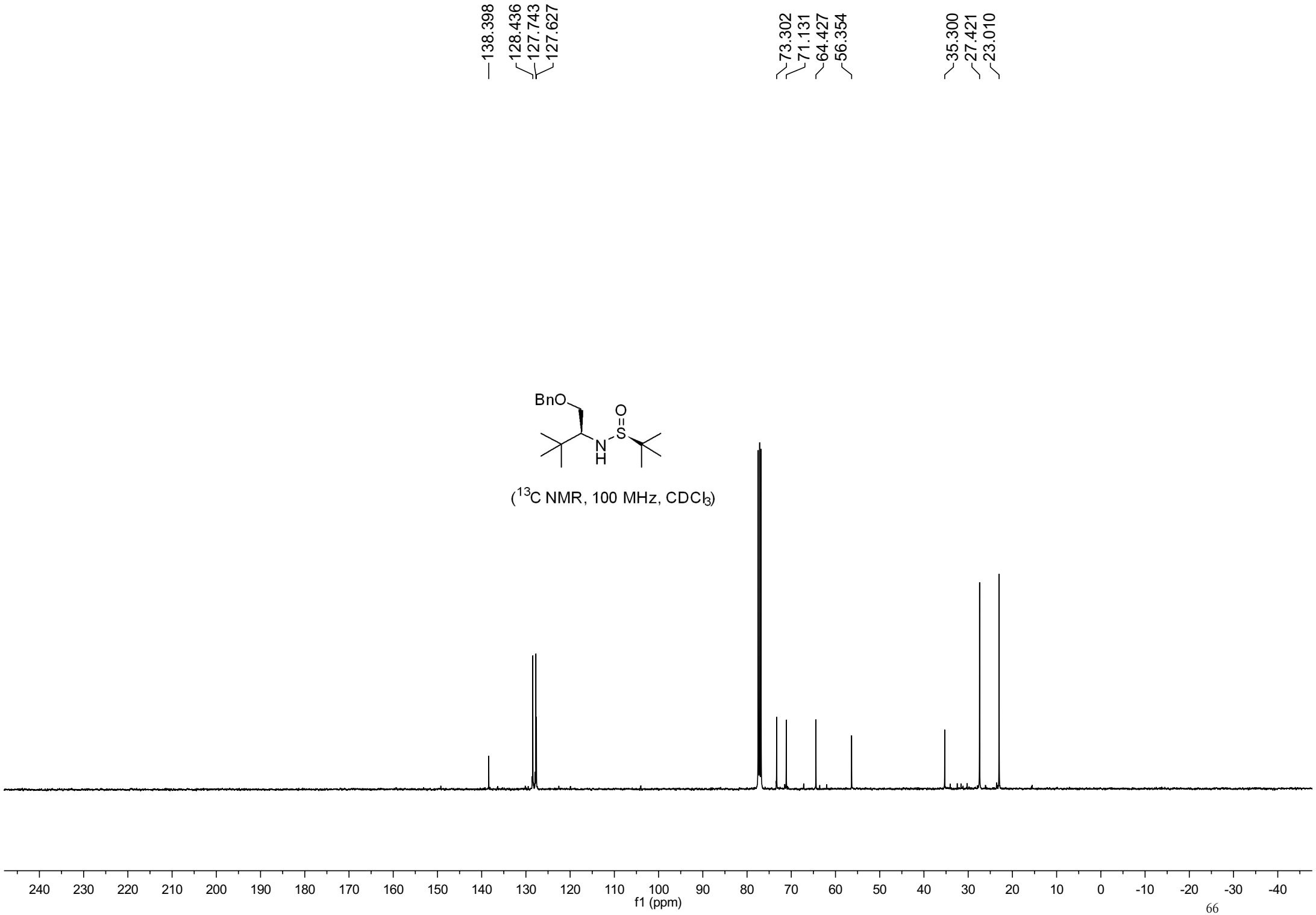
NMR spectra of compound 10h



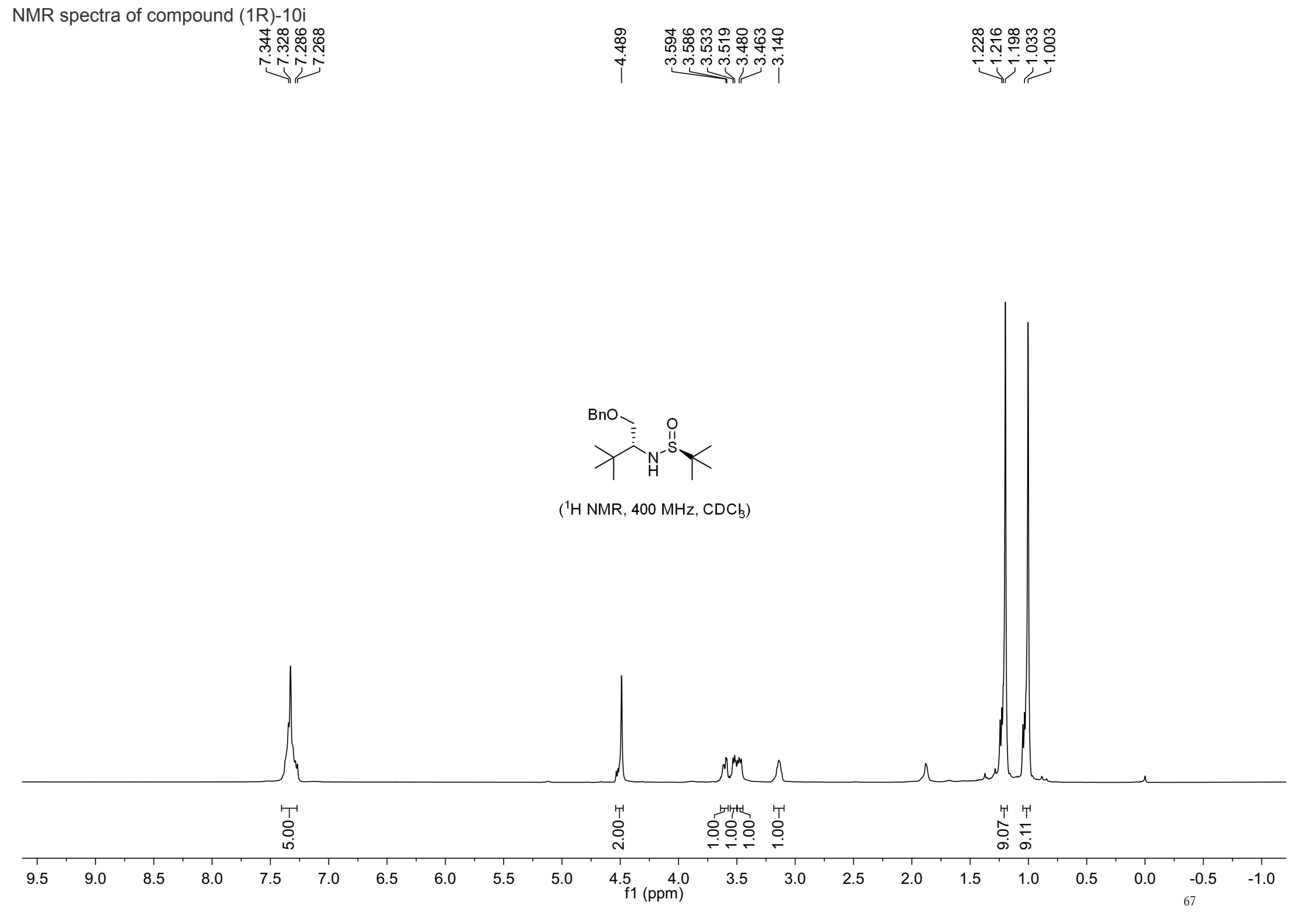
NMR spectra of compound 10i



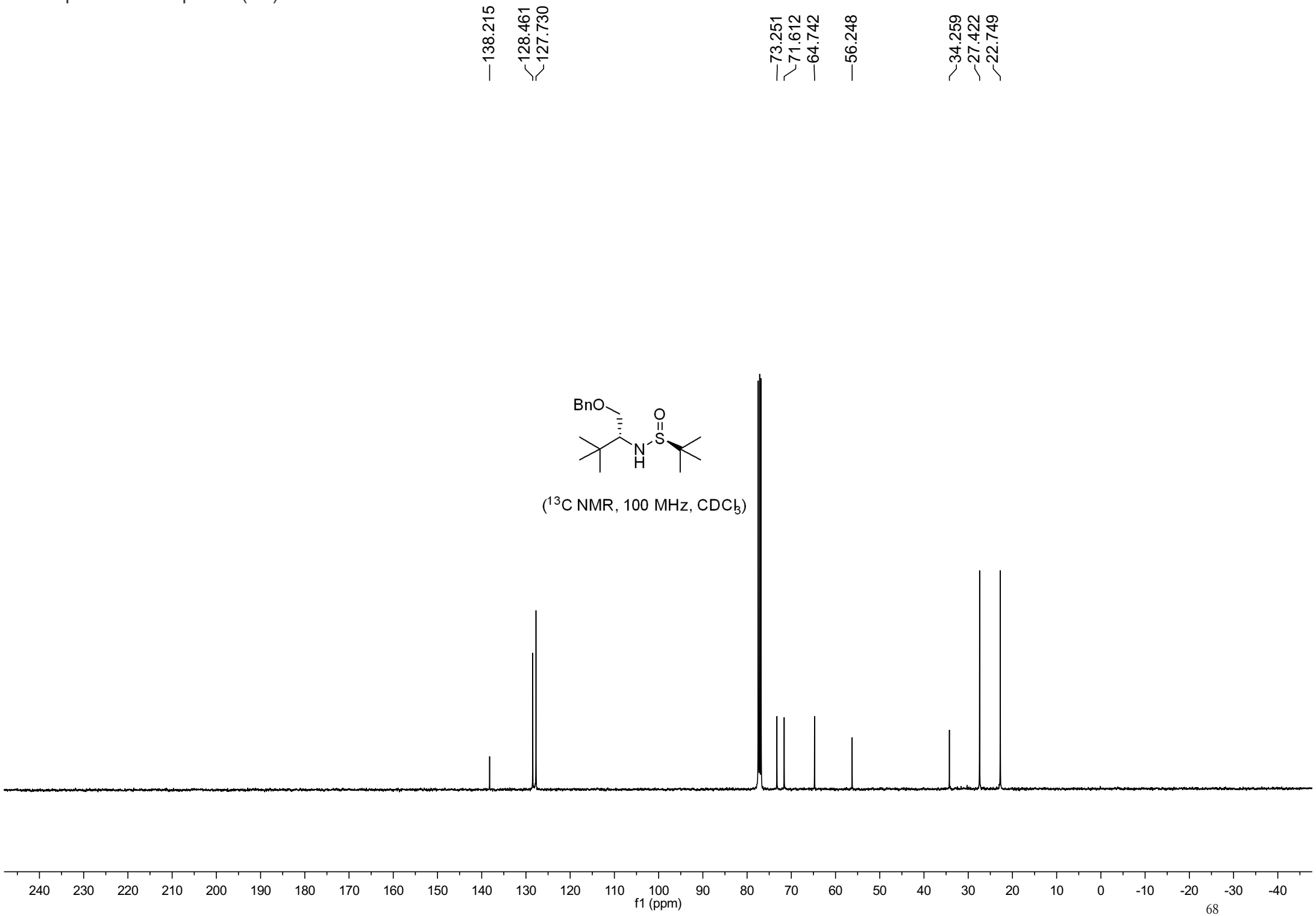
NMR spectra of compound 10i



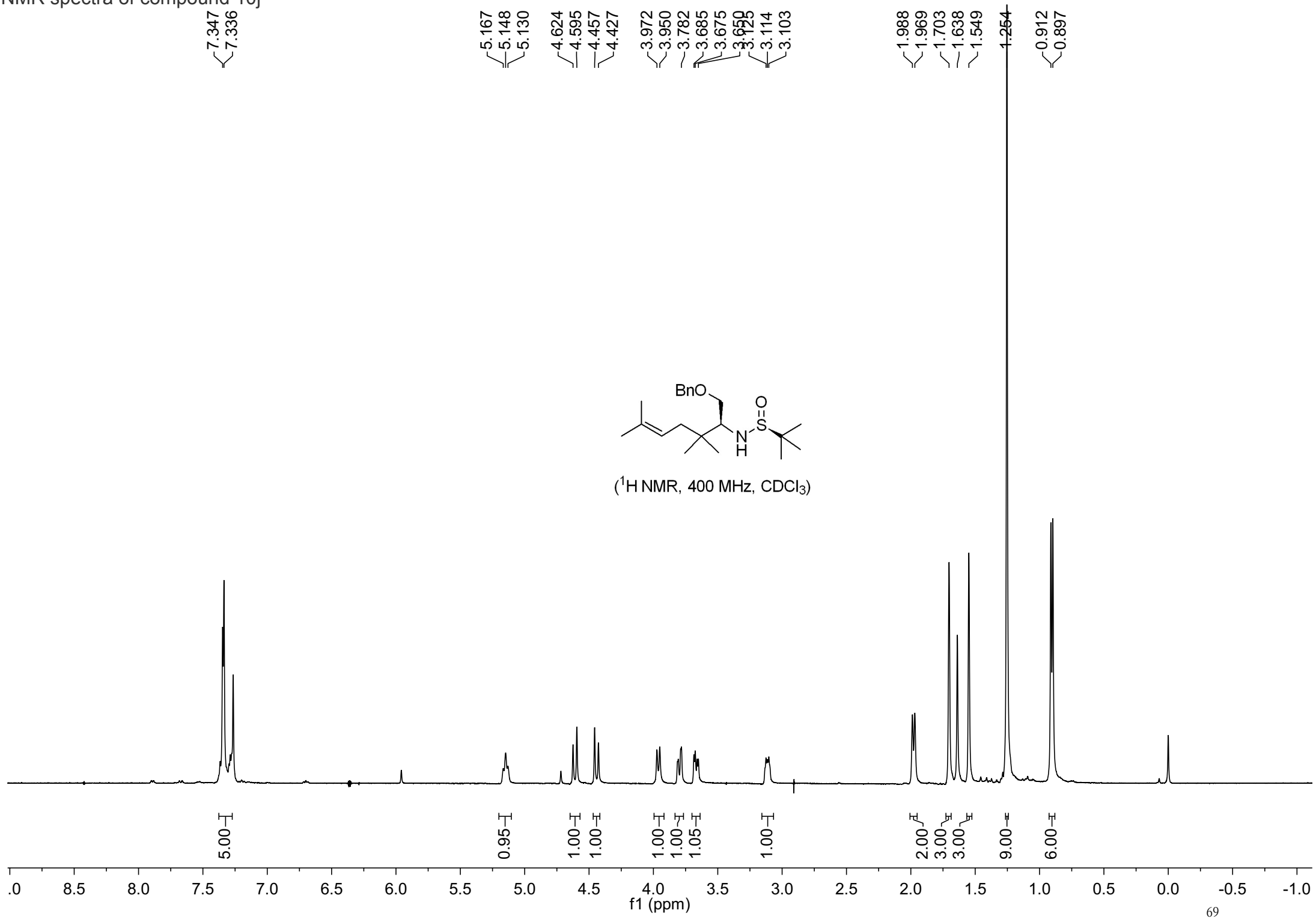
NMR spectra of compound (1R)-10i



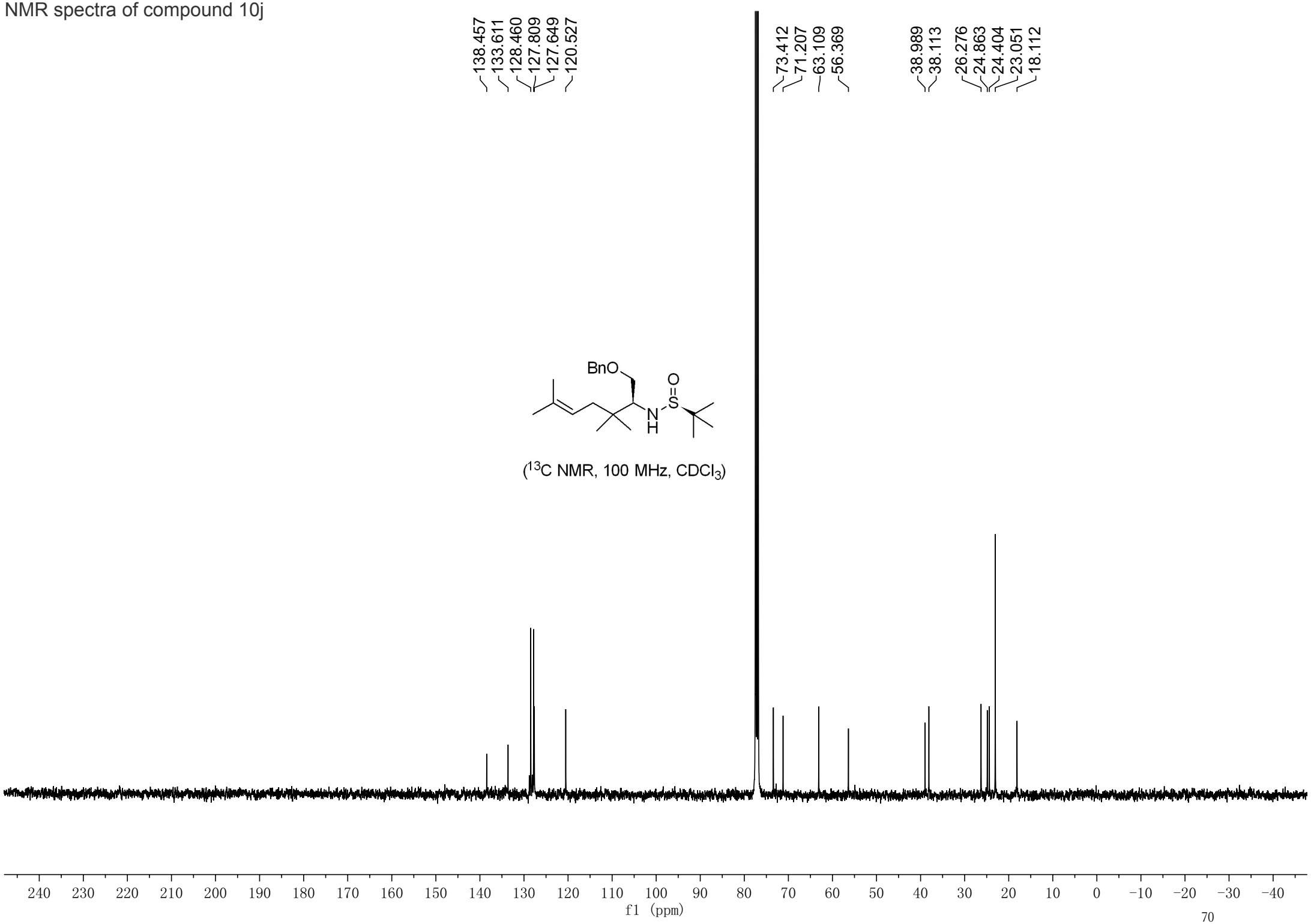
NMR spectra of compound (1R)-10i



NMR spectra of compound 10j

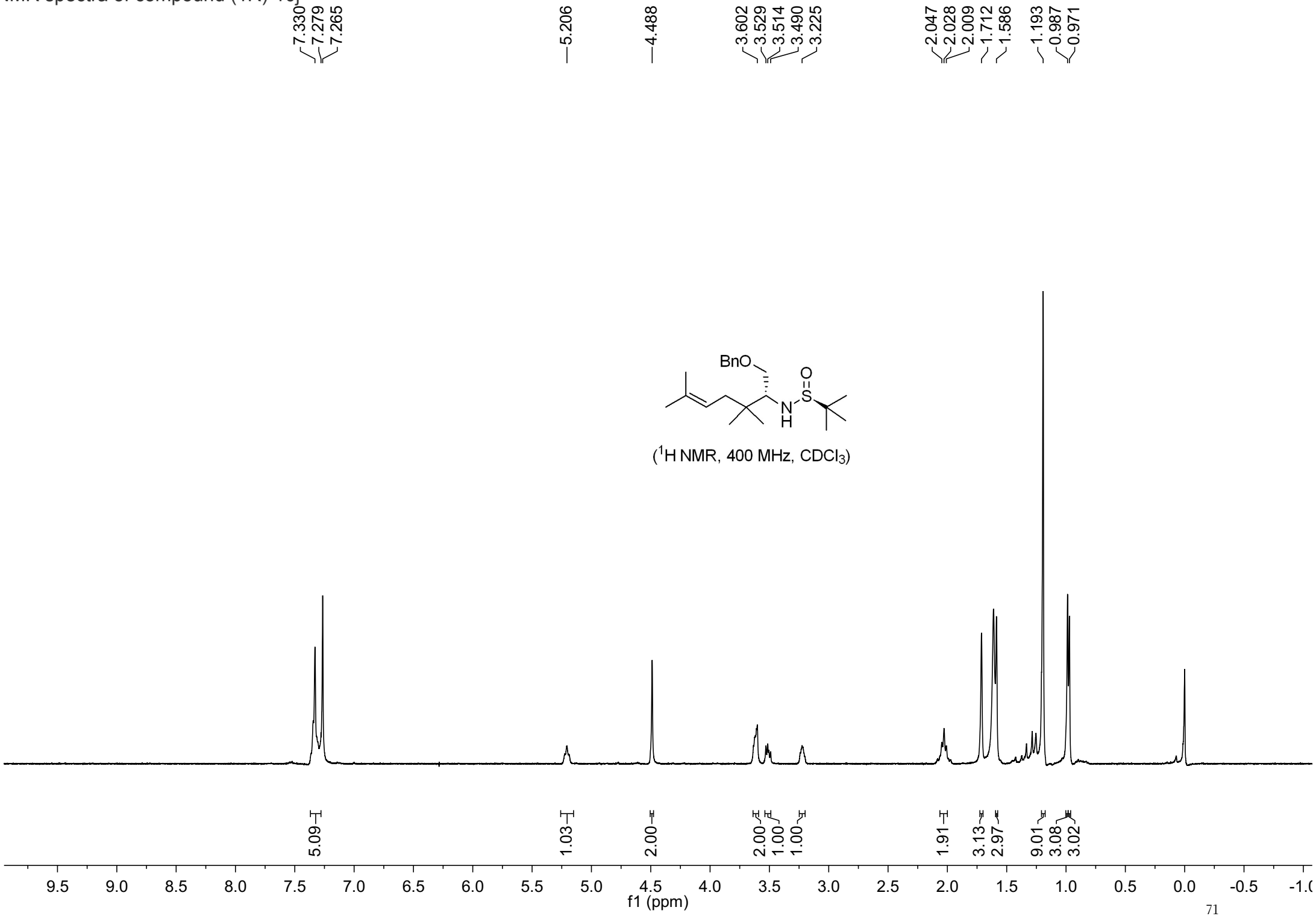


NMR spectra of compound 10j

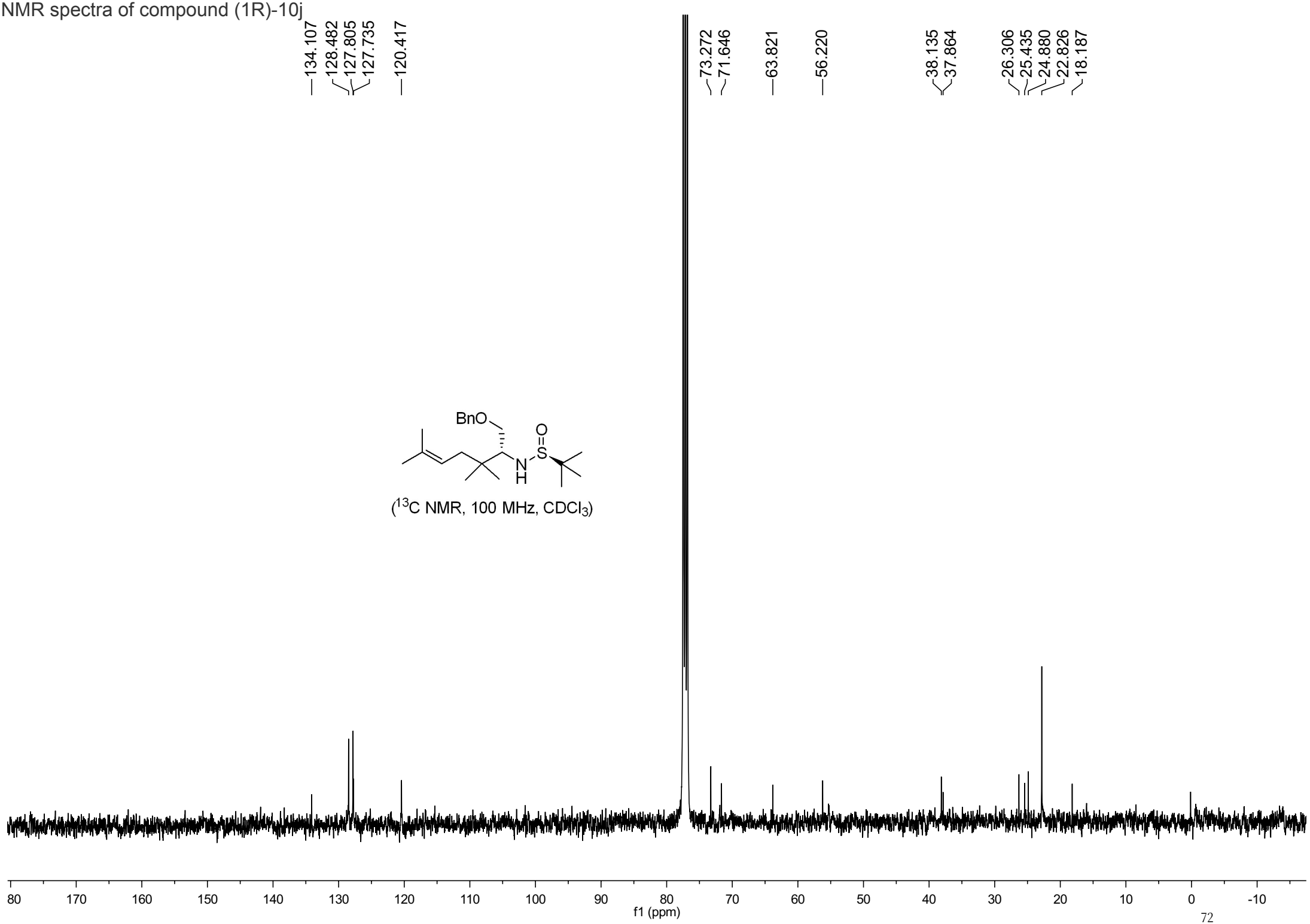


(^{13}C NMR, 100 MHz, $CDCl_3$)

NMR spectra of compound (1R)-10j

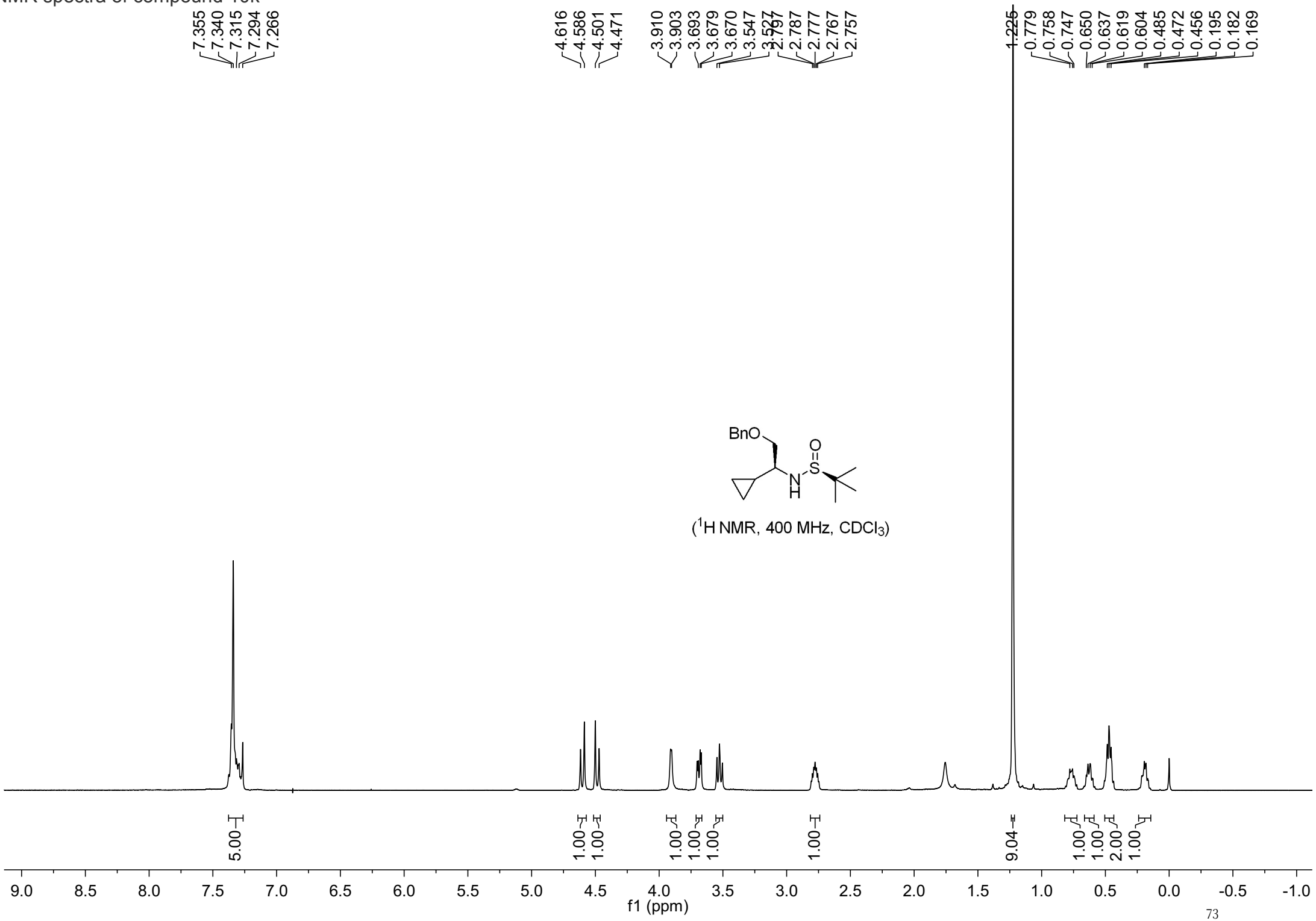


NMR spectra of compound (1R)-10j

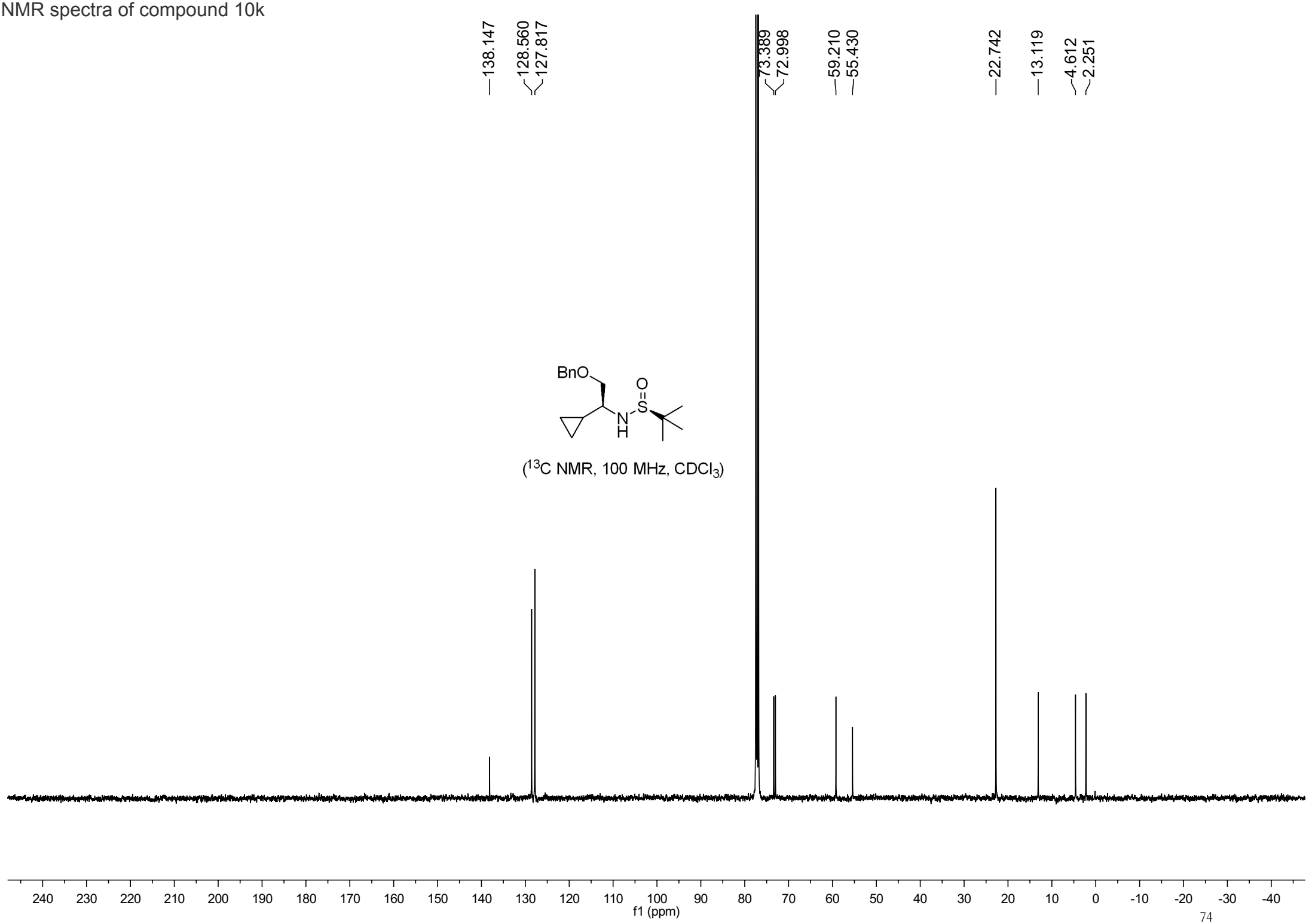


(^{13}C NMR, 100 MHz, $CDCl_3$)

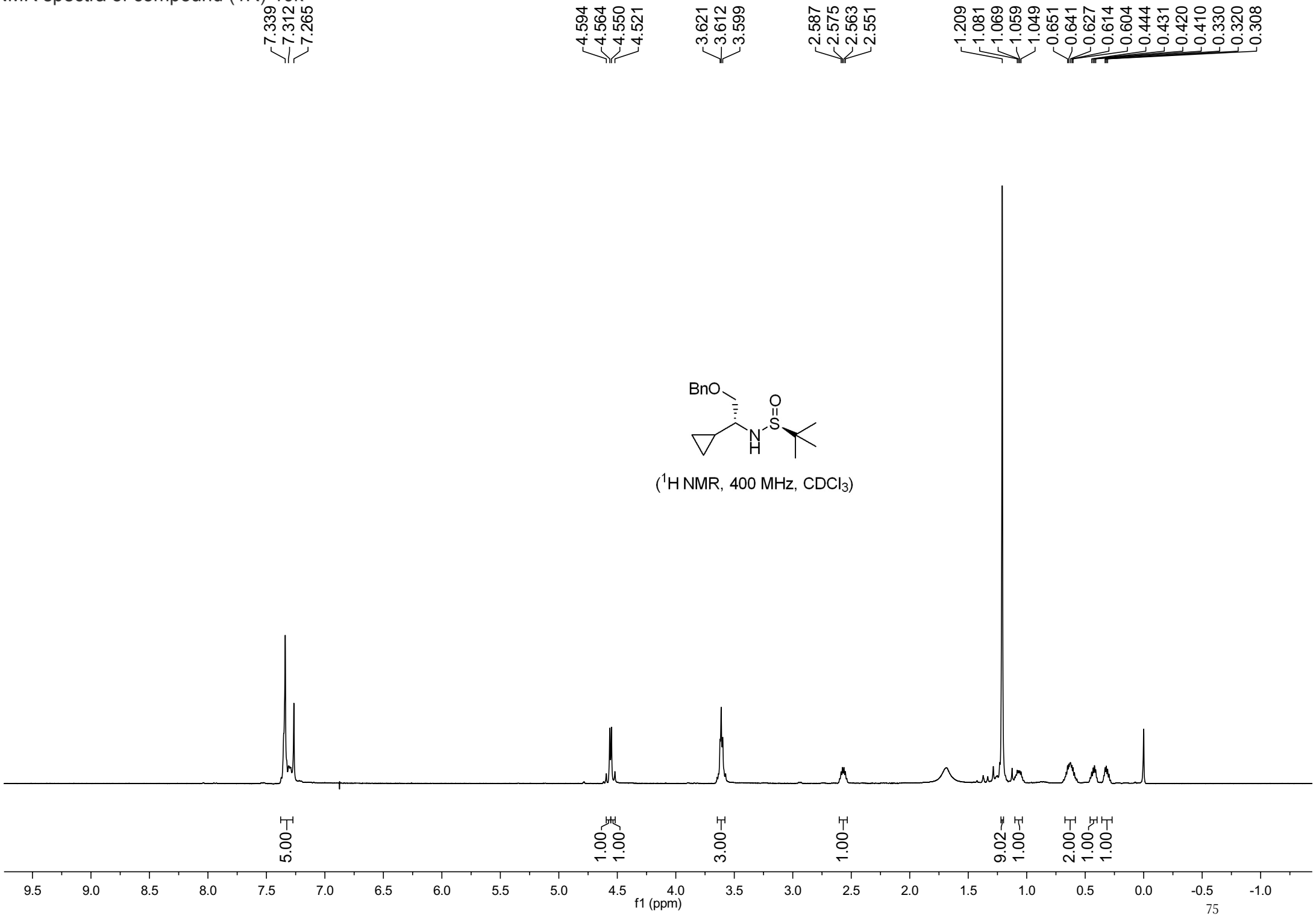
NMR spectra of compound 10k



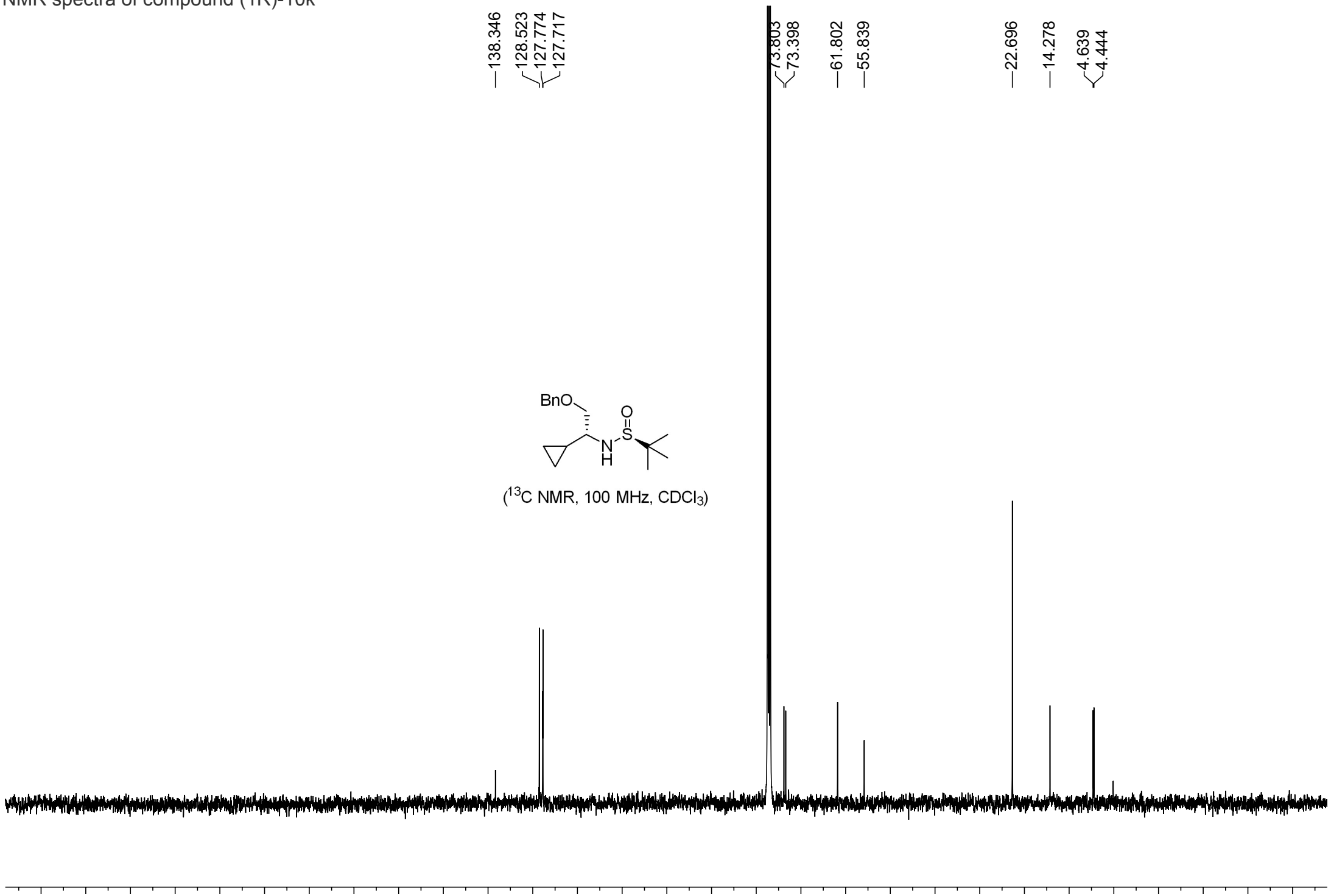
NMR spectra of compound 10k



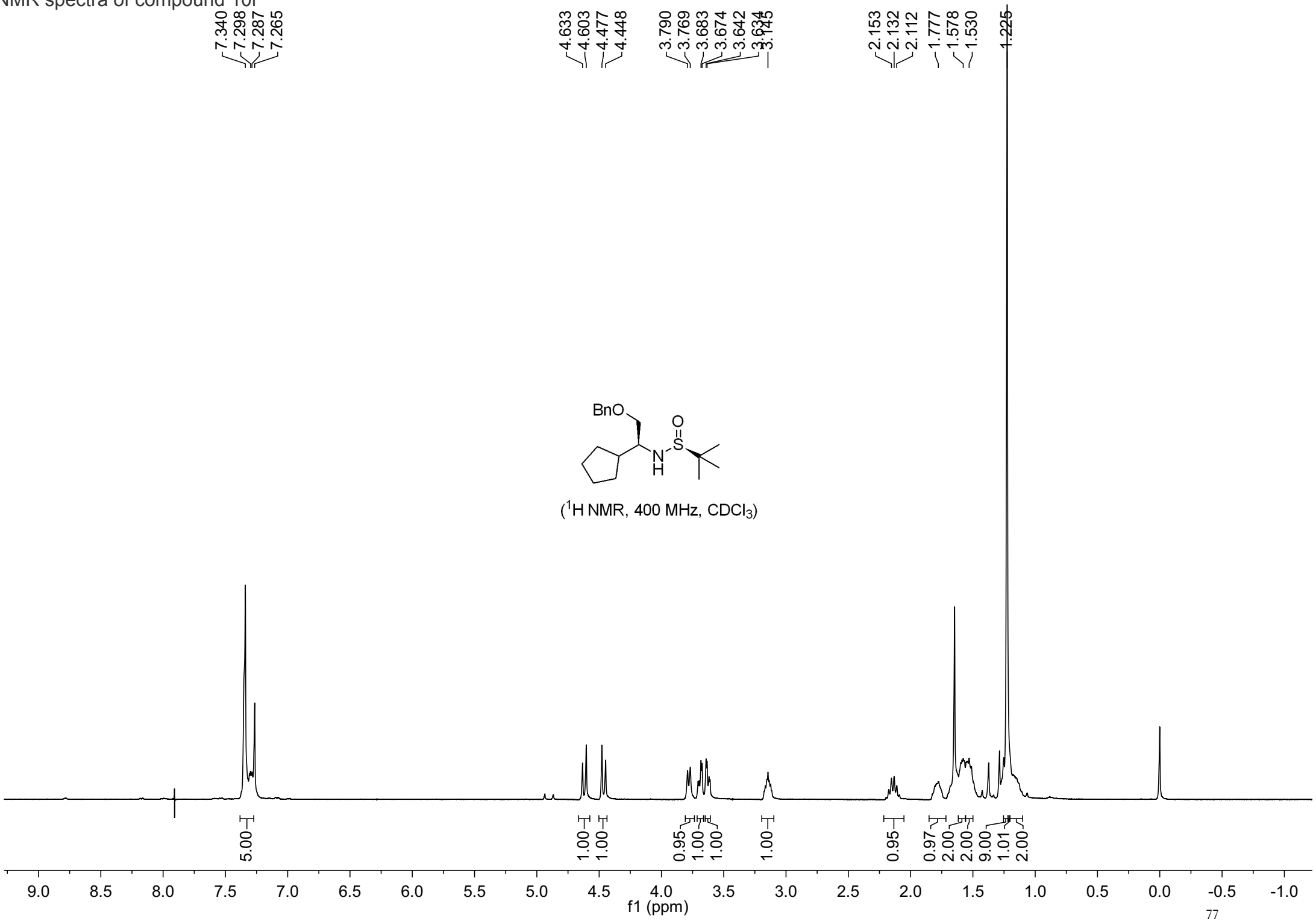
NMR spectra of compound (1R)-10k



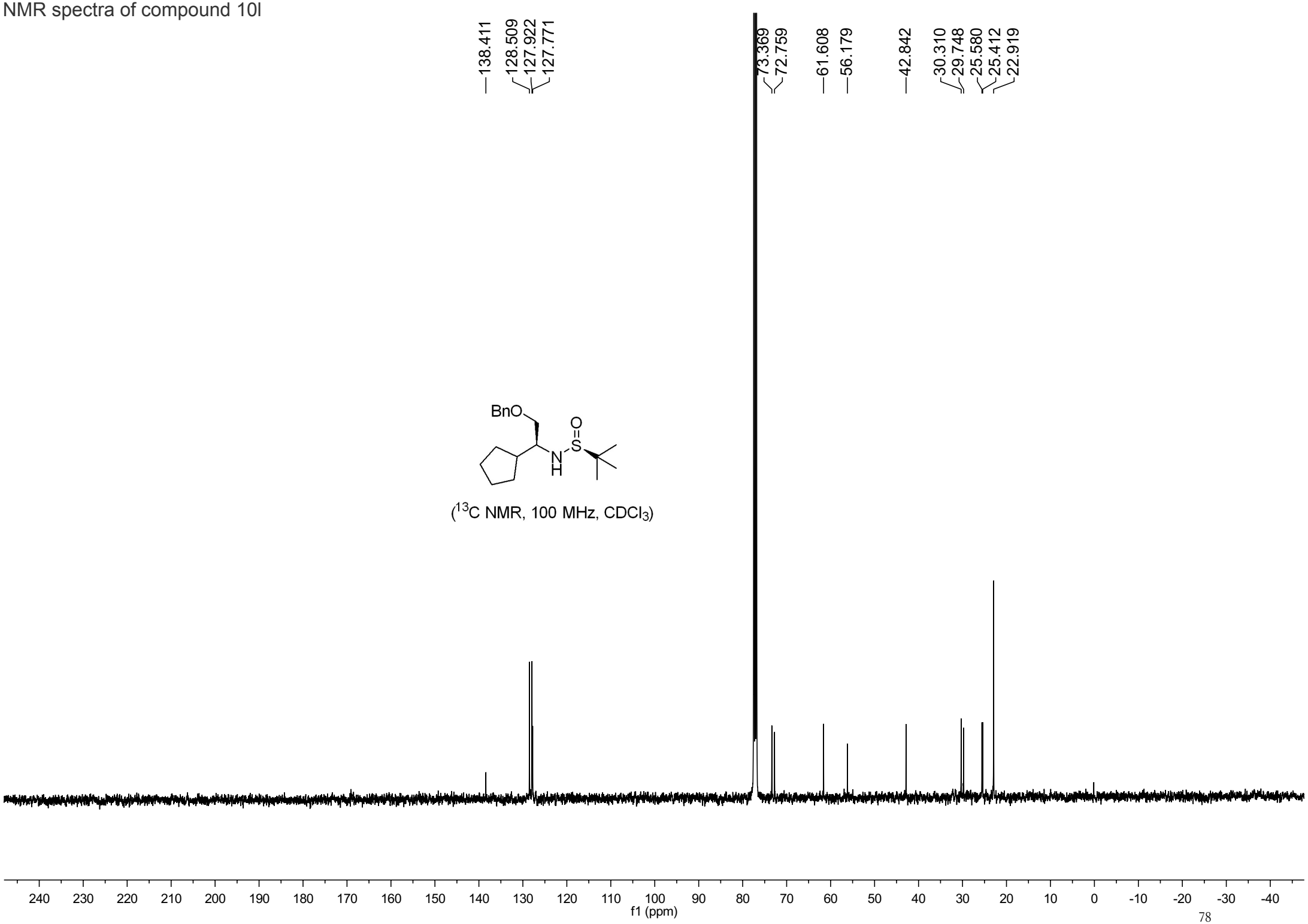
NMR spectra of compound (1R)-10k



NMR spectra of compound 10l

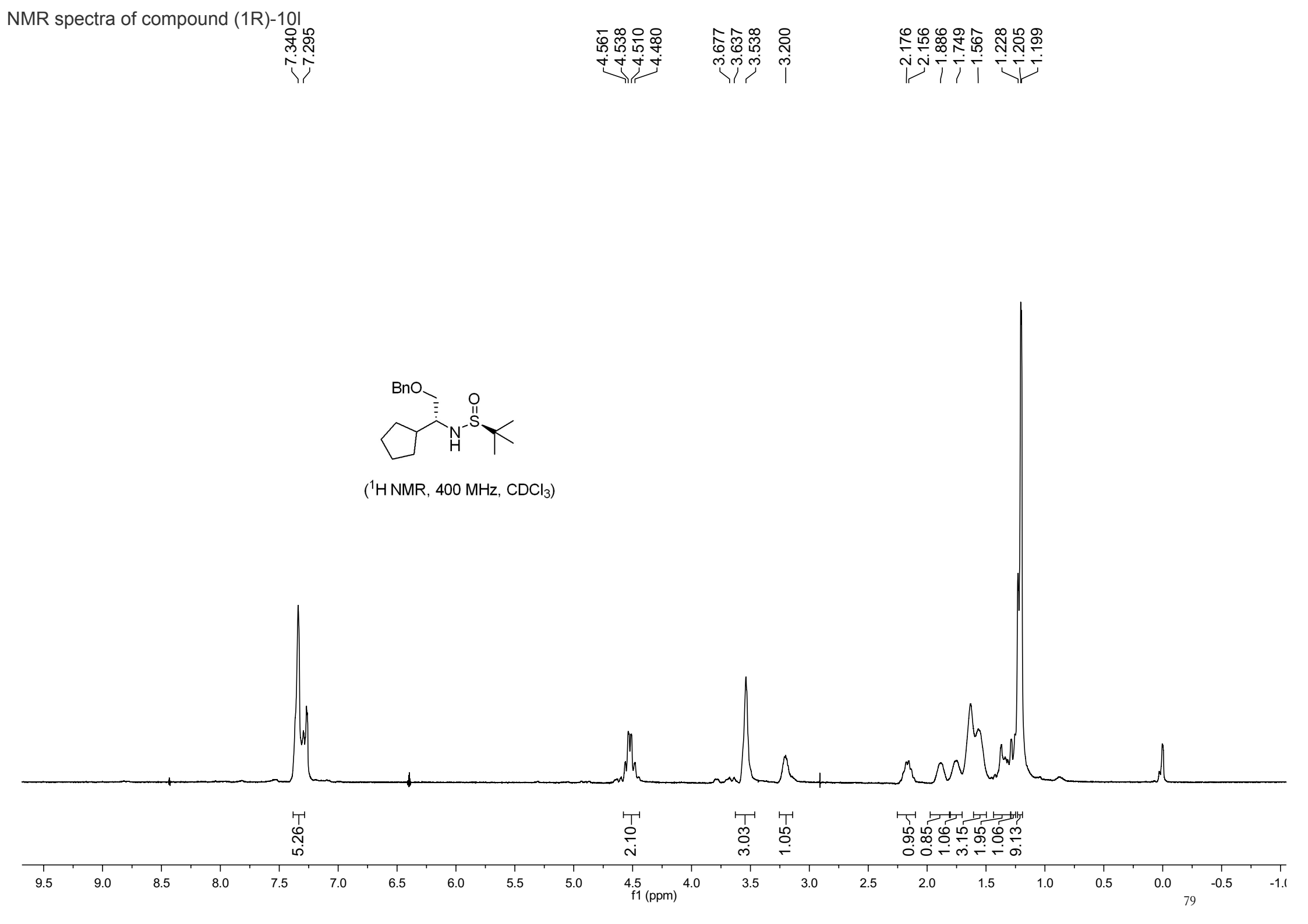


NMR spectra of compound 10l

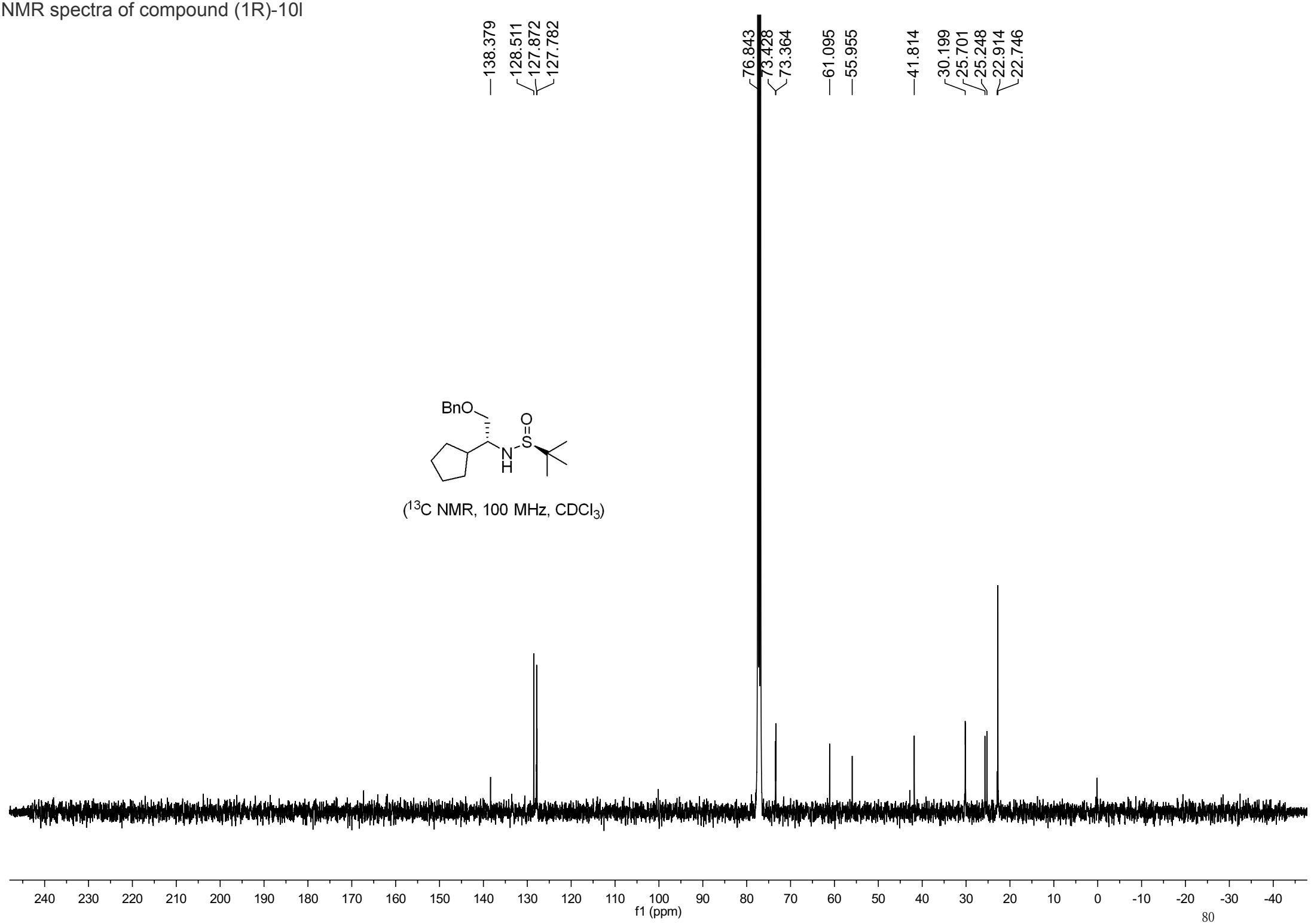


(^{13}C NMR, 100 MHz, $CDCl_3$)

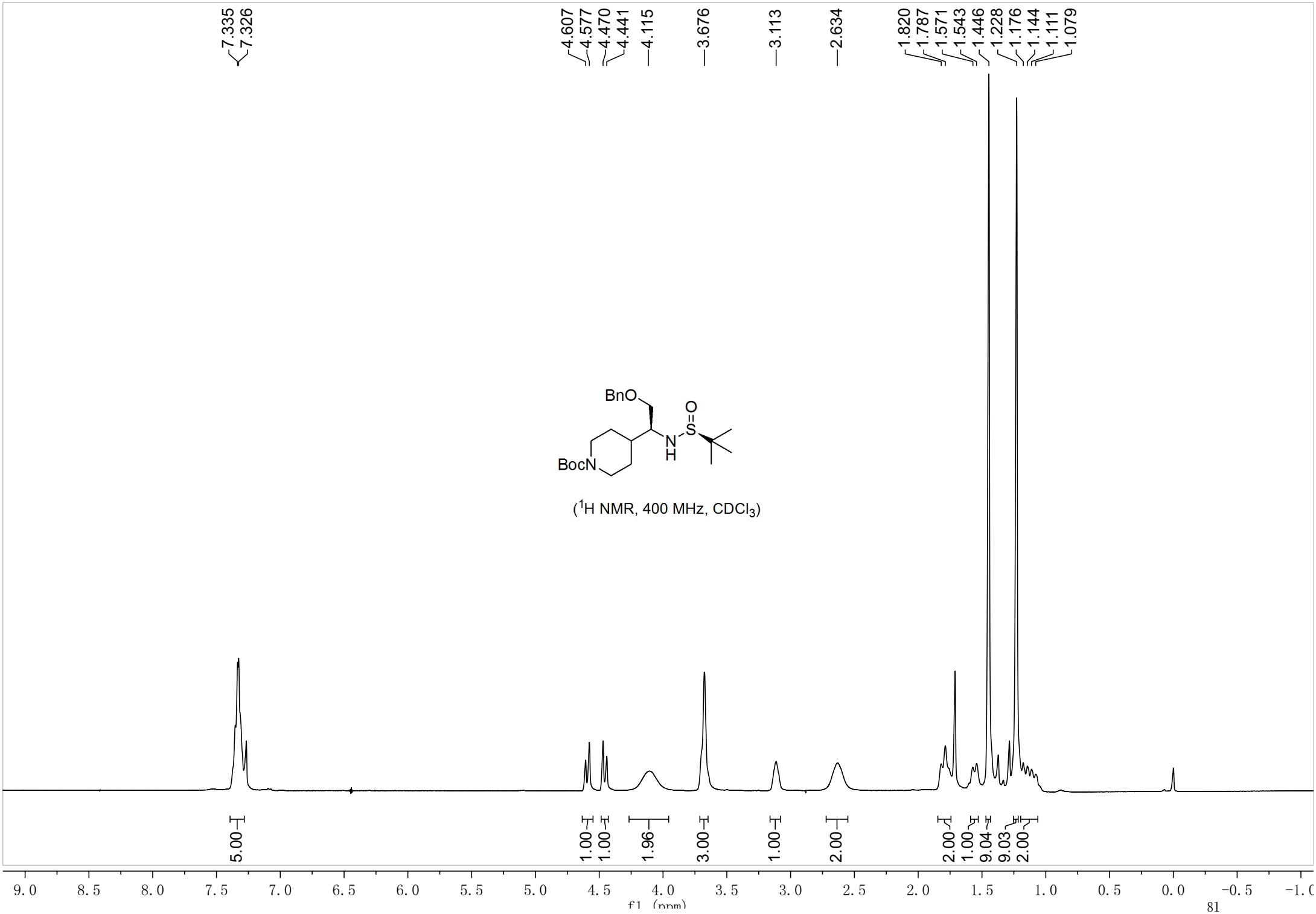
NMR spectra of compound (1R)-10l



NMR spectra of compound (1R)-10l

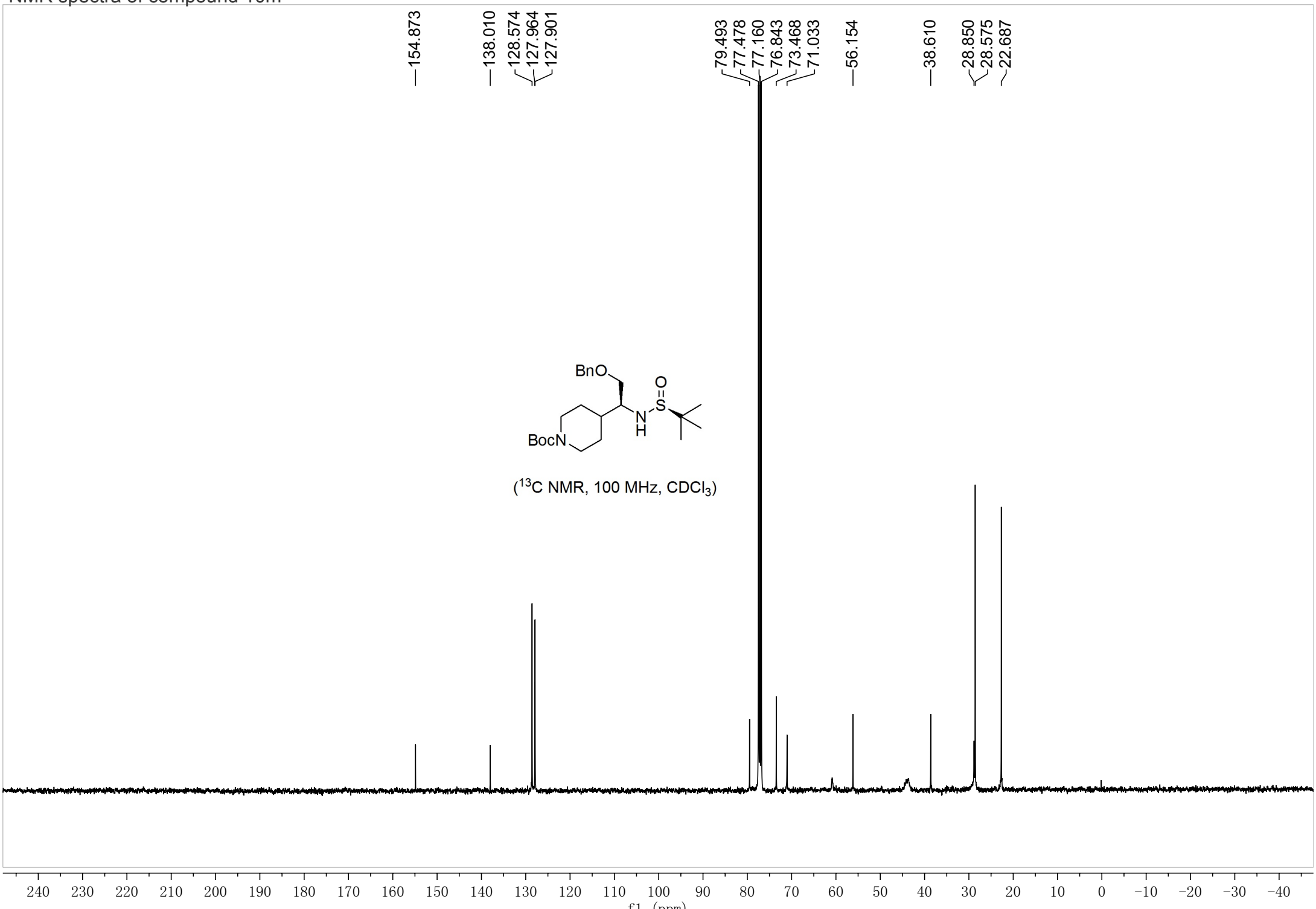


NMR spectra of compound 10m

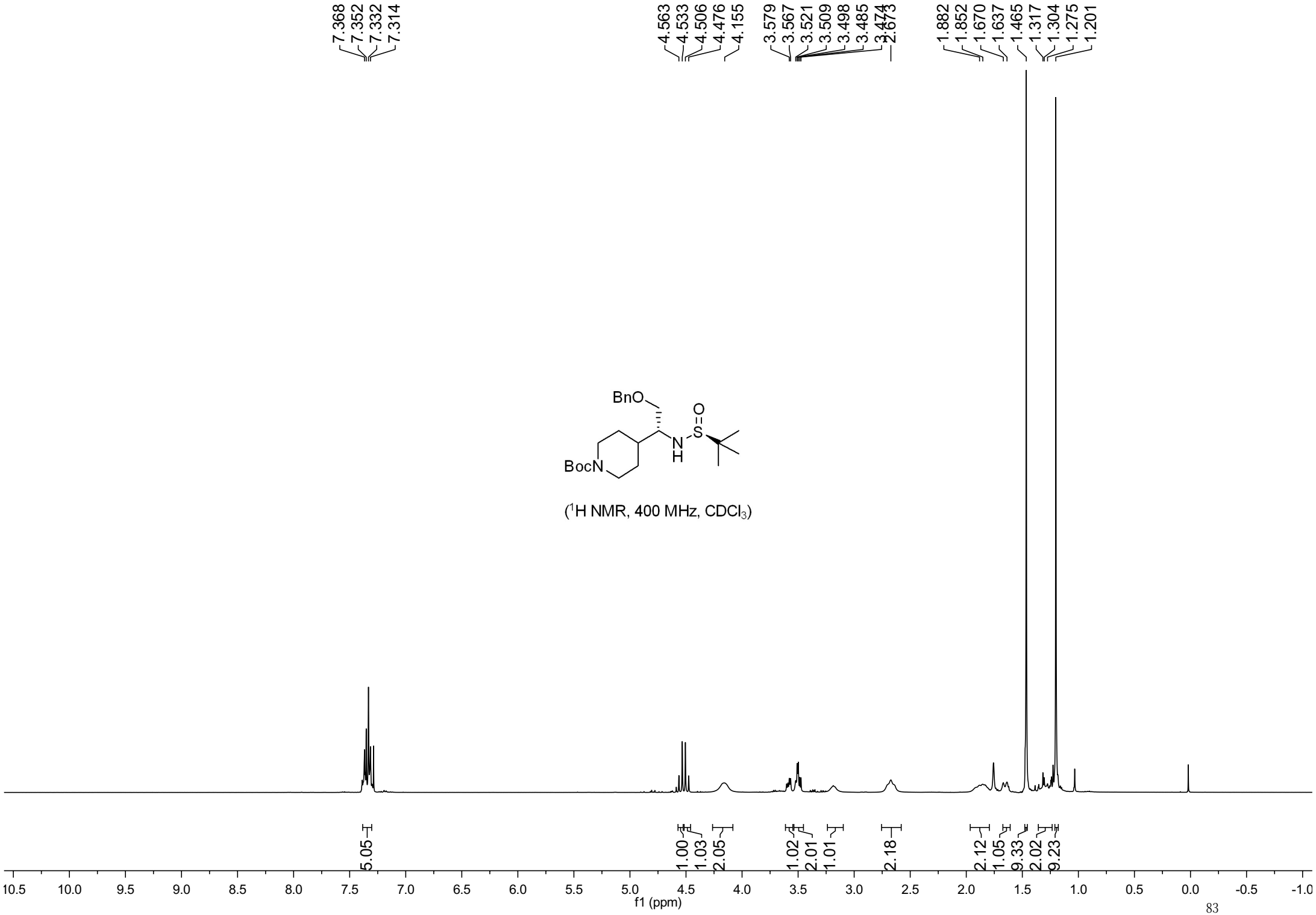


(^{1}H NMR, 400 MHz, $CDCl_3$)

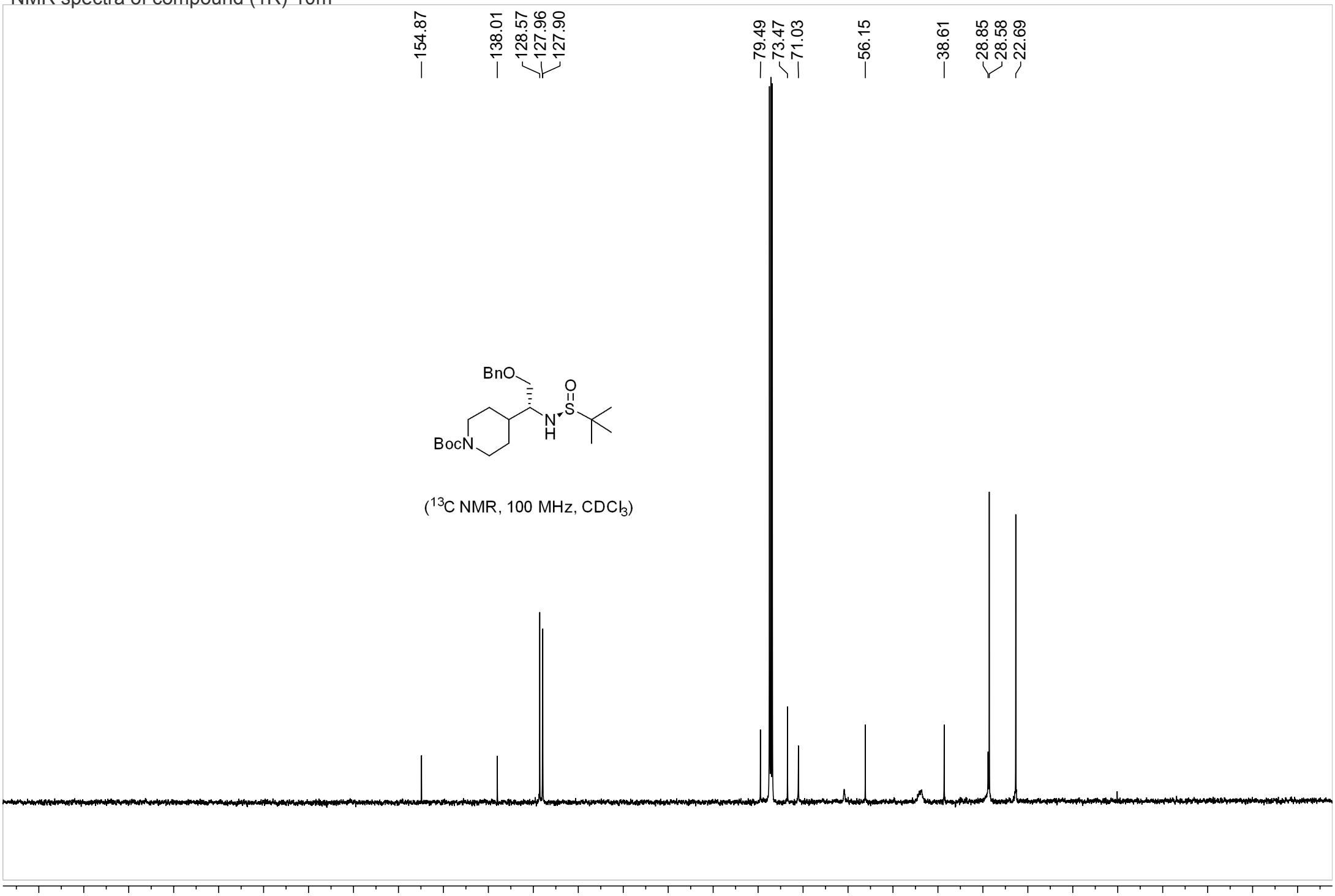
NMR spectra of compound 10m



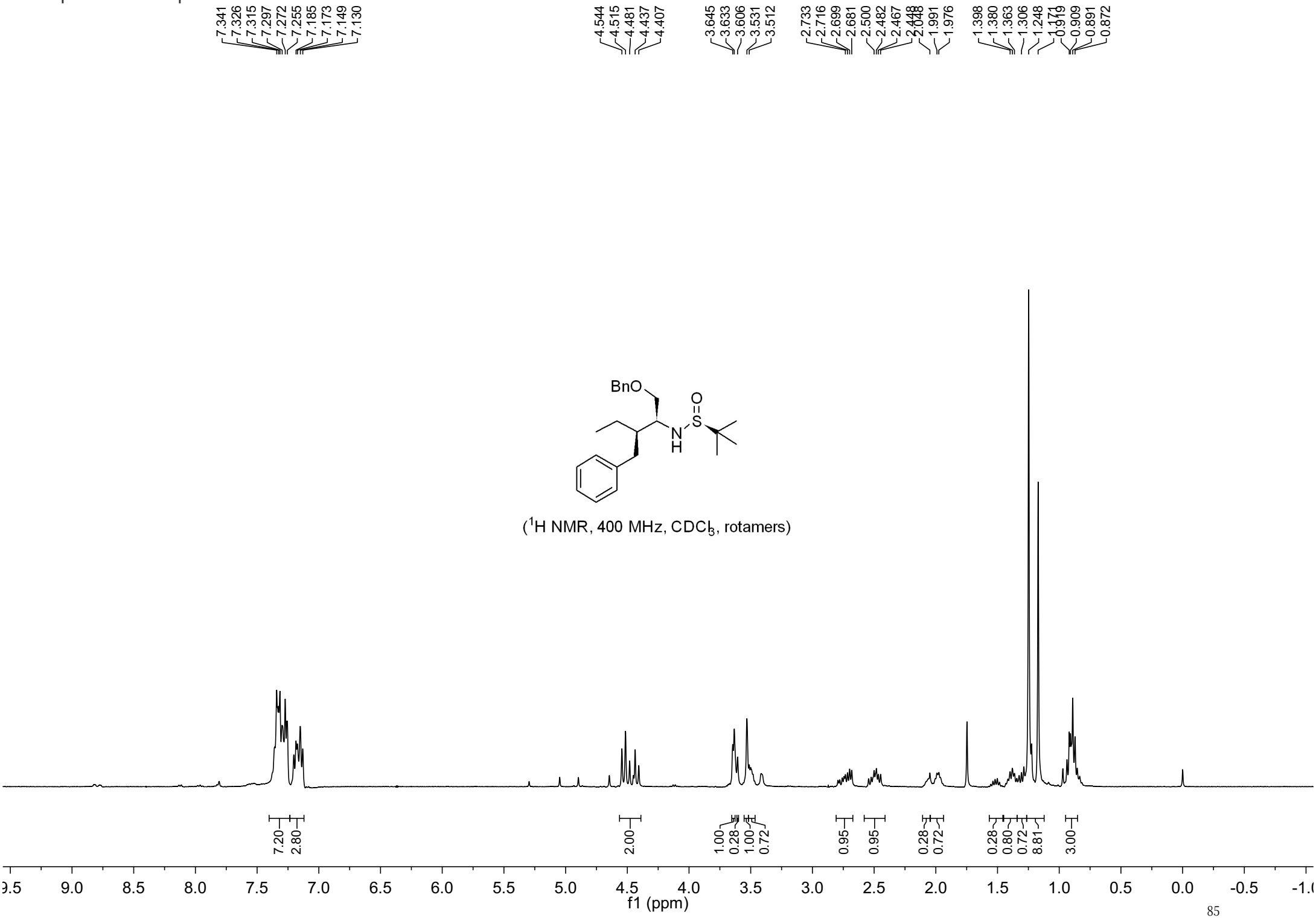
NMR spectra of compound (1R)-10m



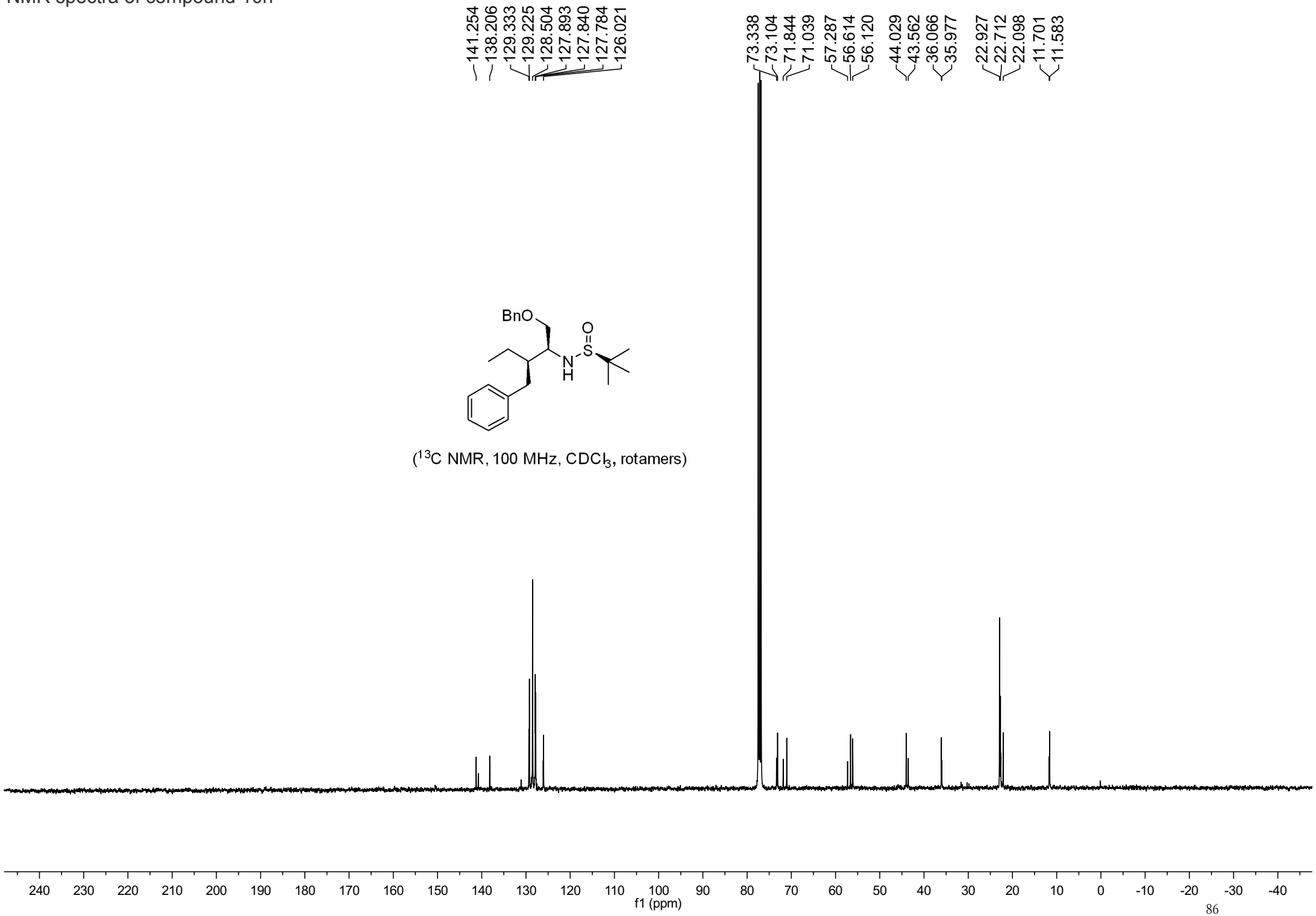
NMR spectra of compound (1R)-10m



NMR spectra of compound 10n

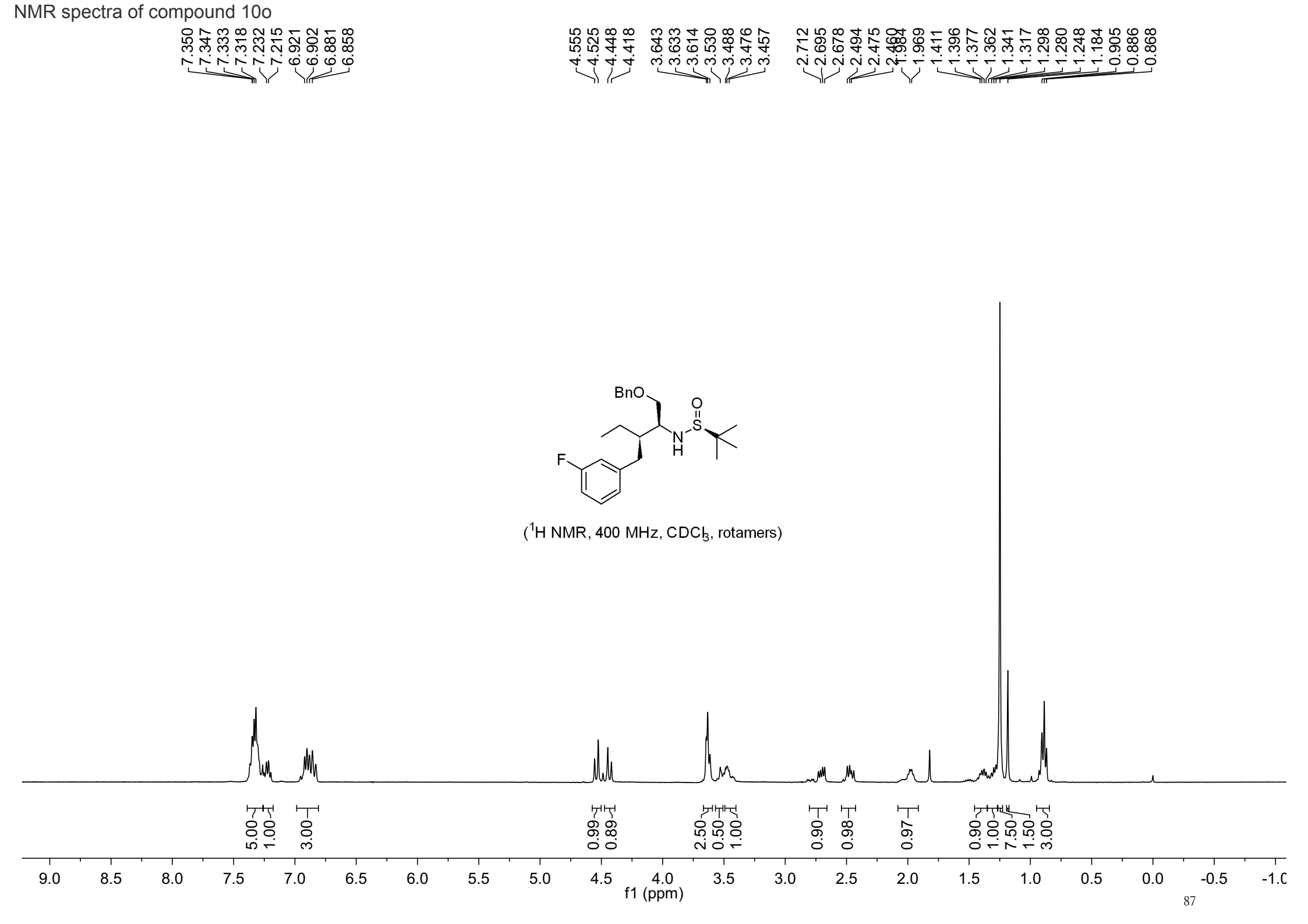


NMR spectra of compound 10n

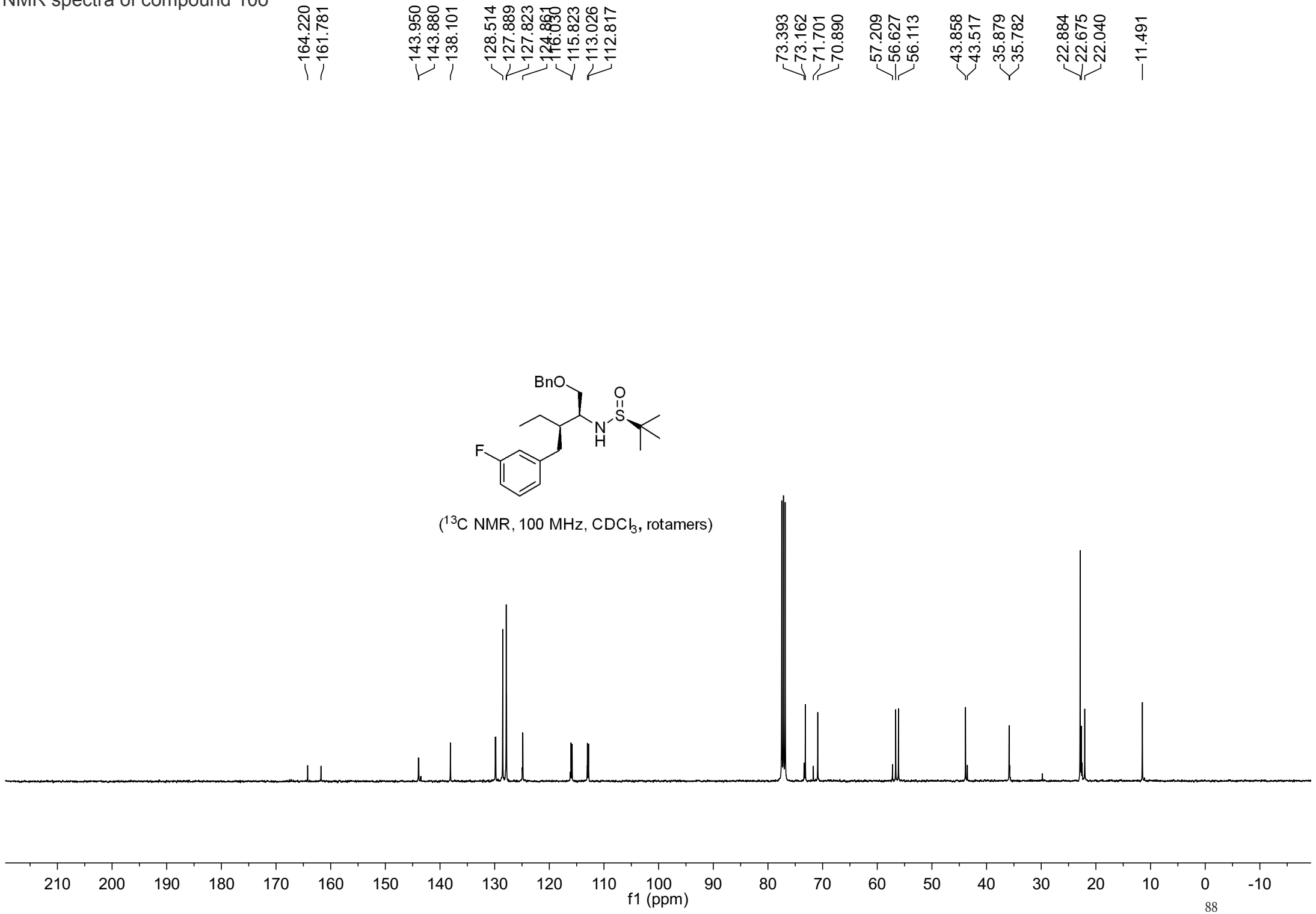


(^{13}C NMR, 100 MHz, $CDCl_3$, rotamers)

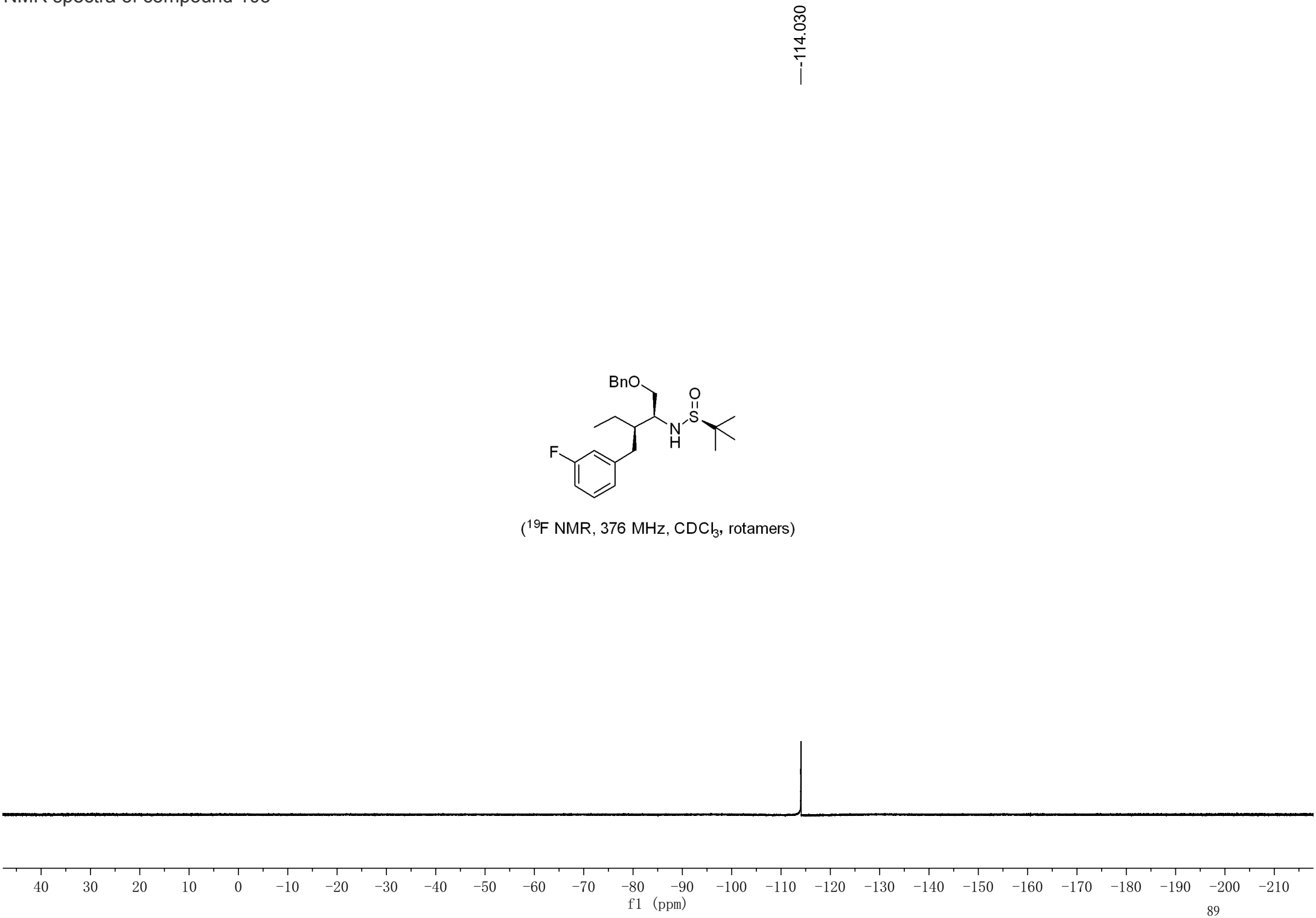
NMR spectra of compound 10o



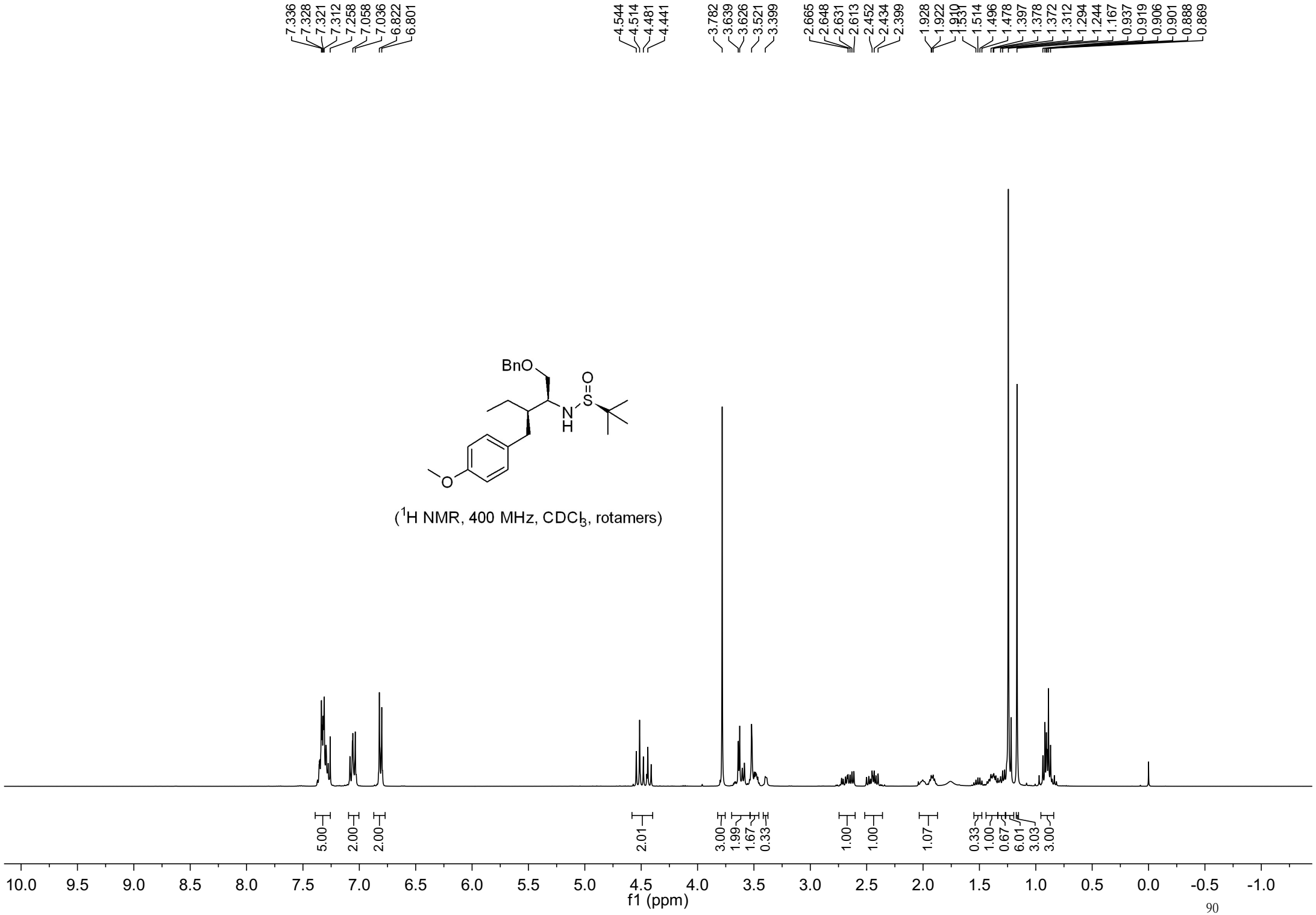
NMR spectra of compound 10o



(^{19}F NMR, 376 MHz, $CDCl_3$, rotamers)



NMR spectra of compound 10p



NMR spectra of compound 10p

157.996
157.935
138.223
133.157
132.635
130.198
130.068
128.482
127.867
127.811
127.755
113.904
73.312
73.092
71.878
71.115
57.307
56.577
56.104
56.057
55.351
44.157
43.711
35.133
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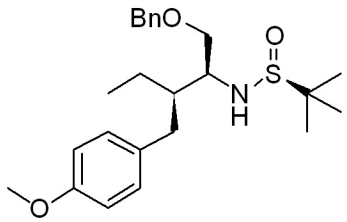
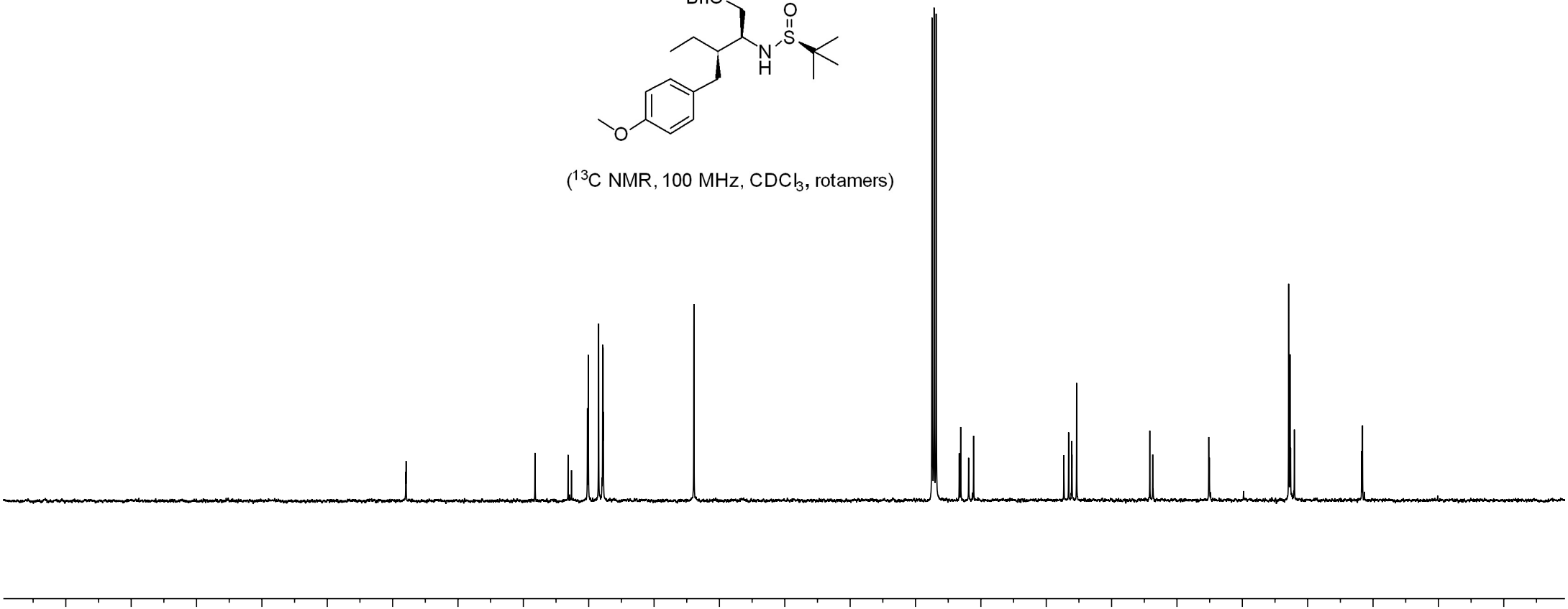
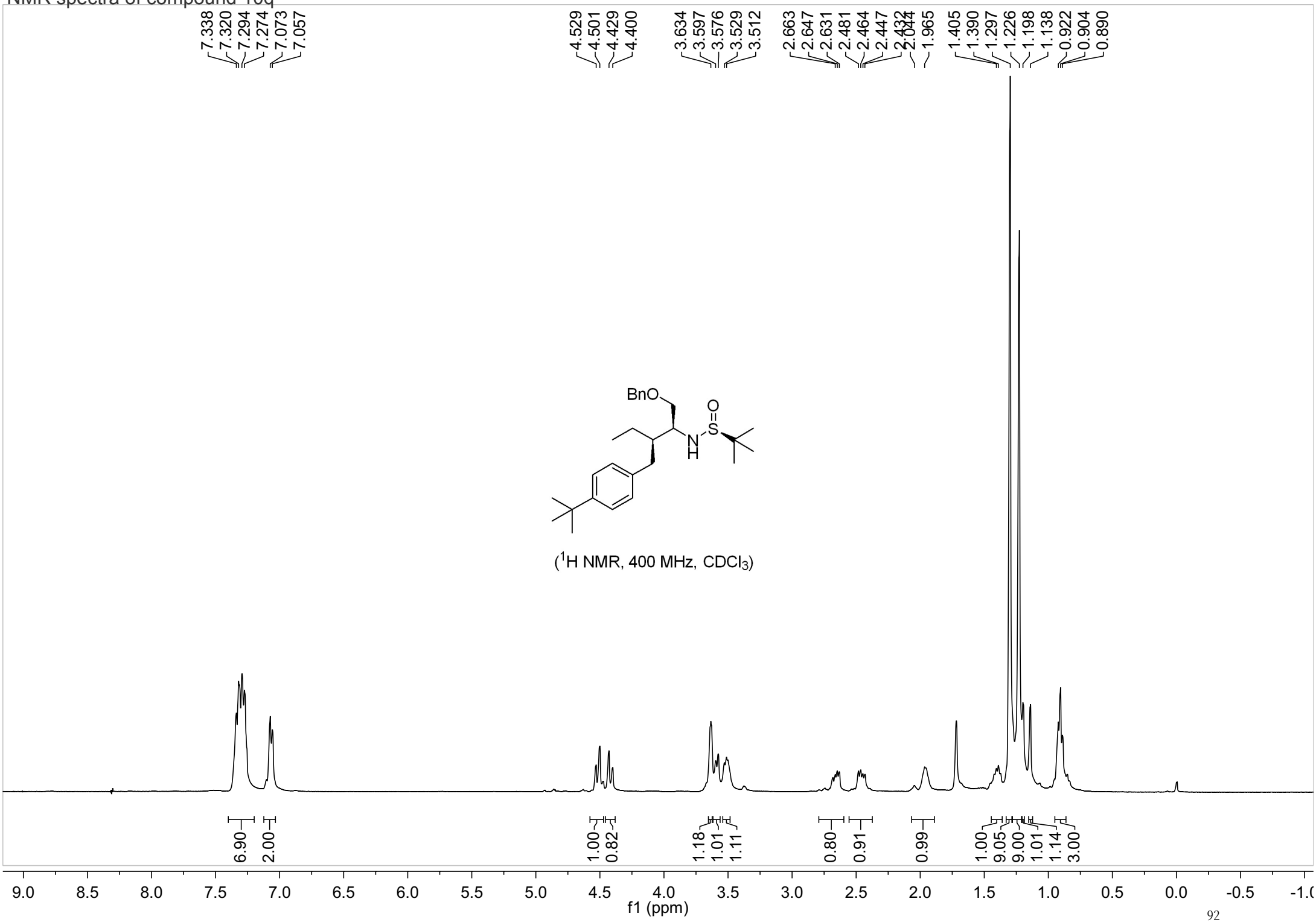
22.914
22.701
22.617
22.037
11.752
11.616



(^{13}C NMR, 100 MHz, $CDCl_3$, rotamers)

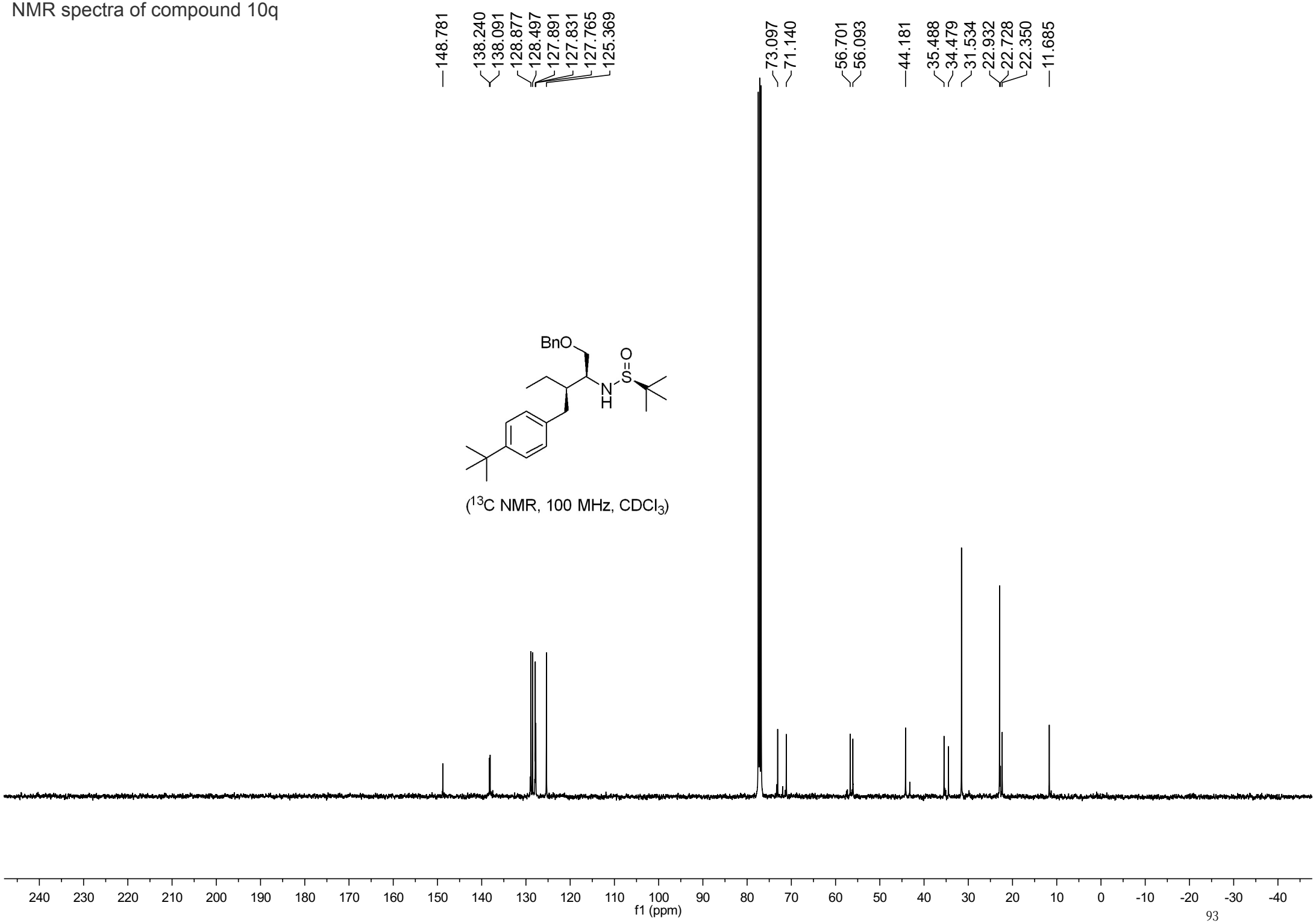


NMR spectra of compound 10q



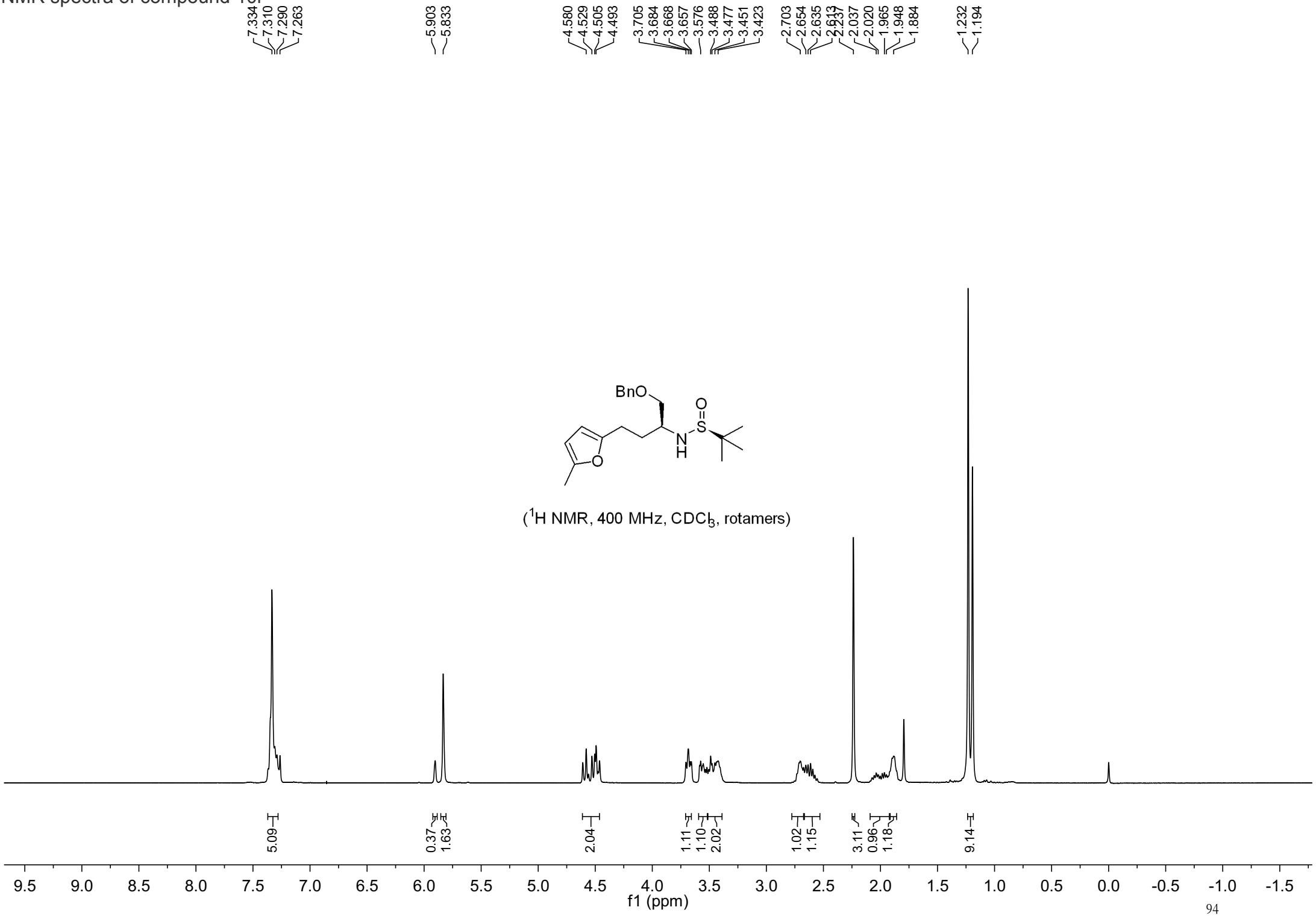
(^{1}H NMR, 400 MHz, $CDCl_3$)

NMR spectra of compound 10q



(^{13}C NMR, 100 MHz, $CDCl_3$)

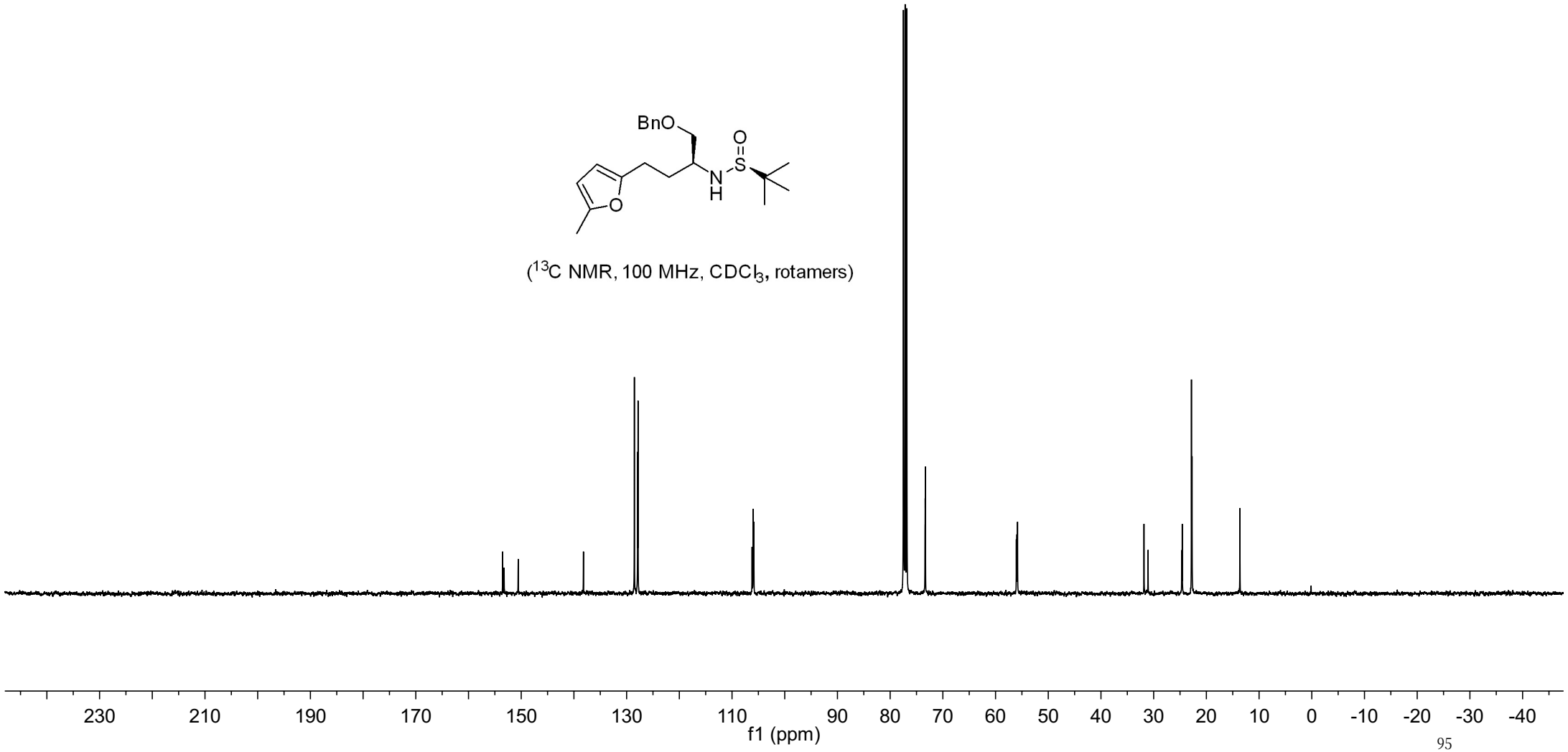
NMR spectra of compound 10r



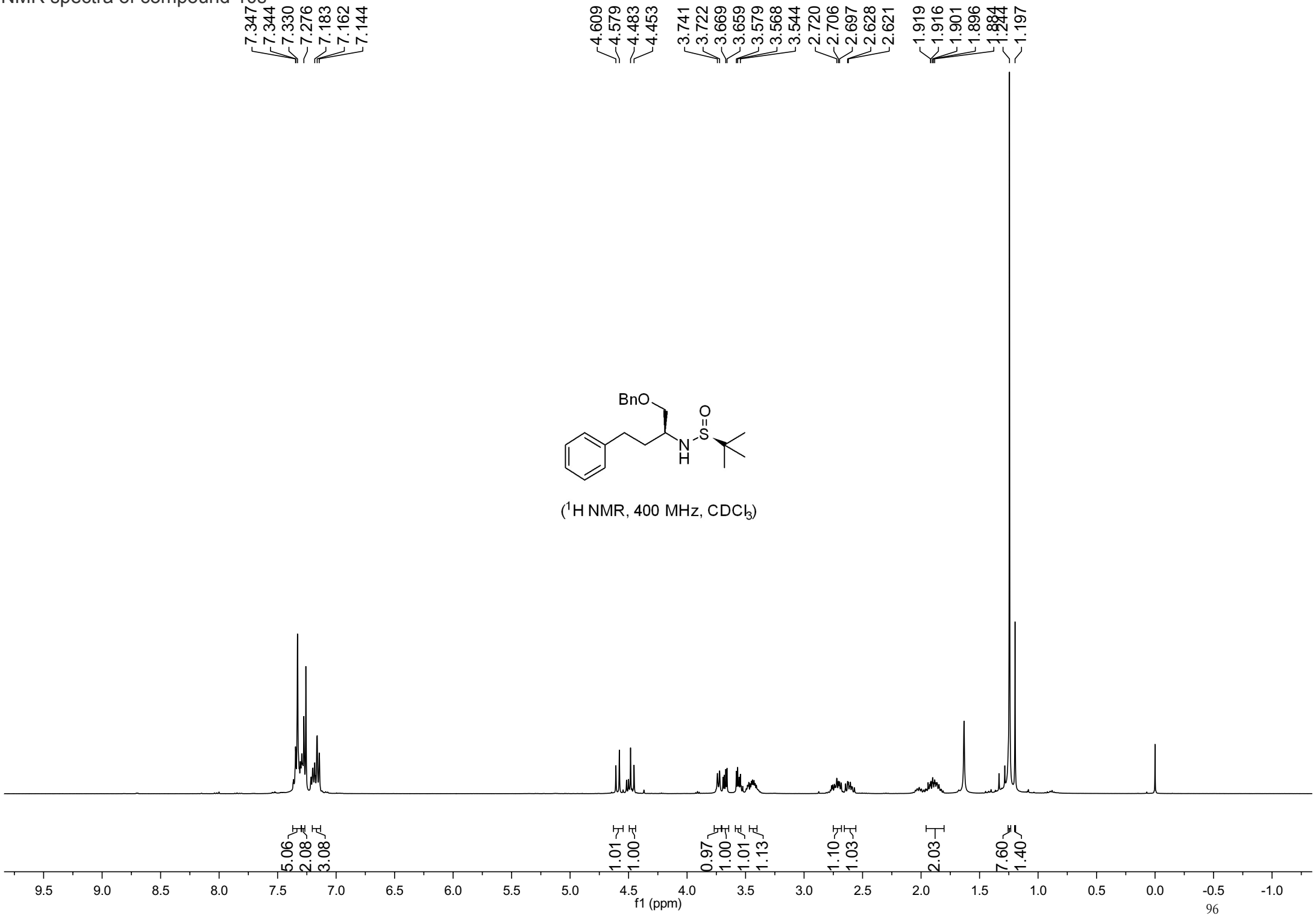
NMR spectra of compound 10r

153.519
153.247
150.564
138.190
128.529
127.913
127.831
106.199
105.970
105.856
73.349
73.312
56.057
55.947
55.828
31.835
24.580
22.832
22.721
13.636

(^{13}C NMR, 100 MHz, $CDCl_3$, rotamers)

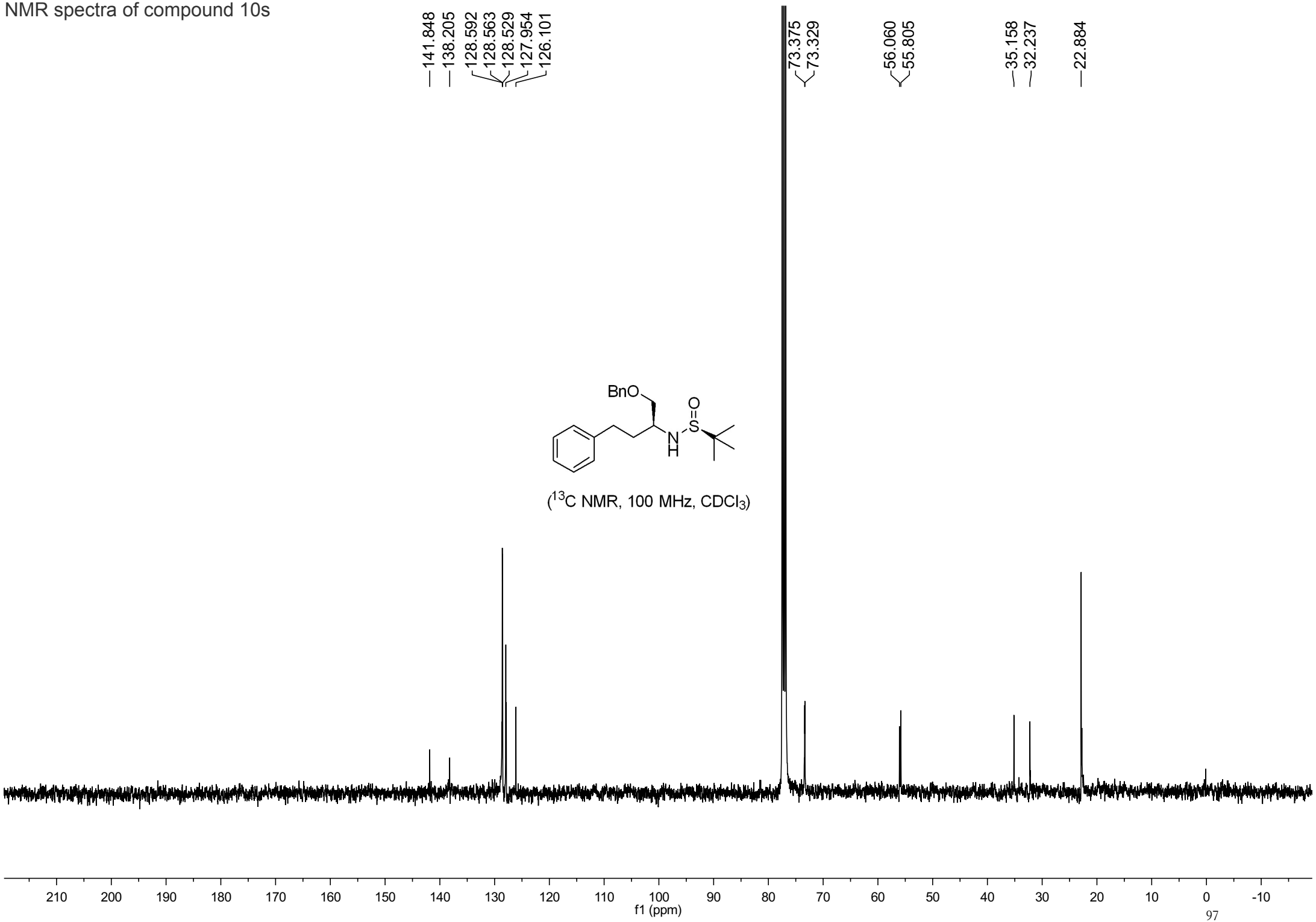


NMR spectra of compound 10s

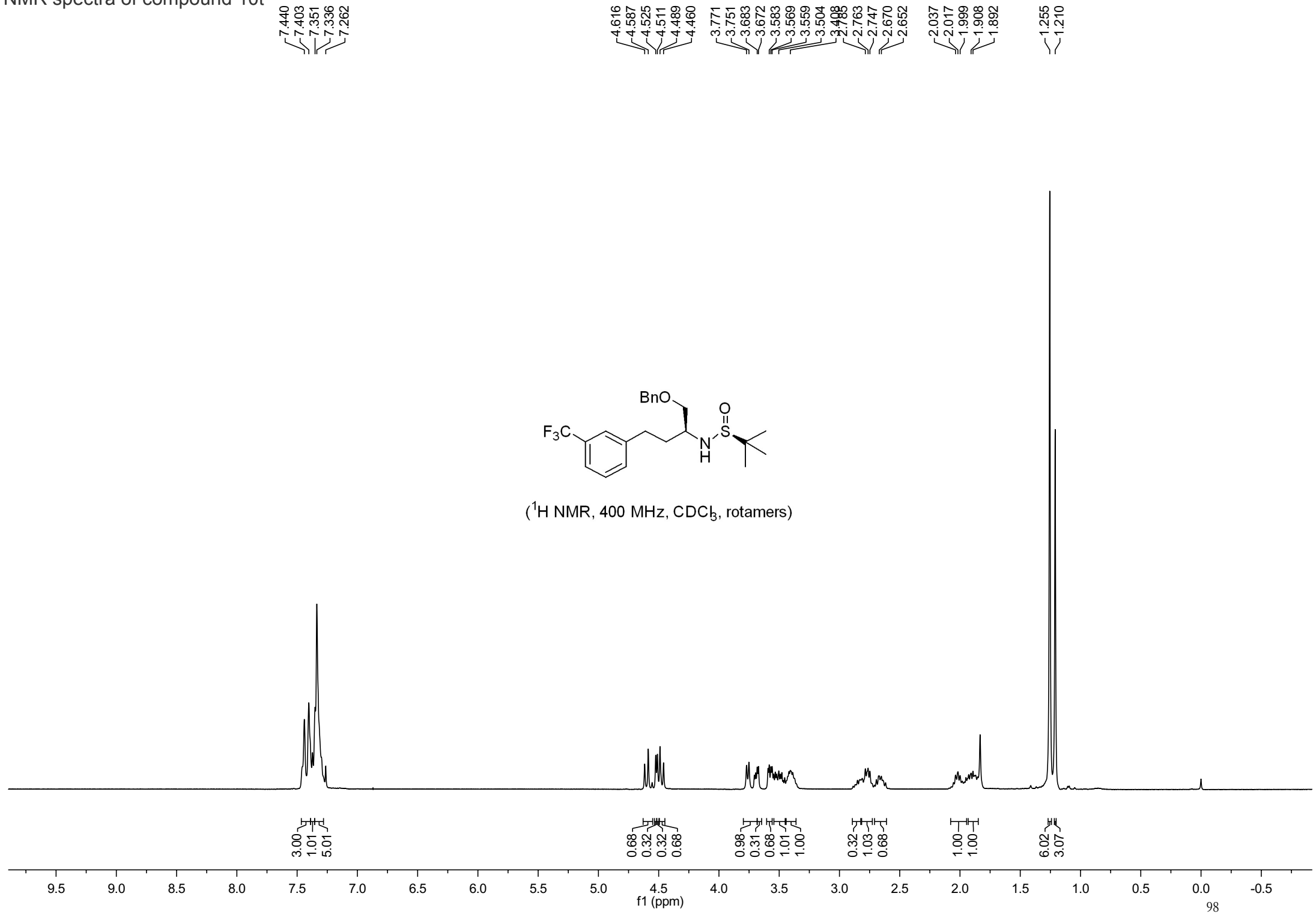


(^{1}H NMR, 400 MHz, $CDCl_3$)

NMR spectra of compound 10s



NMR spectra of compound 10t



NMR spectra of compound 10t

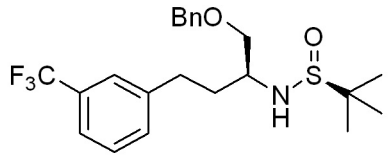
142.697
142.507
138.050
132.132
131.896
131.314
130.997
130.679
130.360
128.988
128.569
127.975
127.919
125.670
125.216
125.181
122.979

73.371
73.265

56.118
55.862

34.960
34.282
32.118

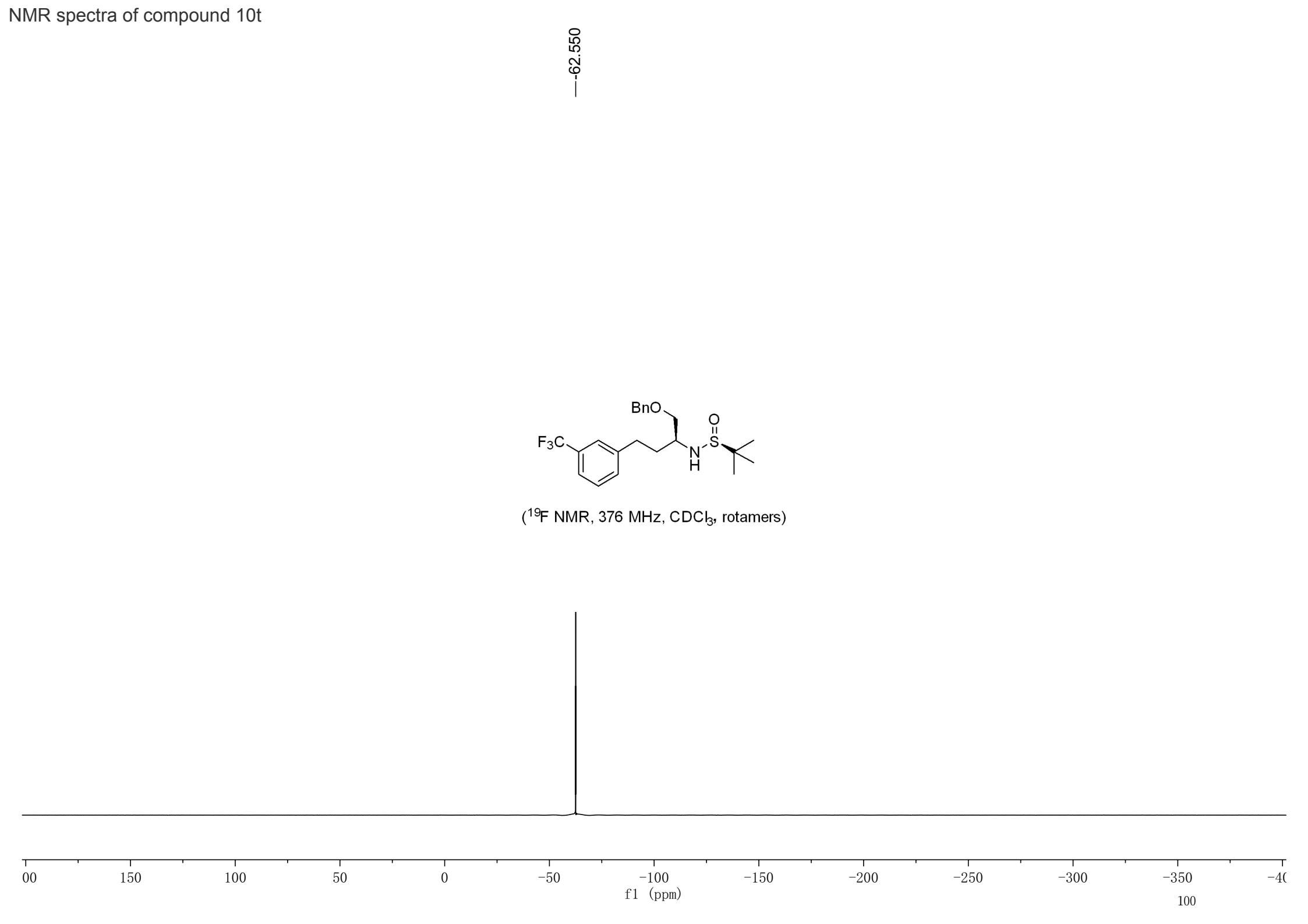
22.845



(^{13}C NMR, 100 MHz, $CDCl_3$, rotamers)

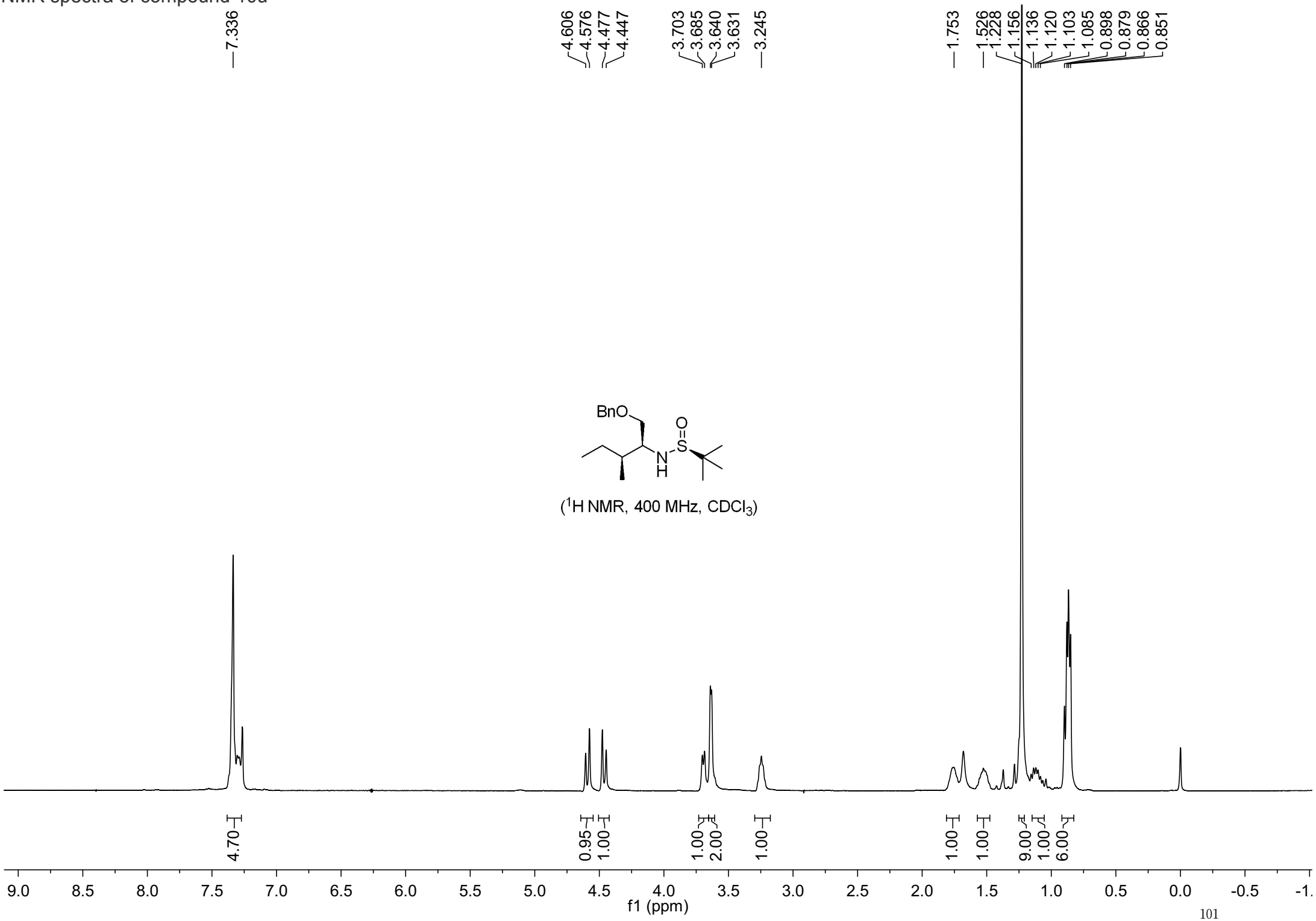
f1 (ppm)

NMR spectra of compound 10t

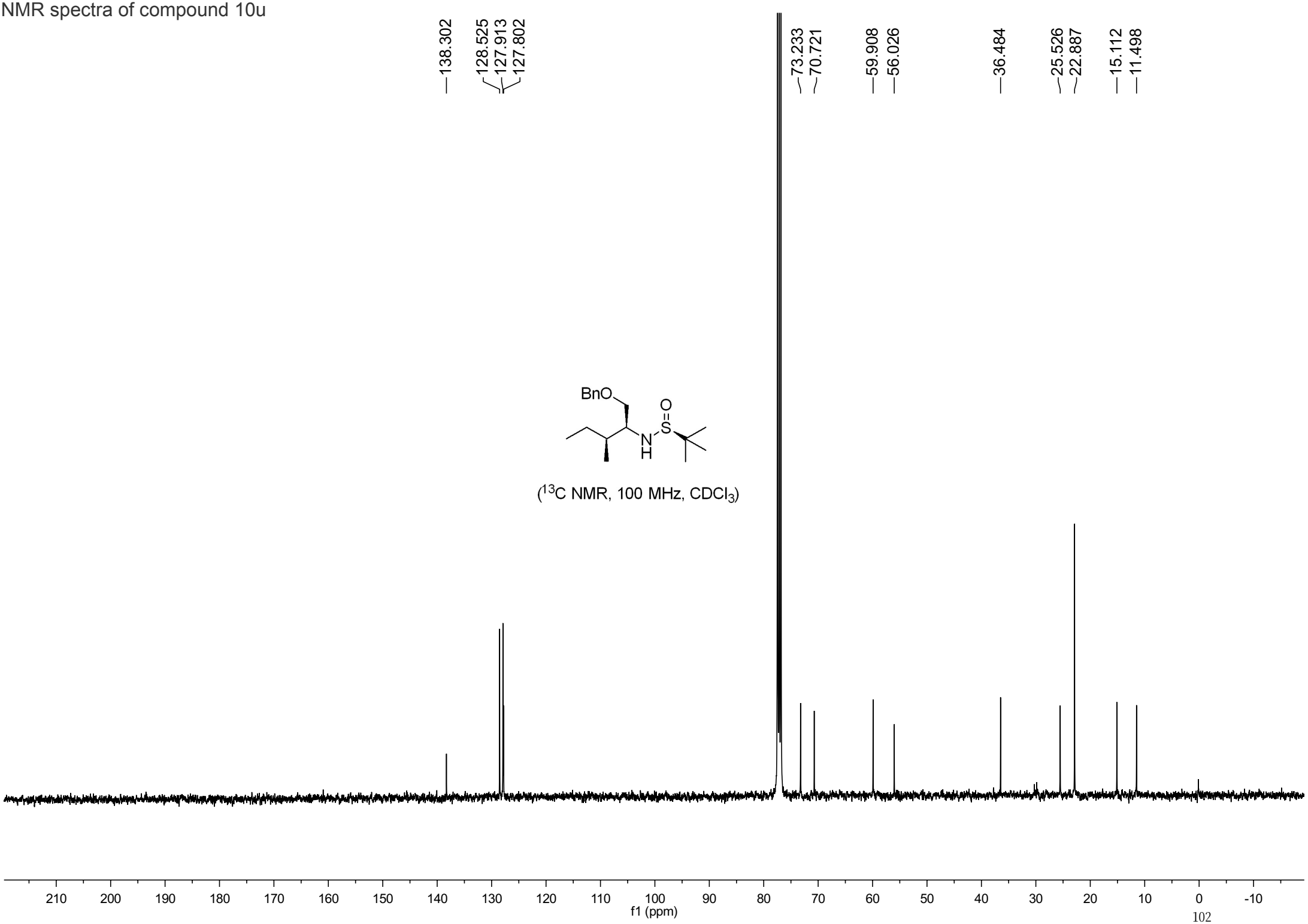


(^{19}F NMR, 376 MHz, $CDCl_3$, rotamers)

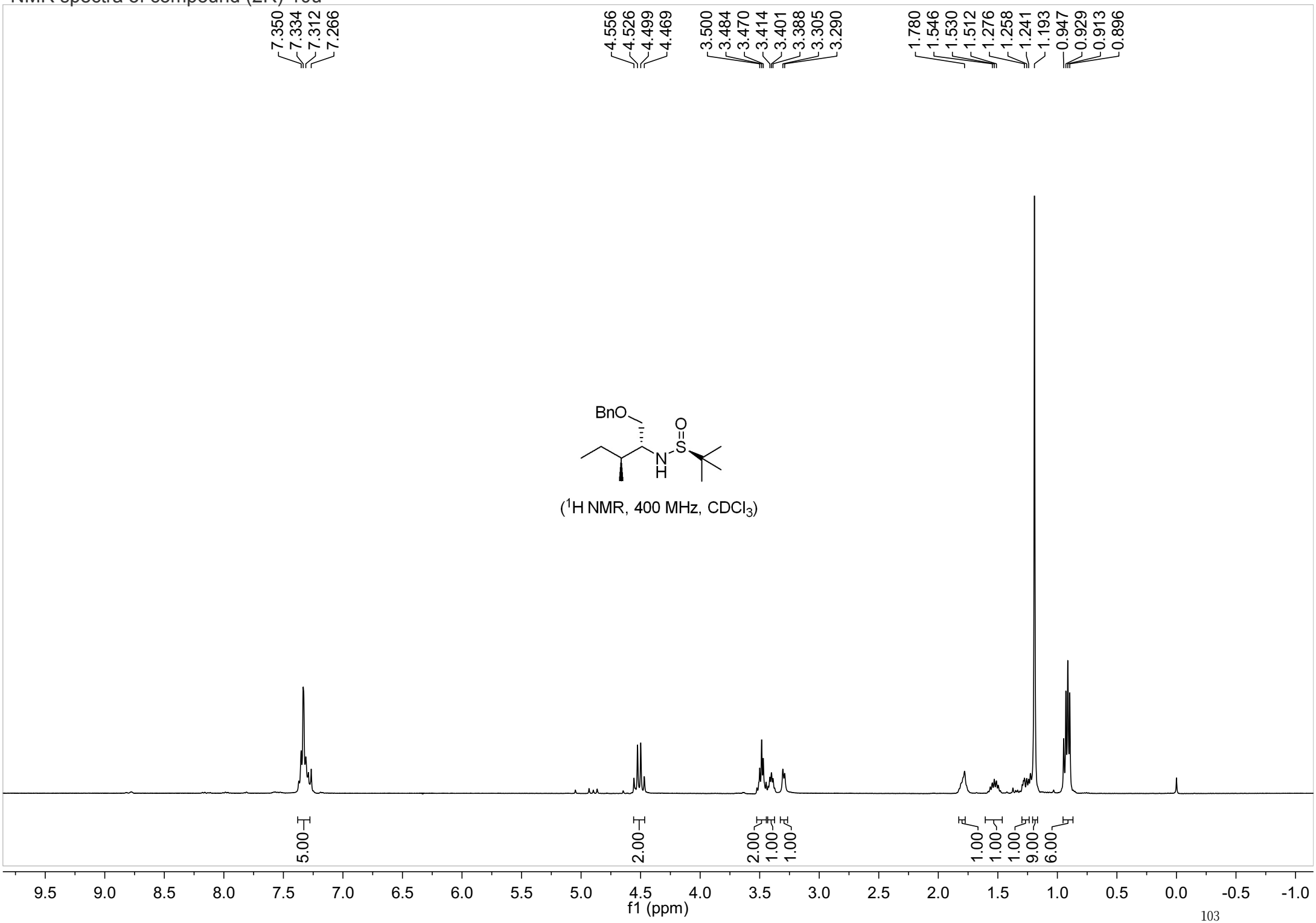
NMR spectra of compound 10u



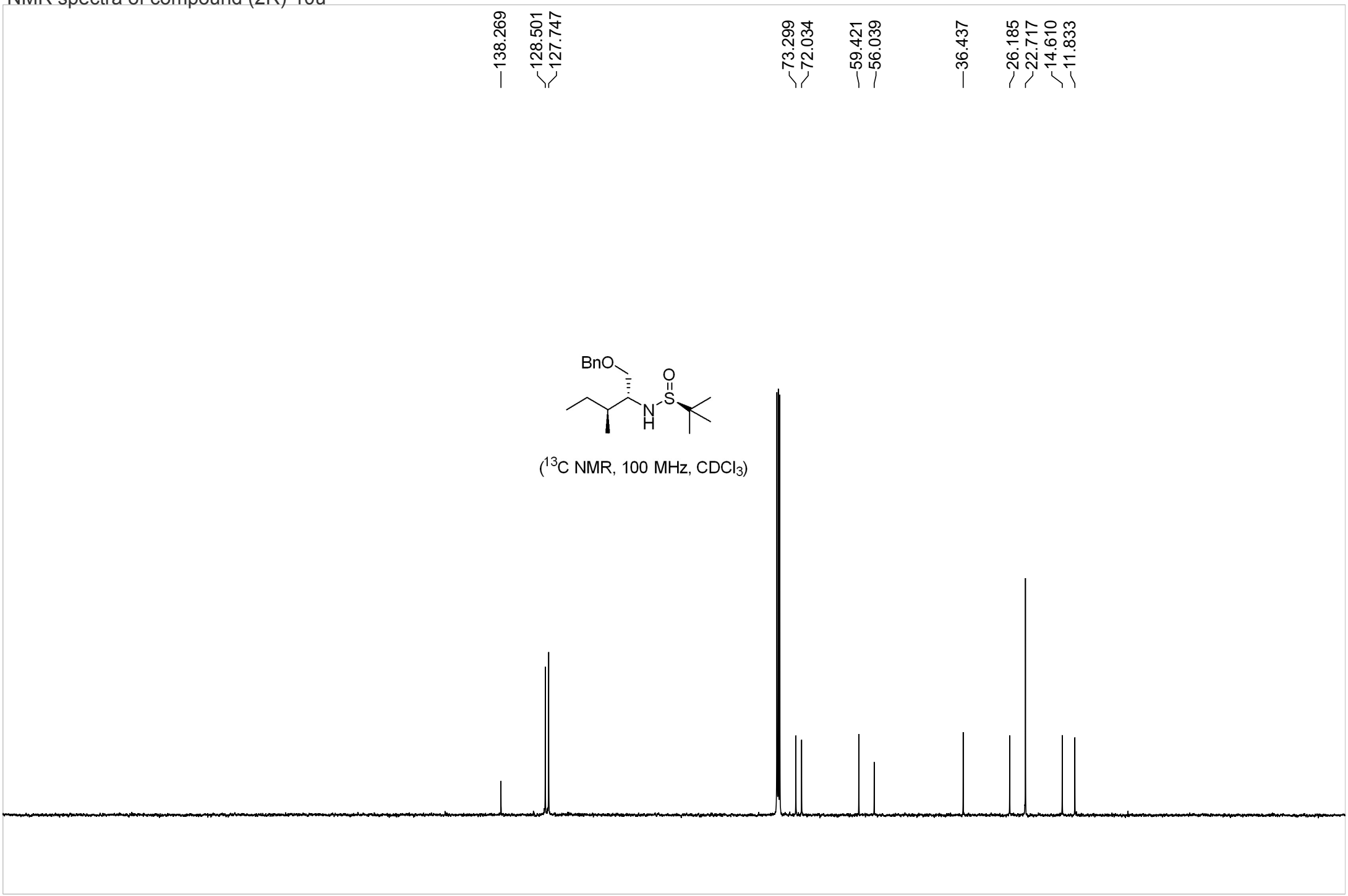
NMR spectra of compound 10u



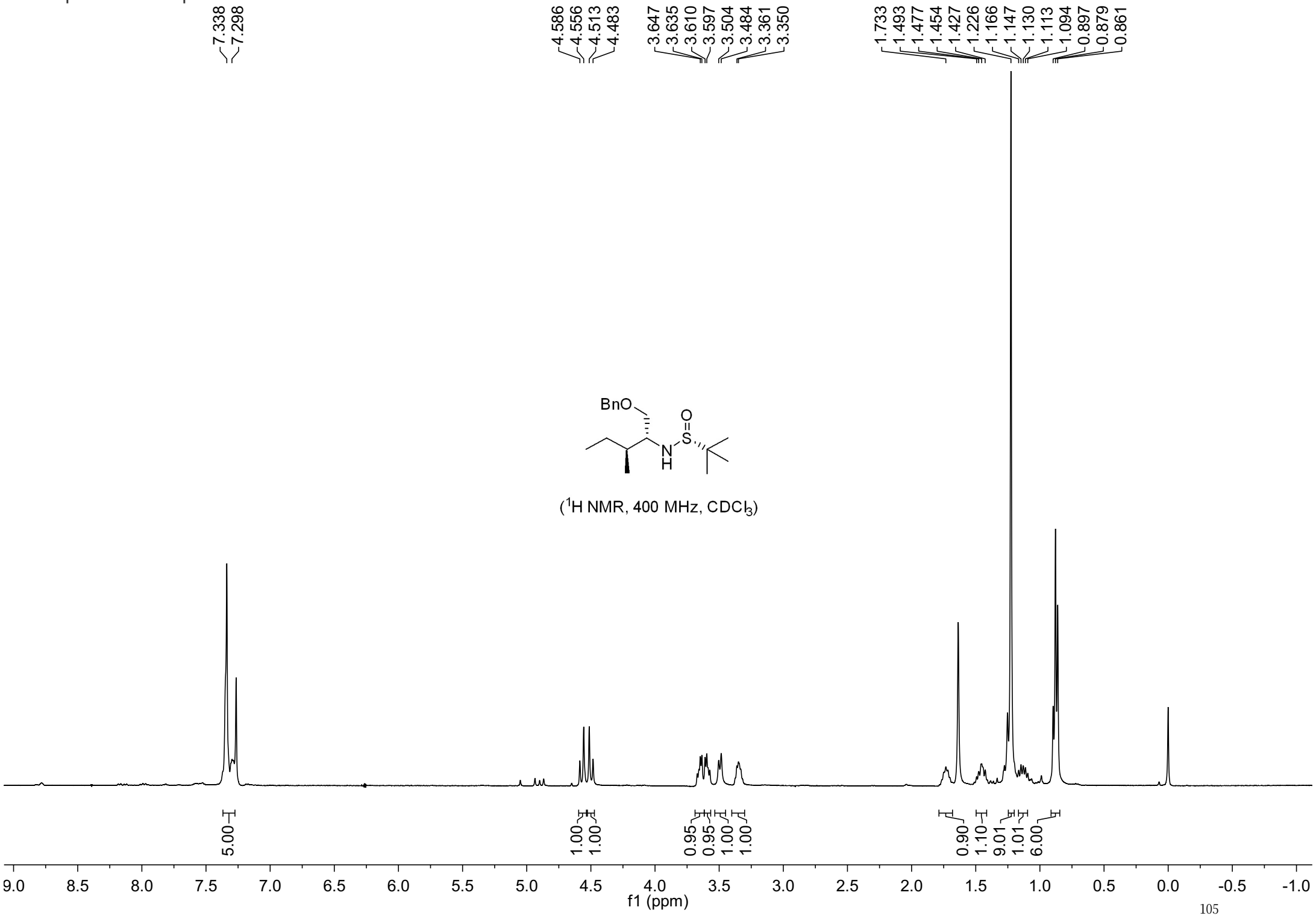
NMR spectra of compound (2R)-10u



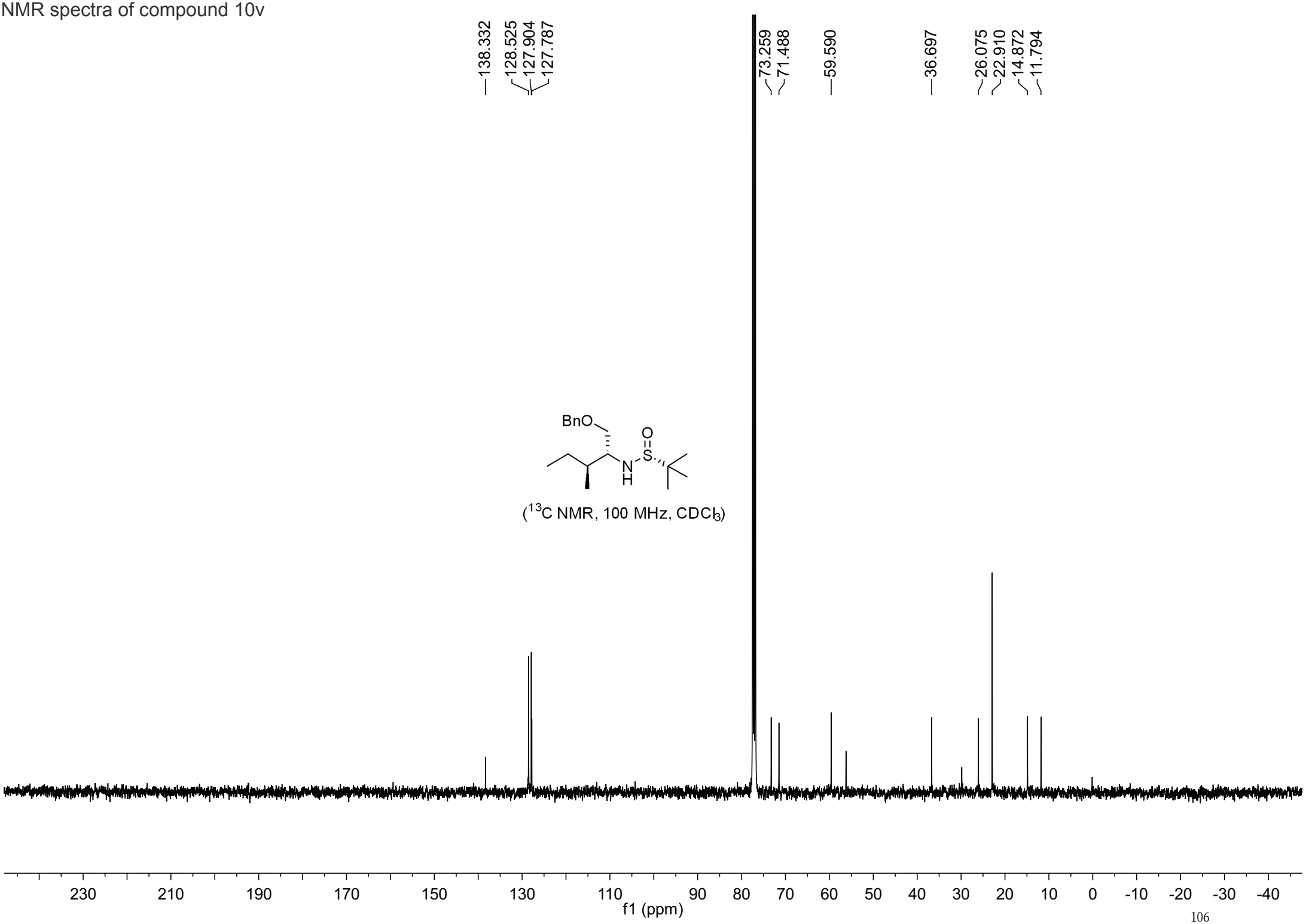
NMR spectra of compound (2R)-10u



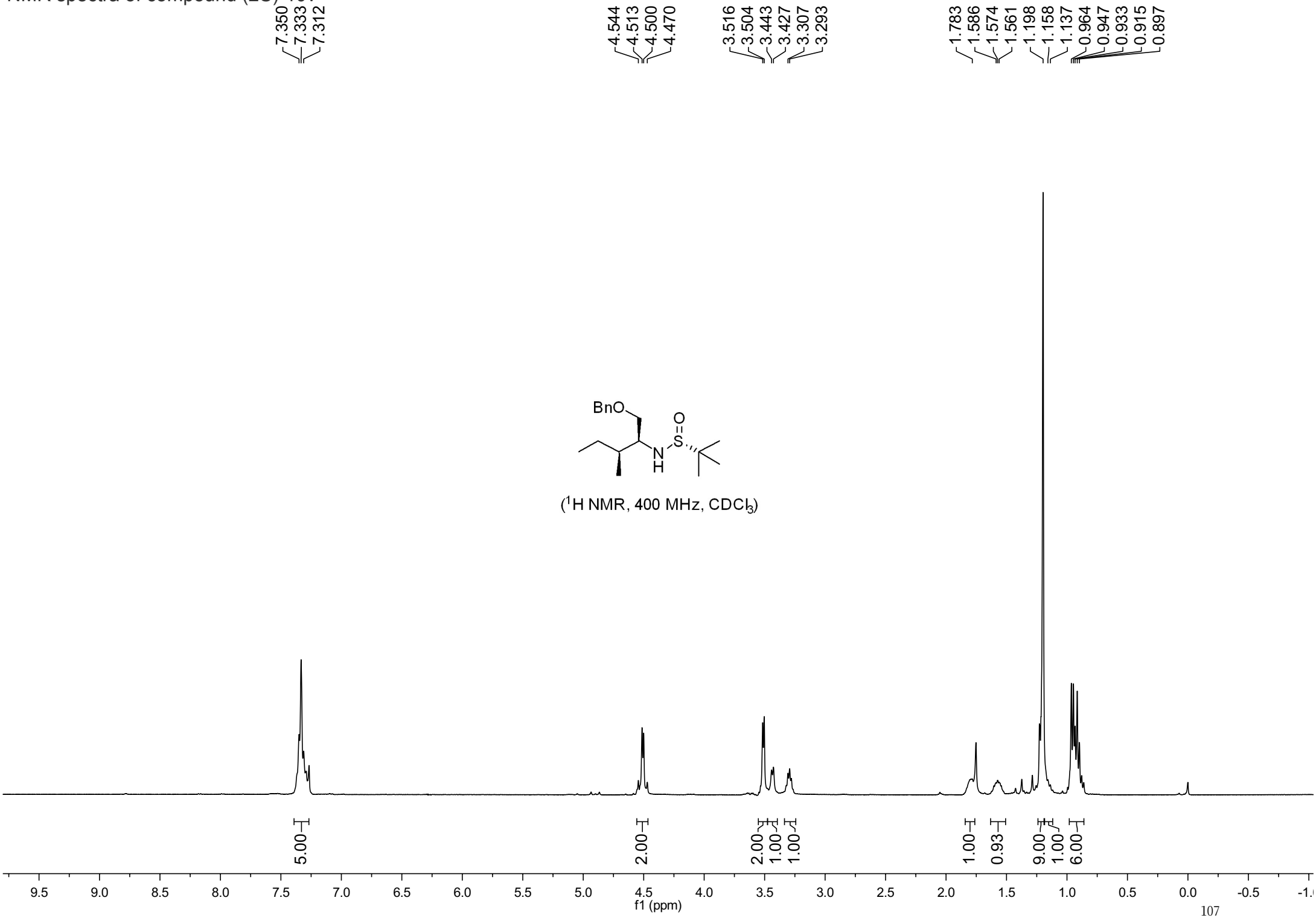
NMR spectra of compound 10v



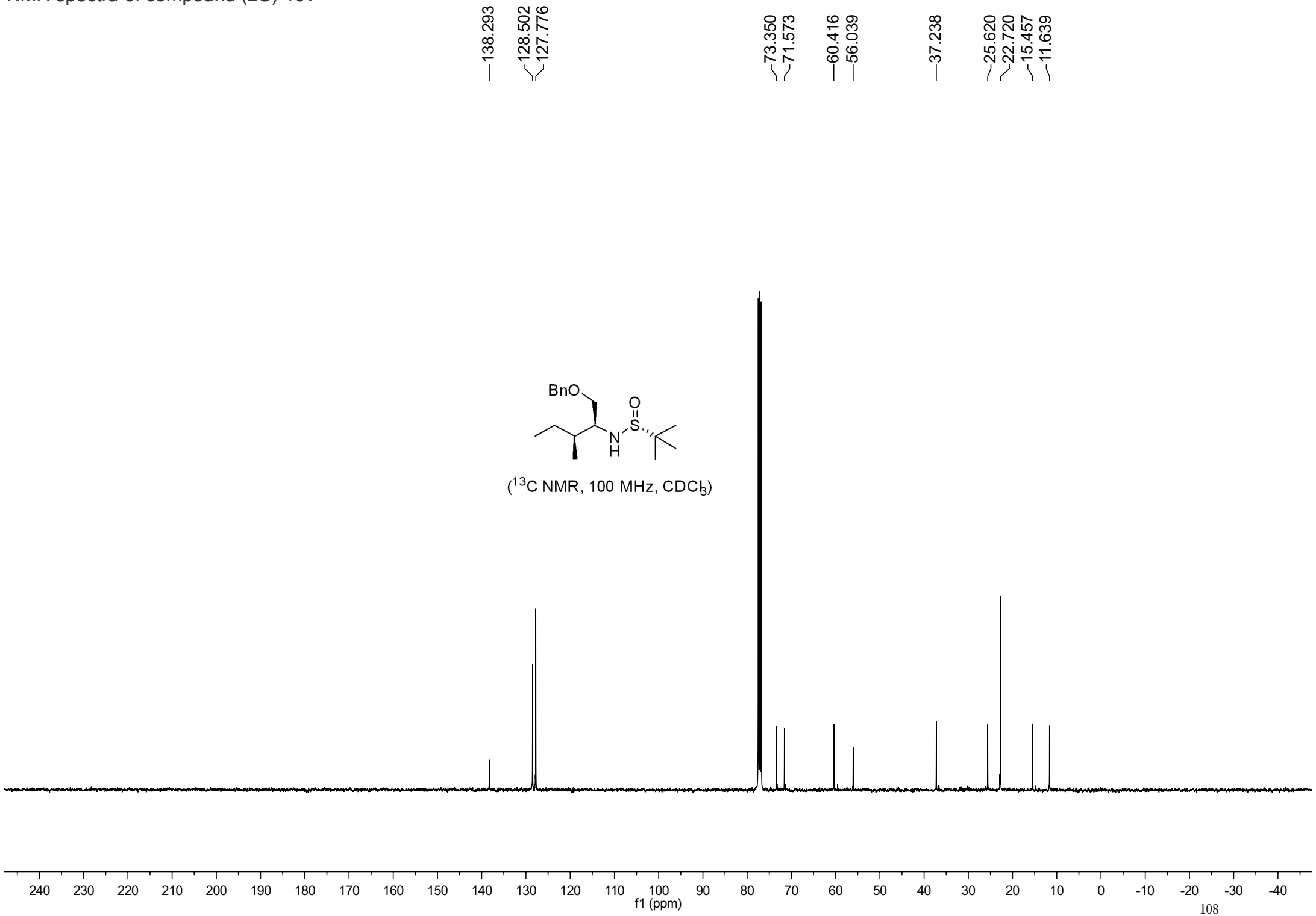
NMR spectra of compound 10v



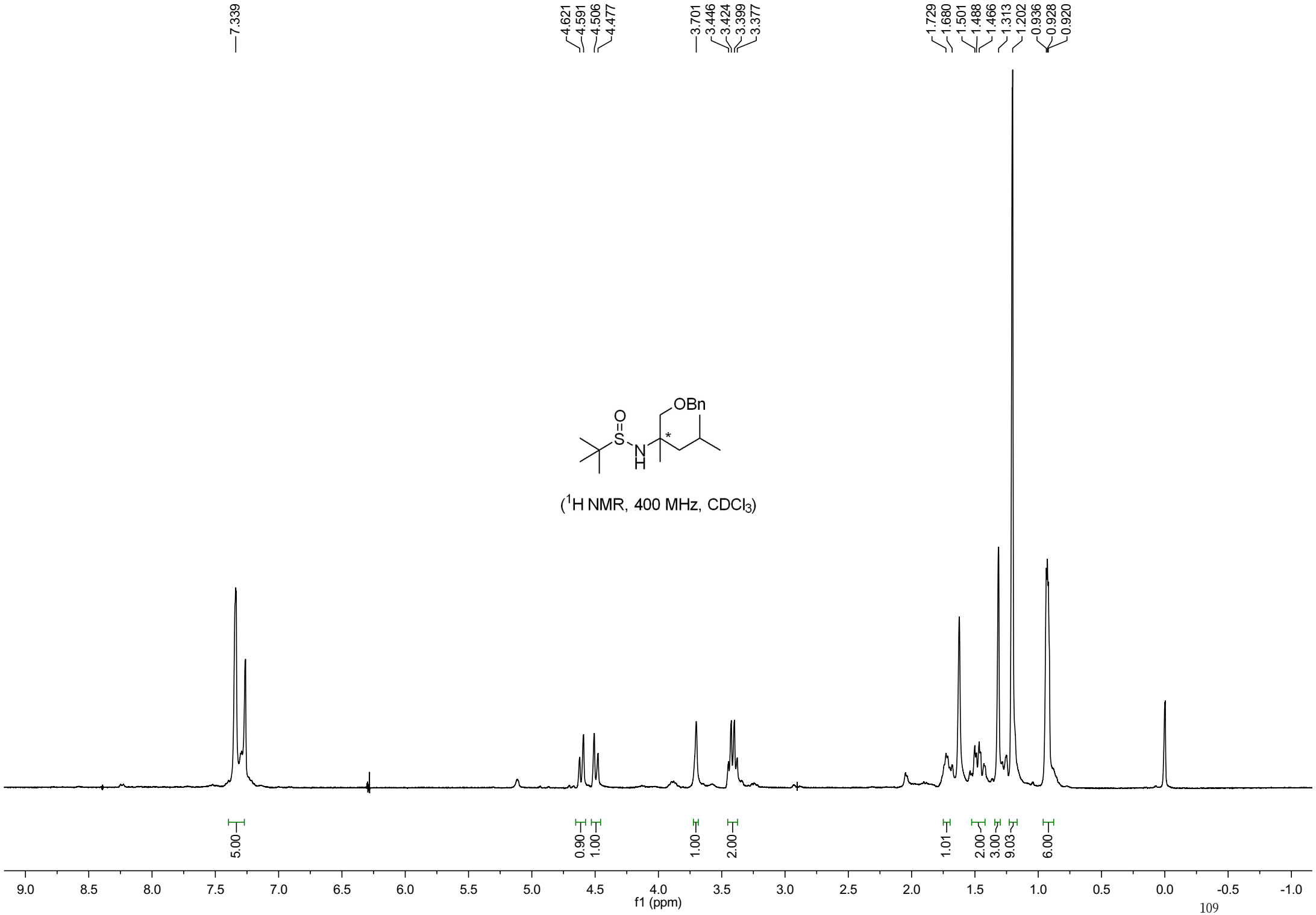
NMR spectra of compound (2S)-10v



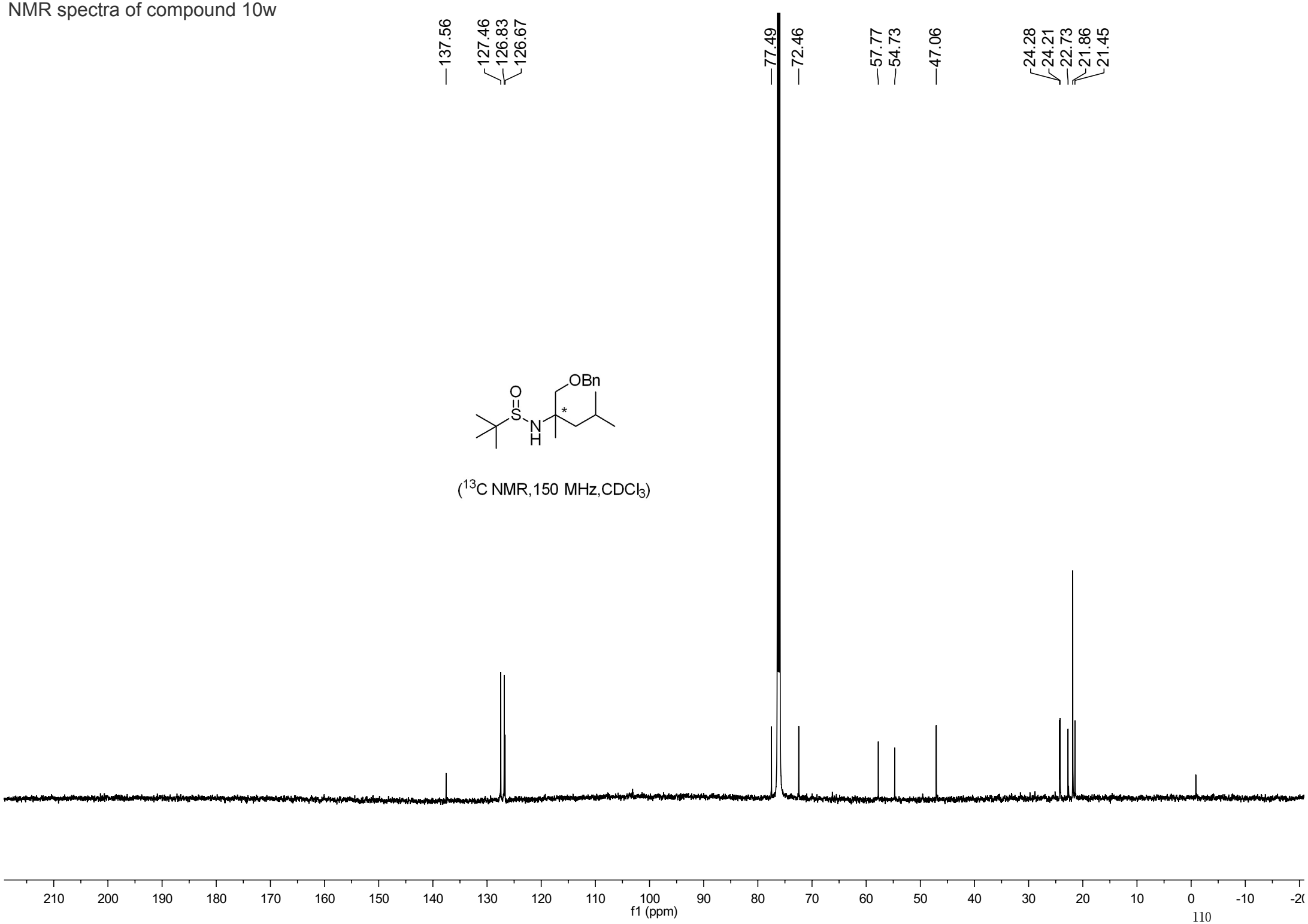
NMR spectra of compound (2S)-10v



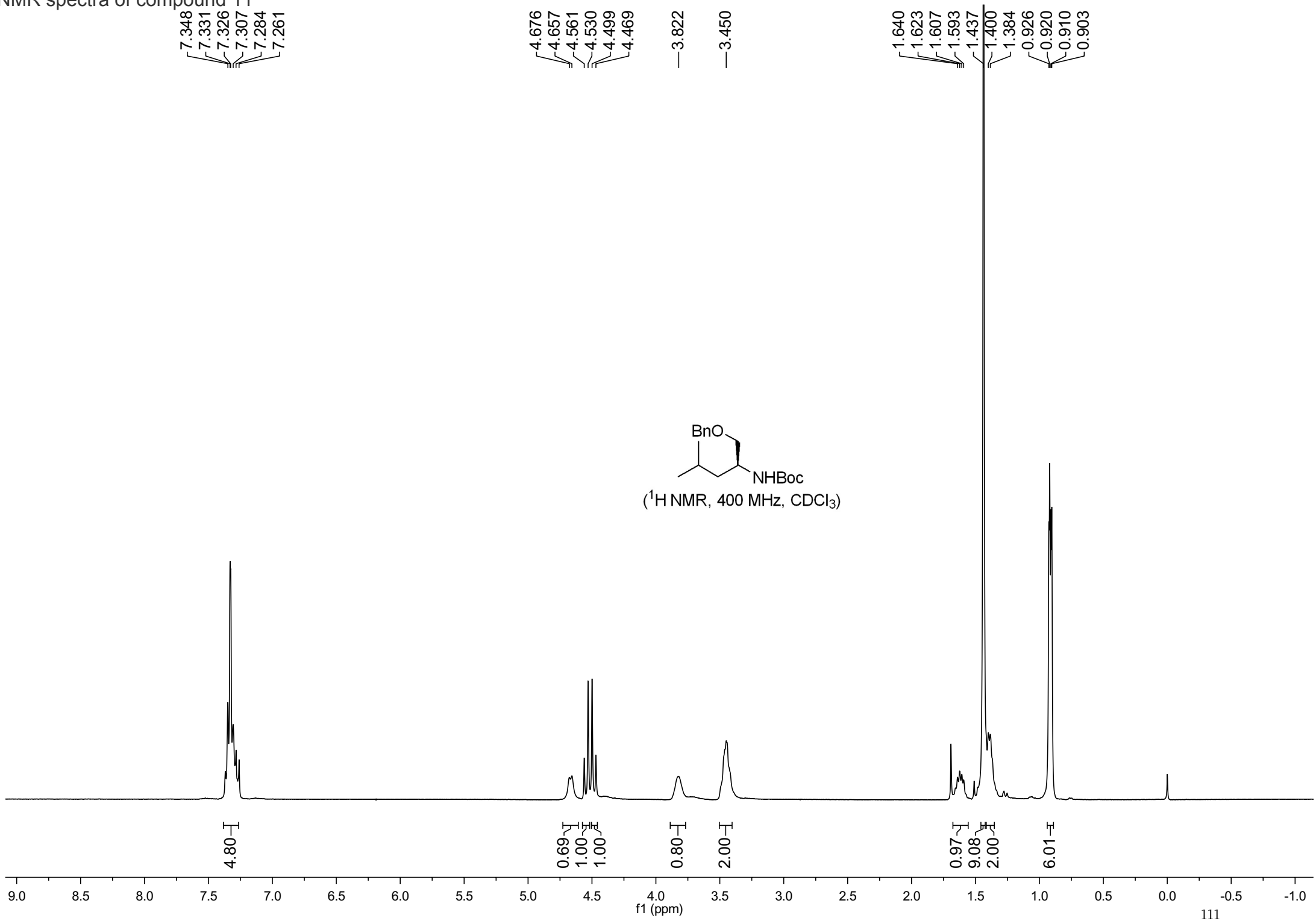
NMR spectra of compound 10w



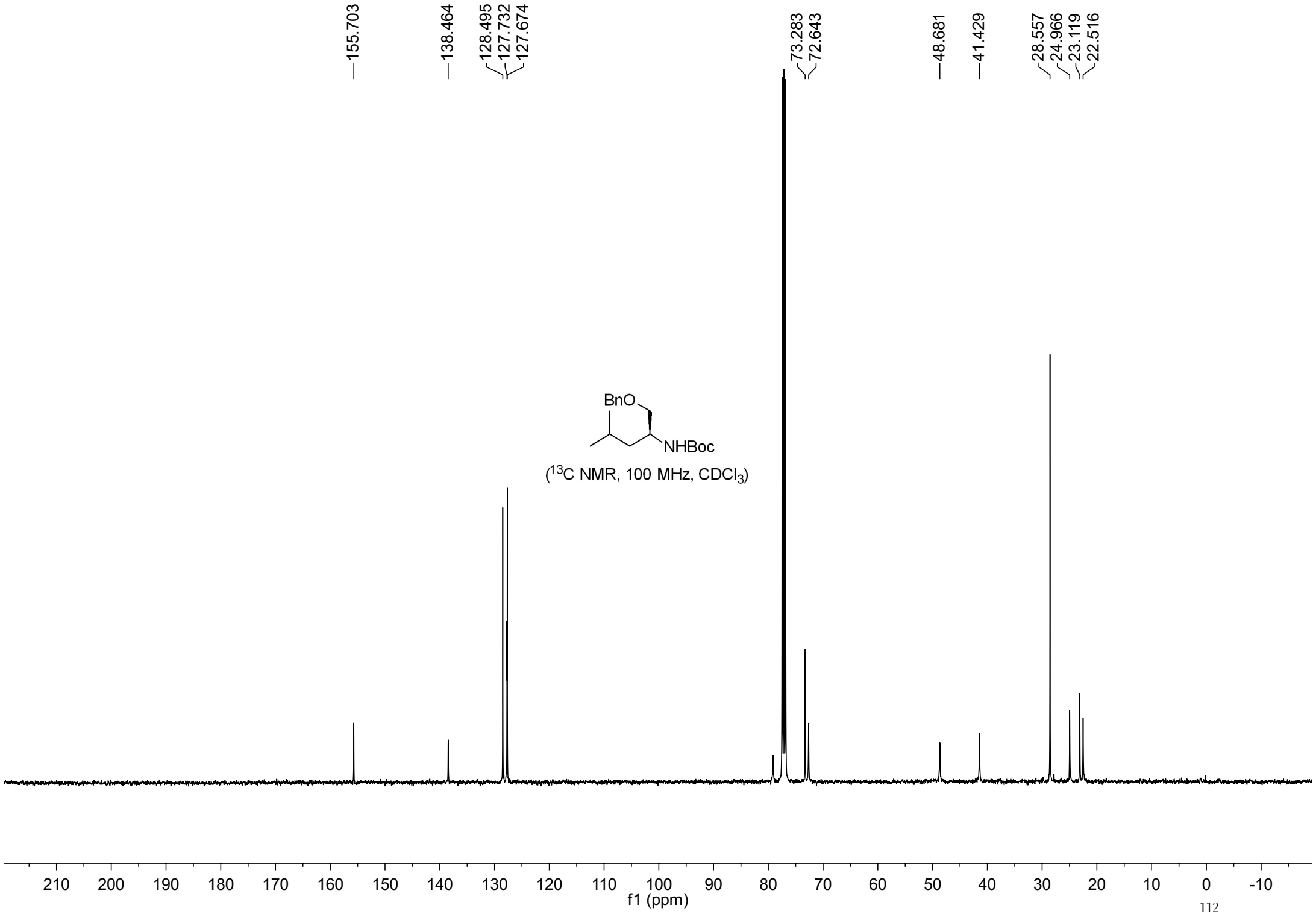
NMR spectra of compound 10w



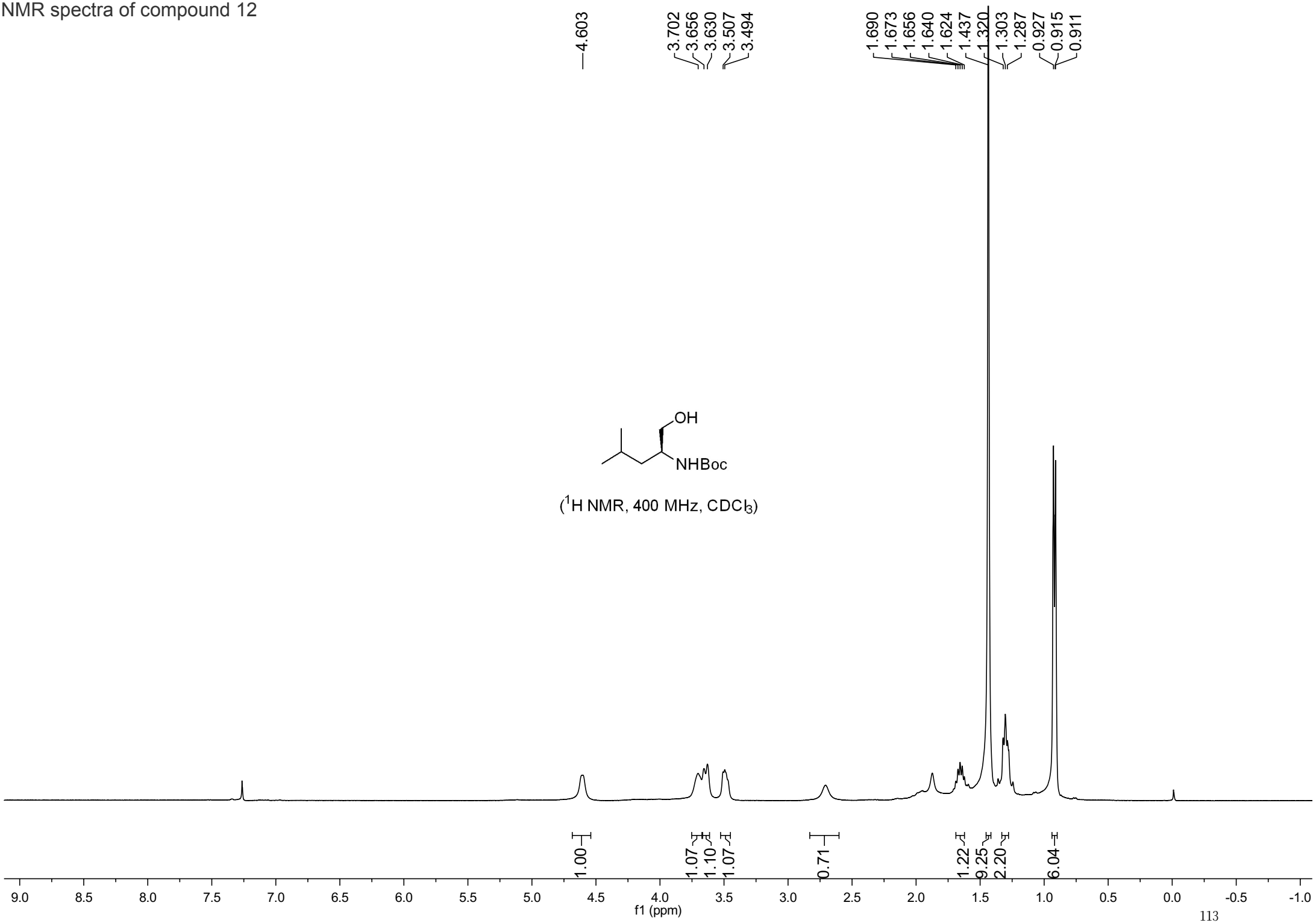
NMR spectra of compound 11



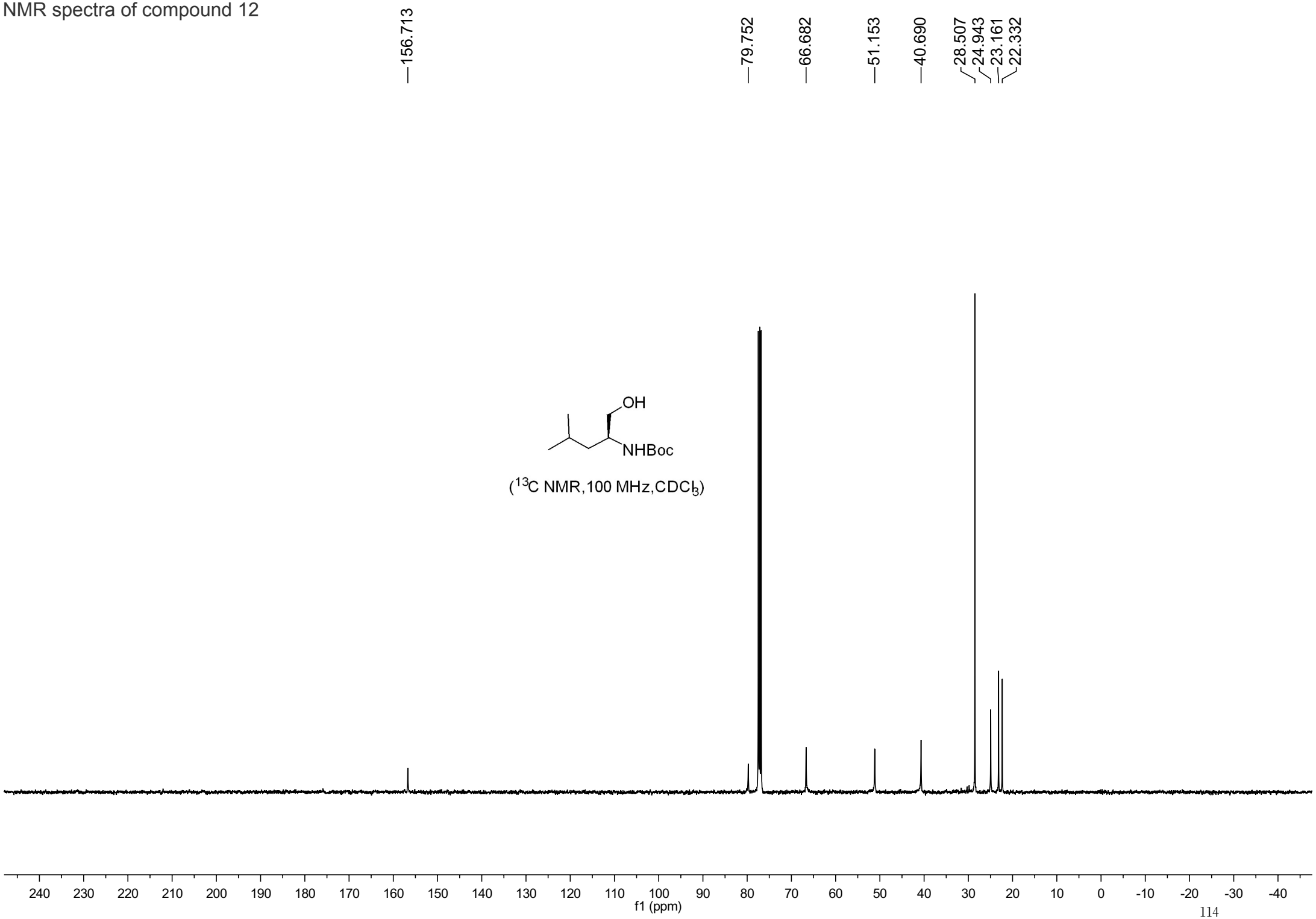
NMR spectra of compound 11



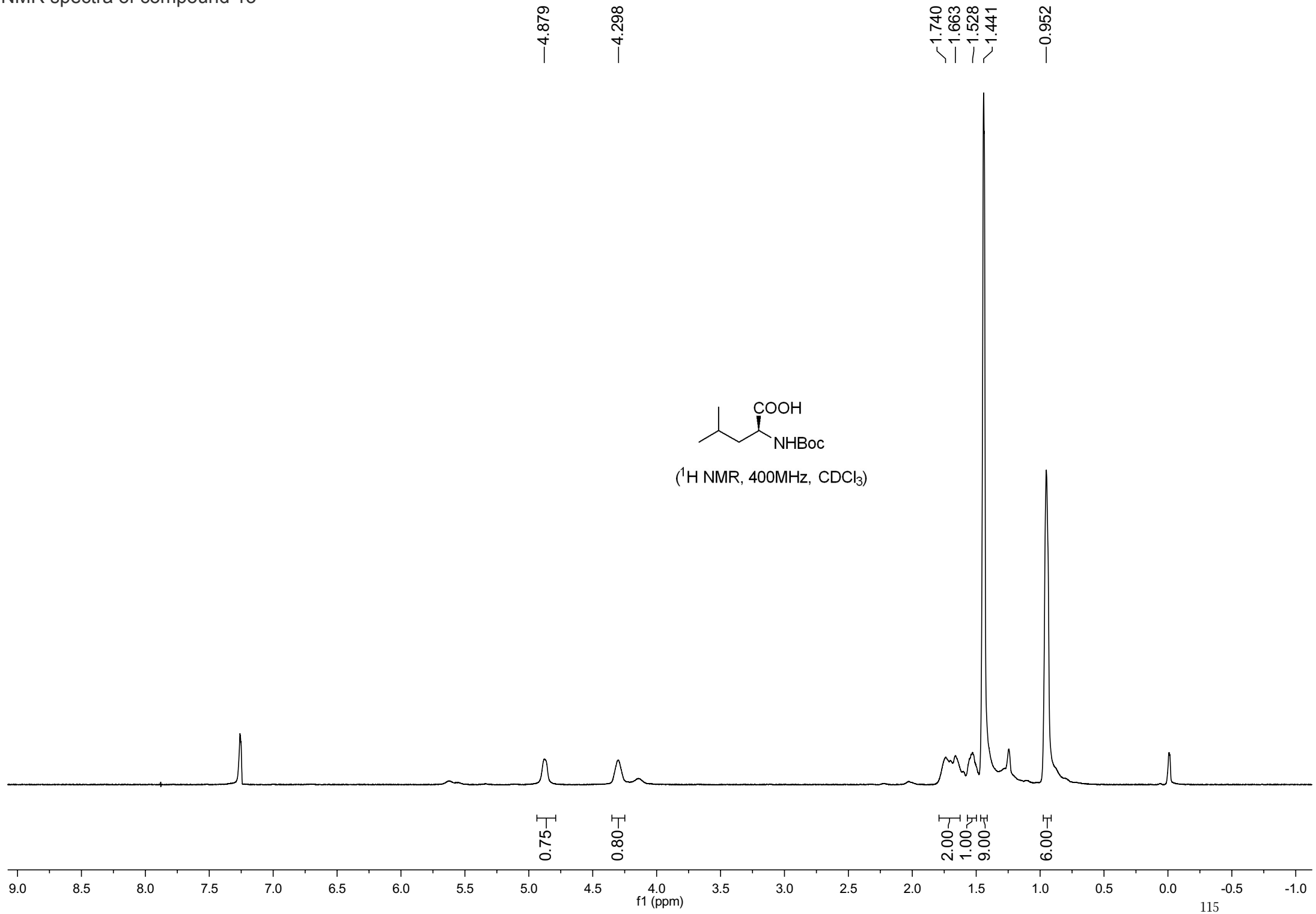
NMR spectra of compound 12



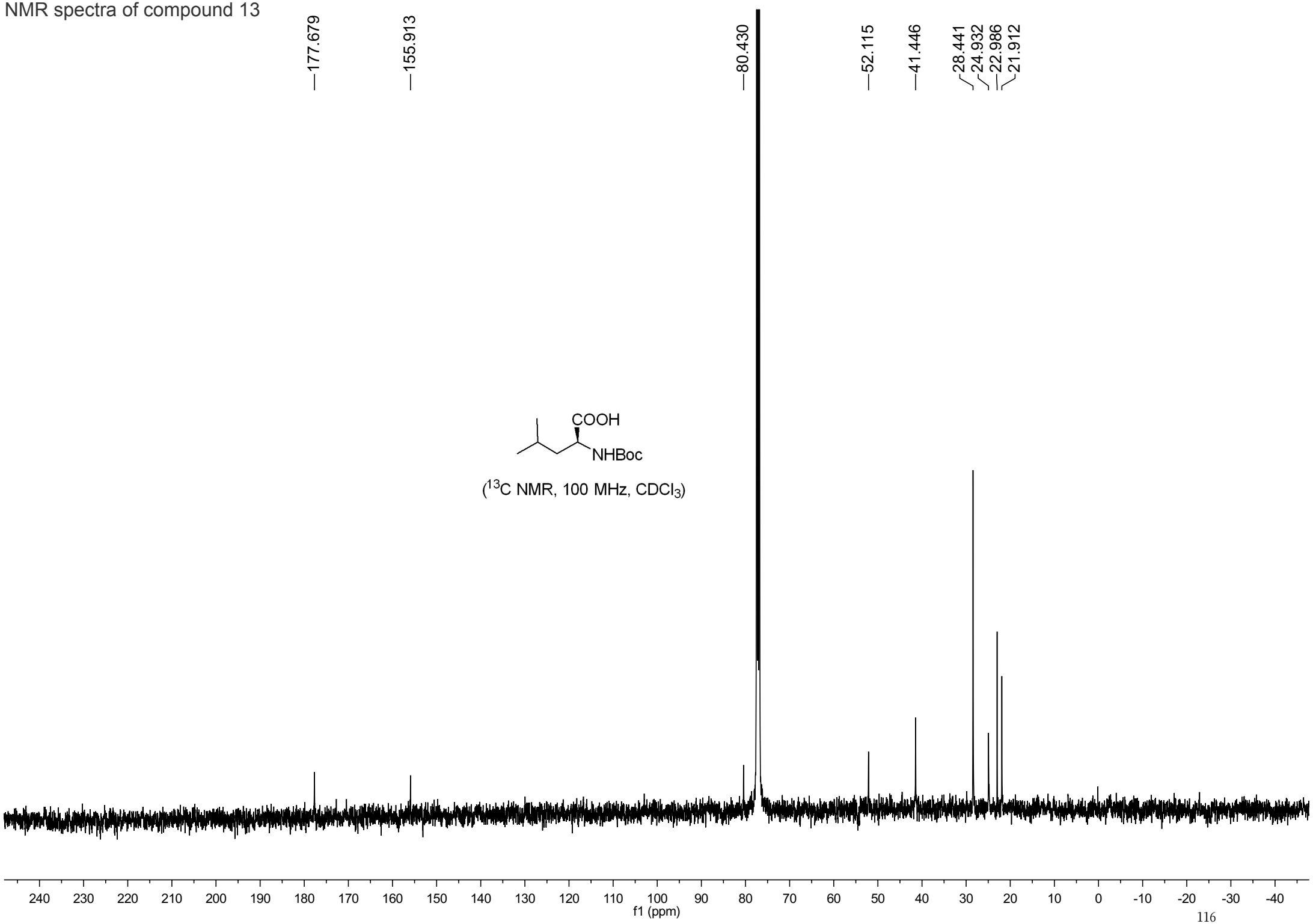
NMR spectra of compound 12



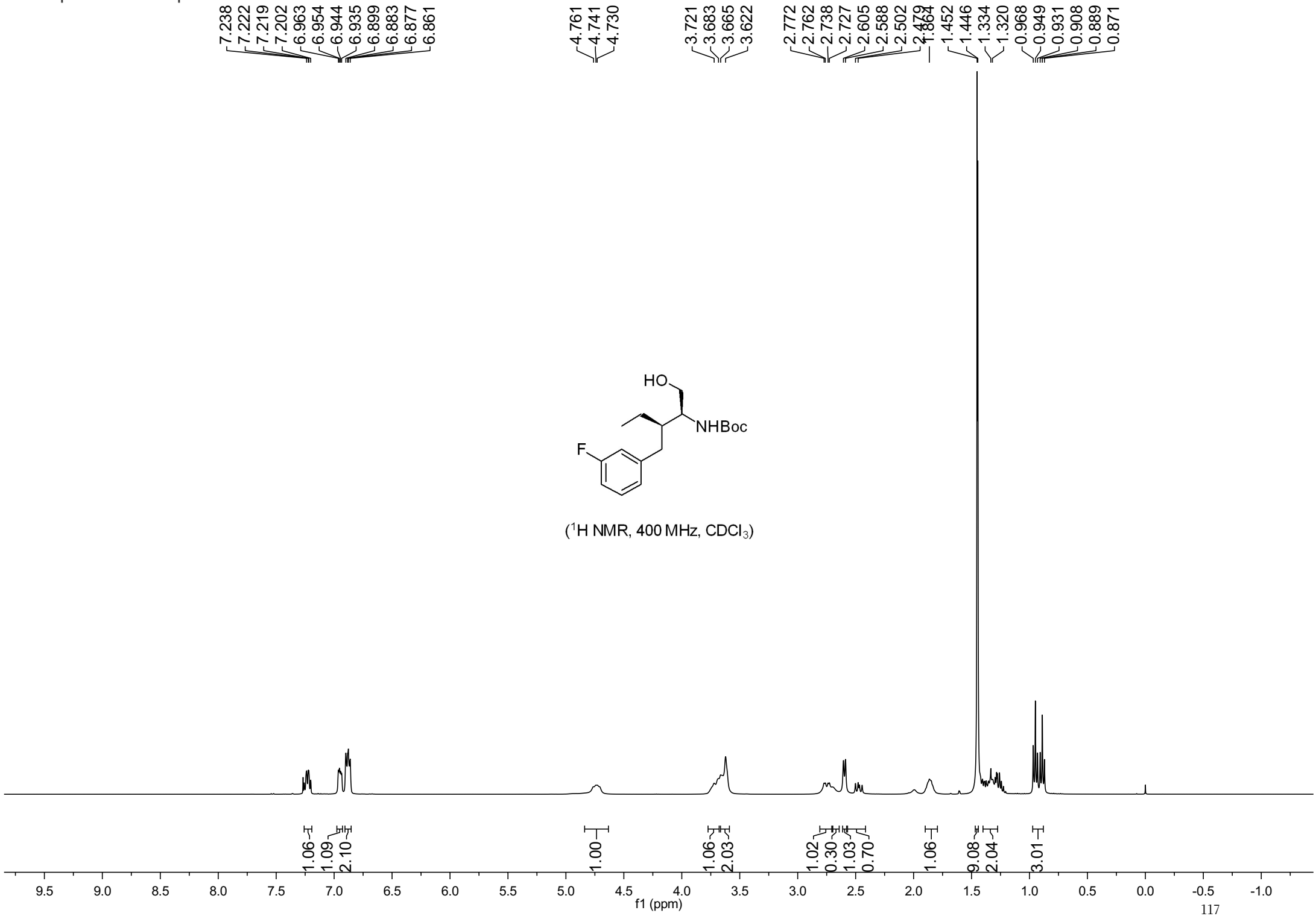
NMR spectra of compound 13



NMR spectra of compound 13

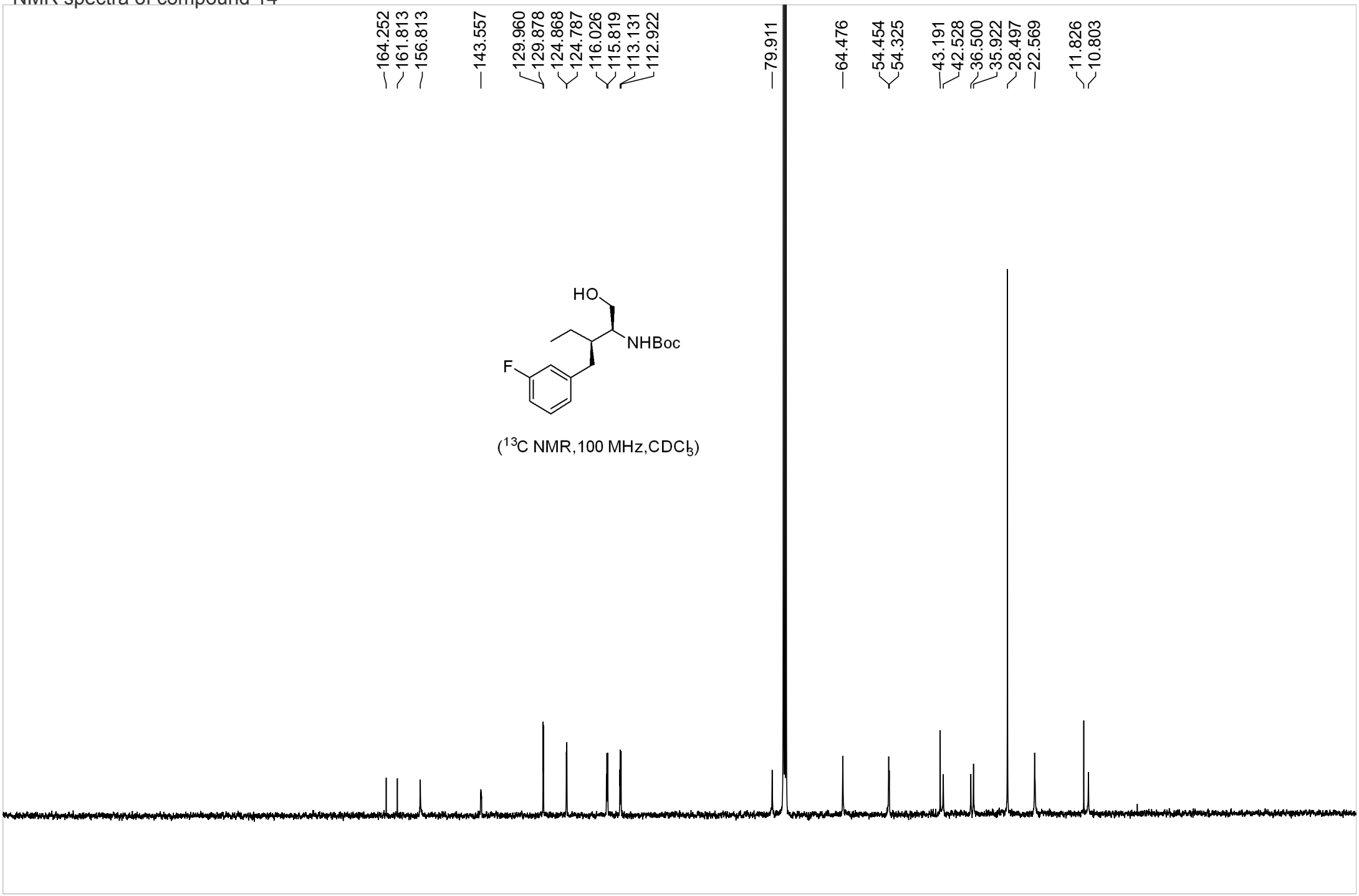


NMR spectra of compound 14

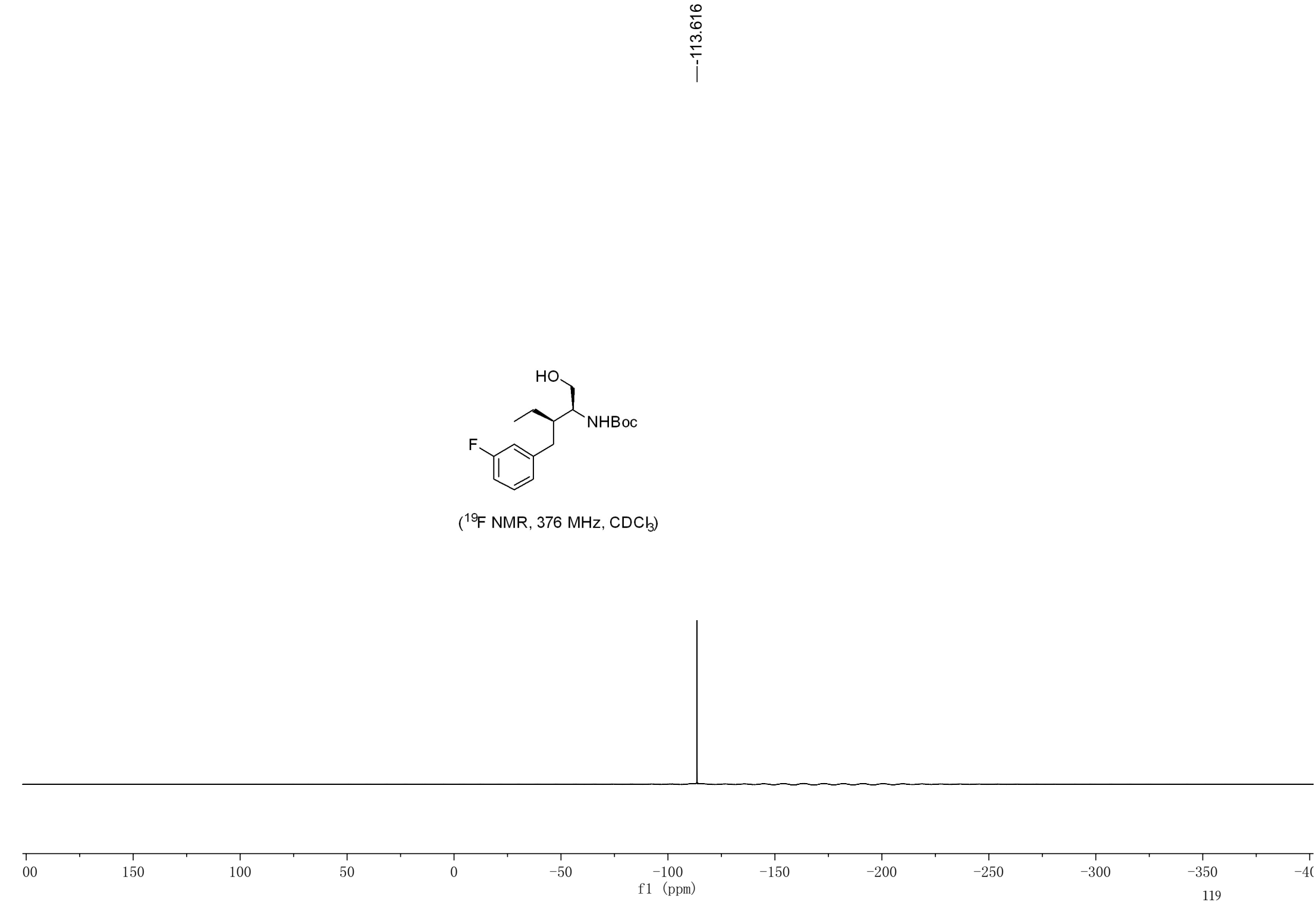


(^{1}H NMR, 400 MHz, $CDCl_3$)

NMR spectra of compound 14

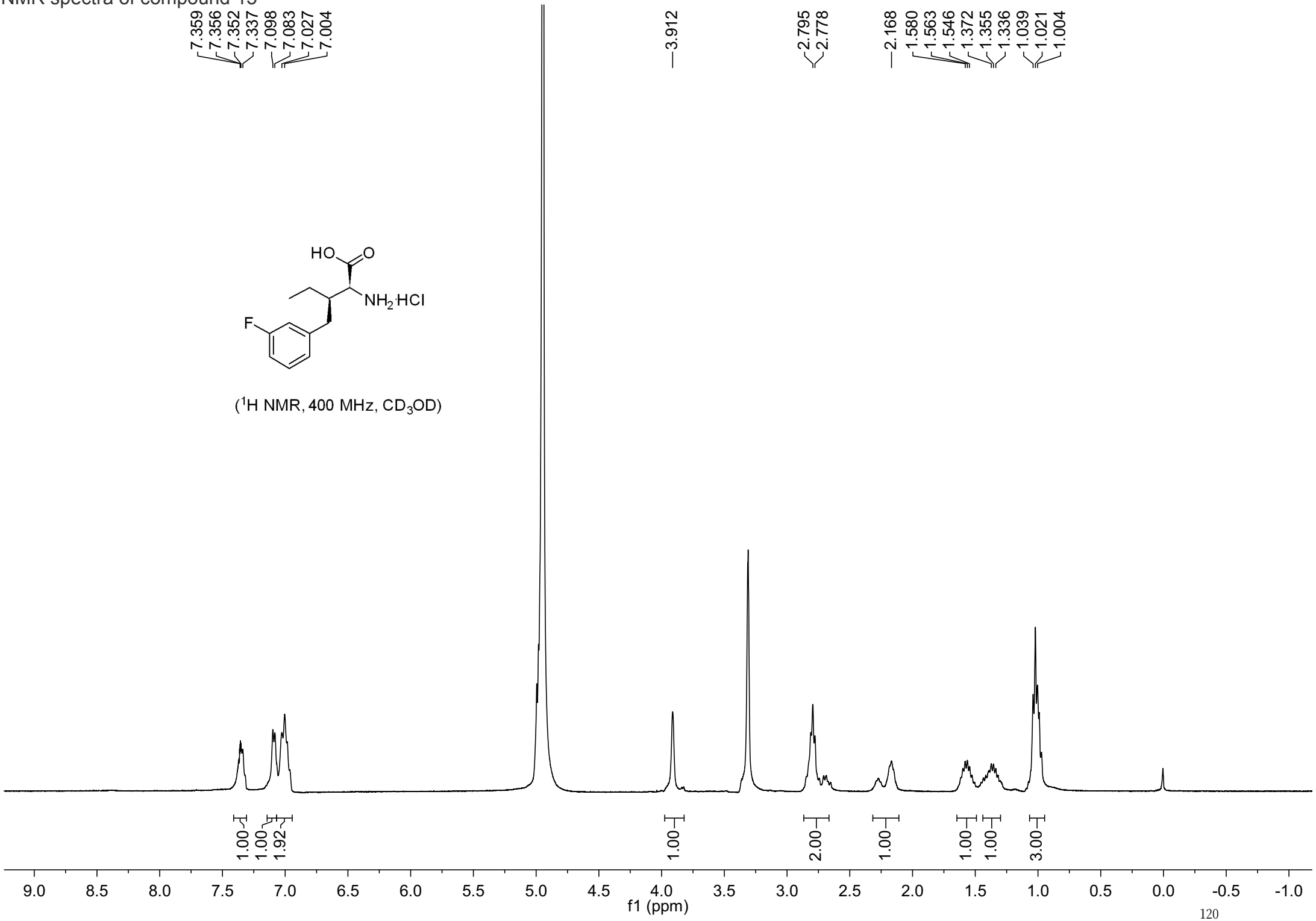


NMR spectra of compound 14

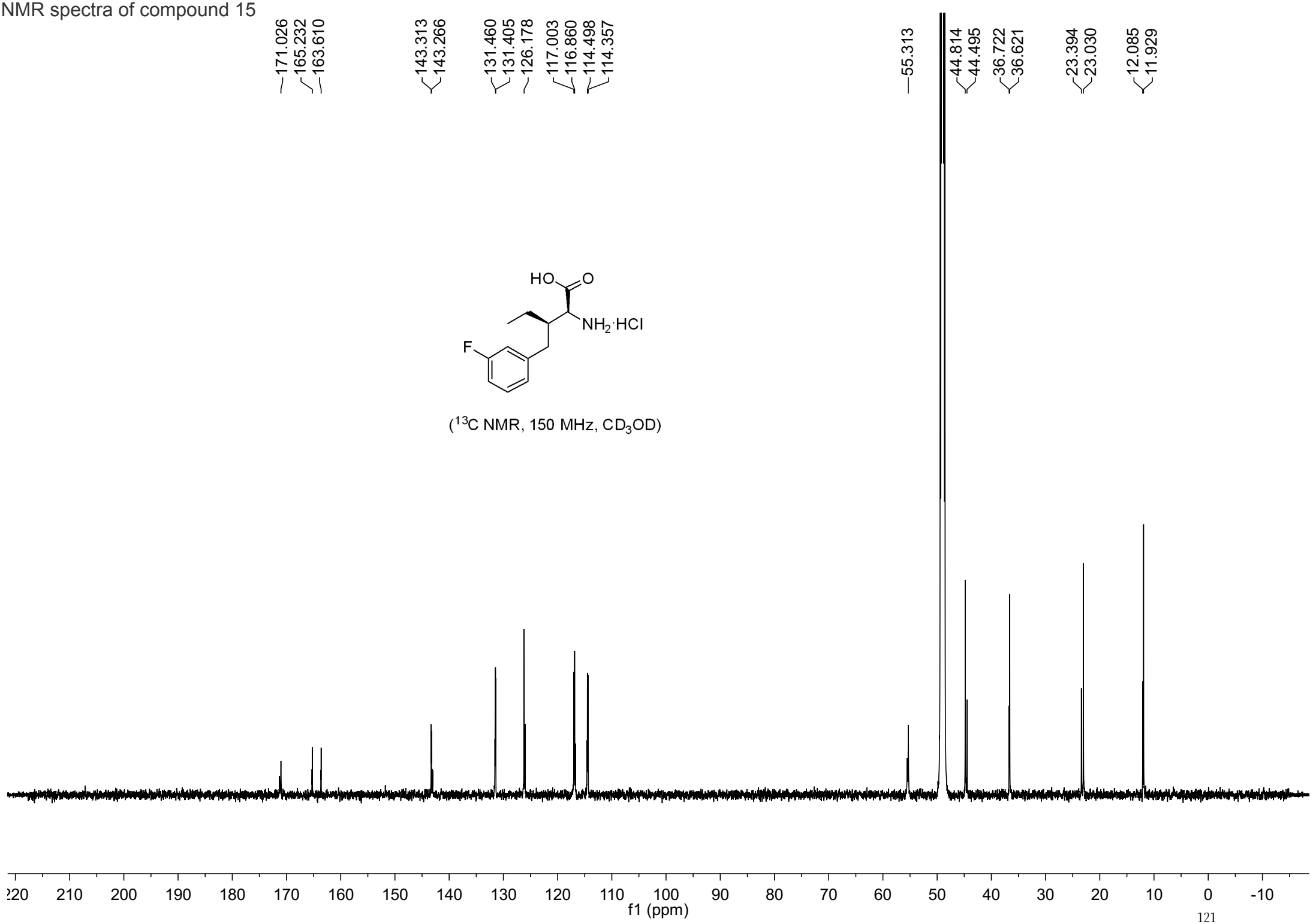


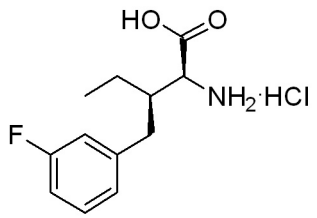
(^{19}F NMR, 376 MHz, $CDCl_3$)

NMR spectra of compound 15

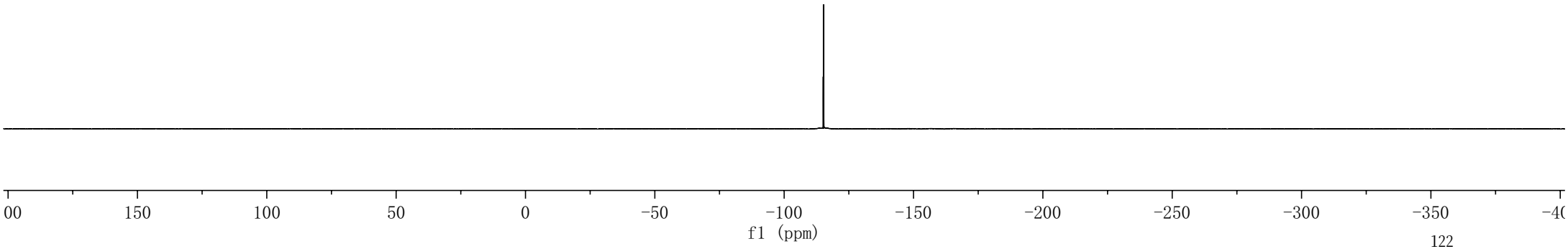


NMR spectra of compound 15

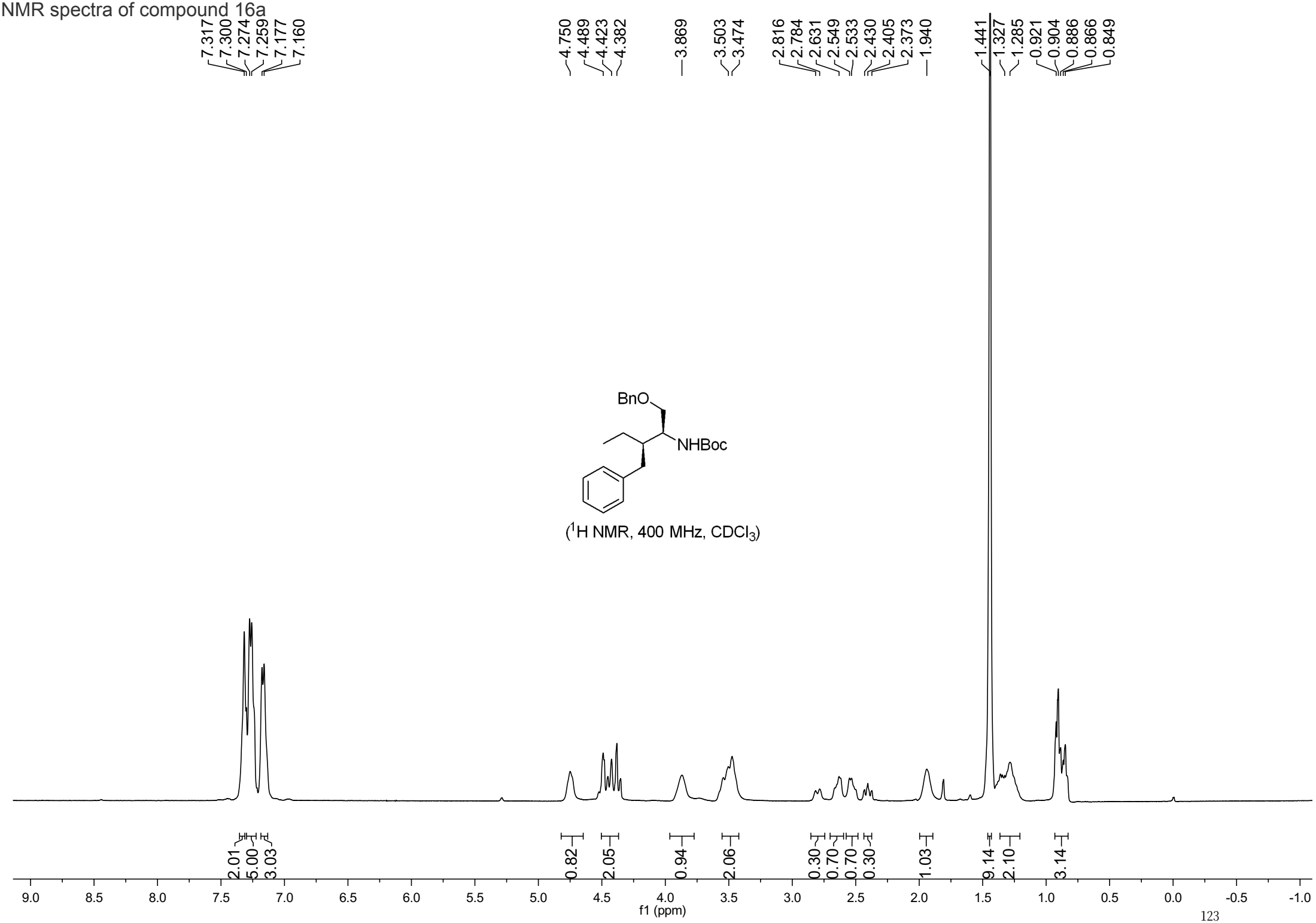




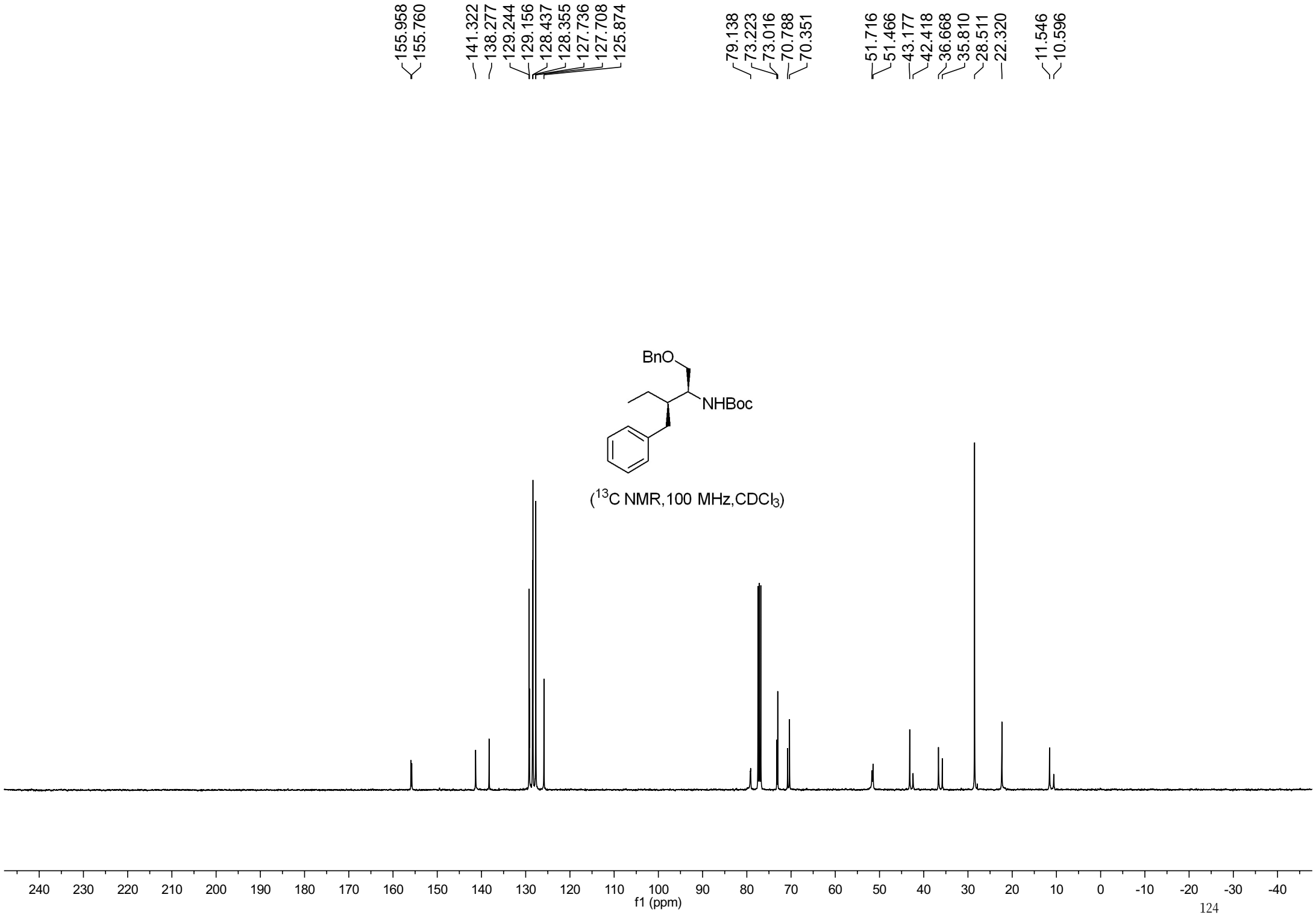
(^{19}F NMR, 376 MHz, CD_3OD)



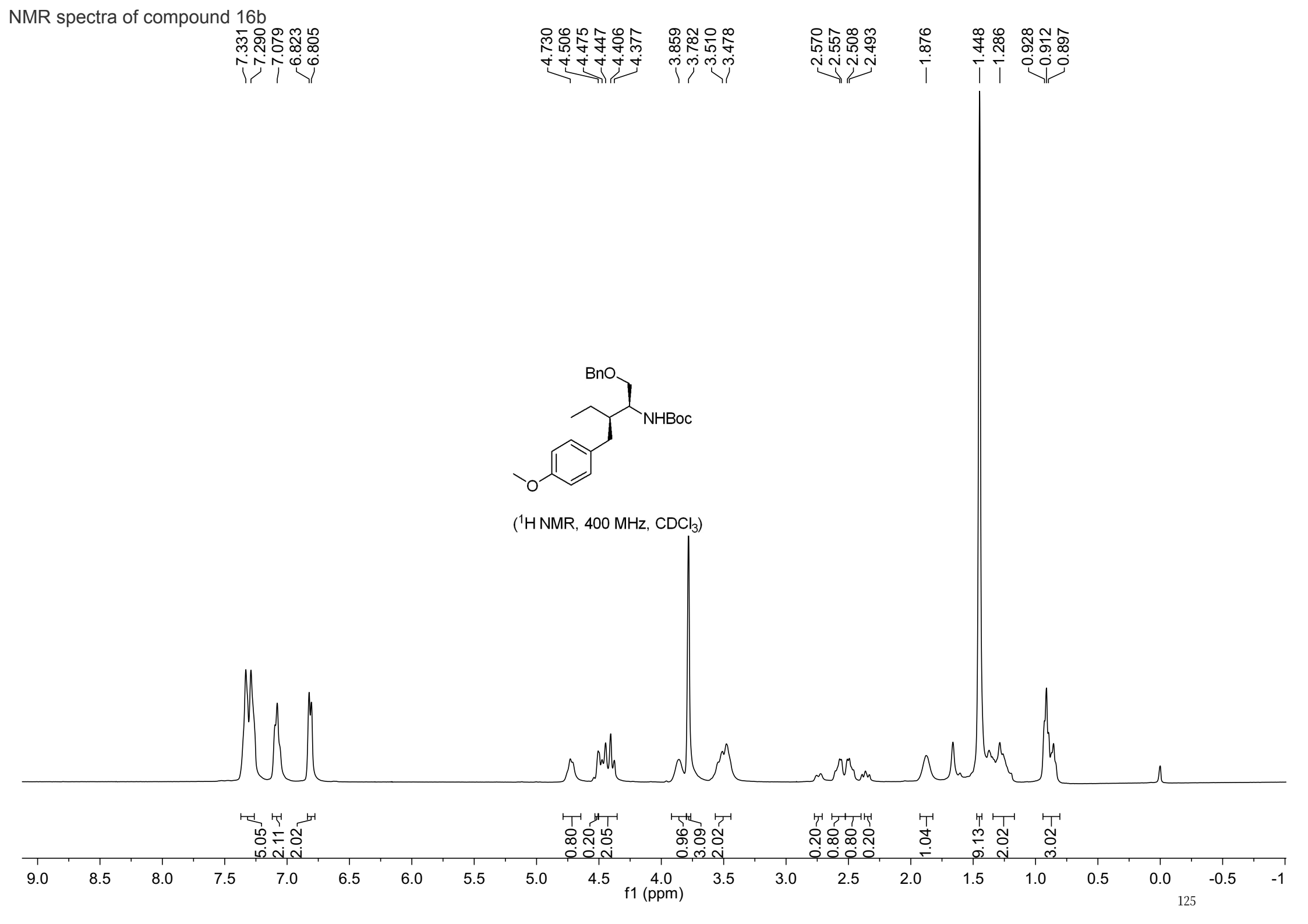
NMR spectra of compound 16a



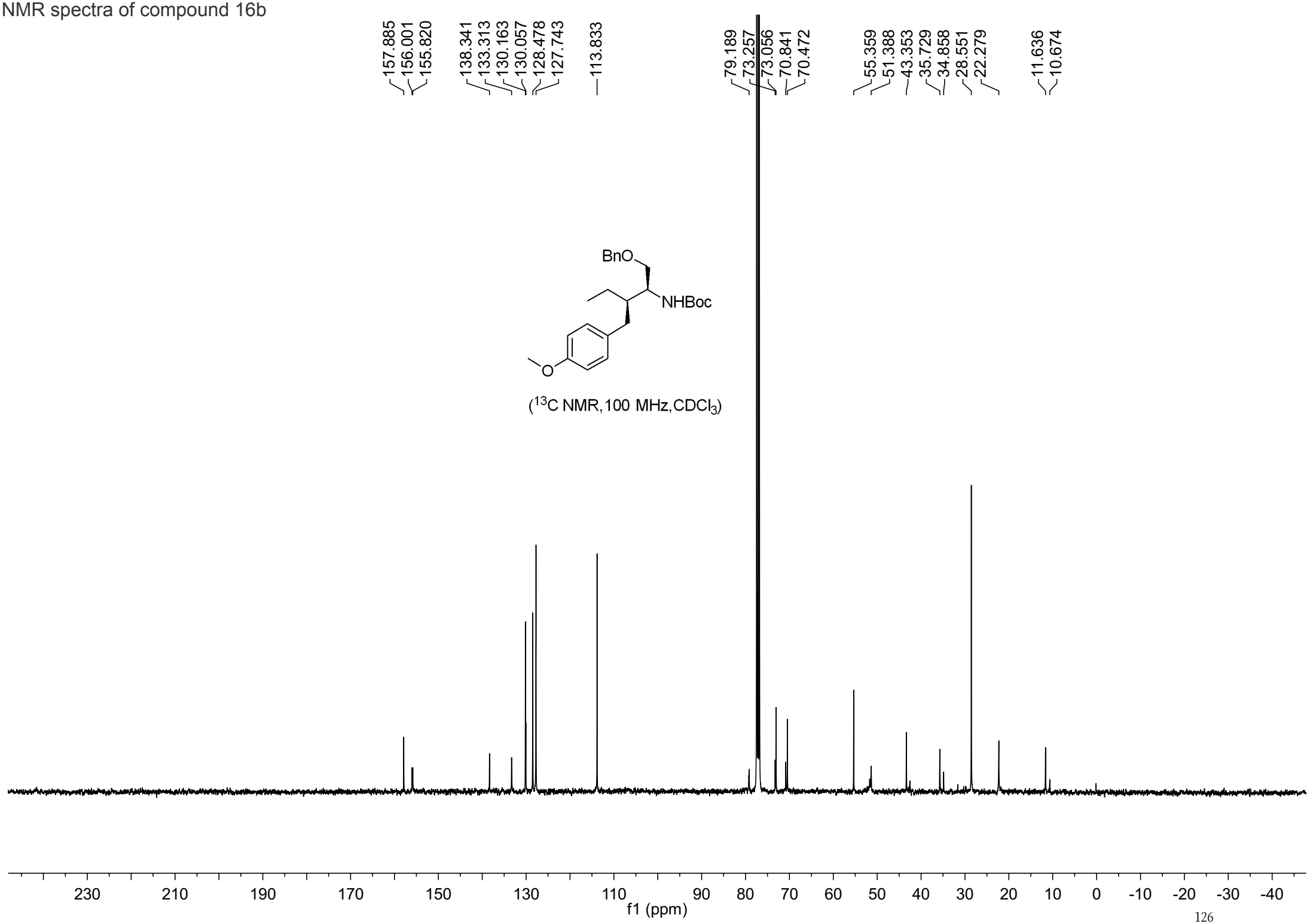
NMR spectra of compound 16a



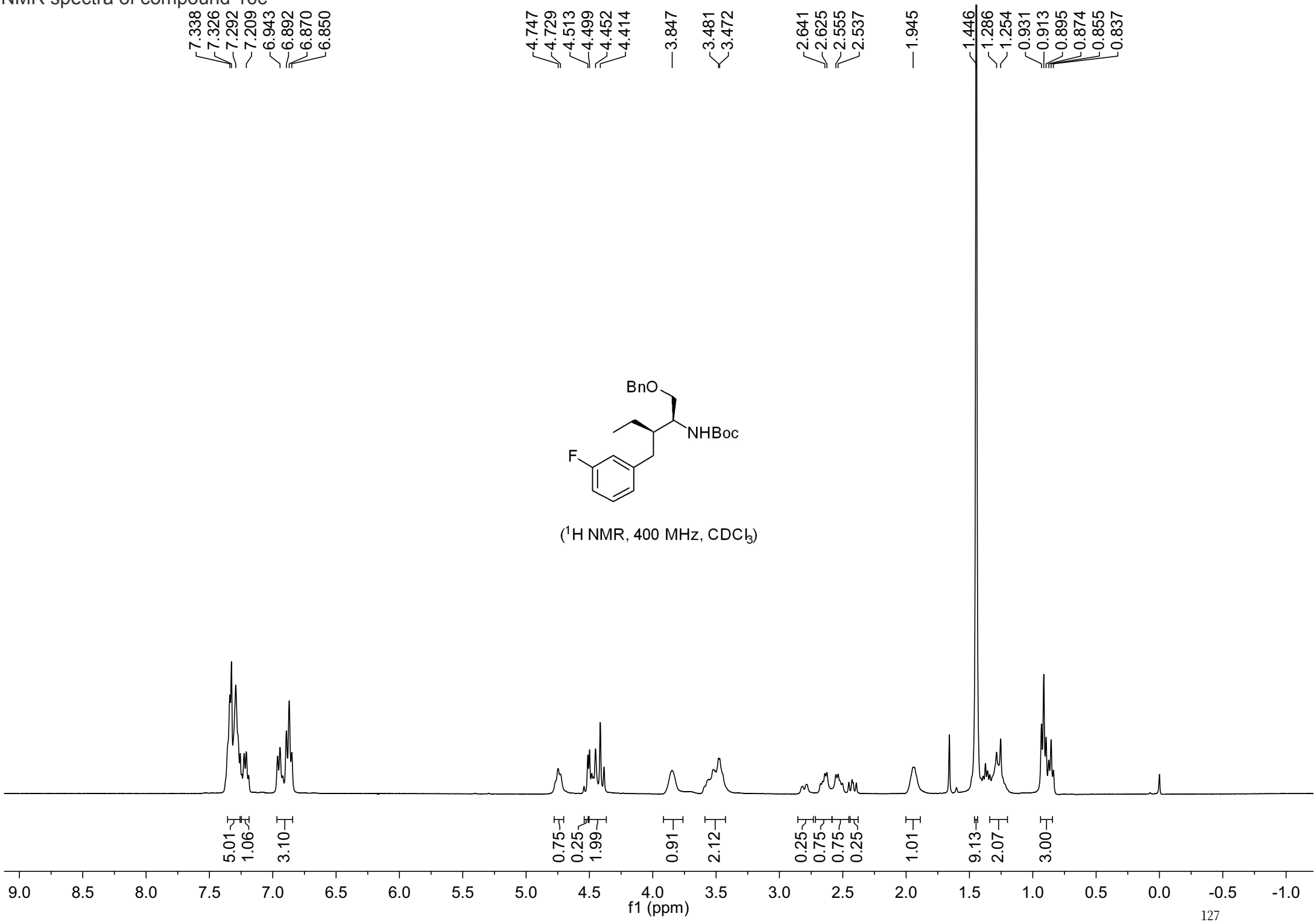
NMR spectra of compound 16b



NMR spectra of compound 16b

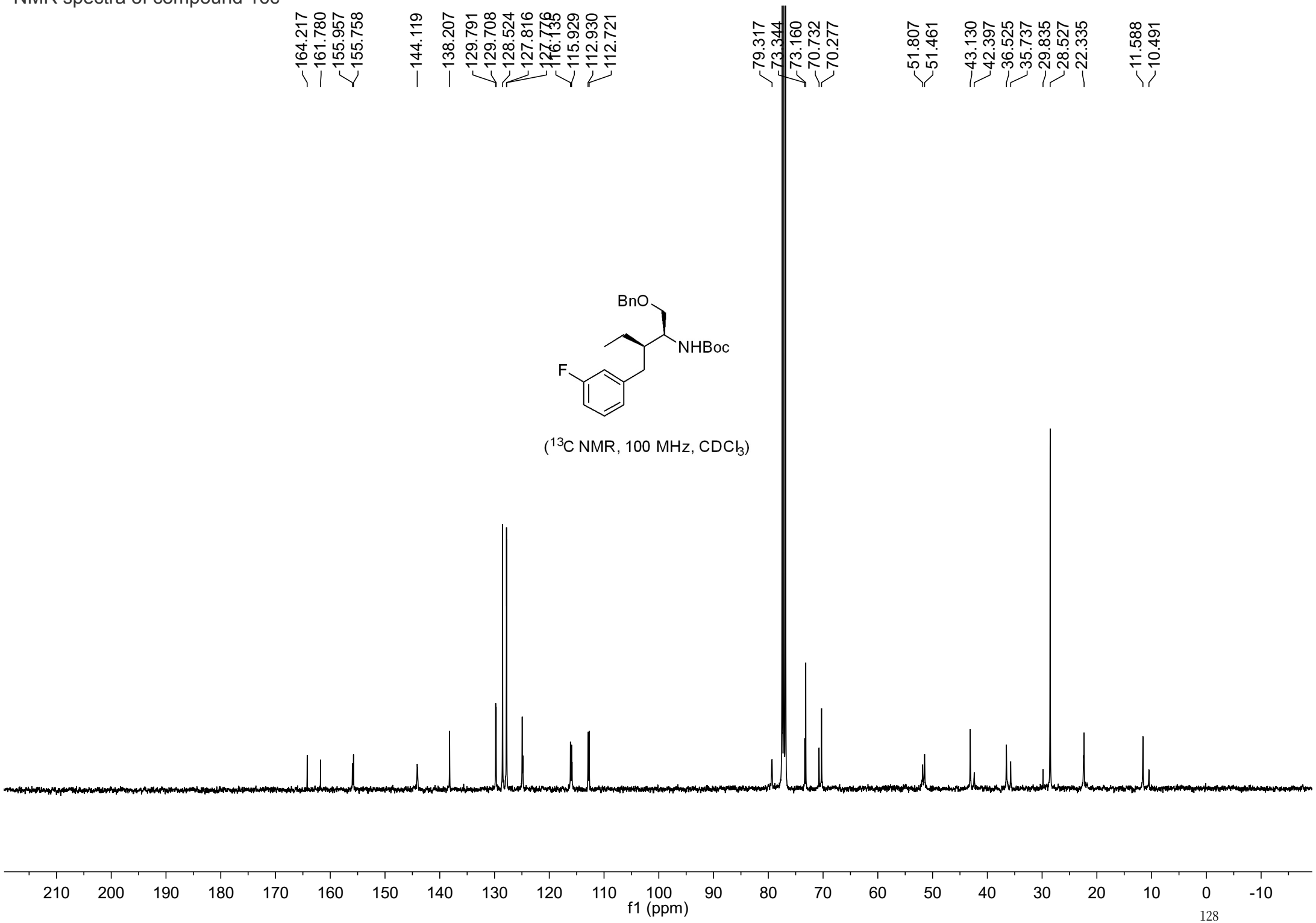


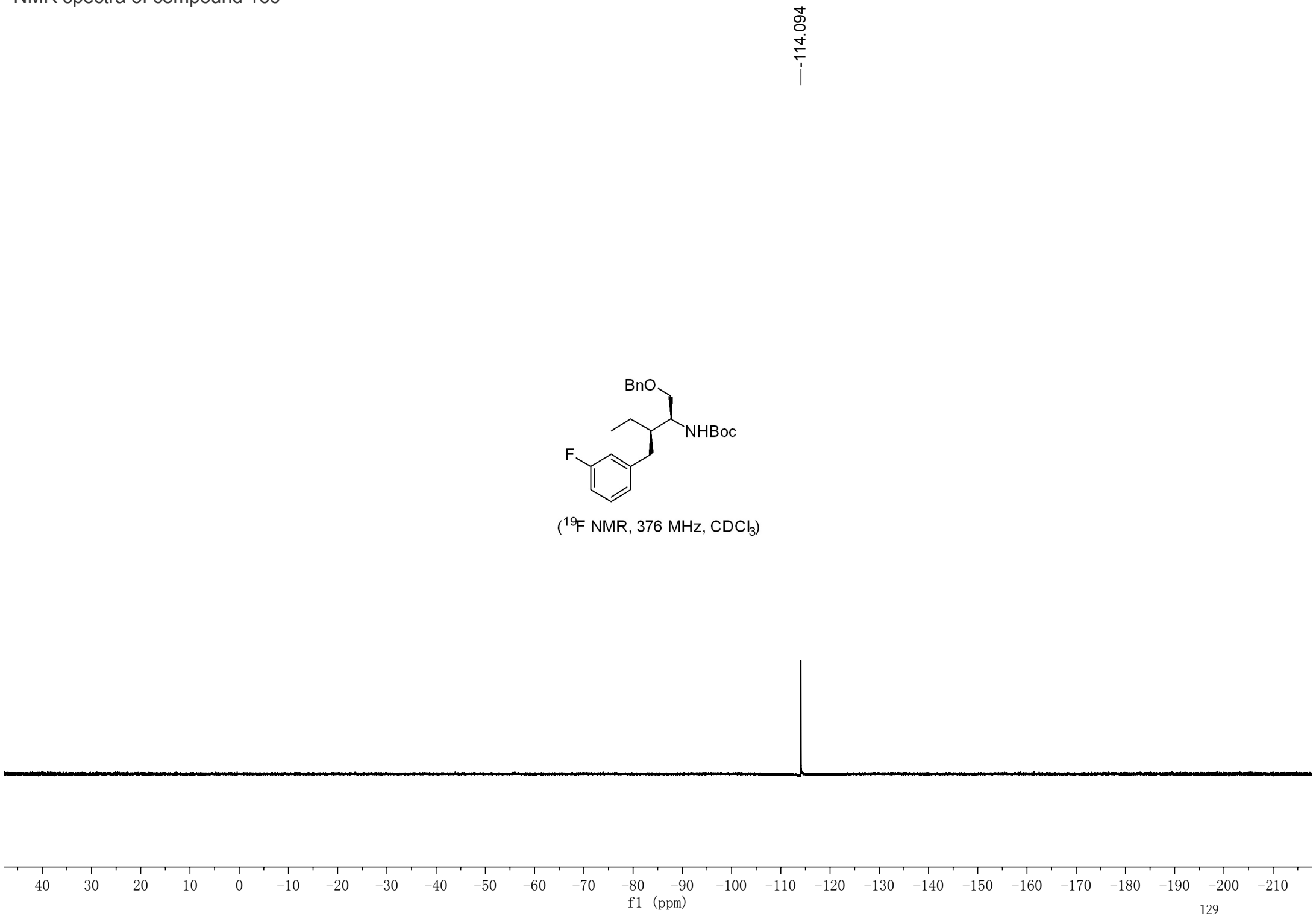
NMR spectra of compound 16c



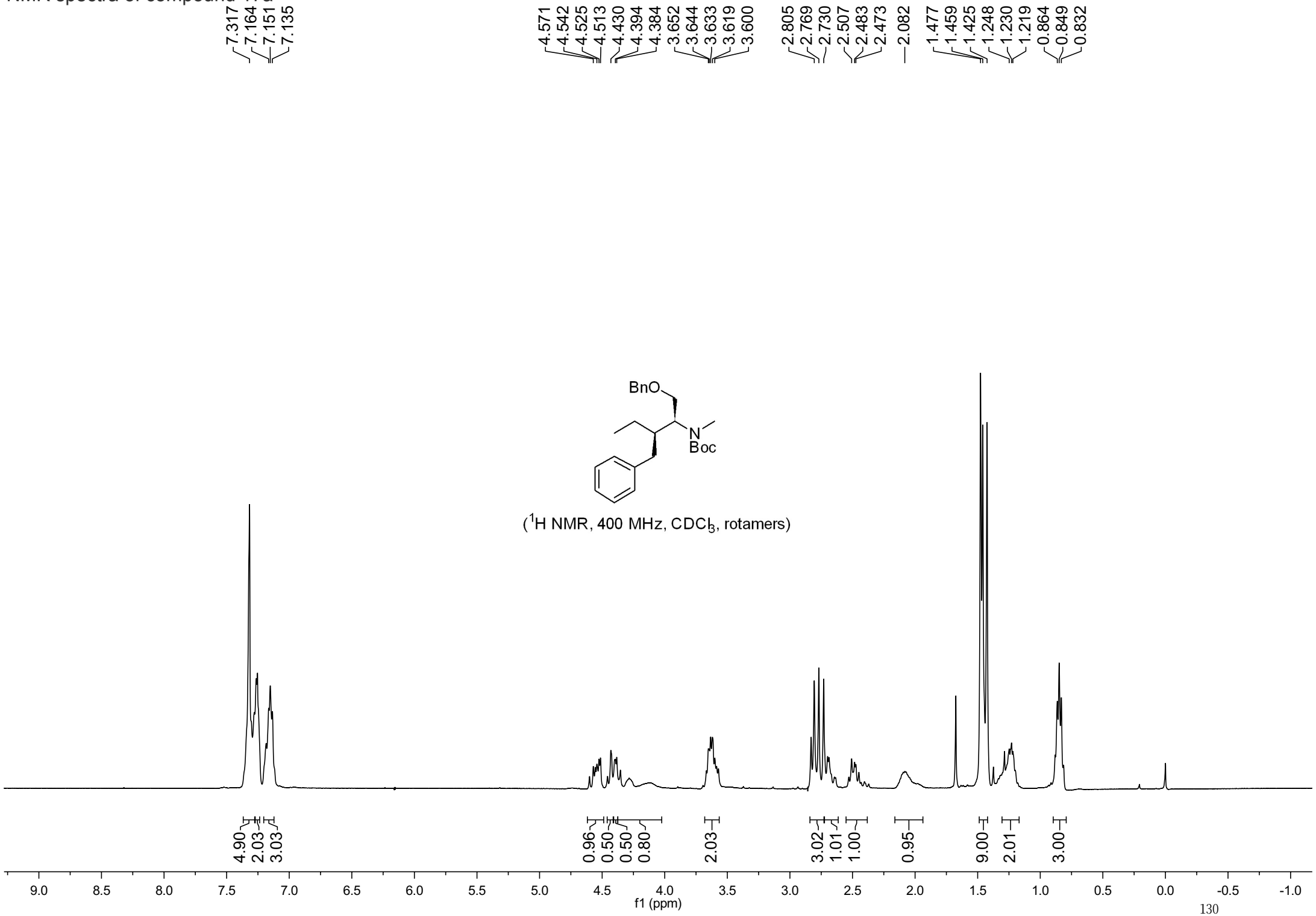
(^{1}H NMR, 400 MHz, $CDCl_3$)

NMR spectra of compound 16c

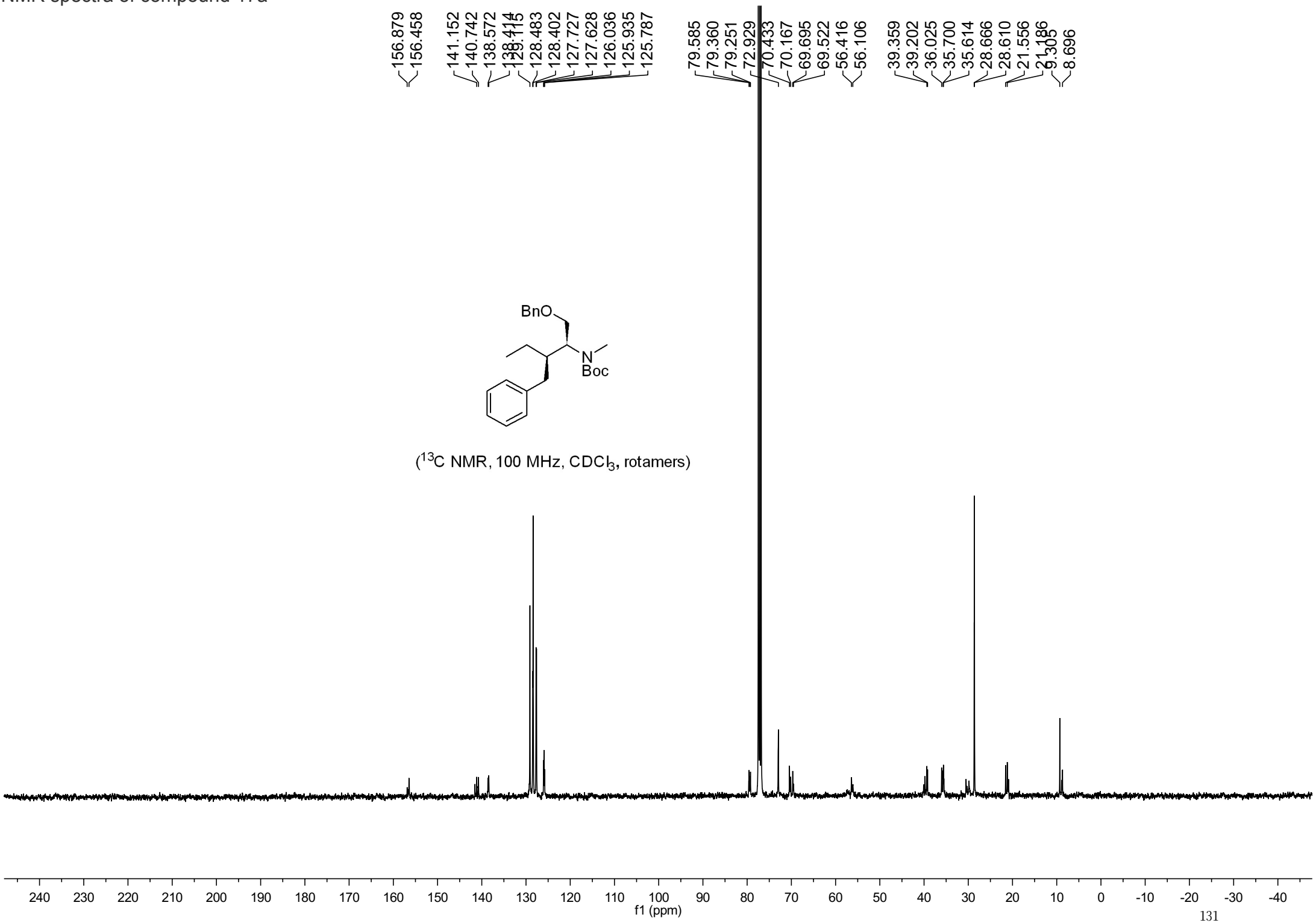



-114.094
BnO
NHBoc
F
(19F NMR, 376 MHz, CDCl3)
40 30 20 10 0 -10 -20 -30 -40 -50 -60 -70 -80 -90 -100 -110 -120 -130 -140 -150 -160 -170 -180 -190 -200 -210
f1 (ppm)

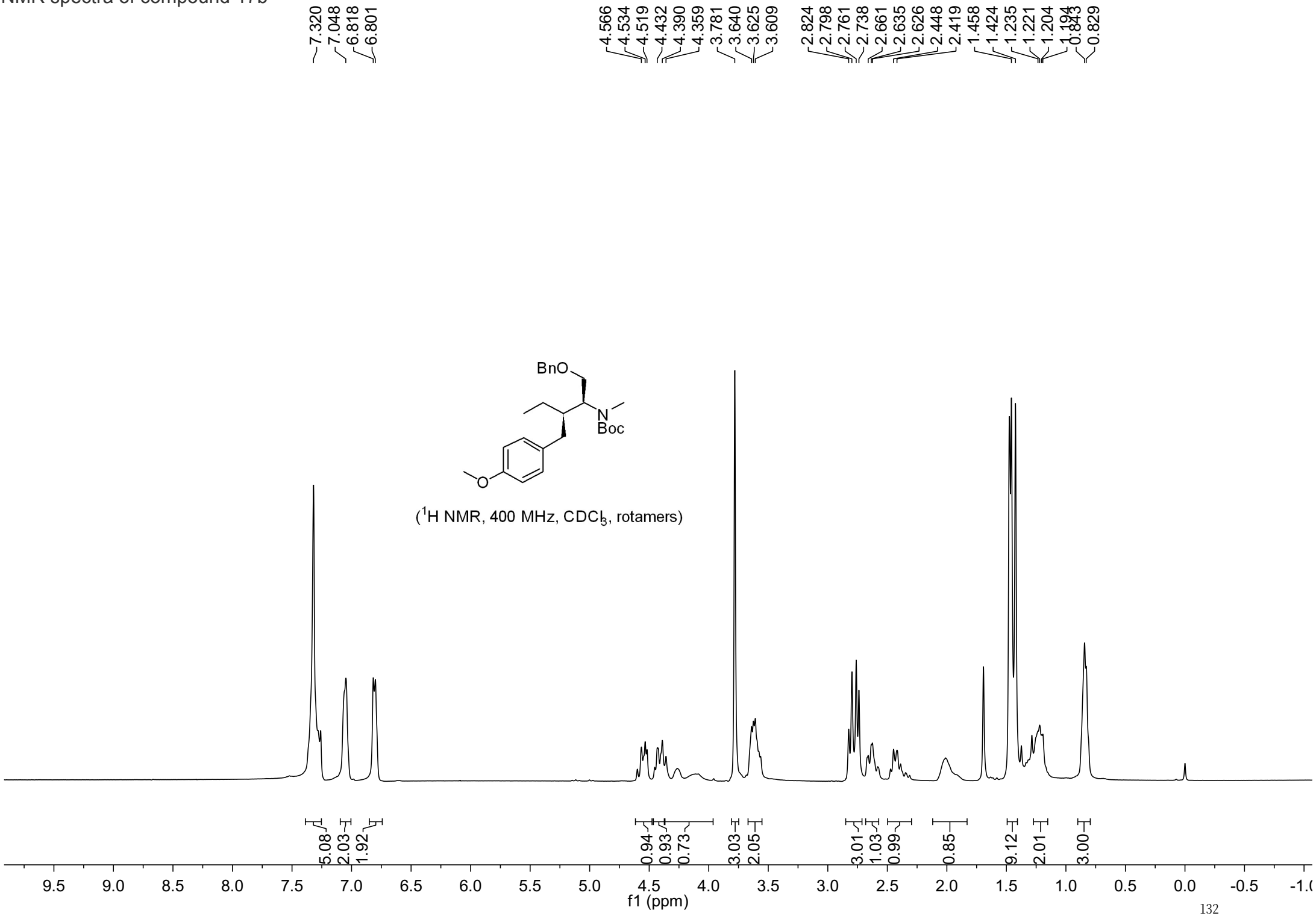
NMR spectra of compound 17a



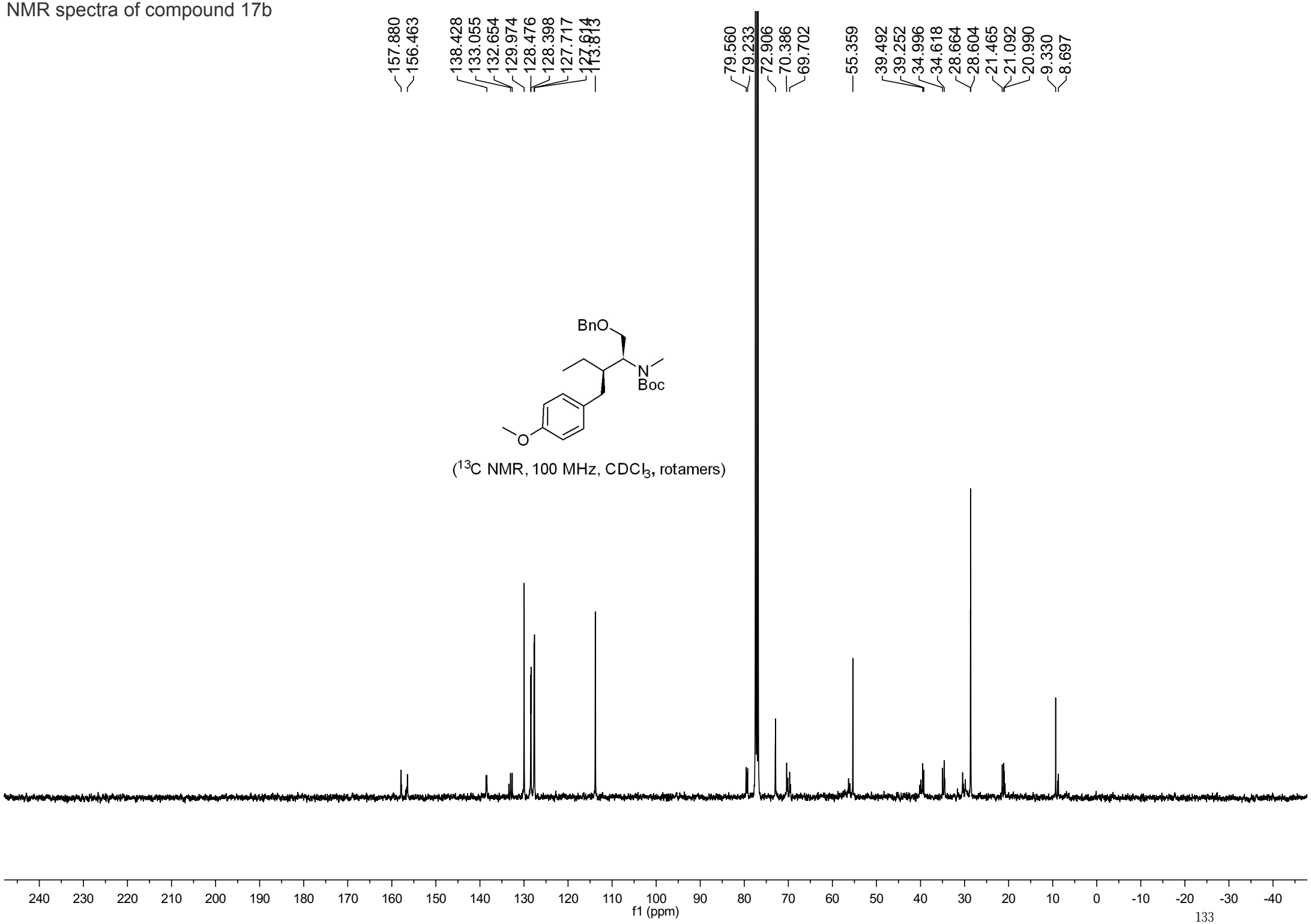
NMR spectra of compound 17a



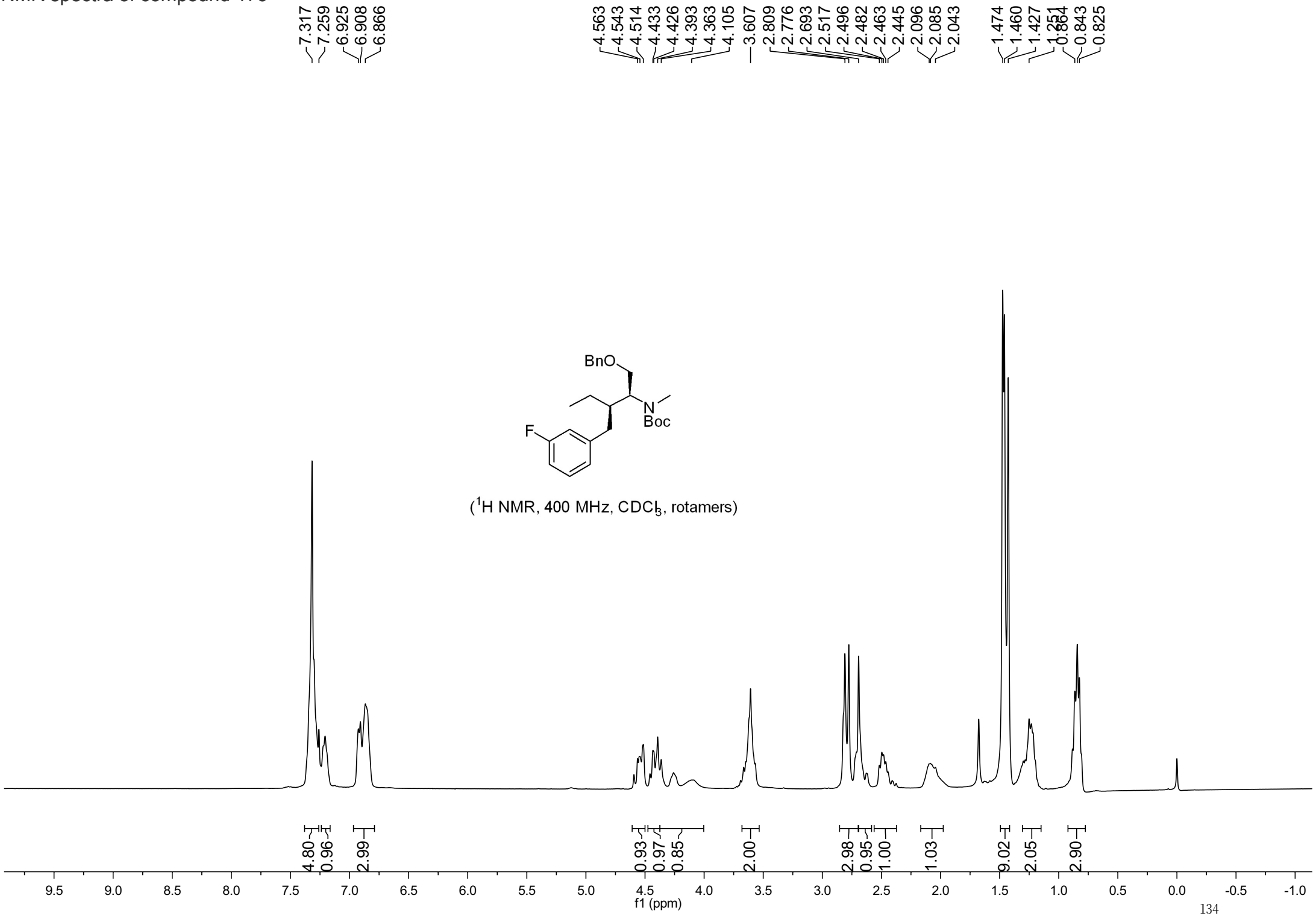
NMR spectra of compound 17b



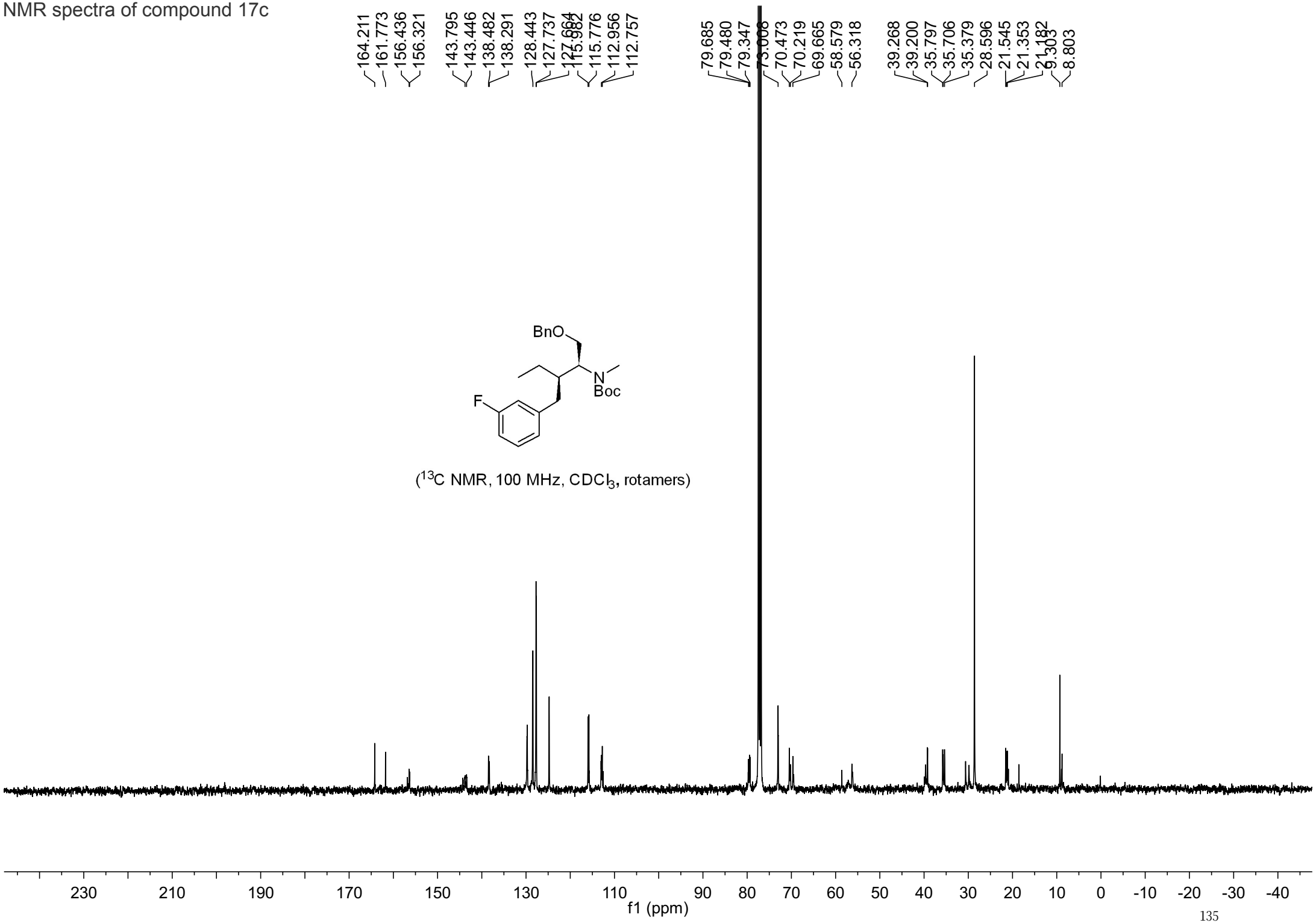
NMR spectra of compound 17b



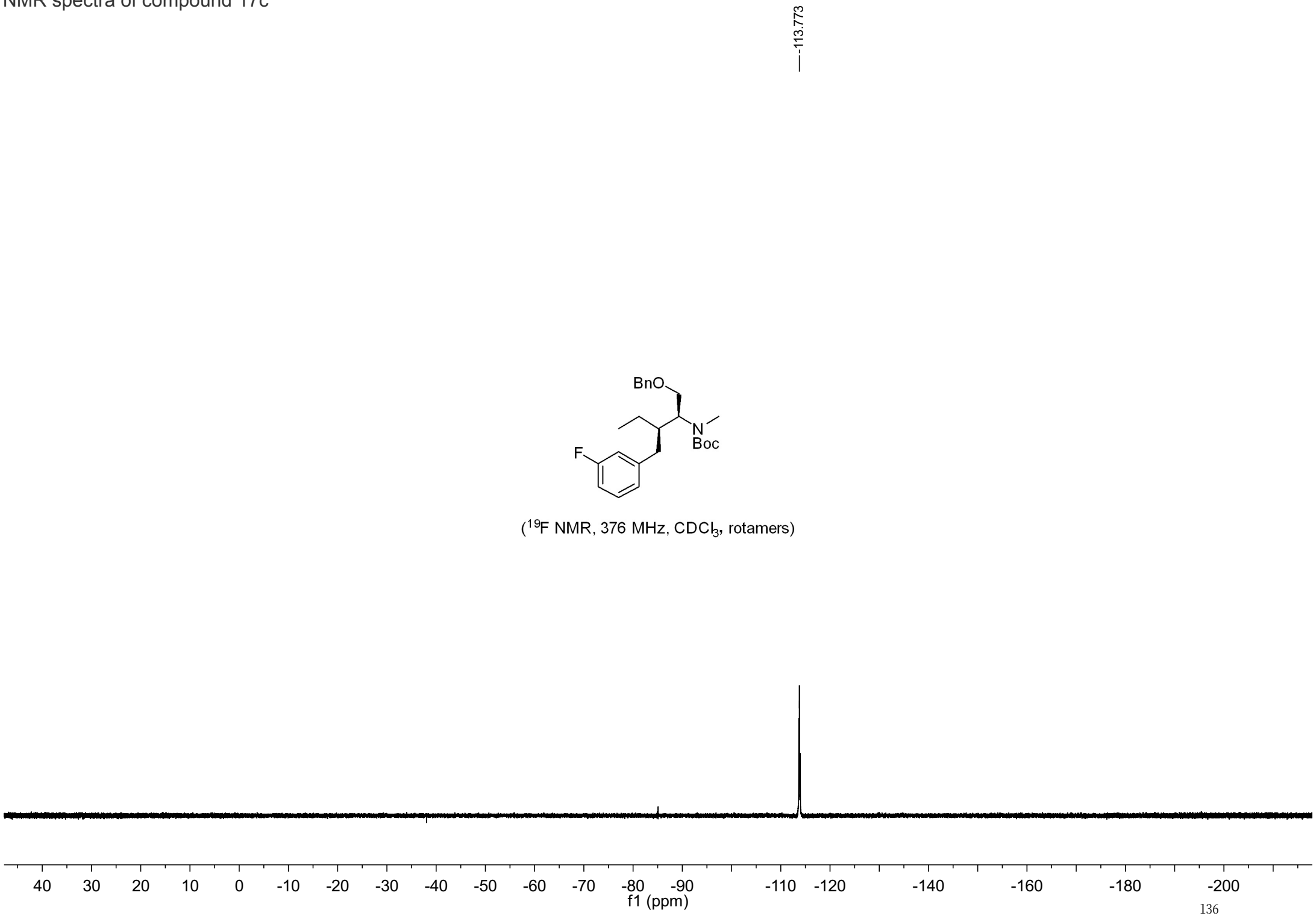
NMR spectra of compound 17c



NMR spectra of compound 17c

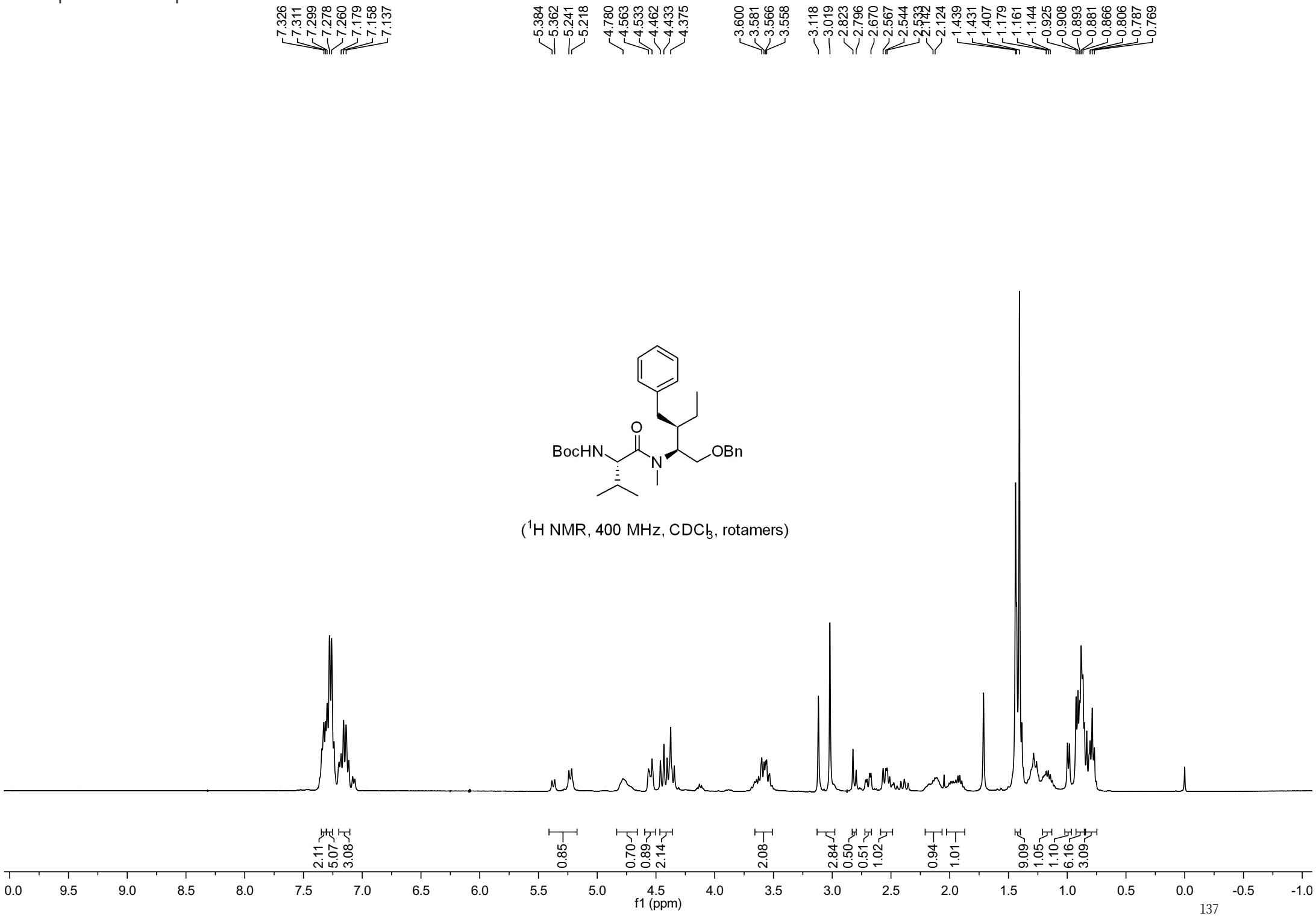


NMR spectra of compound 17c

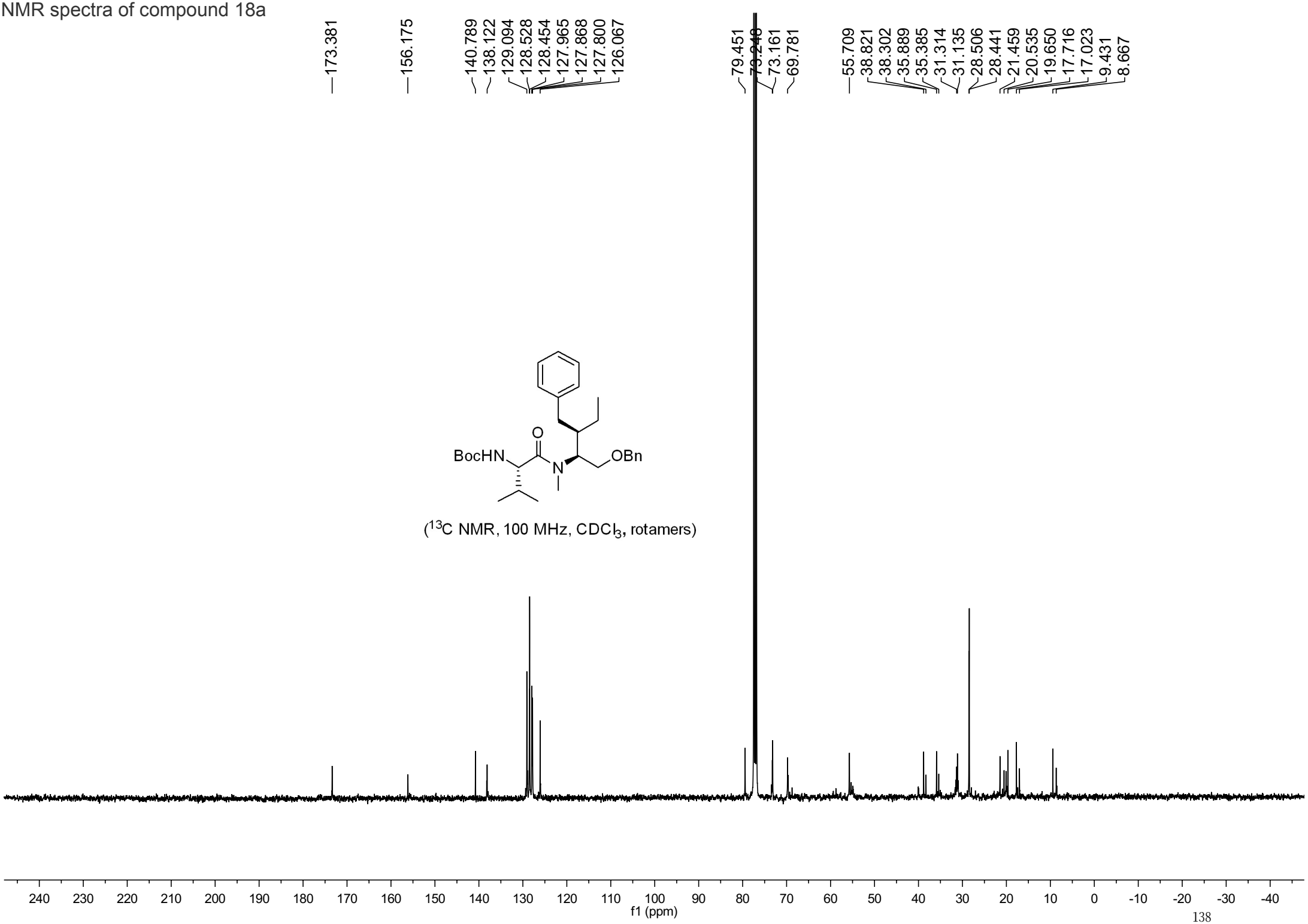


(^{19}F NMR, 376 MHz, $CDCl_3$, rotamers)

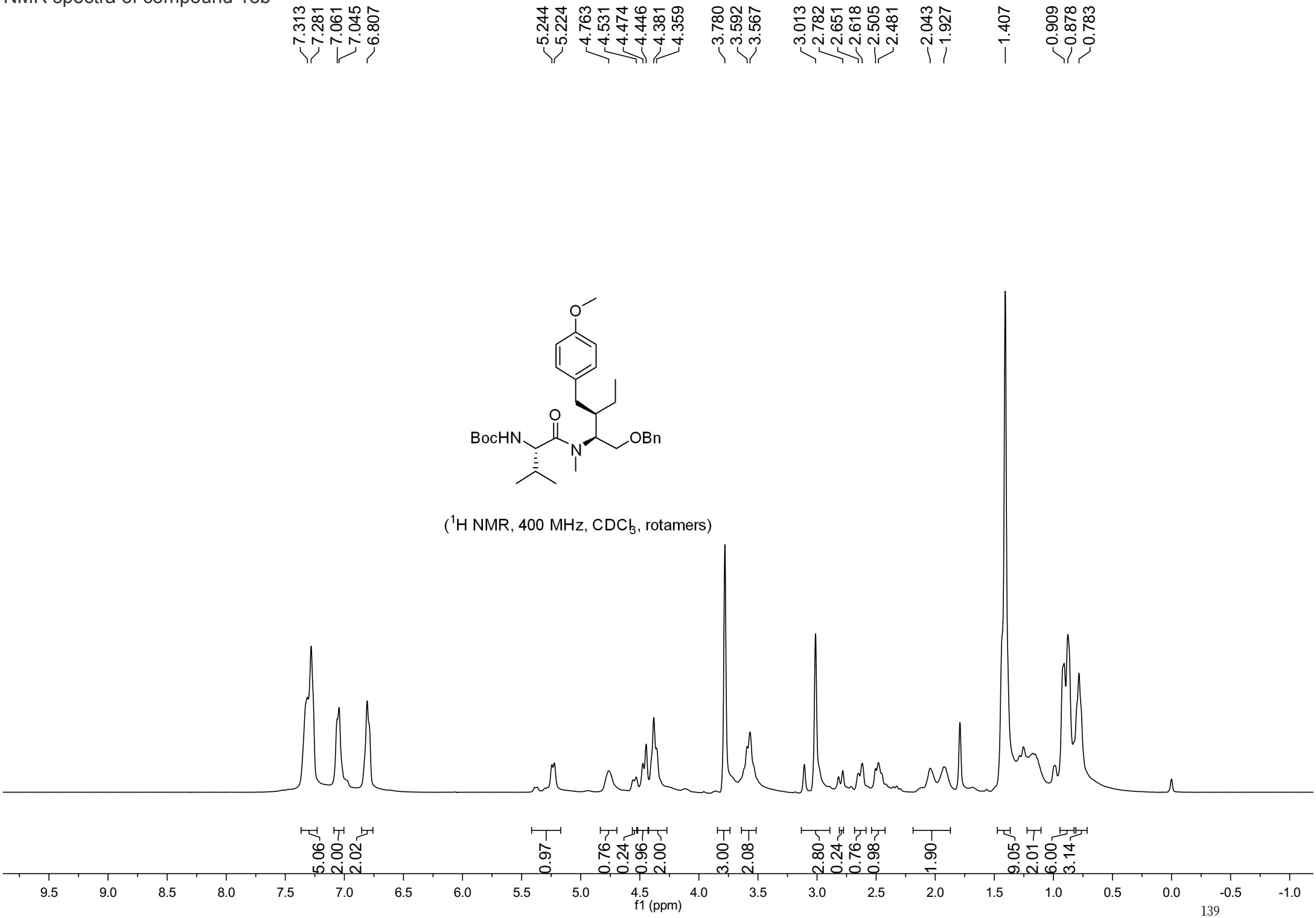
NMR spectra of compound 18a



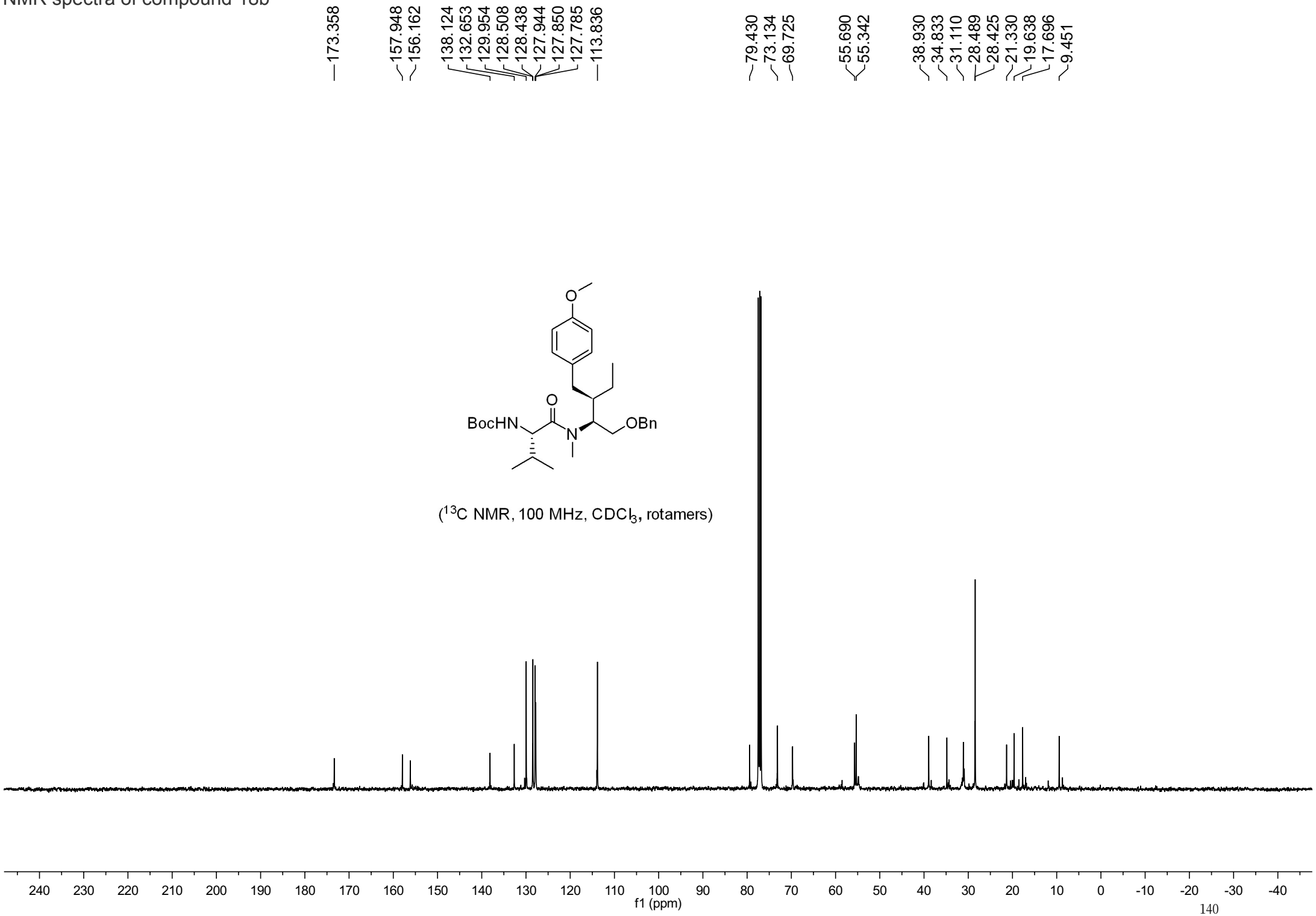
NMR spectra of compound 18a



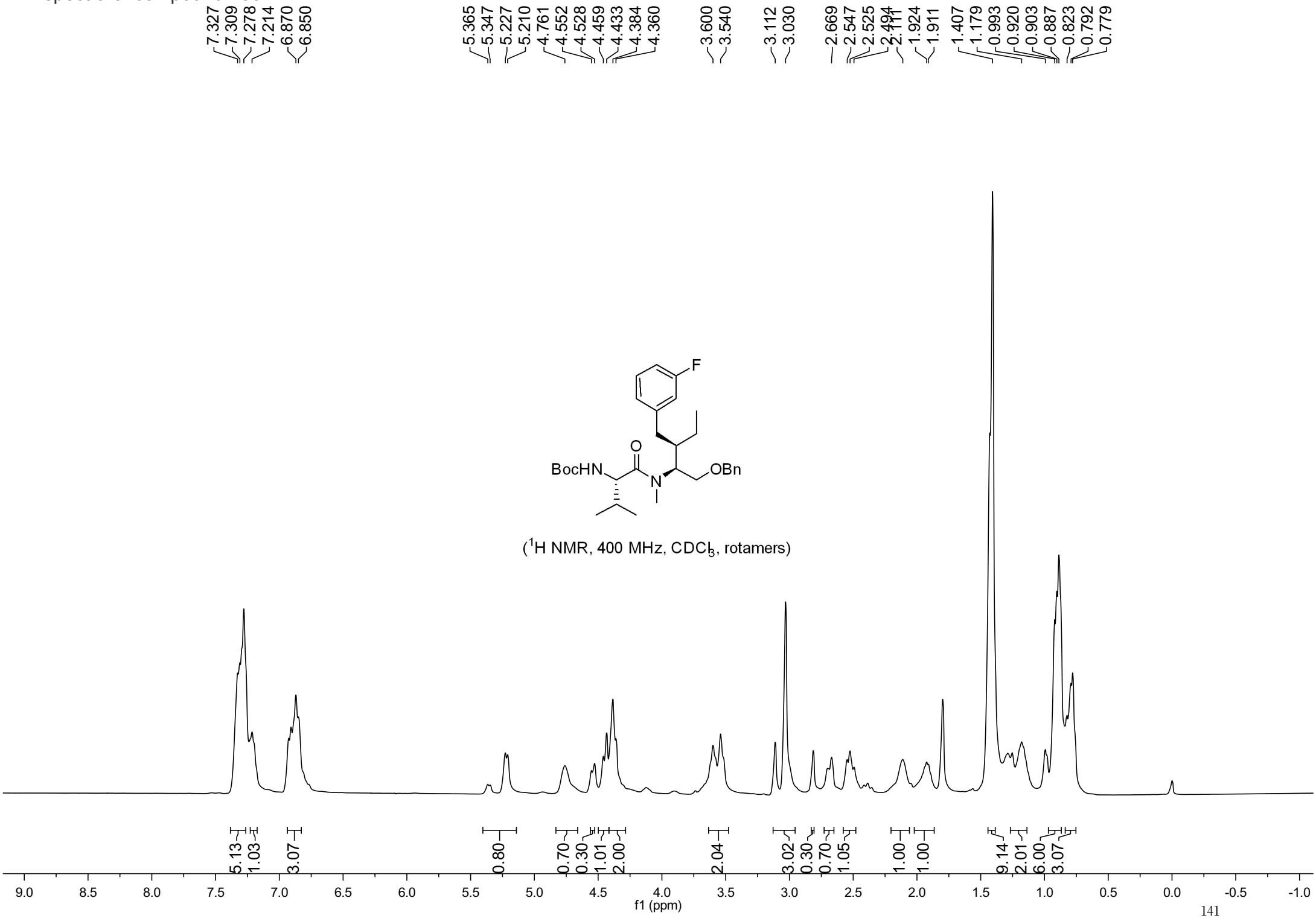
NMR spectra of compound 18b



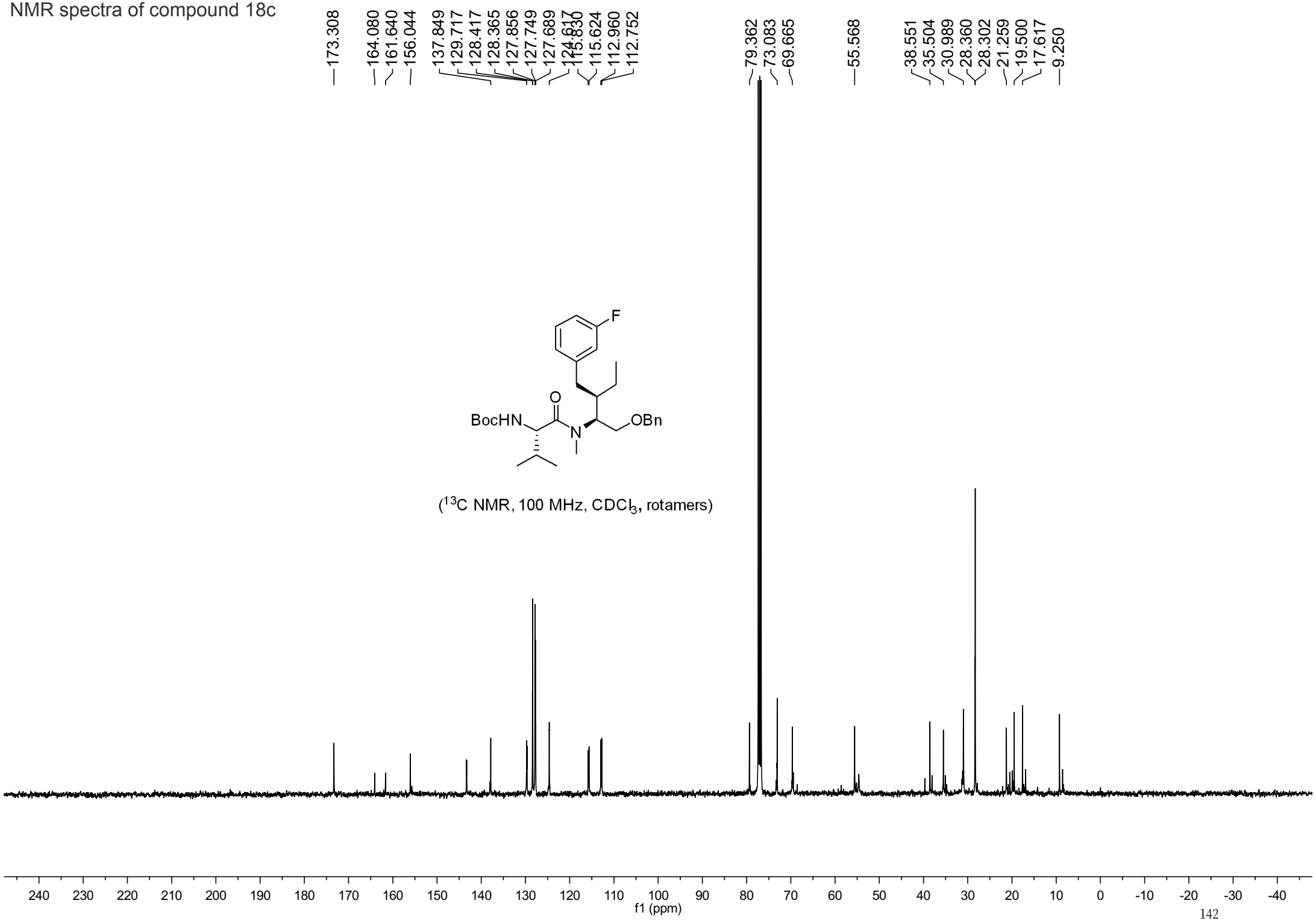
NMR spectra of compound 18b



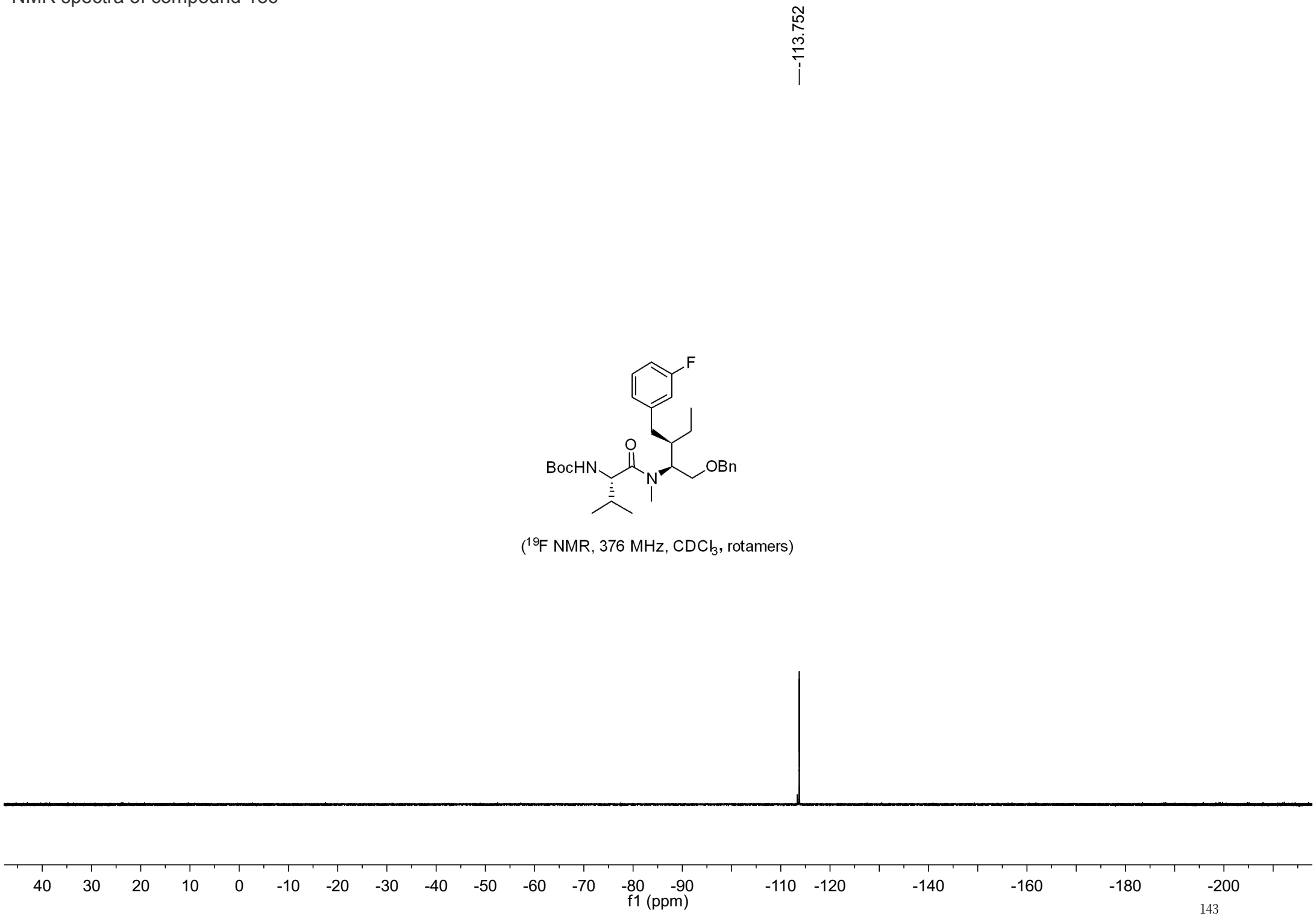
NMR spectra of compound 18c



NMR spectra of compound 18c

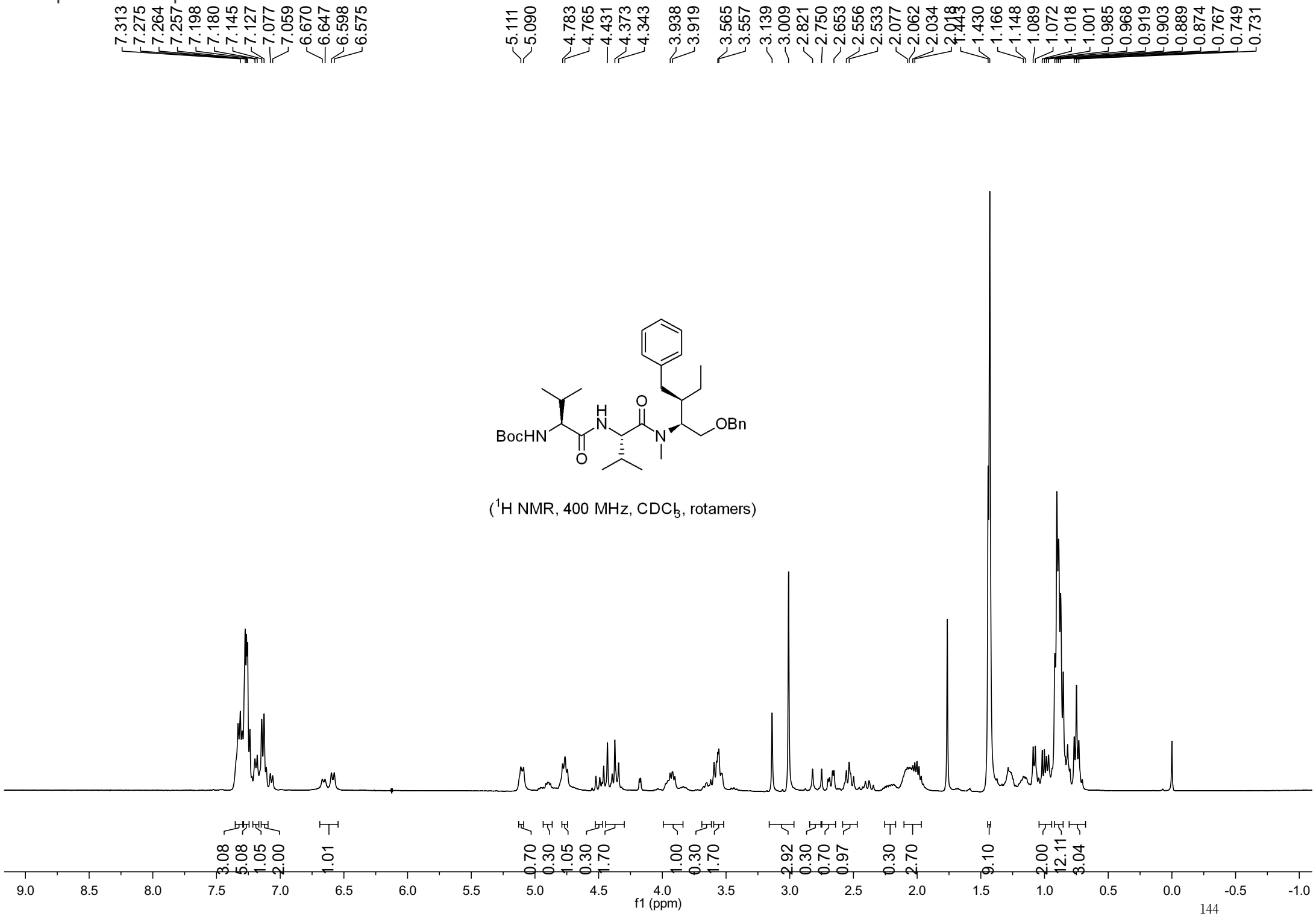


NMR spectra of compound 18c

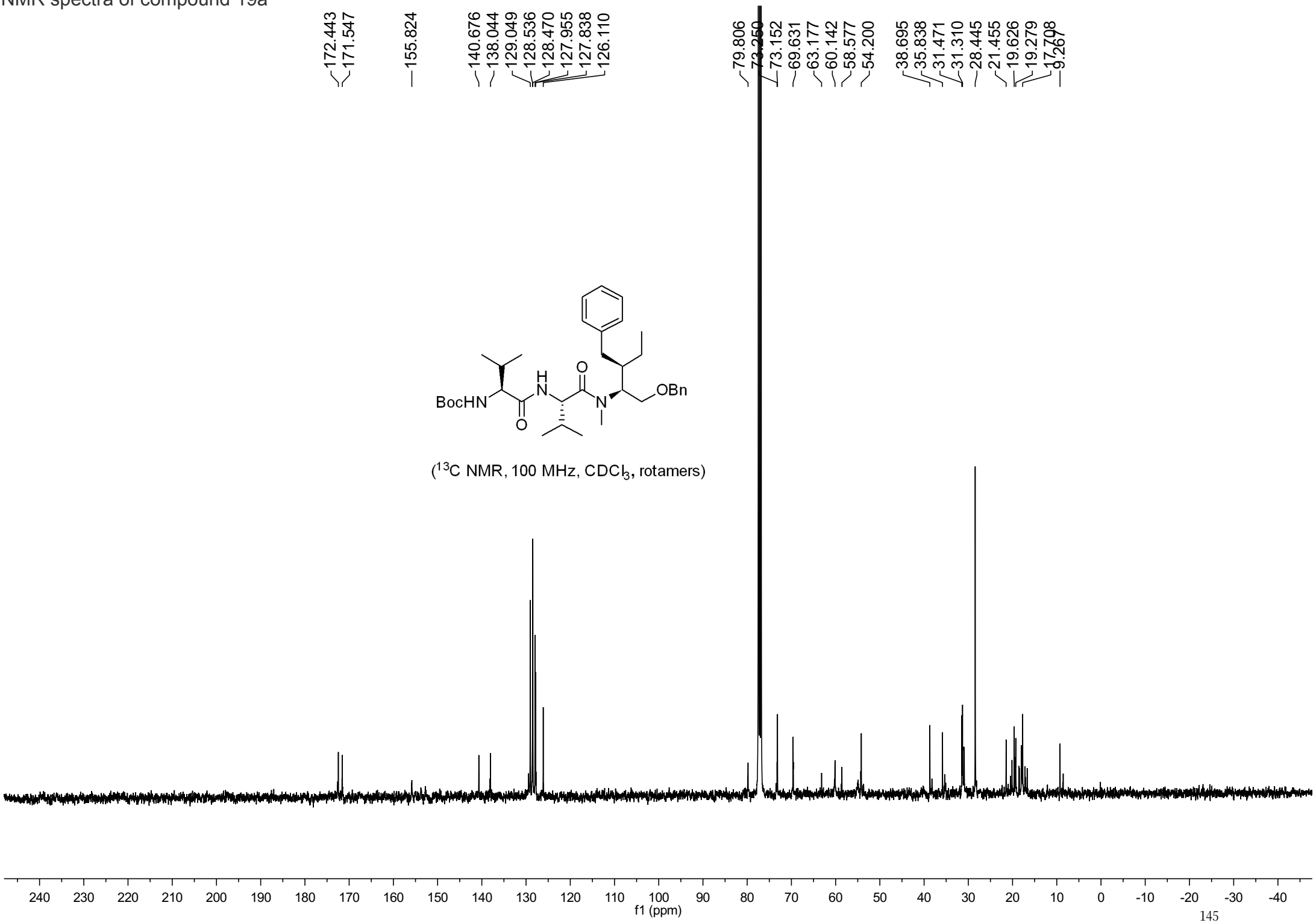


(^{19}F NMR, 376 MHz, $CDCl_3$, rotamers)

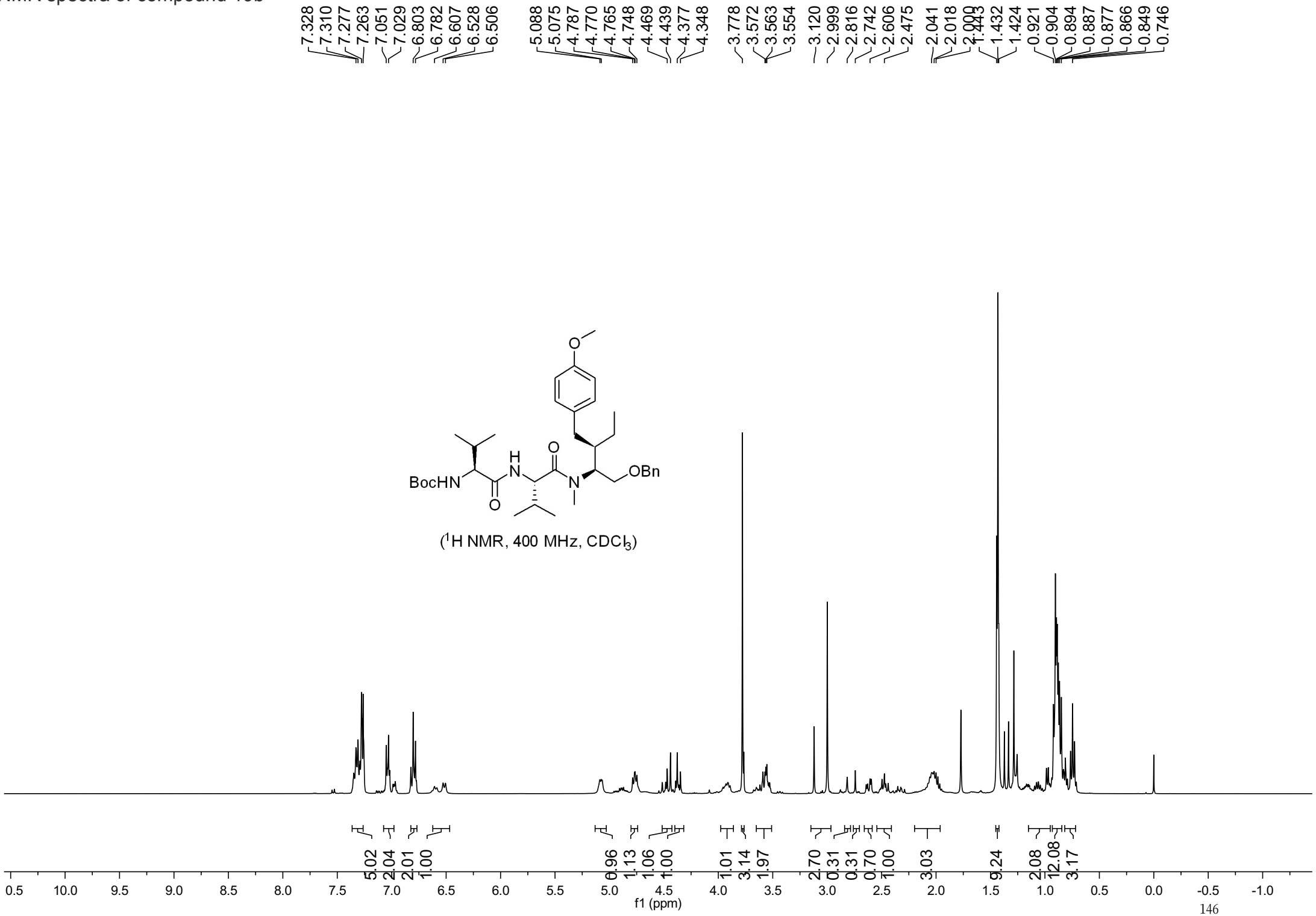
NMR spectra of compound 19a



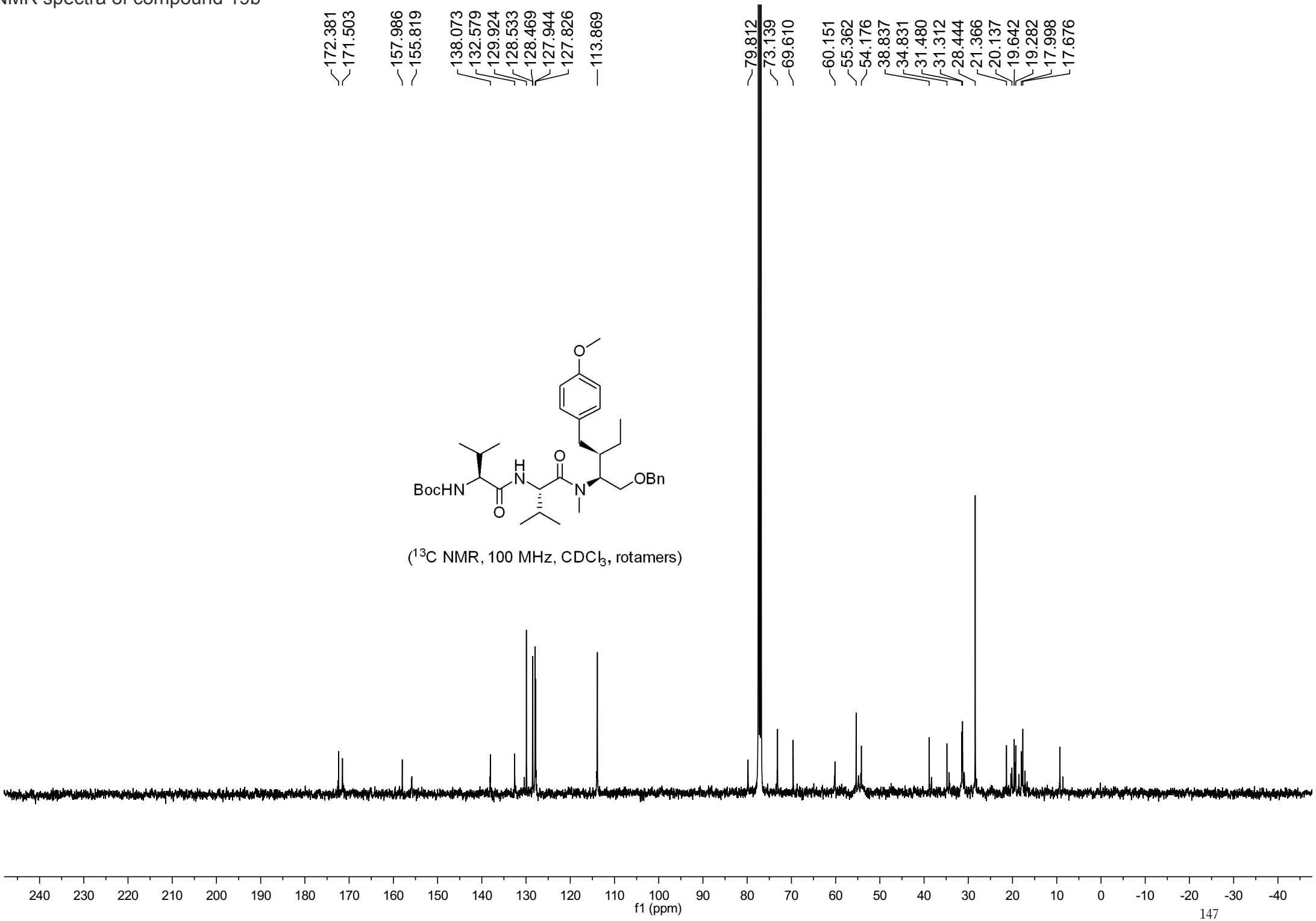
NMR spectra of compound 19a



NMR spectra of compound 19b

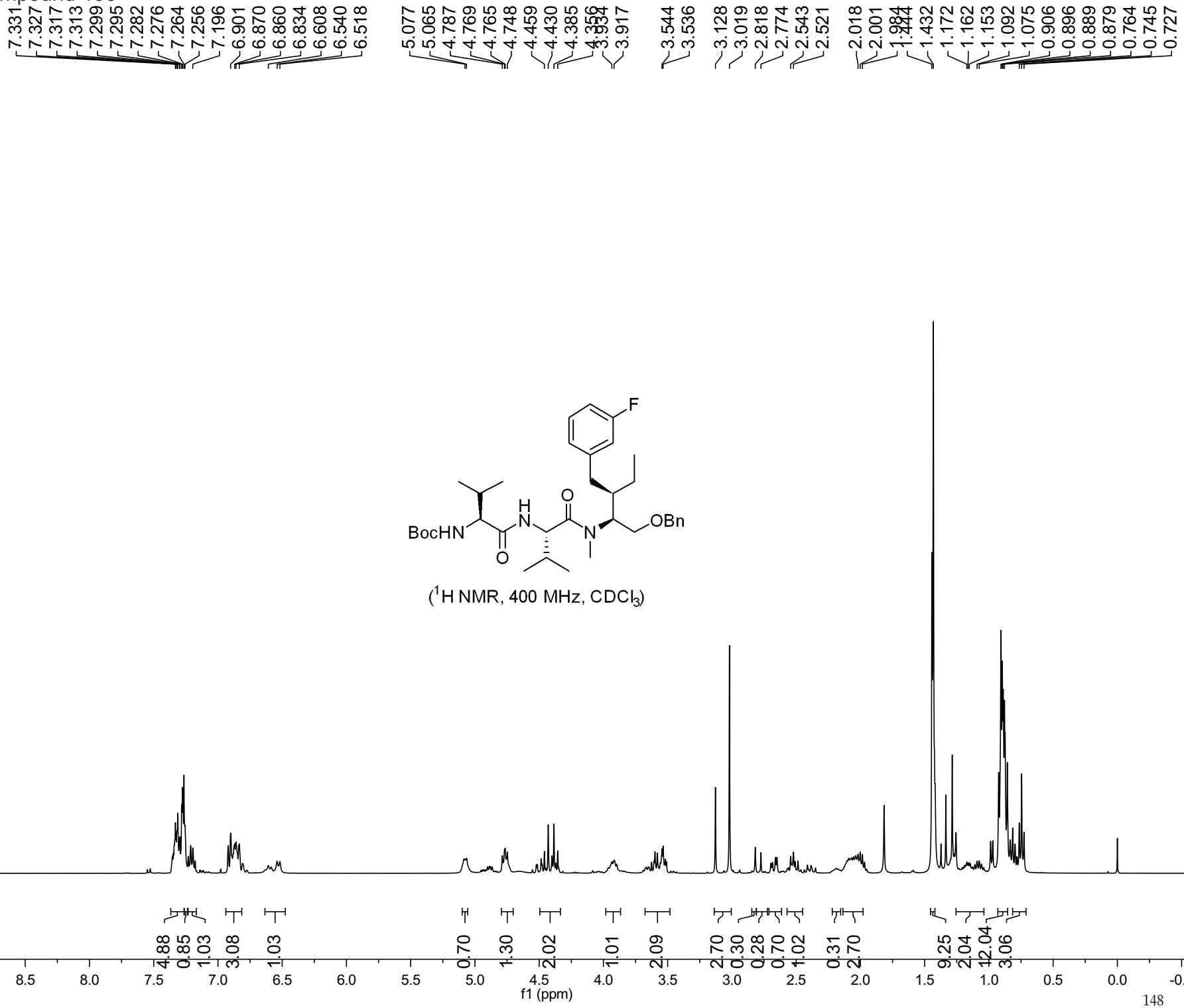


NMR spectra of compound 19b

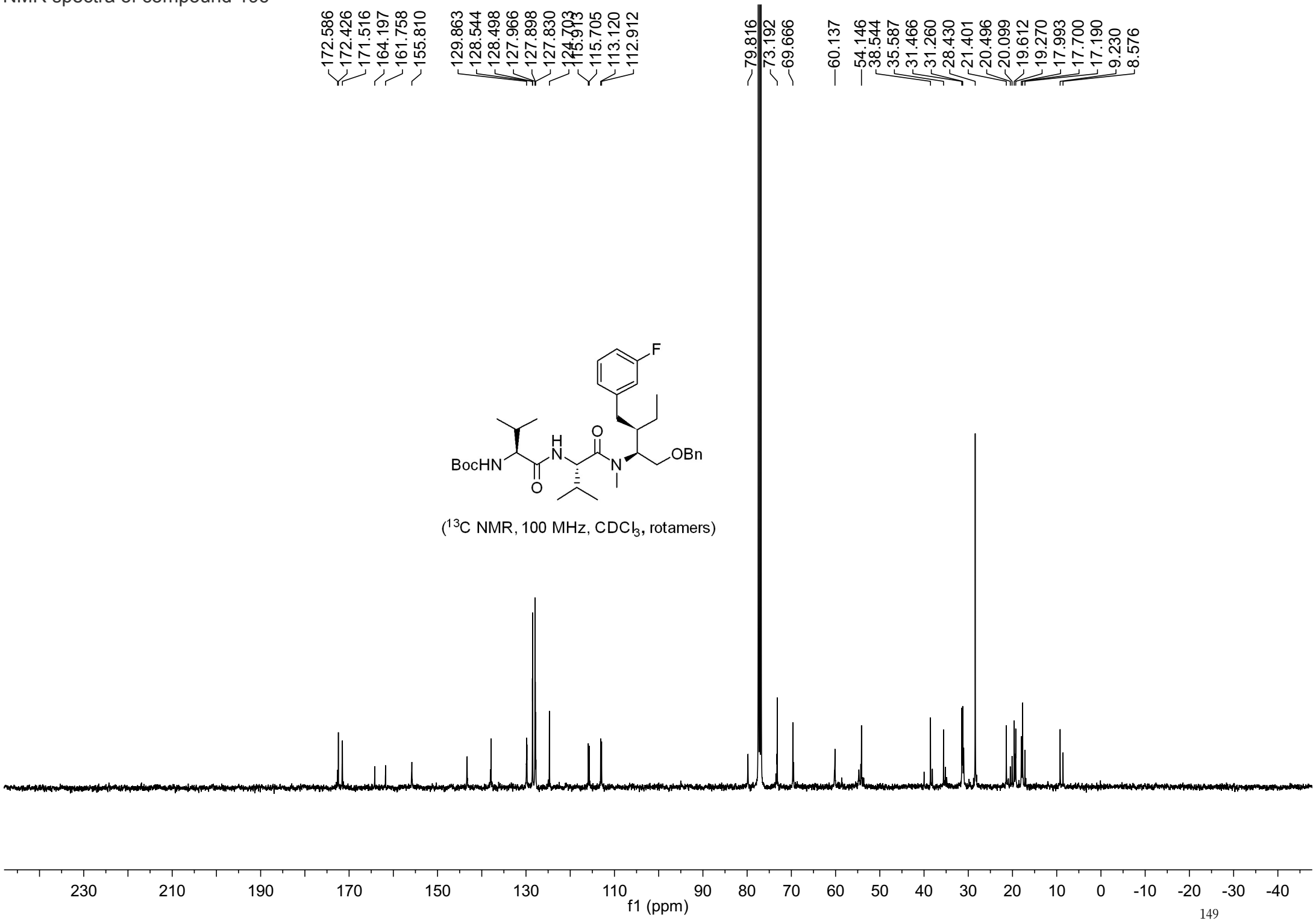


(^{13}C NMR, 100 MHz, $CDCl_3$, rotamers)

NMR spectra of compound 19c

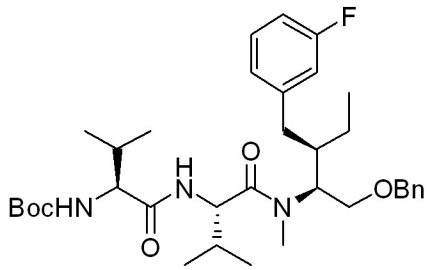


NMR spectra of compound 19c

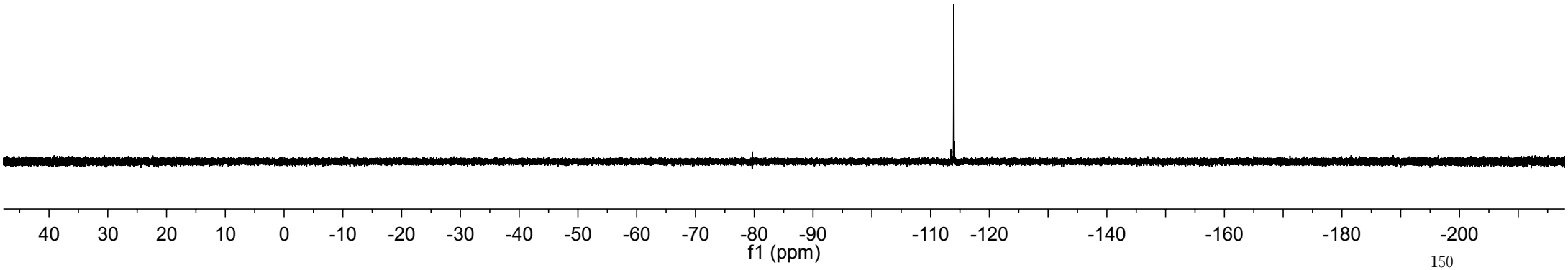


(^{13}C NMR, 100 MHz, $CDCl_3$, rotamers)

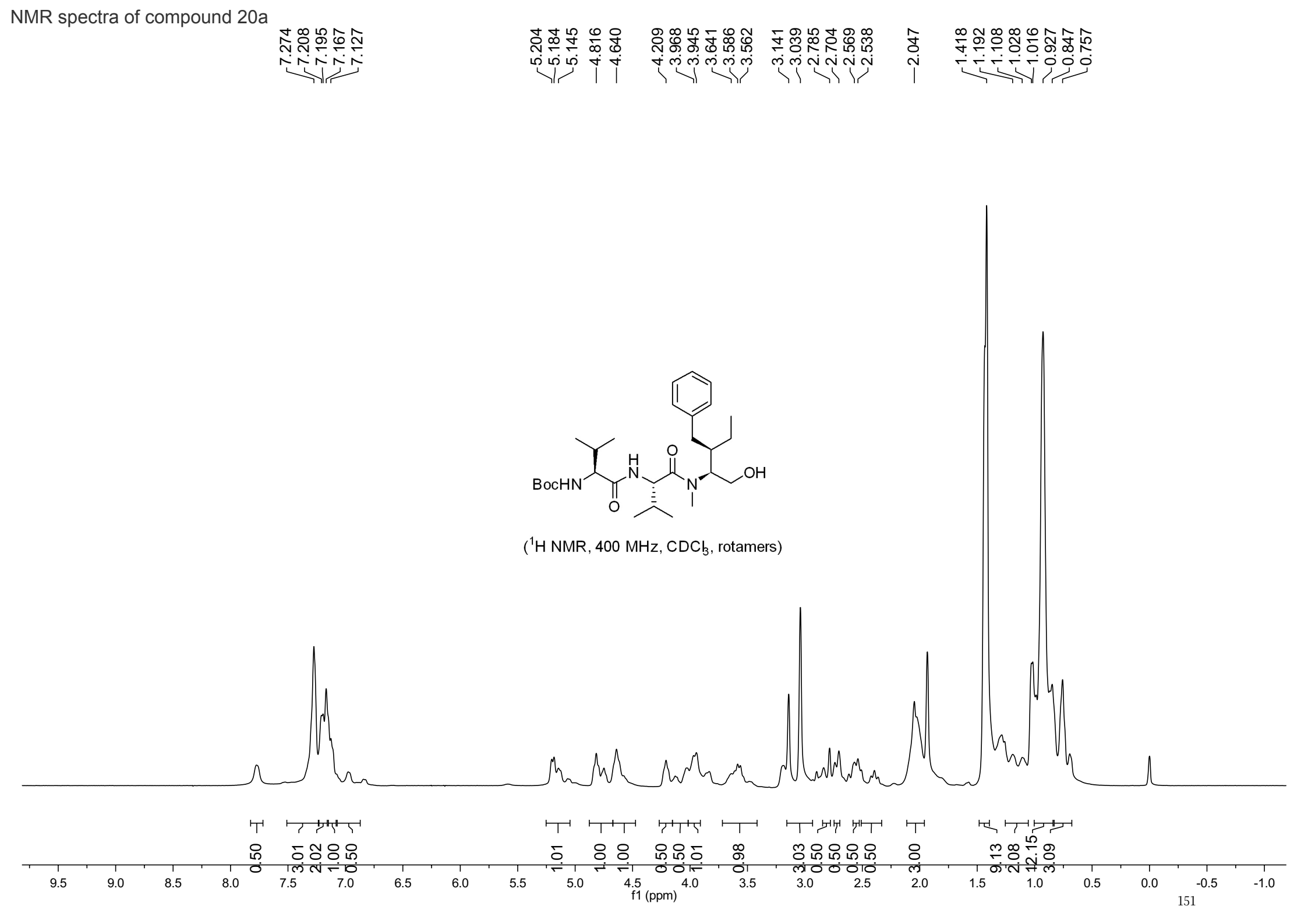
NMR spectra of compound 19c



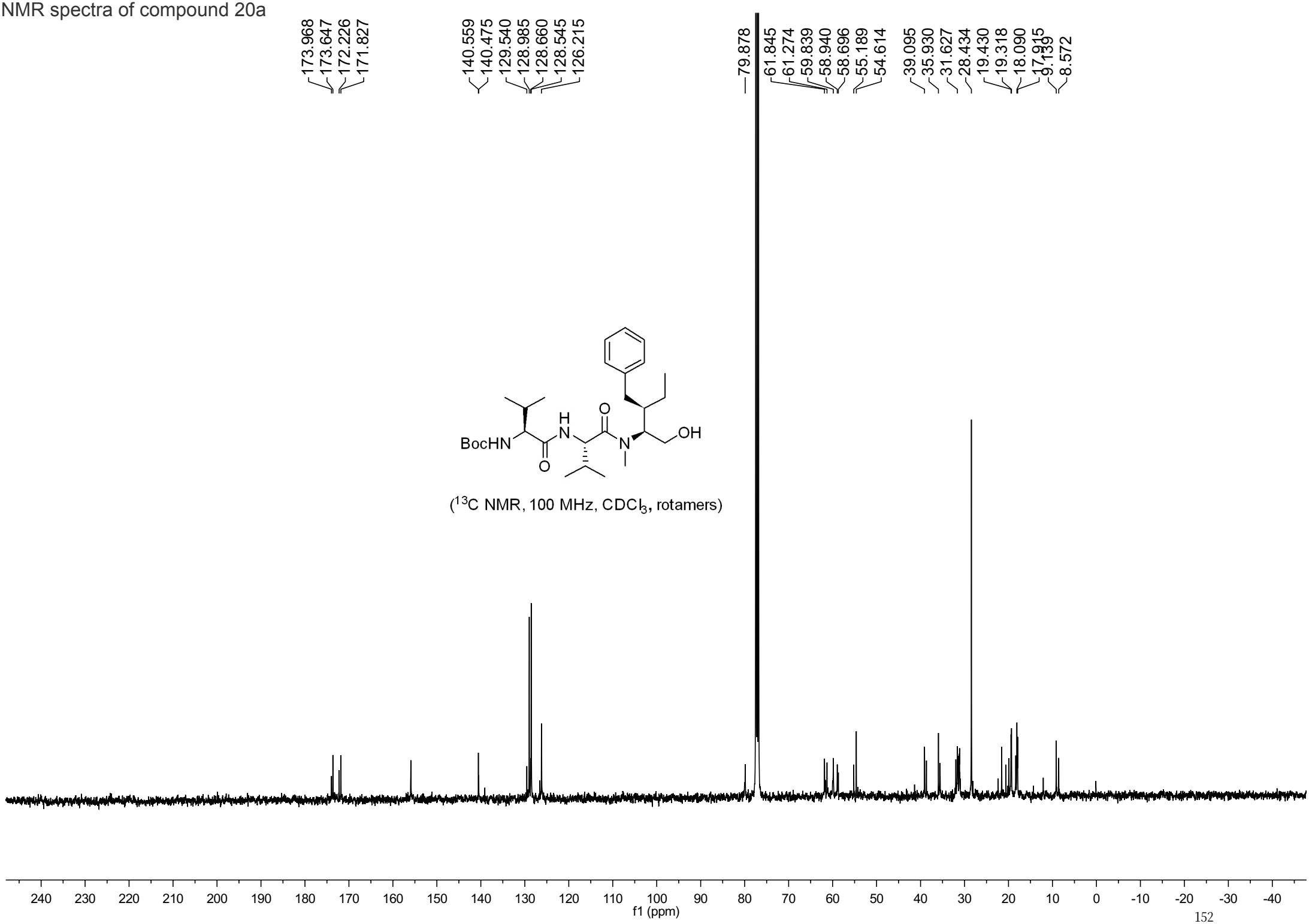
(^{19}F NMR, 376 MHz, $CDCl_3$, rotamers)



NMR spectra of compound 20a

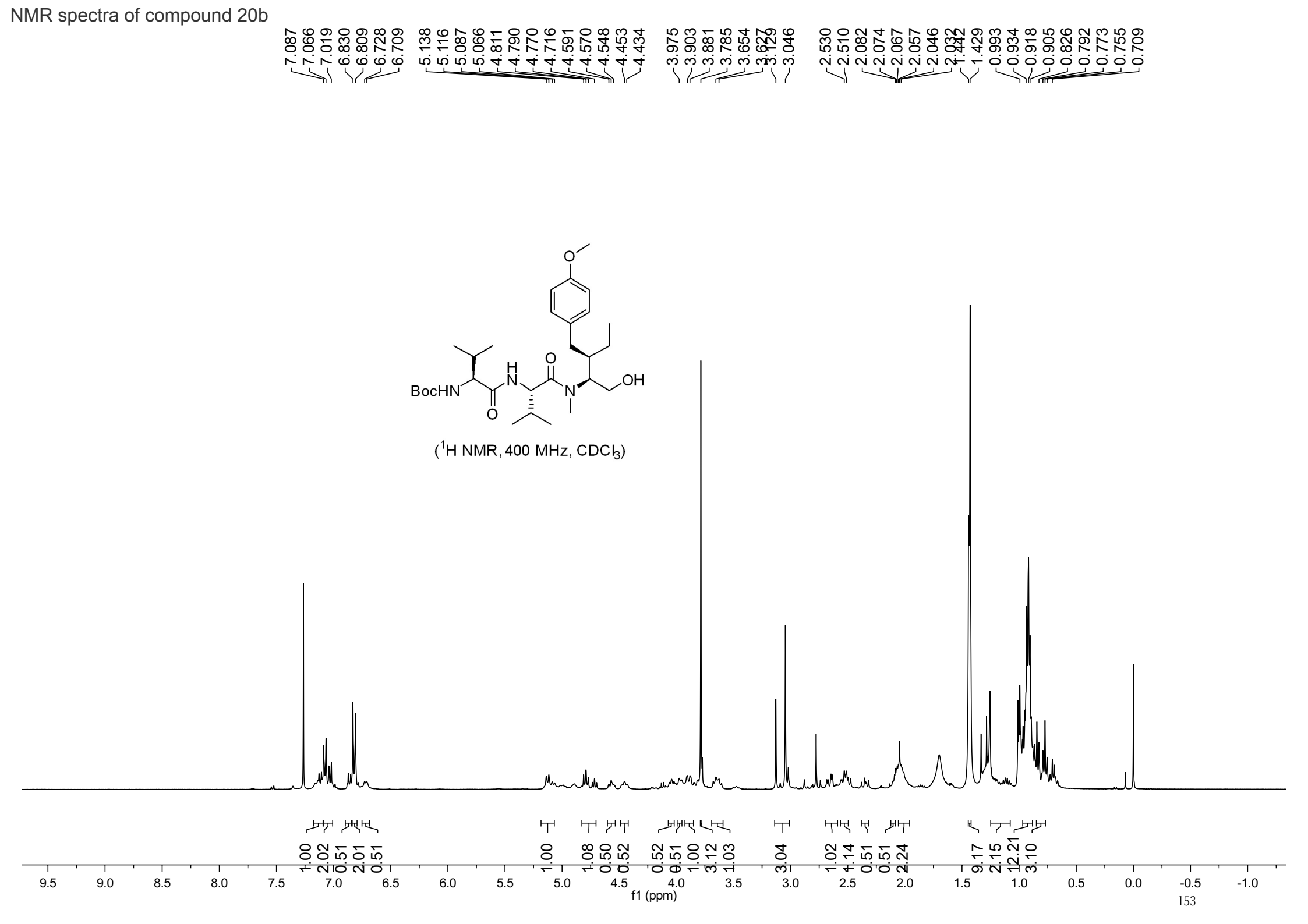


NMR spectra of compound 20a

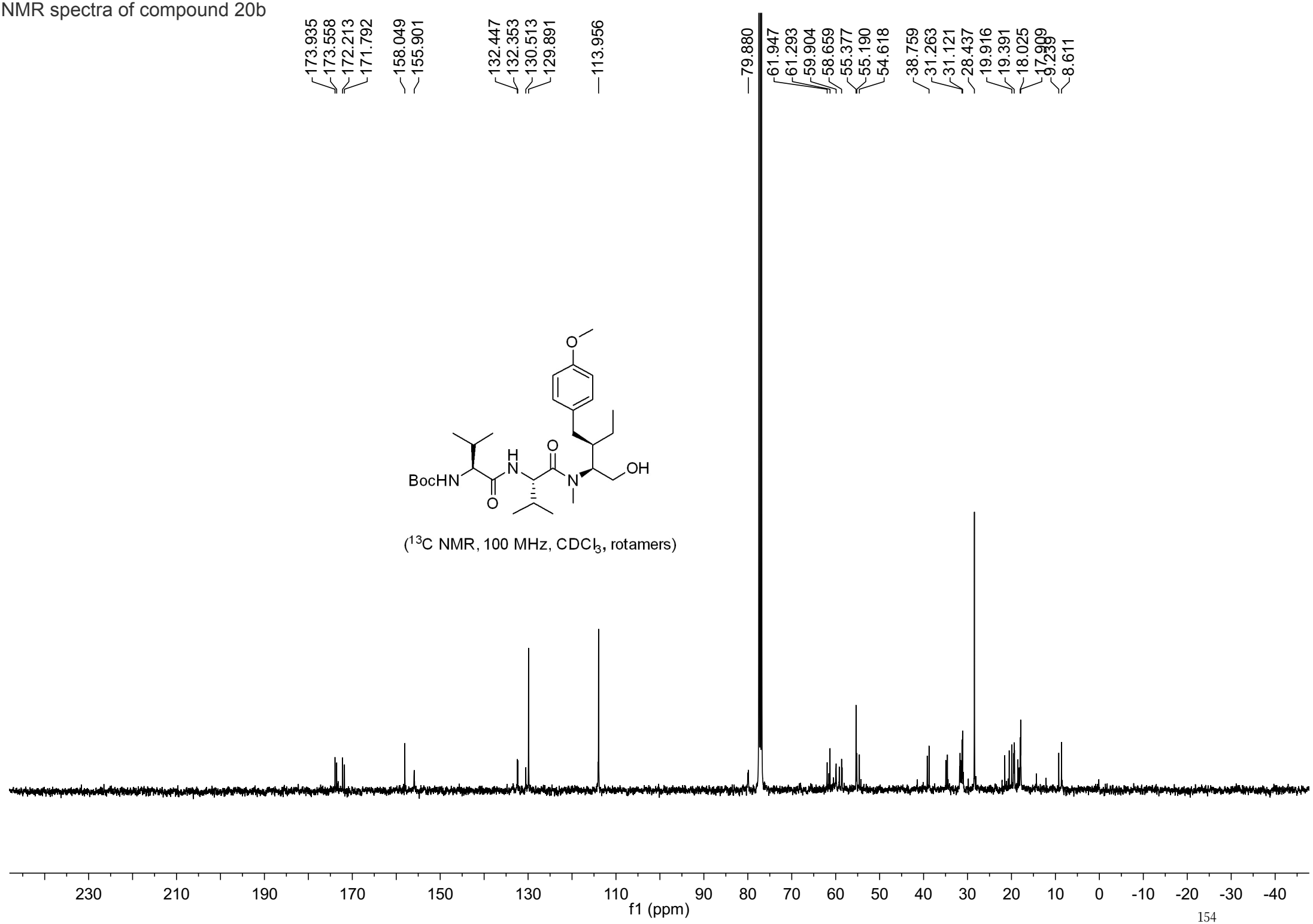


(^{13}C NMR, 100 MHz, $CDCl_3$, rotamers)

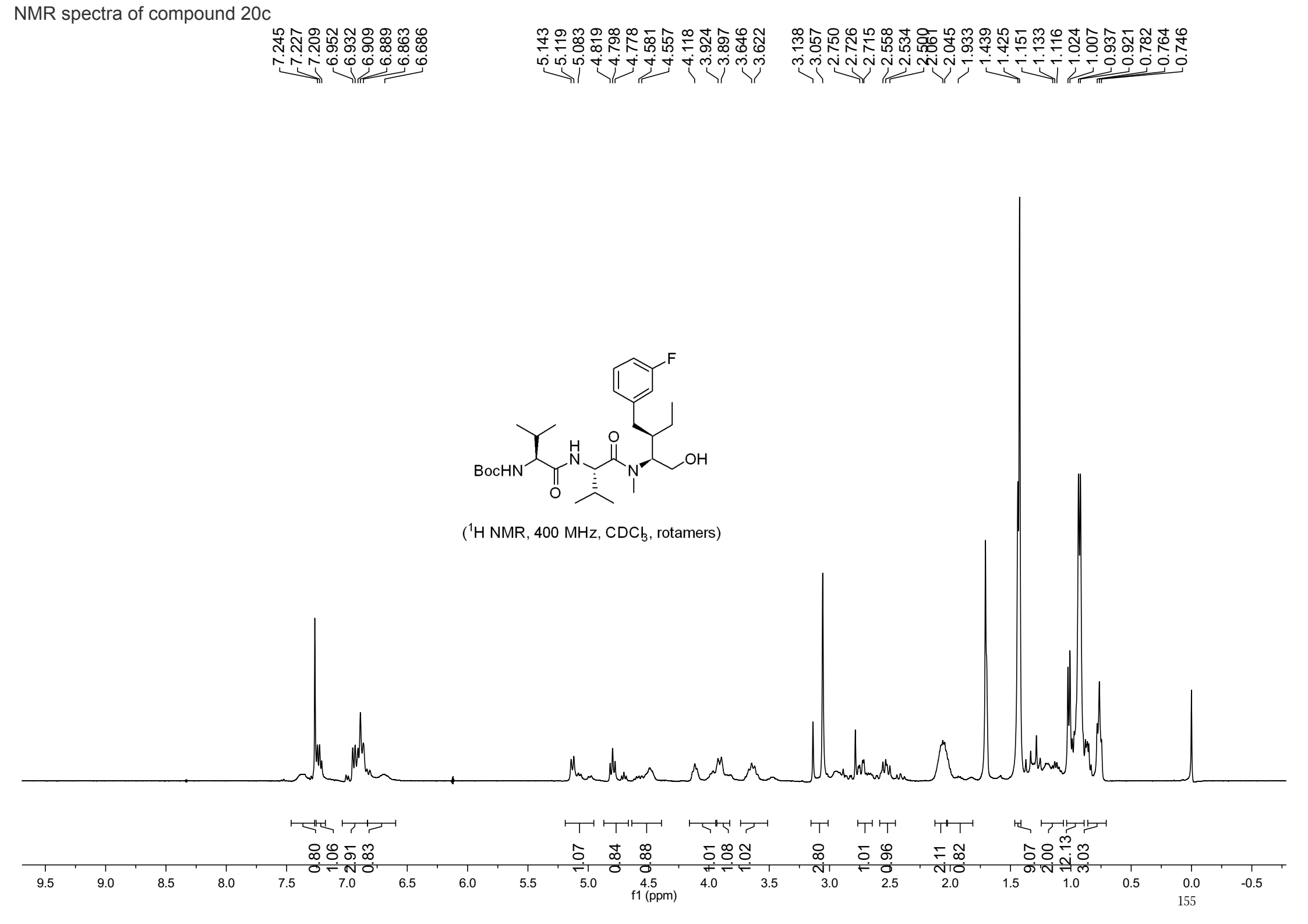
NMR spectra of compound 20b



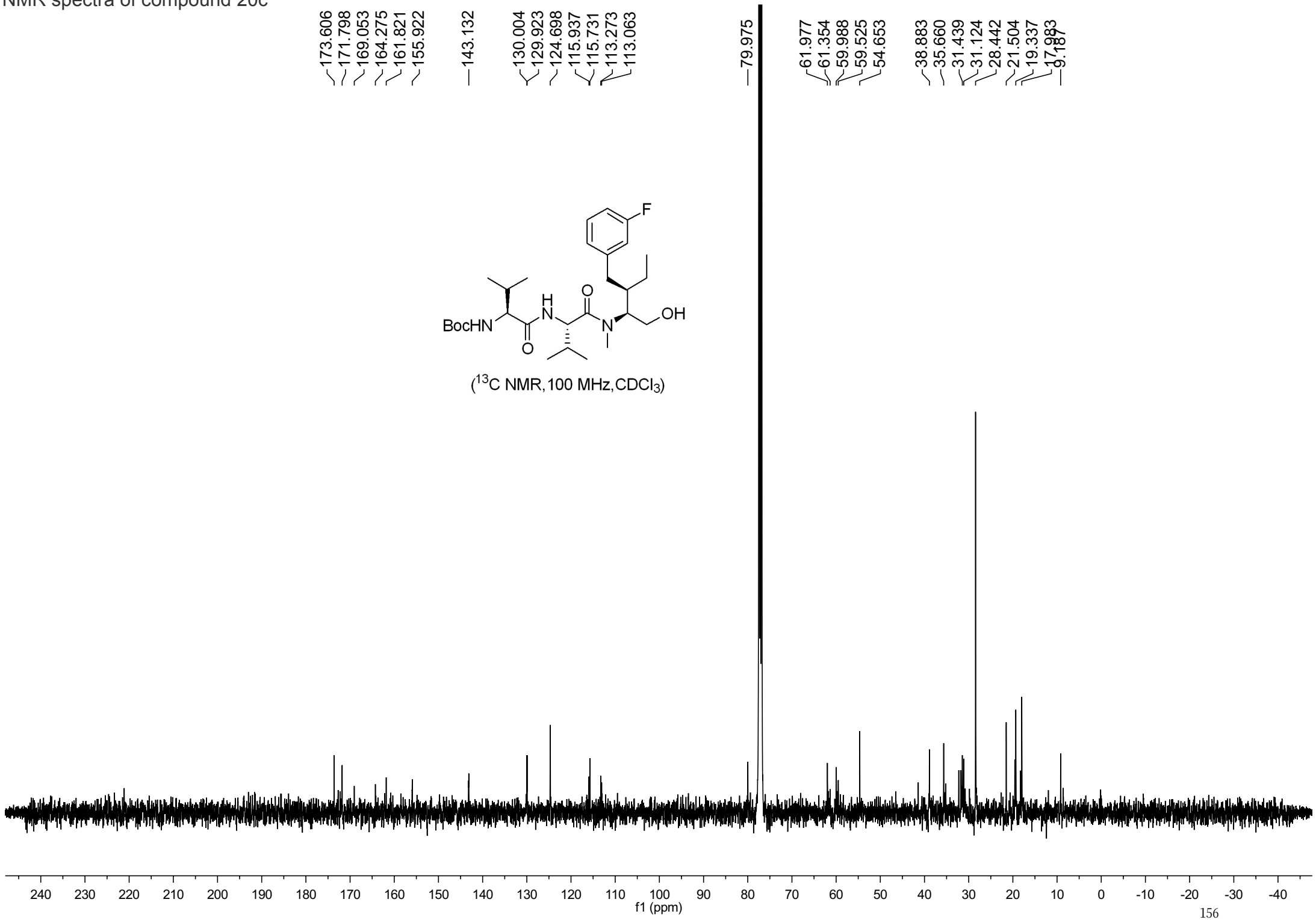
NMR spectra of compound 20b



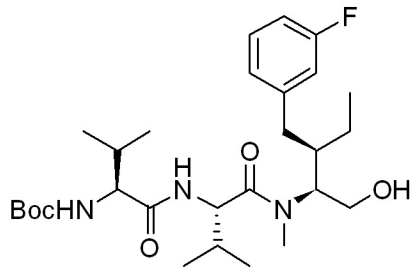
NMR spectra of compound 20c



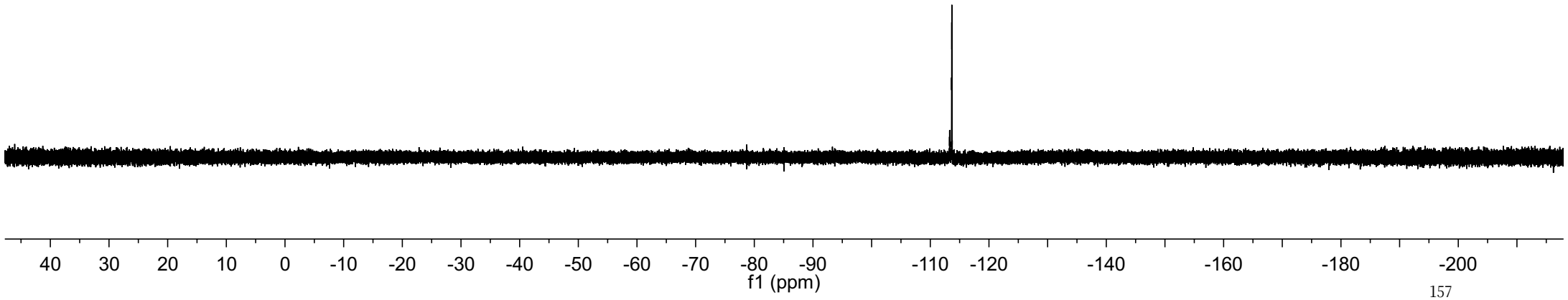
NMR spectra of compound 20c



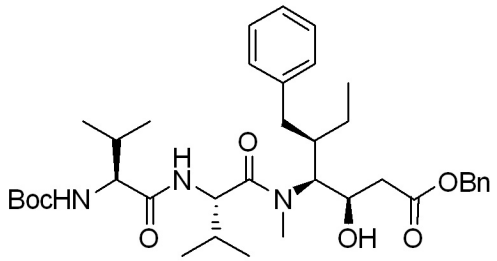
(^{13}C NMR, 100 MHz, $CDCl_3$)



(^{19}F NMR, 376 MHz, $CDCl_3$, rotamers)

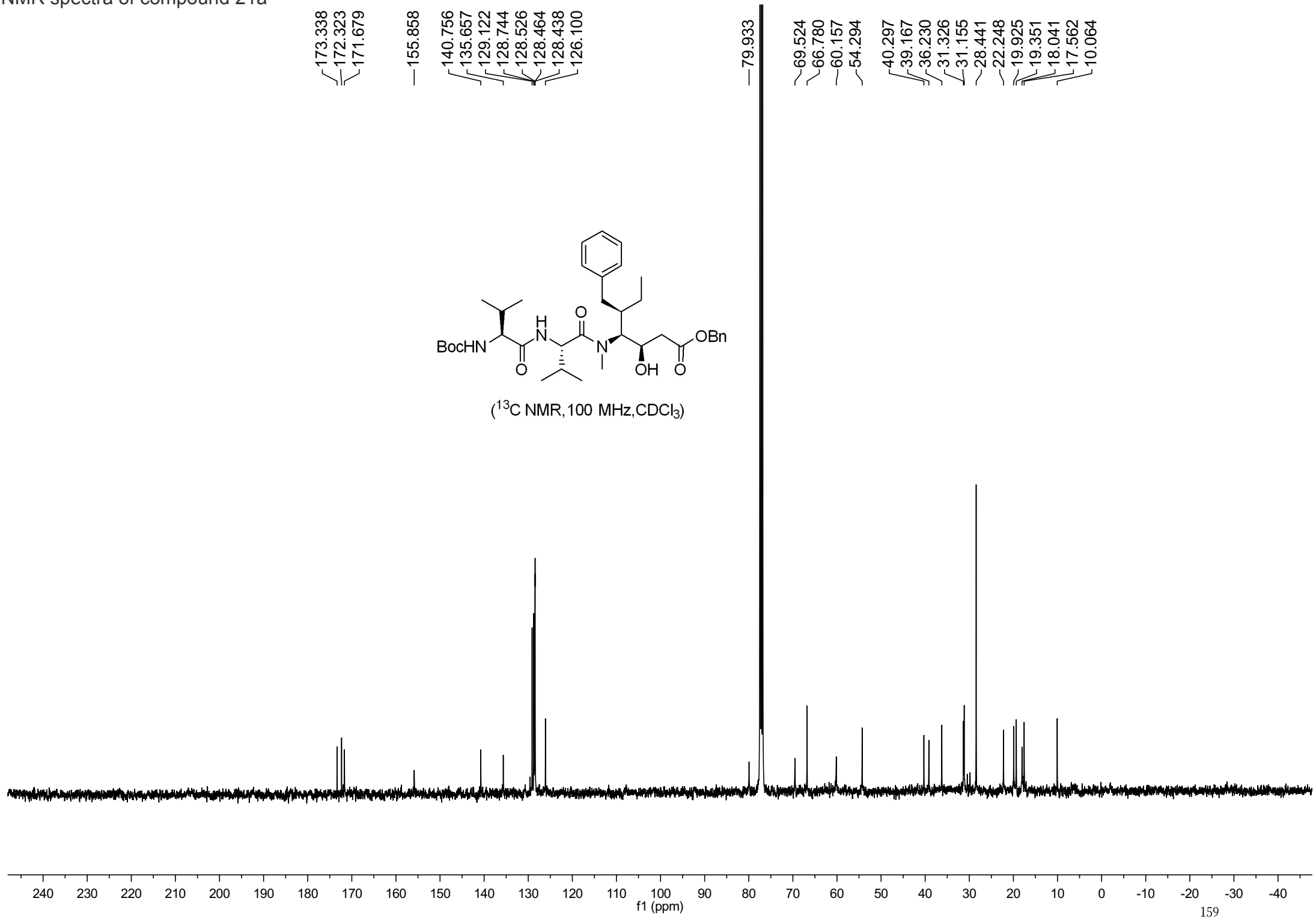


NMR spectra of compound 21a

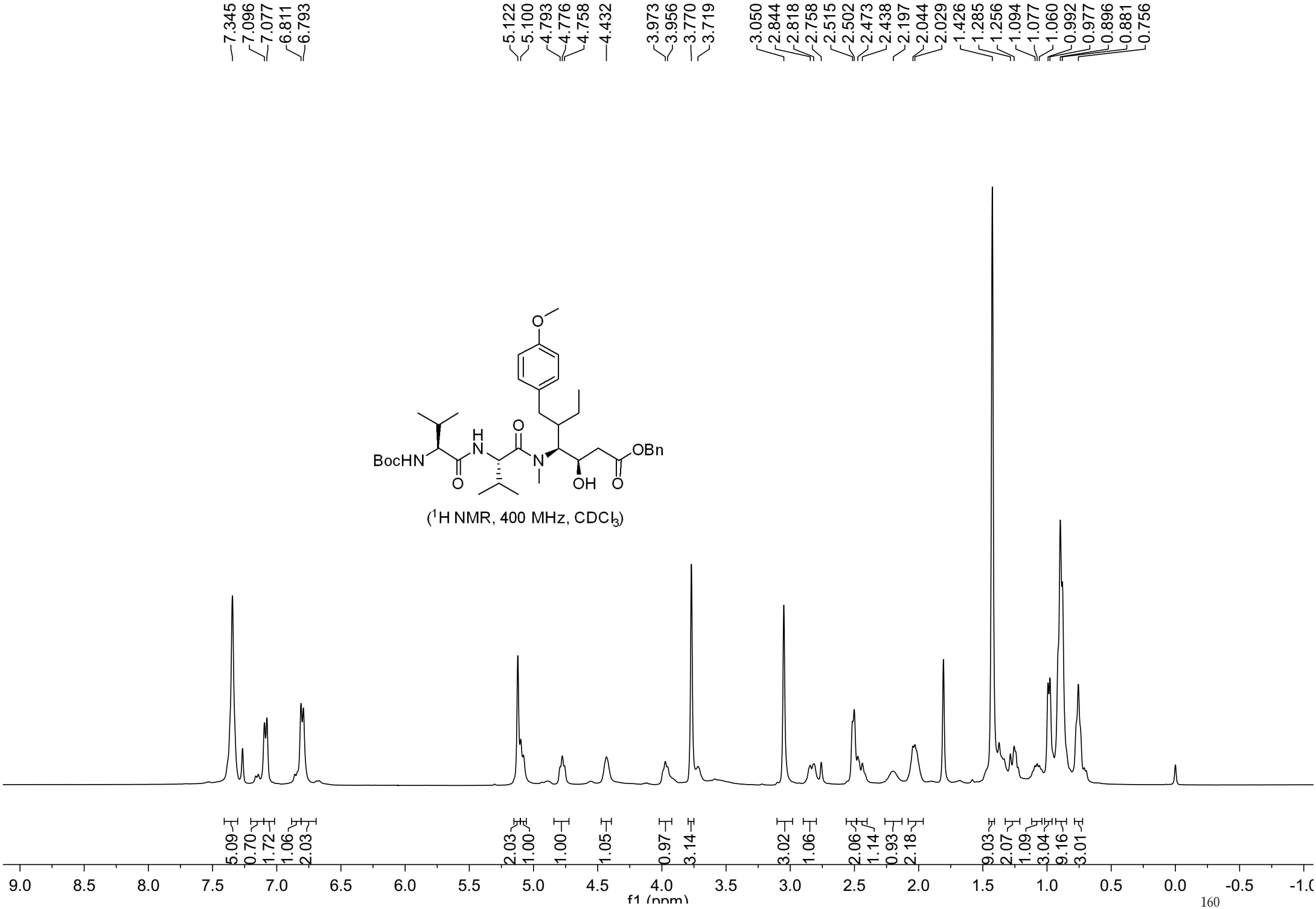


(^{1}H NMR, 400 MHz, $CDCl_3$)

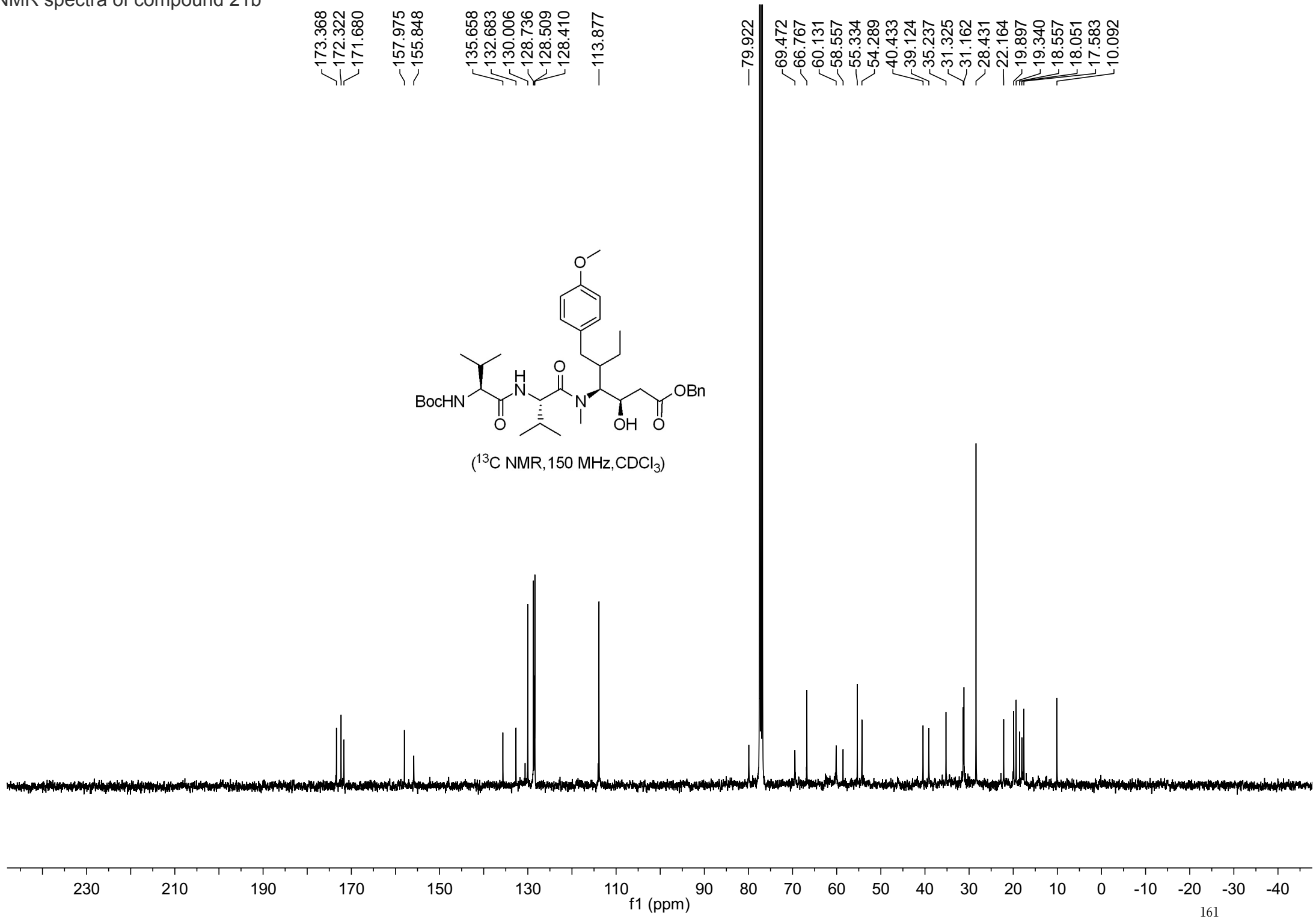
NMR spectra of compound 21a



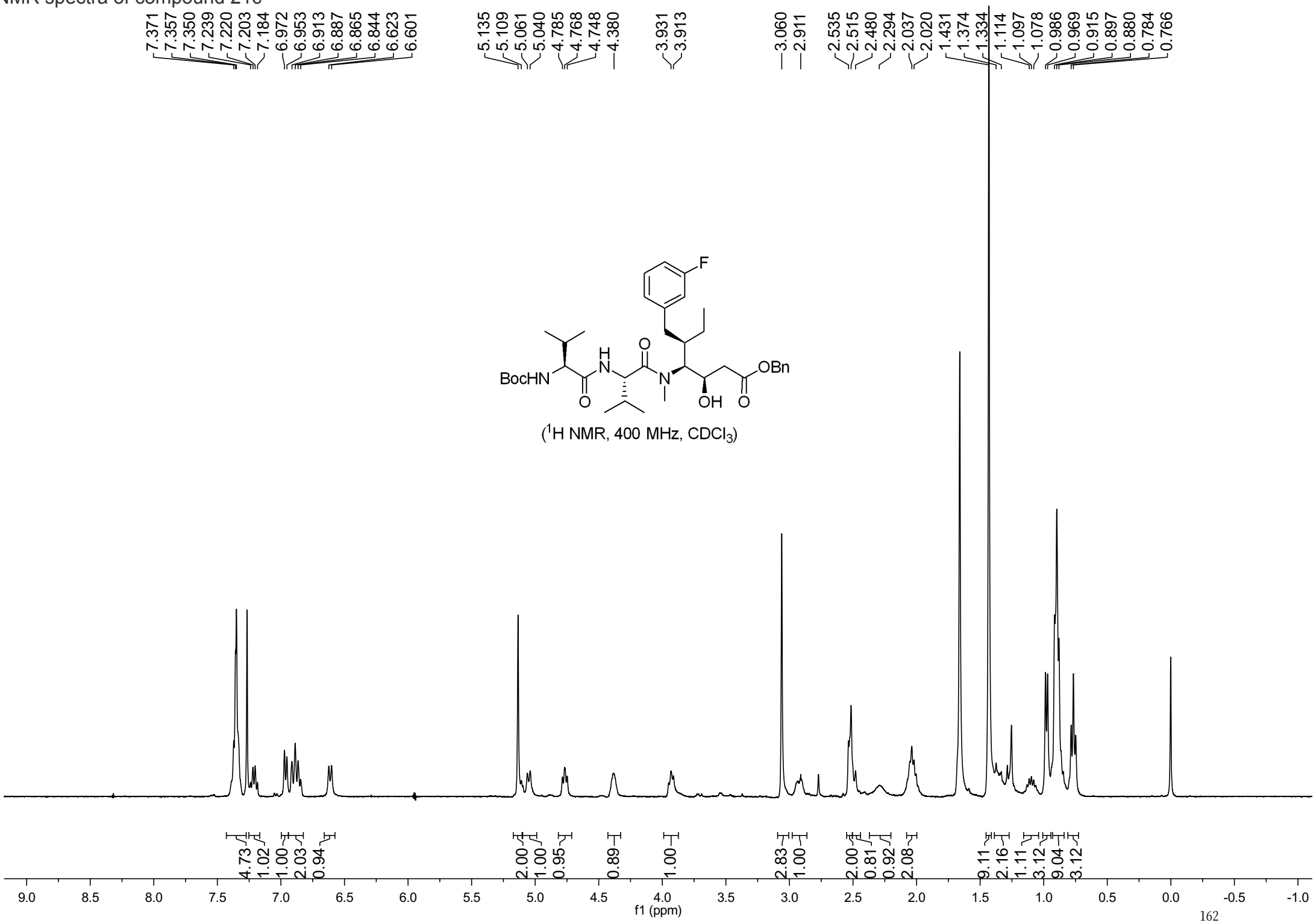
NMR spectra of compound 21b



NMR spectra of compound 21b

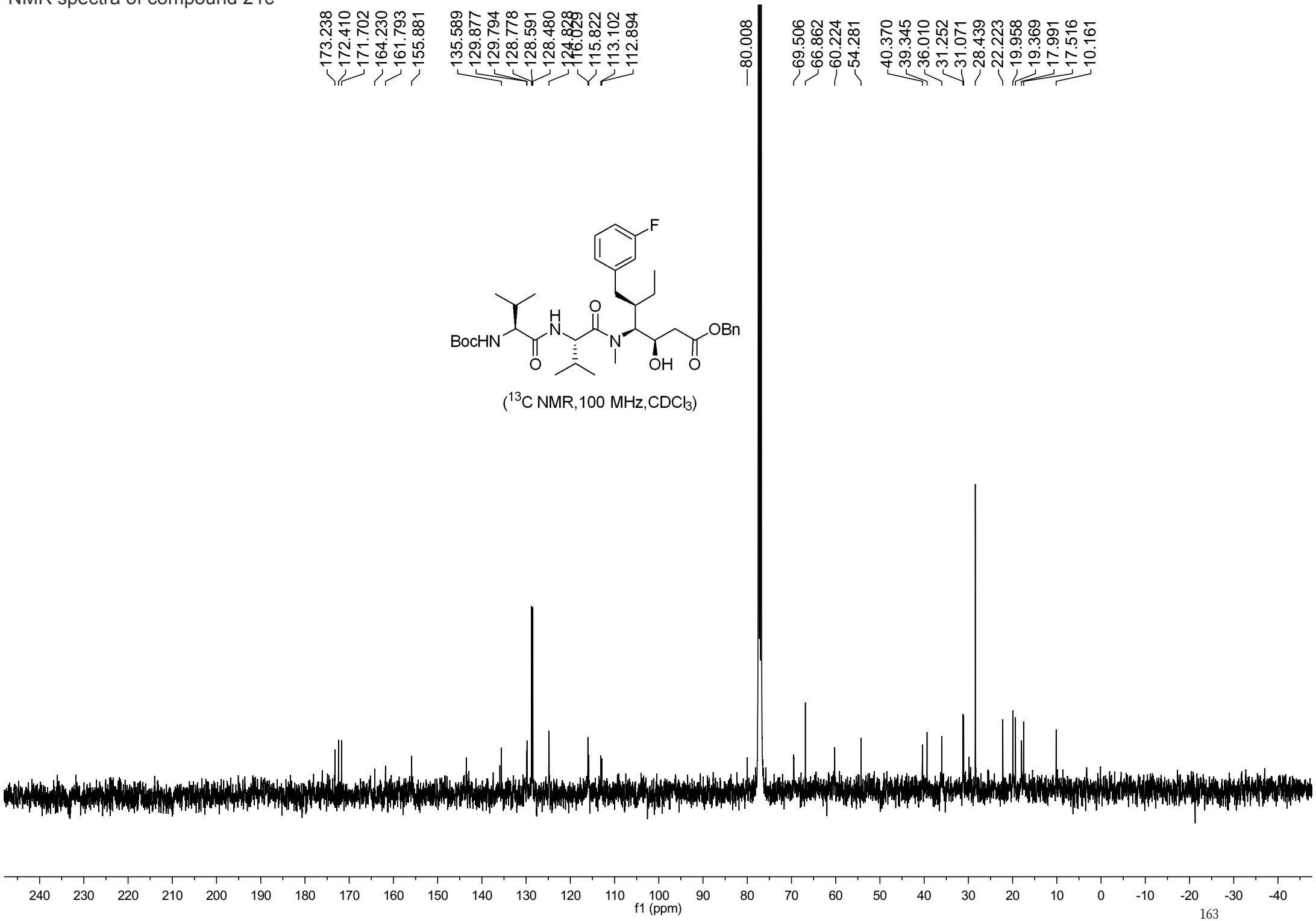


NMR spectra of compound 21c



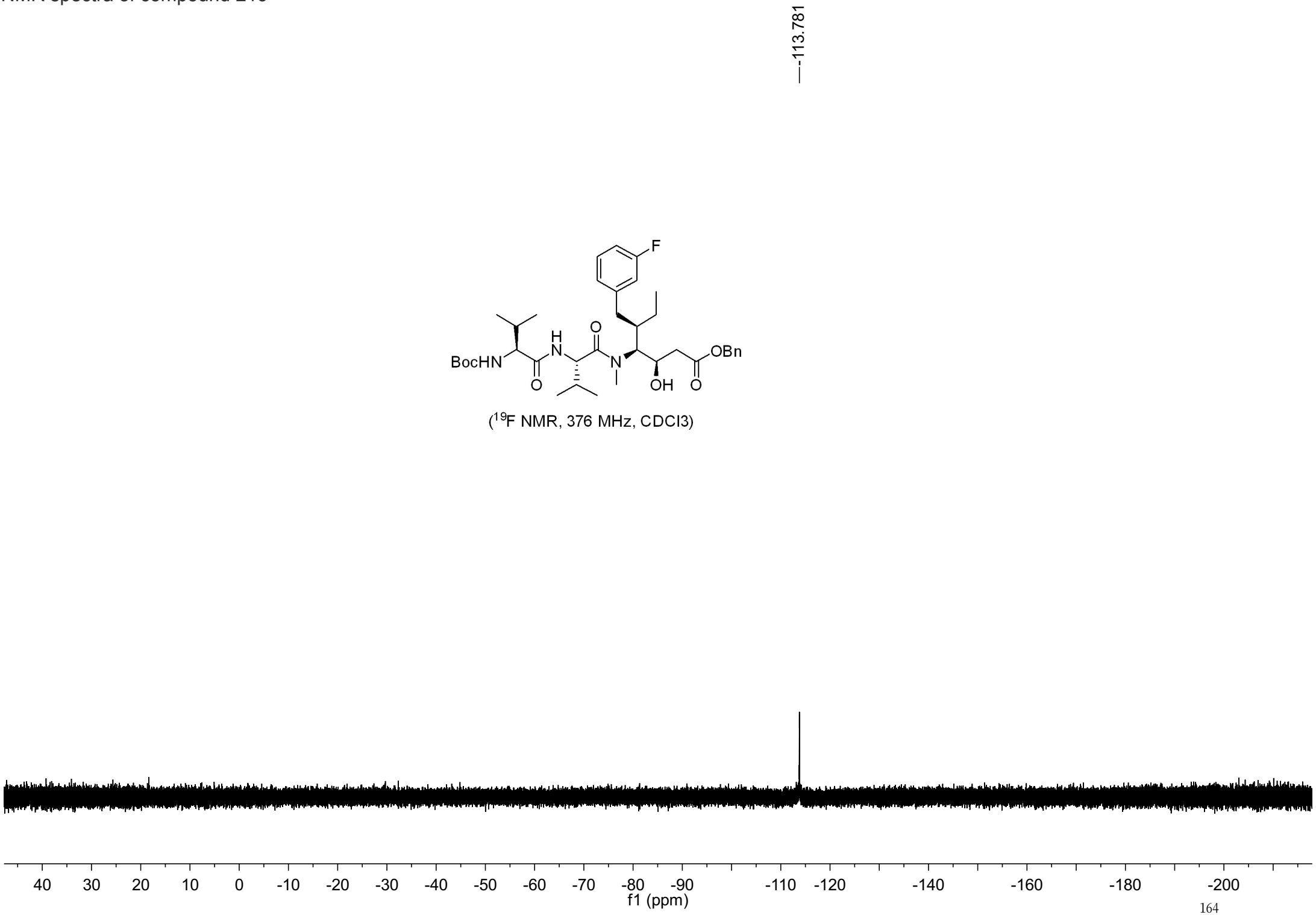
(^{1}H NMR, 400 MHz, $CDCl_3$)

NMR spectra of compound 21c

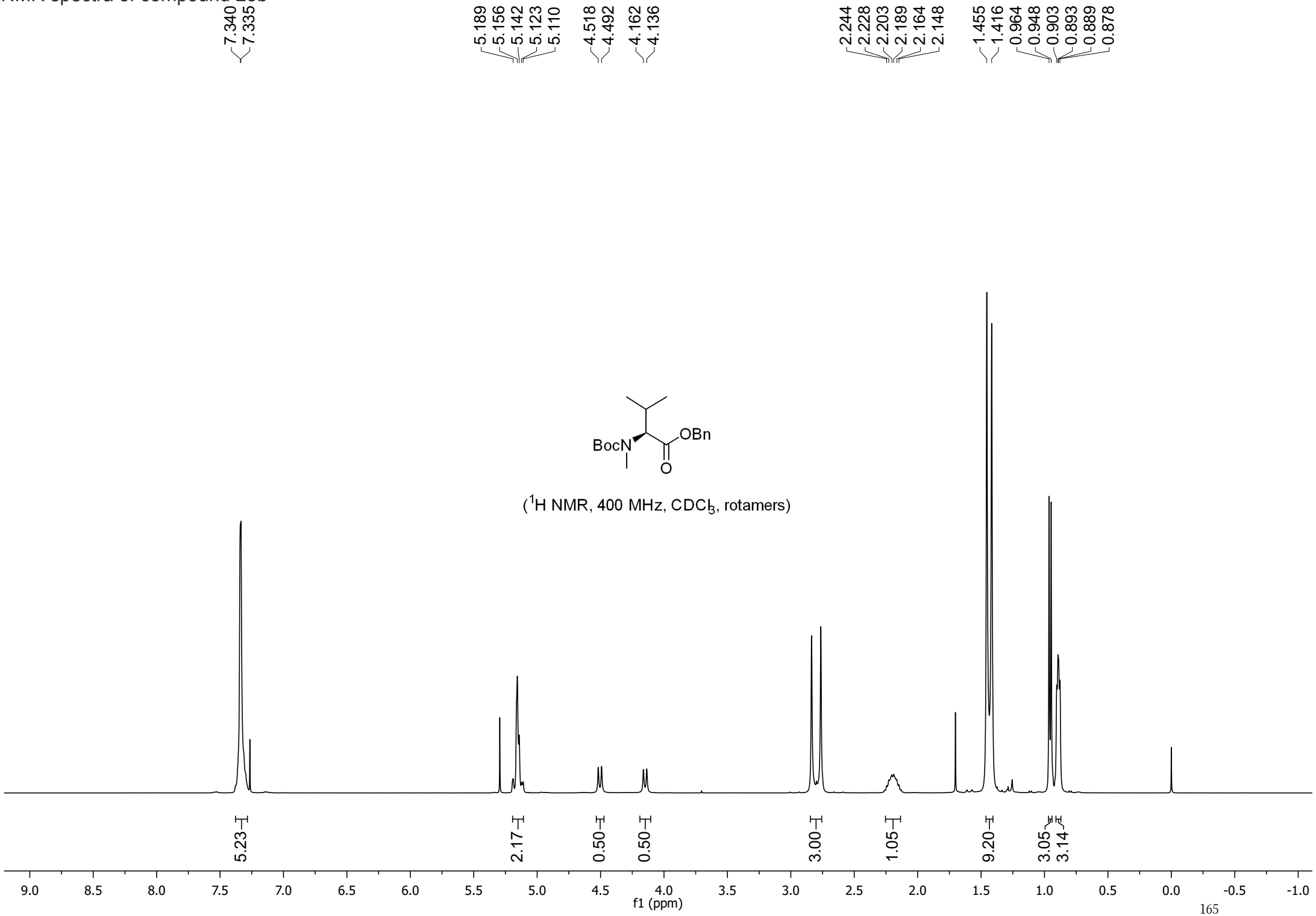


(^{13}C NMR,100 MHz,$CDCl_3$)

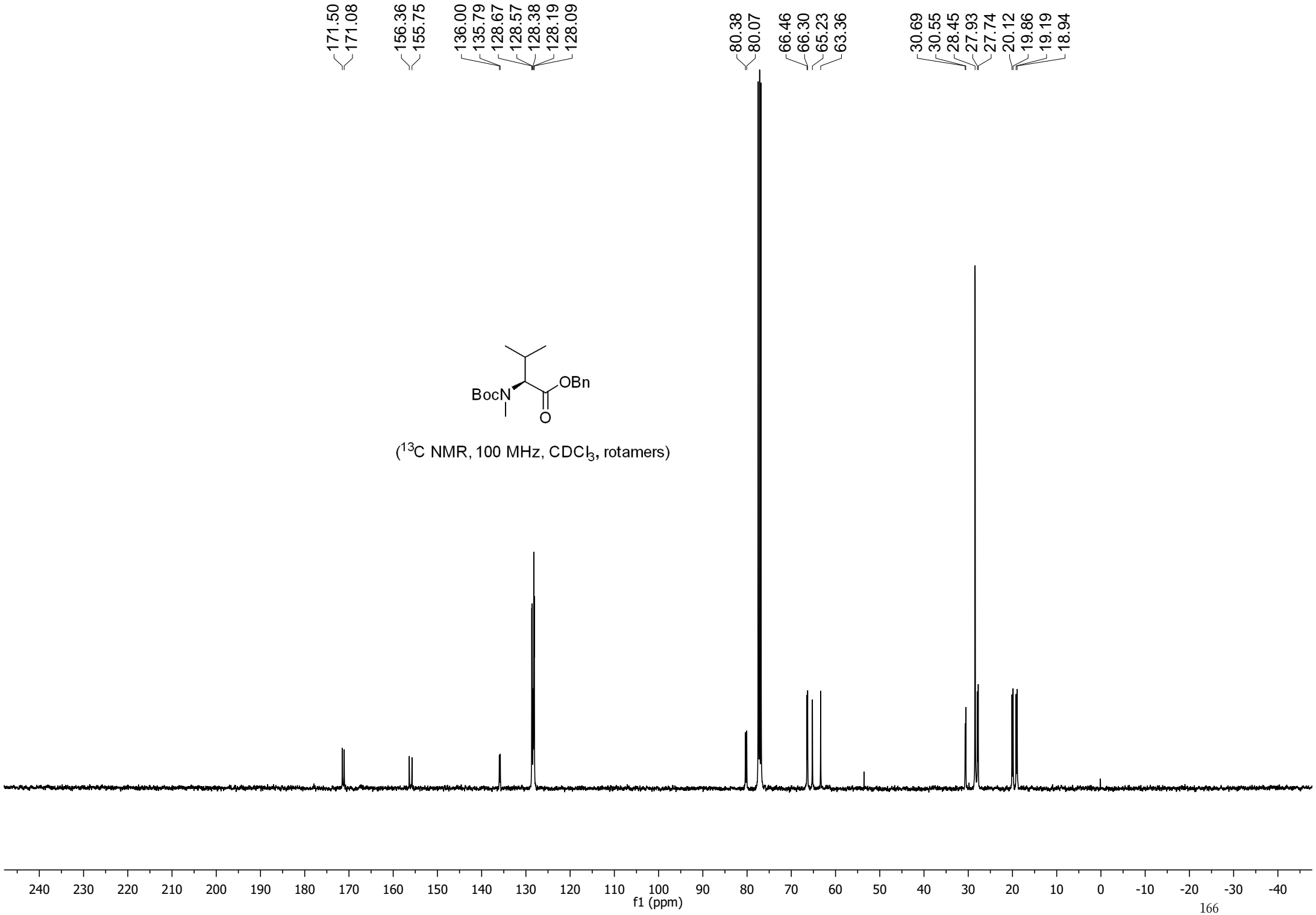
(^{19}F NMR, 376 MHz, CDCl3)



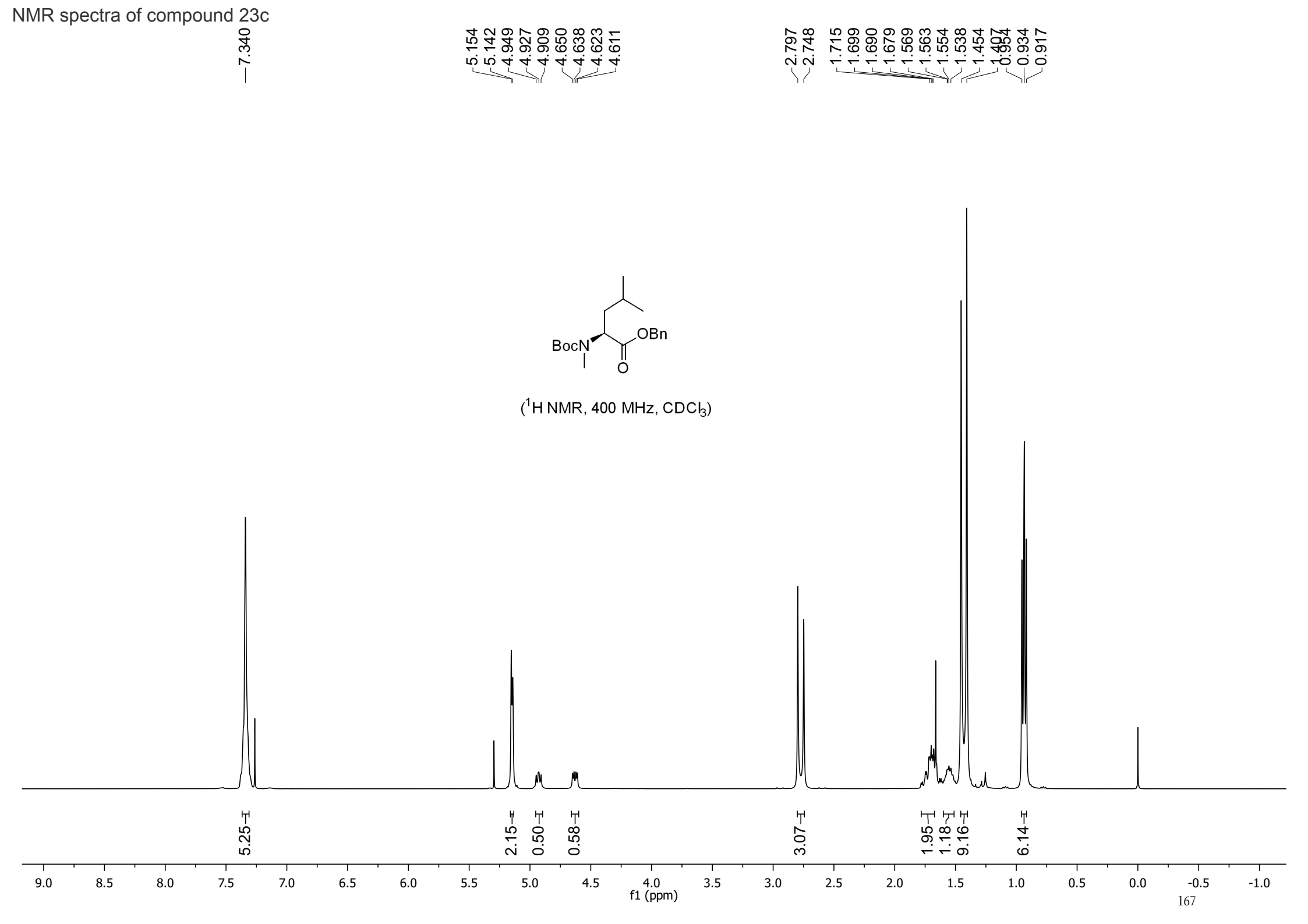
NMR spectra of compound 23b



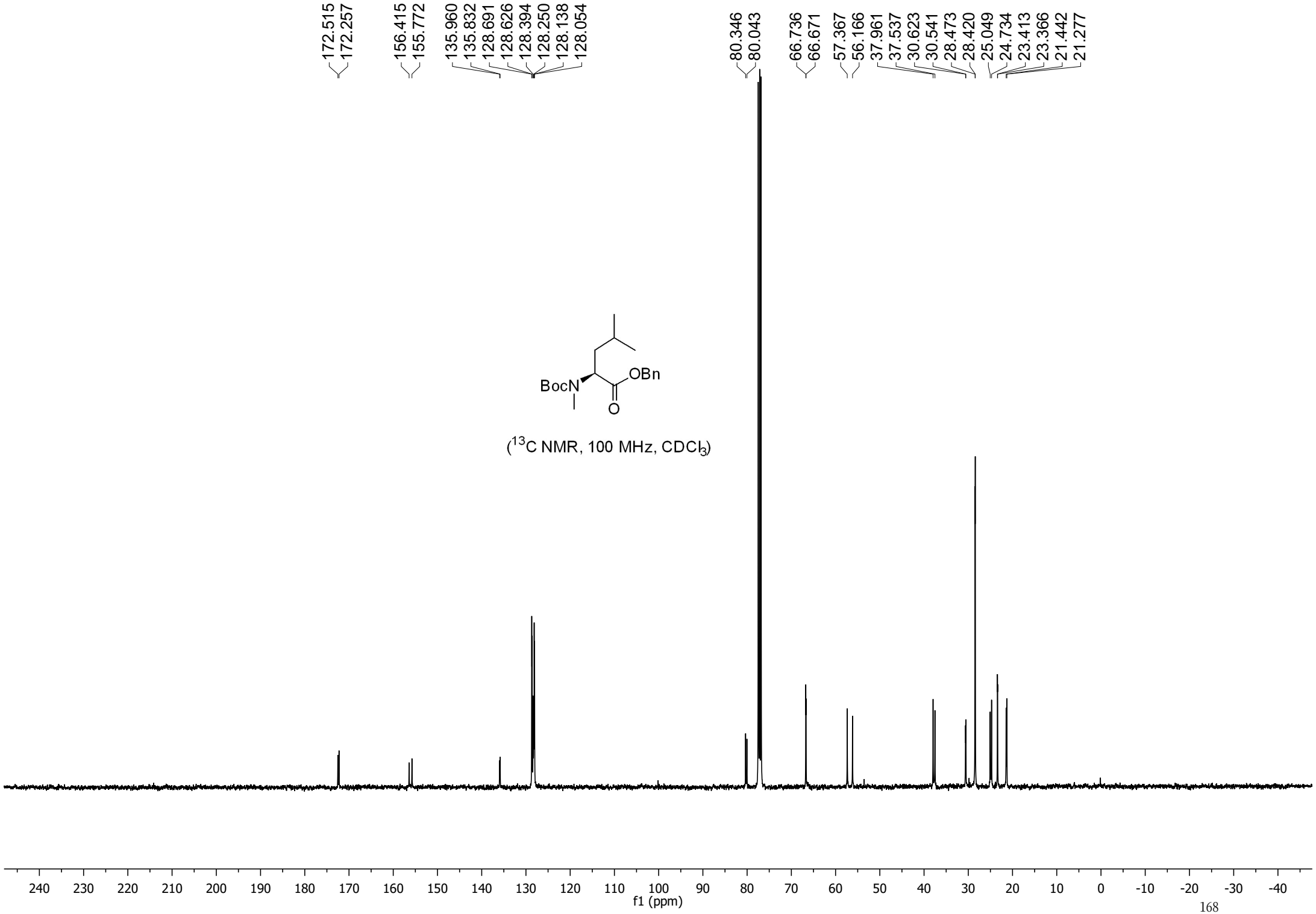
NMR spectra of compound 23b



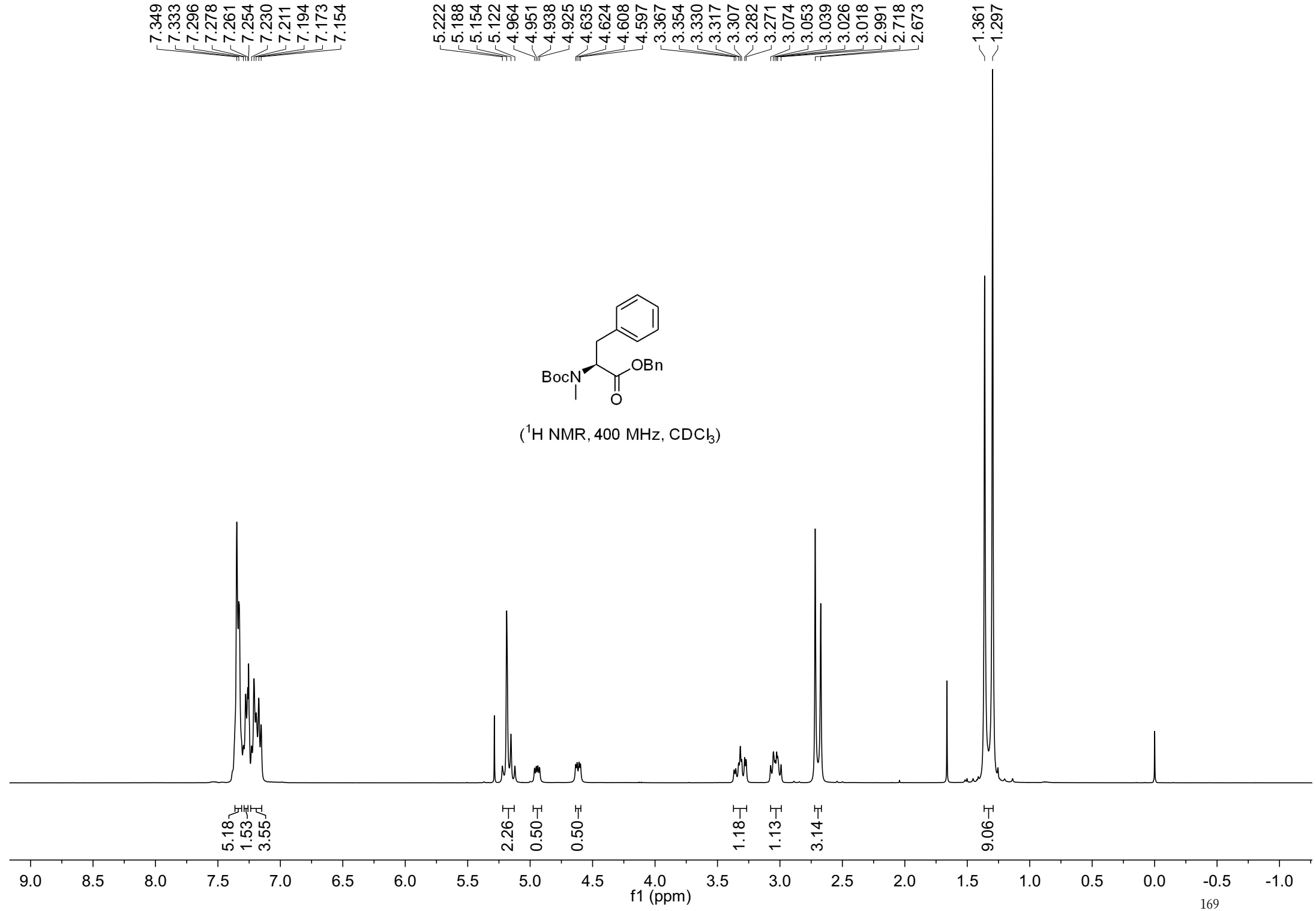
NMR spectra of compound 23c



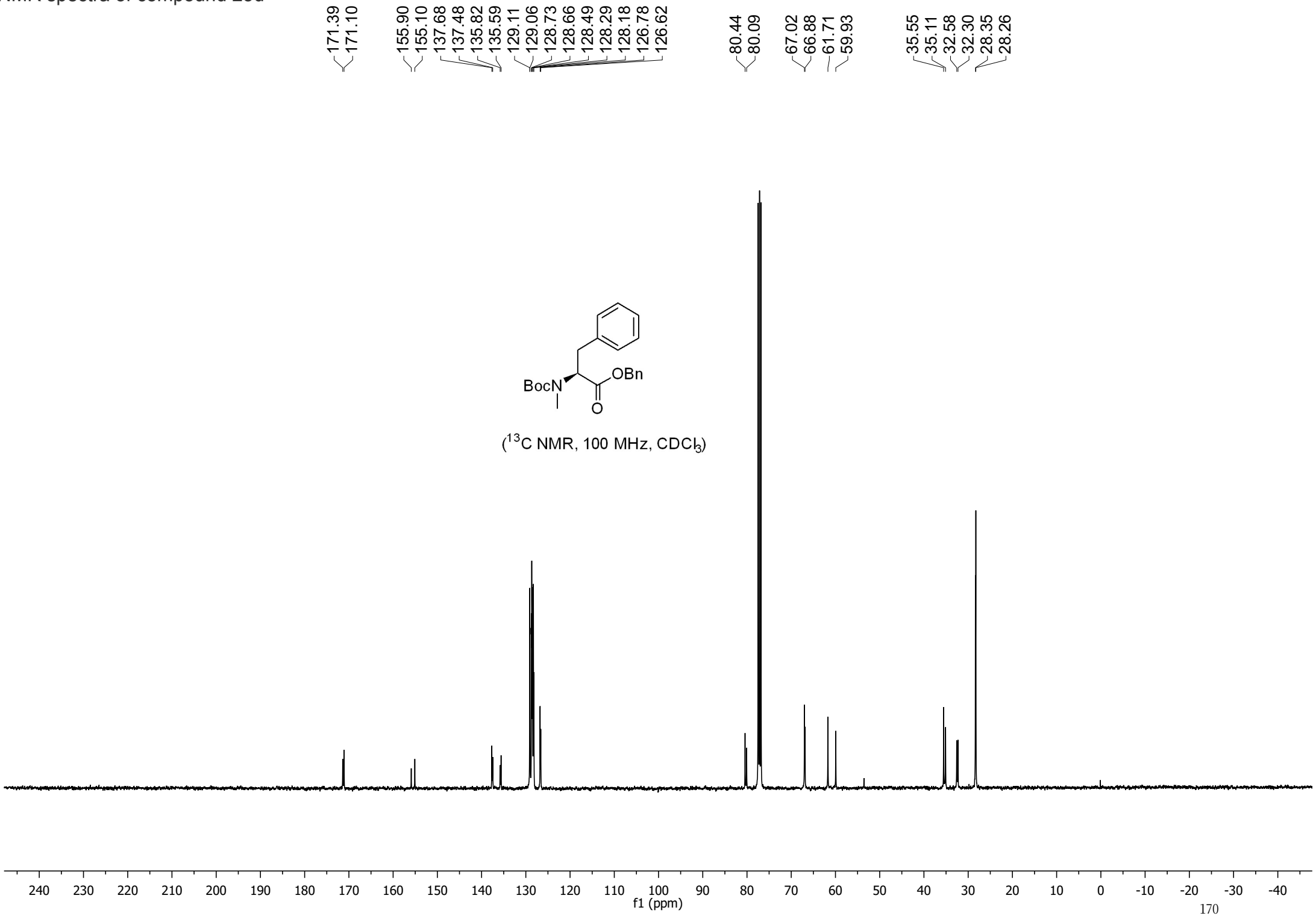
NMR spectra of compound 23c



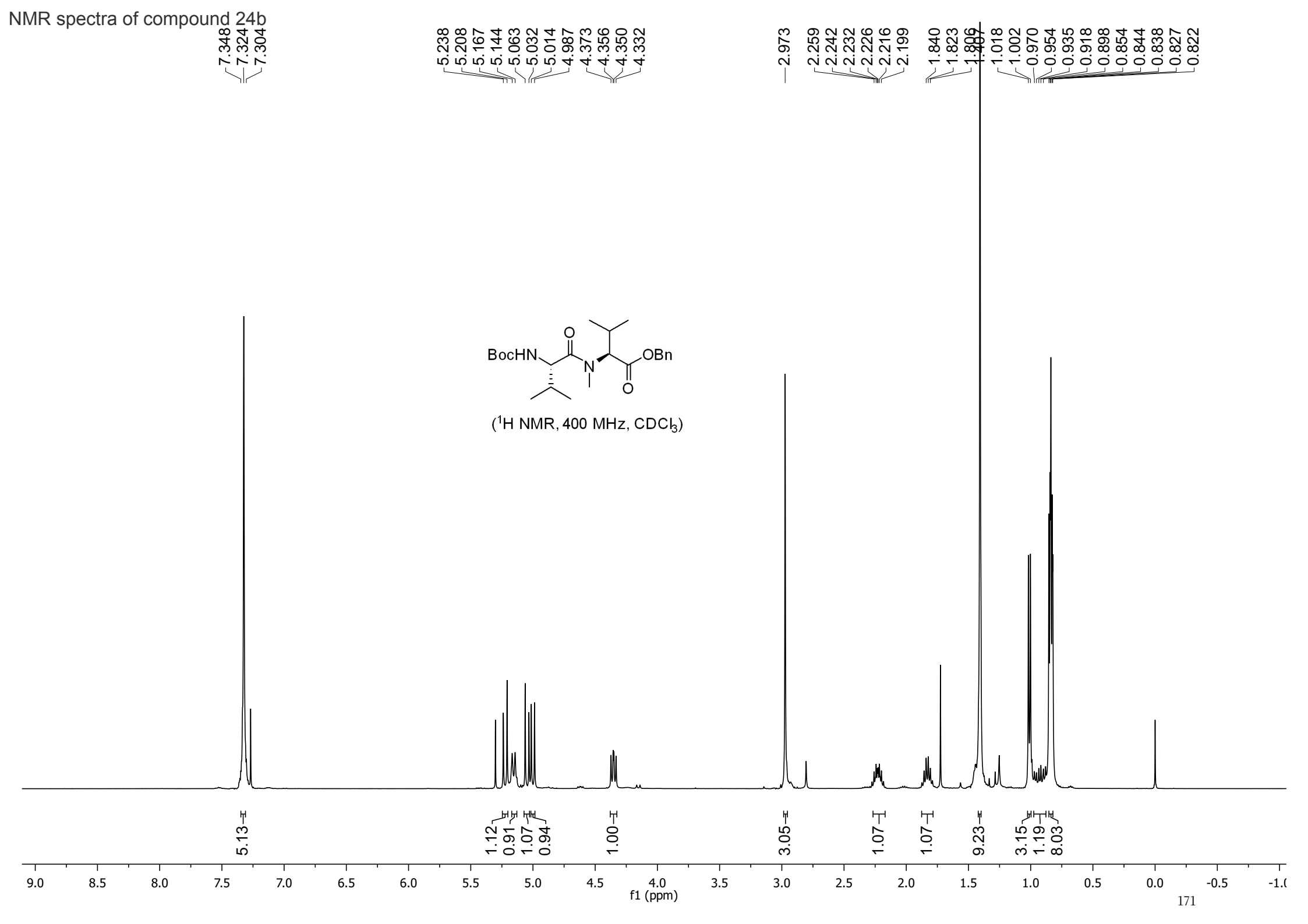
NMR spectra of compound 23d



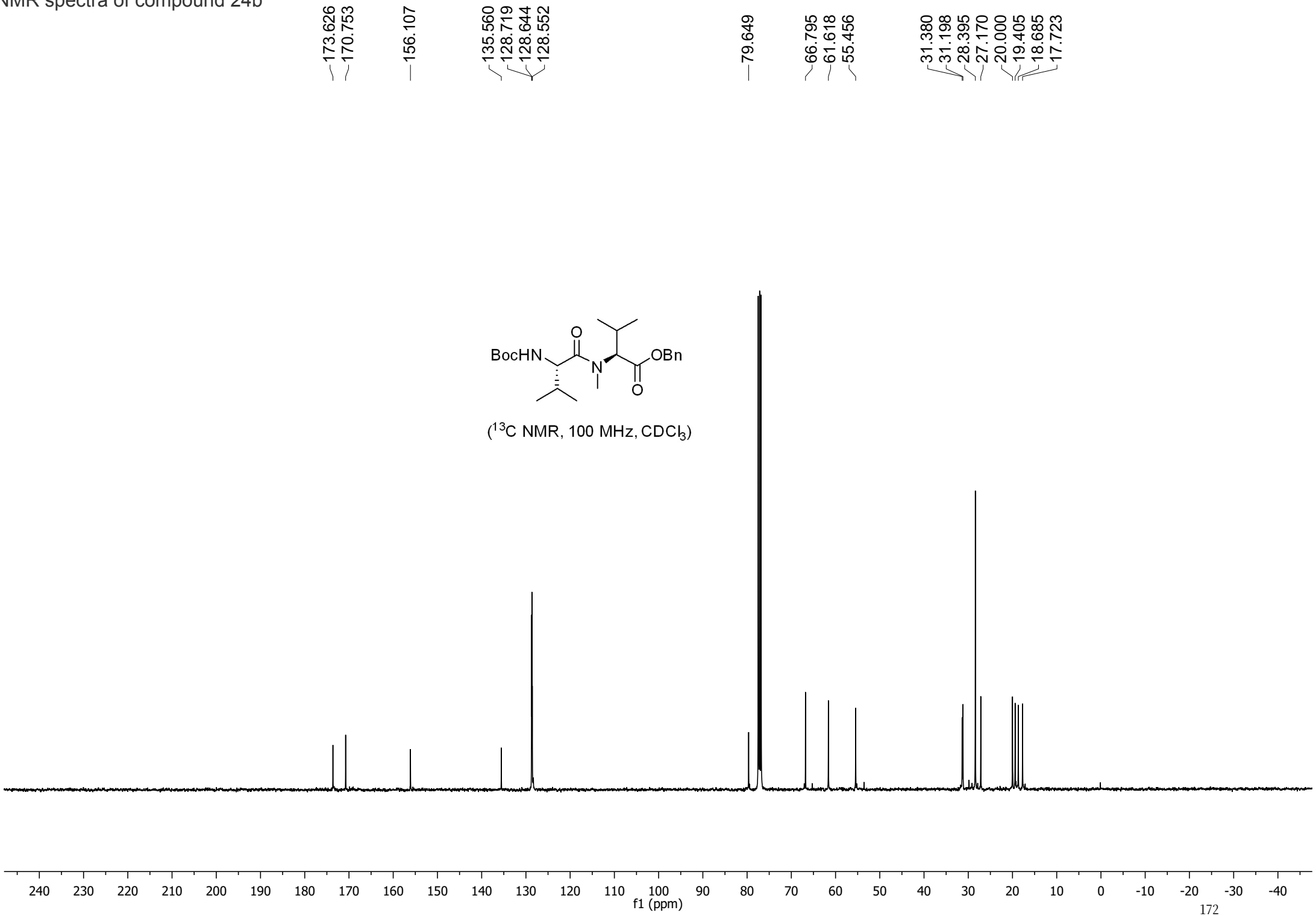
NMR spectra of compound 23d



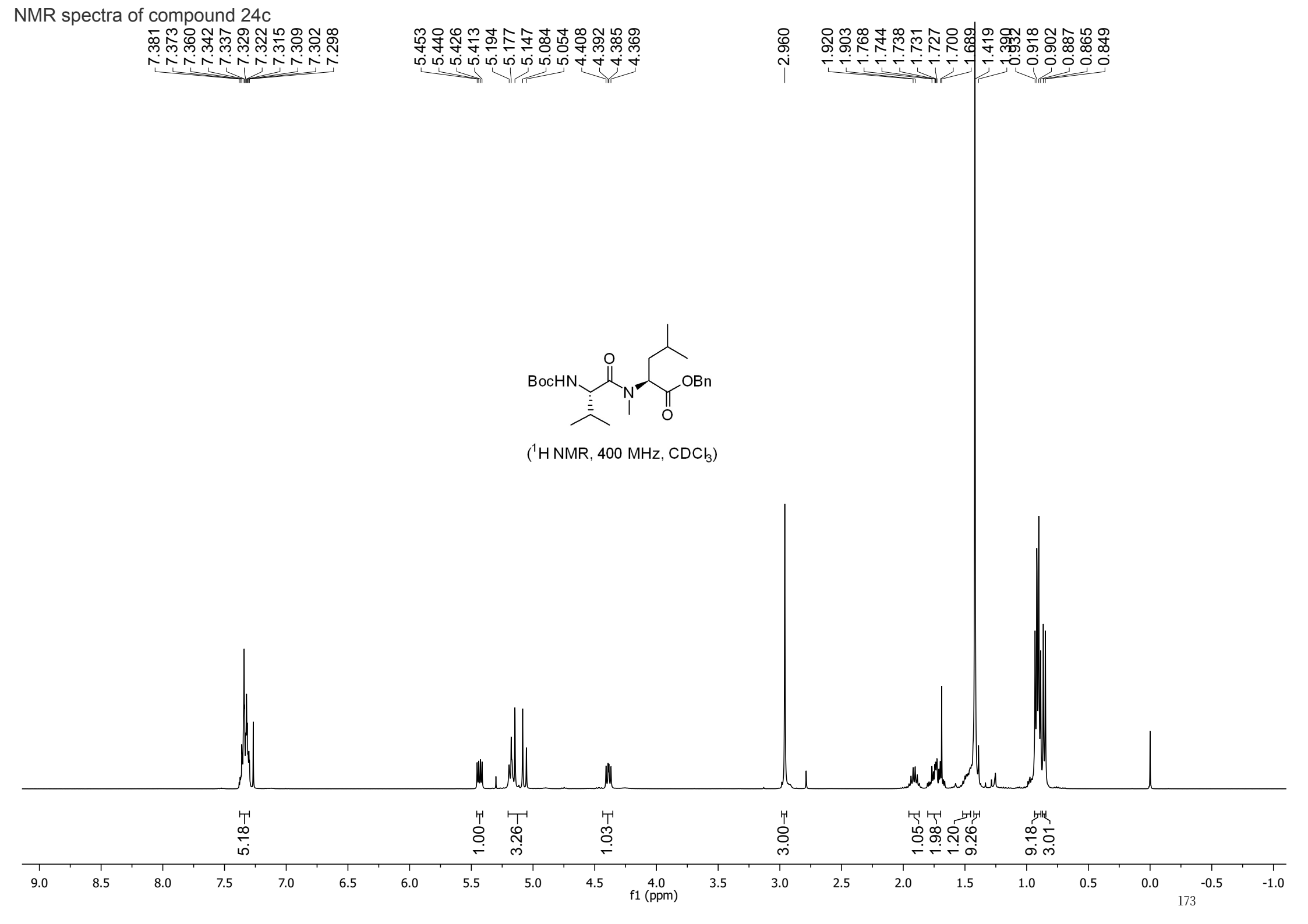
NMR spectra of compound 24b



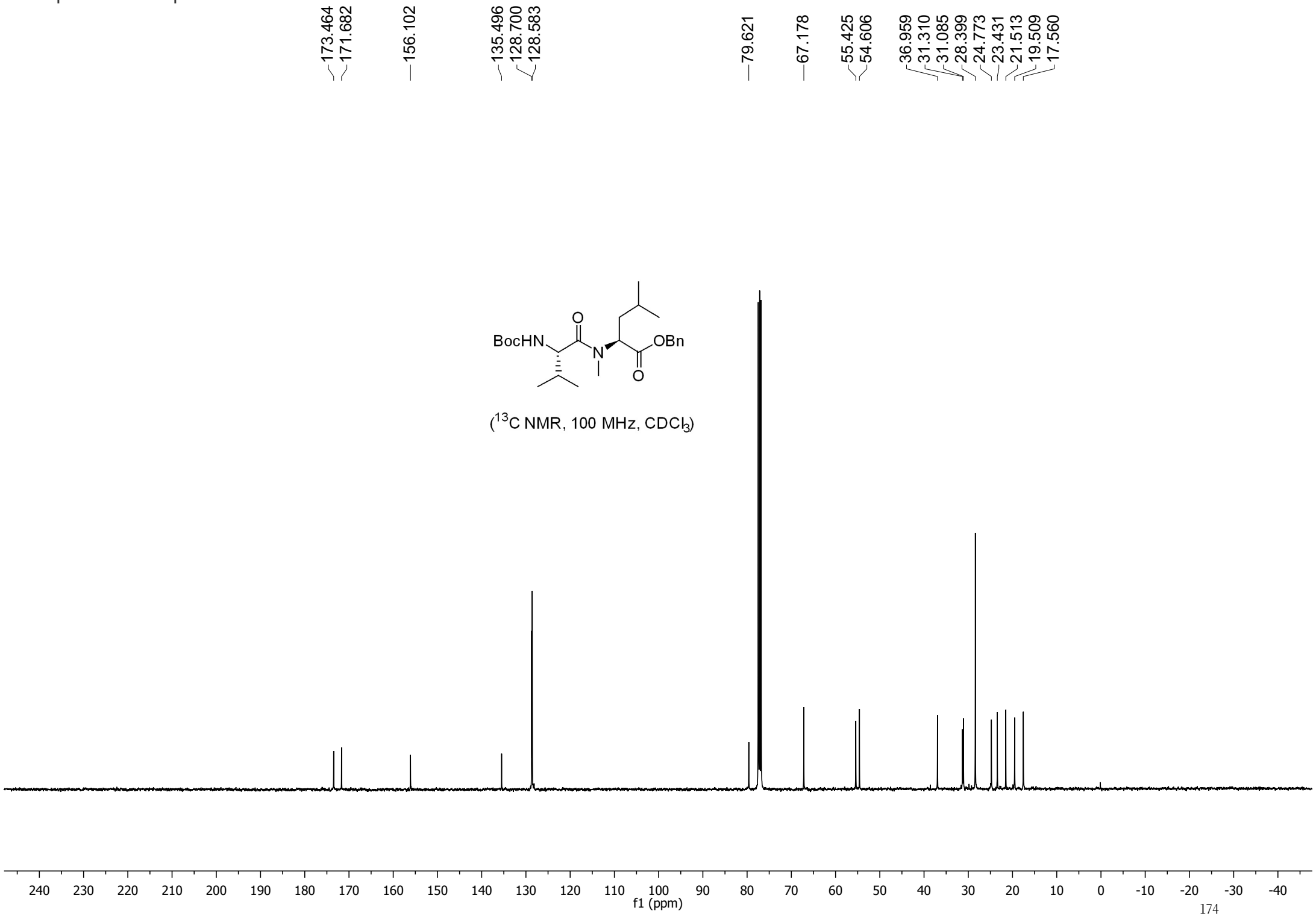
NMR spectra of compound 24b



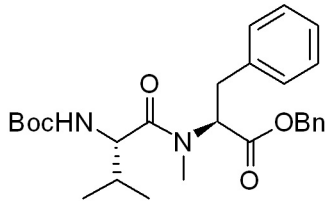
NMR spectra of compound 24c



NMR spectra of compound 24c

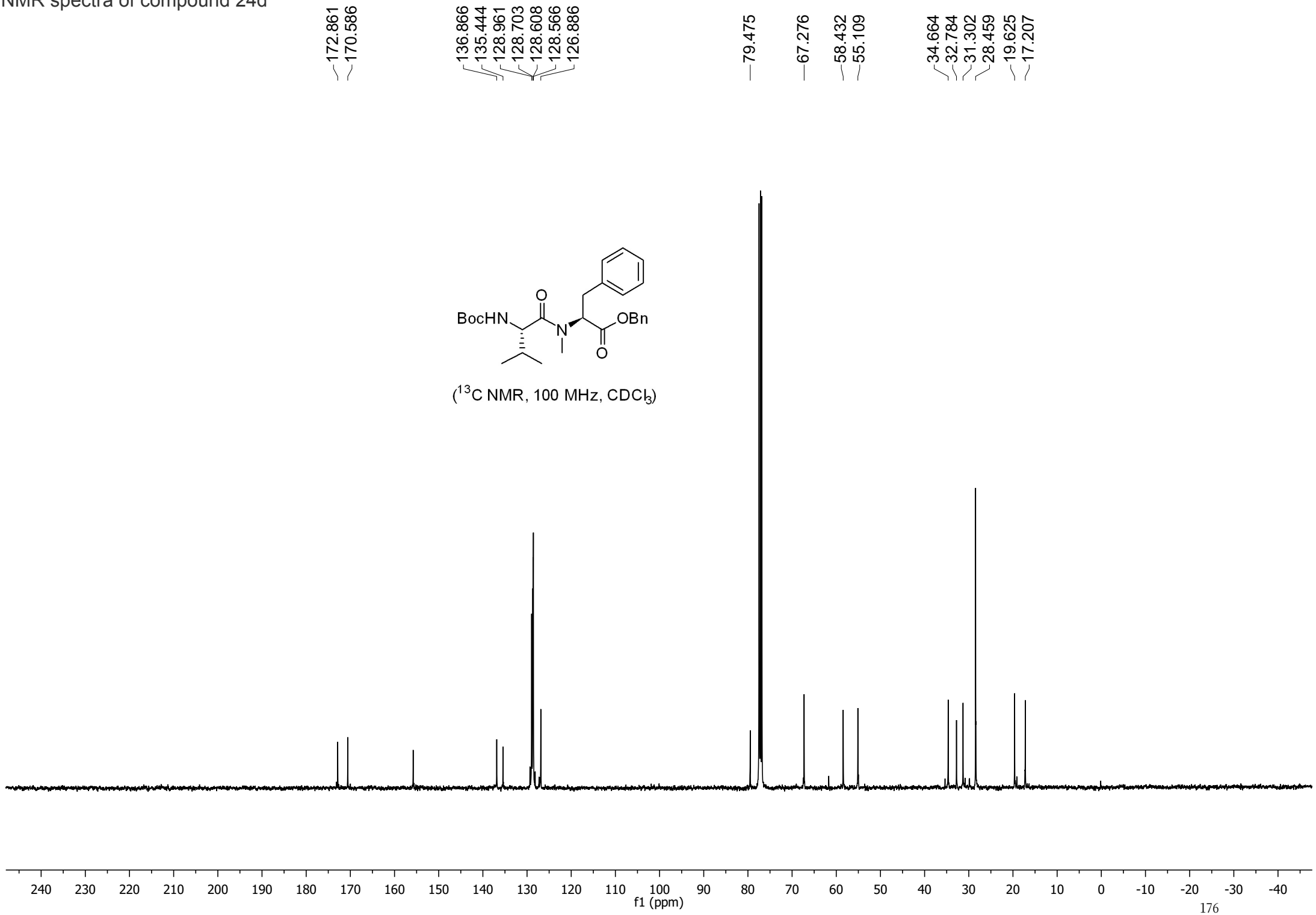


NMR spectra of compound 24d

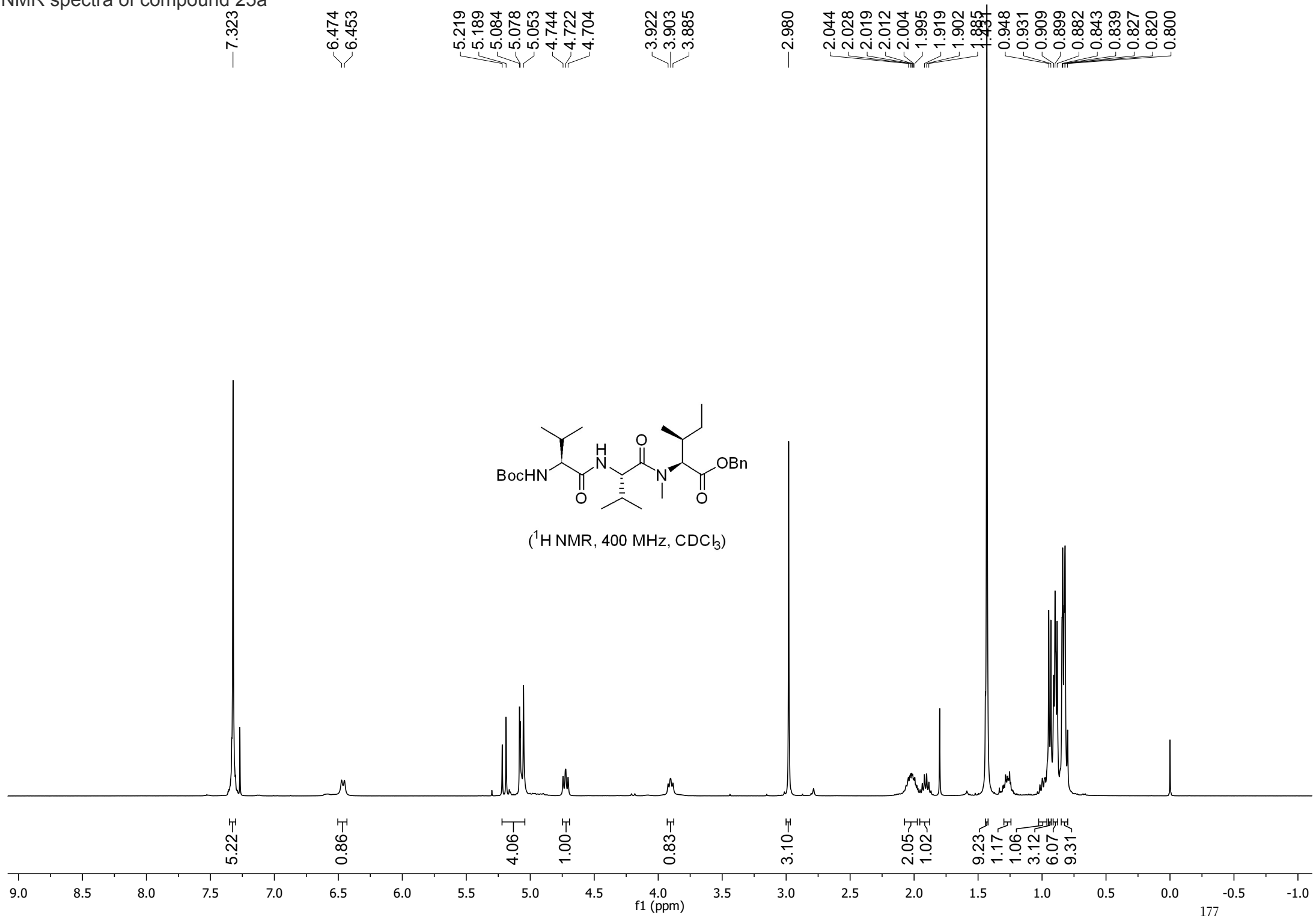


(^{1}H NMR, 400 MHz, $CDCl_3$)

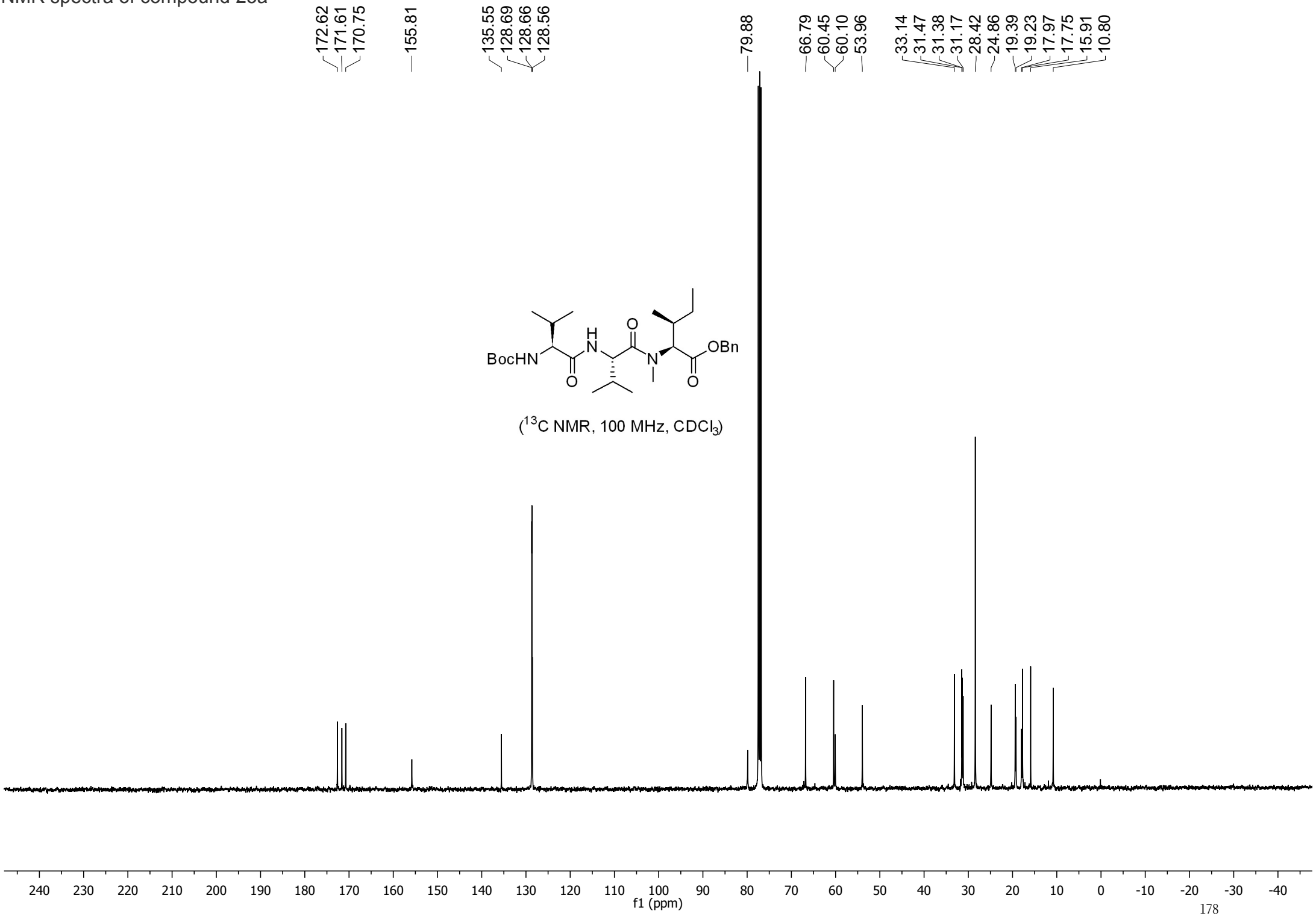
NMR spectra of compound 24d



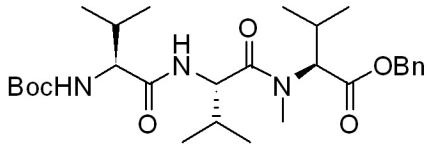
NMR spectra of compound 25a



NMR spectra of compound 25a

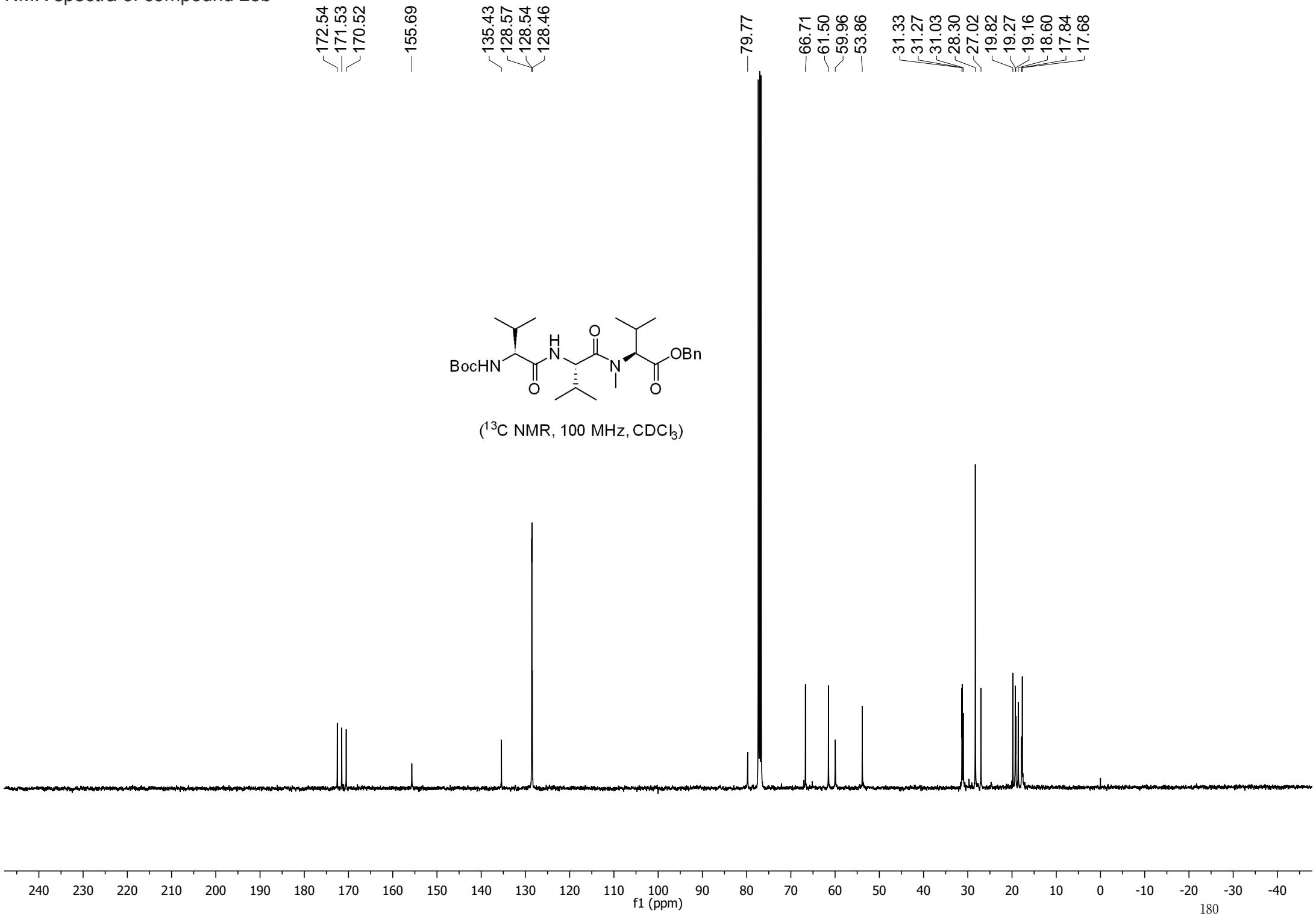


NMR spectra of compound 25b

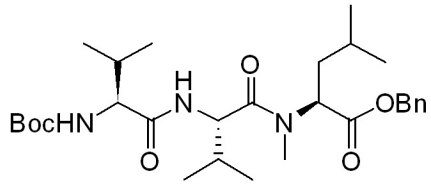


(^{1}H NMR, 400 MHz, $CDCl_3$)

NMR spectra of compound 25b

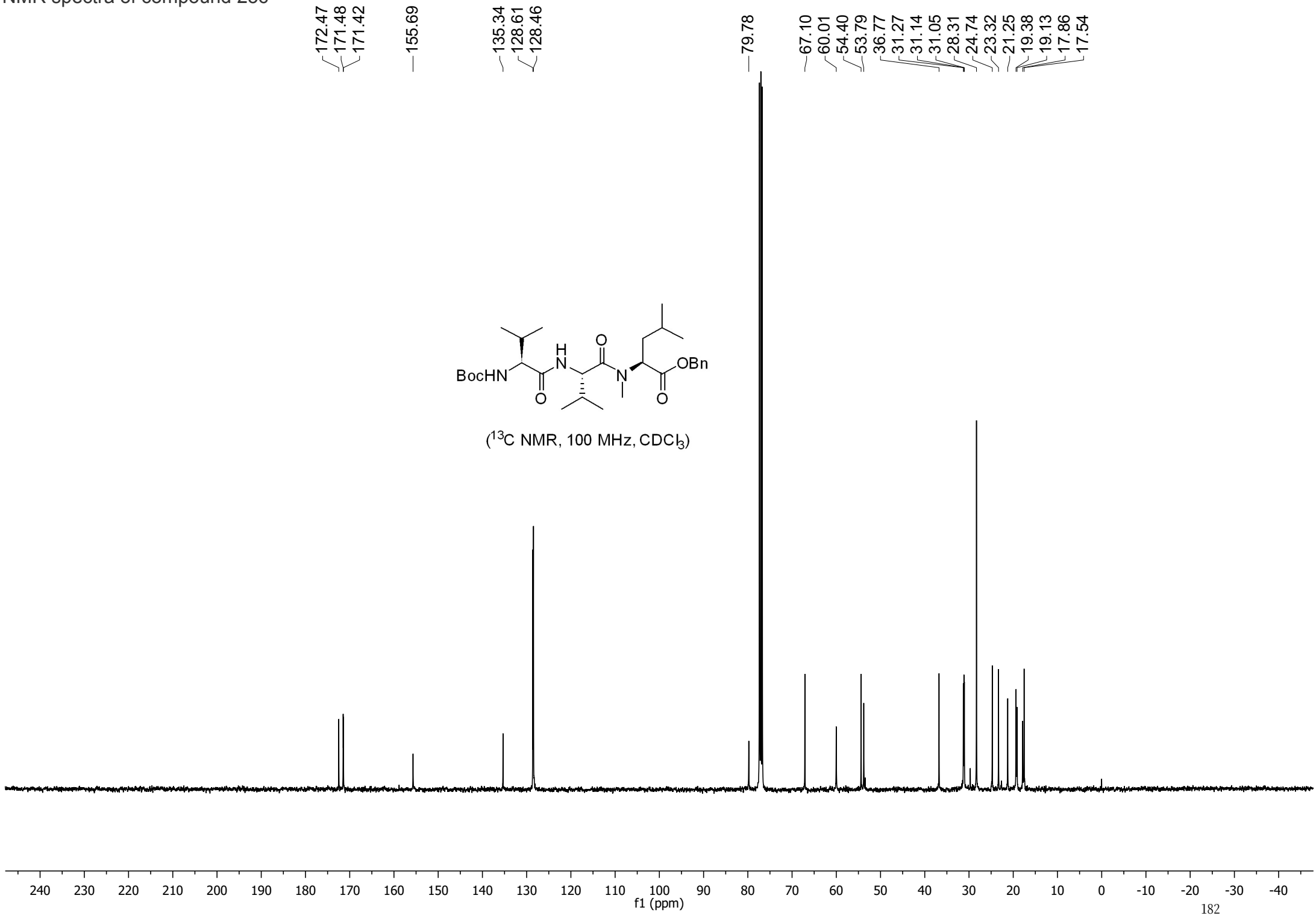


NMR spectra of compound 25c

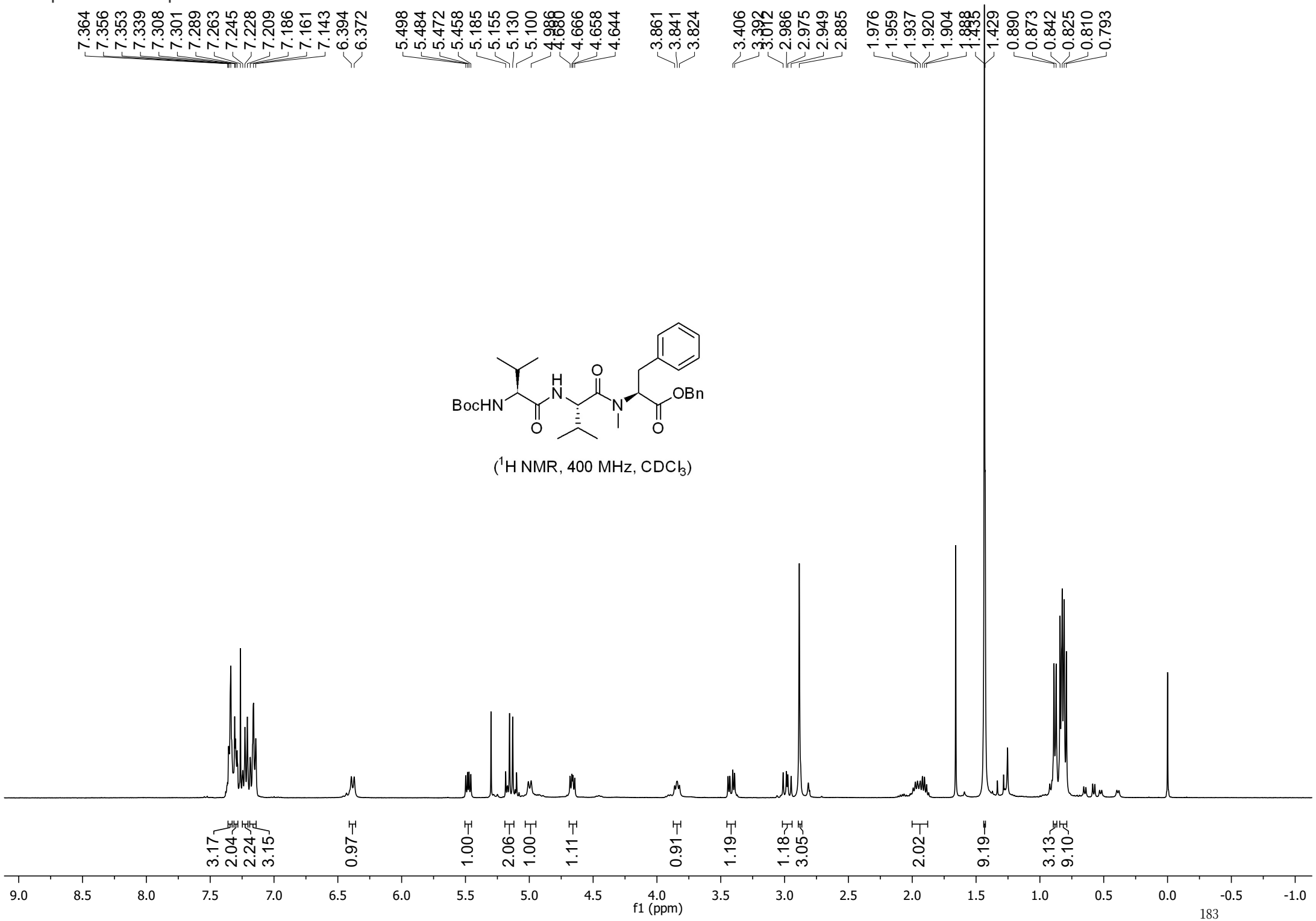


(^{1}H NMR, 400 MHz, $CDCl_3$)

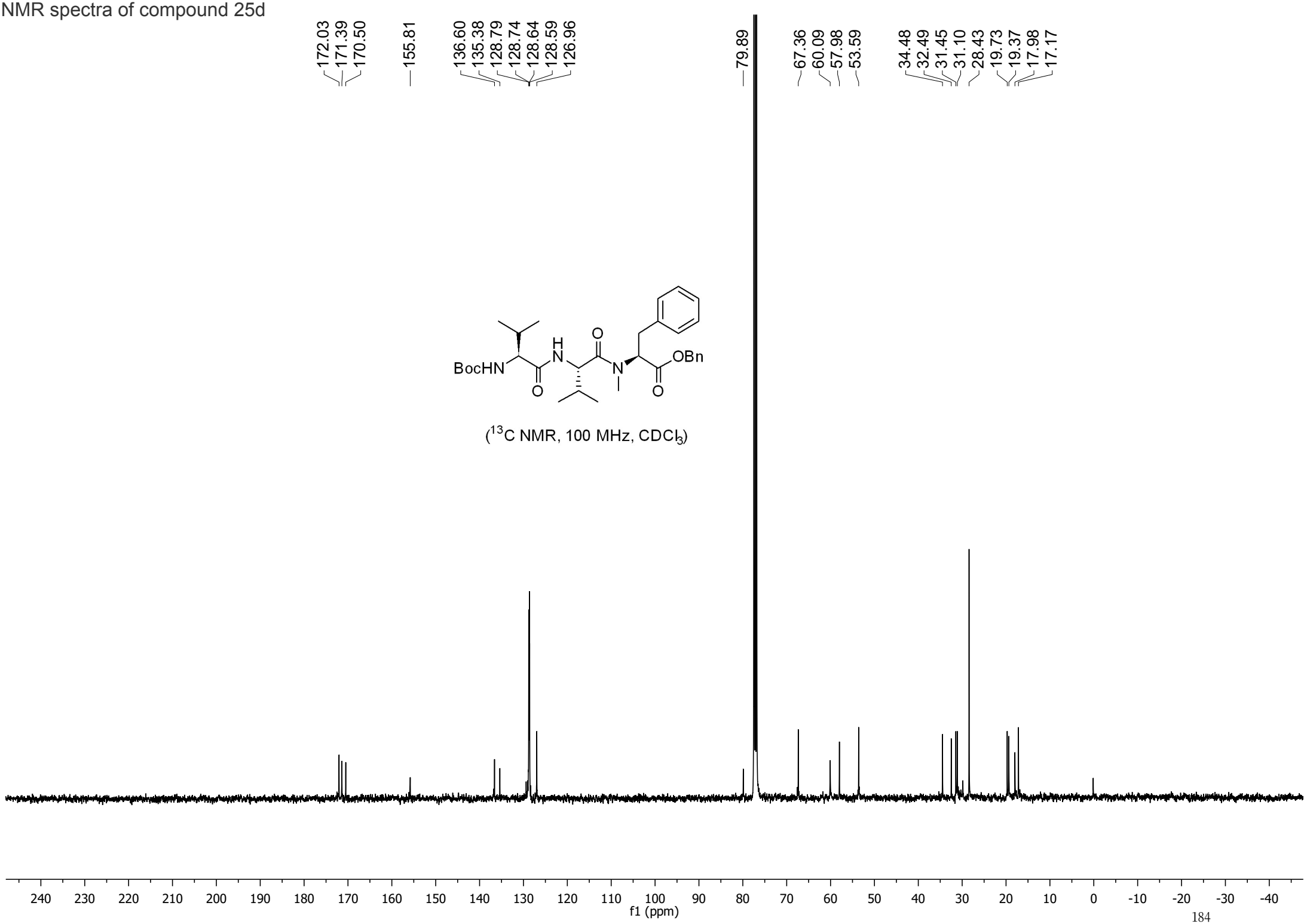
NMR spectra of compound 25c



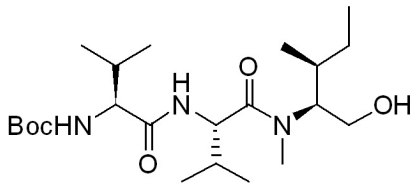
NMR spectra of compound 25d



NMR spectra of compound 25d

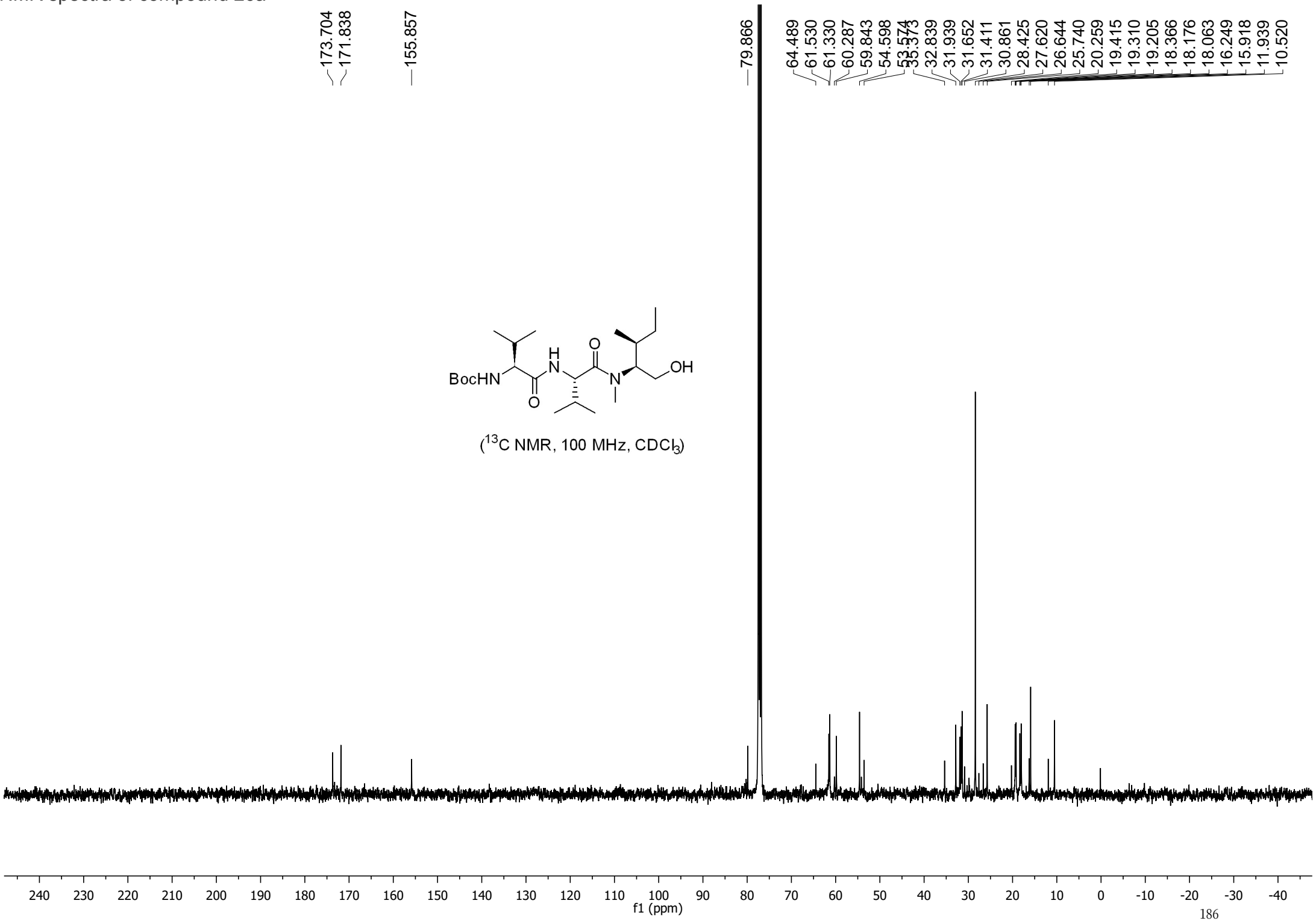


NMR spectra of compound 26a

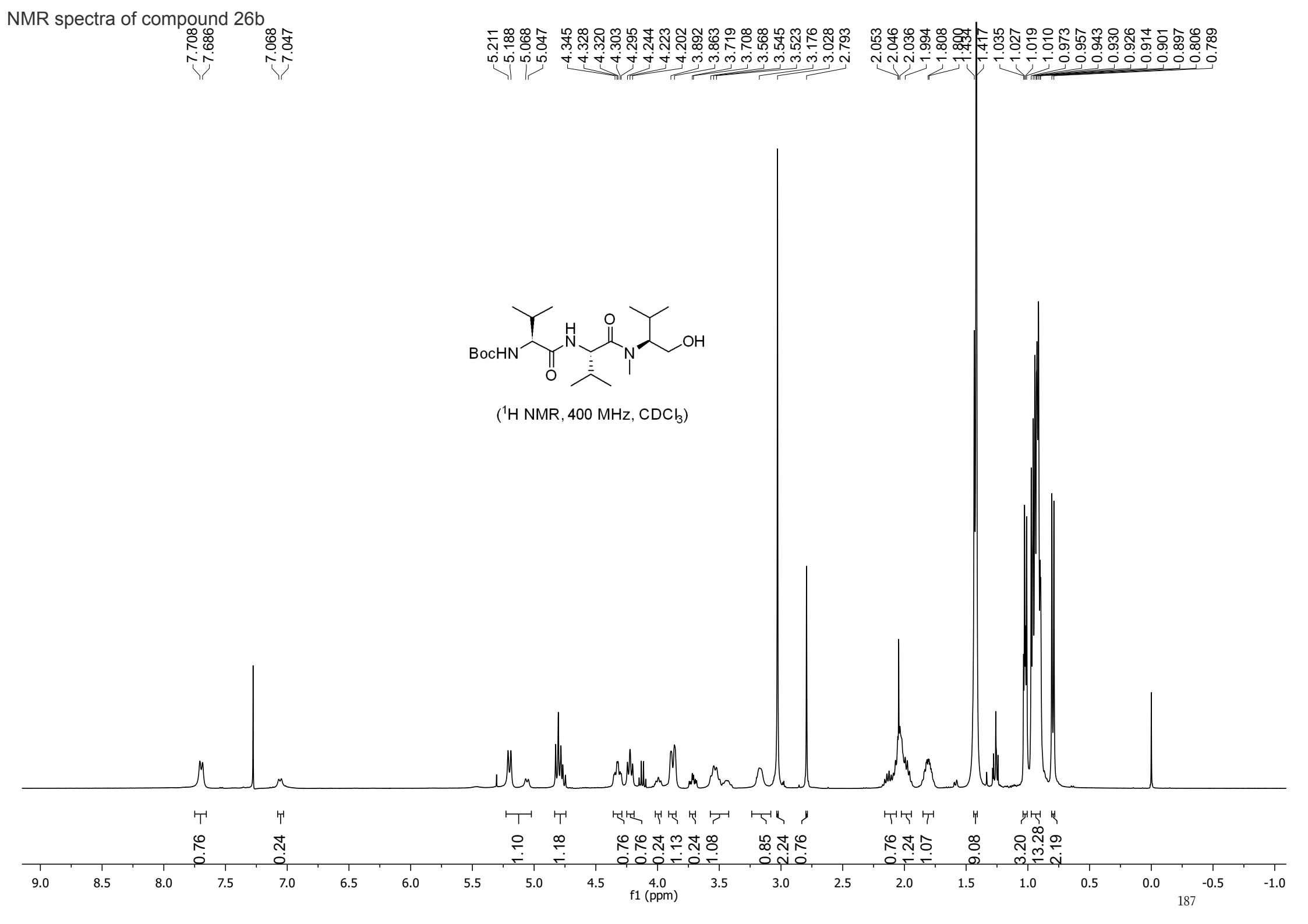


(^{1}H NMR, 400 MHz, $CDCl_3$)

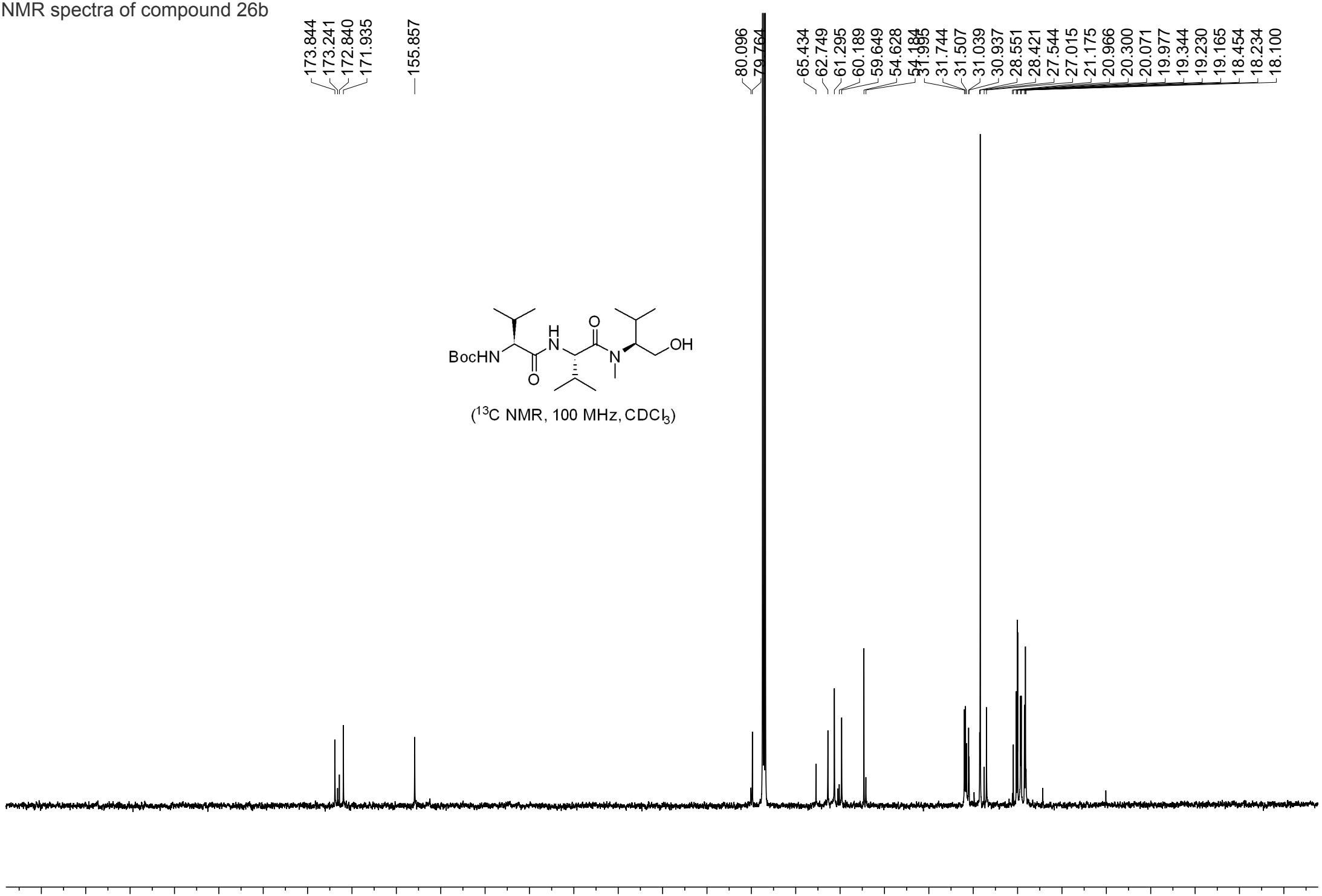
NMR spectra of compound 26a



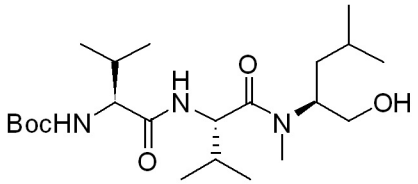
NMR spectra of compound 26b



NMR spectra of compound 26b

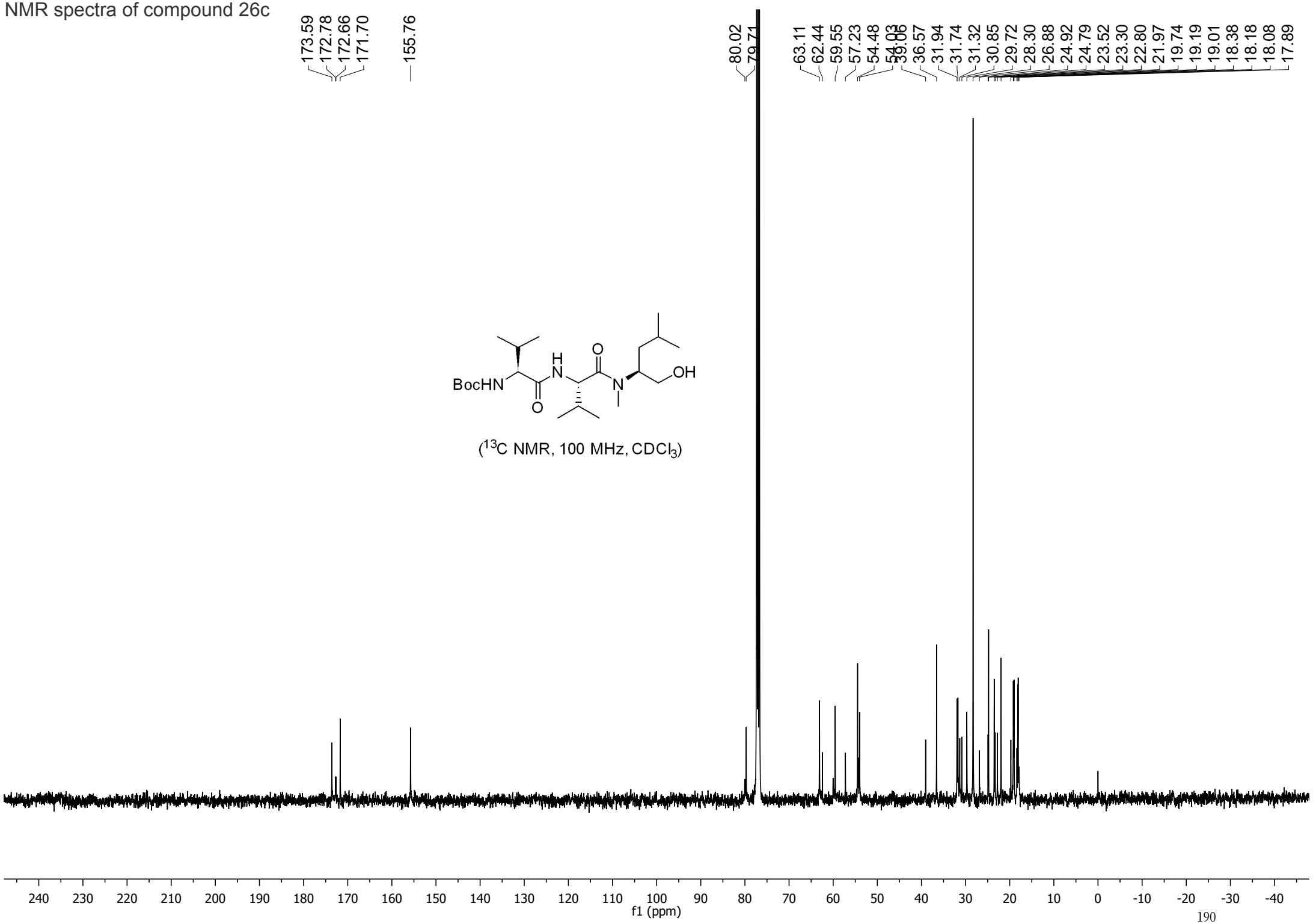


NMR spectra of compound 26c

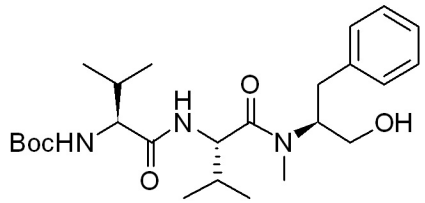


(^{1}H NMR, 400 MHz, $CDCl_3$)

NMR spectra of compound 26c

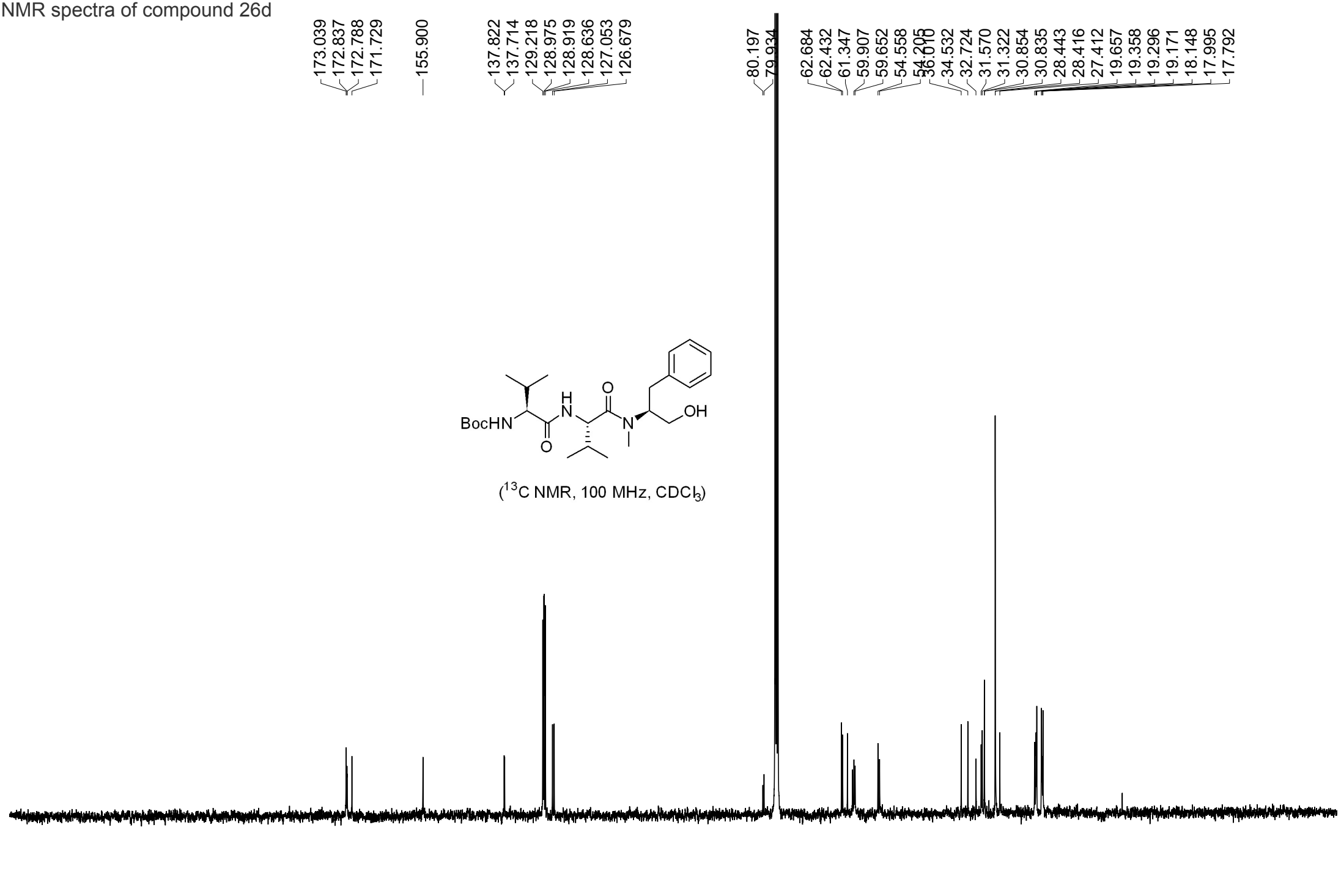


NMR spectra of compound 26d

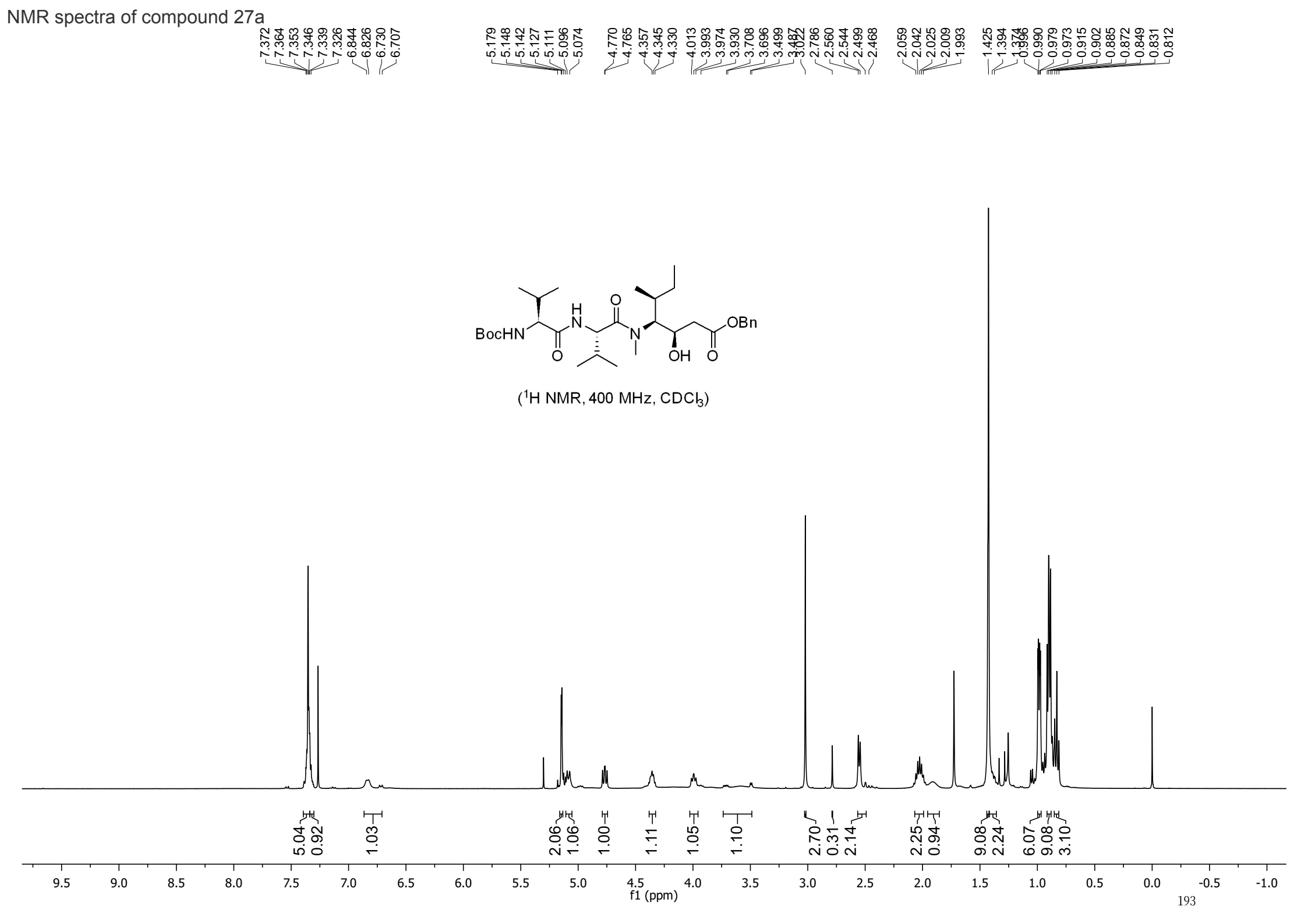


(^{1}H NMR, 400 MHz, $CDCl_3$)

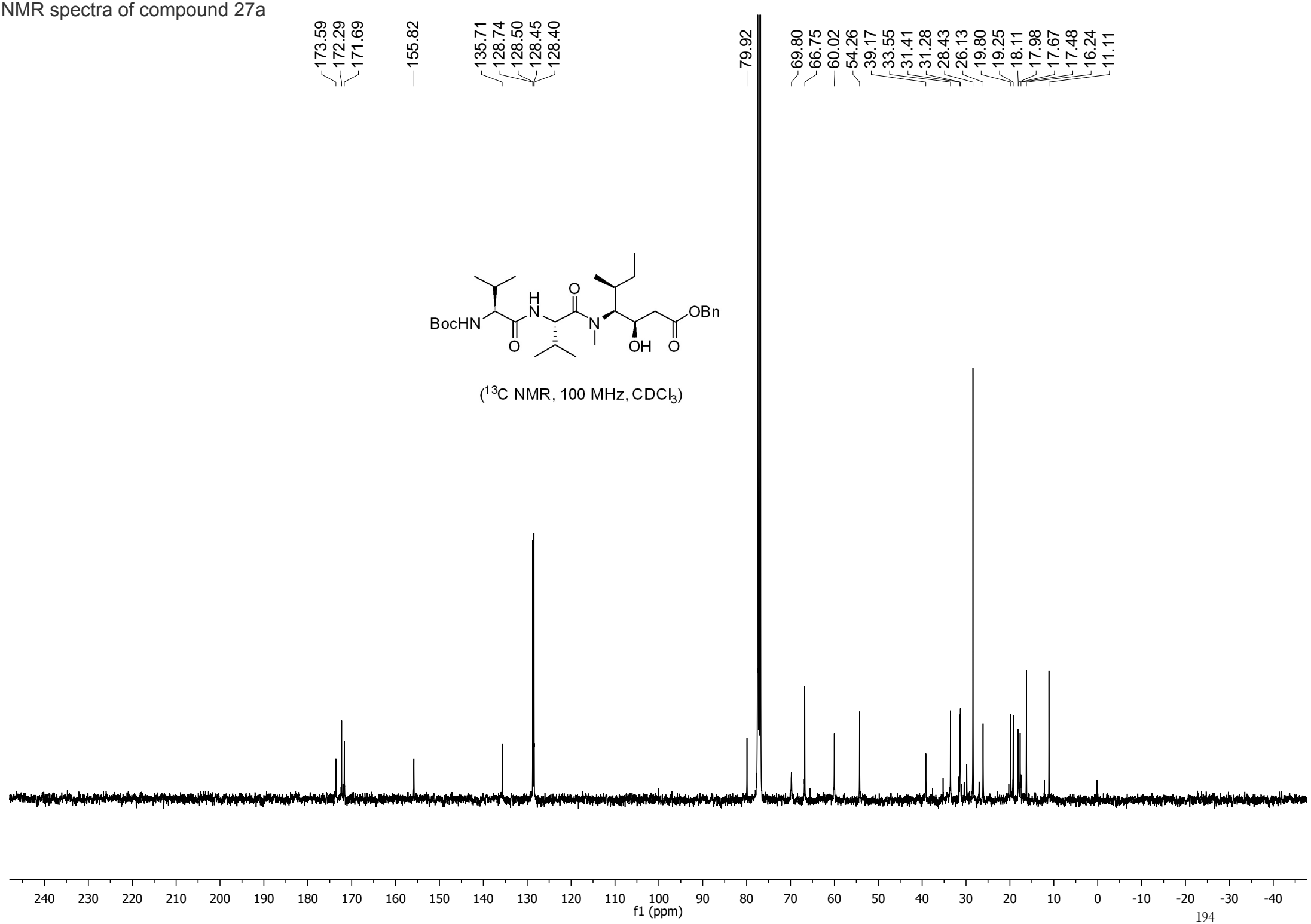
NMR spectra of compound 26d



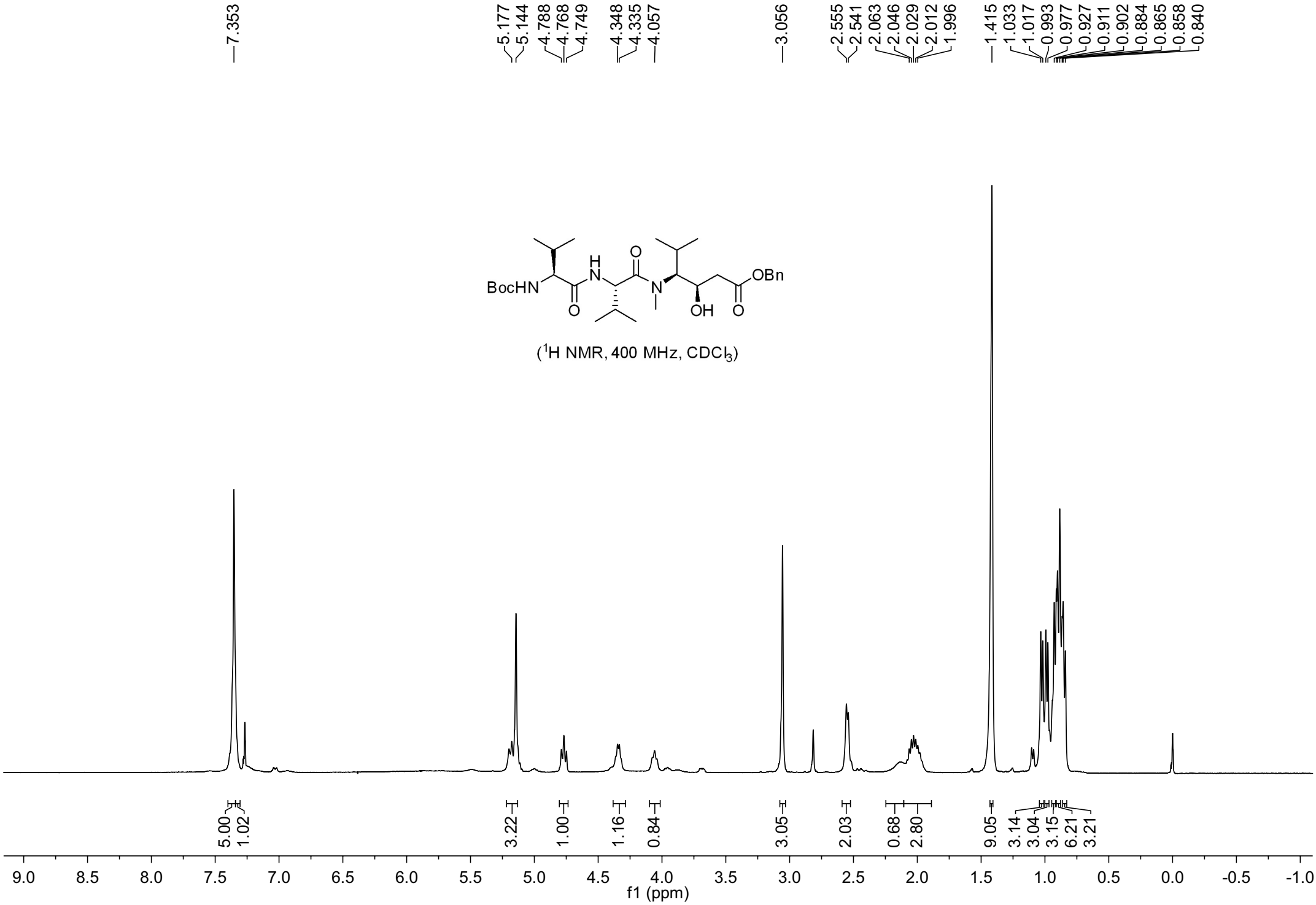
NMR spectra of compound 27a



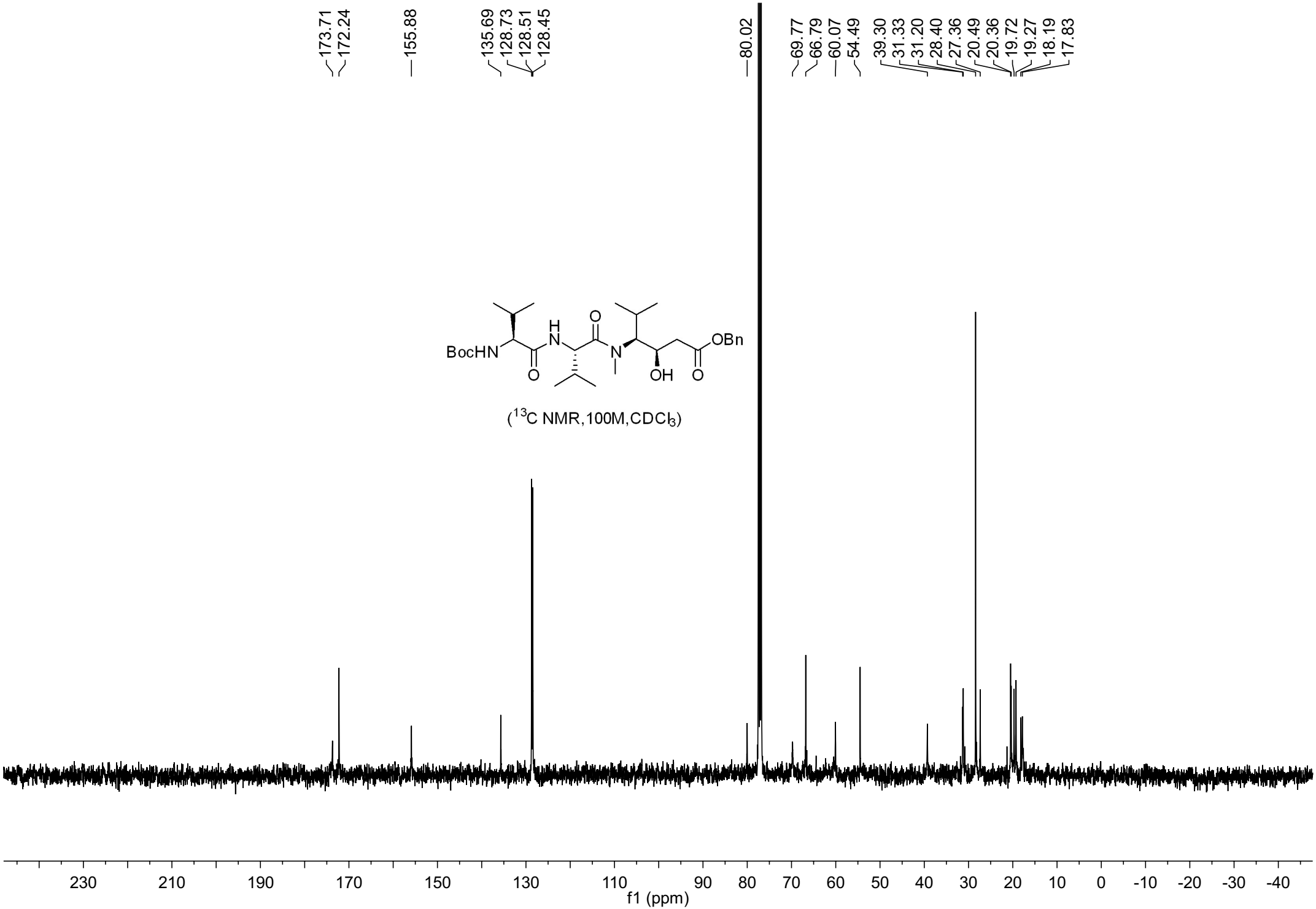
NMR spectra of compound 27a



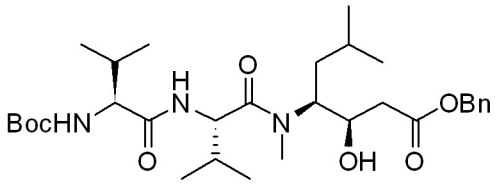
NMR spectra of compound 27b



NMR spectra of compound 27b

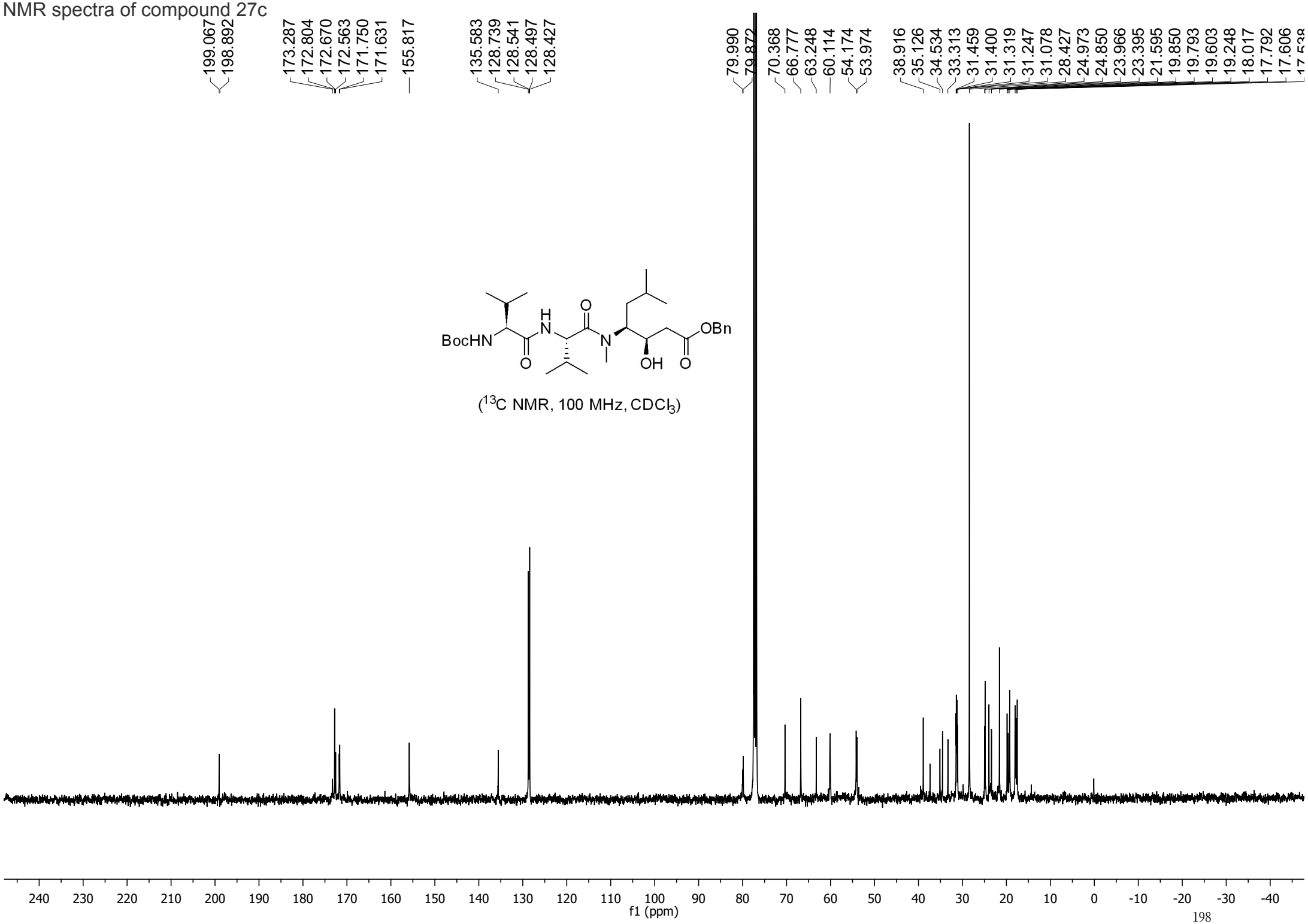


NMR spectra of compound 27c

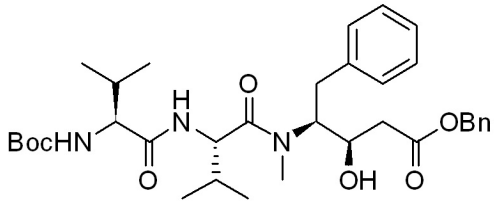


(^{1}H NMR, 400 MHz, $CDCl_3$)

NMR spectra of compound 27c

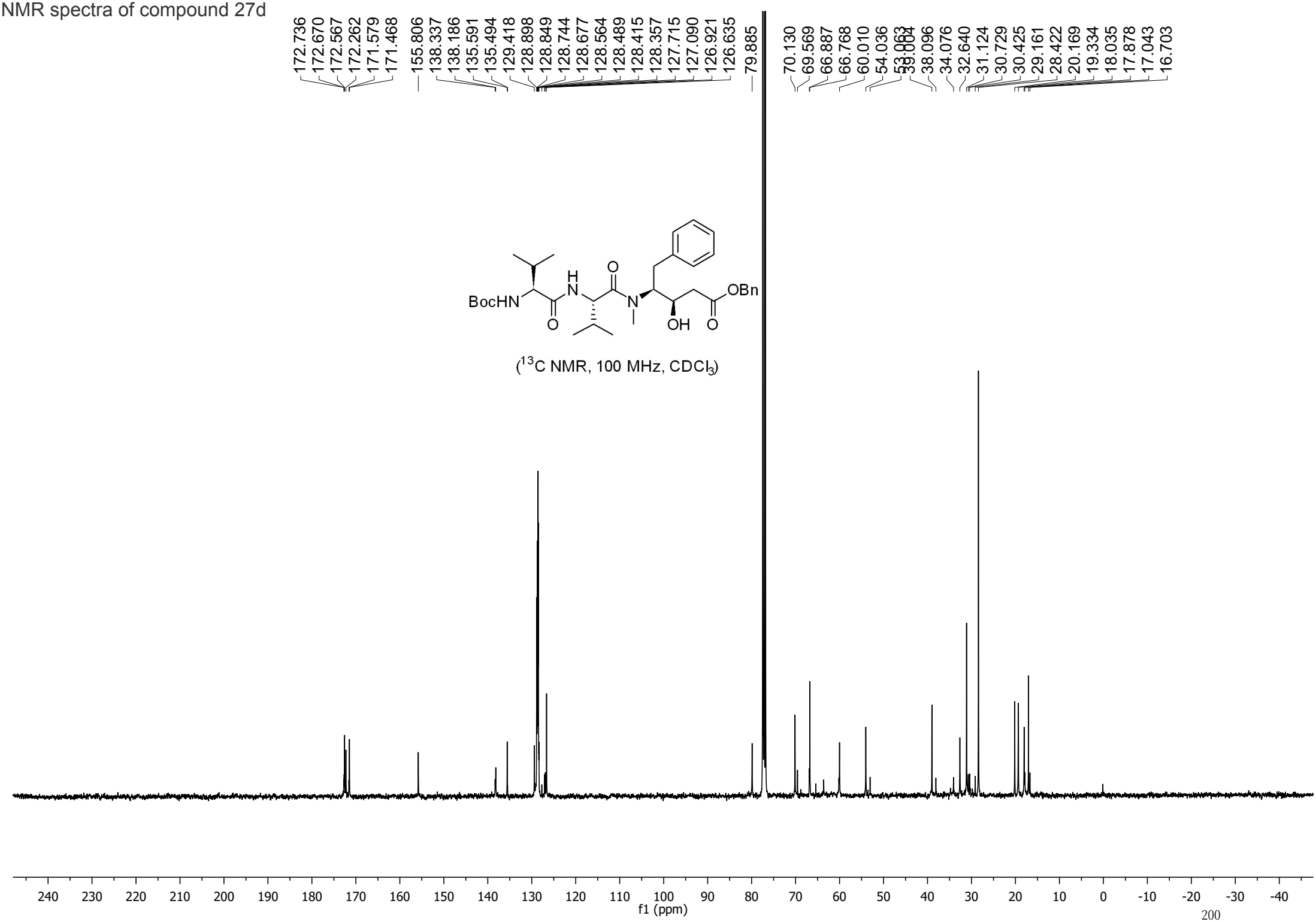


NMR spectra of compound 27d

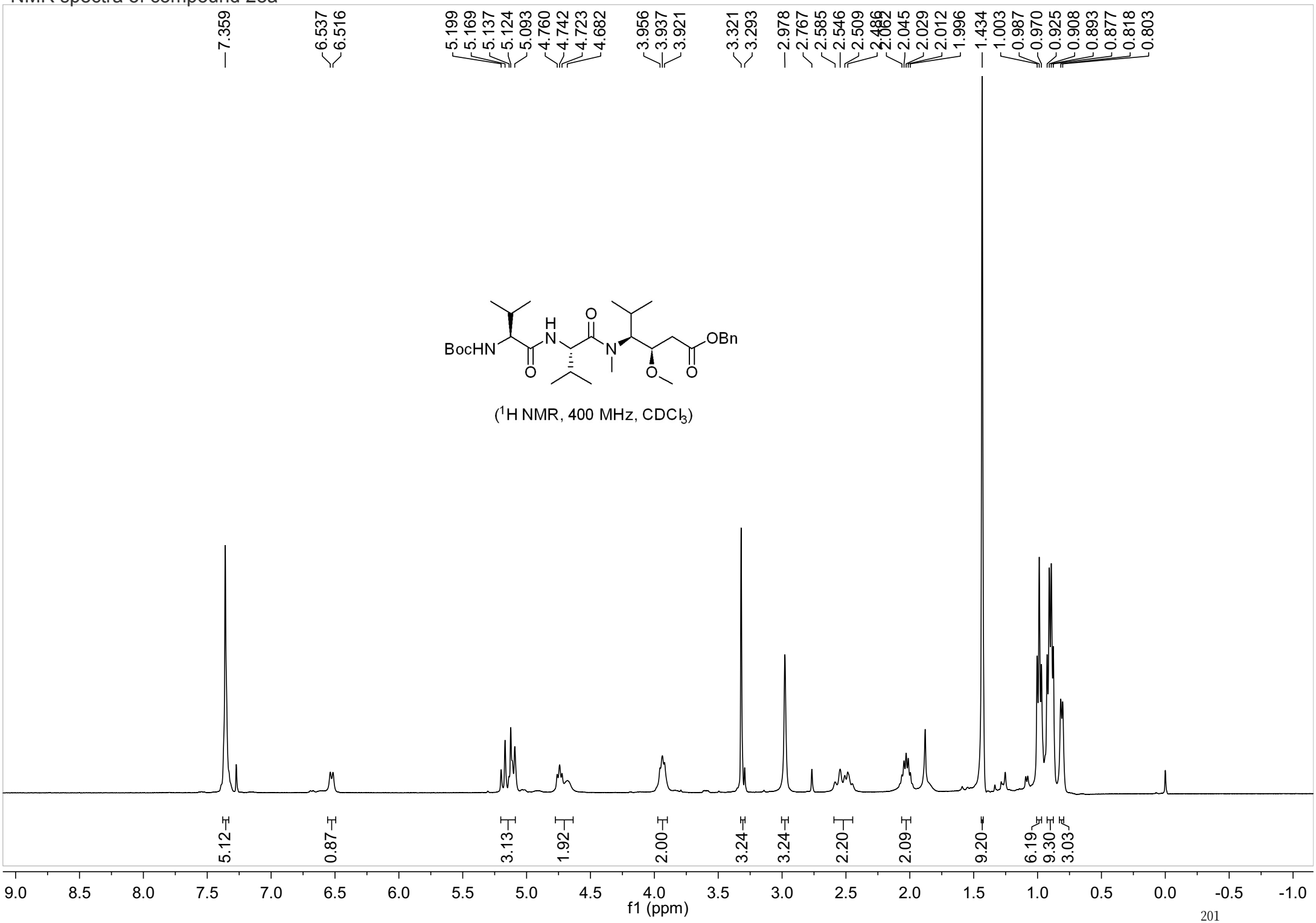


(^{1}H NMR, 400 MHz, $CDCl_3$)

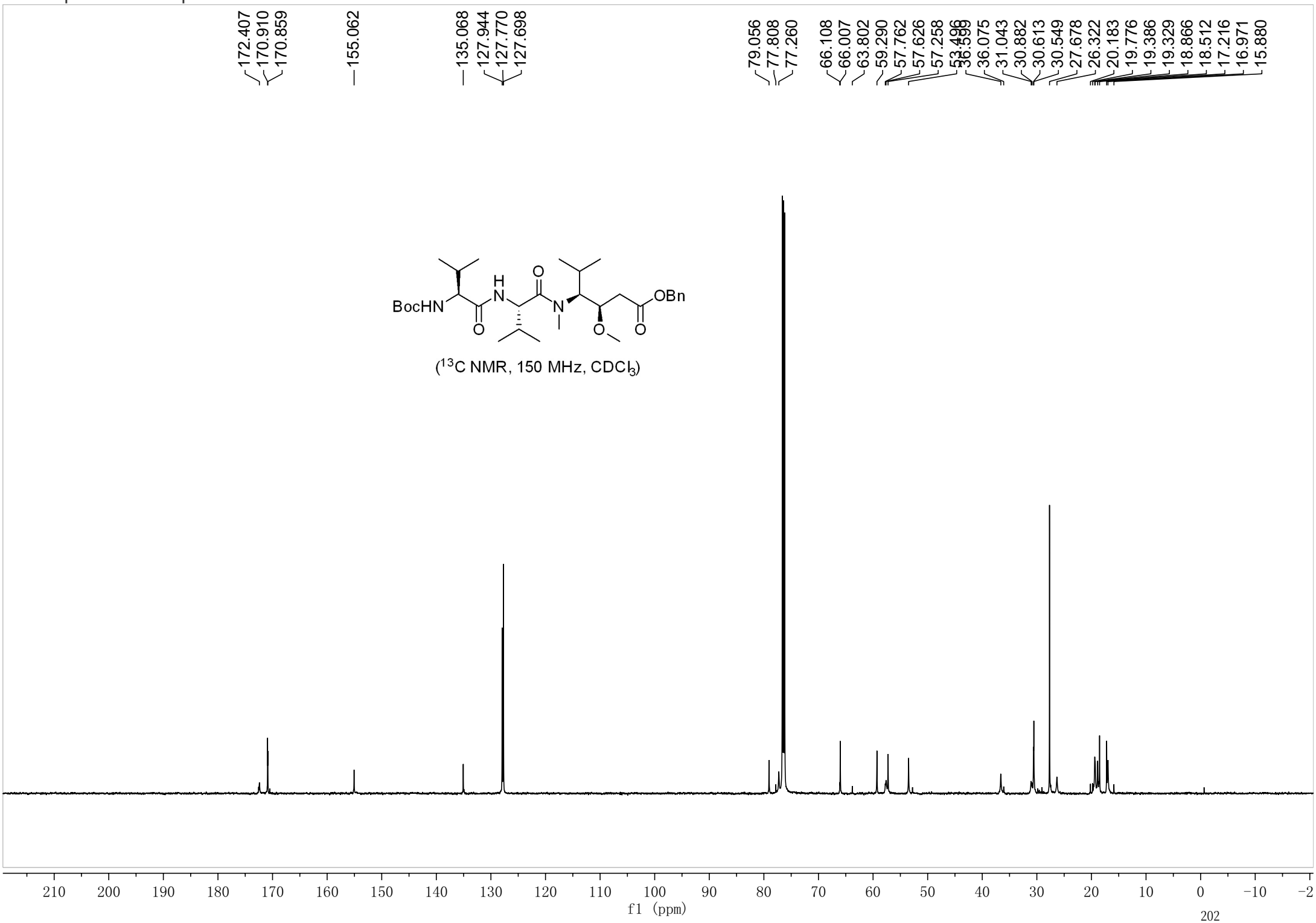
NMR spectra of compound 27d



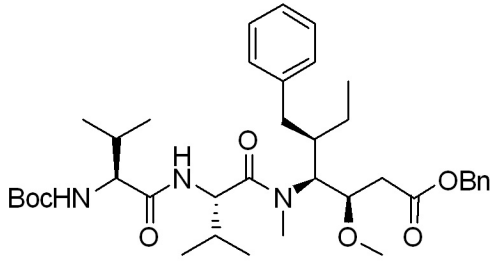
NMR spectra of compound 28a



NMR spectra of compound 28a

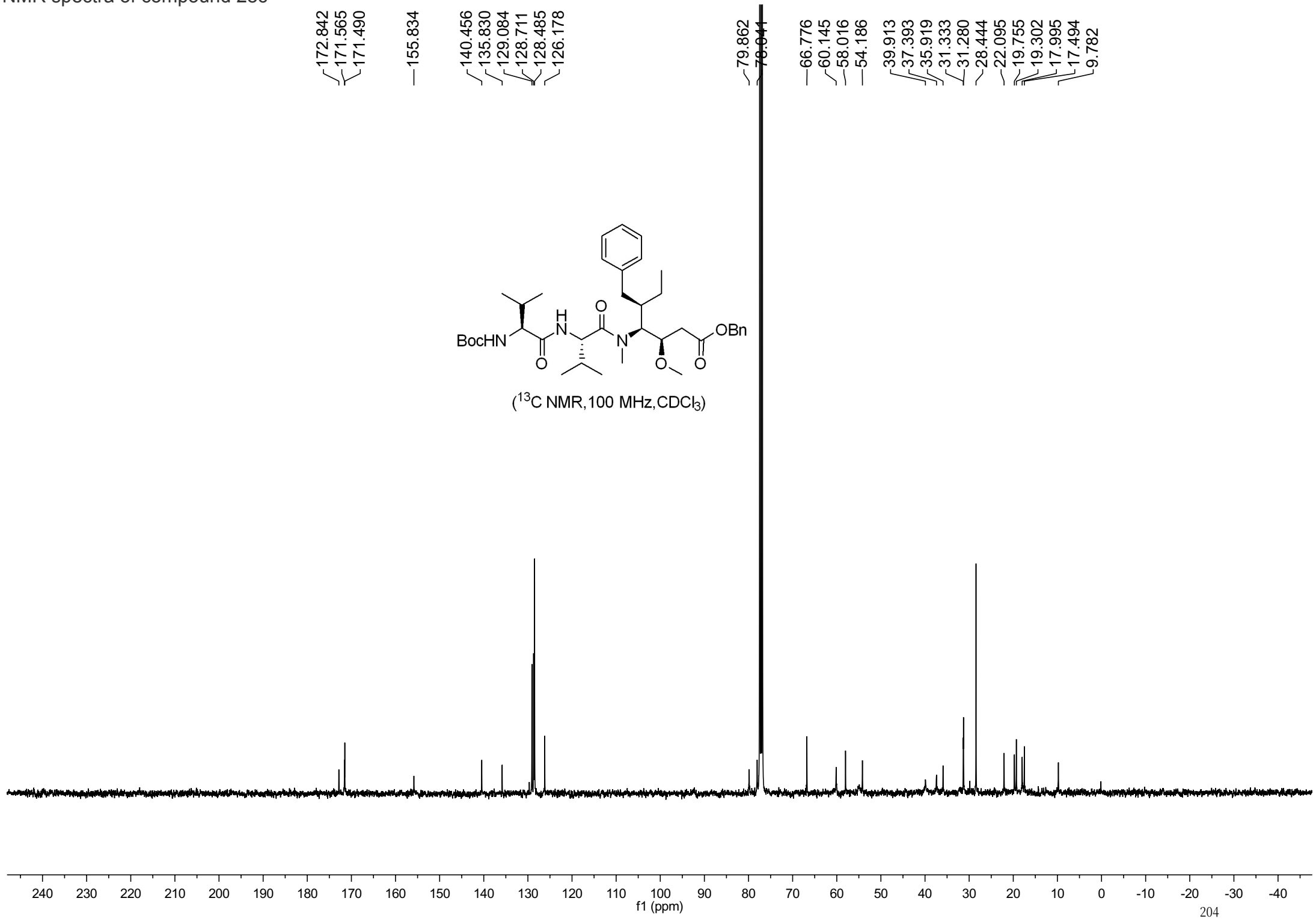


NMR spectra of compound 28c

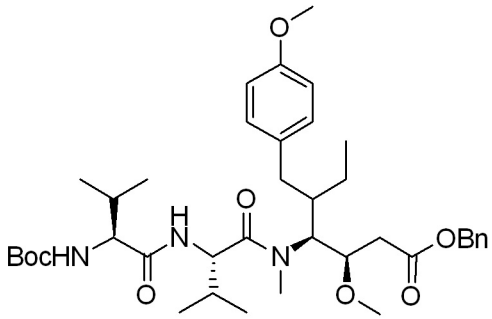


(^{1}H NMR, 400 MHz, $CDCl_3$)

NMR spectra of compound 28c

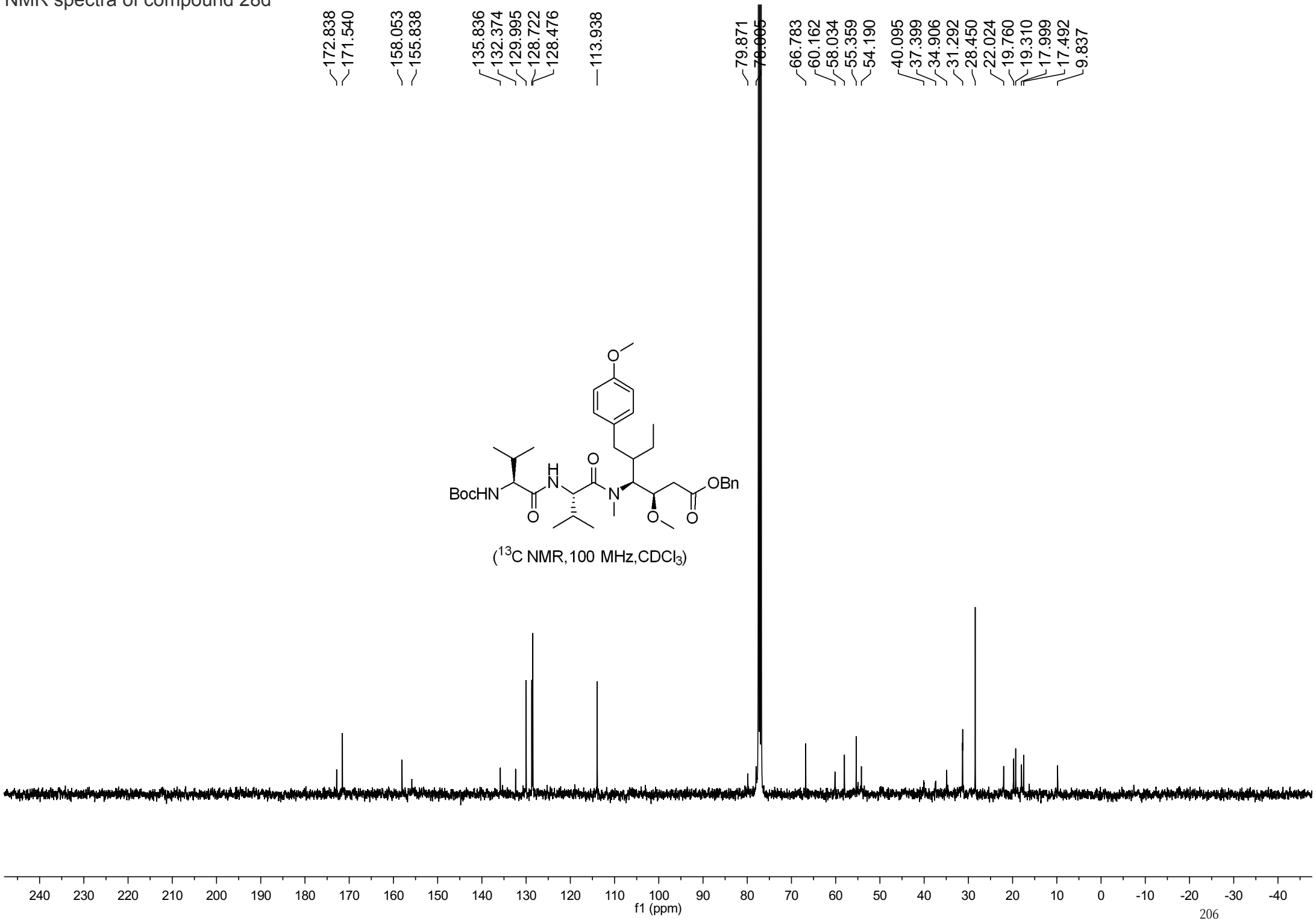


NMR spectra of compound 28d

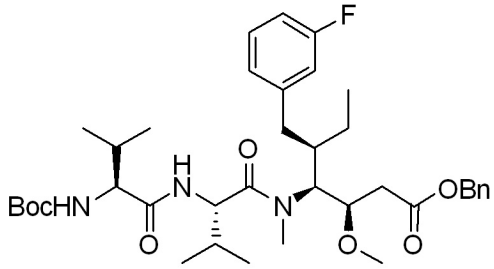


(^{1}H NMR, 400 MHz, $CDCl_3$)

NMR spectra of compound 28d

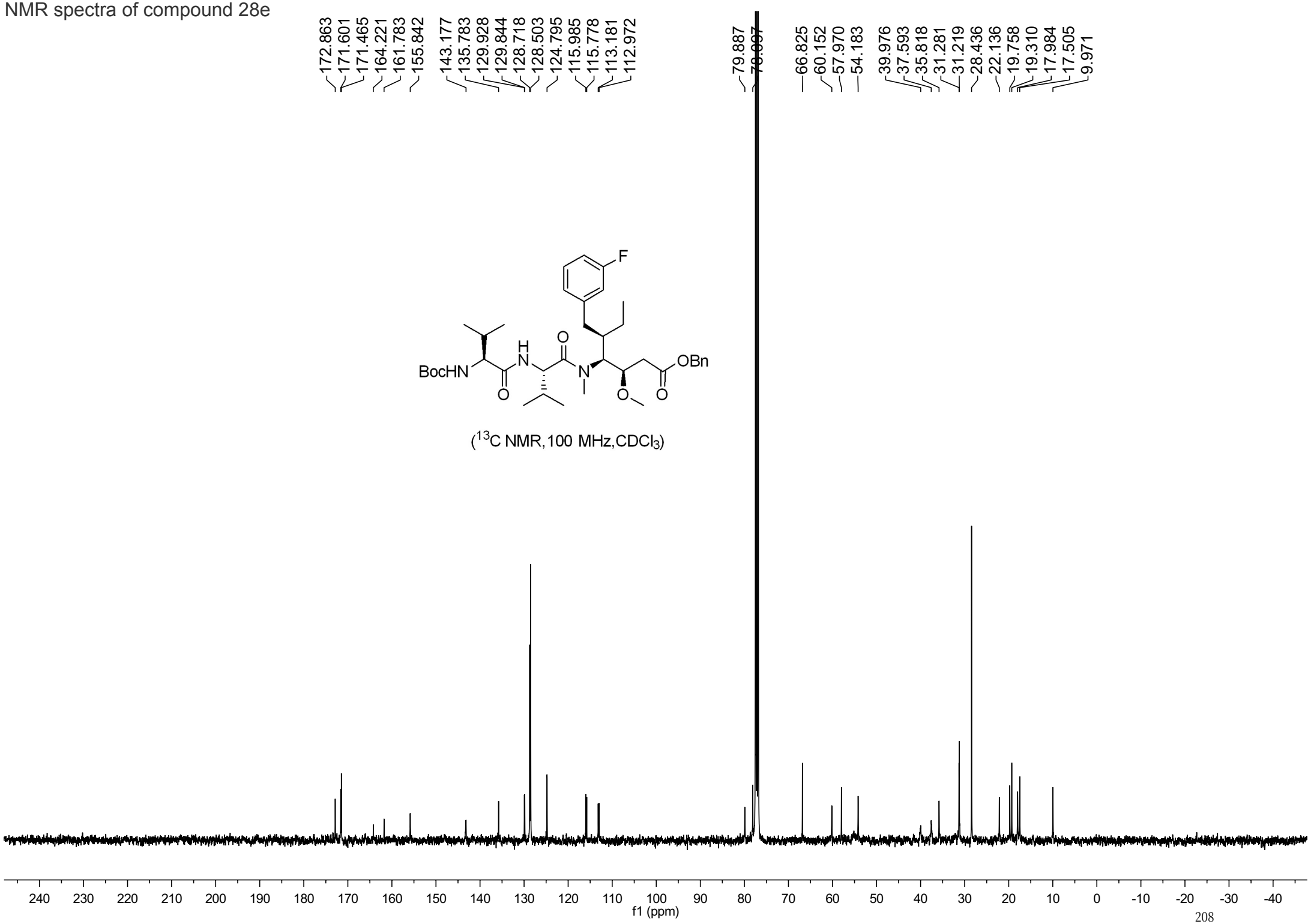


NMR spectra of compound 28e

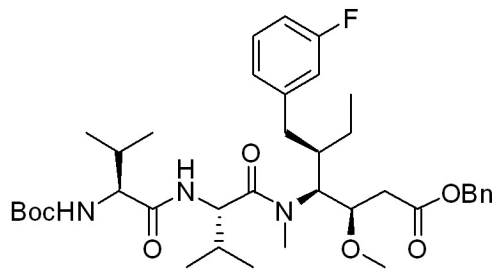


(^{1}H NMR, 400 MHz, $CDCl_3$)

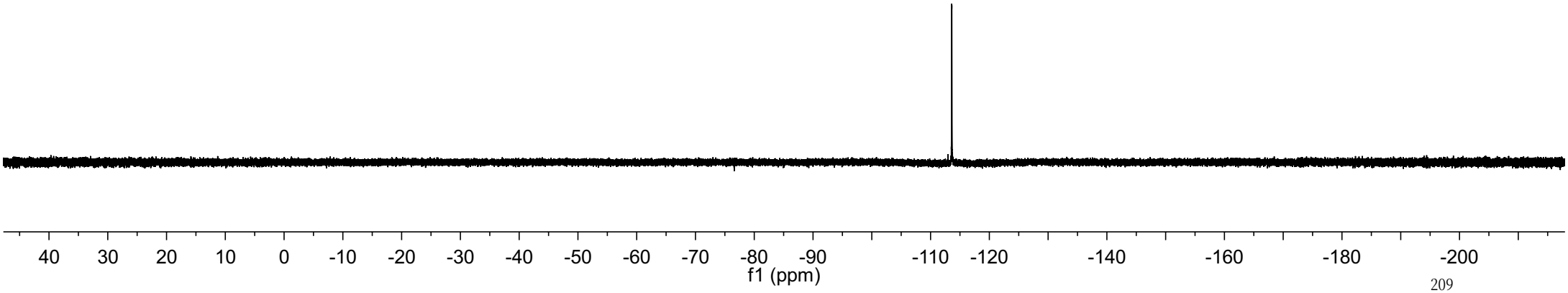
NMR spectra of compound 28e



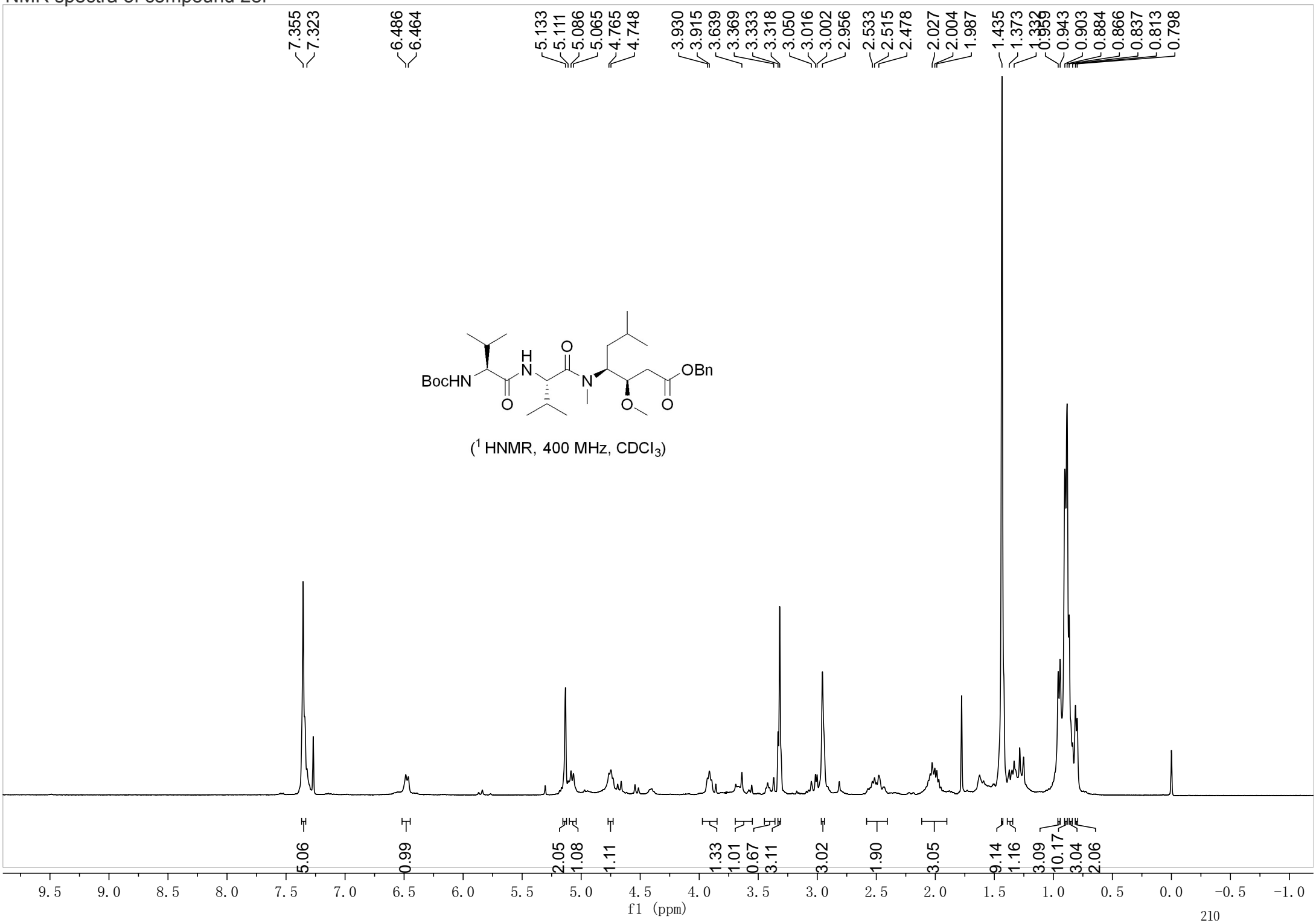
NMR spectra of compound 28e



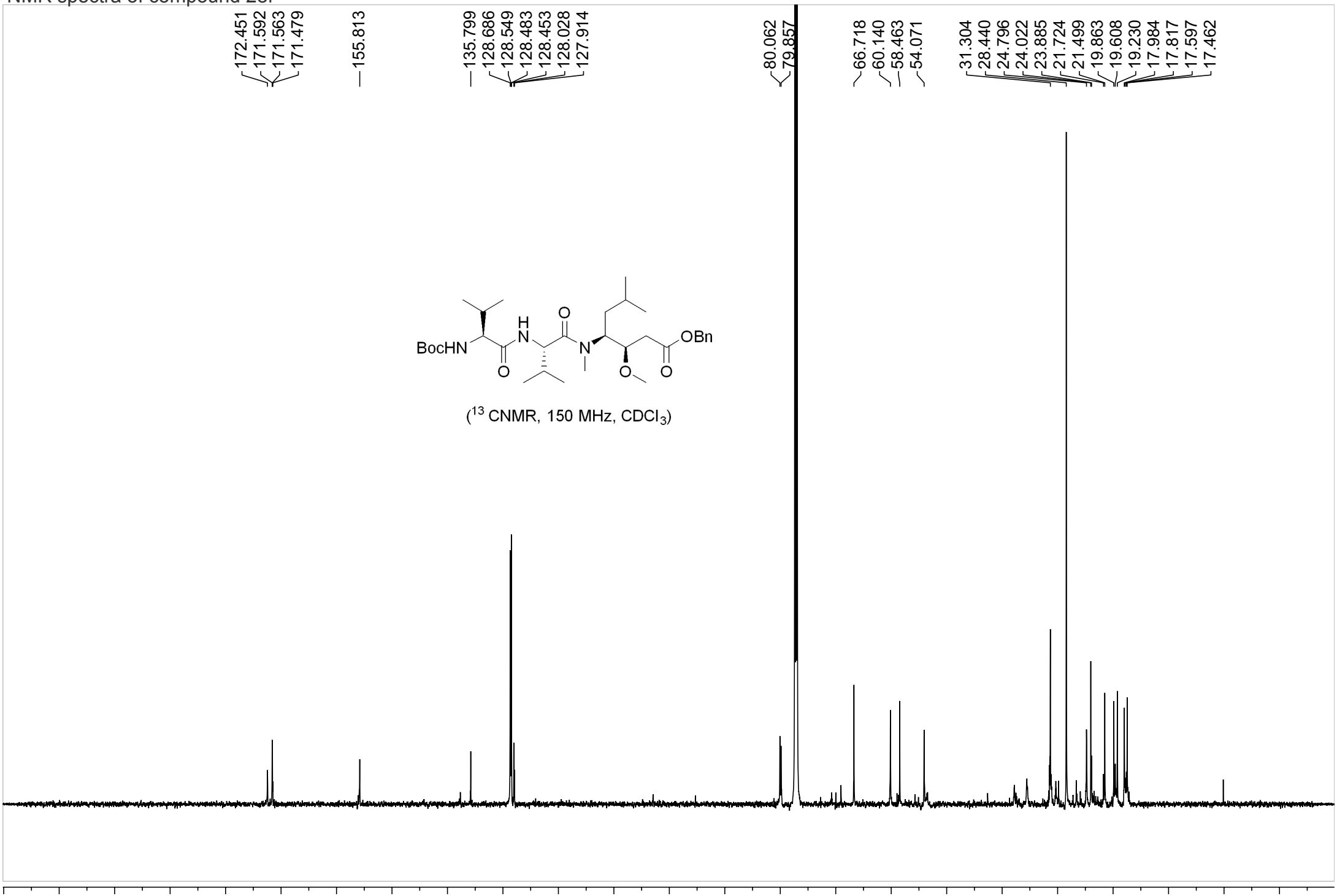
(^{19}F NMR, 376 MHz, CDCl3)



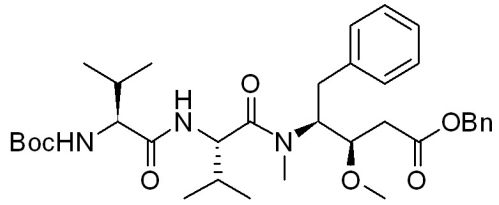
NMR spectra of compound 28f



NMR spectra of compound 28f

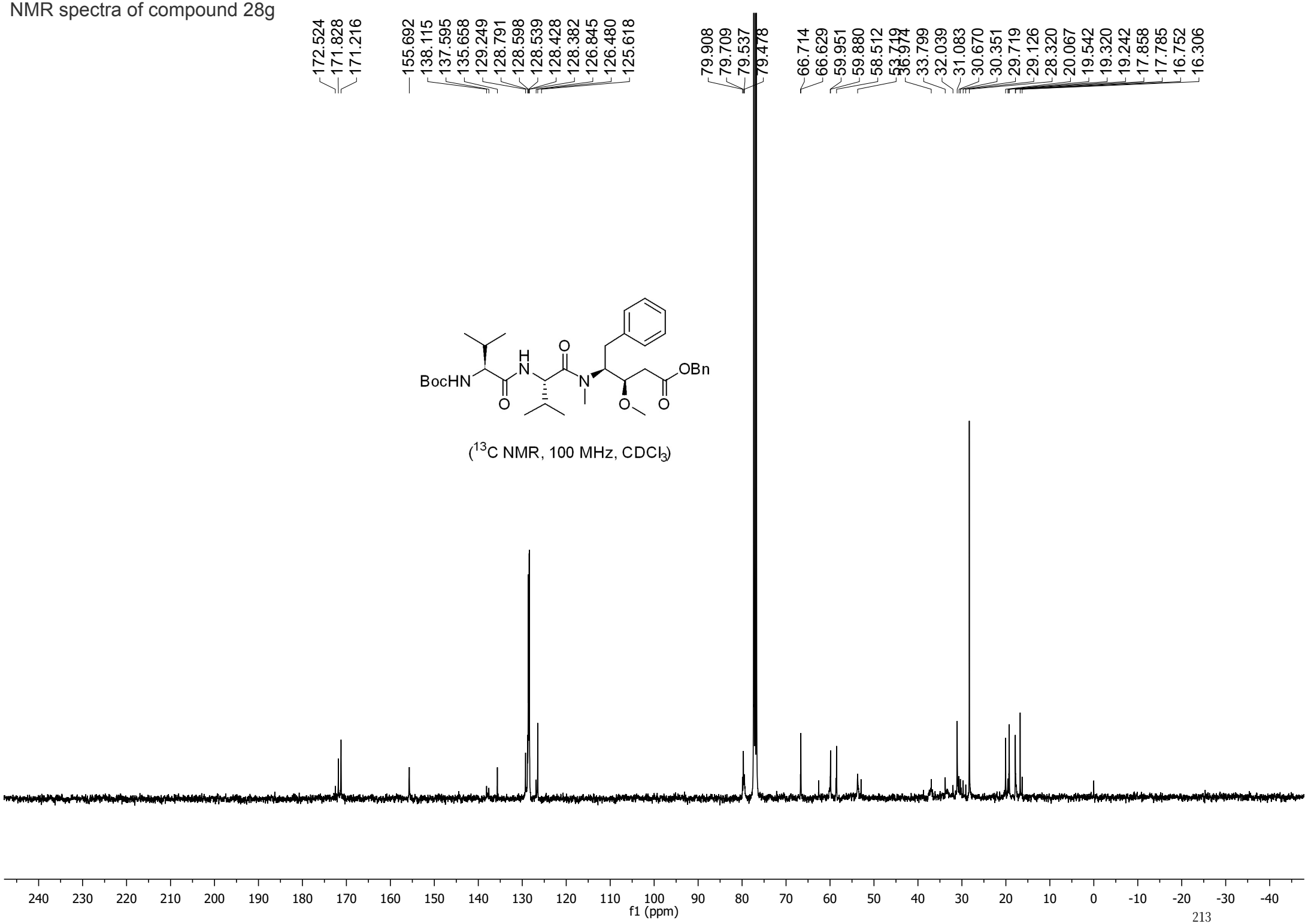


NMR spectra of compound 28g

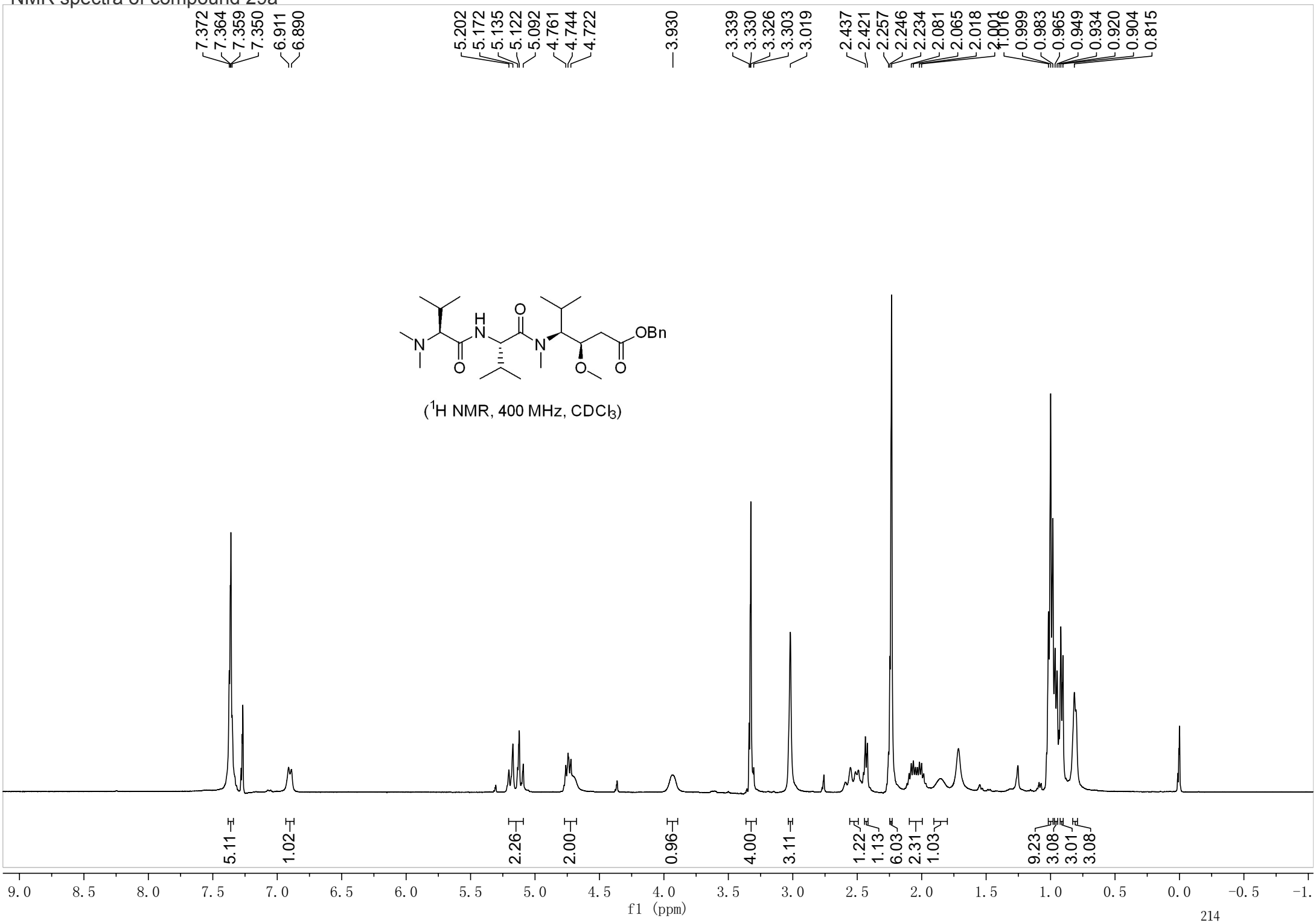


(^{1}H NMR, 400 MHz, $CDCl_3$)

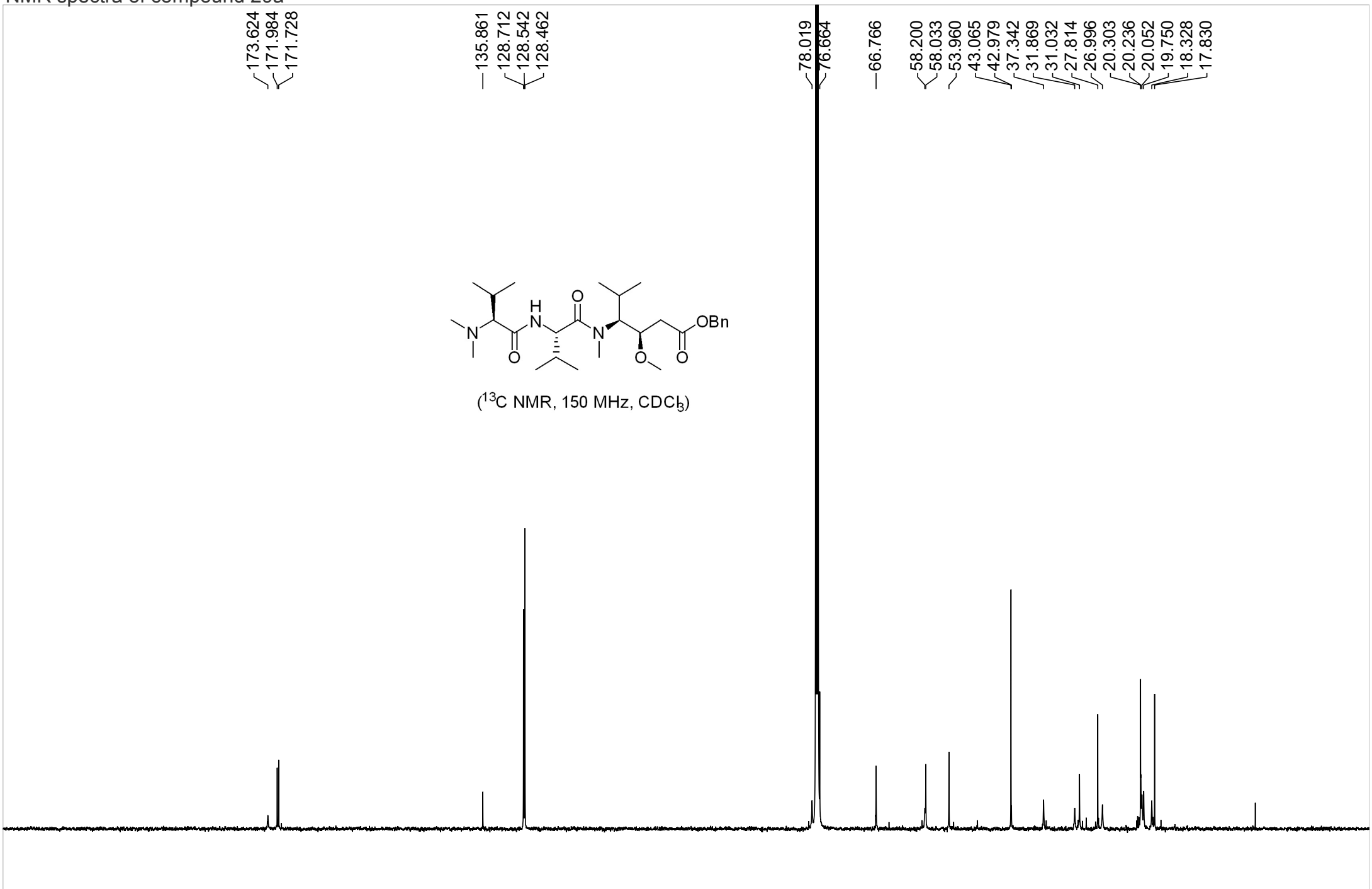
NMR spectra of compound 28g



NMR spectra of compound 29a



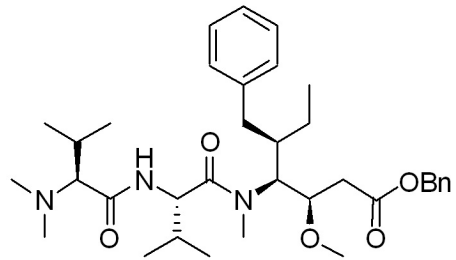
NMR spectra of compound 29a



(^{13}C NMR, 150 MHz, $CDCl_3$)

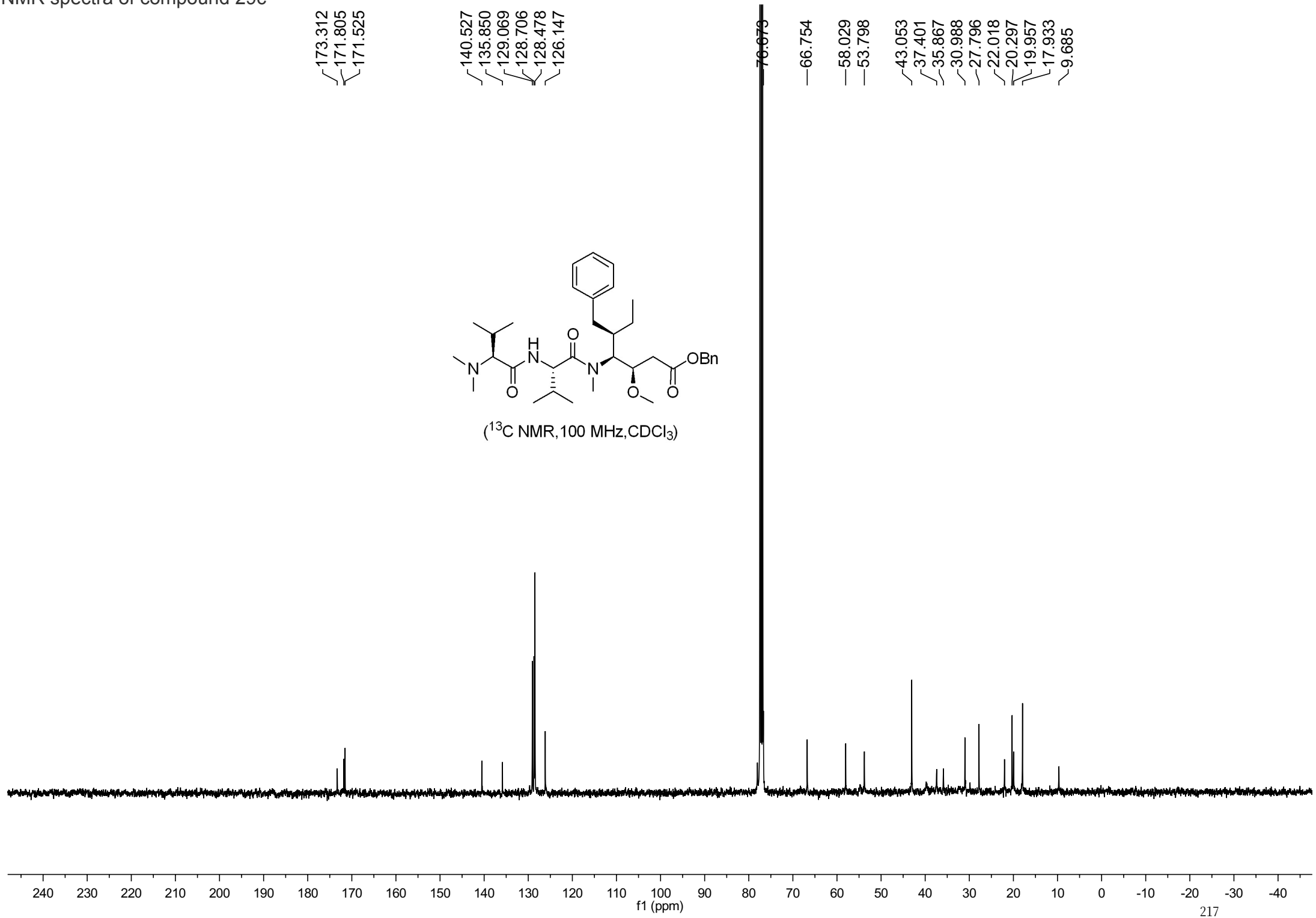
f1 (ppm)

NMR spectra of compound 29c



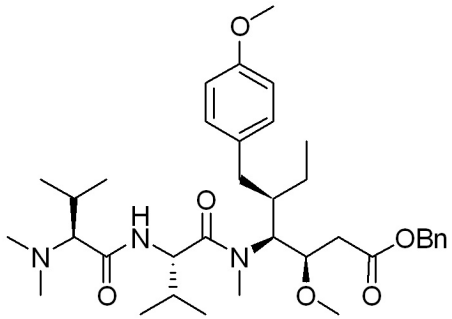
(^{1}H NMR, 400 MHz, $CDCl_3$)

NMR spectra of compound 29c



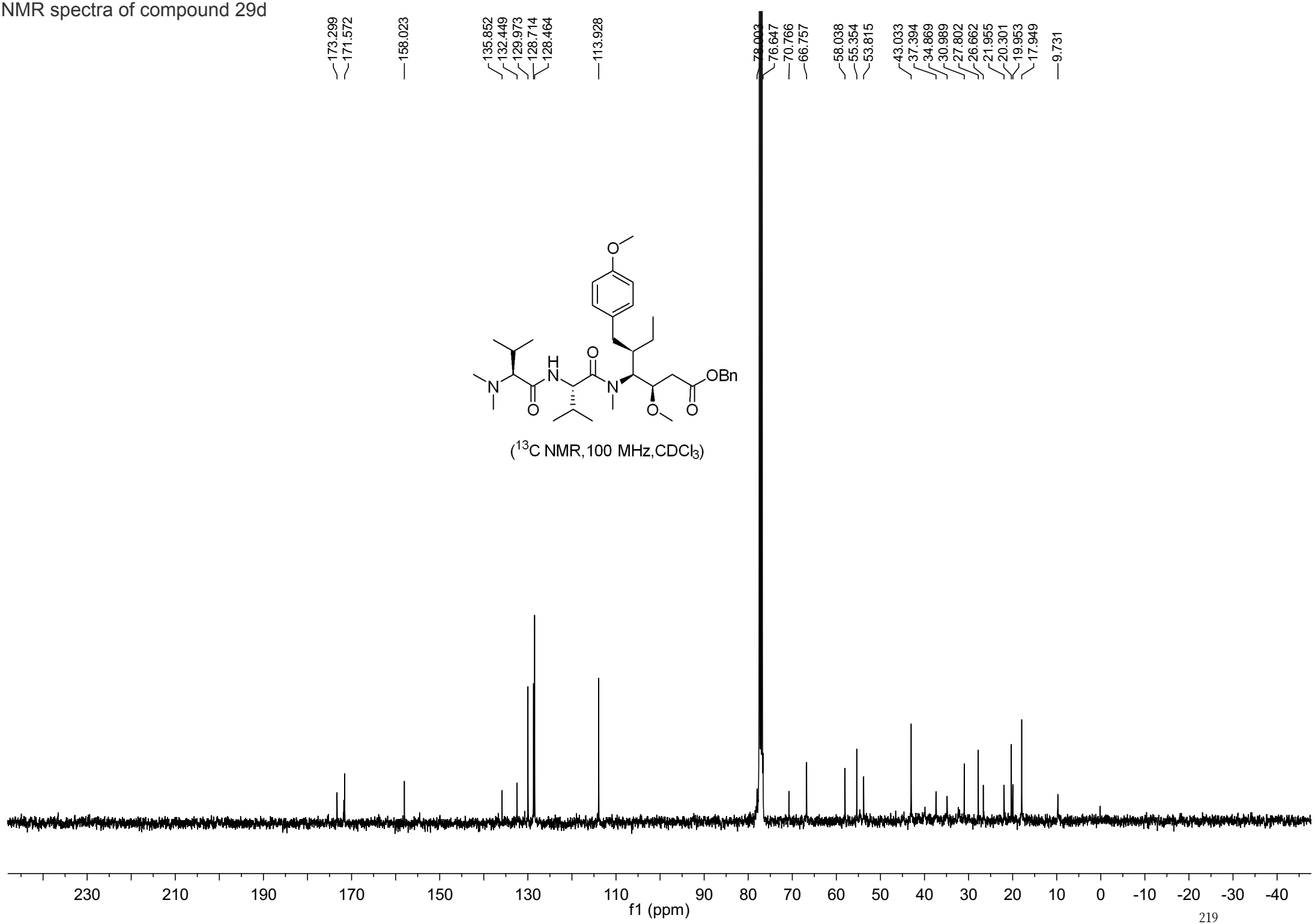
(^{13}C NMR, 100 MHz, $CDCl_3$)

NMR spectra of compound 29d

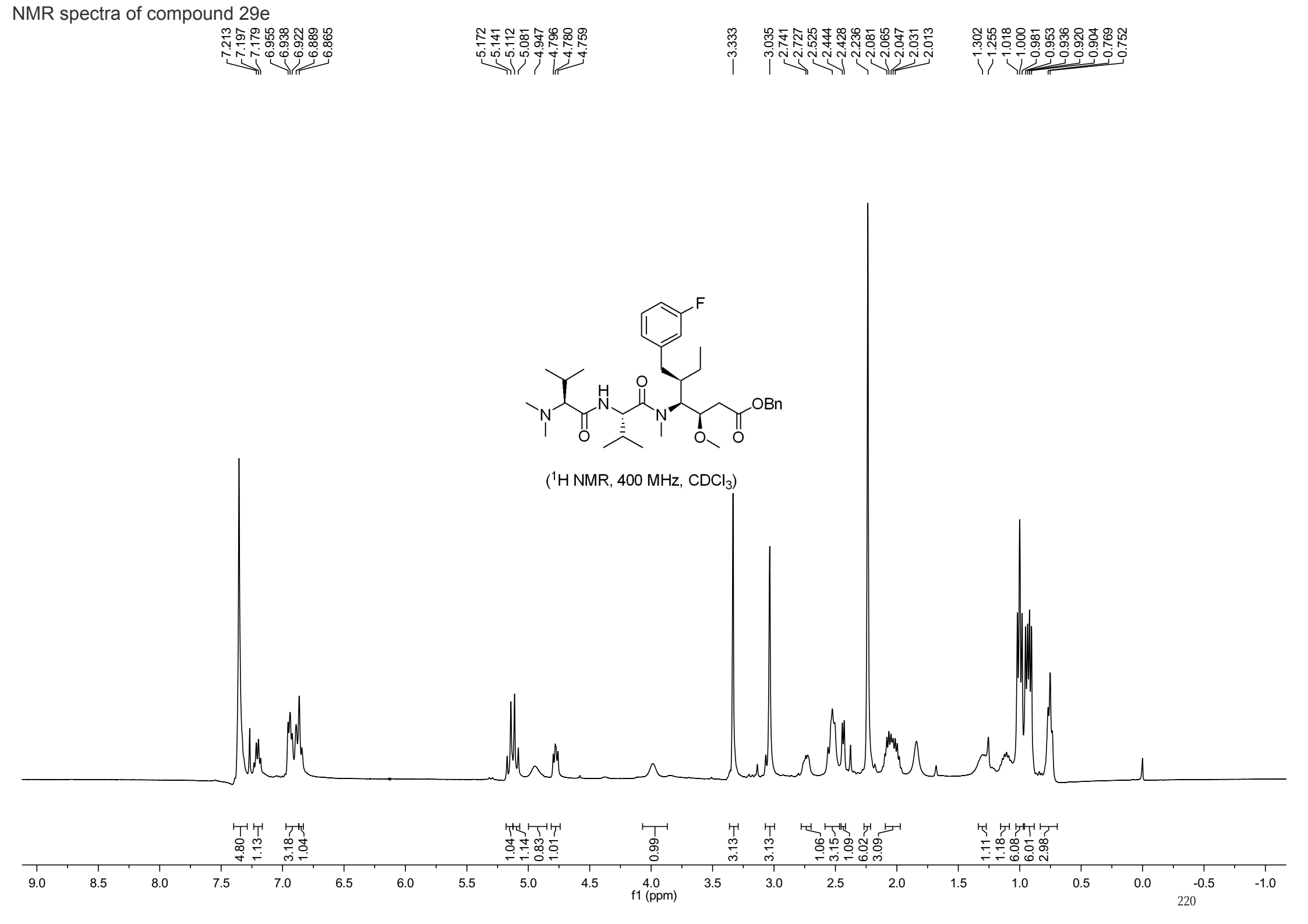


(^{1}H NMR, 400 MHz, $CDCl_3$)

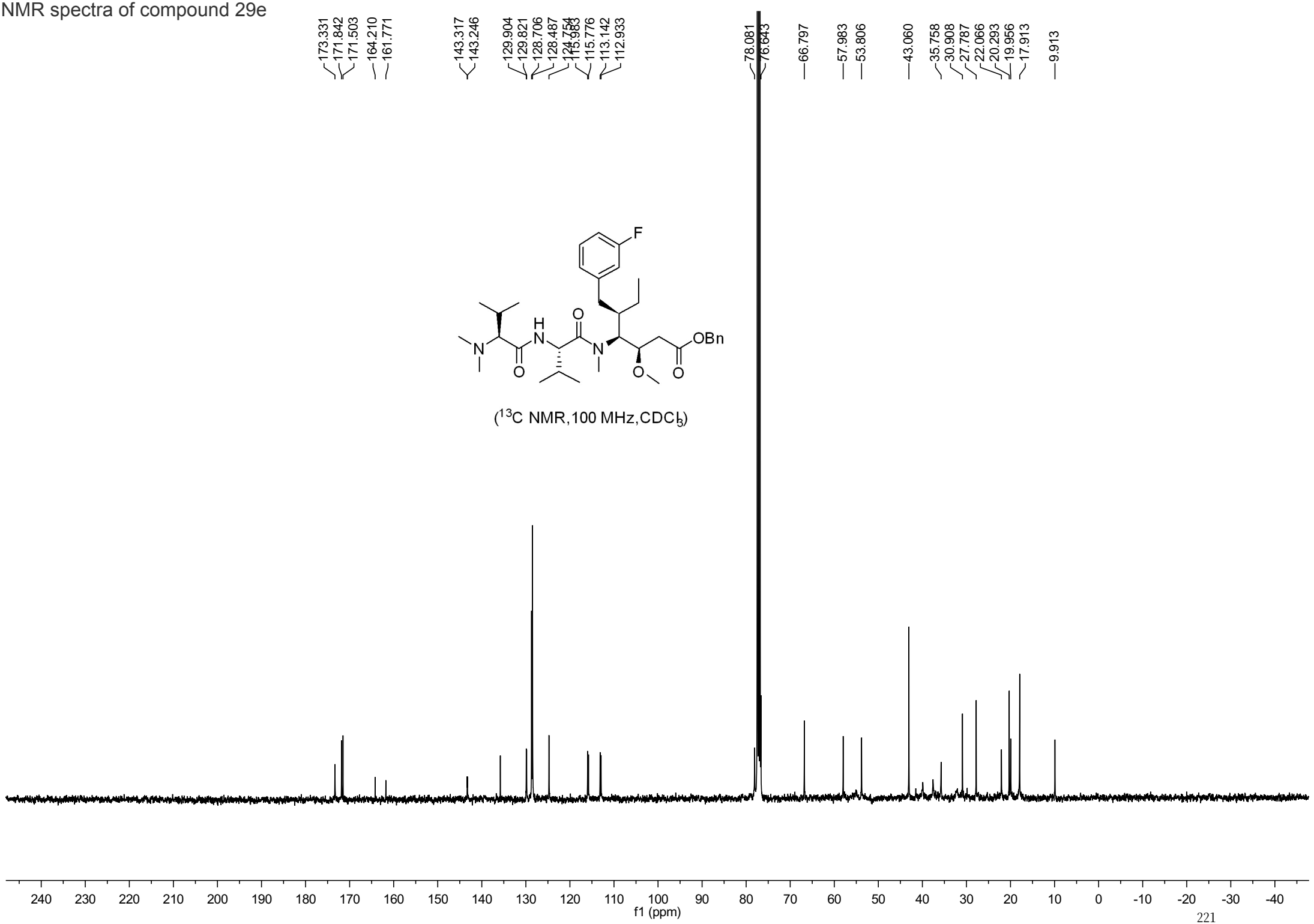
NMR spectra of compound 29d



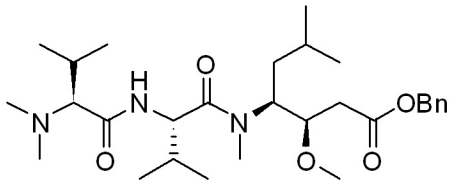
NMR spectra of compound 29e



NMR spectra of compound 29e

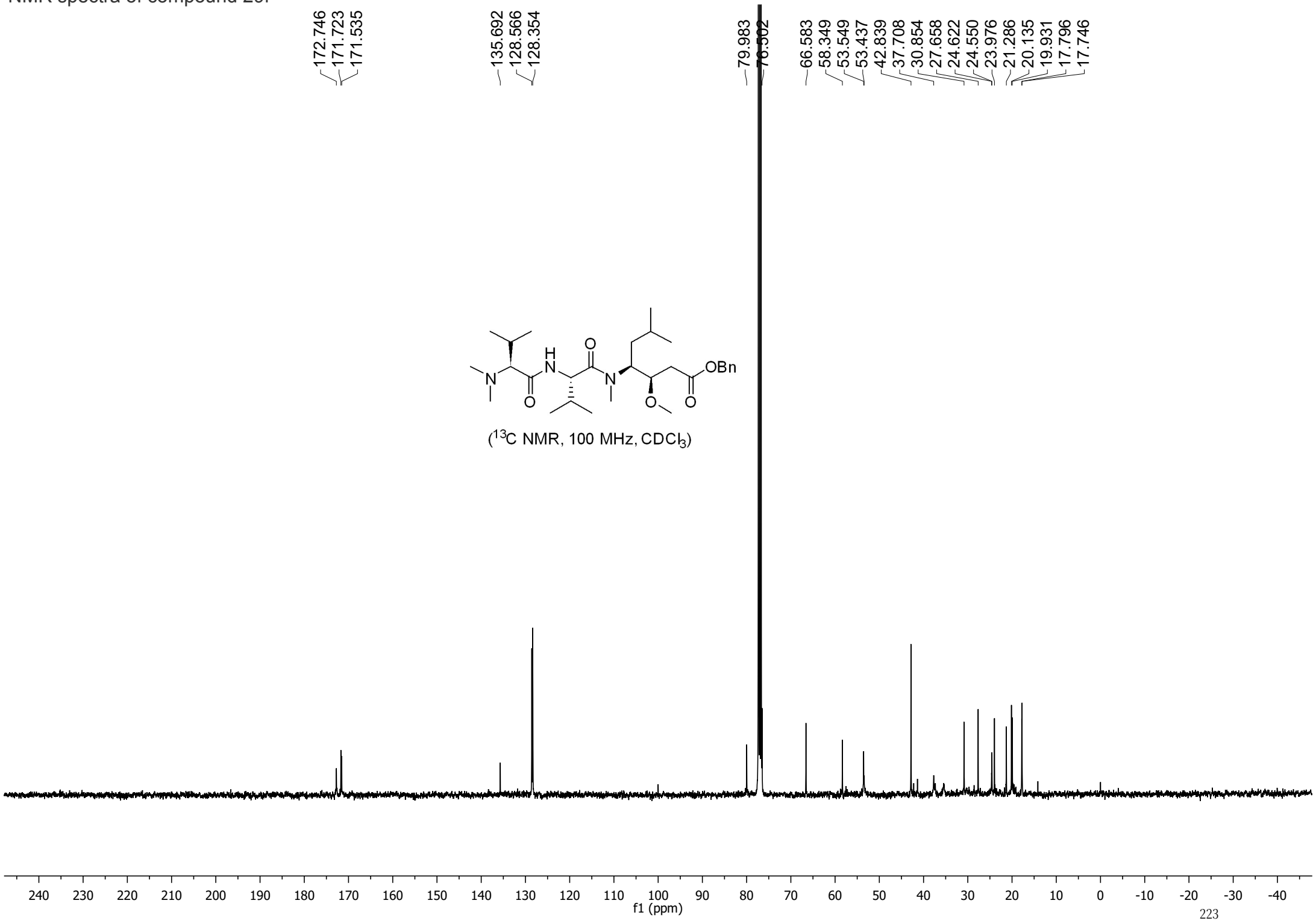


NMR spectra of compound 29f

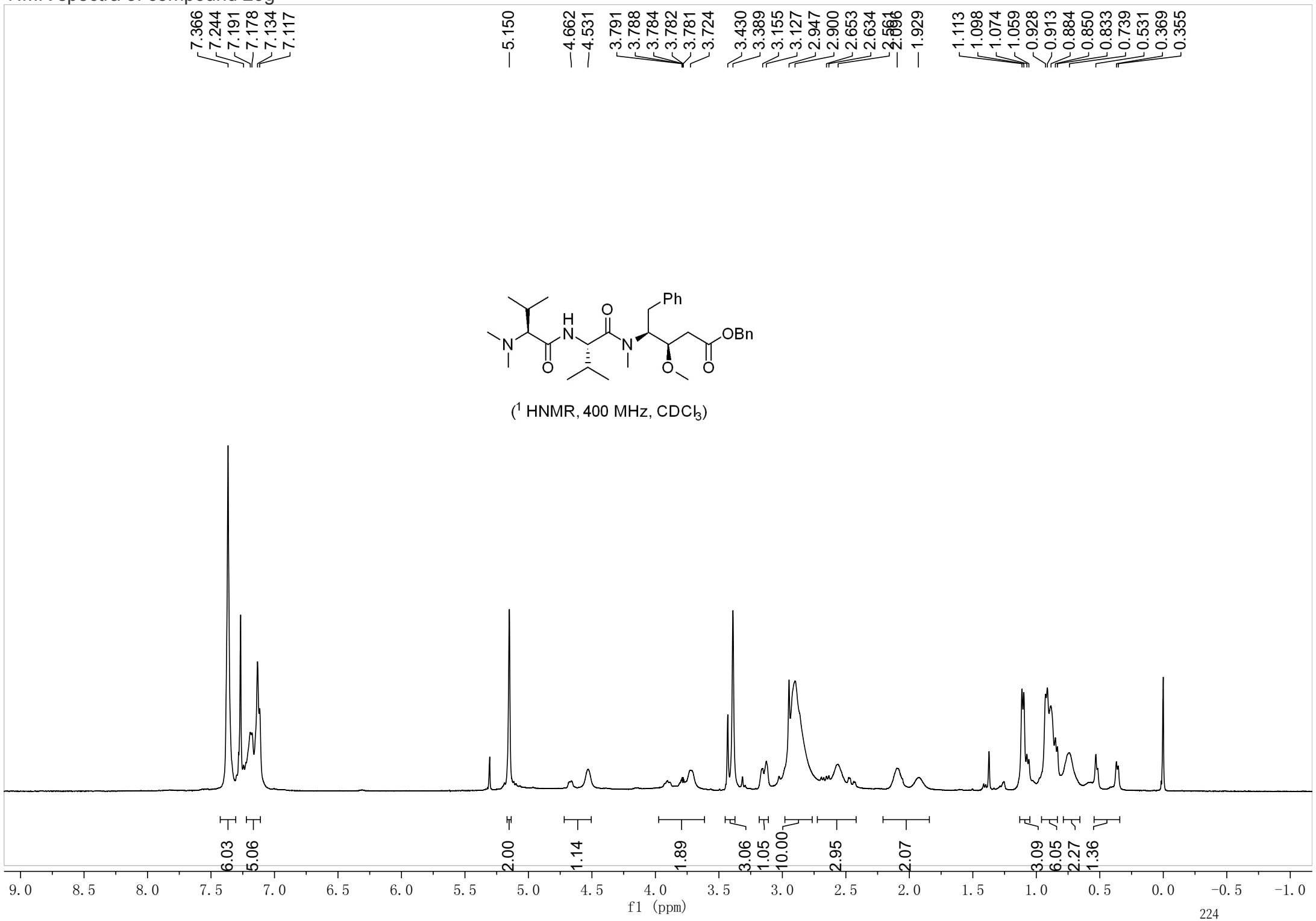


(^{1}H NMR, 400 MHz, $CDCl_3$)

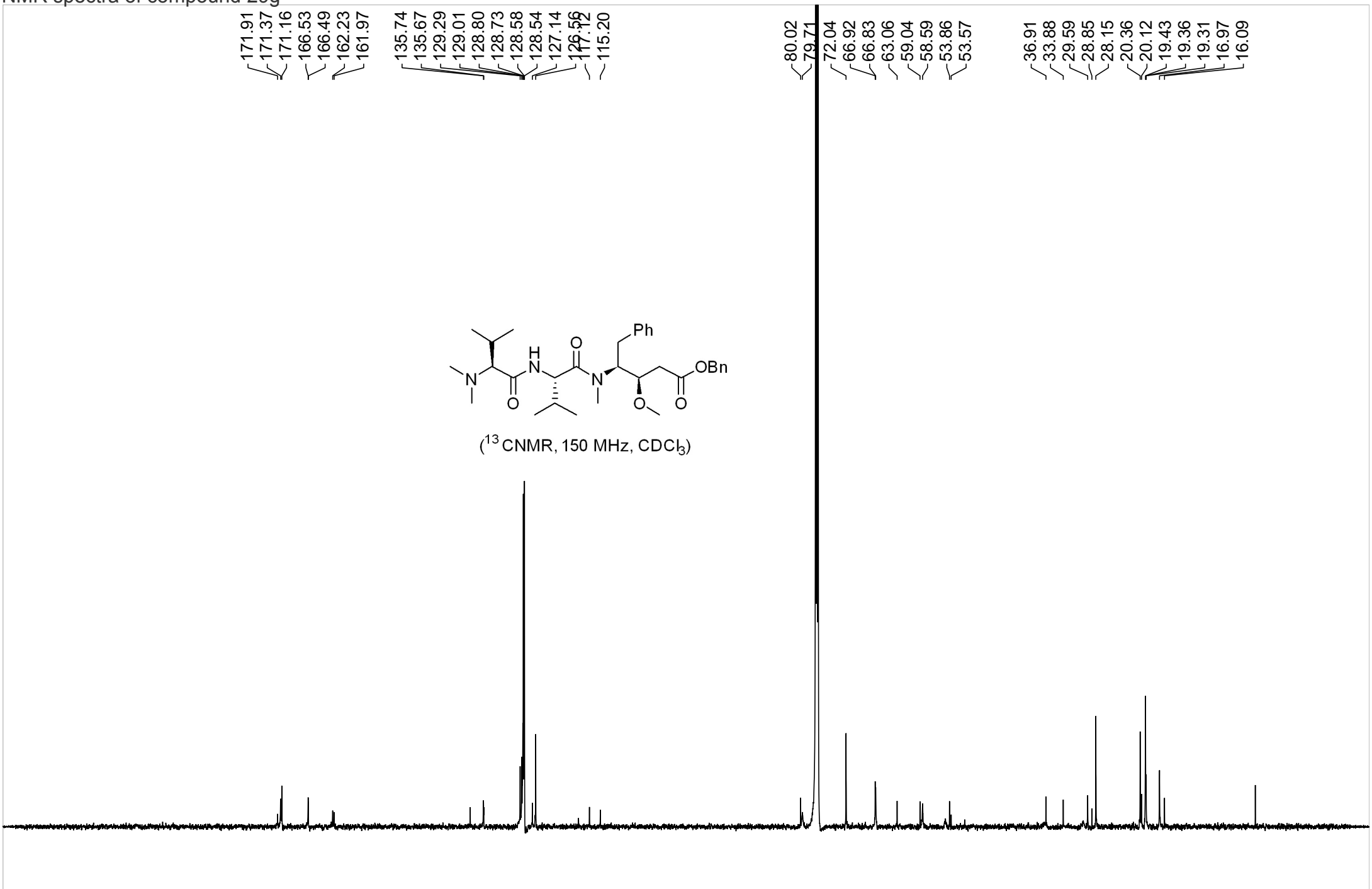
NMR spectra of compound 29f



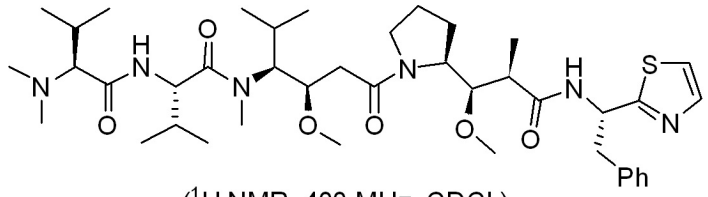
NMR spectra of compound 29g



NMR spectra of compound 29g

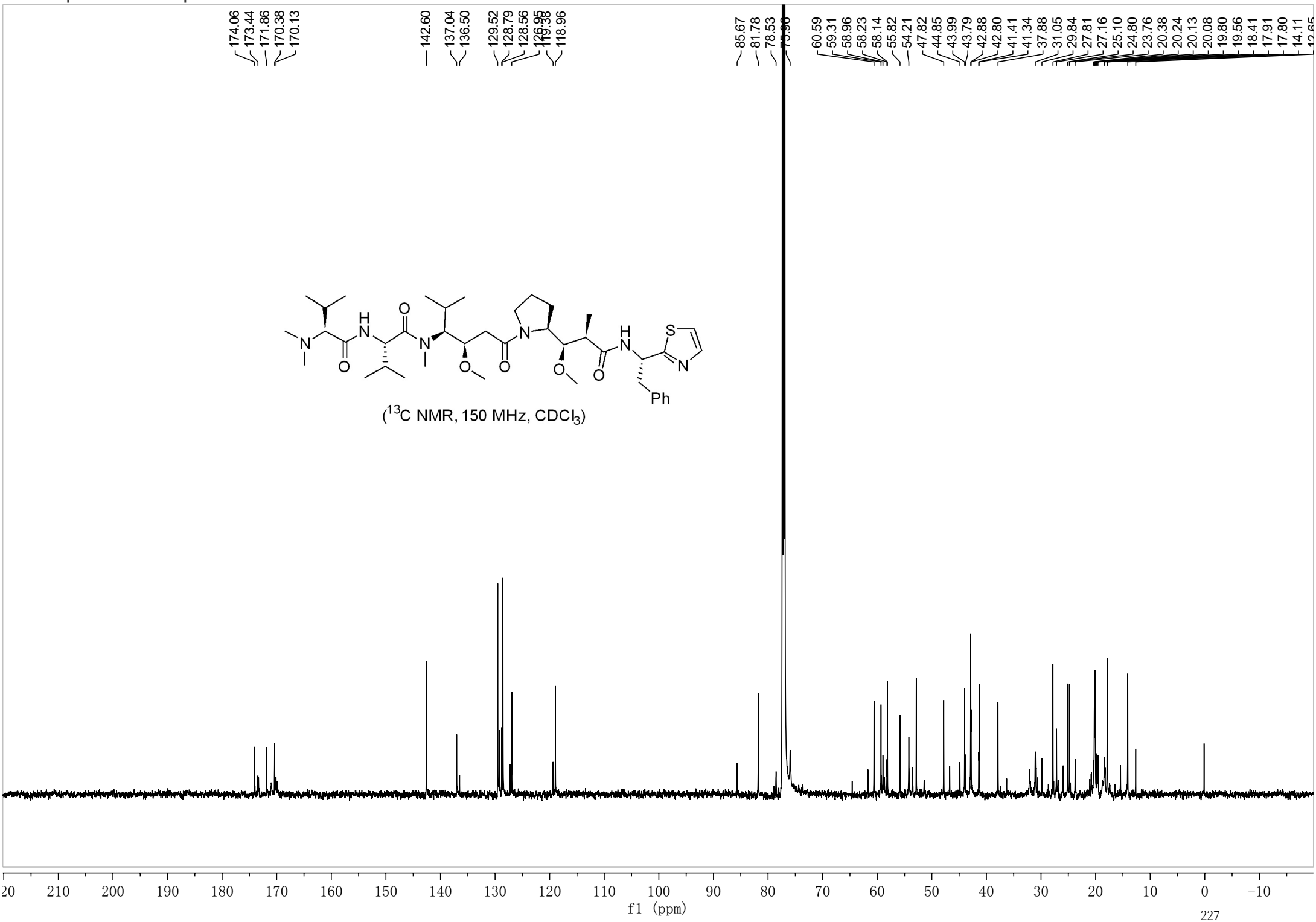


NMR spectra of compound 31a

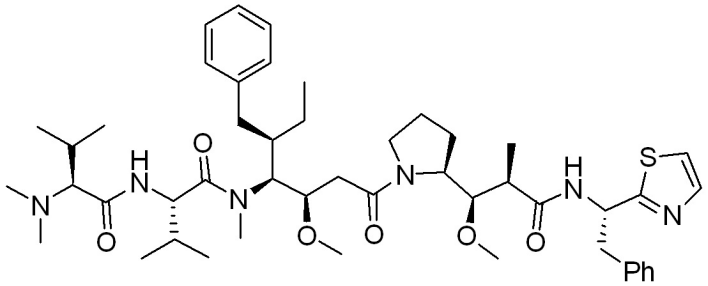


(1H NMR, 400 MHz, $CDCl_3$)

NMR spectra of compound 31a

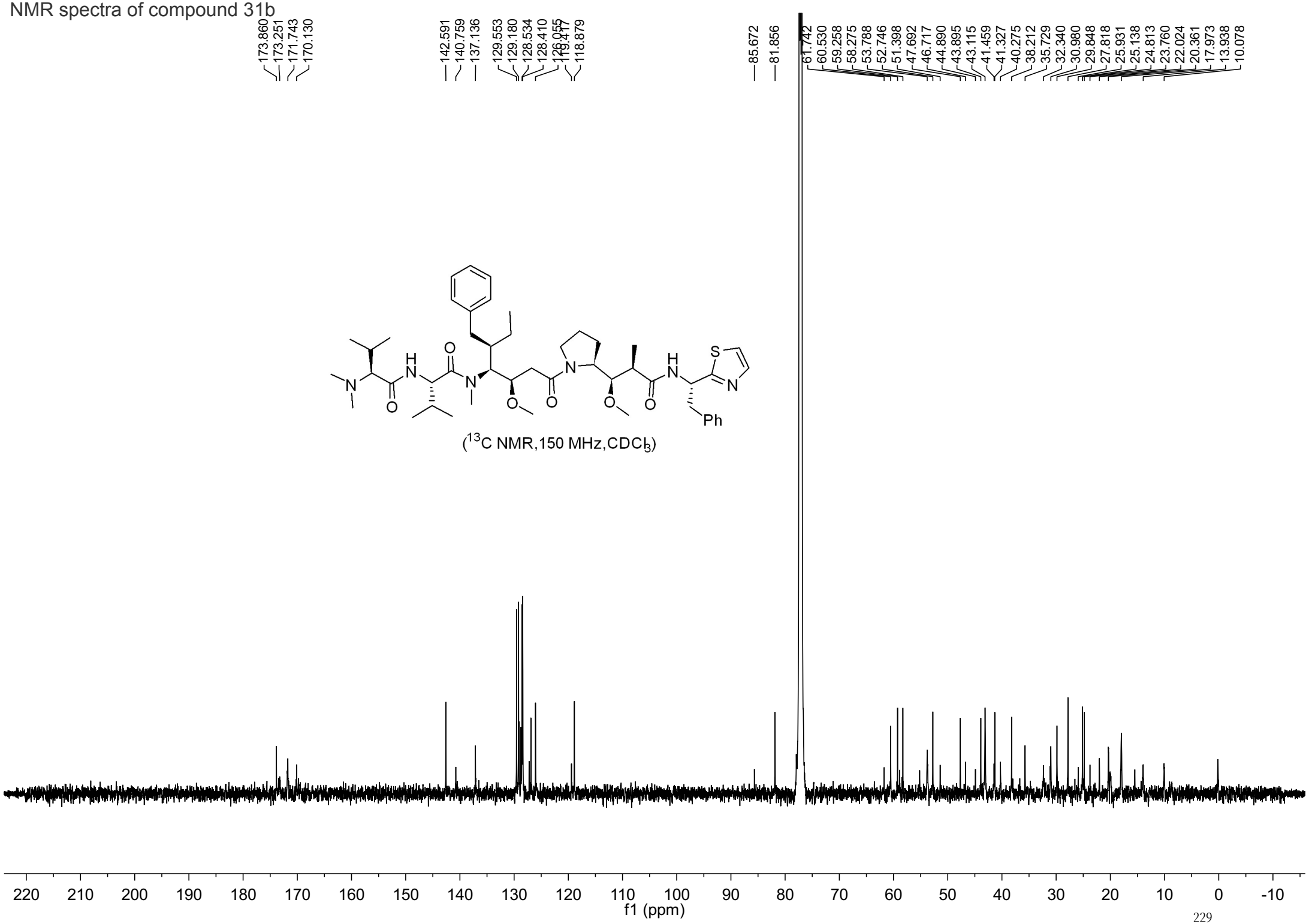


NMR spectra of compound 31b



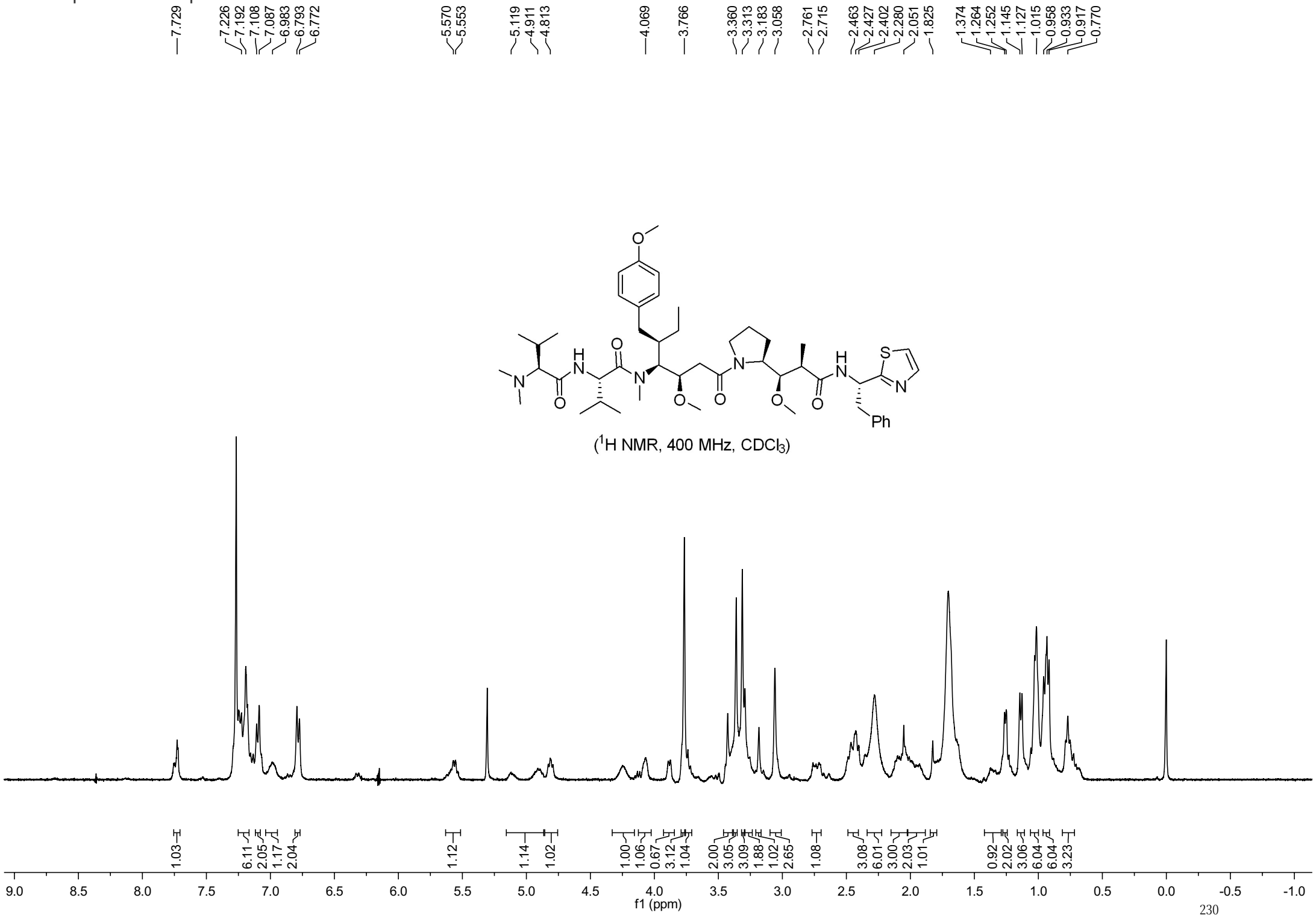
(^{1}H NMR, 400 MHz, $CDCl_3$)

NMR spectra of compound 31b

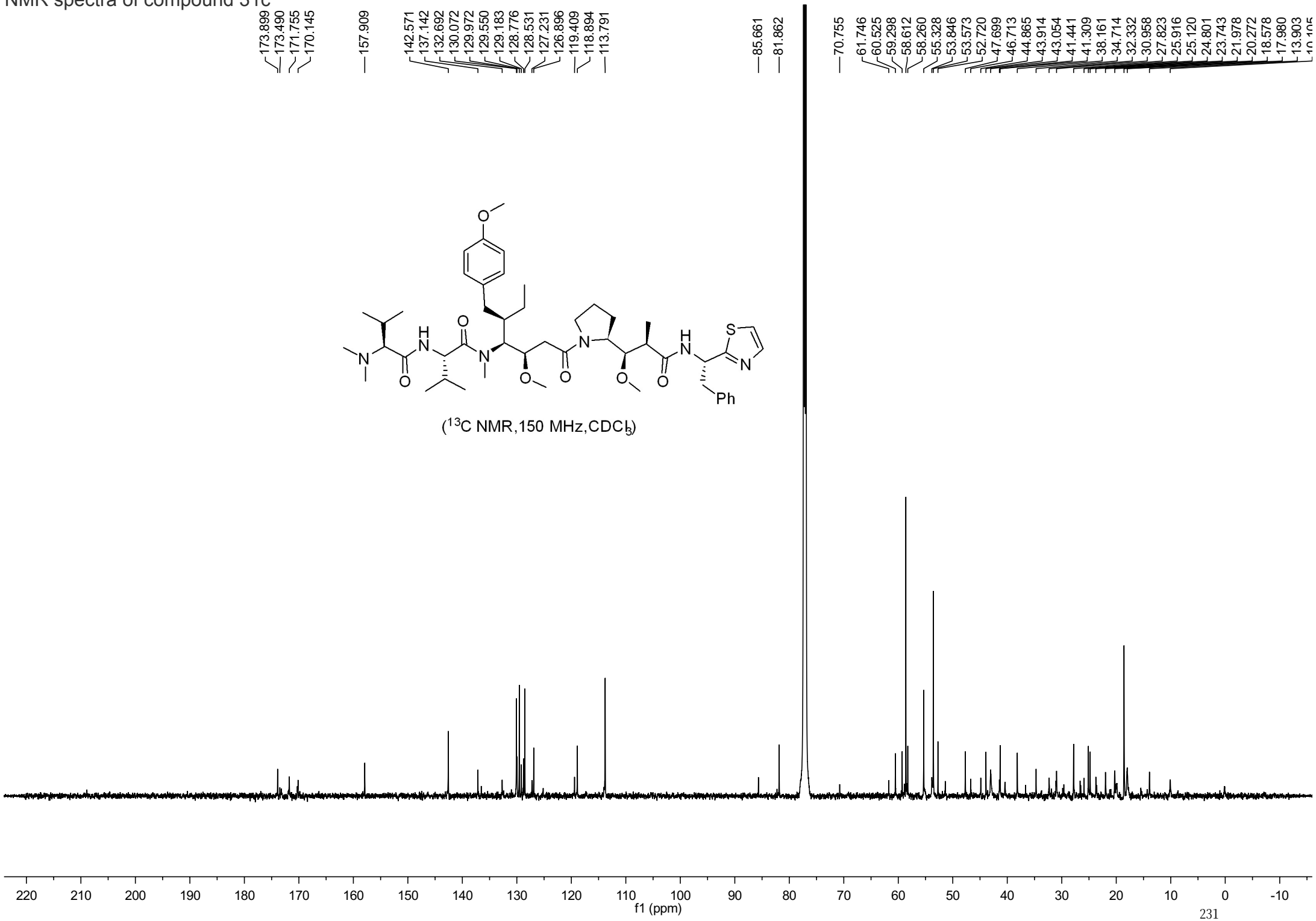


(^{13}C NMR,150 MHz,$CDCl_3$)

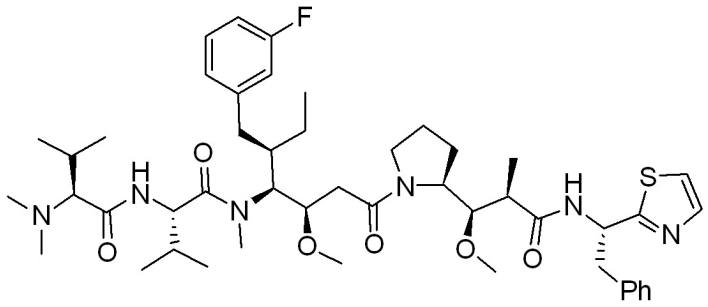
NMR spectra of compound 31c



NMR spectra of compound 31c

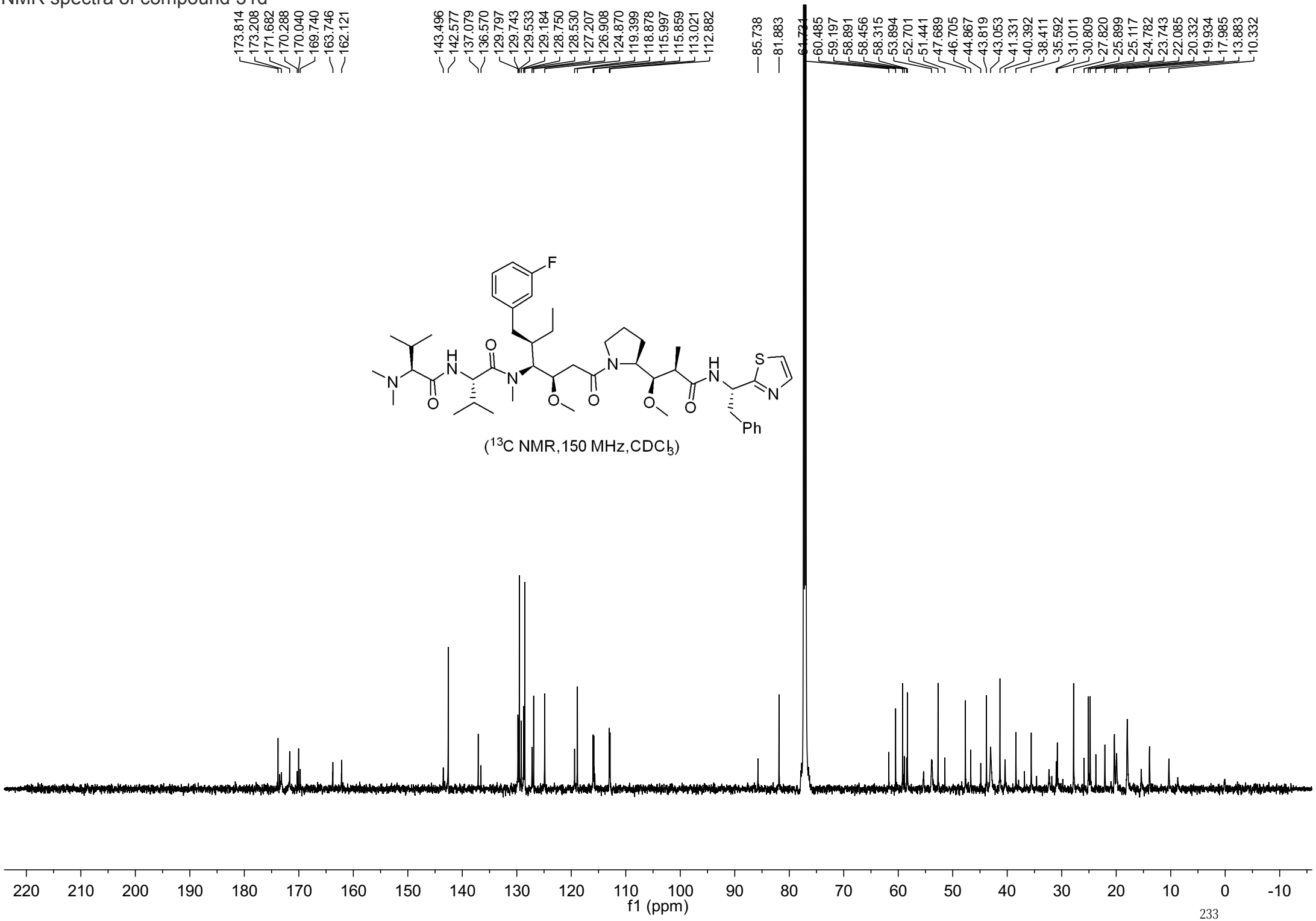


NMR spectra of compound 31d

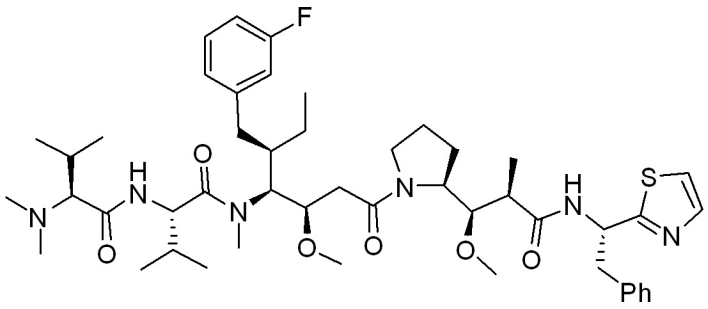


(^{1}H NMR, 400 MHz, $CDCl_3$)

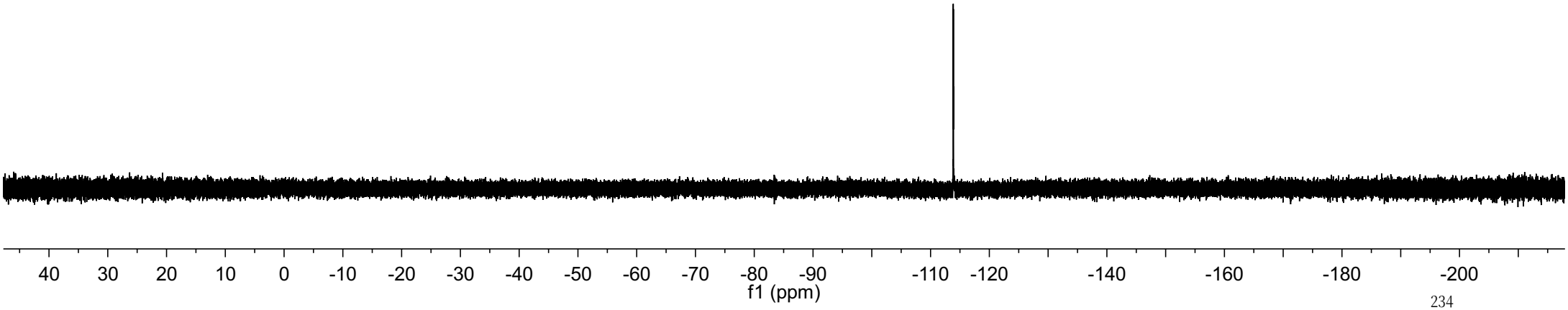
NMR spectra of compound 31d



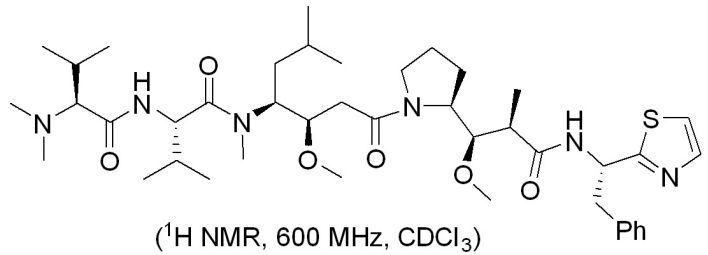
NMR spectra of compound 31d



(^{19}F NMR, 376 MHz, CDCl3)



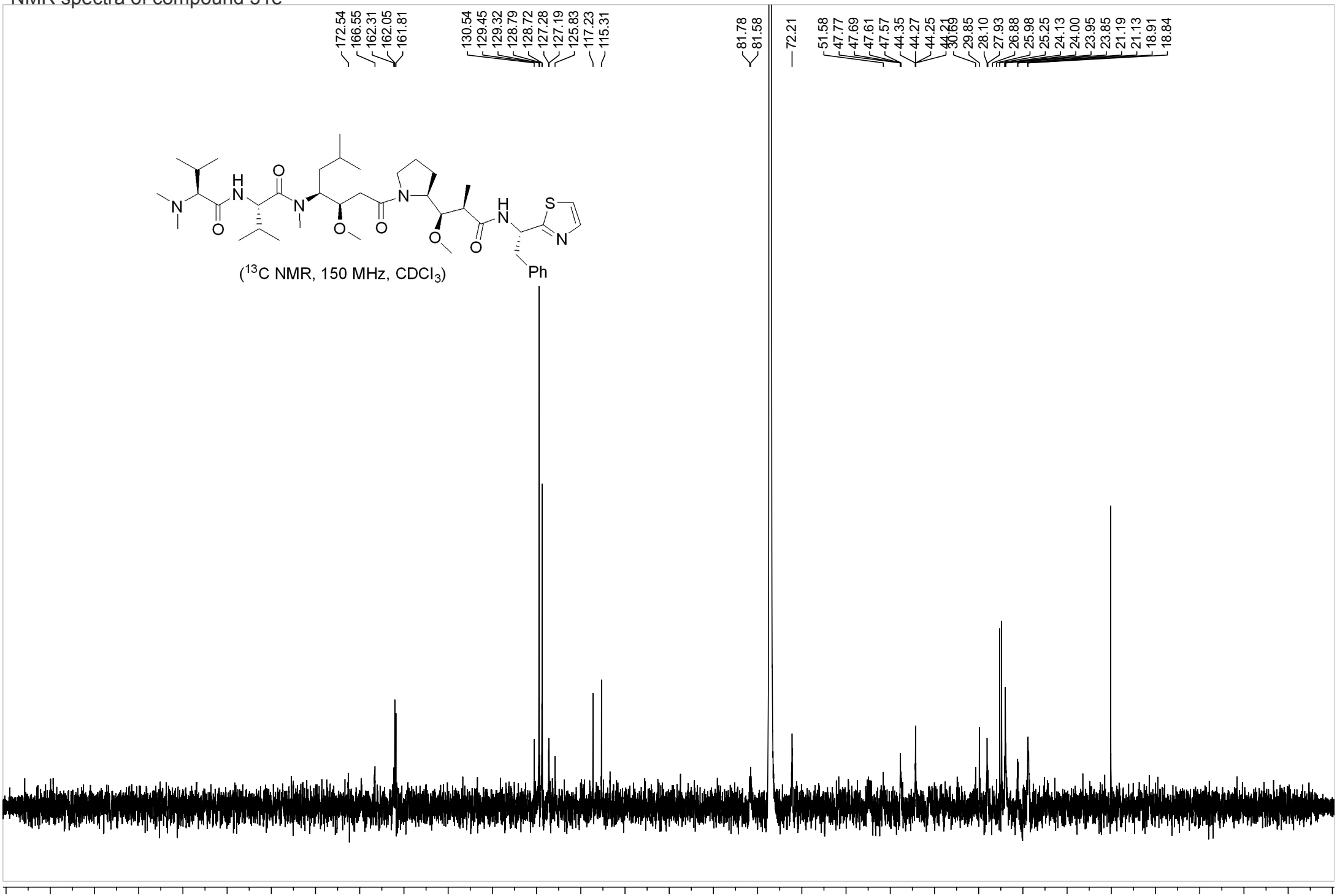
NMR spectra of compound 31e



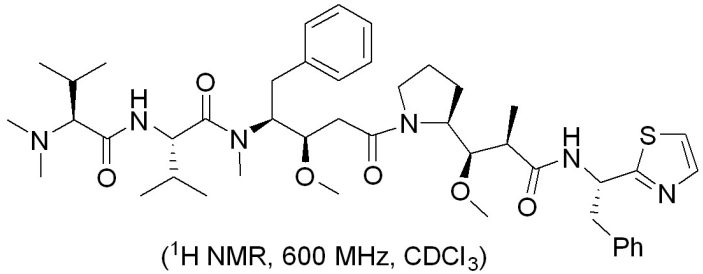
(^{1}H NMR, 600 MHz, $CDCl_3$)

NMR spectra of compound 31e

(^{13}C NMR, 150 MHz, $CDCl_3$)

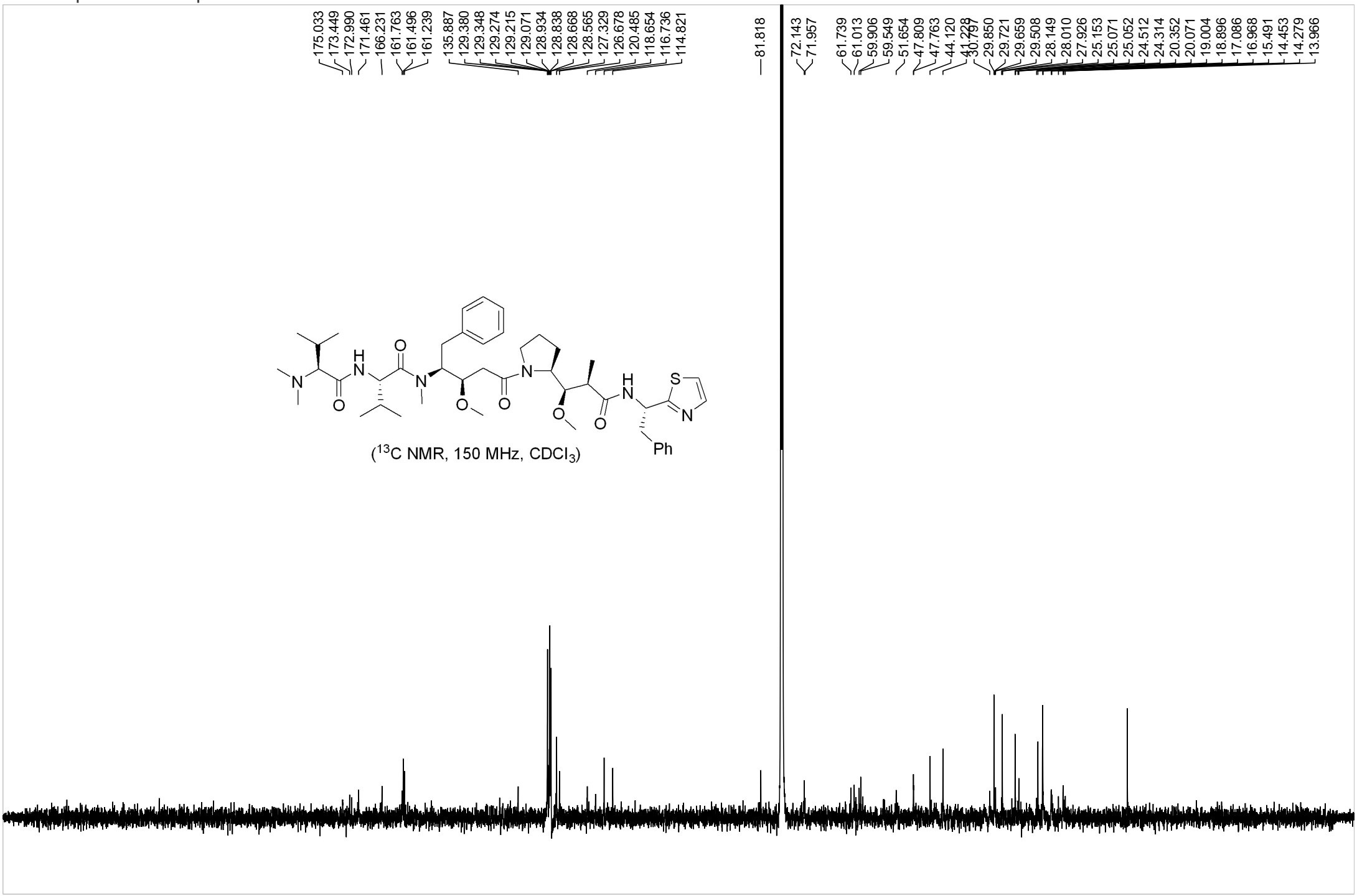


NMR spectra of compound 31f

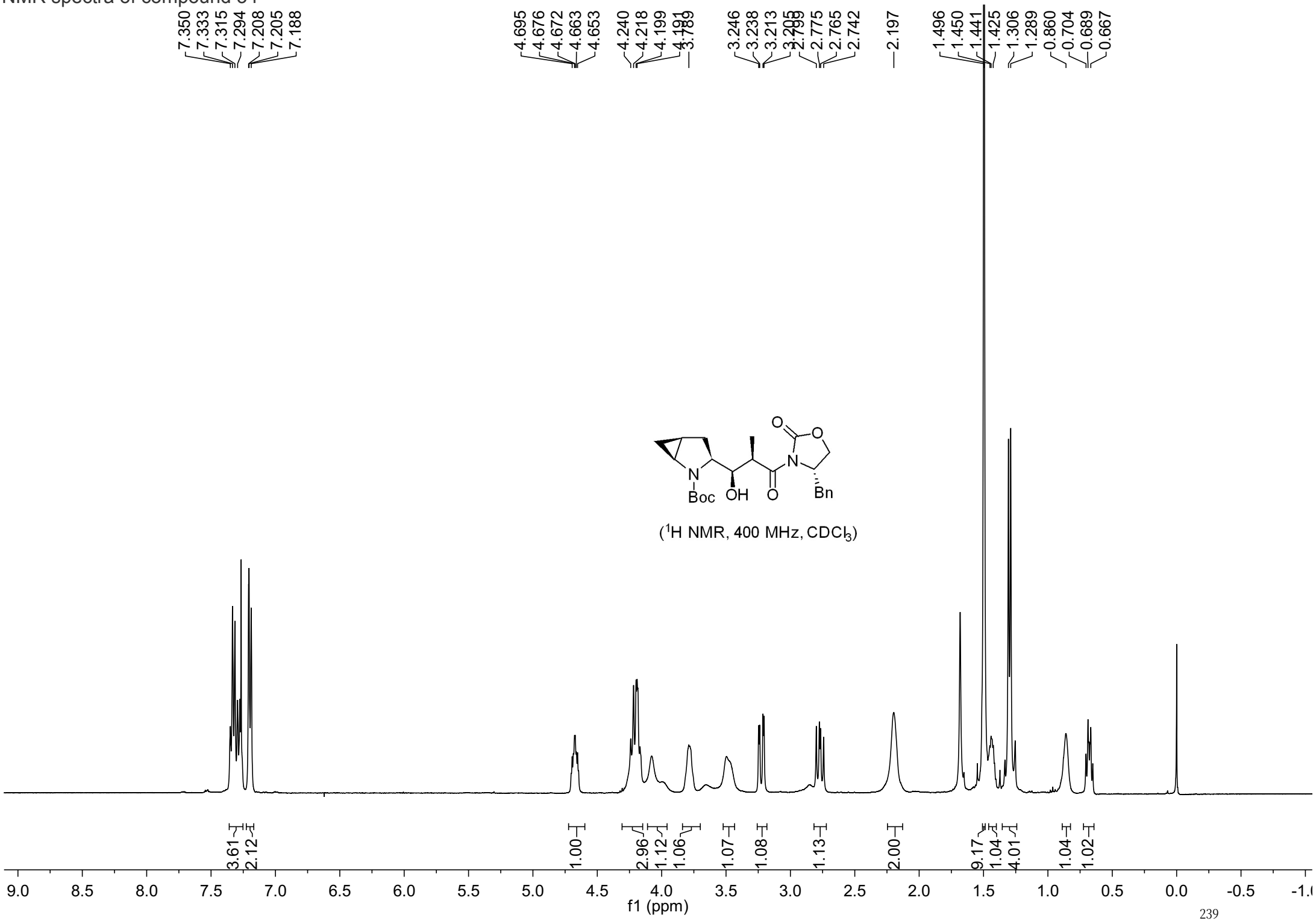


(^{1}H NMR, 600 MHz, $CDCl_3$)

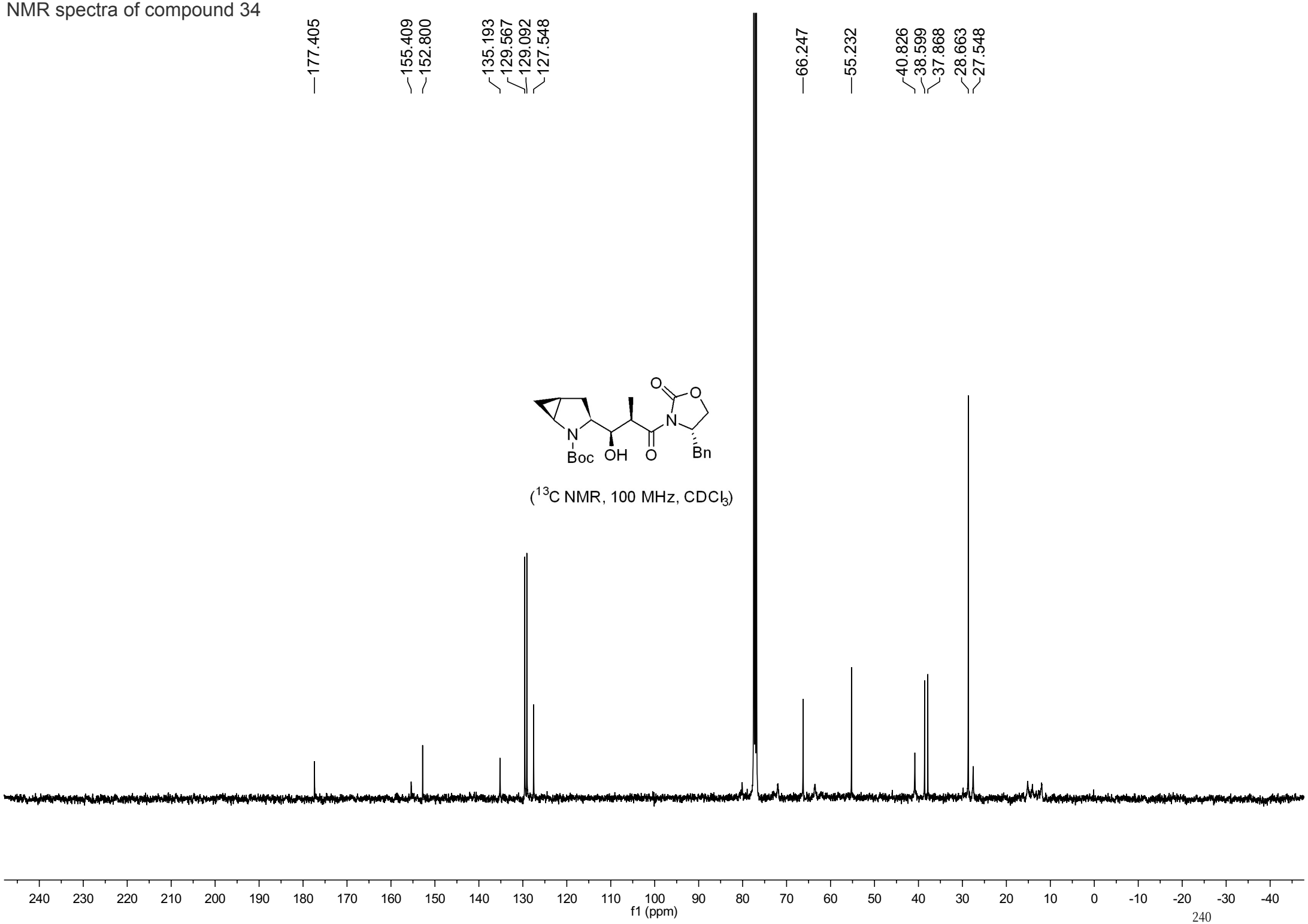
NMR spectra of compound 31f



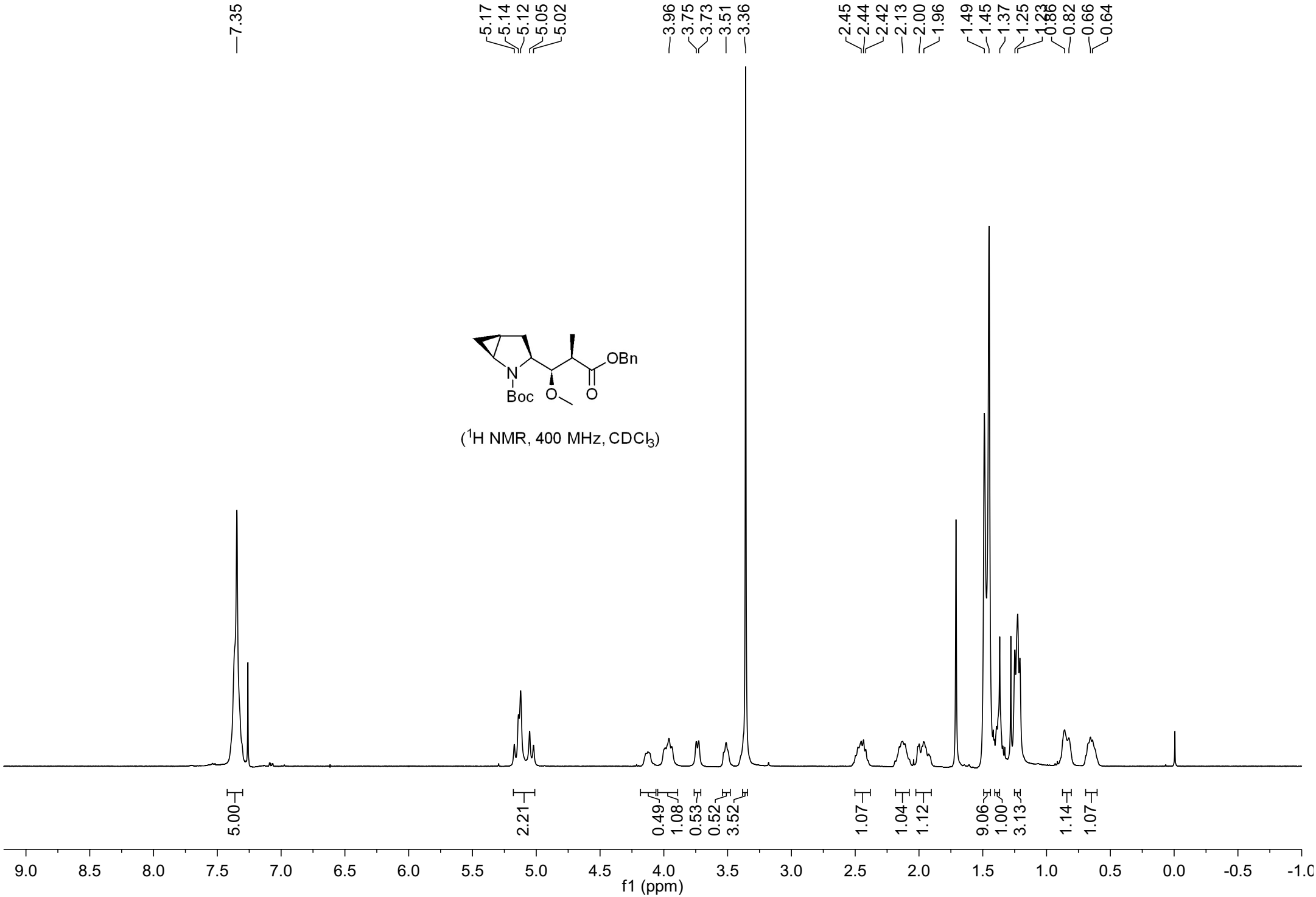
NMR spectra of compound 34



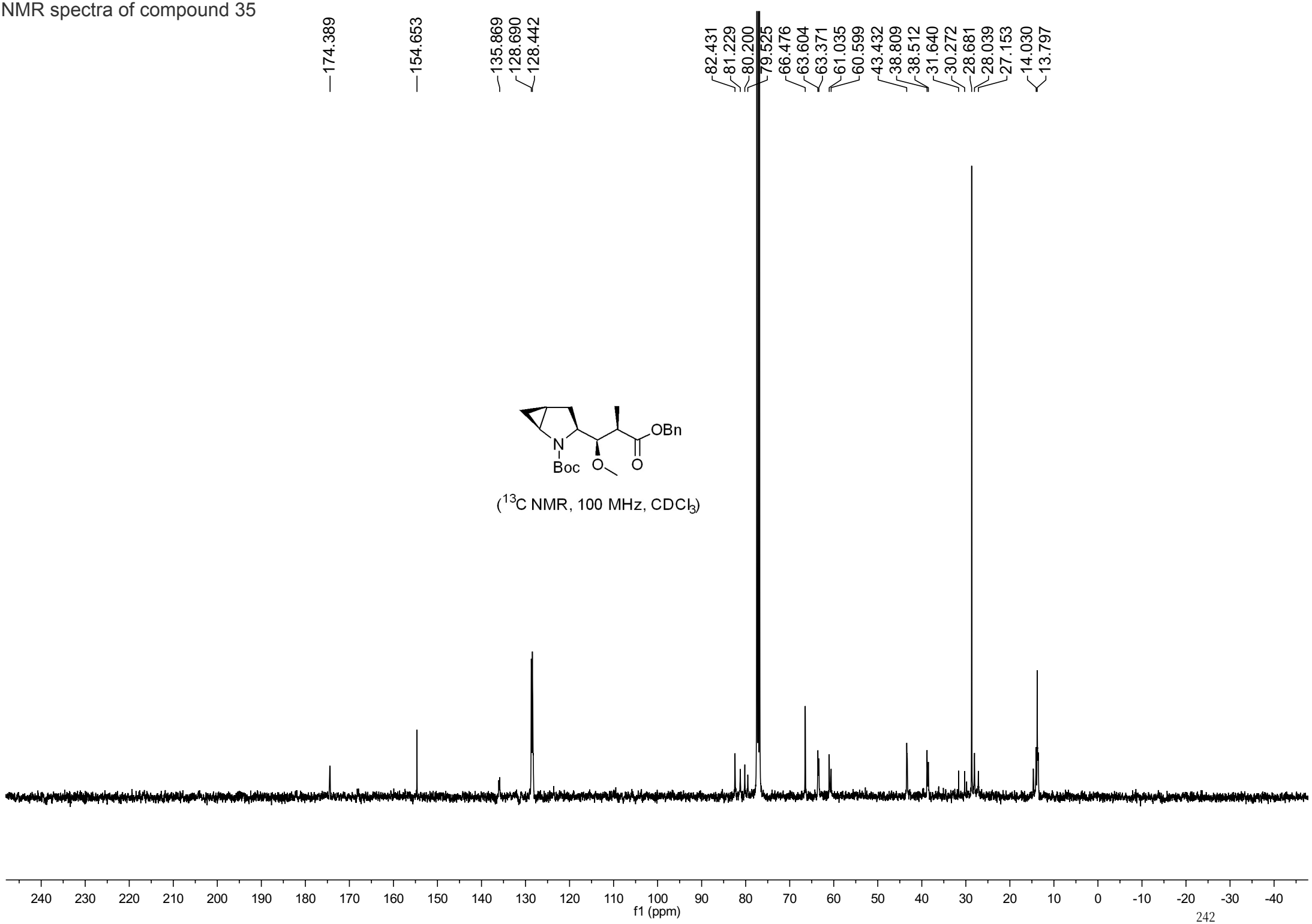
NMR spectra of compound 34



NMR spectra of compound 35

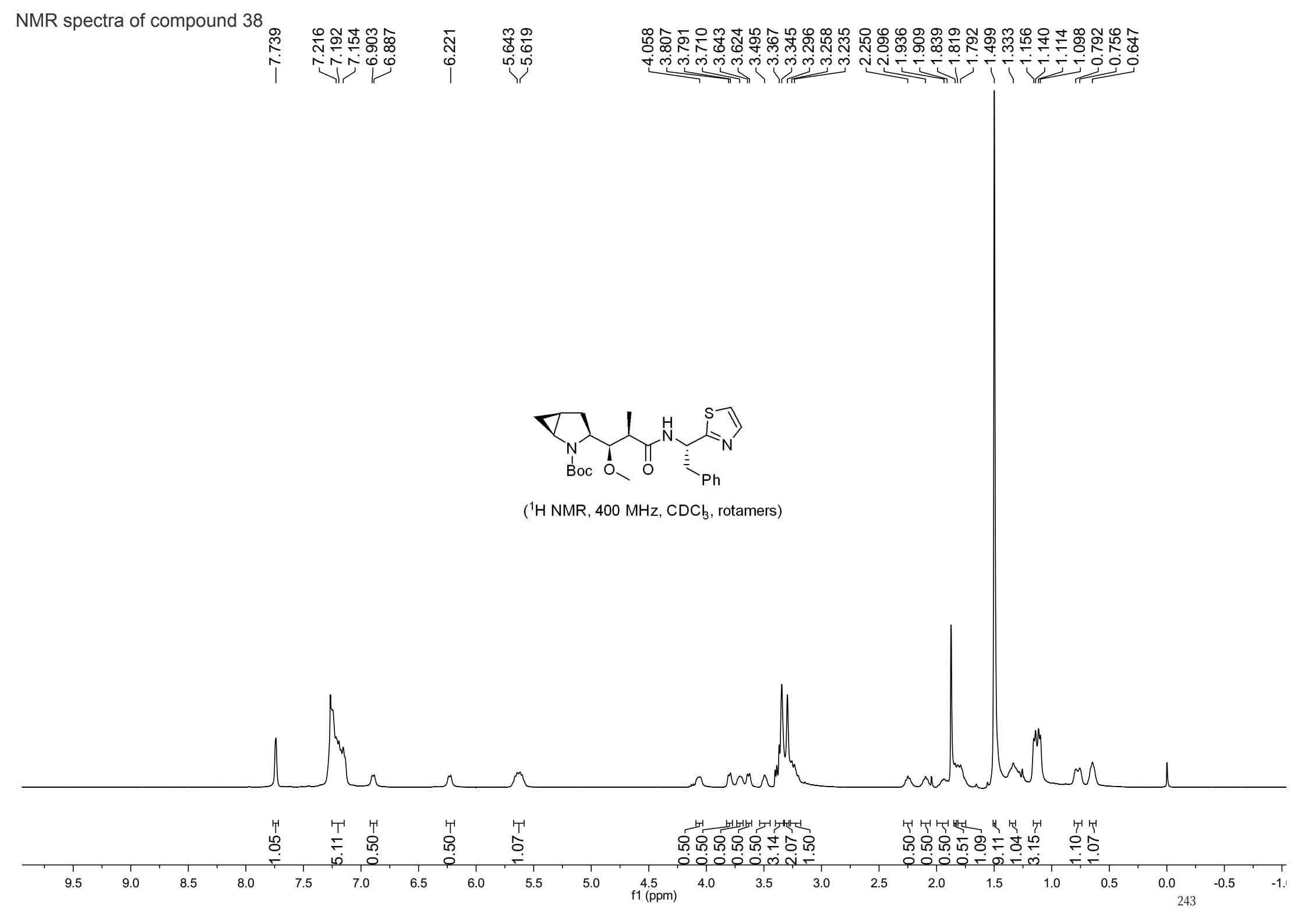


NMR spectra of compound 35



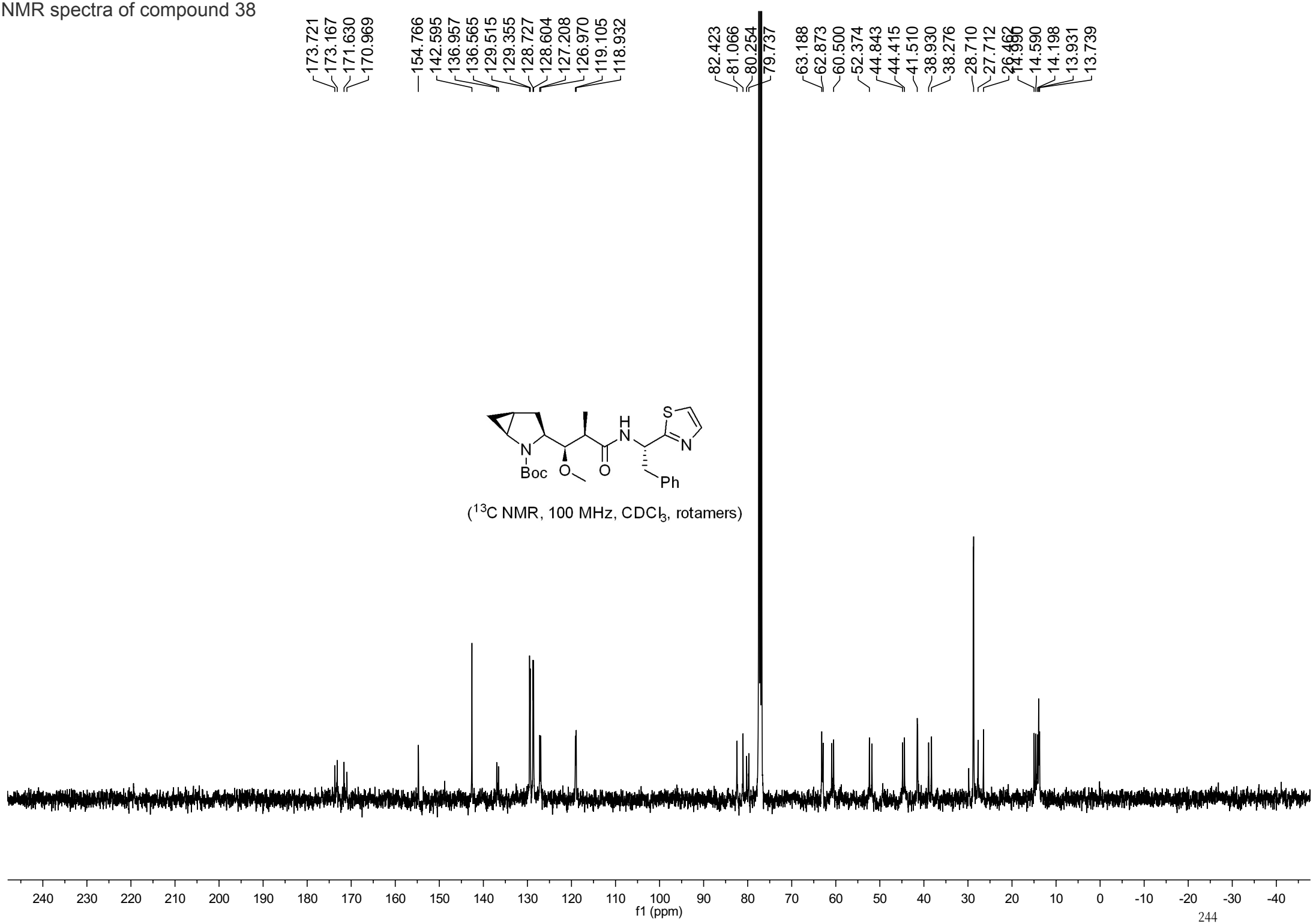
(^{13}C NMR, 100 MHz, $CDCl_3$)

NMR spectra of compound 38



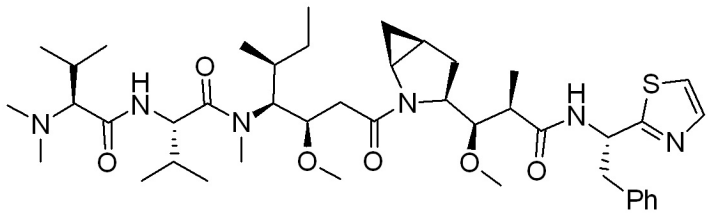
(^{1}H NMR, 400 MHz, $CDCl_3$, rotamers)

NMR spectra of compound 38



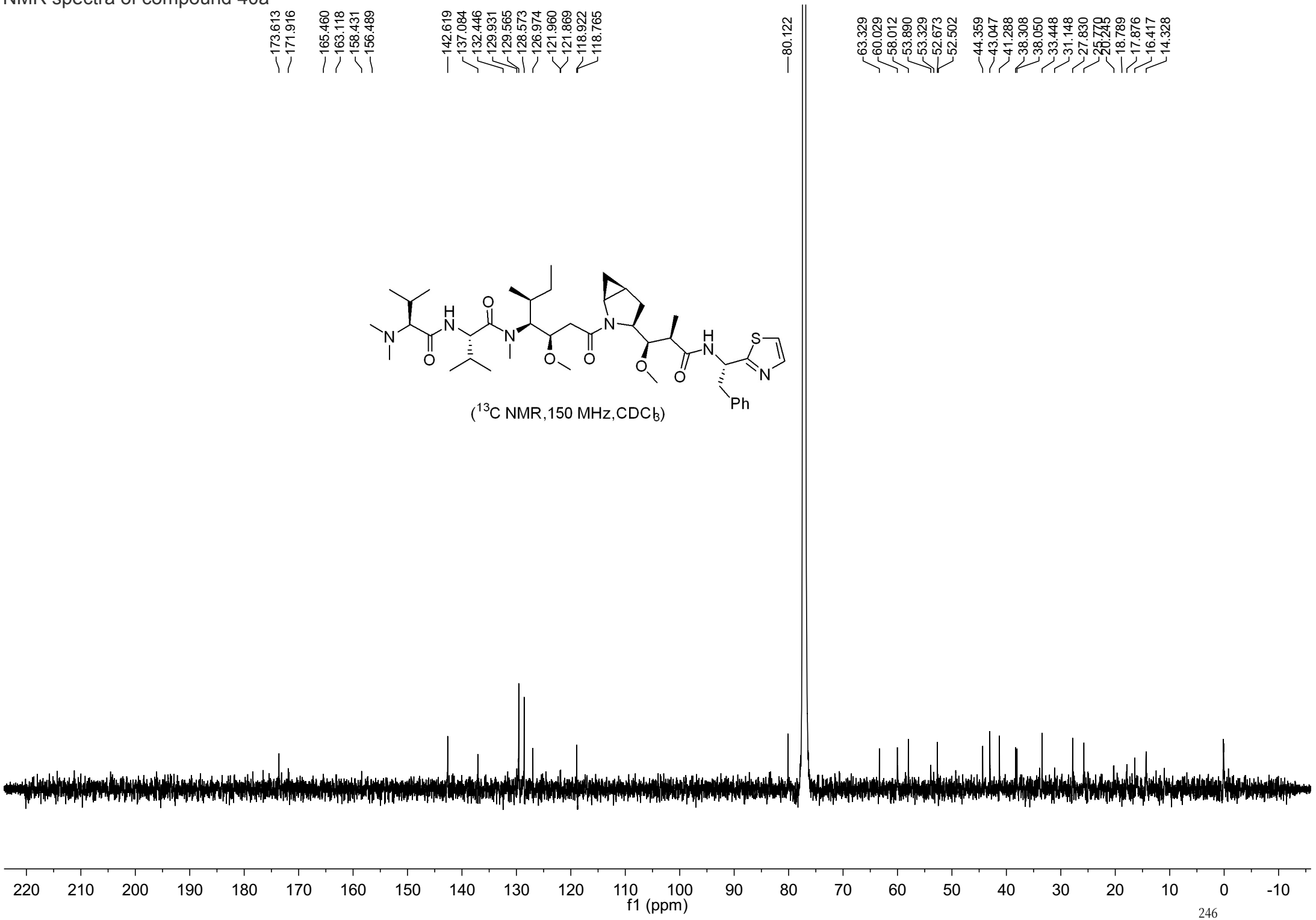
(^{13}C NMR, 100 MHz, $CDCl_3$, rotamers)

NMR spectra of compound 40a



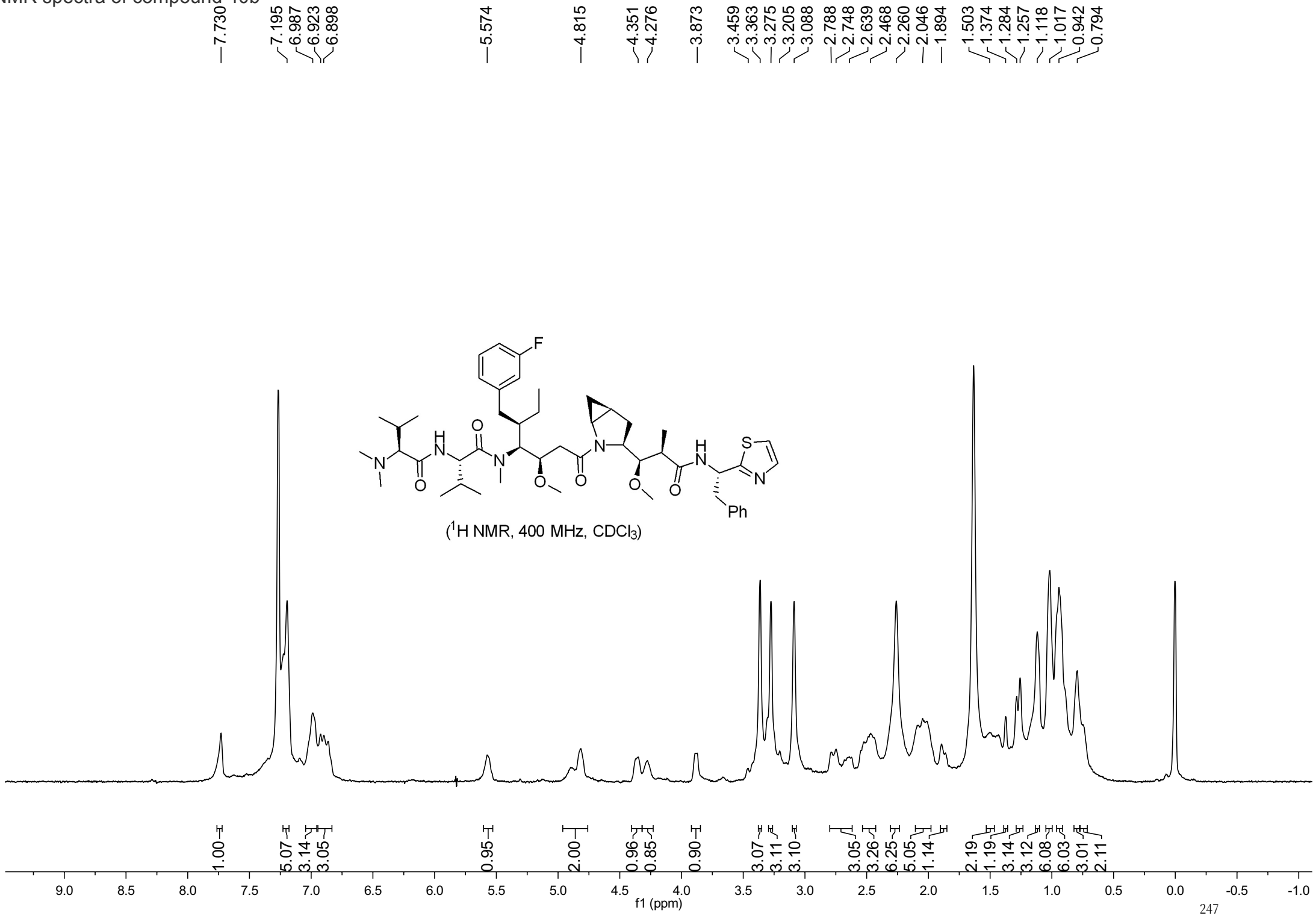
(^{1}H NMR, 400 MHz, $CDCl_3$)

NMR spectra of compound 40a

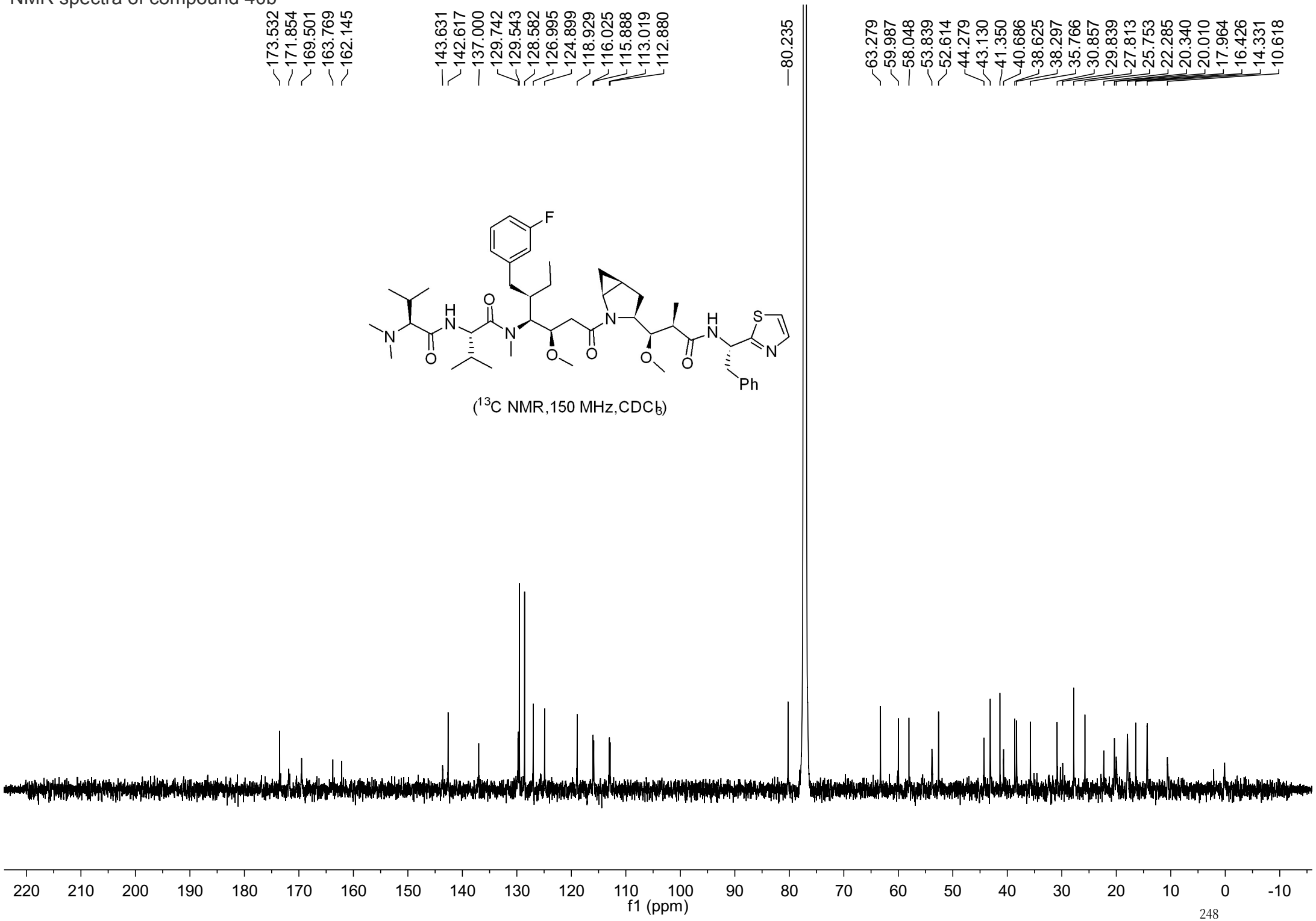


(^{13}C NMR,150 MHz,$CDCl_3$)

NMR spectra of compound 40b

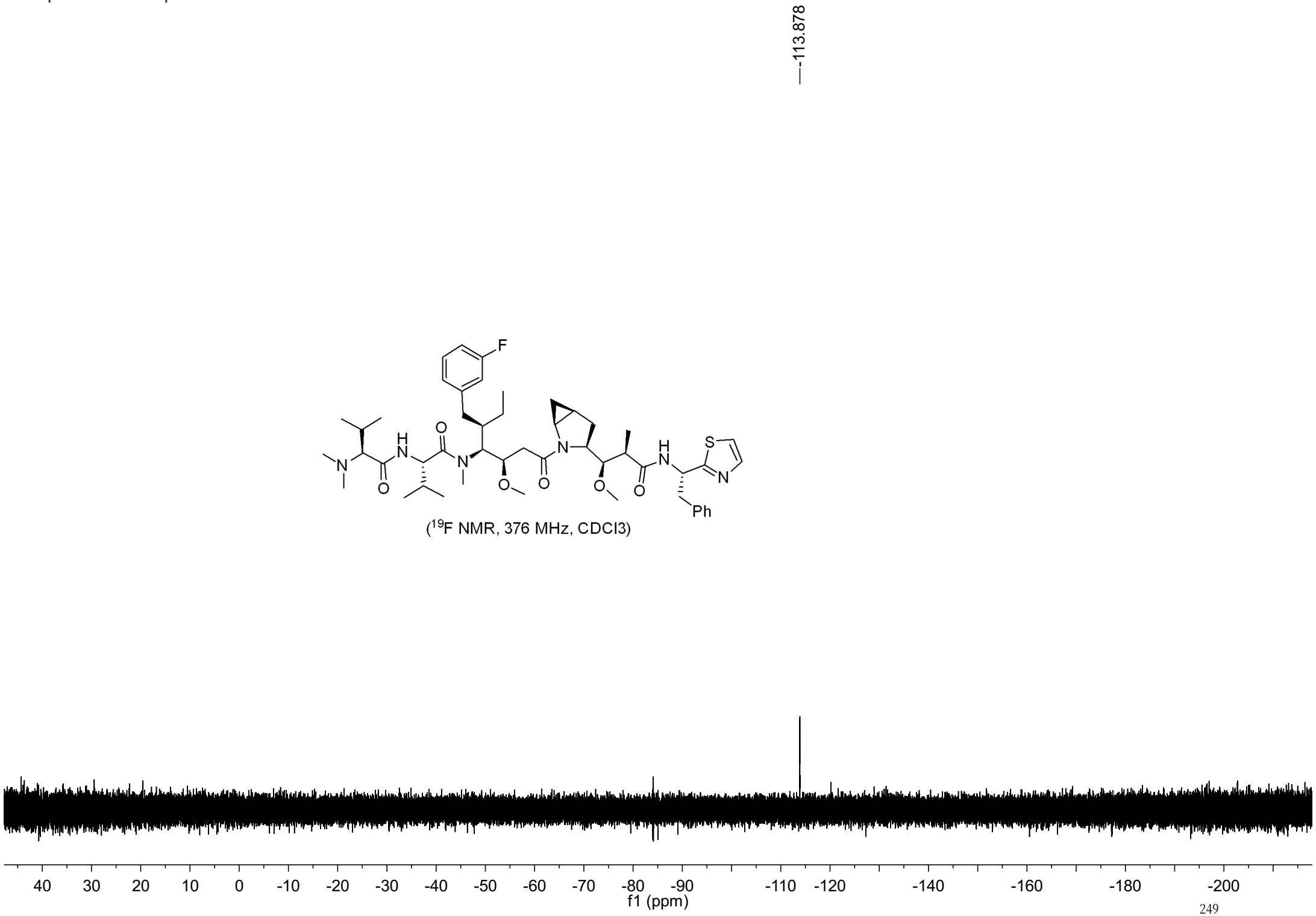


NMR spectra of compound 40b

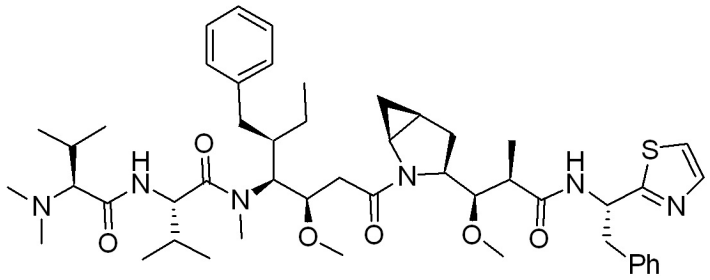


NMR spectra of compound 40b

(^{19}F NMR, 376 MHz, CDCl3)

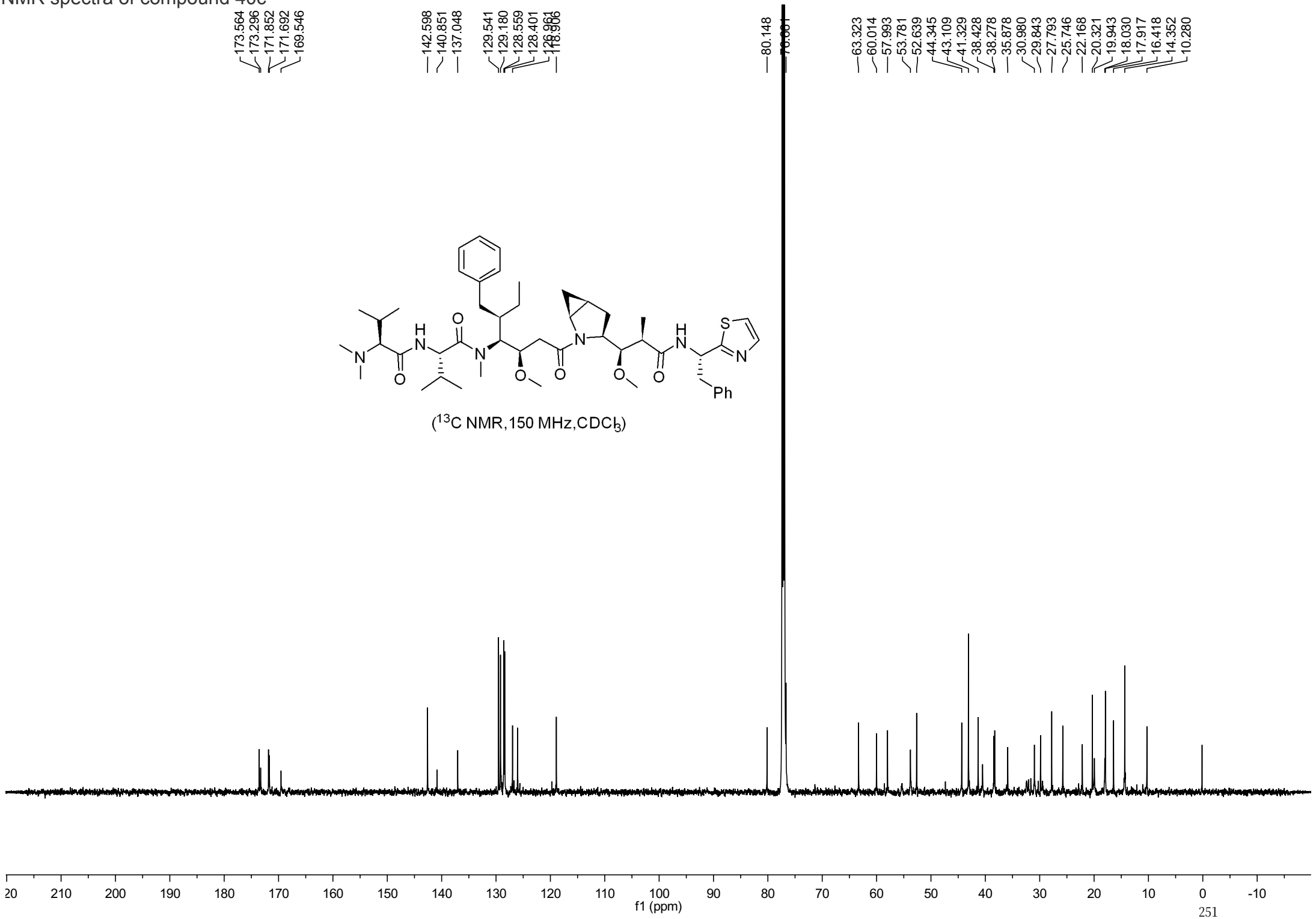


NMR spectra of compound 40c



(^{1}H NMR, 400 MHz, $CDCl_3$)

NMR spectra of compound 40c



(^{13}C NMR, 150 MHz, $CDCl_3$)

Analysis Report

<Sample Information>

Sample Name	: 10g		
Sample ID	: 3		
Sample Type	: Unknown		
Method Filename	: NXD191011. Icm	Data Filename	: NXD.Icd
Vial #	: 1-1	Injection Volume	: 5 ul
Date Acquired	: 2019-10-11 16: 22: 09	Acquired by	: System Administrator
Date Processed	: 2019-10-11 16: 42: 10	Processed by	: System Administrator

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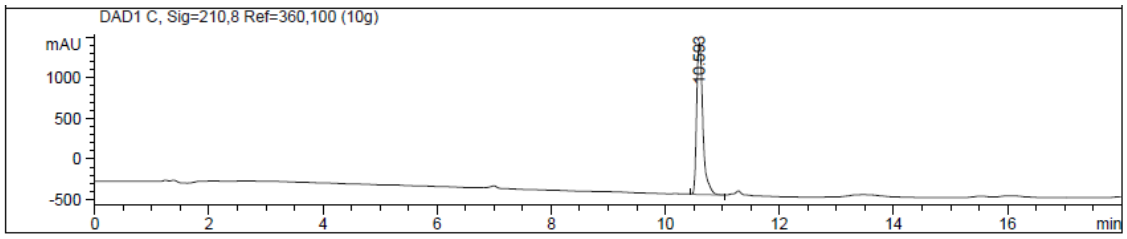

<Peak Table>

DAD 1 C, Sig = 210. 8 Ref = 360.100

Peak	Ret.Time (min)	Area (mAU*S)	Height (mAU)	Area %
1	10.593	1.41540e4	1869.14478	100.0000
Total		1.41540e4	1869.14478	

Analysis Report

<Sample Information>

Sample Name	: 10h		
Sample ID	: 4		
Sample Type	: Unknown		
Method Filename	: NXD191011. Icm	Data Filename	: NXD.Icd
Vial #	: 1-2	Injection Volume	: 5 ul
Date Acquired	: 2019-10-12 8: 32: 29	Acquired by	: System Administrator
Date Processed	: 2019-10-12 8: 52: 30	Processed by	: System Administrator

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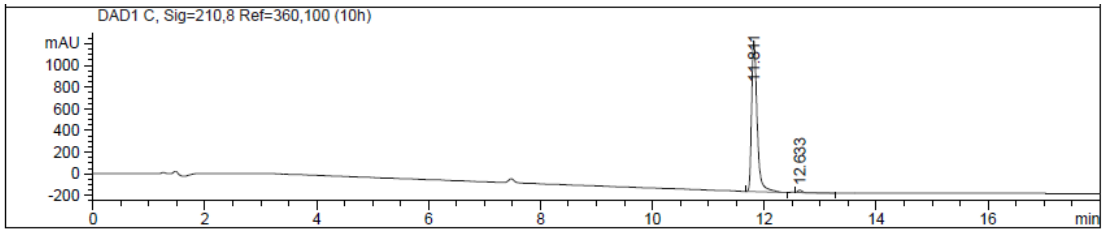

<Peak Table>

DAD 1 C, Sig = 210. 8 Ref = 360.100

Peak	Ret.Time (min)	Area (mAU*S)	Height (mAU)	Area %
1	11.811	9674.88574	1391.82336	98.5991
2	12.633	137.45810	24.73040	1.4009
Total		9812.34384	1416.55376	

Analysis Report

<Sample Information>

Sample Name	: 10n		
Sample ID	: 5		
Sample Type	: Unknown		
Method Filename	: NXD191011. Icm	Data Filename	: NXD.Icd
Vial #	: 1-2	Injection Volume	: 5 ul
Date Acquired	: 2019-10-12 8: 58: 29	Acquired by	: System Administrator
Date Processed	: 2019-10-12 9: 18: 30	Processed by	: System Administrator

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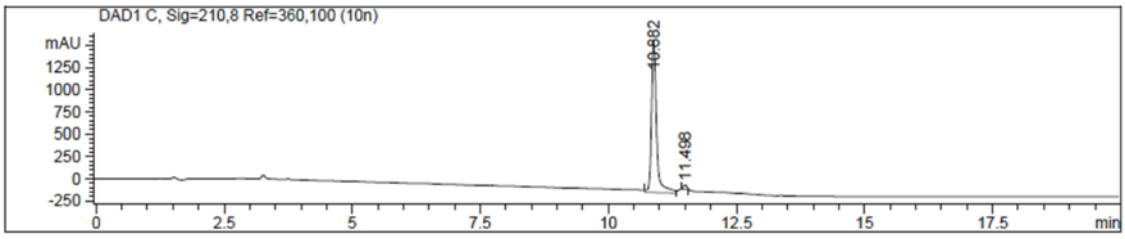

<Peak Table>

DAD 1 C, Sig = 210. 8 Ref = 360.100

Peak	Ret.Time (min)	Area (mAU*S)	Height (mAU)	Area %
1	10.882	1.17746e4	1703.94885	97.8419
2	11.498	259.71341	49.54277	2.1581
Total		1.20343e4	1753.49162	

Analysis Report

<Sample Information>

Sample Name	: 10o		
Sample ID	: 35		
Sample Type	: Unknown		
Method Filename	: NXD191011. Icm	Data Filename	: NXD.Icd
Vial #	: 1-4	Injection Volume	: 5 ul
Date Acquired	: 2019-10-12 10: 02: 29	Acquired by	: System Administrator
Date Processed	: 2019-10-12 10: 22: 30	Processed by	: System Administrator

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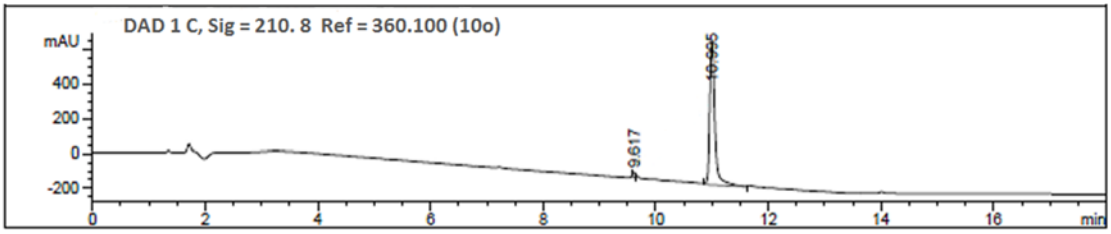

<Peak Table>

DAD 1 C, Sig = 210. 8 Ref = 360.100

Peak	Ret.Time (min)	Area (mAU*S)	Height (mAU)	Area %
1	9.617	72.77796	22.71483	1.3655
2	10.995	5256.94043	830.00879	98.6345
Total		5329.71839	852.72362	

Analysis Report

<Sample Information>

Sample Name	: 10p		
Sample ID	: 6		
Sample Type	: Unknown		
Method Filename	: NXD191011. Icm	Data Filename	: NXD.Icd
Vial #	: 1-5	Injection Volume	: 15 ul
Date Acquired	: 2019-10-12 10: 45: 15	Acquired by	: System Administrator
Date Processed	: 2019-10-12 11: 05: 17	Processed by	: System Administrator

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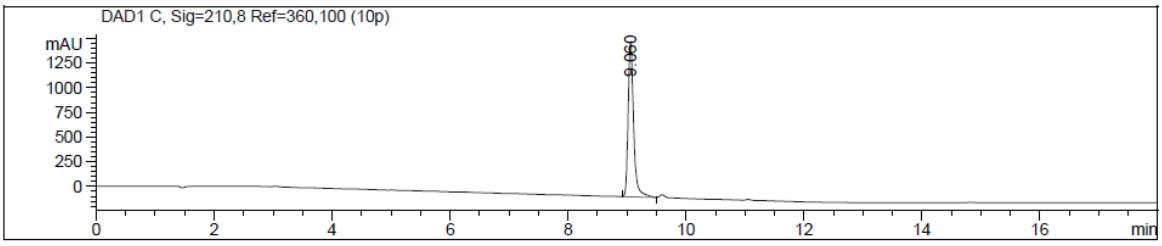

<Peak Table>

DAD 1 C, Sig = 210. 8 Ref = 360.100

Peak	Ret.Time (min)	Area (mAU*S)	Height (mAU)	Area %
1	9.060	1.01124e4	1561.50439	100.0000
Total		1.01124e4	1561.50439	

Analysis Report

<Sample Information>

Sample Name	: 10r		
Sample ID	: 7		
Sample Type	: Unknown		
Method Filename	: NXD191011. Icm	Data Filename	: NXD.Icd
Vial #	: 1-6	Injection Volume	: 15 ul
Date Acquired	: 2019-10-12 11: 21: 19	Acquired by	: System Administrator
Date Processed	: 2019-10-12 11: 41: 20	Processed by	: System Administrator

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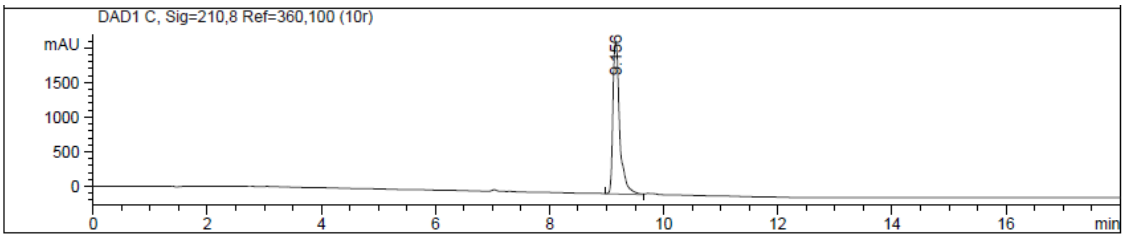

<Peak Table>

DAD 1 C, Sig = 210. 8 Ref = 360.100

Peak	Ret.Time (min)	Area (mAU*S)	Height (mAU)	Area %
1	9.156	1.82893e4	2186.57349	100.0000
Total		1.82893e4	2186.57349	

Analysis Report

<Sample Information>

Sample Name	: 10t		
Sample ID	: 8		
Sample Type	: Unknown		
Method Filename	: NXD191011. Icm	Data Filename	: NXD.Icd
Vial #	: 1-7	Injection Volume	: 5 ul
Date Acquired	: 2019-10-12 12: 03: 34	Acquired by	: System Administrator
Date Processed	: 2019-10-12 12: 23: 35	Processed by	: System Administrator

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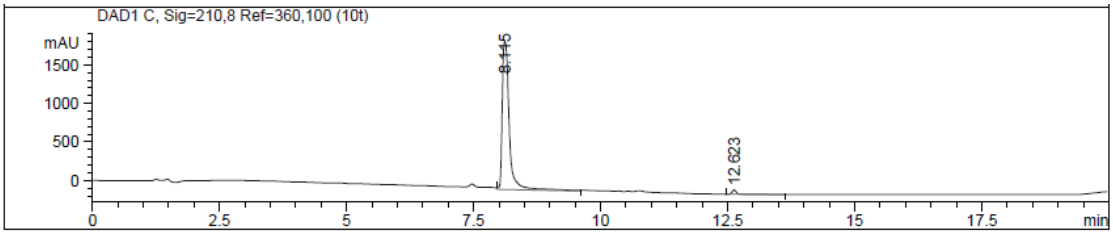

<Peak Table>

DAD 1 C, Sig = 210. 8 Ref = 360.100

Peak	Ret.Time (min)	Area (mAU*S)	Height (mAU)	Area %
1	8.115	1.86556e4	1918.72888	98.3096
2	12.623	320.78537	56.87433	1.6904
Total		1.89764e4	1975.60321	

Analysis Report

<Sample Information>

Sample Name	: 17a		
Sample ID	: 9		
Sample Type	: Unknown		
Method Filename	: NXD191011. Icm	Data Filename	: NXD.Icd
Vial #	: 1-7	Injection Volume	: 10 ul
Date Acquired	: 2019-10-12 12: 45: 03	Acquired by	: System Administrator
Date Processed	: 2019-10-12 13: 05: 04	Processed by	: System Administrator

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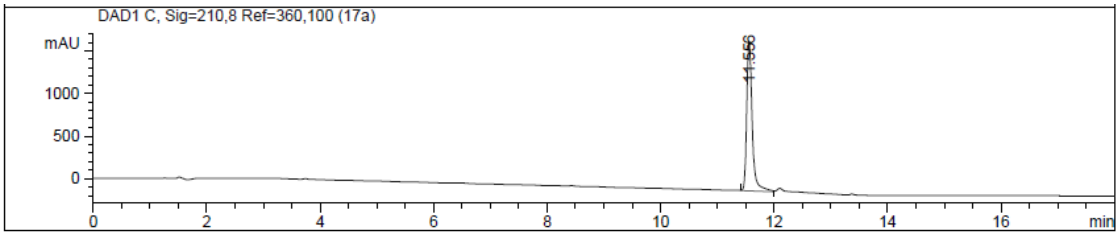

<Peak Table>

DAD 1 C, Sig = 210. 8 Ref = 360.100

Peak	Ret.Time (min)	Area (mAU*S)	Height (mAU)	Area %
1	11.556	1.19113e4	1758.26379	100.0000
Total		1.19113e4	1758.26379	

Analysis Report

<Sample Information>

Sample Name	: 17b		
Sample ID	: 18		
Sample Type	: Unknown		
Method Filename	: NXD191011. Icm	Data Filename	: NXD.Icd
Vial #	: 3-1	Injection Volume	: 10 ul
Date Acquired	: 2019-10-12 16: 42: 56	Acquired by	: System Administrator
Date Processed	: 2019-10-12 17: 02: 58	Processed by	: System Administrator

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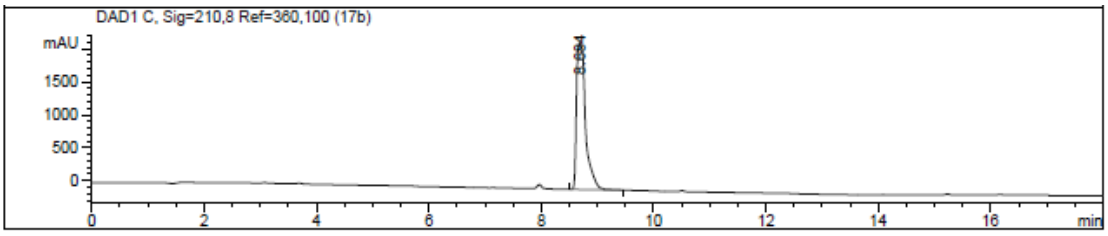

<Peak Table>

DAD 1 C, Sig = 210. 8 Ref = 360.100

Peak	Ret.Time (min)	Area (mAU*S)	Height (mAU)	Area %
1	8.684	2.51062e4	2231.94019	100.0000
Total		2.51062e4	2231.94019	

Analysis Report

<Sample Information>

Sample Name	: 17c		
Sample ID	: 12		
Sample Type	: Unknown		
Method Filename	: NXD191011. Icm	Data Filename	: NXD.Icd
Vial #	: 2-3	Injection Volume	: 10 ul
Date Acquired	: 2019-10-12 14: 01: 56	Acquired by	: System Administrator
Date Processed	: 2019-10-12 14: 21: 58	Processed by	: System Administrator

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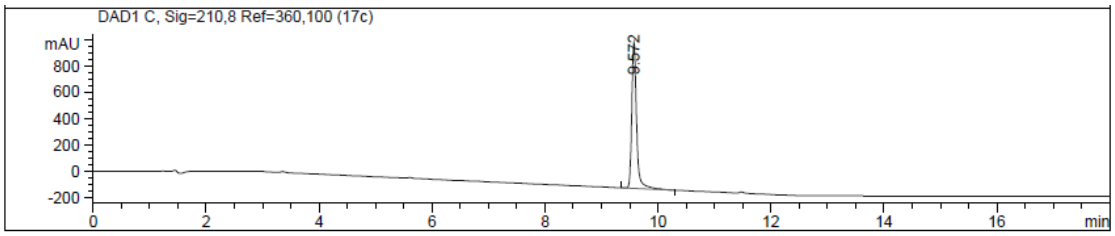

<Peak Table>

DAD 1 C, Sig = 210. 8 Ref = 360.100

Peak	Ret.Time (min)	Area (mAU*S)	Height (mAU)	Area %
1	9.572	6585.07227	1104.81592	100.0000
Total		6585.07227	1104.81592	

Analysis Report

<Sample Information>

Sample Name	: 18a		
Sample ID	: 13		
Sample Type	: Unknown		
Method Filename	: NXD191011. Icm	Data Filename	: NXD.Icd
Vial #	: 2-5	Injection Volume	: 10 ul
Date Acquired	: 2019-10-12 14: 34: 06	Acquired by	: System Administrator
Date Processed	: 2019-10-12 14: 54: 07	Processed by	: System Administrator

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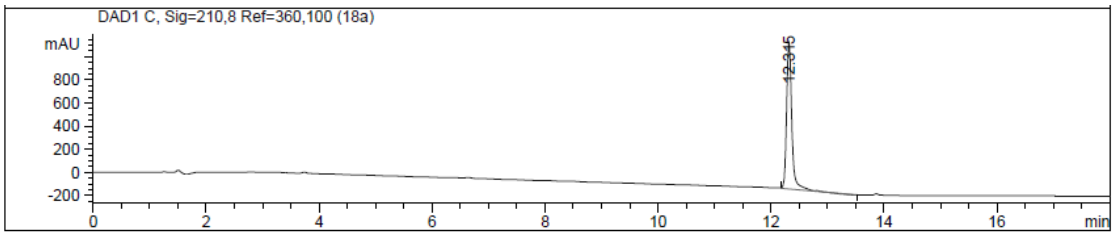

<Peak Table>

DAD 1 C, Sig = 210. 8 Ref = 360.100

Peak	Ret.Time (min)	Area (mAU*S)	Height (mAU)	Area %
1	12.315	8147.56201	1269.44788	100.0000
Total		8147.56201	1269.44788	

Analysis Report

<Sample Information>

Sample Name	: 18b		
Sample ID	: 15		
Sample Type	: Unknown		
Method Filename	: NXD191011. Icm	Data Filename	: NXD.Icd
Vial #	: 2-8	Injection Volume	: 10 ul
Date Acquired	: 2019-10-12 15: 07: 26	Acquired by	: System Administrator
Date Processed	: 2019-10-12 15: 27: 27	Processed by	: System Administrator

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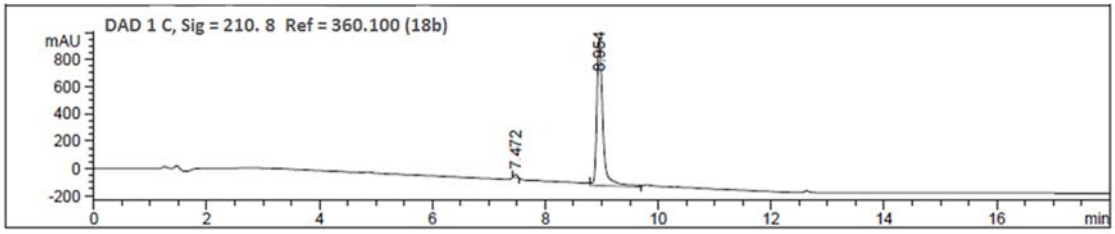

<Peak Table>

DAD 1 C, Sig = 210. 8 Ref = 360.100

Peak	Ret.Time (min)	Area (mAU*S)	Height (mAU)	Area %
1	7.472	87.89386	22.09830	1.0683
2	8.954	8139.51514	1073.03271	98.9317
Total		8227.40900	1095.13101	

Analysis Report

<Sample Information>

Sample Name	: 18c		
Sample ID	: 16		
Sample Type	: Unknown		
Method Filename	: NXD191011. Icm	Data Filename	: NXD.Icd
Vial #	: 2-10	Injection Volume	: 10 ul
Date Acquired	: 2019-10-12 15: 34: 24	Acquired by	: System Administrator
Date Processed	: 2019-10-12 15: 54: 25	Processed by	: System Administrator

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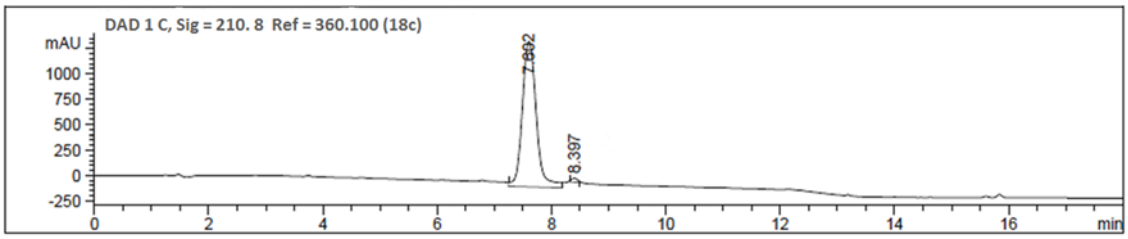

<Peak Table>

DAD 1 C, Sig = 210. 8 Ref = 360.100

Peak	Ret.Time (min)	Area (mAU*S)	Height (mAU)	Area %
1	7.602	2.42330e4	1435.10669	98.8189
2	8.397	289.64276	39.44547	1.1811
Total		2.45226e4	1474.55215	

Analysis Report

<Sample Information>

Sample Name	: 19a		
Sample ID	: 17		
Sample Type	: Unknown		
Method Filename	: NXD191011. Icm	Data Filename	: NXD.Icd
Vial #	: 2-12	Injection Volume	: 10 ul
Date Acquired	: 2019-10-12 16: 11: 02	Acquired by	: System Administrator
Date Processed	: 2019-10-12 16: 31: 03	Processed by	: System Administrator

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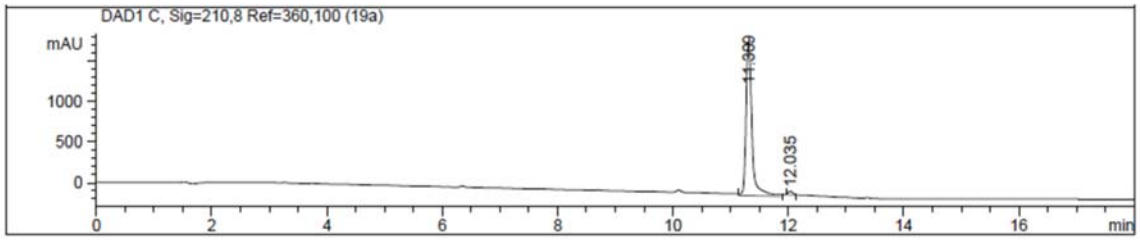

<Peak Table>

DAD 1 C, Sig = 210. 8 Ref = 360.100

Peak	Ret.Time (min)	Area (mAU*S)	Height (mAU)	Area %
1	11.309	1.38318e4	1898.20081	98.0337
2	12.035	277.43576	48.50030	1.9663
Total		1.41093e4	1946.70110	

Analysis Report

<Sample Information>

Sample Name	: 19b		
Sample ID	: 10		
Sample Type	: Unknown		
Method Filename	: NXD191011. Icm	Data Filename	: NXD.Icd
Vial #	: 2-1	Injection Volume	: 10 ul
Date Acquired	: 2019-10-12 13: 09: 33	Acquired by	: System Administrator
Date Processed	: 2019-10-12 13: 29: 35	Processed by	: System Administrator

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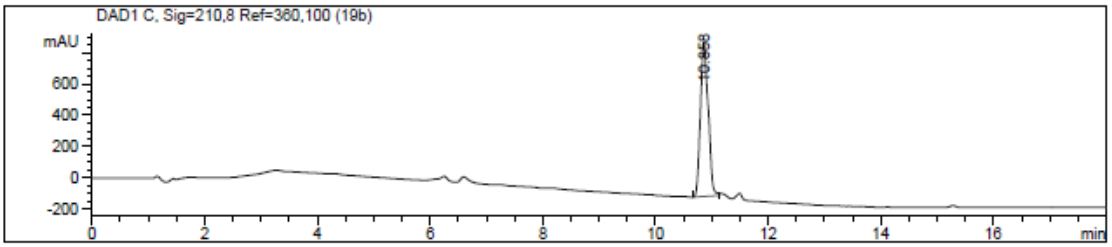


<Peak Table>

DAD 1 C, Sig = 210. 8 Ref = 360.100

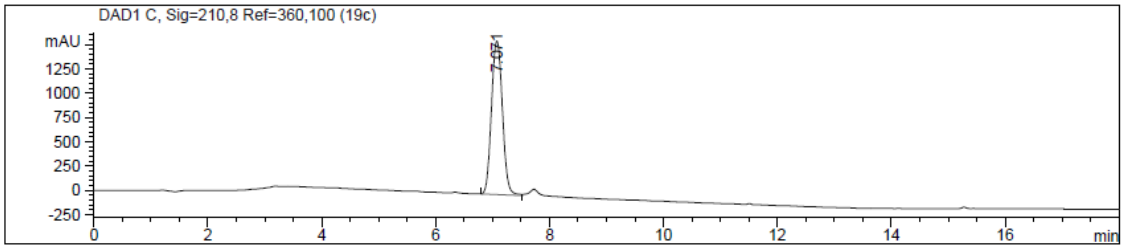
Peak	Ret.Time (min)	Area (mAU*S)	Height (mAU)	Area %
1	10.858	9477.46289	989.14374	100.0000
Total		9477.46289	989.14374	

Analysis Report

<Sample Information>

Sample Name	: 19c		
Sample ID	: 19		
Sample Type	: Unknown		
Method Filename	: NXD191011. Icm	Data Filename	: NXD.Icd
Vial #	: 3-2	Injection Volume	: 10 ul
Date Acquired	: 2019-10-12 17: 11: 36	Acquired by	: System Administrator
Date Processed	: 2019-10-12 17: 31: 38	Processed by	: System Administrator

<Chromatogram >



<Peak Table>

DAD 1 C, Sig = 210. 8 Ref = 360.100

Peak	Ret.Time (min)	Area (mAU*S)	Height (mAU)	Area %
1	7.071	2.11248e4	1581.00696	100.0000
Total		2.11248e4	1581.00696	

Analysis Report

<Sample Information>

Sample Name	: 20a		
Sample ID	: 21		
Sample Type	: Unknown		
Method Filename	: NXD191011. Icm	Data Filename	: NXD.Icd
Vial #	: 3-4	Injection Volume	: 10 ul
Date Acquired	: 2019-10-12 17:43: 19	Acquired by	: System Administrator
Date Processed	: 2019-10-12 18: 03: 20	Processed by	: System Administrator

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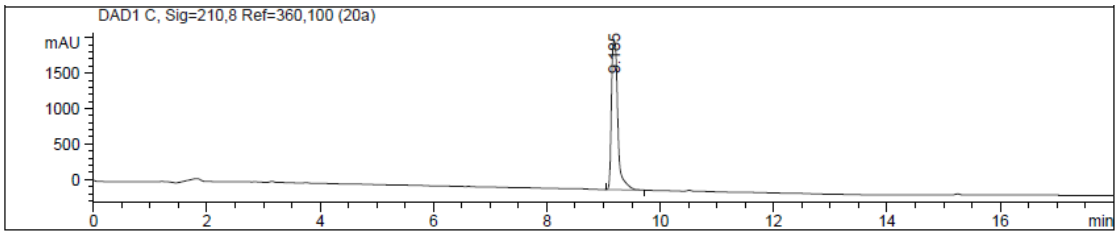


<Peak Table>

DAD 1 C, Sig = 210. 8 Ref = 360.100

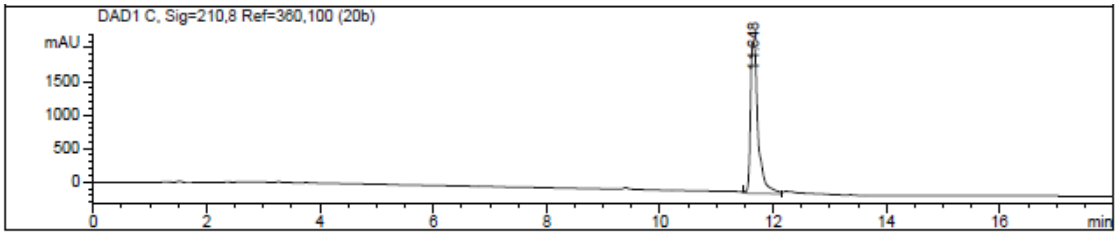
Peak	Ret.Time (min)	Area (mAU*S)	Height (mAU)	Area %
1	9.185	1.63816e4	2093.99146	100.0000
Total		1.63816e4	2093.99146	

Analysis Report

<Sample Information>

Sample Name	: 20b		
Sample ID	: 22		
Sample Type	: Unknown		
Method Filename	: NXD191011. Icm	Data Filename	: NXD.Icd
Vial #	: 3-5	Injection Volume	: 10 ul
Date Acquired	: 2019-10-12 18: 11: 34	Acquired by	: System Administrator
Date Processed	: 2019-10-12 18: 31: 35	Processed by	: System Administrator

<Chromatogram >



<Peak Table>

DAD 1 C, Sig = 210. 8 Ref = 360.100

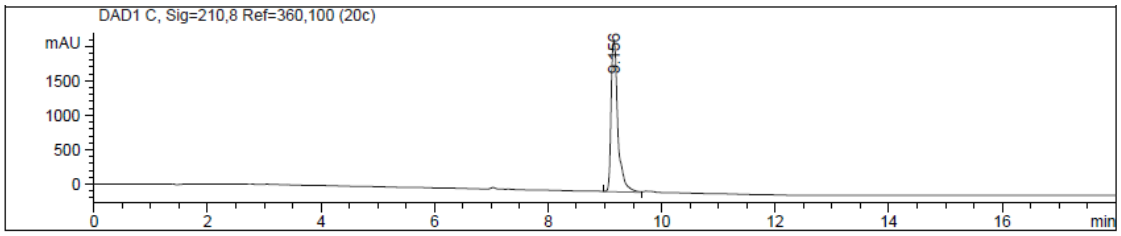
Peak	Ret.Time (min)	Area (mAU*S)	Height (mAU)	Area %
1	11.648	2.10985e4	2257.05884	100.0000
Total		2.10985e4	2257.05884	

Analysis Report

<Sample Information>

Sample Name	: 20c		
Sample ID	: 22		
Sample Type	: Unknown		
Method Filename	: NXD191011. Icm	Data Filename	: NXD.Icd
Vial #	: 3-6	Injection Volume	: 10 ul
Date Acquired	: 2019-10-12 18: 43: 02	Acquired by	: System Administrator
Date Processed	: 2019-10-12 19: 03: 03	Processed by	: System Administrator

<Chromatogram >



<Peak Table>

DAD 1 C, Sig = 210. 8 Ref = 360.100

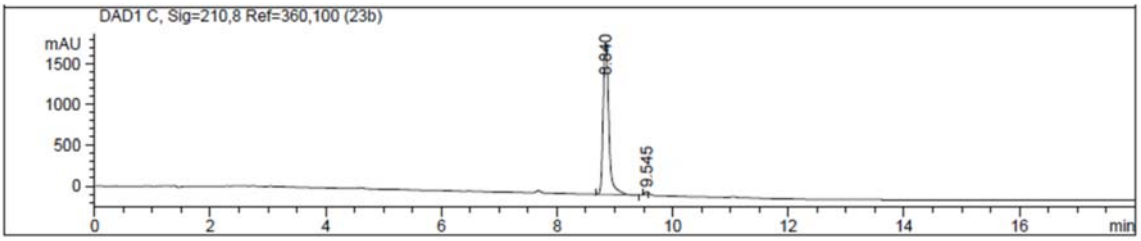
Peak	Ret.Time (min)	Area (mAU*S)	Height (mAU)	Area %
1	9.156	1.82893e4	2186.57349	100.0000
Total		1.82893e4	2186.57349	

Analysis Report

<Sample Information>

Sample Name	: 23b		
Sample ID	: 18		
Sample Type	: Unknown		
Method Filename	: NXD191011. Icm	Data Filename	: NXD.Icd
Vial #	: 1-1	Injection Volume	: 10 ul
Date Acquired	: 2019-10-19 10: 07: 26	Acquired by	: System Administrator
Date Processed	: 2019-10-19 10: 27: 27	Processed by	: System Administrator

<Chromatogram >



<Peak Table>

DAD 1 C, Sig = 210. 8 Ref = 360.100

Peak	Ret.Time (min)	Area (mAU*S)	Height (mAU)	Area %
1	8.840	1.27843e4	1866.60632	98.8124
2	9.545	153.65303	40.33503	1.1876
Total		1.29380e4	1906.94135	

Analysis Report

<Sample Information>

Sample Name	: 38		
Sample ID	: 21		
Sample Type	: Unknown		
Method Filename	: NXD191019. Icm	Data Filename	: NXD.Icd
Vial #	: 1-3	Injection Volume	: 10 ul
Date Acquired	: 2019-10-19 14: 09: 18	Acquired by	: System Administrator
Date Processed	: 2019-10-19 14: 29: 19	Processed by	: System Administrator

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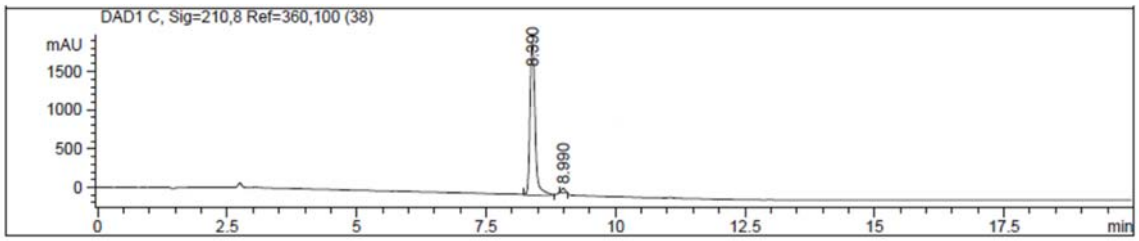

<Peak Table>

DAD 1 C, Sig = 210. 8 Ref = 360.100

Peak	Ret.Time (min)	Area (mAU*S)	Height (mAU)	Area %
1	8.390	1.38279e4	1974.17688	97.5335
2	8.990	349.69510	65.51511	2.4665
Total		1.41776e4	2039.69199	