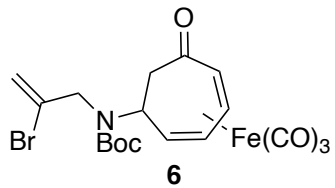


Supporting Information File 2 for

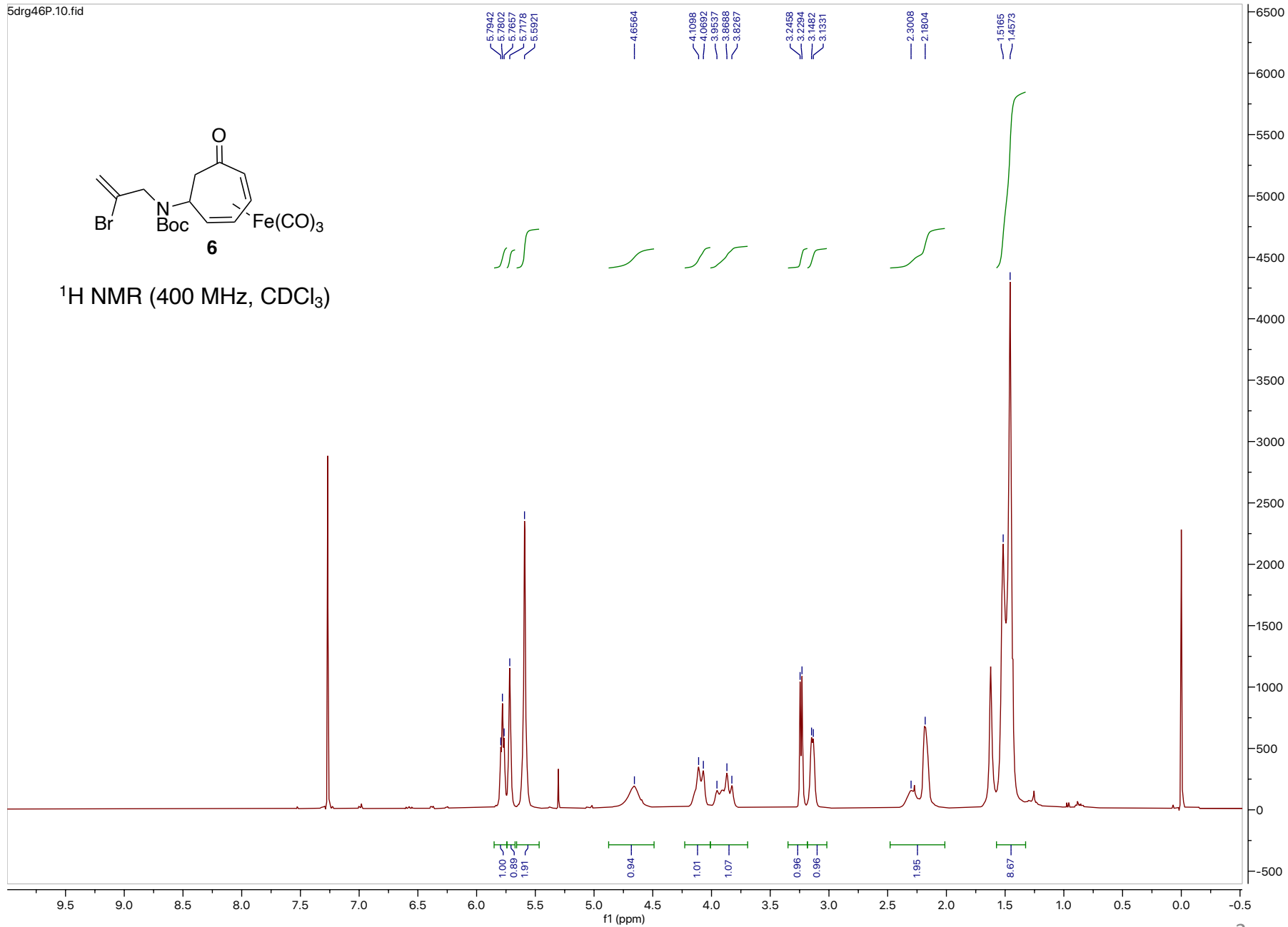
**Synthesis of 7-azabicyclo[4.3.1]decane ring system from
tricarbonyl(tropone)iron via intramolecular Heck reactions**

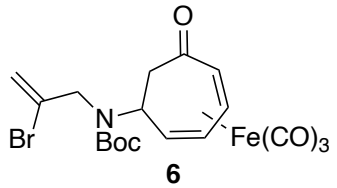
Aaron H. Shoemaker, Elizabeth A. Foker, Elena P. Uttaro, Sarah K. Beitel and Daniel R. Griffith*

Department of Chemistry, Lafayette College

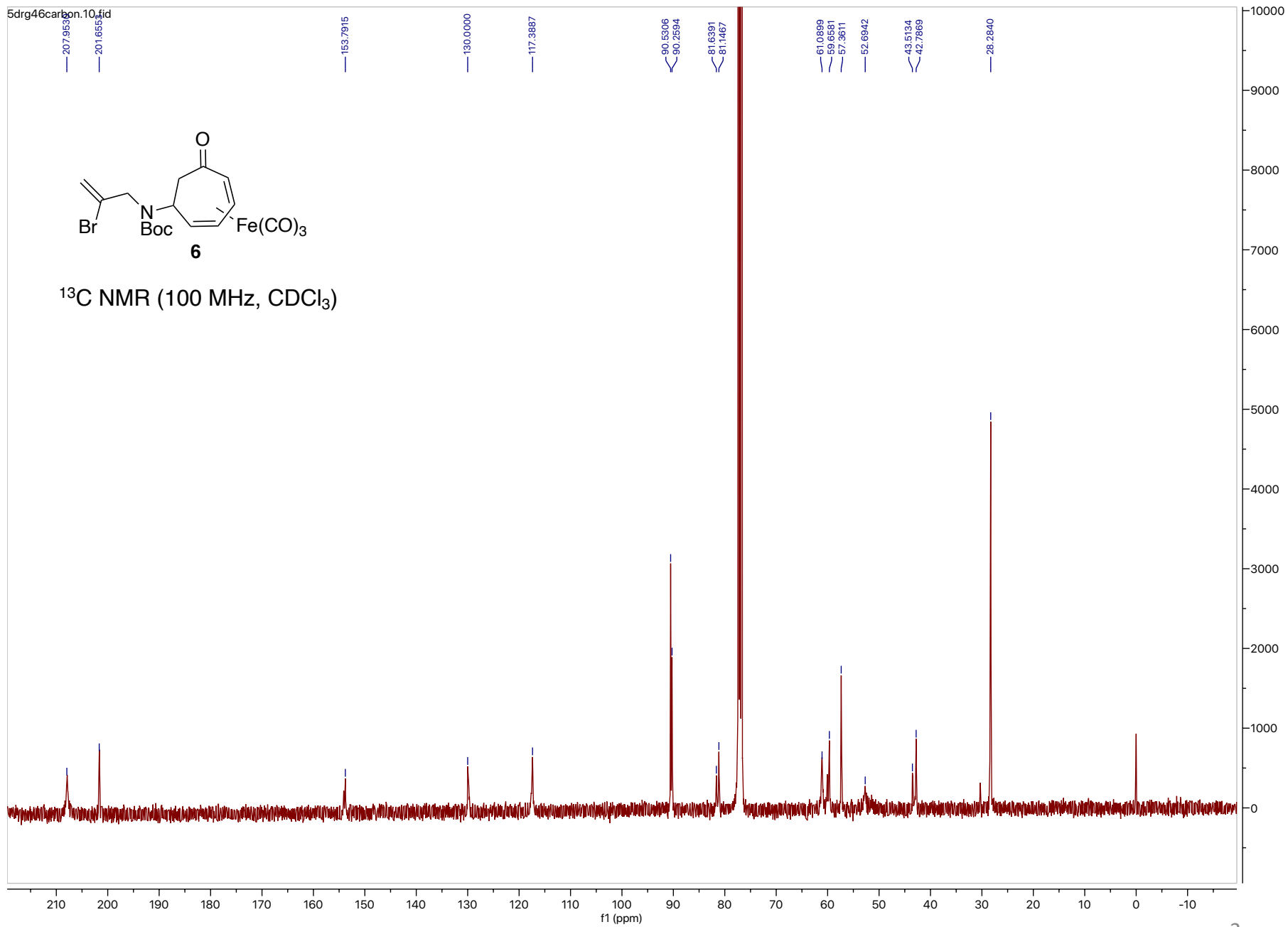


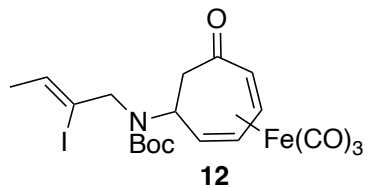
^1H NMR (400 MHz, CDCl_3)



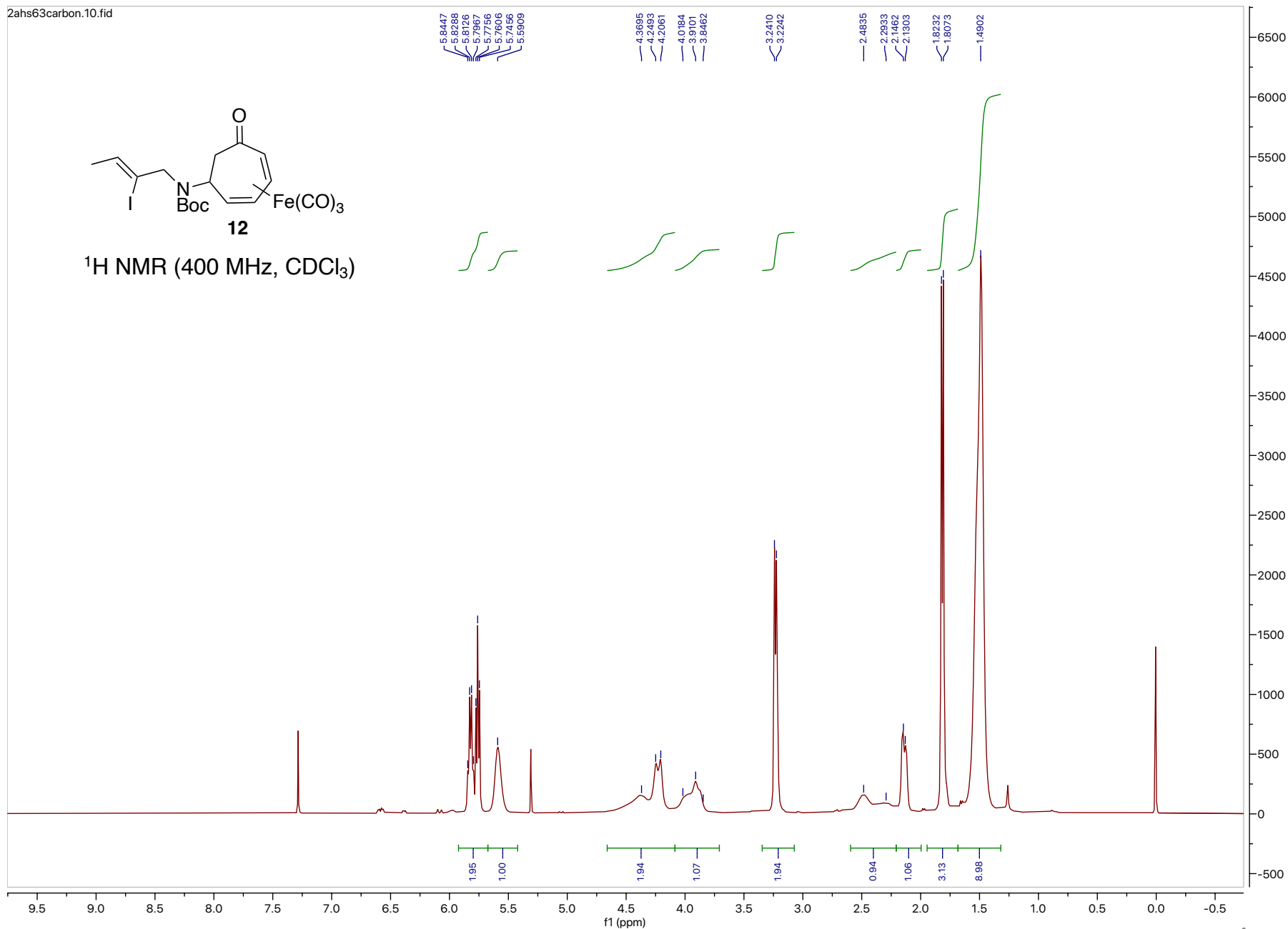


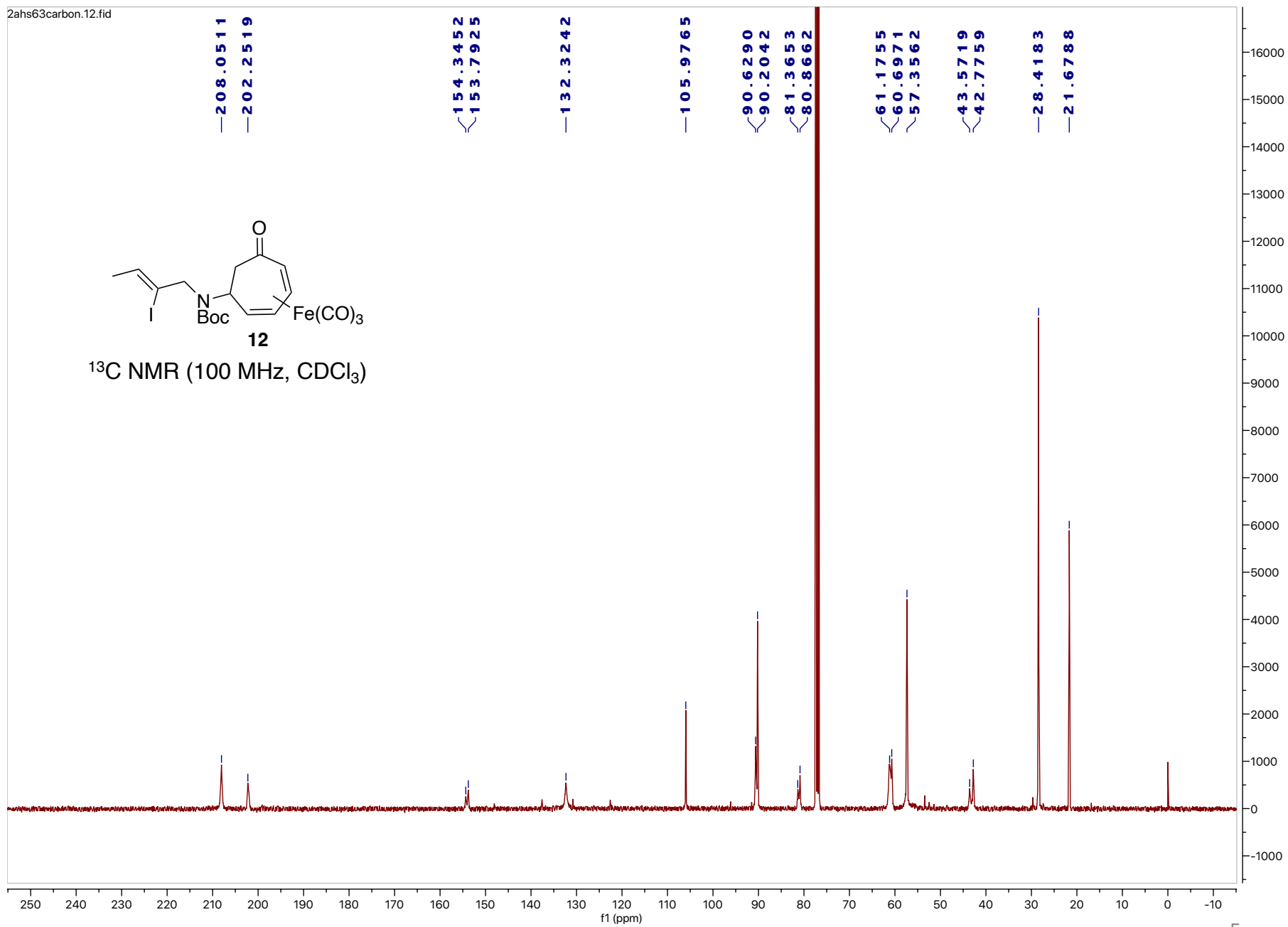
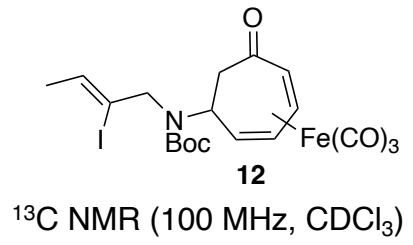
¹³C NMR (100 MHz, CDCl₃)

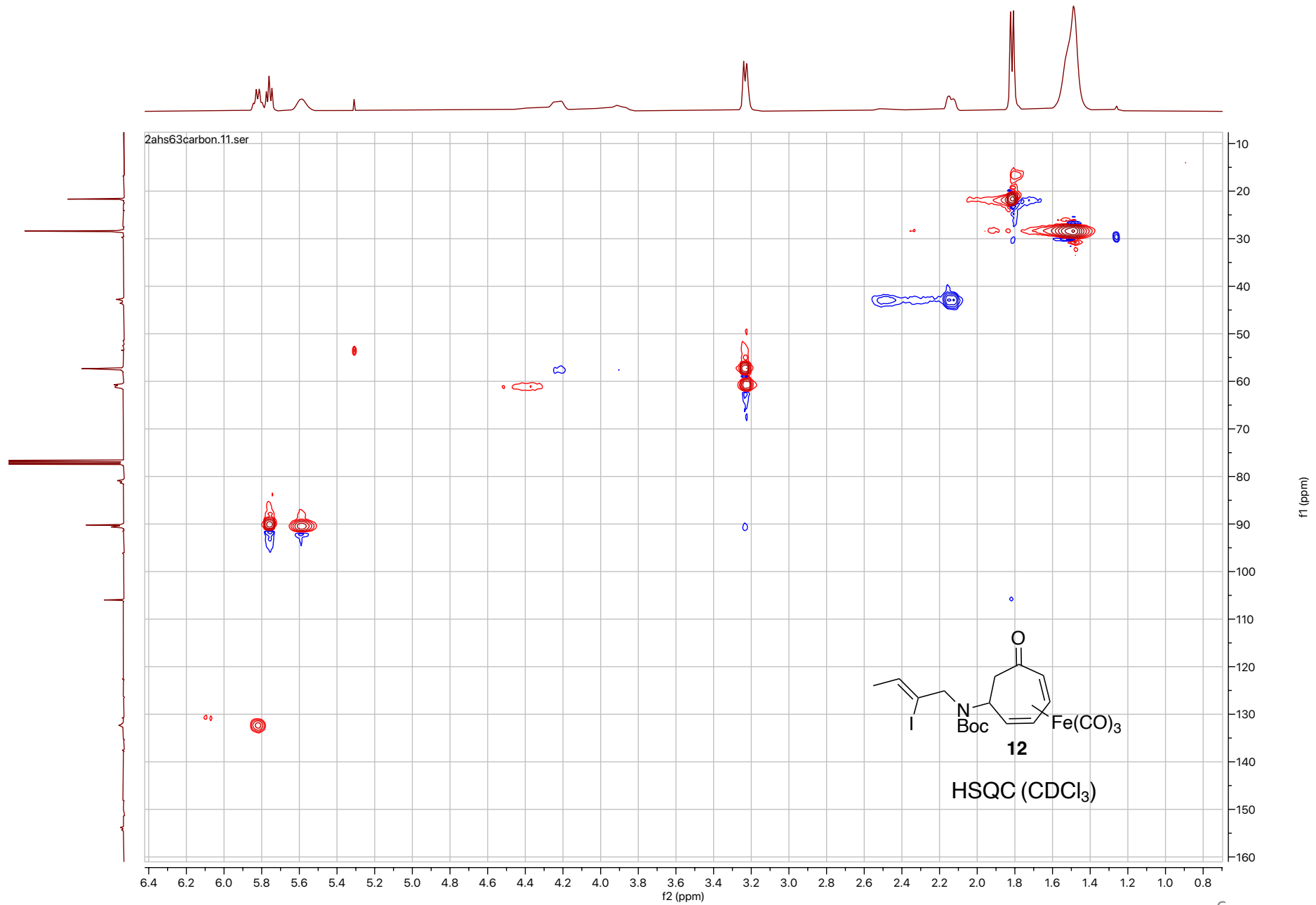


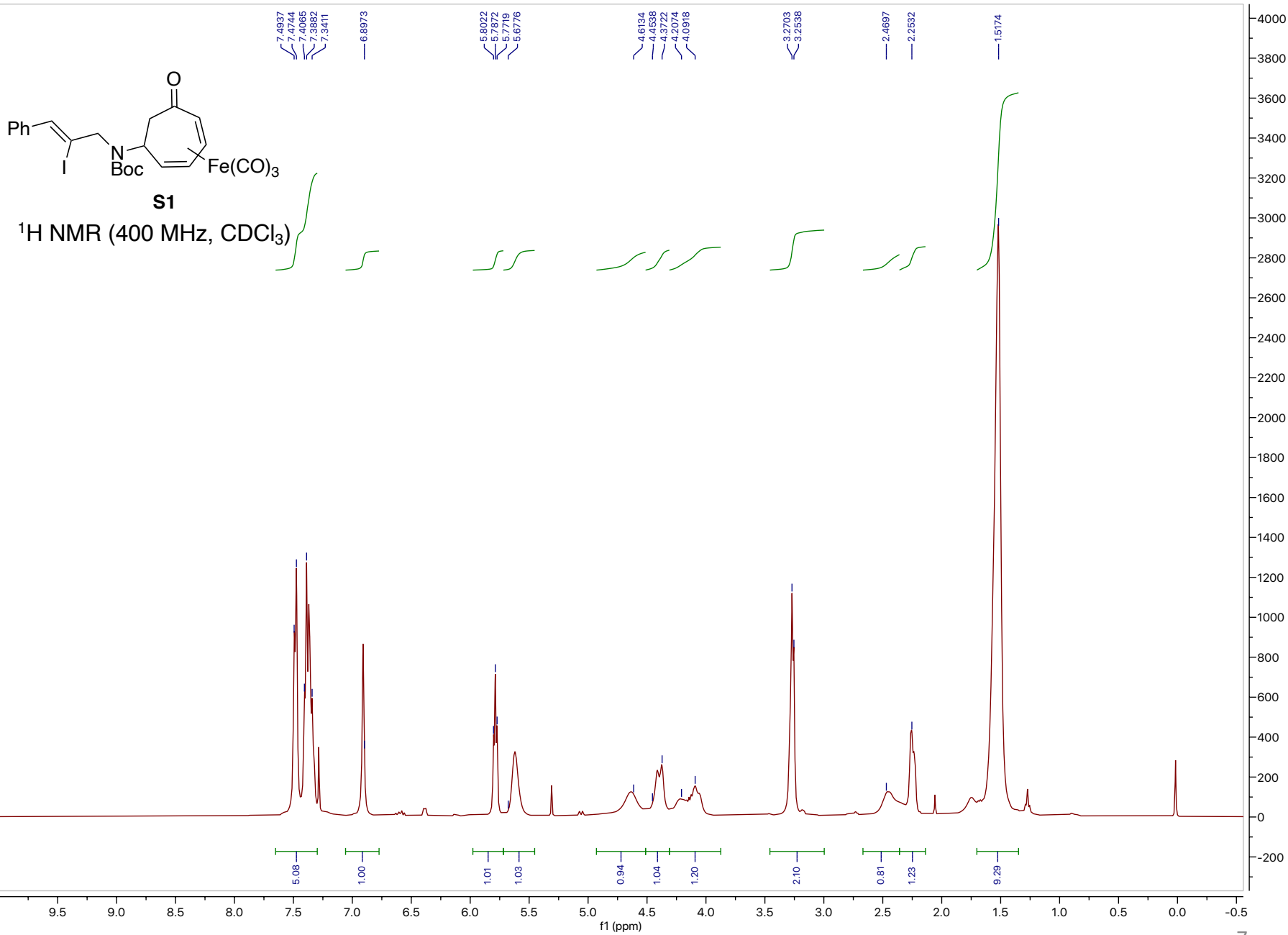


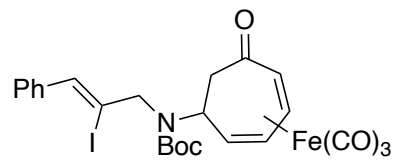
¹H NMR (400 MHz, CDCl₃)





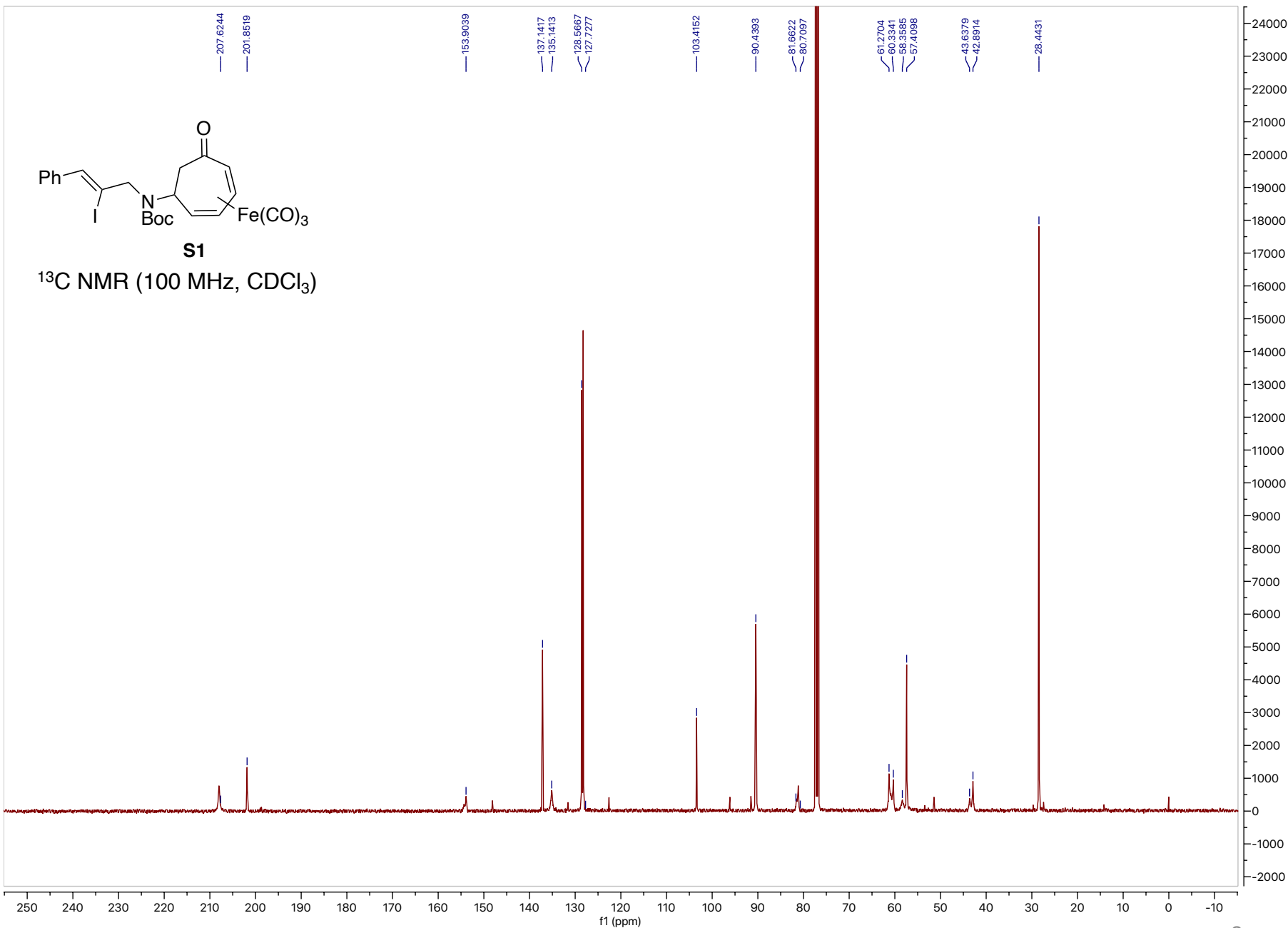


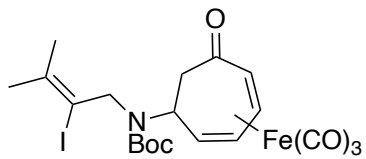




S1

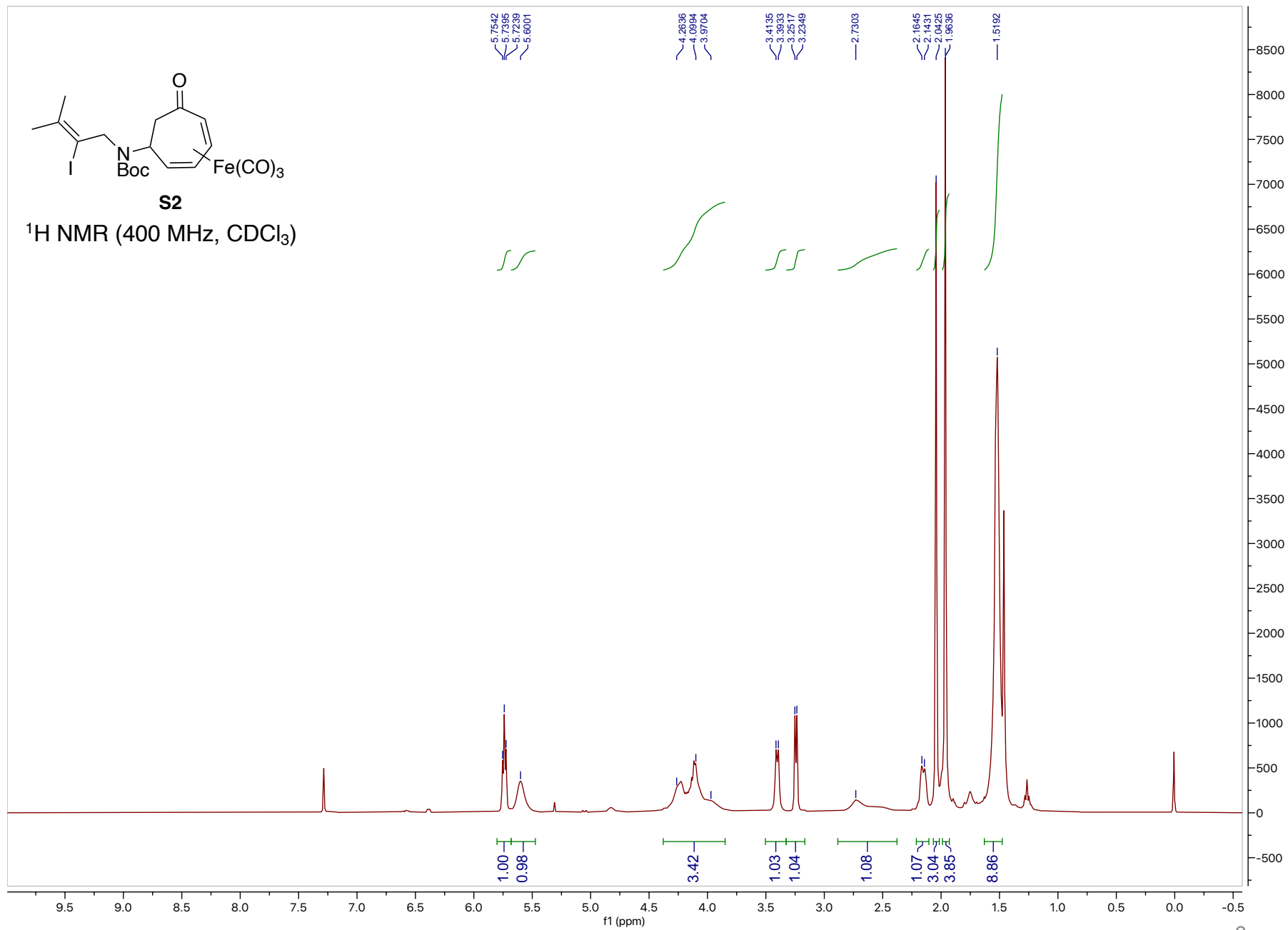
^{13}C NMR (100 MHz, CDCl_3)

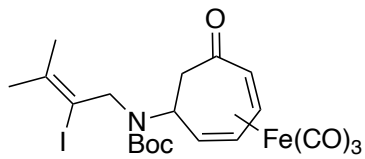




S2

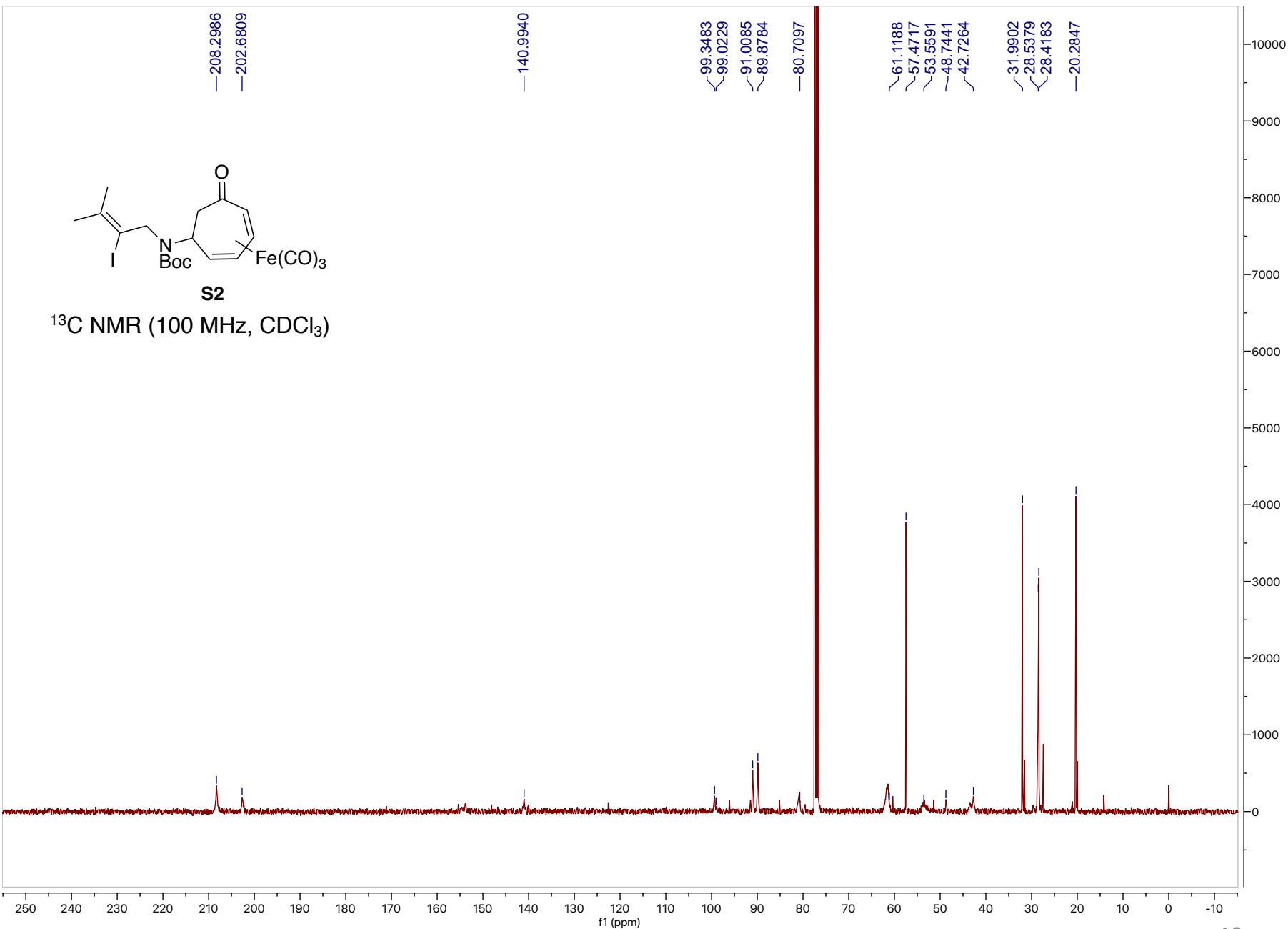
¹H NMR (400 MHz, CDCl₃)

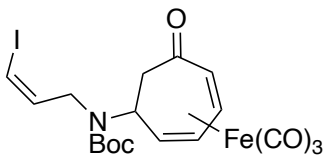




S2

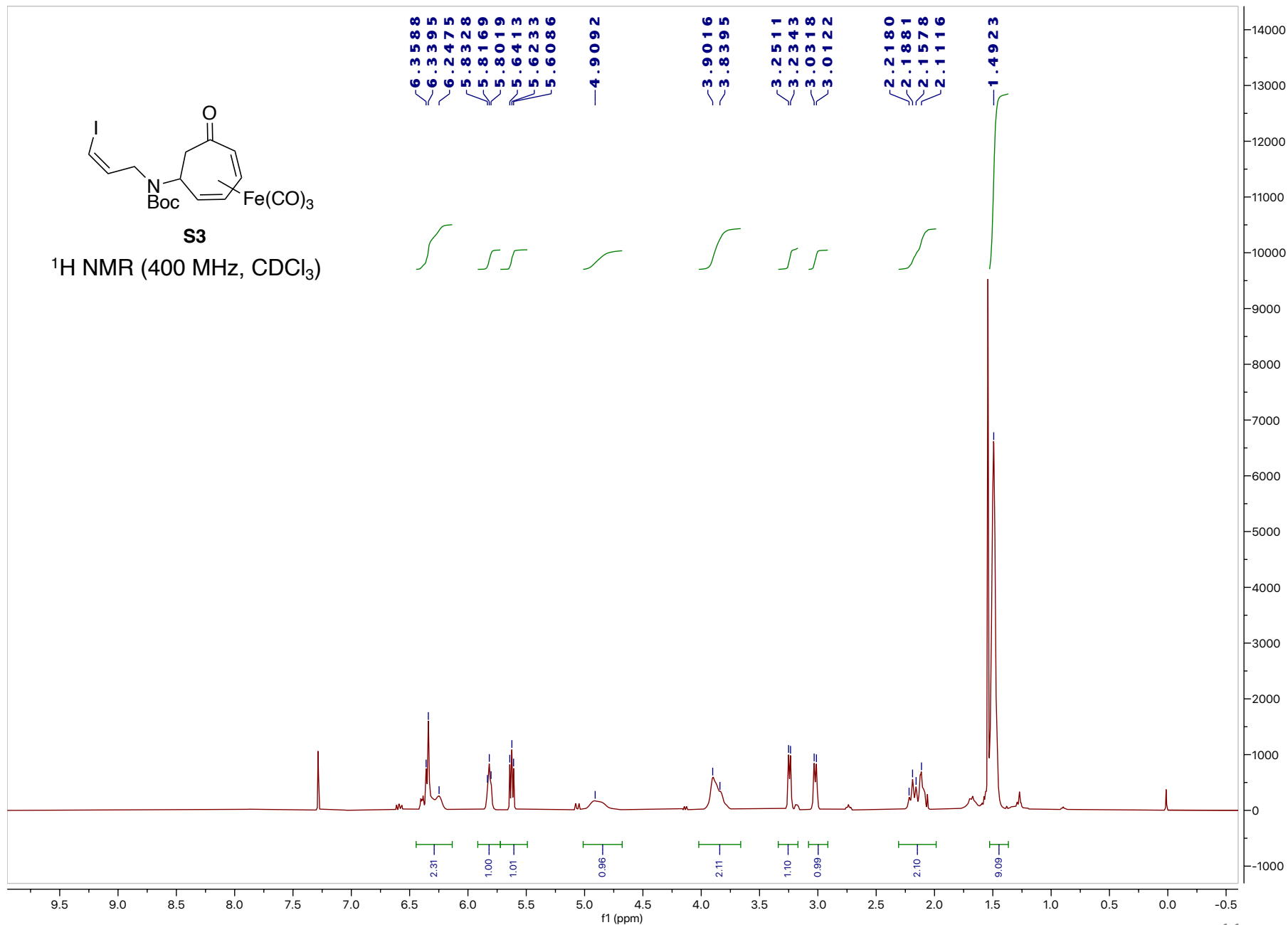
^{13}C NMR (100 MHz, CDCl_3)





S3

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



207.9161

201.4653

164.0985

138.8289

90.6668

90.2326

82.6215

81.2459

80.8811

60.3976

59.9488

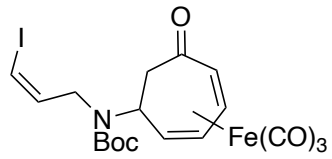
57.3254

48.2038

43.8218

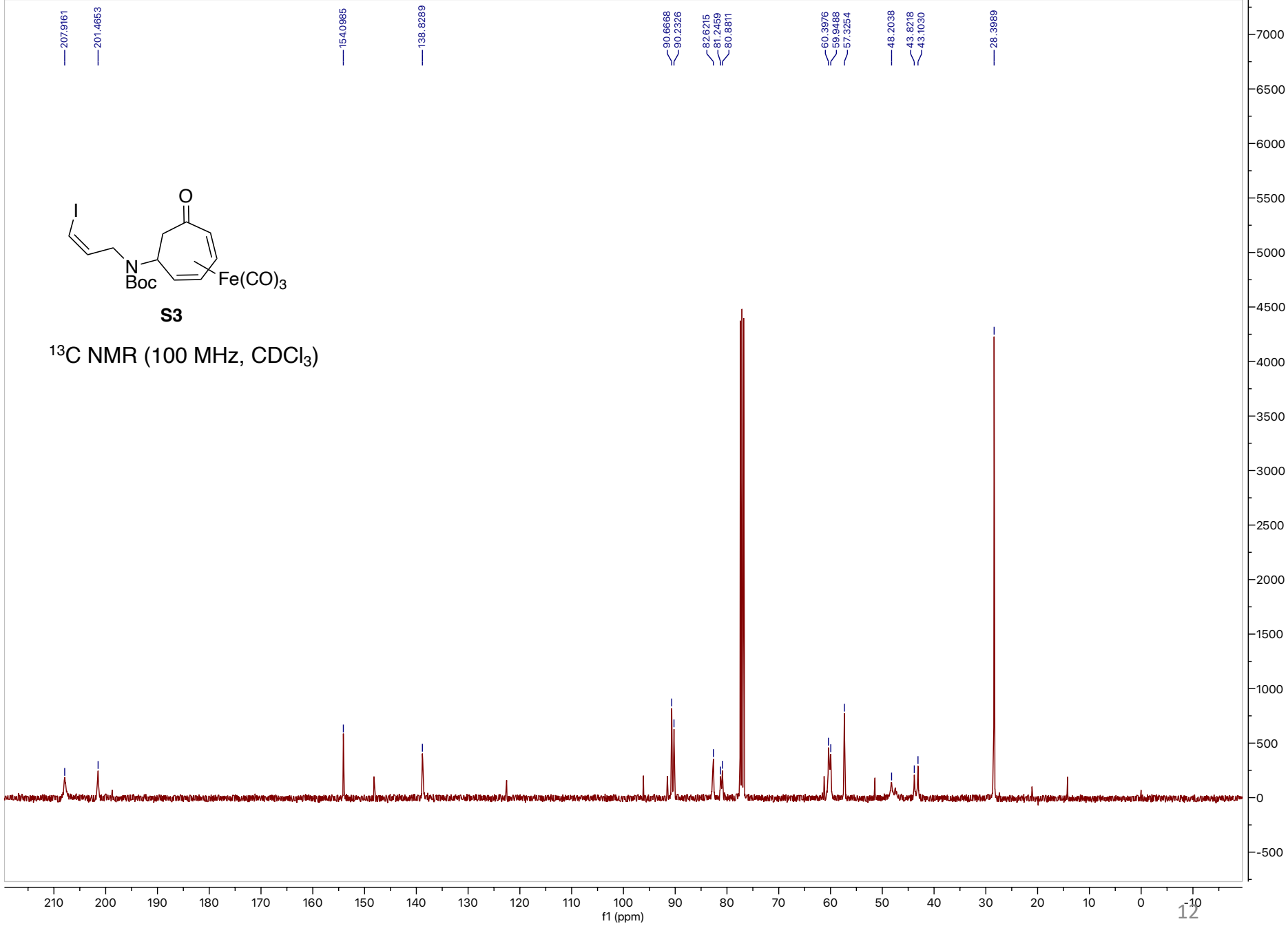
43.1030

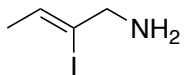
28.3969



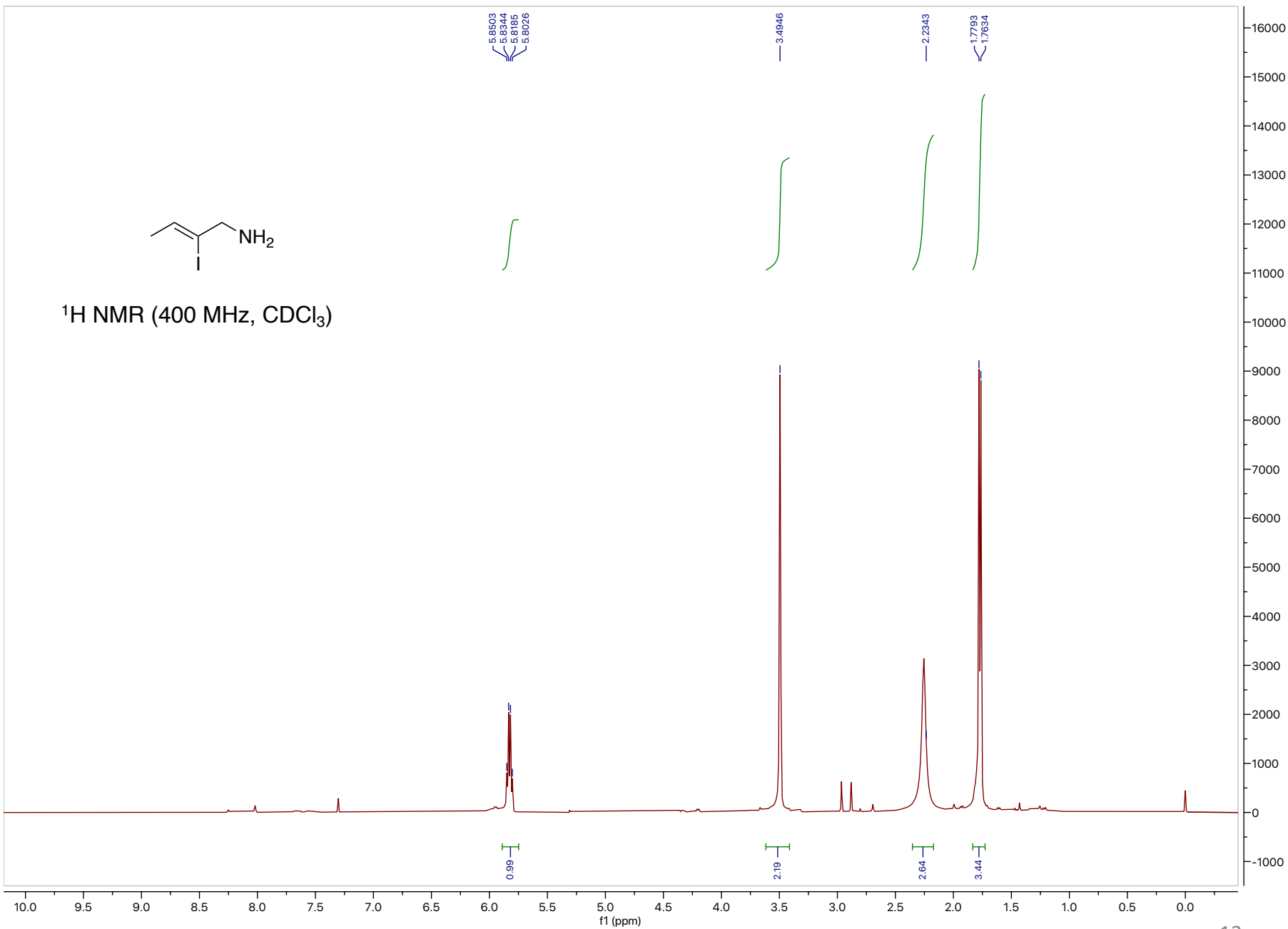
S3

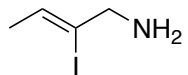
¹³C NMR (100 MHz, CDCl₃)



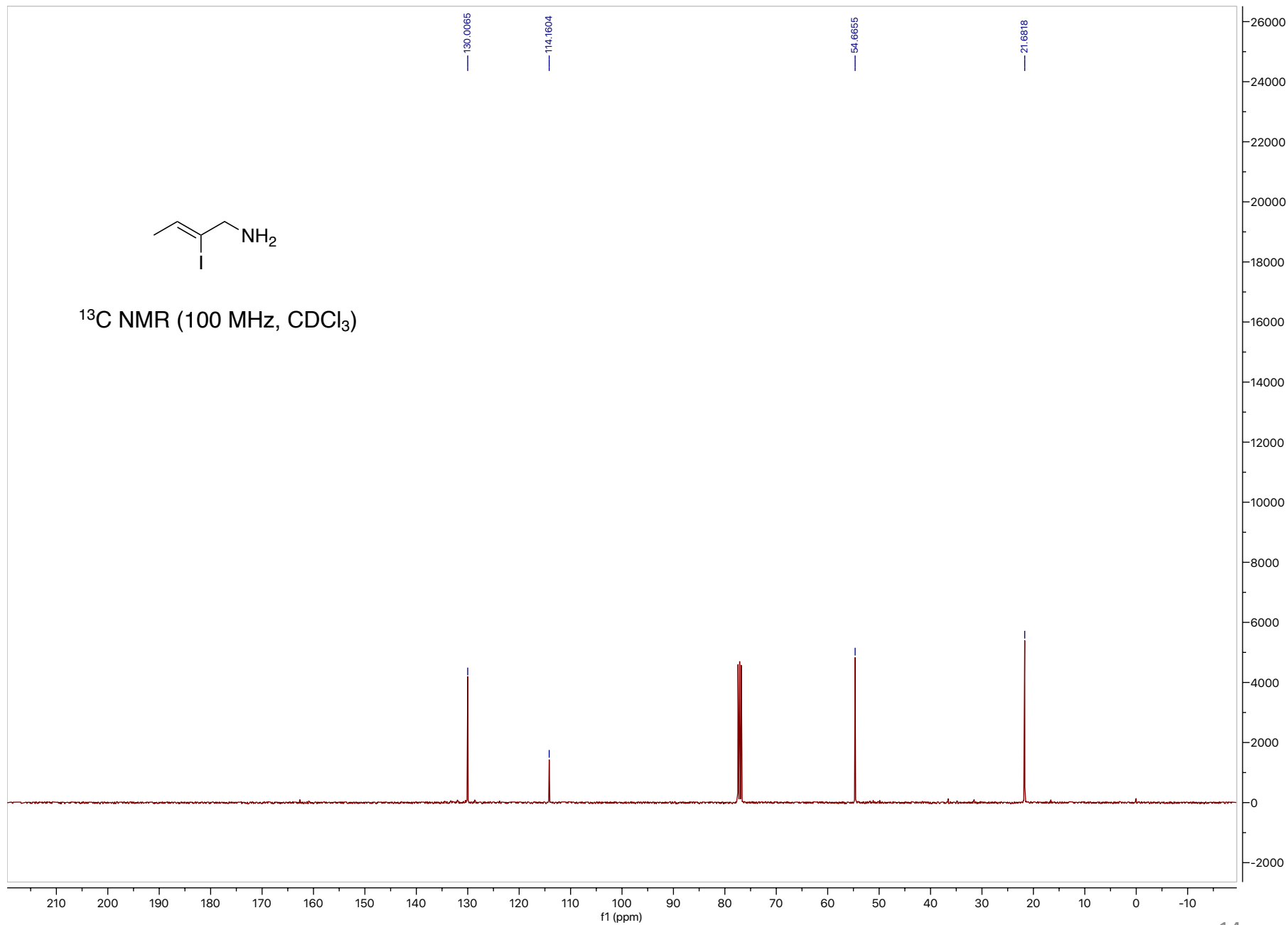


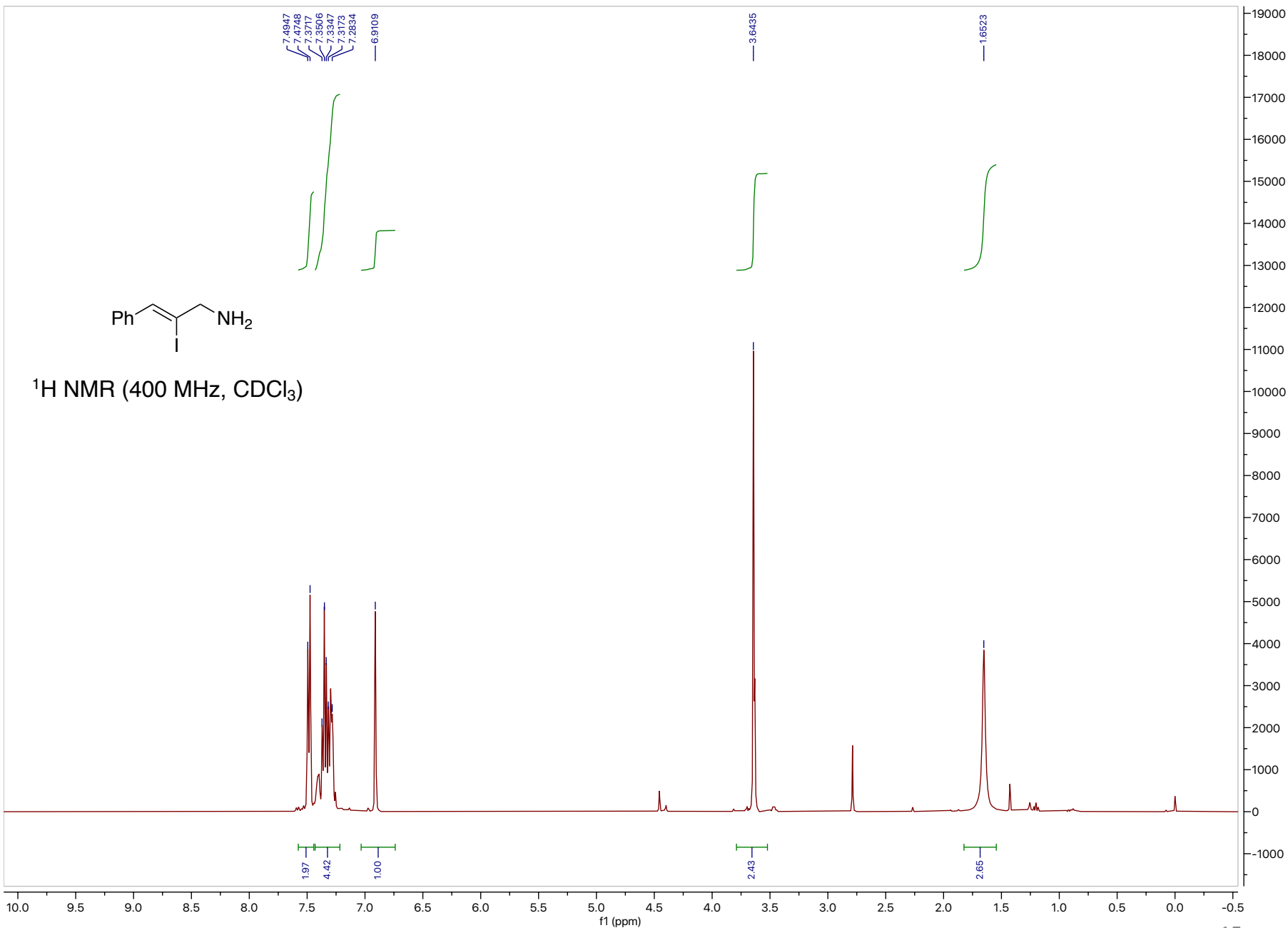
^1H NMR (400 MHz, CDCl_3)

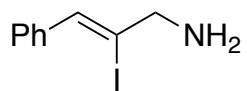




^{13}C NMR (100 MHz, CDCl_3)





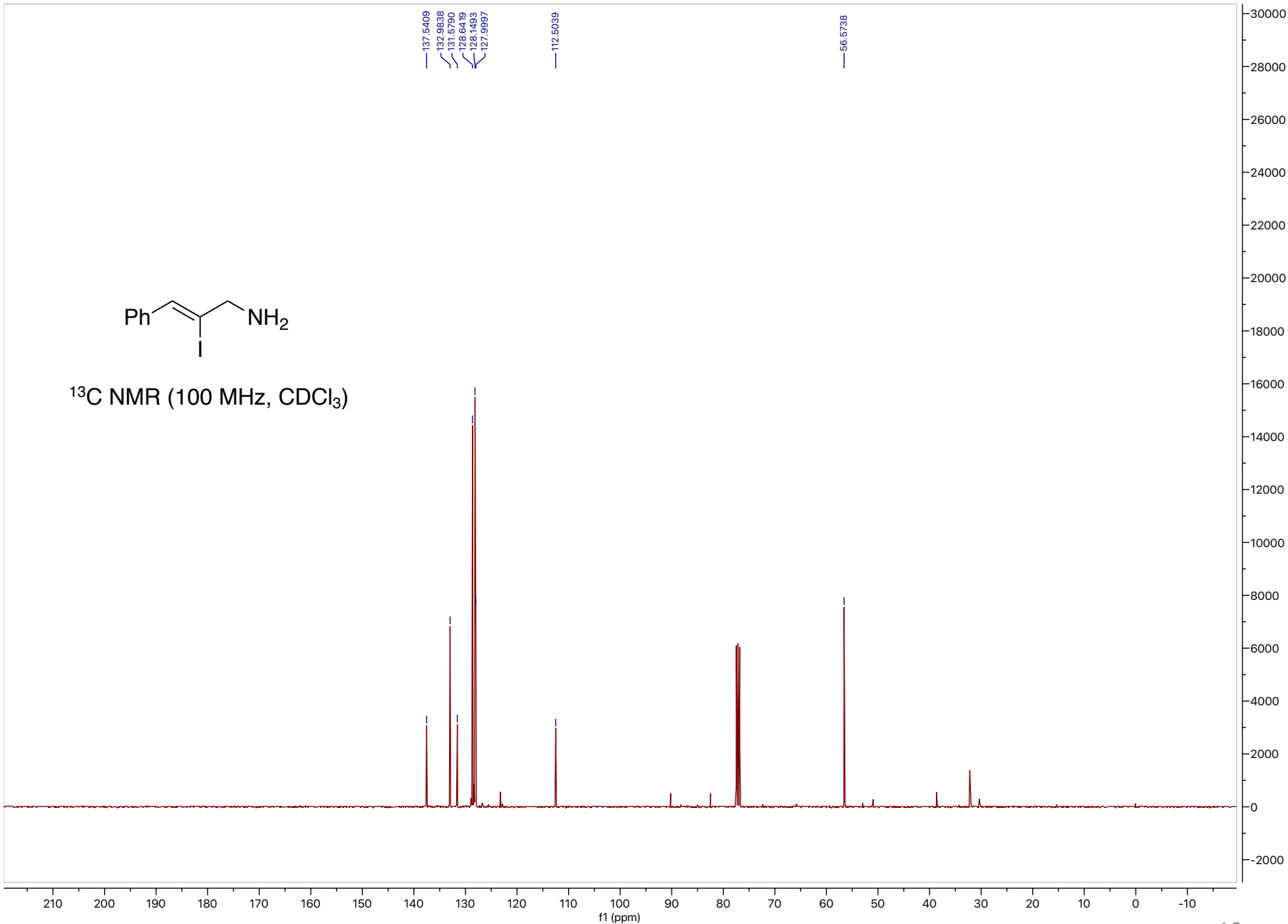


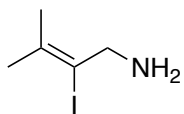
^{13}C NMR (100 MHz, CDCl_3)

137.5409
132.9838
131.5790
128.6419
128.1483
127.9997

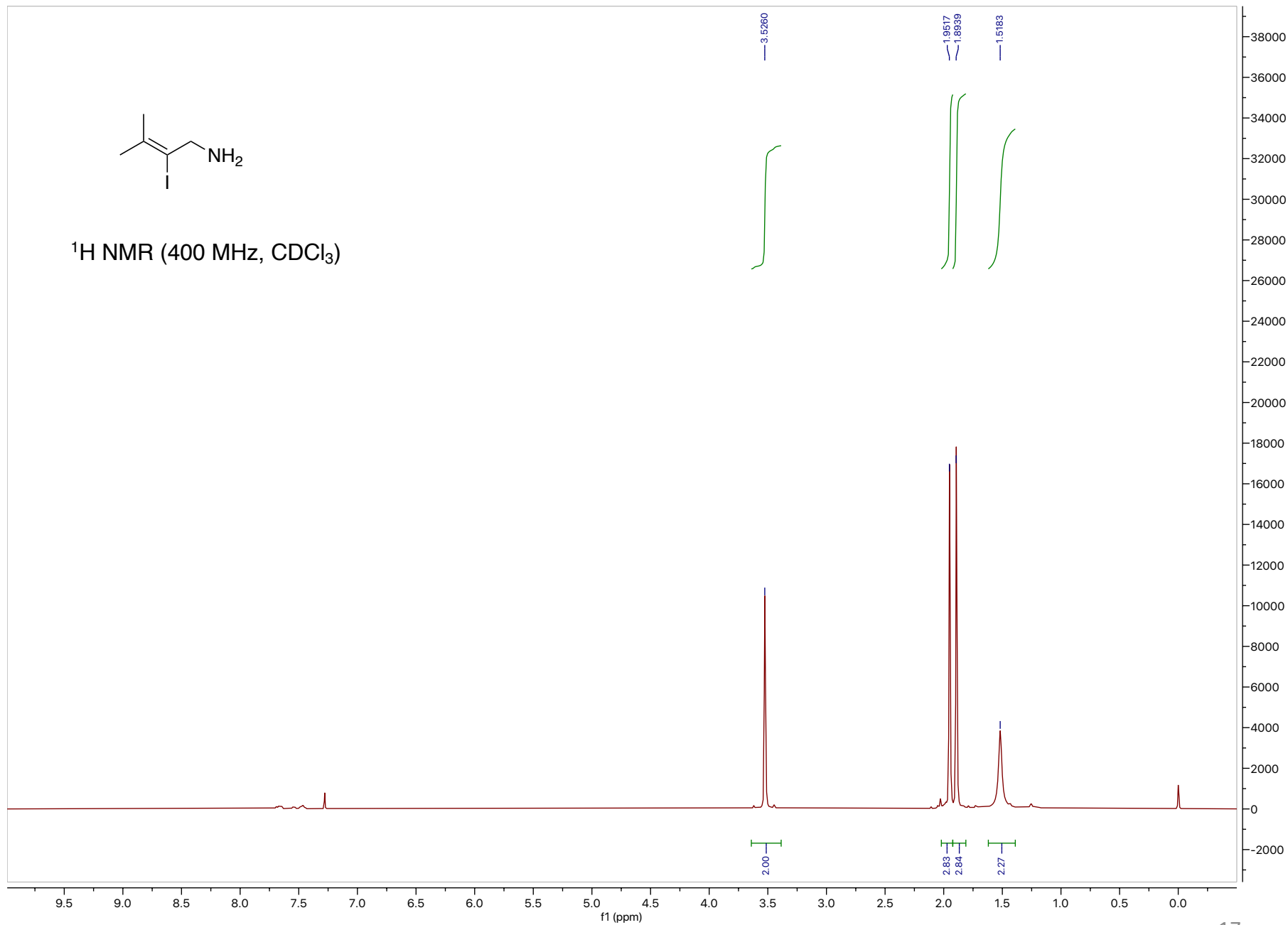
112.5039

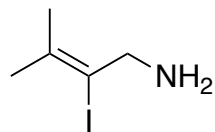
56.5738



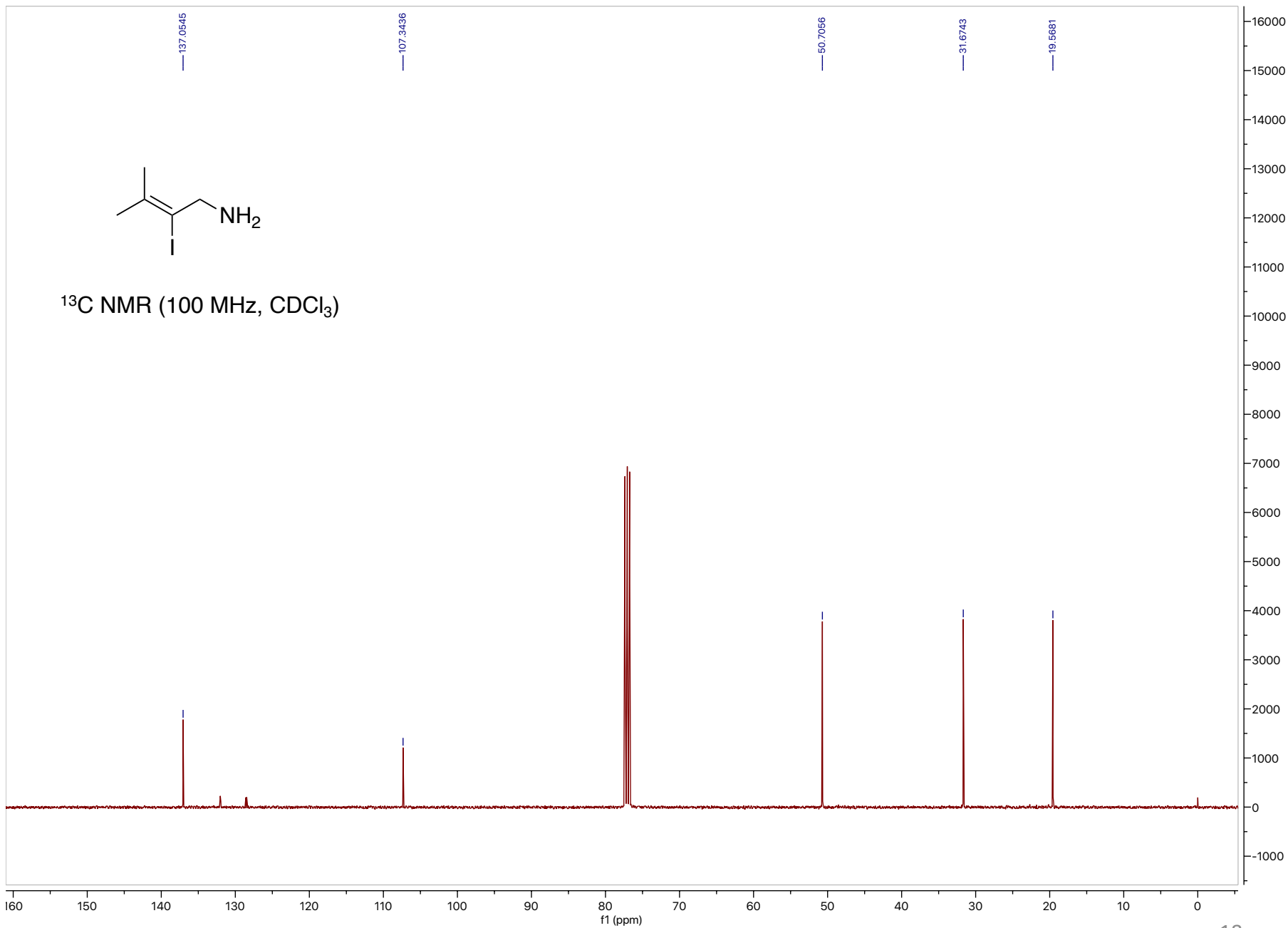


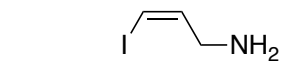
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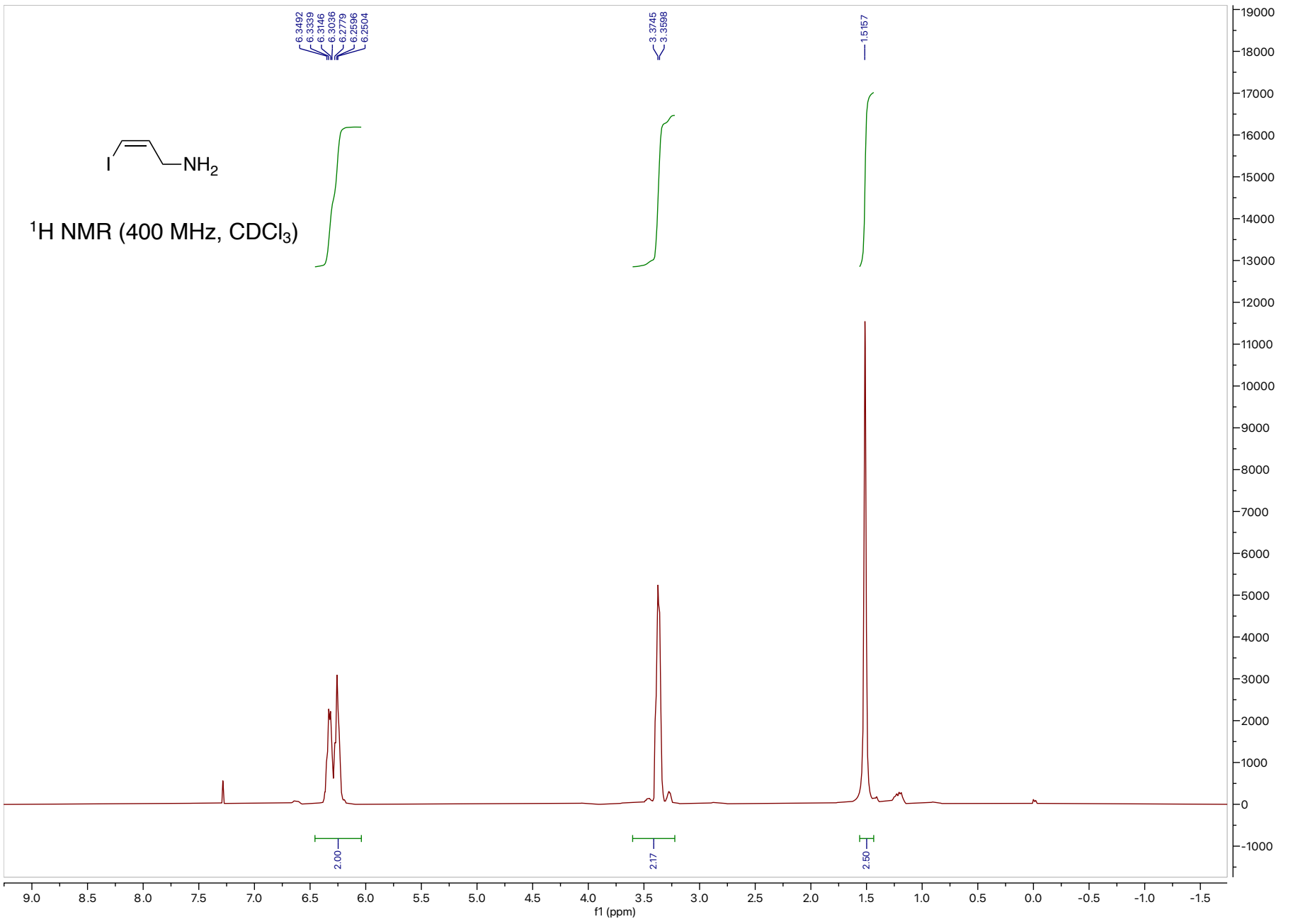


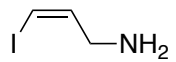
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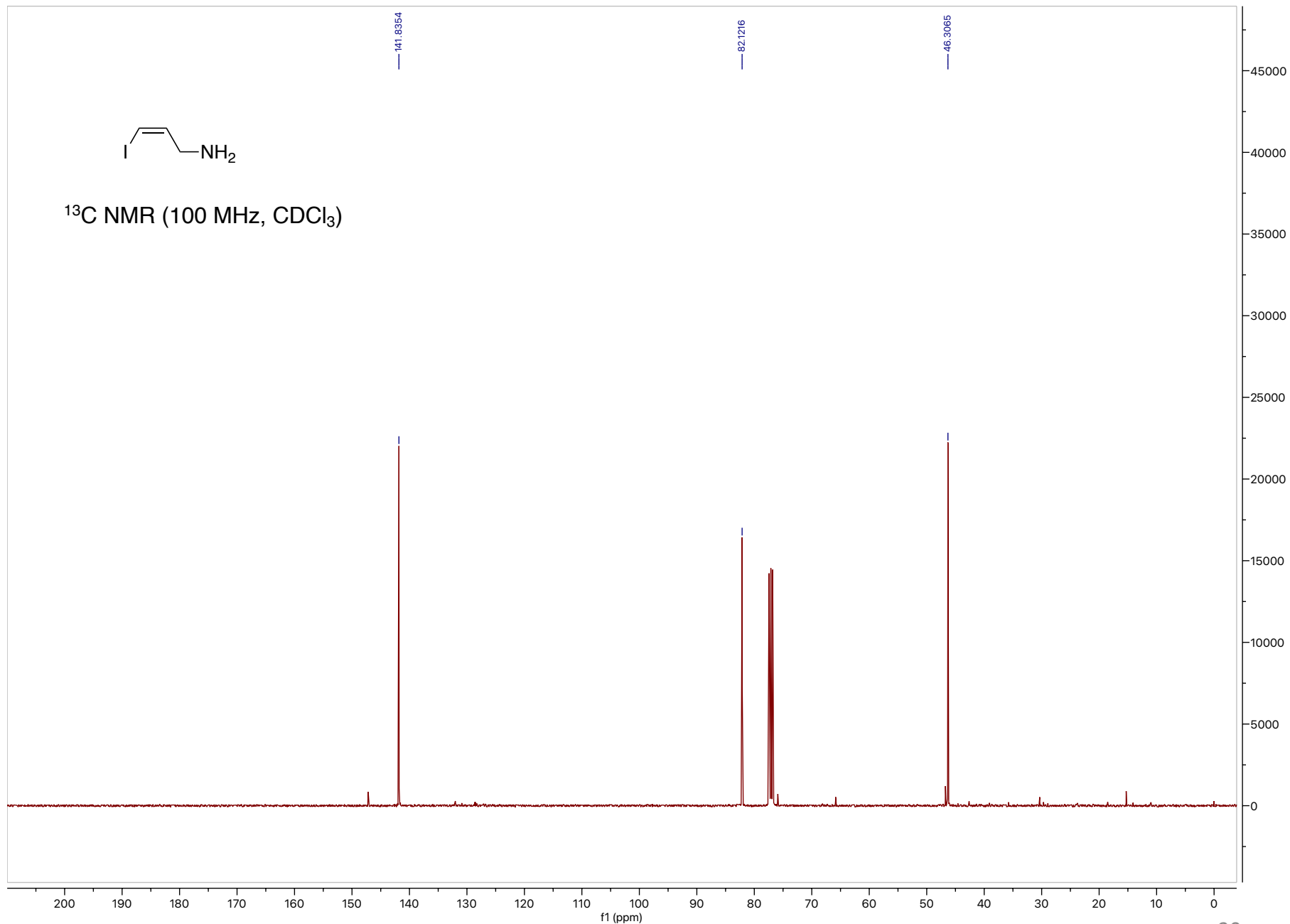


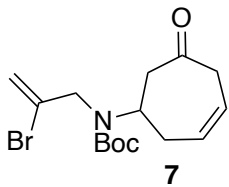
¹H NMR (400 MHz, CDCl₃)



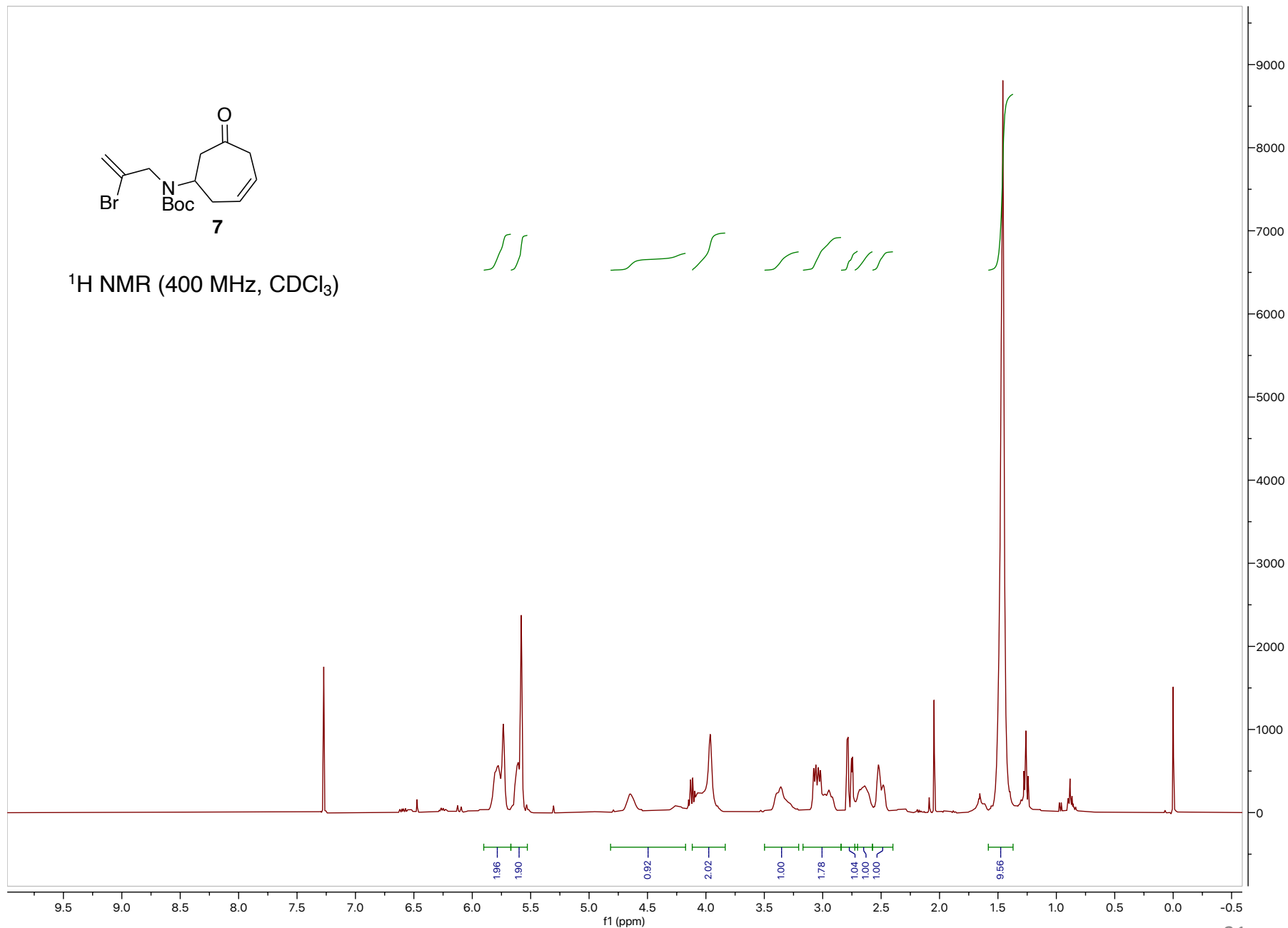


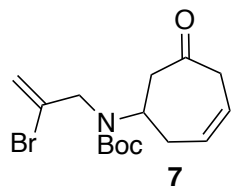
^{13}C NMR (100 MHz, CDCl_3)



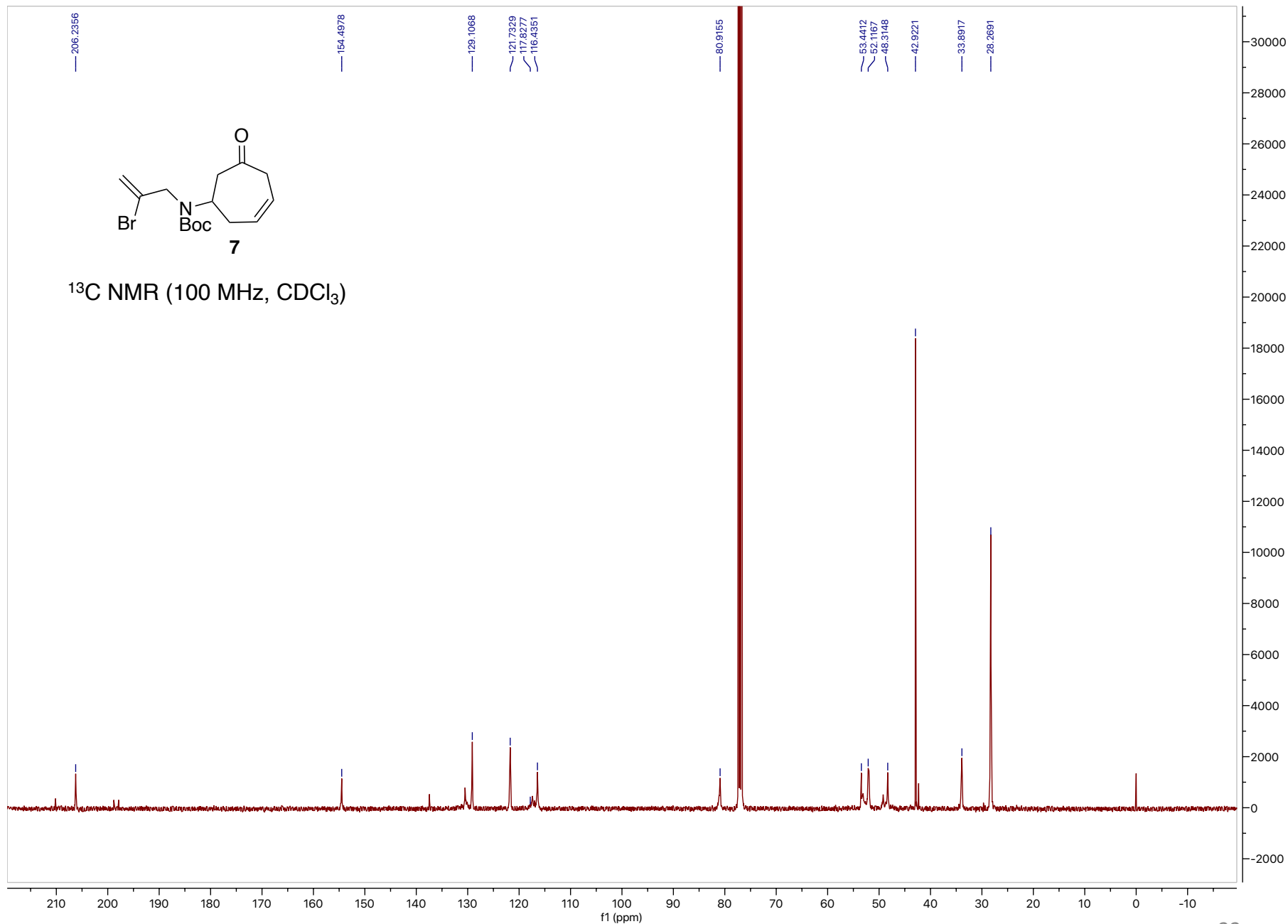


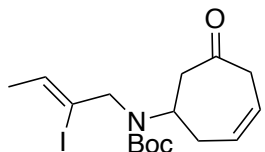
^1H NMR (400 MHz, CDCl_3)





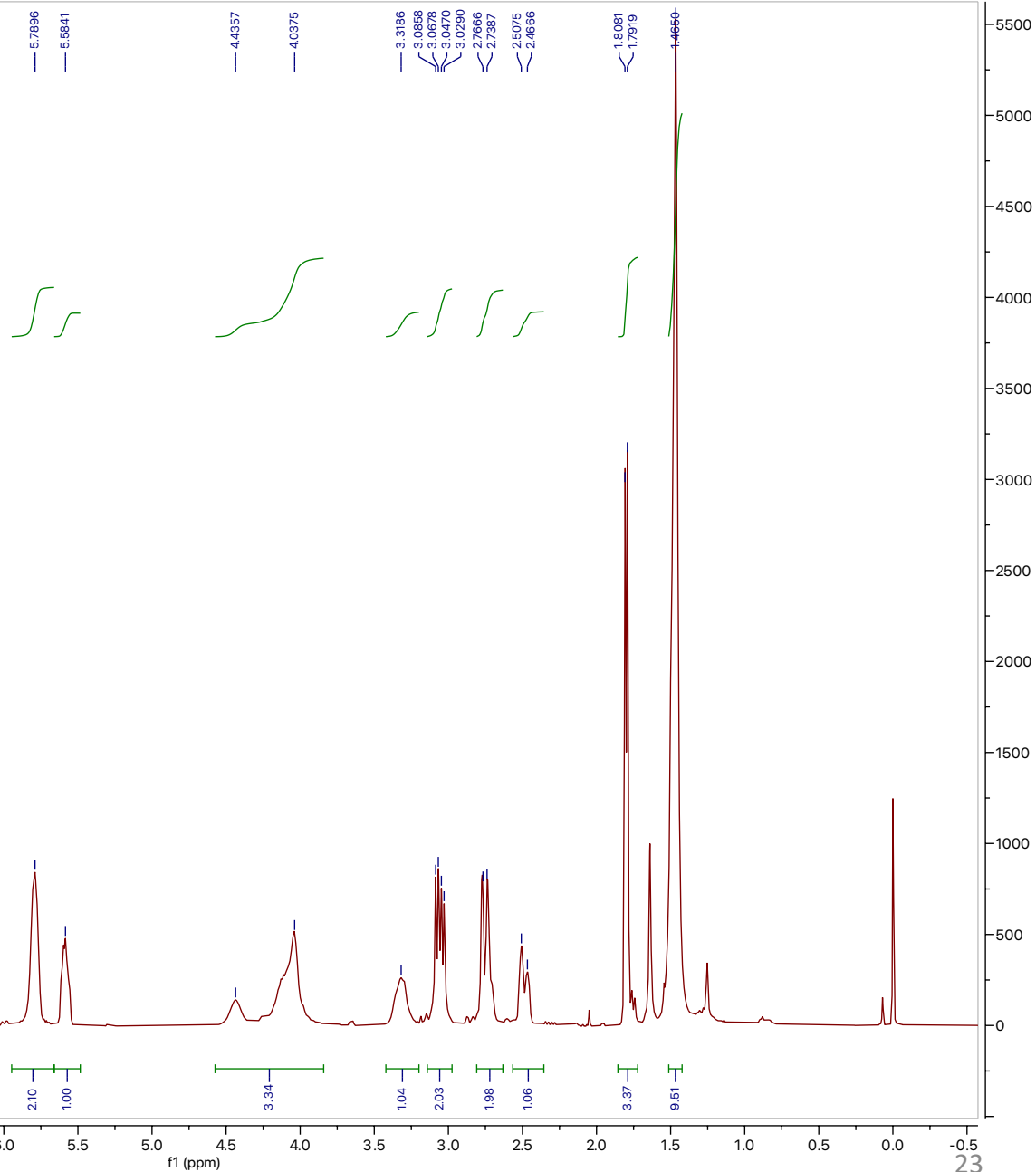
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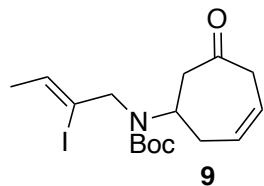




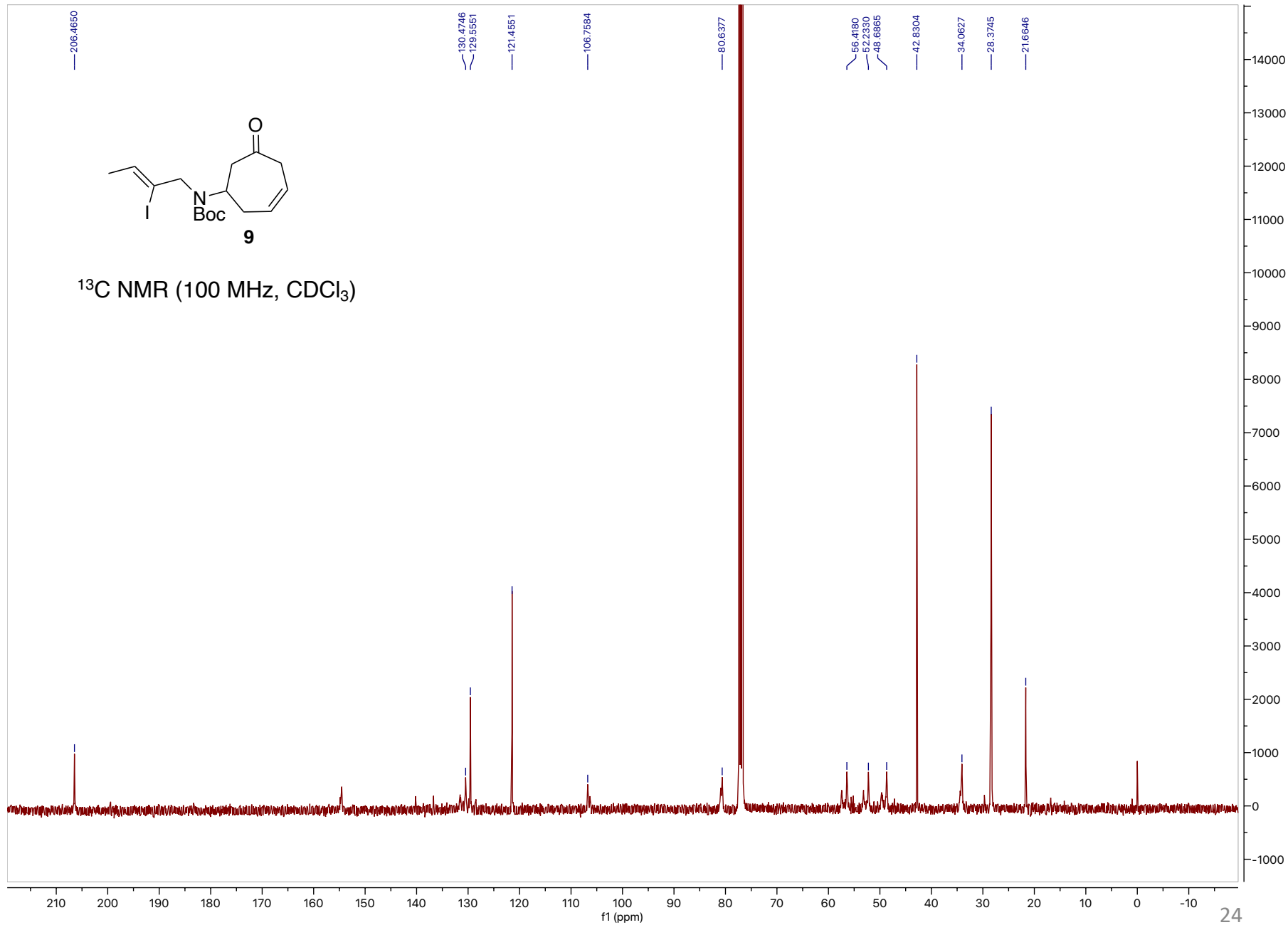
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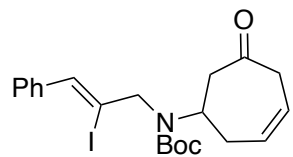
^1H NMR (400 MHz, CDCl_3)





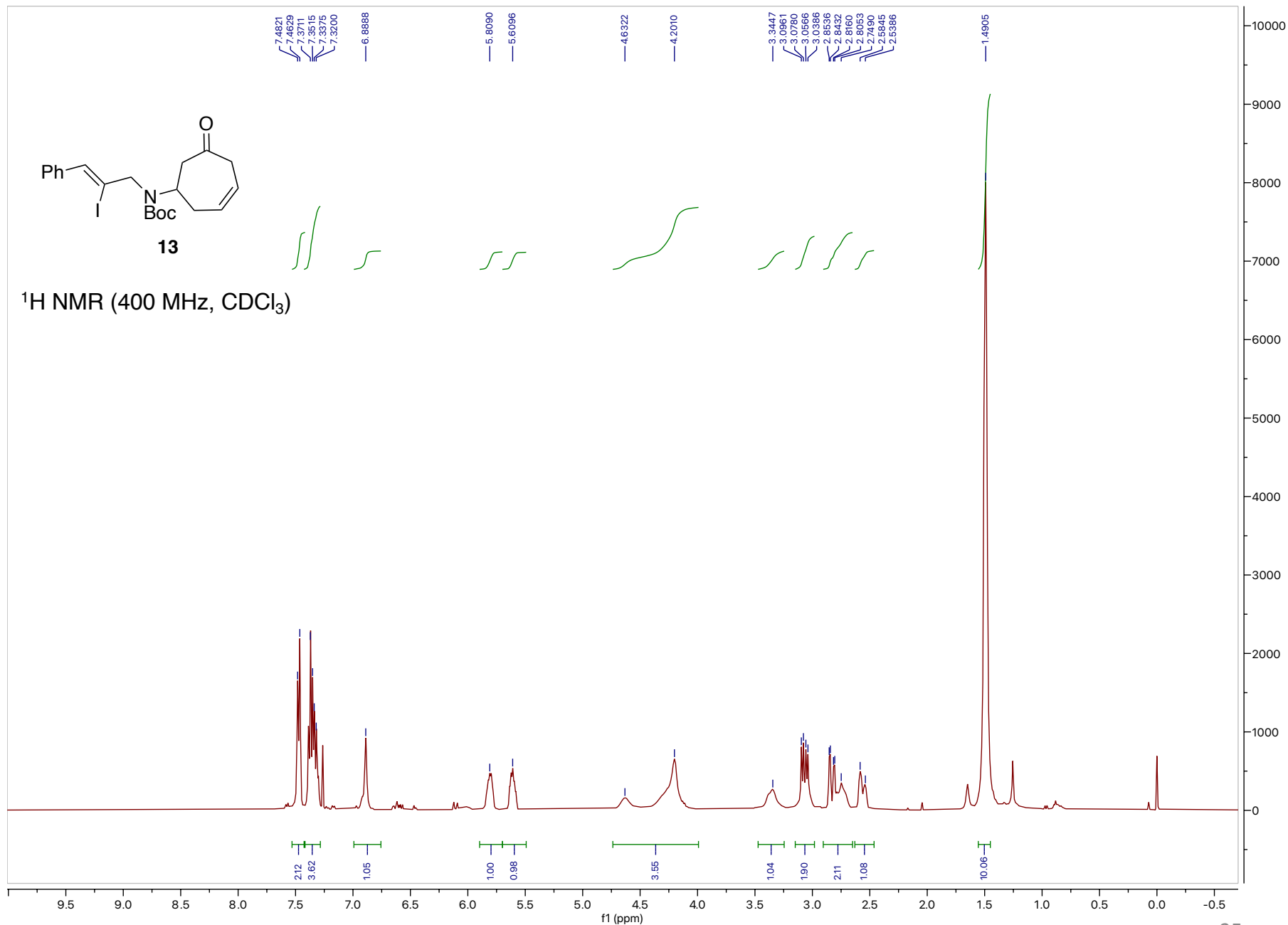
^{13}C NMR (100 MHz, CDCl_3)

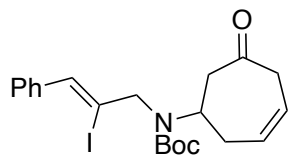




13

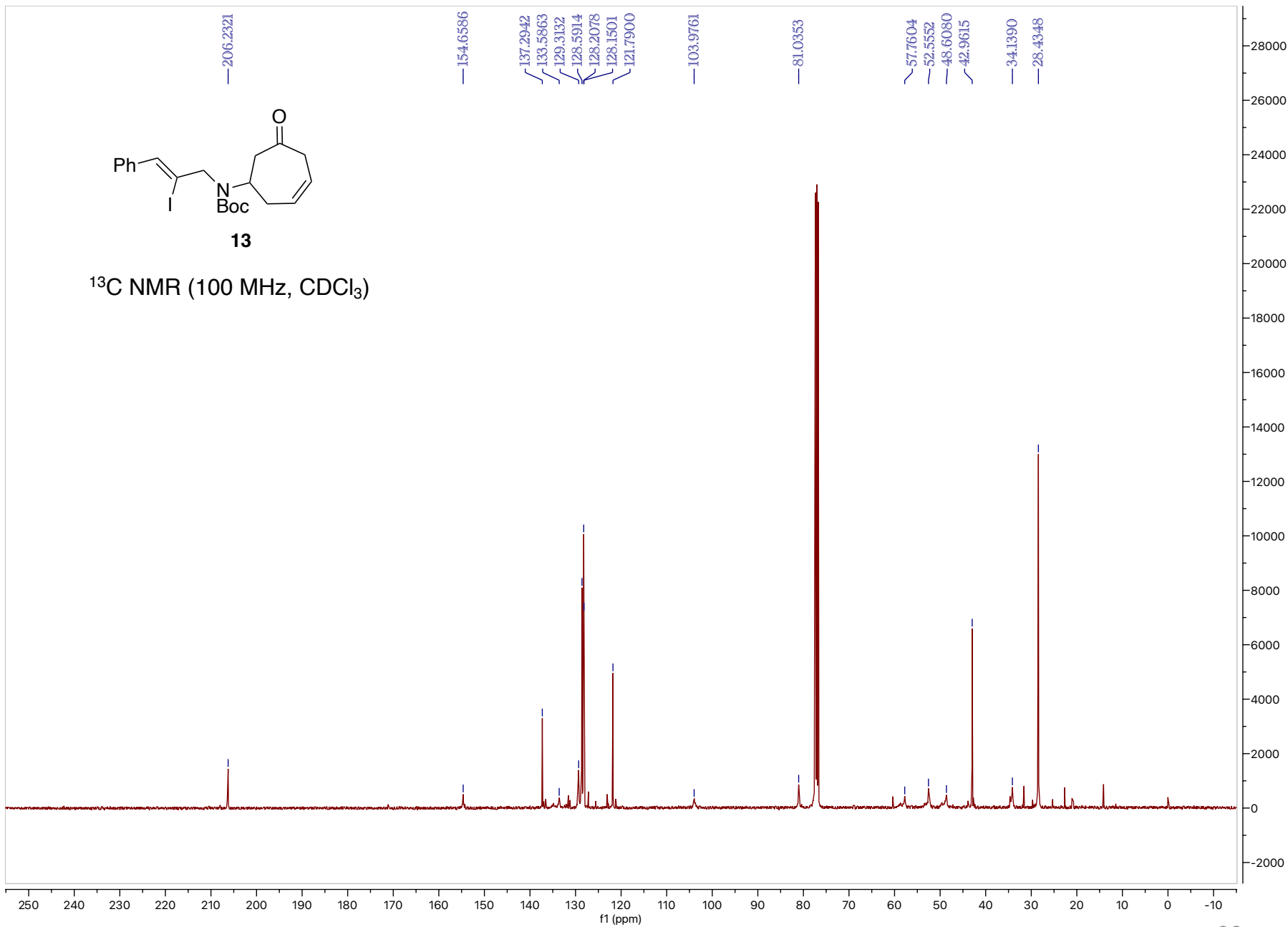
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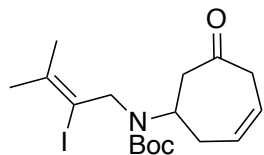




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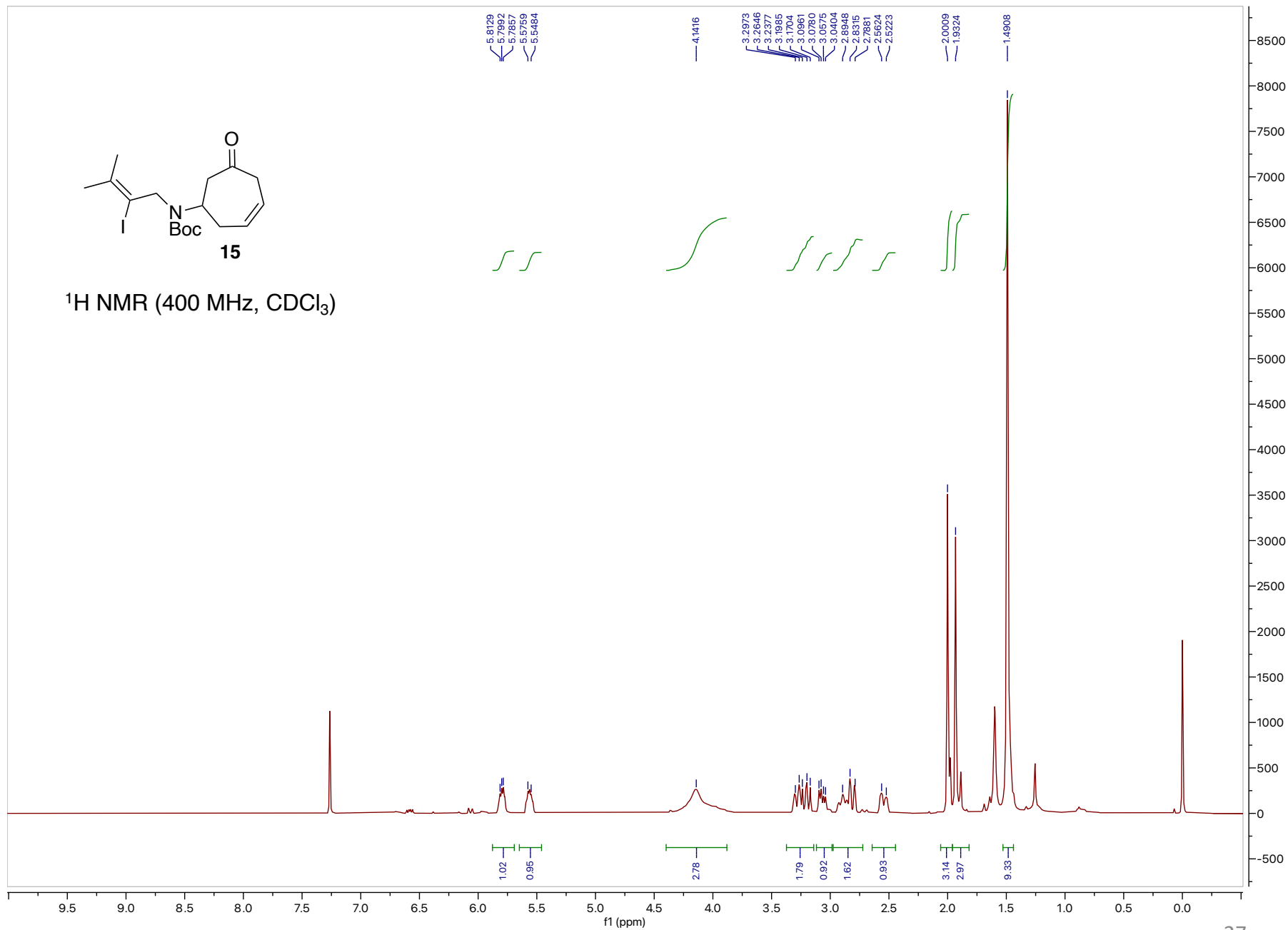
^{13}C NMR (100 MHz, CDCl_3)

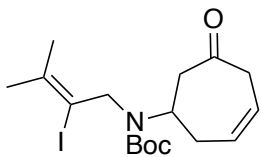




15

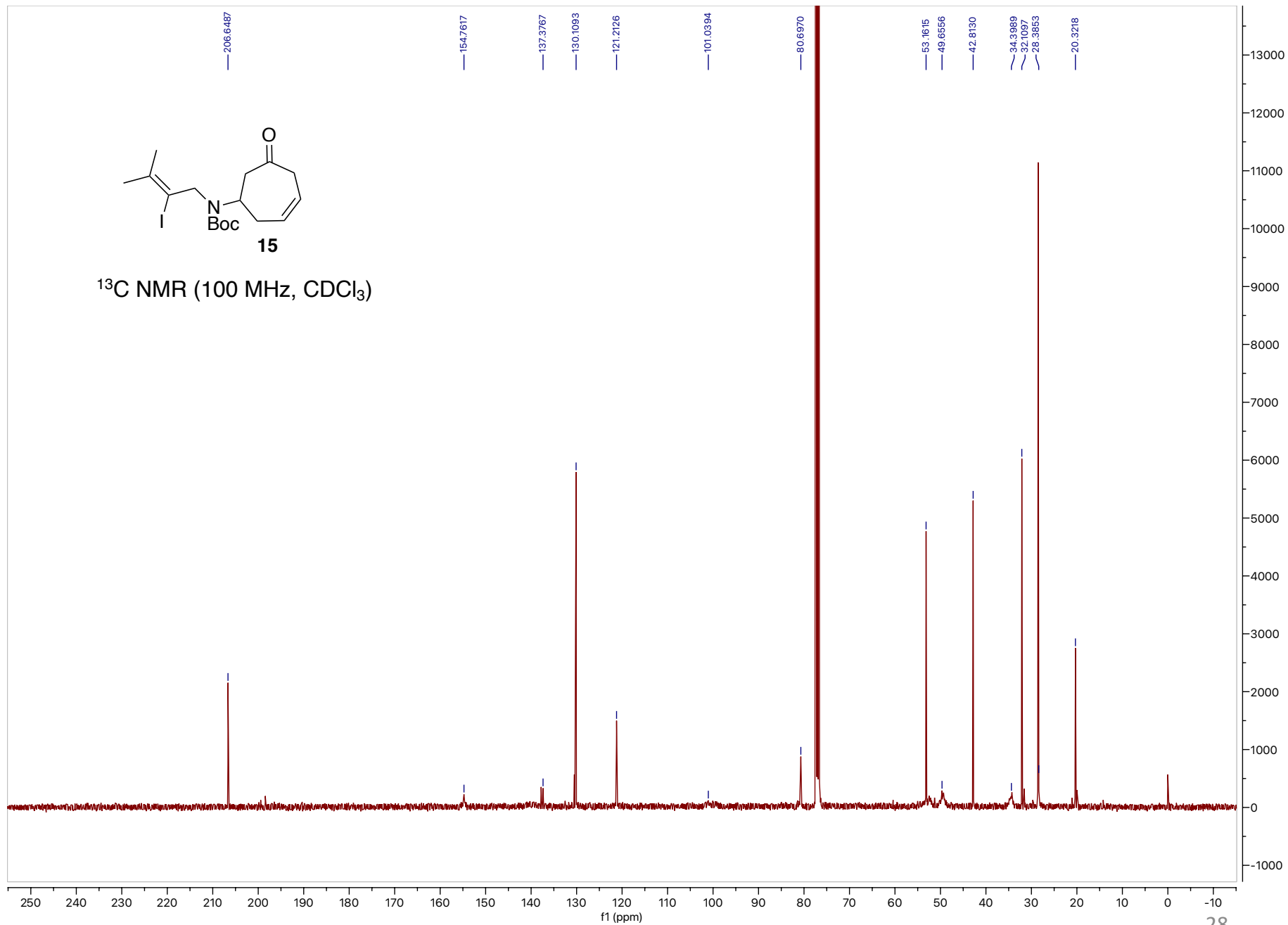
$^1\text{H NMR}$ (400 MHz, CDCl_3)

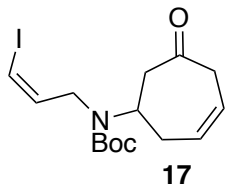




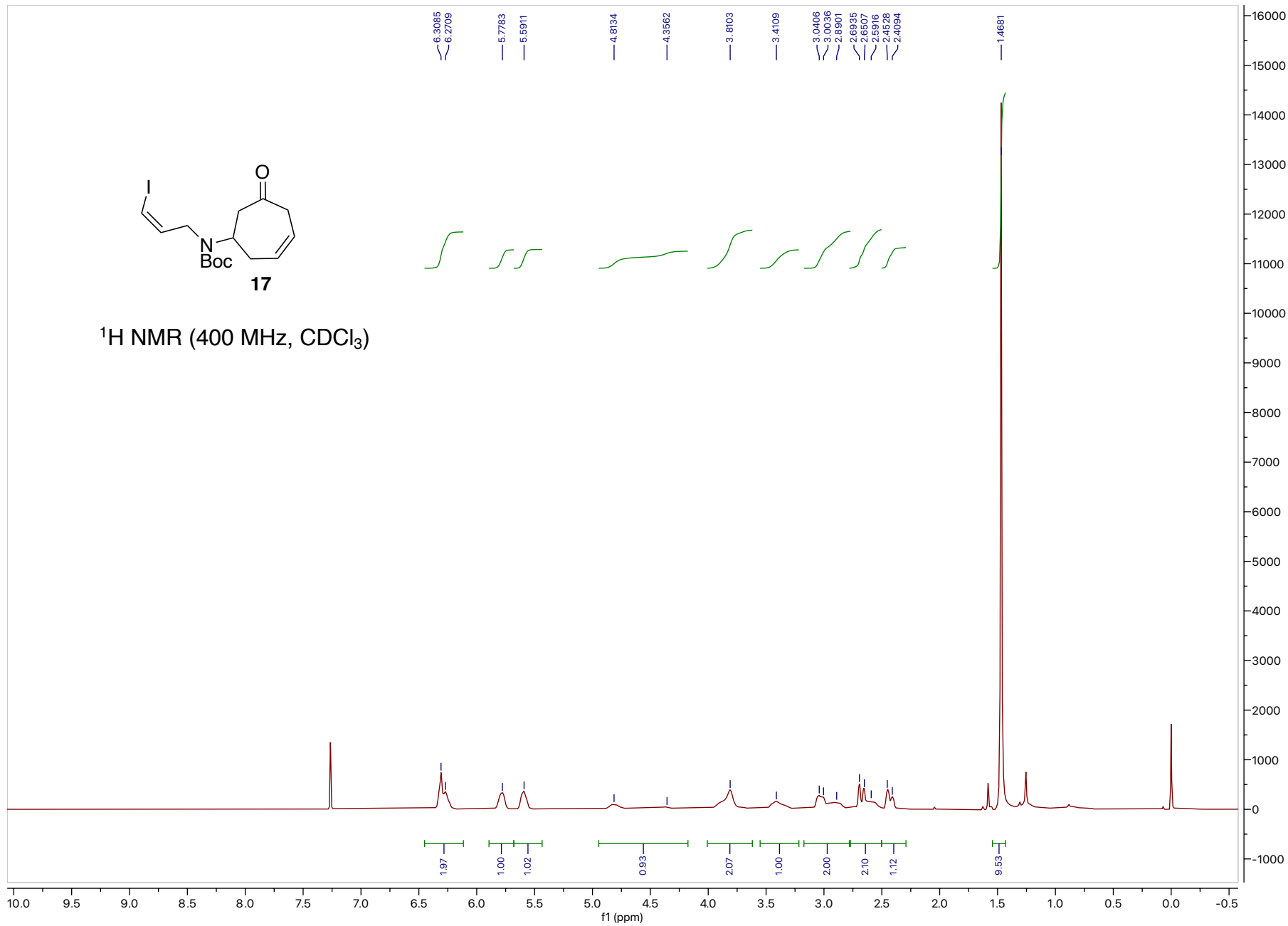
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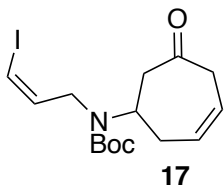
^{13}C NMR (100 MHz, CDCl_3)



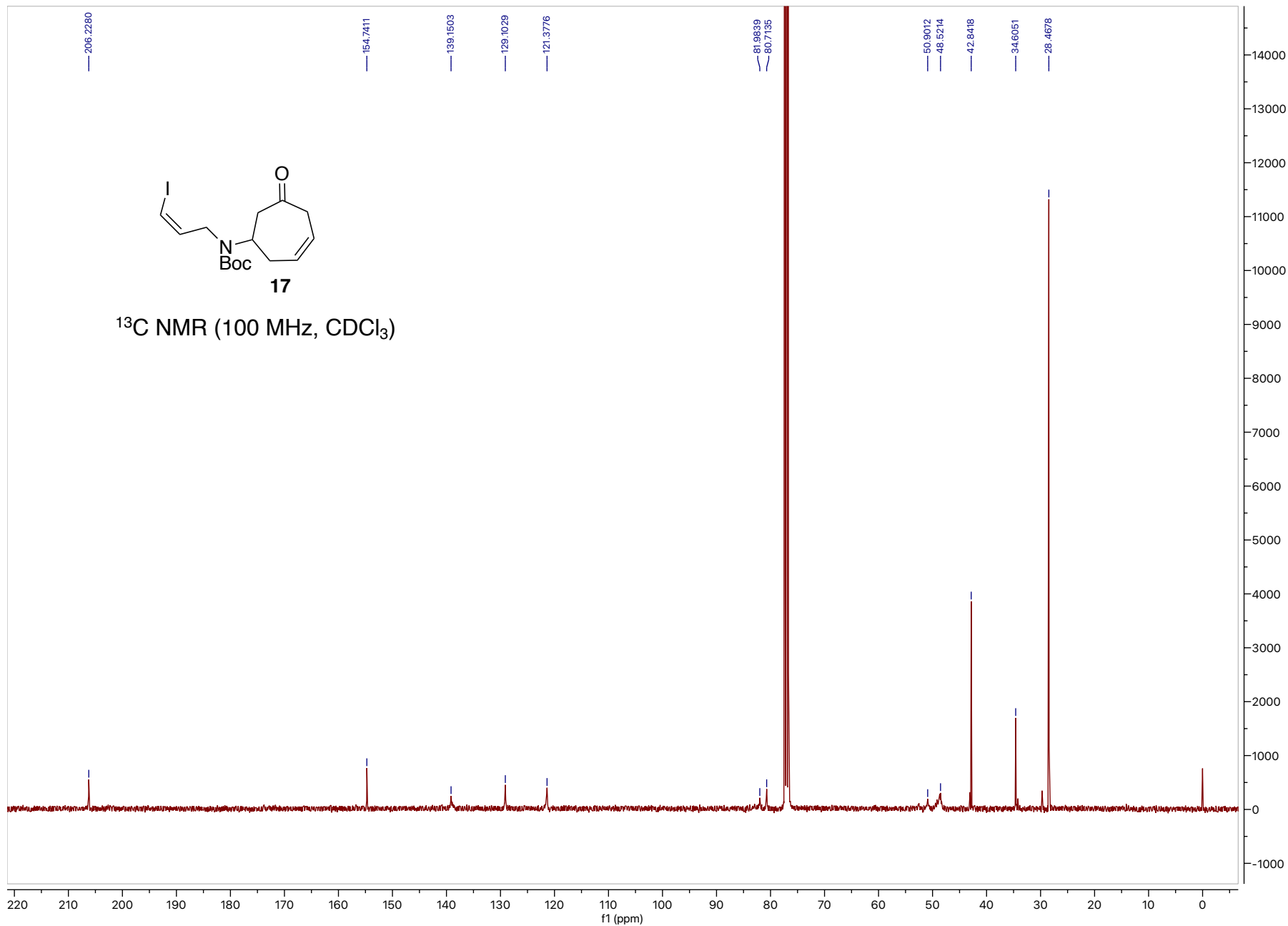


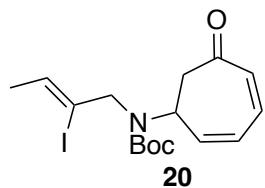
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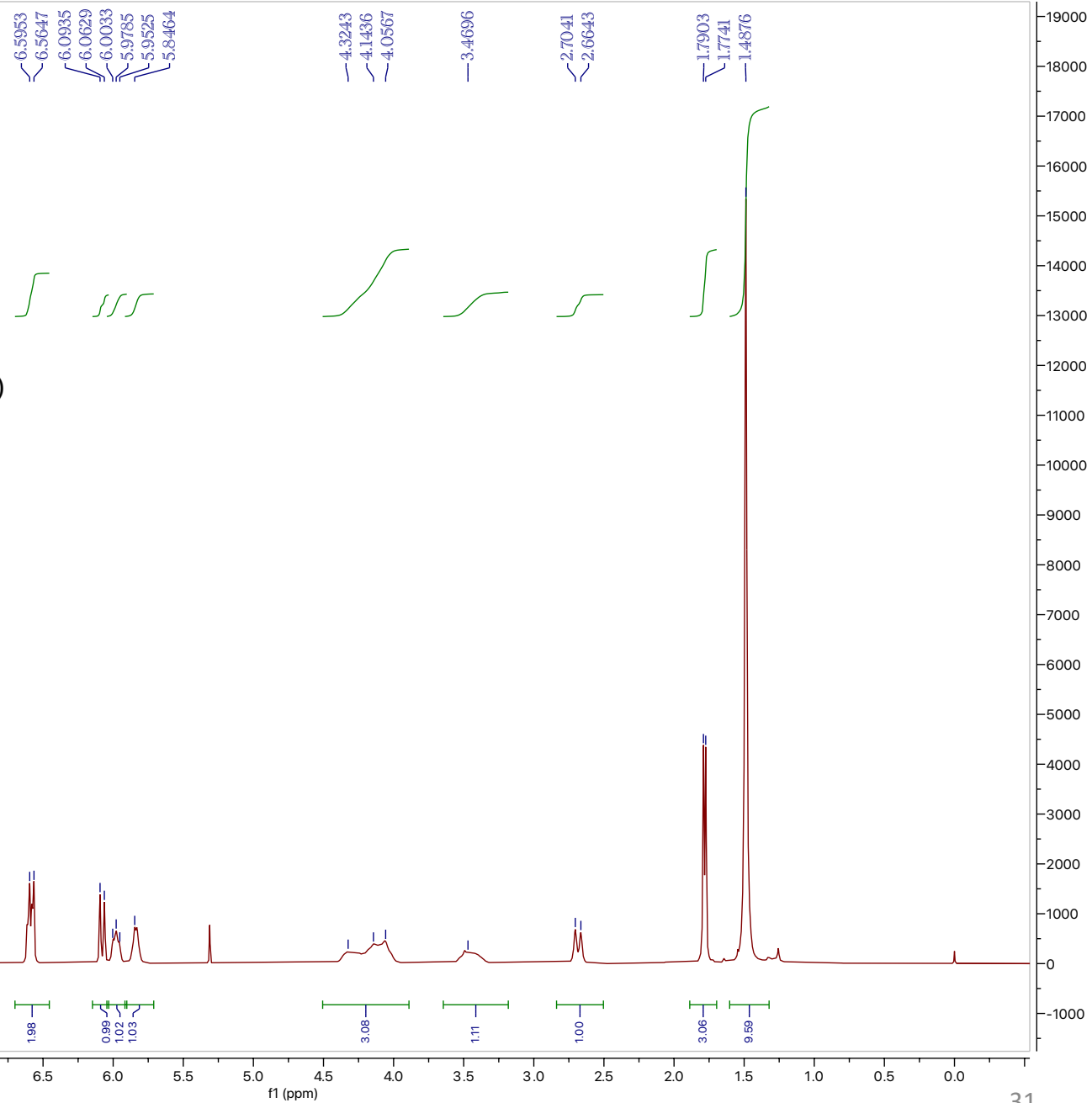


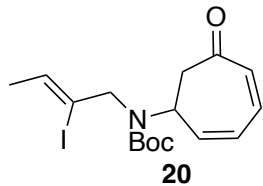
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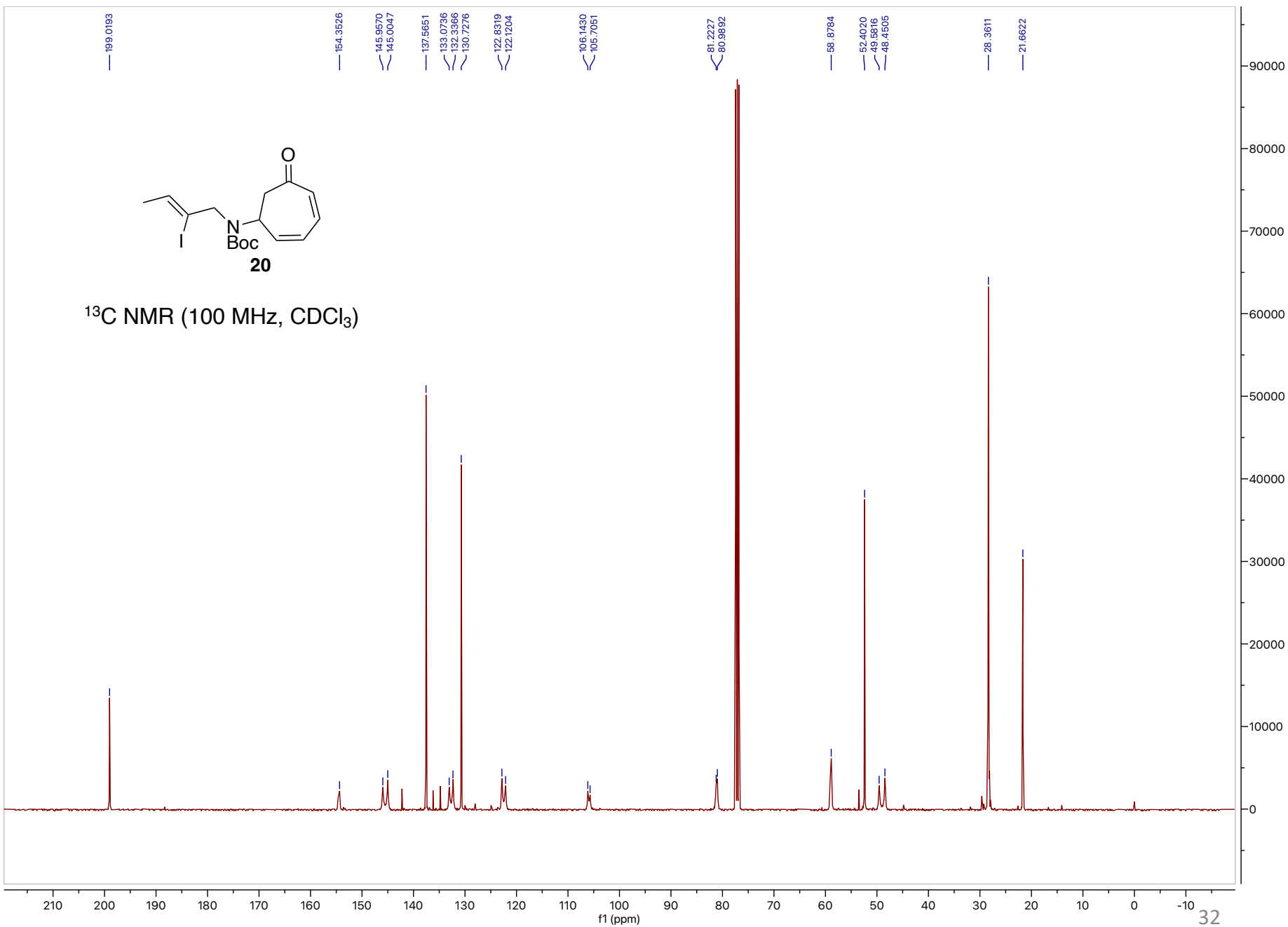


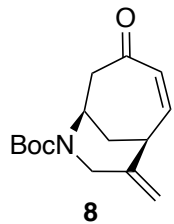
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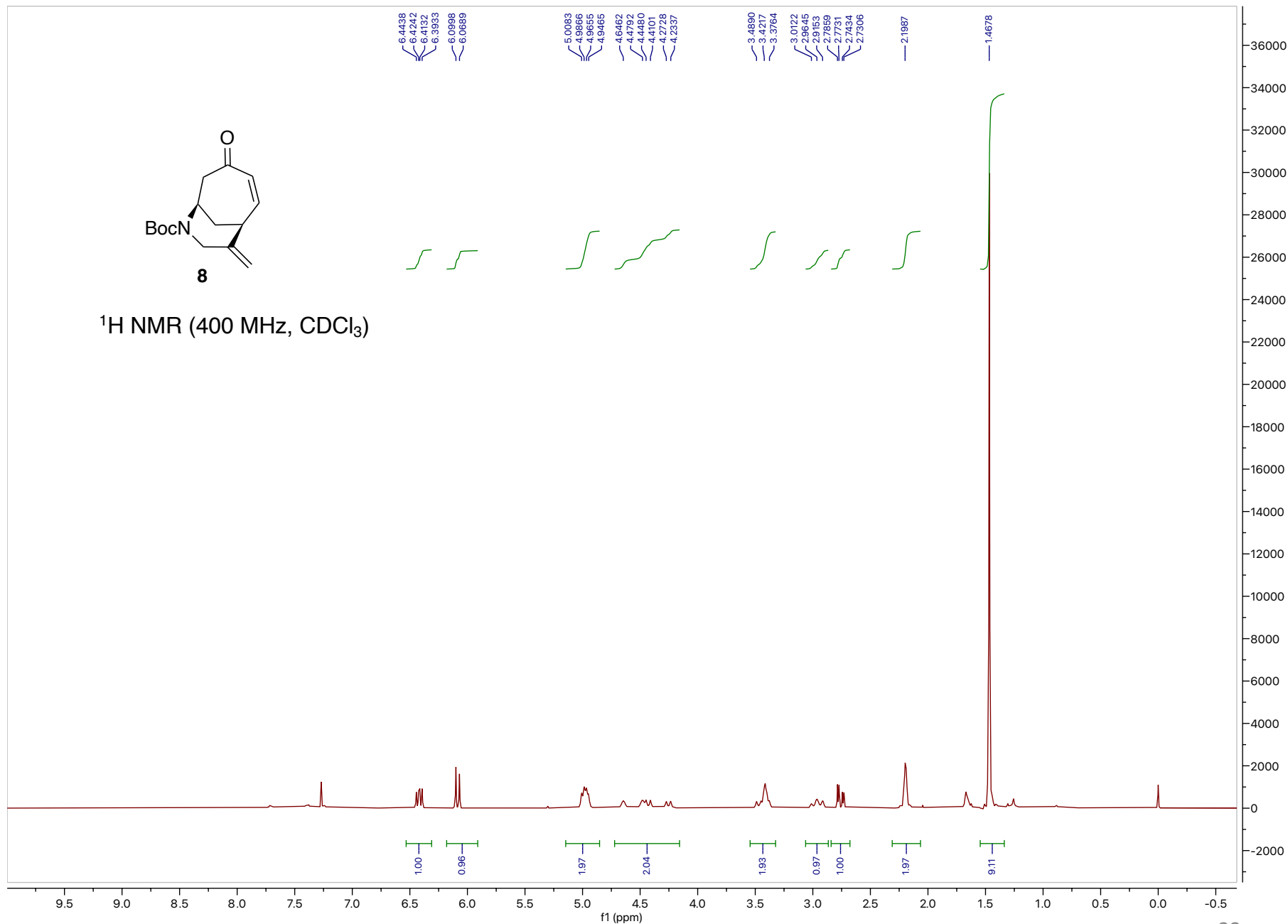


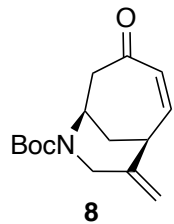
^{13}C NMR (100 MHz, CDCl_3)



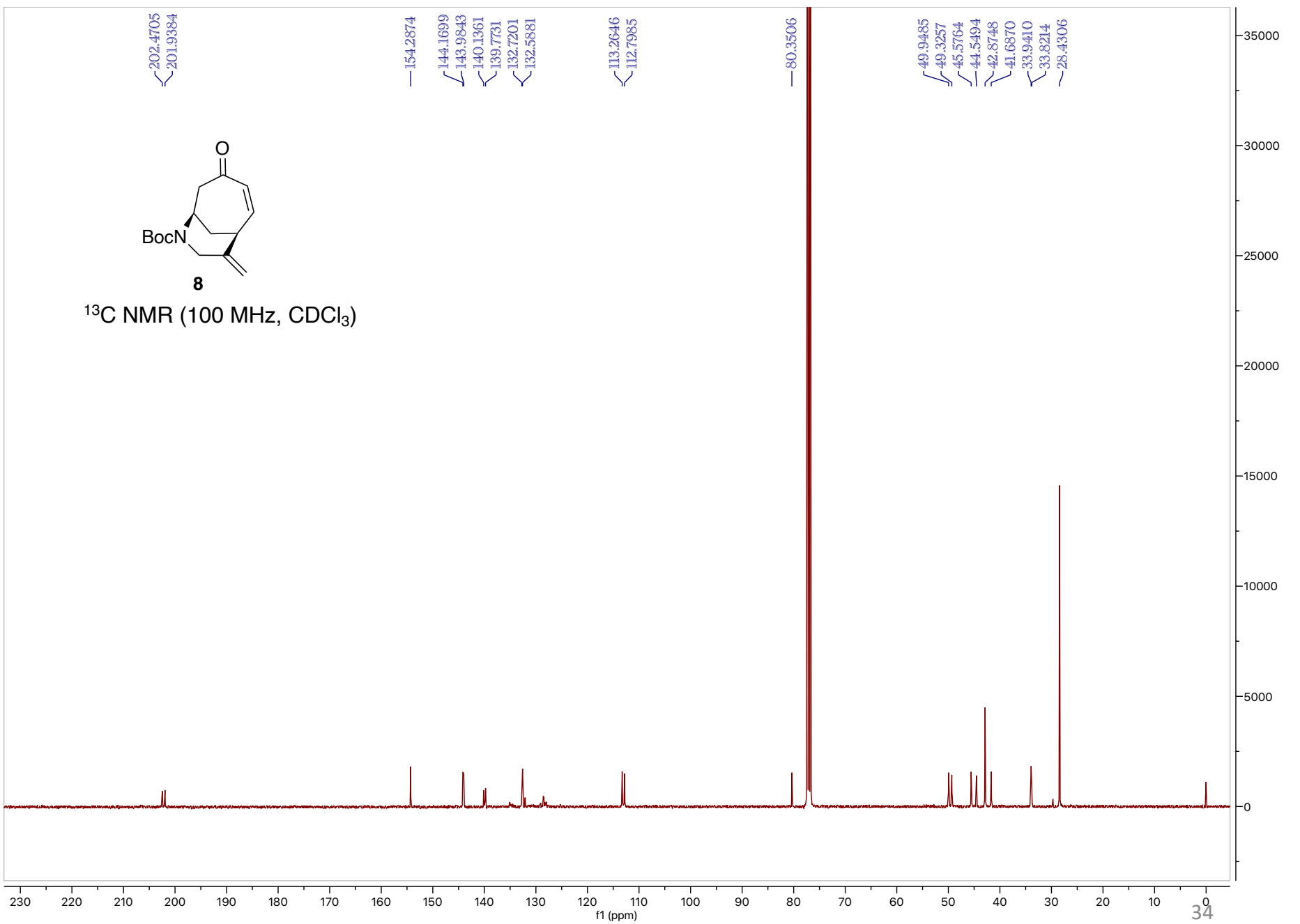


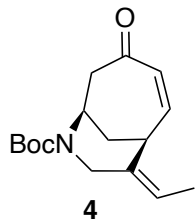
¹H NMR (400 MHz, CDCl₃)



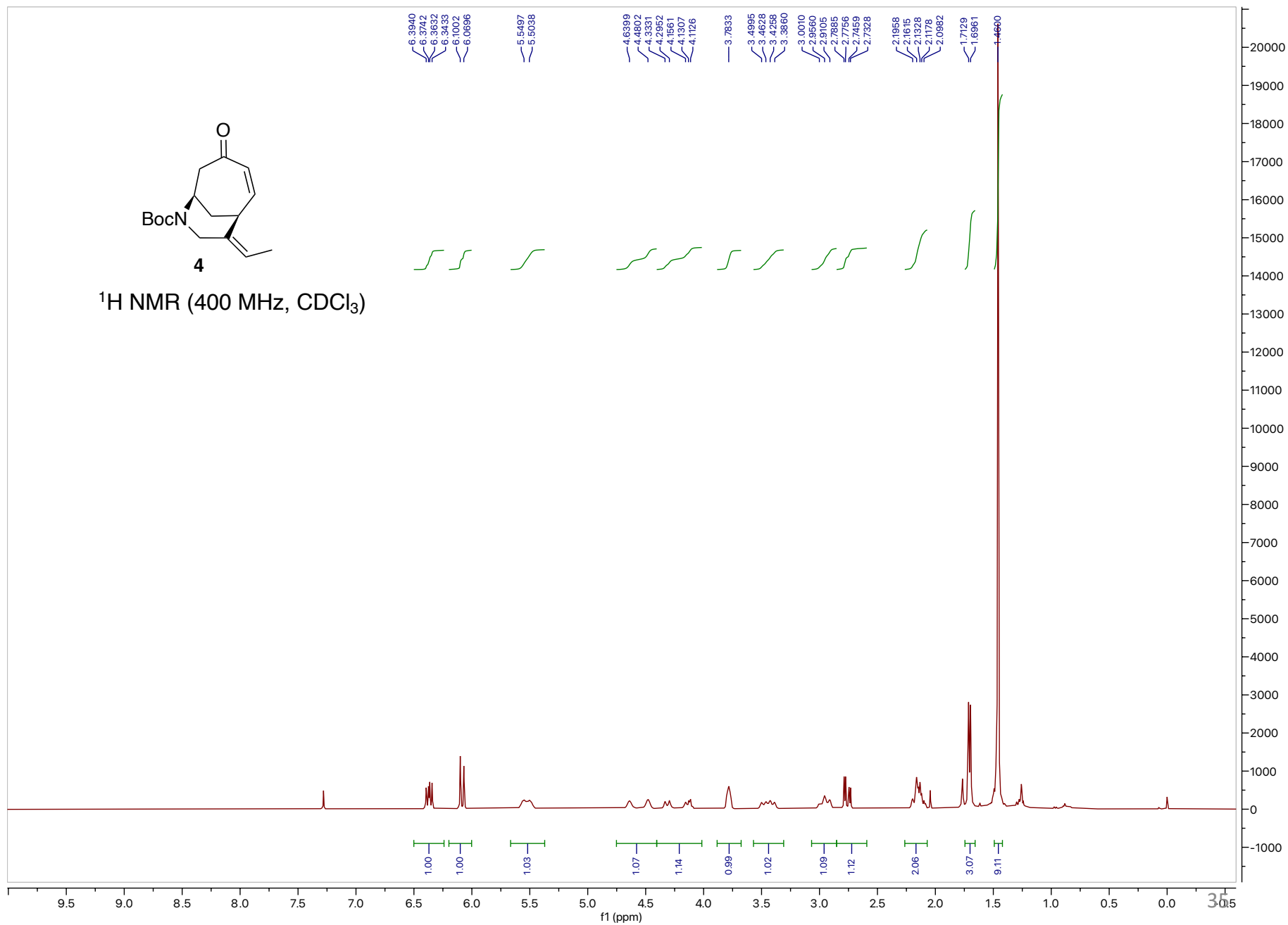


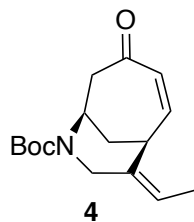
¹³C NMR (100 MHz, CDCl₃)



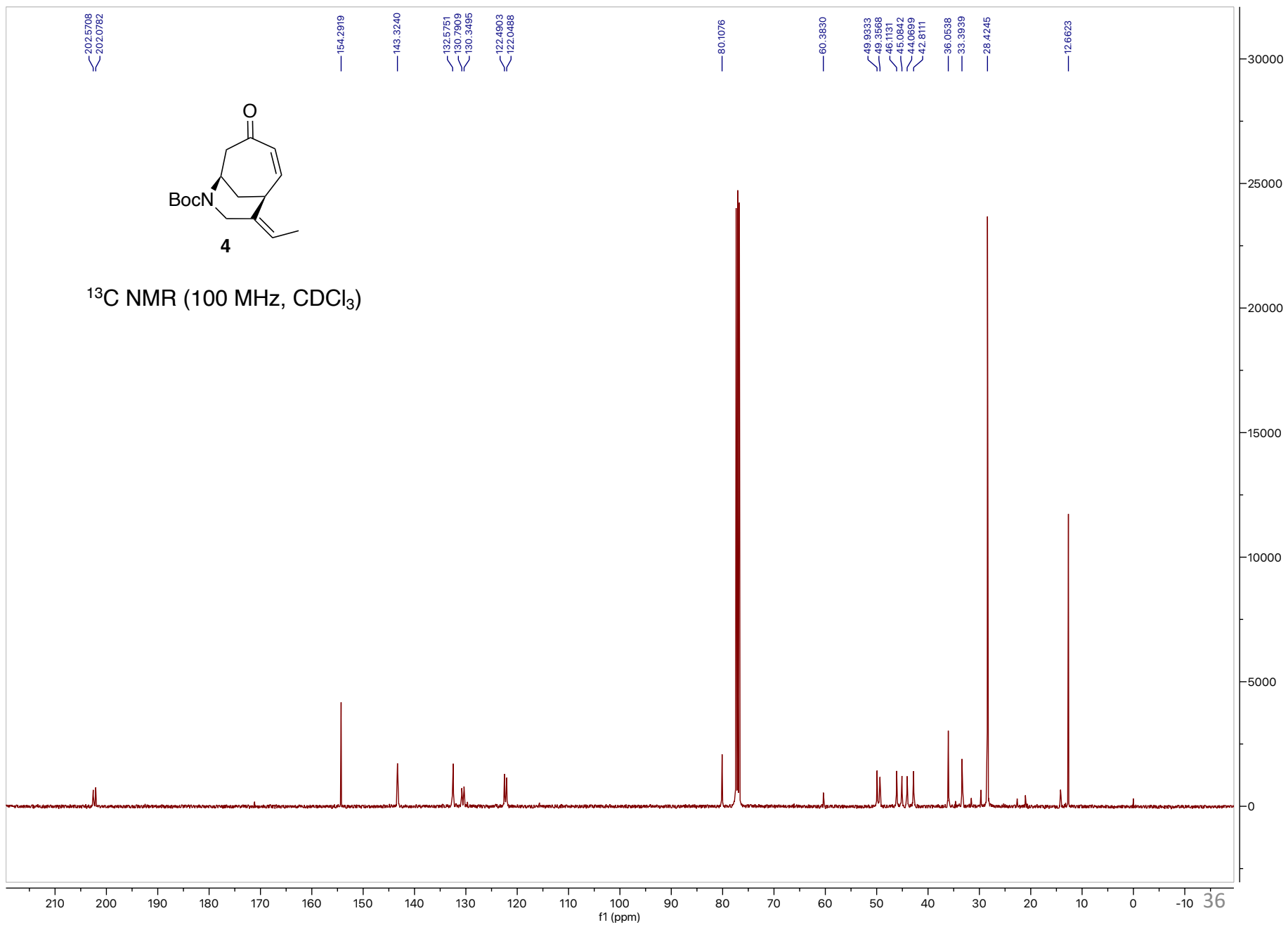


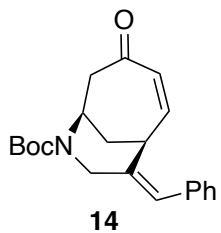
¹H NMR (400 MHz, CDCl₃)



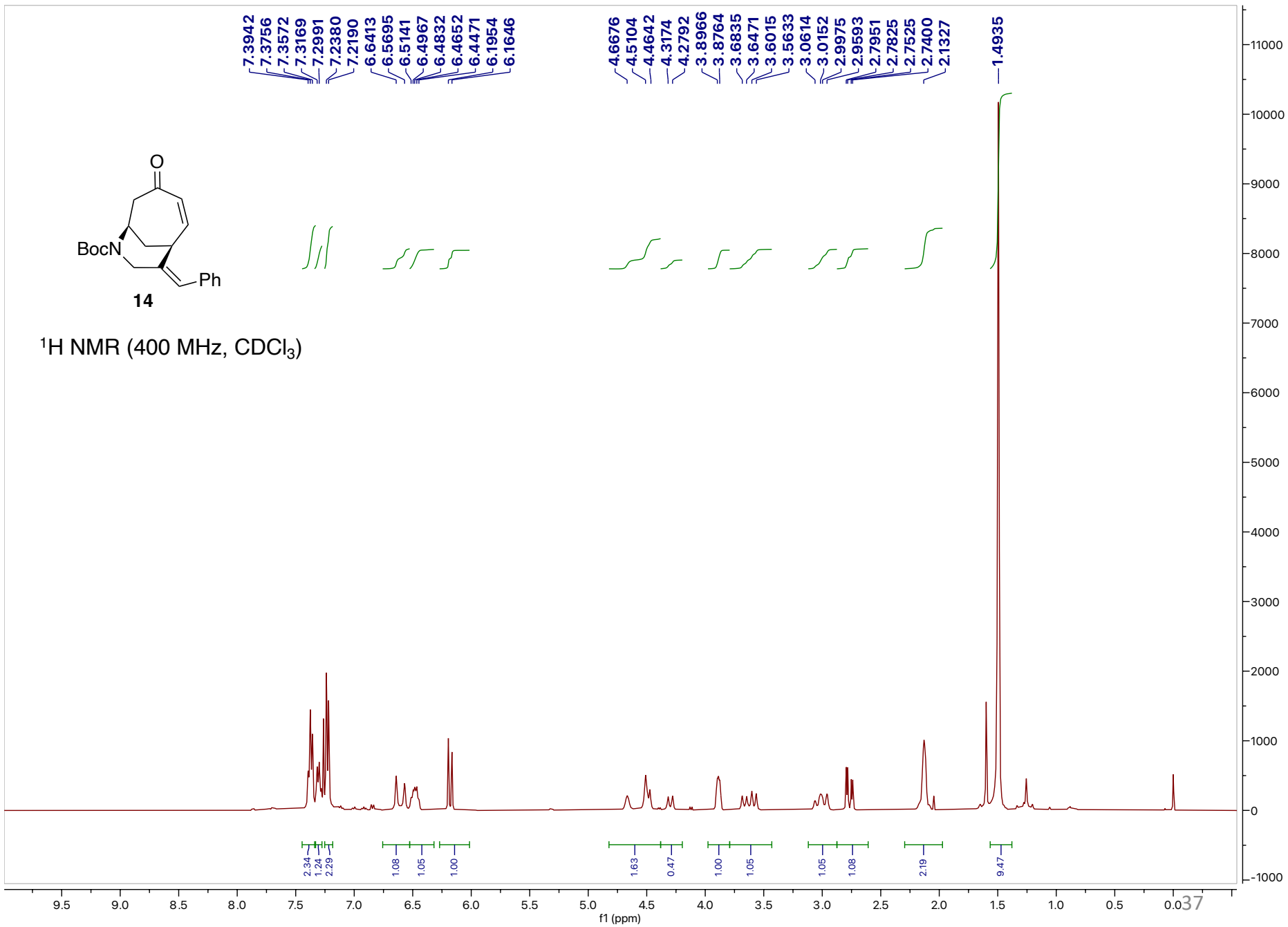


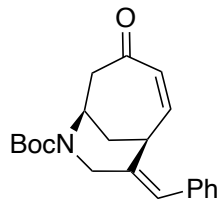
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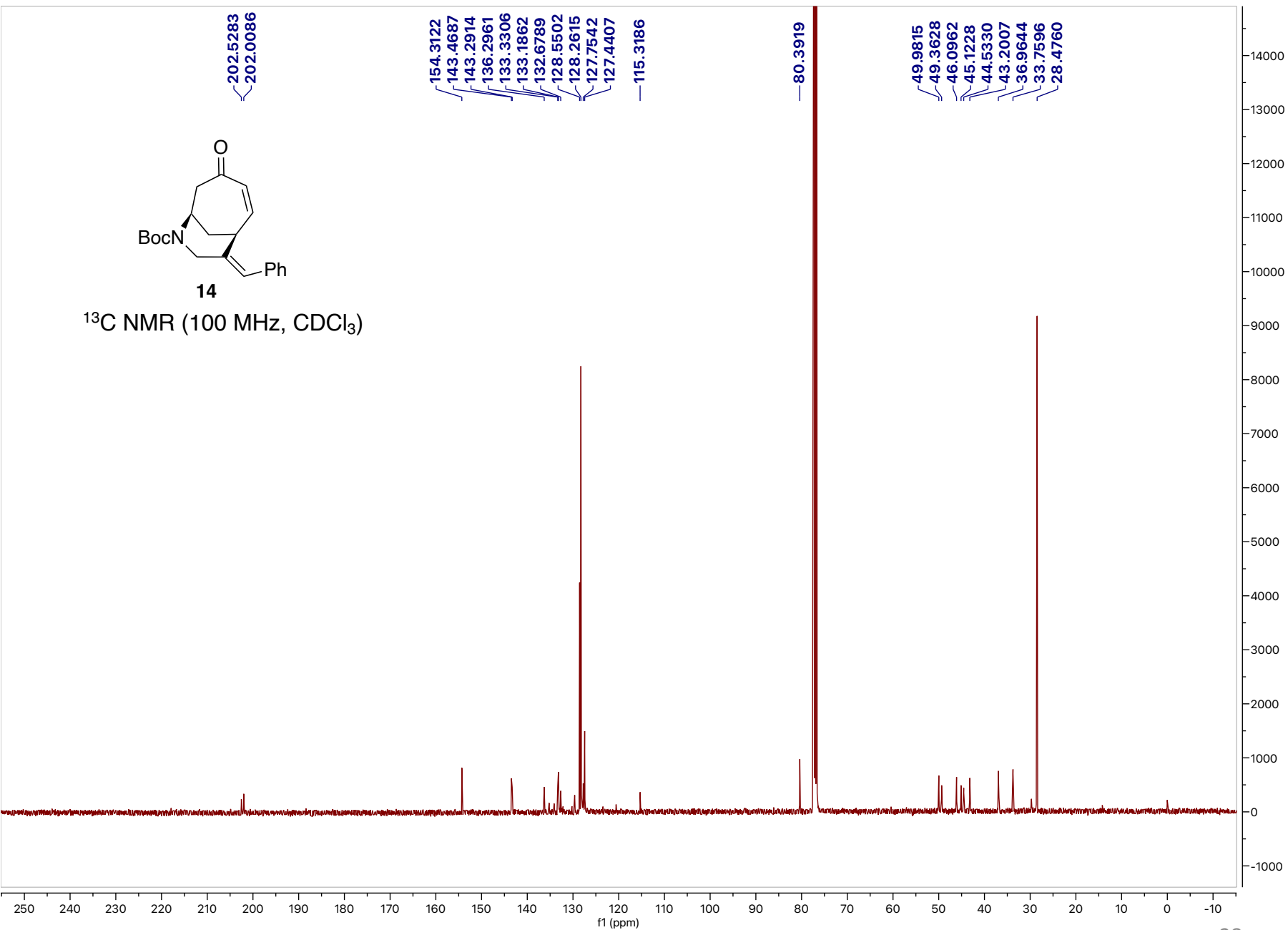
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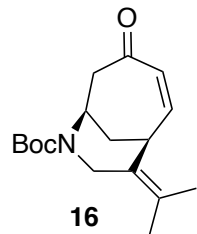




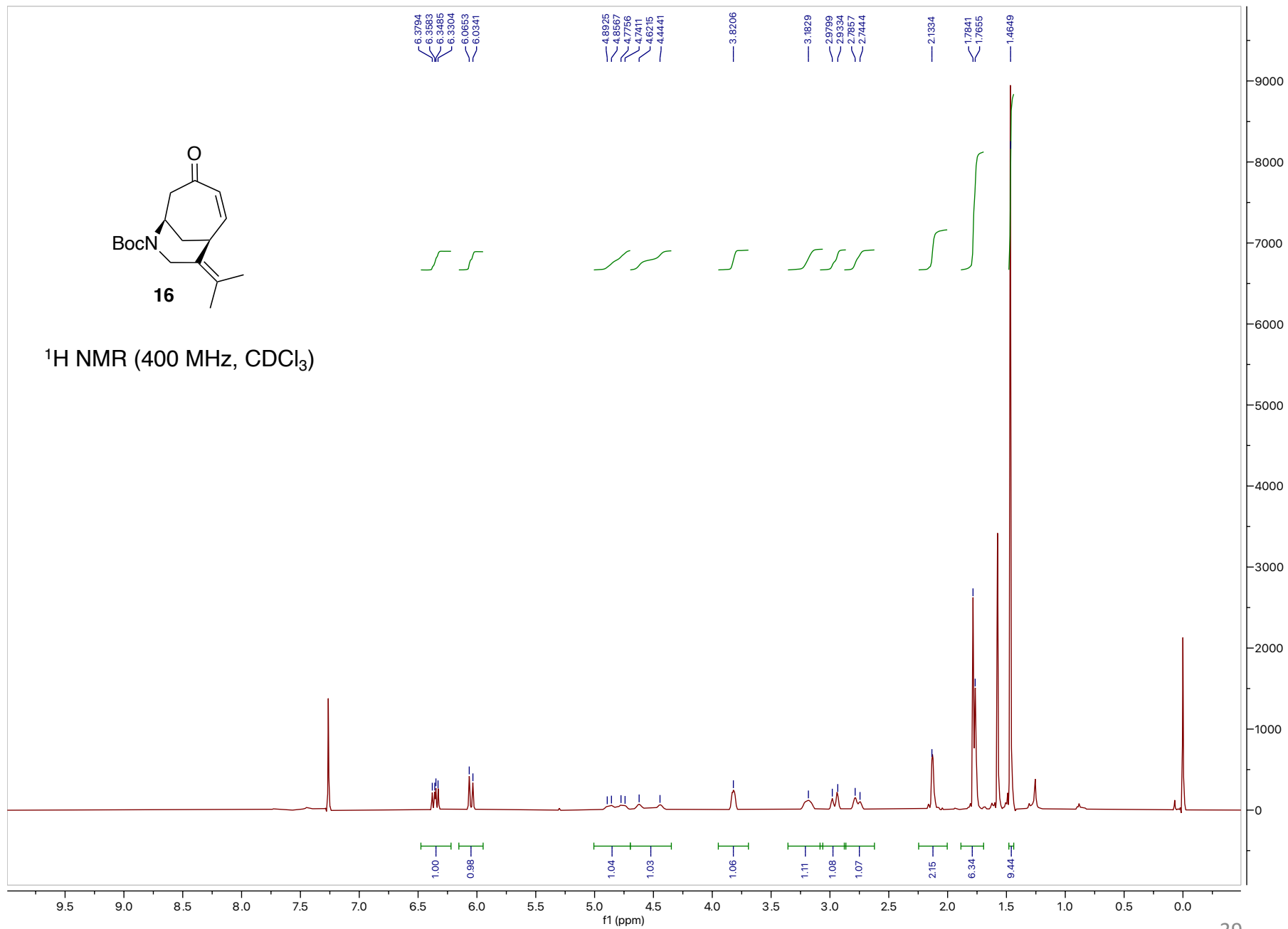
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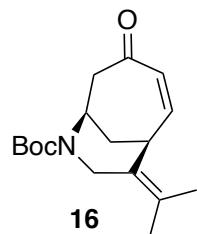
^{13}C NMR (100 MHz, CDCl_3)



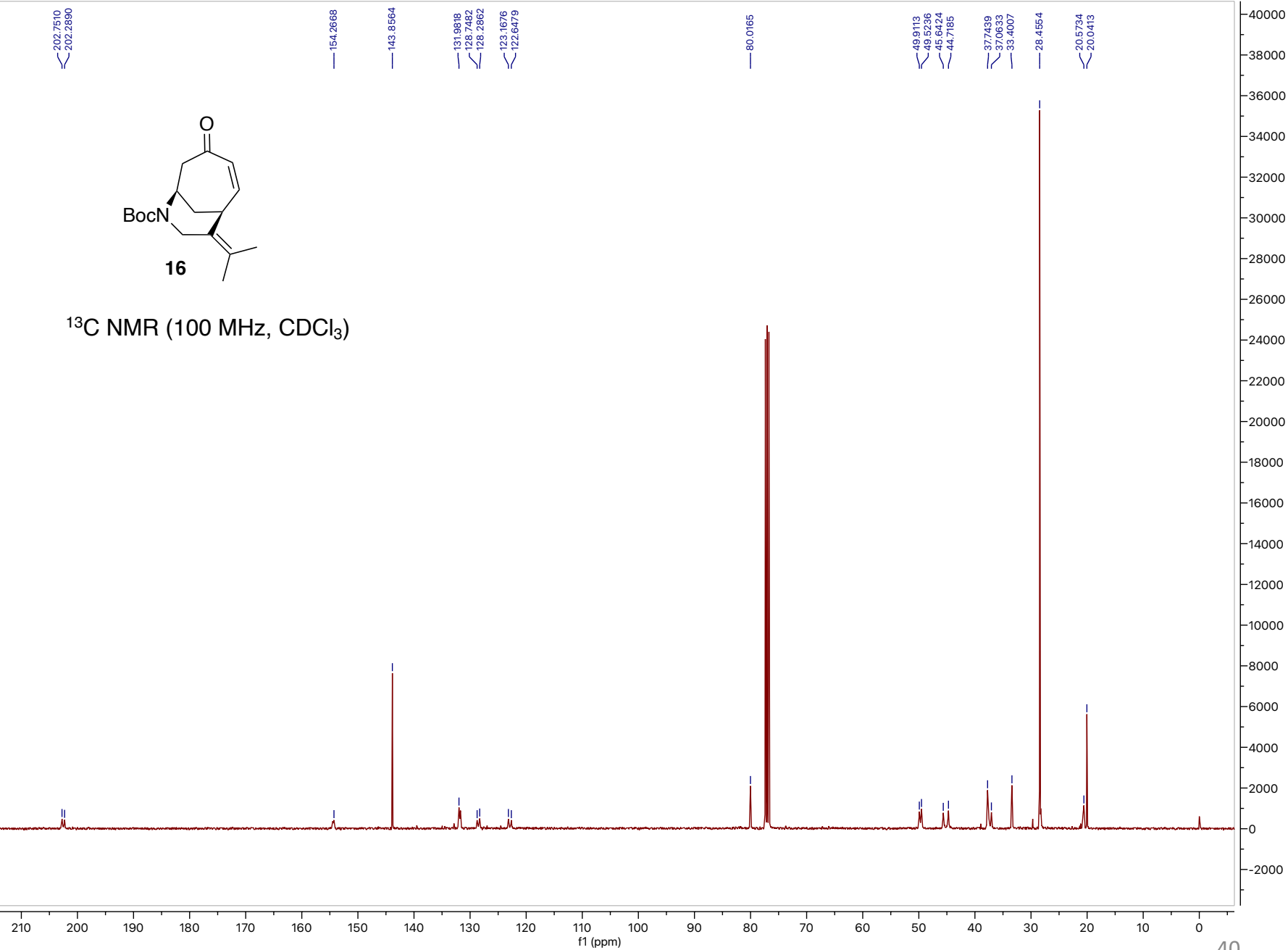


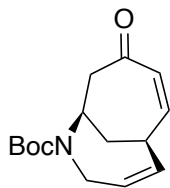
^1H NMR (400 MHz, CDCl_3)



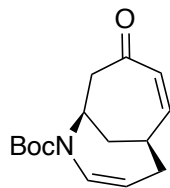


^{13}C NMR (100 MHz, CDCl_3)





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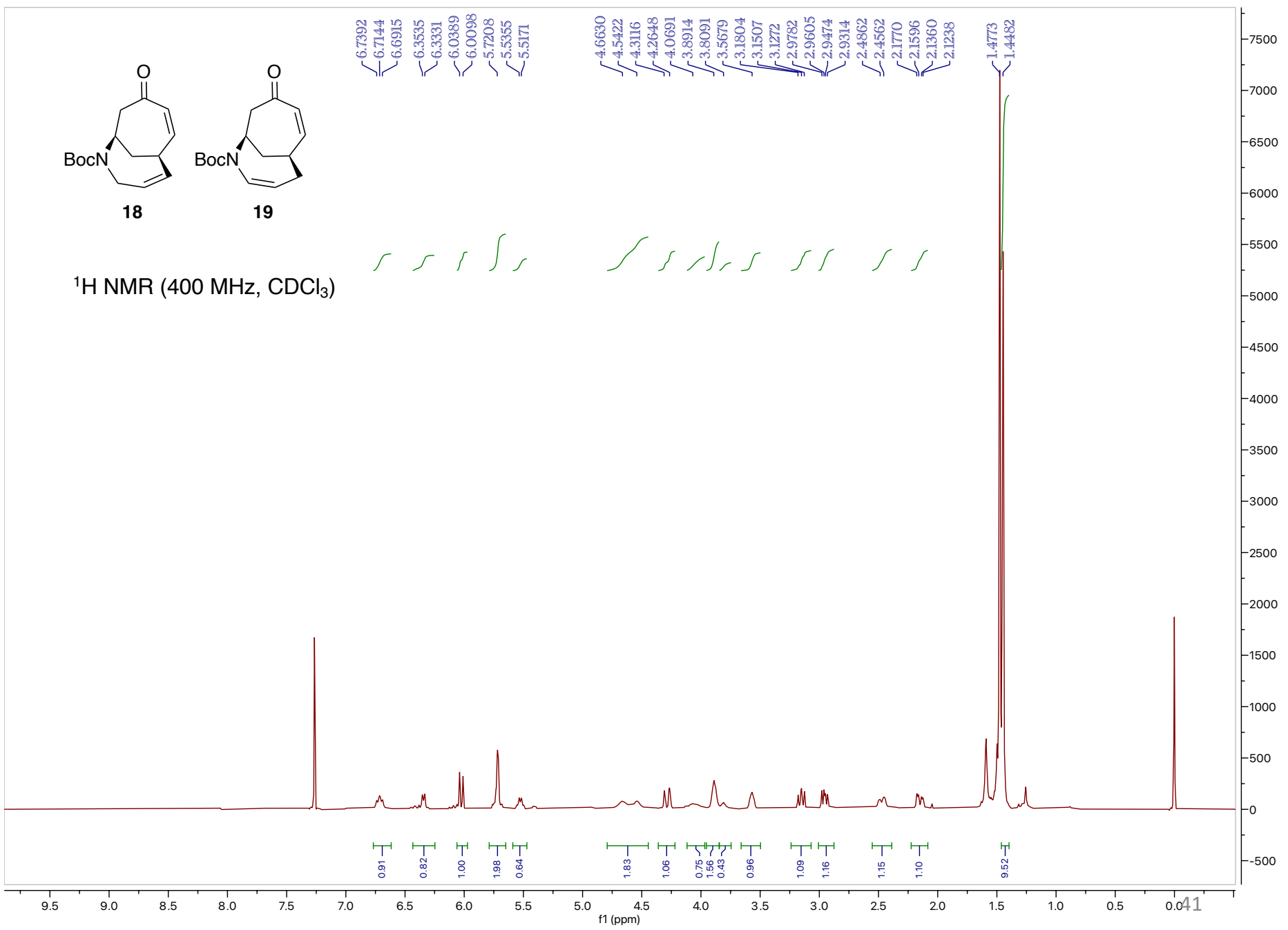
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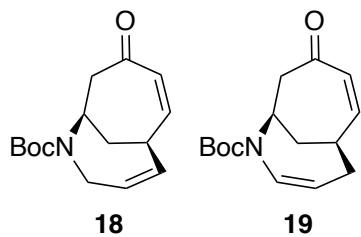
¹H NMR (400 MHz, CDCl₃)

6.7392
6.7144
6.6915
6.3535
6.3331
6.0389
6.0098
5.7208
5.5355
5.5171
4.6630
4.5422
4.3116
4.2648
4.0691
3.8914
3.8091
3.5679
3.1804
3.1507
3.1272
2.9782
2.9605
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2.1770
2.1596
2.1360
2.1238
1.4773
1.4482

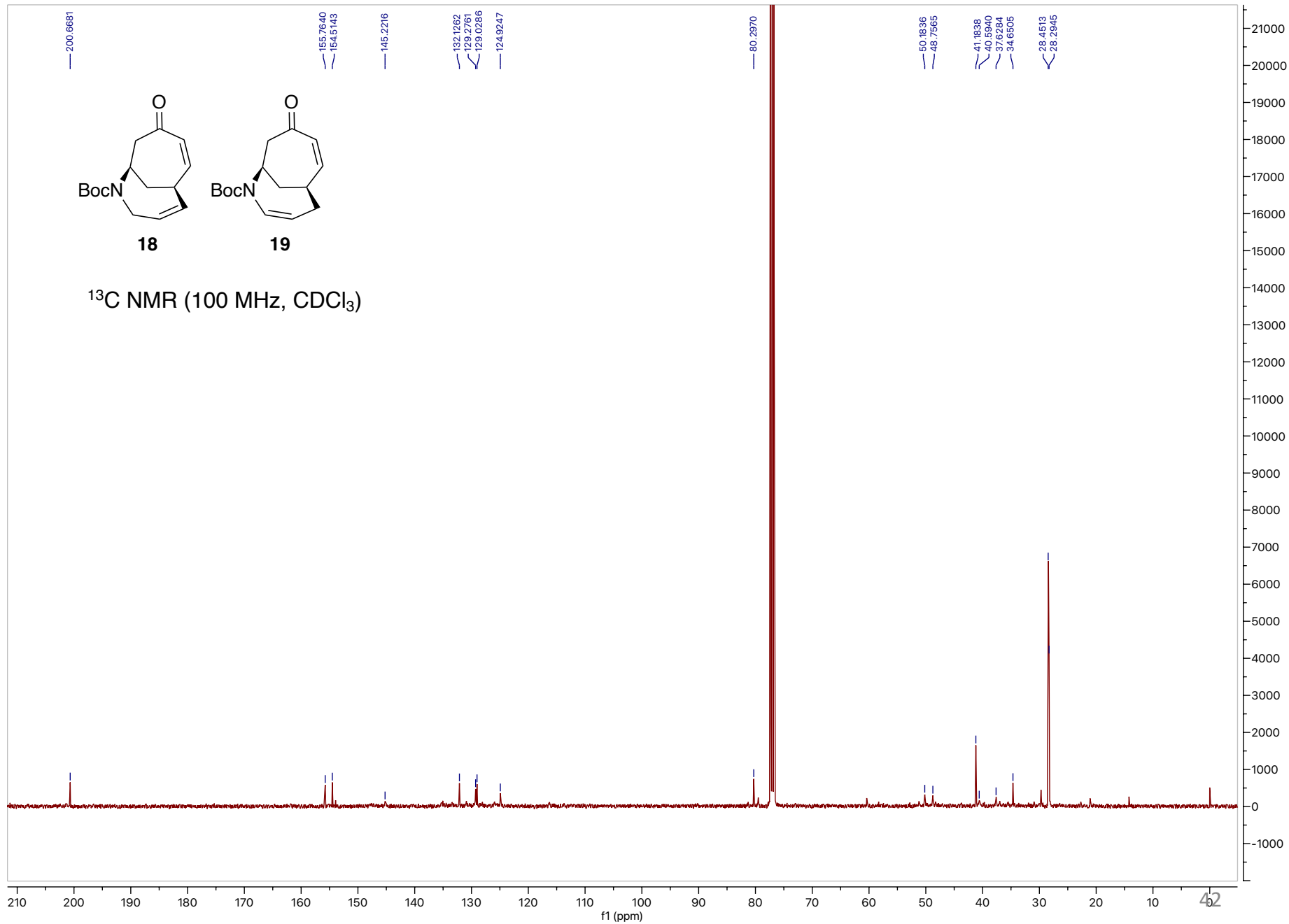


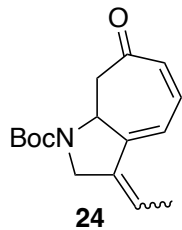
0.91
0.82
1.00
1.98
0.64
1.83
1.06
0.75
1.56
0.43
0.96
1.08
1.16
1.15
1.10
9.52





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





^1H NMR (400 MHz, CDCl_3)
(tentative assignment)

