

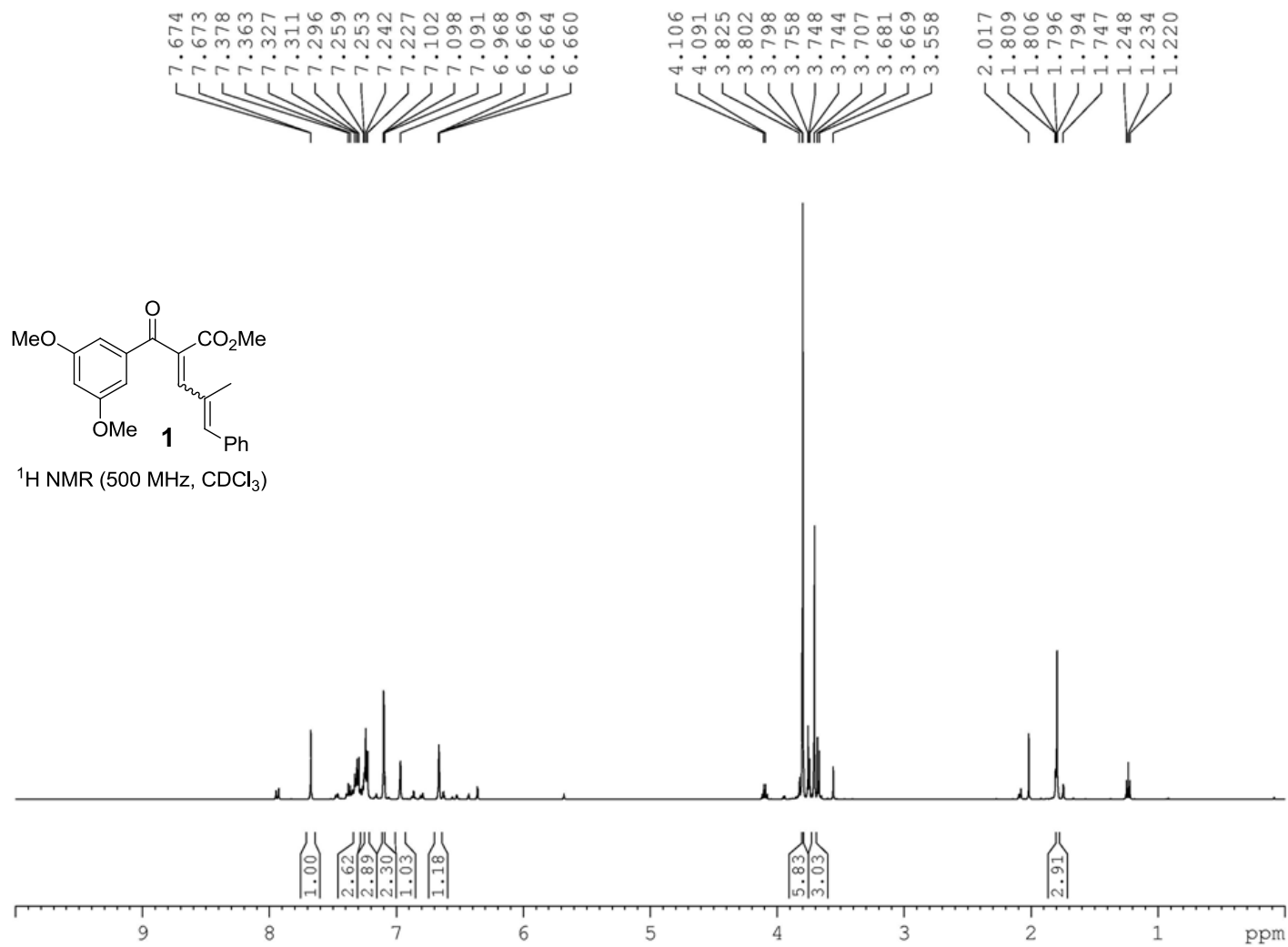
Cationic Cyclizations and Rearrangements Promoted by a Heterogeneous Gold Catalyst

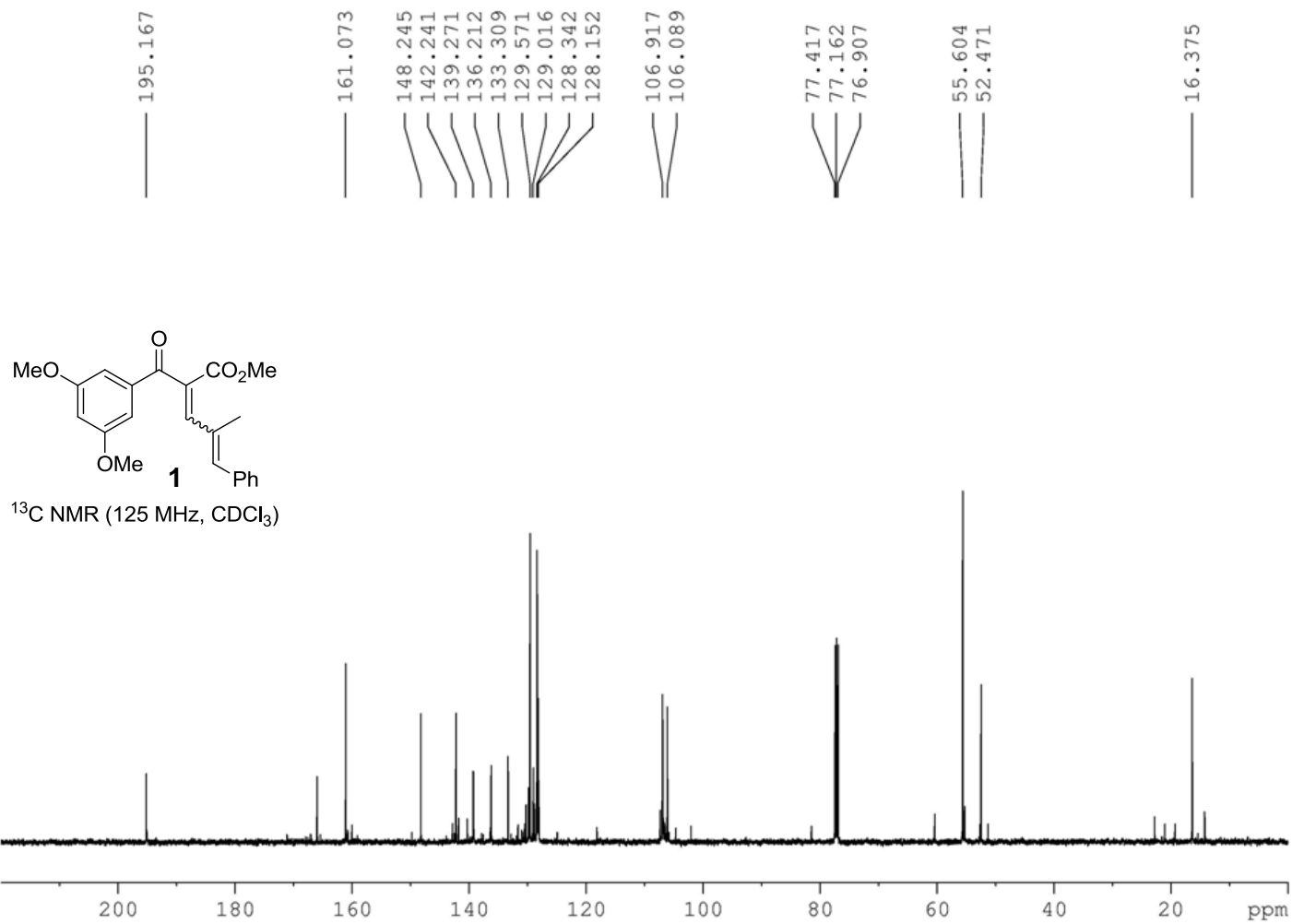
Tulaza Vaidya, Ryan Cheng, Peter N. Carlsen, Alison J. Frontier,* and Richard Eisenberg*

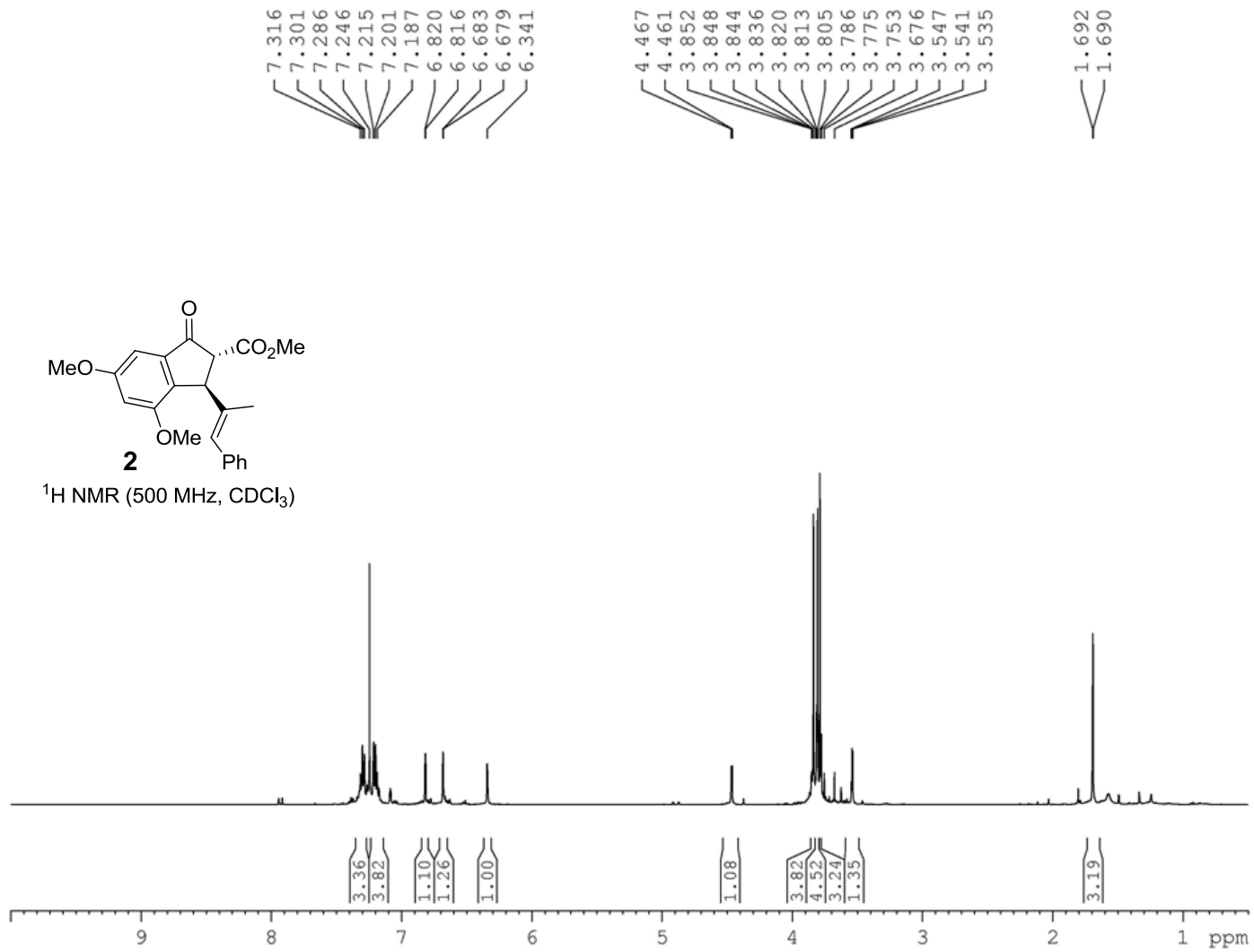
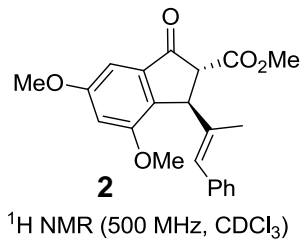
Department of Chemistry, University of Rochester, Rochester, NY 14627-0216, United States

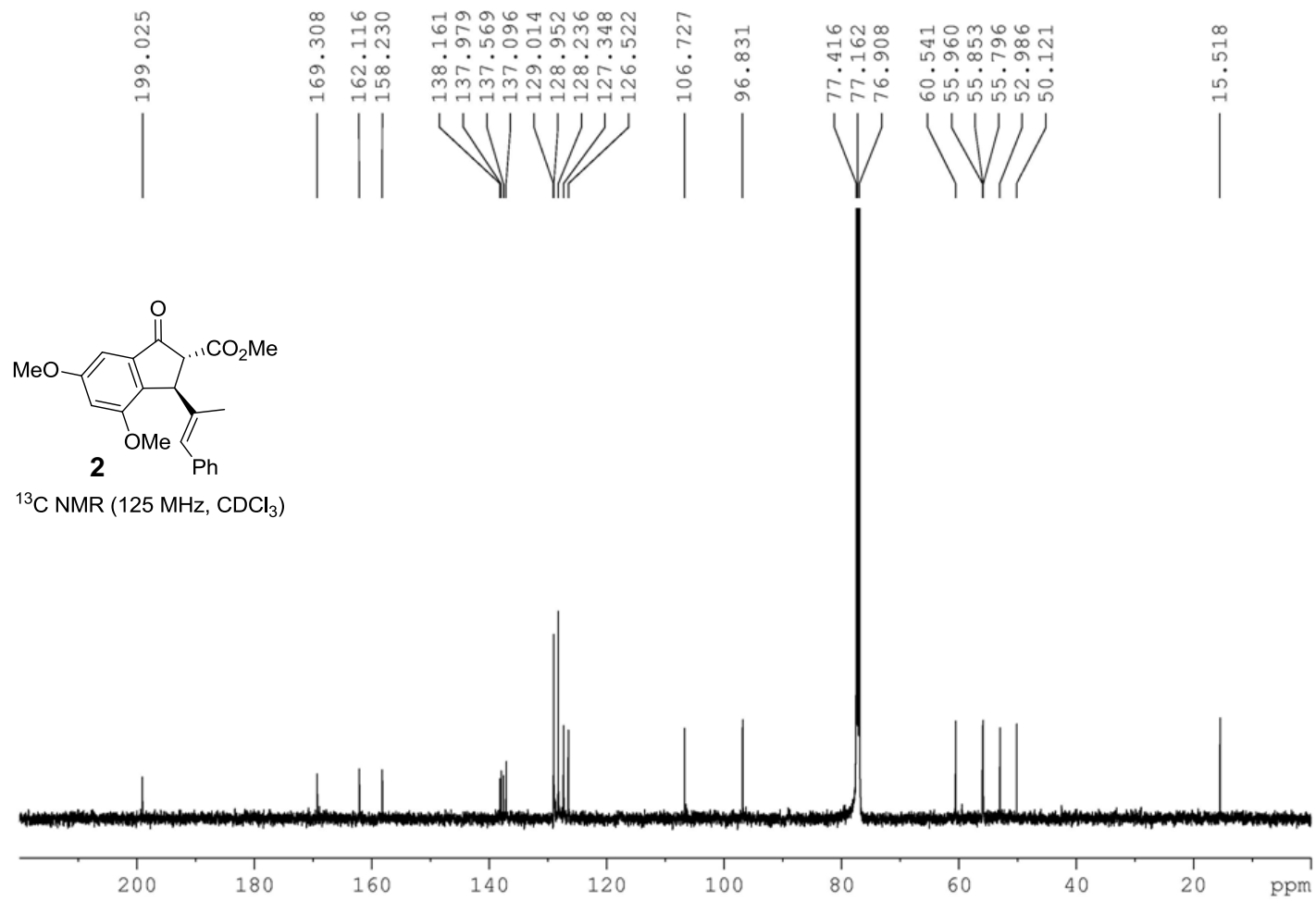
Supporting Information

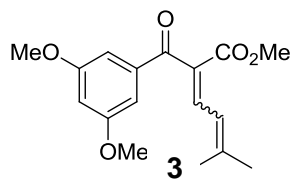
NMR spectra



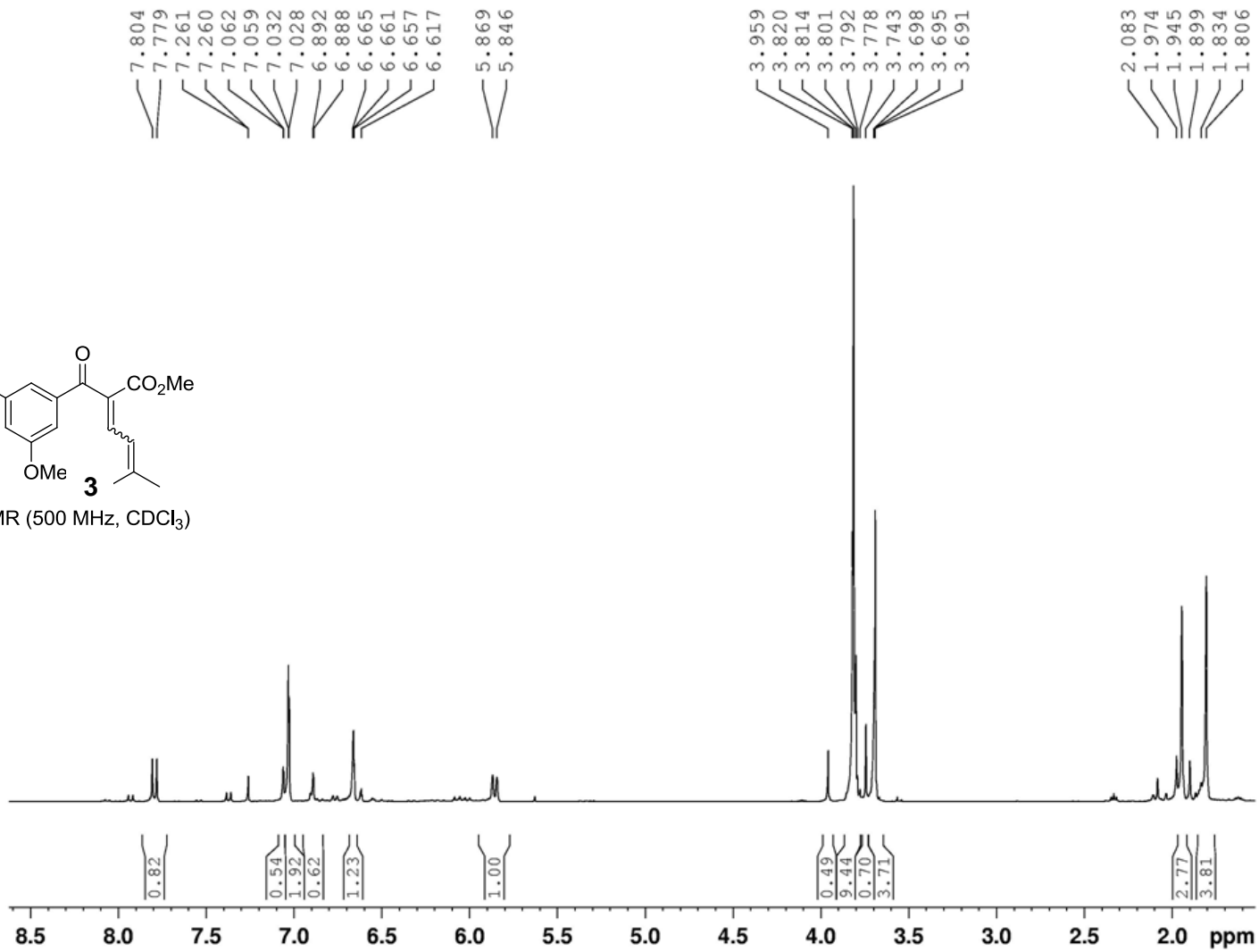


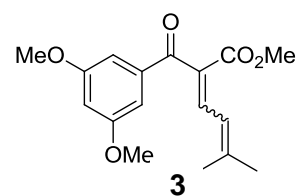




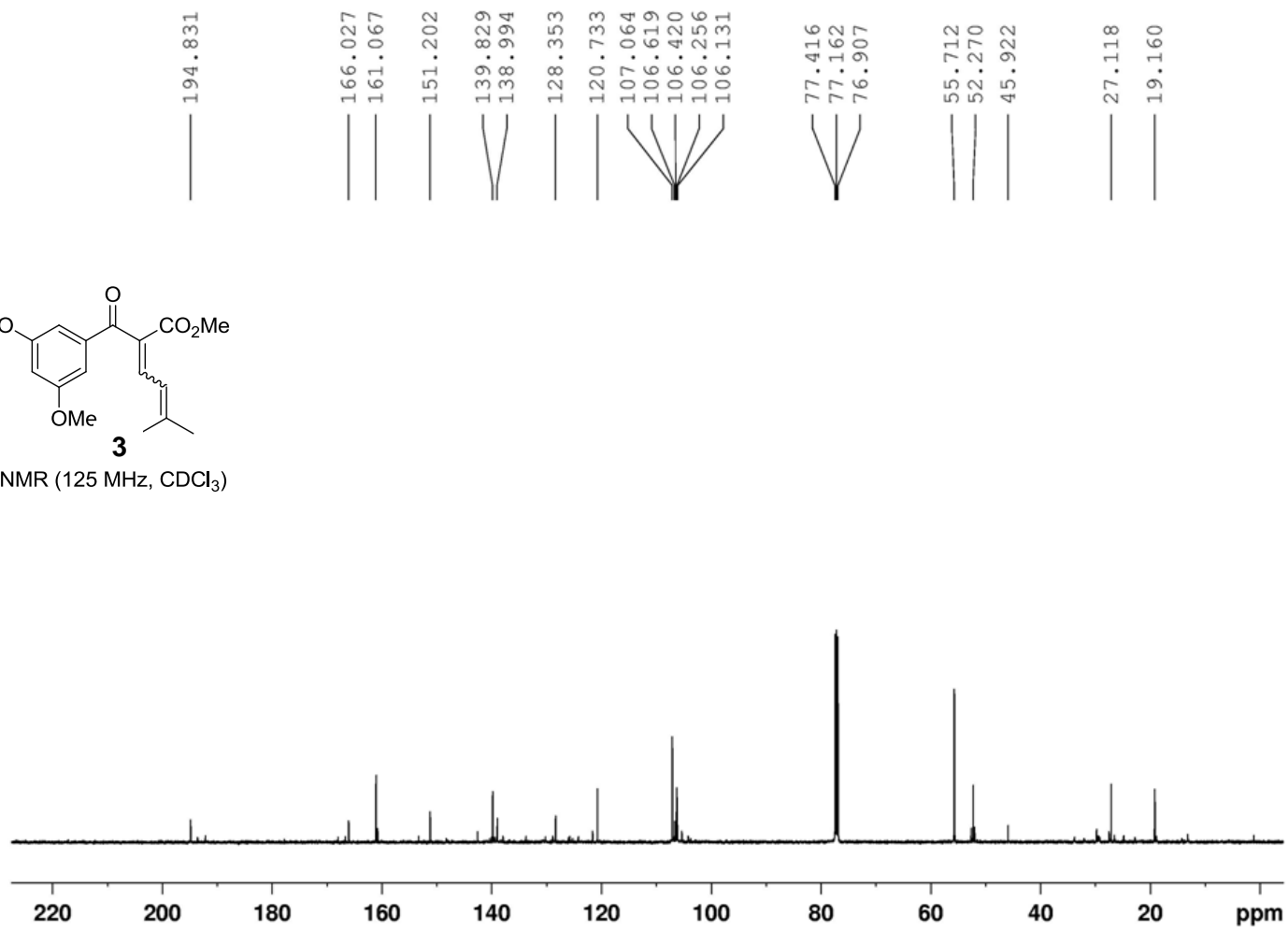


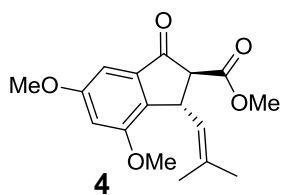
¹H NMR (500 MHz, CDCl₃)



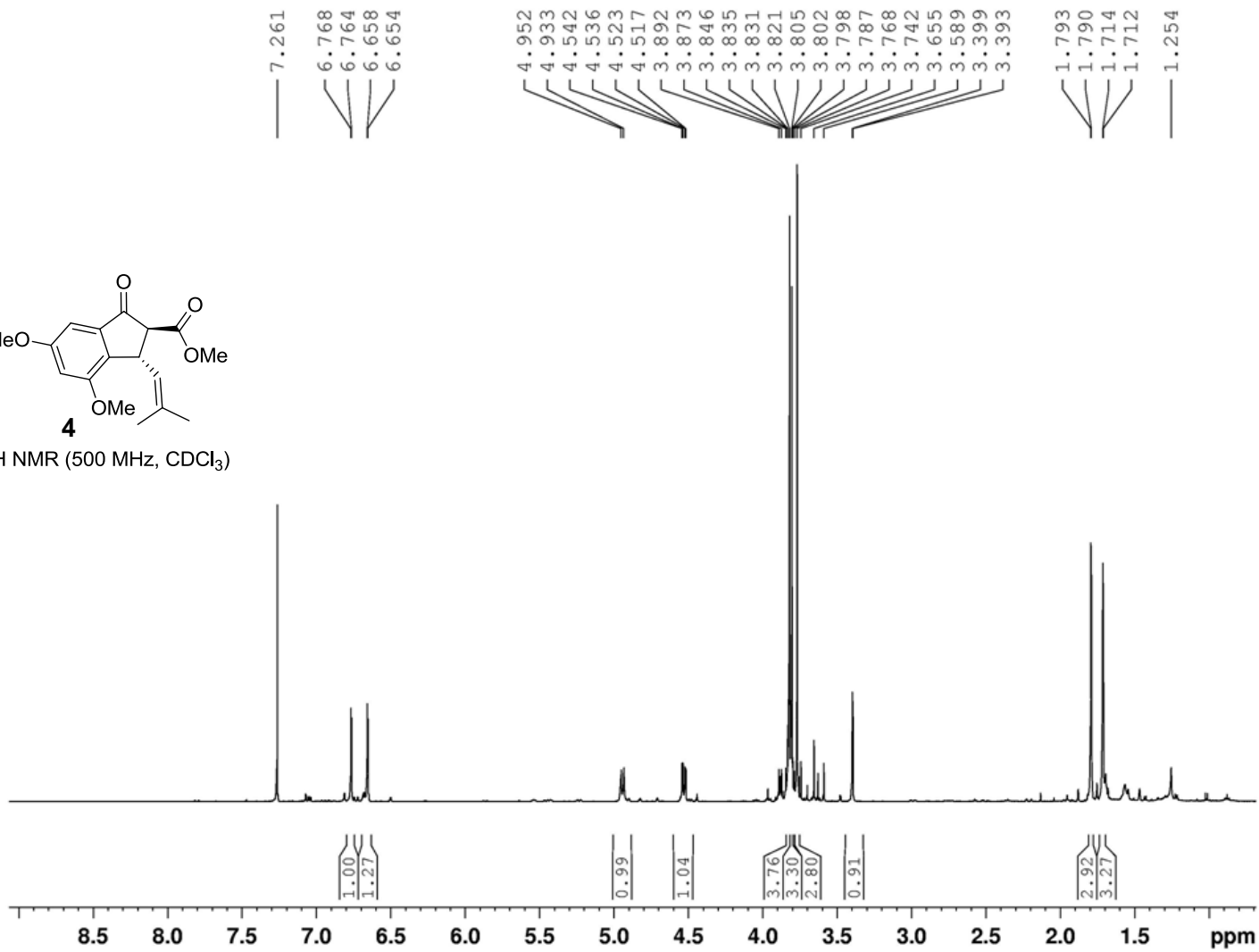


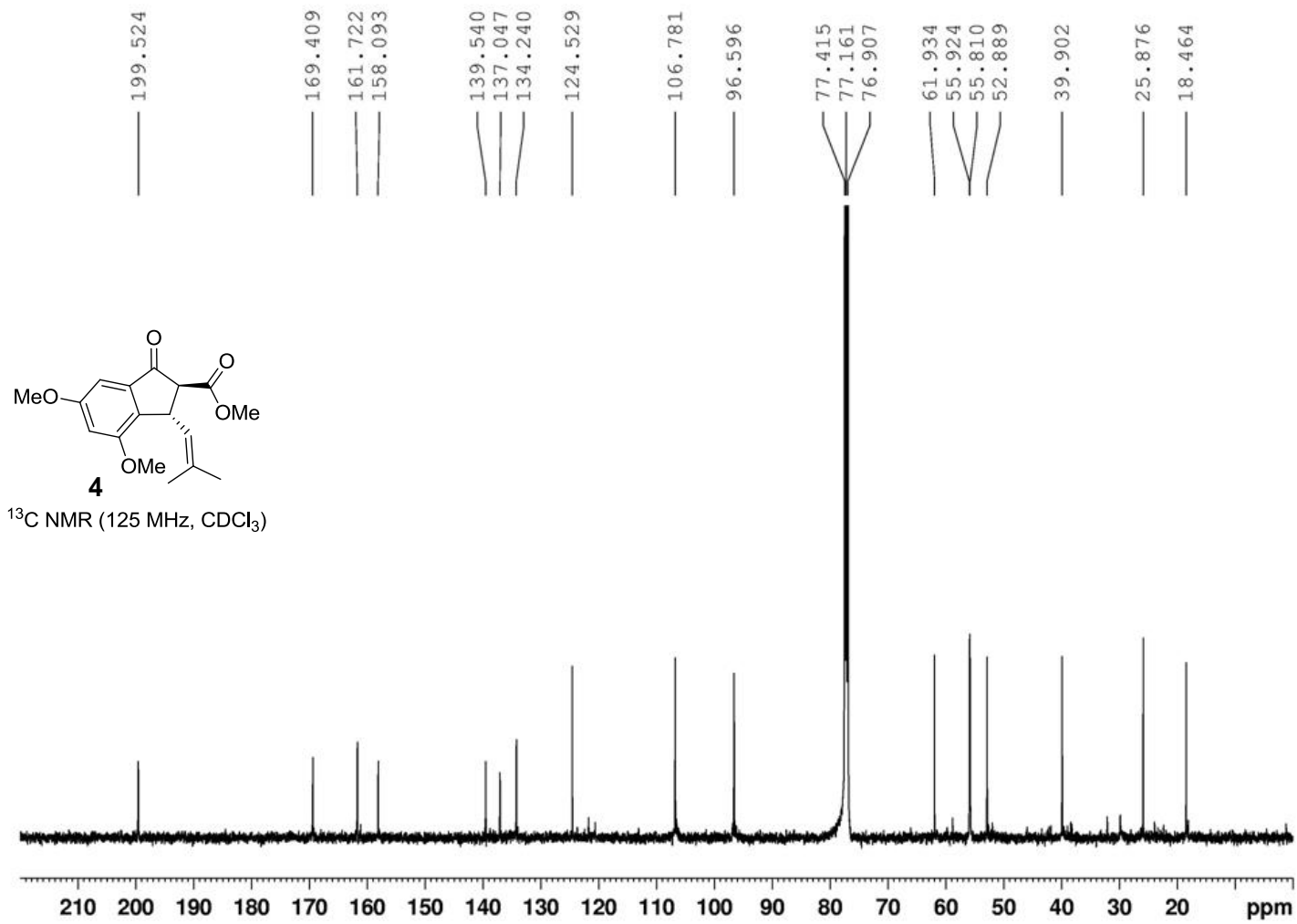
^{13}C NMR (125 MHz, CDCl_3)

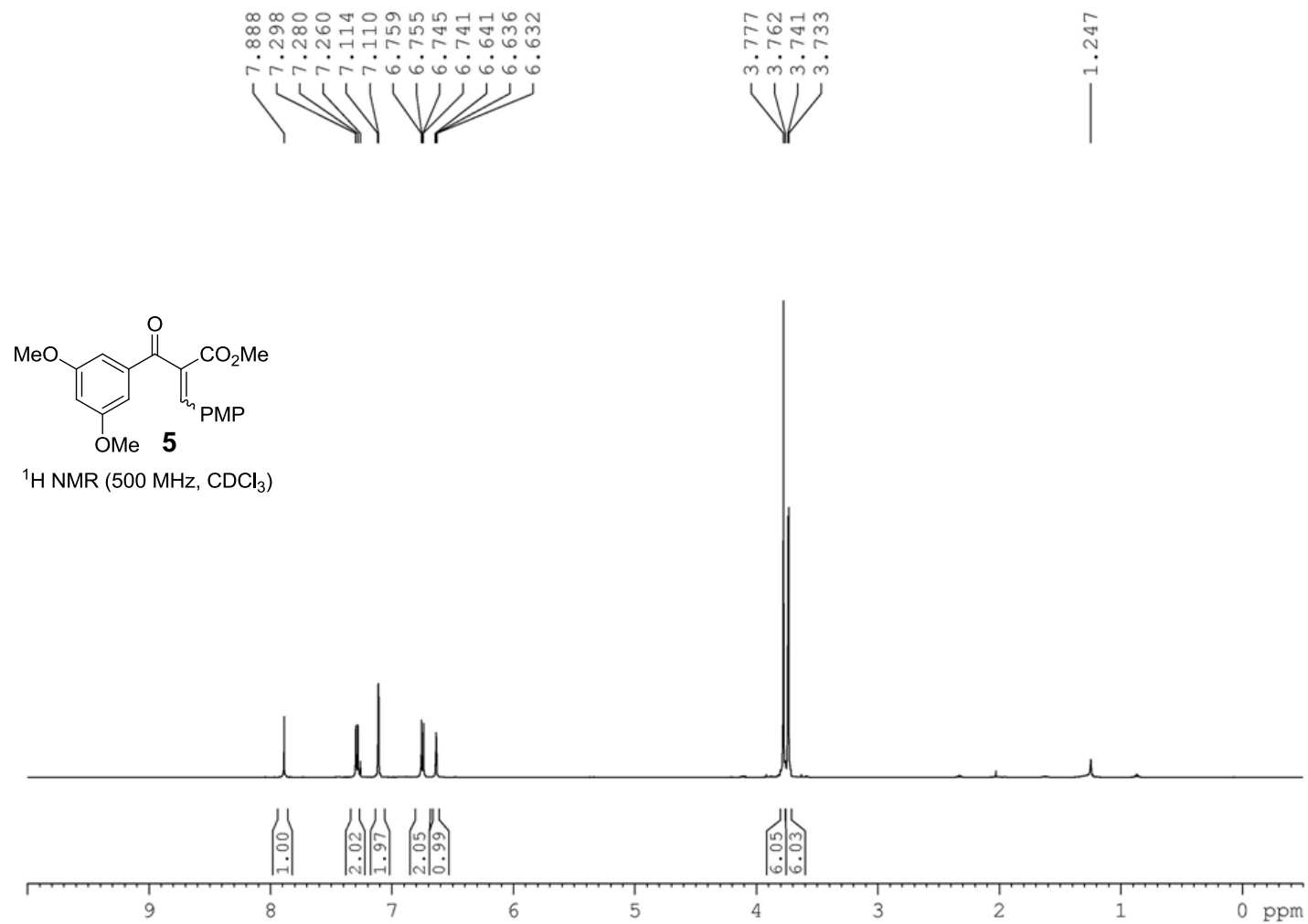


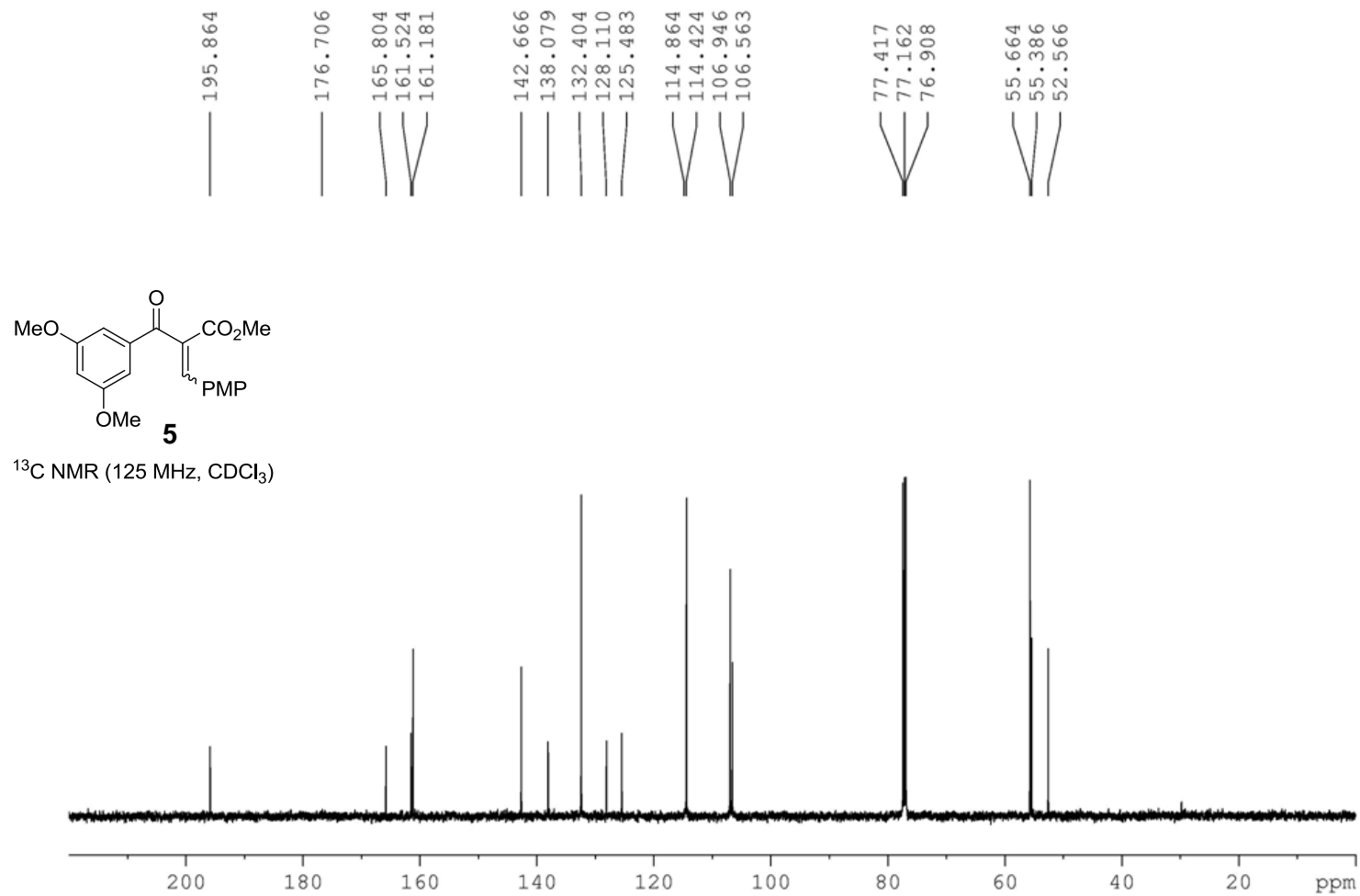


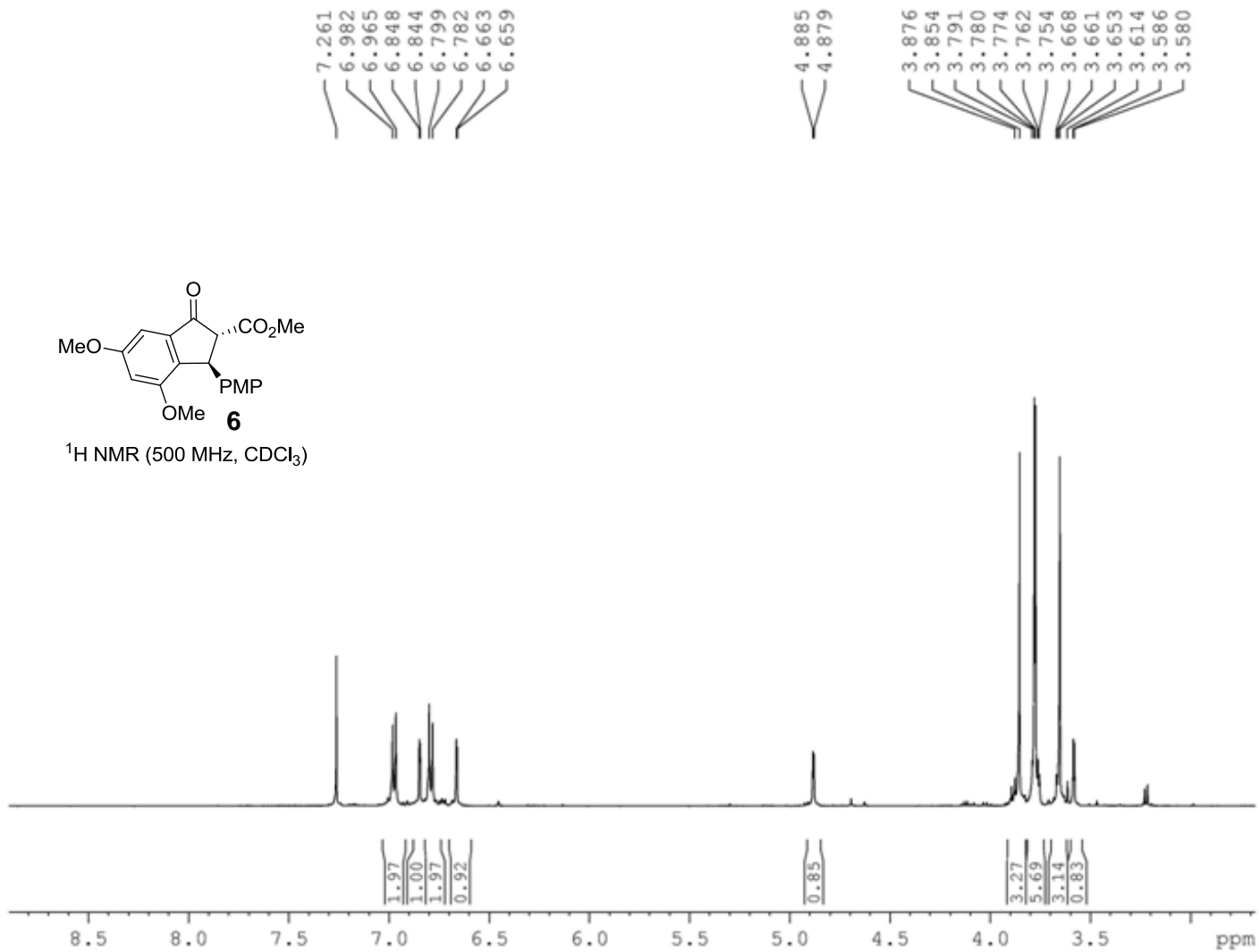
$^1\text{H NMR}$ (500 MHz, CDCl_3)

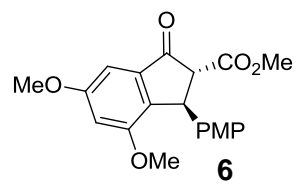




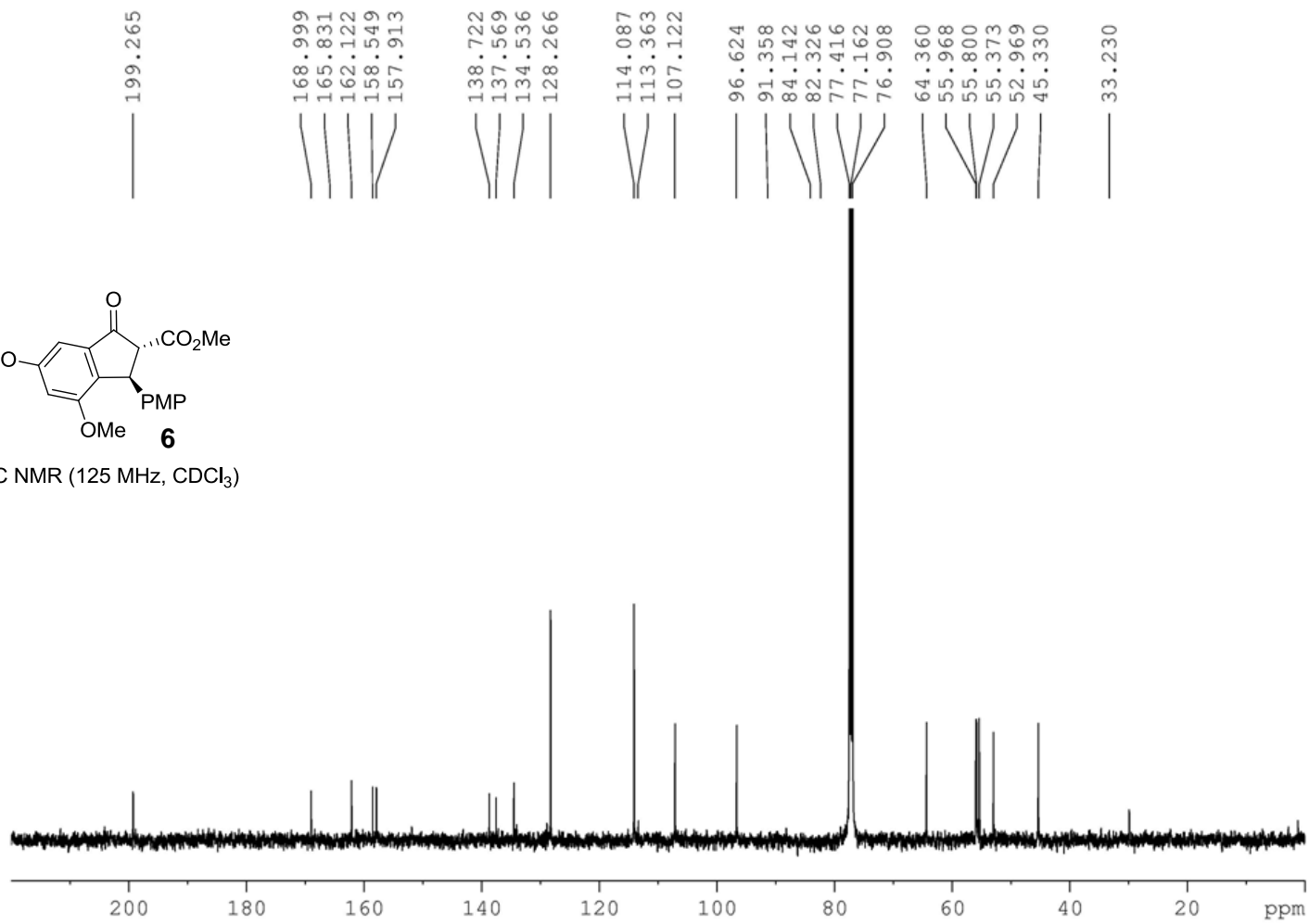


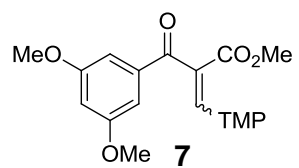




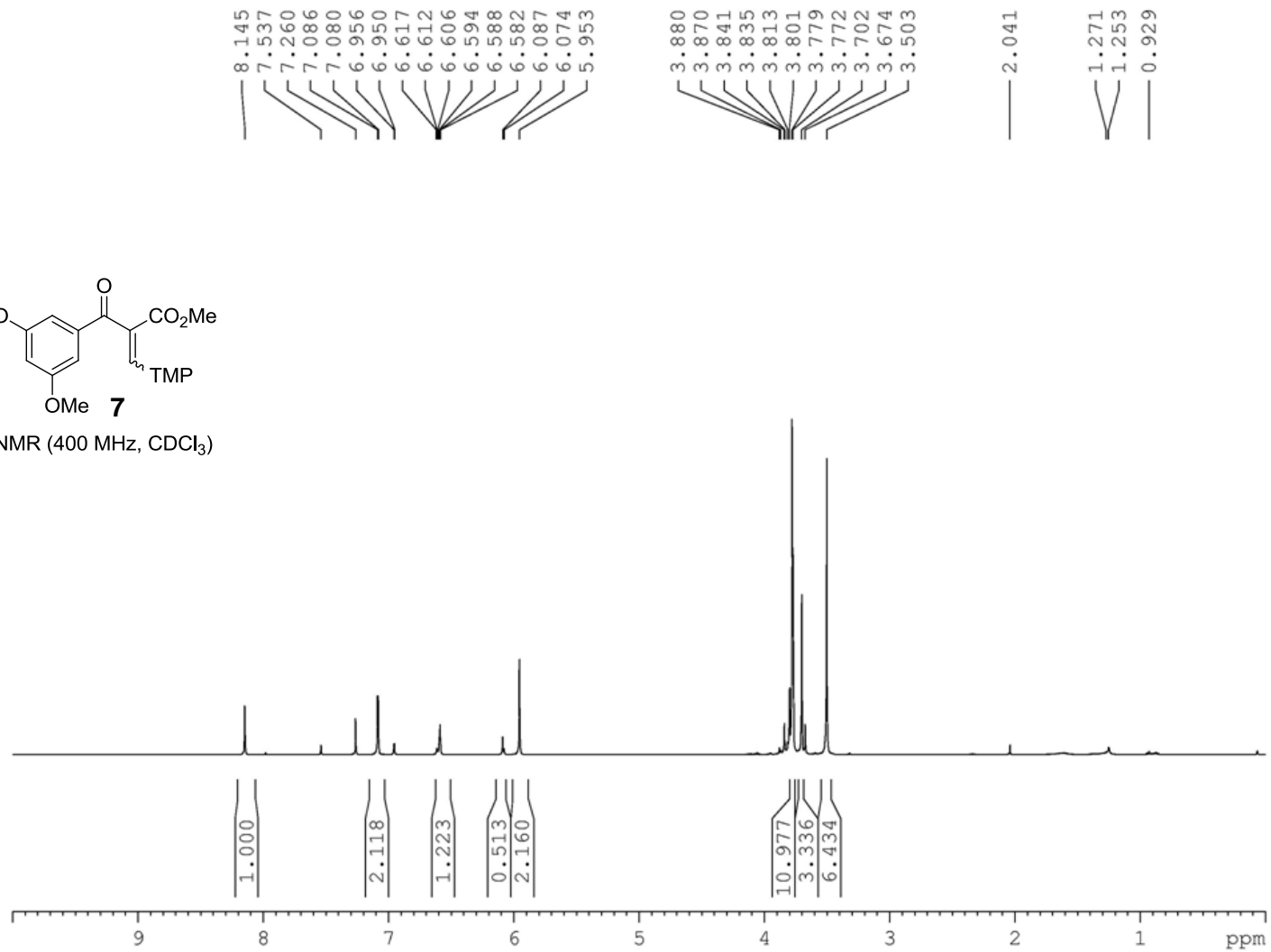


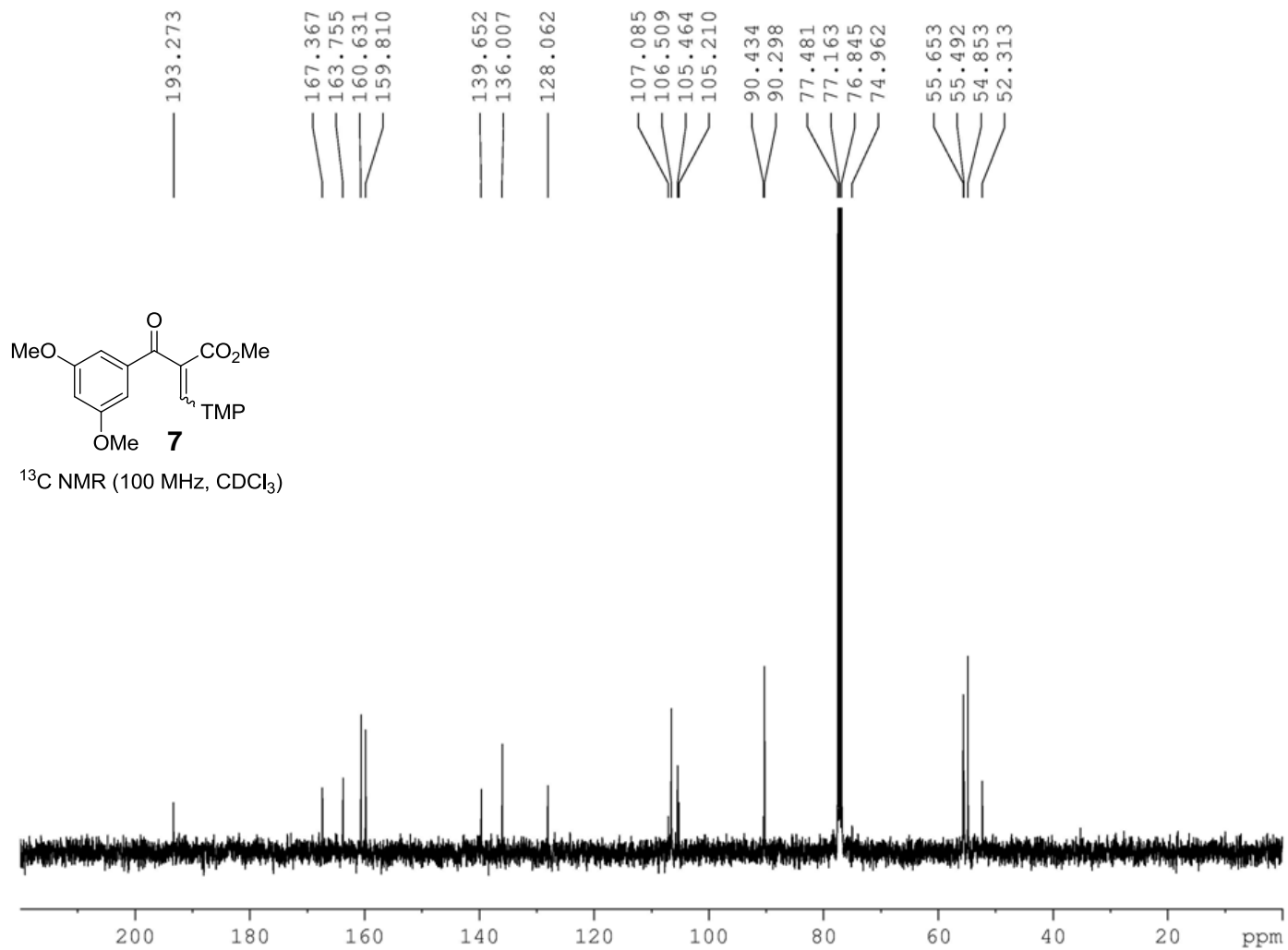
¹³C NMR (125 MHz, CDCl₃)

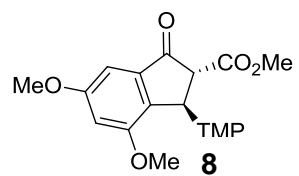




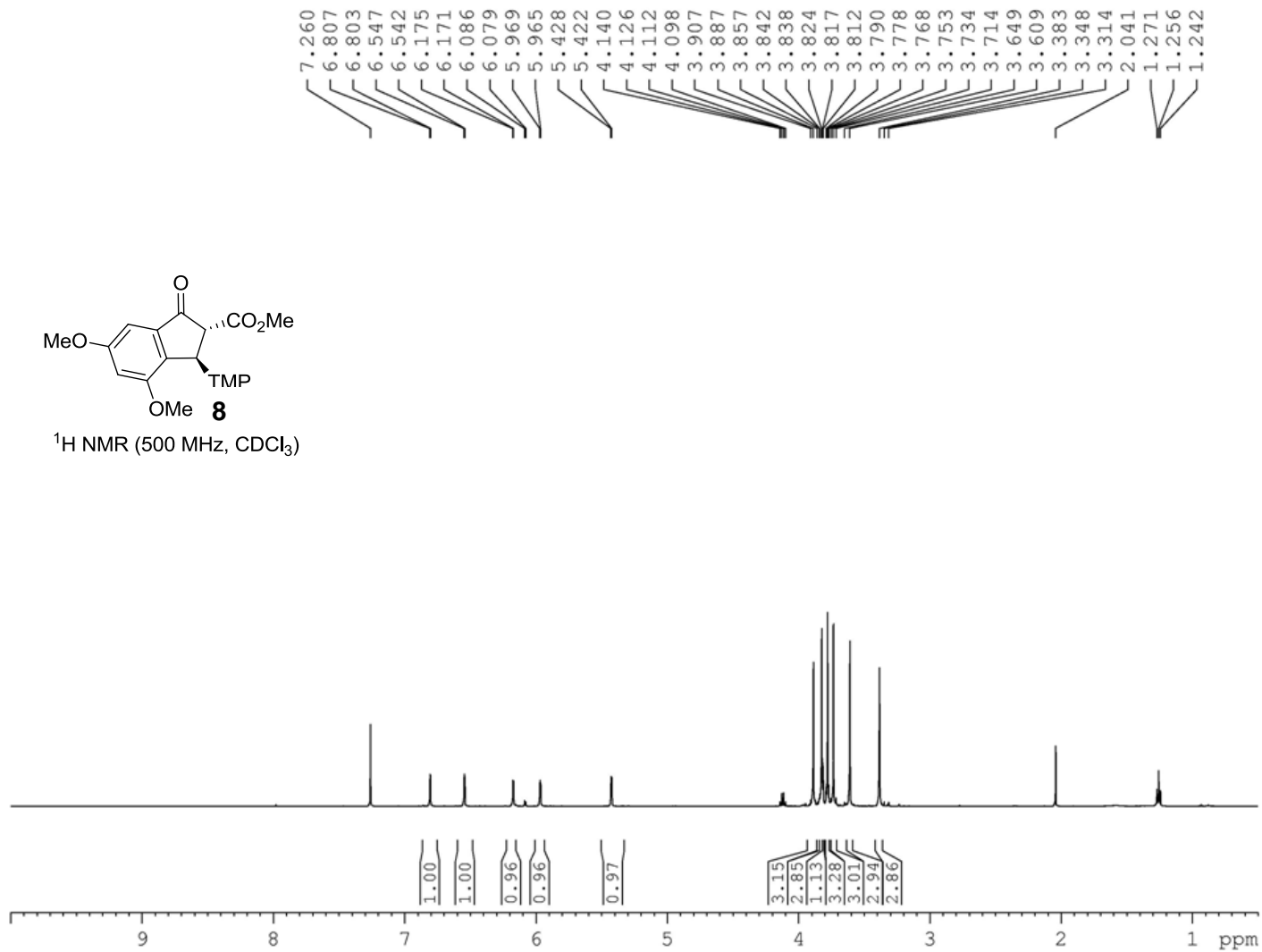
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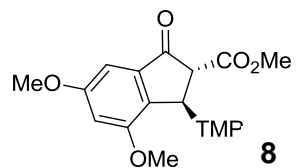




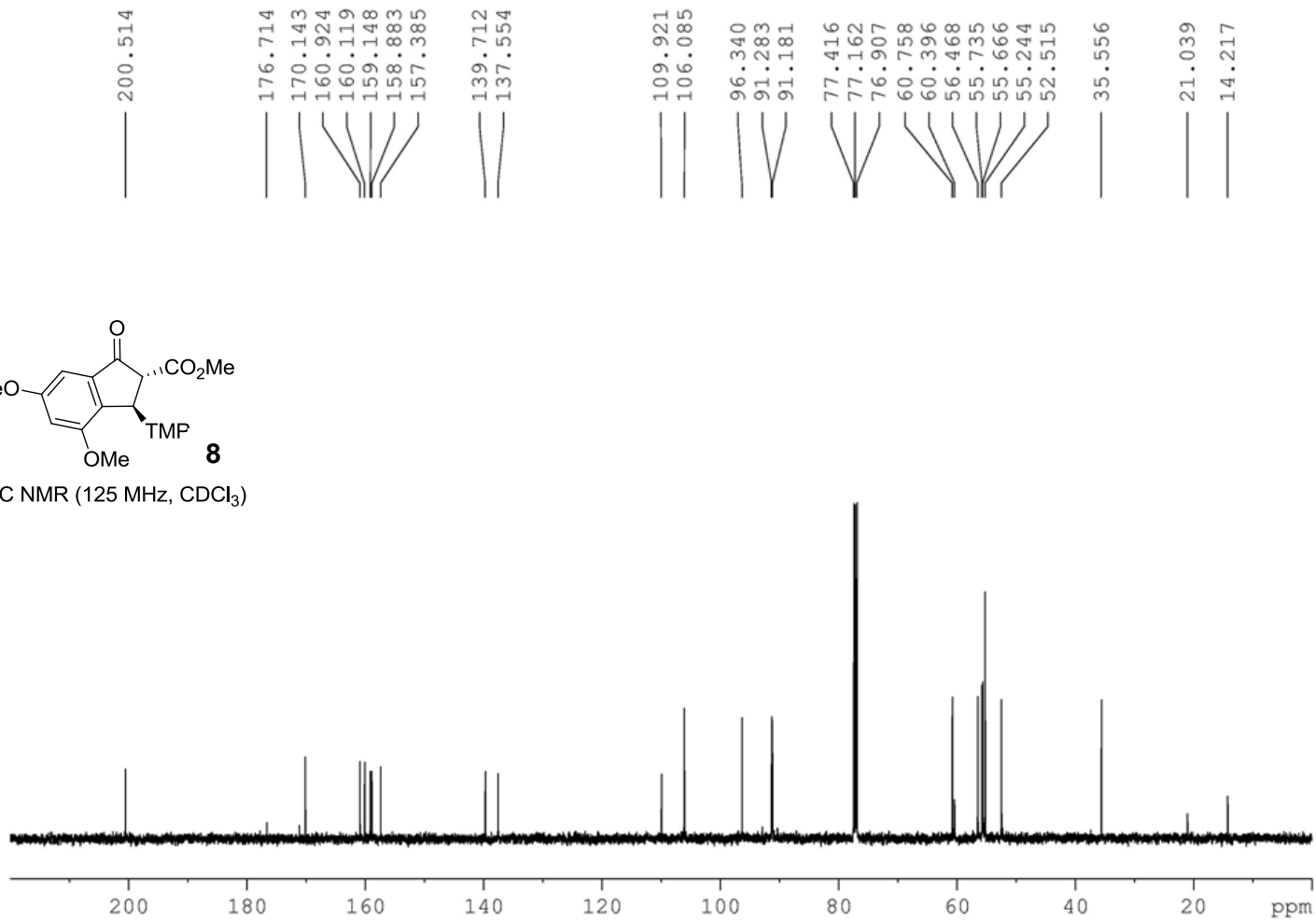


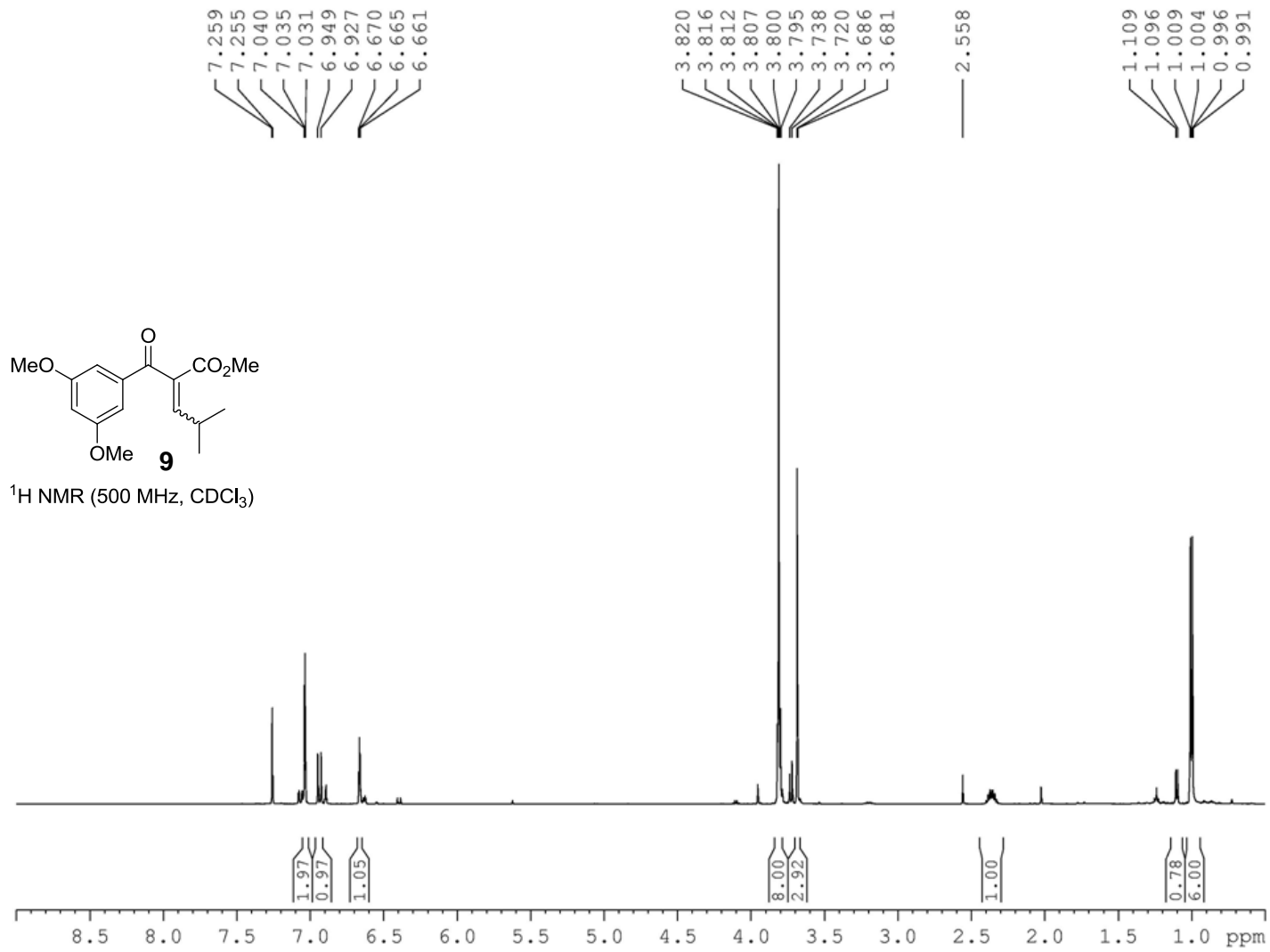
$^1\text{H NMR}$ (500 MHz, CDCl_3)

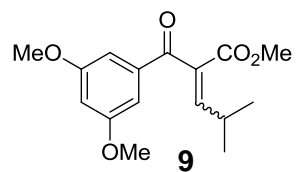




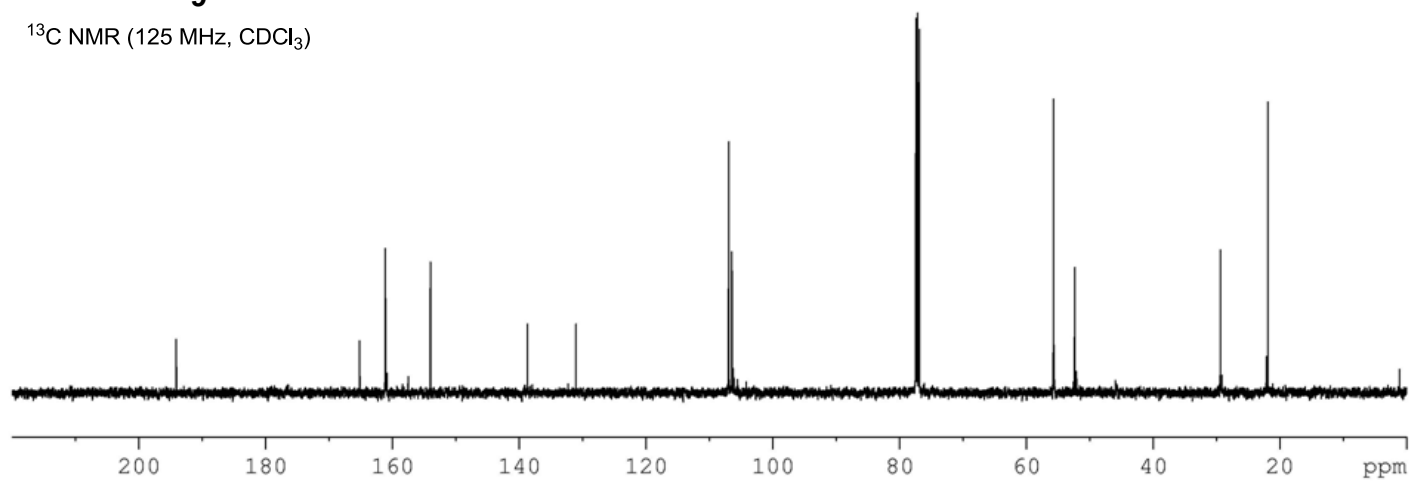
¹³C NMR (125 MHz, CDCl₃)







¹³C NMR (125 MHz, CDCl₃)



194.117

165.188
161.114
160.819
157.505
154.018

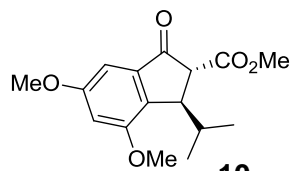
138.670
132.283
131.059

107.032
106.935
106.440
106.255
106.123
105.552
104.166
99.652

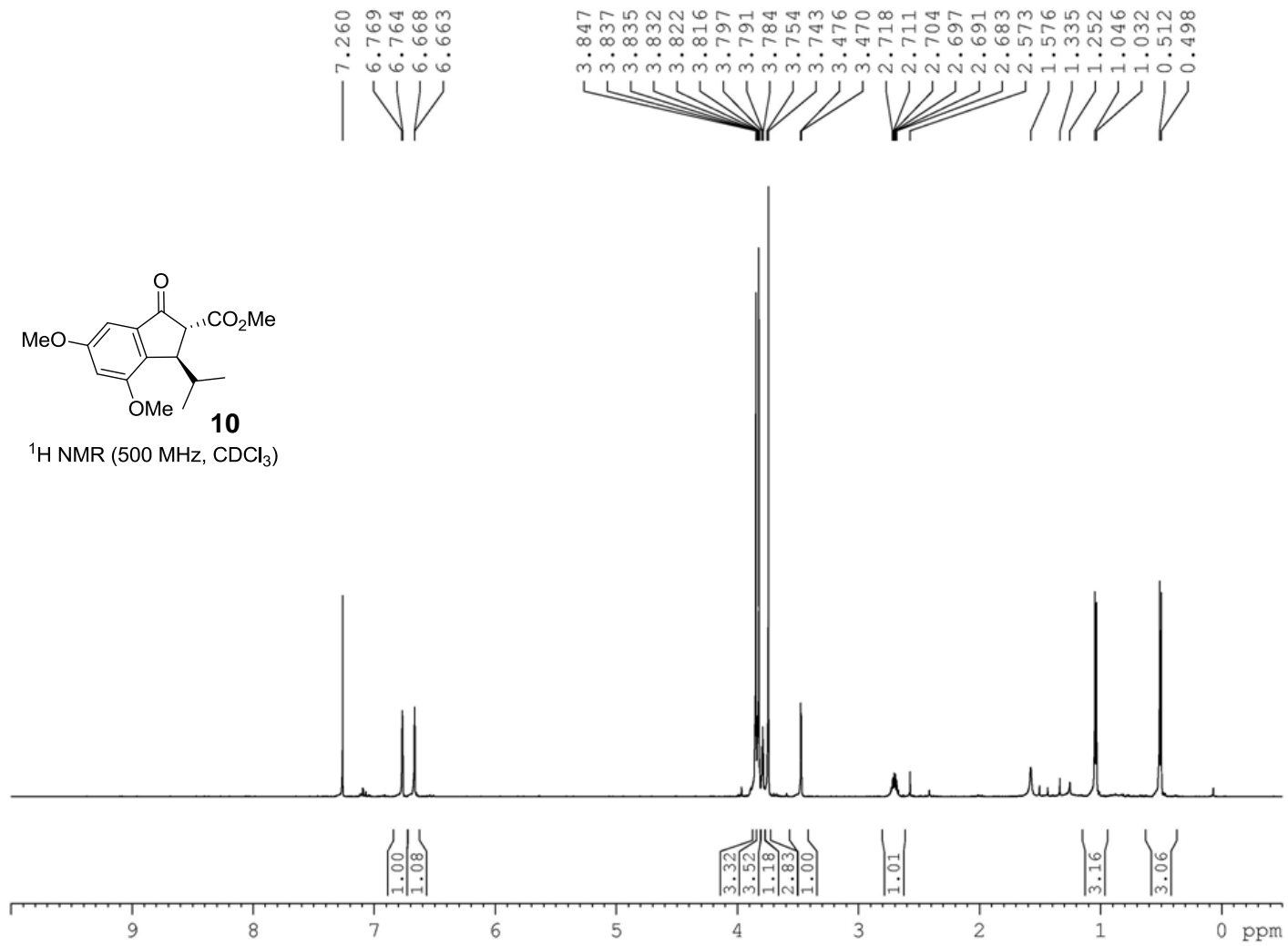
77.415
77.162
76.907

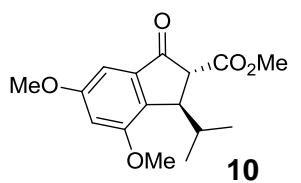
55.704
52.588
52.352
52.109
45.918

29.364
29.137
22.124
21.905

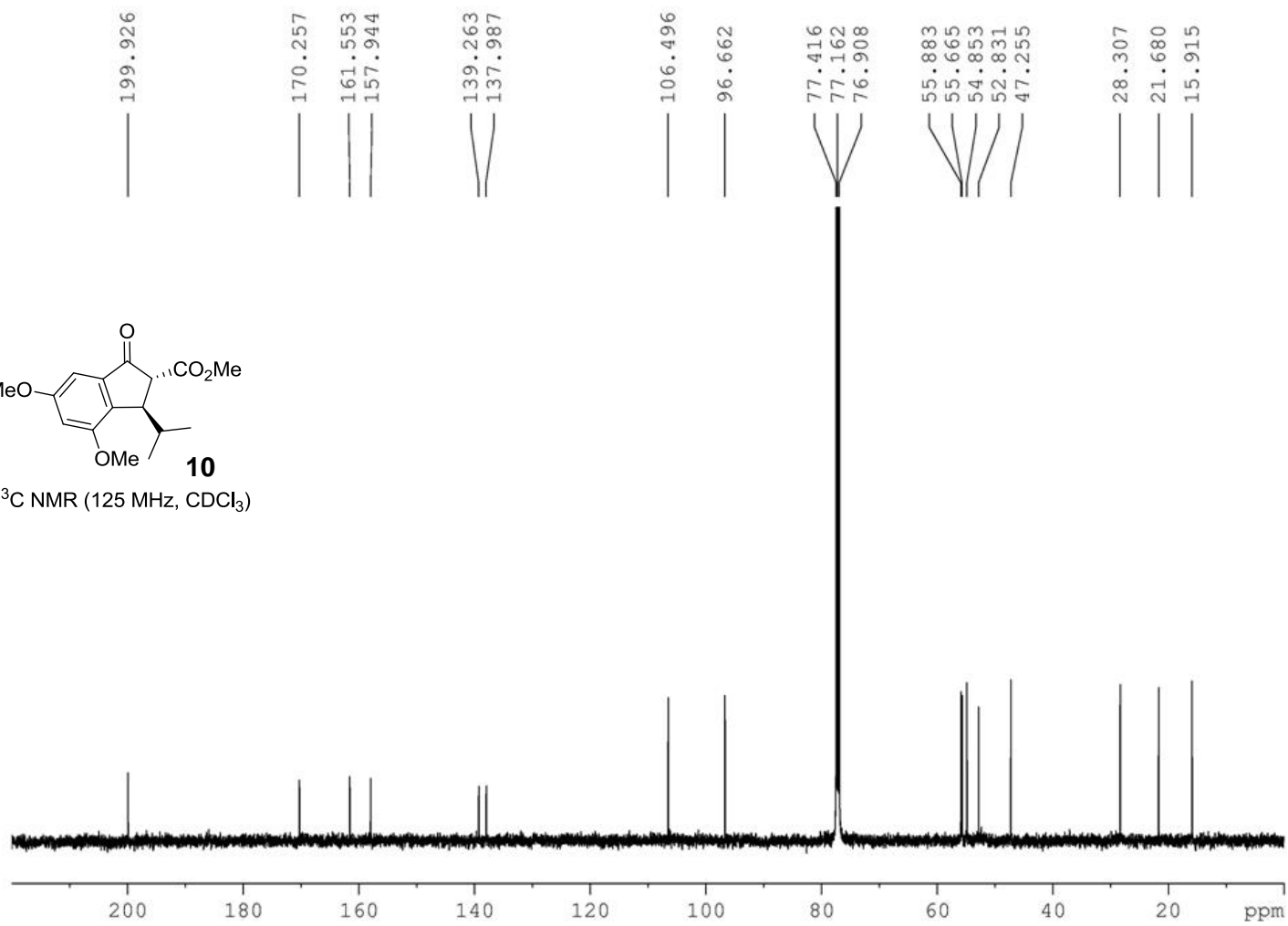


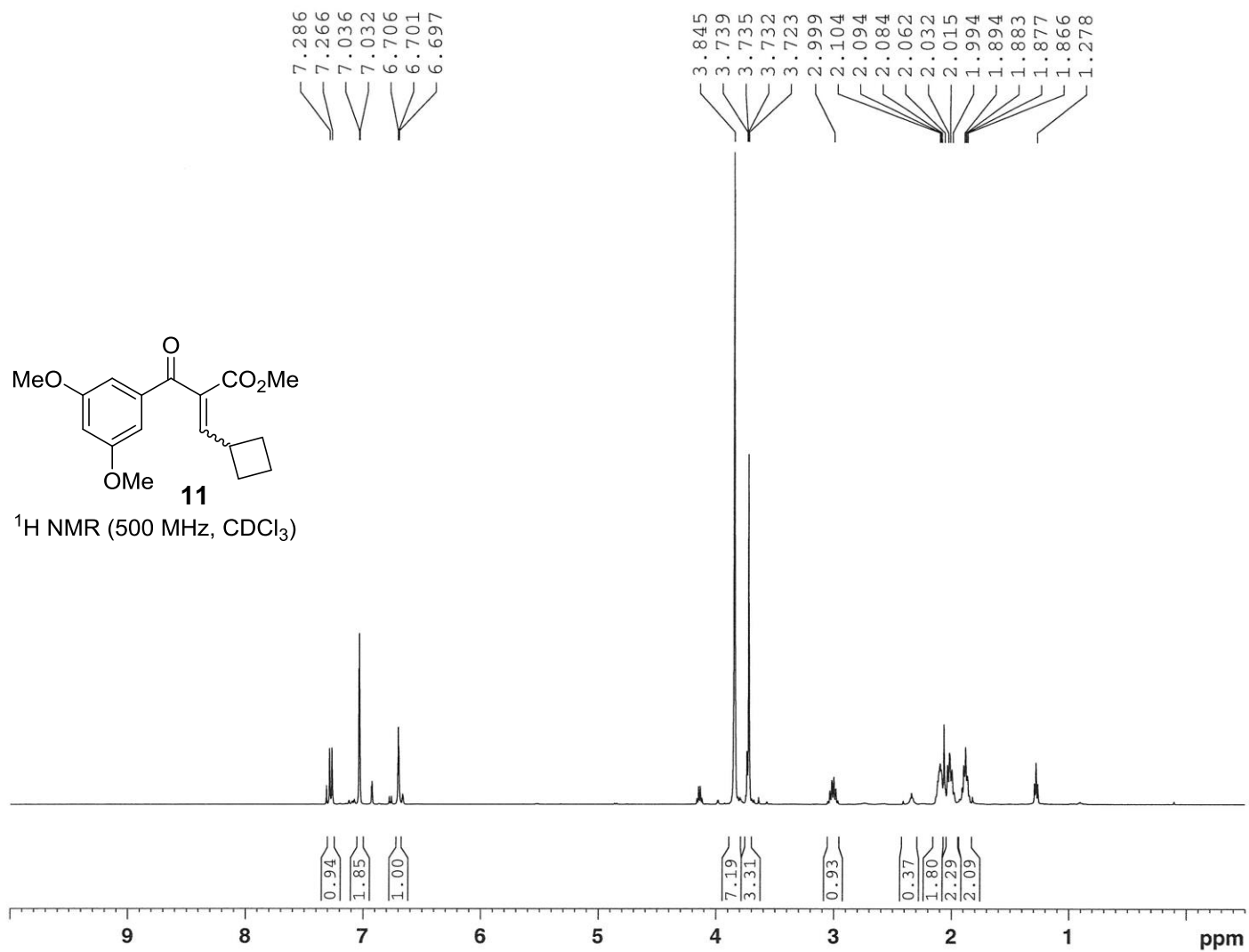
$^1\text{H NMR}$ (500 MHz, CDCl_3)

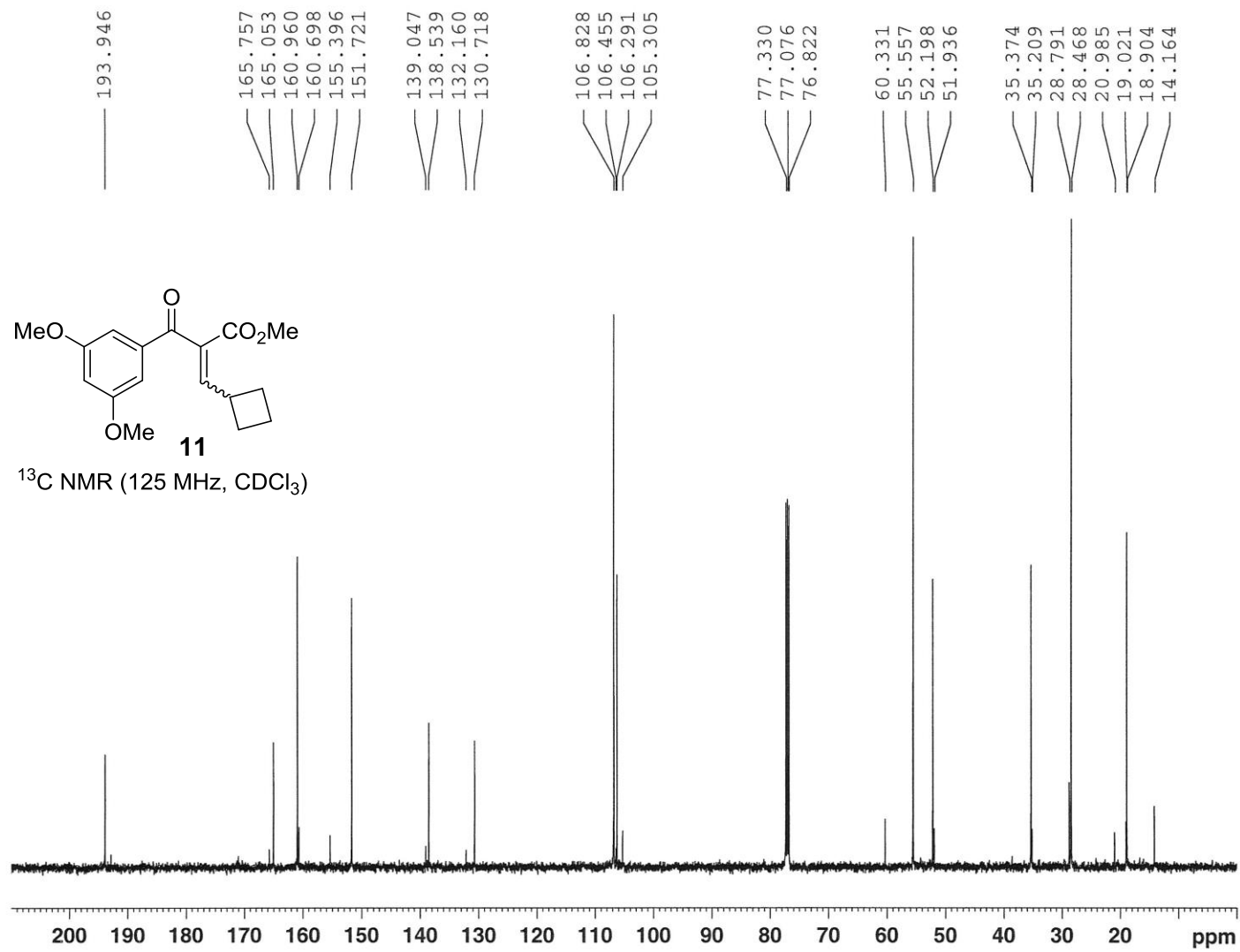


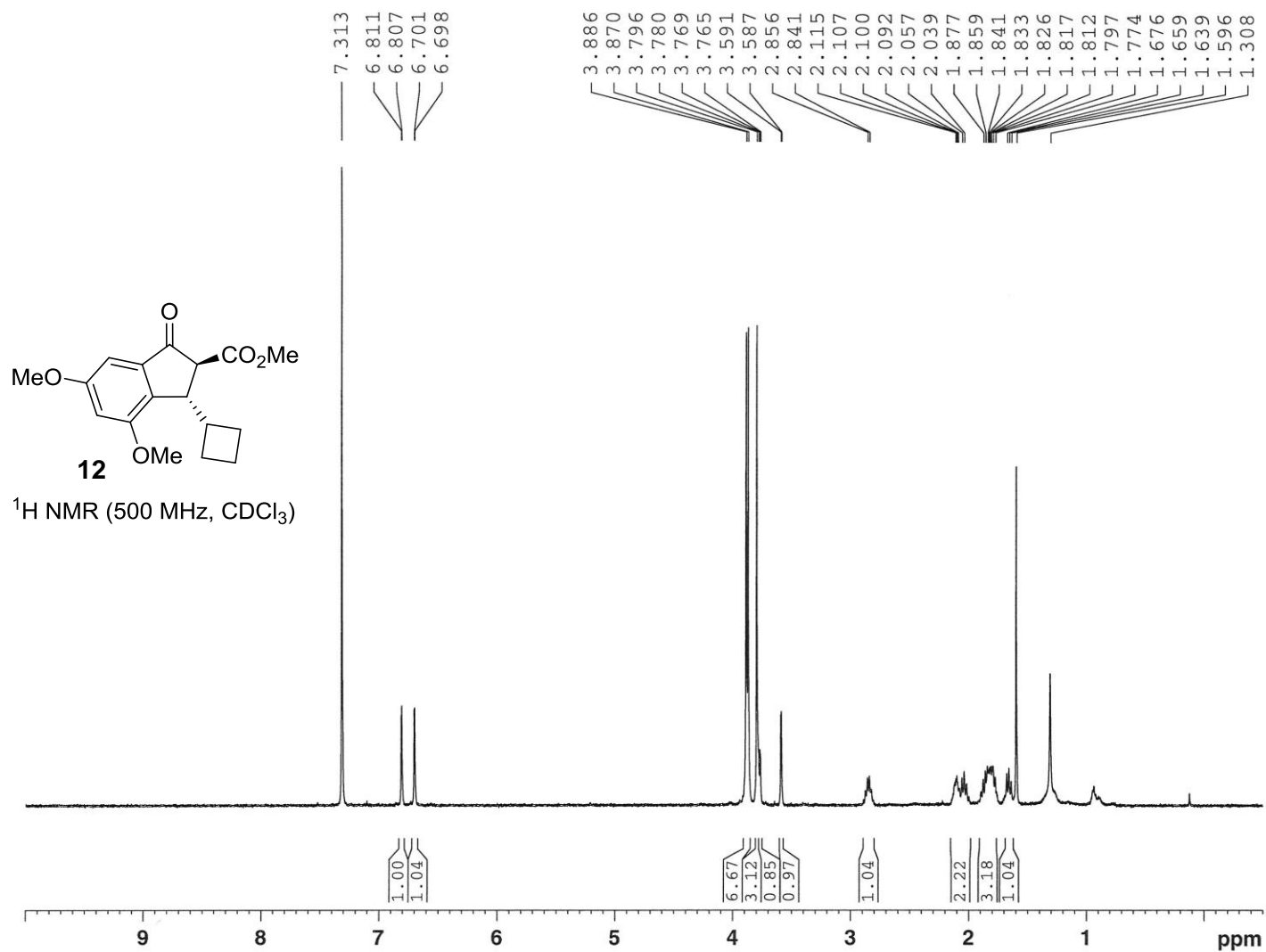


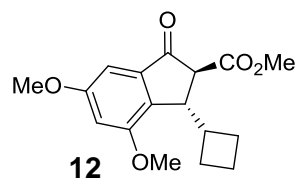
¹³C NMR (125 MHz, CDCl₃)



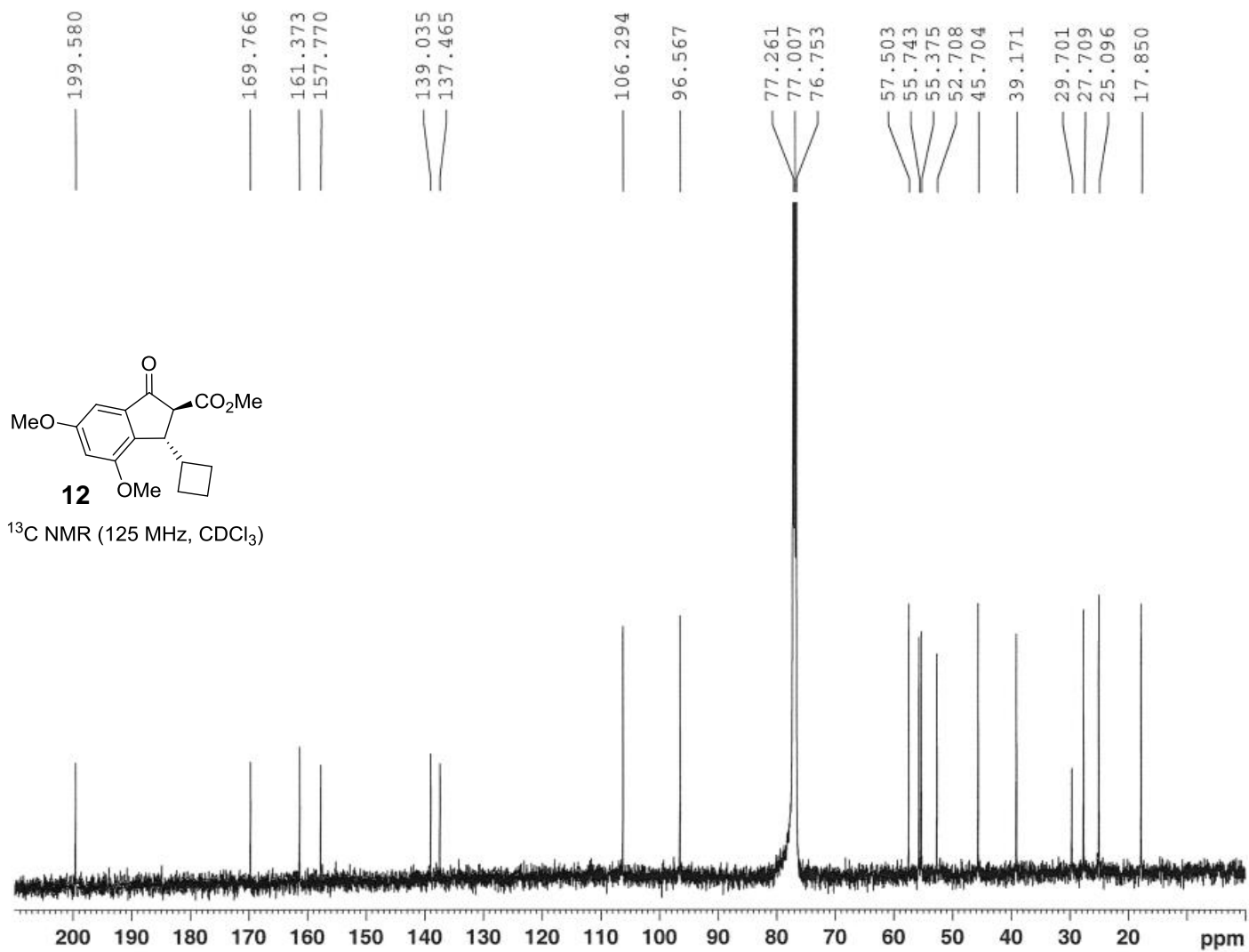


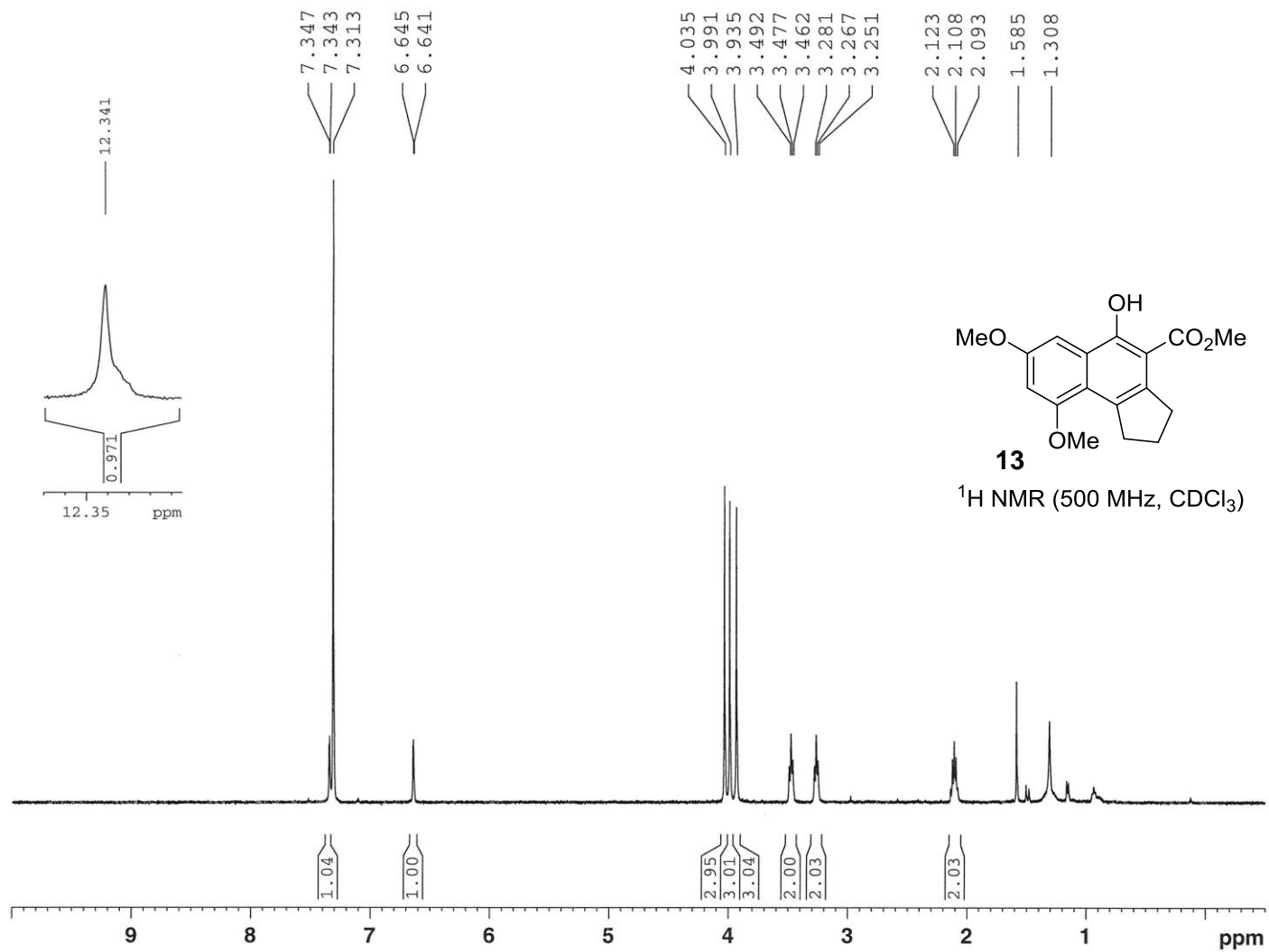


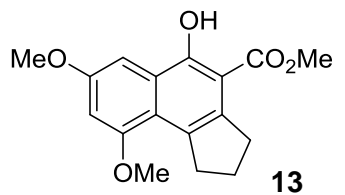




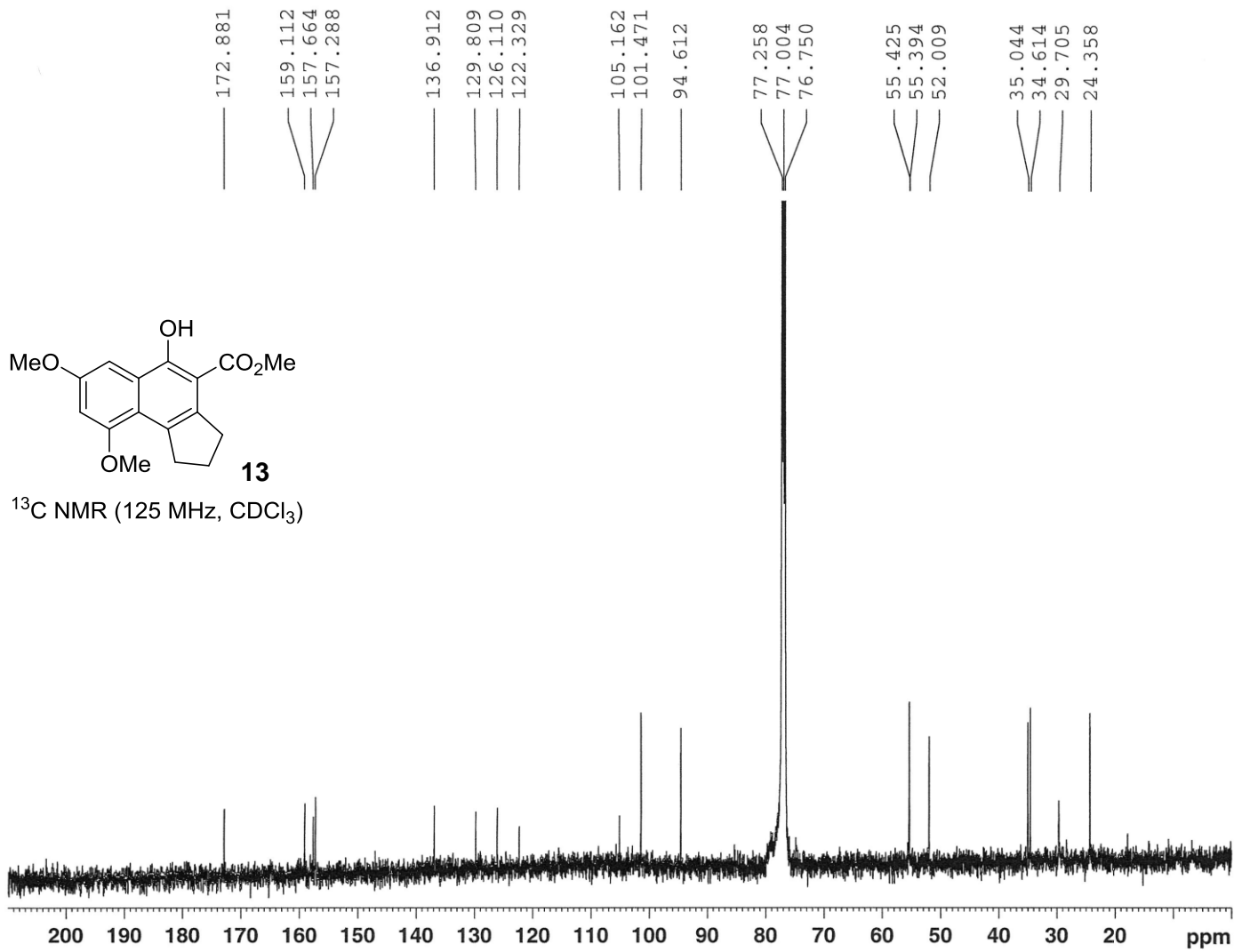
¹³C NMR (125 MHz, CDCl₃)

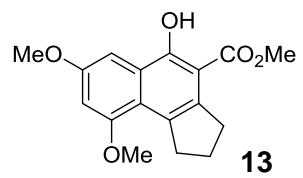




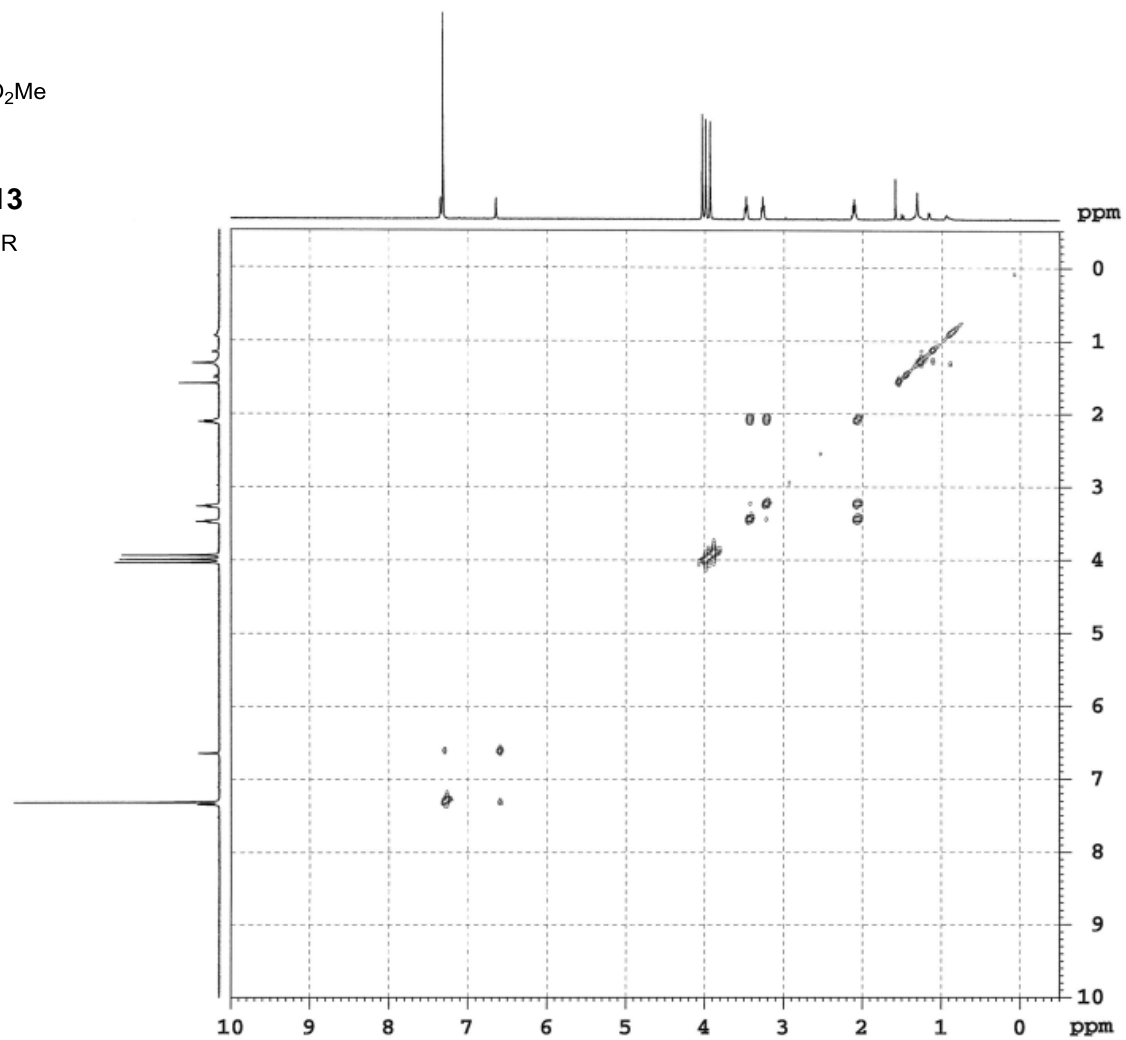


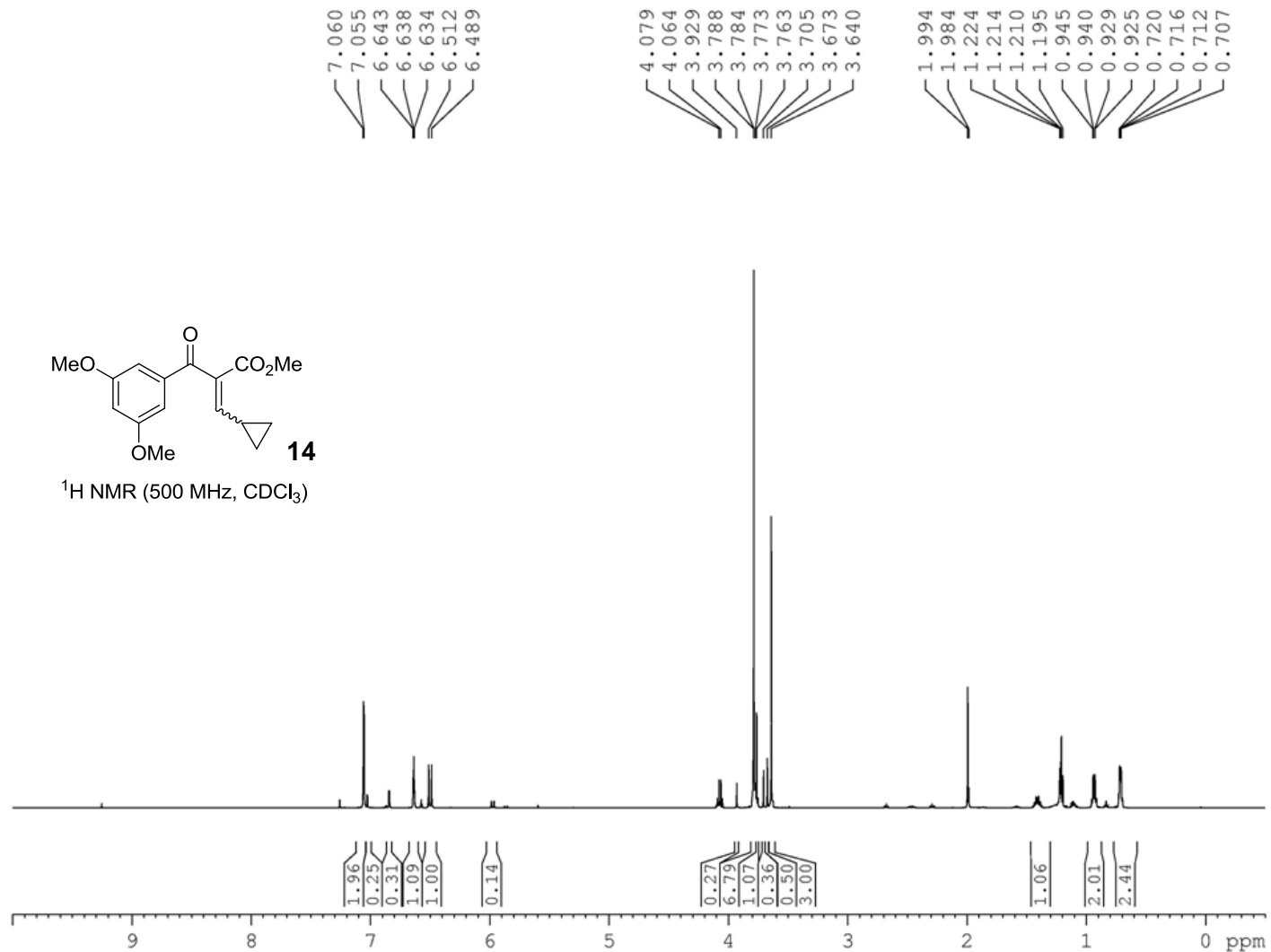
^{13}C NMR (125 MHz, CDCl_3)

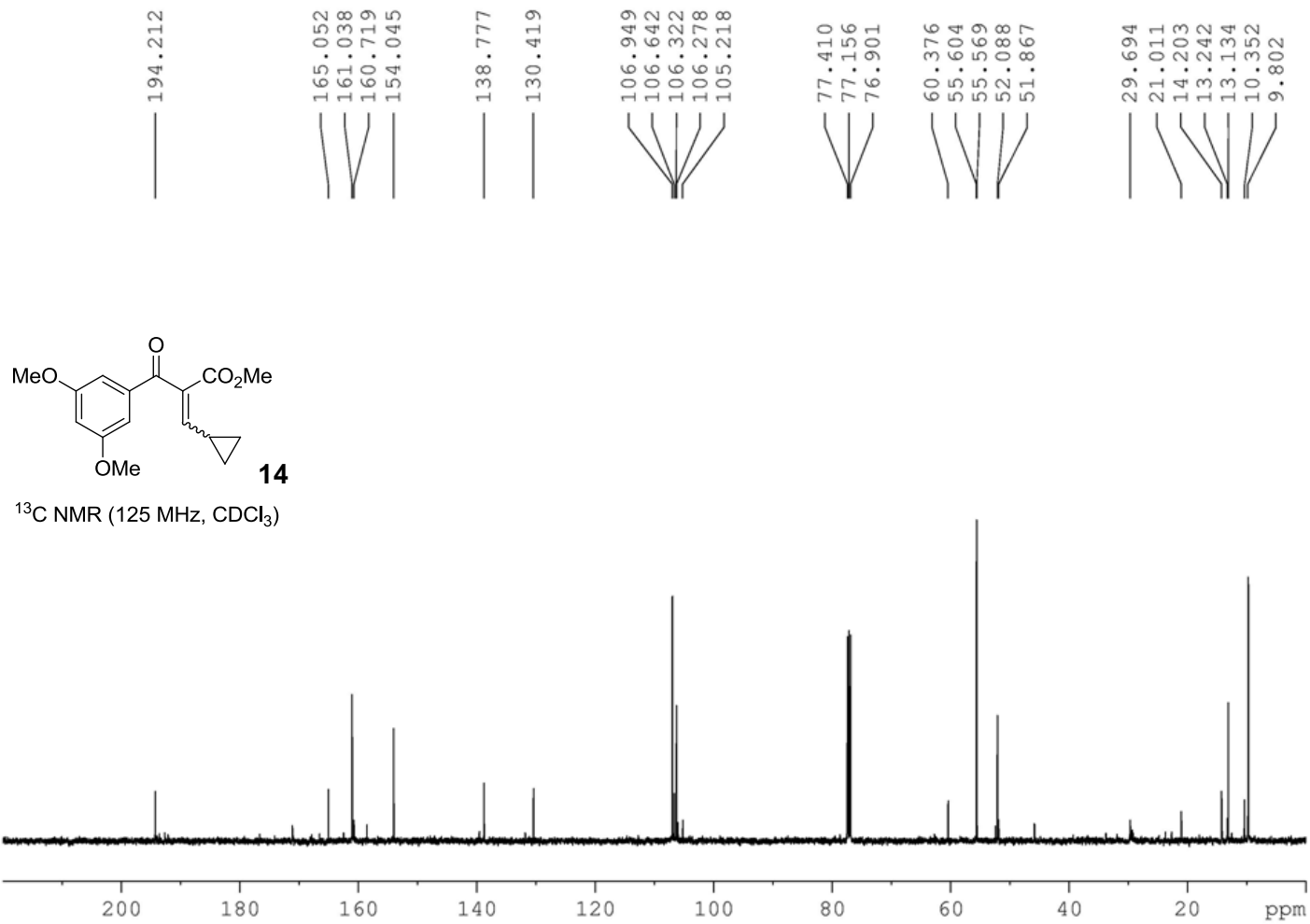


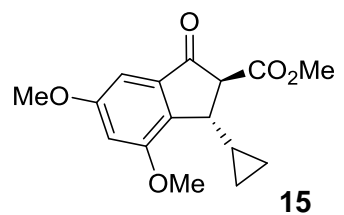


^1H - ^1H 2D COSY NMR
500 MHz, CDCl_3

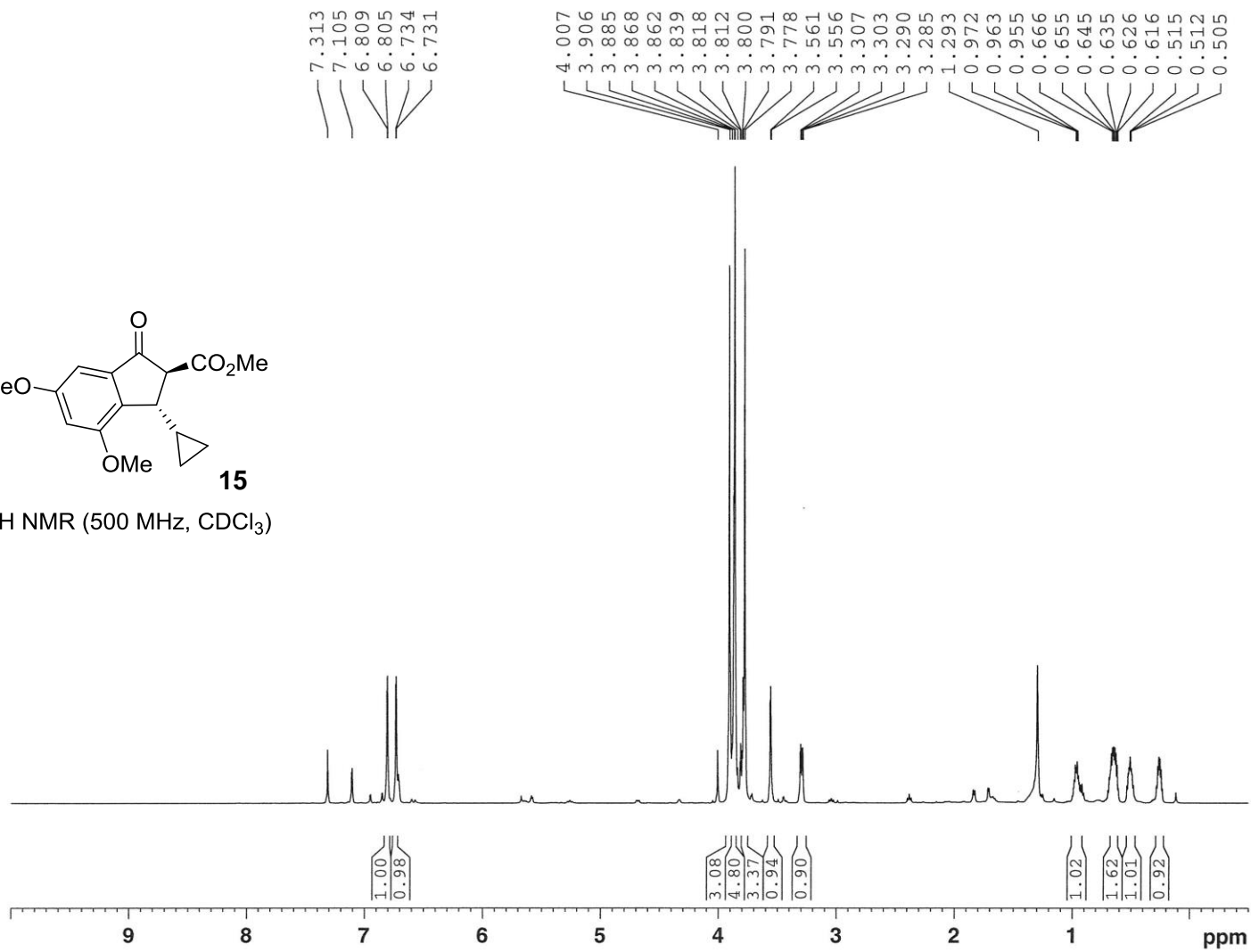


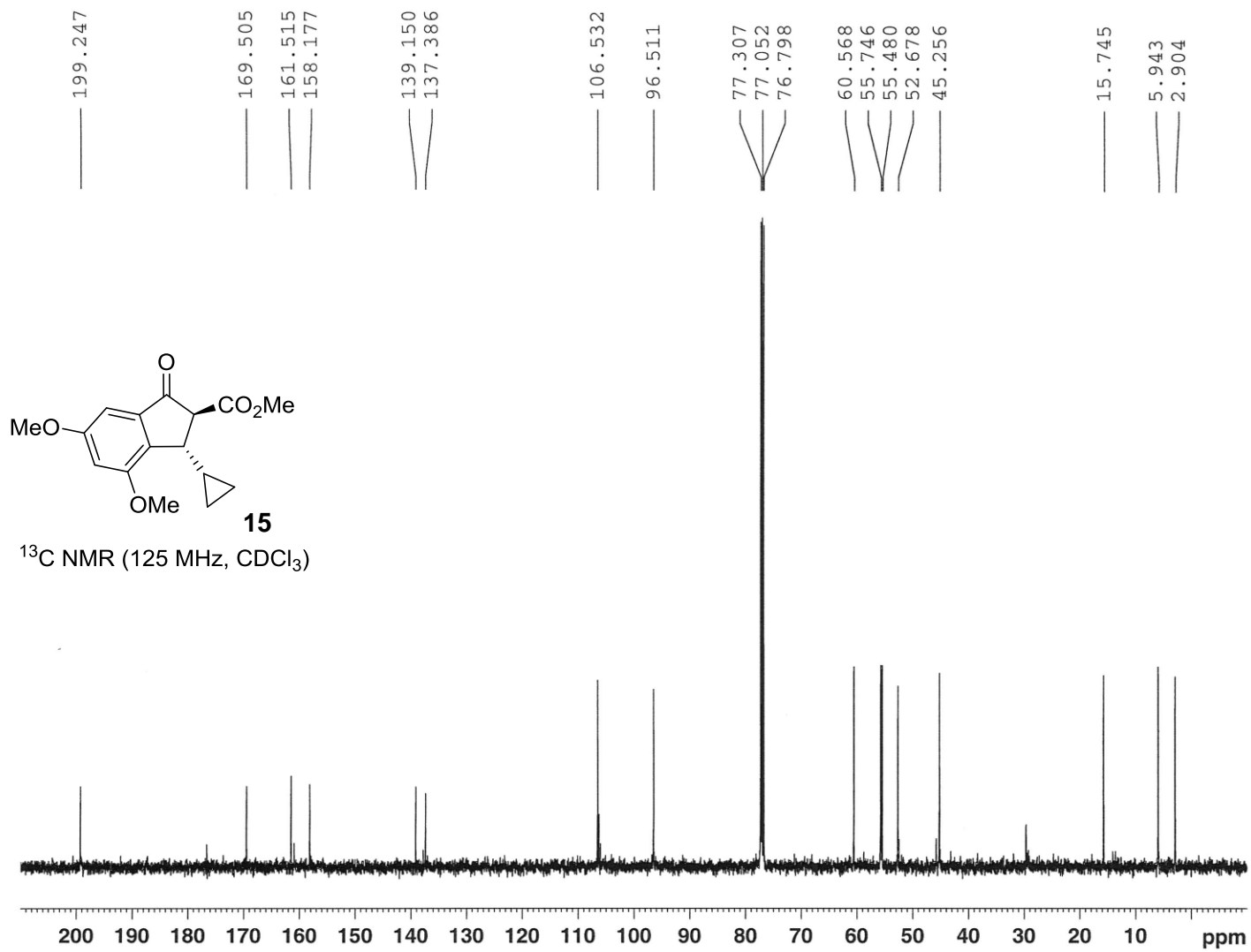


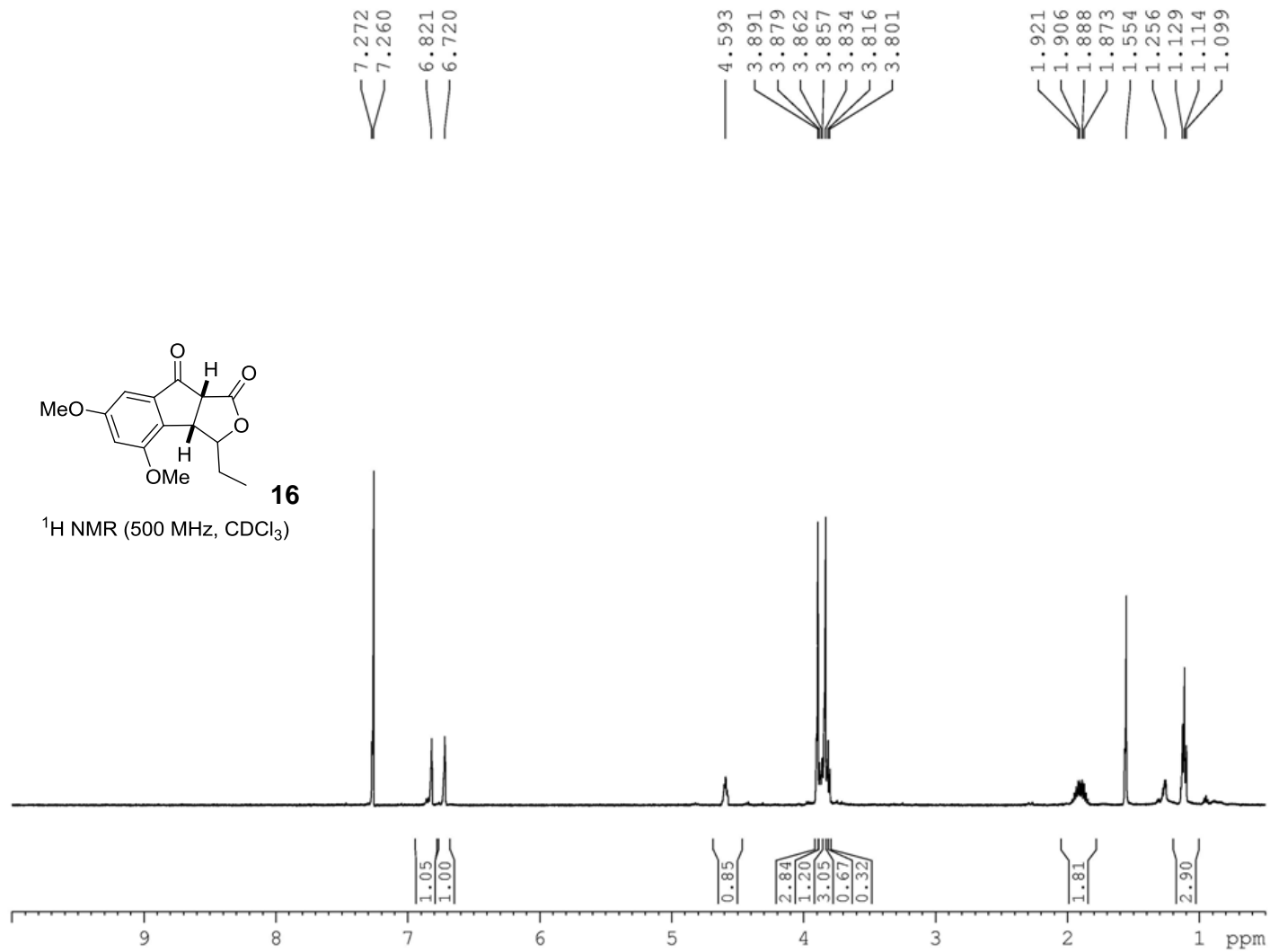


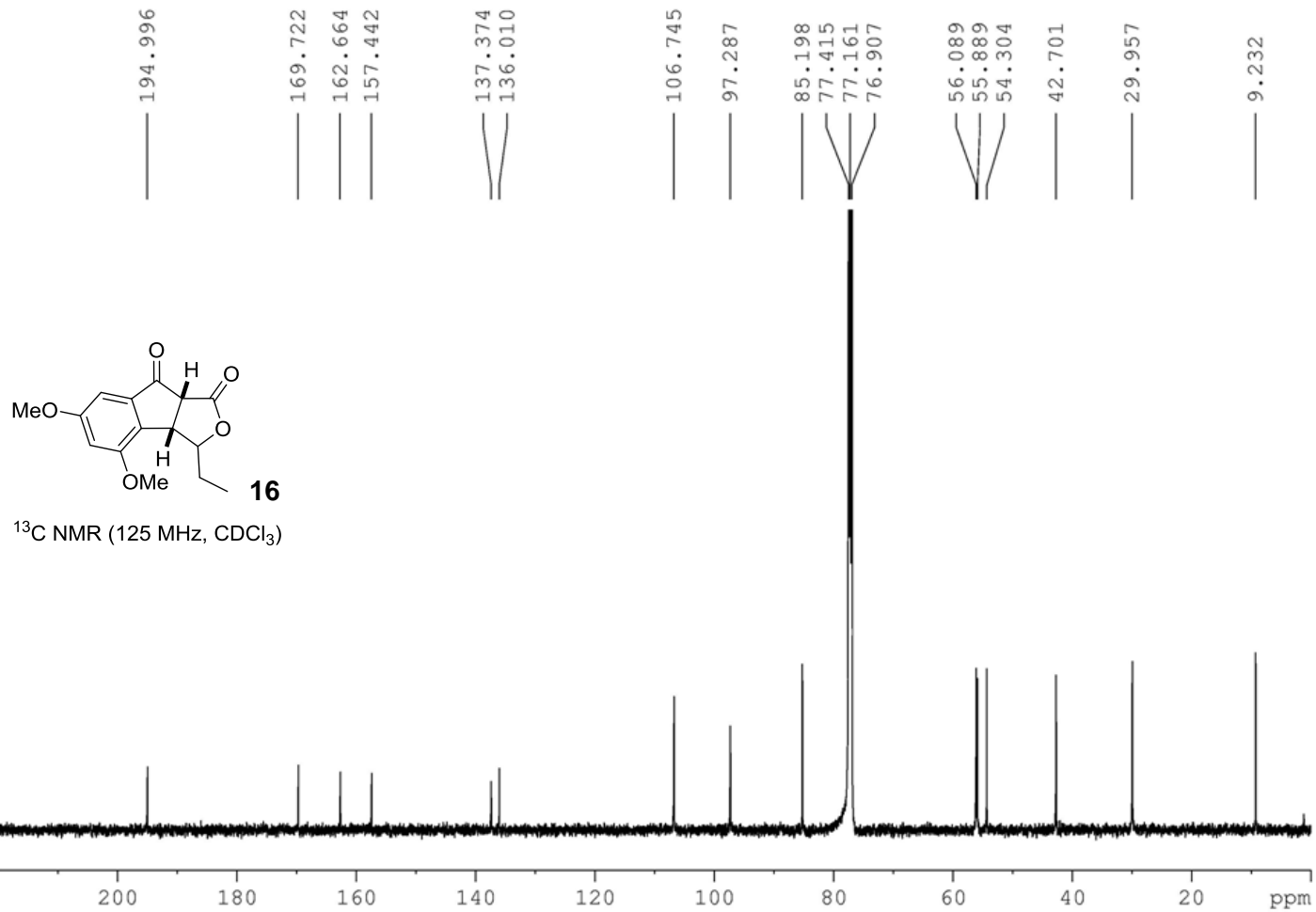


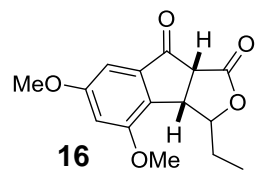
$^1\text{H NMR}$ (500 MHz, CDCl_3)



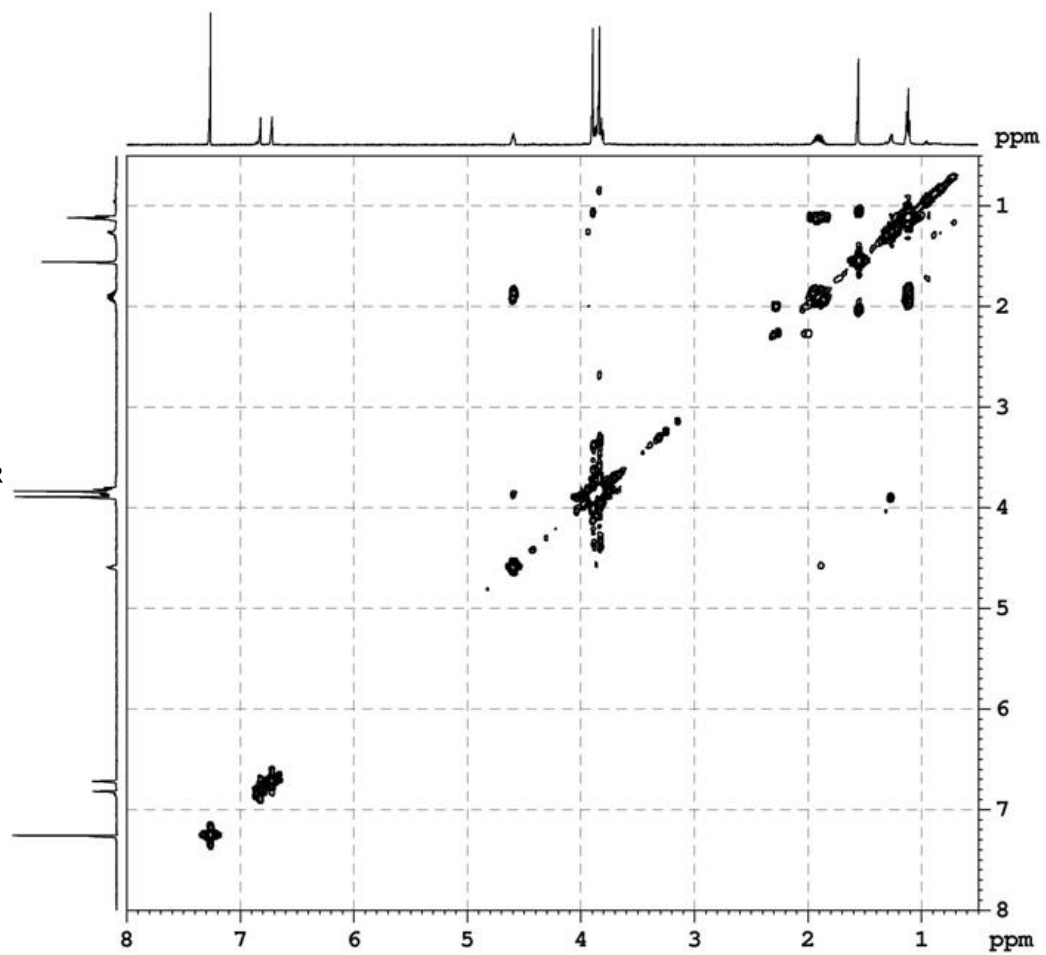


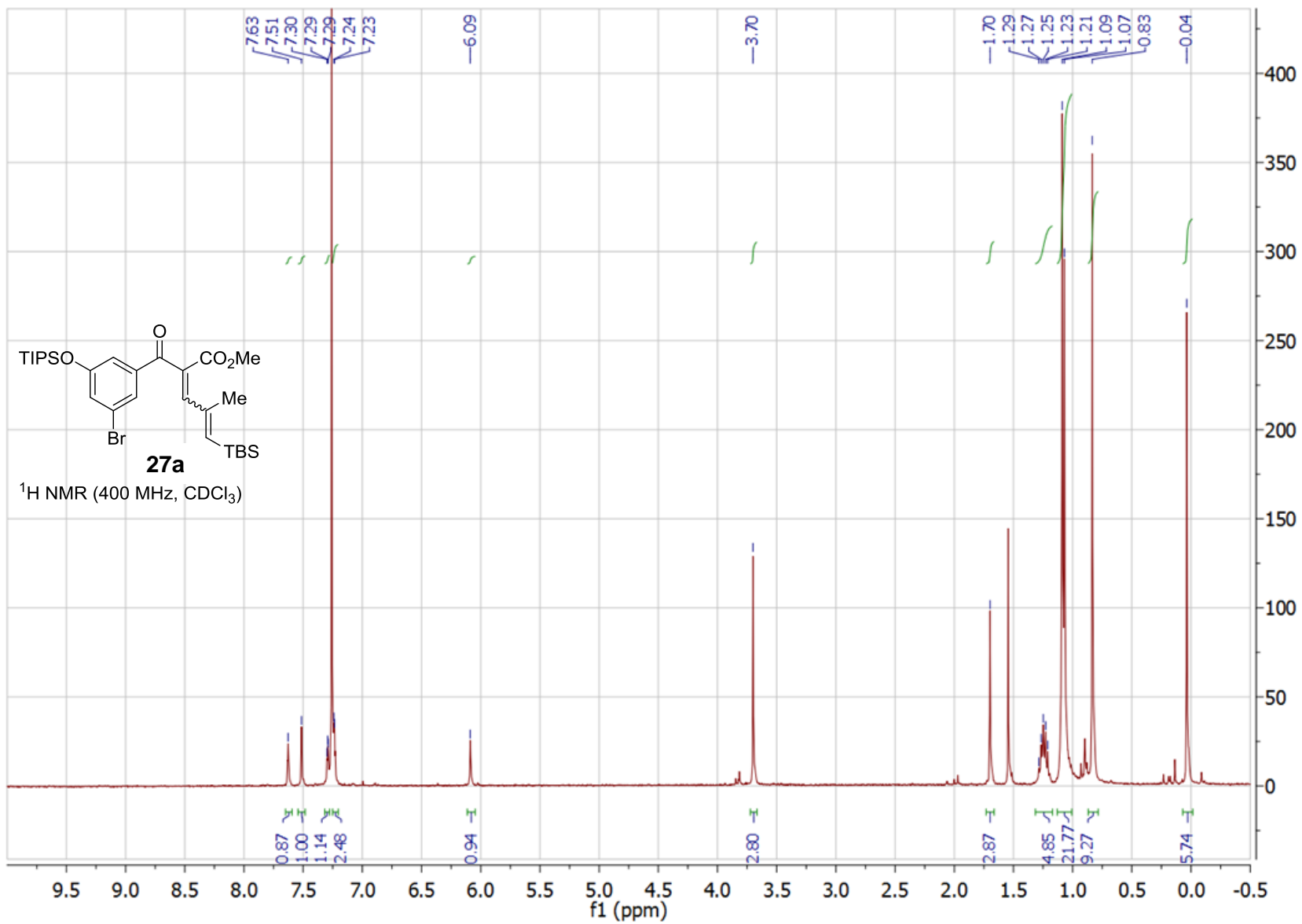


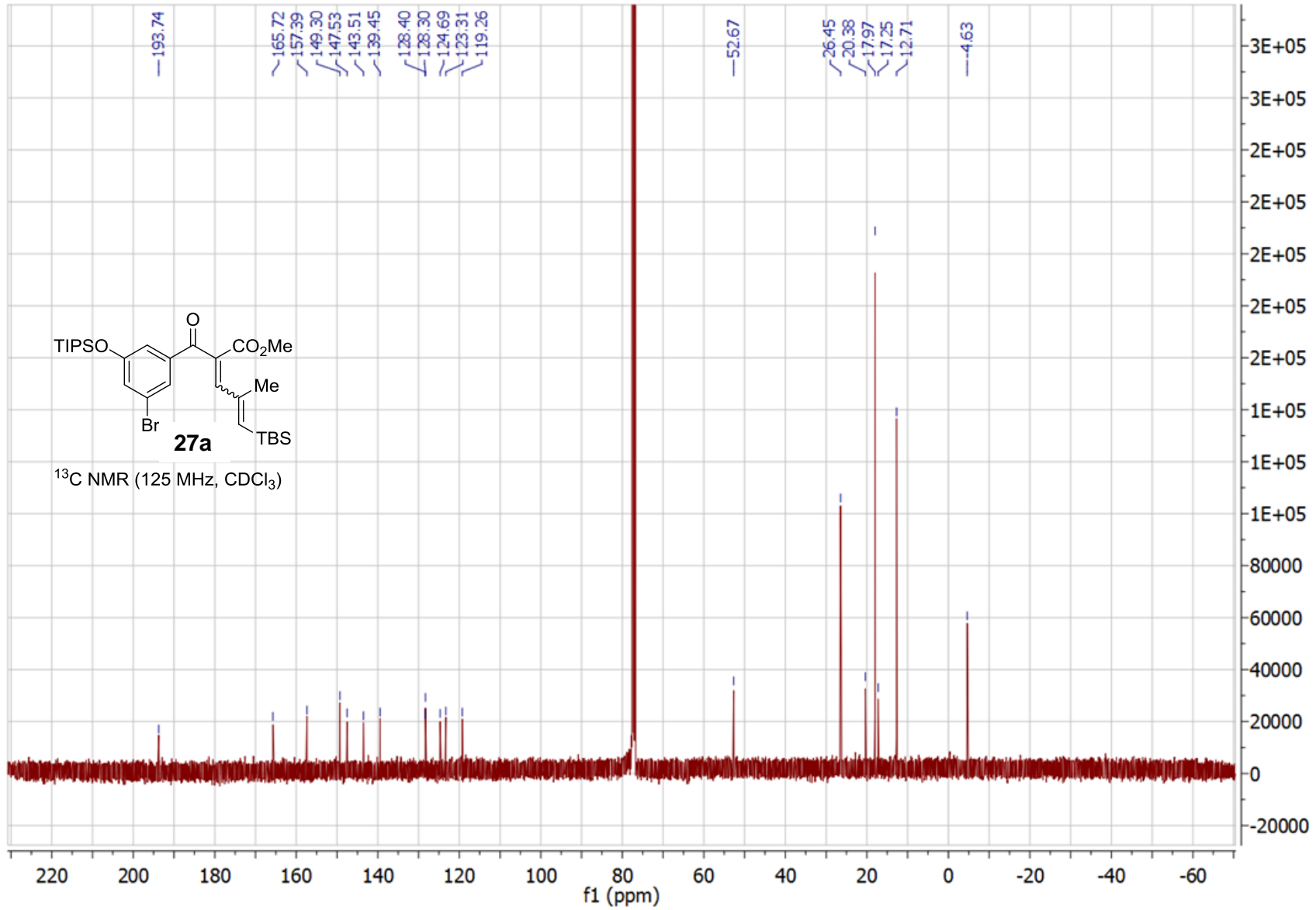


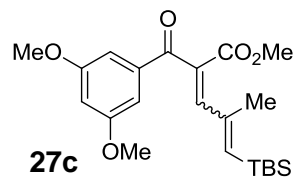


^1H - ^1H 2D COSY NMR
(500 MHz, CDCl_3)

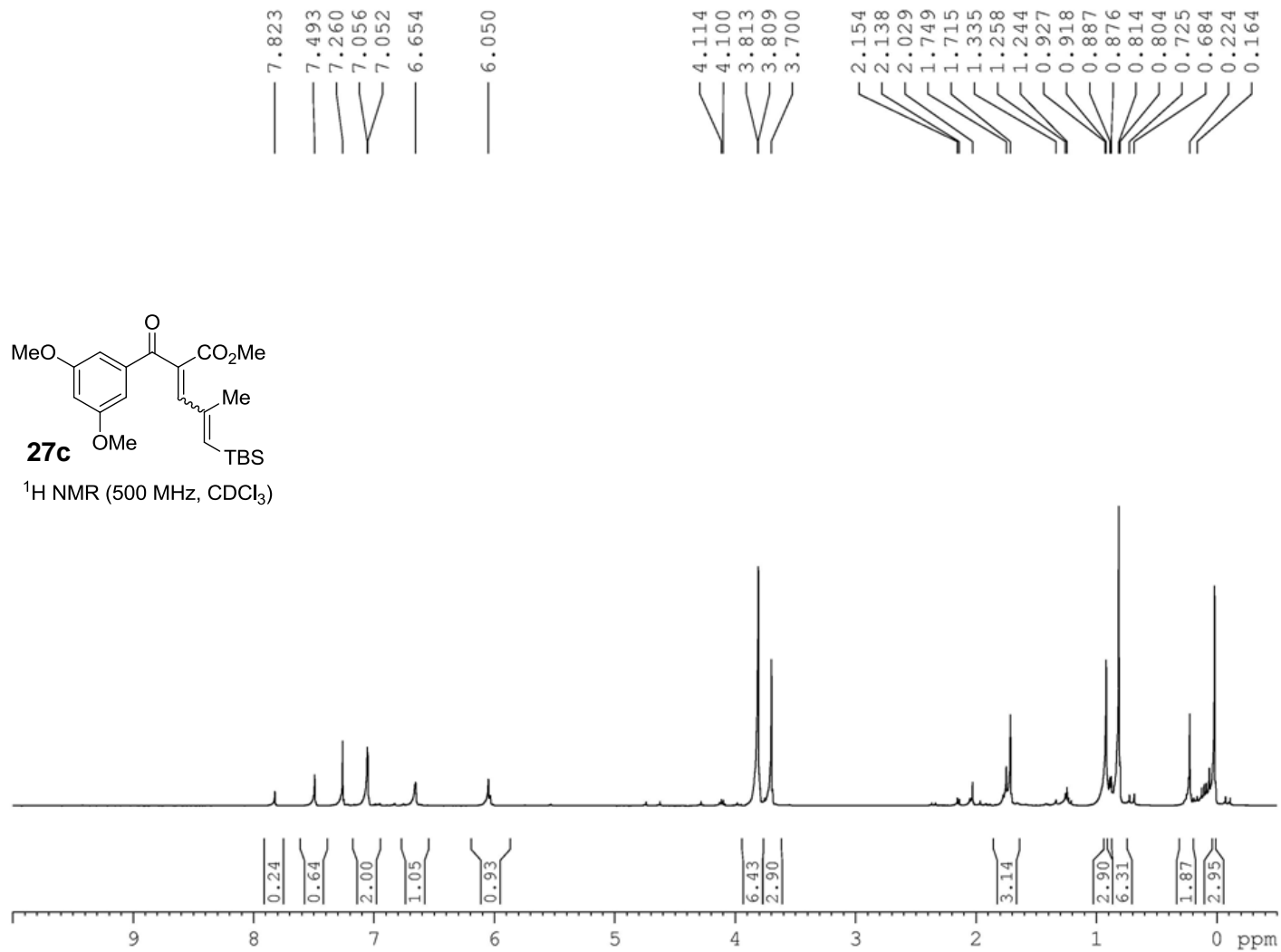


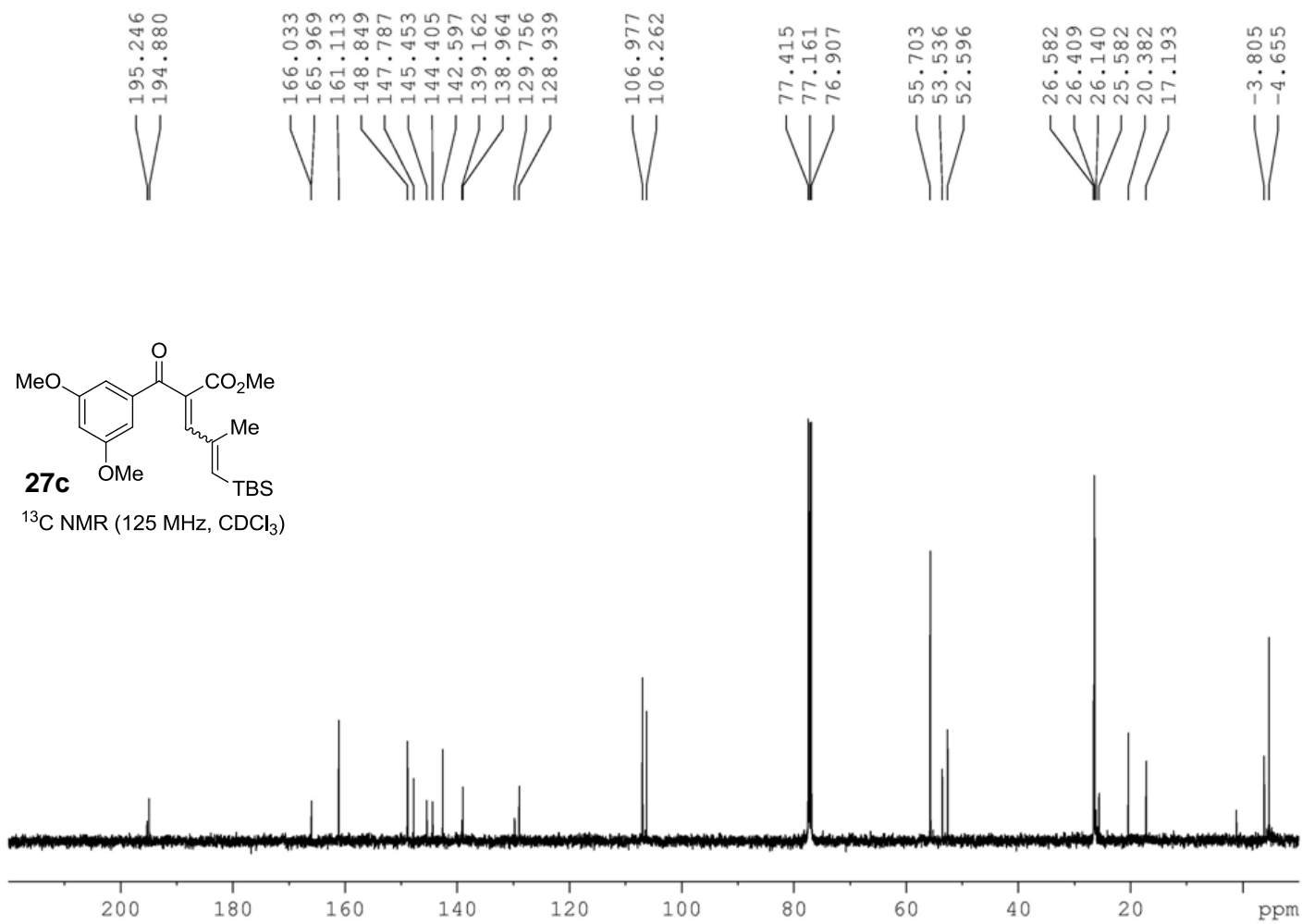


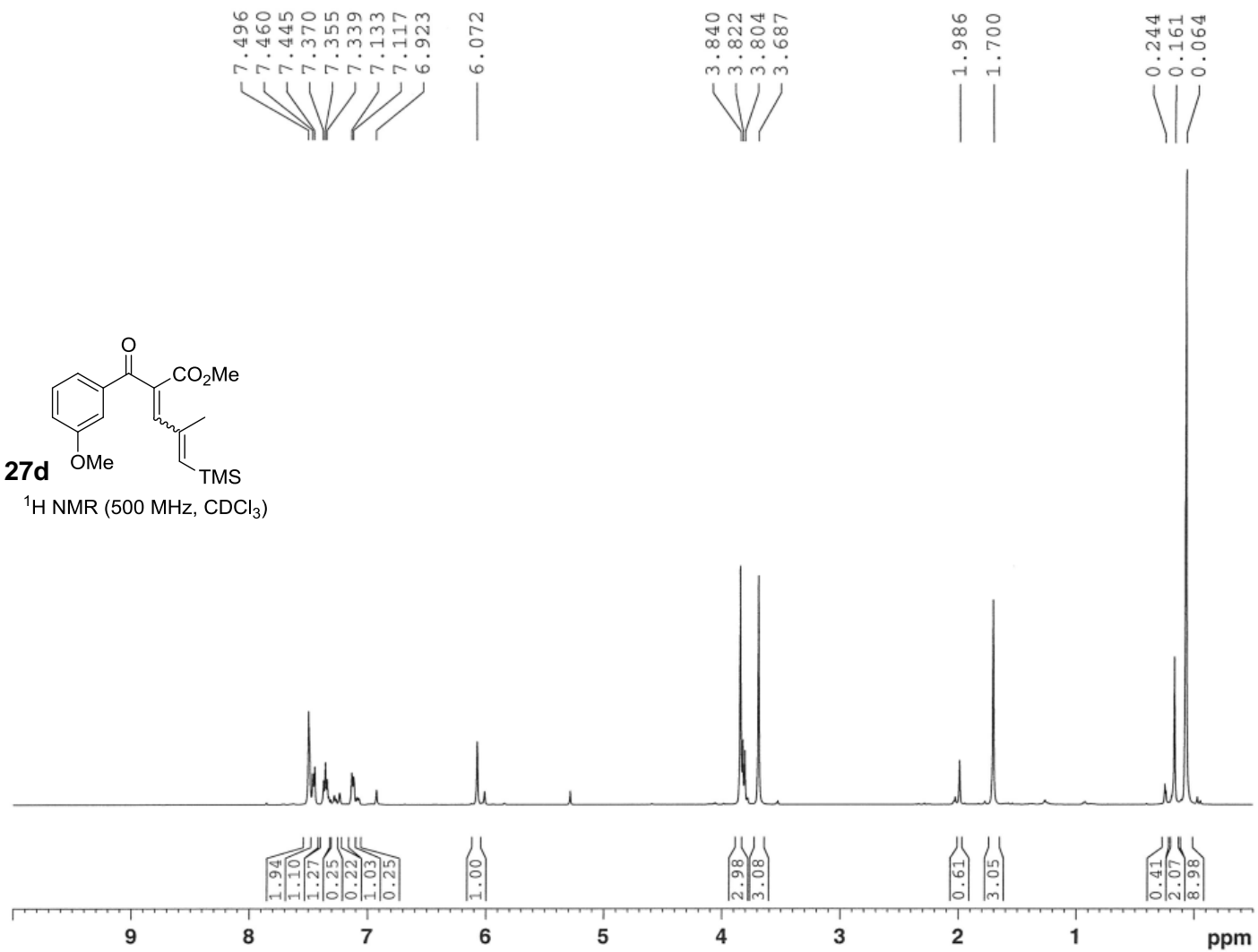
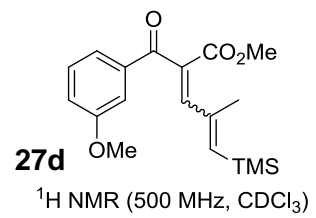


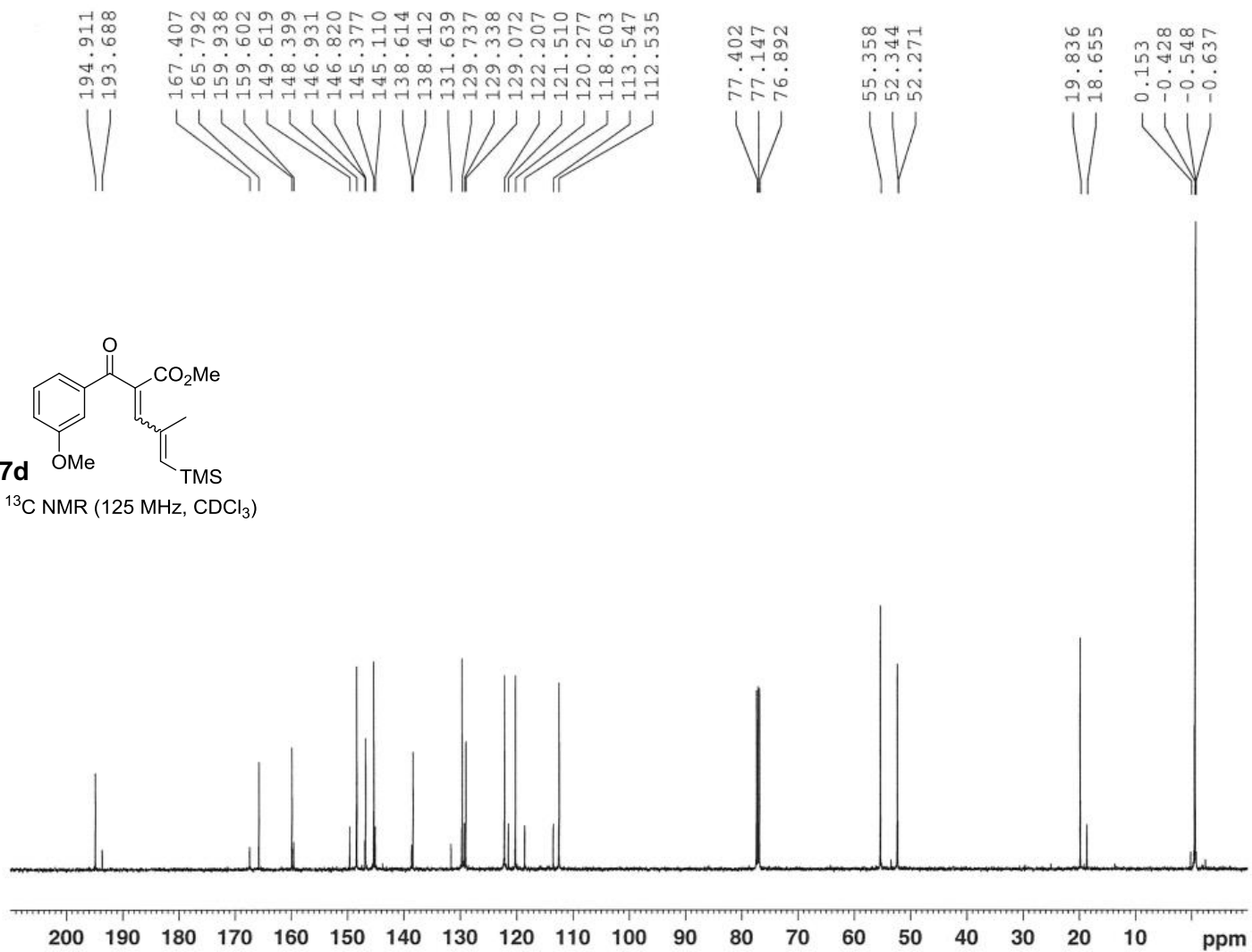
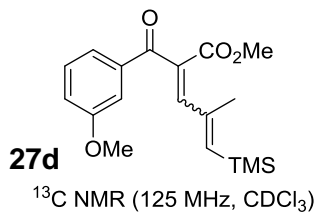


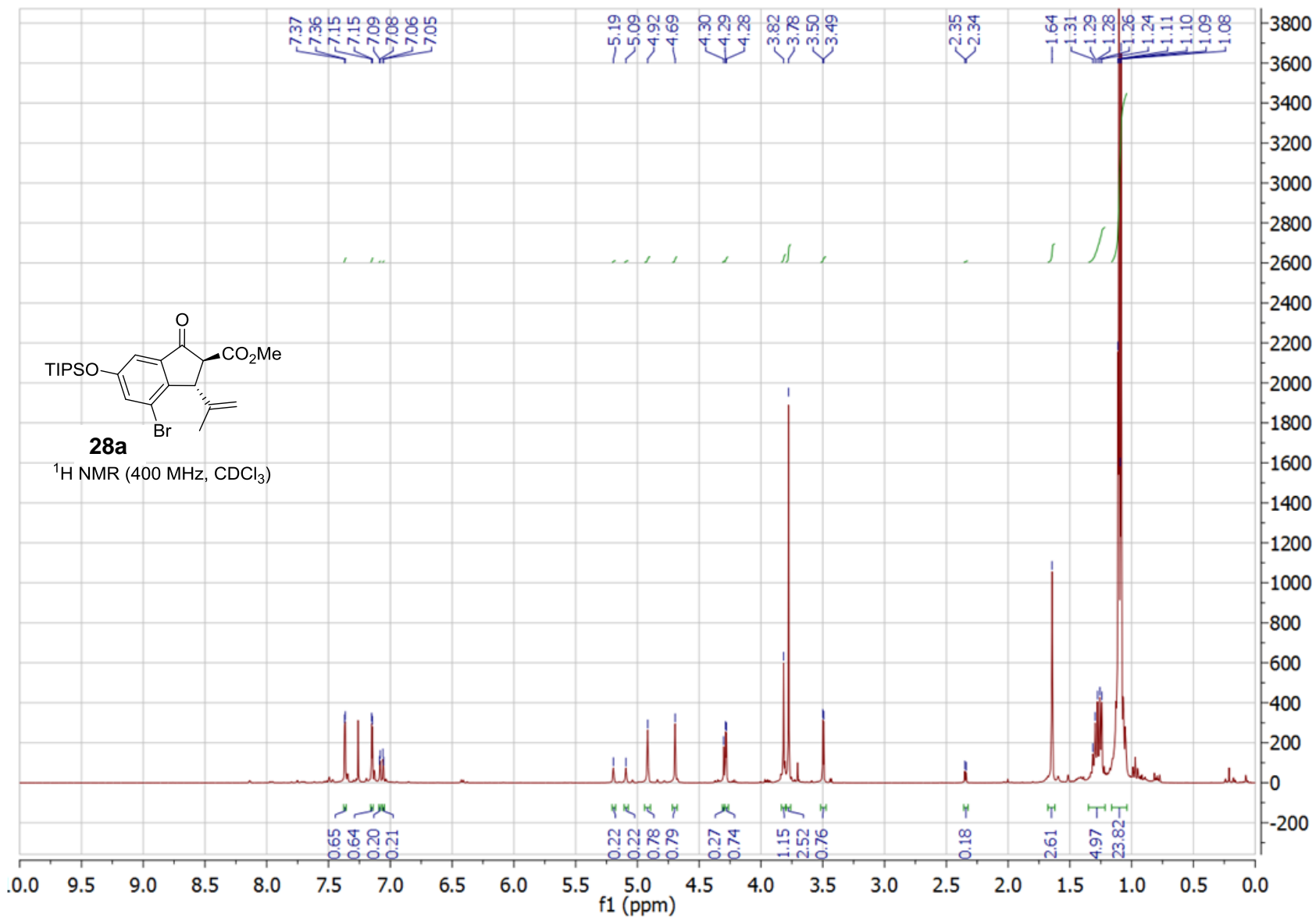
¹H NMR (500 MHz, CDCl₃)

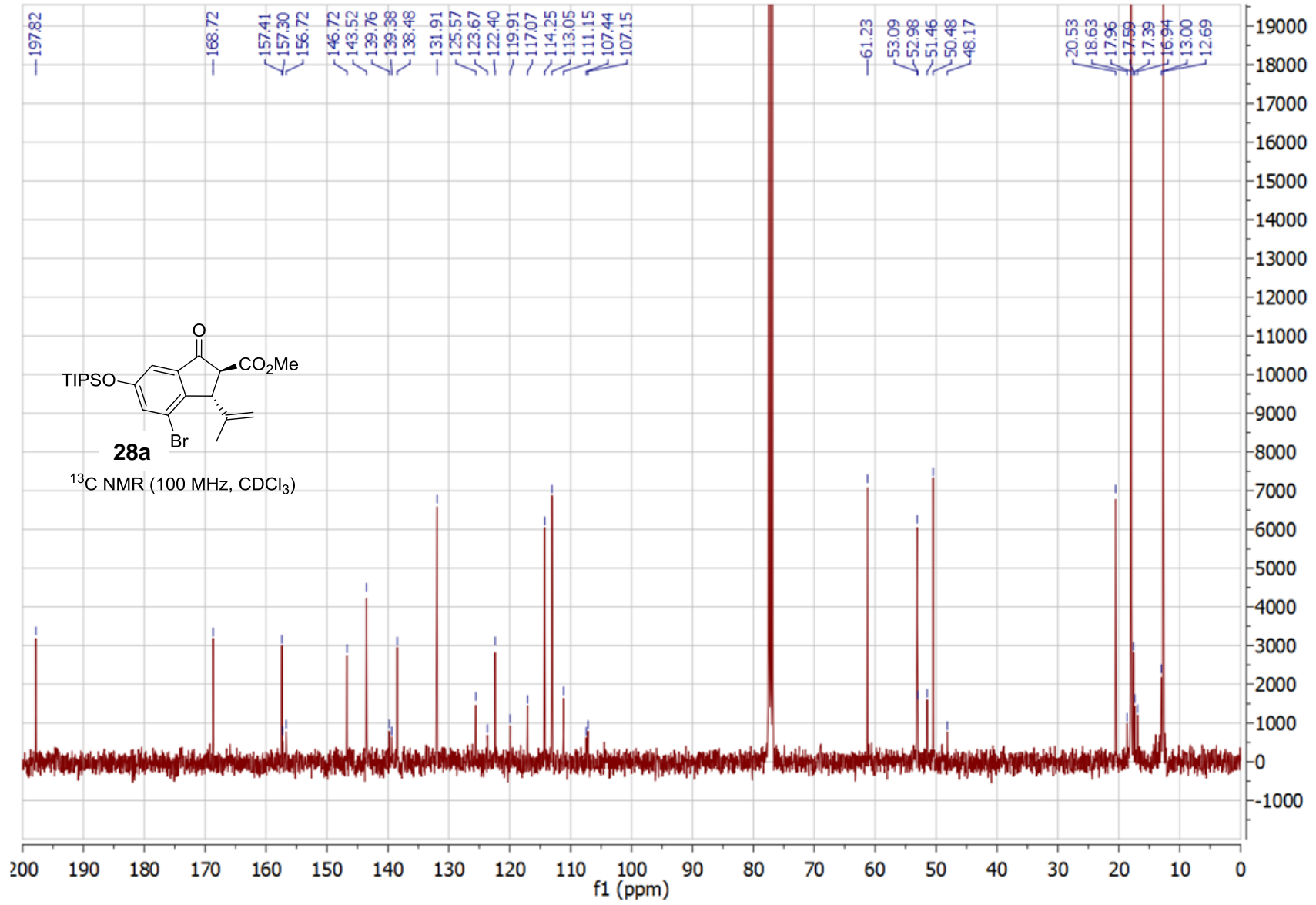


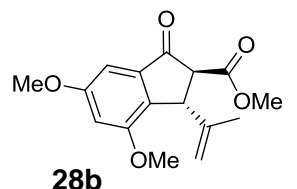




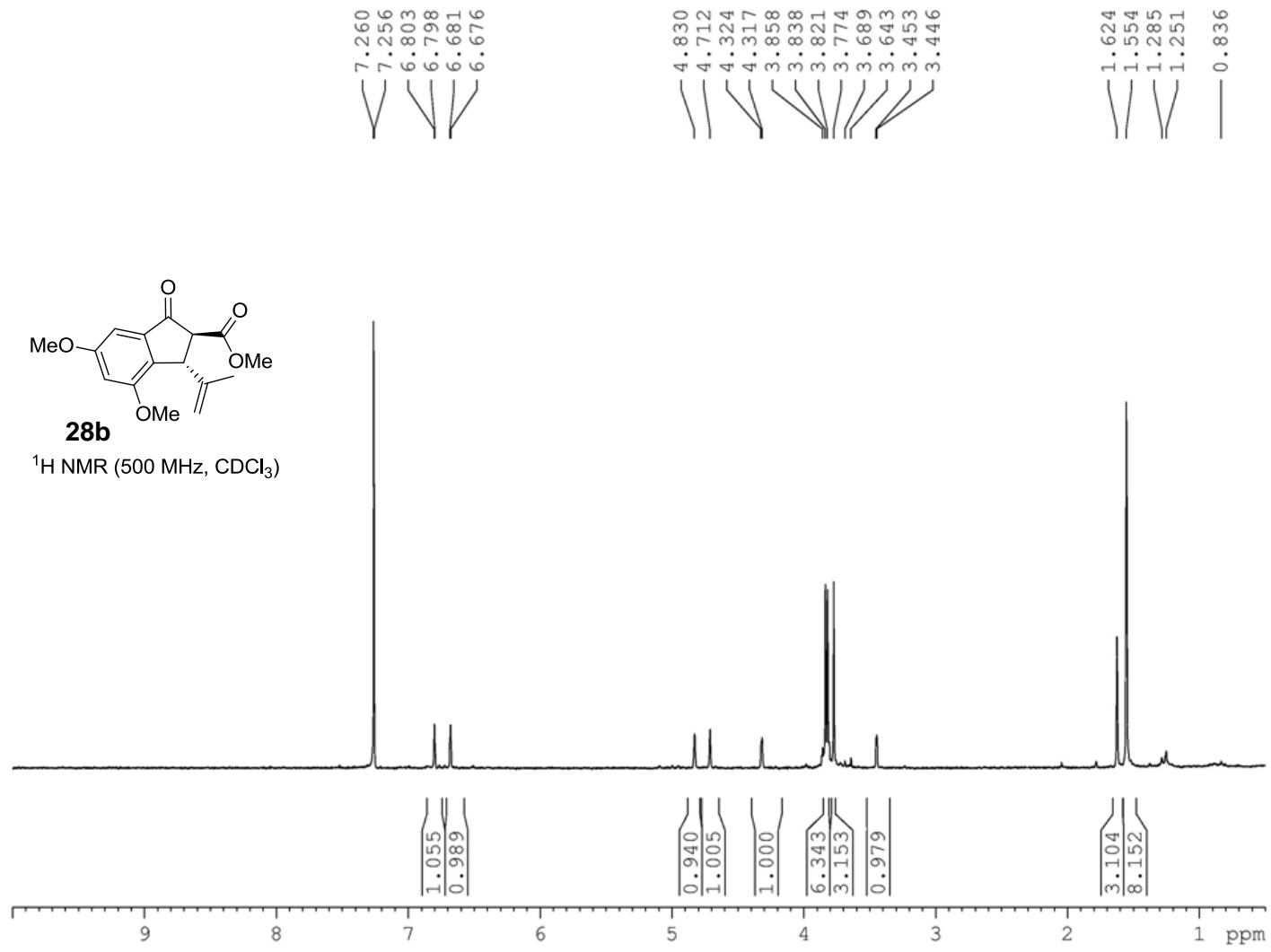


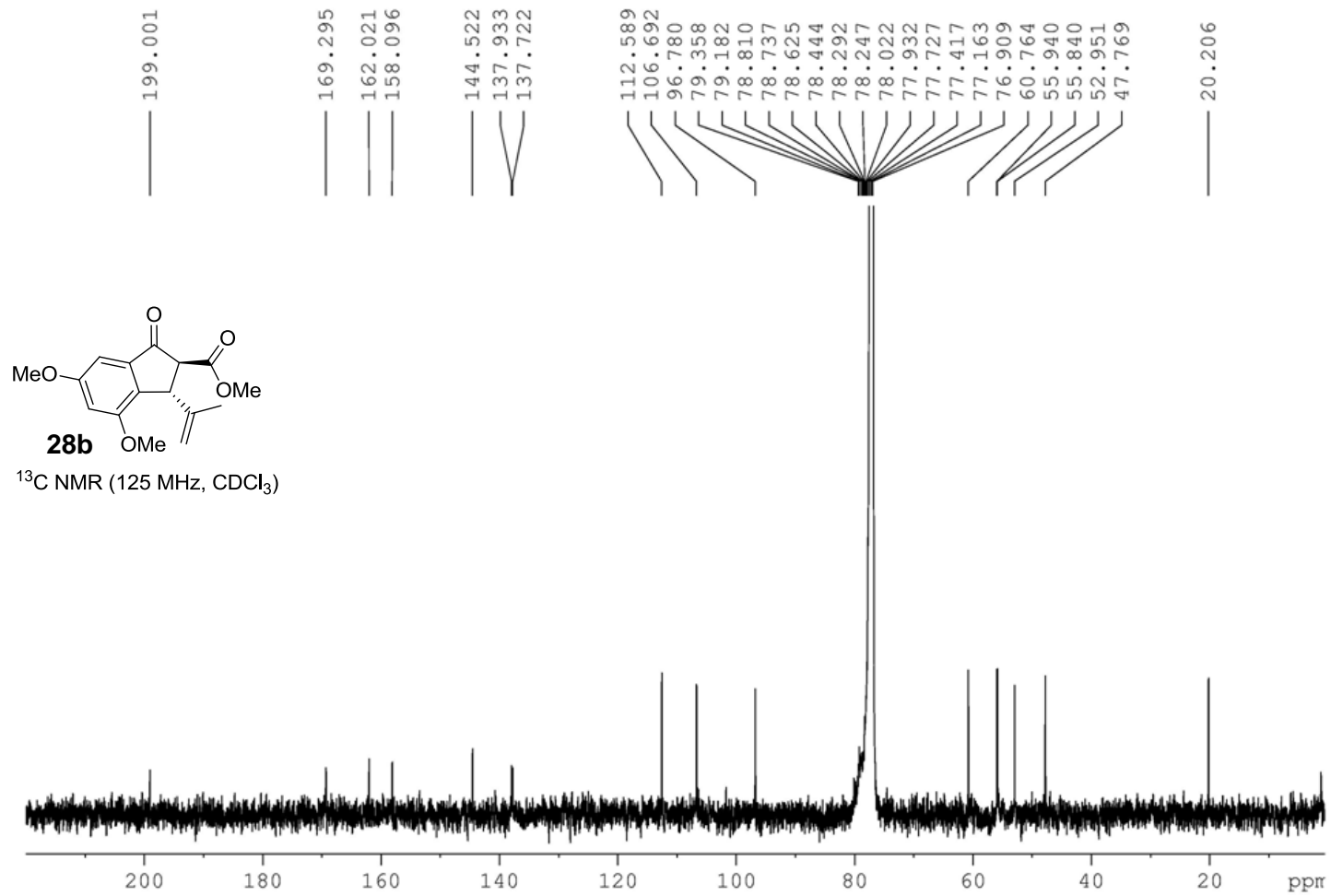


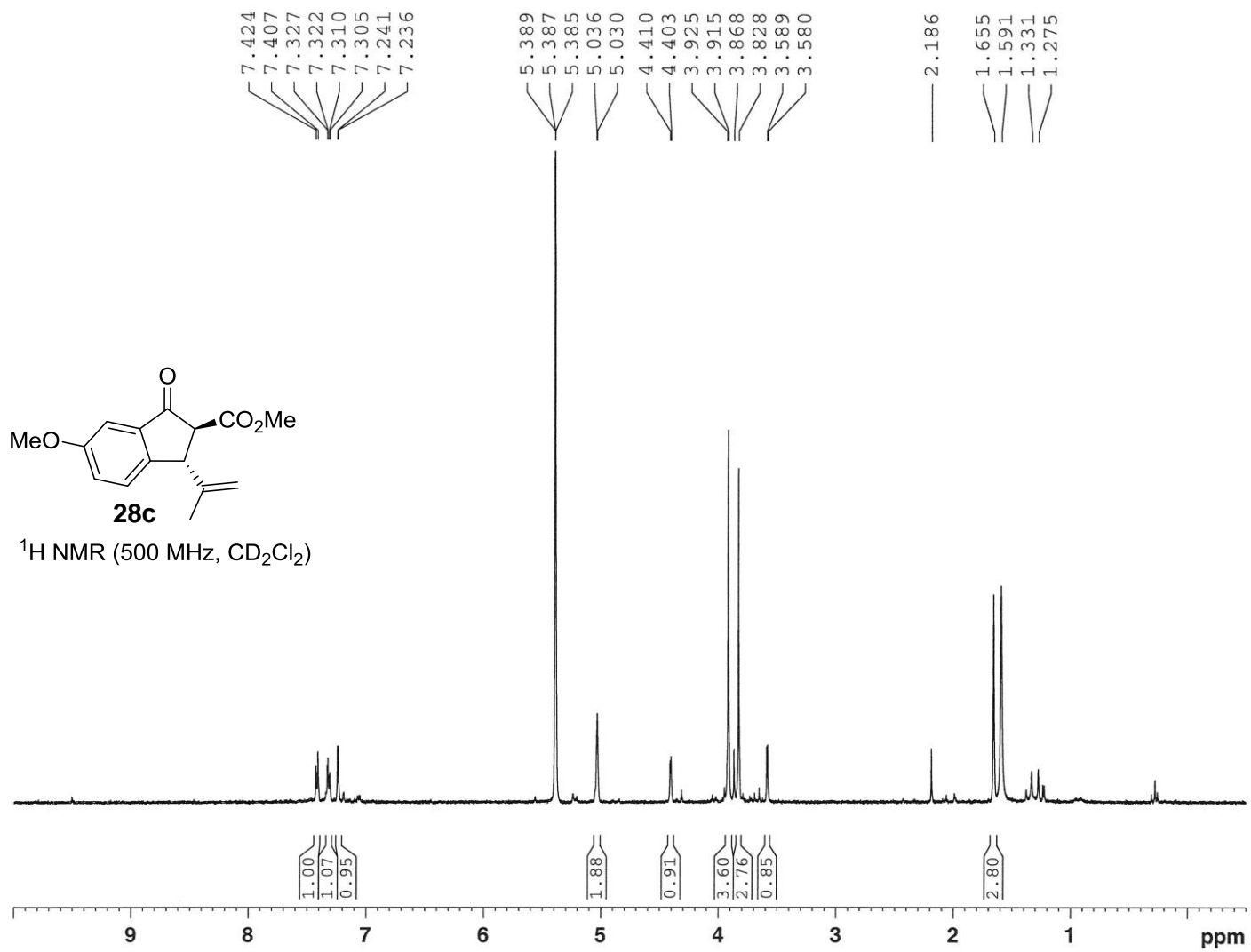


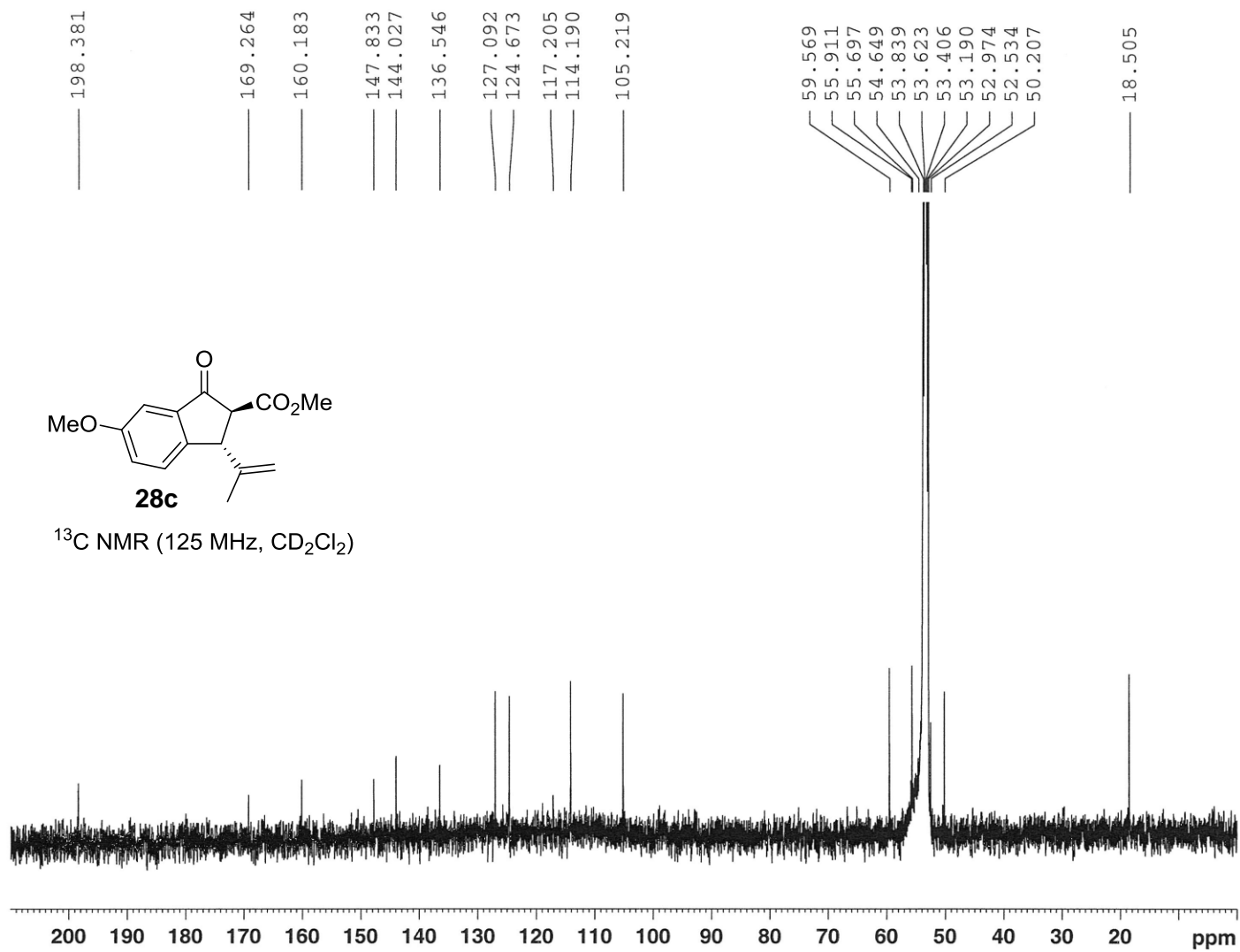


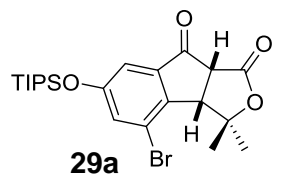
¹H NMR (500 MHz, CDCl₃)



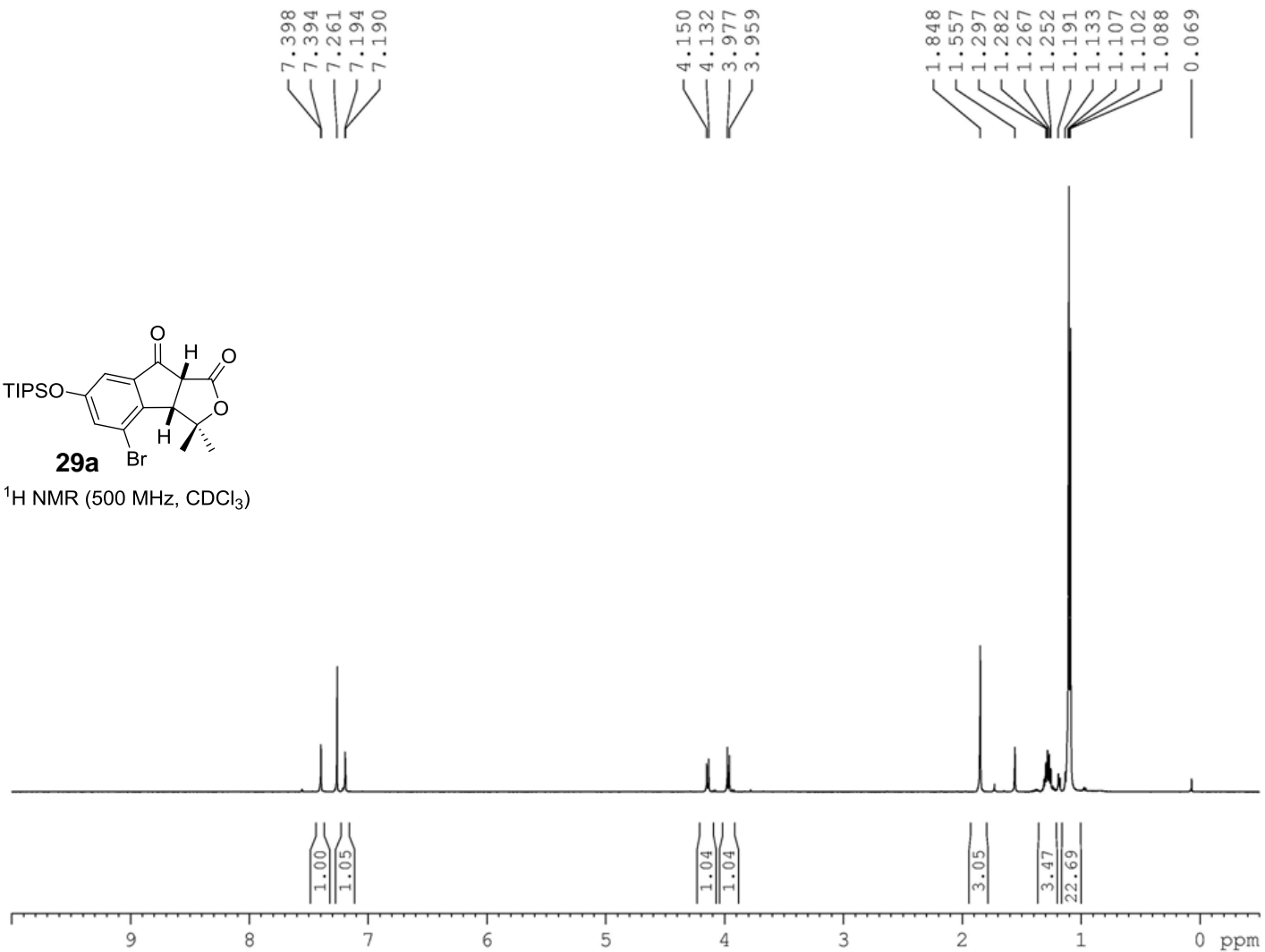


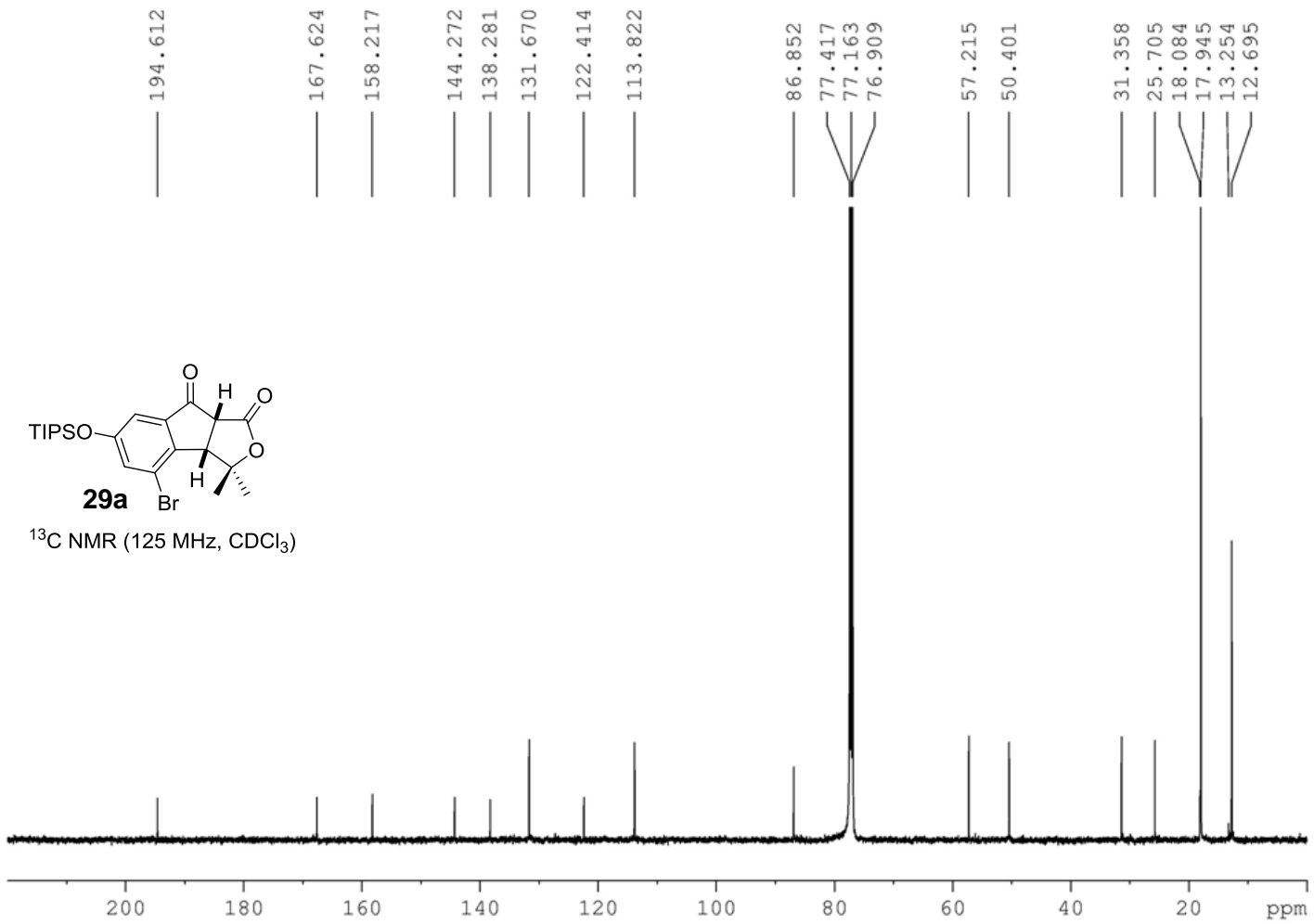


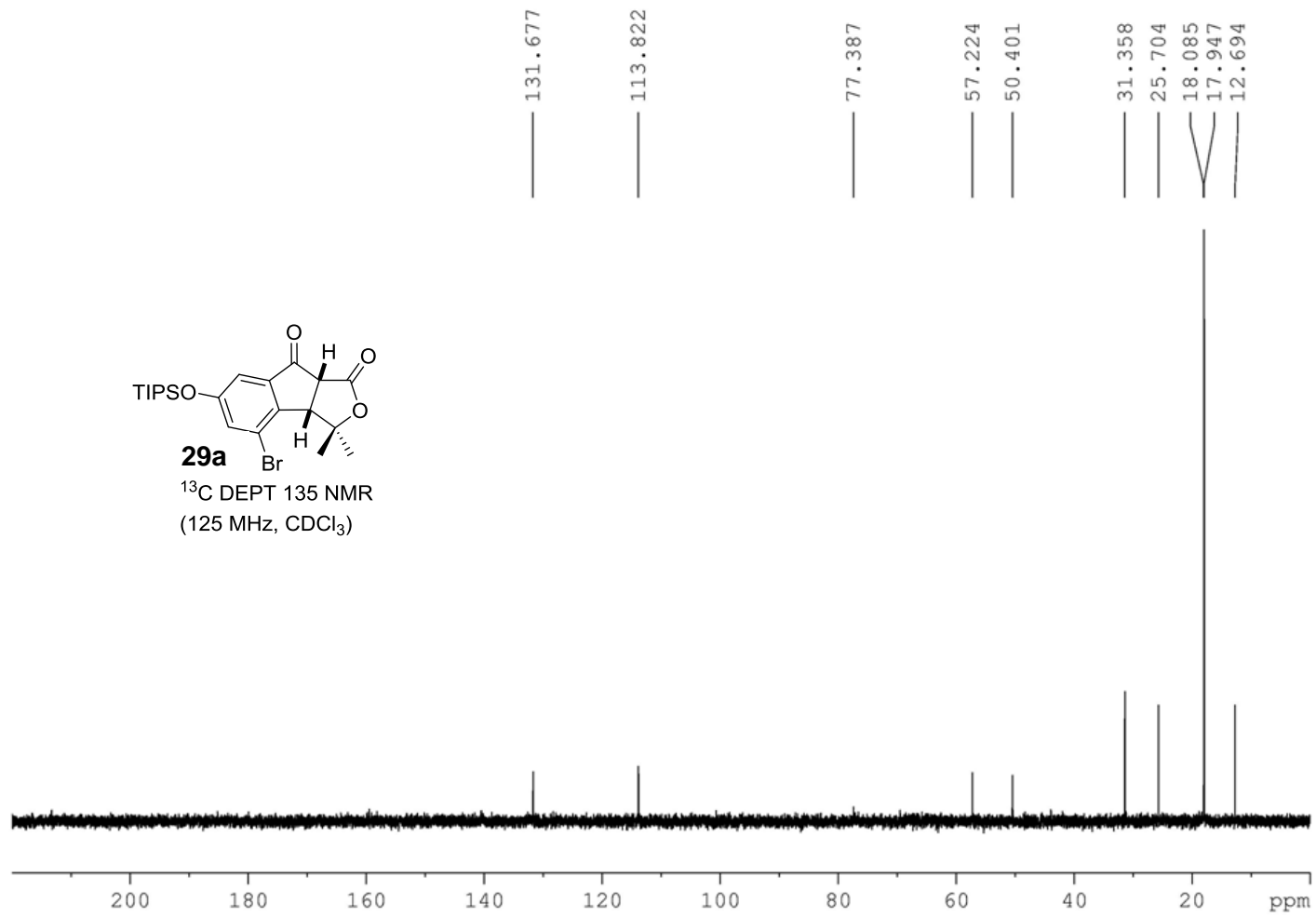


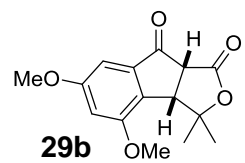


¹H NMR (500 MHz, CDCl₃)

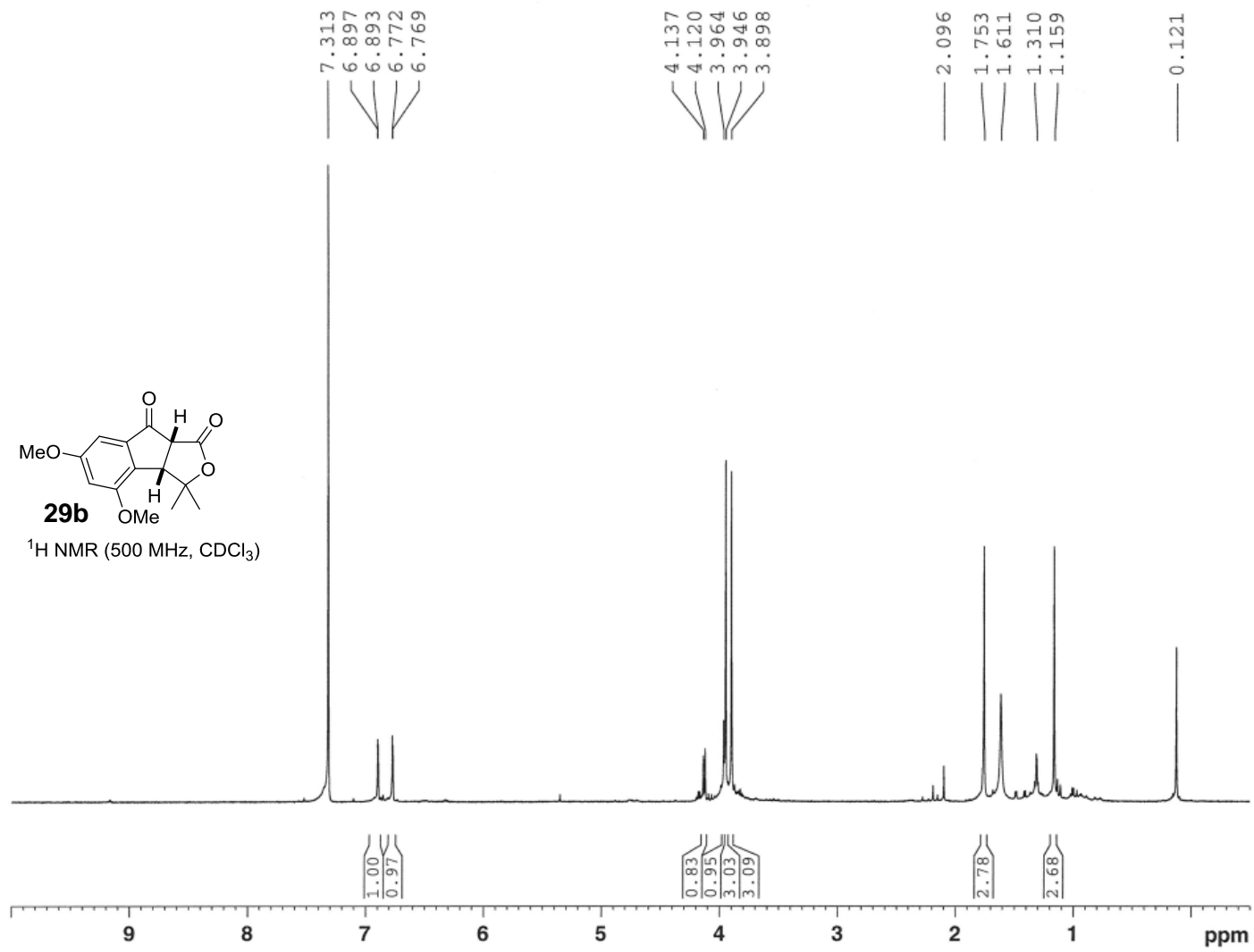


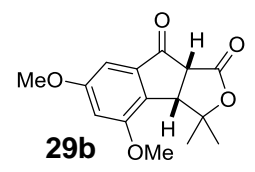




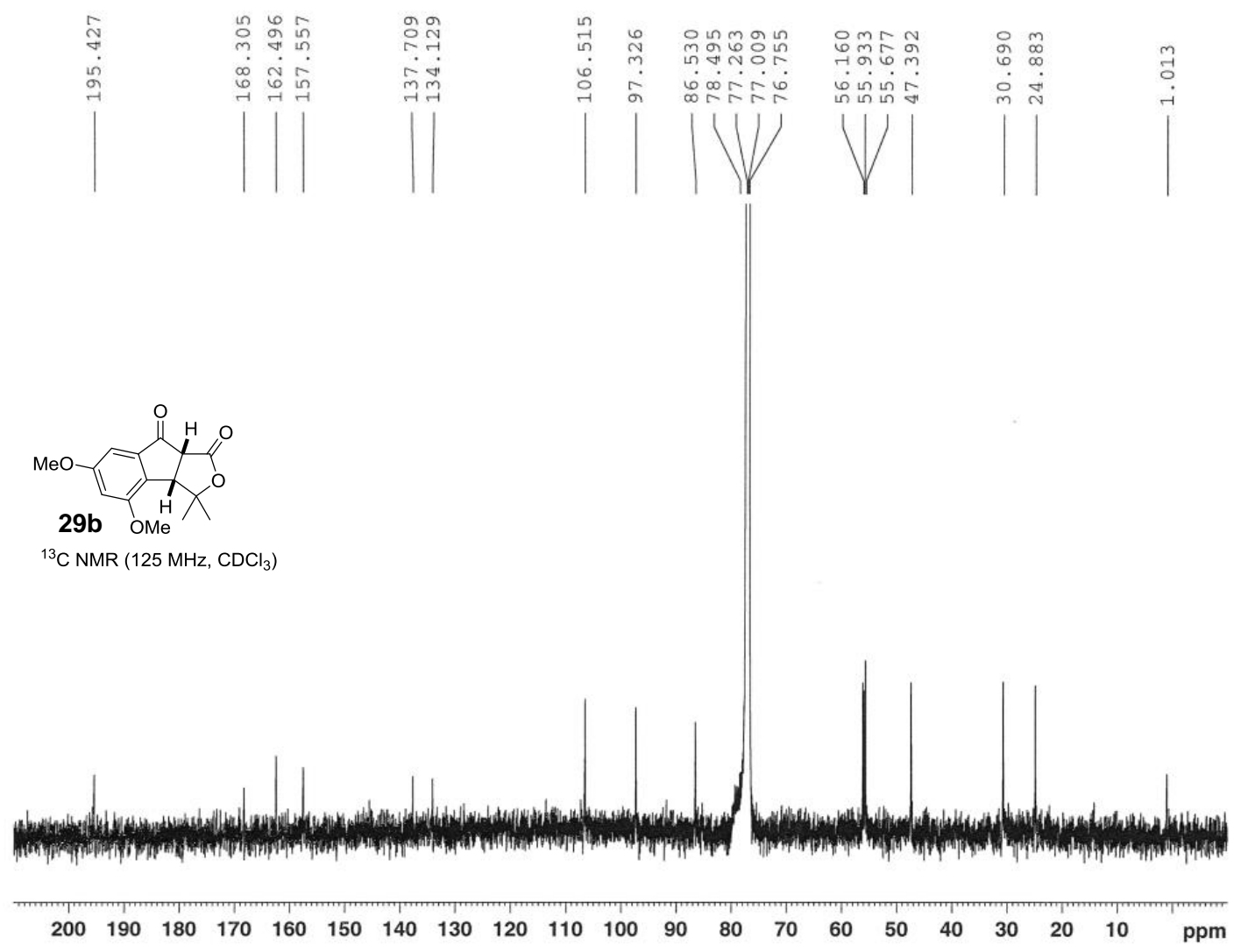


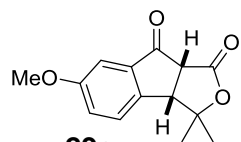
¹H NMR (500 MHz, CDCl₃)





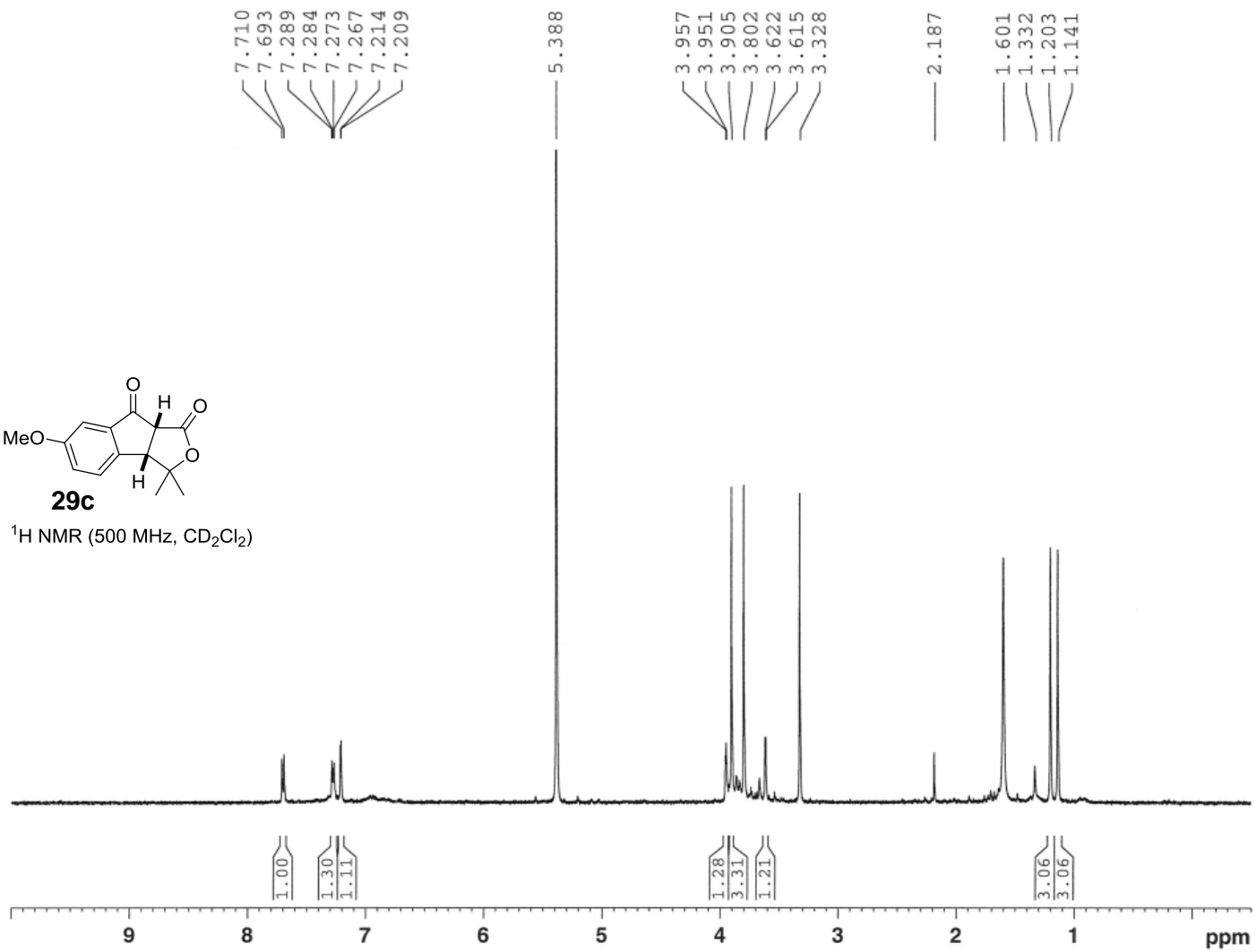
¹³C NMR (125 MHz, CDCl₃)

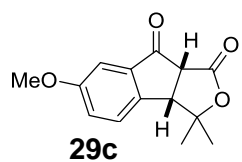




29c

¹H NMR (500 MHz, CD₂Cl₂)





¹³C NMR (125 MHz, CD₂Cl₂)

