

Supporting Information

Process Development and Scale-up Total Synthesis of Largazole, a Potent Class I Histone Deacetylase Inhibitor

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Figure S1. Analytical HPLC profile of compound 2

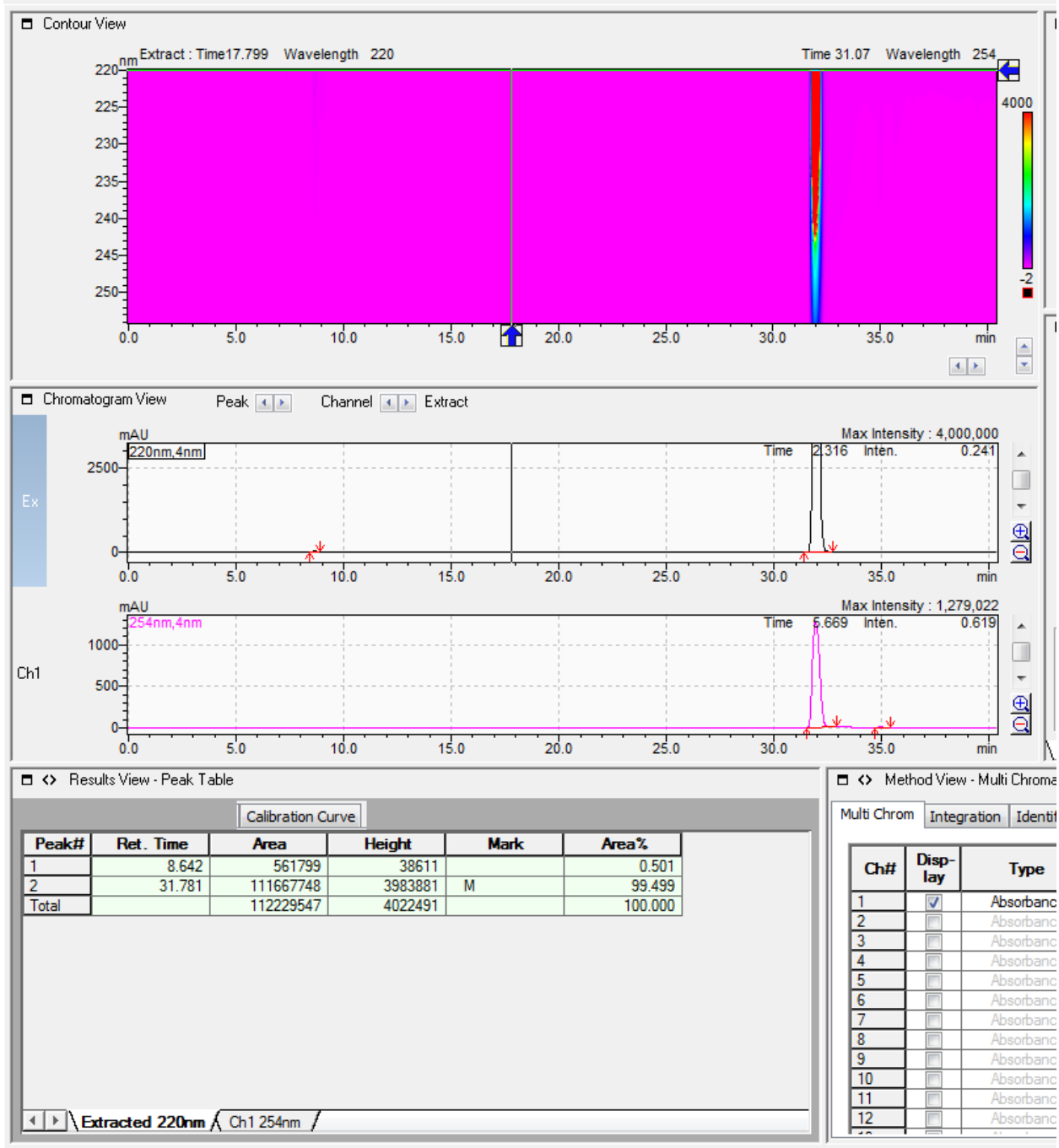


Figure S2. Analytical HPLC profile of compound **8**

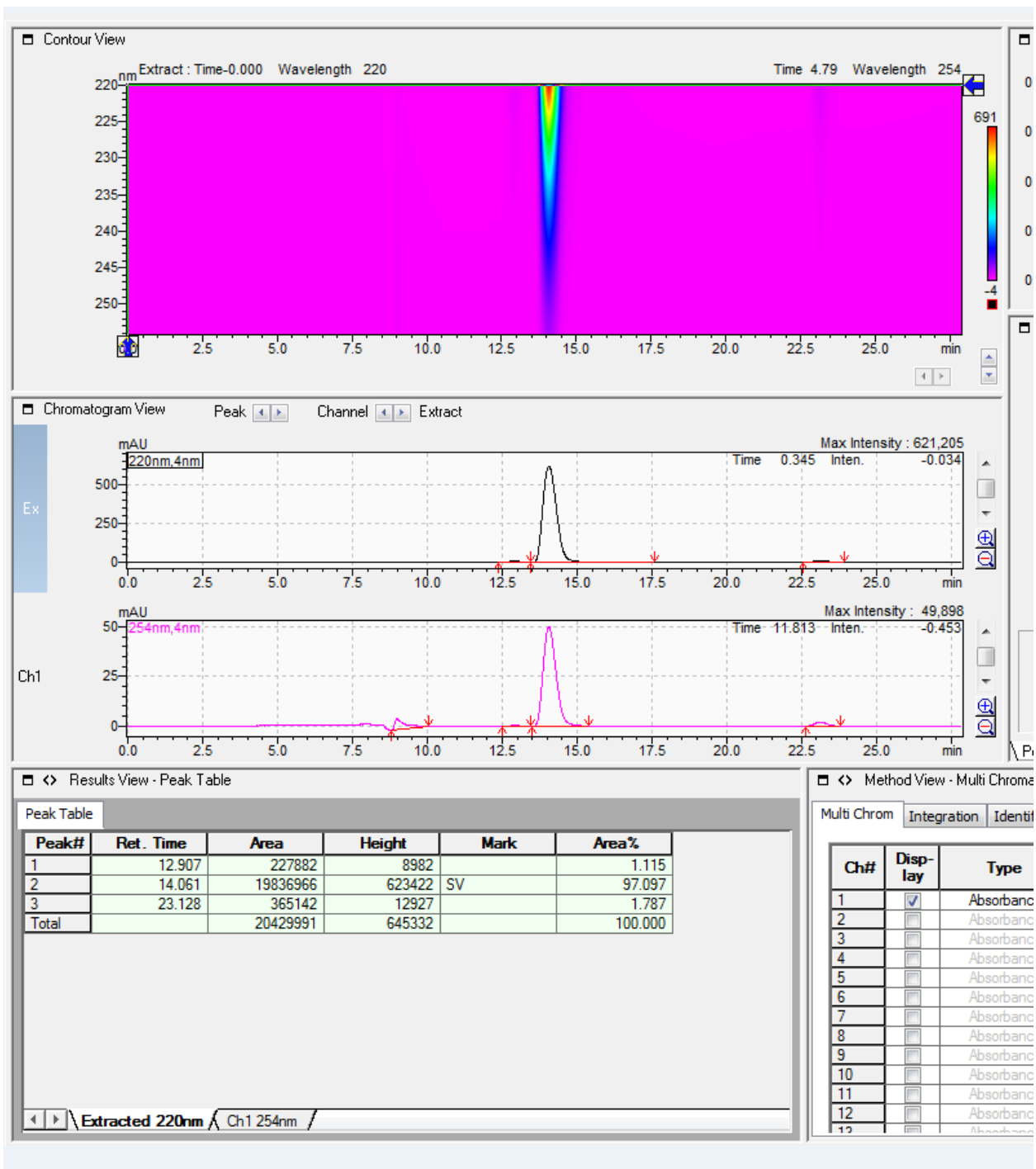


Figure S3. Analytical HPLC profile of compound 5

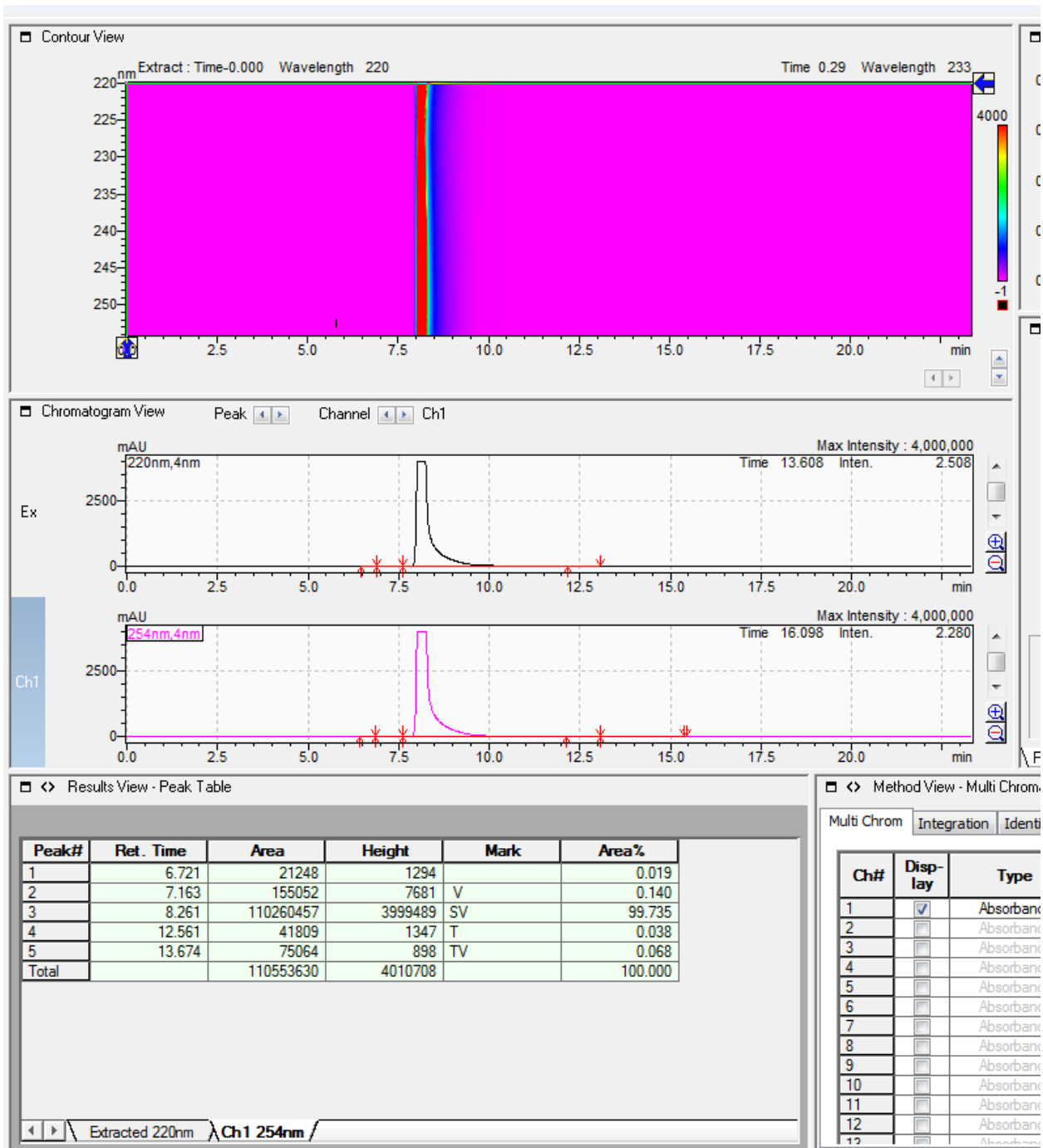


Figure S4. Analytical HPLC profile of compound **3**

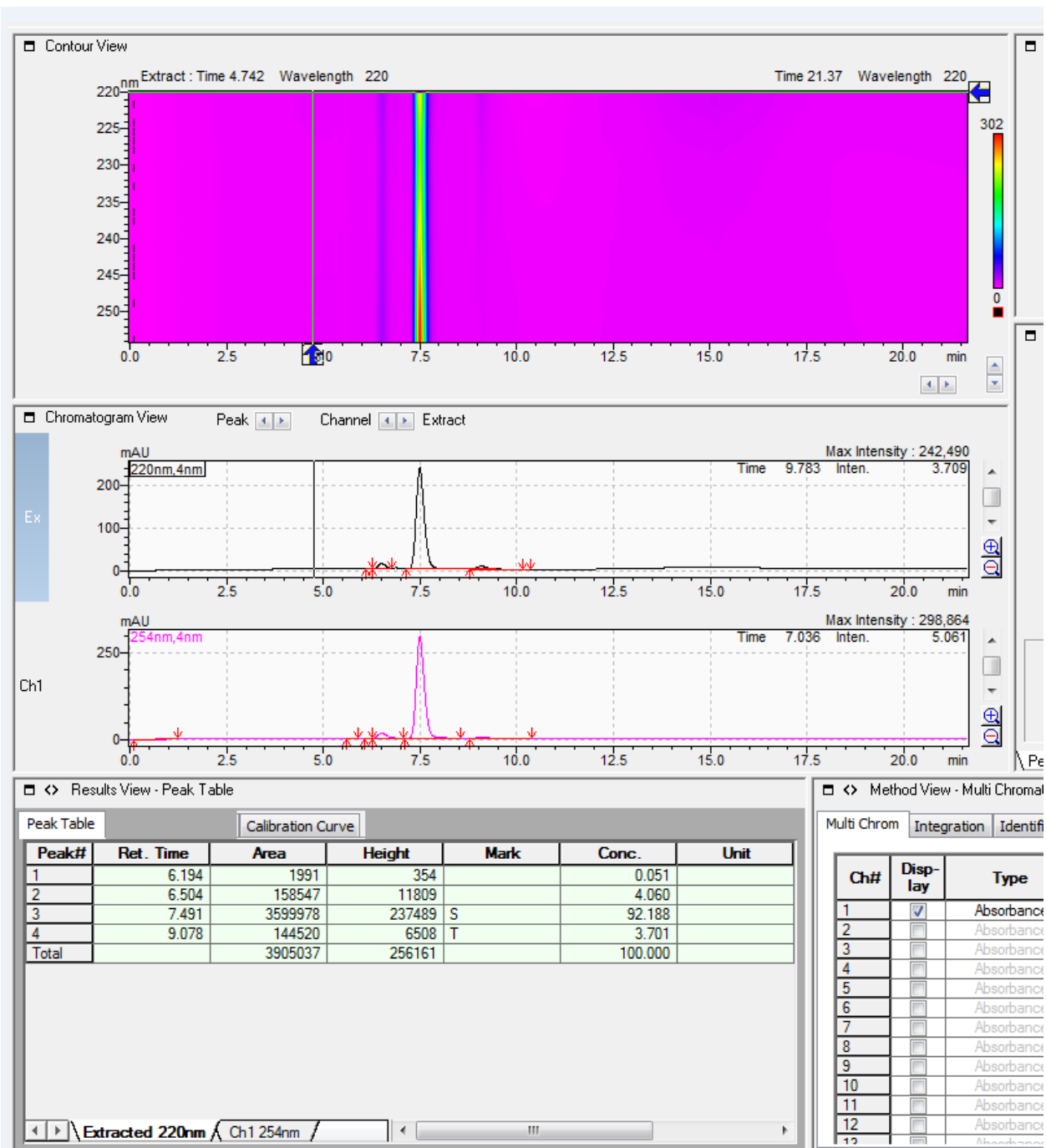


Figure S5. Analytical HPLC profile of compound 1 (fraction 1)

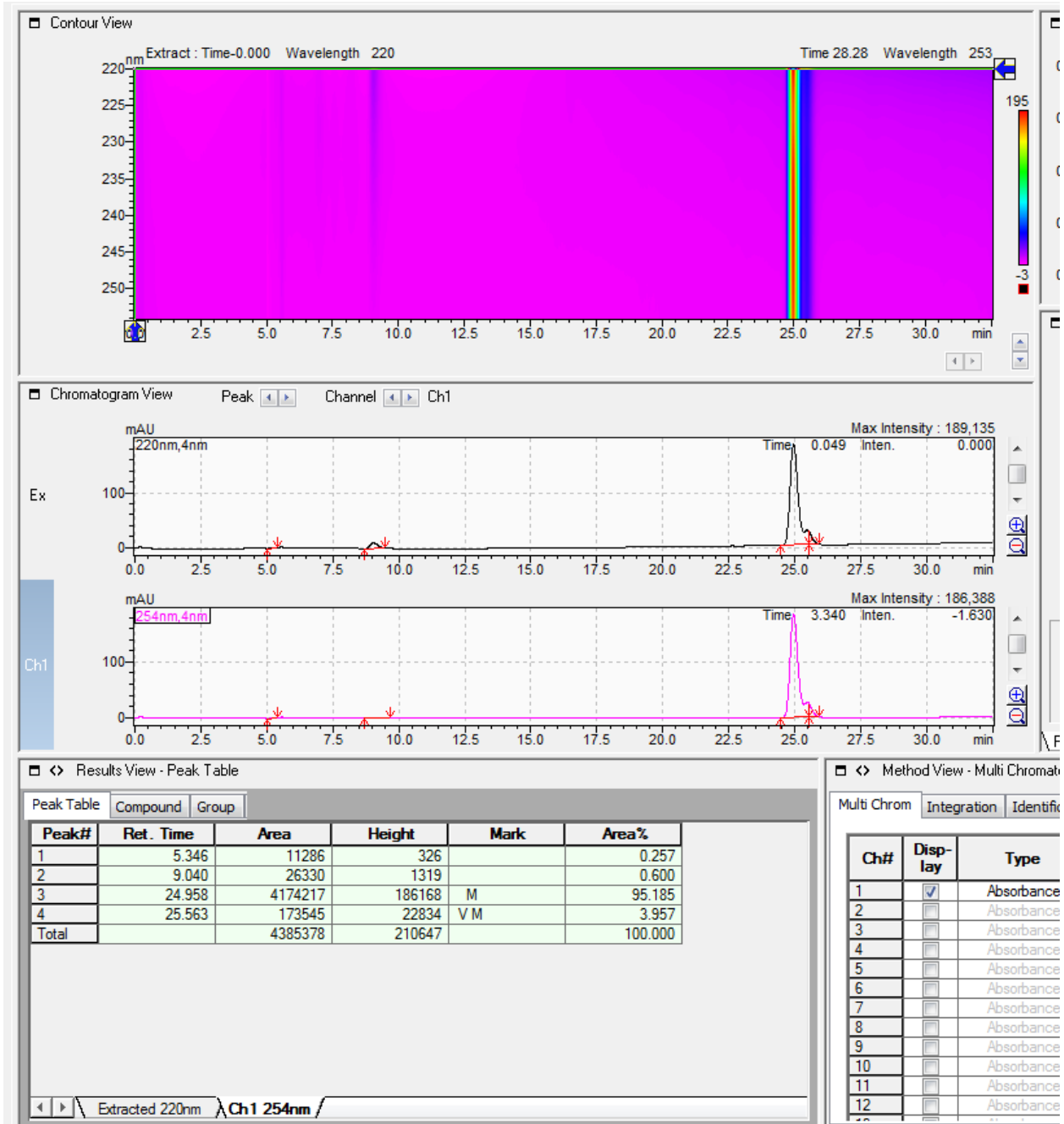


Figure S6. Analytical HPLC profile of compound **1** (fraction 2)

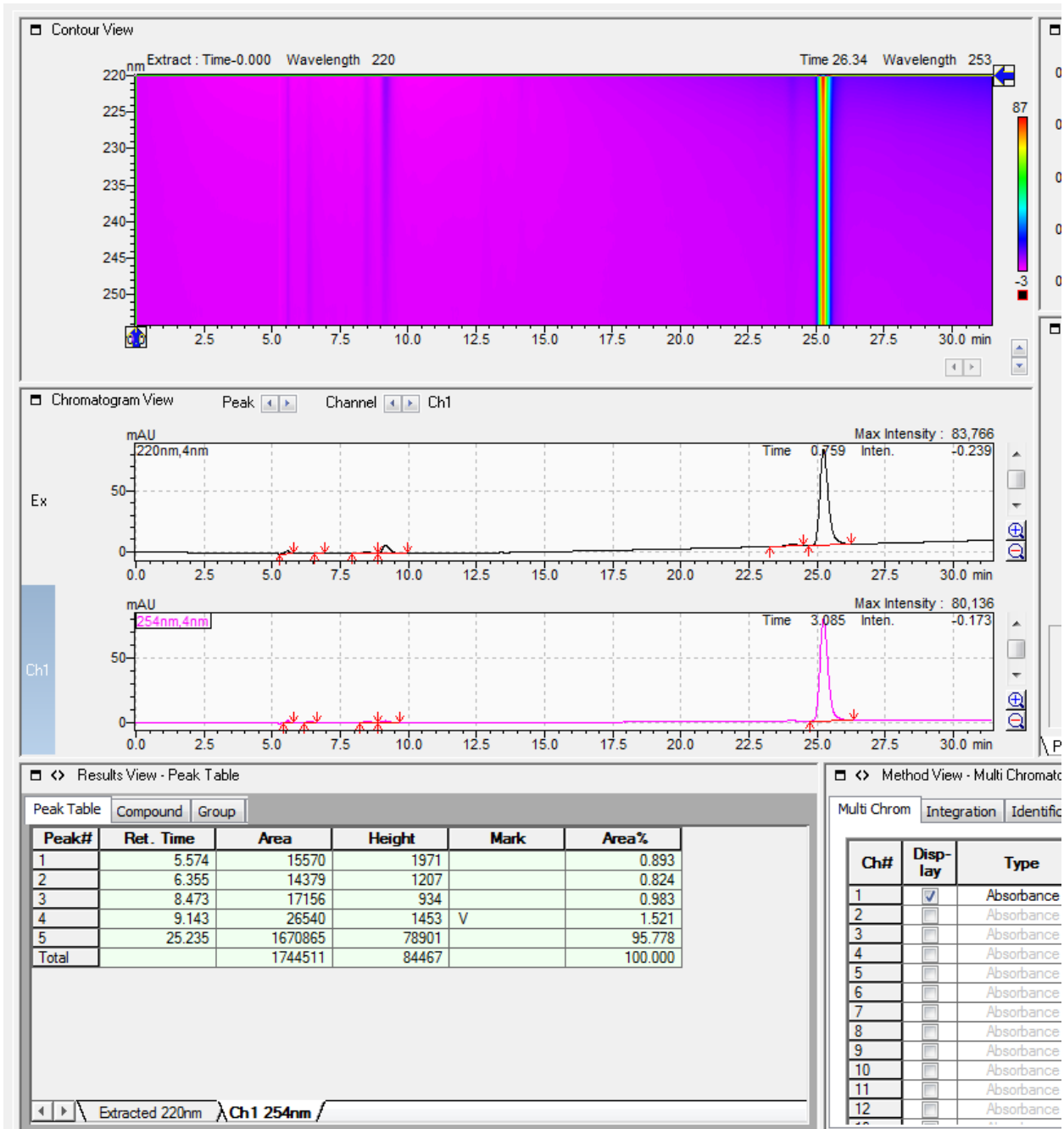


Figure S7. Picture of product largazole



Figure S8. ^1H NMR Spectrum of **2** in CDCl_3 (400 MHz) at 25 $^\circ\text{C}$

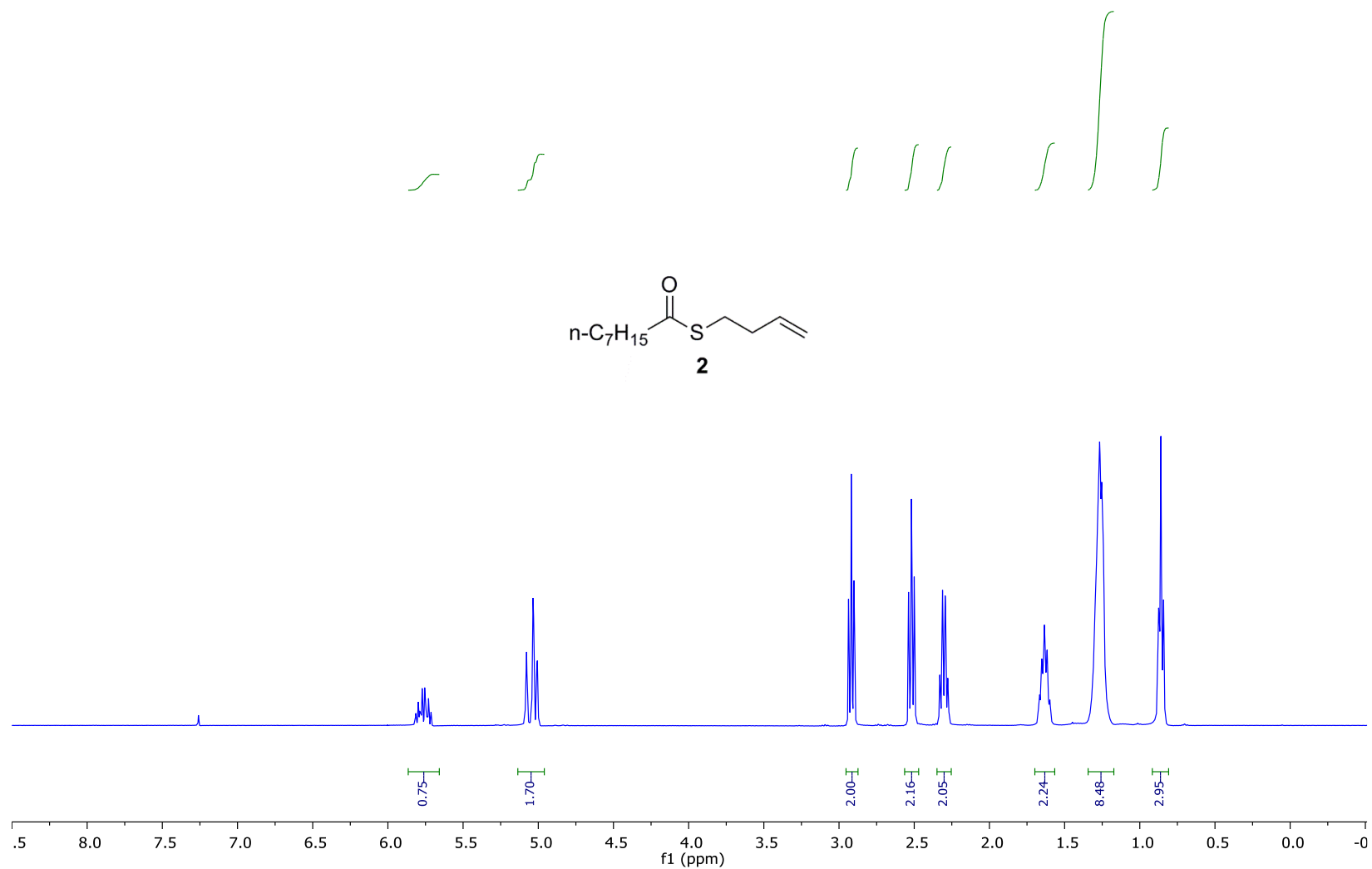


Figure S9. ^{13}C NMR Spectrum of **2** in CDCl_3 (100 MHz) at 25 $^\circ\text{C}$

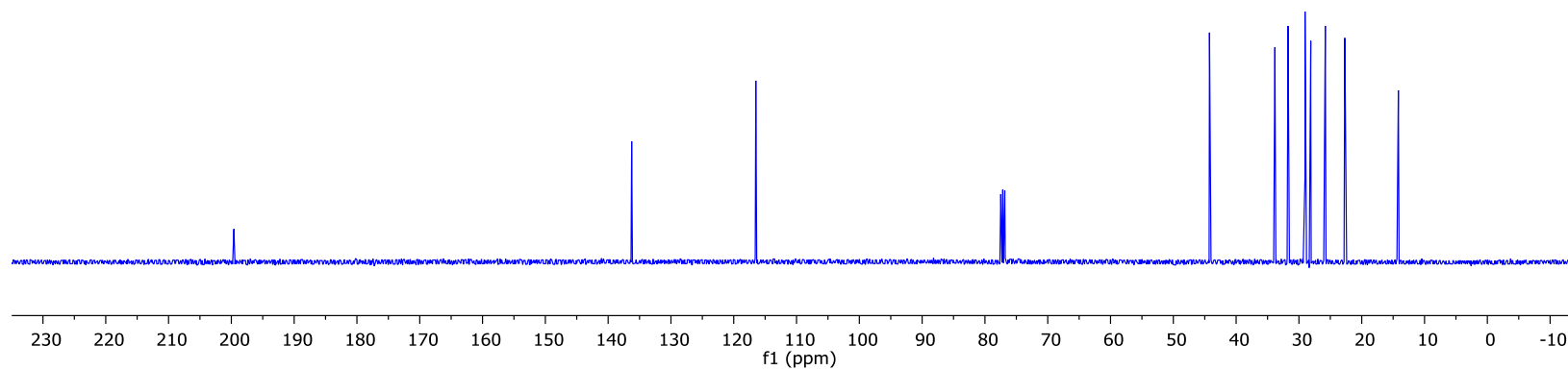
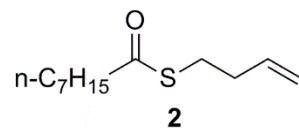


Figure S10. ^1H NMR Spectrum of **18** in CDCl_3 (400 MHz) at 25 $^\circ\text{C}$

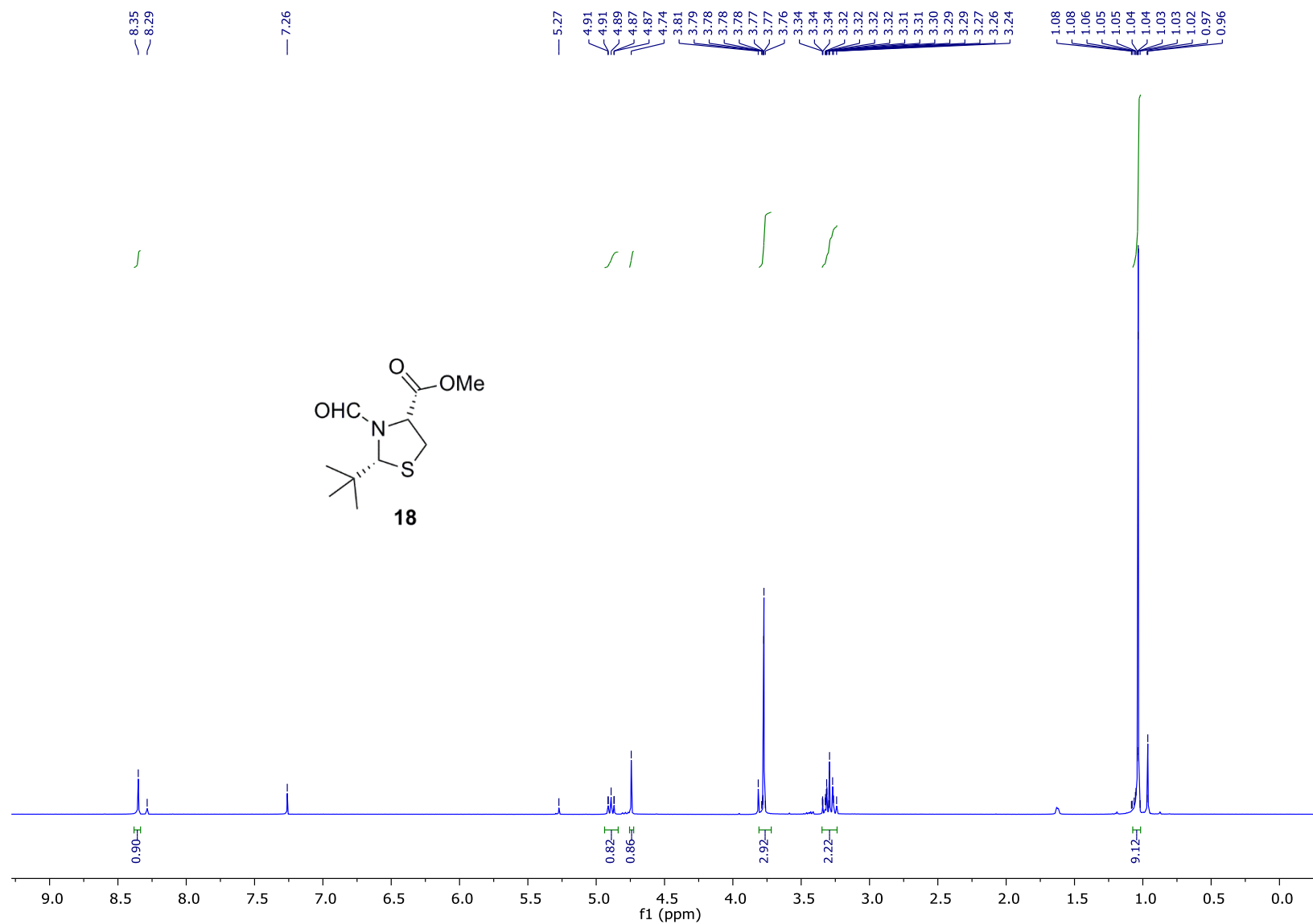


Figure S11. ^{13}C NMR Spectrum of **18** in CDCl_3 (100 MHz) at 25 $^\circ\text{C}$

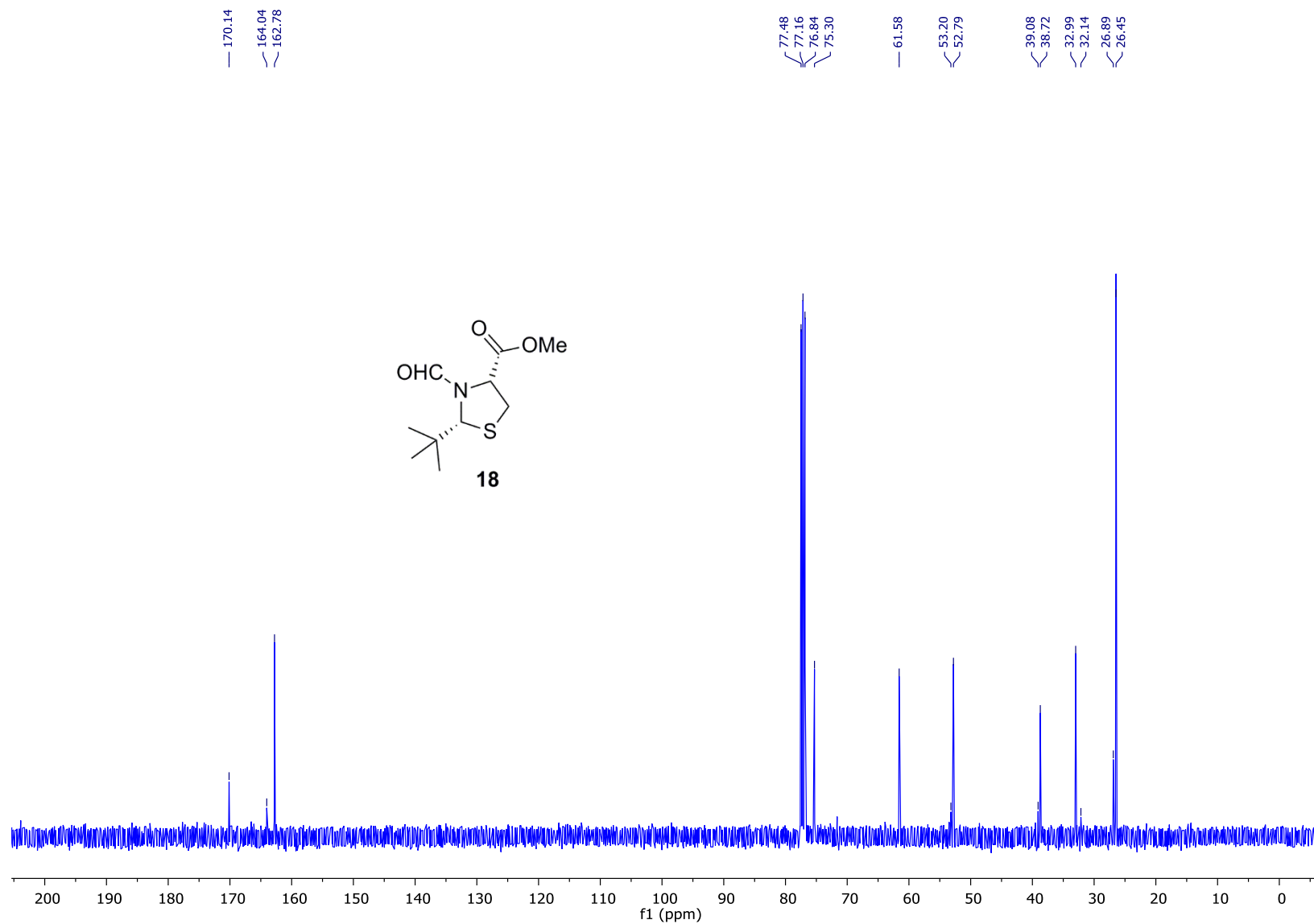


Figure S12. ^1H NMR Spectrum of **20** in CDCl_3 (400 MHz) at 25 $^\circ\text{C}$

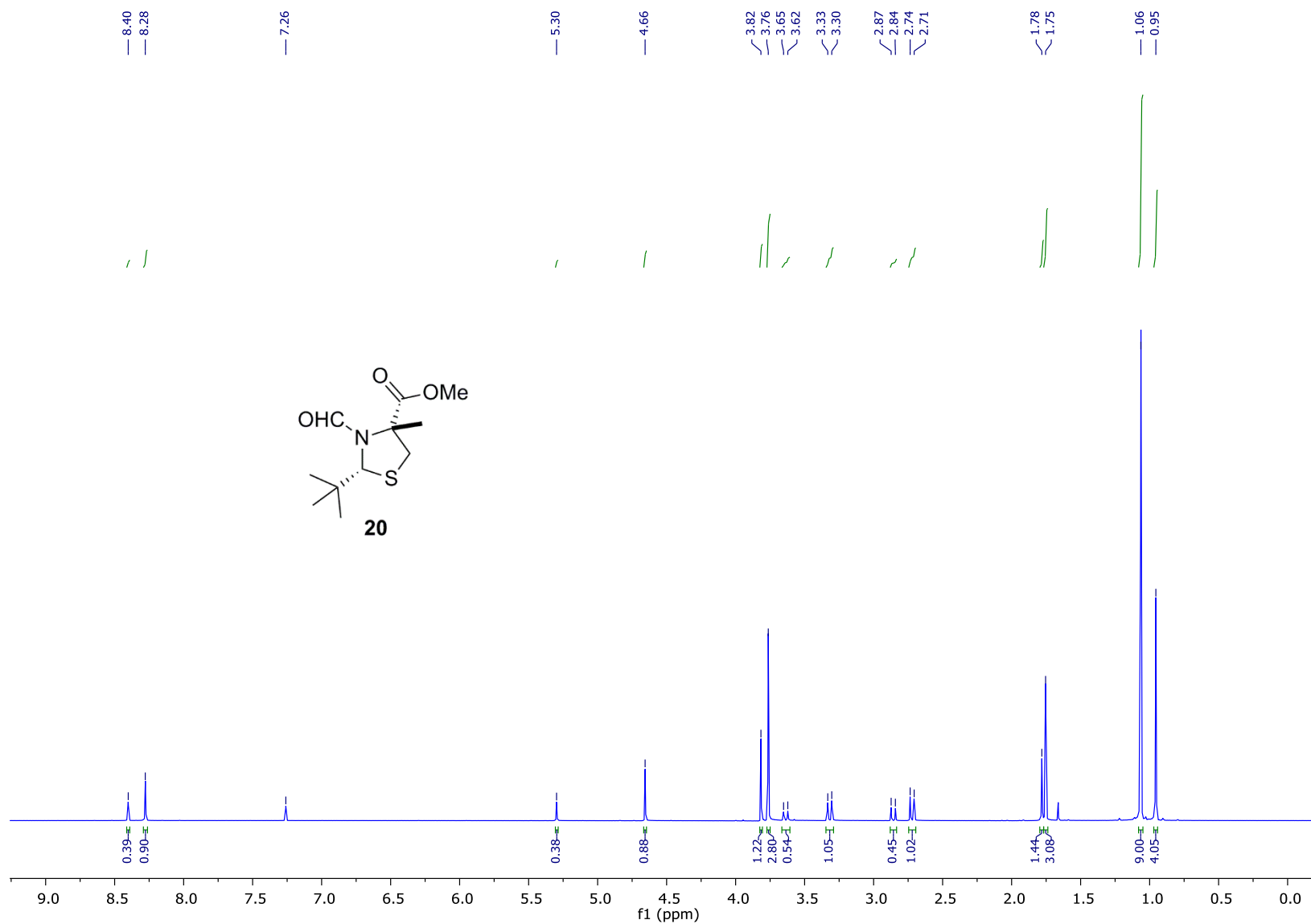


Figure S13. ^{13}C NMR Spectrum of **20** in CDCl_3 (100 MHz) at 25 $^\circ\text{C}$

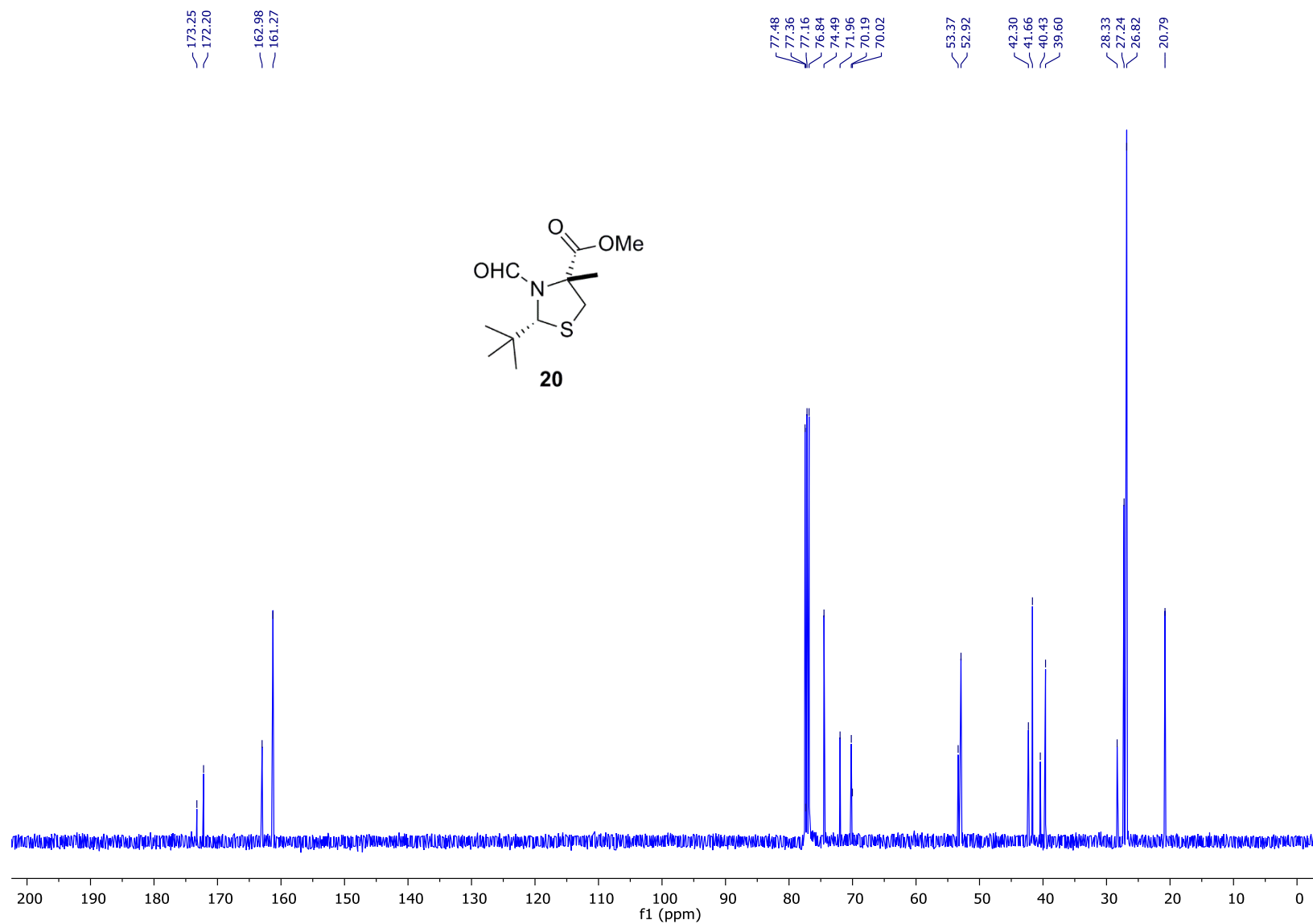


Figure S14. ^1H NMR Spectrum of **7** in D_2O (400 MHz) at 25 $^\circ\text{C}$

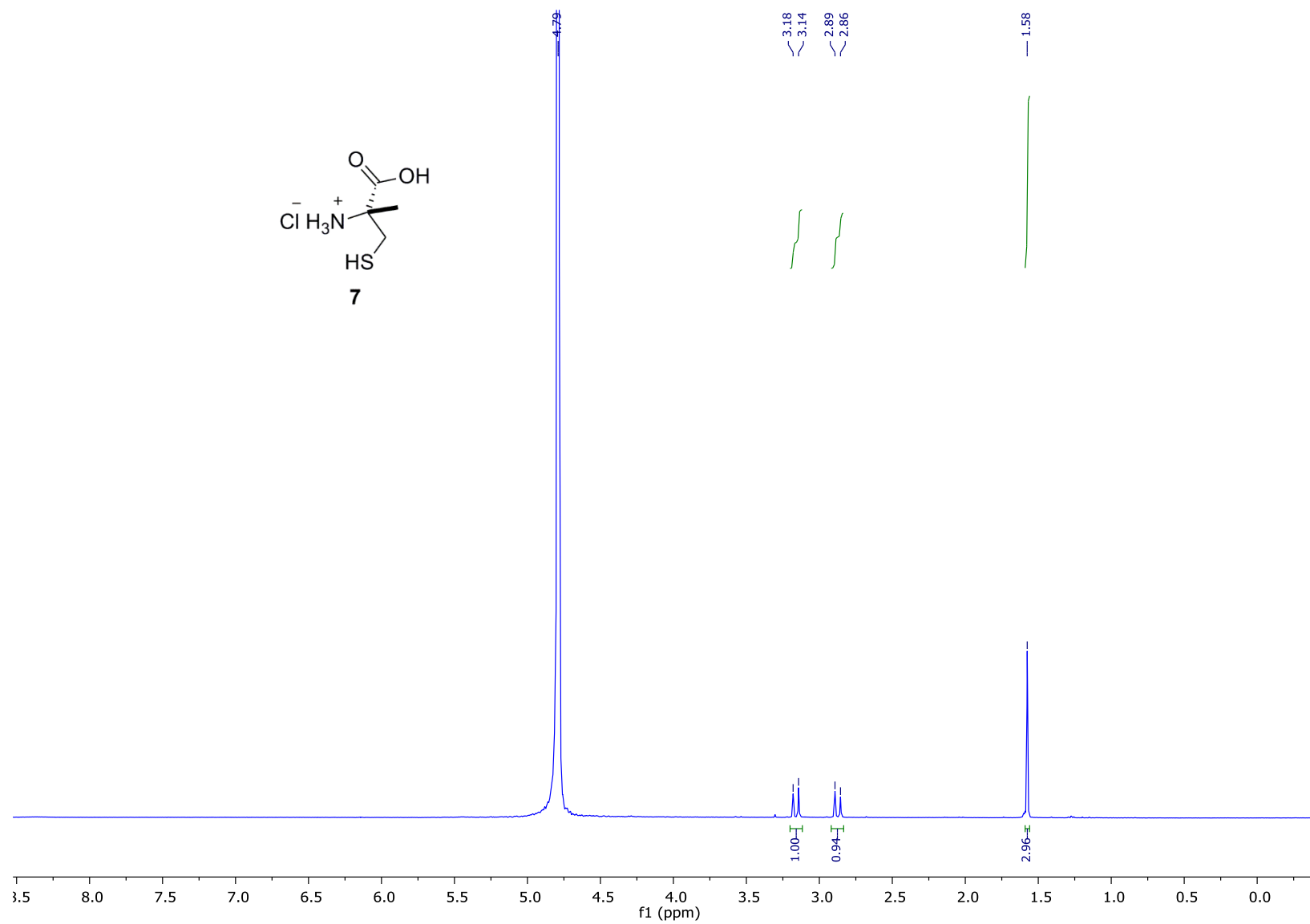


Figure S15. ^{13}C NMR Spectrum of **7** in D_2O (100 MHz) at 25 $^\circ\text{C}$

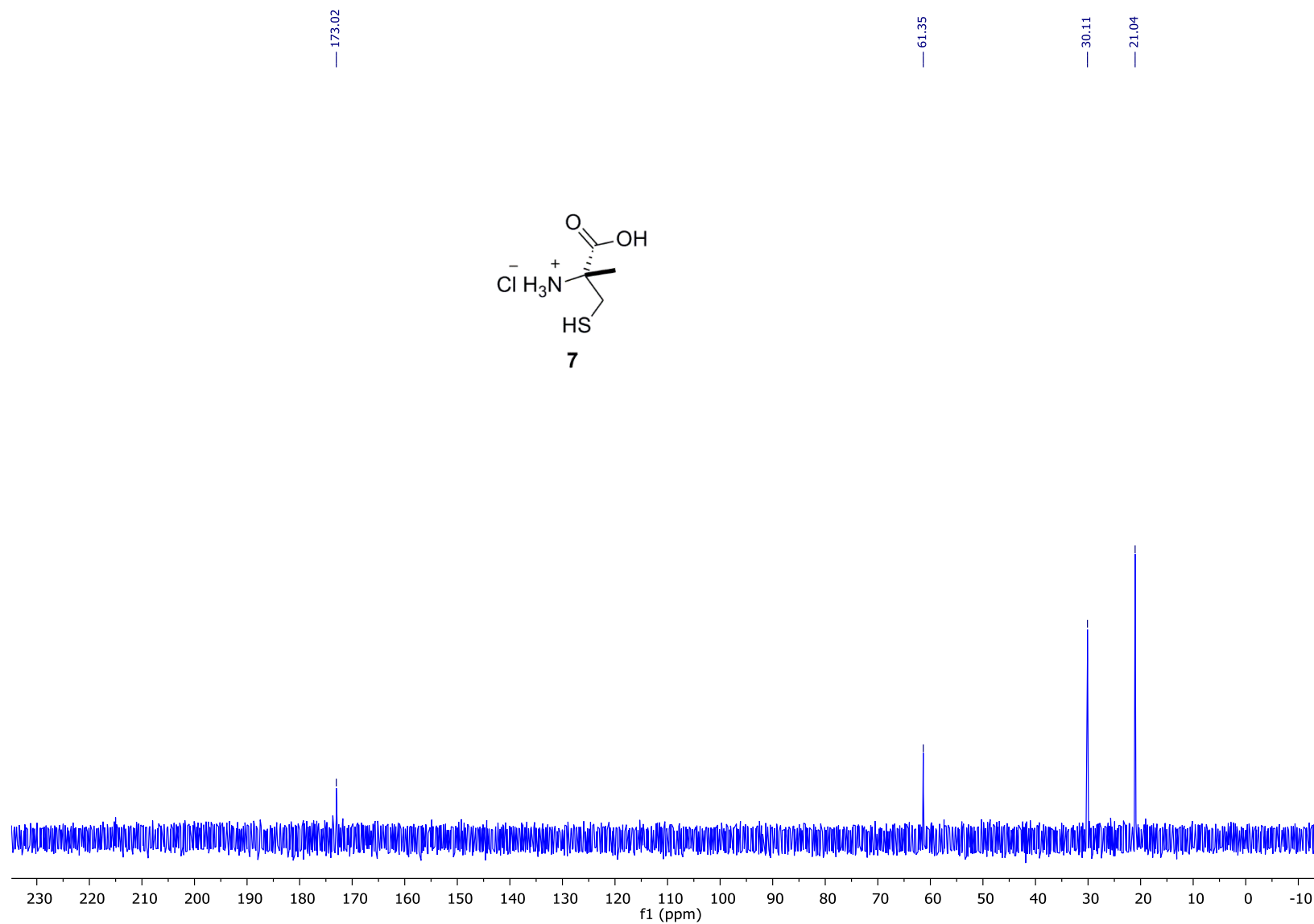


Figure S16. ^1H NMR Spectrum of **23** in CDCl_3 (400 MHz) at 25 $^\circ\text{C}$

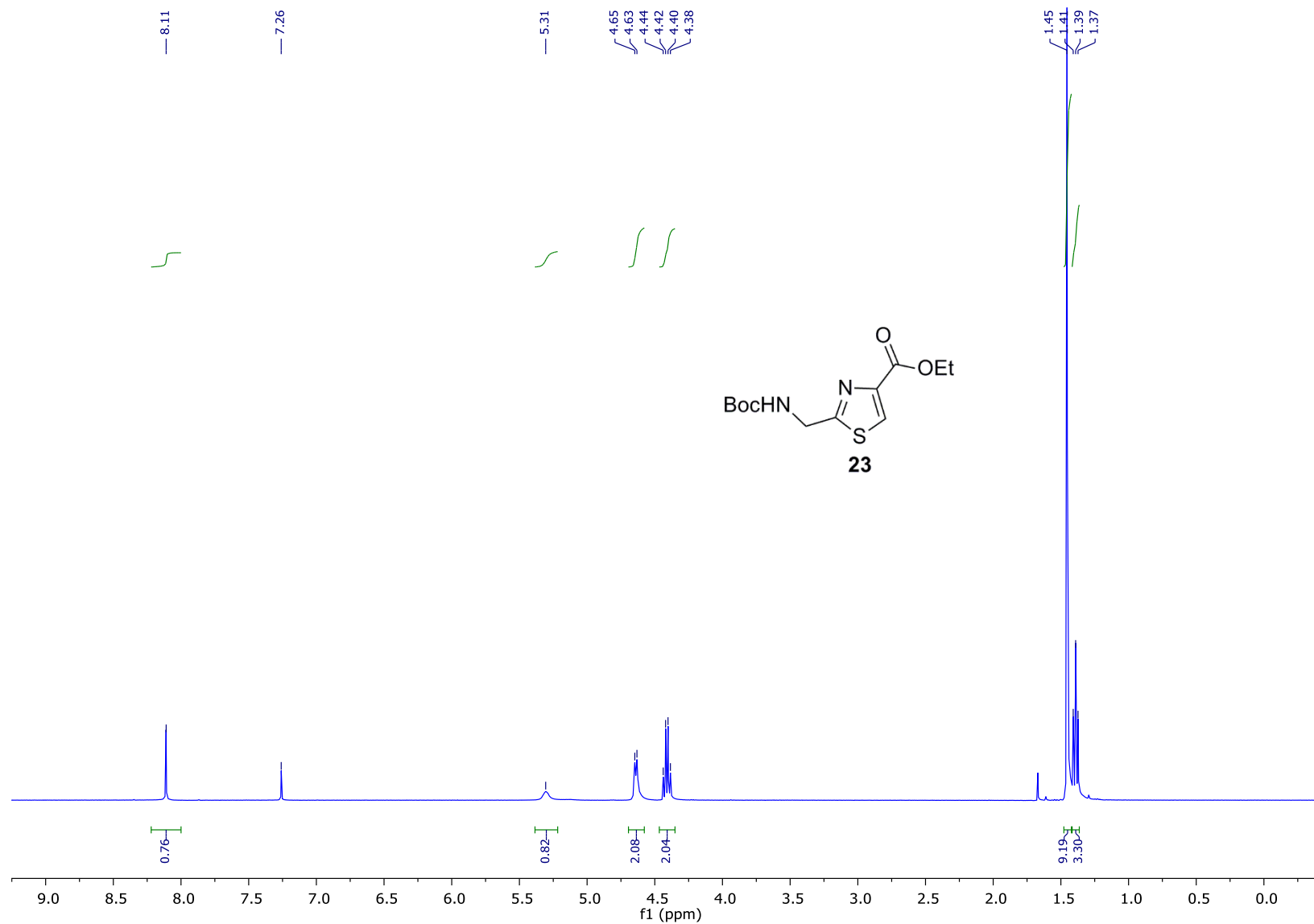


Figure S17. ^{13}C NMR Spectrum of **23** in CDCl_3 (100 MHz) at 25 $^\circ\text{C}$

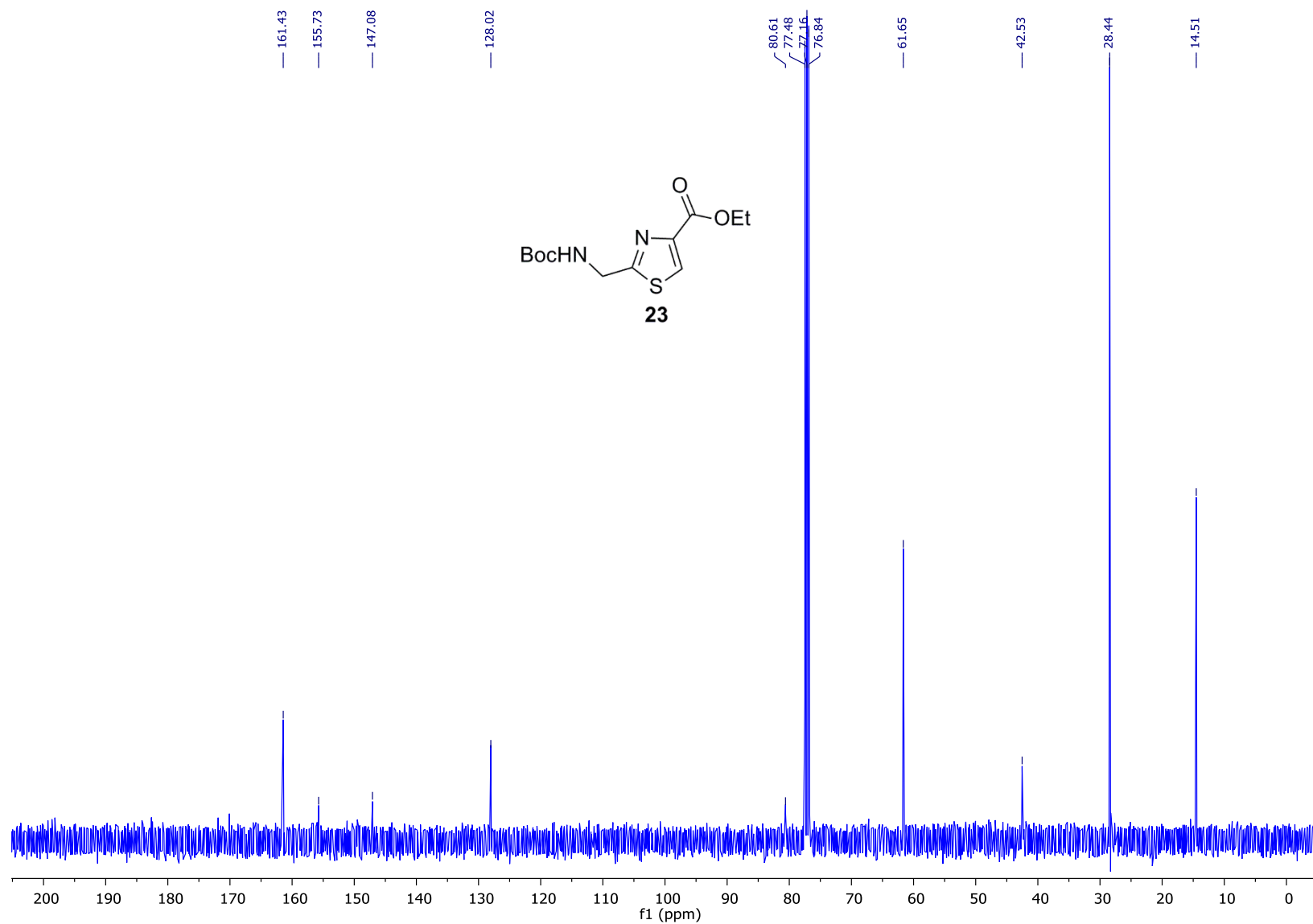


Figure S18. ^1H NMR Spectrum of **24** in CDCl_3 (500 MHz) at 25 $^\circ\text{C}$

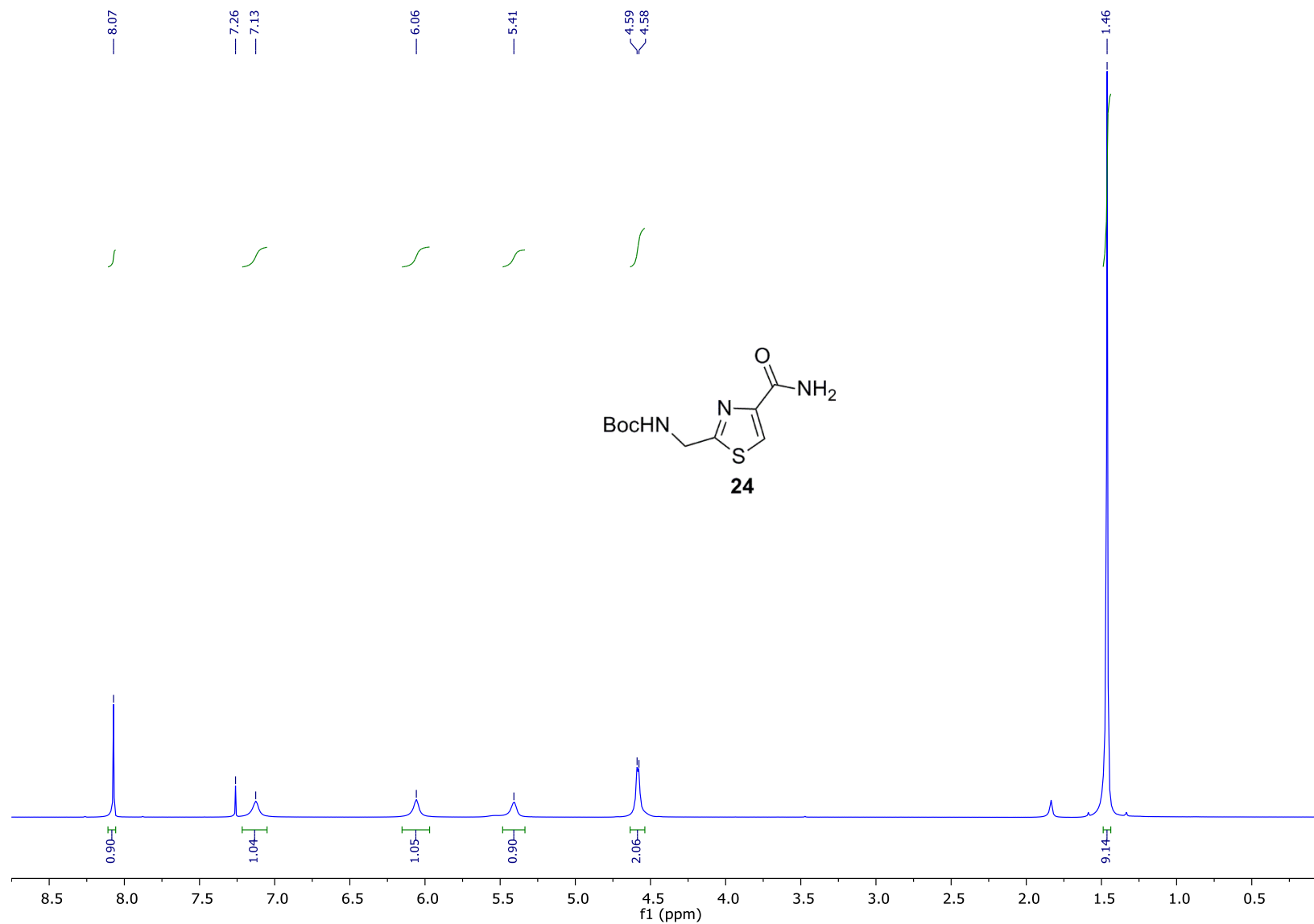


Figure S19. ^{13}C NMR Spectrum of **24** in CDCl_3 (125 MHz) at 25 $^\circ\text{C}$

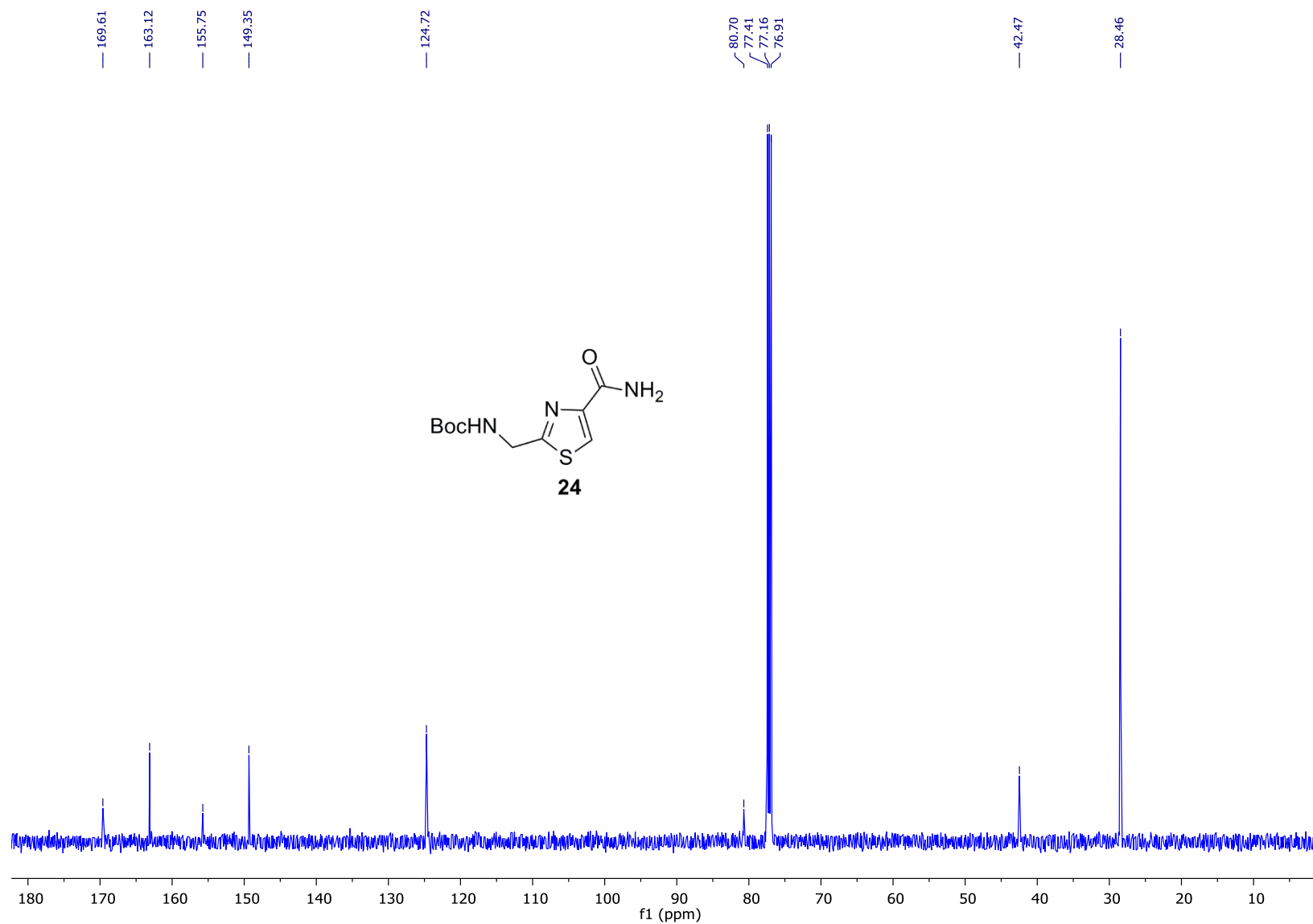


Figure S20. ^1H NMR Spectrum of **8** in CDCl_3 (400 MHz) at 25 $^\circ\text{C}$

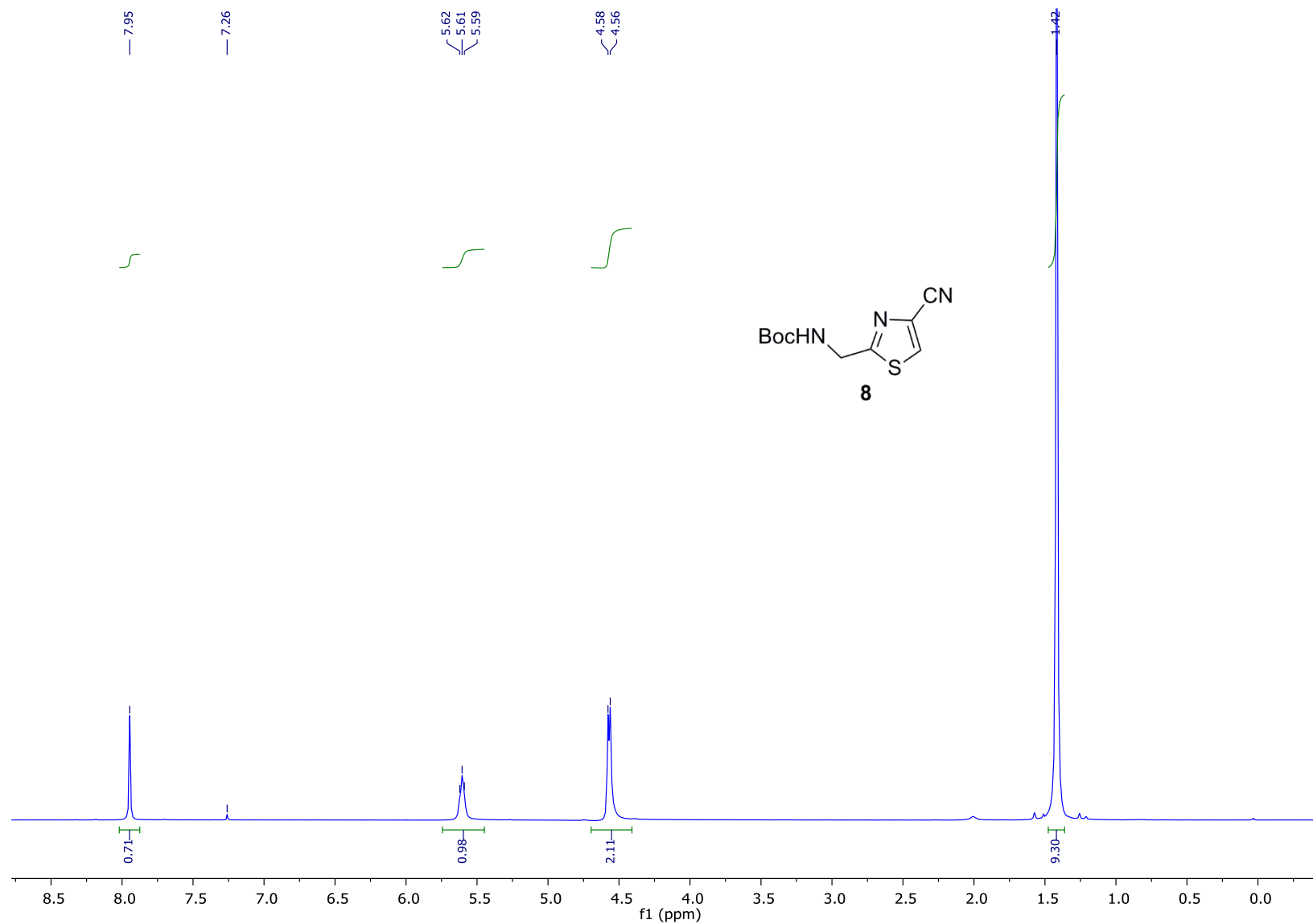


Figure S21. ^{13}C NMR Spectrum of **8** in CDCl_3 (100 MHz) at 25 $^\circ\text{C}$

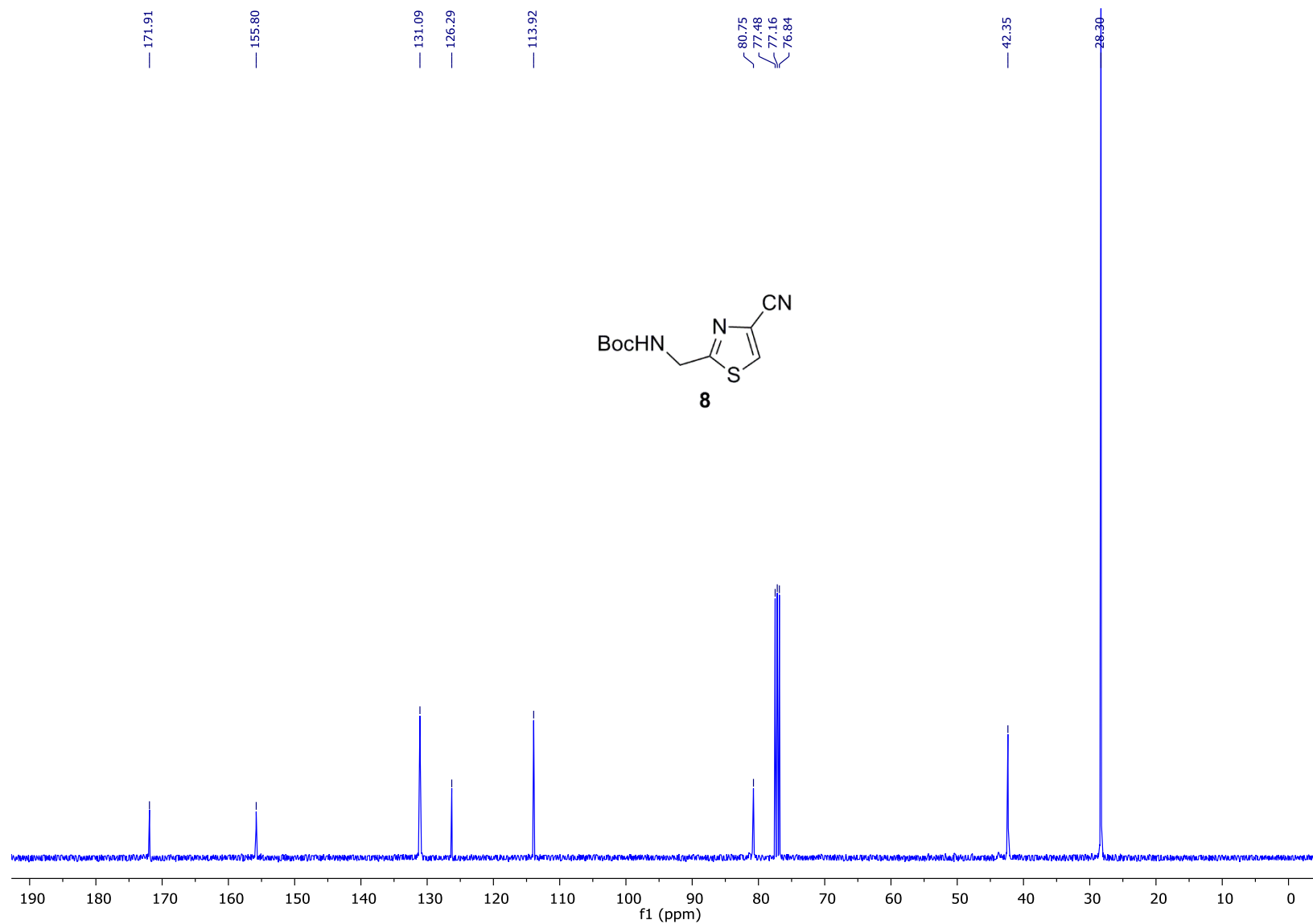


Figure S22. ¹H NMR Spectrum of **5** in CDCl₃ (400 MHz) at 25 °C

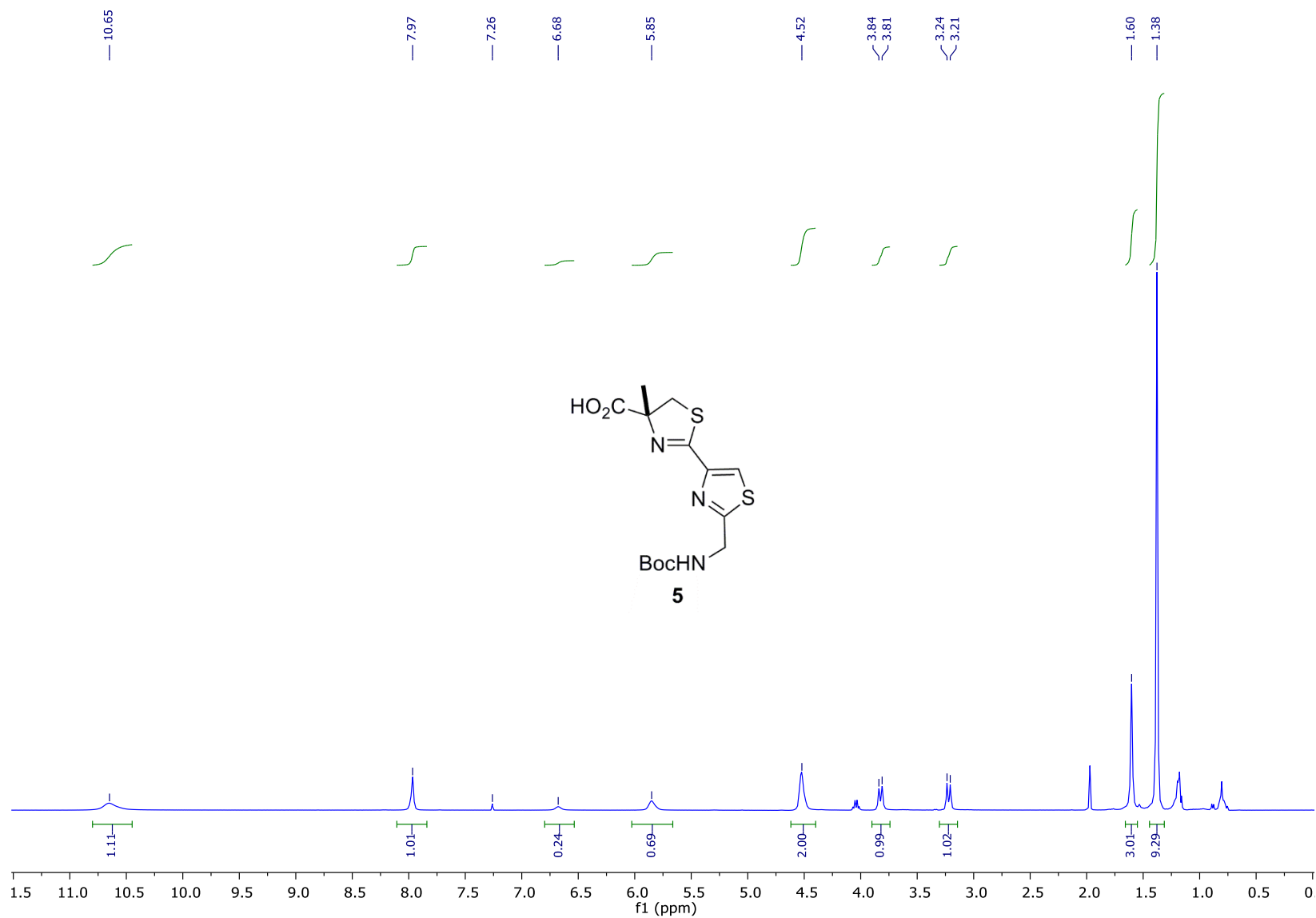


Figure S23. ^{13}C NMR Spectrum of **5** in CDCl_3 (100 MHz) at 25 $^\circ\text{C}$

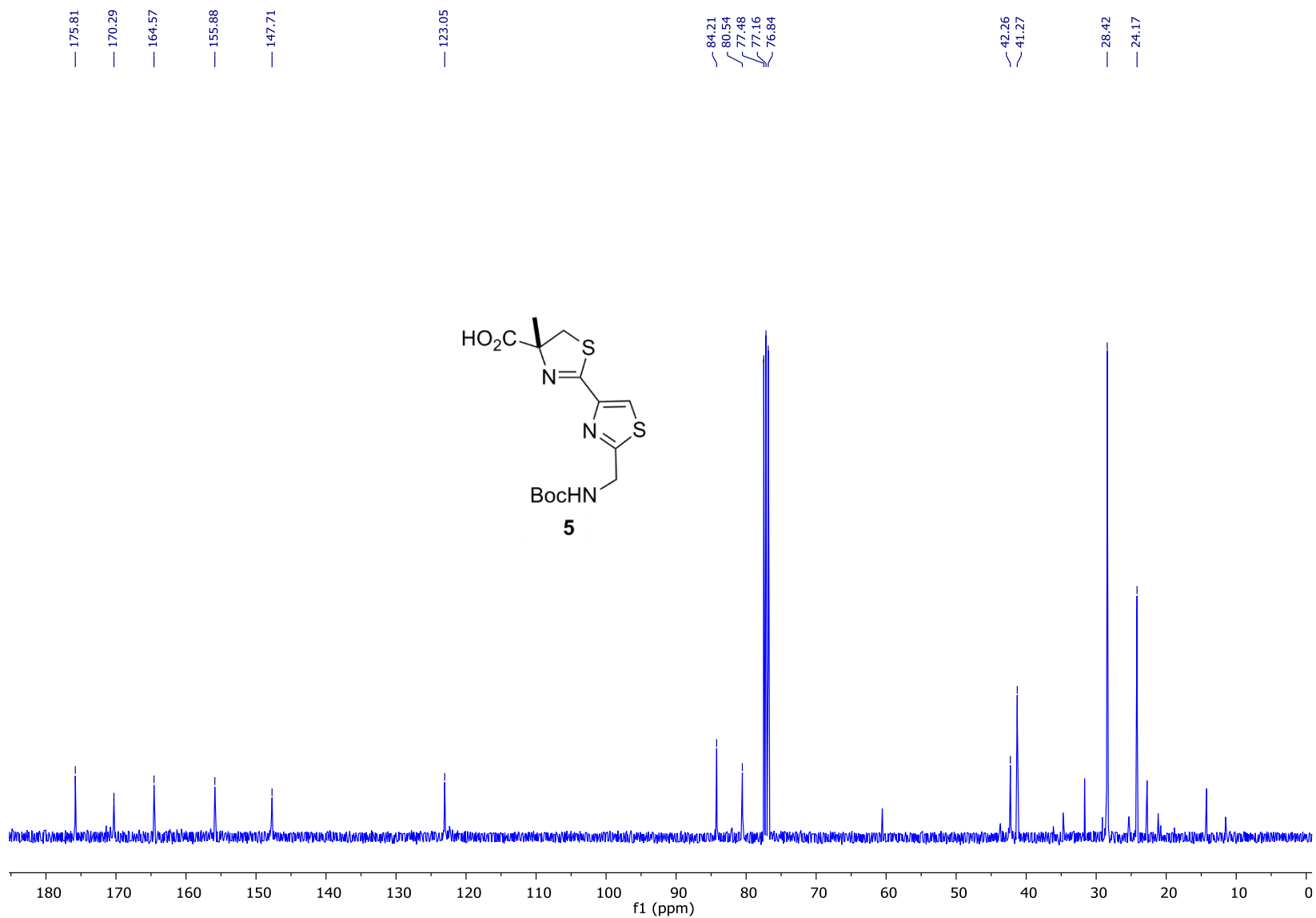


Figure S24. ^1H NMR Spectrum of (*RS*)-**9** in CDCl_3 (400 MHz) at 25 $^\circ\text{C}$

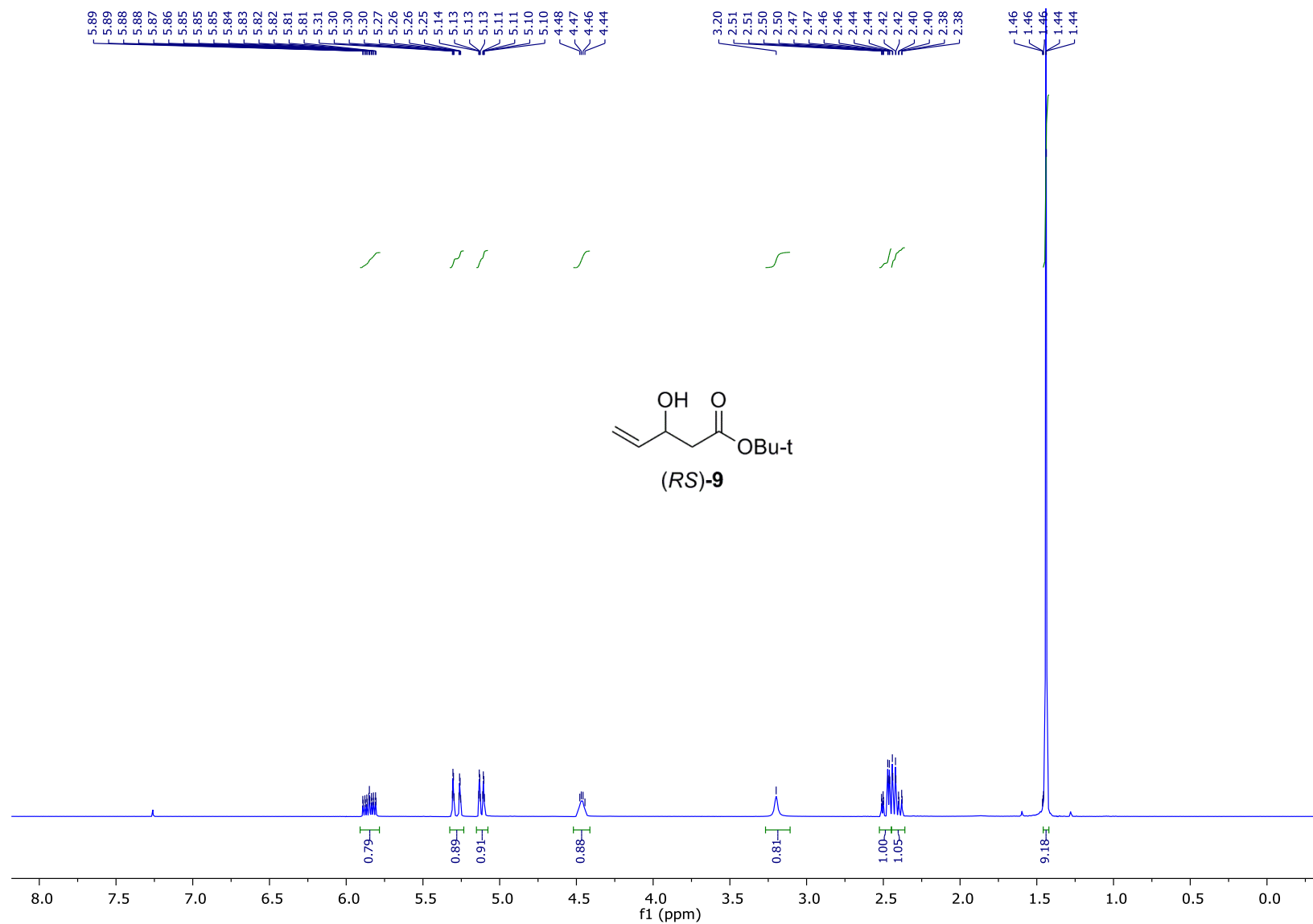


Figure S25. ^{13}C NMR Spectrum of (*RS*)-**9** in CDCl_3 (100 MHz) at 25 $^\circ\text{C}$

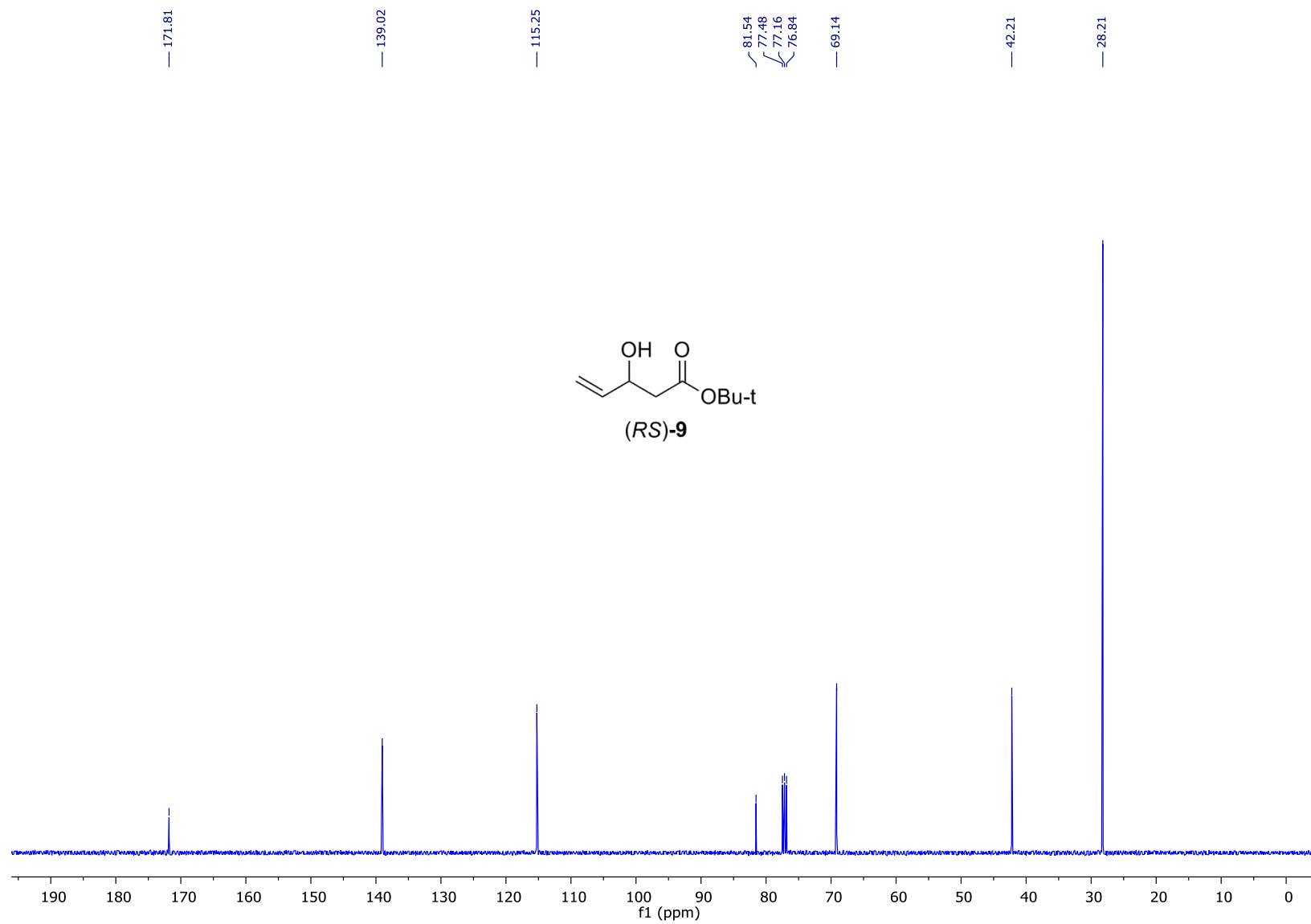


Figure S26. ^1H NMR Spectrum of (*R*)-**9** in CDCl_3 (400 MHz) at 25 $^\circ\text{C}$

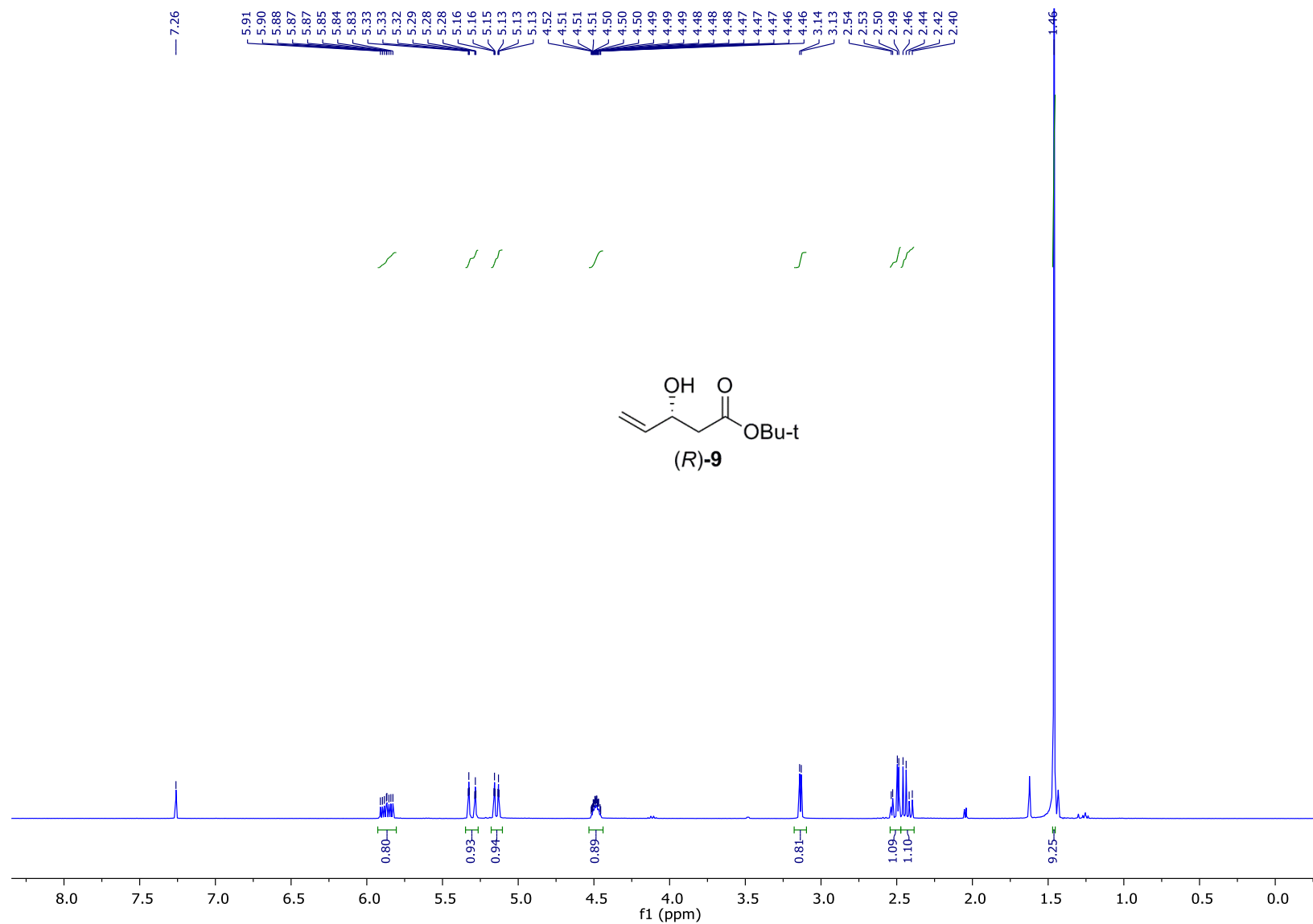


Figure S27. ^{13}C NMR Spectrum of (*R*)-**9** in CDCl_3 (100 MHz) at 25 $^\circ\text{C}$

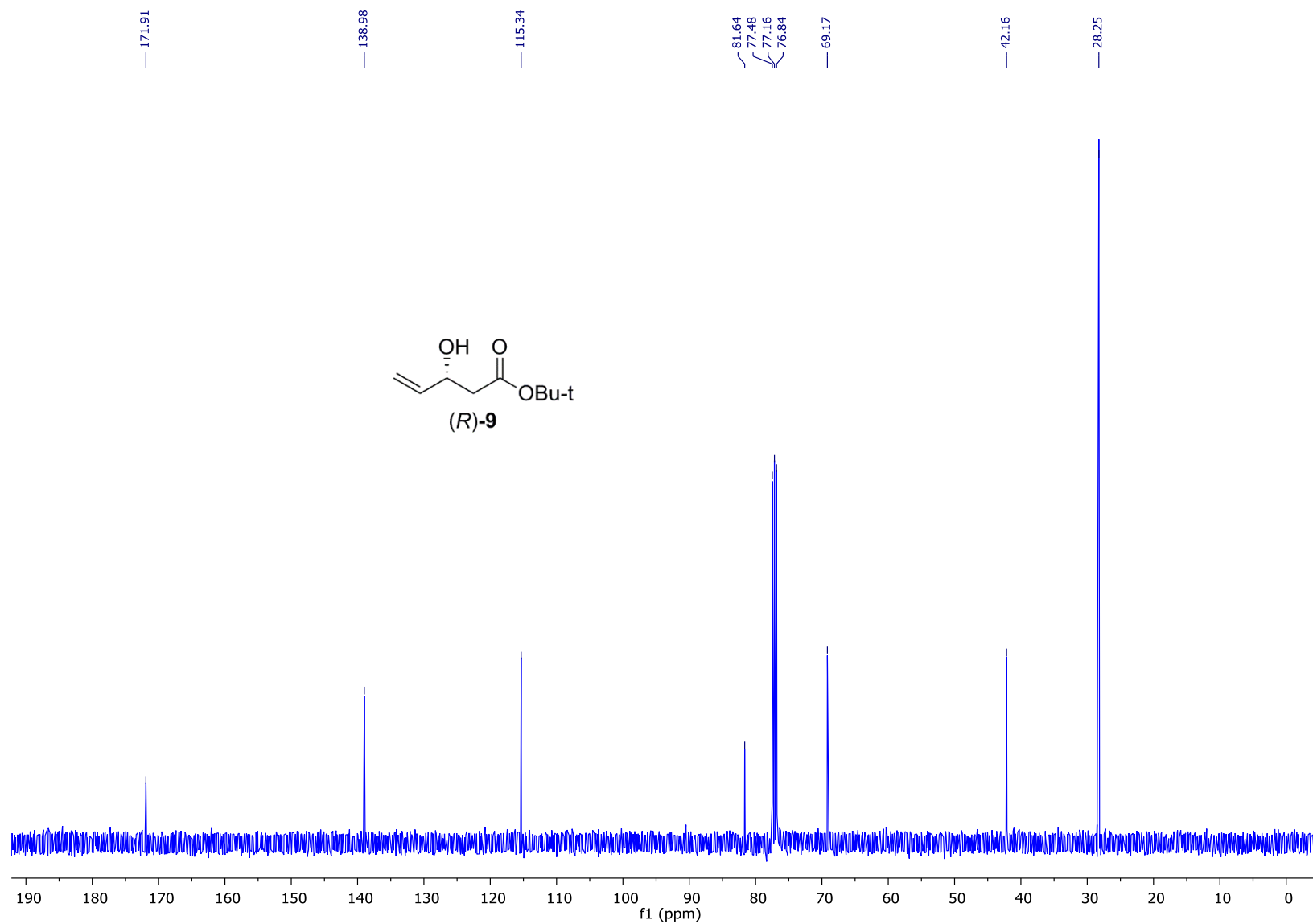


Figure S28. ^1H NMR Spectrum of (*S*)-**31** in CDCl_3 (400 MHz) at 25 $^\circ\text{C}$

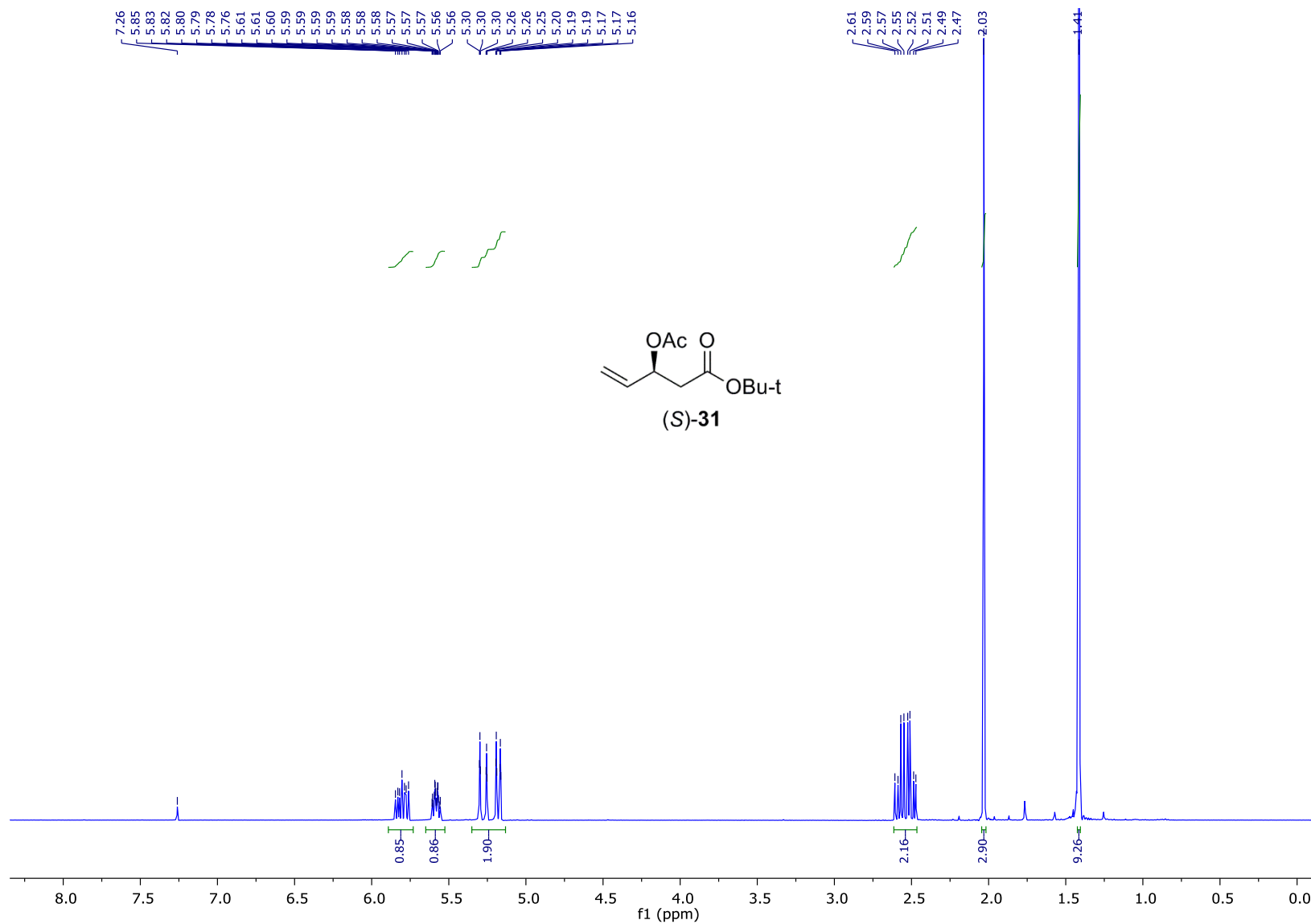


Figure S29. ^{13}C NMR Spectrum of (*S*)-**31** in CDCl_3 (100 MHz) at 25 $^\circ\text{C}$

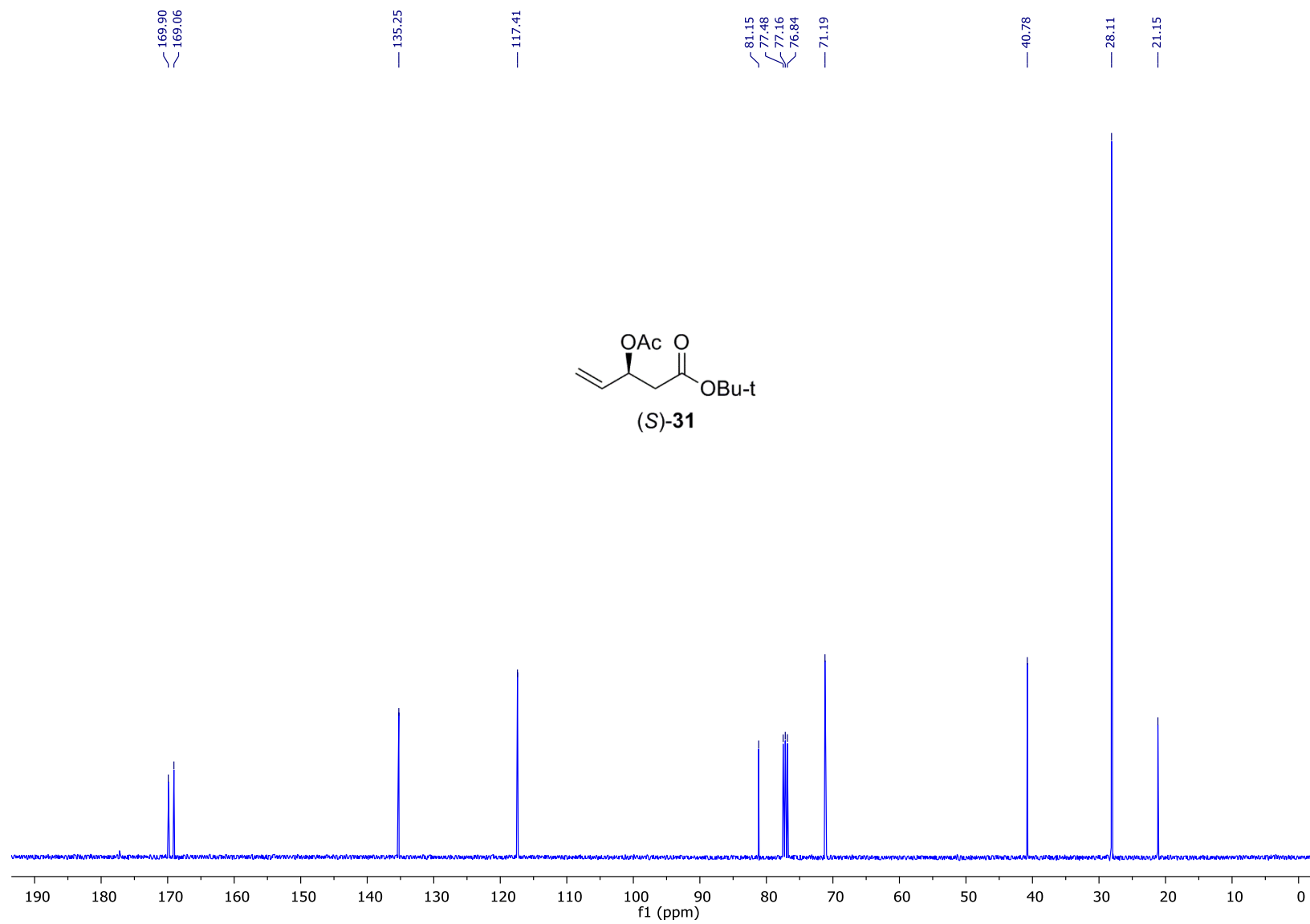


Figure S30. ^1H NMR Spectrum of (*S*)-**9** in CDCl_3 (400 MHz) at 25 $^\circ\text{C}$

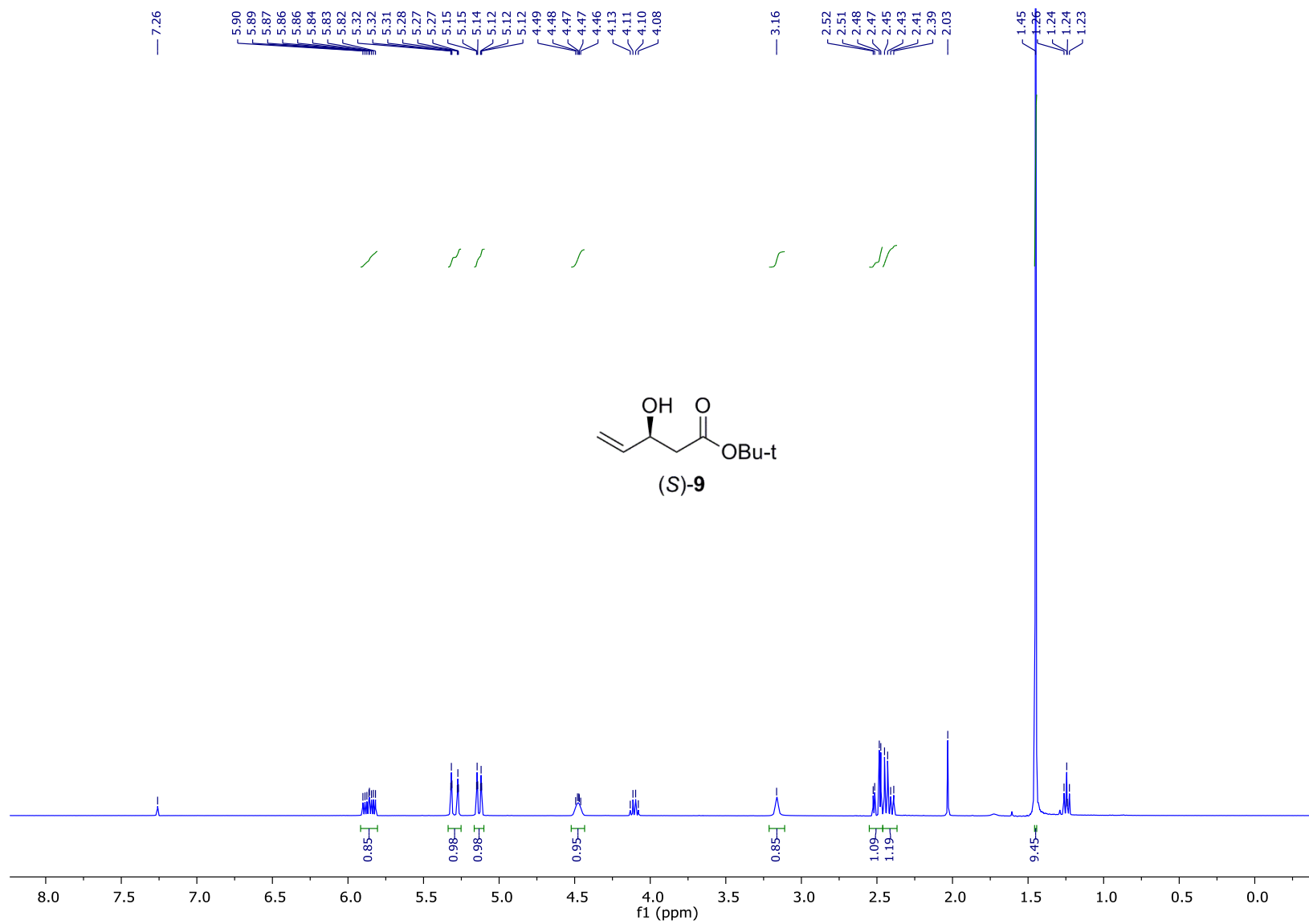


Figure S31. ^{13}C NMR Spectrum of (*S*)-**9** in CDCl_3 (100 MHz) at 25 $^\circ\text{C}$

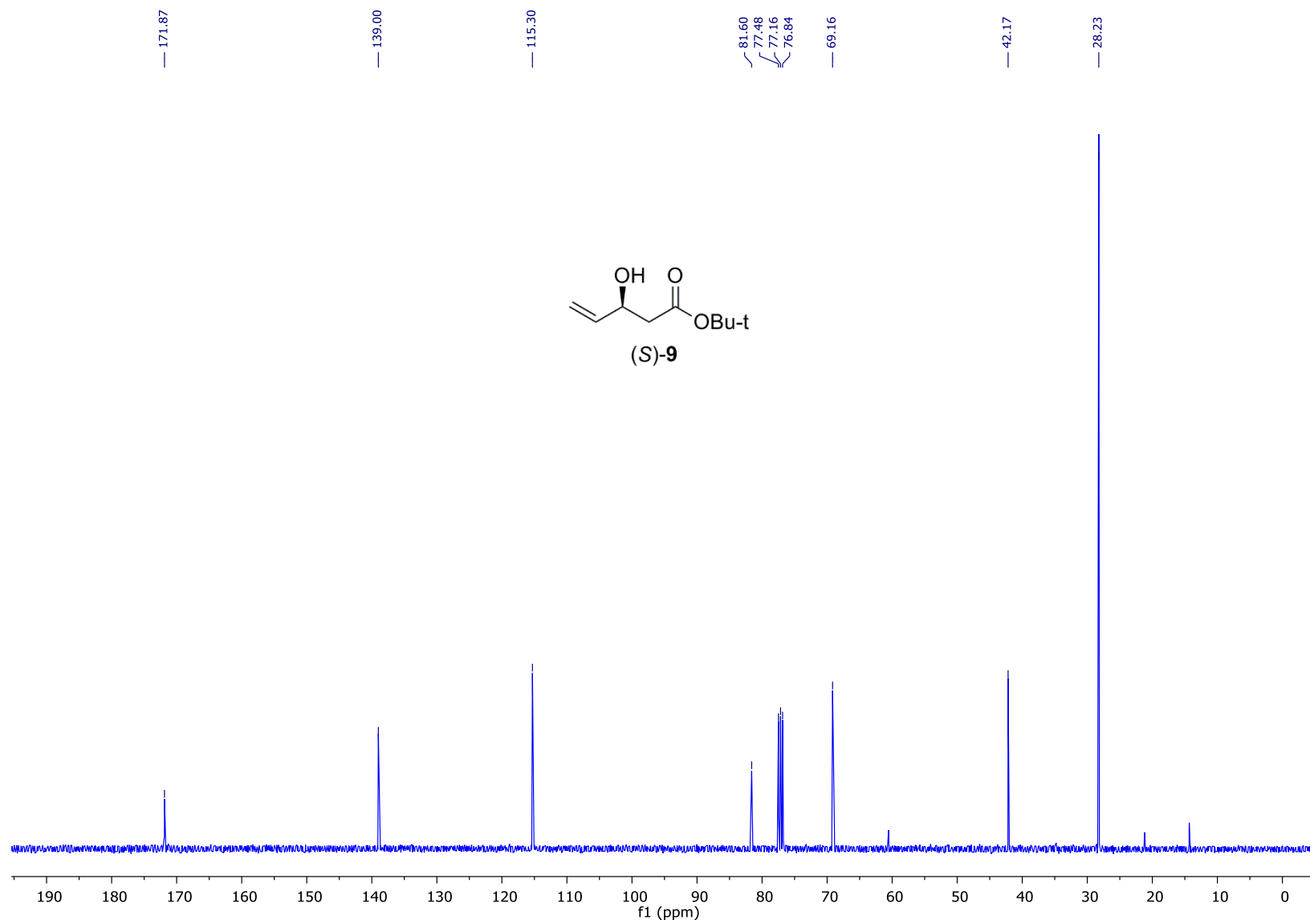


Figure S33. ^{13}C NMR Spectrum of **33** in CDCl_3 (100 MHz) at 25 $^\circ\text{C}$

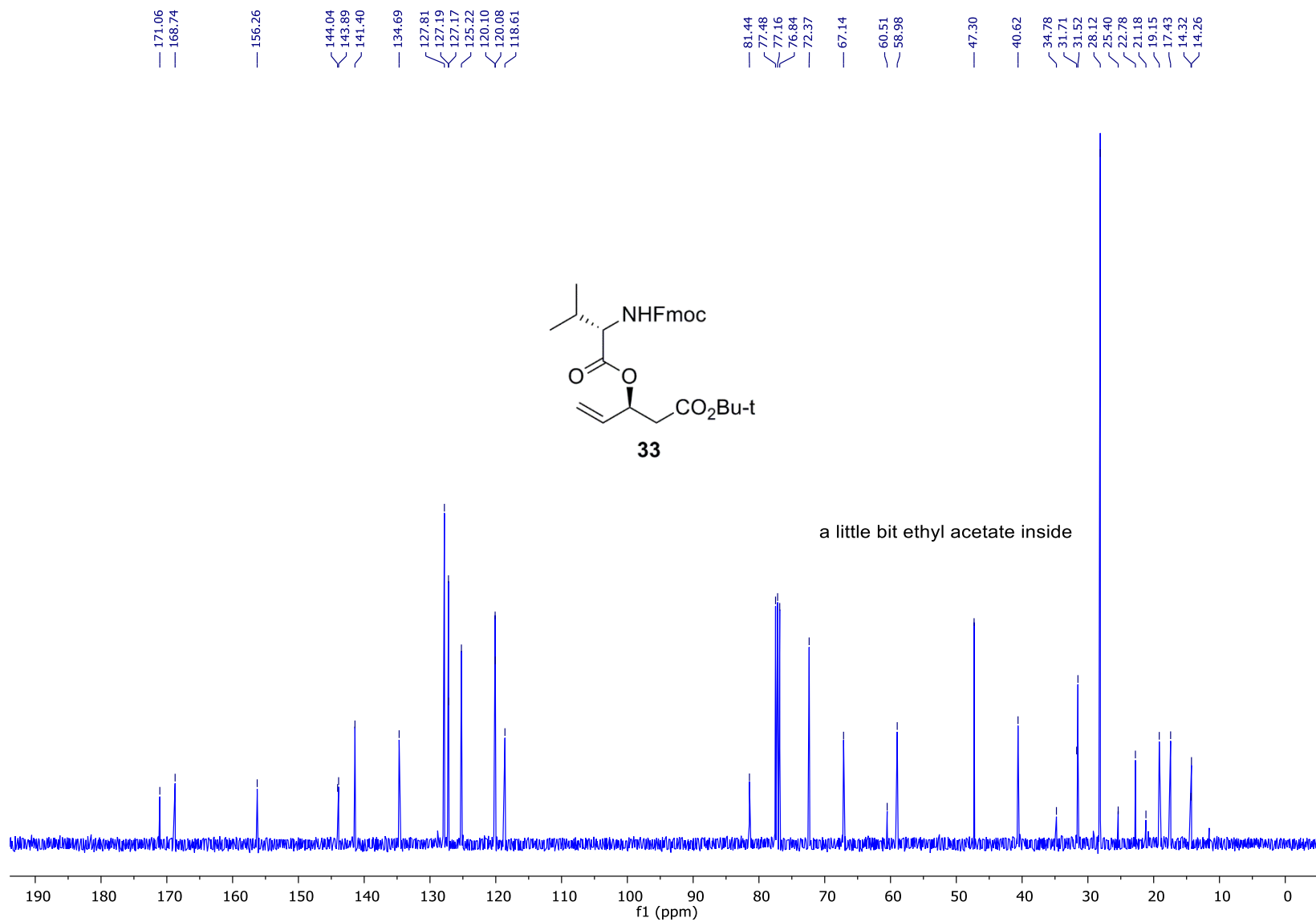


Figure S34. ¹H NMR Spectrum of **6** in CDCl₃ (400 MHz) at 25 °C

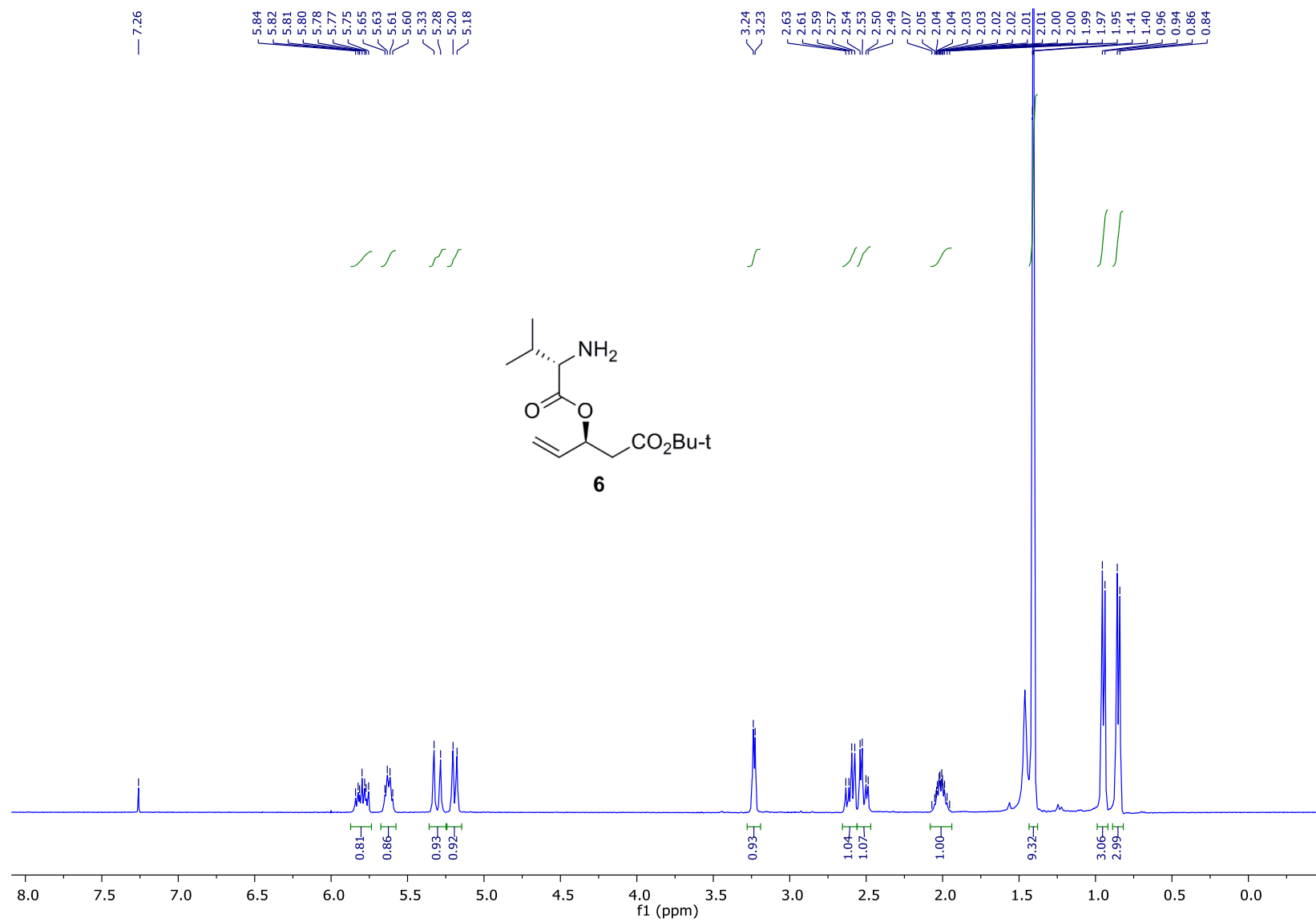


Figure S35. ^{13}C NMR Spectrum of **6** in CDCl_3 (100 MHz) at 25 $^\circ\text{C}$

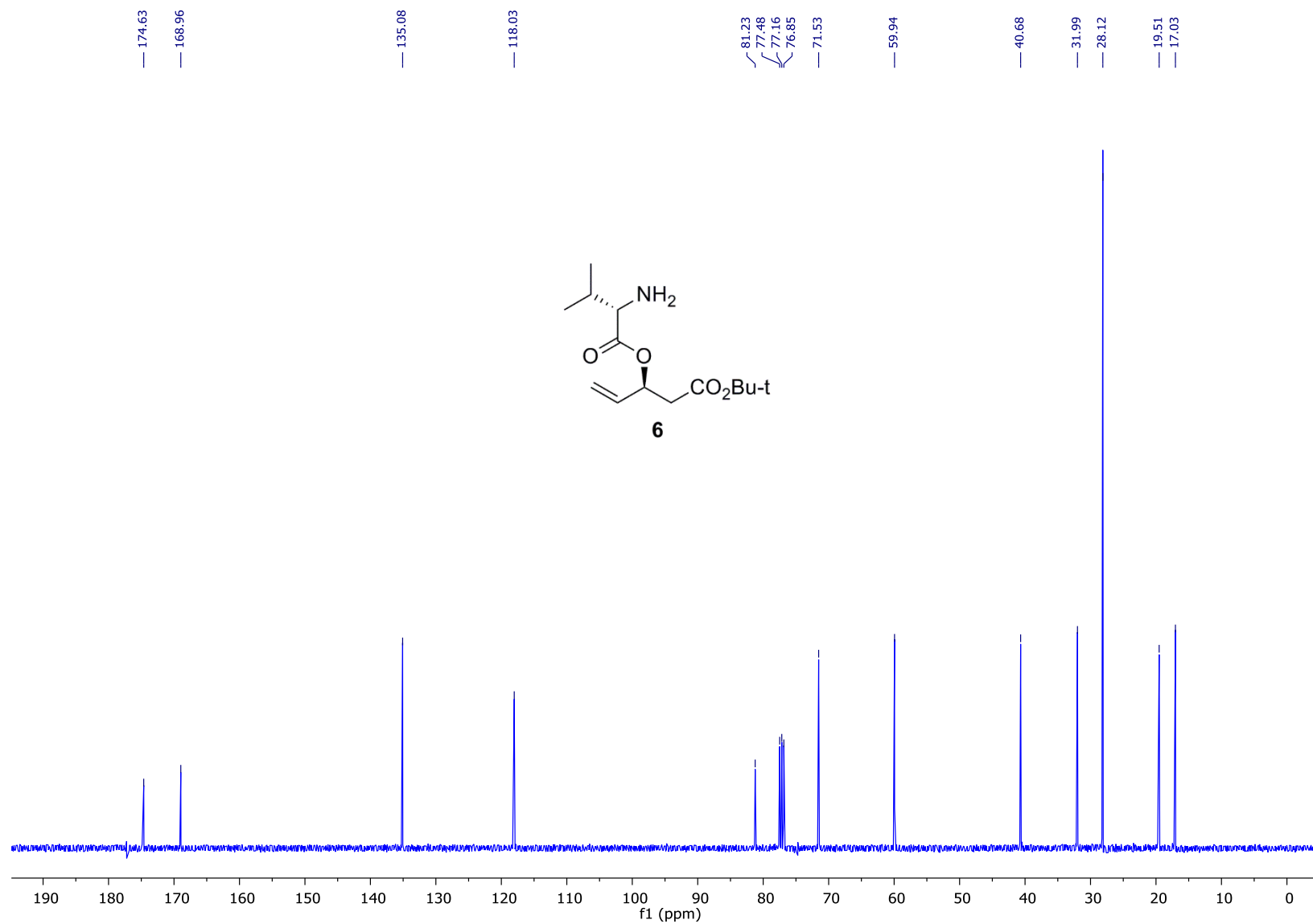


Figure S36. ¹H NMR Spectrum of **4** in CDCl₃ (400 MHz) at 25 °C

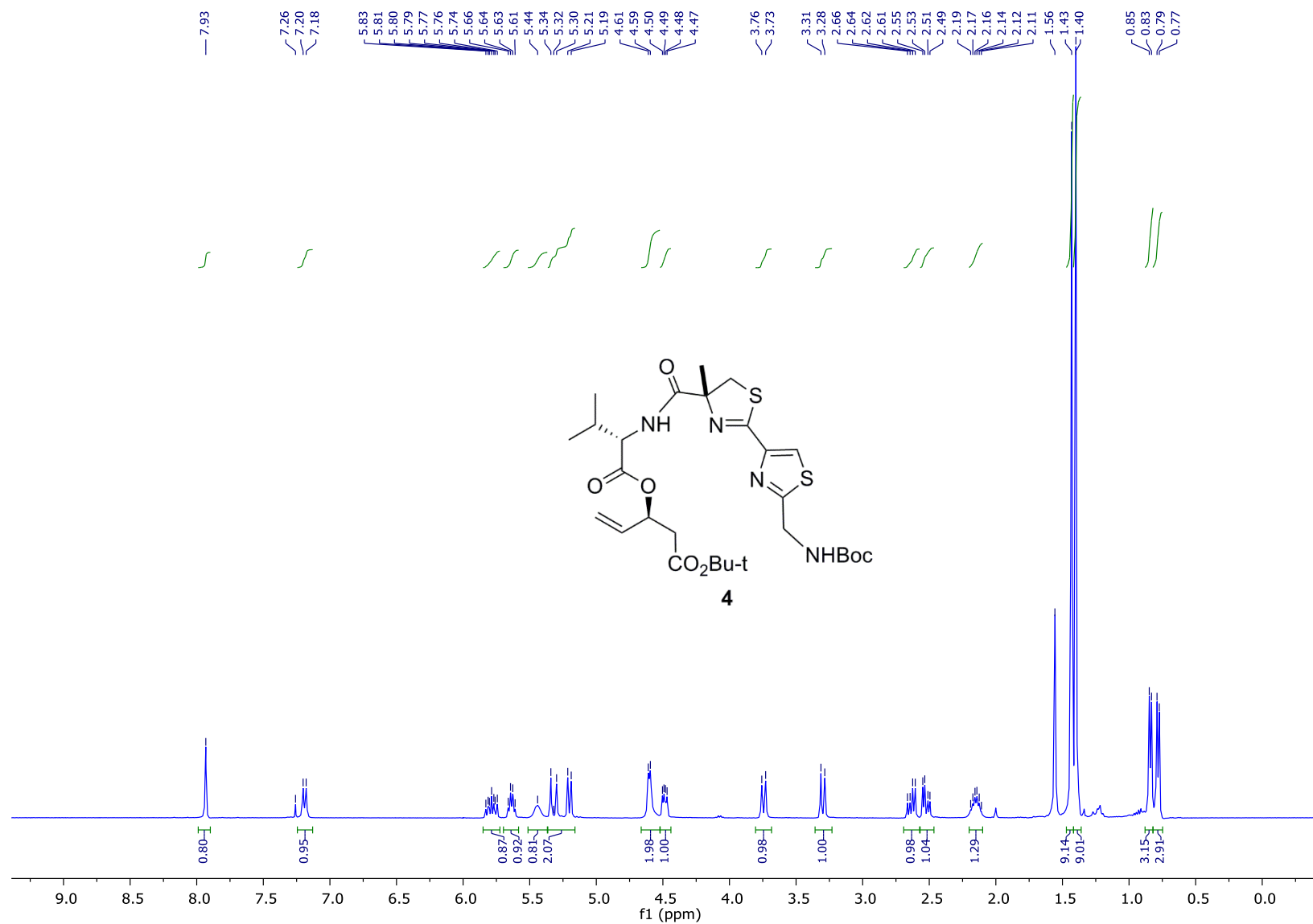


Figure S37. ^{13}C NMR Spectrum of **4** in CDCl_3 (100 MHz) at 25 $^\circ\text{C}$

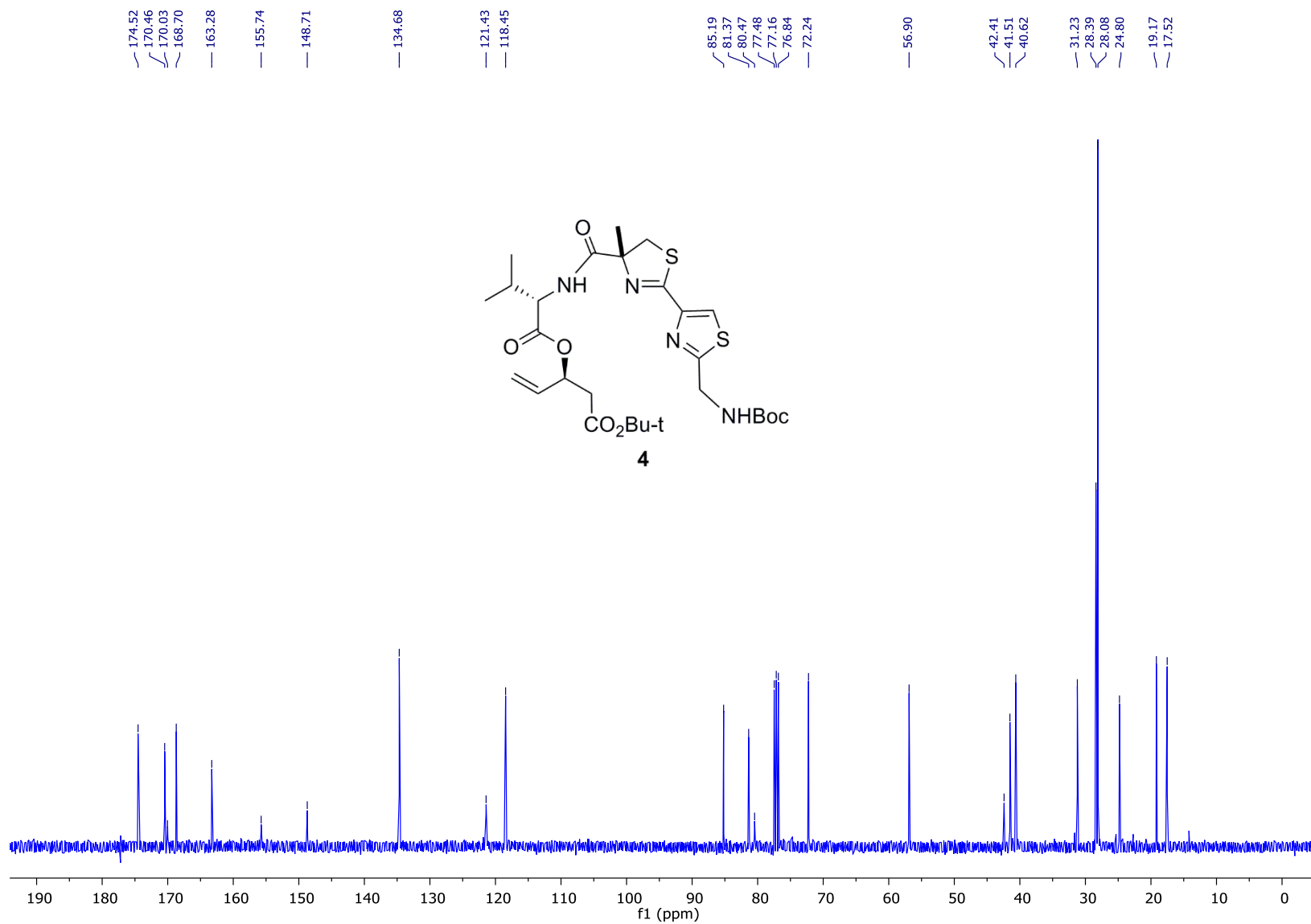


Figure S39. ^{13}C NMR Spectrum of **3** in CDCl_3 (100 MHz) at 25 $^\circ\text{C}$

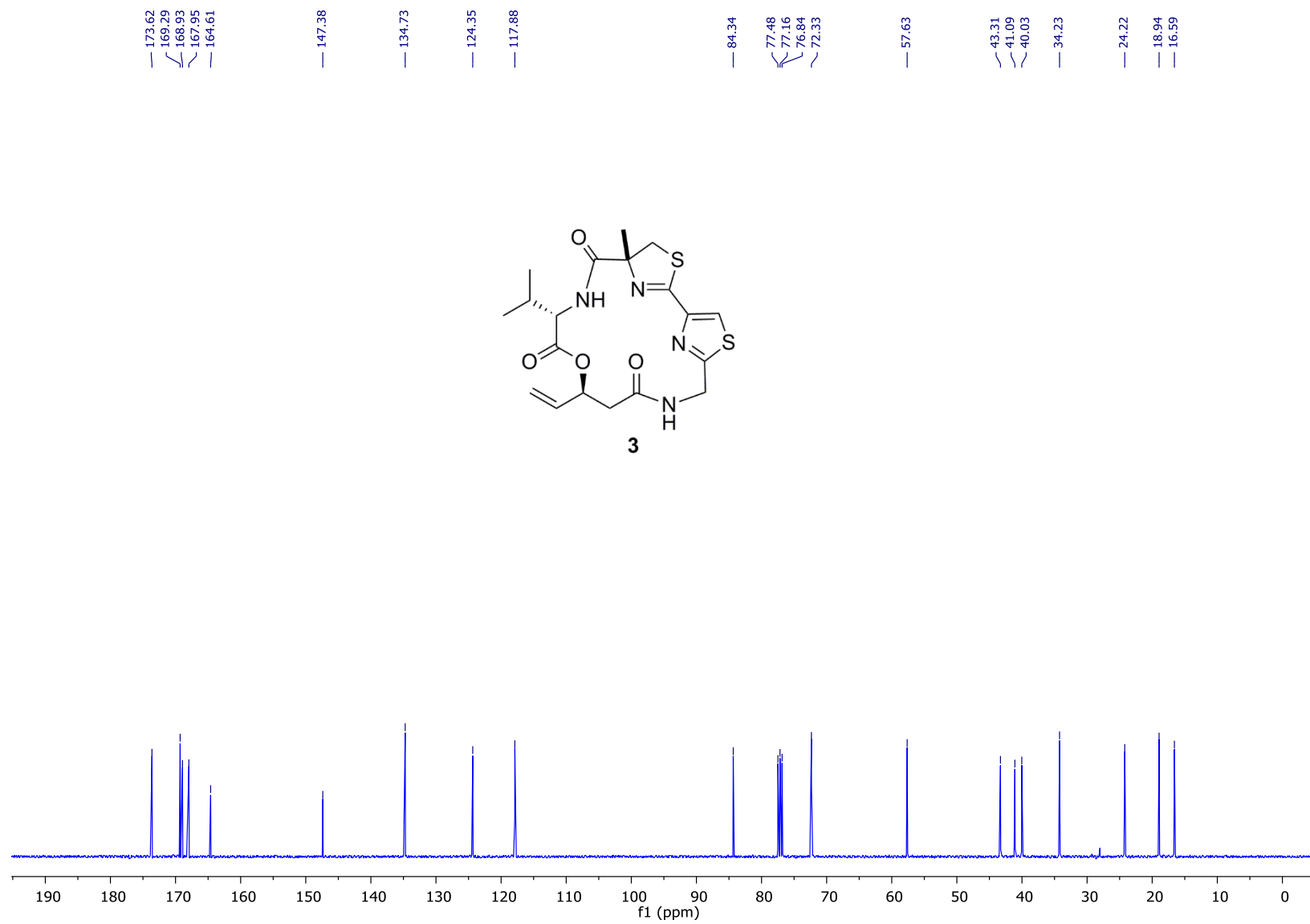


Figure S40. ^1H NMR Spectrum of **1** in CDCl_3 (600 MHz) at 25 $^\circ\text{C}$

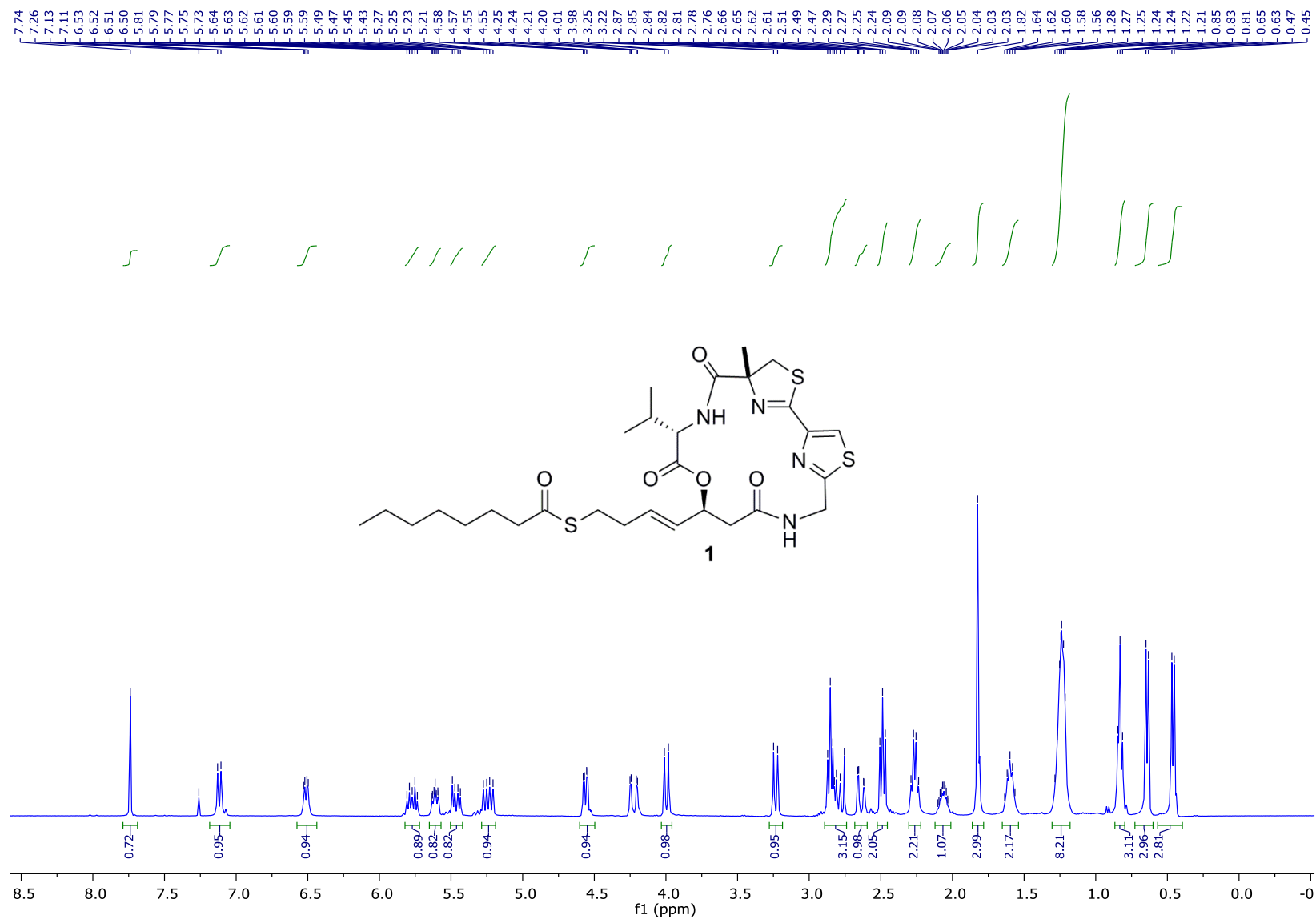


Figure S41. ^{13}C NMR Spectrum of **1** in CDCl_3 (150 MHz) at 25 $^\circ\text{C}$

