Supporting Information

Asymmetric synthesis of 2-alkyl-substituted tetrahydroquinolines by an enantioselective *aza*-Michael reaction

Laura L. Taylor,[a] Frederick W. Goldberg[b] and King Kuok (Mimi) Hii[a,]*

[a] Department of Chemistry, Imperial College London, South Kensington, London SW7 2AZ, U.K.; E-mail: mimi.hii@imperial.ac.uk

[b] AstraZeneca, Mereside, Alderley Park, Cheshire SK10 4TG, U.K. E-mail: frederick.goldberg@astrazeneca.com.

Figure S1. Chiral HPLC chromatograph of **6b** before and after recrystallisation.

Copies of ^{1}H and ^{13}C NMR spectra of isolated compounds:

Figure S2. ^{1}H and ^{13}C NMR spectra of **7a.**

Figure S3. ^{1}H and ^{13}C NMR spectra of **7b.**

Figure S4. ^{1}H and ^{13}C NMR spectra of **7c**.

Figure S5. ^{1}H and ^{13}C NMR spectra of **7d**.

Figure S6. ^{1}H and ^{13}C NMR spectra of **6a**.

Figure S7. ^{1}H and ^{13}C NMR spectra of **6b**.

Figure S8. ^{1}H and ^{13}C NMR spectra of **6c**.

Figure S9. ^{1}H and ^{13}C NMR spectra of **6d**.

Figure S10. ^{1}H and ^{13}C NMR spectra of **14**.

Figure S11. ^{1}H and ^{13}C NMR spectra of **15**.

Figure S12. ^{1}H and ^{13}C NMR spectra of **16.**

Figure S13. ^{1}H and ^{13}C NMR spectra of **17.**

Figure S14. ^{1}H and ^{13}C NMR spectra of **18.**

Figure S15. ^{1}H and ^{13}C NMR spectra of **19.**

Figure S16. ^{1}H and ^{13}C NMR spectra of **5.**

Figure S17. ^{1}H and ^{13}C NMR spectra of **1.**

Figure S18. ^{1}H and ^{13}C NMR spectra of **2.**

Figure S19. ^{1}H and ^{13}C NMR spectra of **4.**

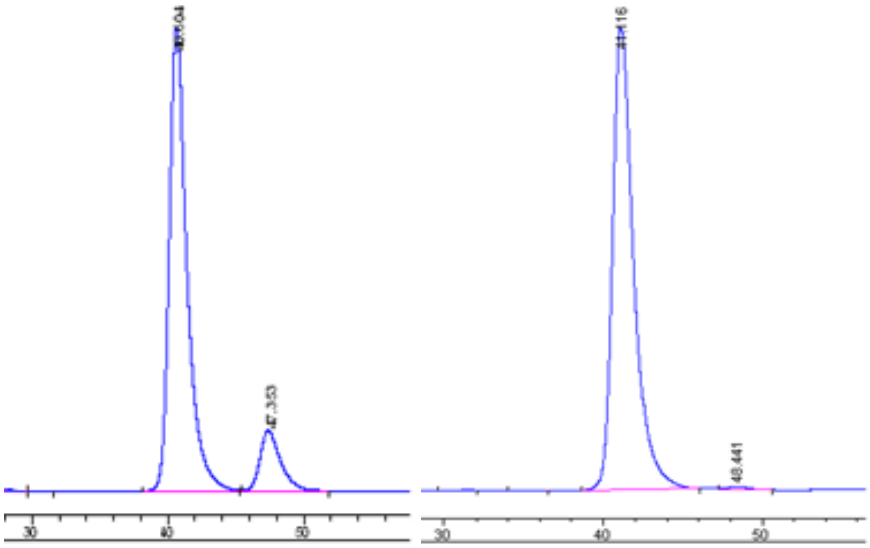
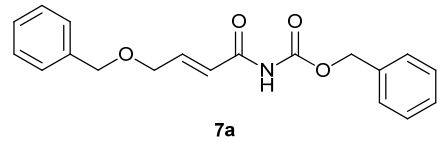
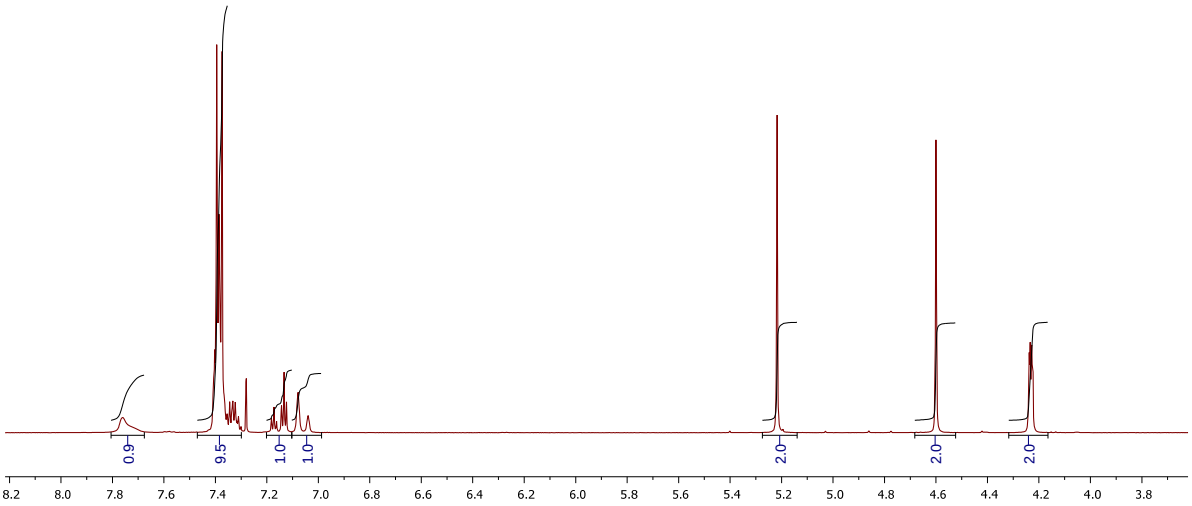


Fig. S1 Chiral HPLC chromatograph of solid precipitate (left) and mother liquor (right) after recrystallisation of **6b** (84% ee) from toluene-cyclohexane.

Figure S2: ^{1}H and ^{13}C NMR spectra of **7a.**



7a



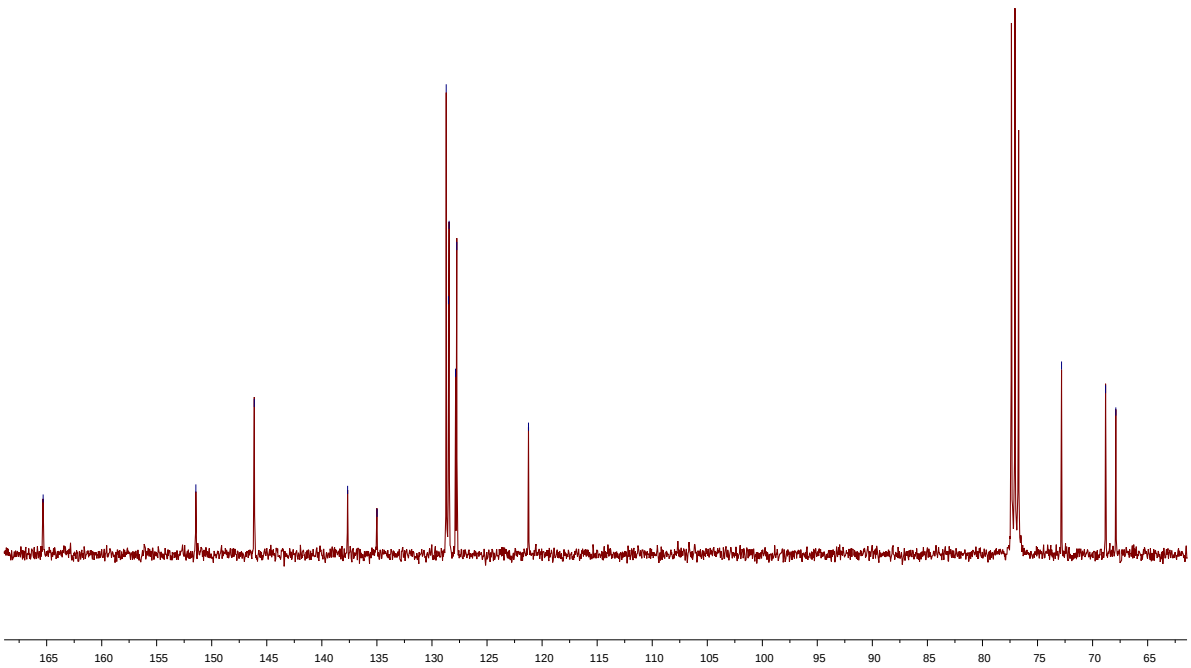
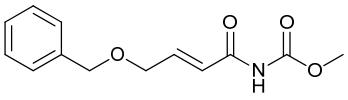
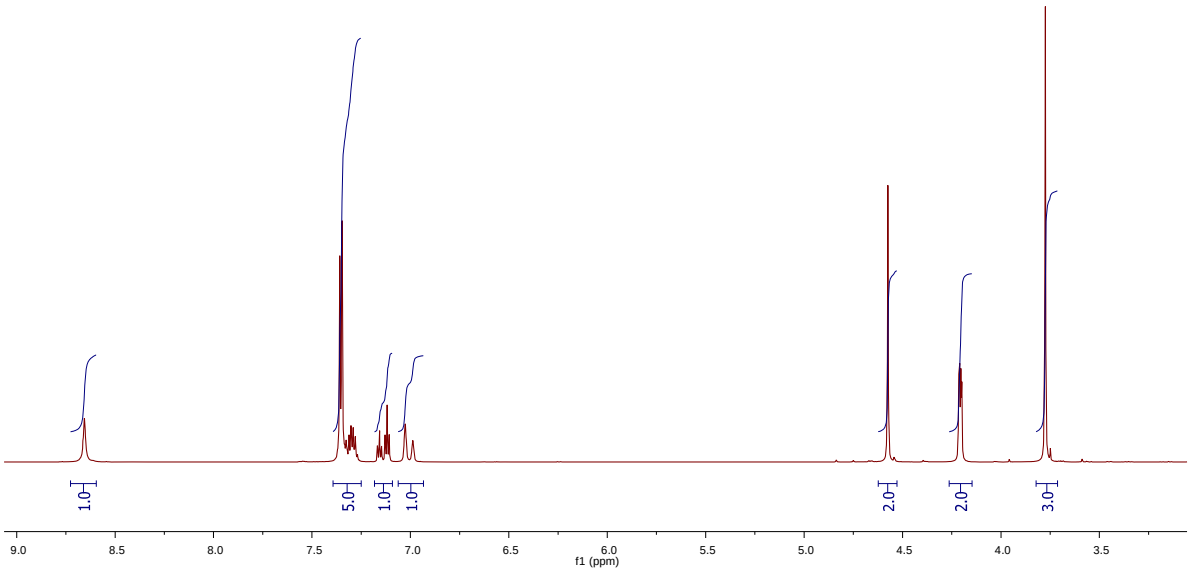


Figure S3: ^{1}H and ^{13}C NMR spectra of **7b.**



7b



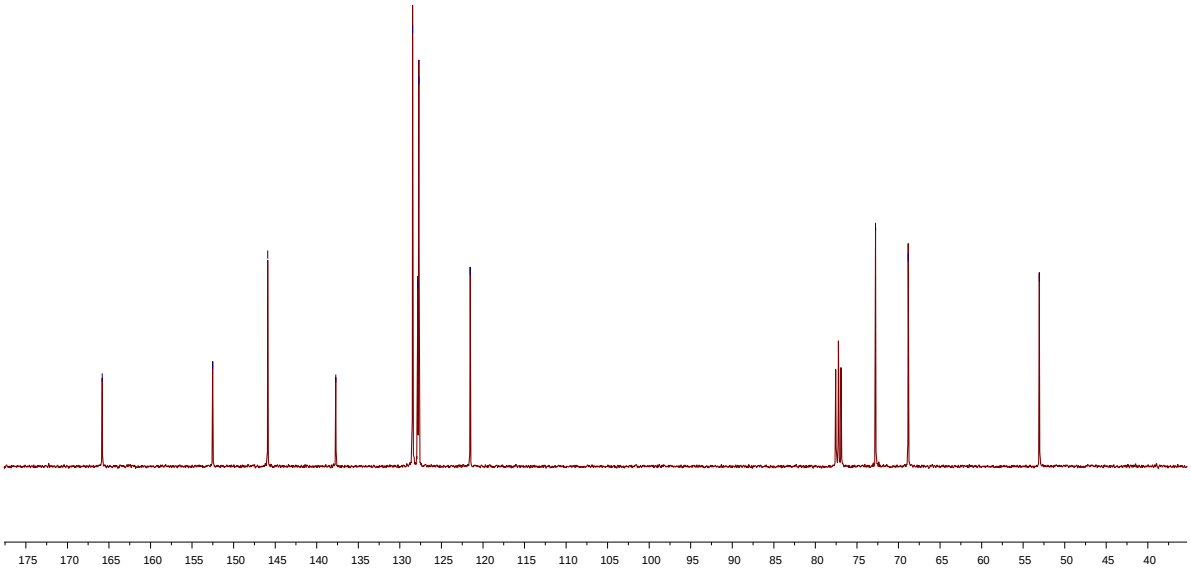


Figure S4. ^{1}H and ^{13}C NMR spectra of **7c**.

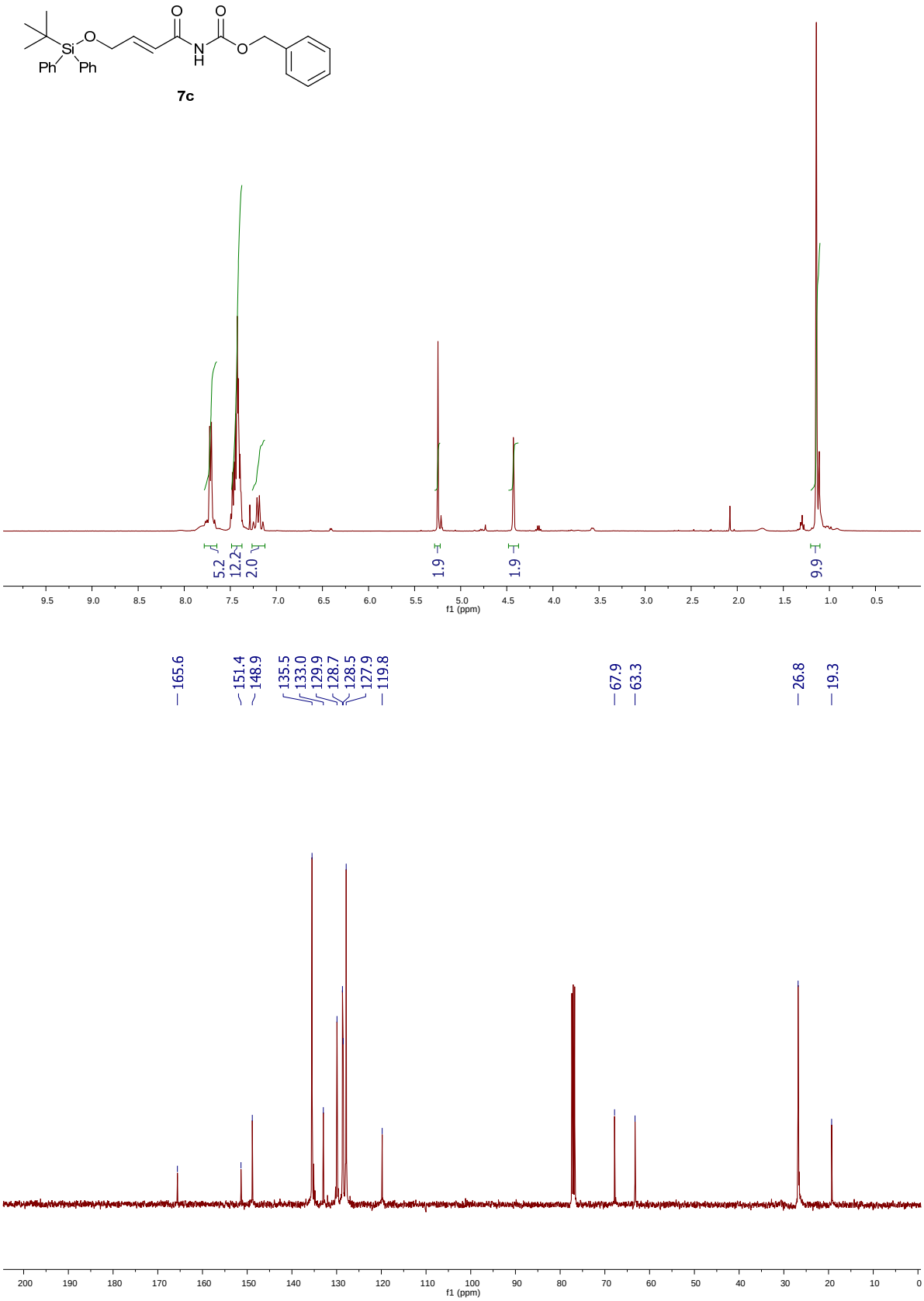


Figure S5. ^{1}H and ^{13}C NMR spectra of **7d**.

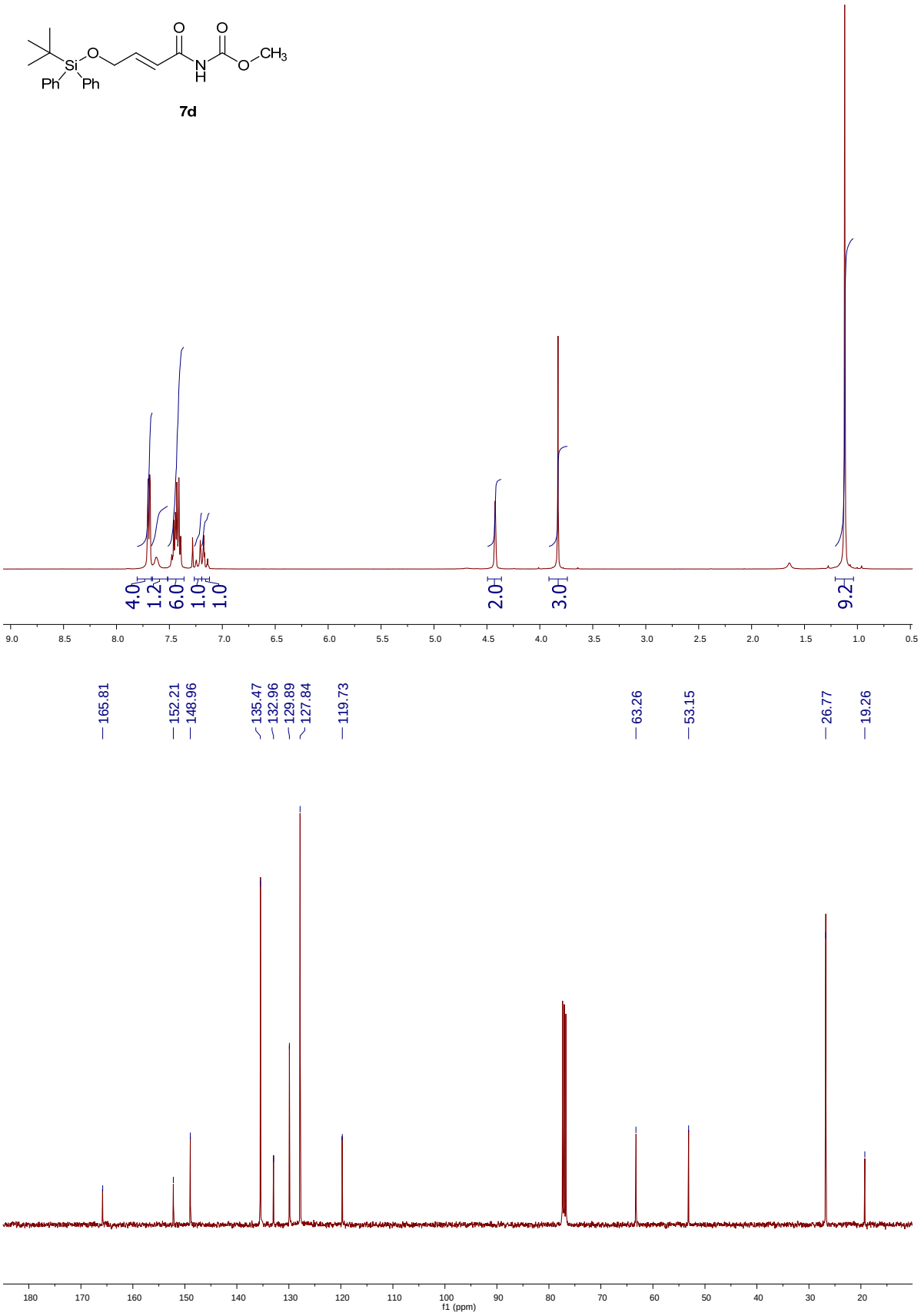


Figure S6. ^{1}H and ^{13}C NMR spectra of **6a**.

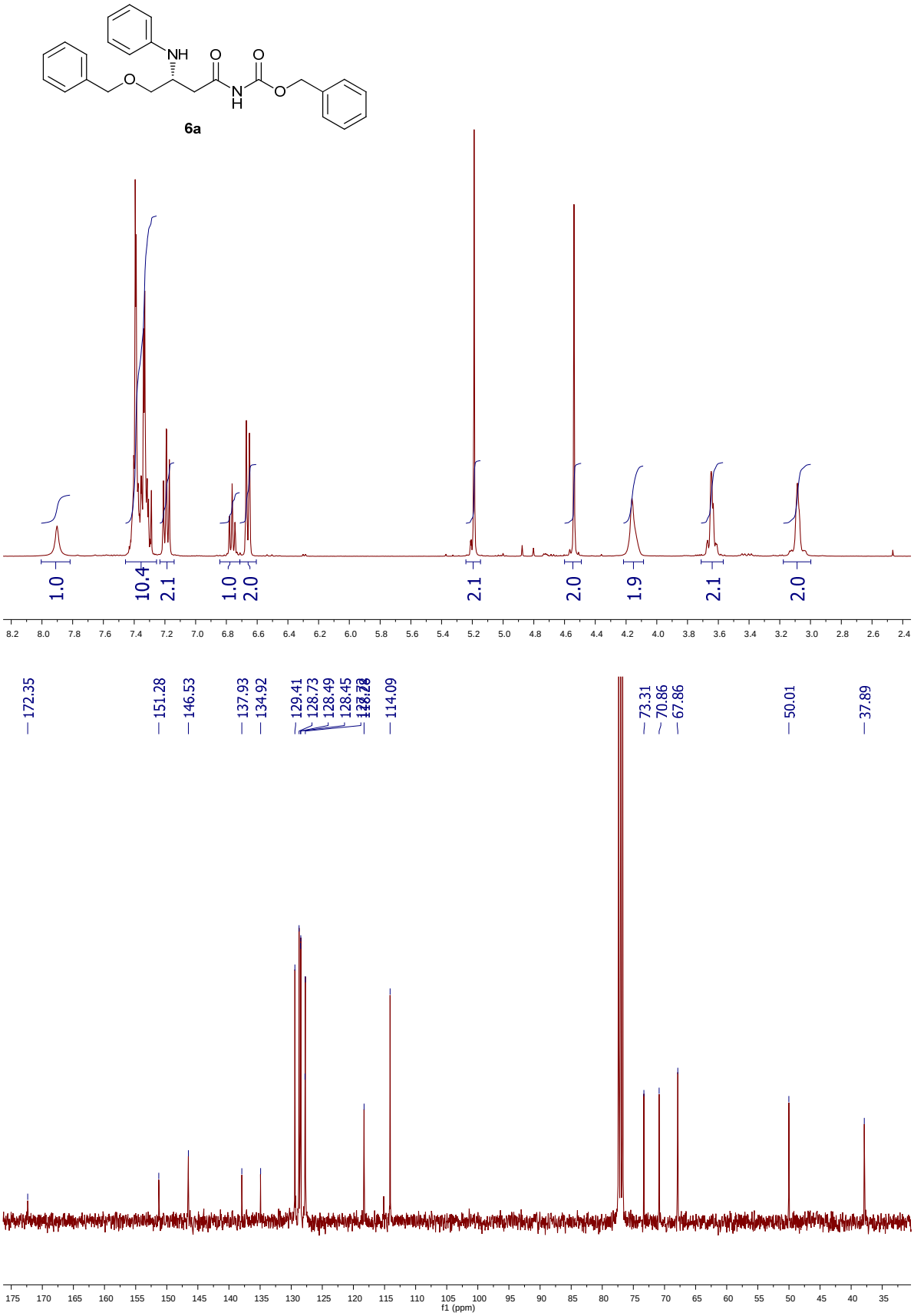


Figure S7. ^{1}H and ^{13}C NMR spectra of **6b**.

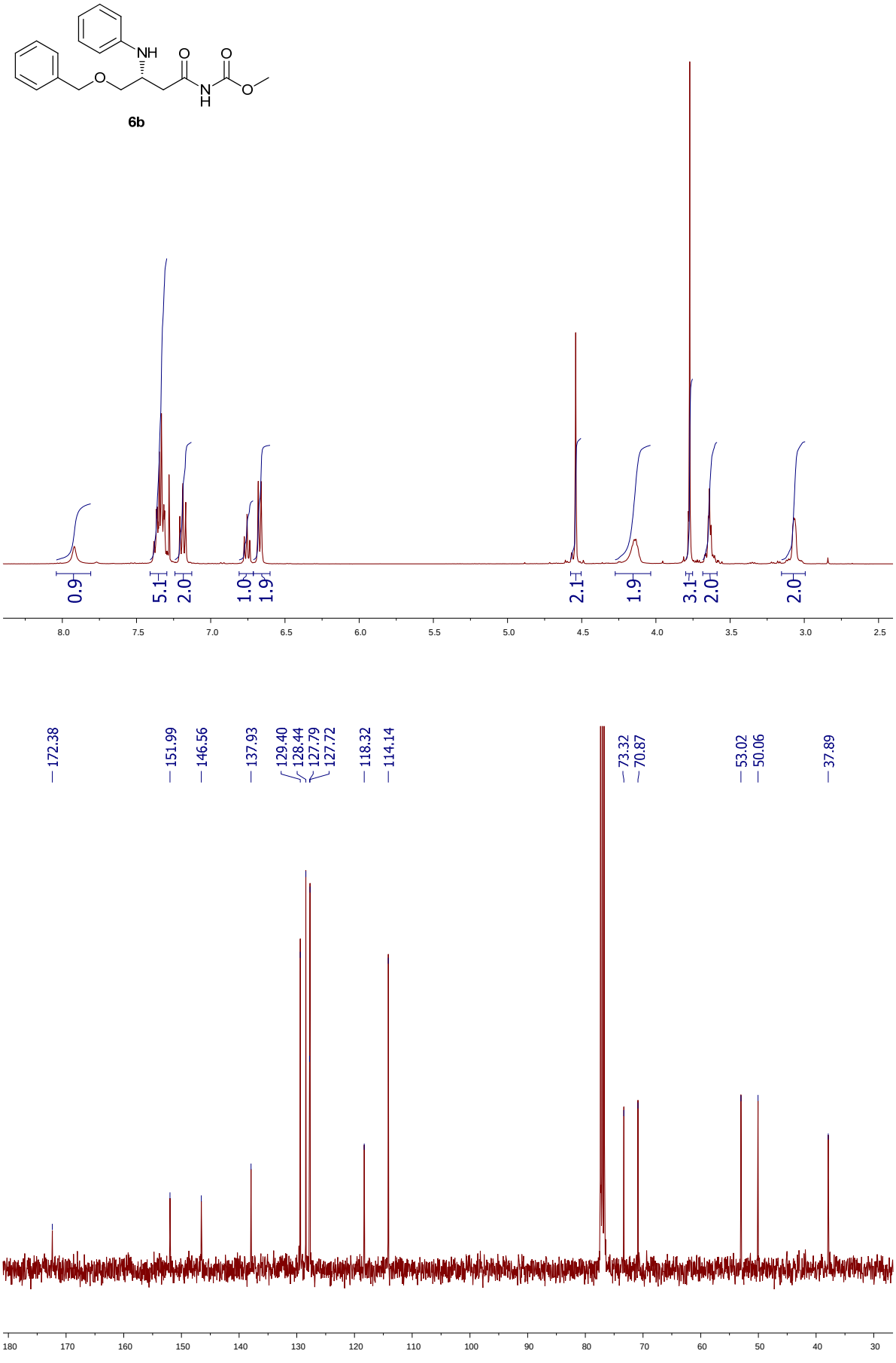


Figure S8. ^{1}H and ^{13}C NMR spectra of **6c**.

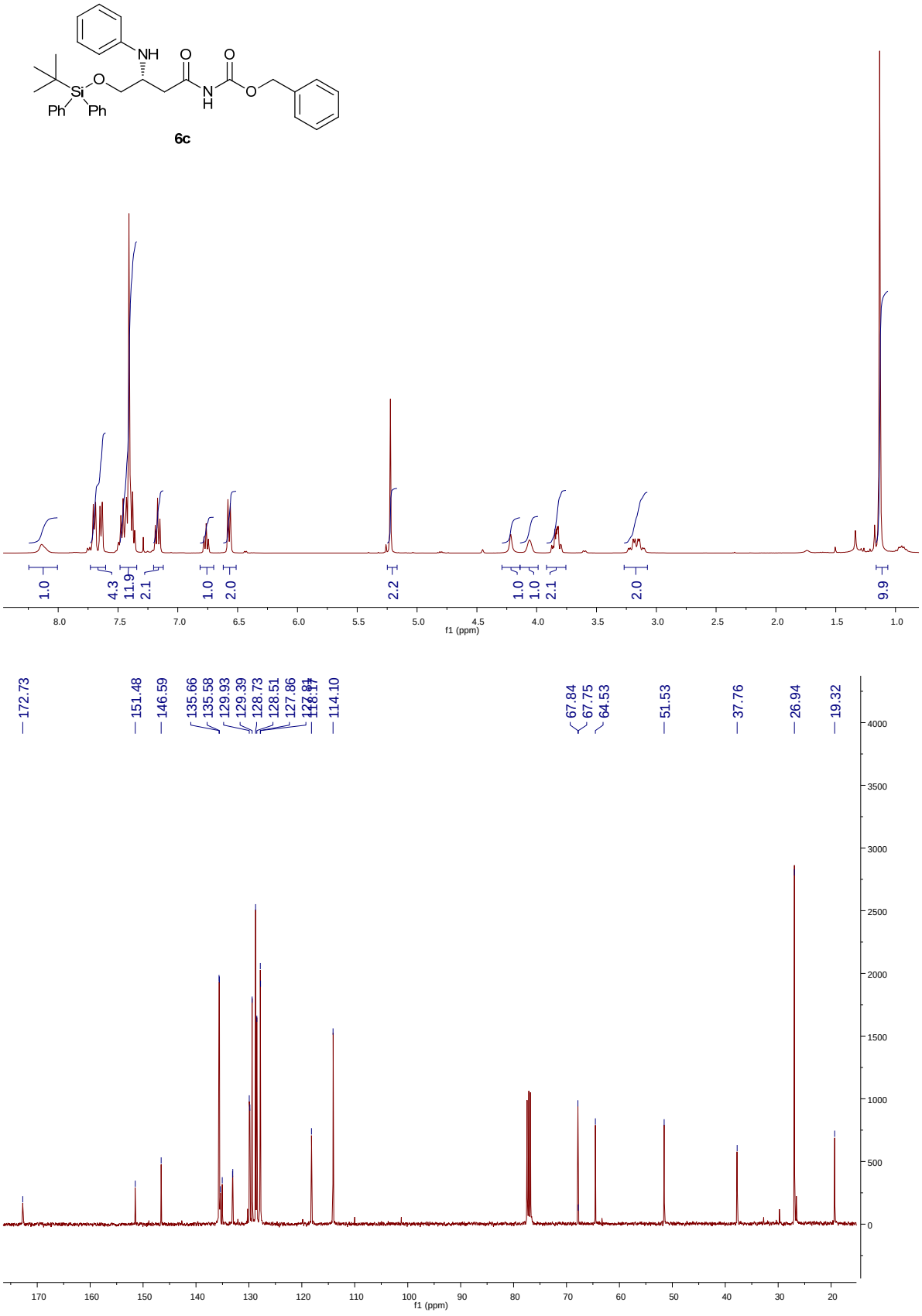


Figure S9. ^{1}H and ^{13}C NMR spectra of **6d**.

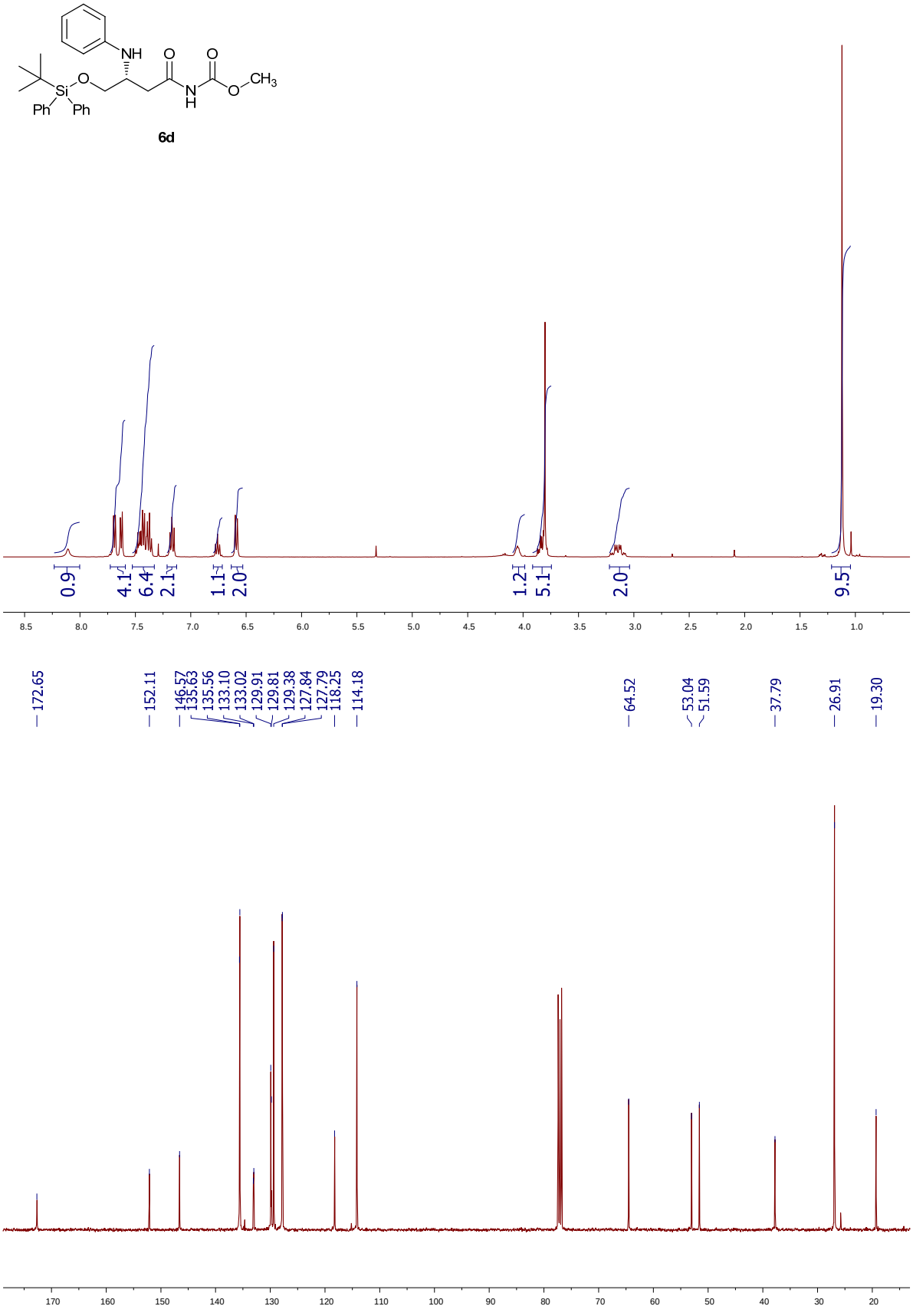


Figure S10. ^{1}H and ^{13}C NMR spectra of **14**.

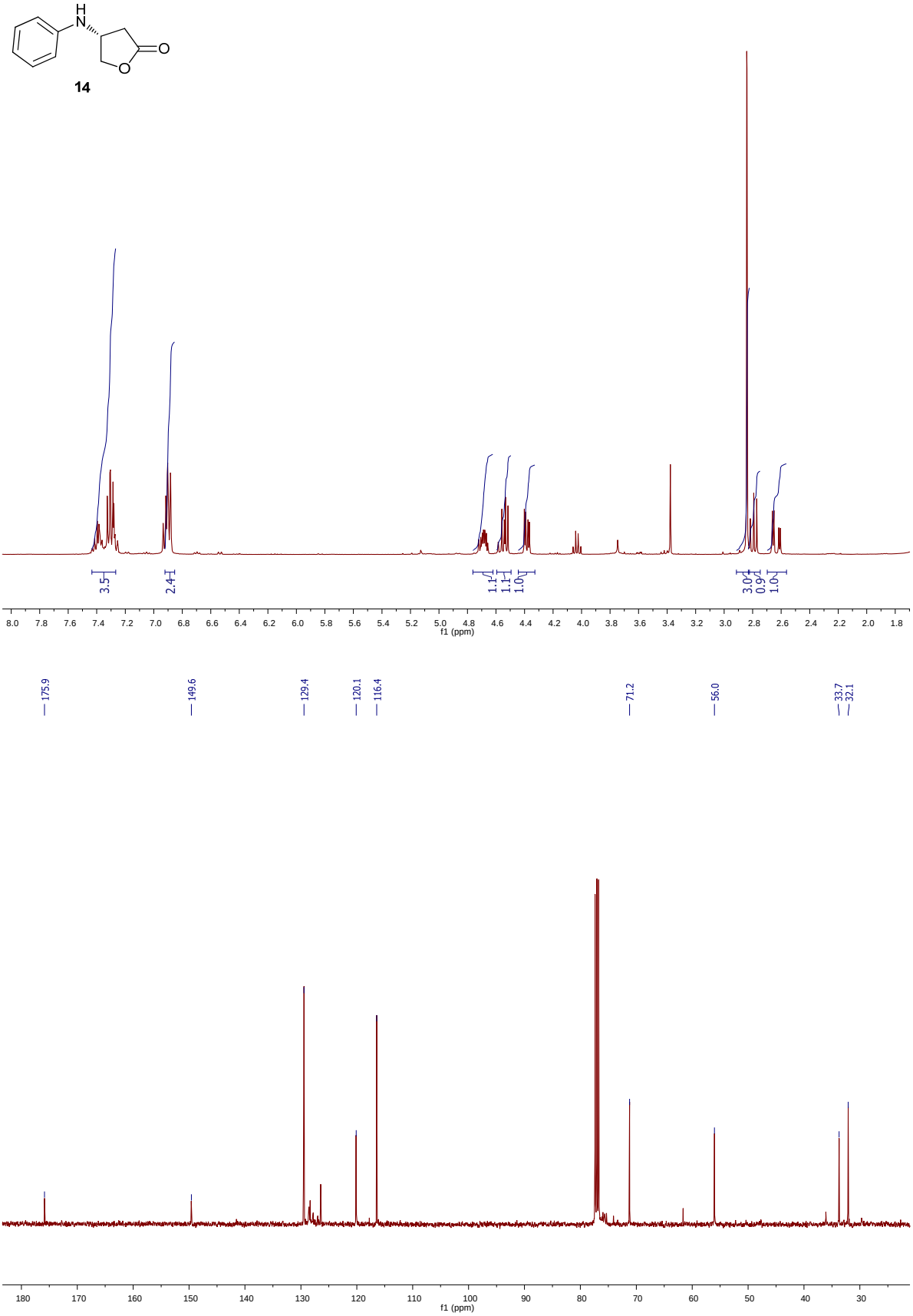


Figure S11. ^{1}H and ^{13}C NMR spectra of **15**.

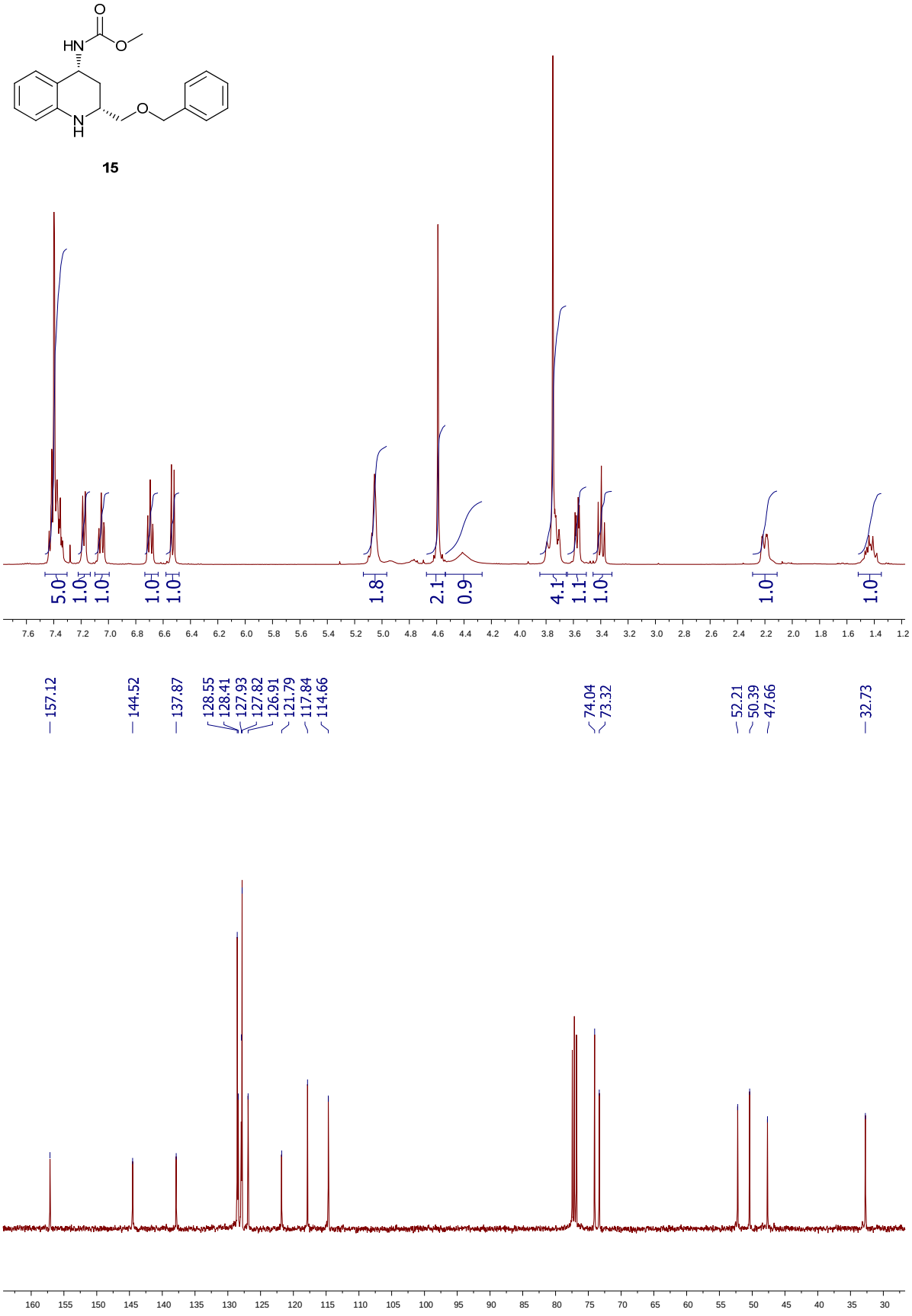


Figure S12. ^{1}H and ^{13}C NMR spectra of **16.**

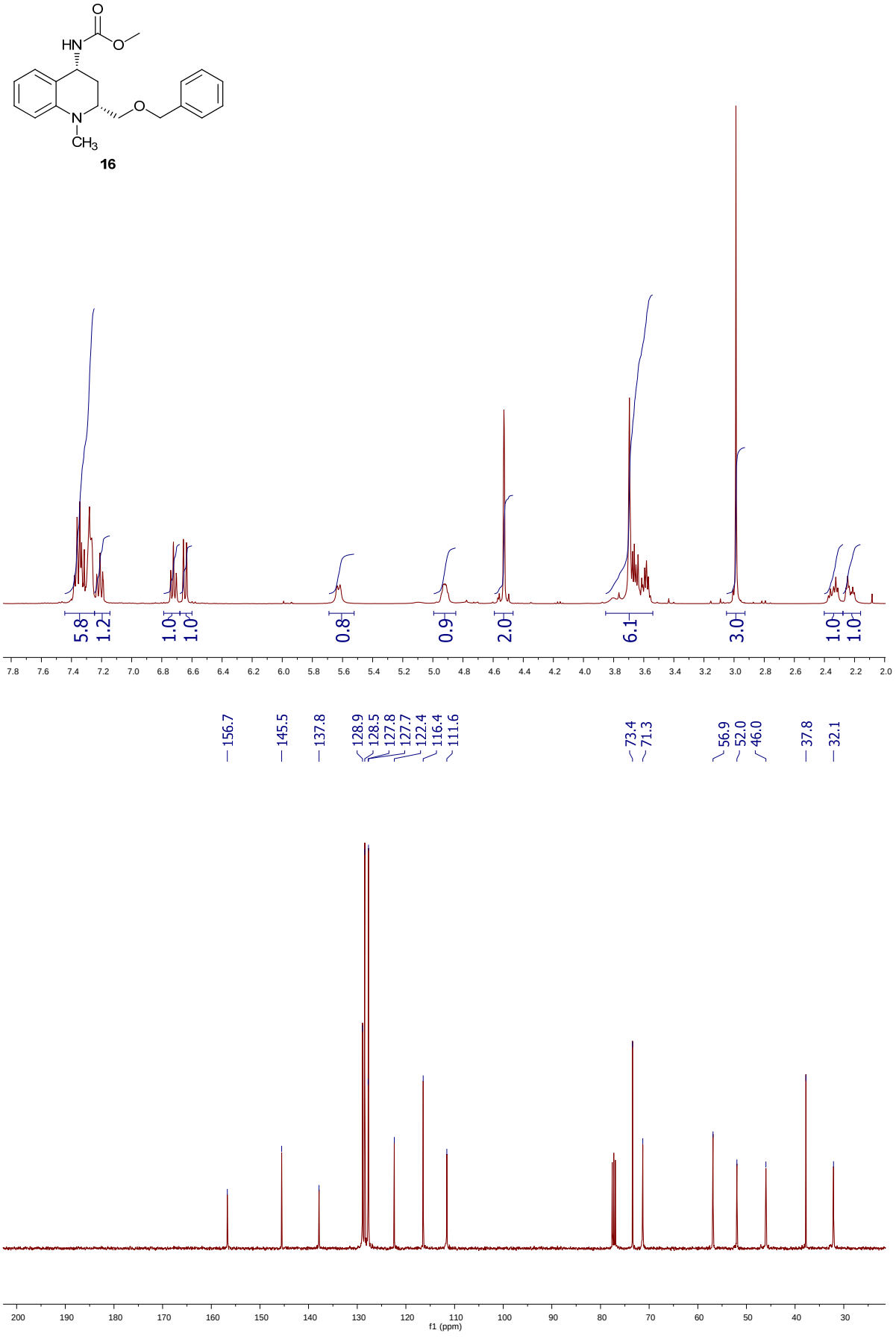
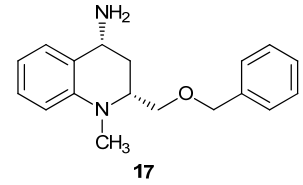
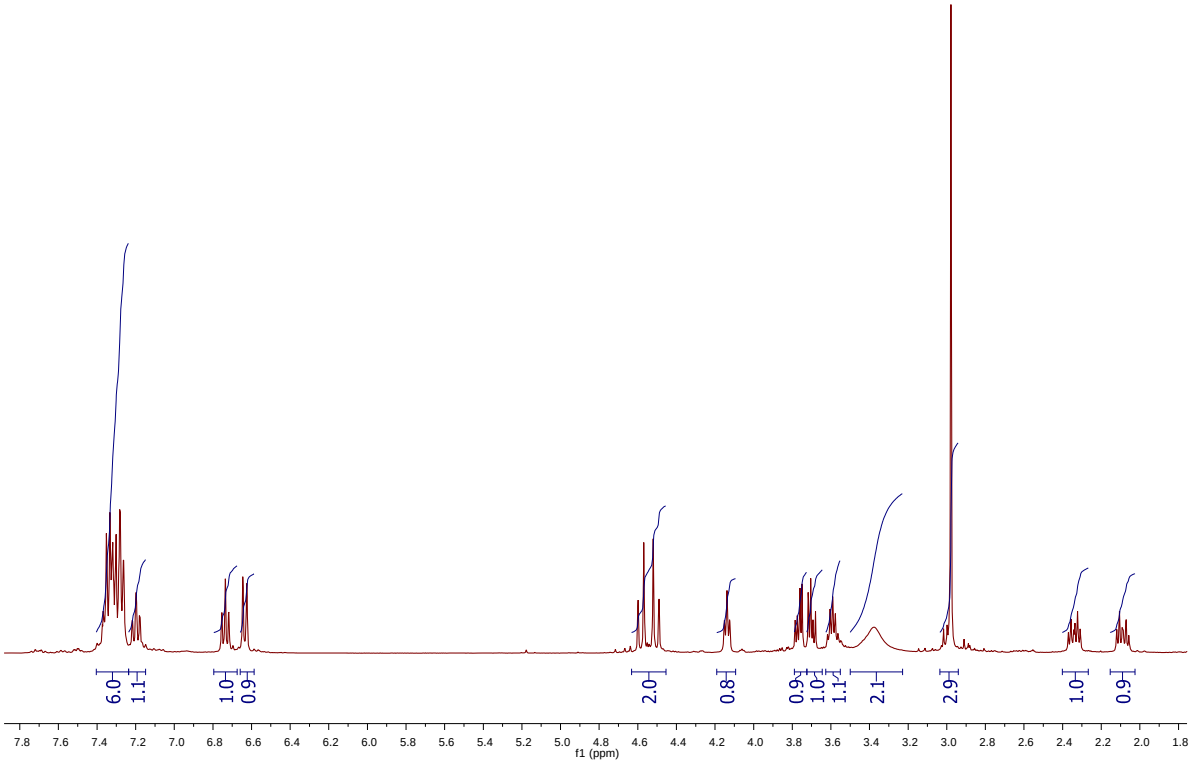


Figure S13. ^{1}H and ^{13}C NMR spectra of **17.**



17



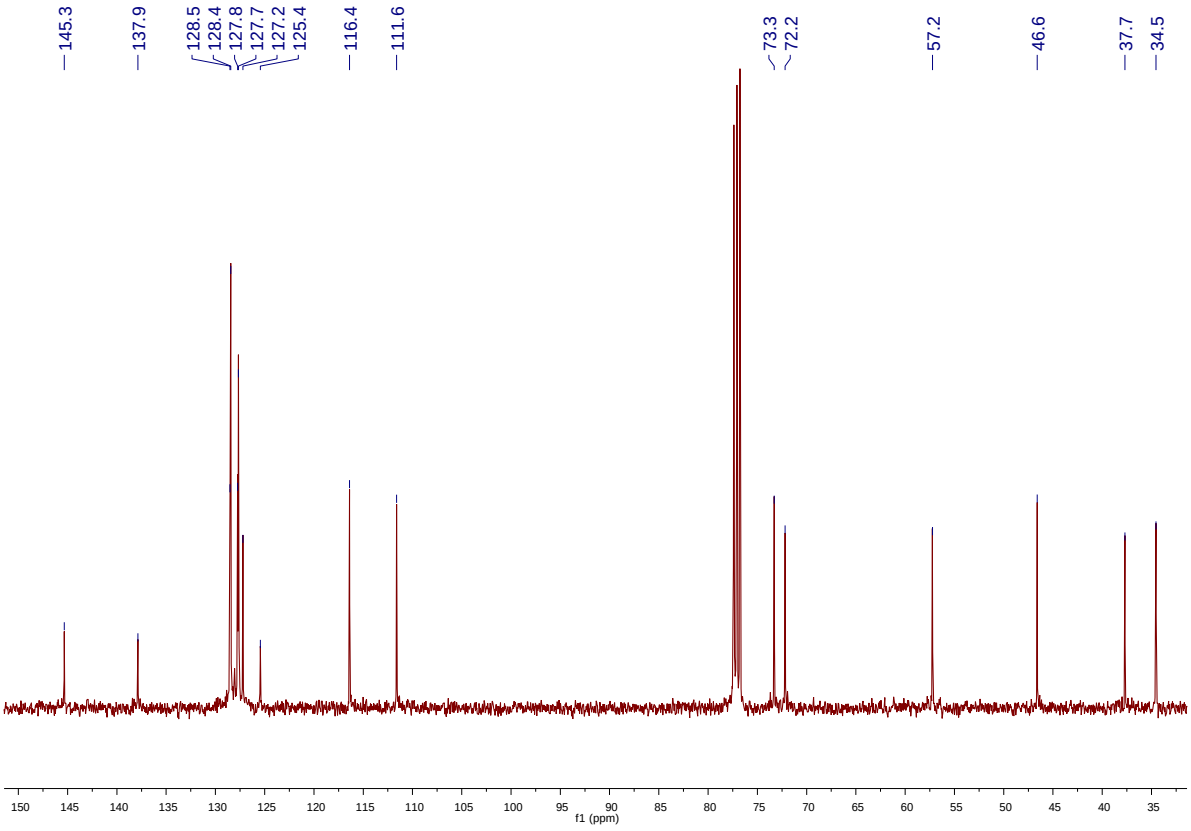


Figure S14. ^{1}H and ^{13}C NMR spectra of **18.**

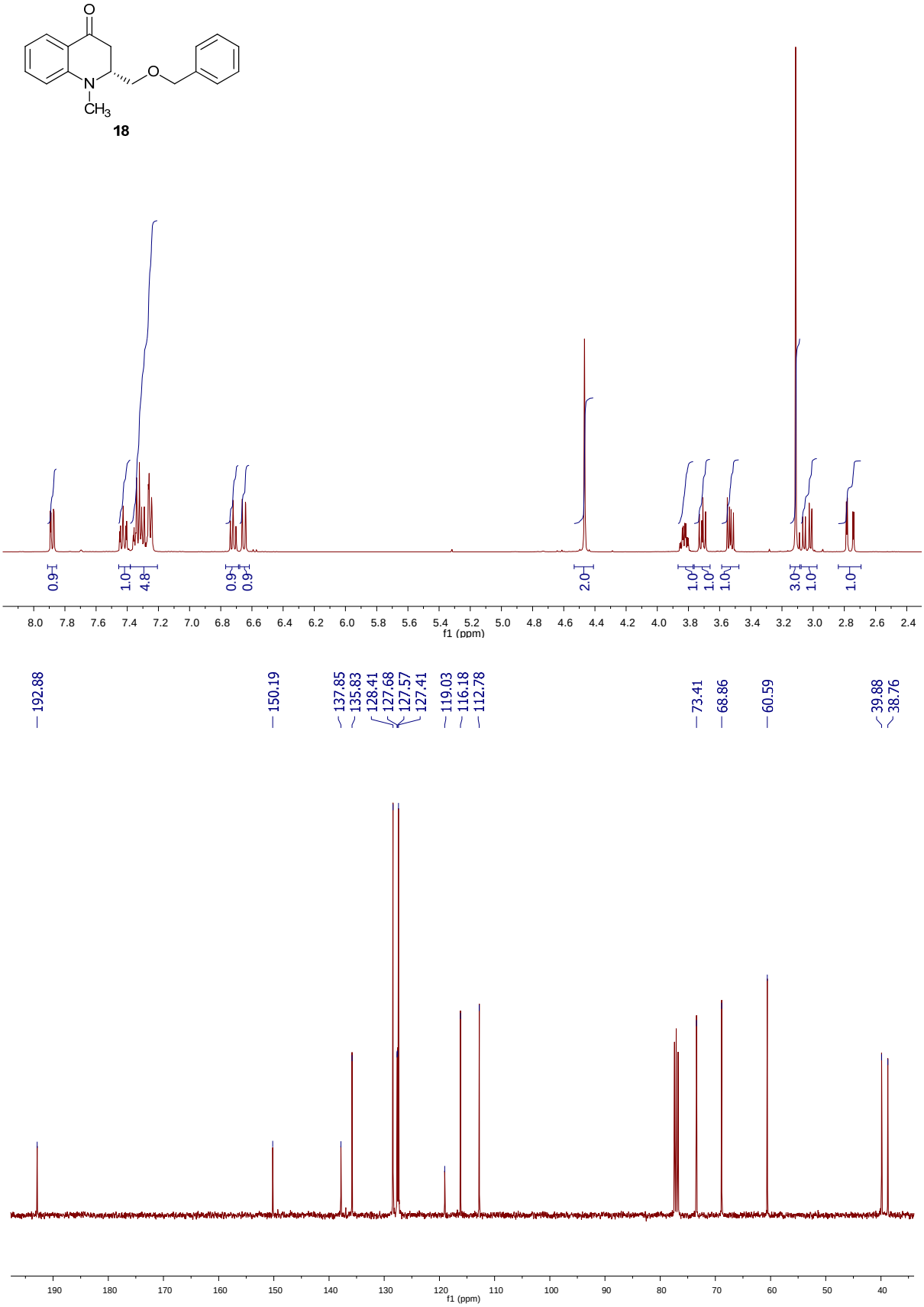


Figure S15. ^{1}H and ^{13}C NMR spectra of **19.**

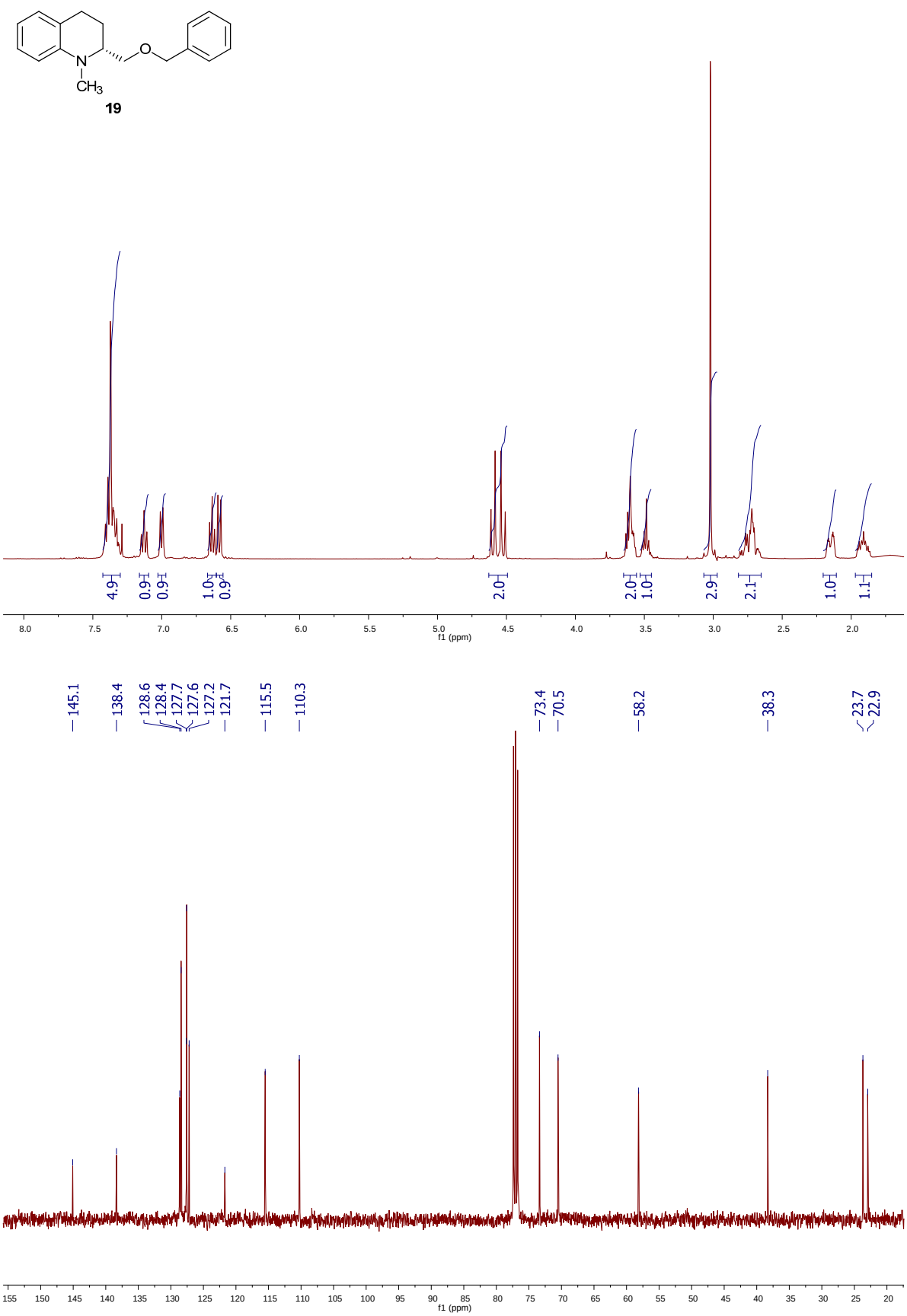


Figure S16. ^{1}H and ^{13}C NMR spectra of **5.**

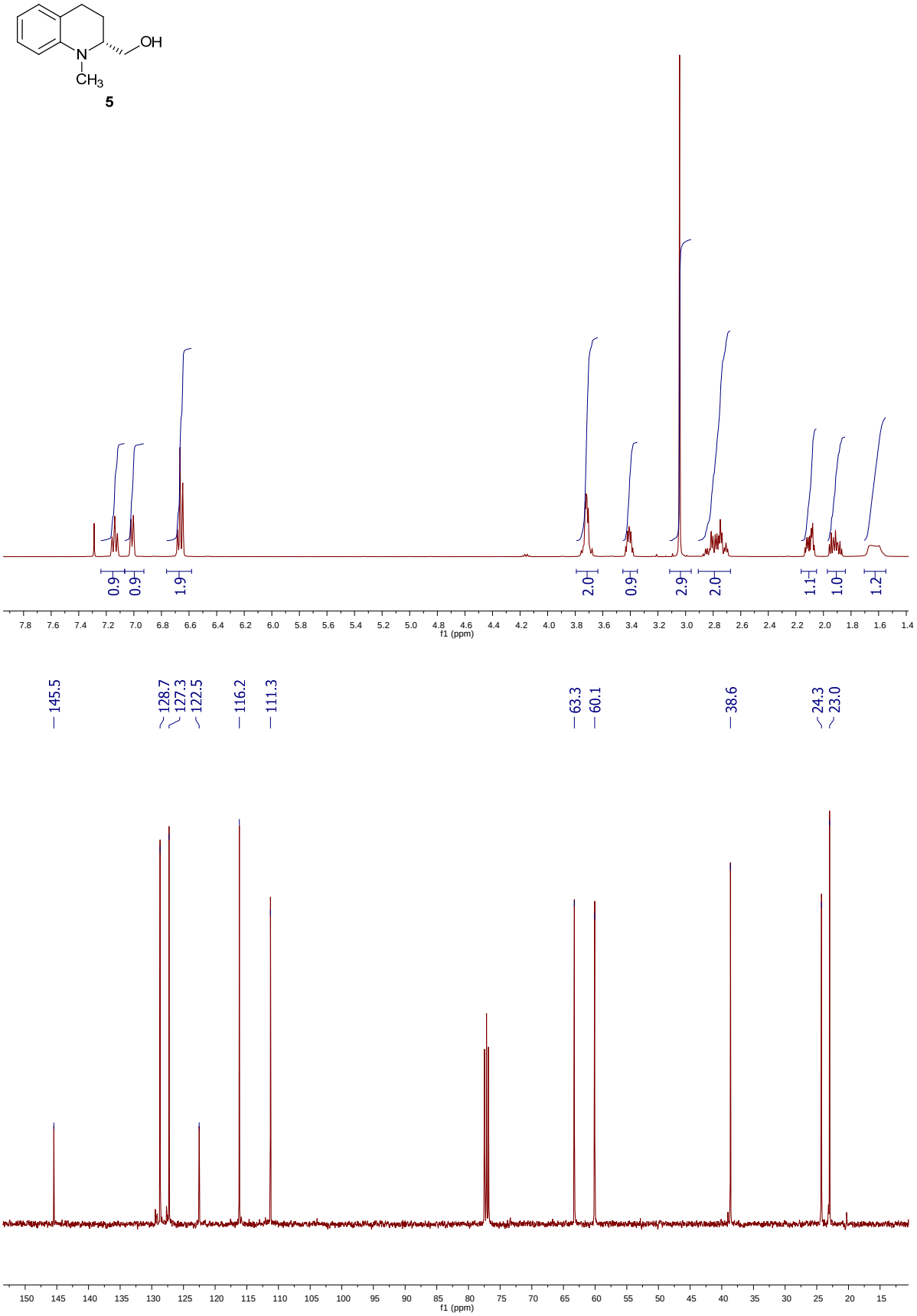
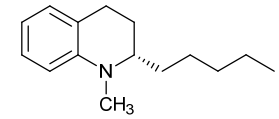
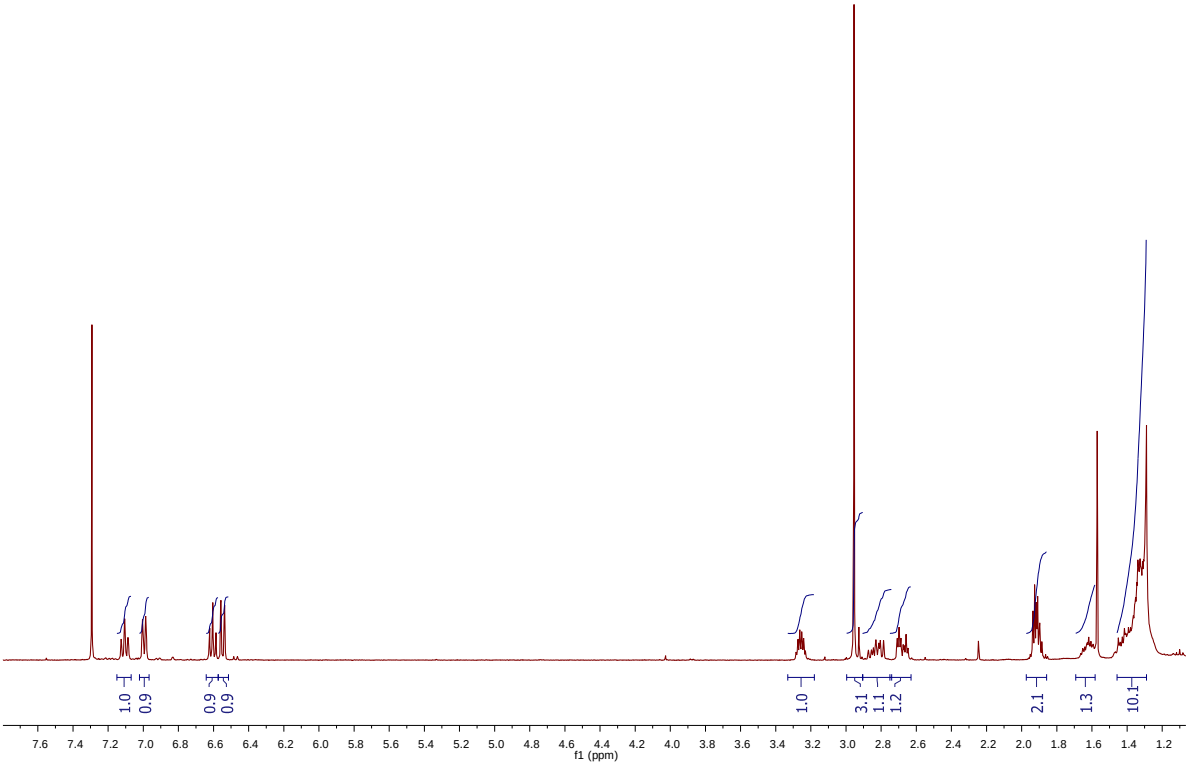


Figure S17. ^{1}H and ^{13}C NMR spectra of **1.**



1



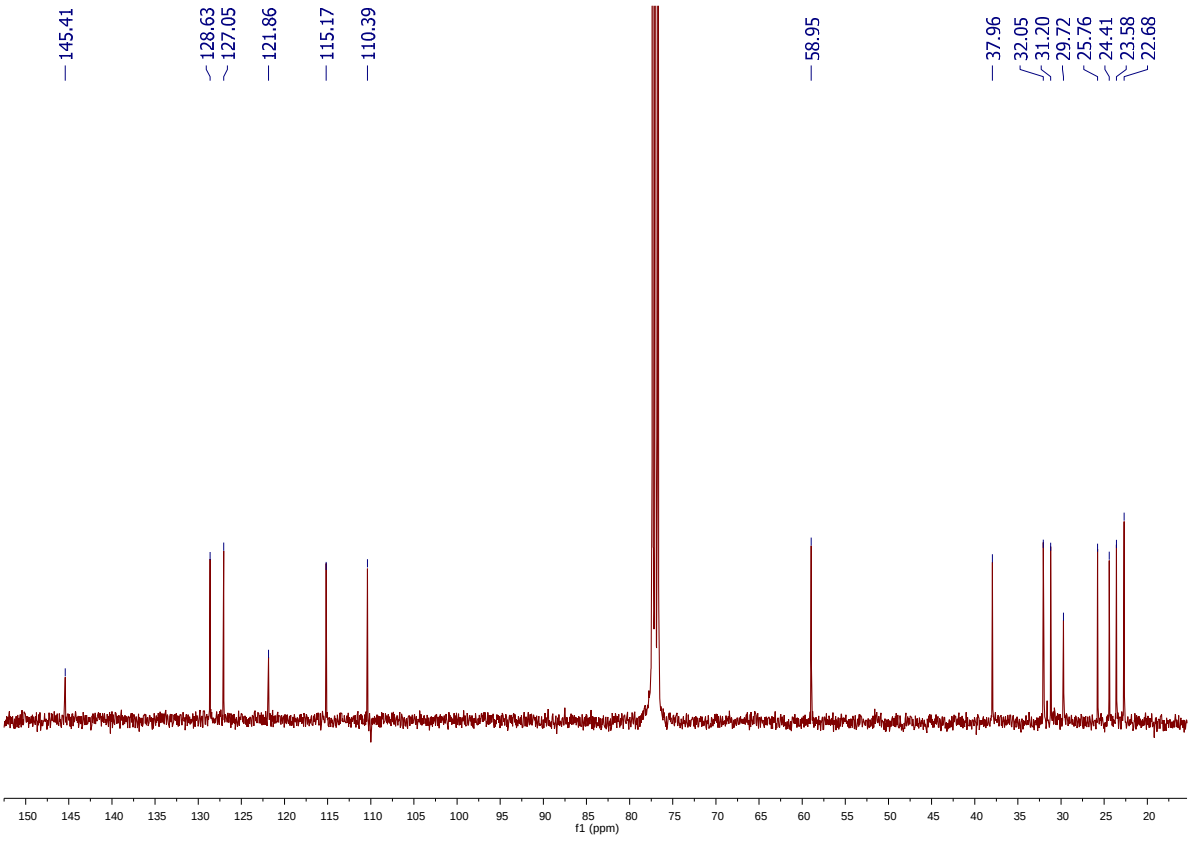


Figure S18. ^{1}H and ^{13}C NMR spectra of **2.**

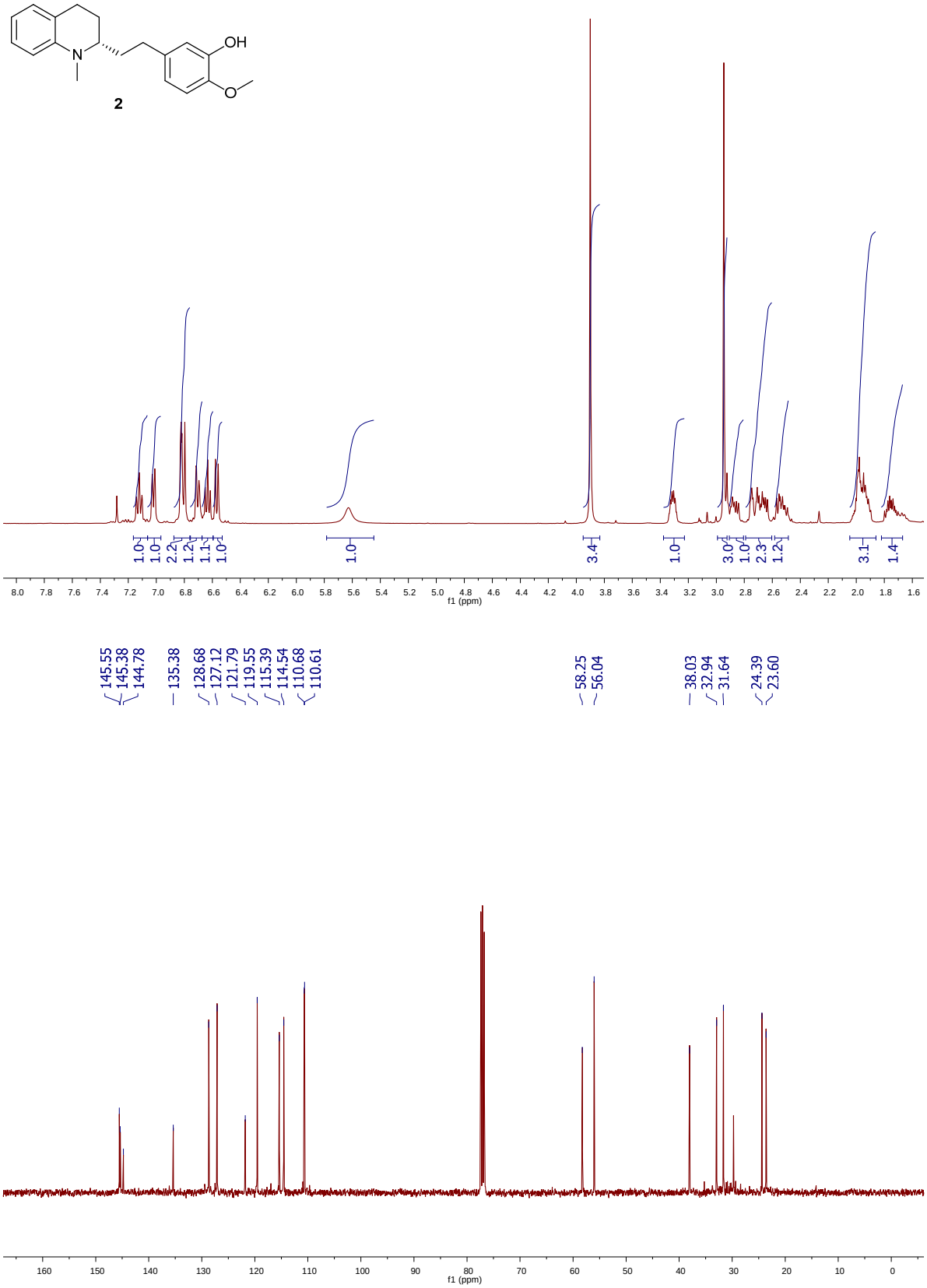


Figure S19. ^{1}H and ^{13}C NMR spectra of **4.**