

Supplementary Information

Novel styrylpyrazole-glucosides and their dioxolo-bridged doppelgangers: synthesis and cytotoxicity

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1. NMR spectra

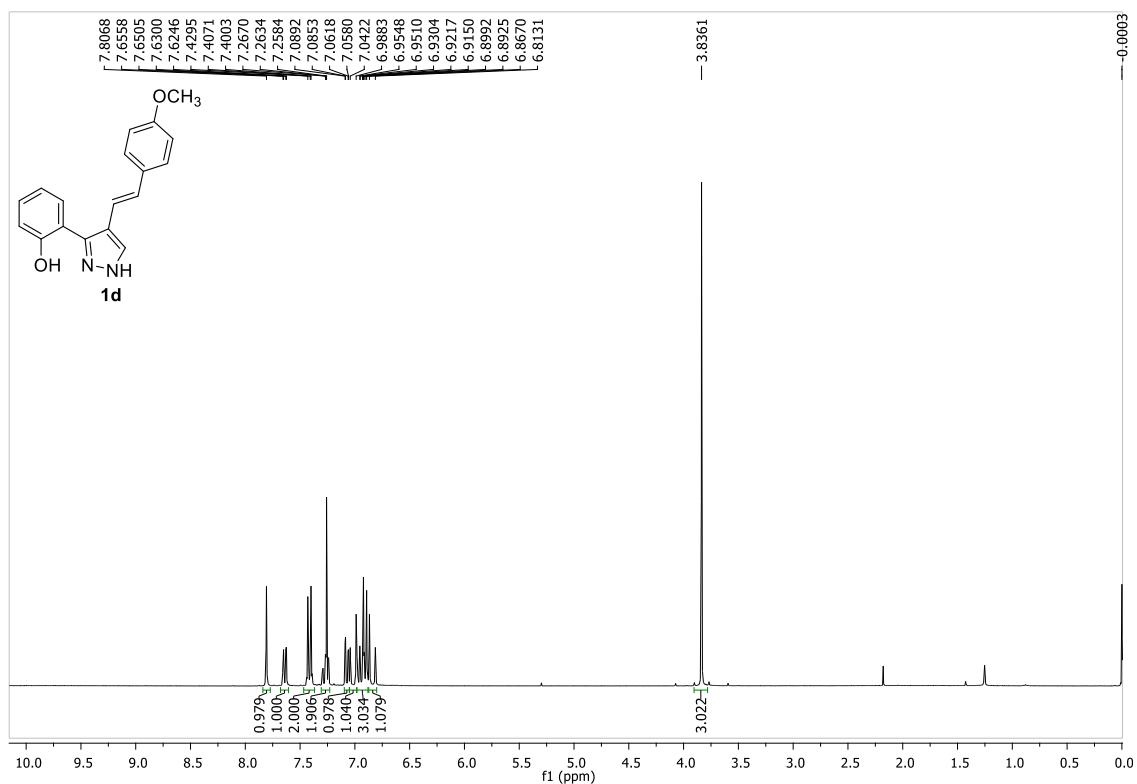


Figure S1. ^1H NMR spectrum of compound **1d** (CDCl_3 , 300.13 MHz).

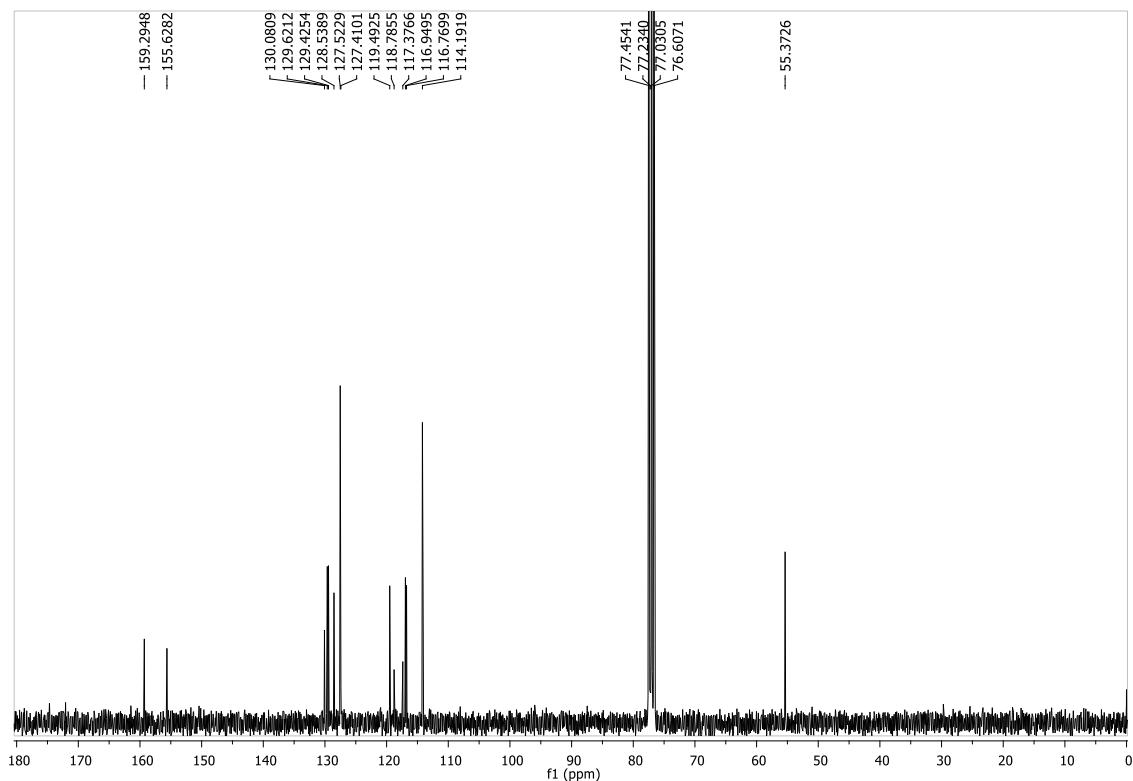
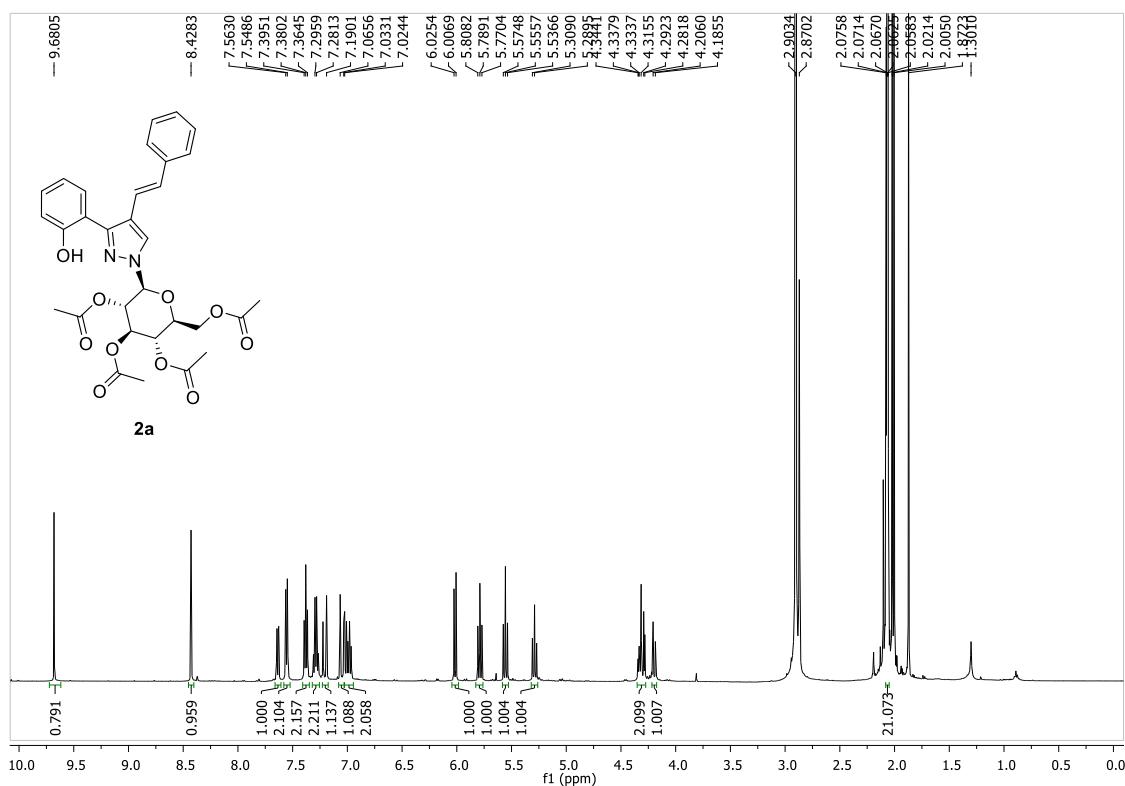
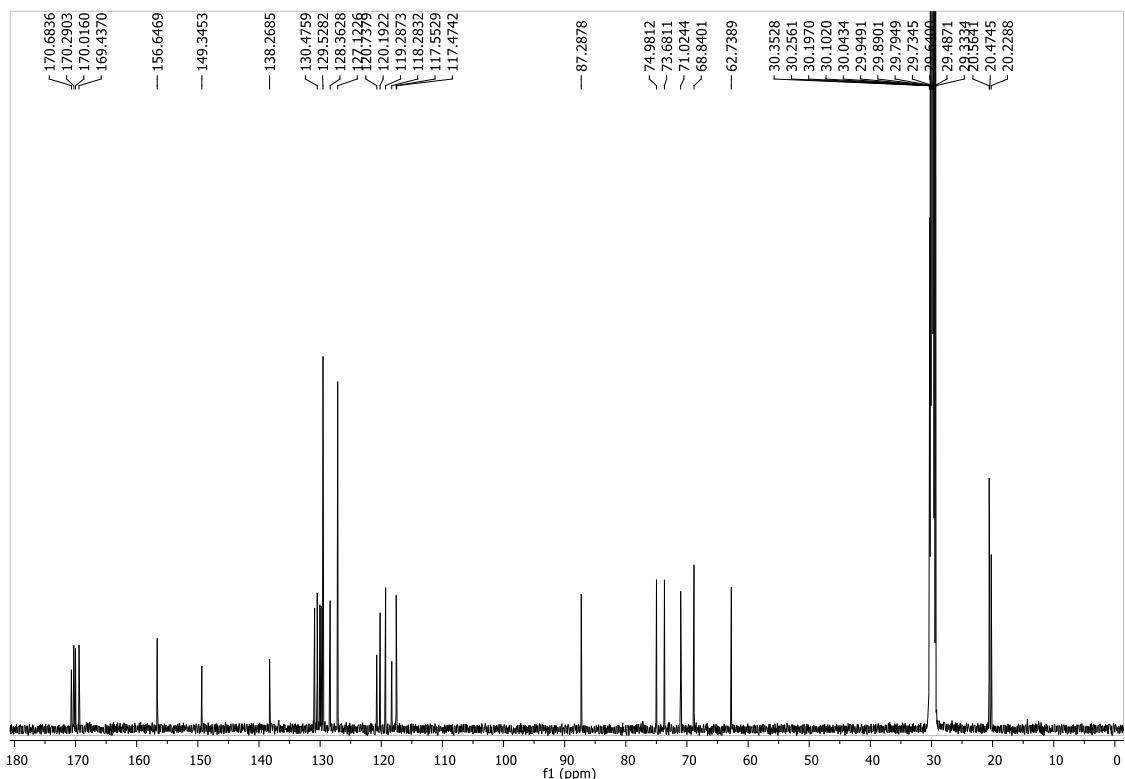
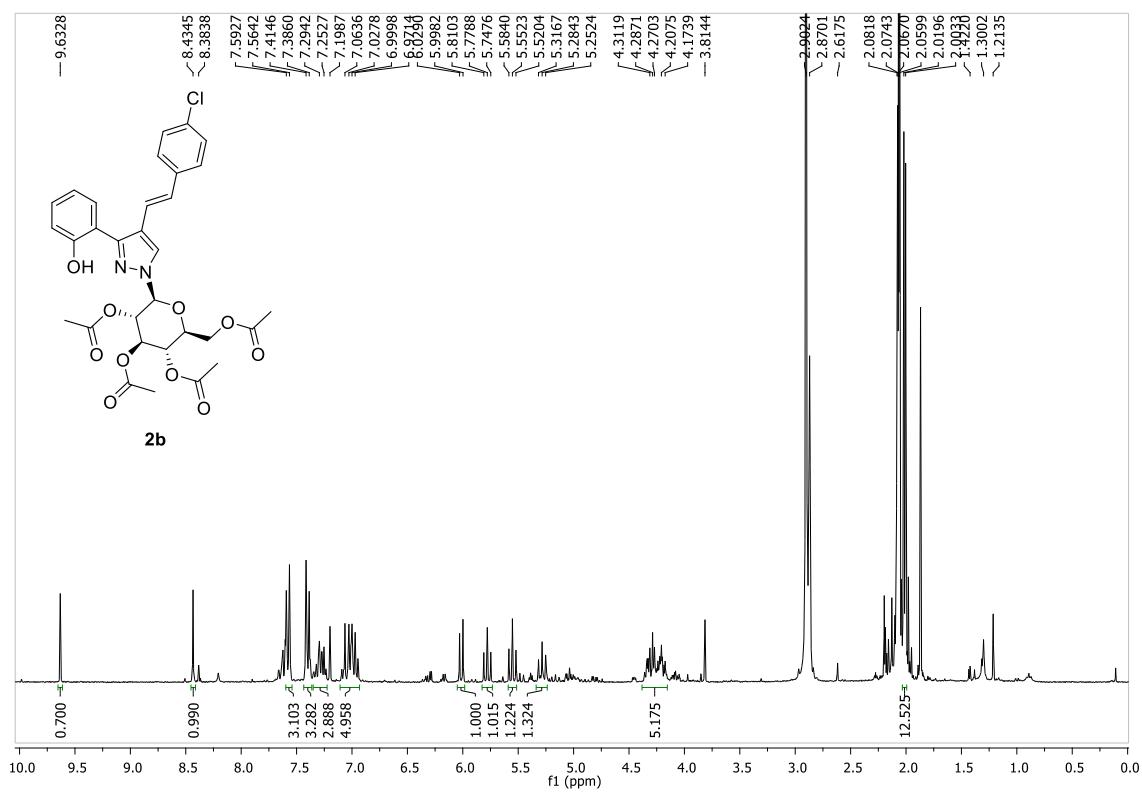
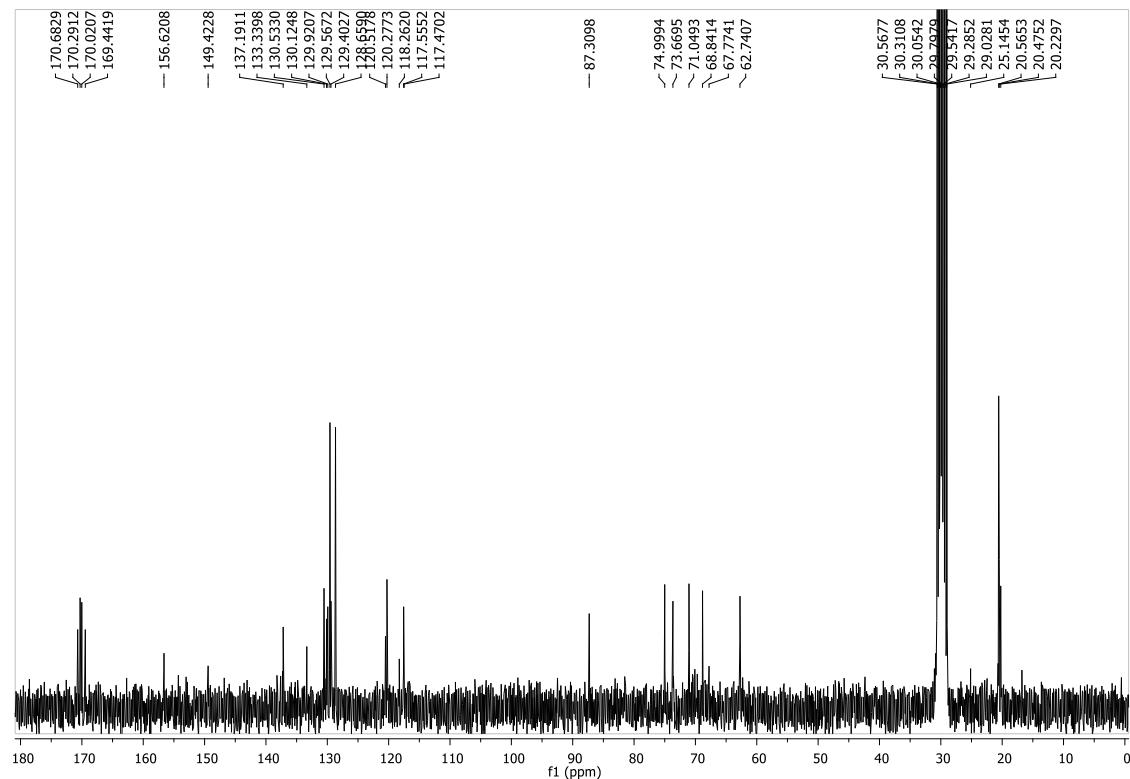
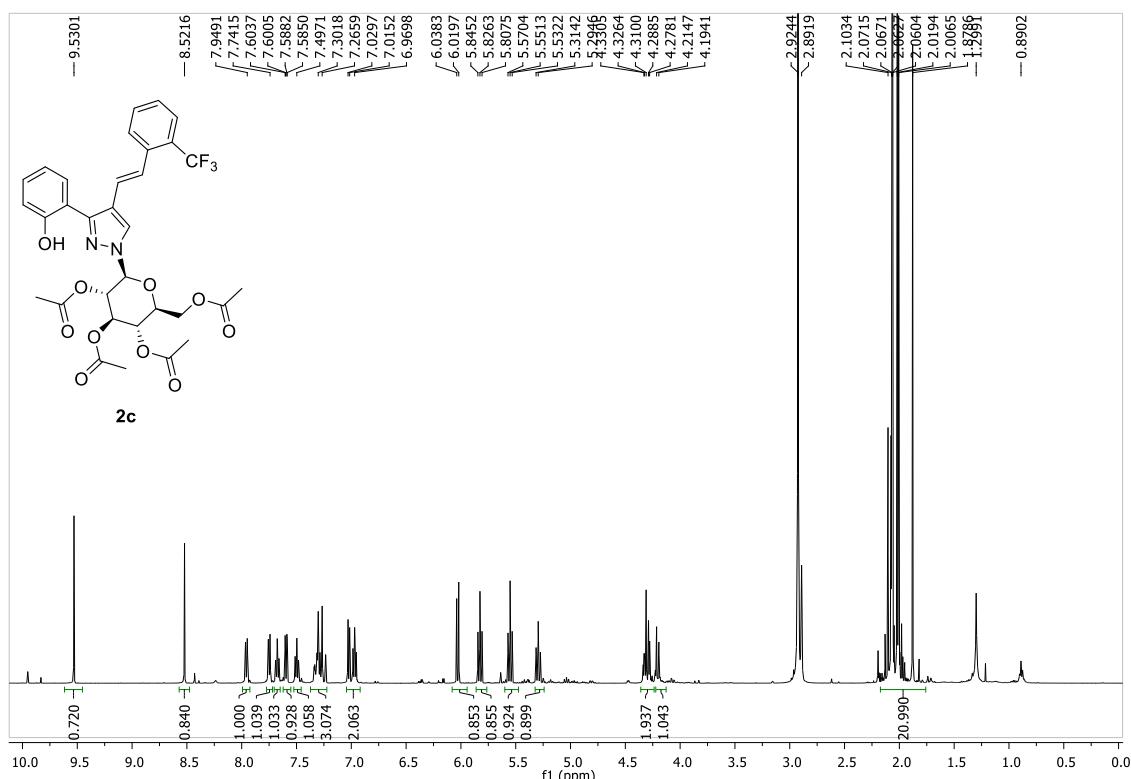
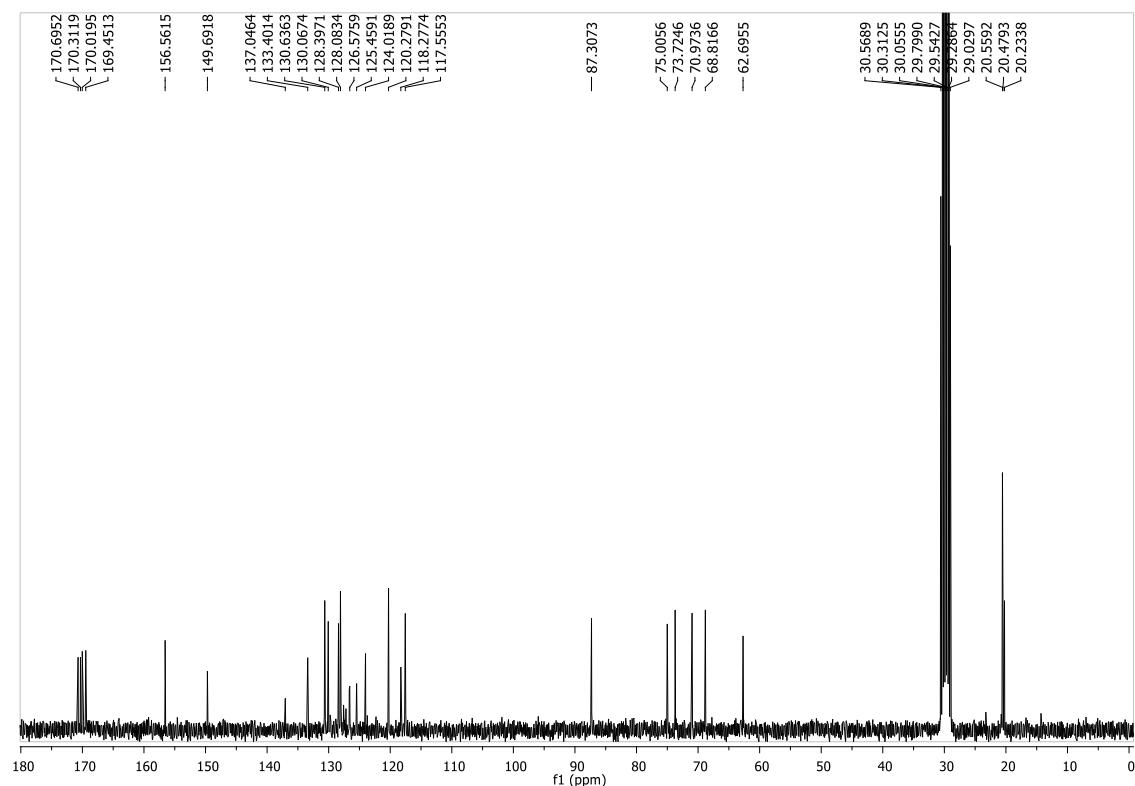


Figure S2. ^{13}C NMR spectrum of compound **1d** (CDCl_3 , 75.47 MHz).

**Figure S3.** ¹H NMR spectrum of compound **2a** [$(\text{CD}_3)_2\text{CO}$, 500.16 MHz].**Figure S4.** ¹³C NMR spectrum of compound **2a** [$(\text{CD}_3)_2\text{CO}$, 125.77 MHz].

**Figure S5.** ¹H NMR spectrum of compound **2b** [$(\text{CD}_3)_2\text{CO}$, 300.13 MHz].**Figure S6.** ¹³C NMR spectrum of compound **2b** [$(\text{CD}_3)_2\text{CO}$, 75.47 MHz].

**Figure S7.** ¹H NMR spectrum of compound **2c** [(CD₃)₂CO, 500.16 MHz].**Figure S8.** ¹³C NMR spectrum of compound **2c** [(CD₃)₂CO, 75.47 MHz].

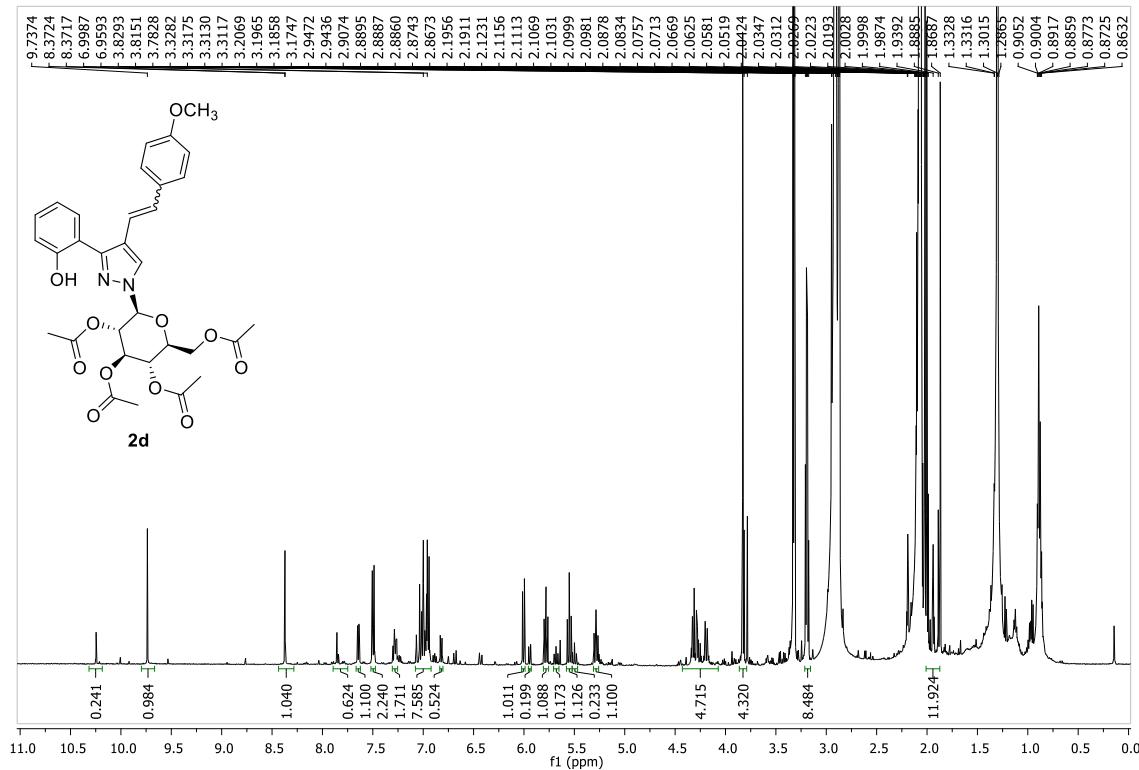


Figure S9. ¹H NMR spectrum of the mixture of (*E*)- and (*Z*)-isomers of compound **2d** [(CD₃)₂CO, 500.16 MHz].

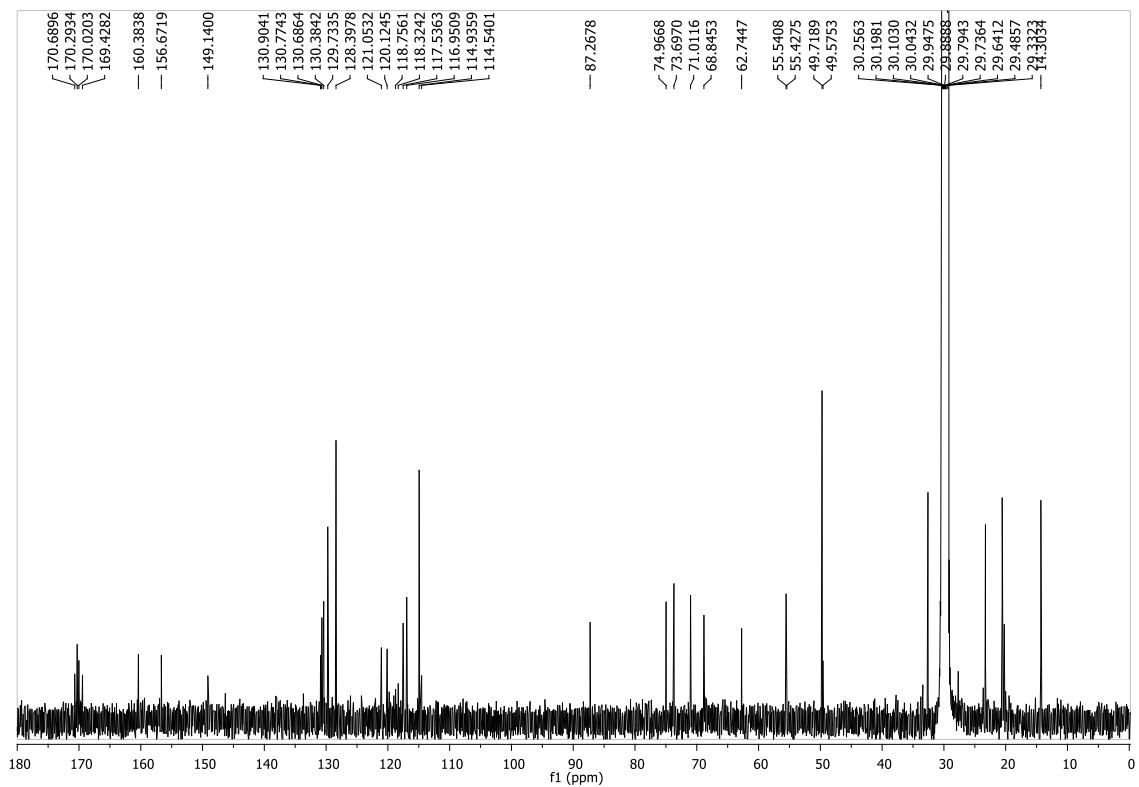


Figure S10. ¹³C NMR spectrum of the mixture of (*E*)- and (*Z*)-isomers of compound **2d** [(CD₃)₂CO, 125.77 MHz].

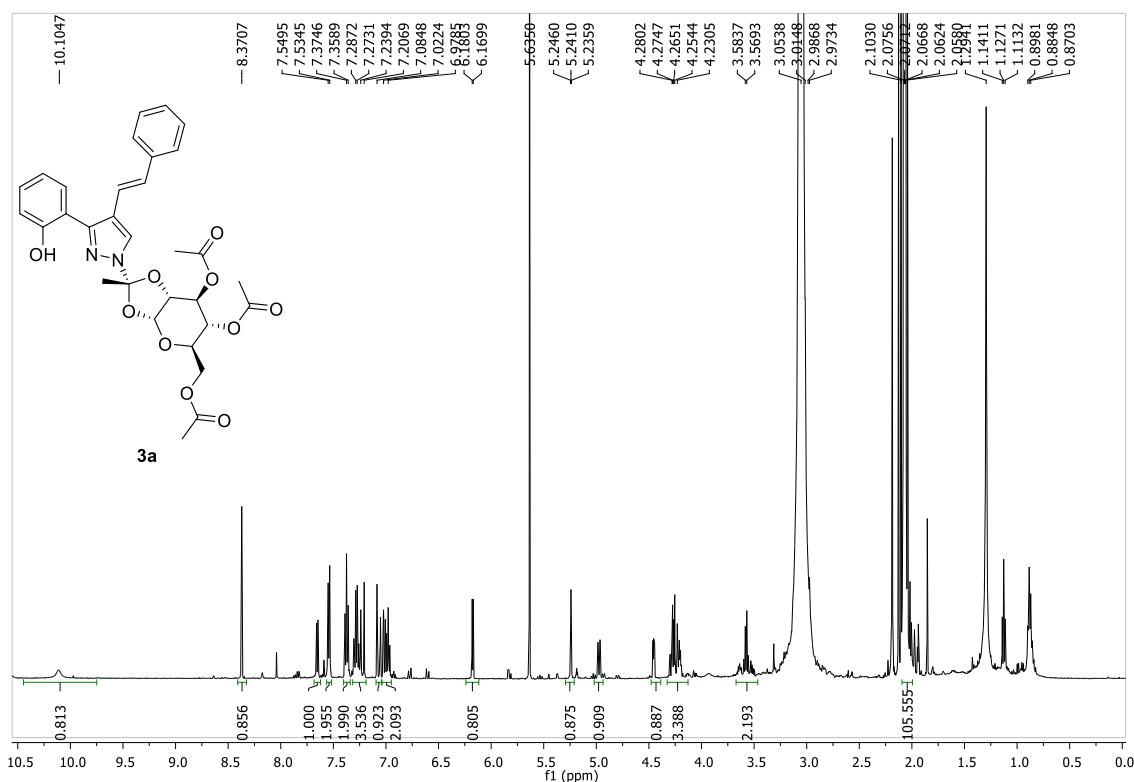


Figure S11. ¹H NMR spectrum of compound **3a** [$(\text{CD}_3)_2\text{CO}$, 500.16 MHz].

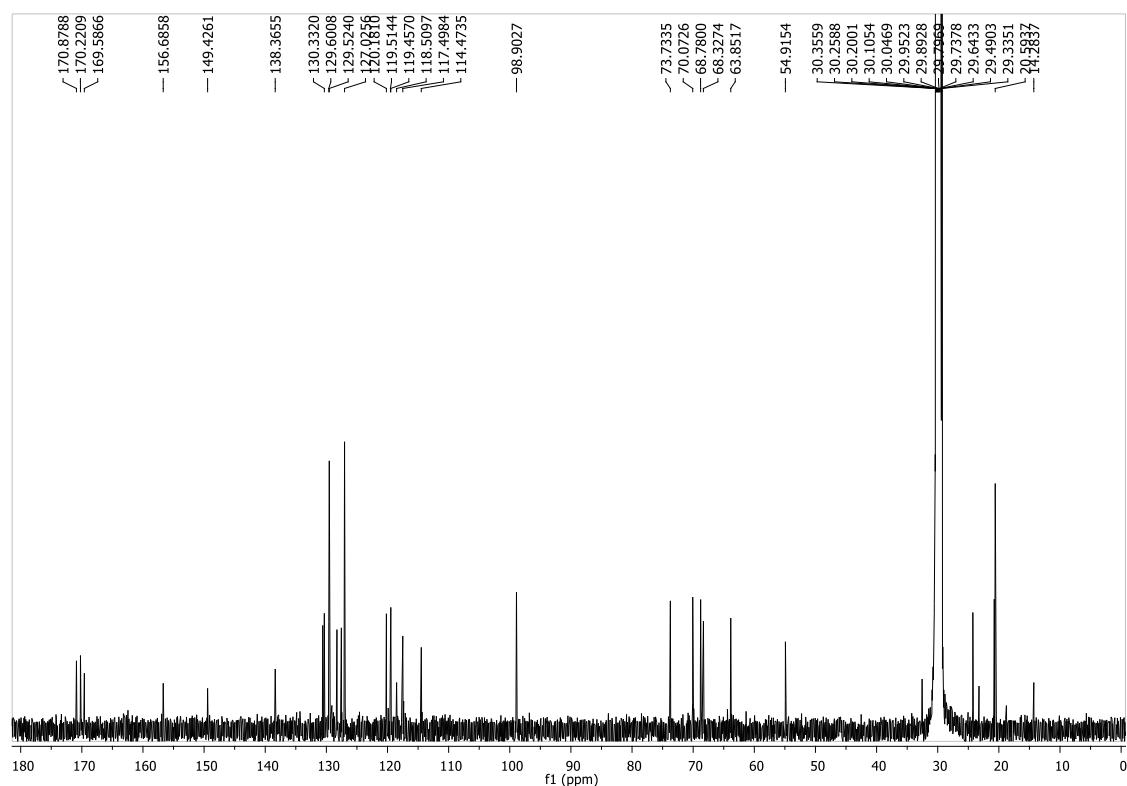


Figure S12. ¹³C NMR spectrum of compound **3a** [$(\text{CD}_3)_2\text{CO}$, 125.77 MHz].

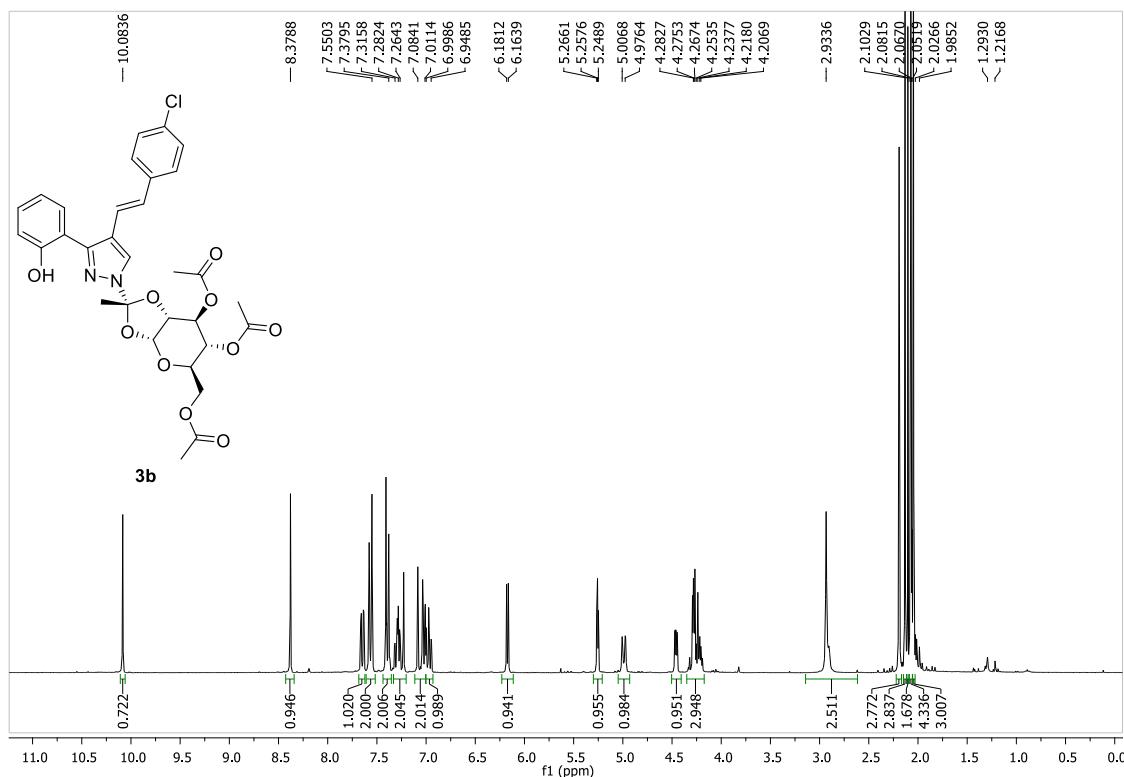


Figure S13. ¹H NMR spectrum of compound **3b** [(CD₃)₂CO, 300.13 MHz].

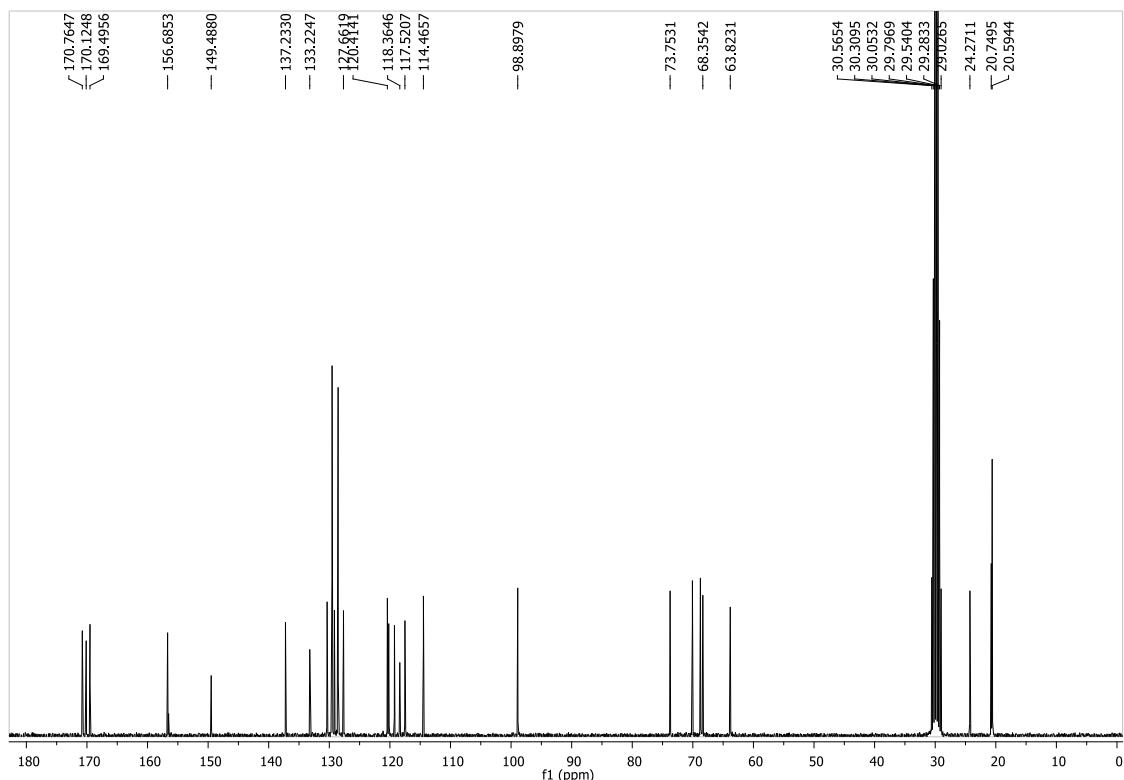
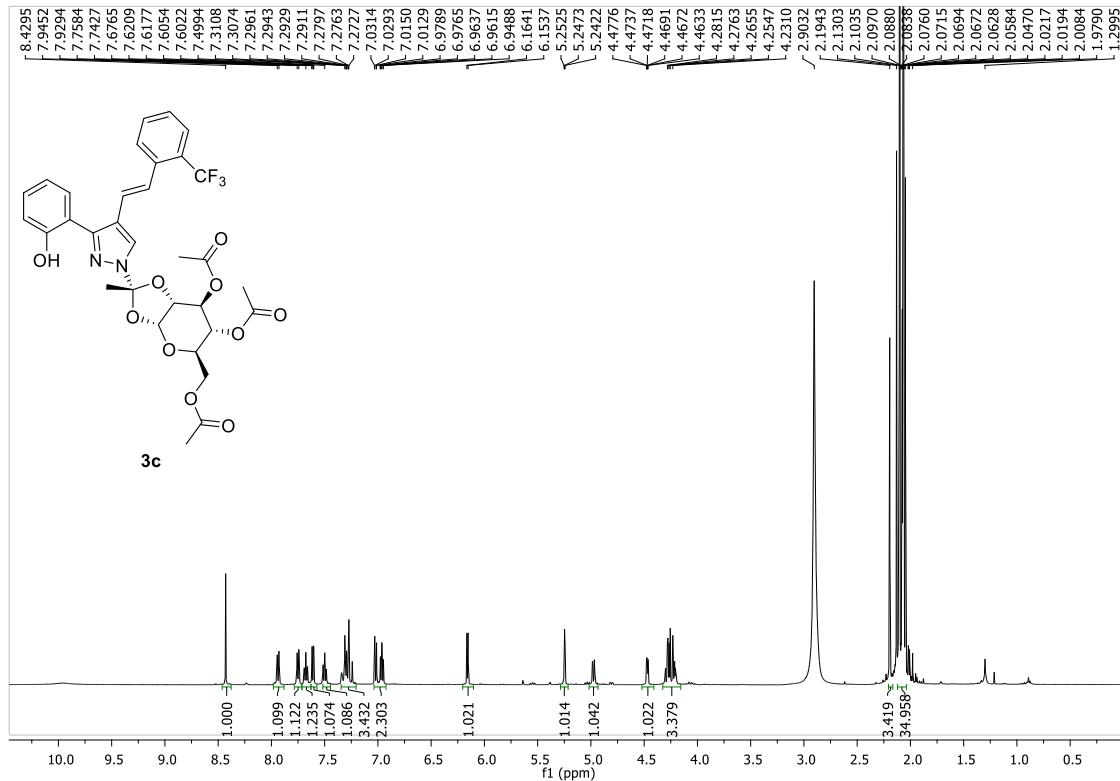
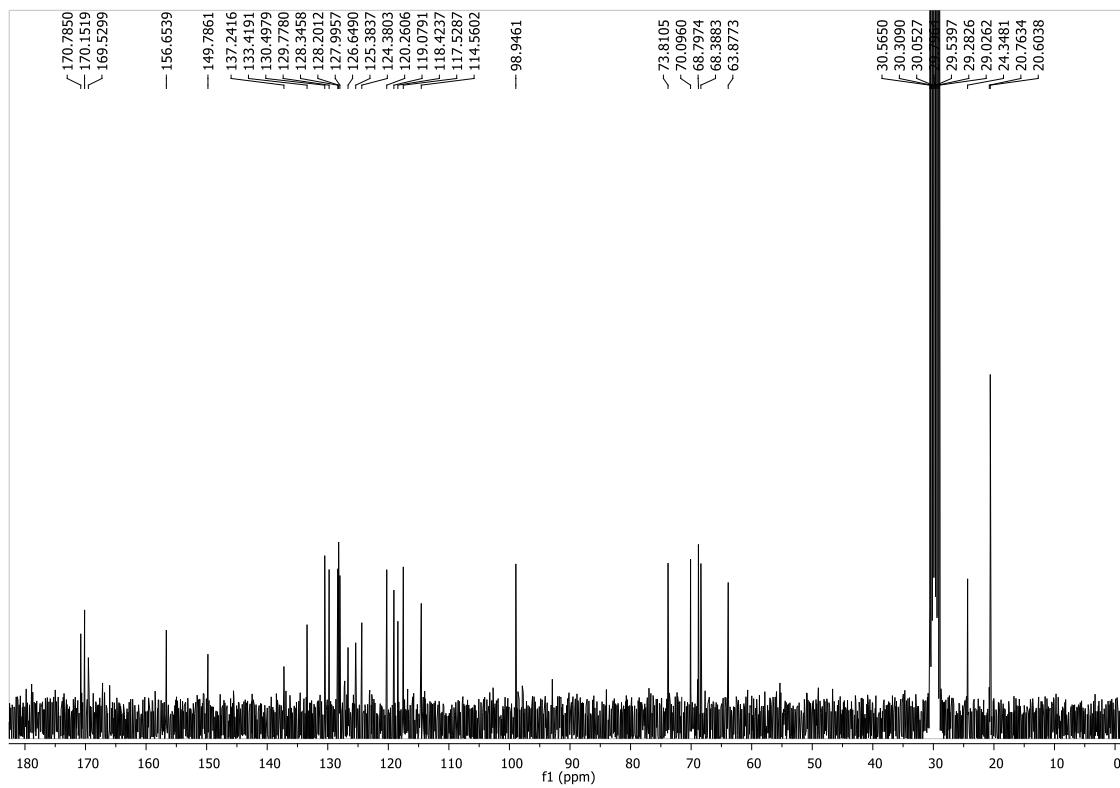


Figure S14. ¹³C NMR spectrum of compound **3b** [(CD₃)₂CO, 75.47 MHz].

**Figure S15.** ¹H NMR spectrum of compound **3c** [(CD₃)₂CO, 500.16 MHz].**Figure S16.** ¹³C NMR spectrum of compound **3c** [(CD₃)₂CO, 75.47 MHz].

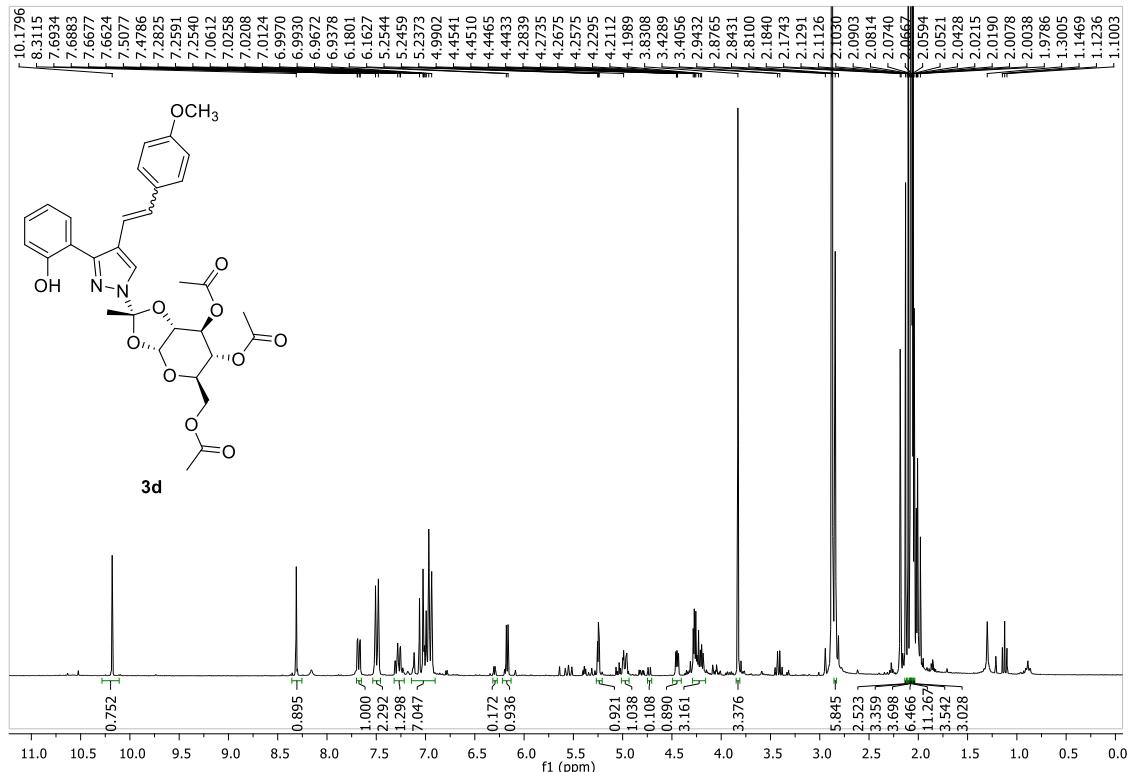


Figure S17. ¹H NMR spectrum of the mixture of (*E*)- and (*Z*)-isomers of compound 3d [(CD₃)₂CO, 300.13 MHz].

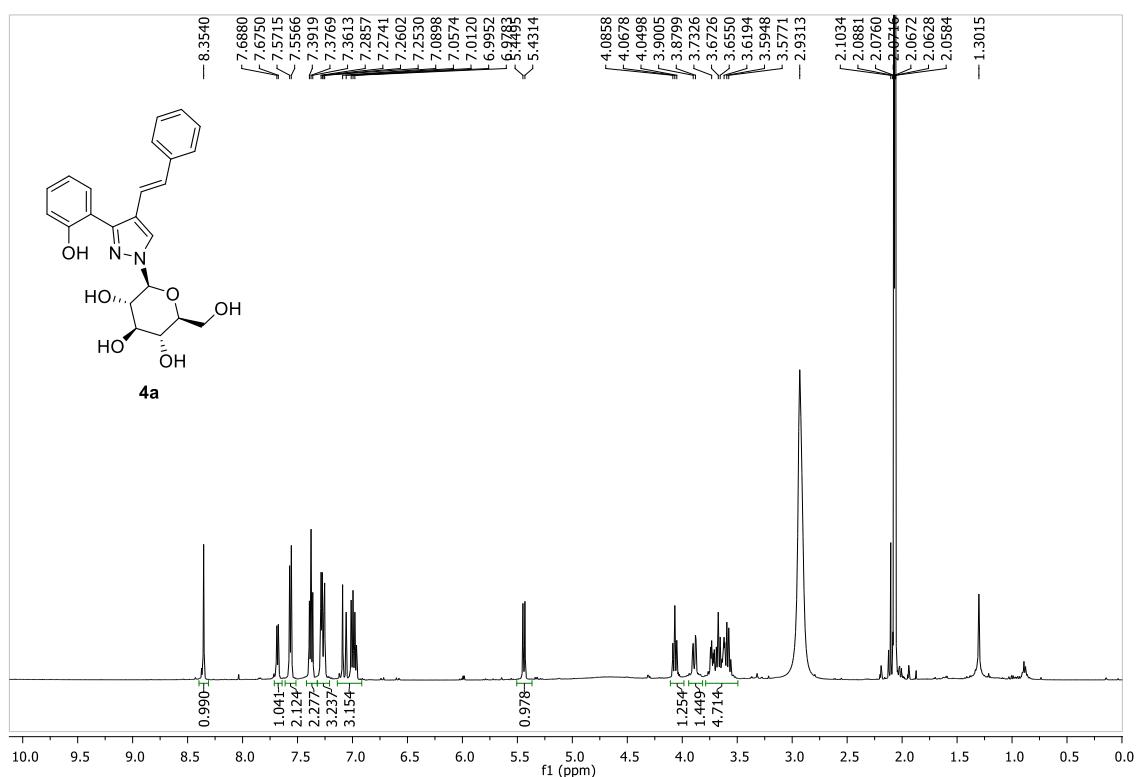


Figure S18. ¹H NMR spectrum of compound 4a [(CD₃)₂CO, 500.16 MHz].

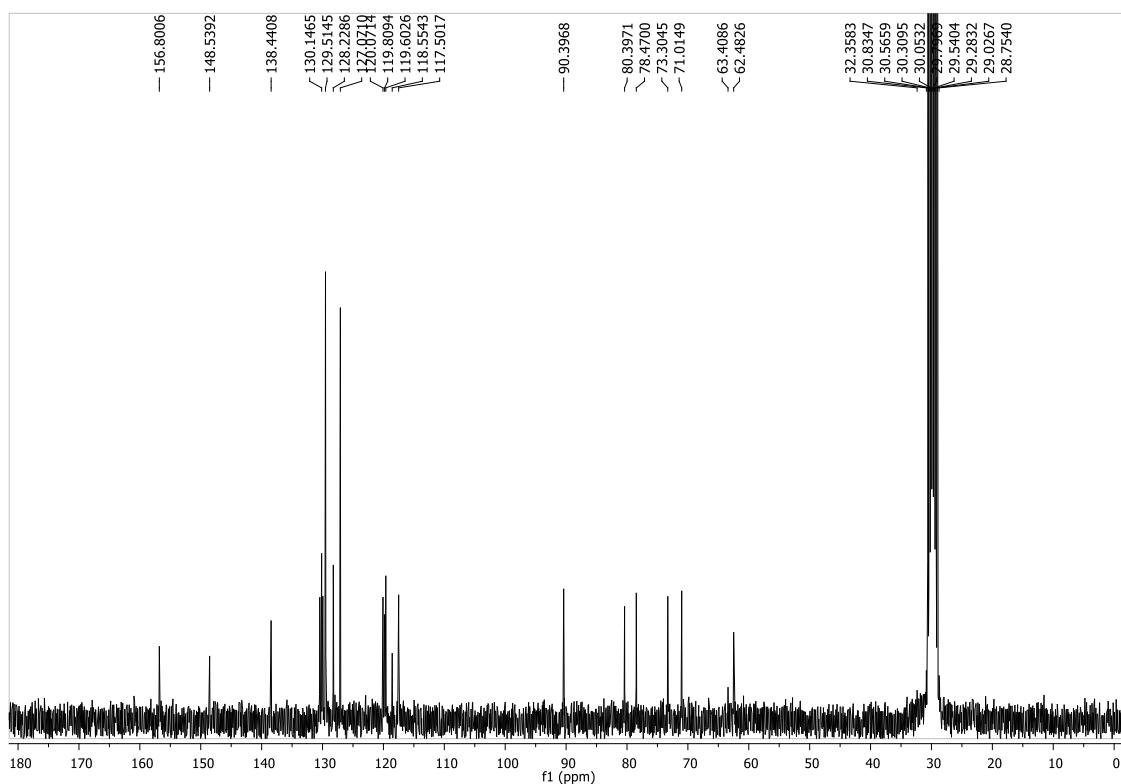


Figure S19. ¹³C NMR spectrum of compound **4a** [$(CD_3)_2CO$, 75.47 MHz].

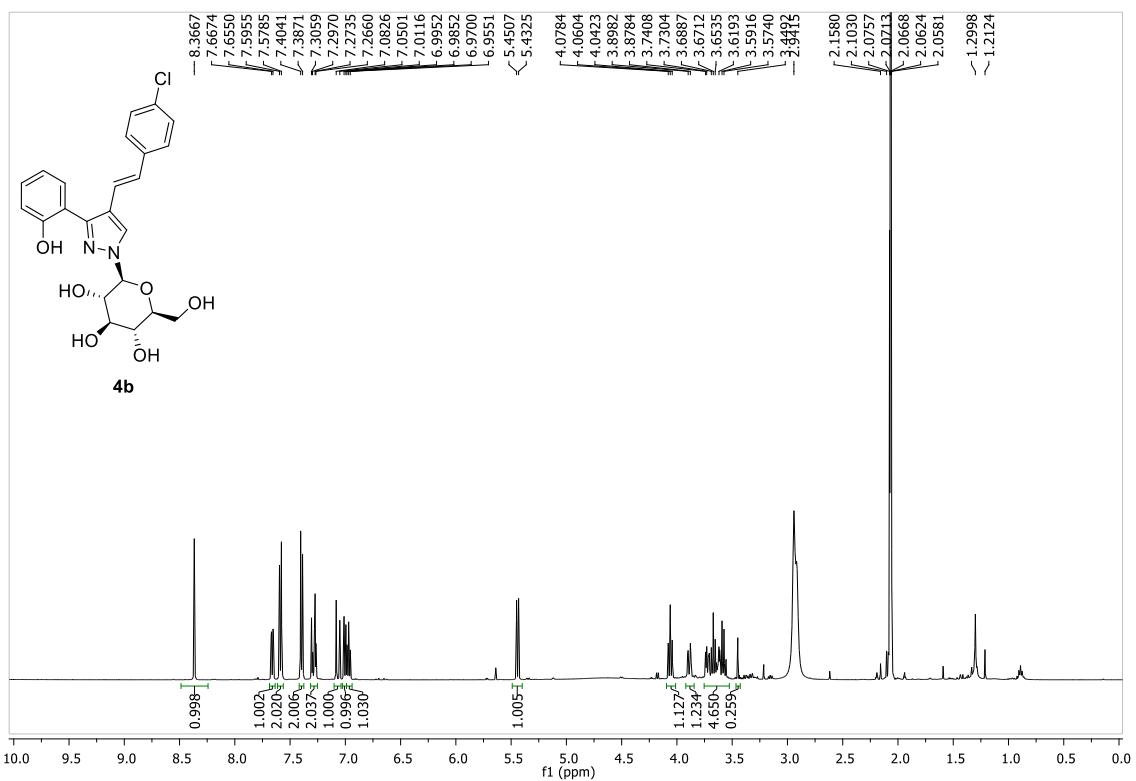


Figure S20. ¹H NMR spectrum of compound **4b** [$(CD_3)_2CO$, 500.16 MHz].

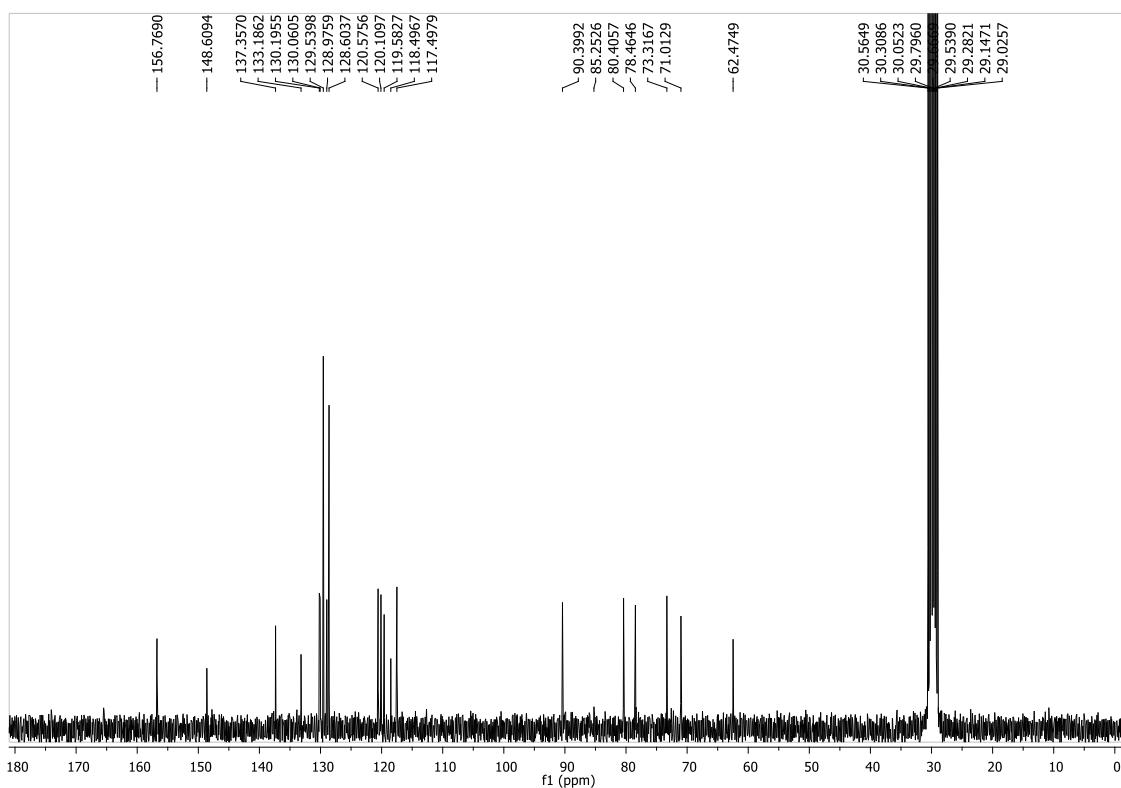


Figure S21. ¹³C NMR spectrum of compound **4b** [(CD₃)₂CO, 75.47 MHz].

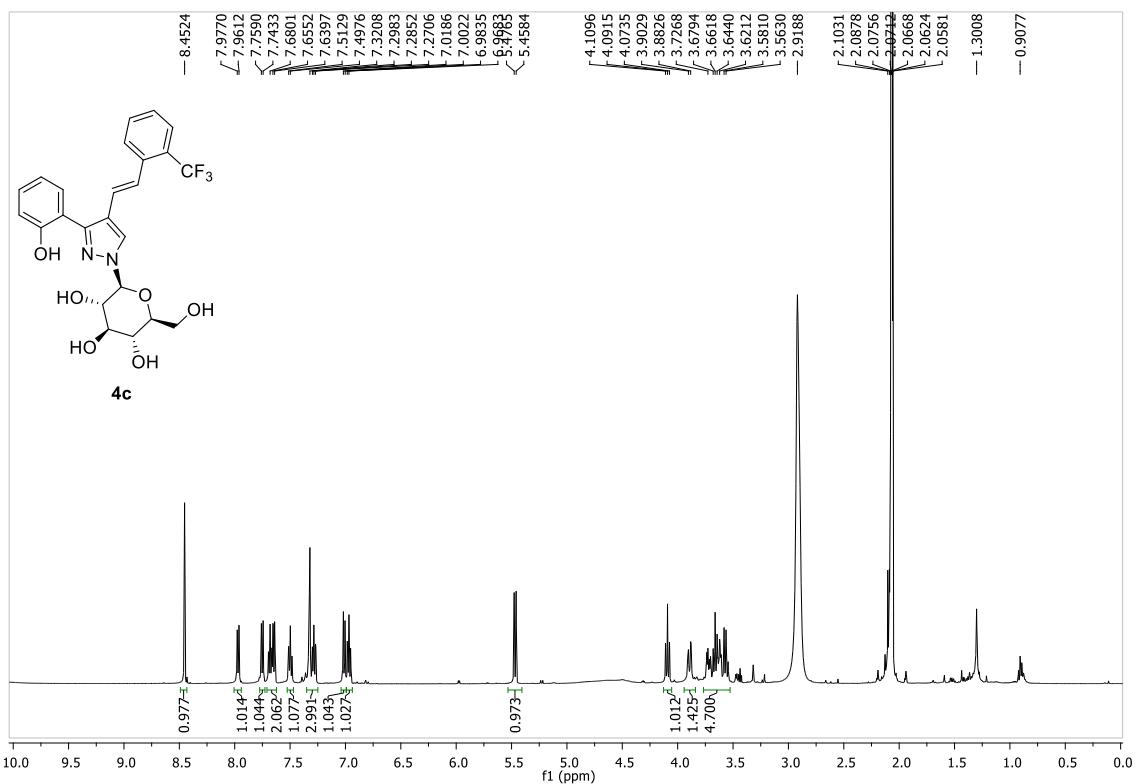


Figure S22. ¹H NMR spectrum of compound **4c** [(CD₃)₂CO, 500.16 MHz].

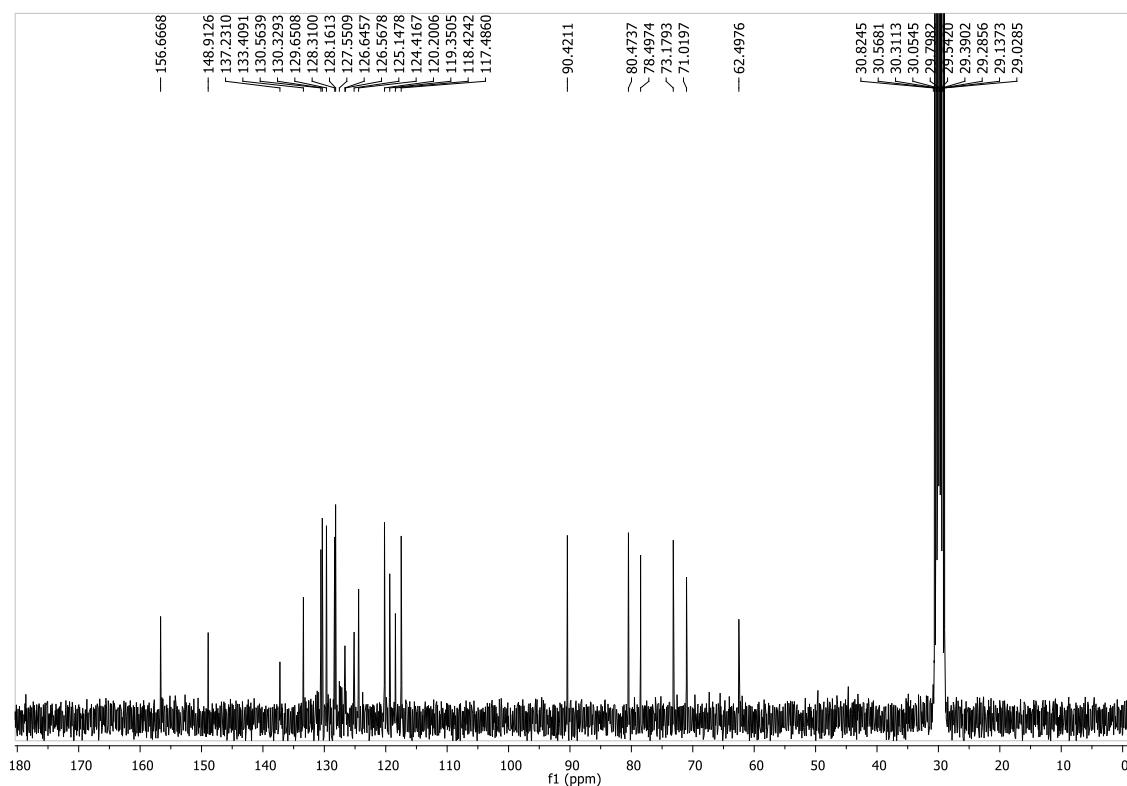


Figure S23. ¹³C NMR spectrum of compound **4c** [(CD₃)₂CO, 75.47 MHz].

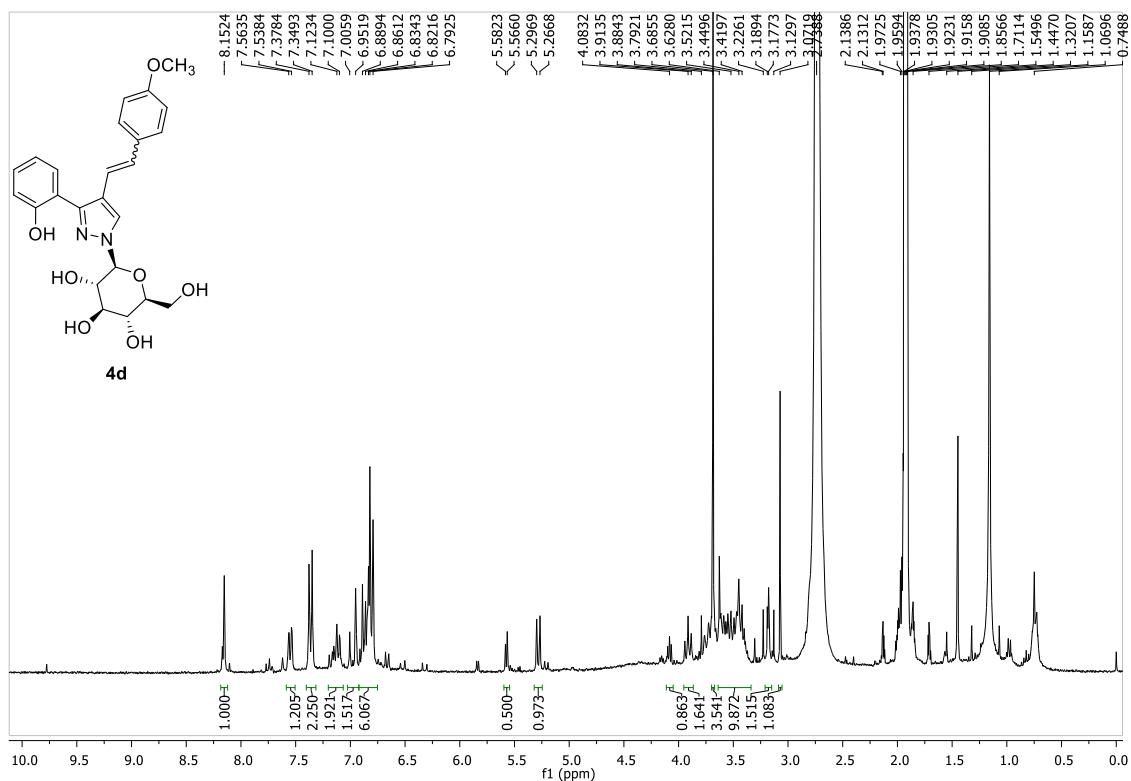
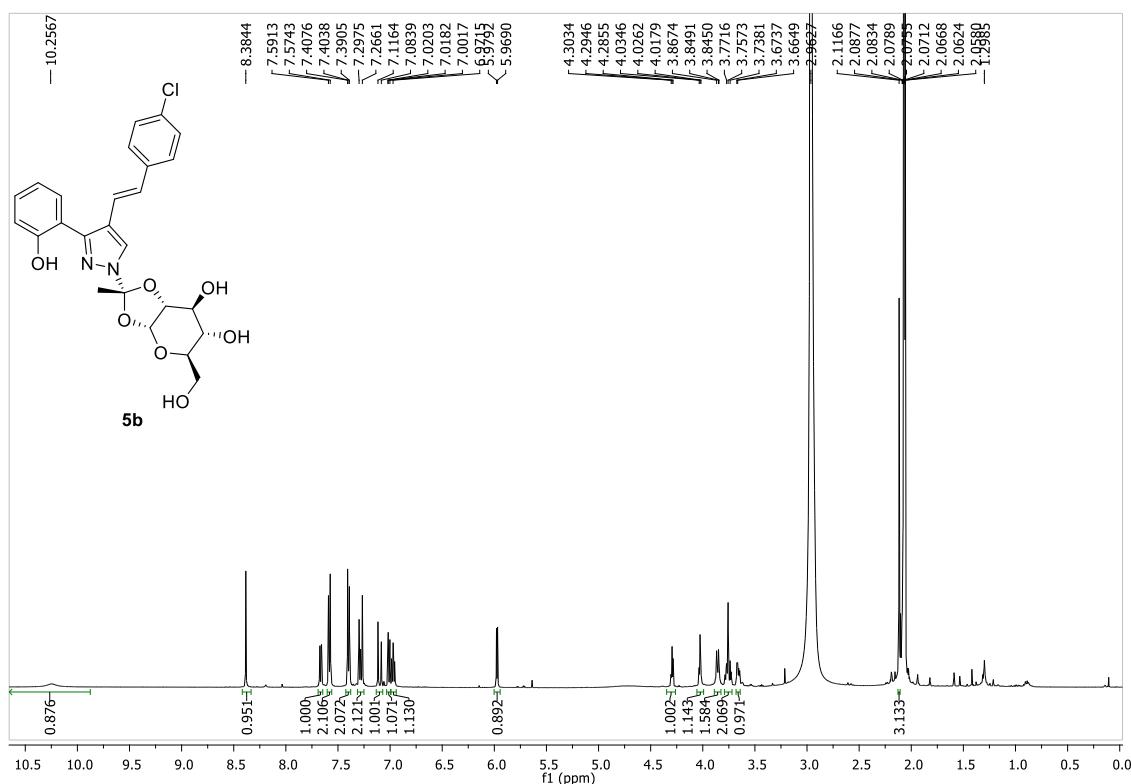
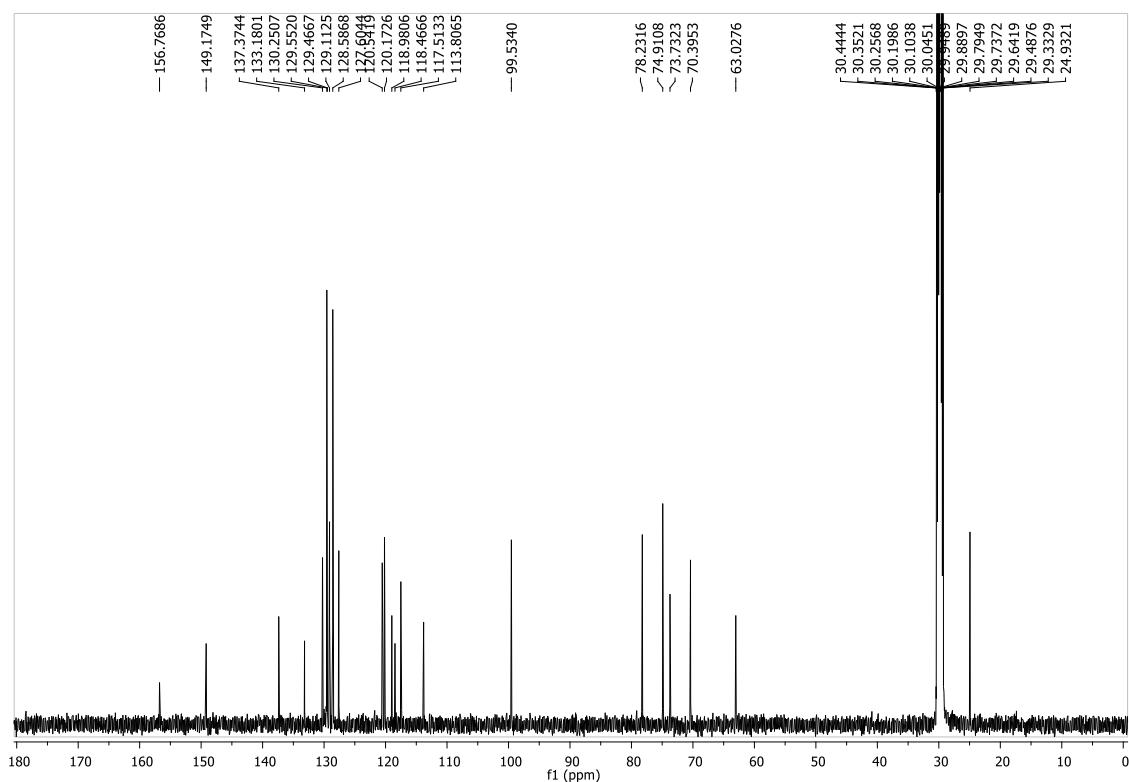


Figure S24. ¹H NMR spectrum of the mixture of (E)- and (Z)-isomers of compound **4d** [(CD₃)₂CO, 300.13 MHz].

**Figure S25.** ¹H NMR spectrum of compound **5b** [(CD₃)₂CO, 500.16 MHz].**Figure S26.** ¹³C NMR spectrum of compound **5b** [(CD₃)₂CO, 75.47 MHz].

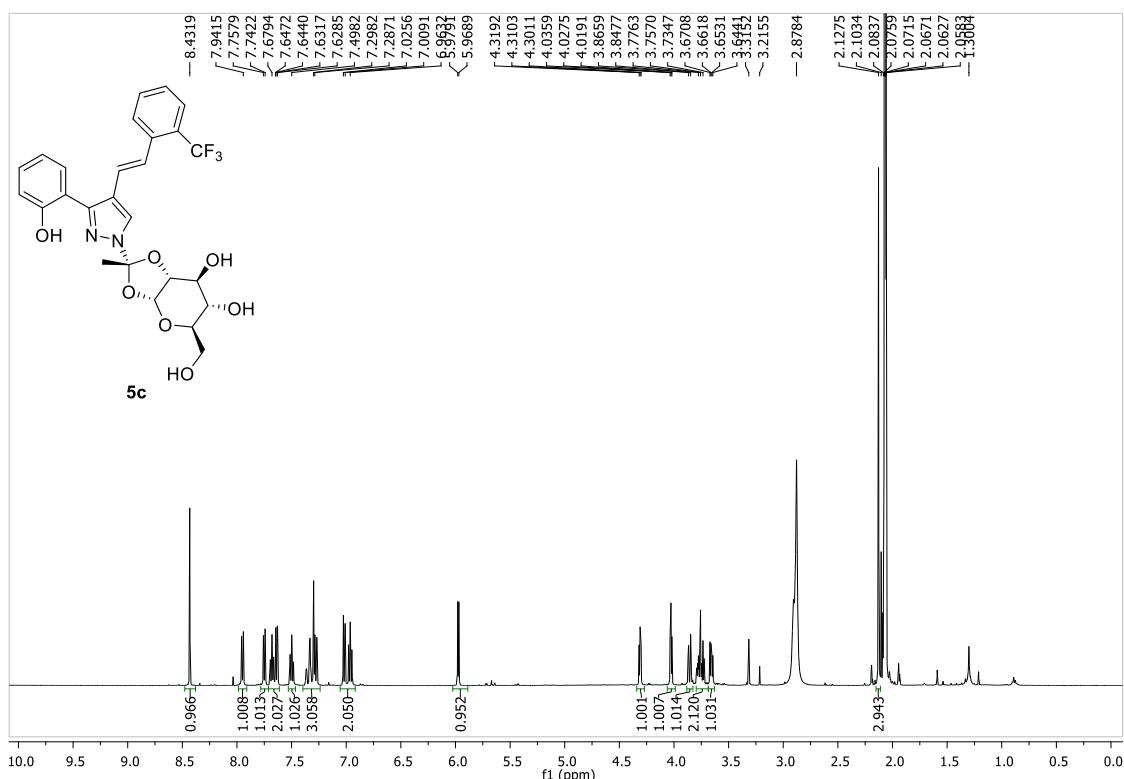


Figure S27. ¹H NMR spectrum of compound **5c** [$(\text{CD}_3)_2\text{CO}$, 500.16 MHz].

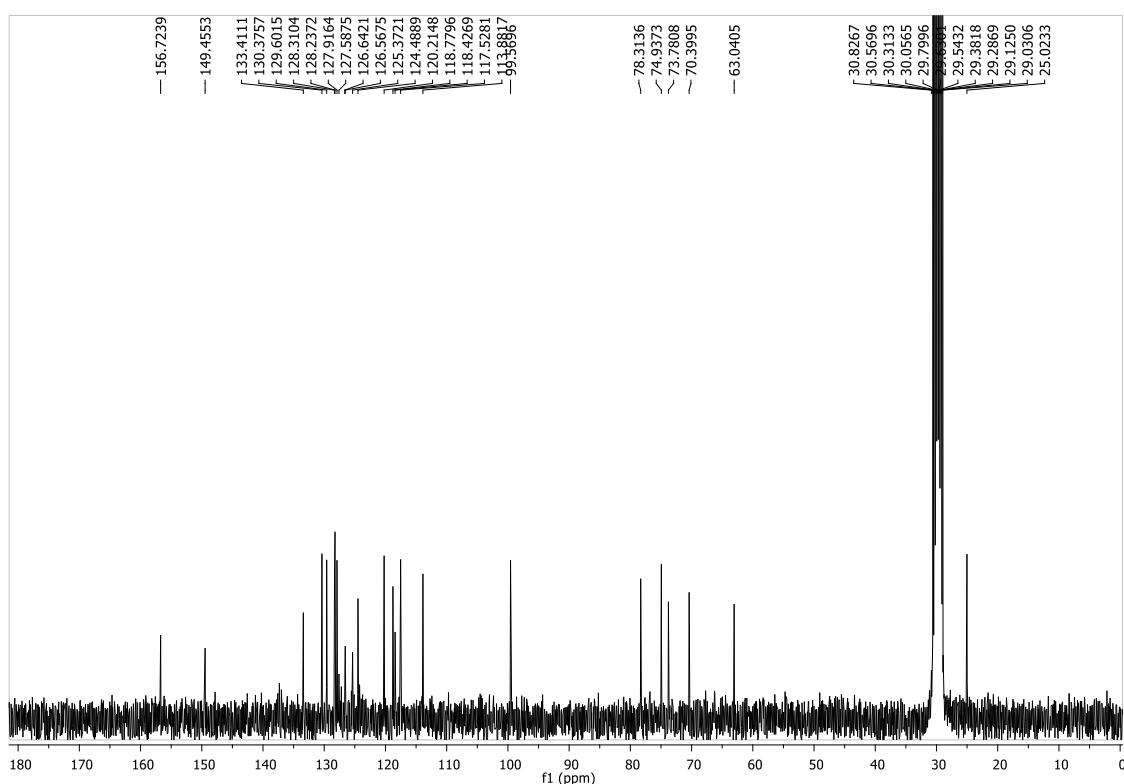


Figure S28. ¹³C NMR spectrum of compound **5c** [$(\text{CD}_3)_2\text{CO}$, 75.47 MHz].