



Supporting Information

for

Cyanothioacetamides as a synthetic platform for the synthesis of aminopyrazole derivatives

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Copies of NMR spectra of all new compounds

NMR spectra of compounds 2a,e, 4a–c, 5a–e, 6a–f, 7a–k

Figure S1. ^1H NMR spectrum ($\text{DMSO-}d_6$) of **2a**.

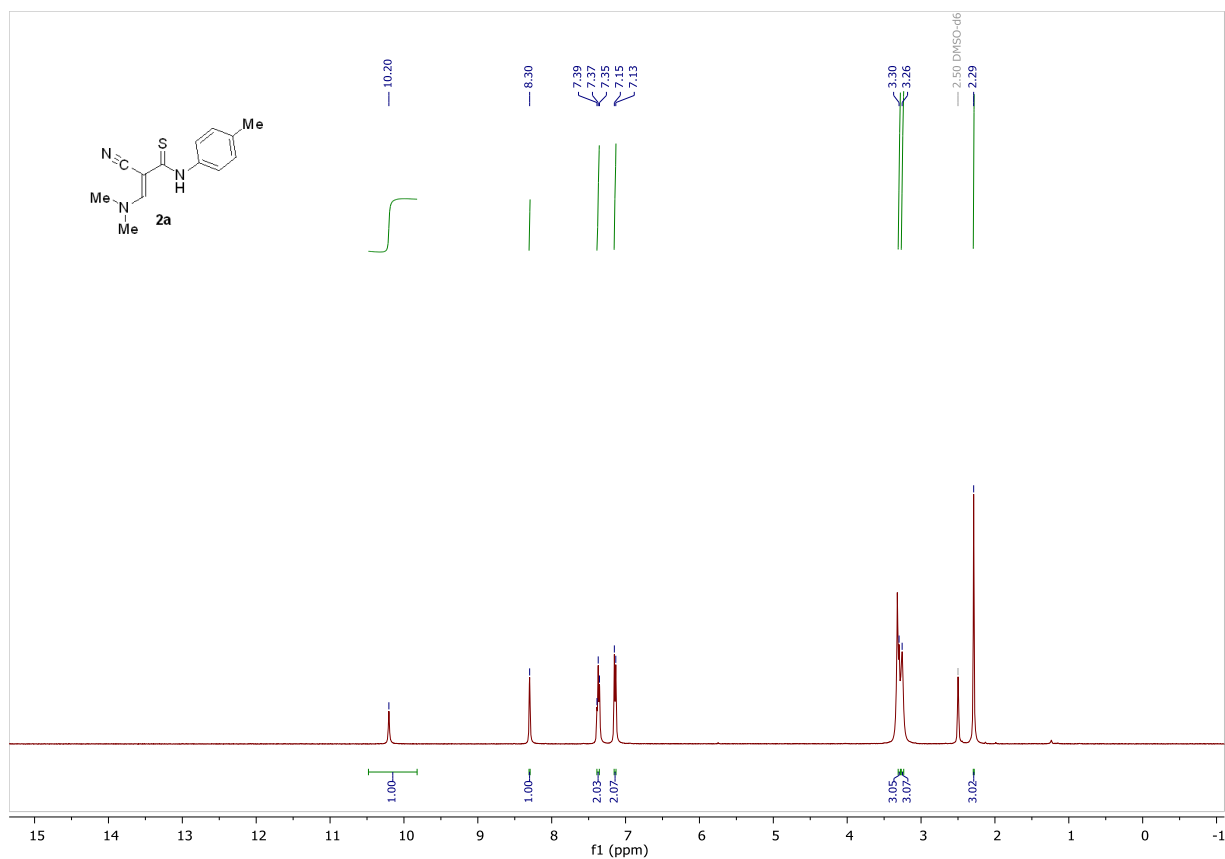


Figure S2. ^{13}C NMR spectrum ($\text{DMSO-}d_6$) of **2a**.

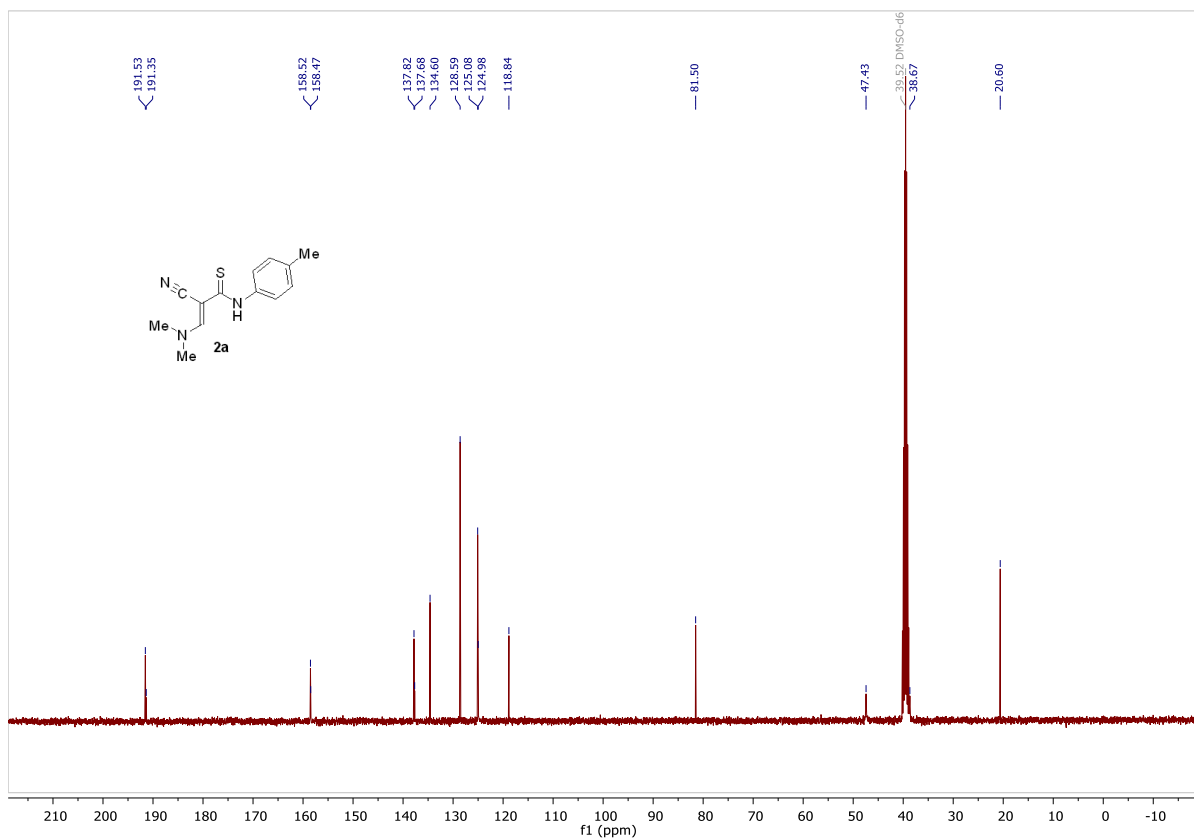


Figure S3. ^1H NMR spectrum (DMSO- d_6) of **2e**.

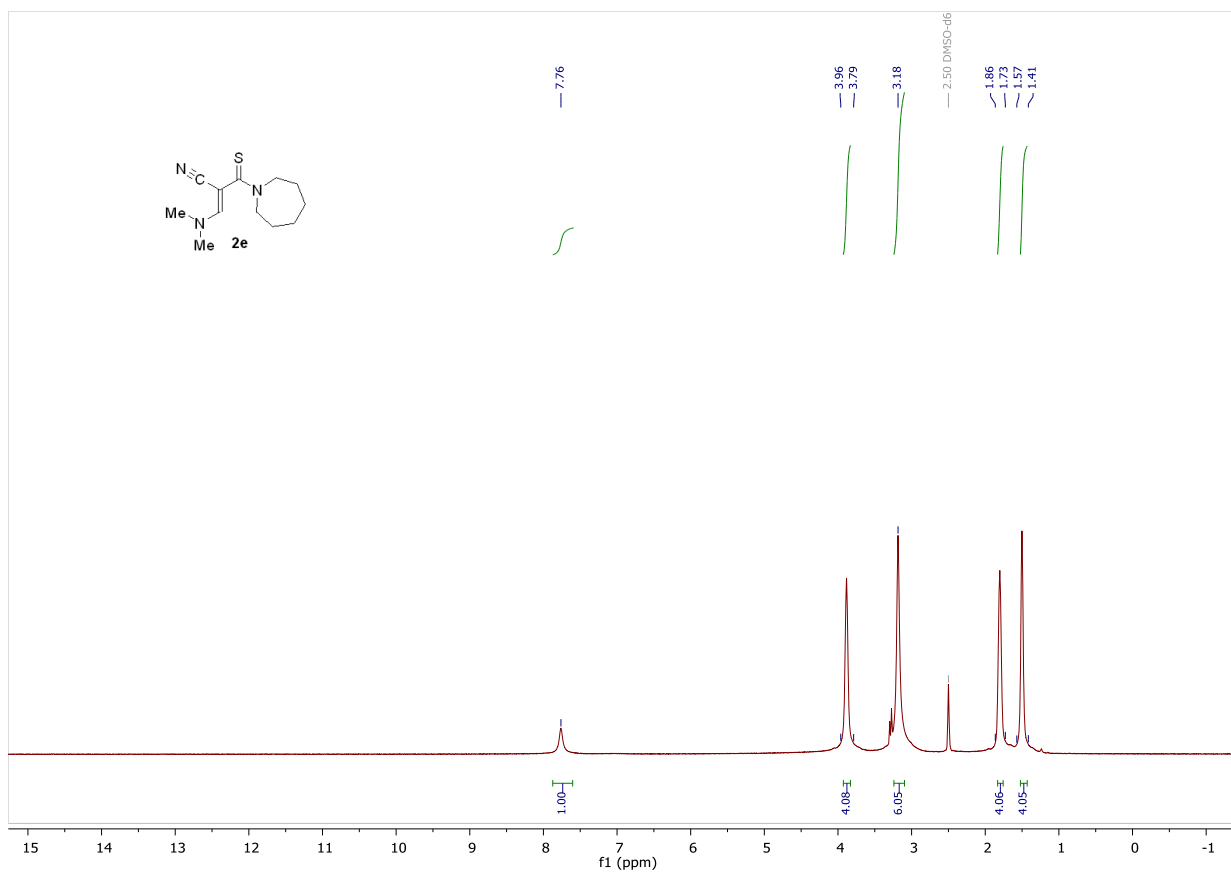


Figure S4. ^{13}C NMR spectrum (DMSO- d_6) of **2e**.

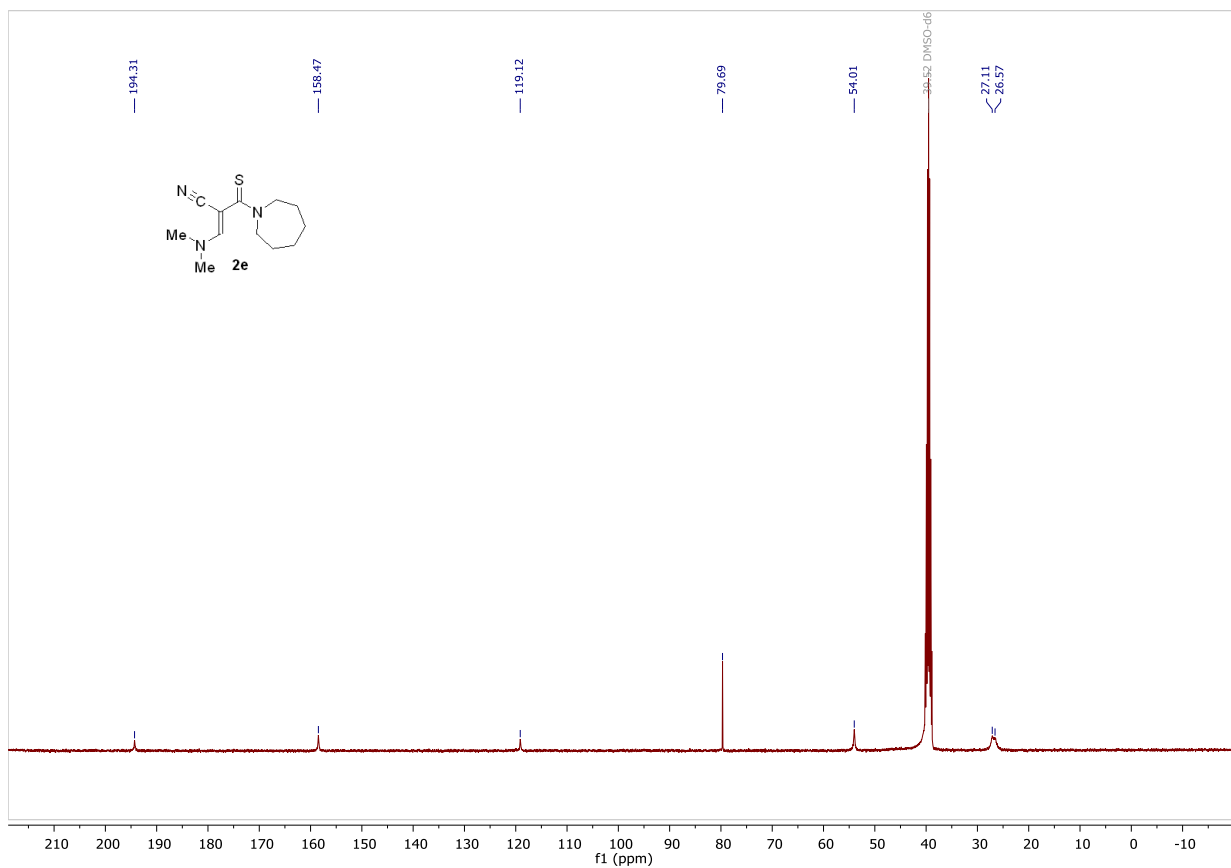


Figure S5. ^1H NMR spectrum (DMSO- d_6) of **4a**.

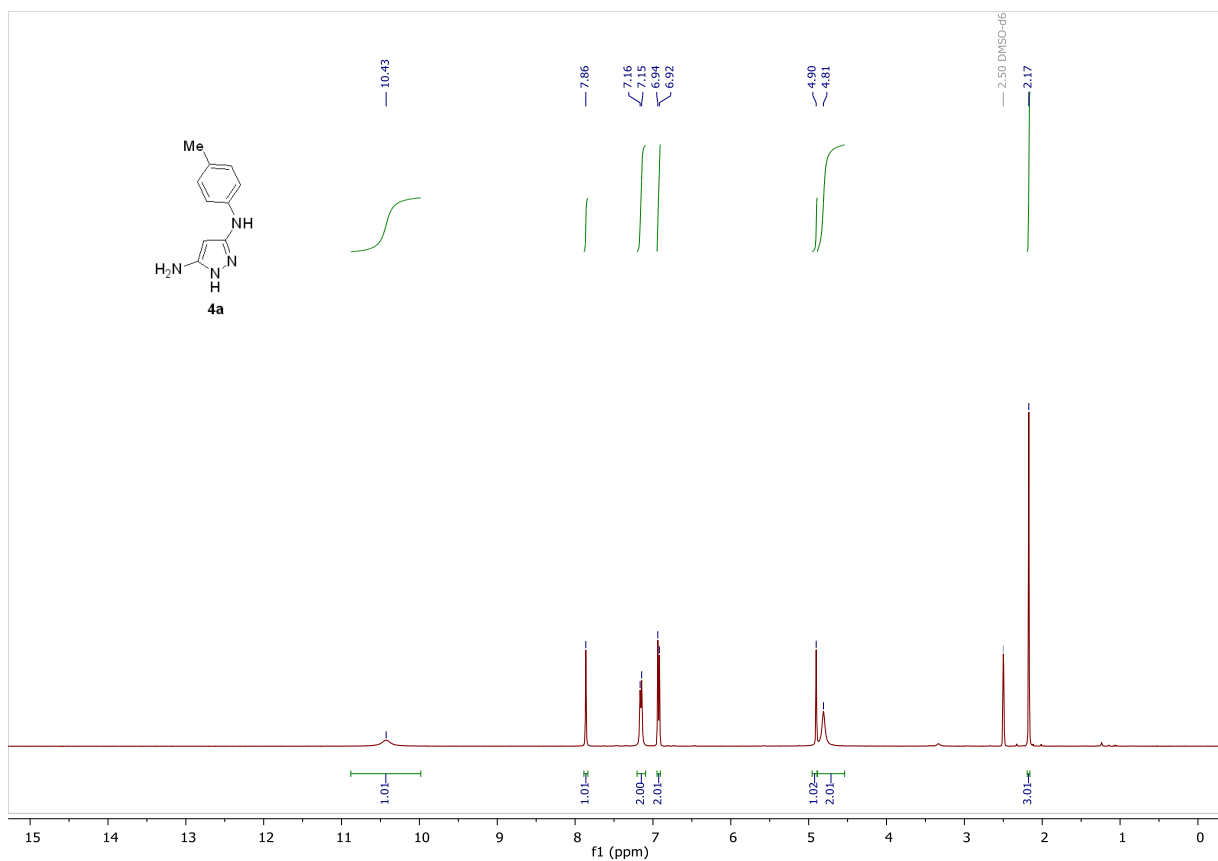


Figure S6. ^{13}C NMR spectrum (DMSO- d_6) of **4a**.

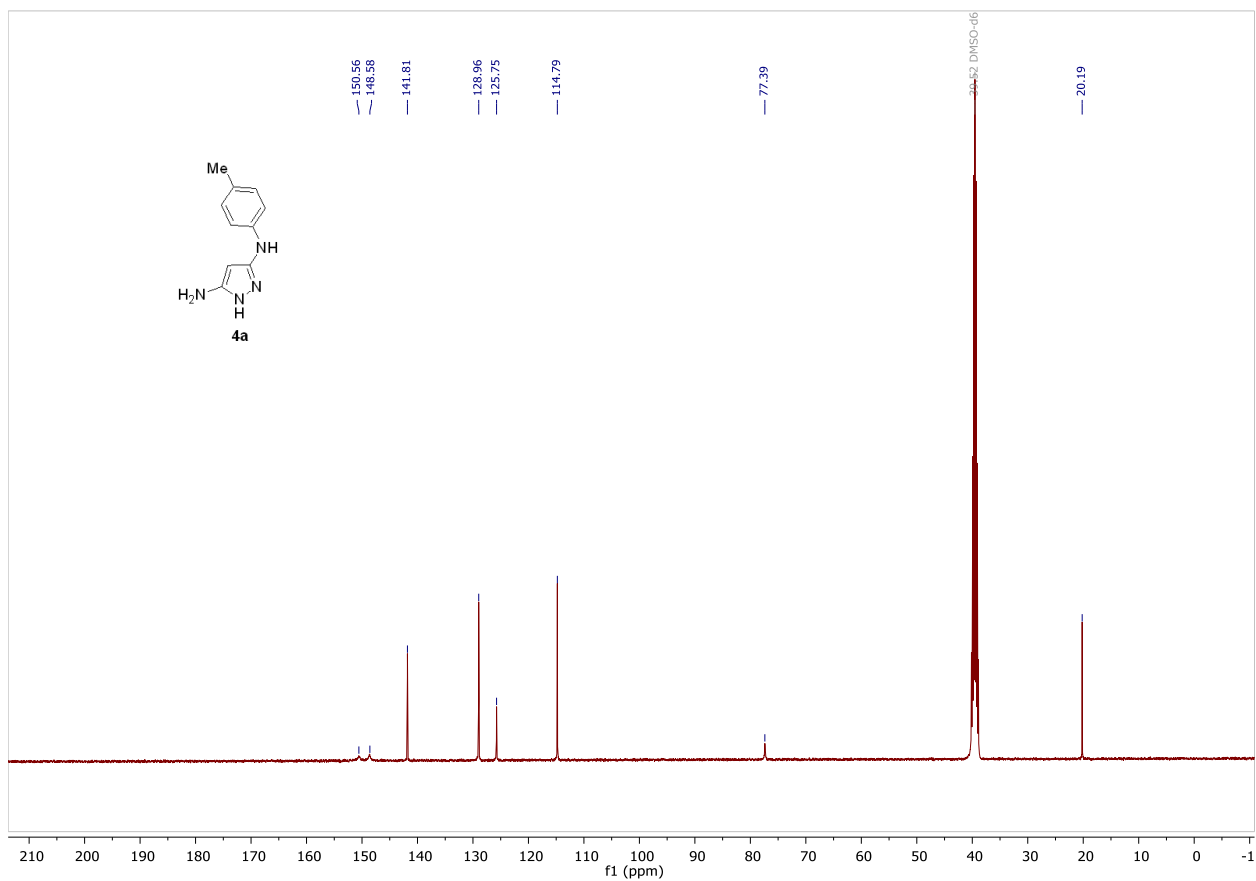


Figure S7. ^1H NMR spectrum (DMSO- d_6) of **4b**.

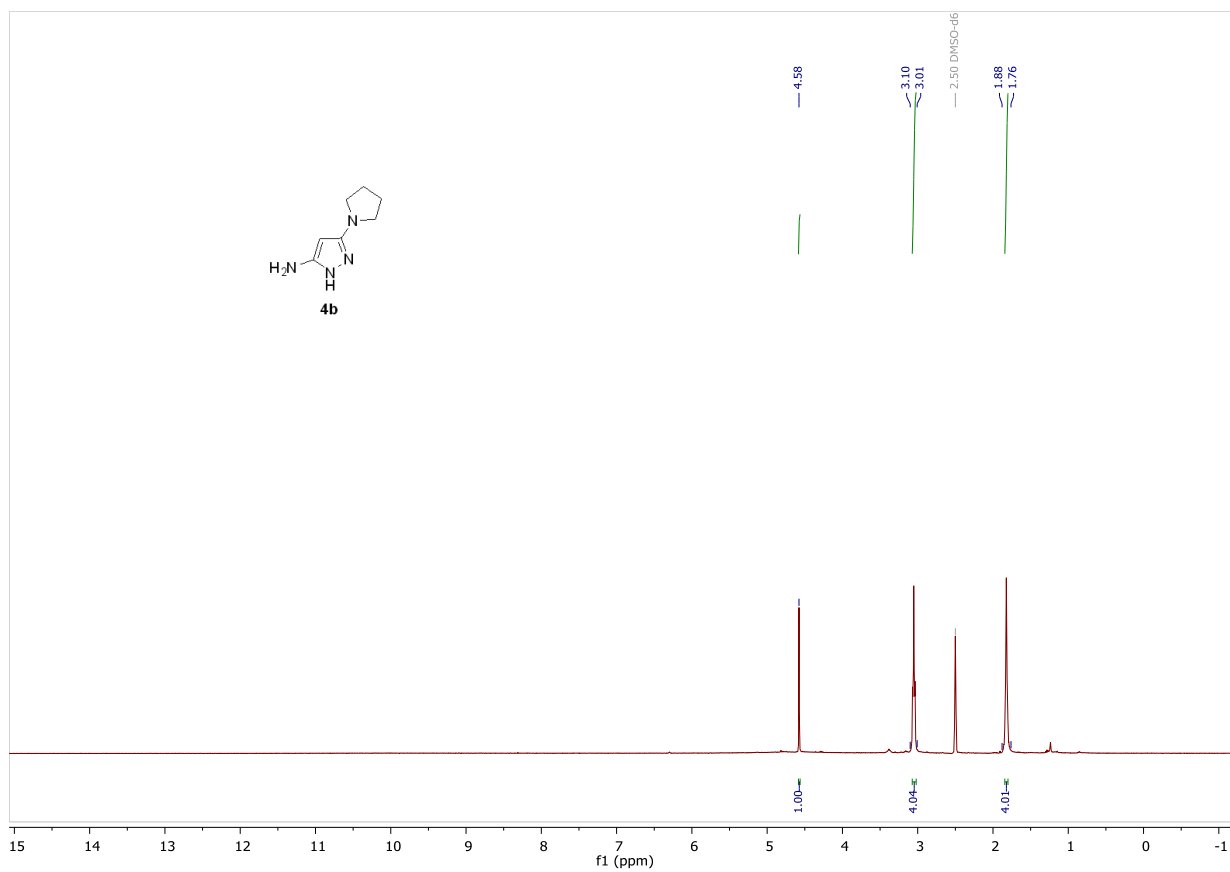


Figure S8. ^{13}C NMR spectrum (DMSO- d_6) of **4b**.

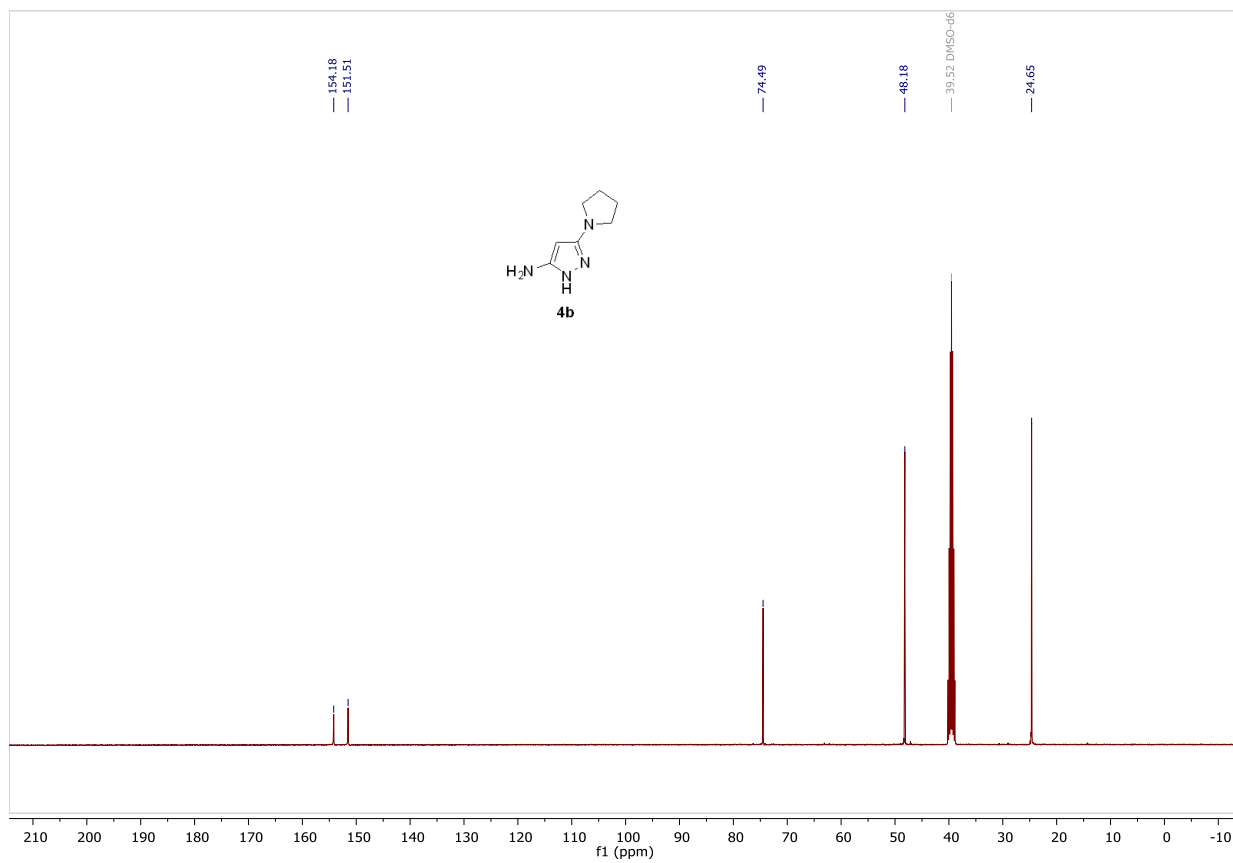


Figure S9. ^1H NMR spectrum ($\text{DMSO-}d_6$) of **4c**.

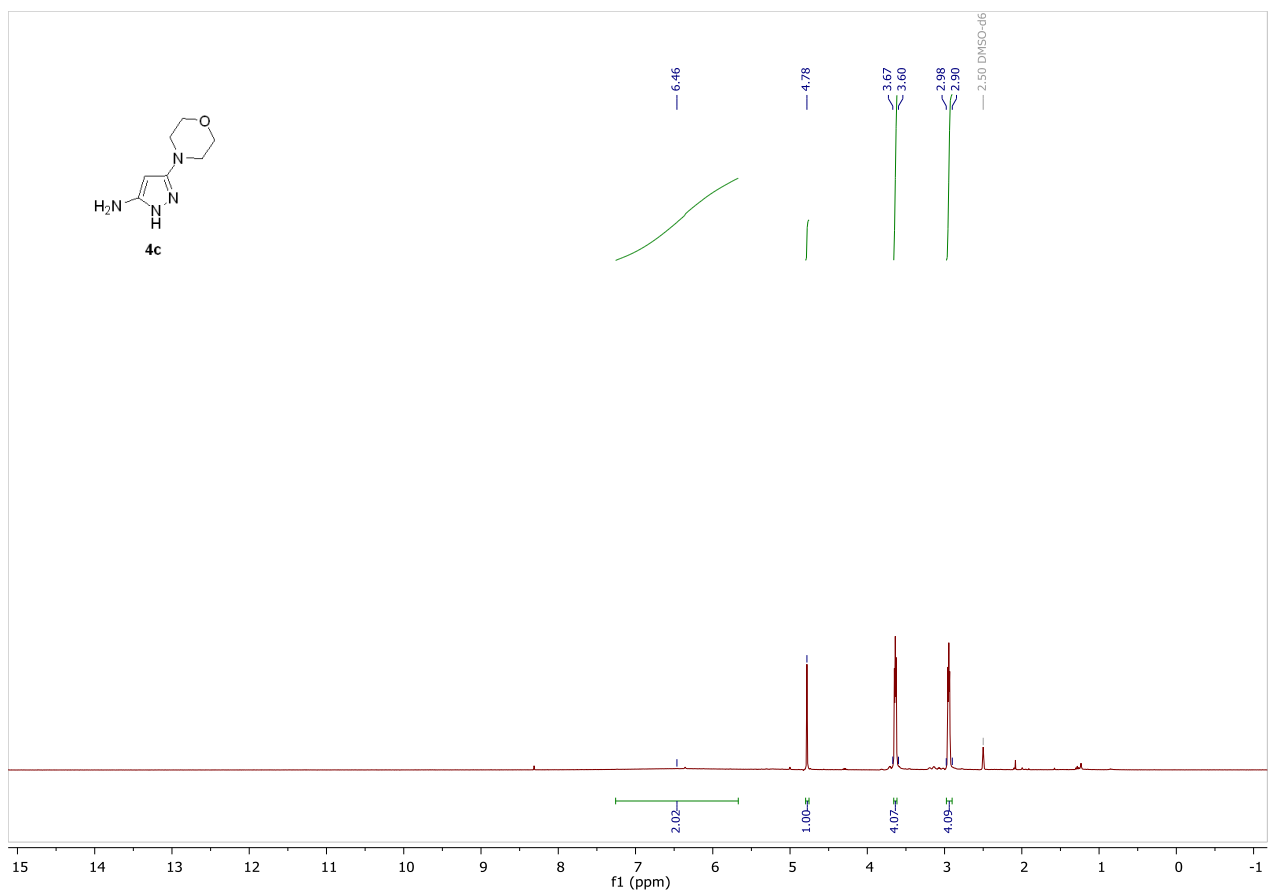


Figure S10. ^1H NMR spectrum (CDCl_3) of **4c**.

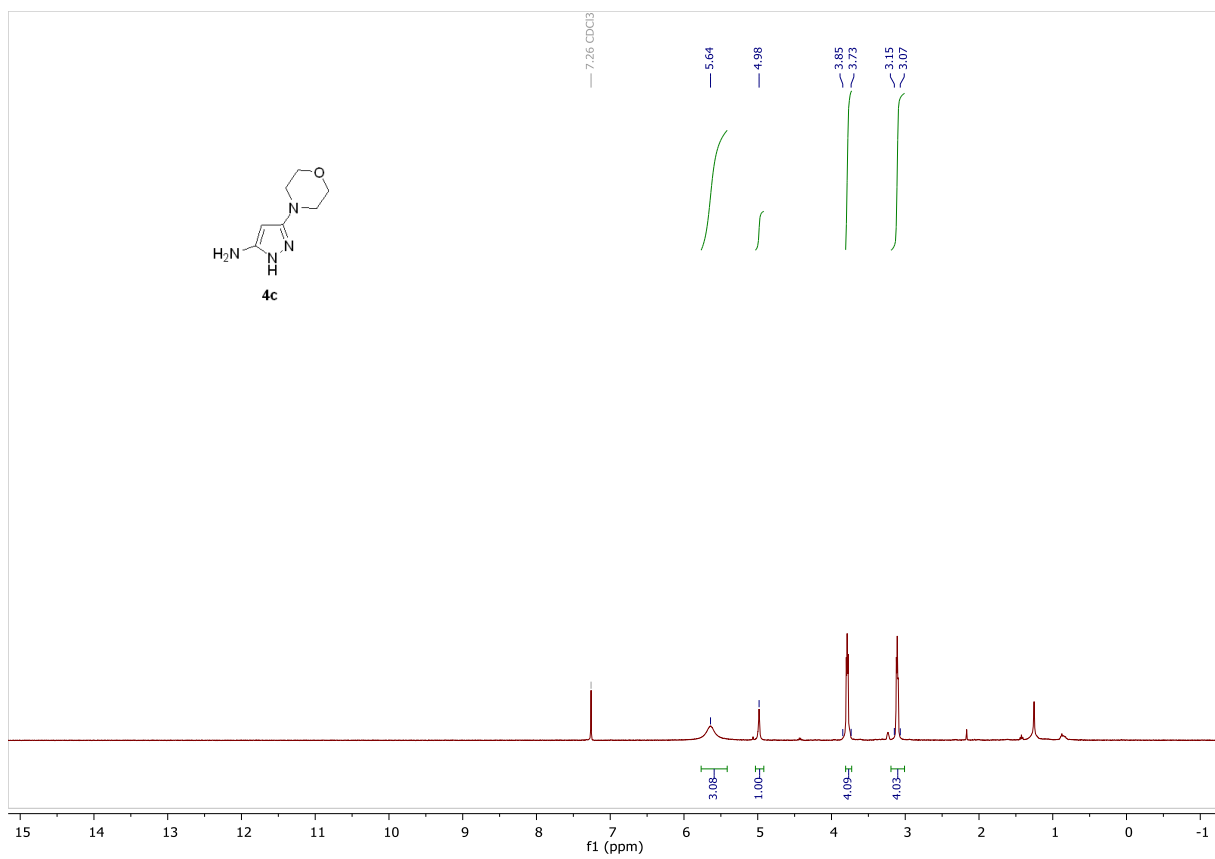


Figure S11. ^{13}C NMR spectrum (DMSO- d_6) of **4c**.

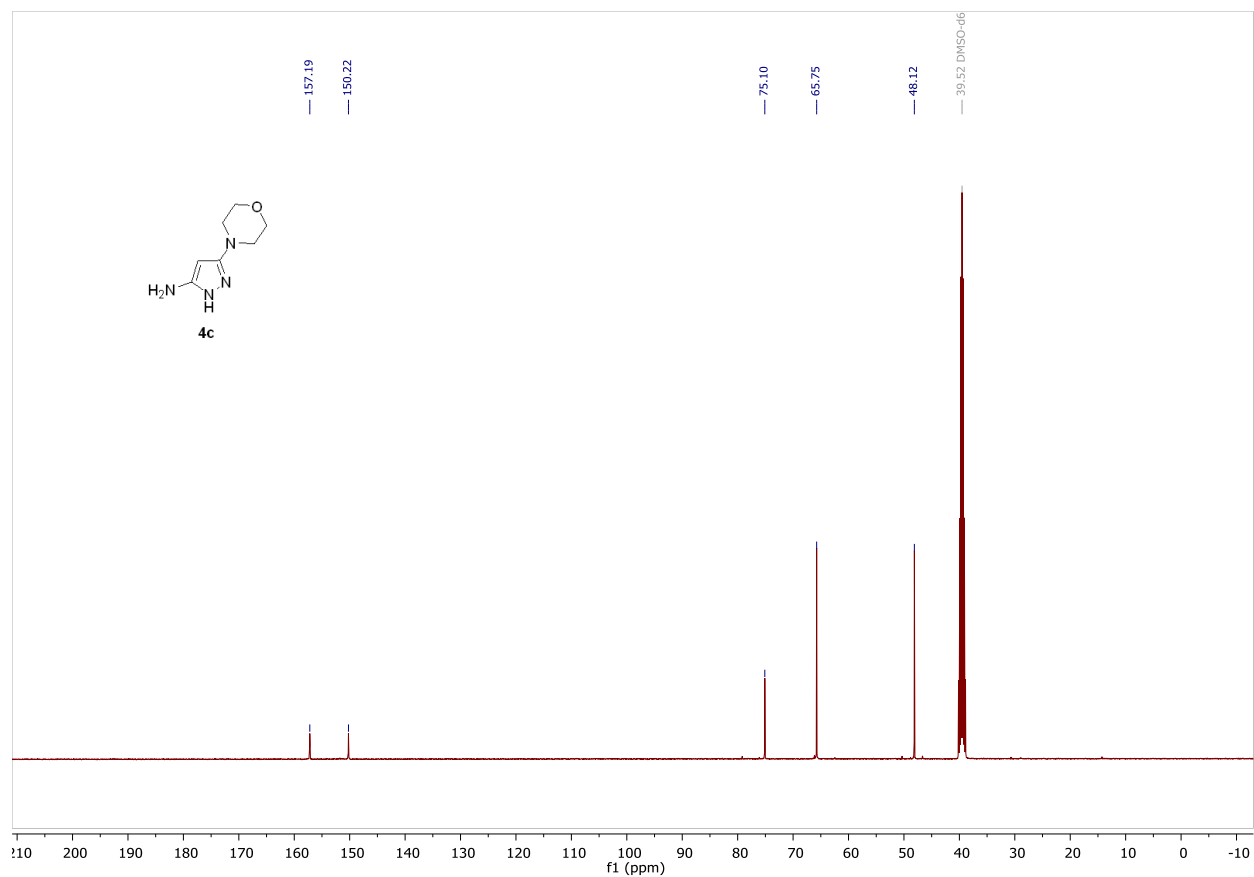


Figure S12. ^1H NMR spectrum (DMSO- d_6) of **5a**.

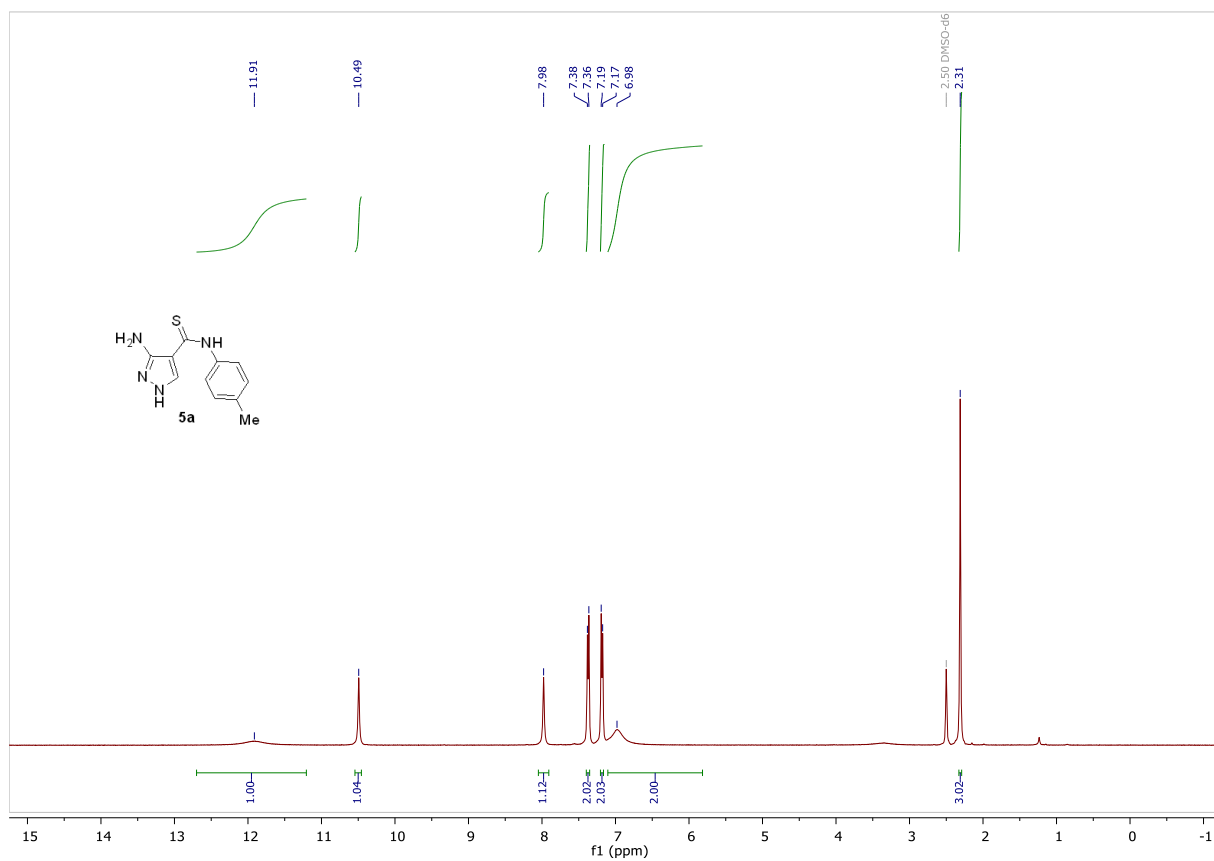


Figure S13. ^{13}C NMR spectrum (DMSO- d_6) of **5a**.

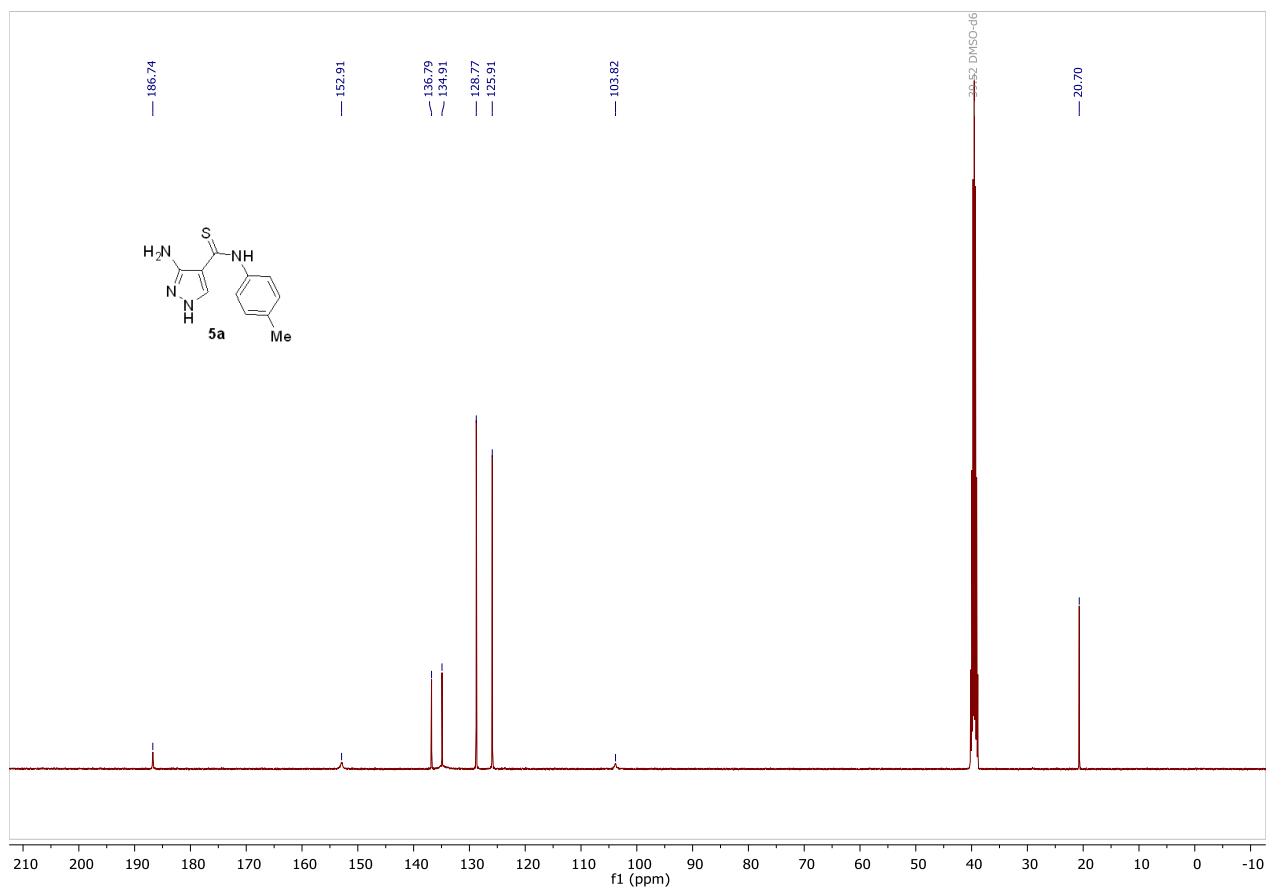


Figure S14. ^1H NMR spectrum (DMSO- d_6) of **5b**.

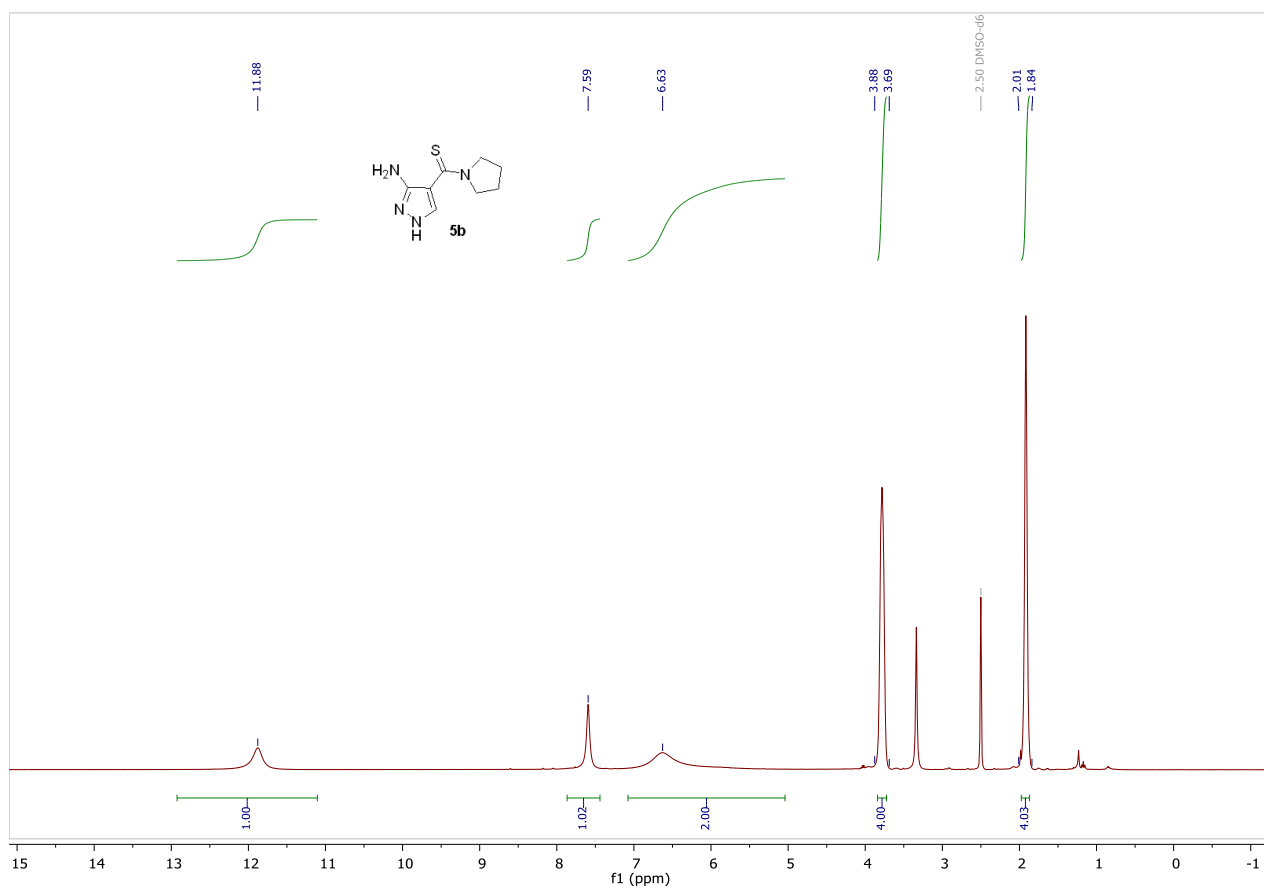


Figure S15. ¹³C NMR spectrum (DMSO-*d*₆) of **5b**.

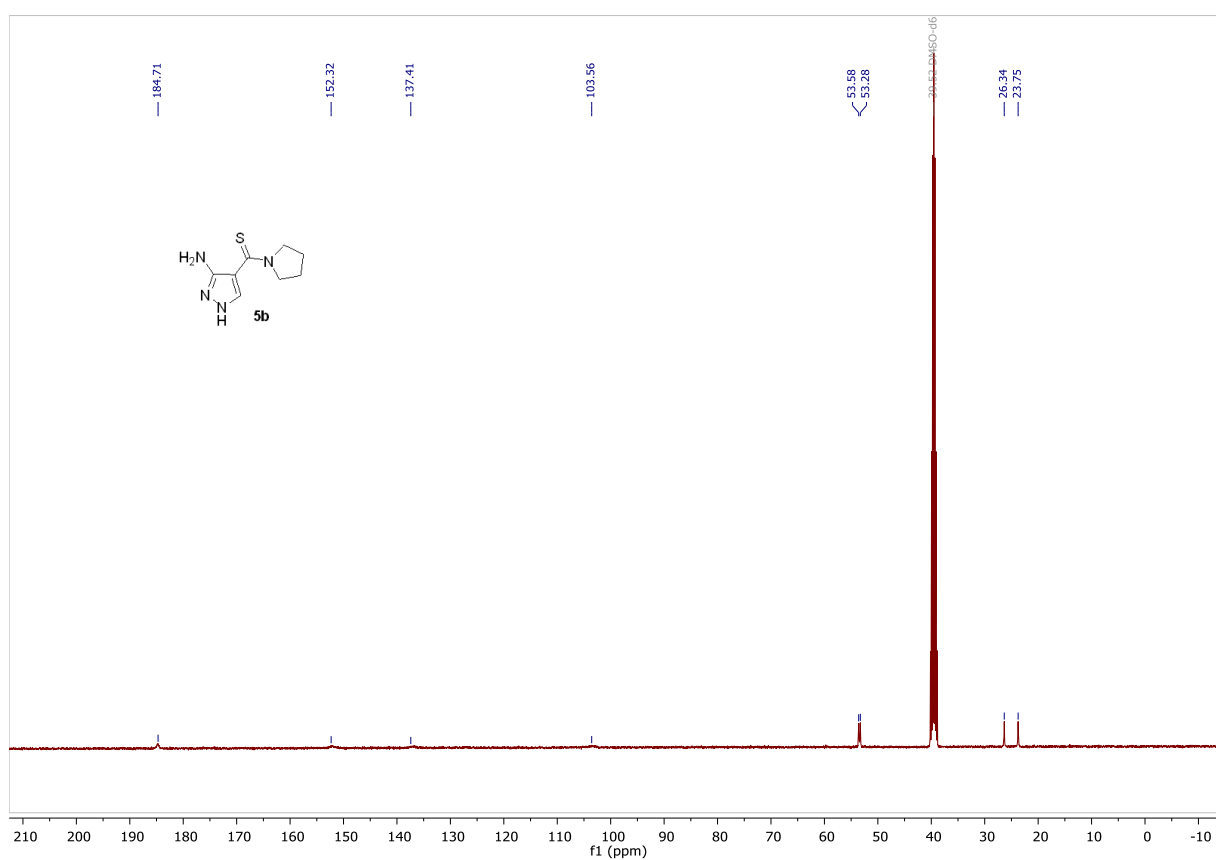


Figure S16. ^1H NMR spectrum ($\text{DMSO-}d_6$) of **5c**.

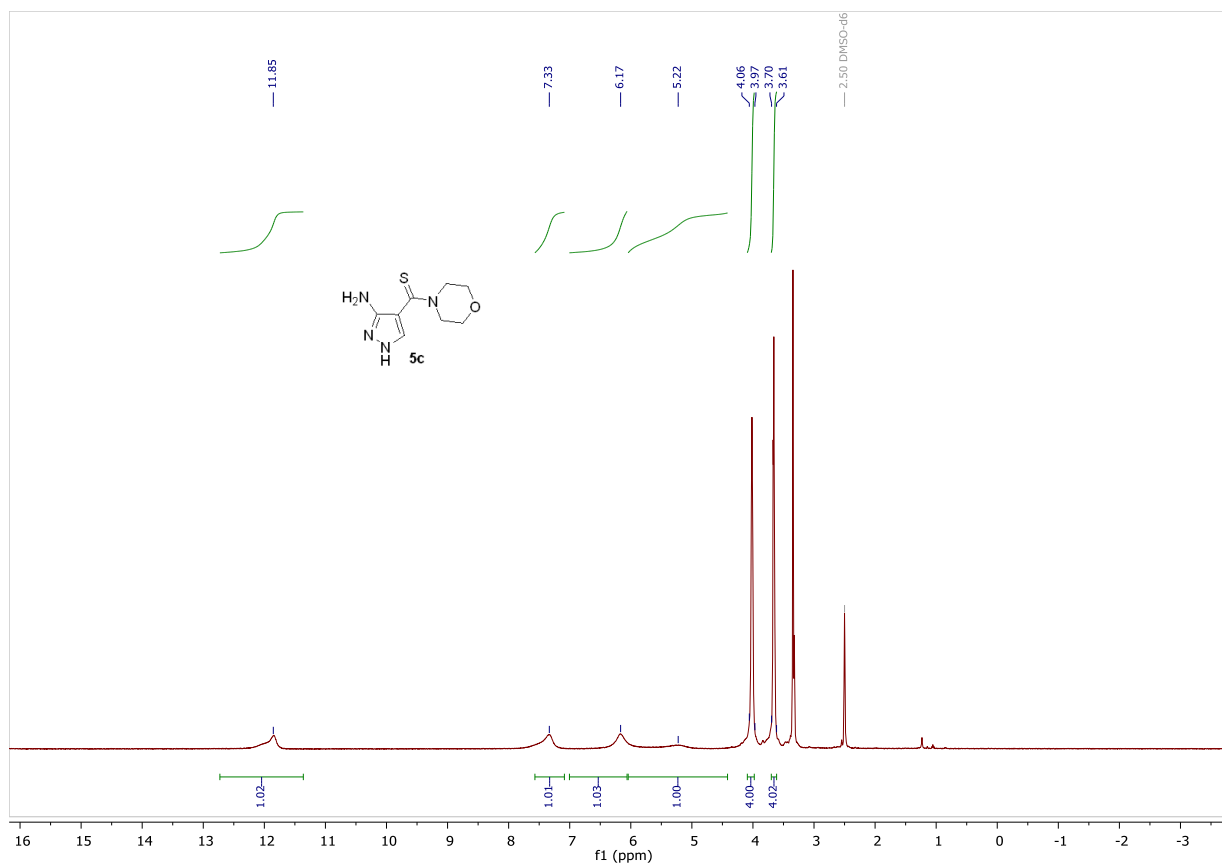


Figure S17. ^{13}C NMR spectrum ($\text{DMSO-}d_6$) of **5c**.

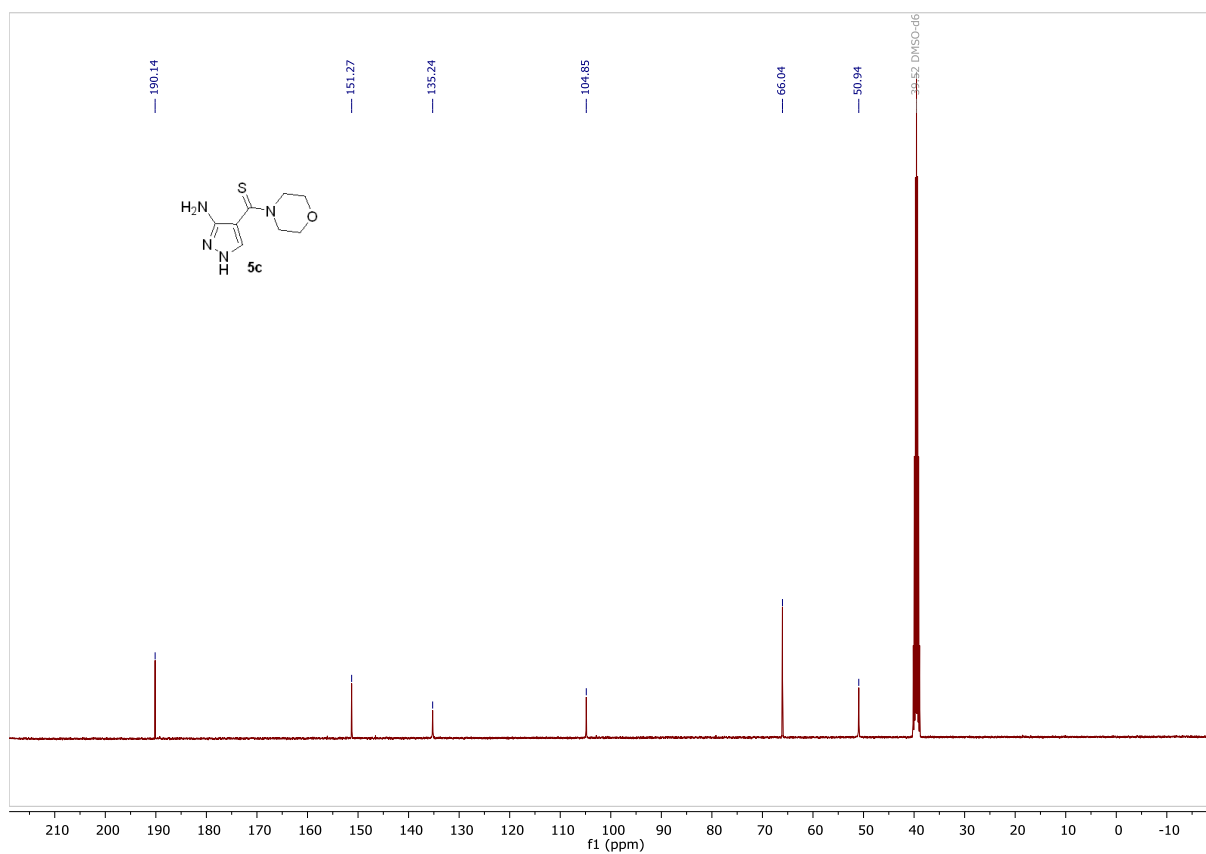


Figure S18. ^1H NMR spectrum ($\text{DMSO-}d_6$) of **5d**.

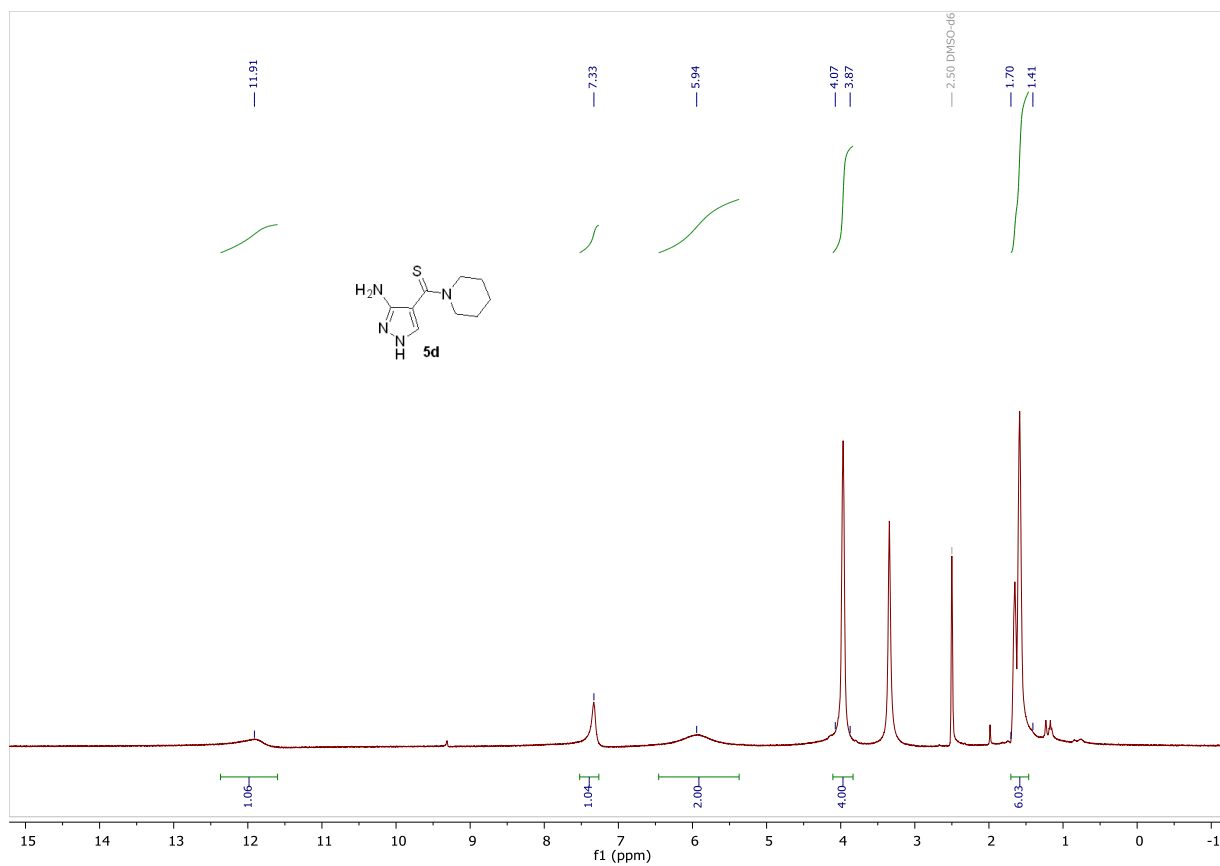


Figure S19. ^{13}C NMR spectrum ($\text{DMSO-}d_6$) of **5d**.

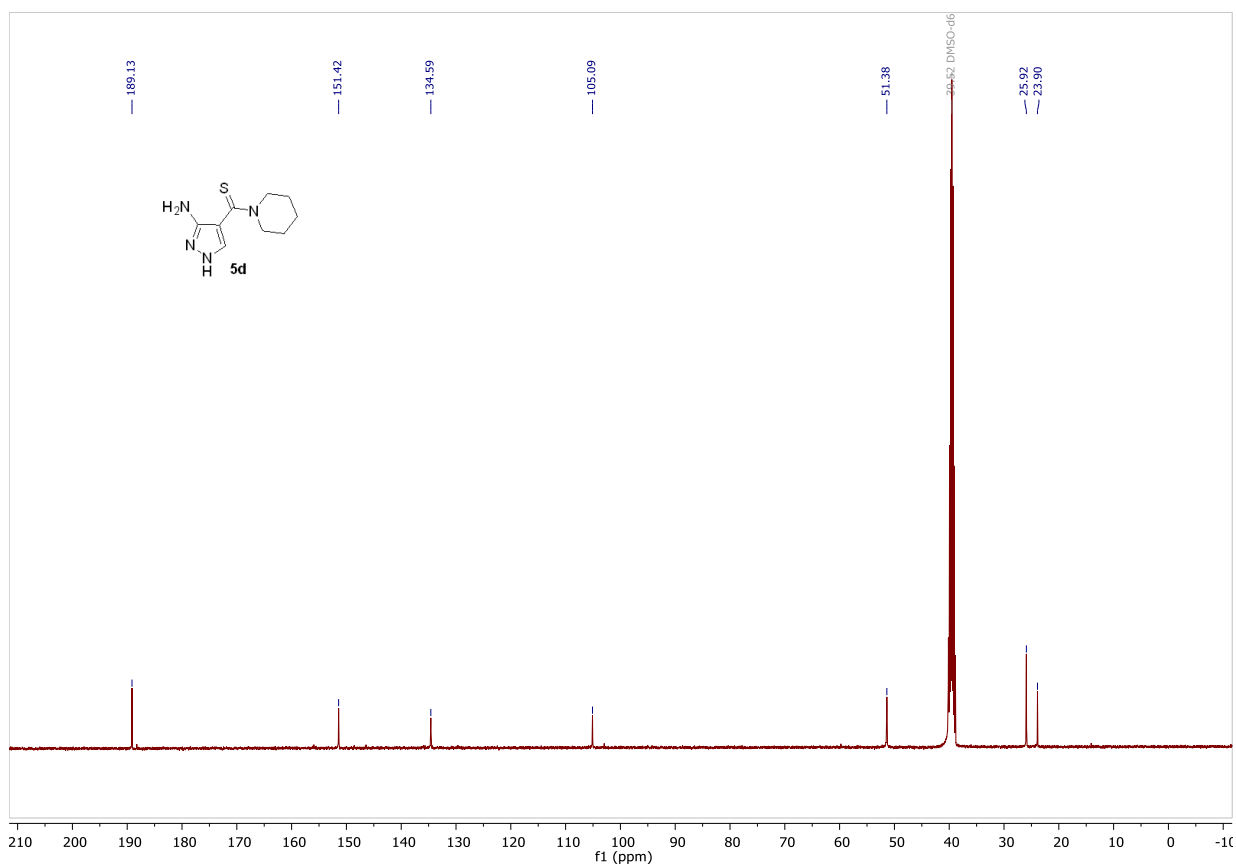


Figure S20. ^1H NMR spectrum ($\text{DMSO-}d_6$) of **5e**.

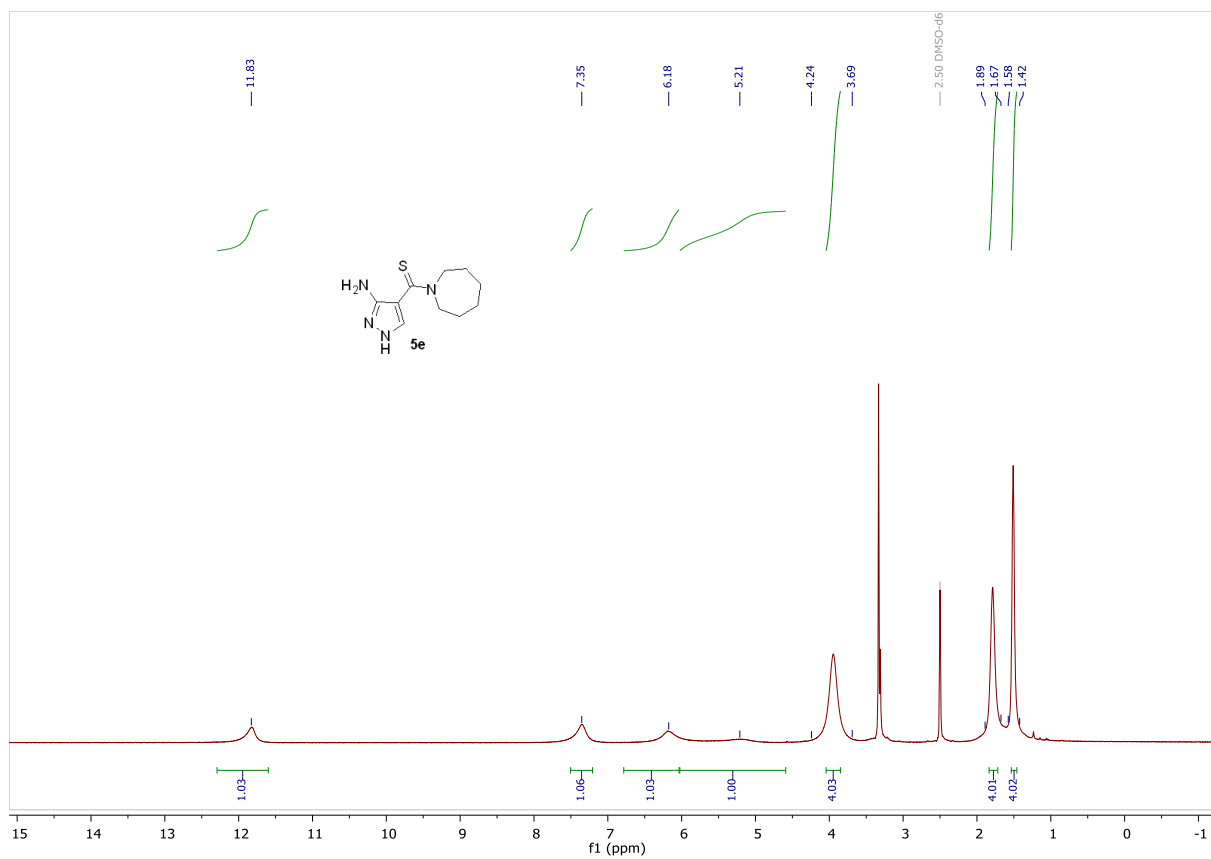


Figure S21. ^{13}C NMR spectrum ($\text{DMSO-}d_6$) of **5e**.

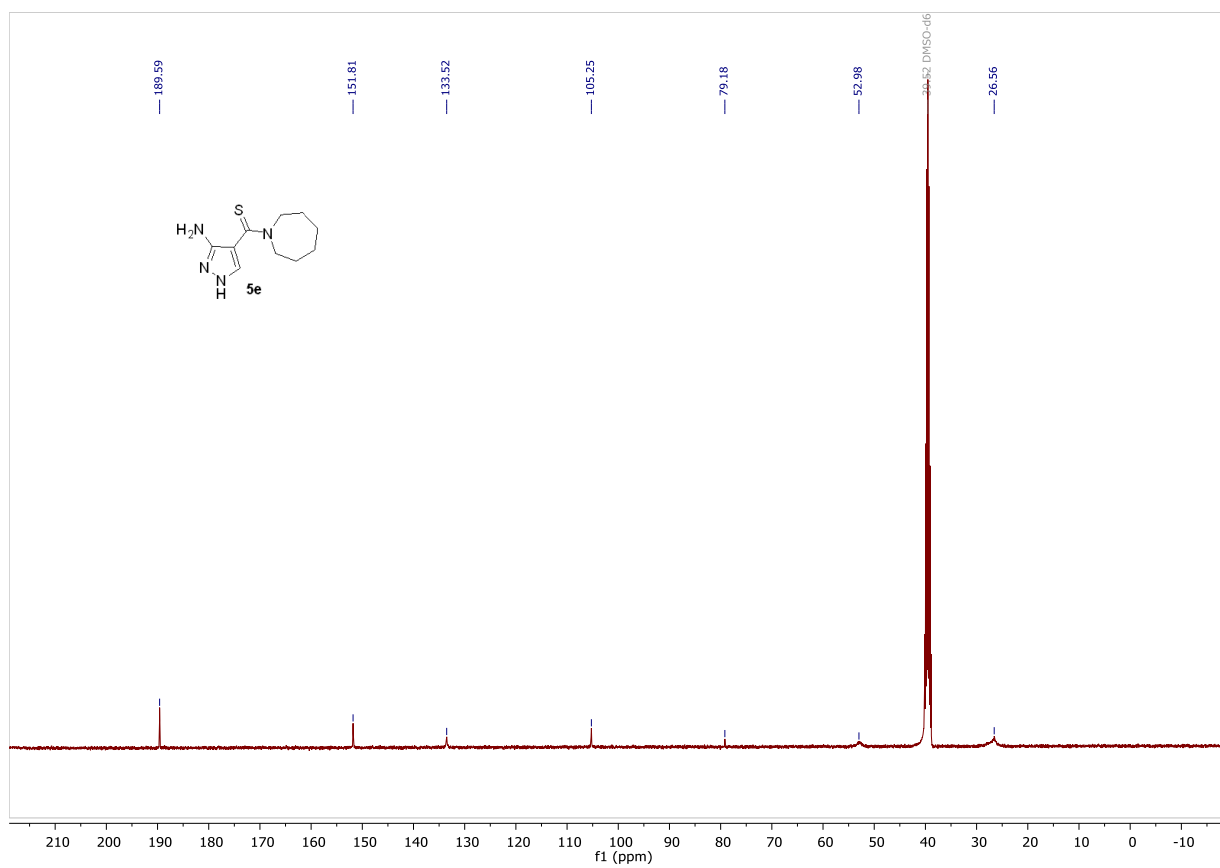


Figure S22. ^1H NMR spectrum (DMSO- d_6) of **6a**.

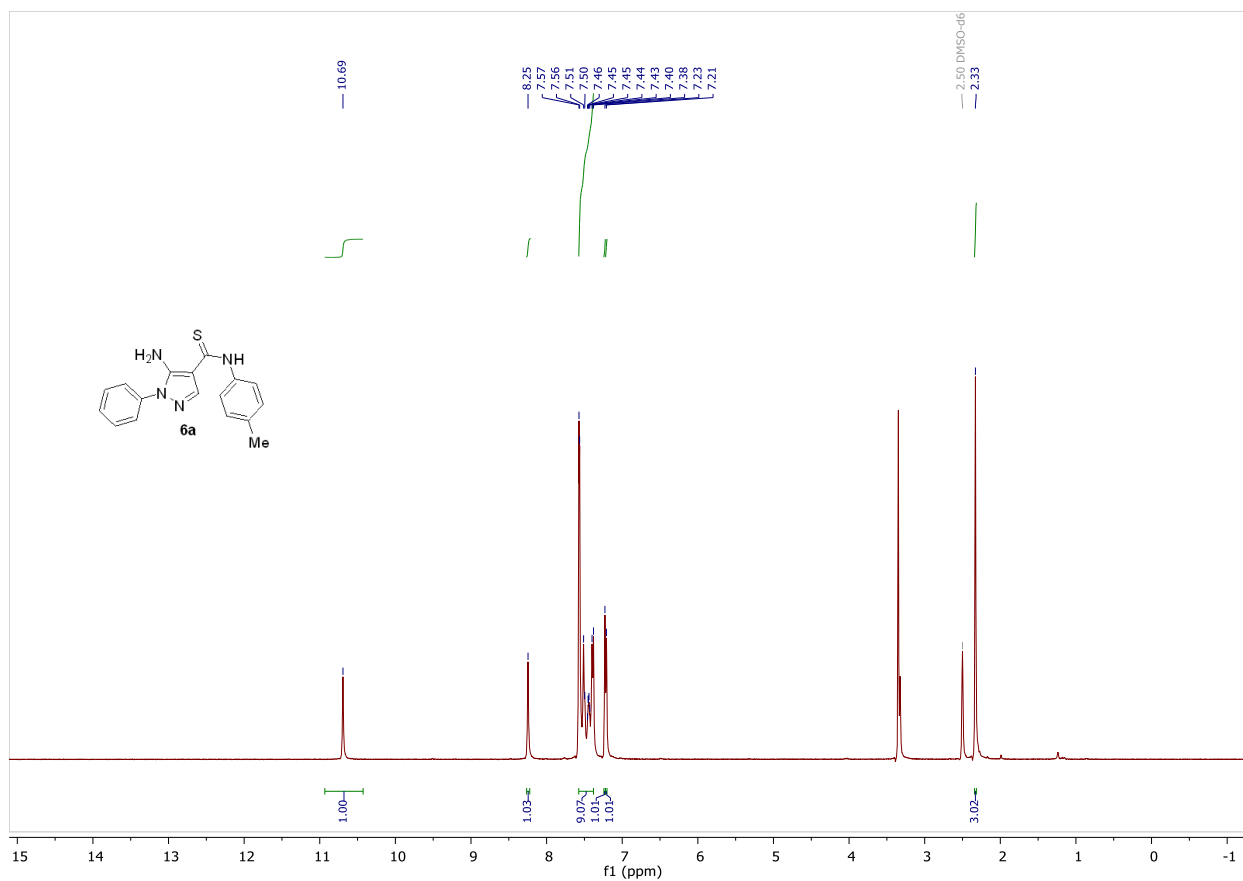


Figure S23. ^{13}C NMR spectrum (DMSO- d_6) of **6a**.

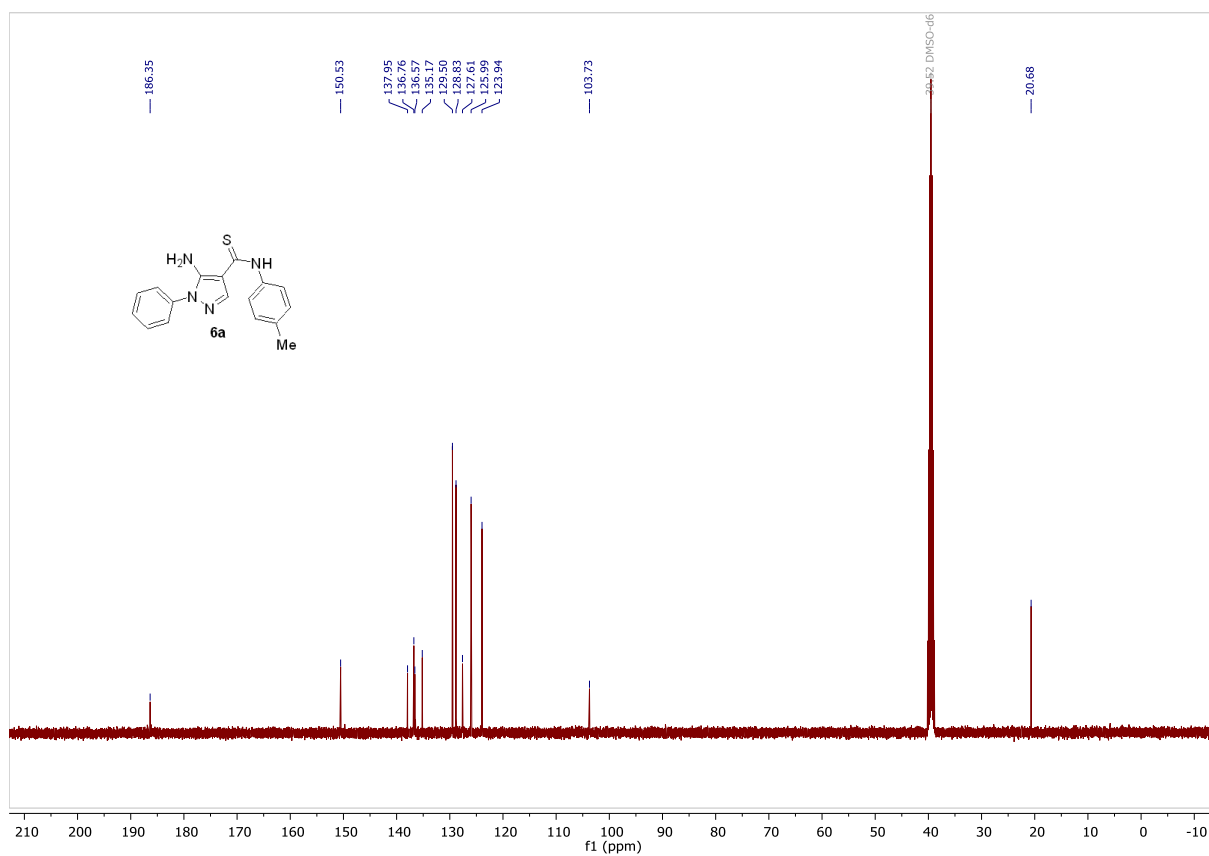


Figure S24. ^1H NMR spectrum (DMSO- d_6) of **6b**.

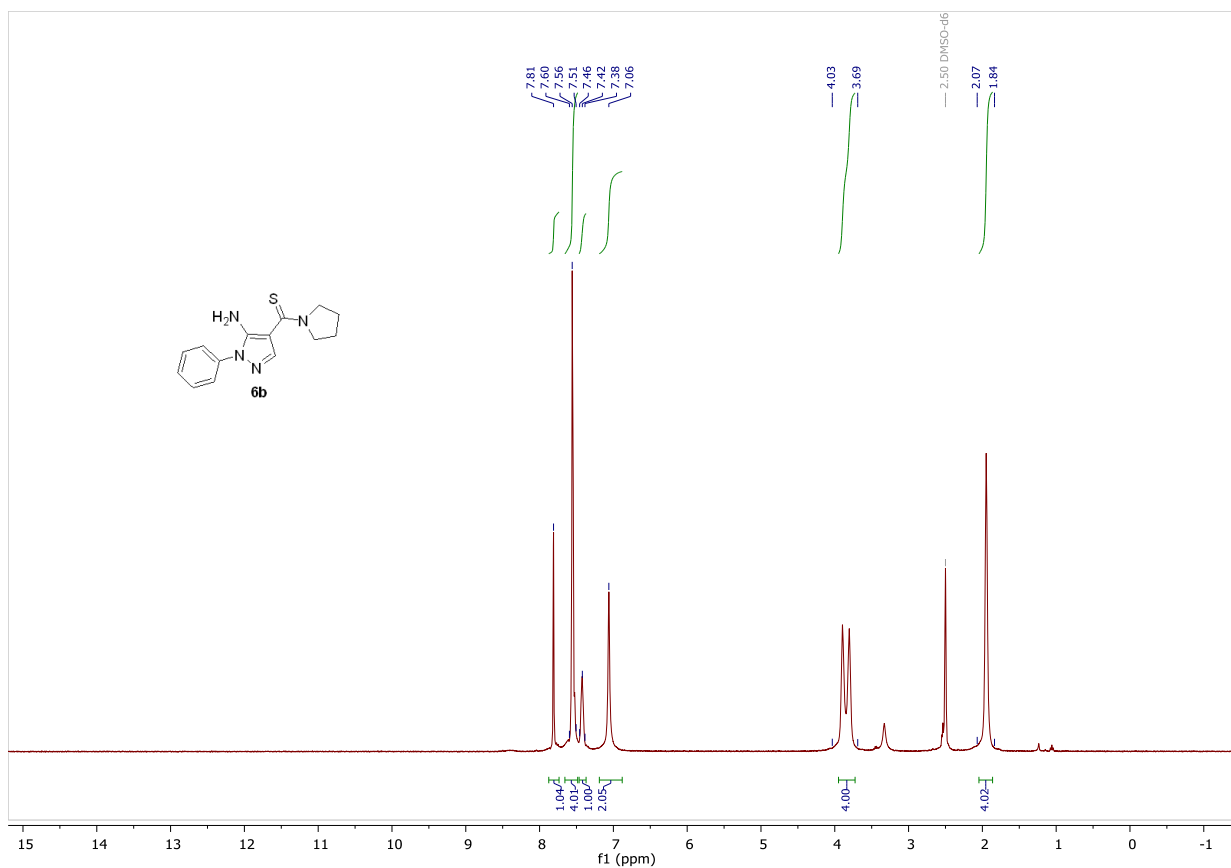


Figure S25. ^{13}C NMR spectrum (DMSO- d_6) of **6b**.

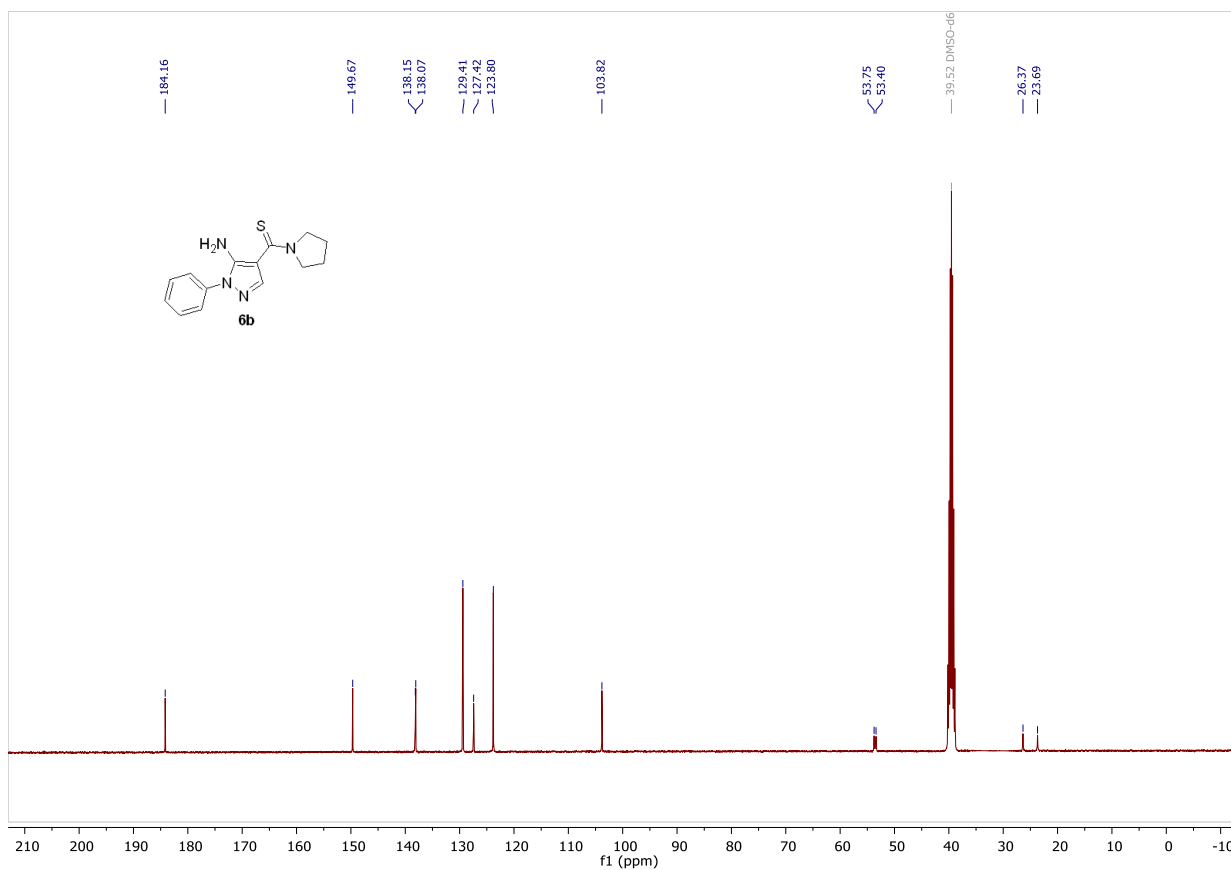


Figure S26. ^1H NMR spectrum (DMSO- d_6) of **6c**.

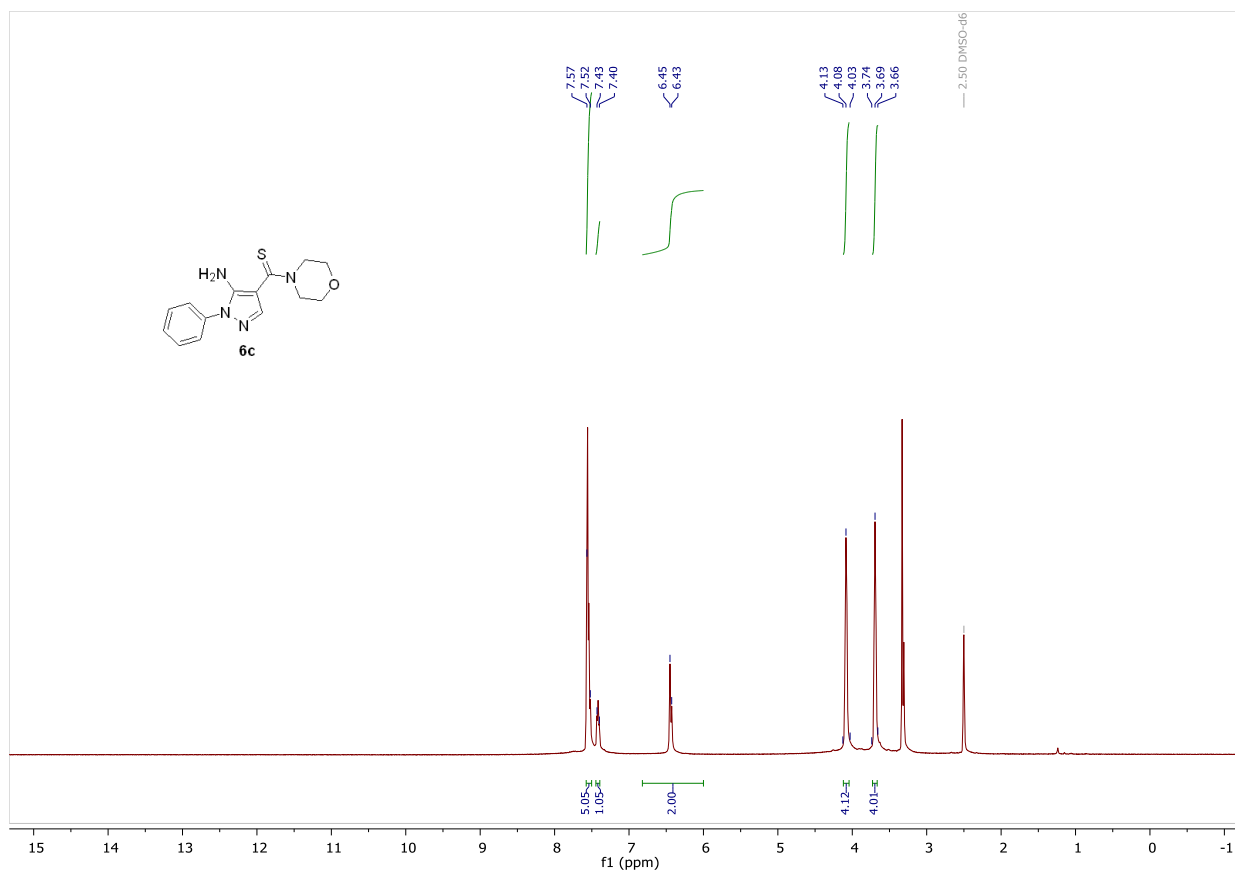


Figure S27. ^{13}C NMR spectrum (DMSO- d_6) of **6c**.

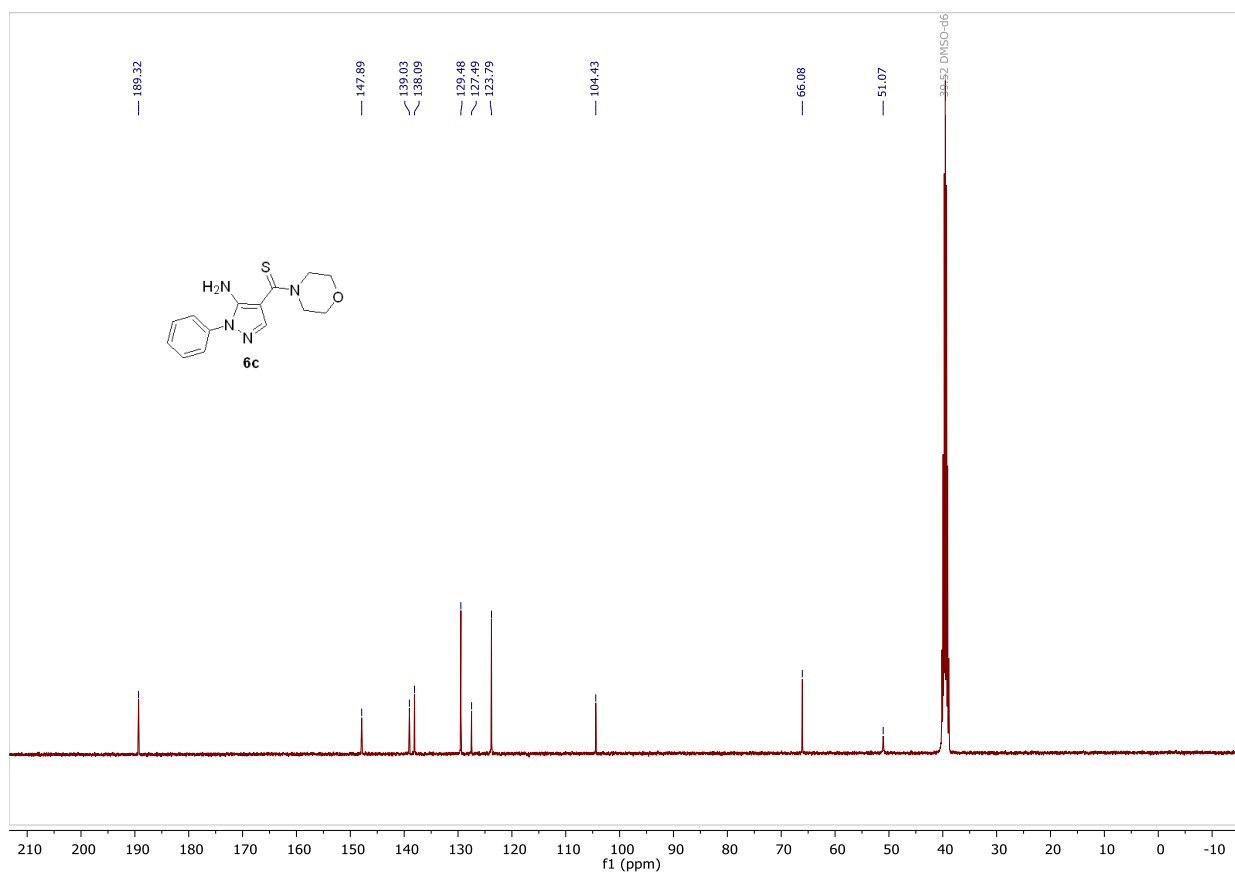


Figure S28. ^1H NMR spectrum ($\text{DMSO-}d_6$) of **6d**.

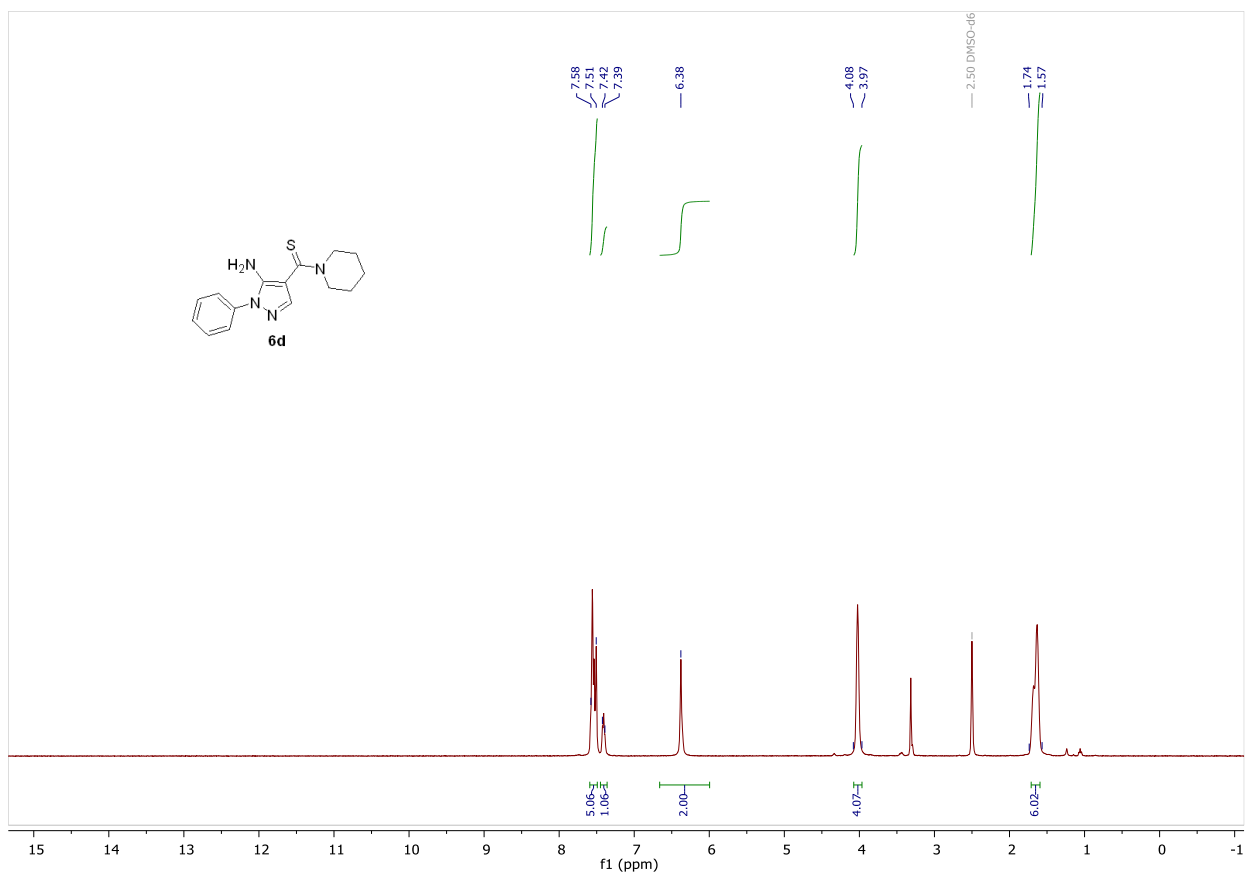


Figure S29. ^{13}C NMR spectrum ($\text{DMSO-}d_6$) of **6d**.

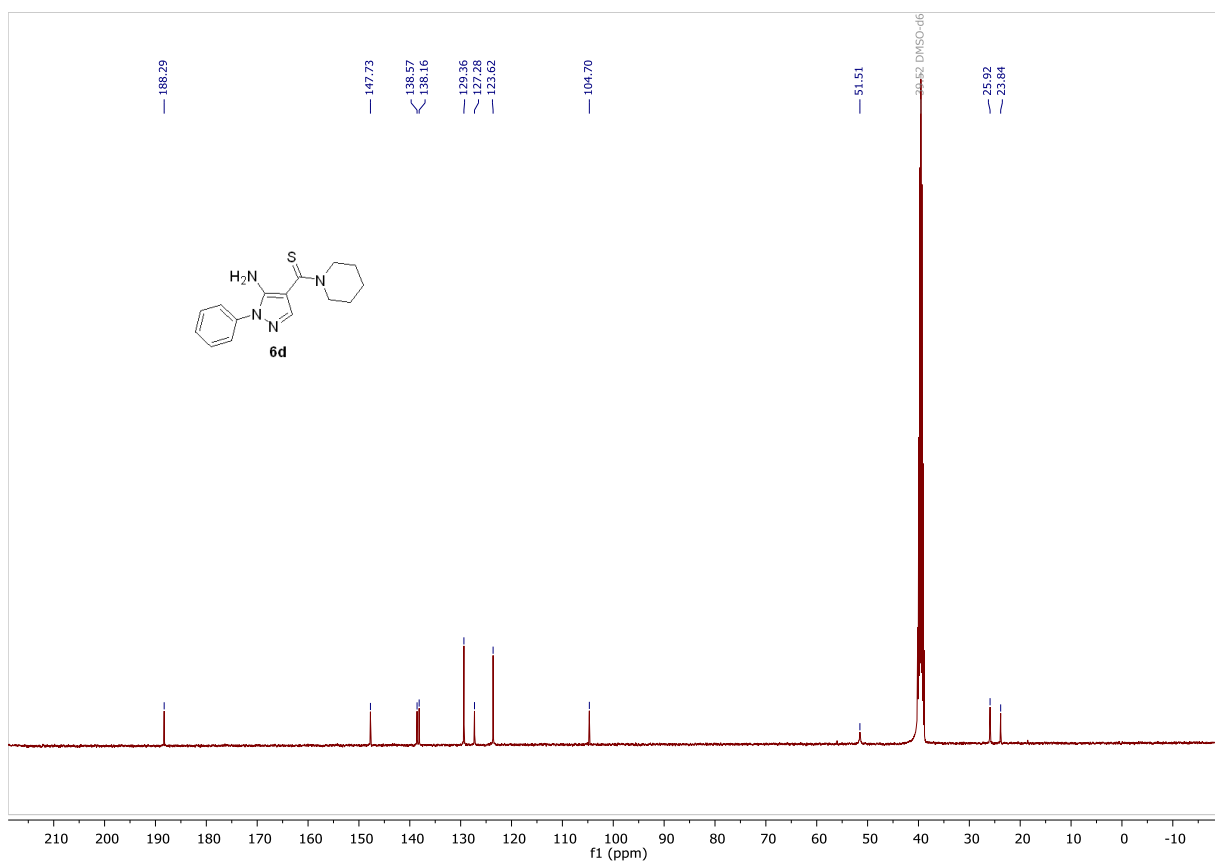


Figure S30. ^1H NMR spectrum (DMSO- d_6) of **6e**.

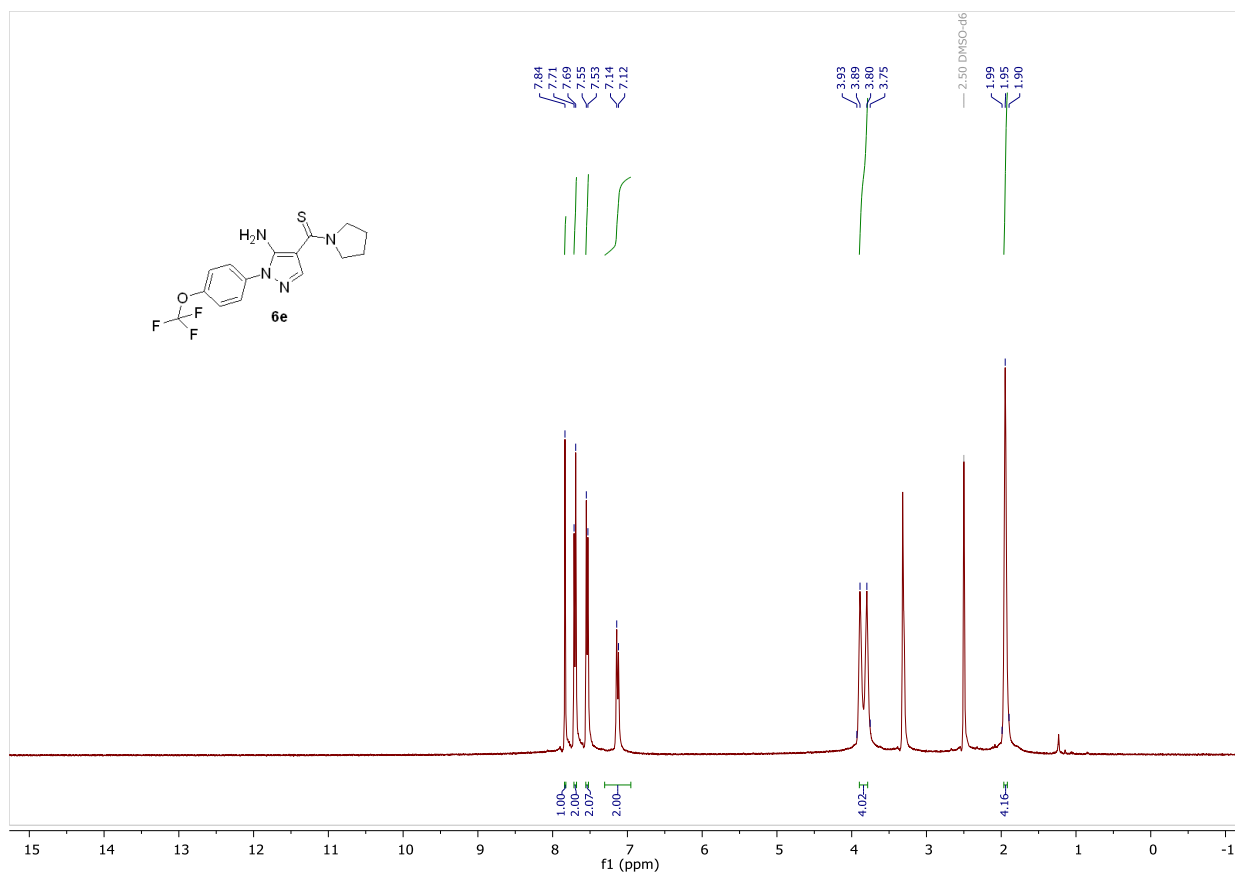


Figure S31. ^{13}C NMR spectrum (DMSO- d_6) of **6e**.

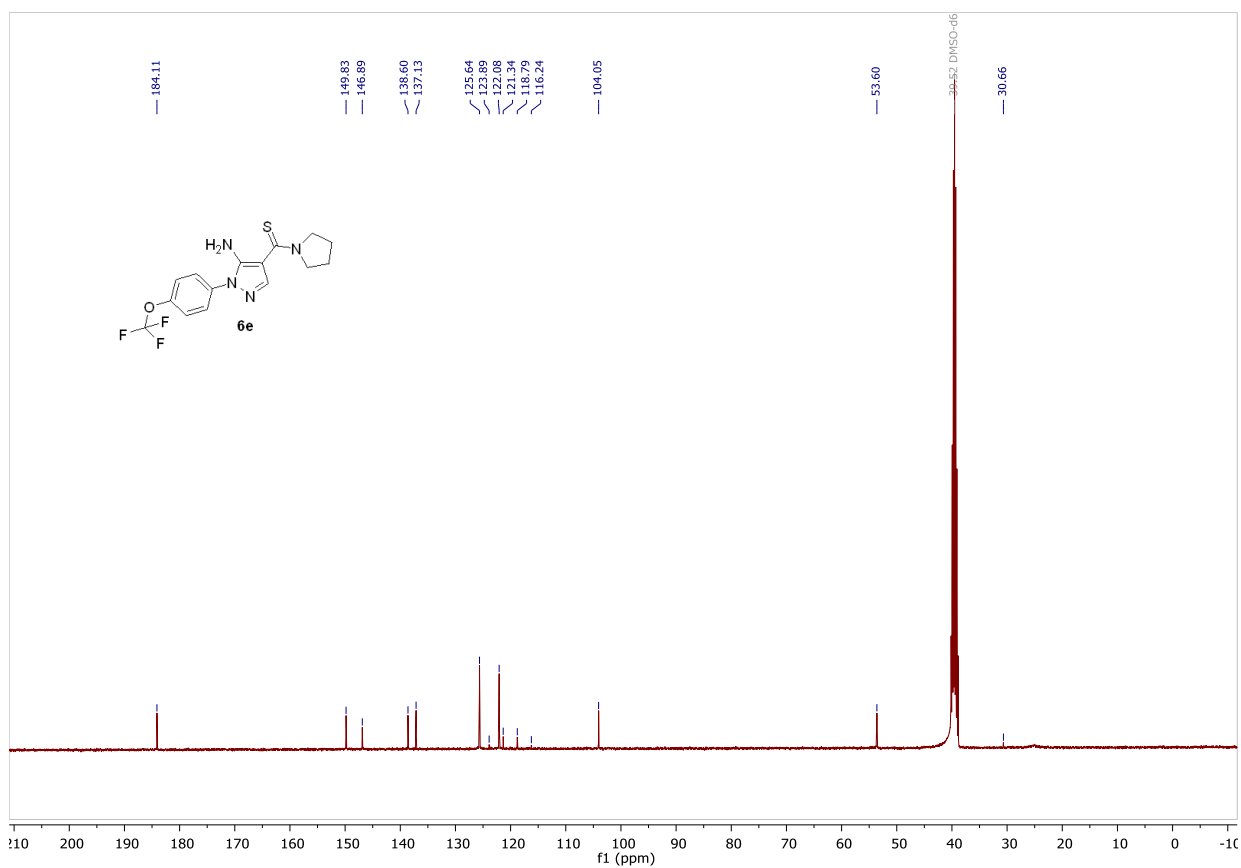


Figure S32. ^{19}F NMR spectrum (DMSO- d_6) of **6e**.

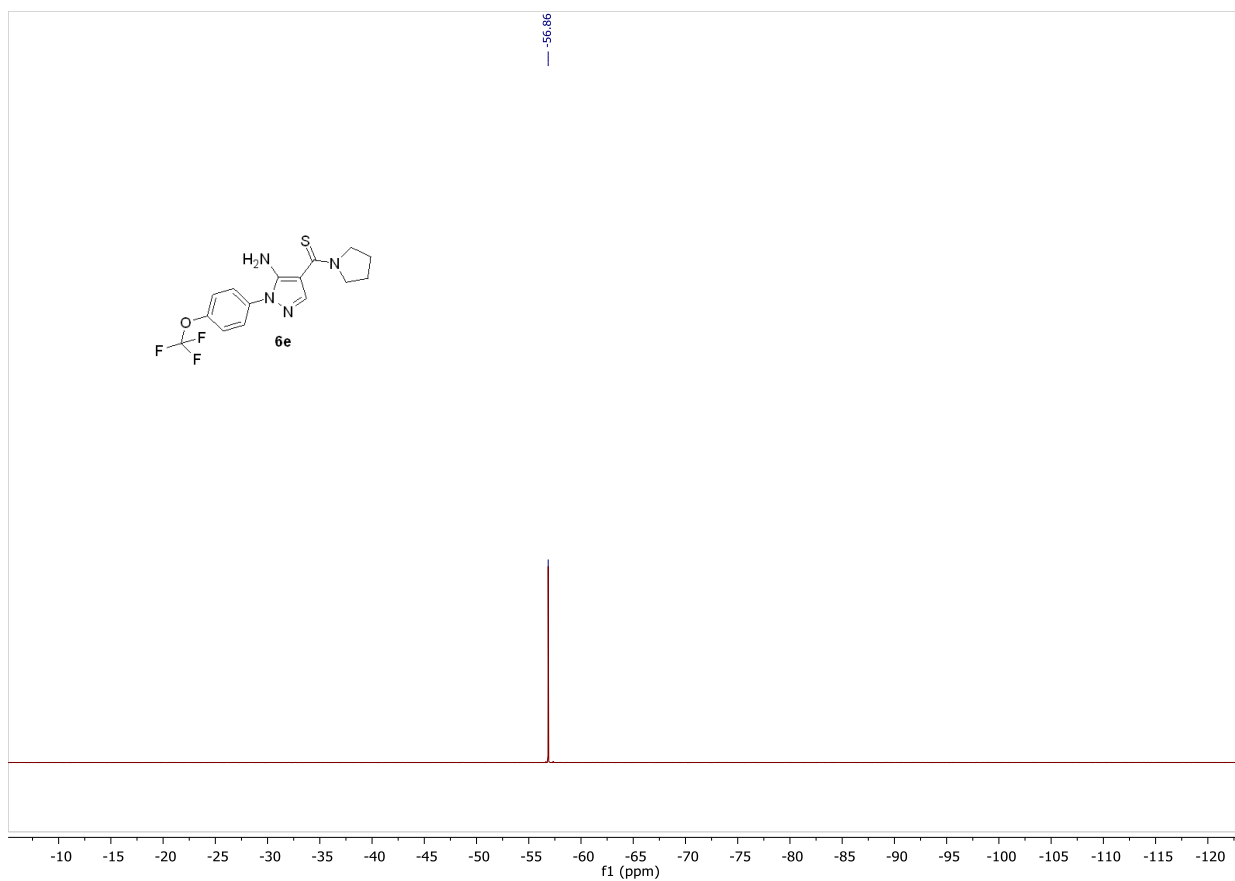


Figure S33. ^1H NMR spectrum (DMSO- d_6) of **6f**.

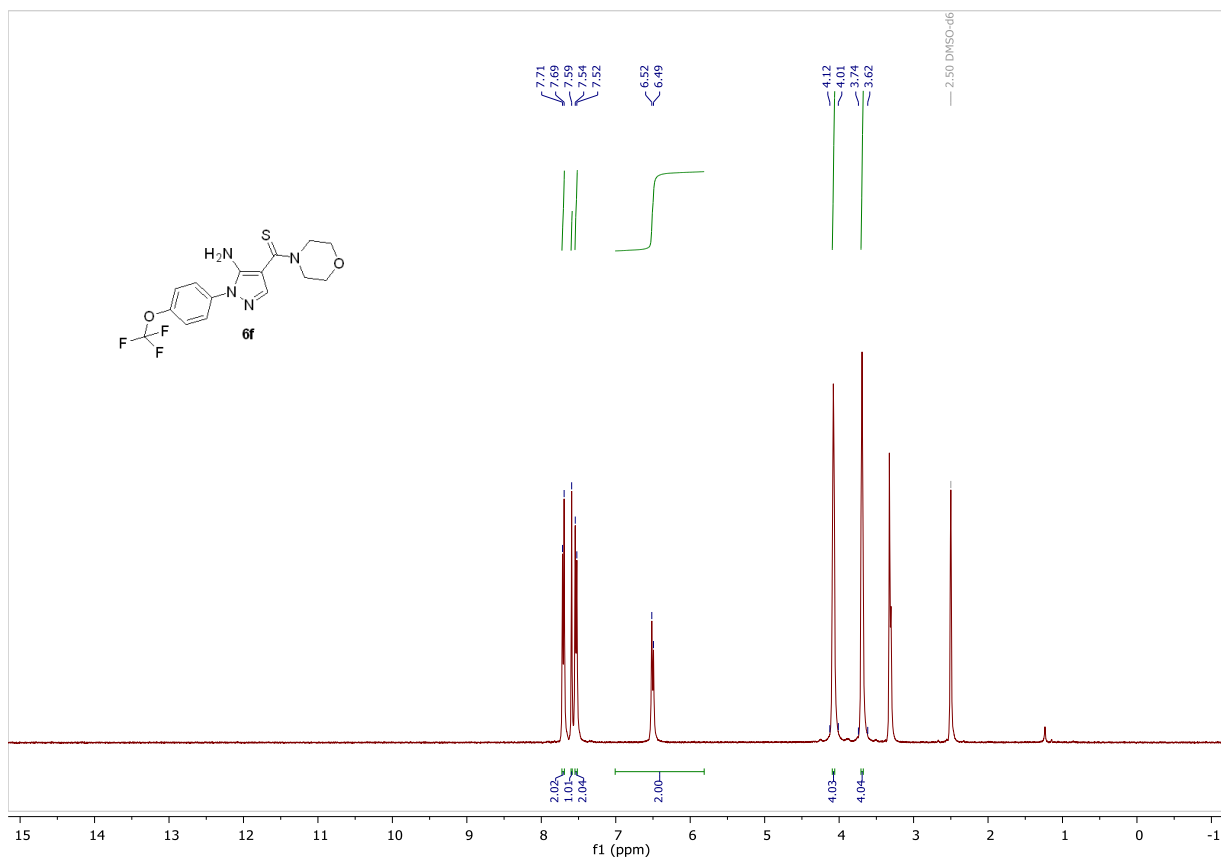


Figure S34. ^{13}C NMR spectrum (DMSO- d_6) of **6f**.

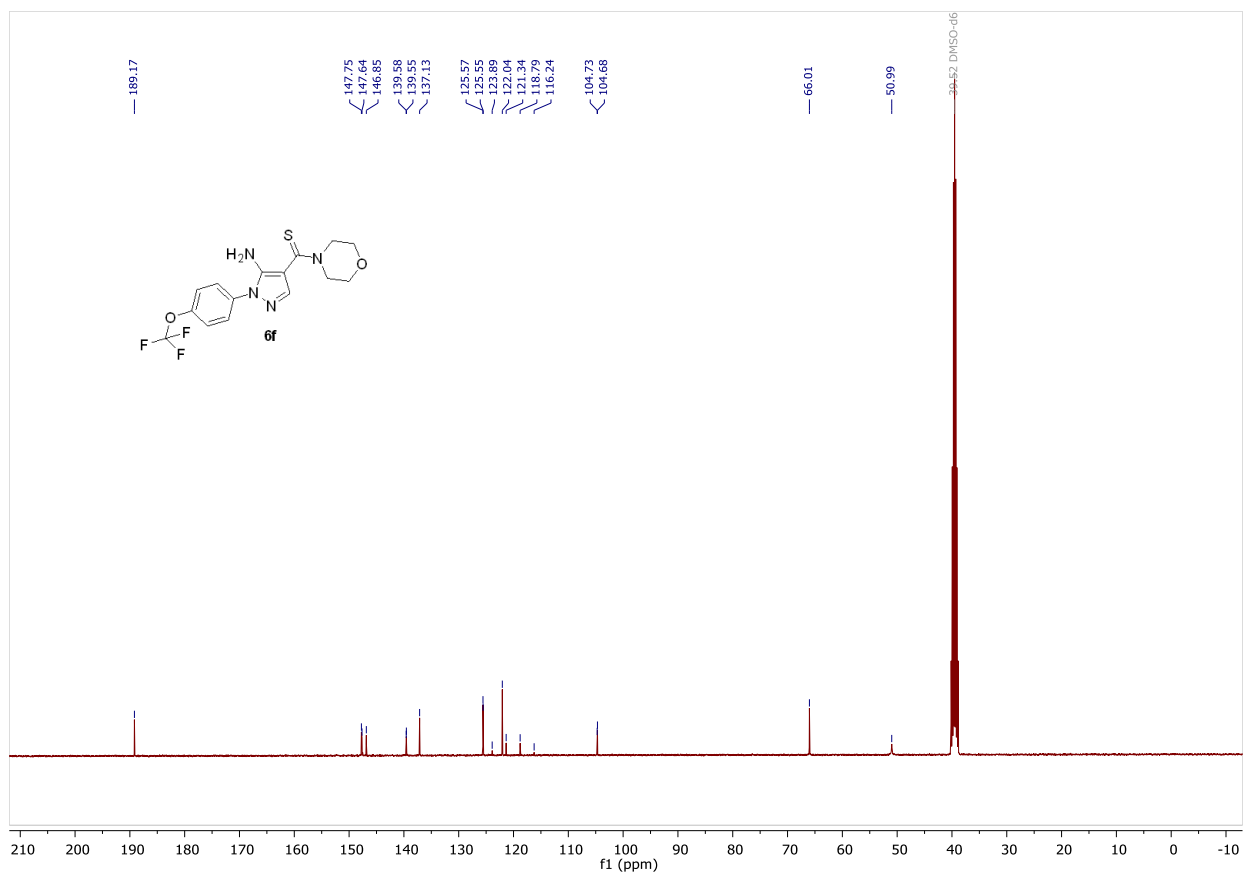


Figure S35. ^{19}F NMR spectrum (DMSO- d_6) of **6f**.

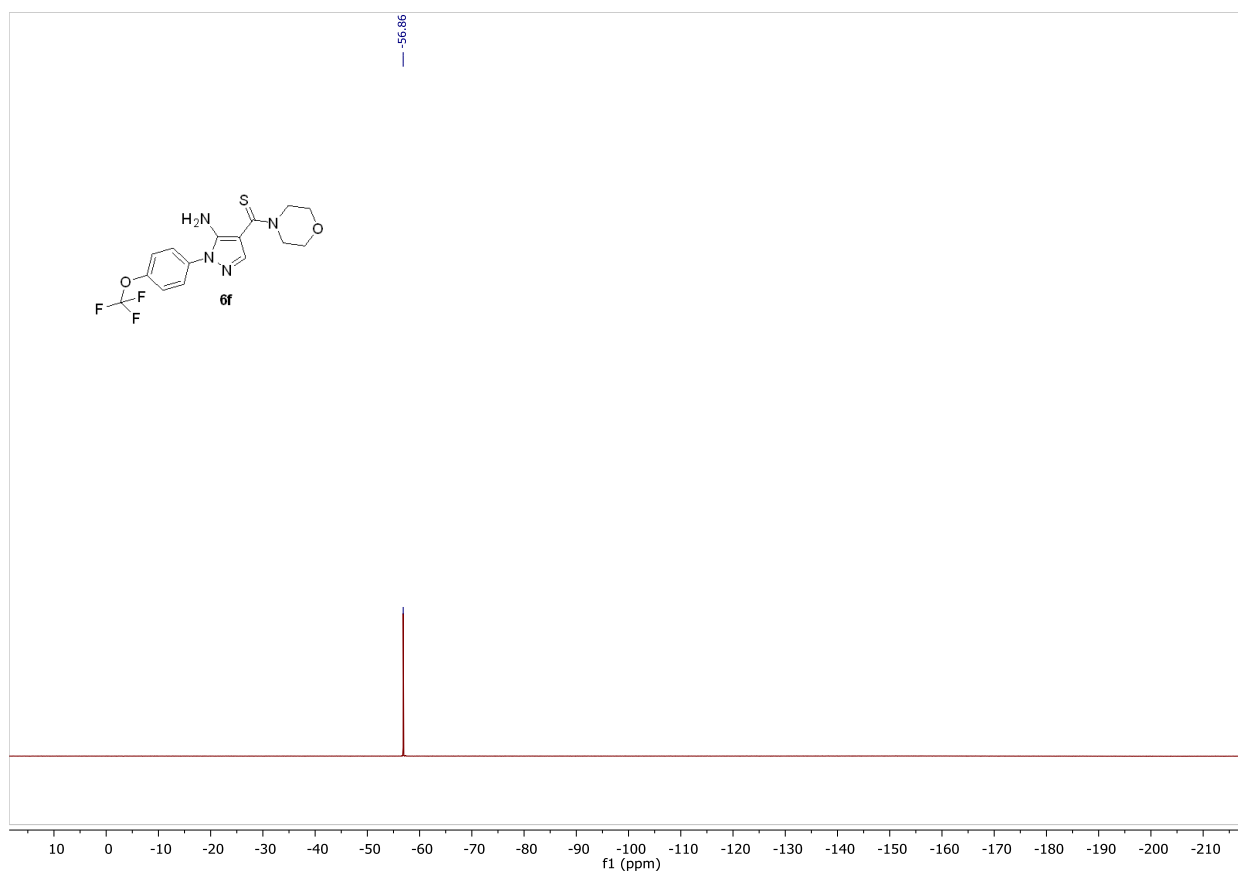


Figure S36. ^1H NMR spectrum (DMSO- d_6) of **7a**.

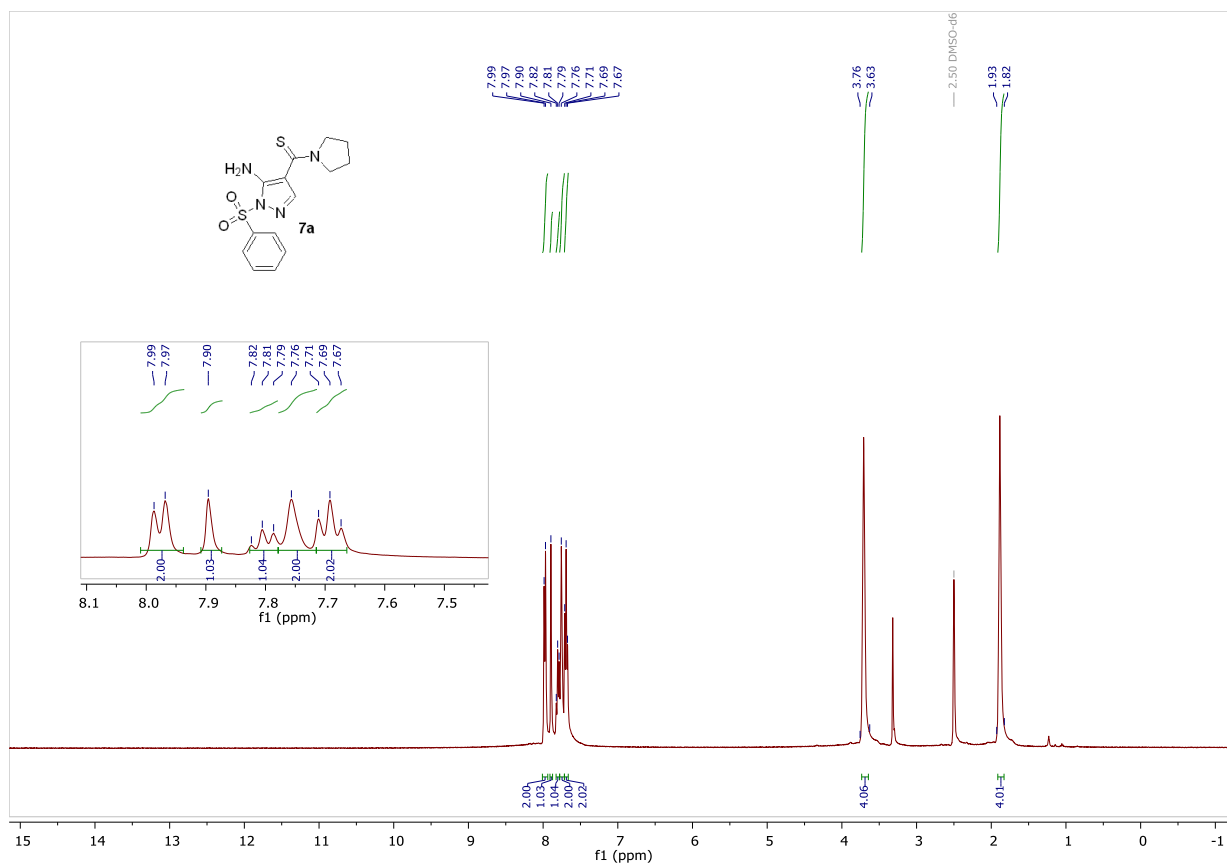


Figure S37. ^{13}C NMR spectrum (DMSO- d_6) of **7a**.

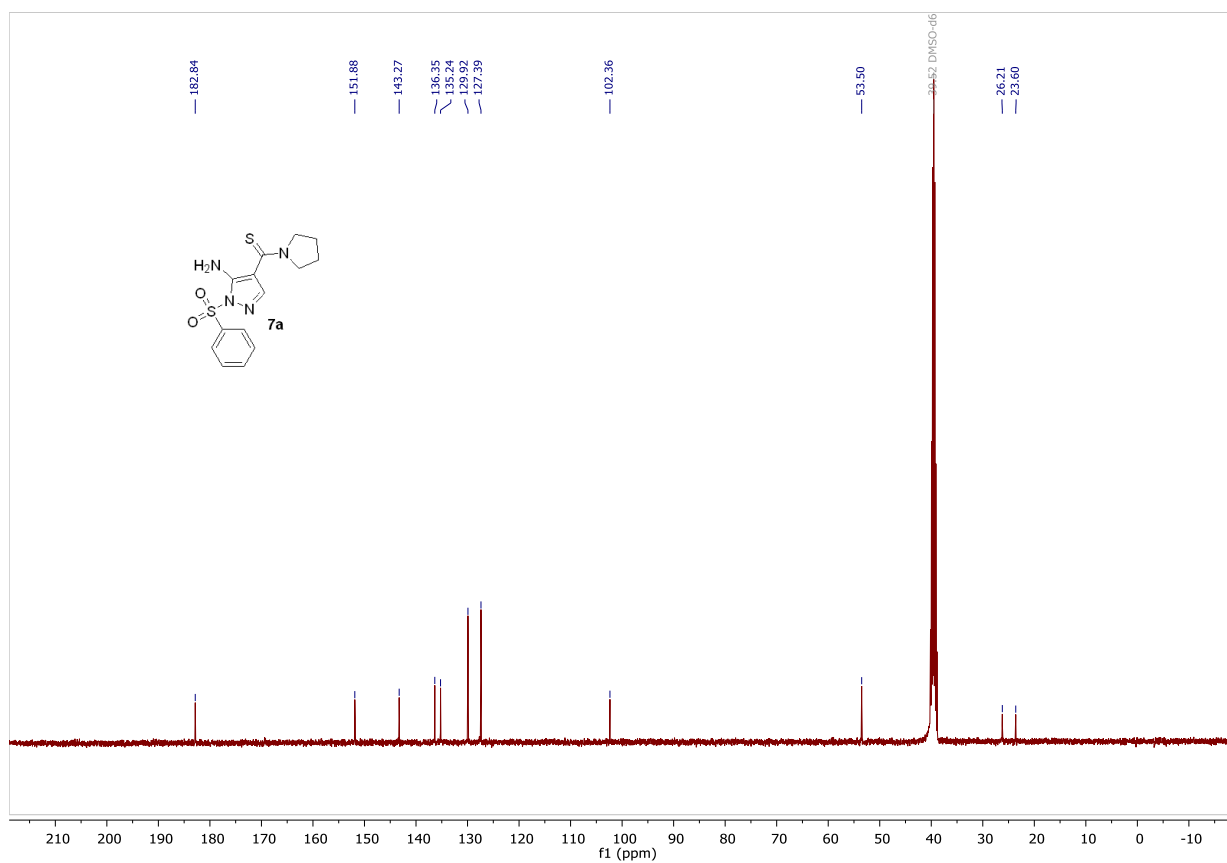


Figure S38. ^1H NMR spectrum (DMSO- d_6) of **7b**.

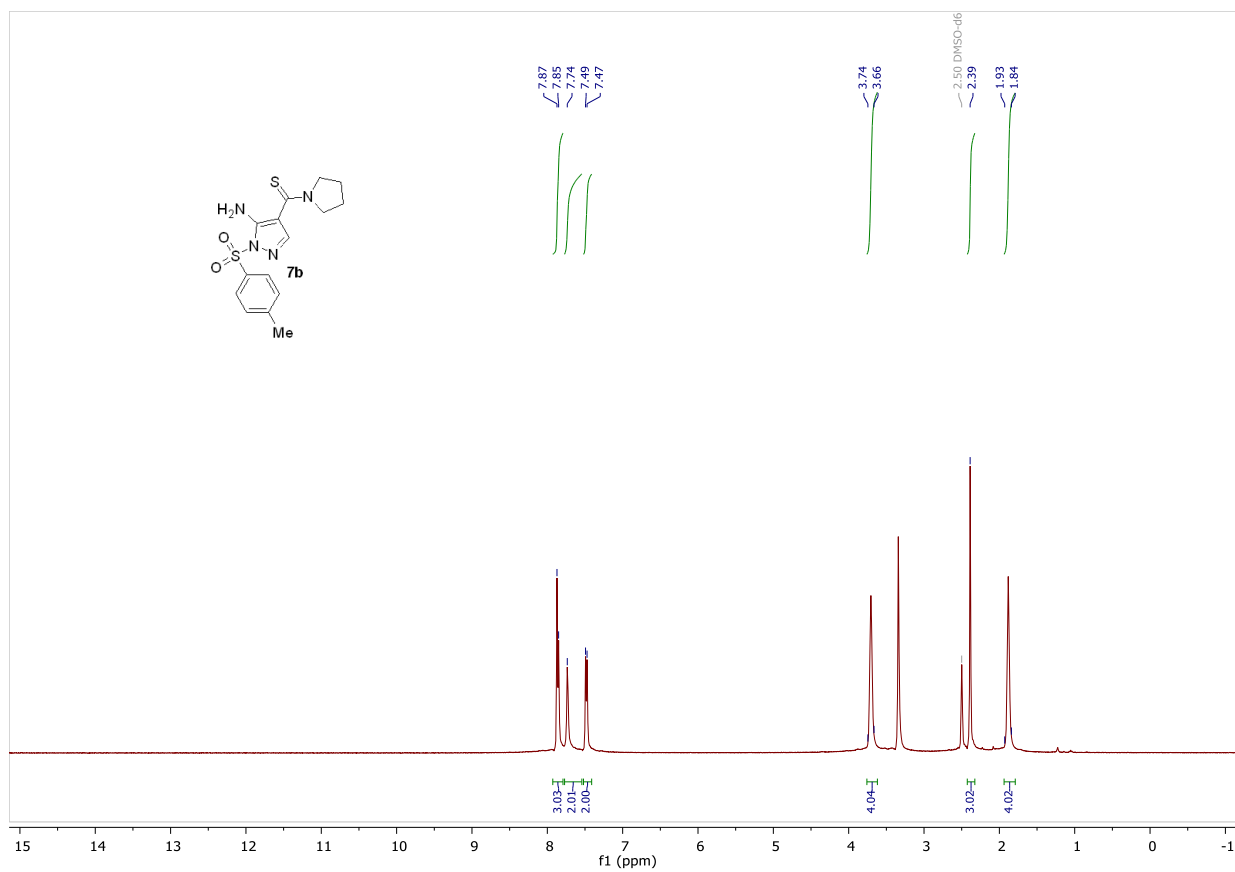


Figure S39. ^{13}C NMR spectrum (DMSO- d_6) of **7b**.

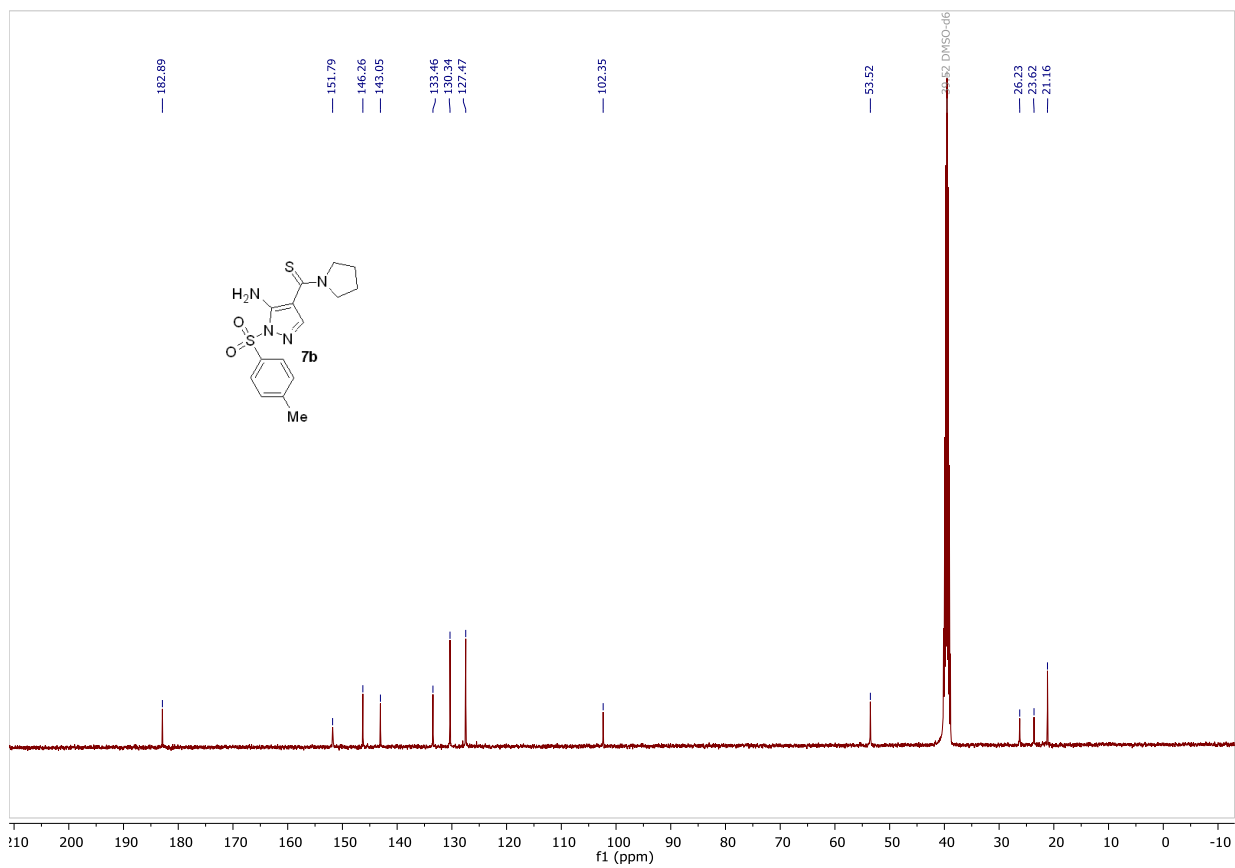


Figure S40. ^1H NMR spectrum (DMSO- d_6) of **7c**.

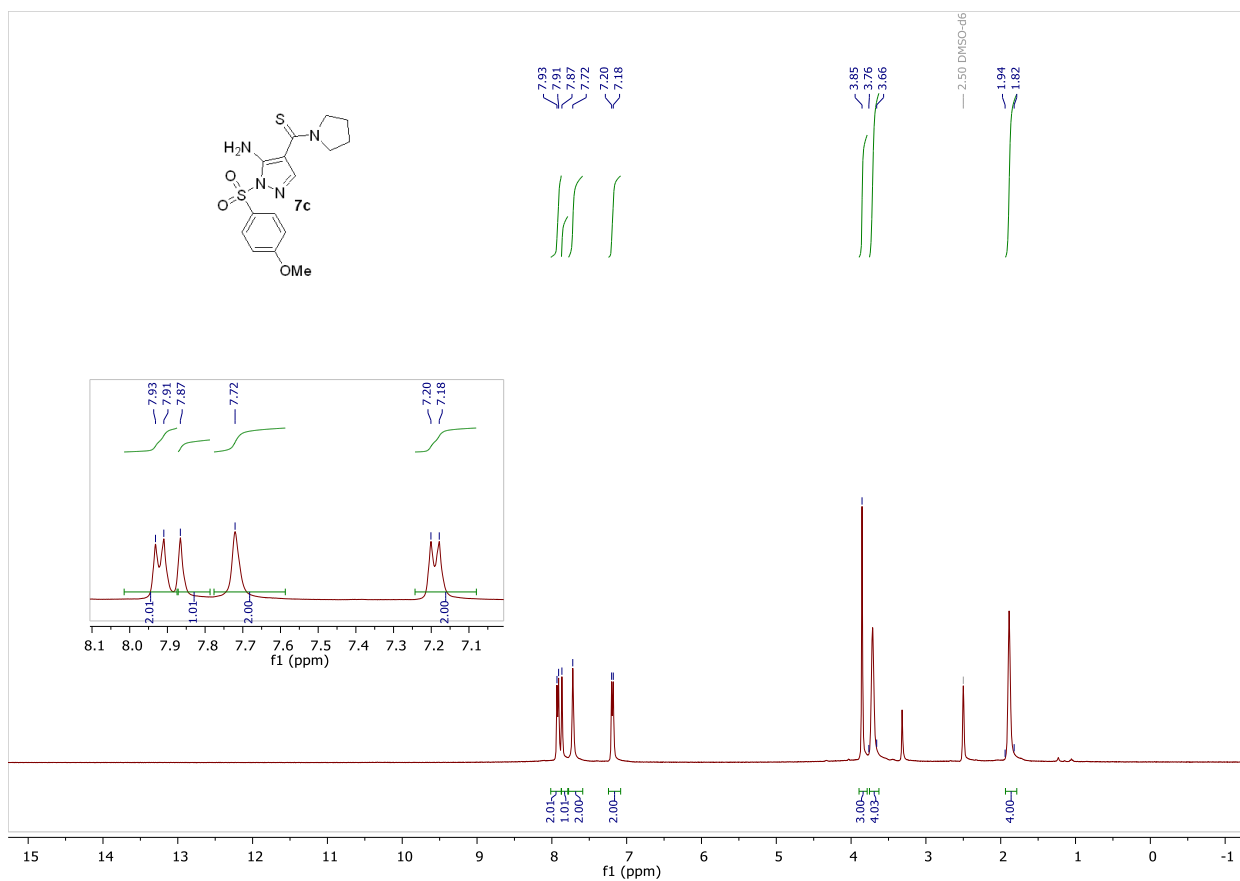


Figure S41. ^{13}C NMR spectrum (DMSO- d_6) of **7c**.

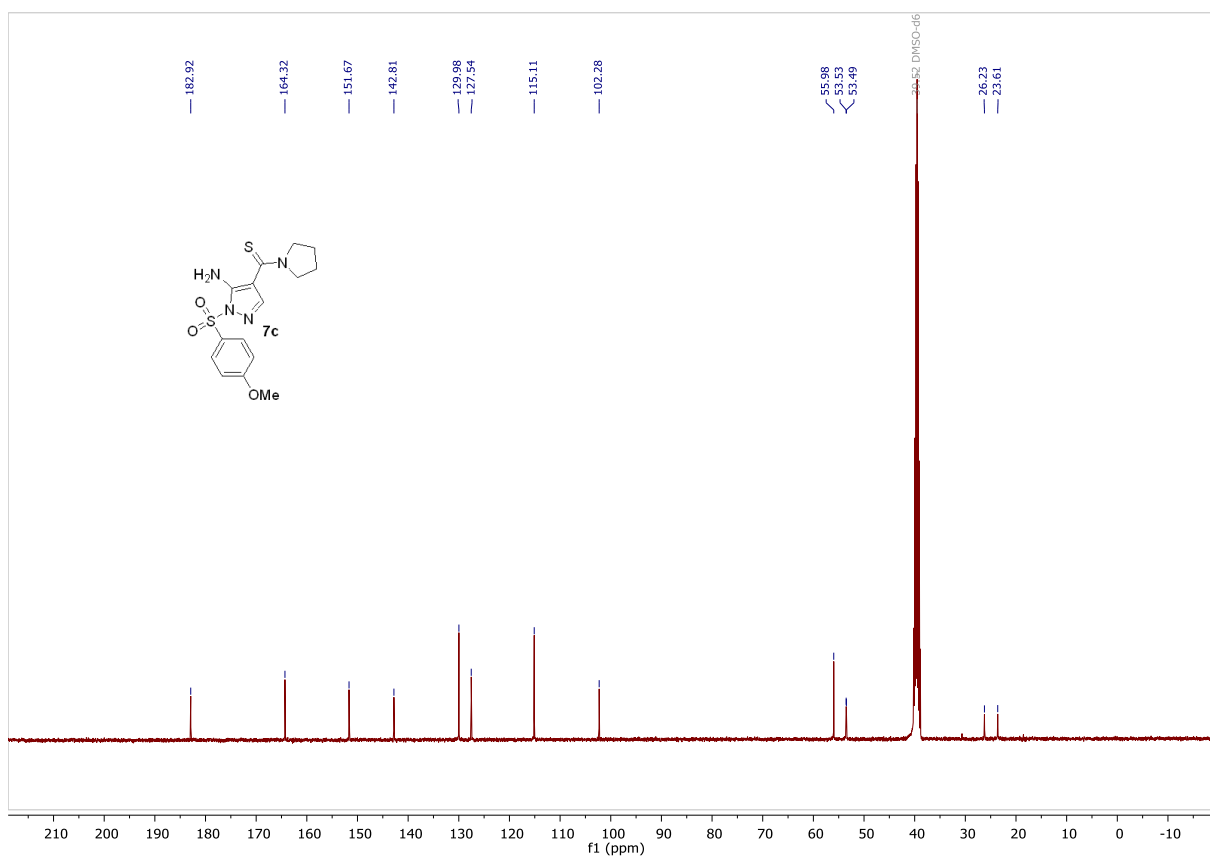


Figure S42. ^1H NMR spectrum (DMSO- d_6) of **7d**.

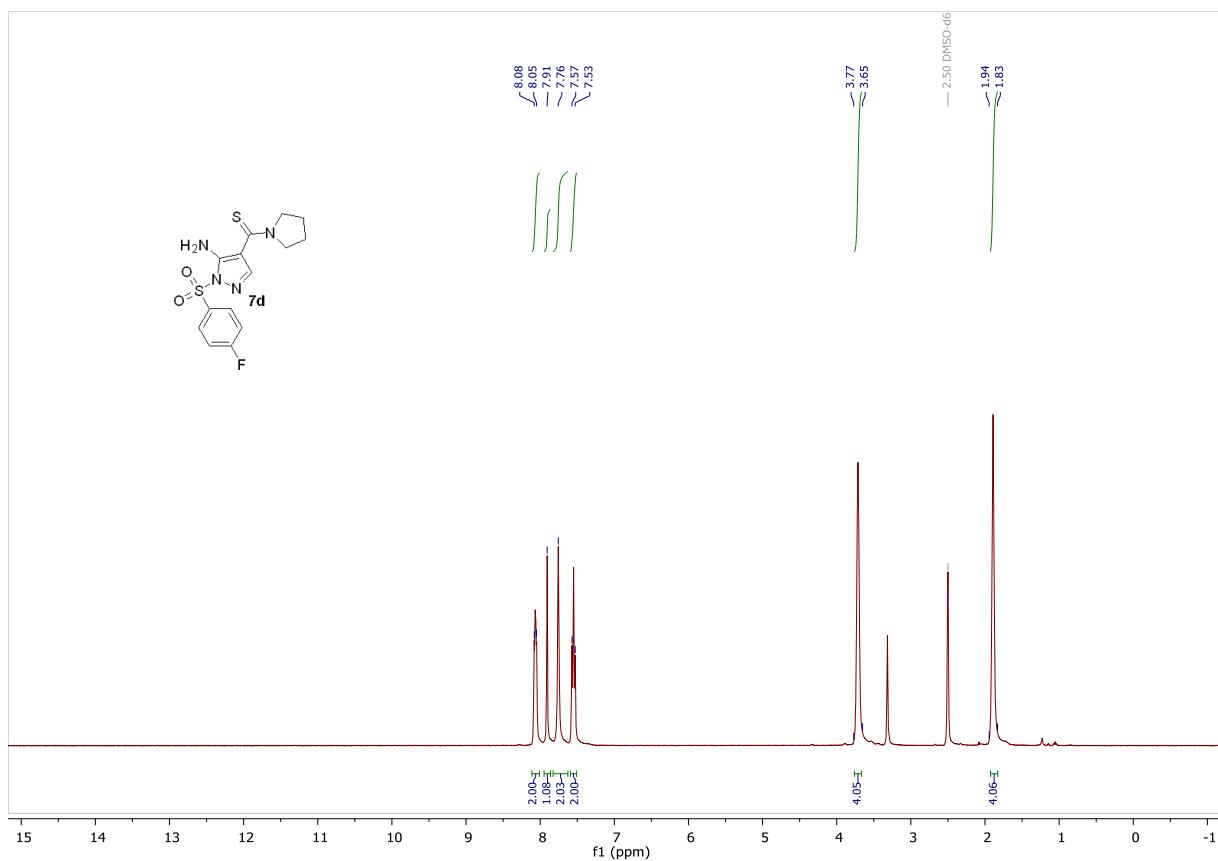


Figure S43. ^{13}C NMR spectrum (DMSO- d_6) of **7d**.

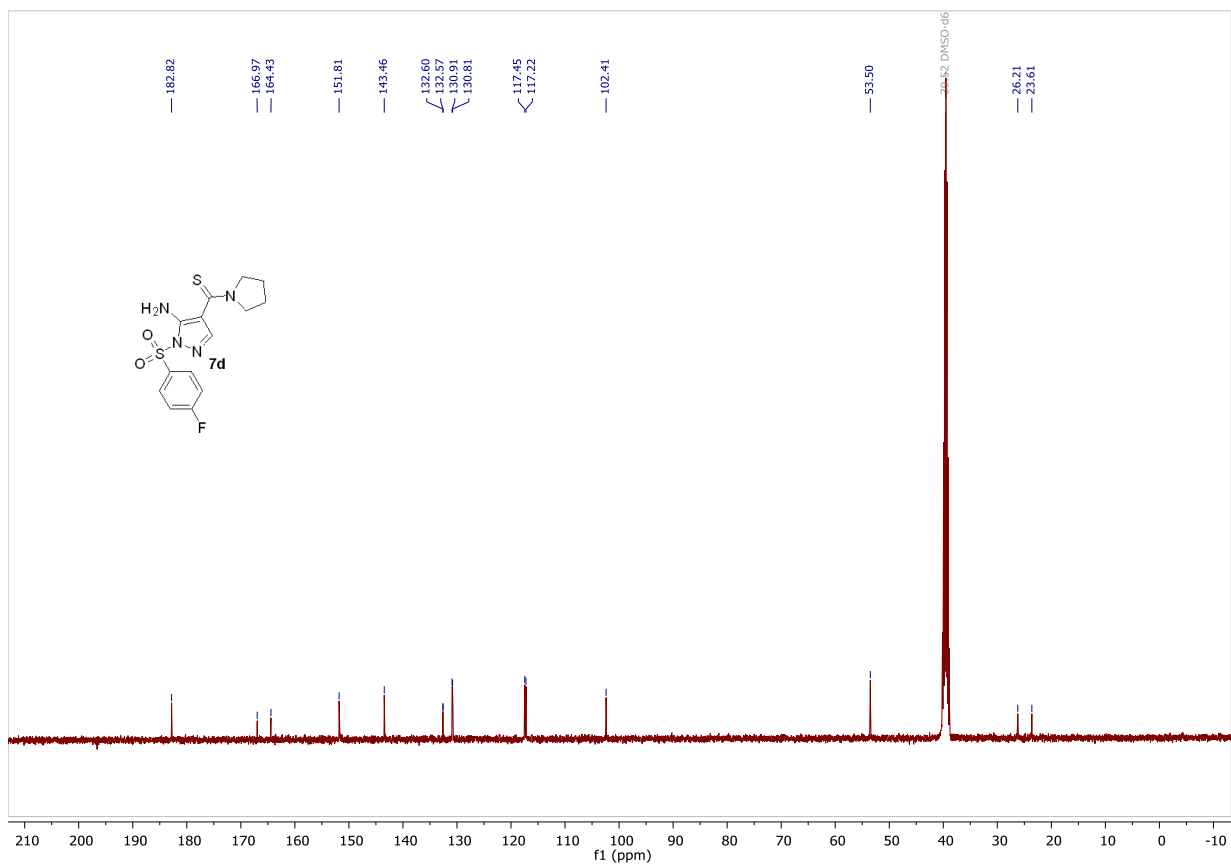


Figure S44. ^{19}F NMR spectrum (DMSO- d_6) of **7d**.

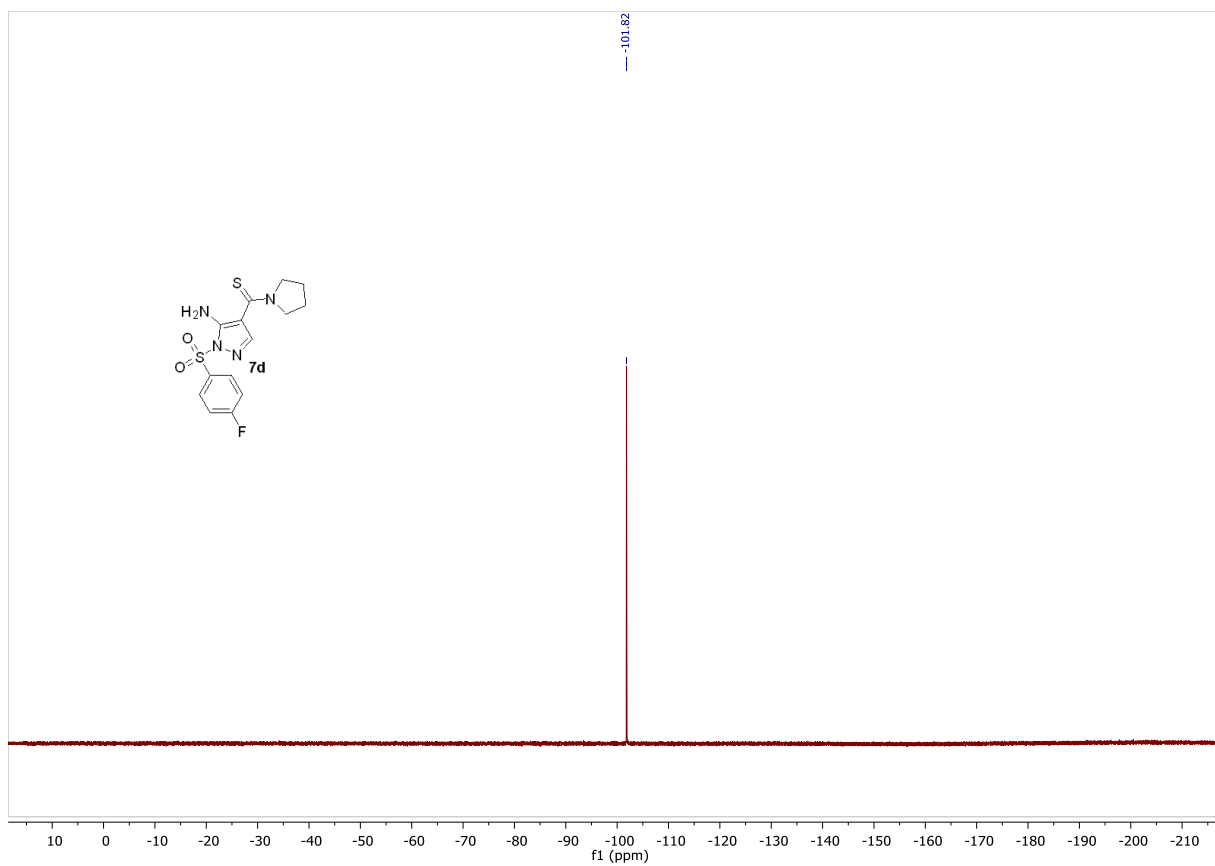


Figure S45. ^1H NMR spectrum (DMSO- d_6) of **7e**.

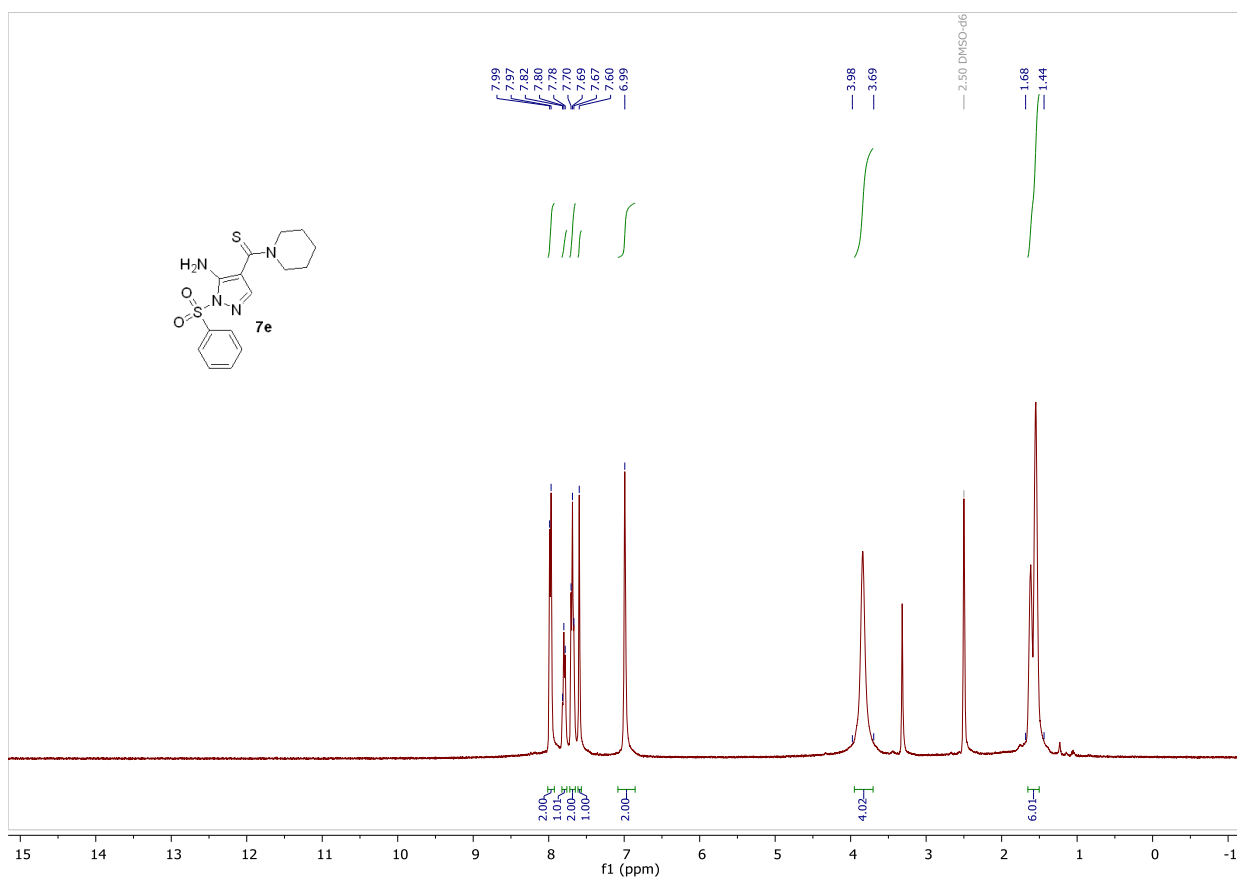


Figure S46. ^{13}C NMR spectrum (DMSO- d_6) of **7e**.

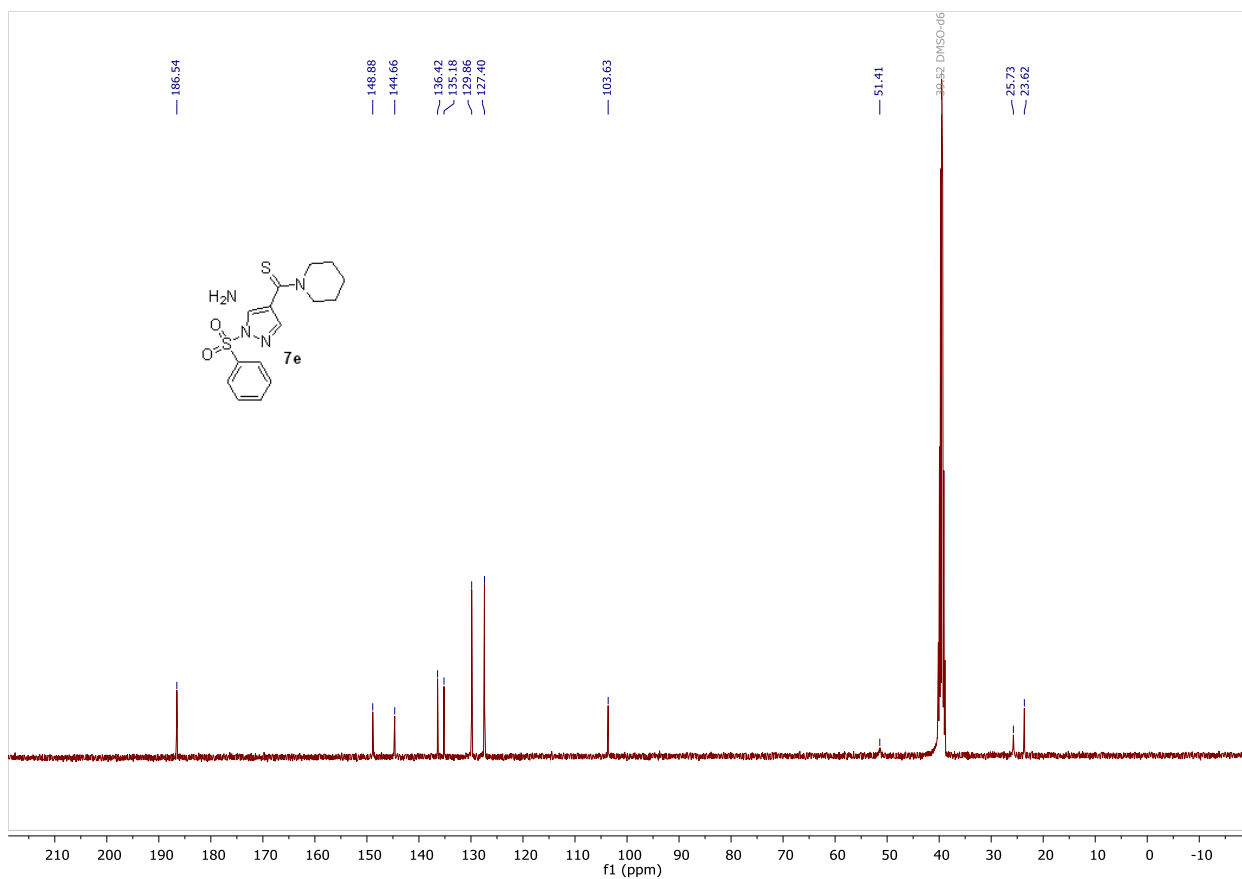


Figure S47. ^1H NMR spectrum (DMSO- d_6) of **7f**.

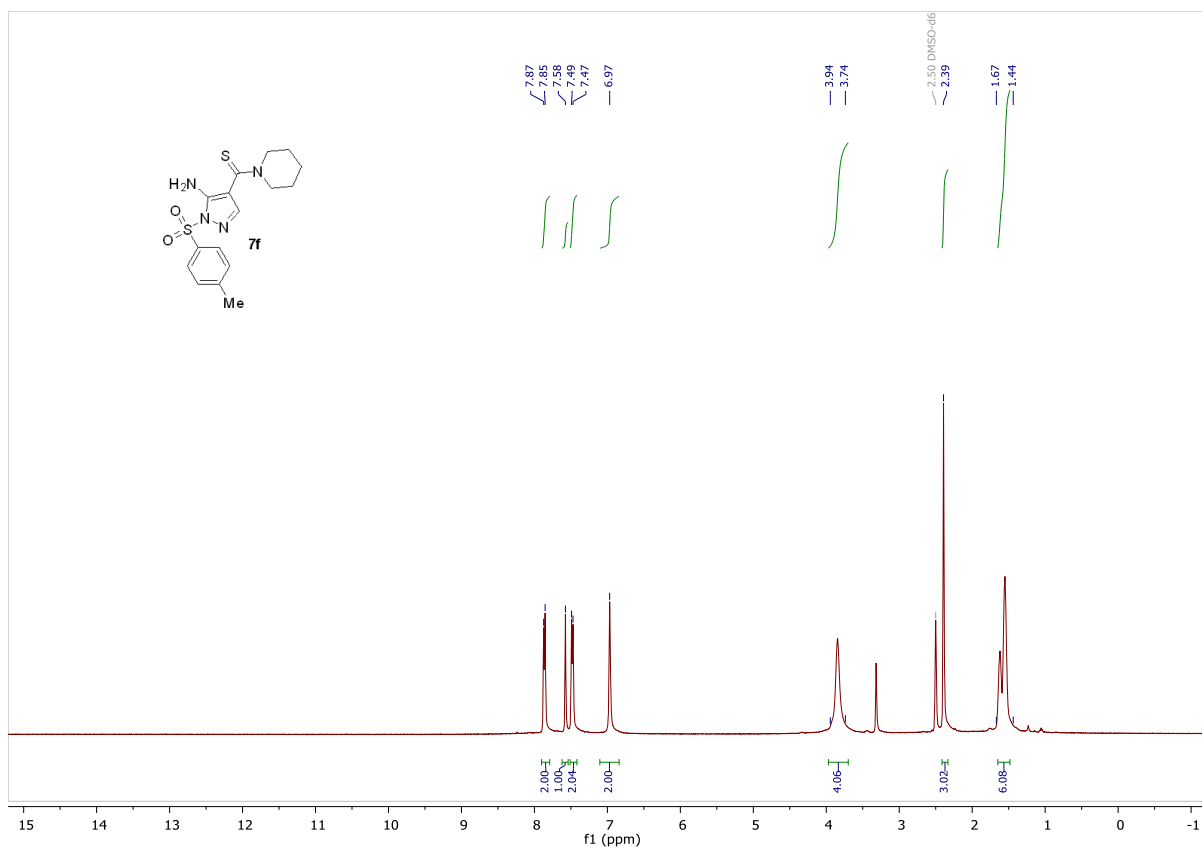


Figure S48. ^{13}C NMR spectrum (DMSO- d_6) of **7f**.

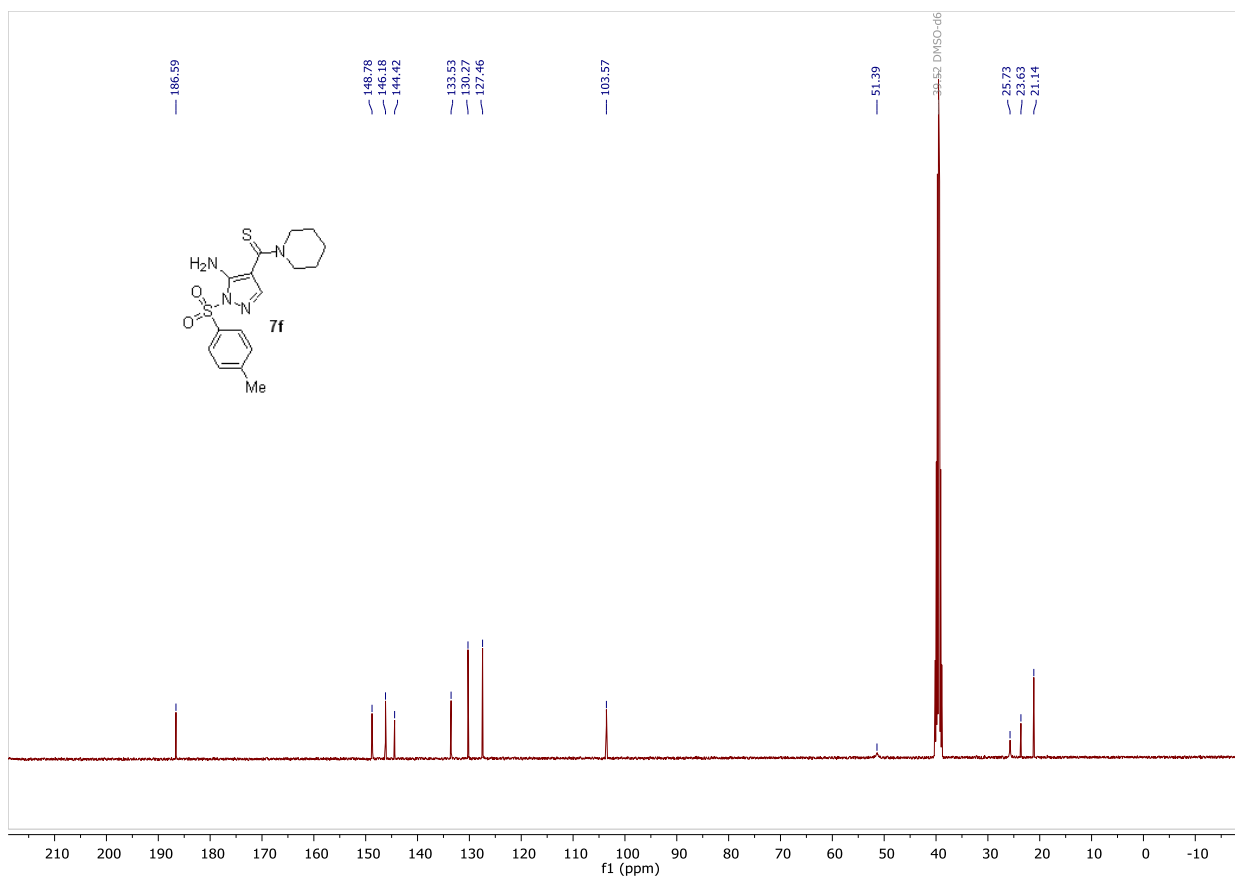


Figure S49. ^1H NMR spectrum (DMSO- d_6) of **7g**.

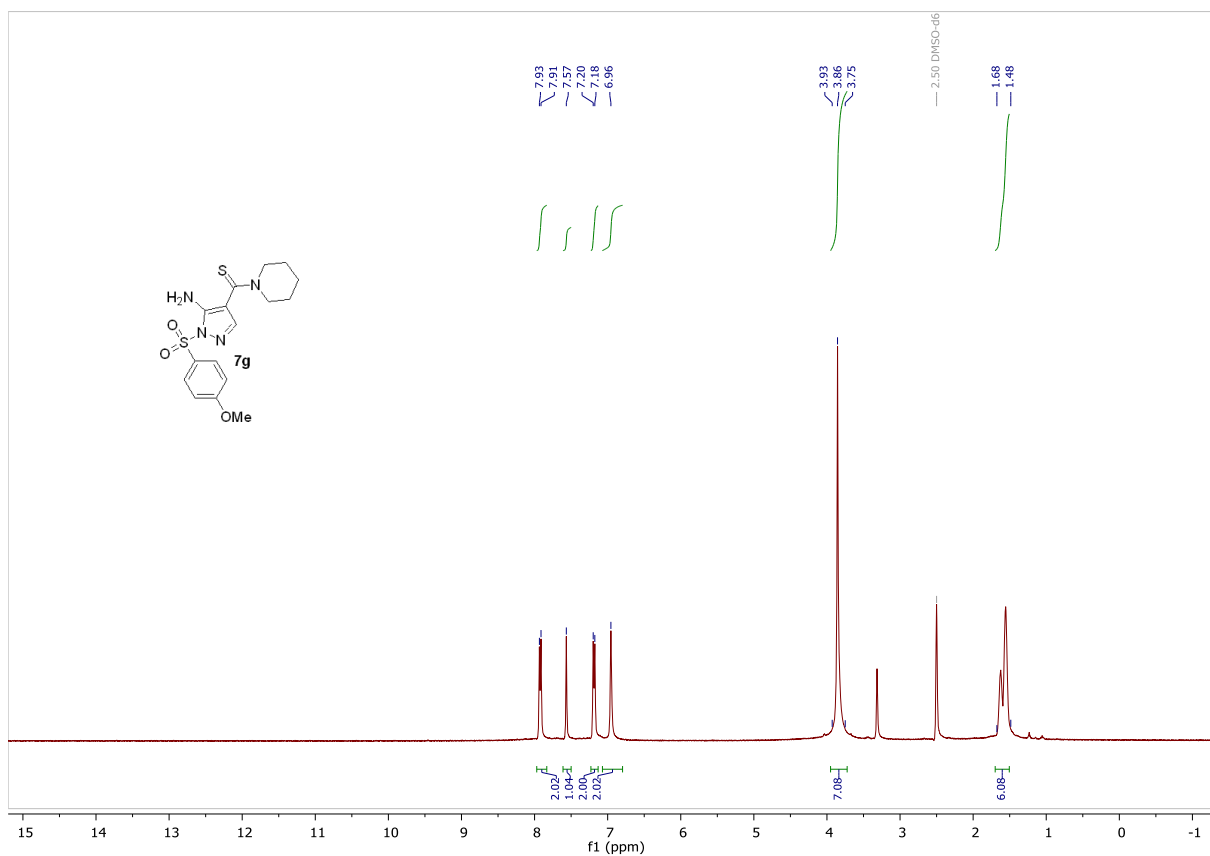


Figure S50. ^{13}C NMR spectrum (DMSO- d_6) of **7g**.

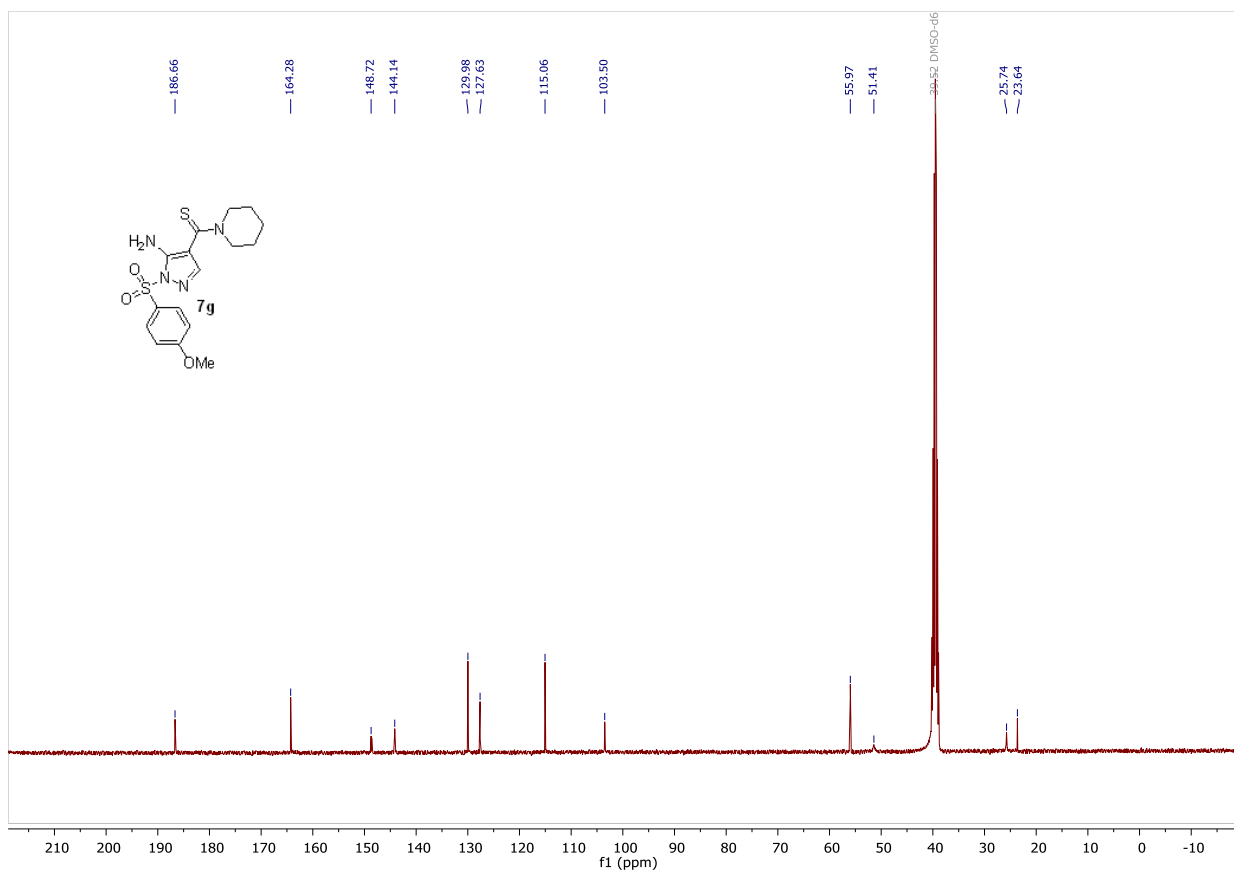


Figure S51. ^1H NMR spectrum (DMSO- d_6) of **7h**.

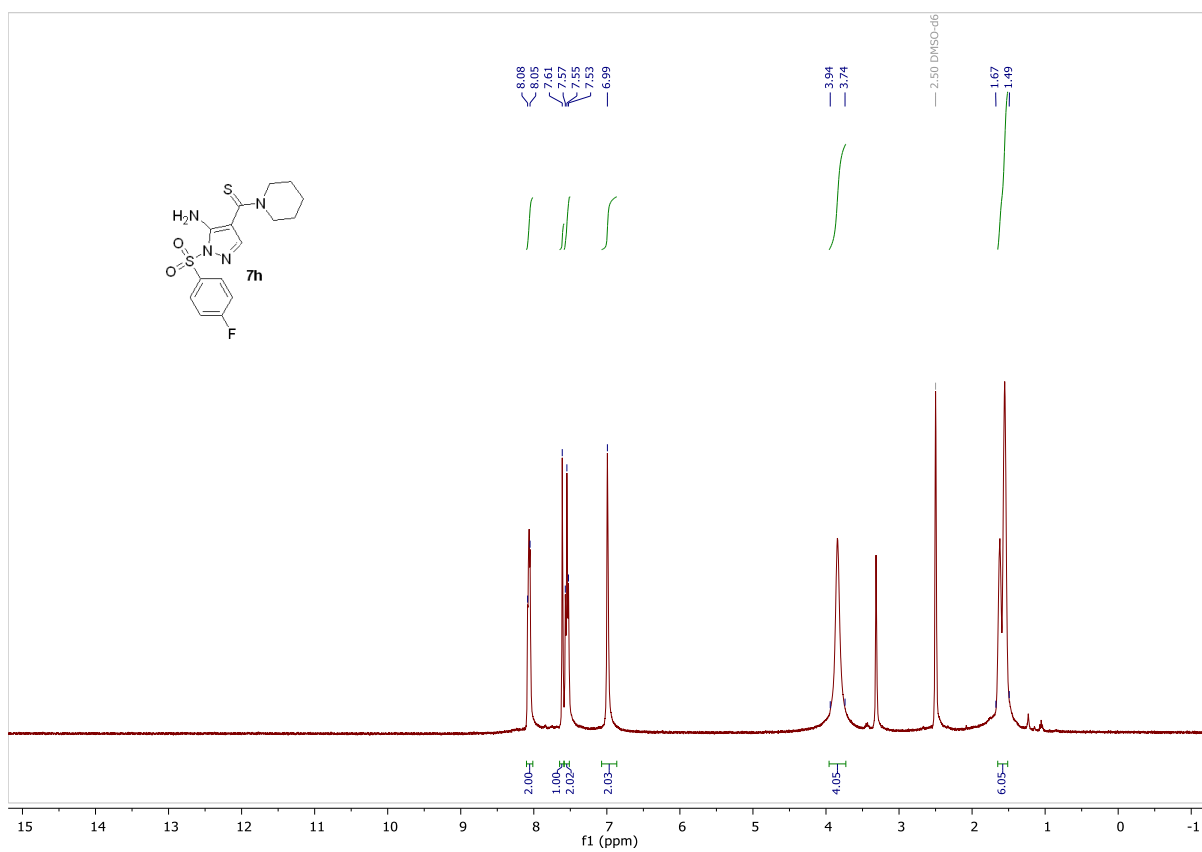


Figure S52. ^{13}C NMR spectrum (DMSO- d_6) of **7h**.

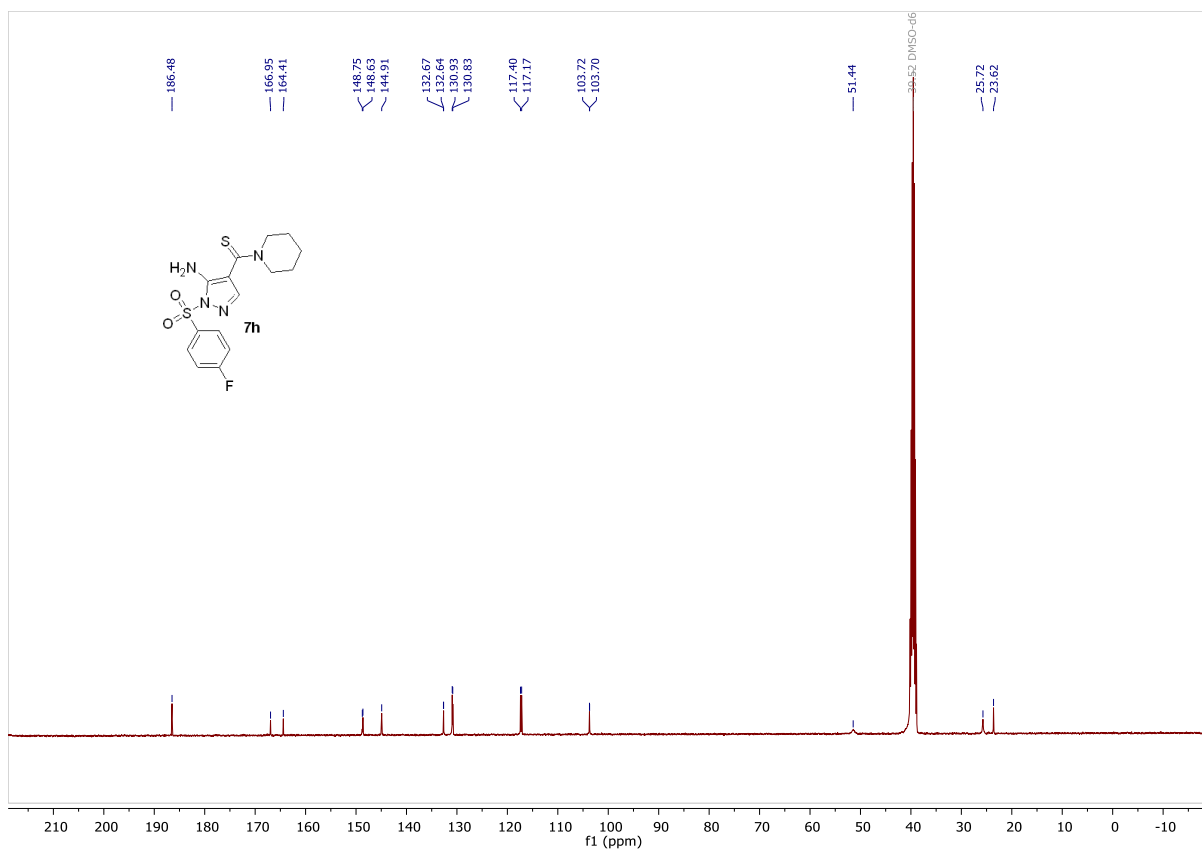


Figure S53. ^1H NMR spectrum (DMSO- d_6) of **7i**.

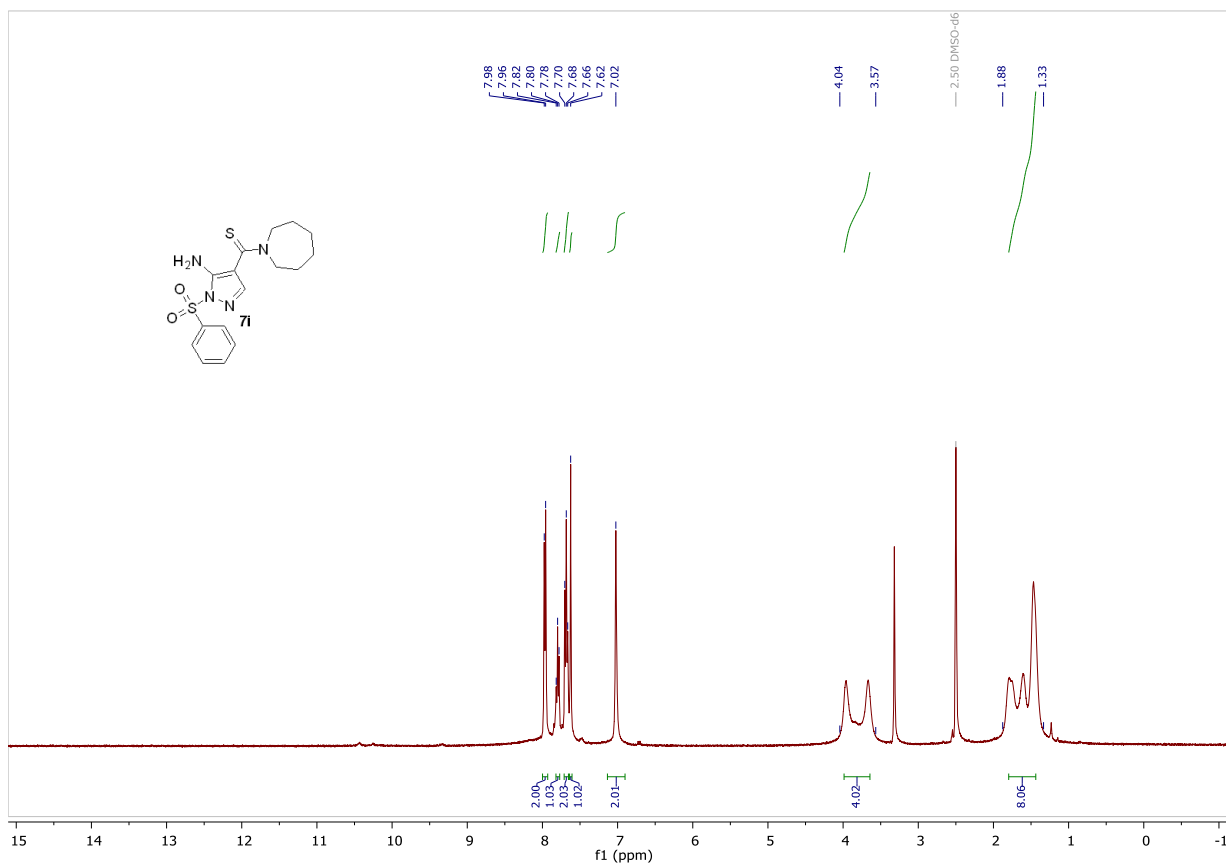


Figure S54. ^{13}C NMR spectrum (DMSO- d_6) of **7i**.

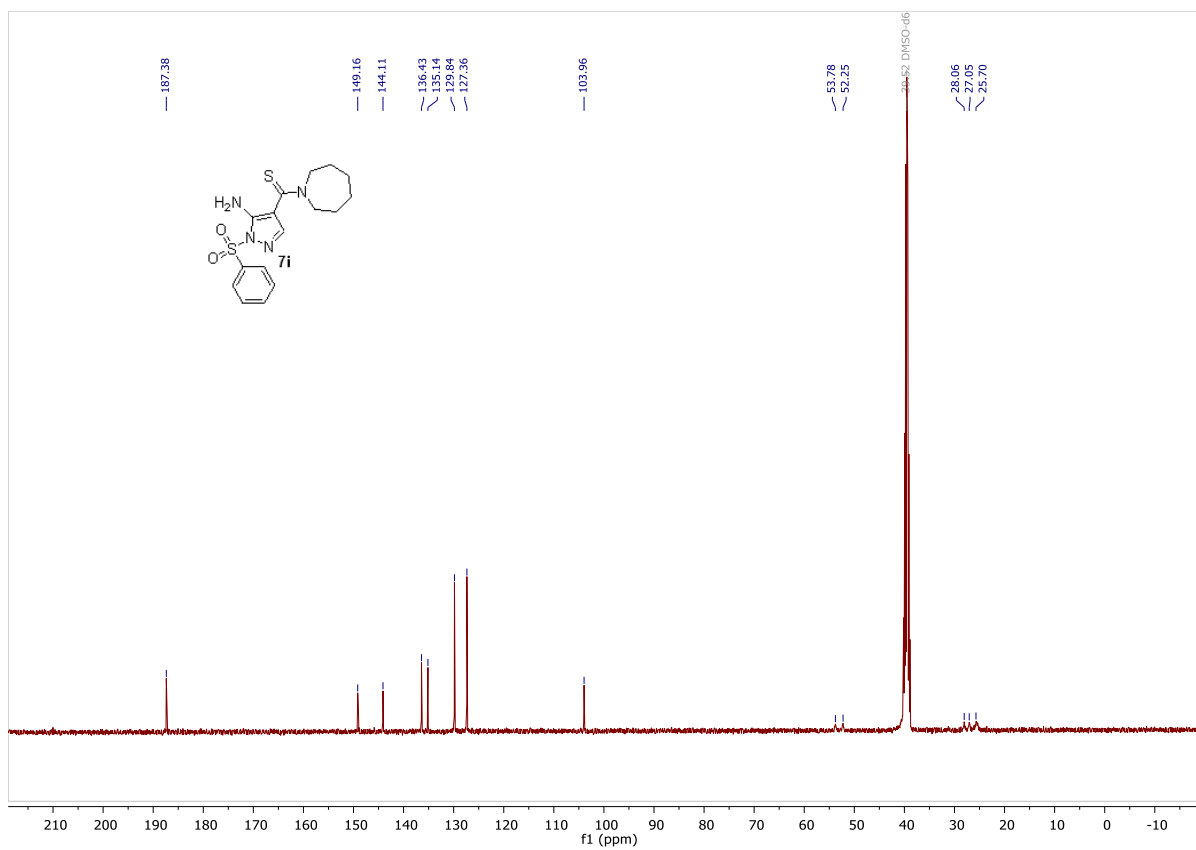


Figure S55. ^1H NMR spectrum (DMSO- d_6) of **7j**.

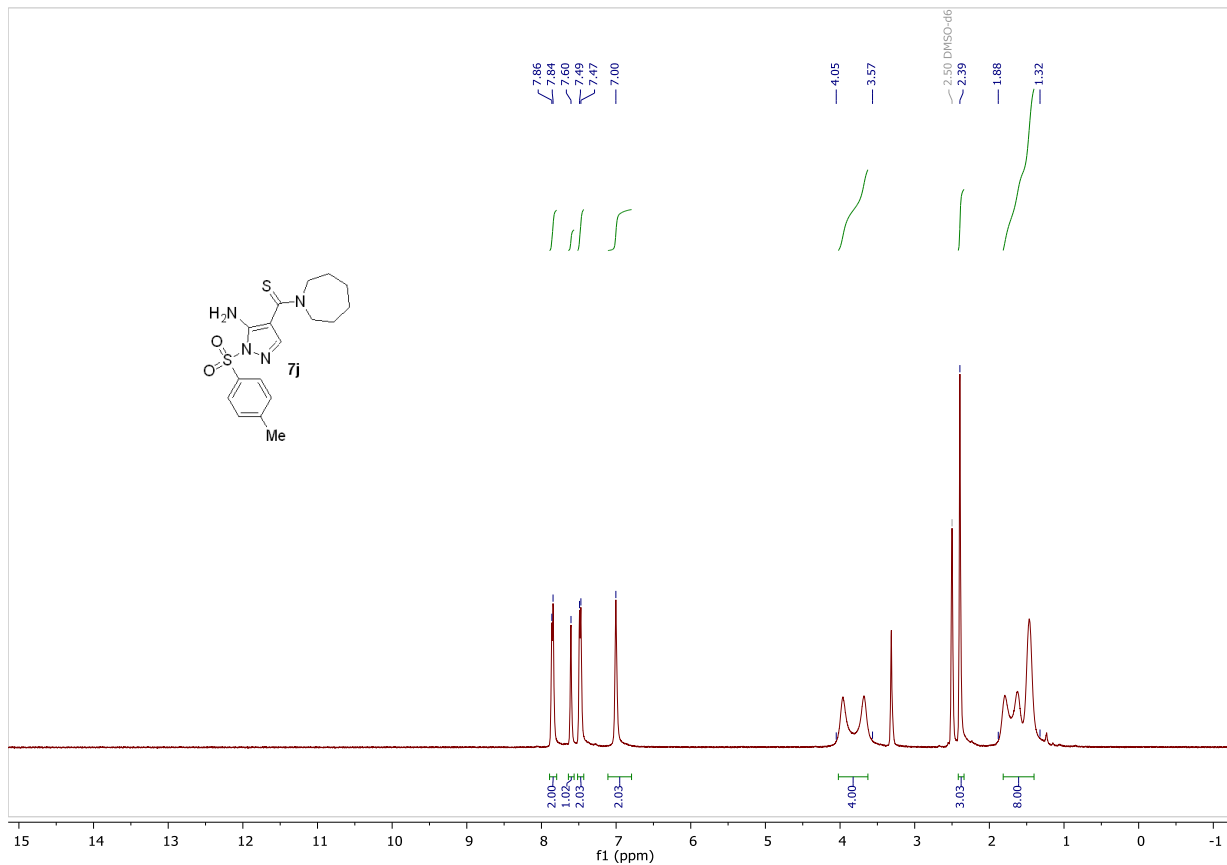


Figure S56. ^{13}C NMR spectrum (DMSO- d_6) of **7j**.

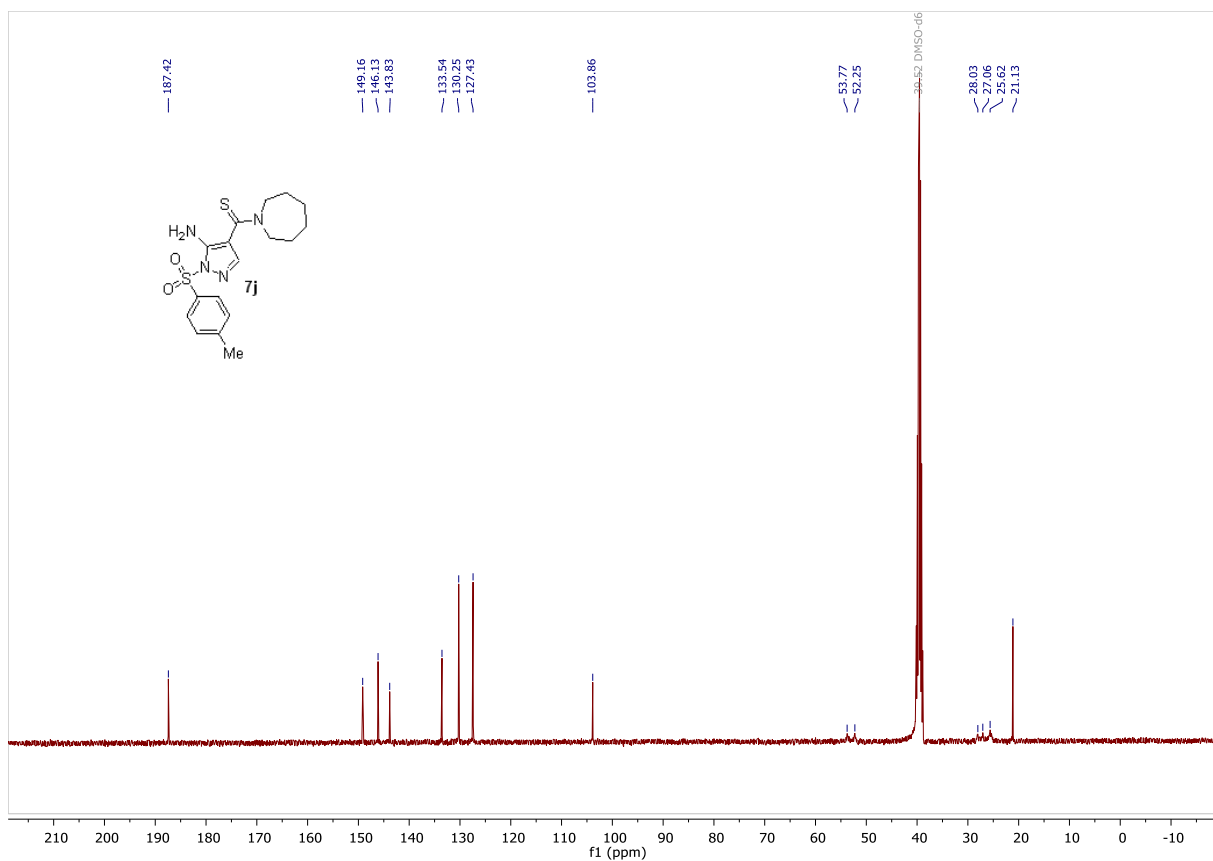


Figure S57. ^1H NMR spectrum (DMSO- d_6) of **7k**.

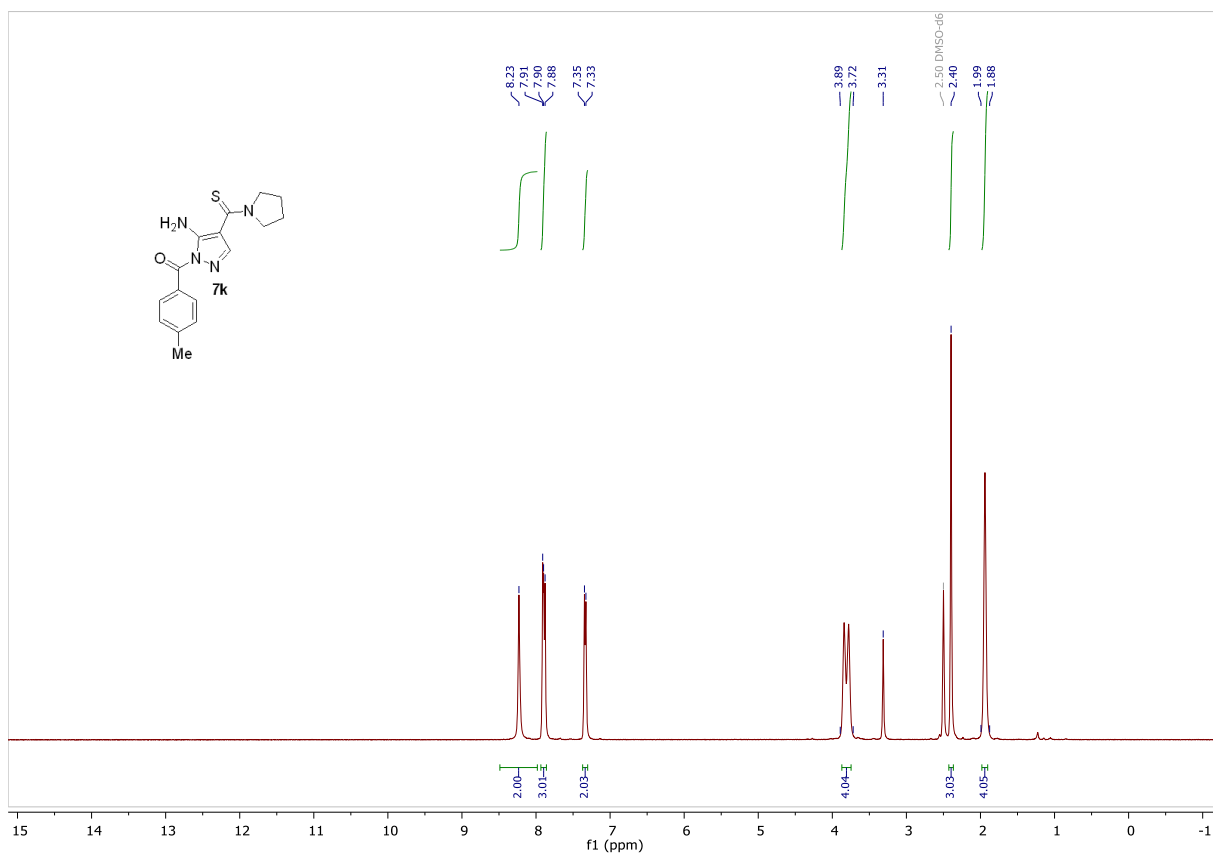


Figure S58. ^{13}C NMR spectrum (DMSO- d_6) of **7k**.

