

Base free regioselective synthesis of α -triazolylazine derivatives

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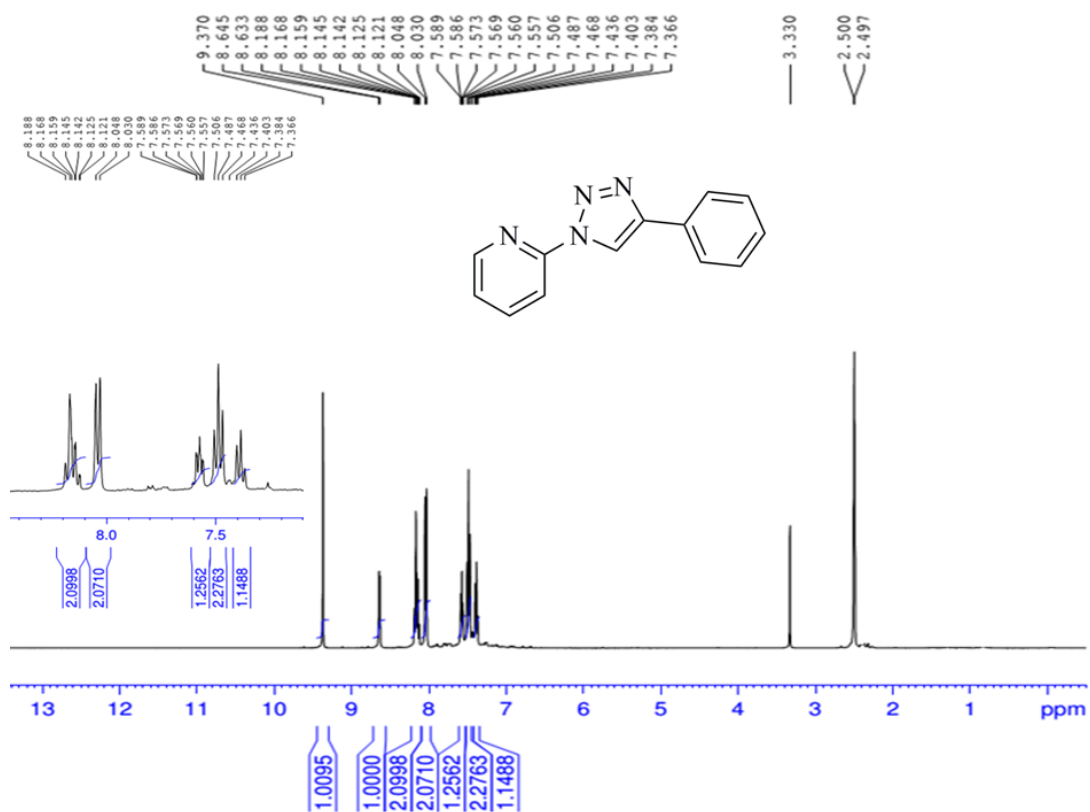


Figure 1. ¹H NMR spectrum of 4a

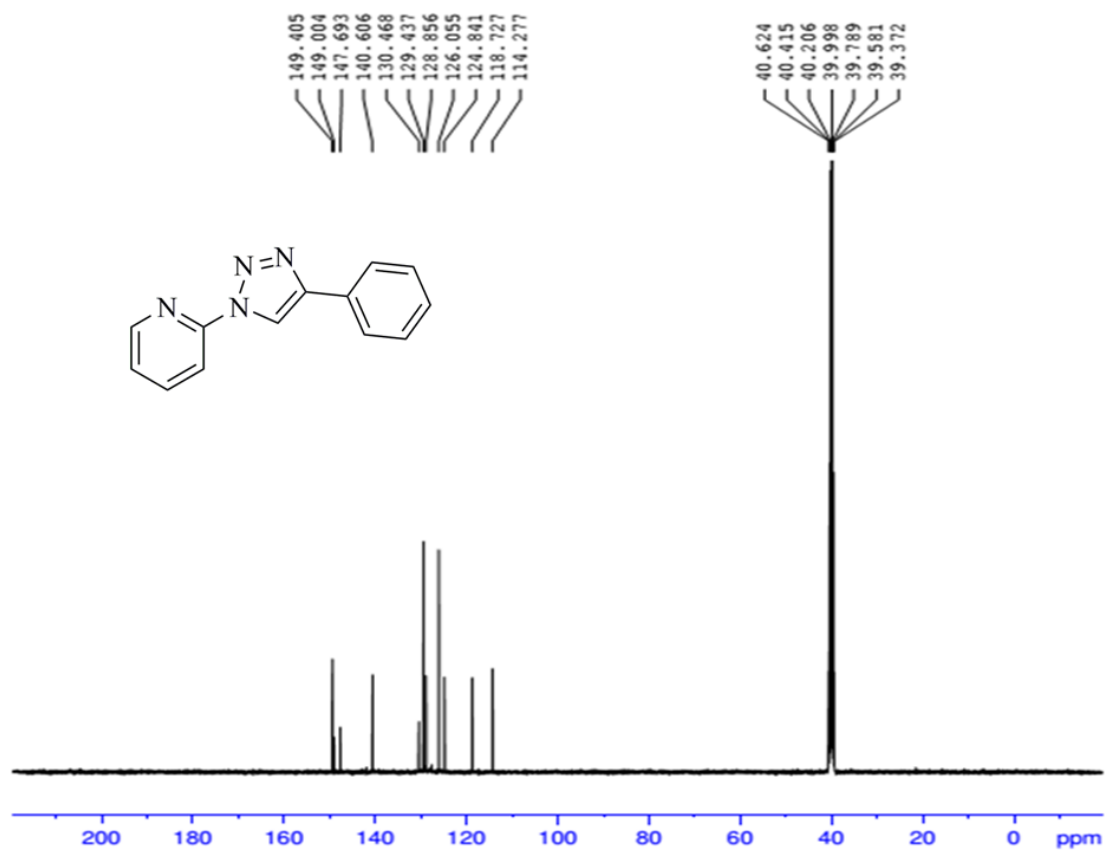


Figure 2. ¹³C NMR spectrum of 4a

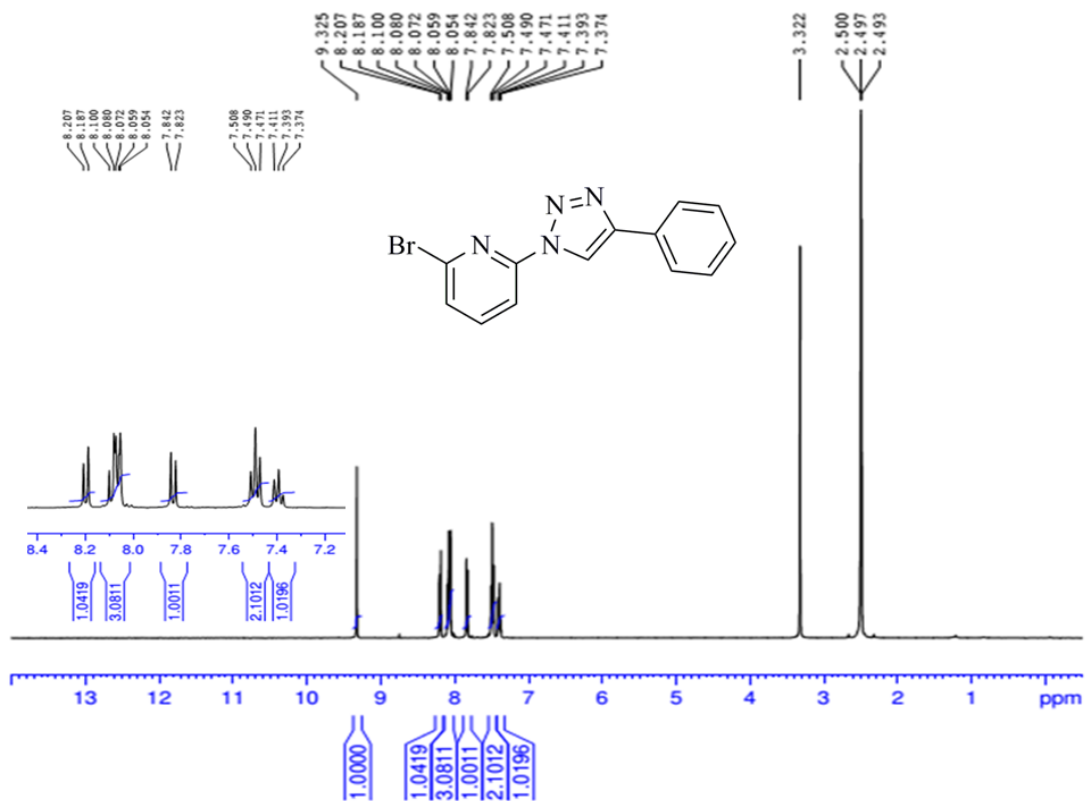


Figure 5. ¹H NMR spectrum of **4b**

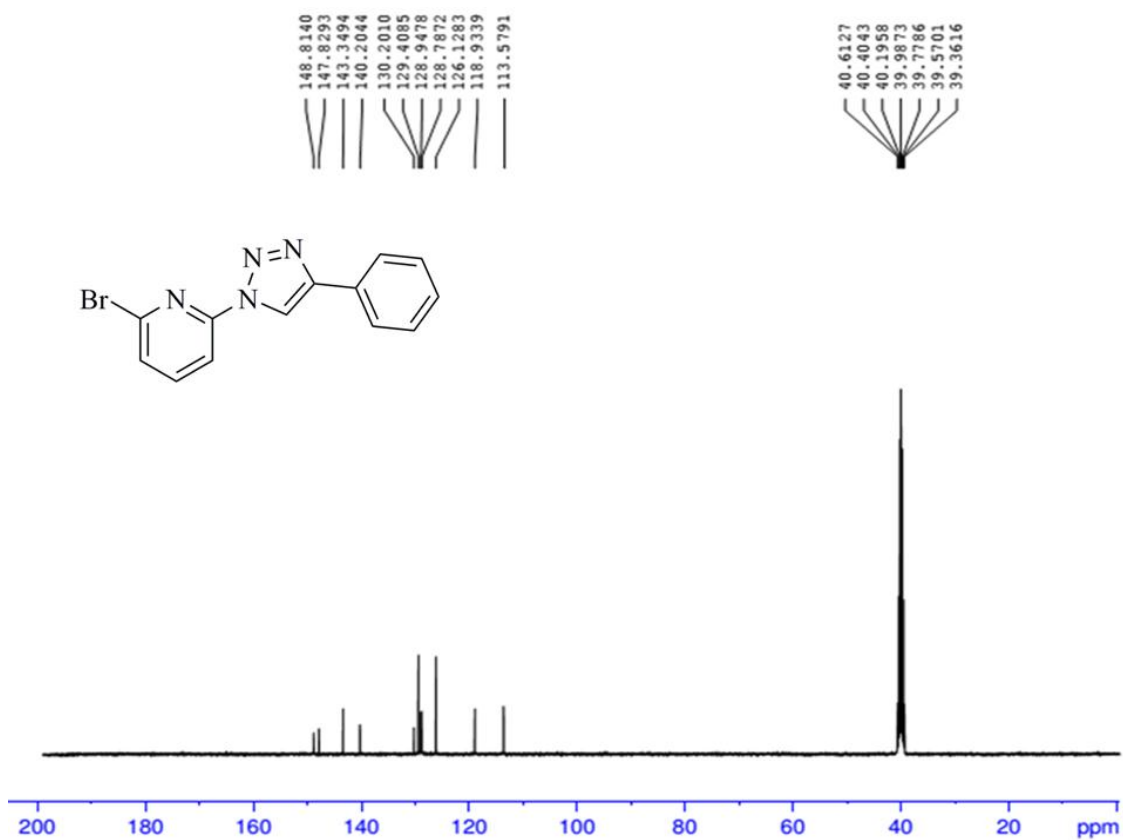


Figure 6. ¹³C NMR spectrum of **4b**

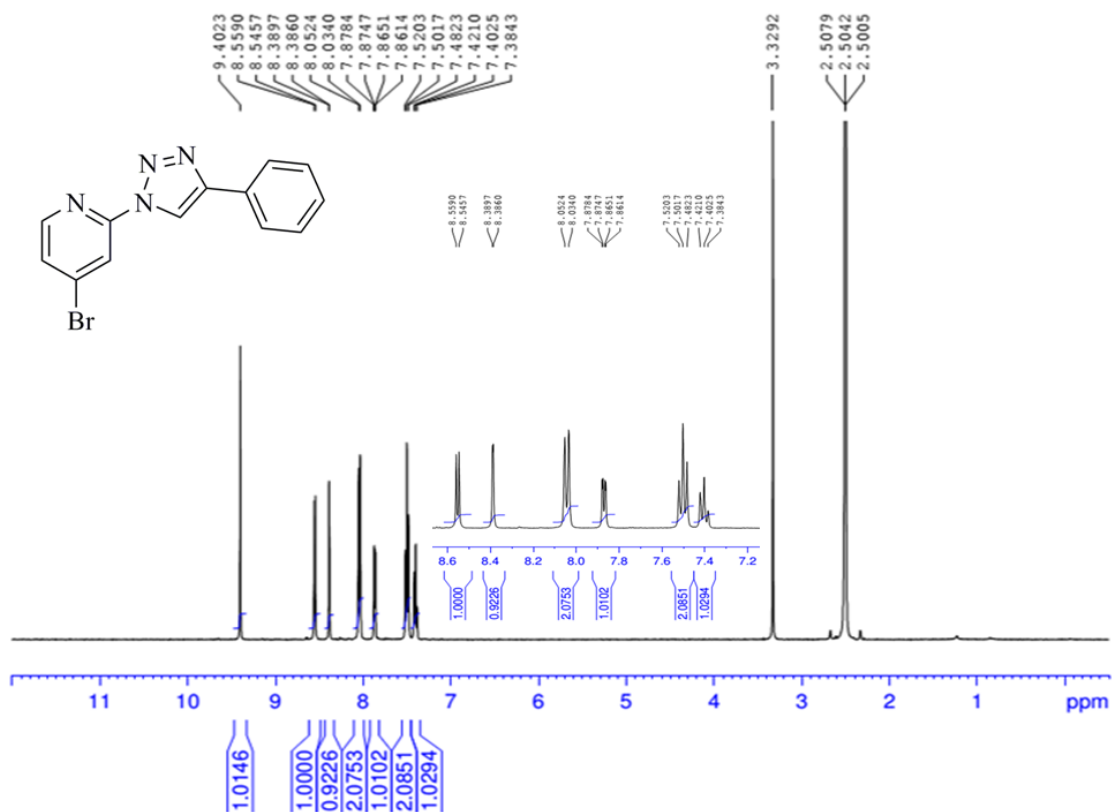


Figure 7. ¹H NMR spectrum of **4c**

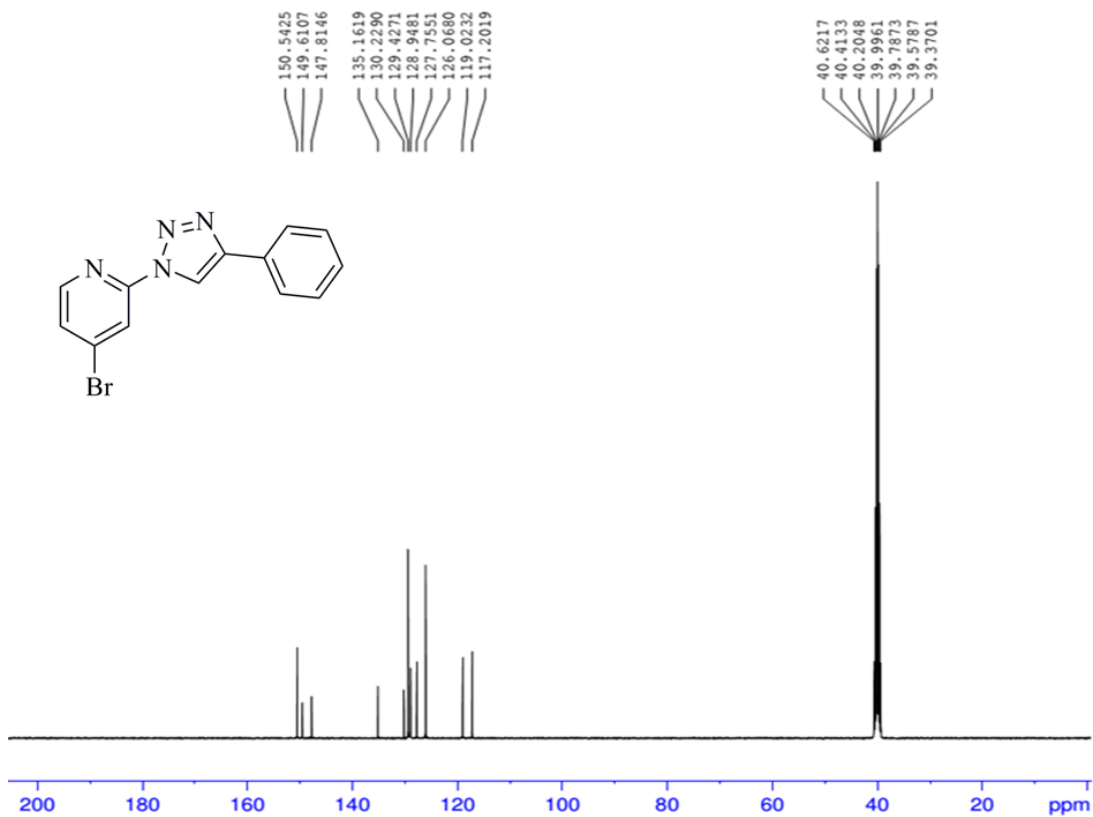


Figure 8. ¹³C NMR spectrum of **4c**

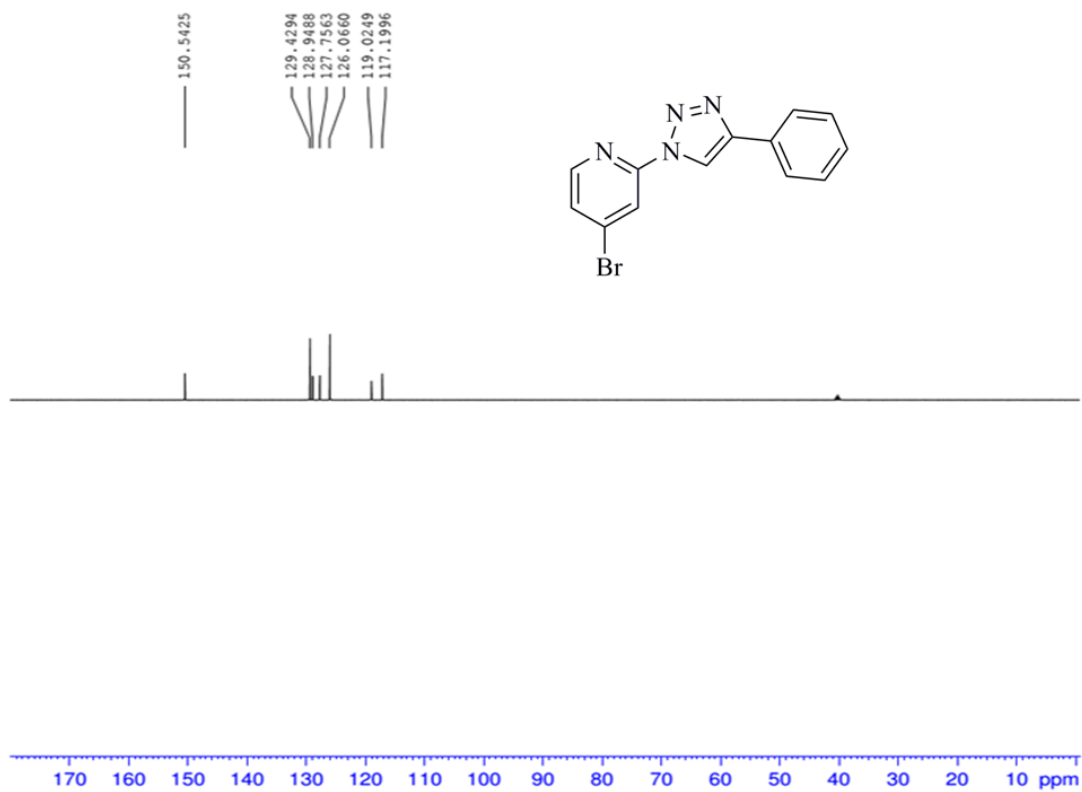


Figure 9. DEPT 135 spectrum of **4c**

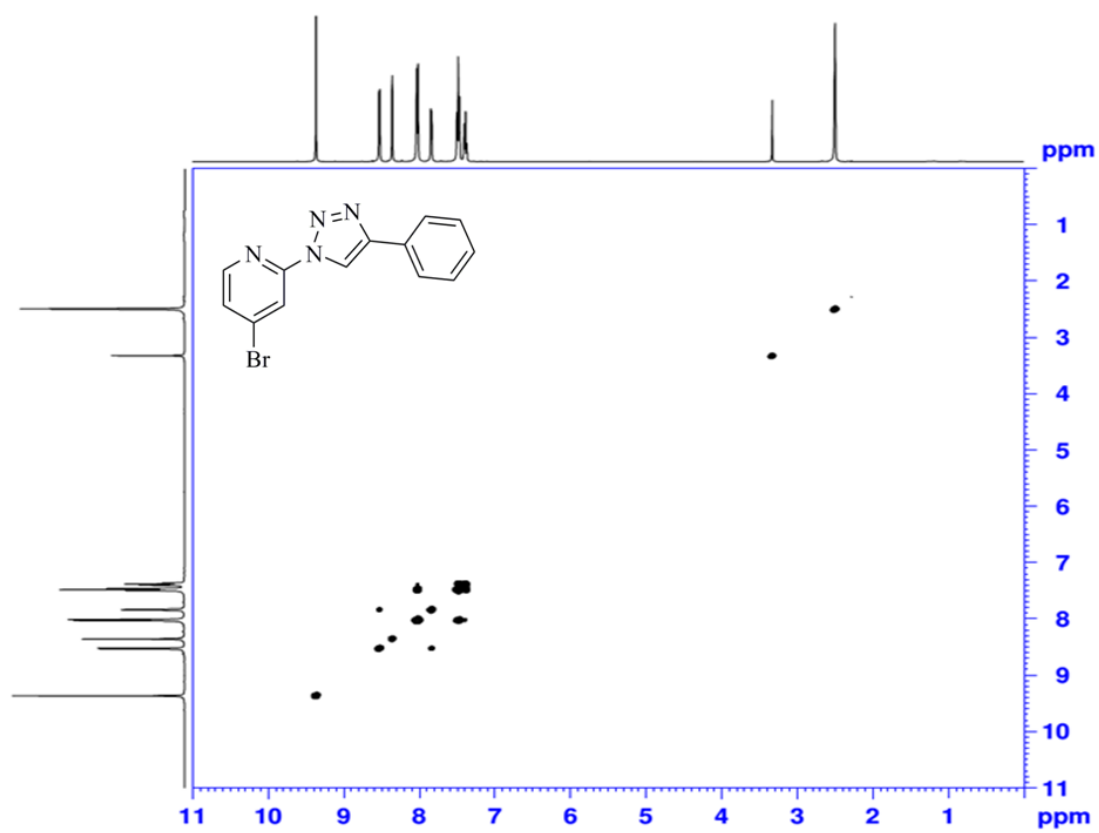


Figure 10. H,H- COSY spectrum of **4c**

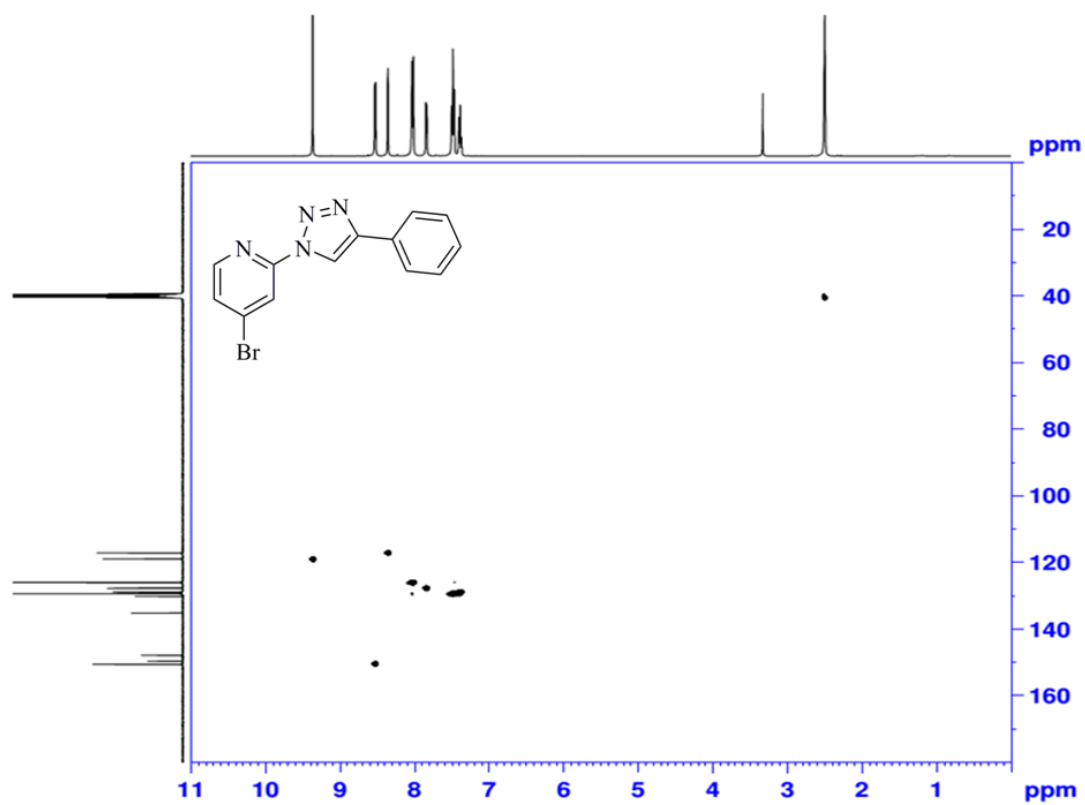


Figure 11. C,H- COSY spectrum of **4c**

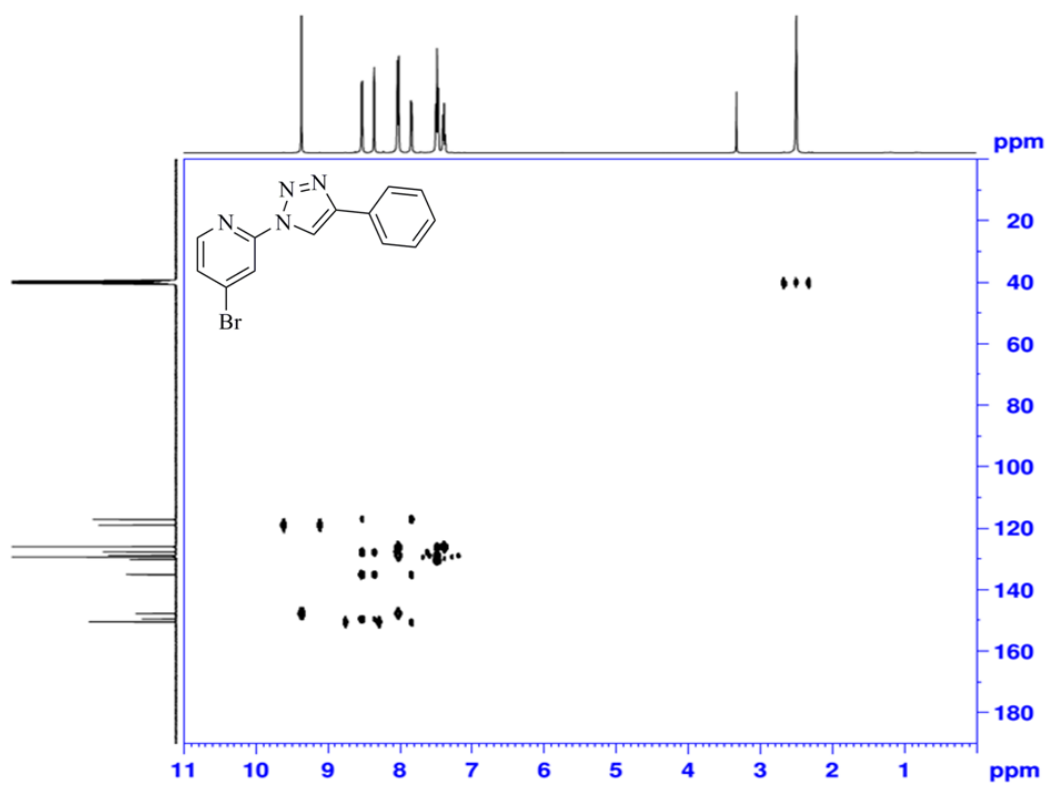


Figure 12. HMBC spectrum of **4c**

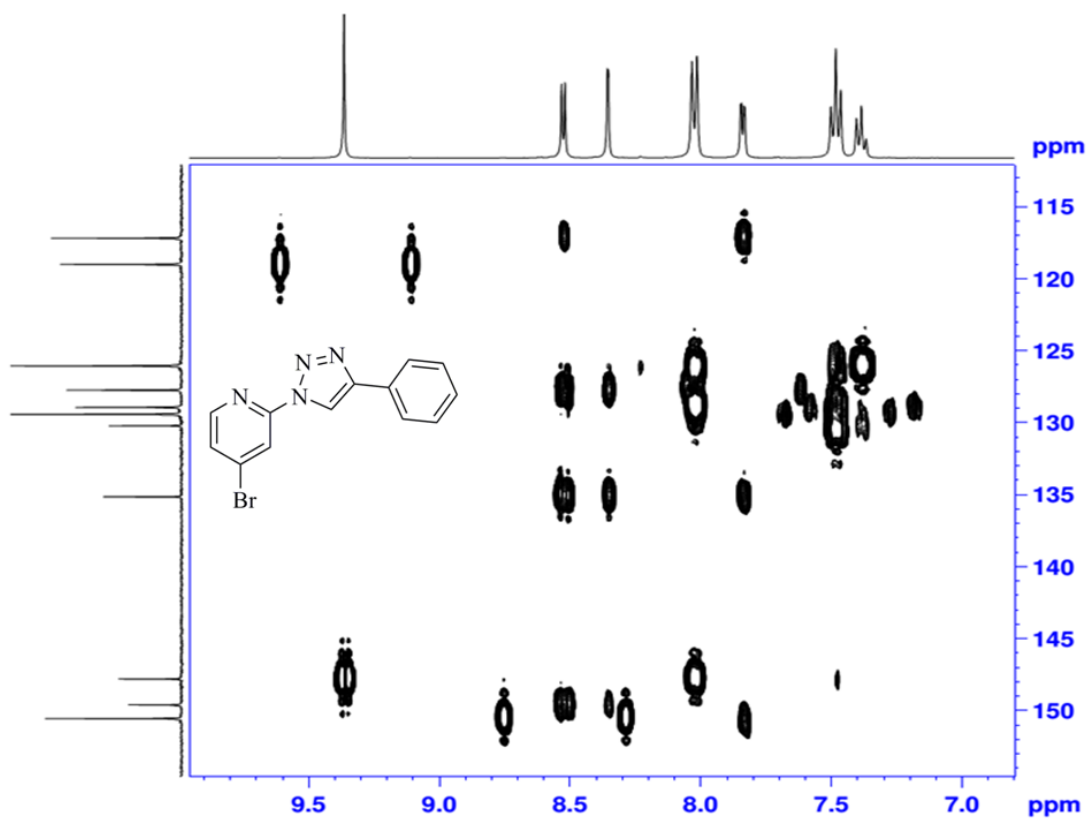


Figure 13. HMBC (expanded) spectrum of 4c

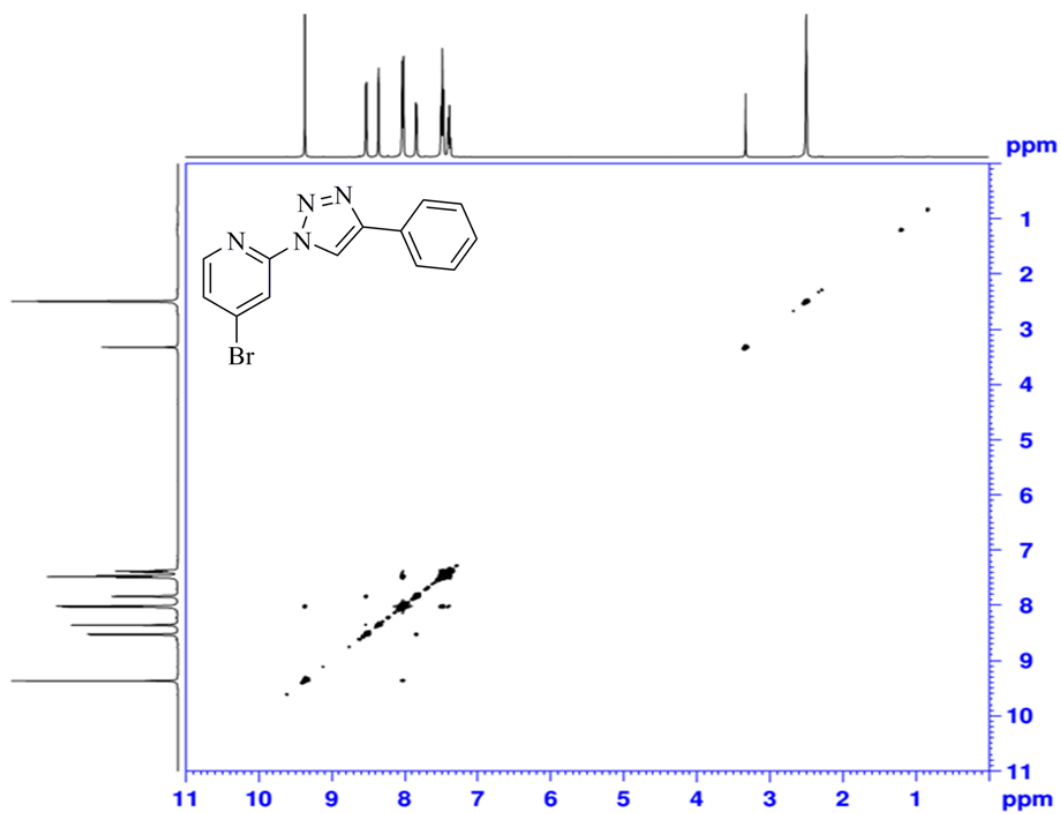
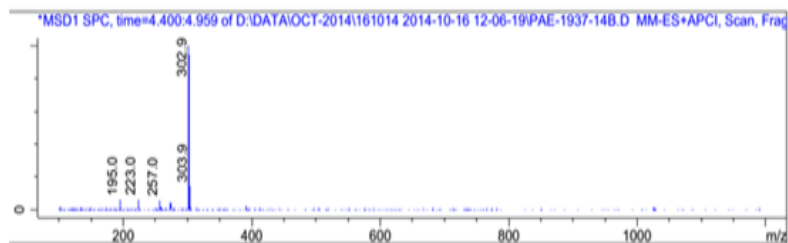
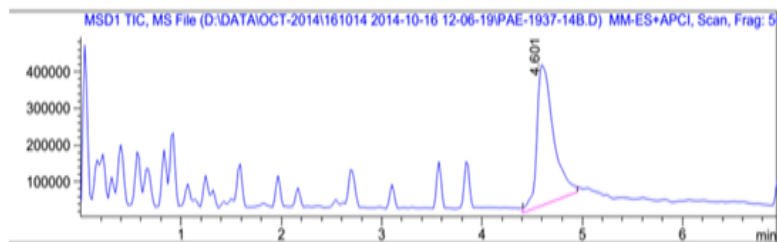
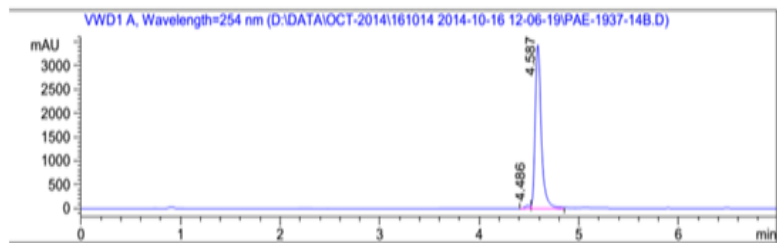


Figure 14. NOESY spectrum of 4c

```

Injection Date : 10/16/2014      Seq Line      :8.00
Sample Name    : 4-Br-PY          Location     :Vial 24
Acq Operator   :                  Injection Volume :10.00 ul
Injection time : 1:12:24 PM
Acq.Method    : D:\data\Oct-2014\161014 2014-10-16

Data file     : D:\DATA\OCT-2014\161014 2014-10-16
  
```



VWD1 A, Wavelength=254 nm

Peak #	Compound Name	Meas. Ret. T Min	Area	Area %
1		4.49	219.3	1.48
2		4.59	14644.3	98.52

MSD1 TIC, MS File

Peak #	Compound Name	Meas. Ret. T Min	Area	Area %
1		4.60	4414863.5	100.00

Figure 15. Mass spectrum of 4c

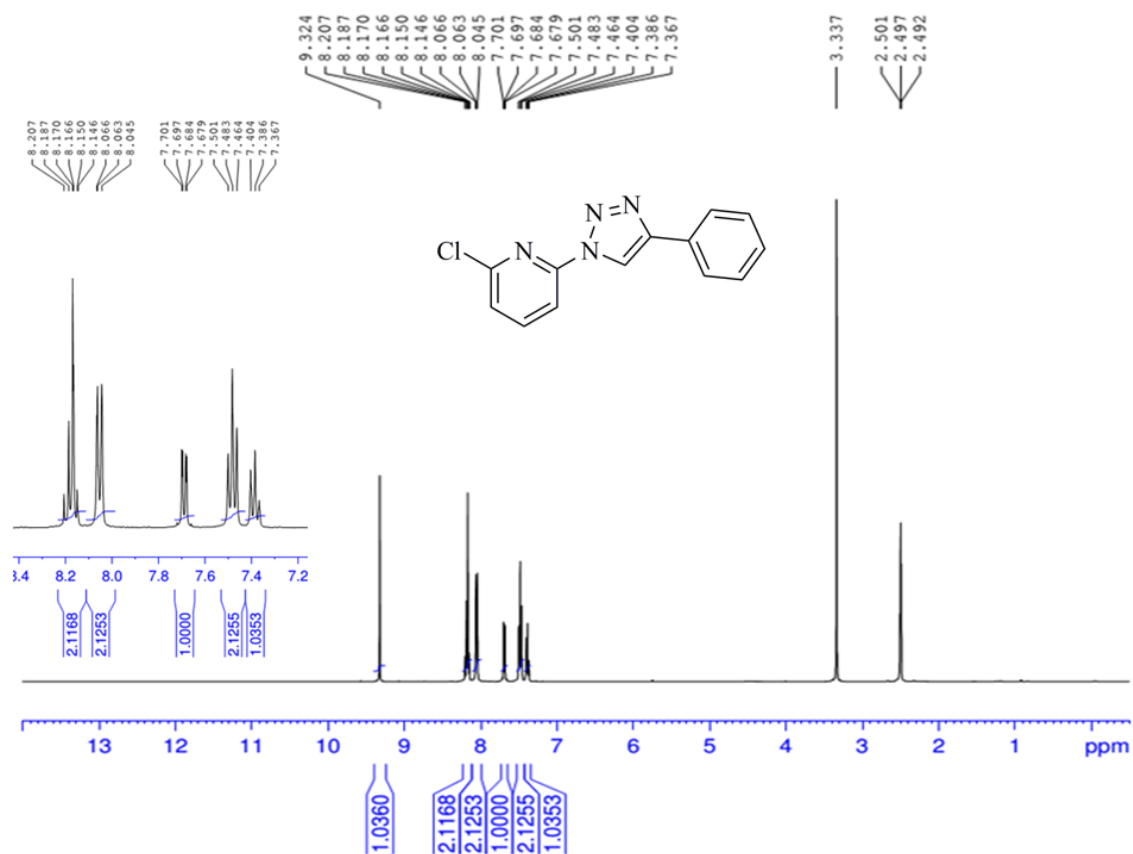


Figure 16. ¹H NMR spectrum of **4d**

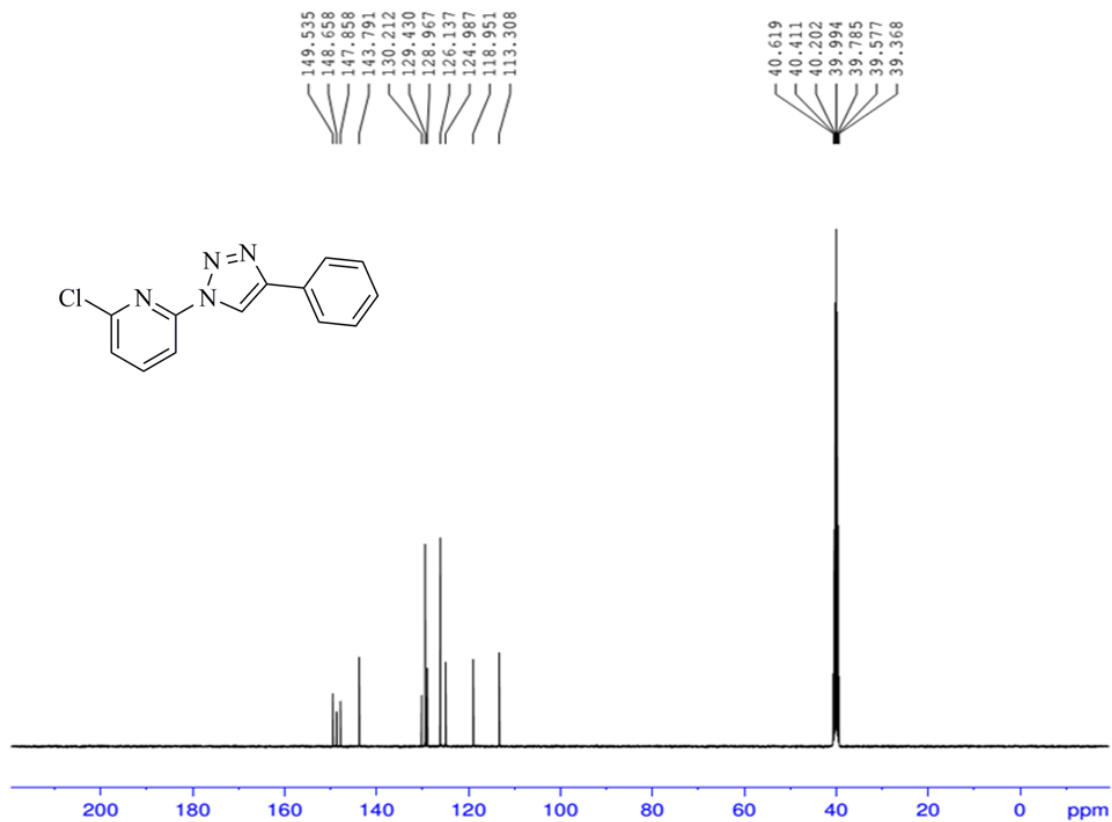


Figure 17. ¹³C NMR spectrum of **4d**

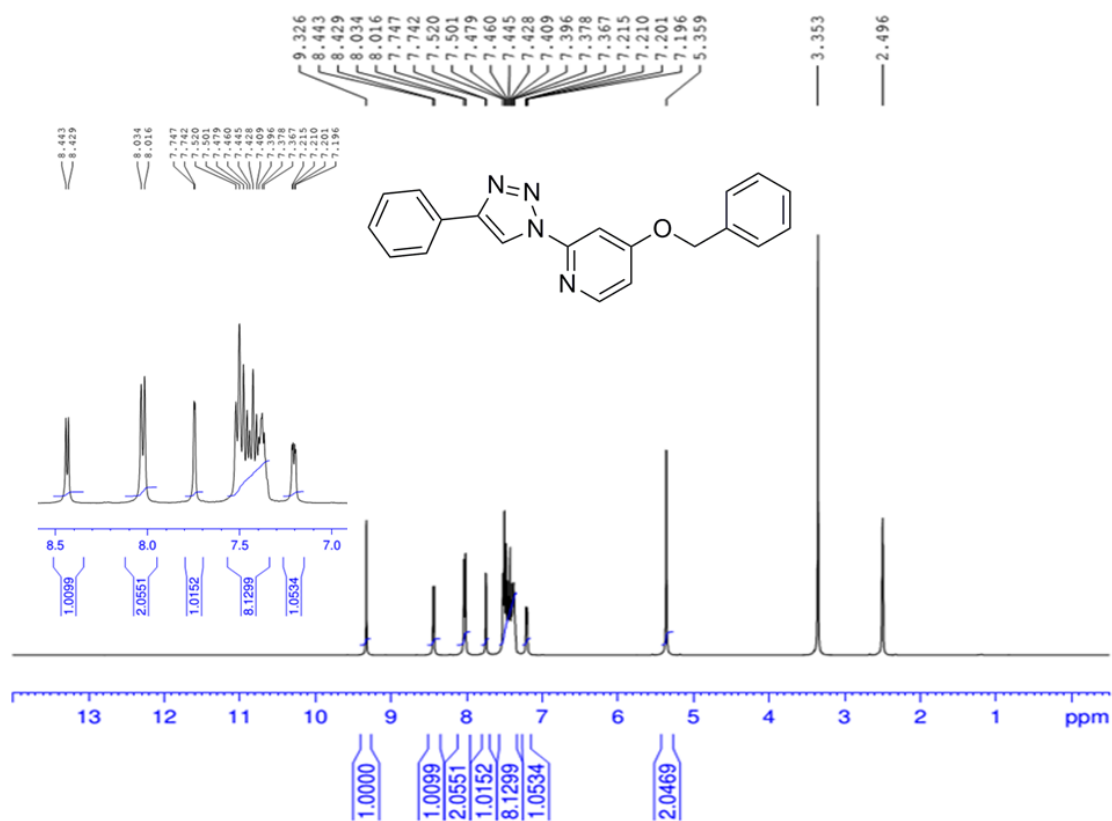


Figure 18. ¹H NMR spectrum of 4e

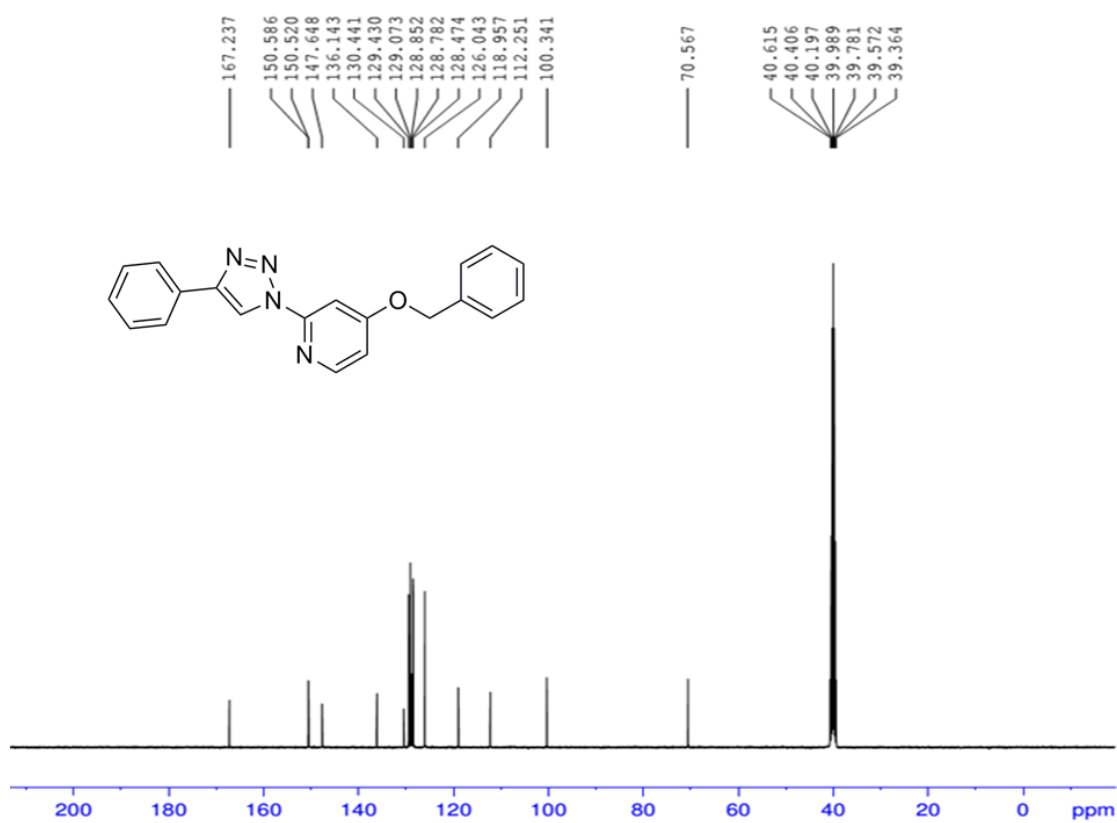


Figure 19. ¹³C NMR spectrum of 4e

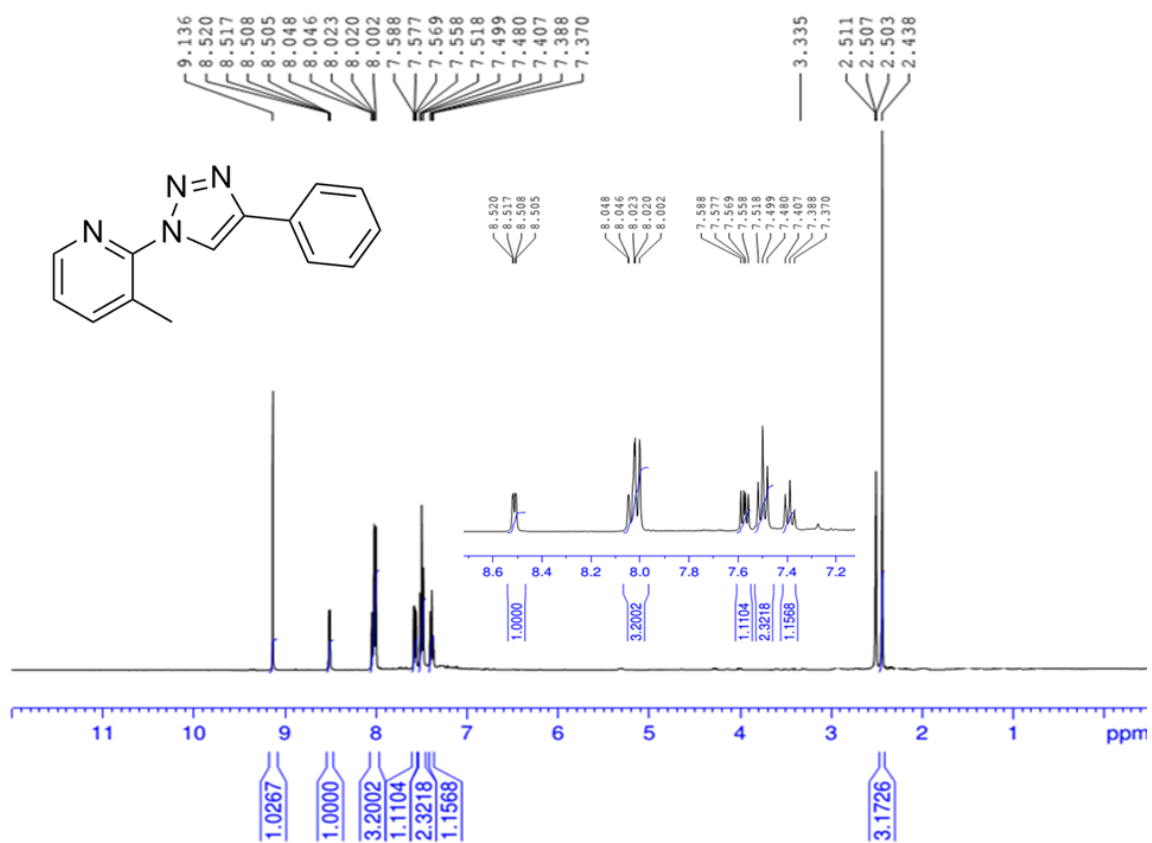


Figure 20. ¹H NMR spectrum of 4f

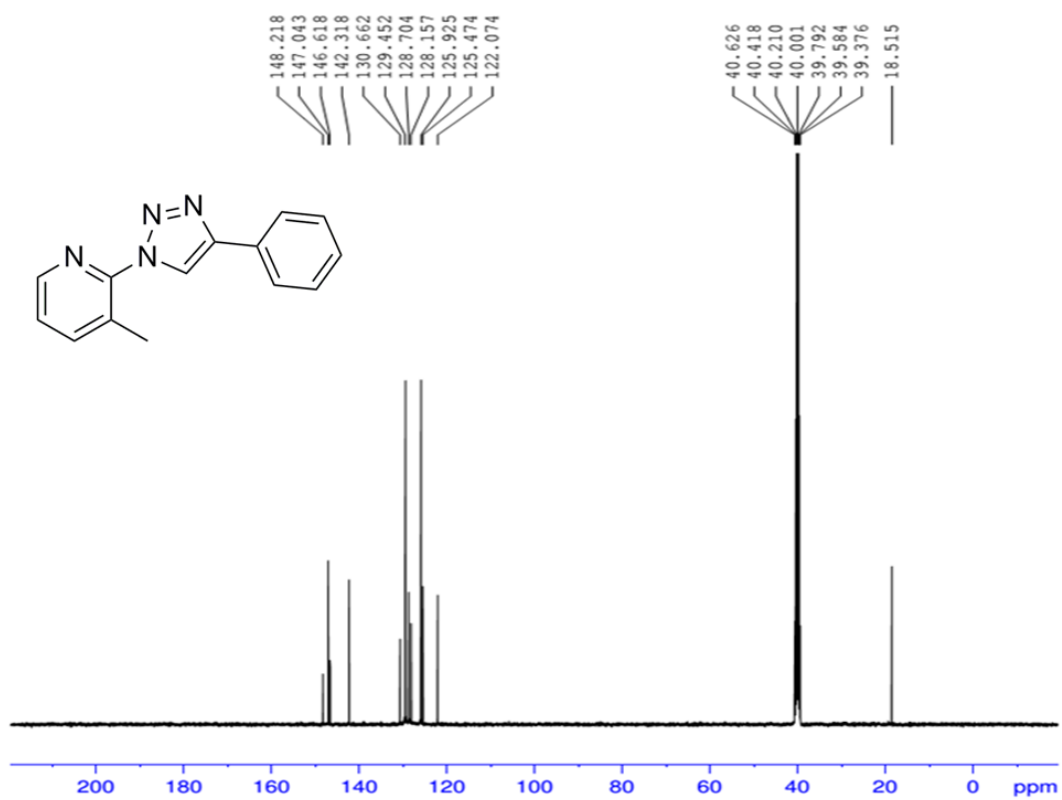


Figure 21. ¹³C NMR spectrum of 4f

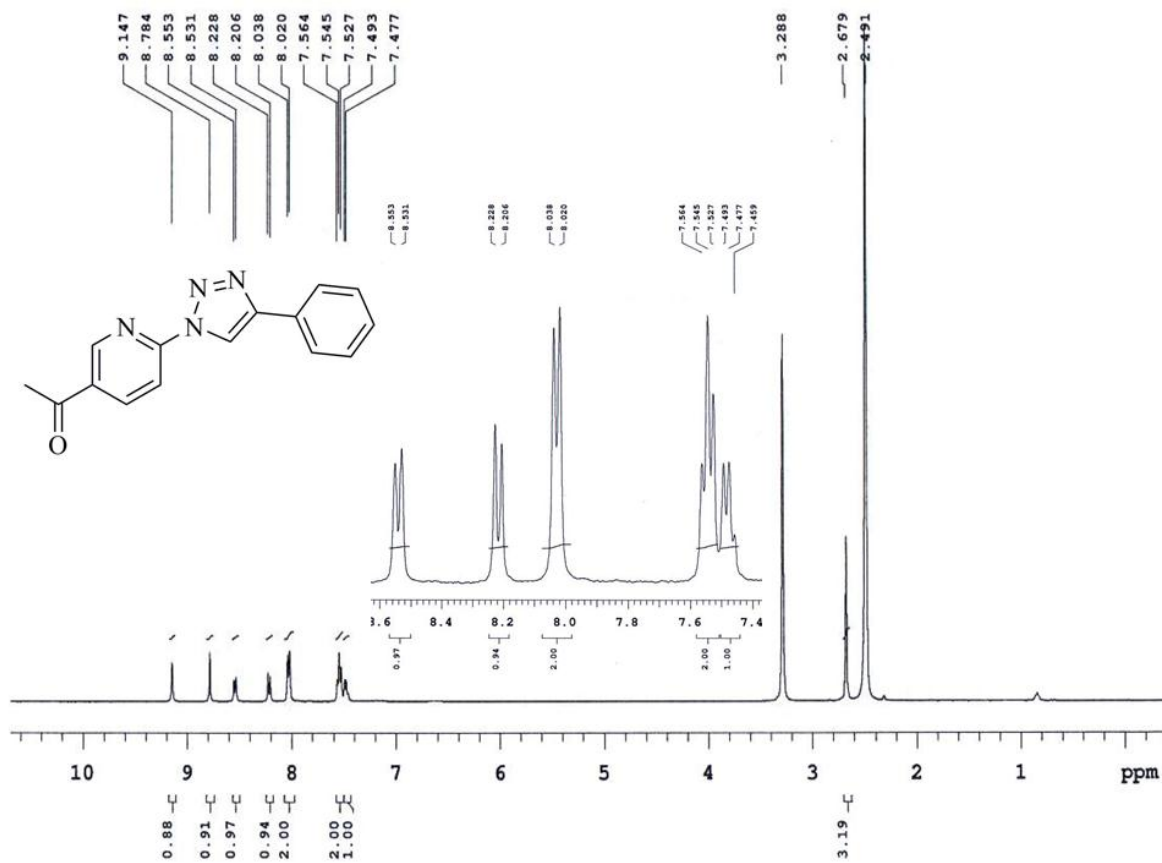


Figure 22. ^1H NMR spectrum of **4g**

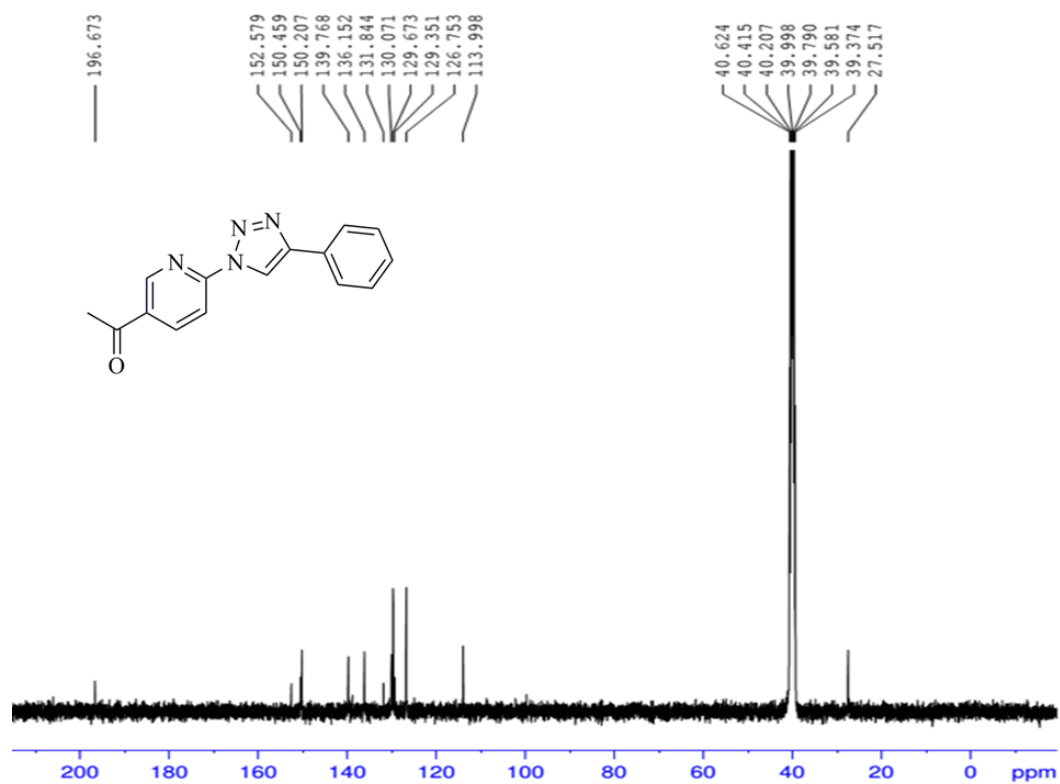


Figure 23. ^{13}C NMR spectrum of **4g**

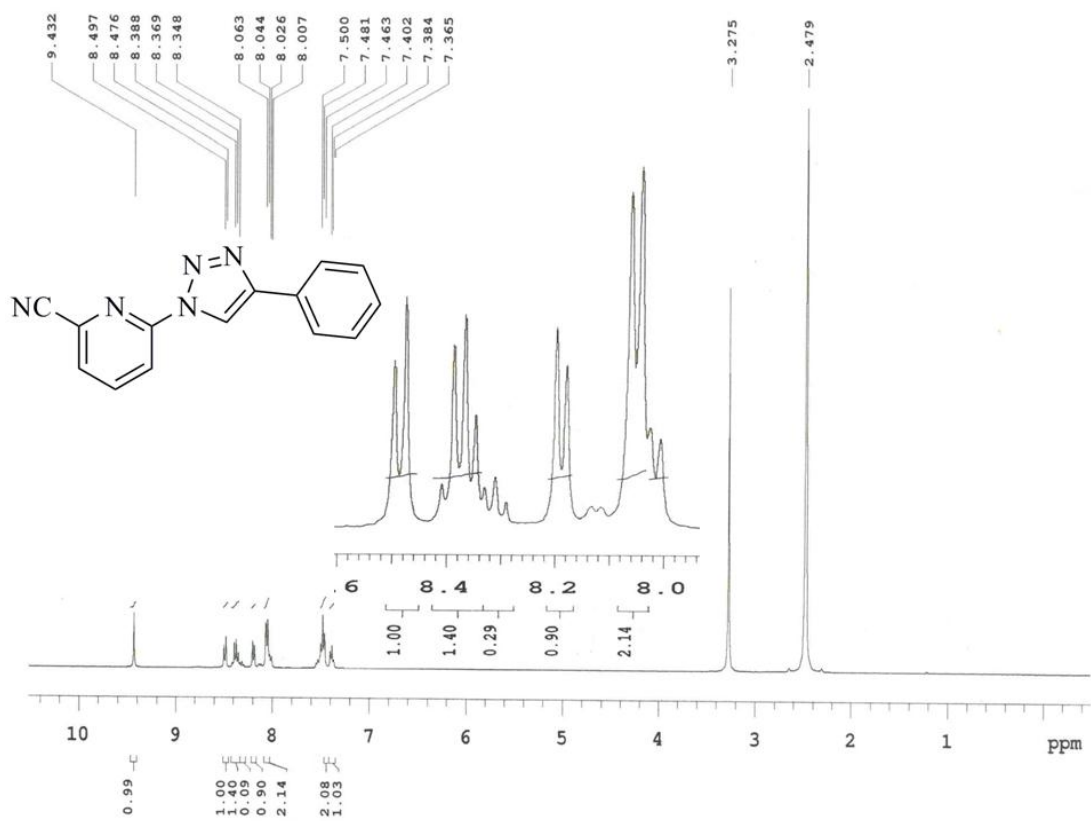


Figure 24. ¹H NMR spectrum of **4h**

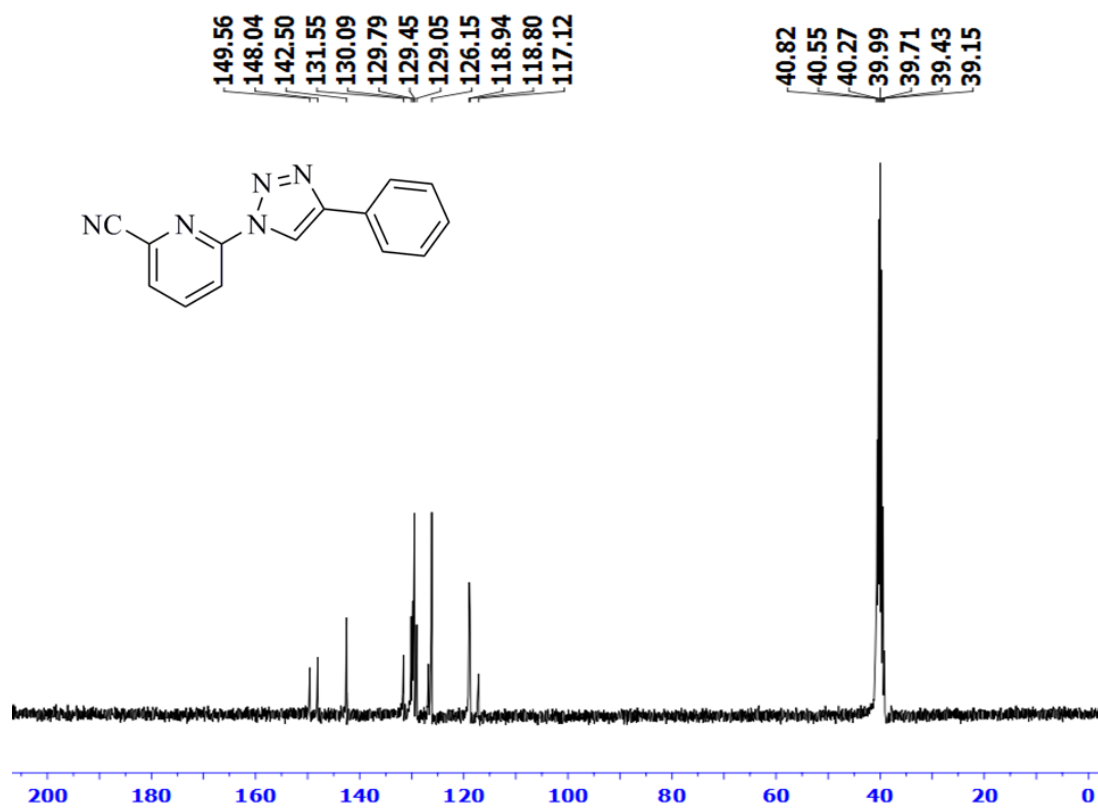


Figure 25. ¹³C NMR spectrum of **4h**

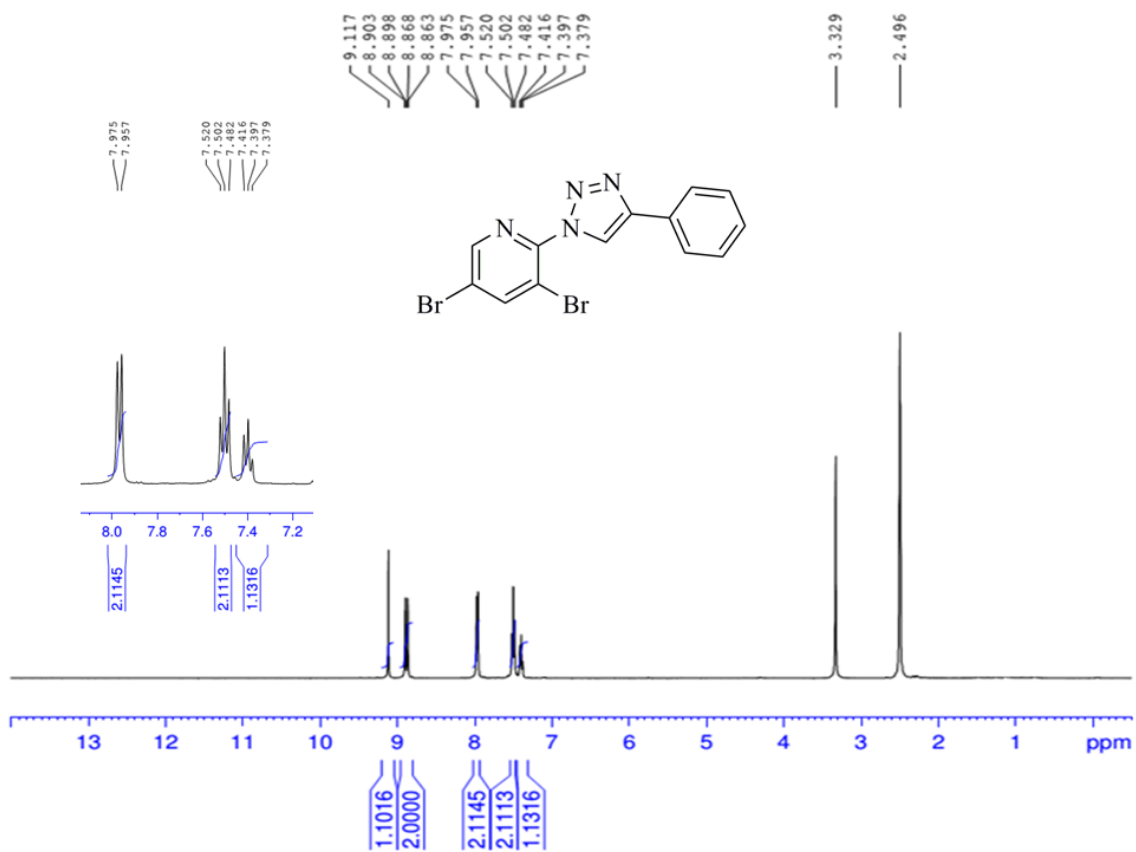


Figure 26. ¹H NMR spectrum of **4i**

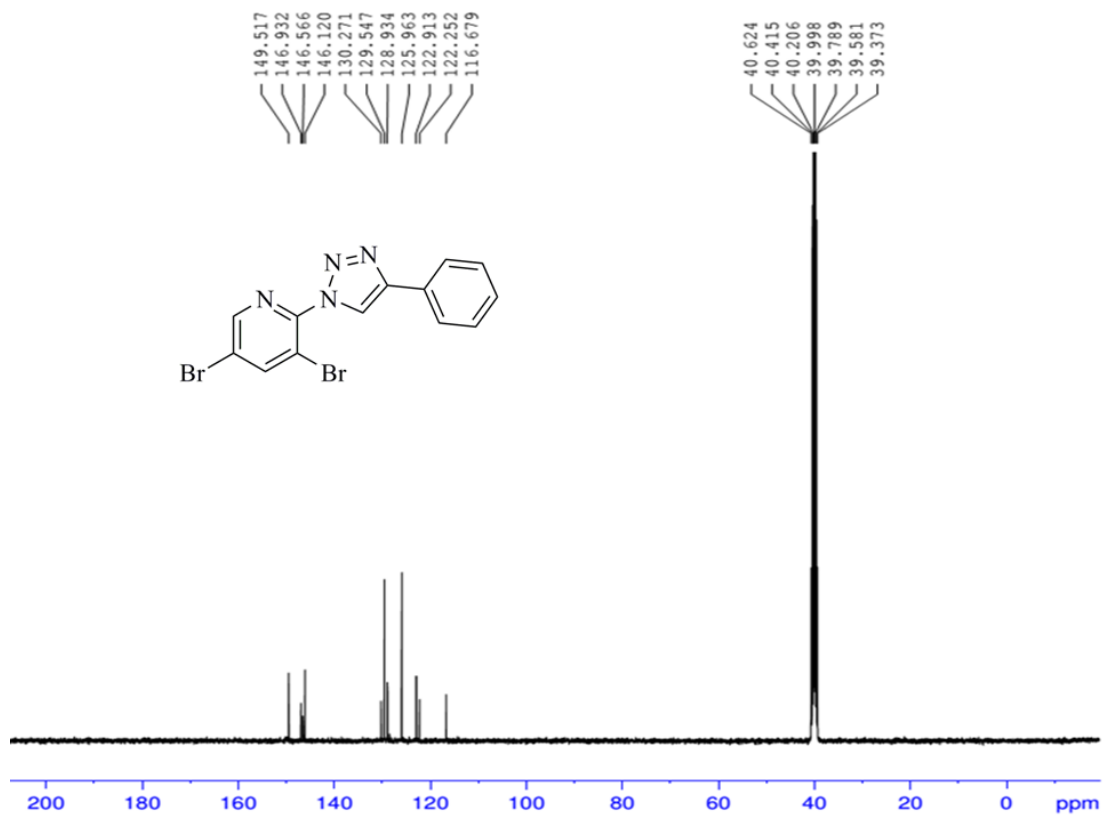


Figure 27. ¹³C NMR spectrum of **4i**

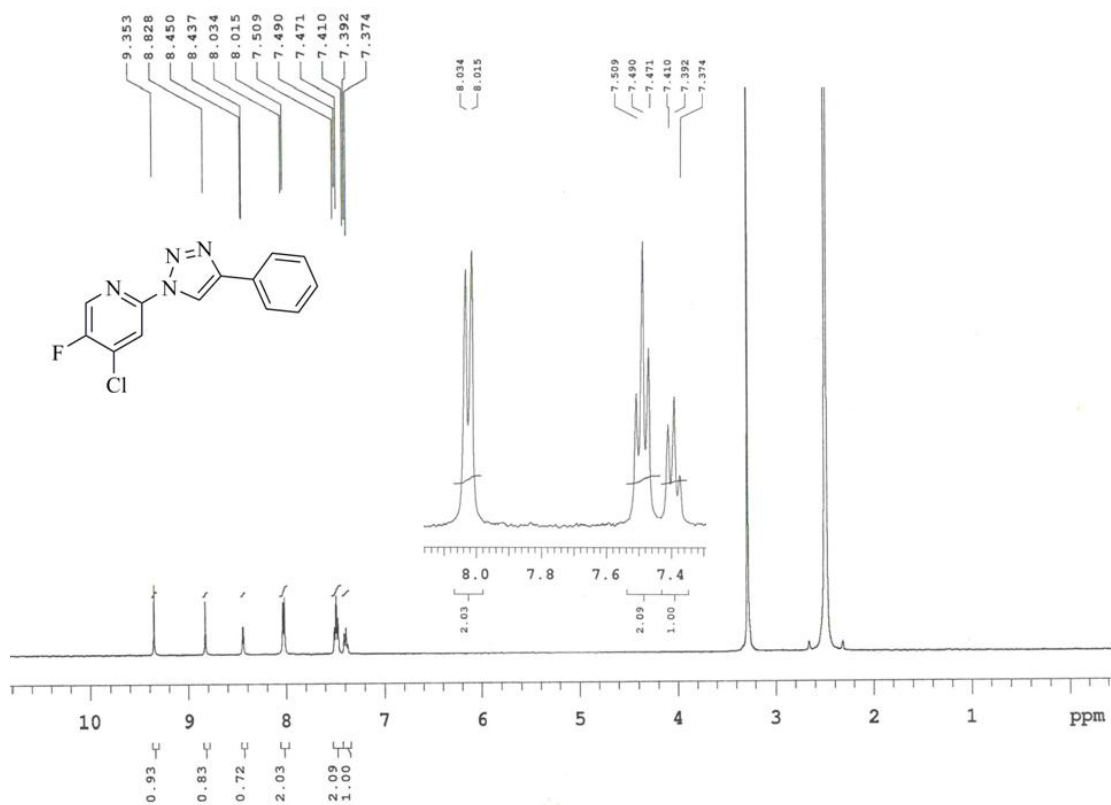


Figure 28. ¹H NMR spectrum of 4j

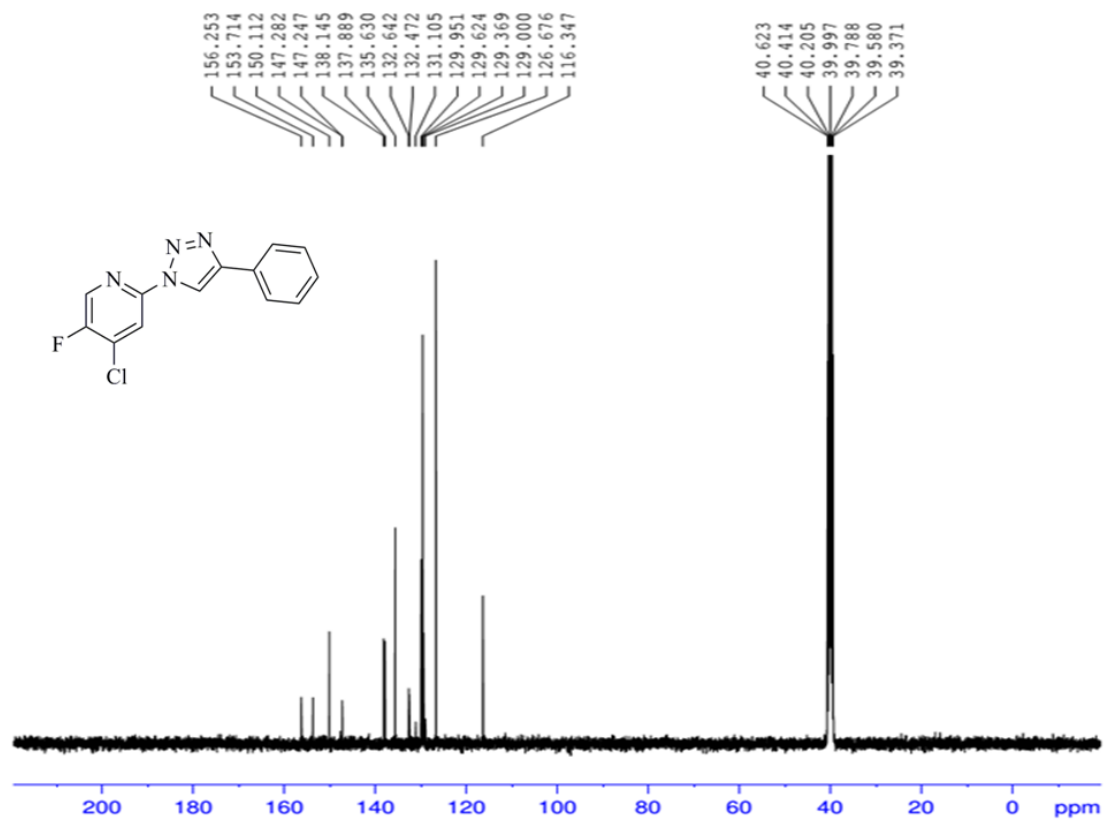


Figure 29. ¹³C NMR spectrum of 4j

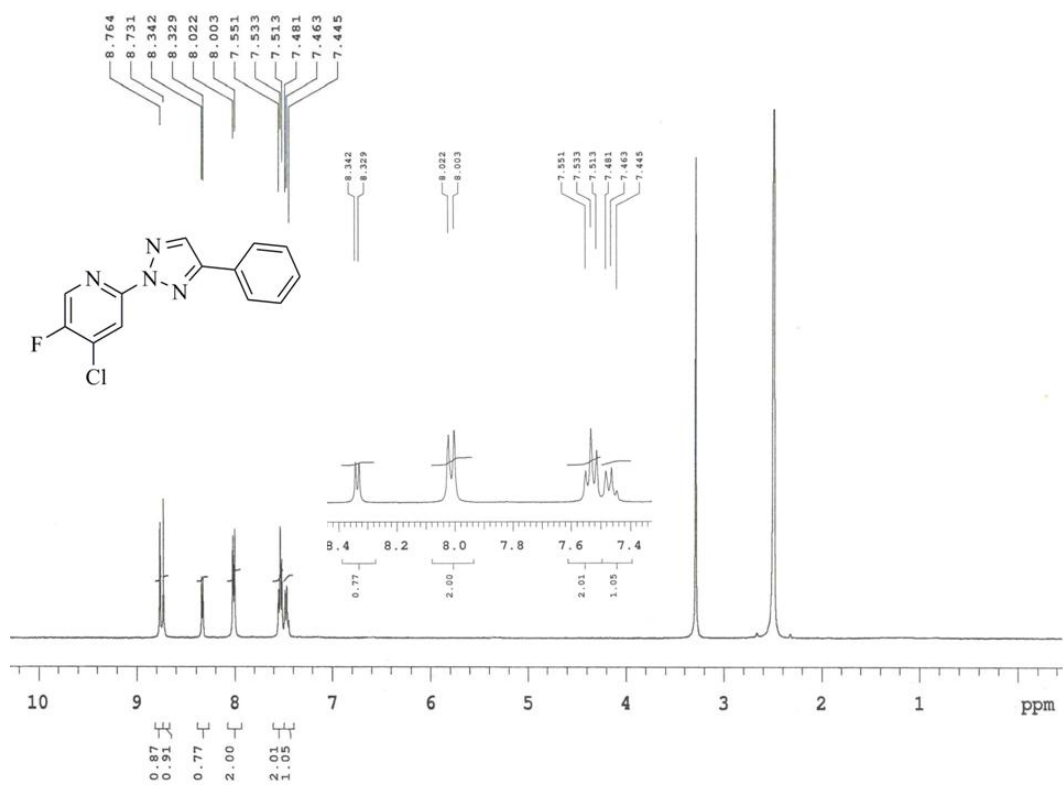


Figure 30. ¹H NMR spectrum of 4ja

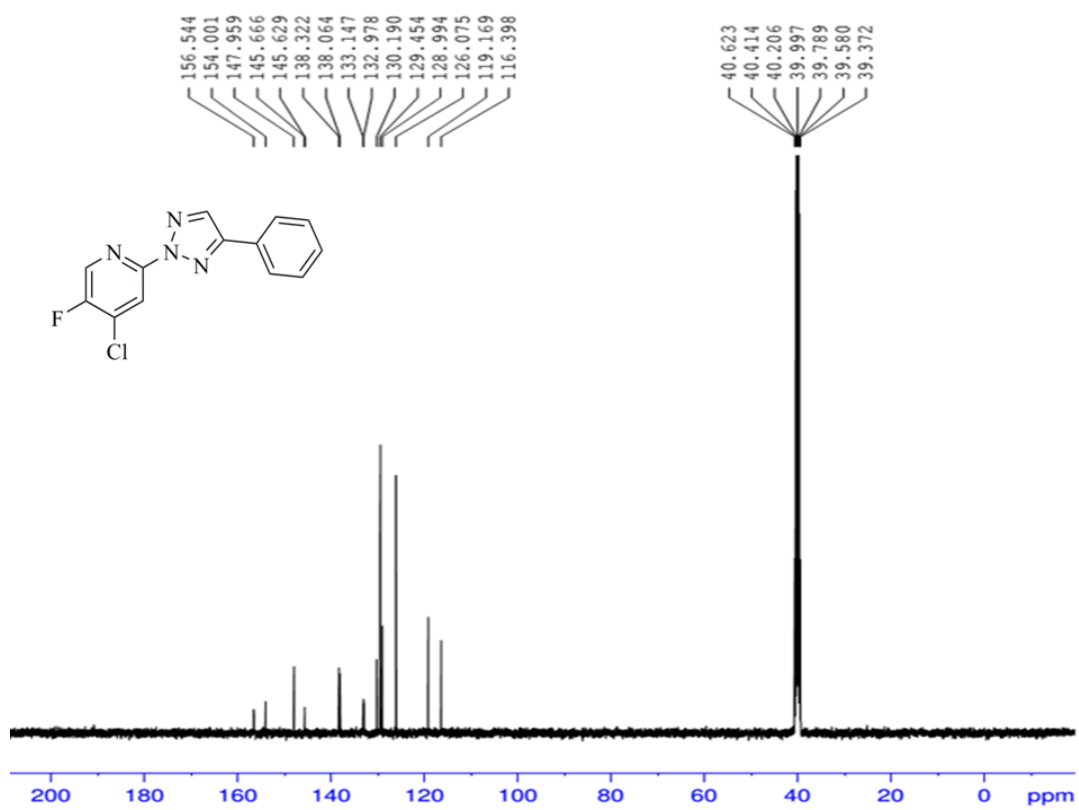


Figure 31. ¹³C NMR spectrum of 4ja

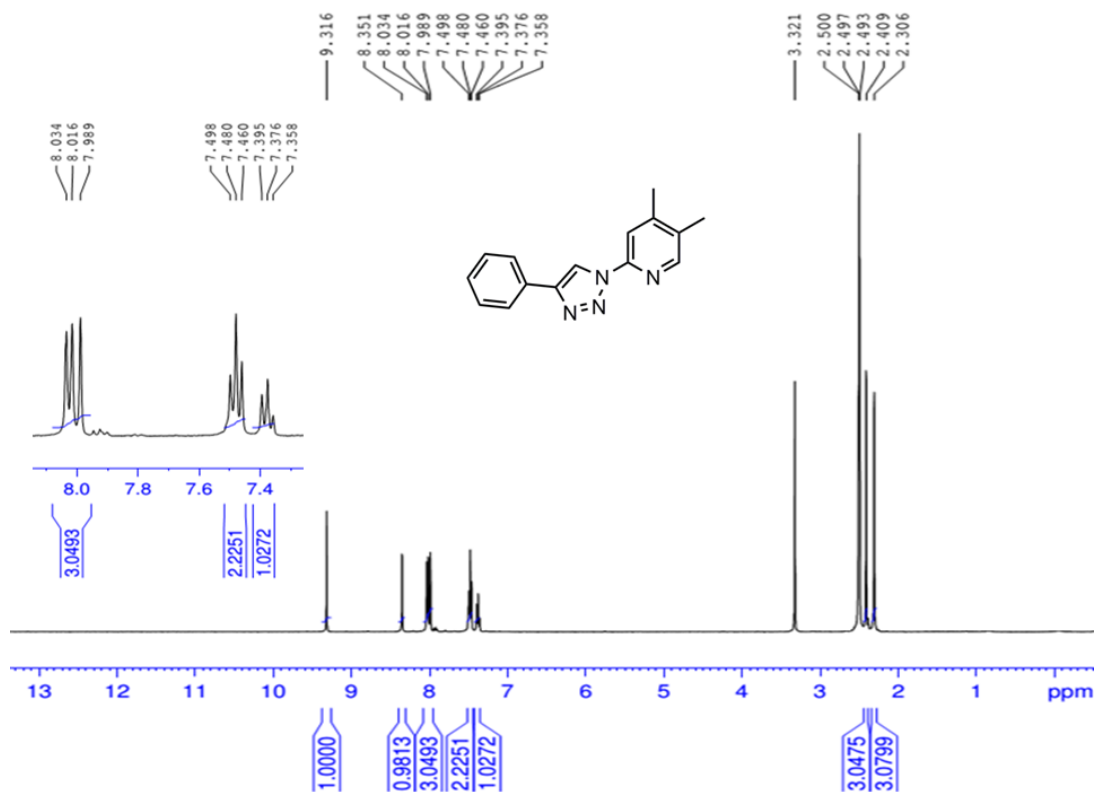


Figure 32. ¹H NMR spectrum of 4k

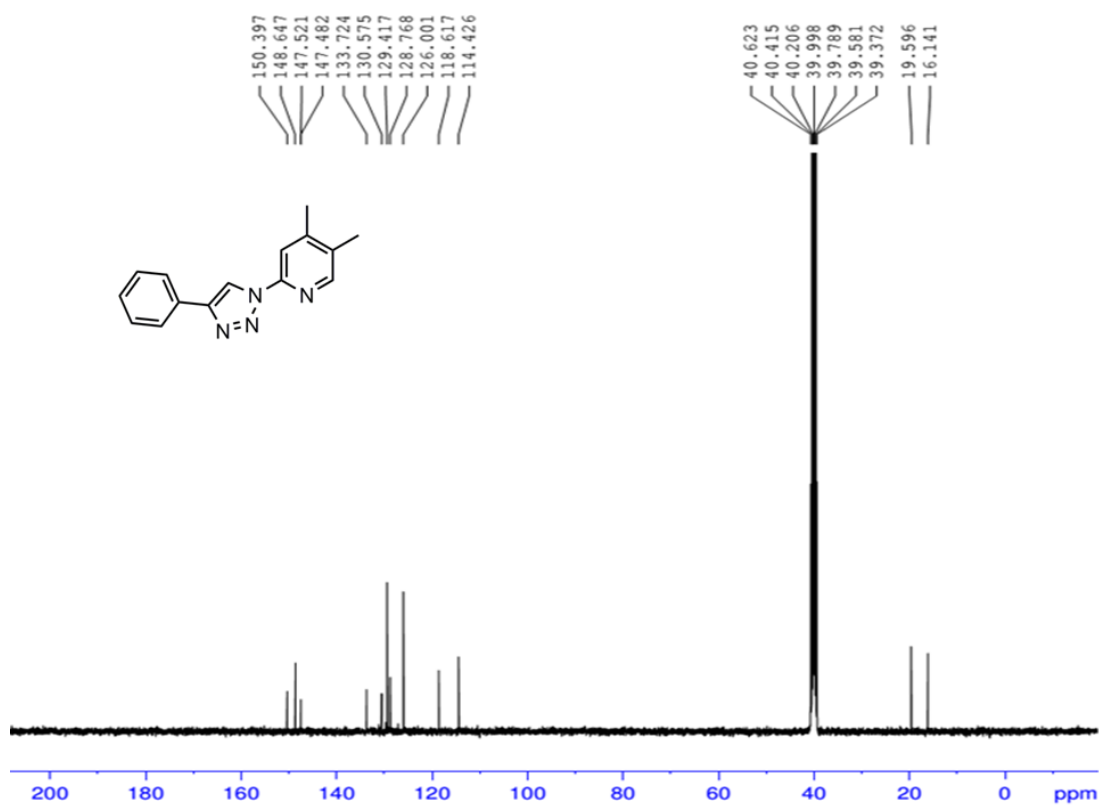


Figure 33. ¹³C NMR spectrum of 4k

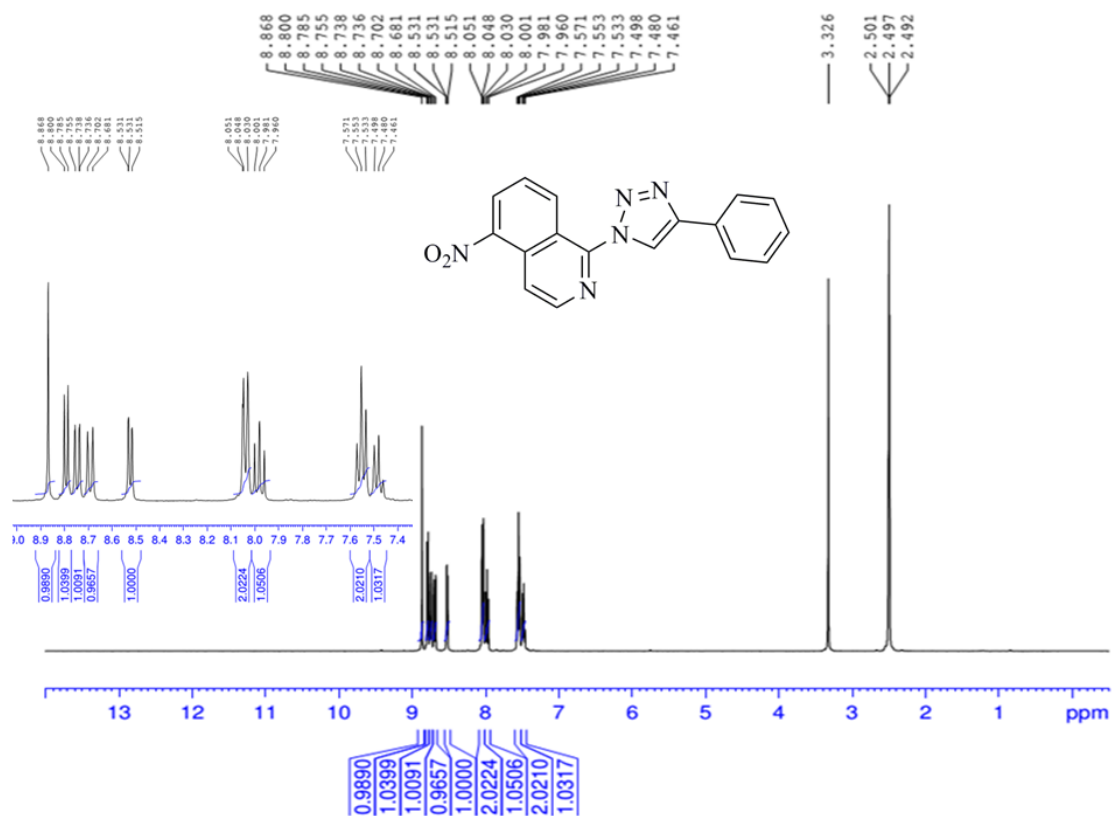


Figure 34. ¹H NMR spectrum of 4l

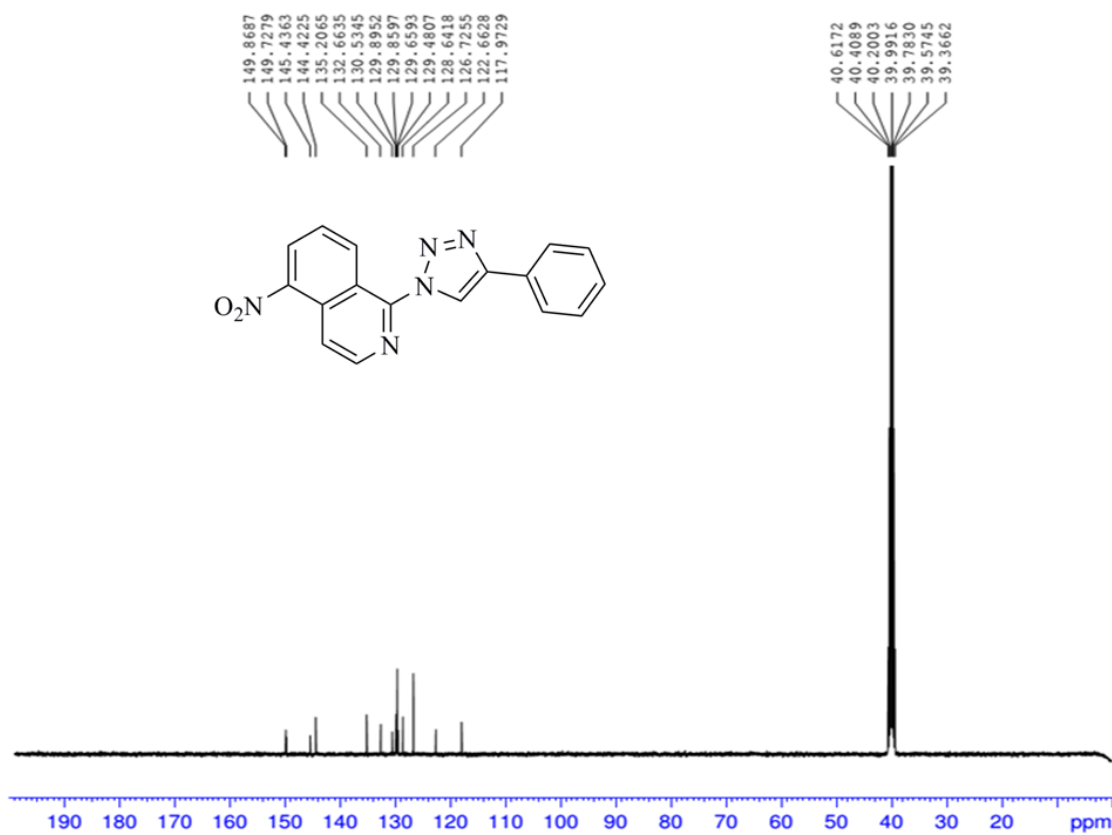


Figure 35. ¹³C NMR spectrum of 4l

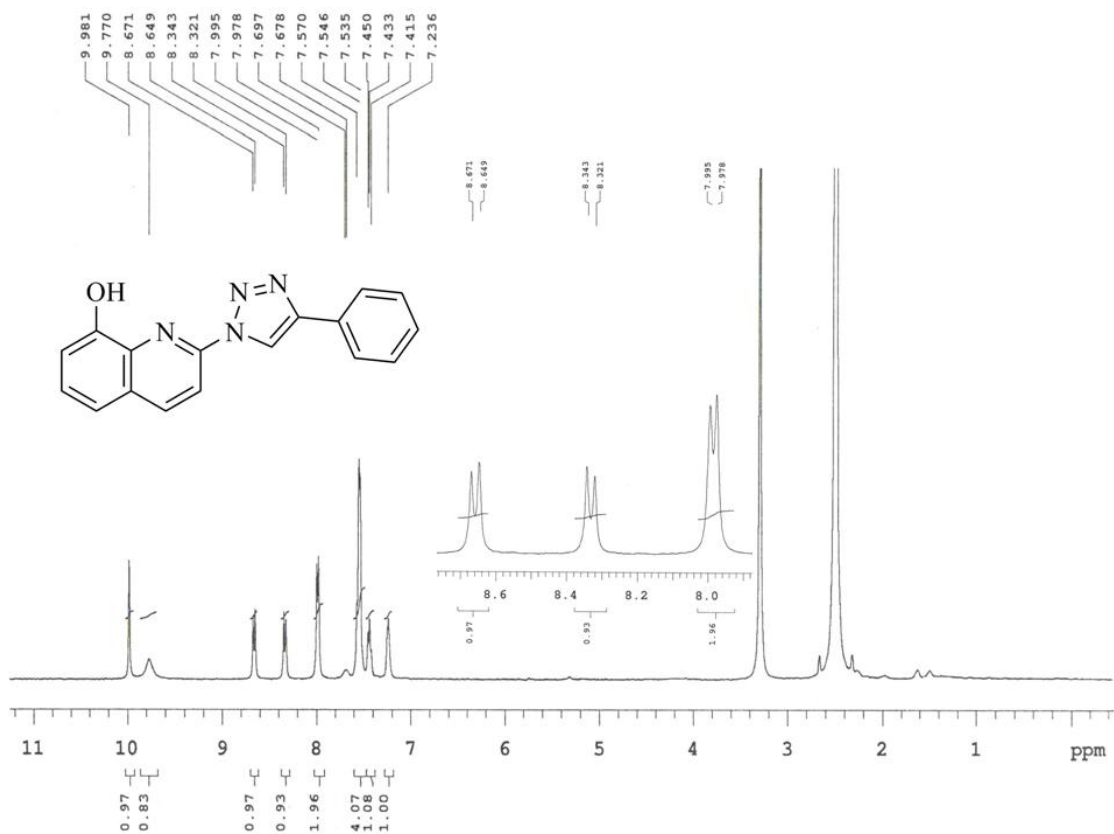


Figure 36. ¹H NMR spectrum of **4m**

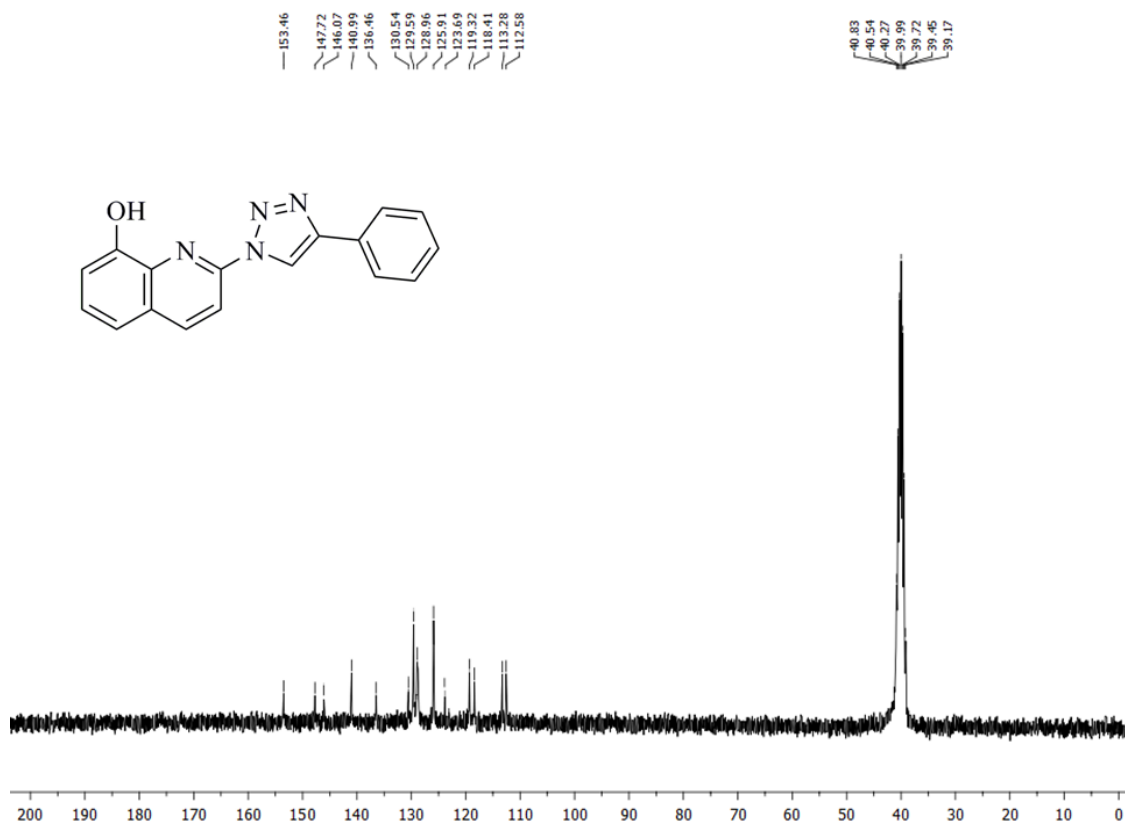


Figure 37. ¹³C NMR spectrum of **4m**

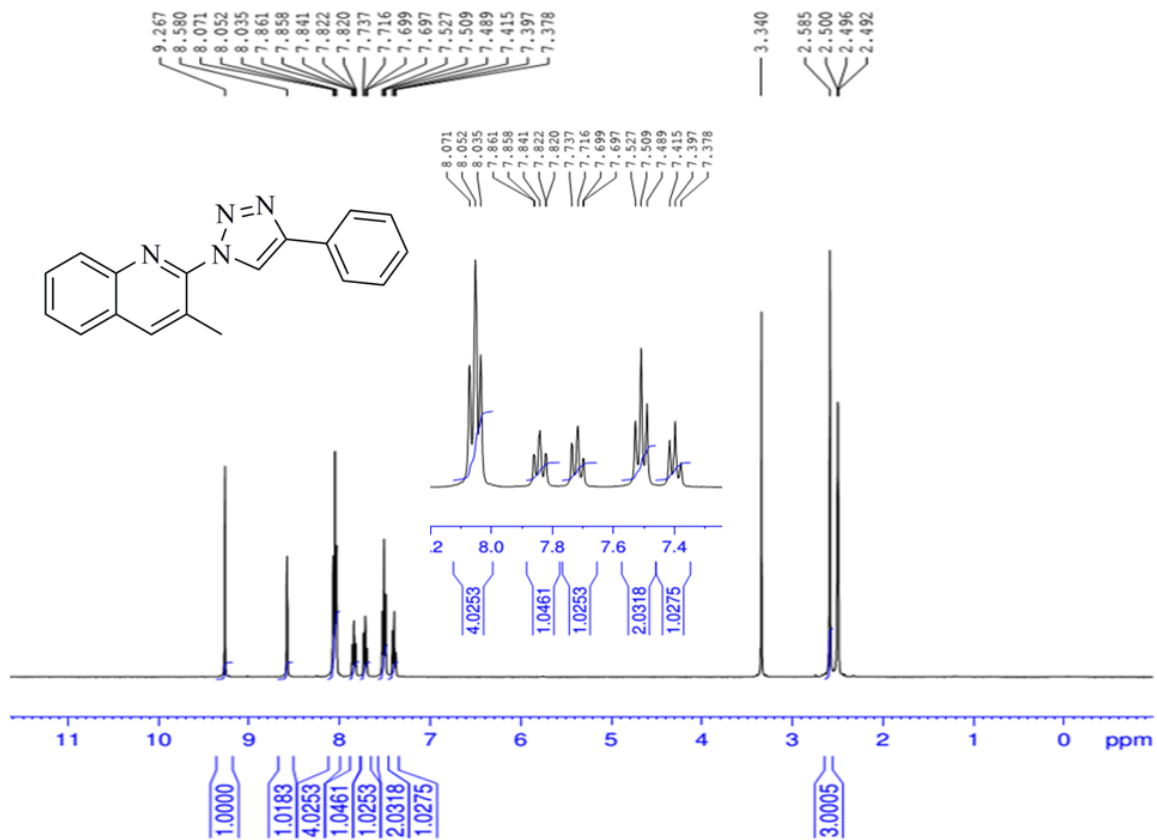


Figure 38. ^1H NMR spectrum of **4n**

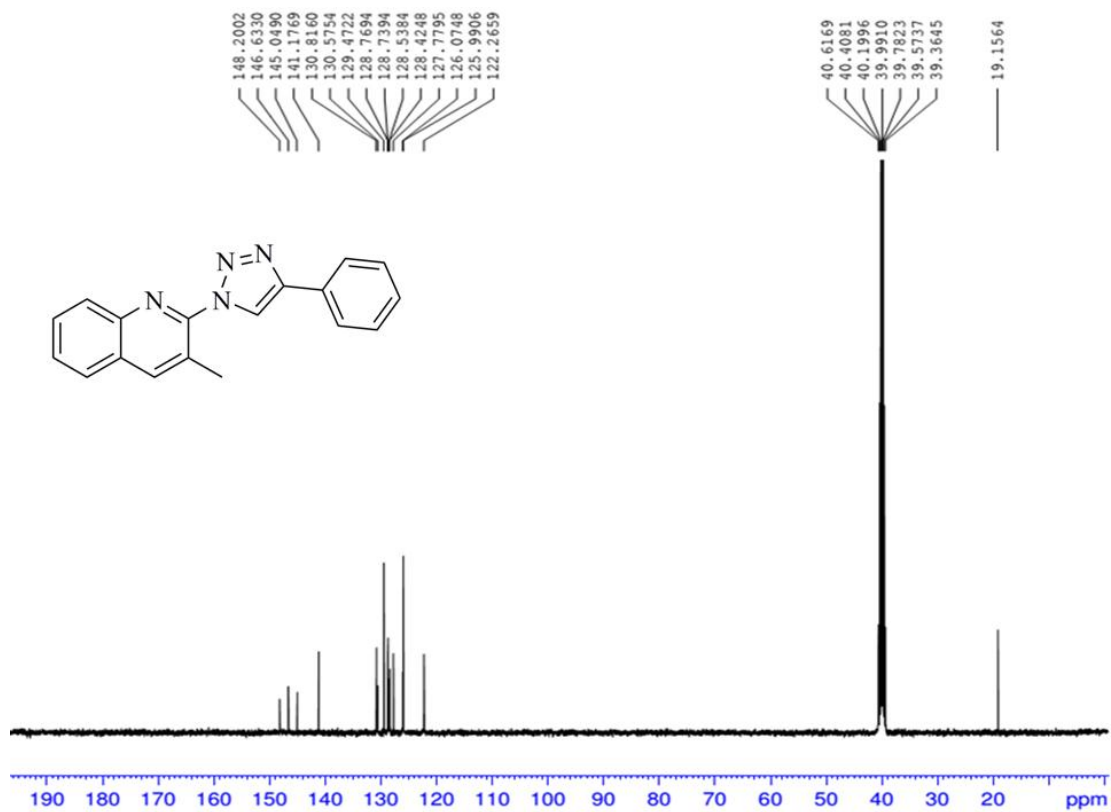


Figure 39. ^{13}C NMR spectrum of **4n**

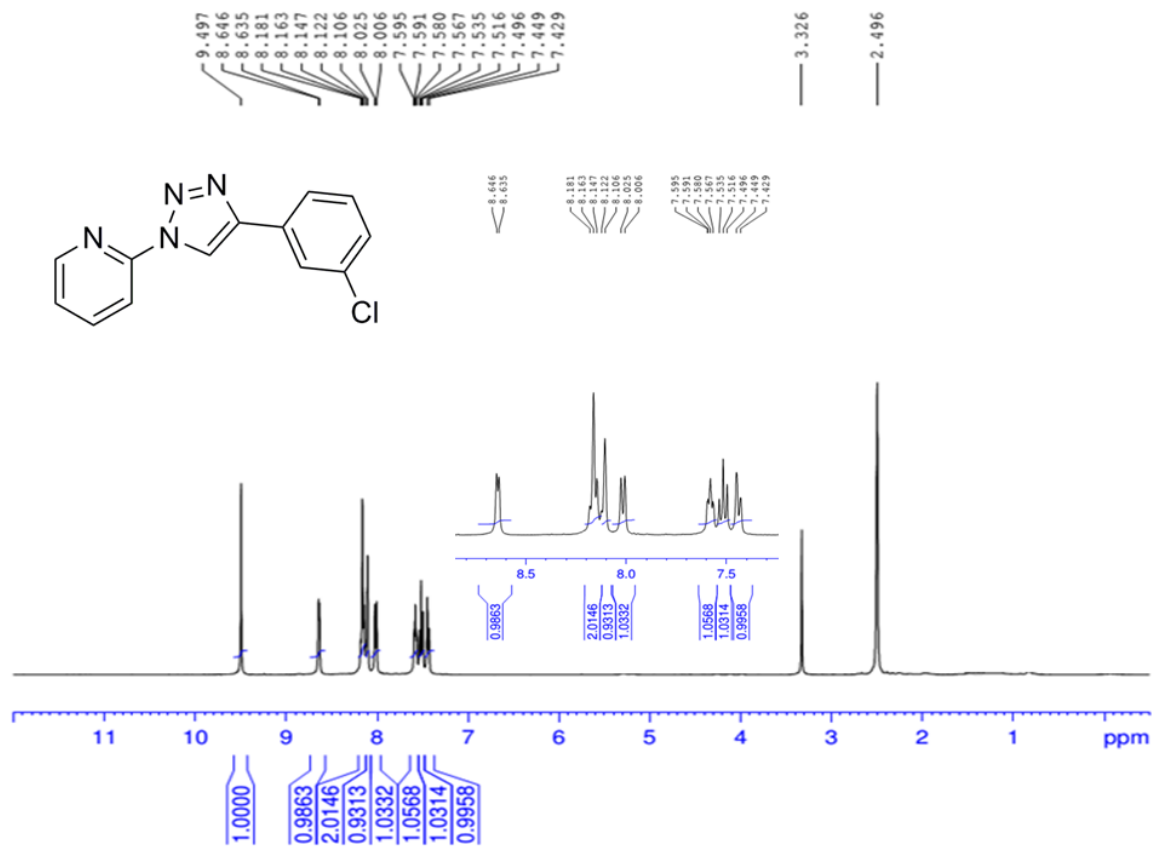


Figure 40. ¹H NMR spectrum of **4o**

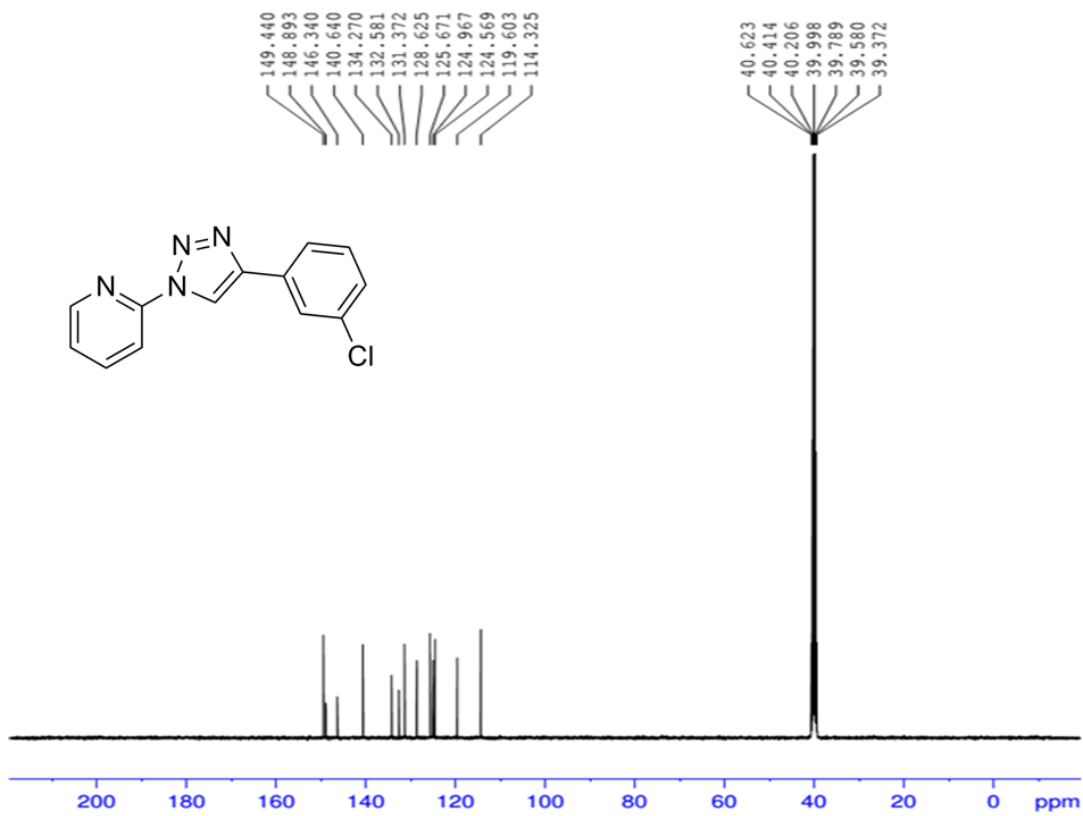


Figure 41. ¹³C NMR spectrum of **4o**

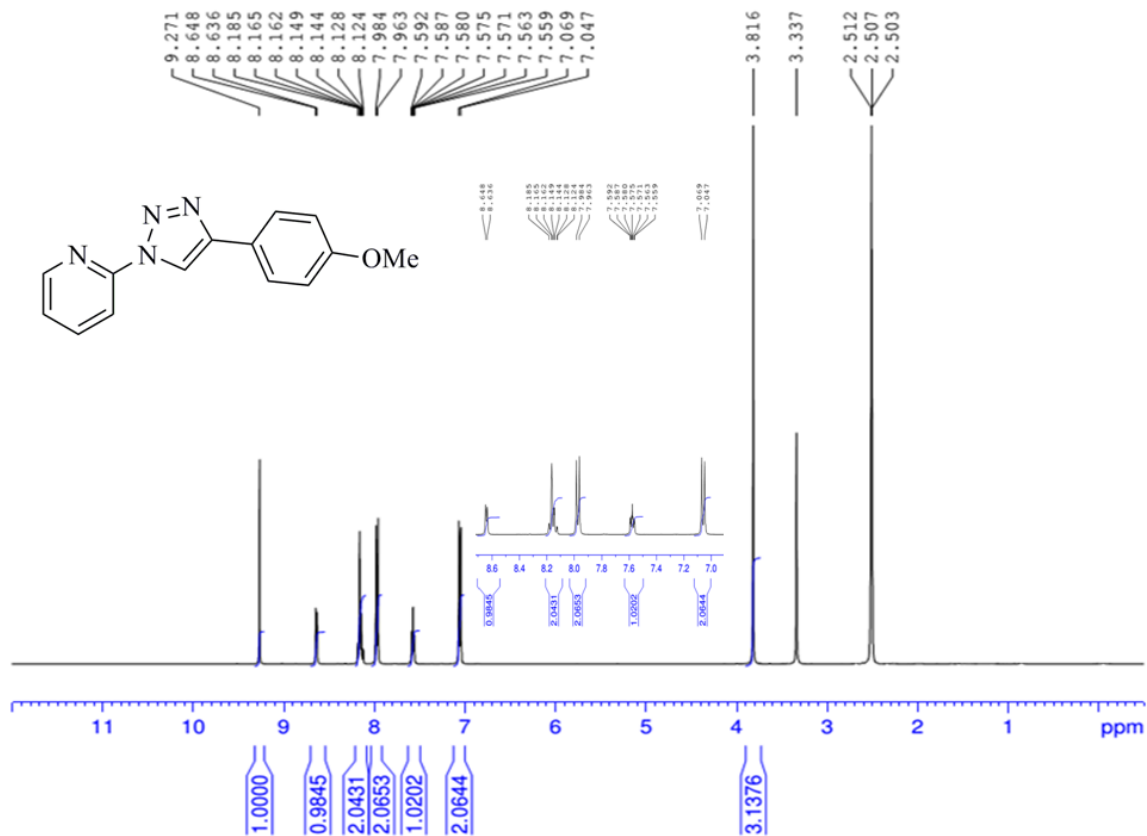


Figure 42. ¹H NMR spectrum of **4p**

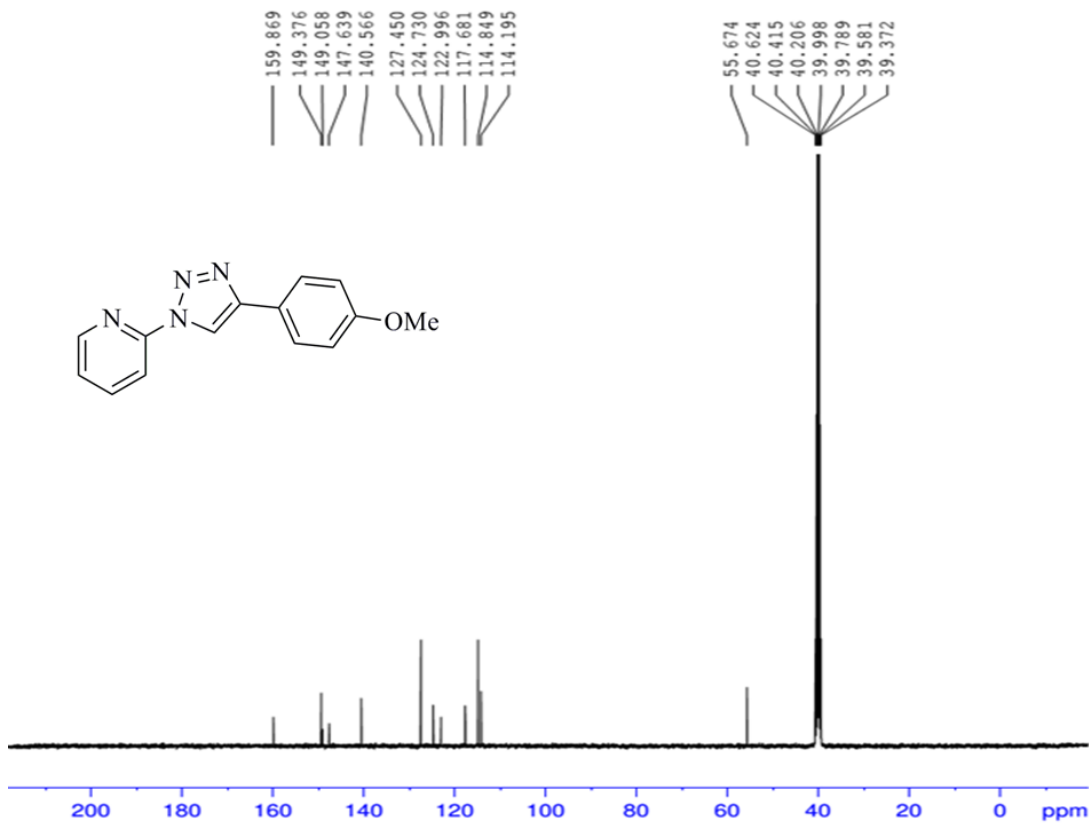


Figure 43. ¹³C NMR spectrum of **4p**

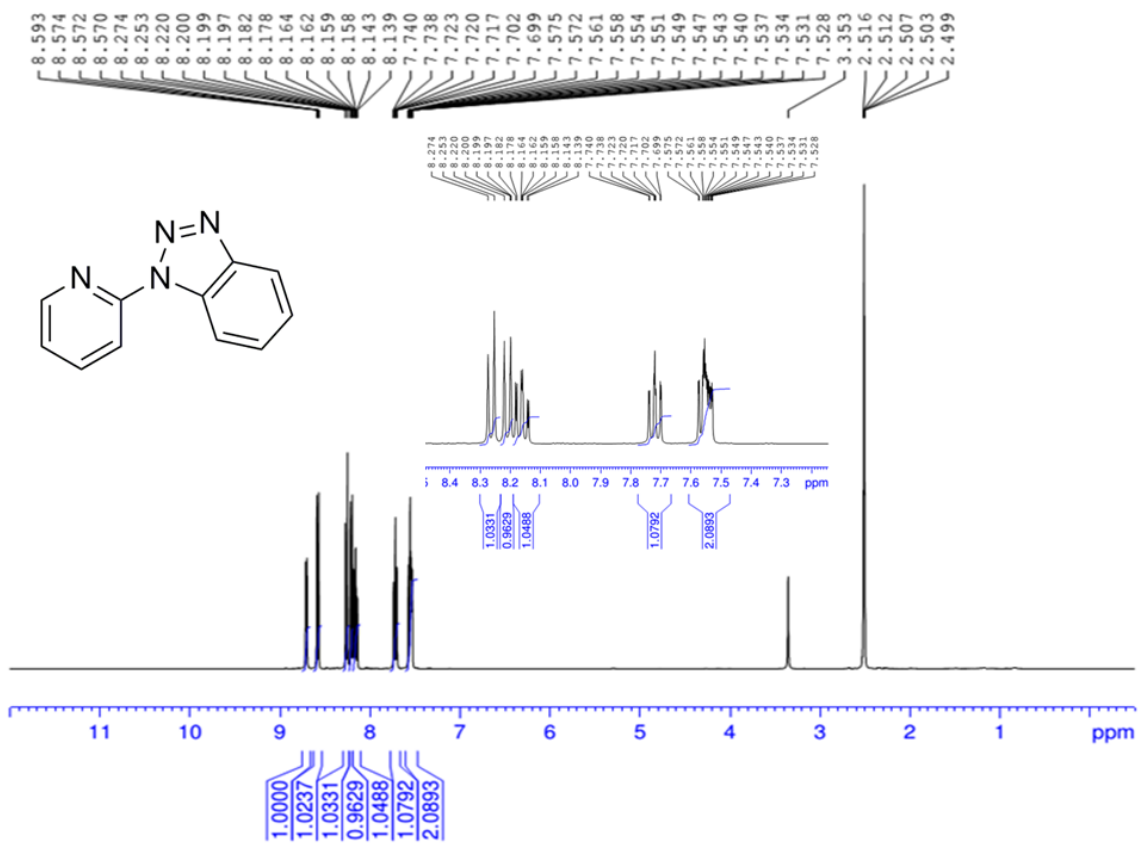


Figure 44. ¹H NMR spectrum of **4q**

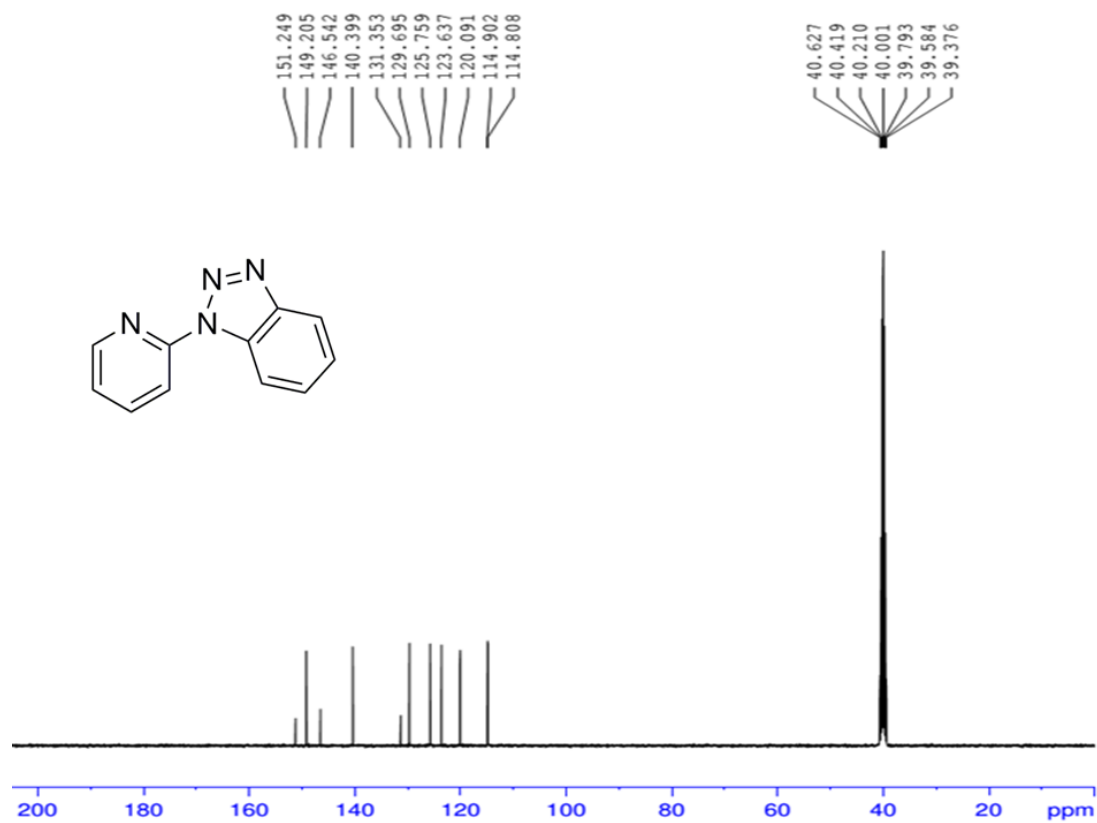


Figure 45. ¹³C NMR spectrum of **4q**

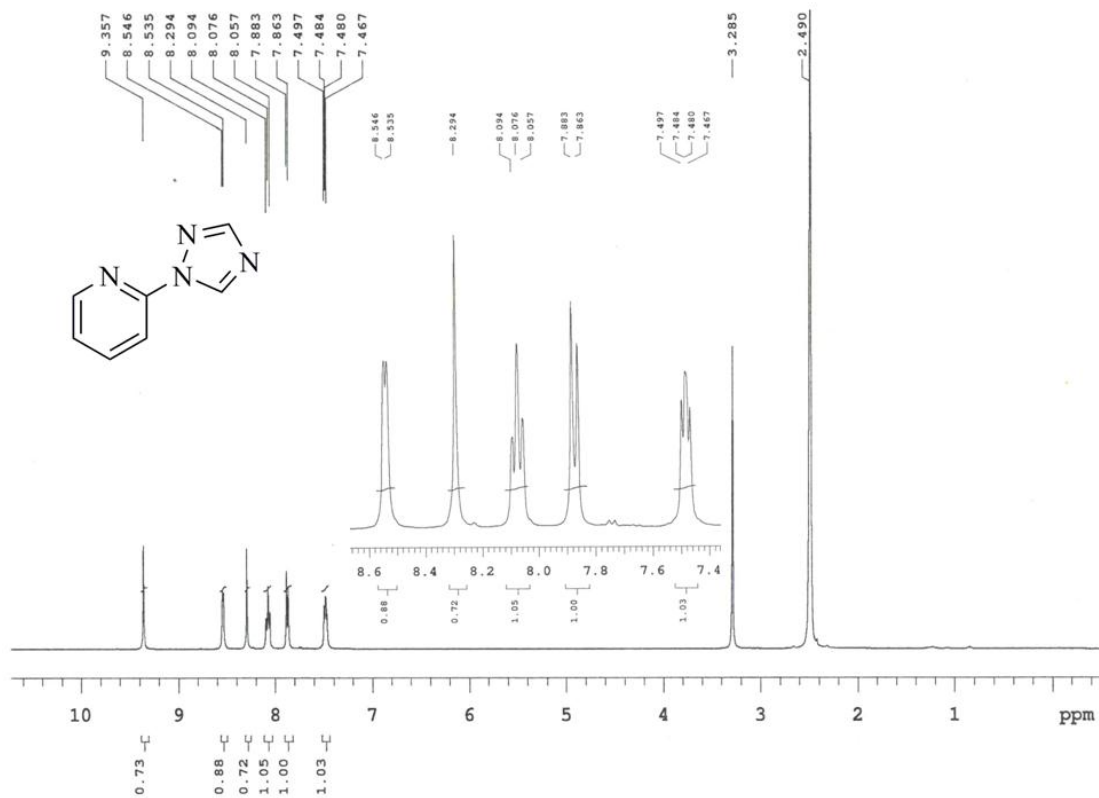


Figure 46. ¹H NMR spectrum of 4r

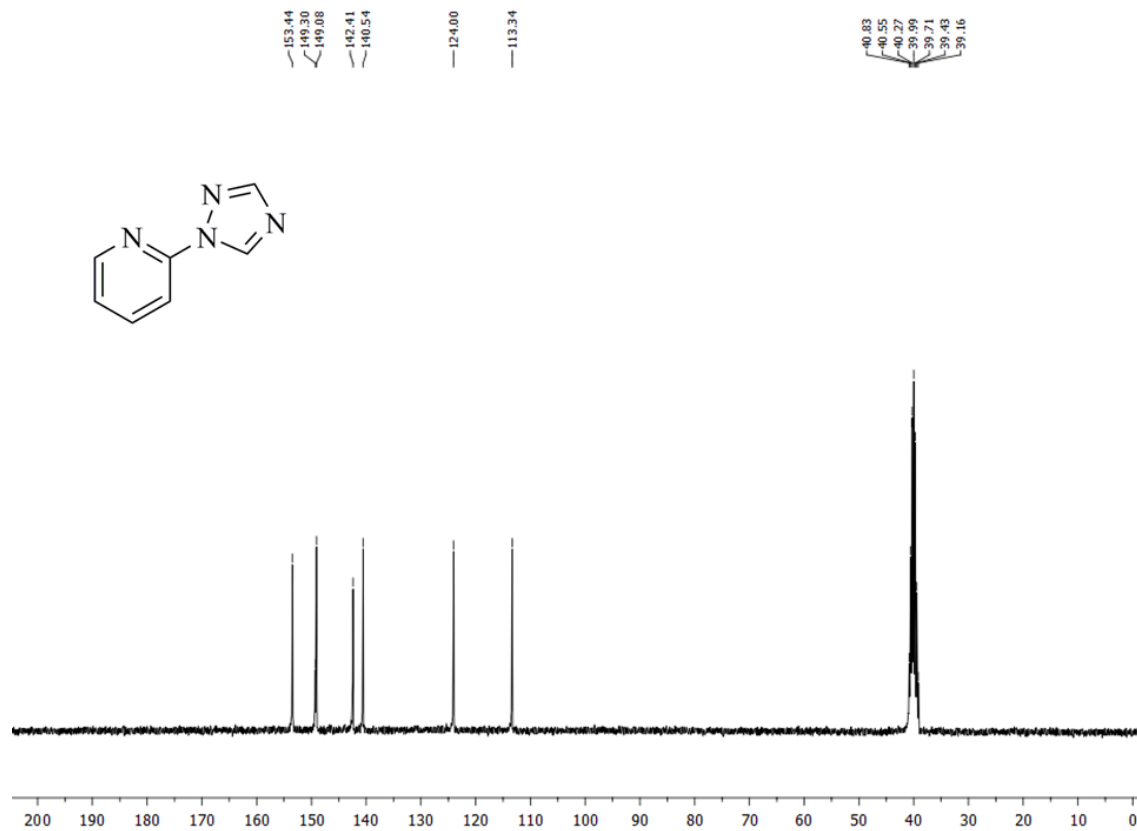


Figure 47. ¹³C NMR spectrum of 4r