

Tungsten anchored onto functionalized SBA-15: An efficient catalyst for diastereoselective synthesis of 2-azapyrrolizidine alkaloid scaffolds

Javad Safaei-Ghomi* and Atefeh Bakhtiari

Department of Organic Chemistry, Faculty of Chemistry, University of Kashan, Kashan, Iran. Fax: 98 591 2397; Tel: 98 591 2385;

E-mail: Safaei@kashanu.ac.ir

¹H NMR Spectra of compounds

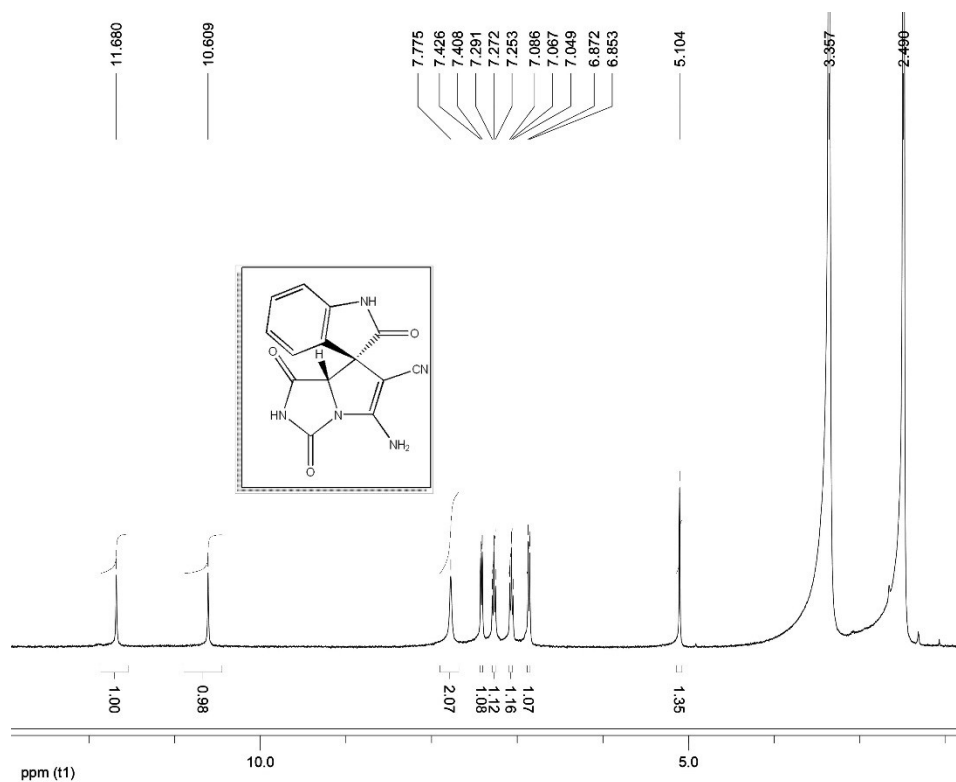


Figure S1. ¹H-NMR (400 MHz, DMSO-d₆) spectrum of compound 4a.

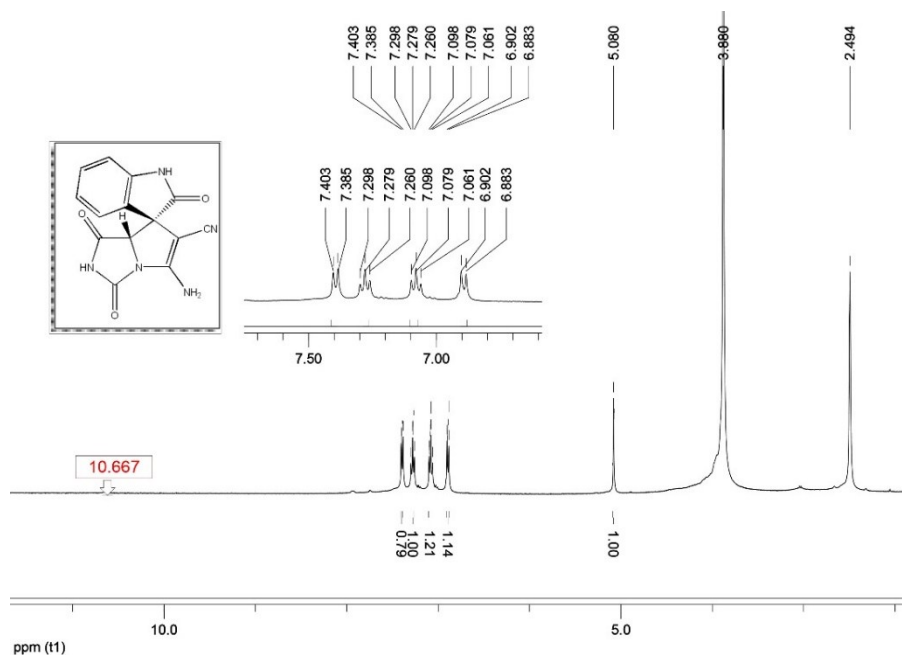


Figure S2. ¹H-NMR (400 MHz, DMSO-d₆ with a drop of D₂O) spectrum of compound 4a.

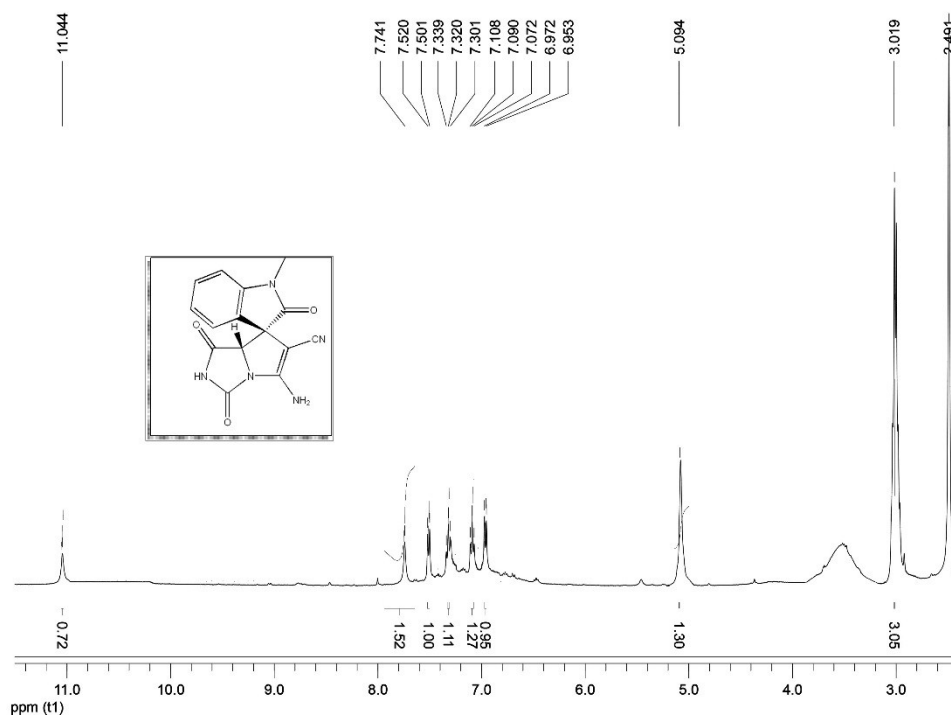


Figure S3. ¹H-NMR (400 MHz, DMSO-d₆) spectrum of compound 4b.

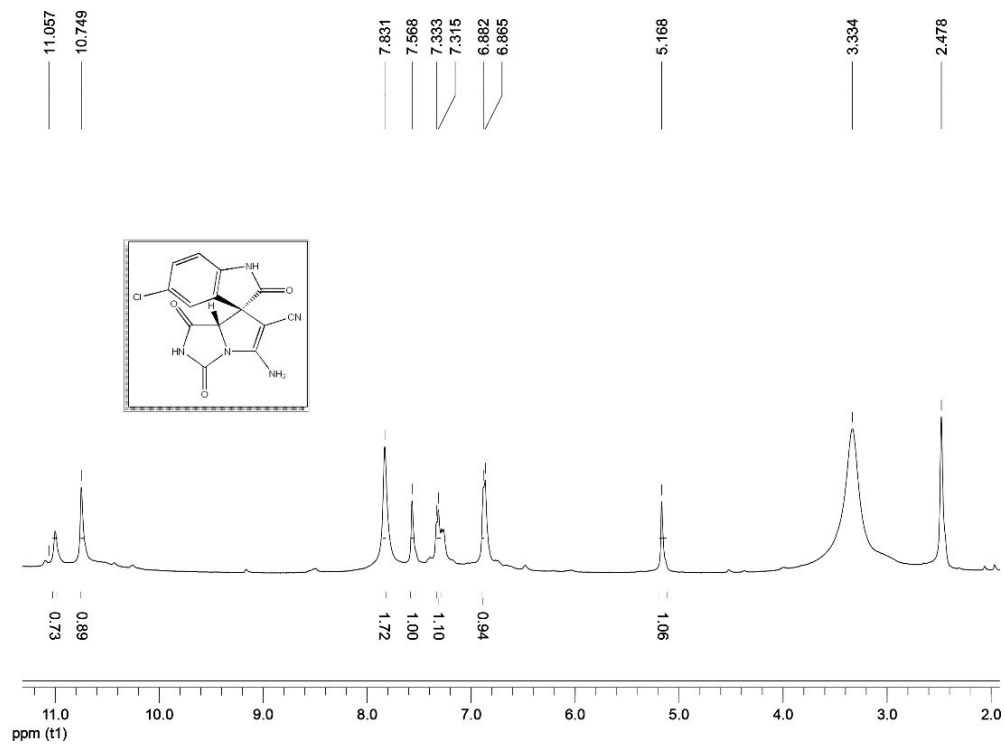


Figure S4. $^1\text{H-NMR}$ (400 MHz, DMSO-d_6) spectrum of compound 4c.

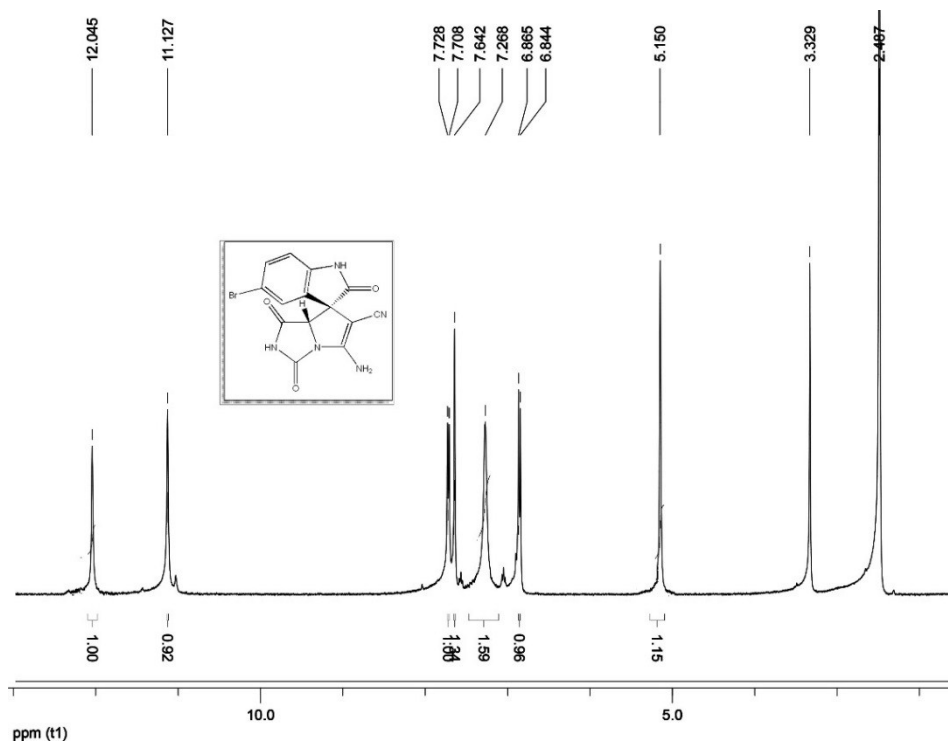


Figure S5. $^1\text{H-NMR}$ (400 MHz, DMSO-d_6) spectrum of compound 4d.

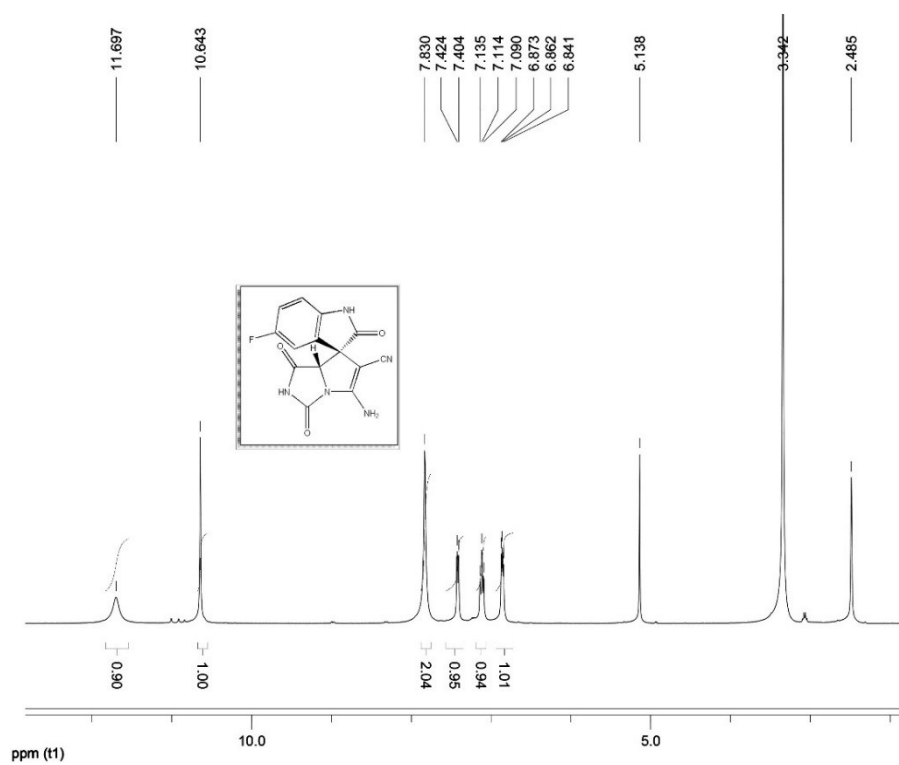


Figure S6. $^1\text{H-NMR}$ (400 MHz, DMSO-d_6) spectrum of compound 4e.

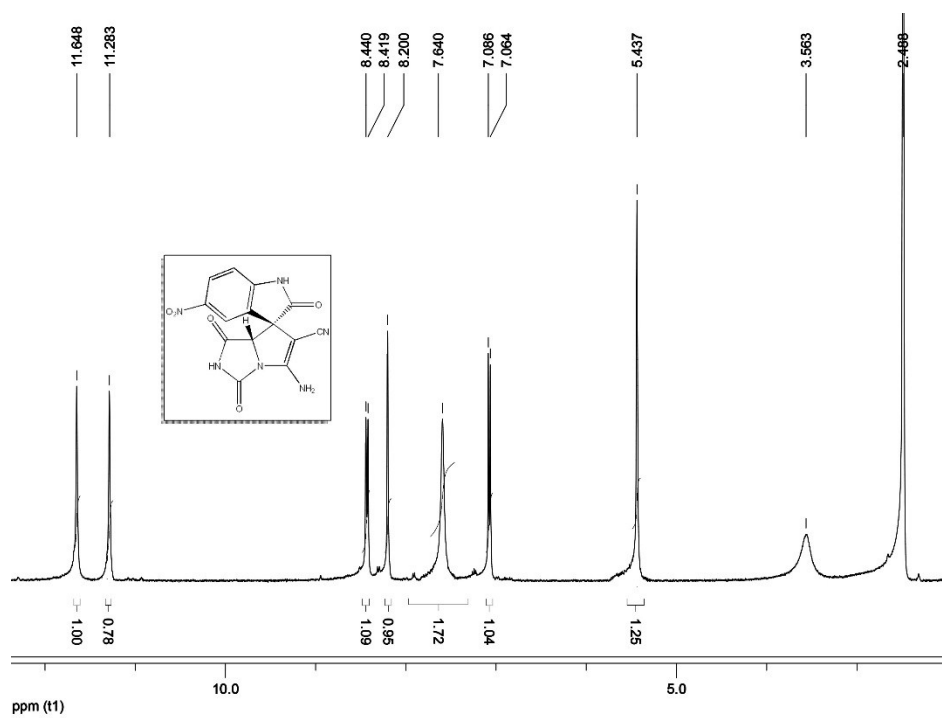


Figure S7. $^1\text{H-NMR}$ (400 MHz, DMSO-d_6) spectrum of compound 4g.

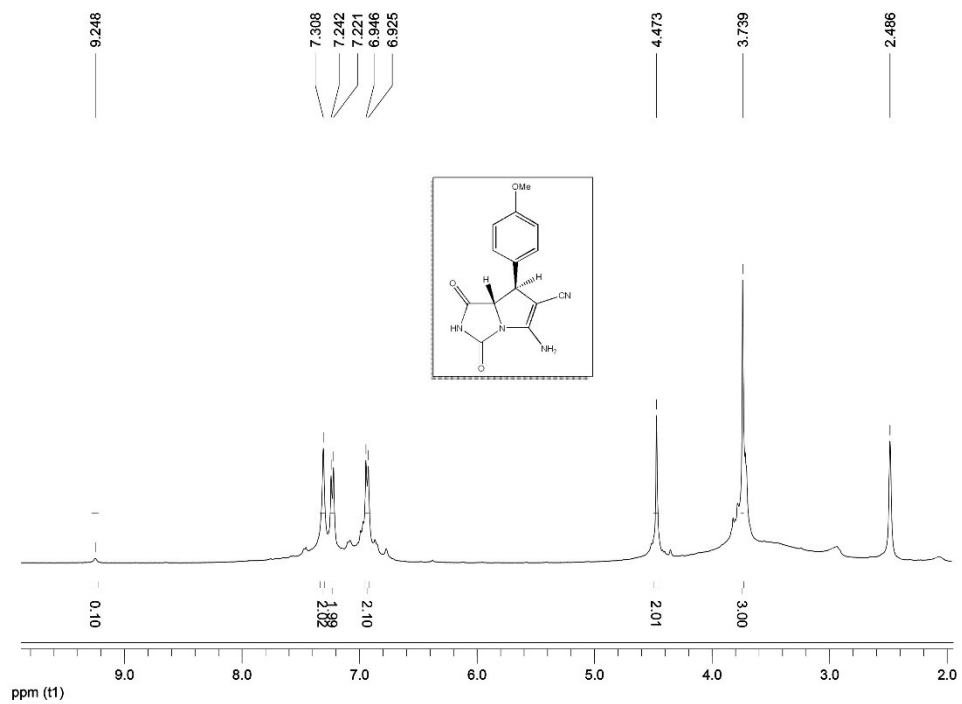


Figure S8. $^1\text{H-NMR}$ (400 MHz, DMSO-d_6) spectrum of compound 4i.

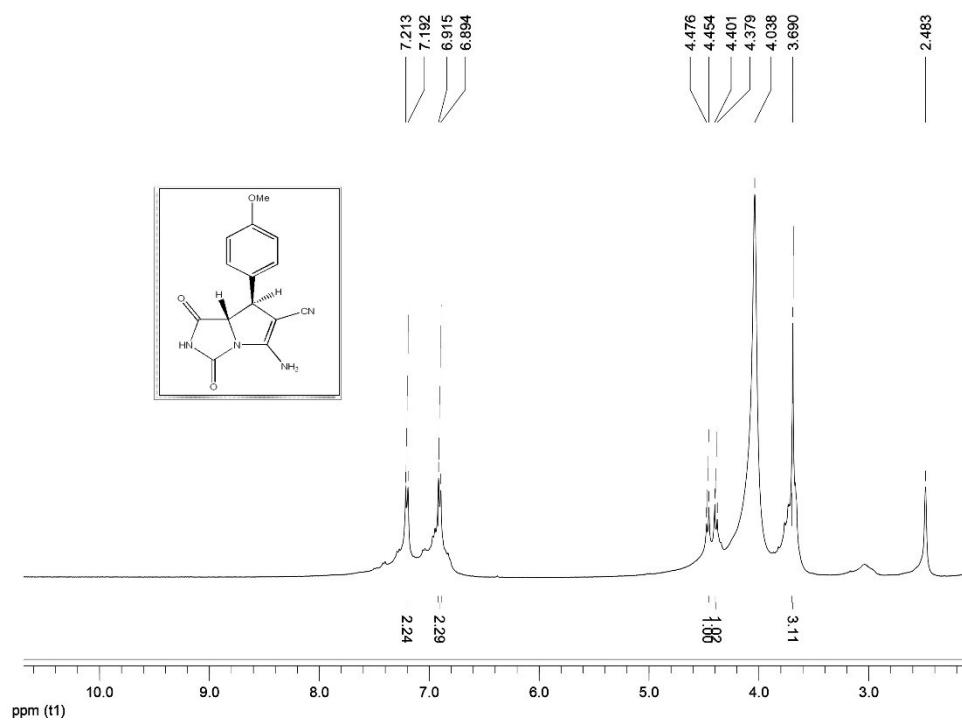


Figure S9. $^1\text{H-NMR}$ (400 MHz, DMSO-d_6 with a drop of D_2O) spectrum of compound 4i.

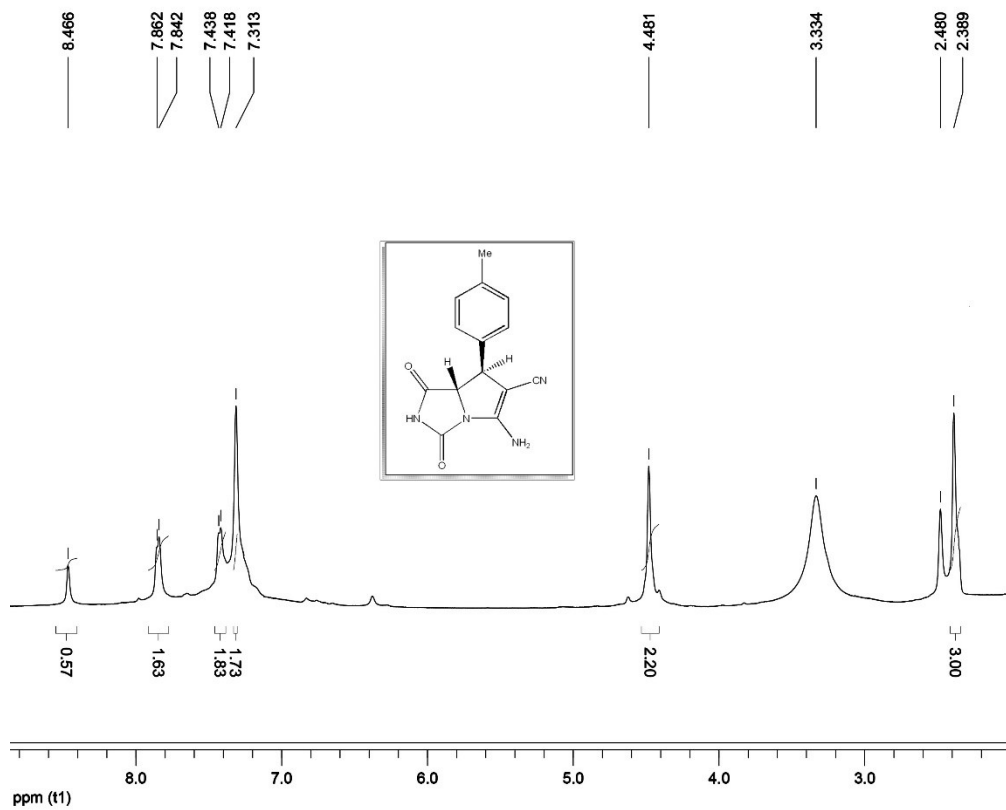


Figure S10. $^1\text{H-NMR}$ (400 MHz, DMSO- d_6) spectrum of compound 4j.

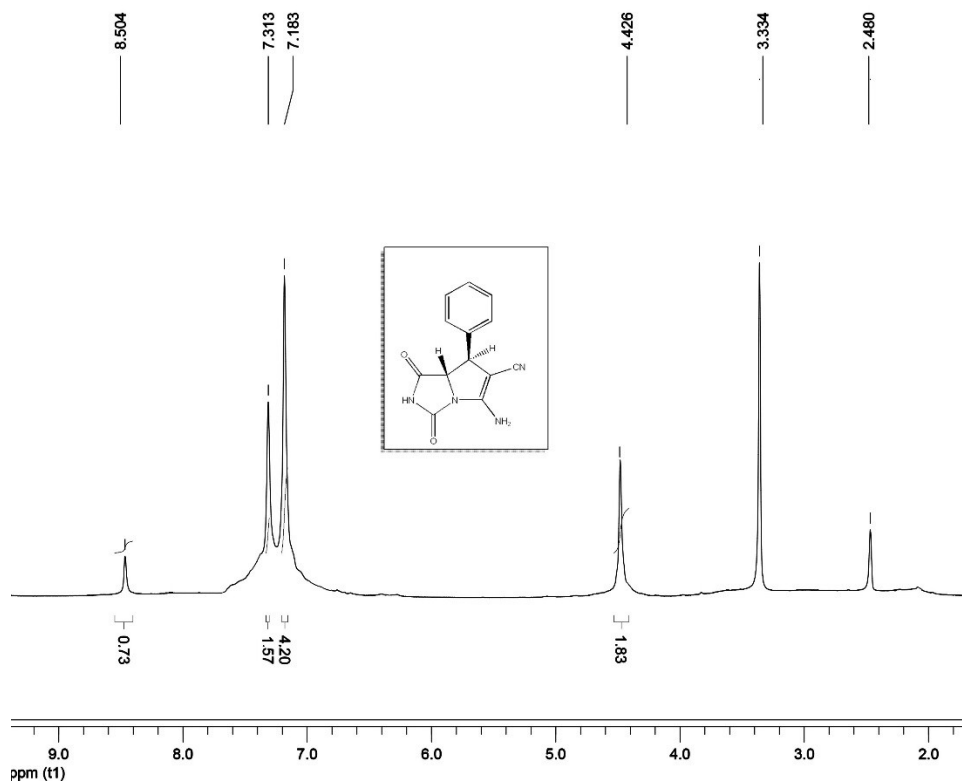


Figure S11. $^1\text{H-NMR}$ (400 MHz, DMSO-d_6) spectrum of compound 4k.

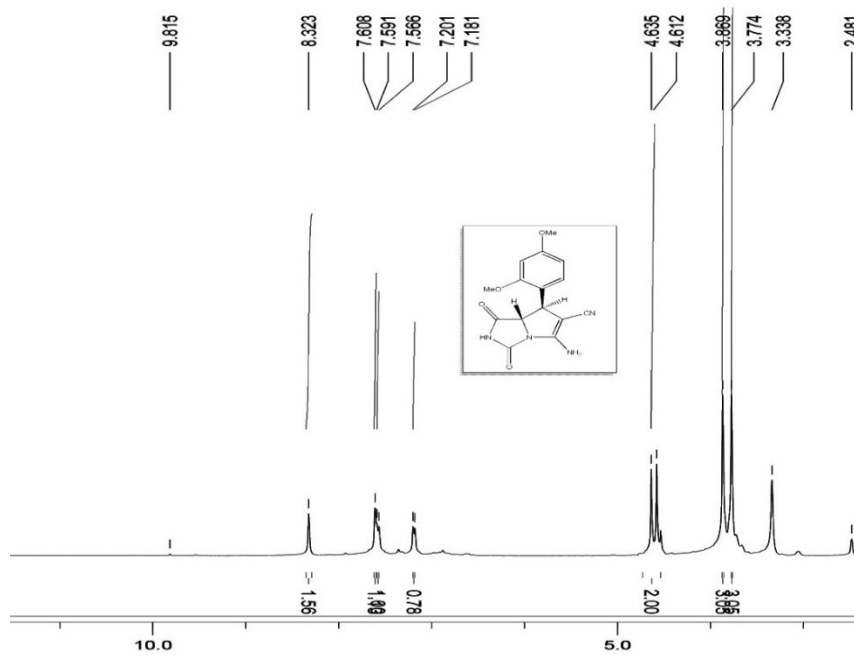


Figure S12. $^1\text{H-NMR}$ (400 MHz, DMSO-d_6) spectrum of compound 4l.

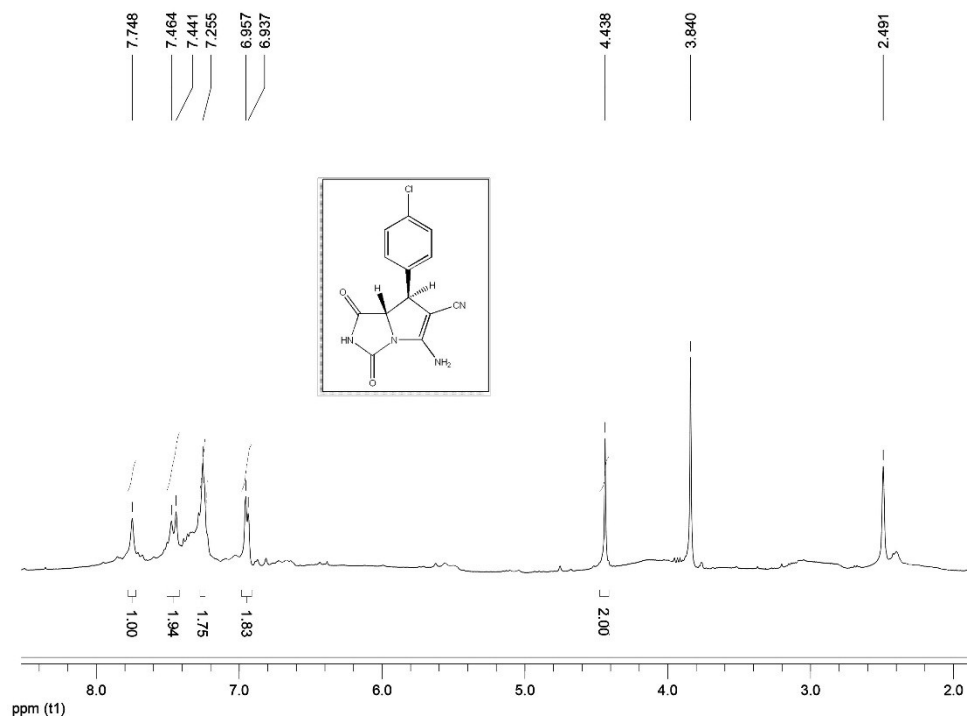


Figure S13. ¹H-NMR (400 MHz, DMSO-d₆) spectrum of compound 4o.