

Supplementary material

New Indole-3-Propionic Acid and 5-Methoxy-Indole Carboxylic Acid Derived Hydrazone Hybrids as Multifunctional Neuroprotectors

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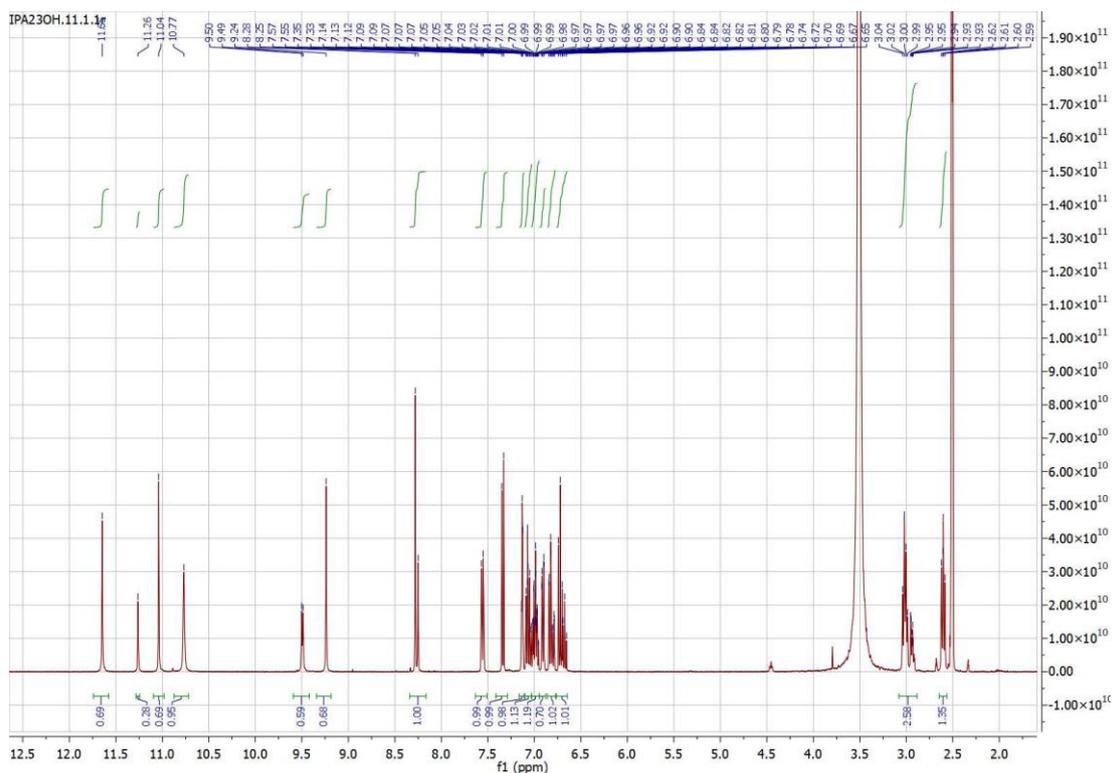
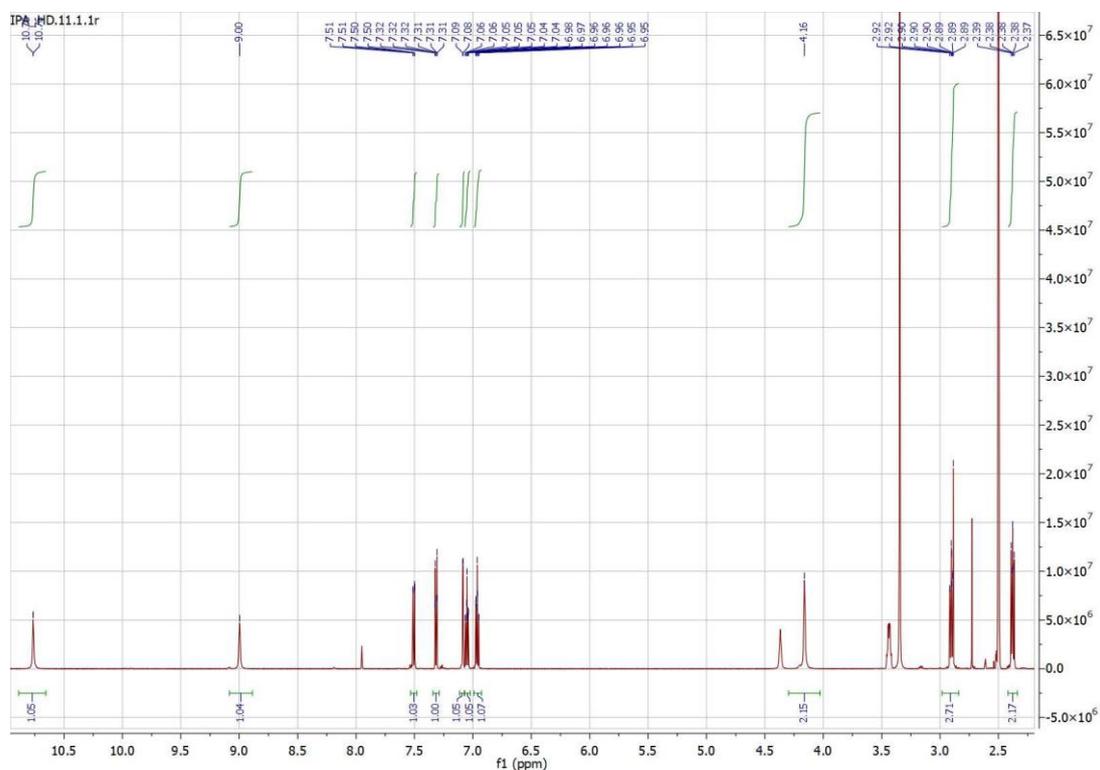


Figure S1. ¹H NMR spectrum of **2** (400 MHz, DMSO-d₆)



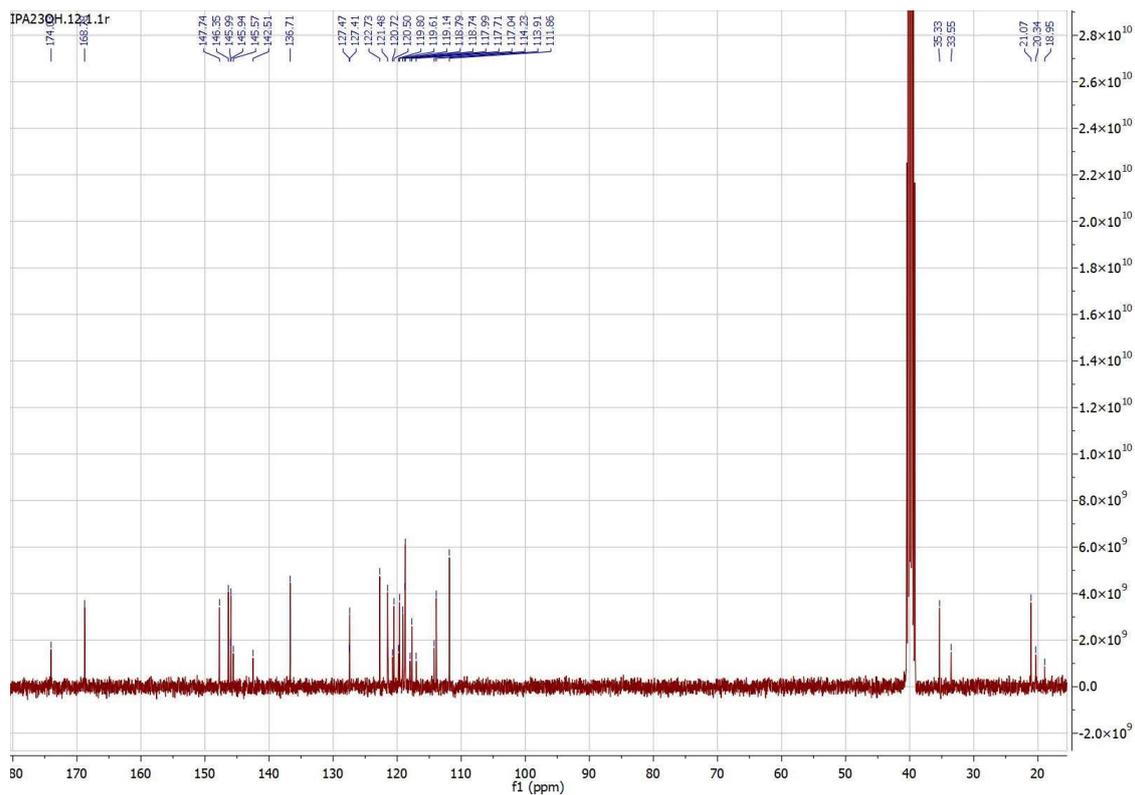


Figure S3. ^{13}C NMR spectrum of **3a** (151 MHz, DMSO-d_6).

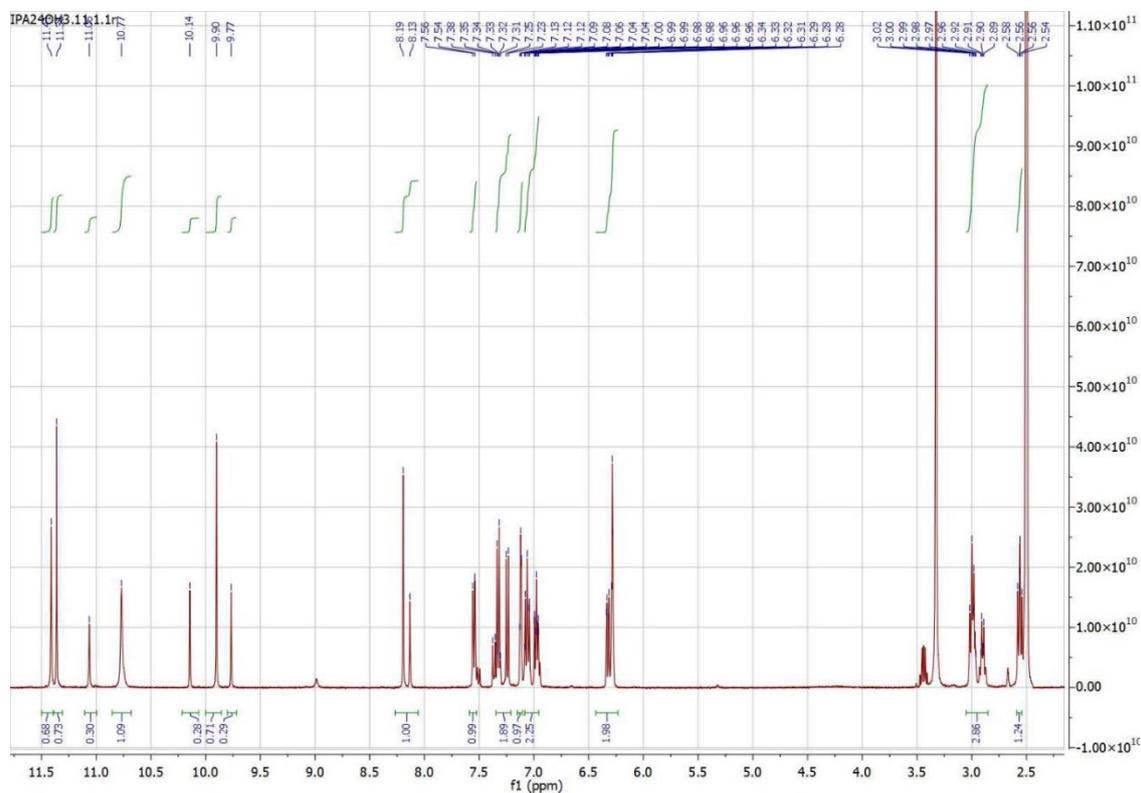


Figure S4. ^1H NMR spectrum of (**3c**) (600 MHz, DMSO-d_6).

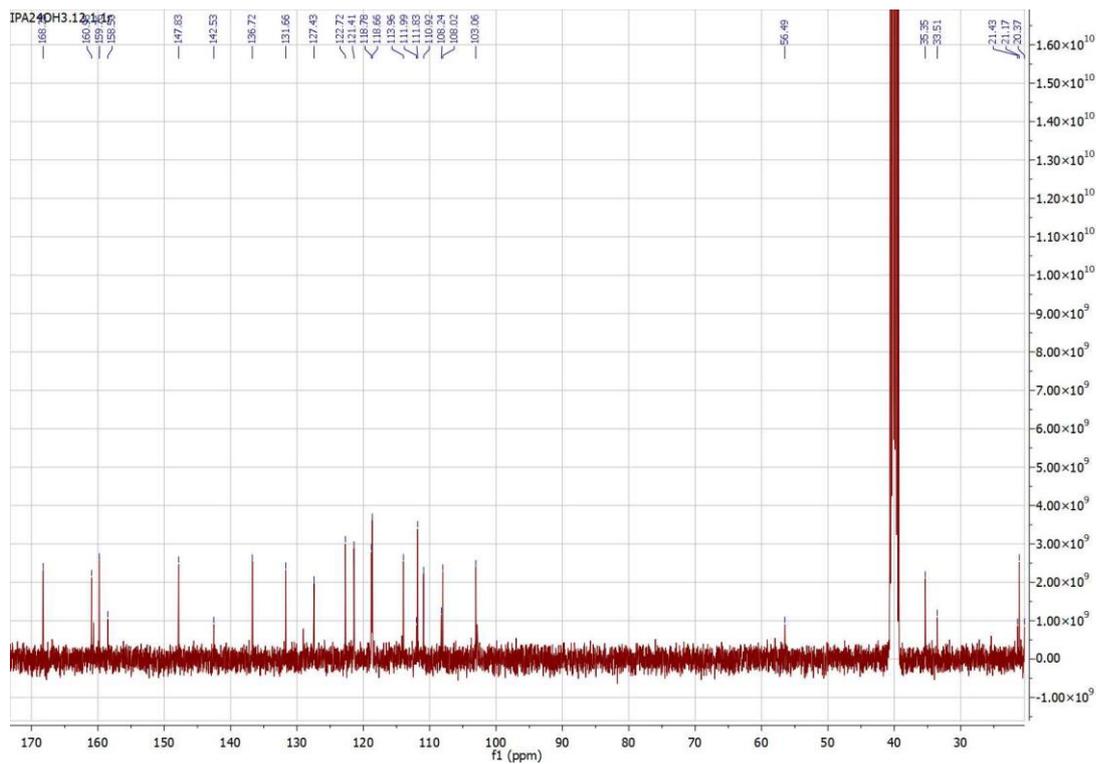


Figure S5. ^{13}C NMR spectrum of **3c** (151 MHz, DMSO-d_6).

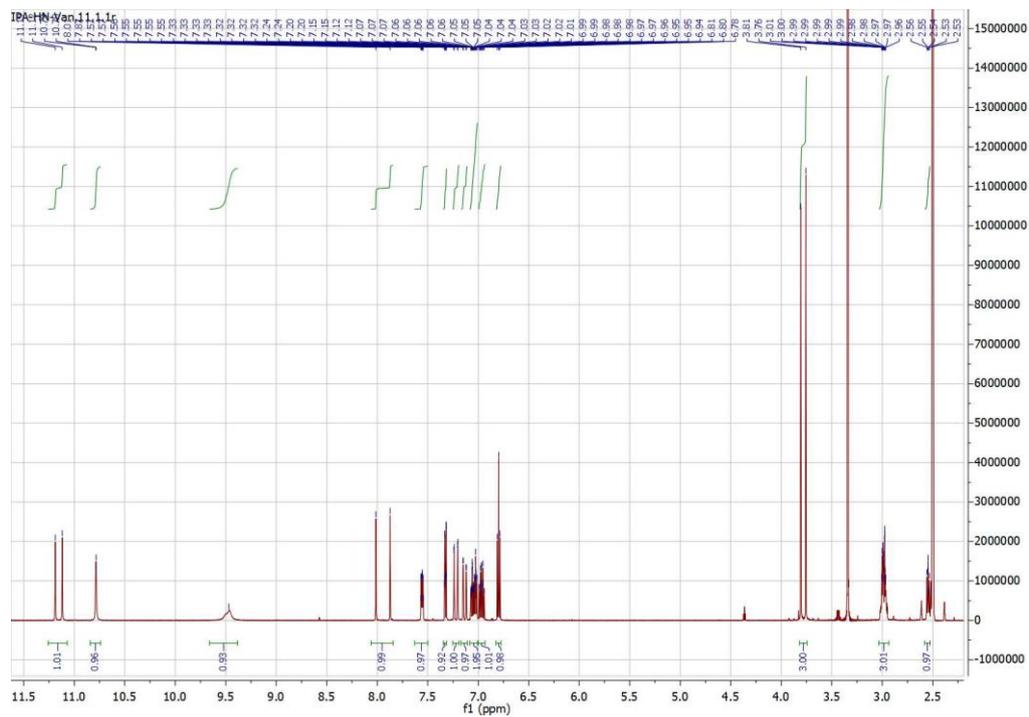


Figure S6. ^1H NMR spectrum of **(3d)** (600 MHz, DMSO-d_6).

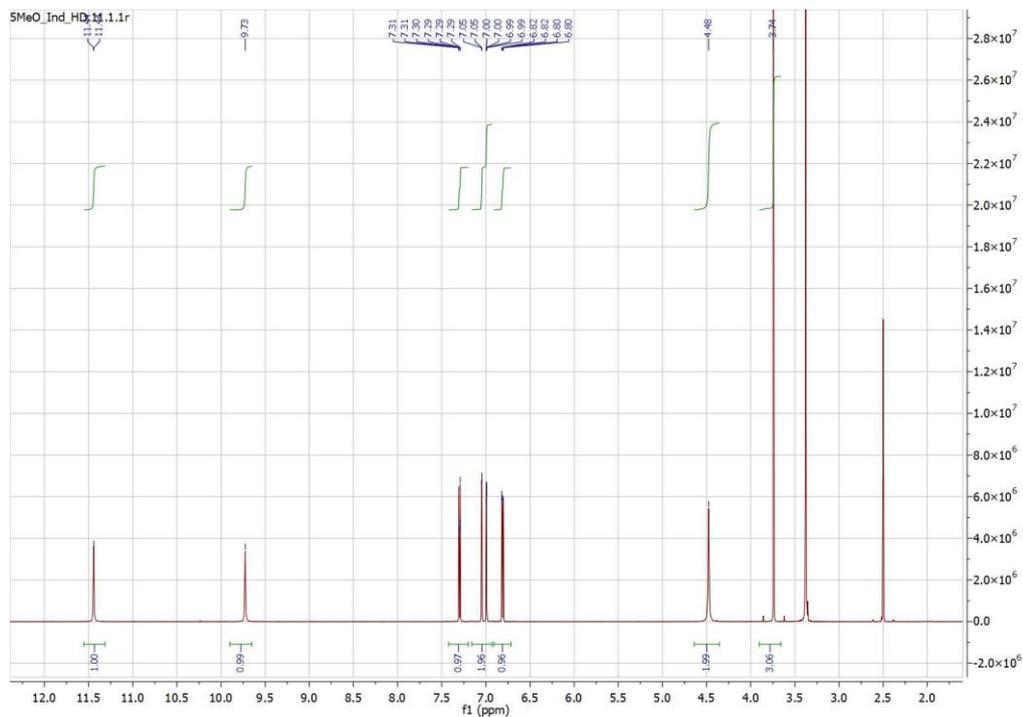


Figure S11. ^1H NMR spectrum of **4** (600 MHz, DMSO-d_6)

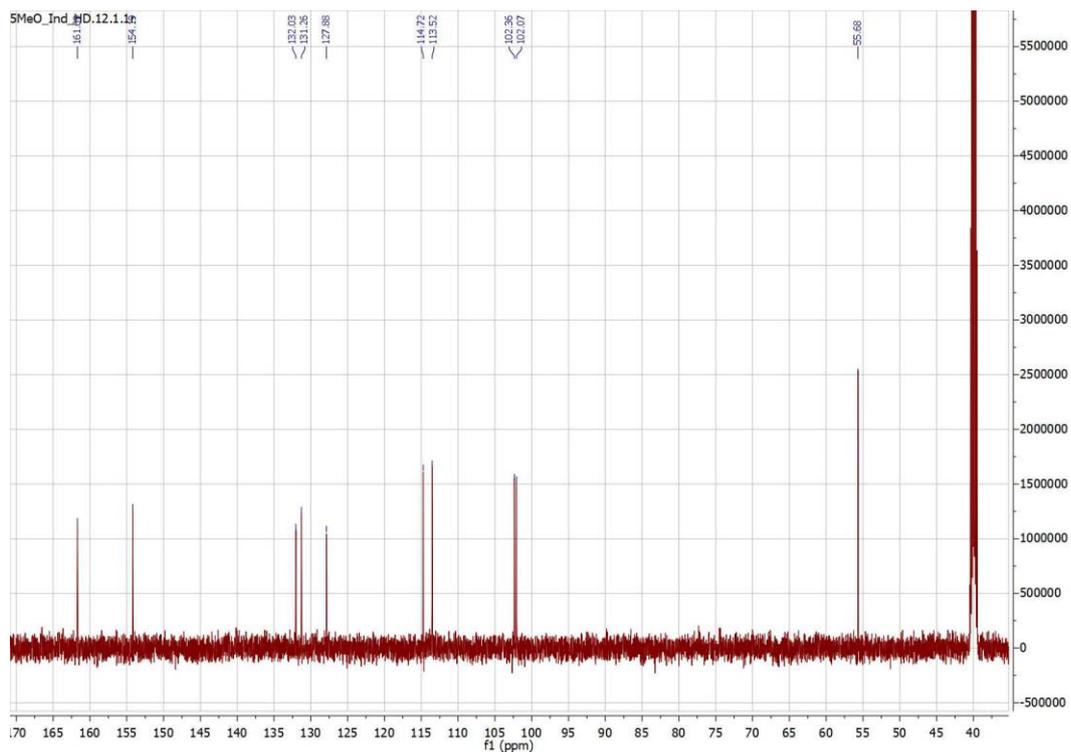


Figure S12. ^{13}C NMR spectrum of **4** (151 MHz, DMSO-d_6).

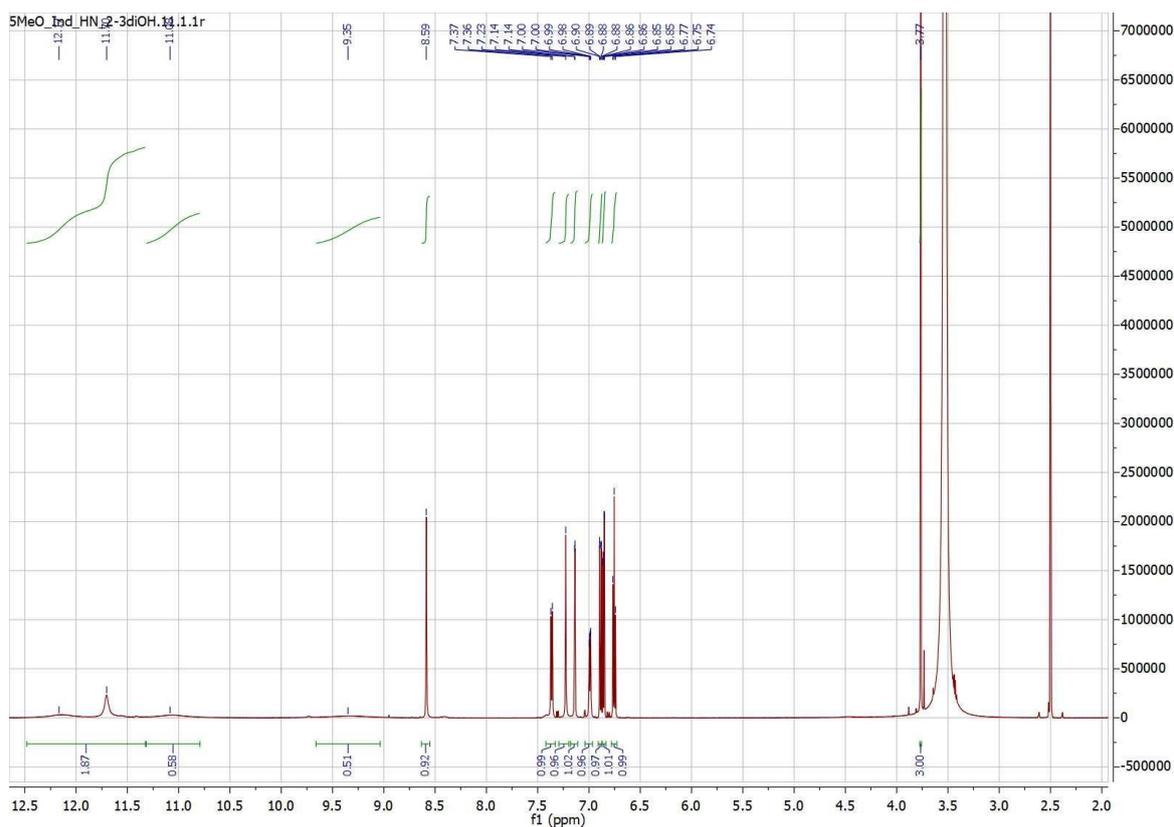


Figure S13. ^1H NMR spectrum of (5a) (600 MHz, DMSO- d_6)

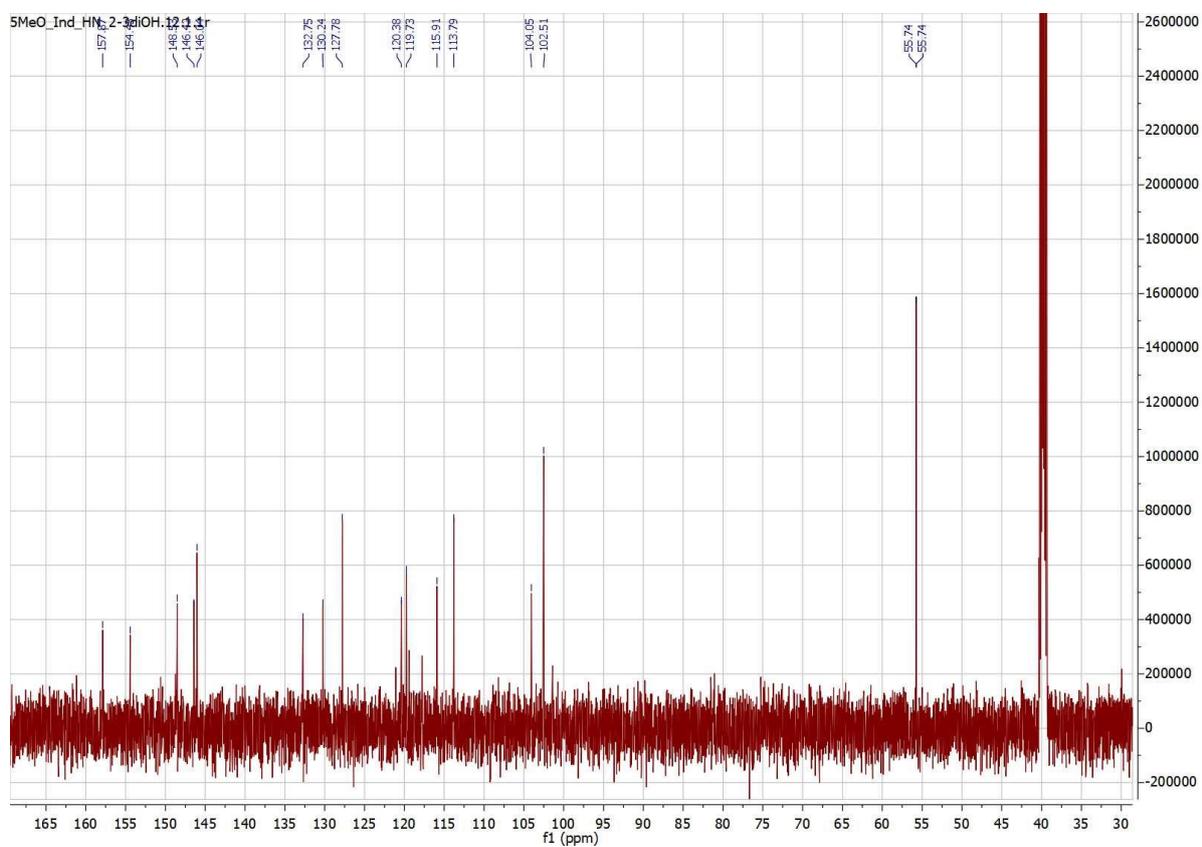


Figure S14. ^{13}C NMR spectrum of 5a (151 MHz, DMSO- d_6).

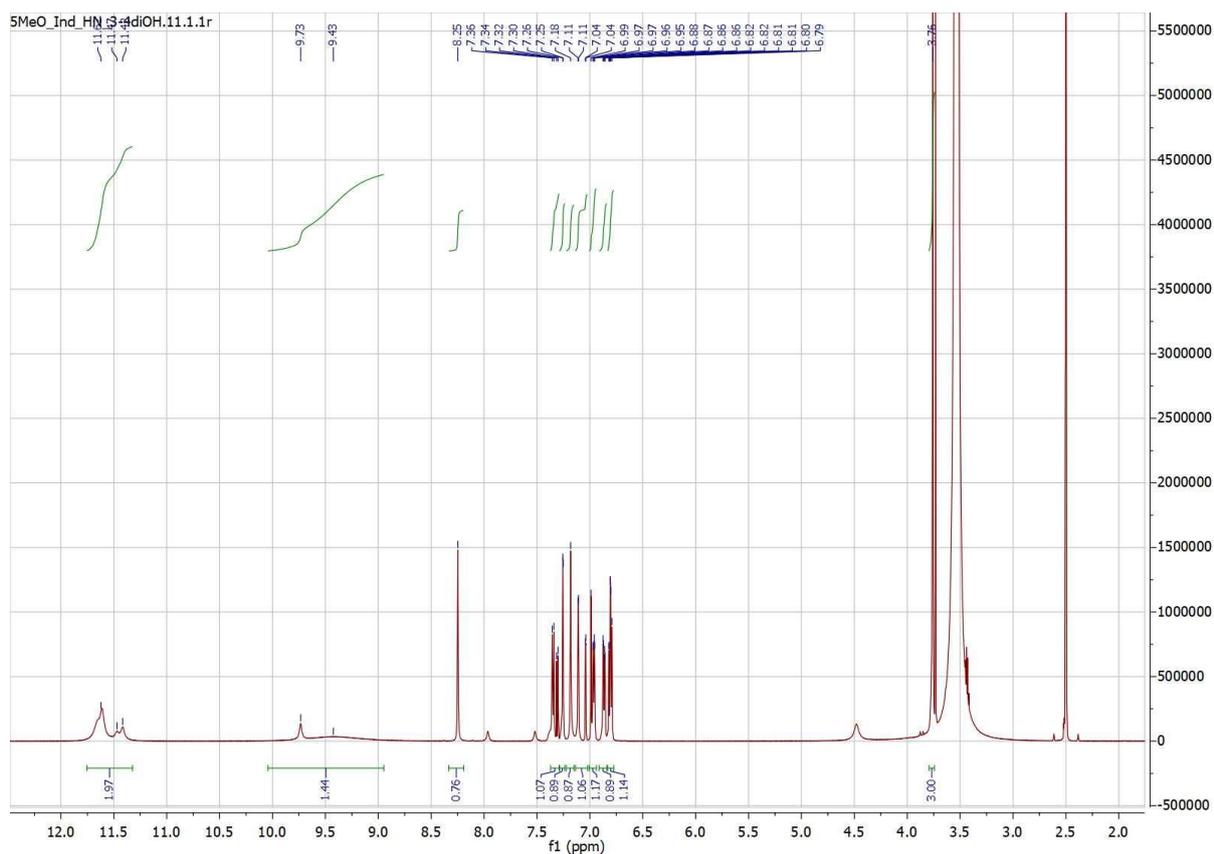


Figure S15. ^1H NMR spectrum of **5b** (600 MHz, DMSO-d_6).

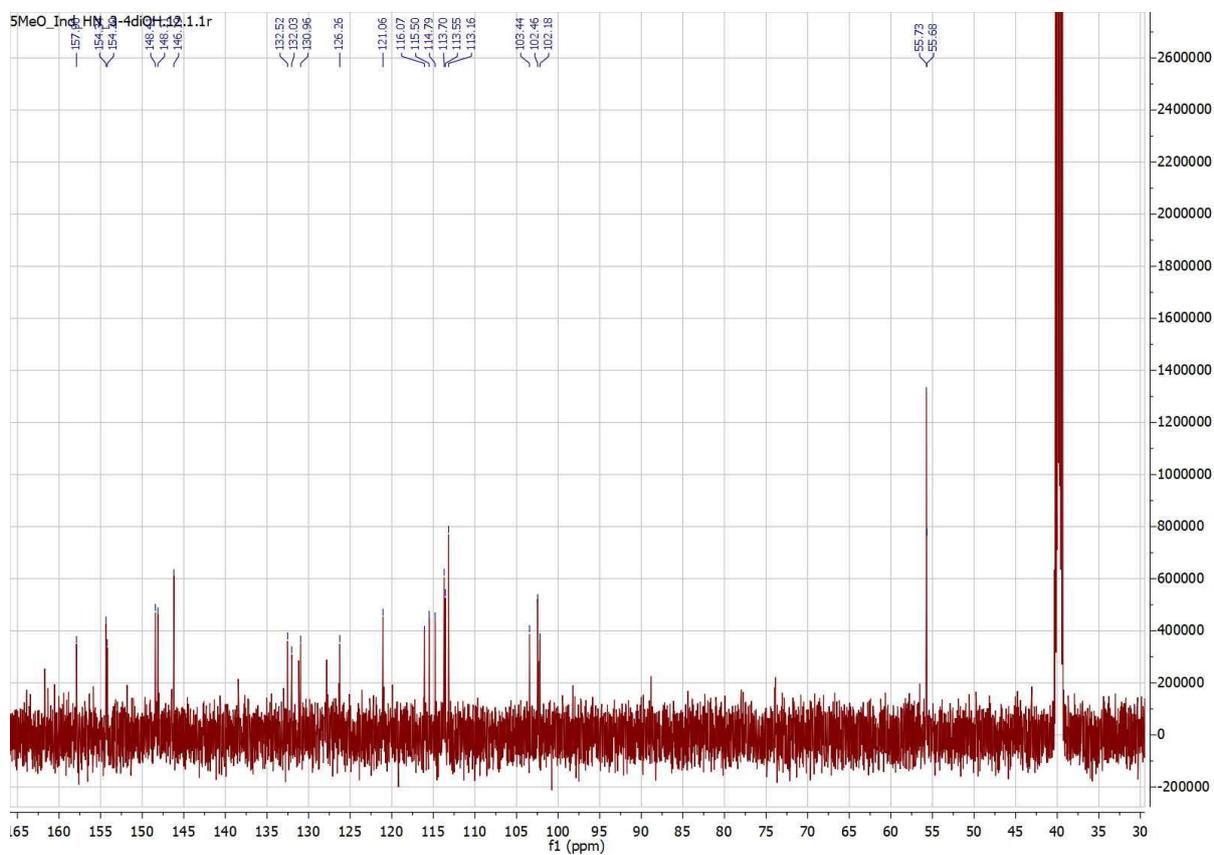


Figure S16. ^{13}C NMR spectrum of **5b** (151 MHz, DMSO-d_6).

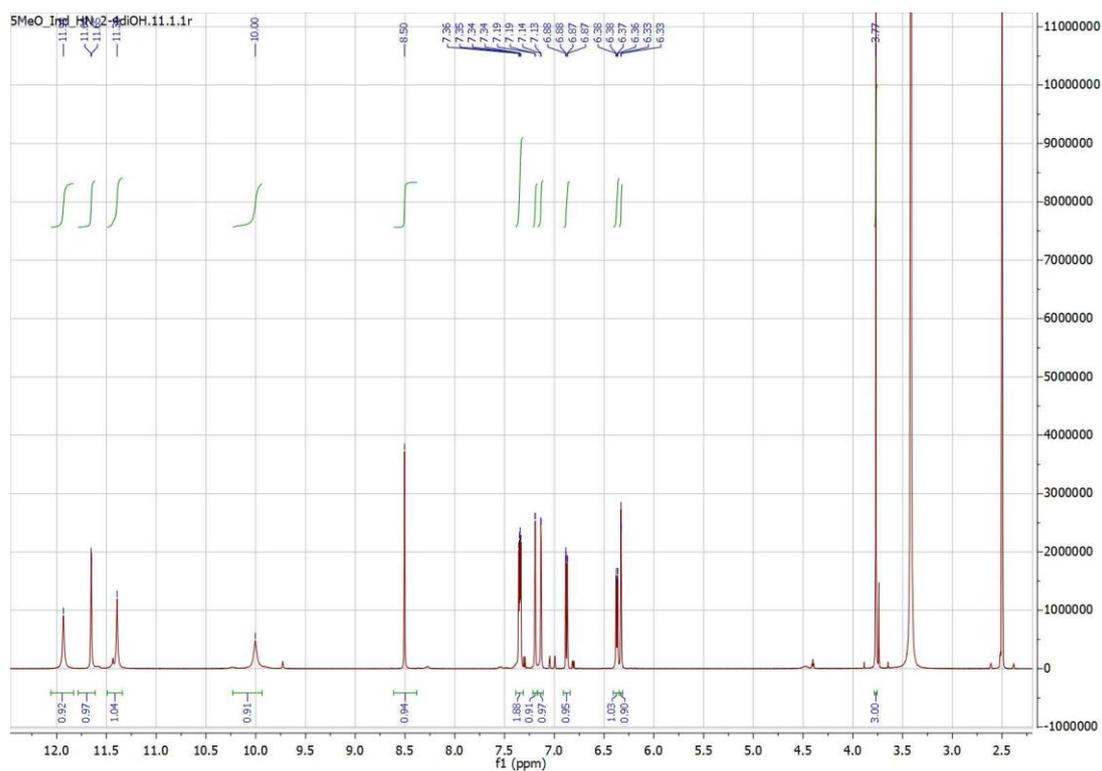


Figure S17. ^1H NMR spectrum of **5c** (600 MHz, DMSO-d_6)

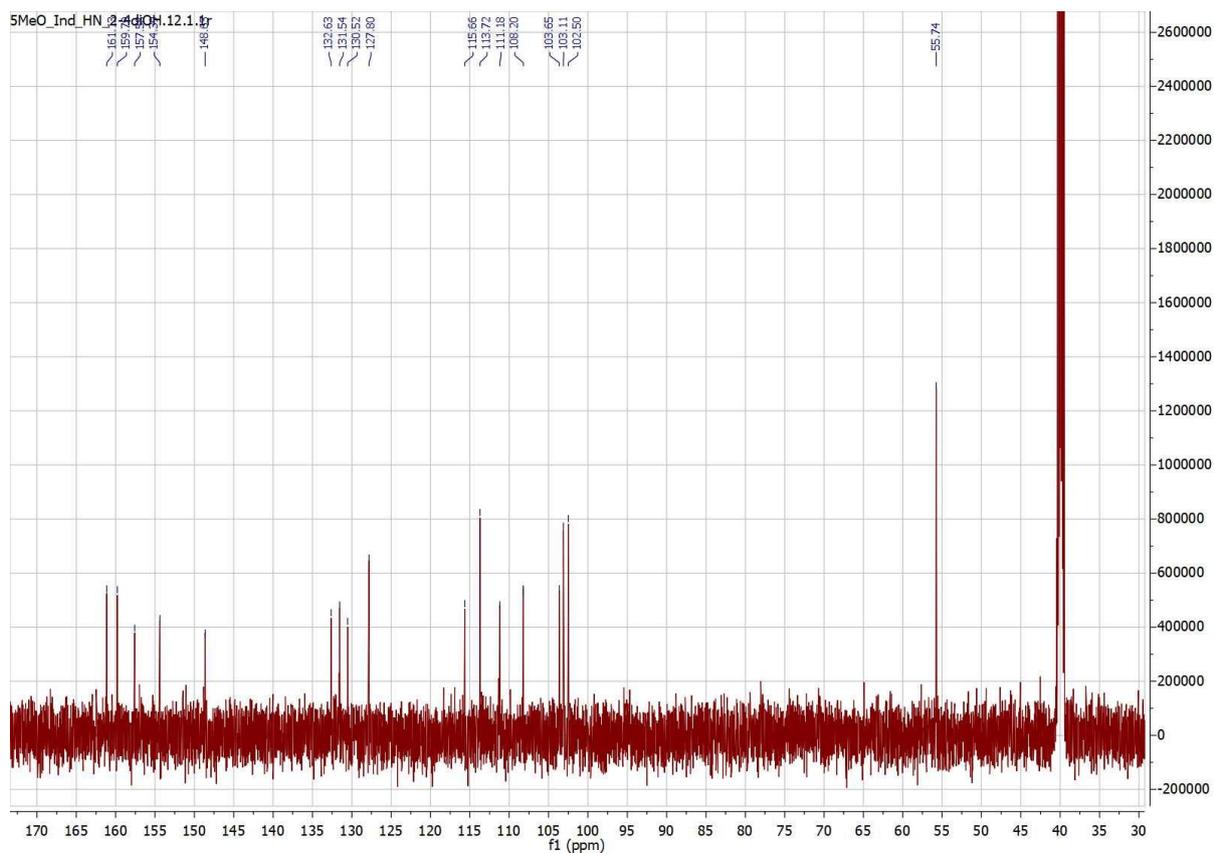


Figure S18. ^{13}C NMR spectrum of **5c** (151 MHz, DMSO-d_6).

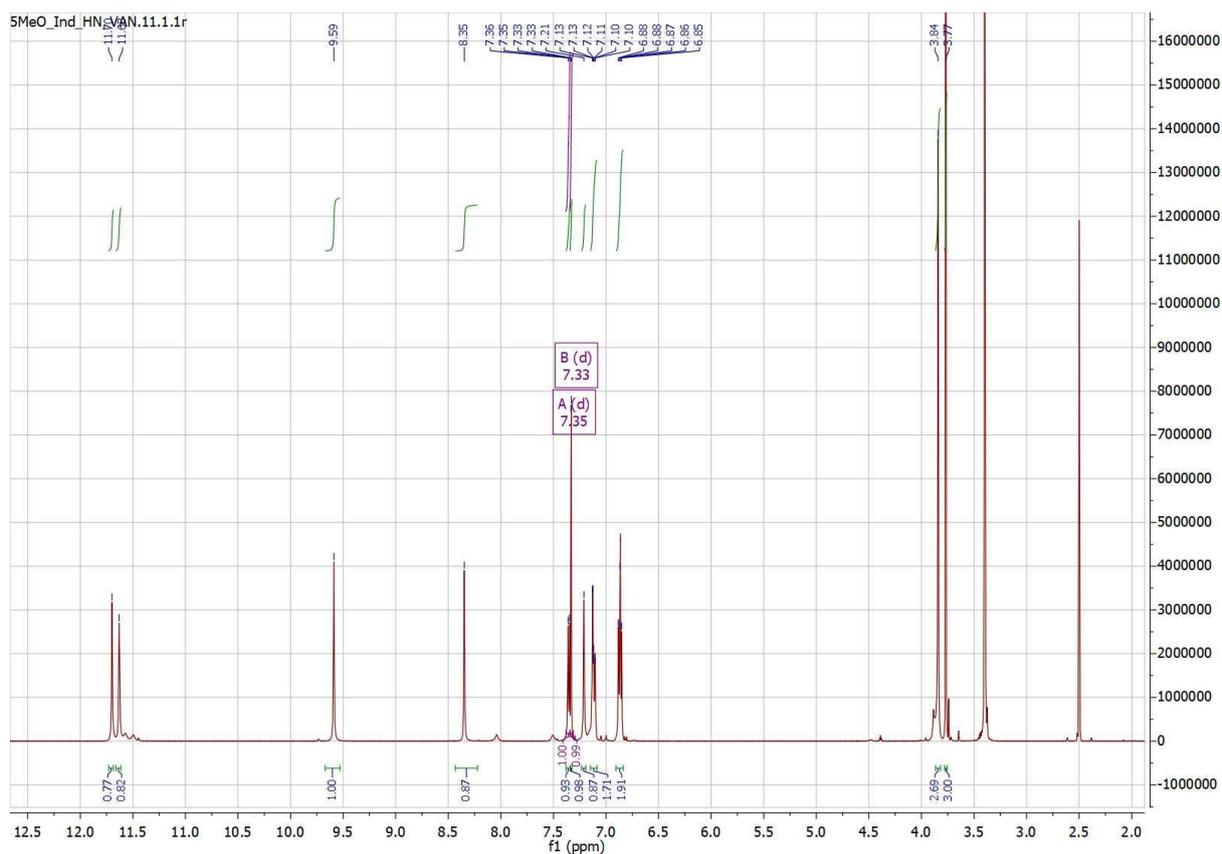


Figure S19. ^1H NMR spectrum of **5d** (600 MHz, DMSO-d_6)

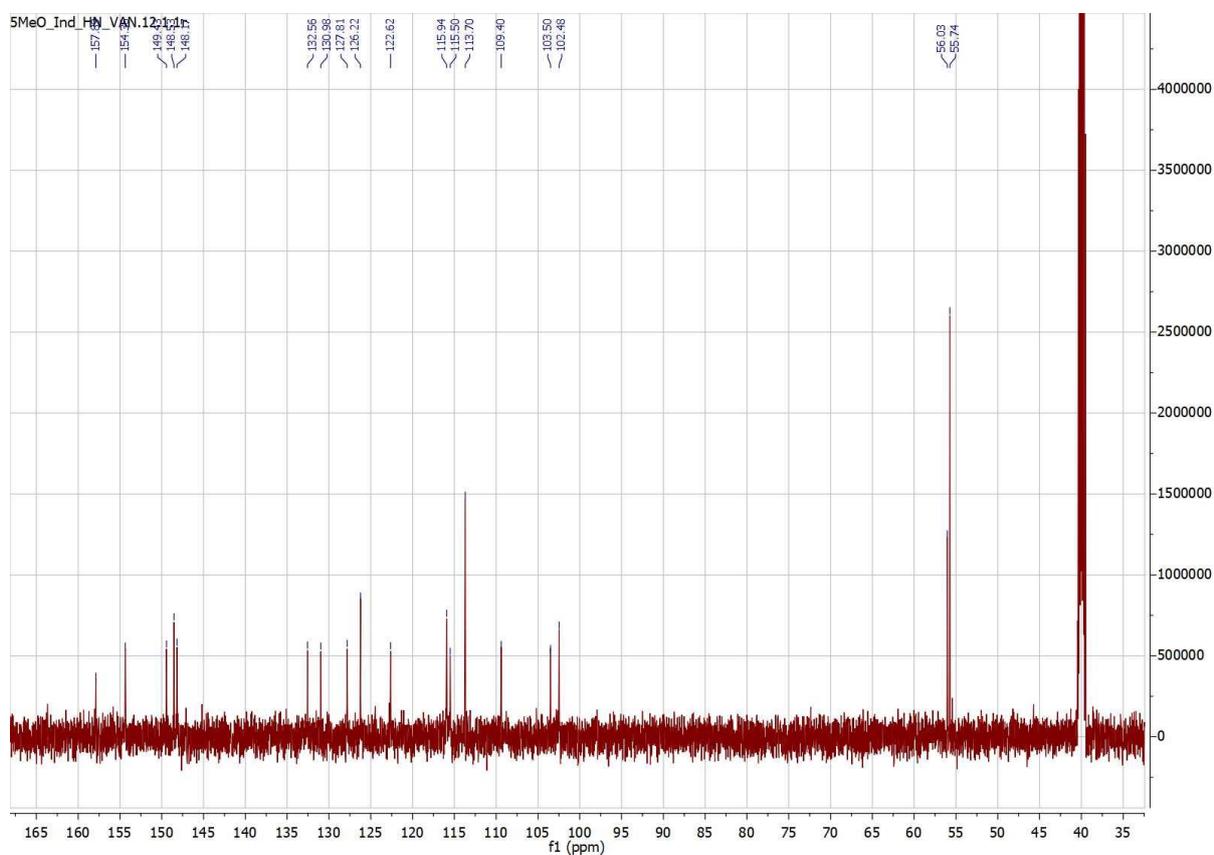


Figure S20. ^{13}C NMR spectrum of **5d** (151 MHz, DMSO-d_6)

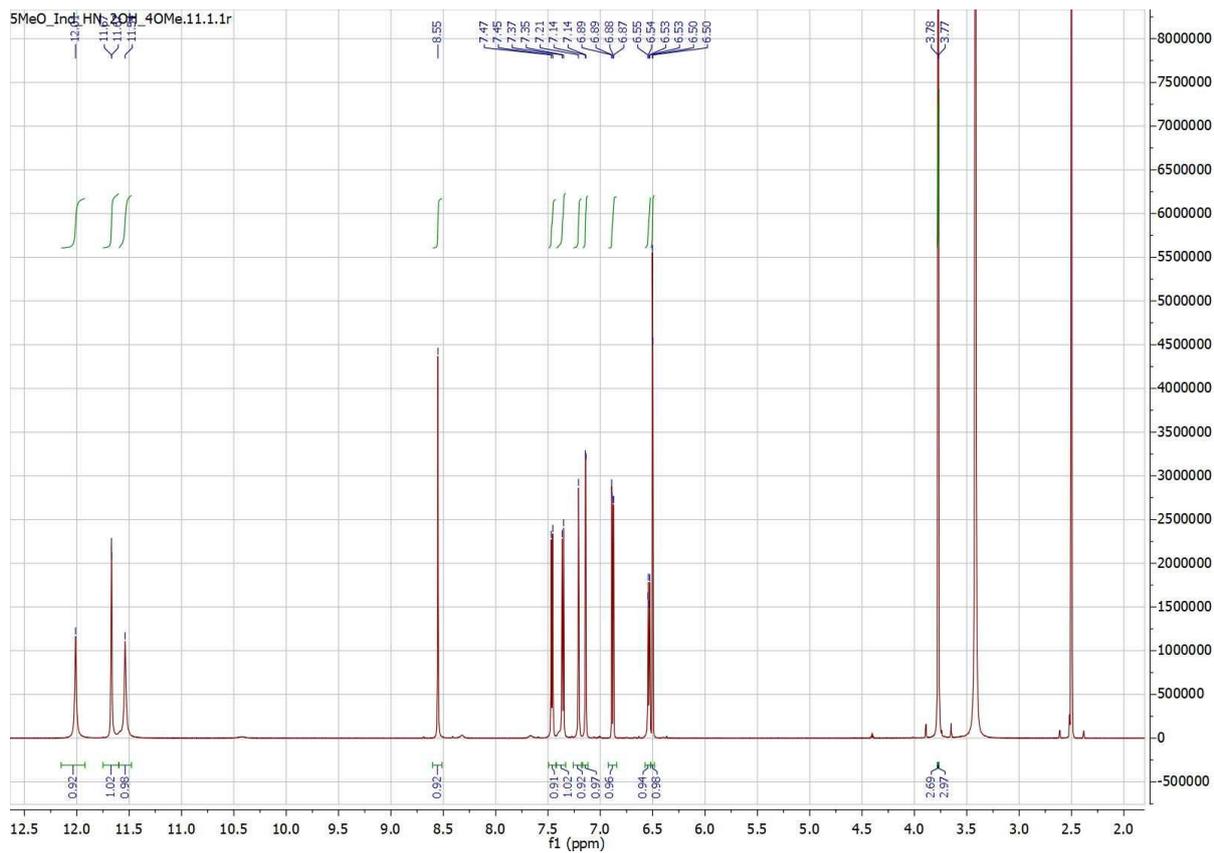


Figure S21. ^1H NMR spectrum of **5e** (600 MHz, DMSO-d_6)

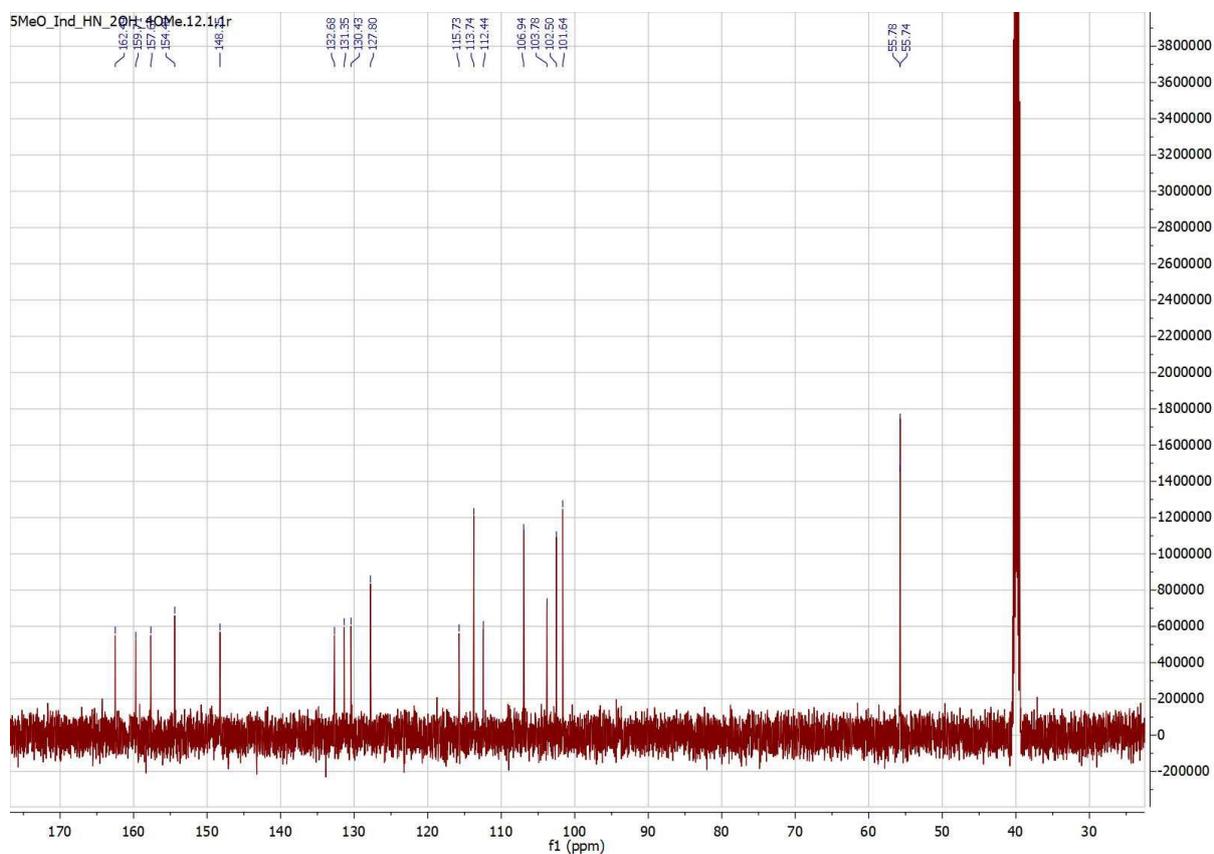


Figure S22. ^{13}C NMR spectrum of **5e** (151 MHz, DMSO-d_6)

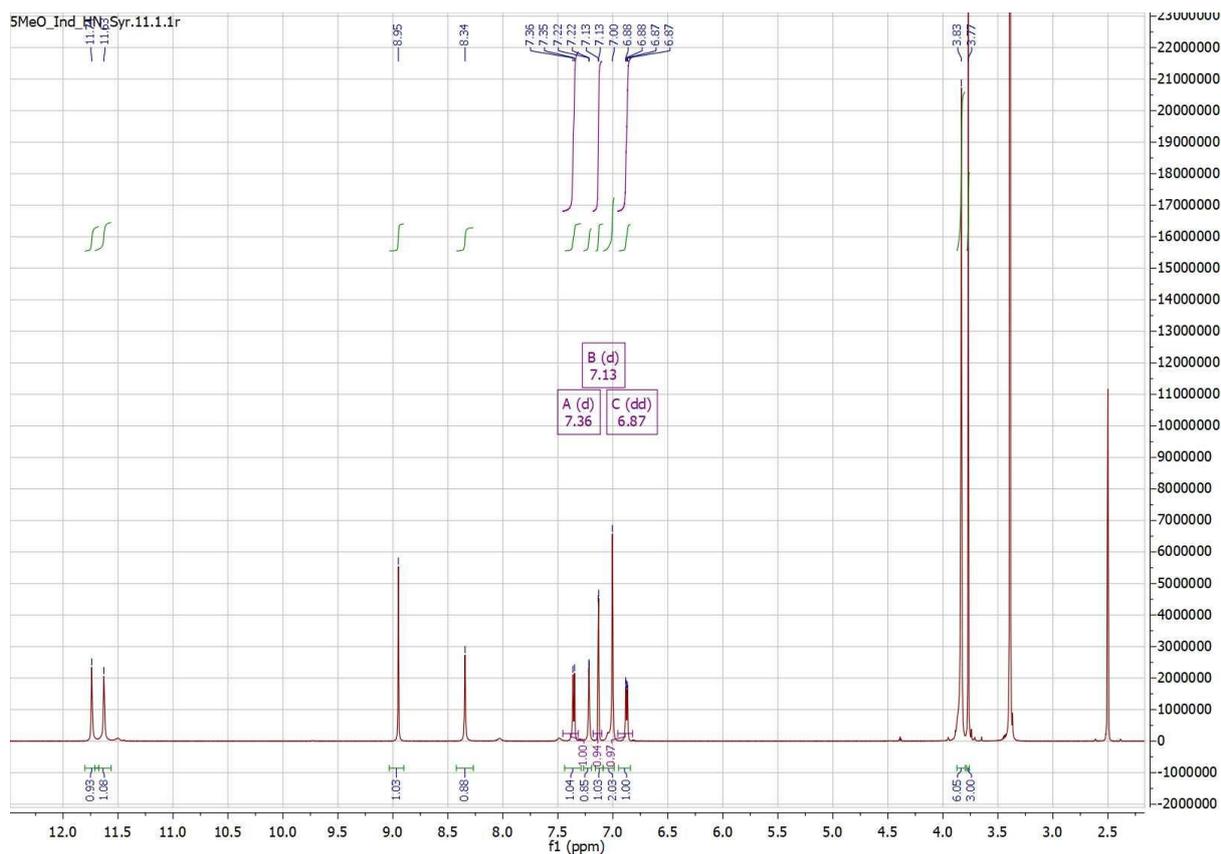


Figure S23. ^1H NMR spectrum of **5f** (600 MHz, DMSO-d_6)

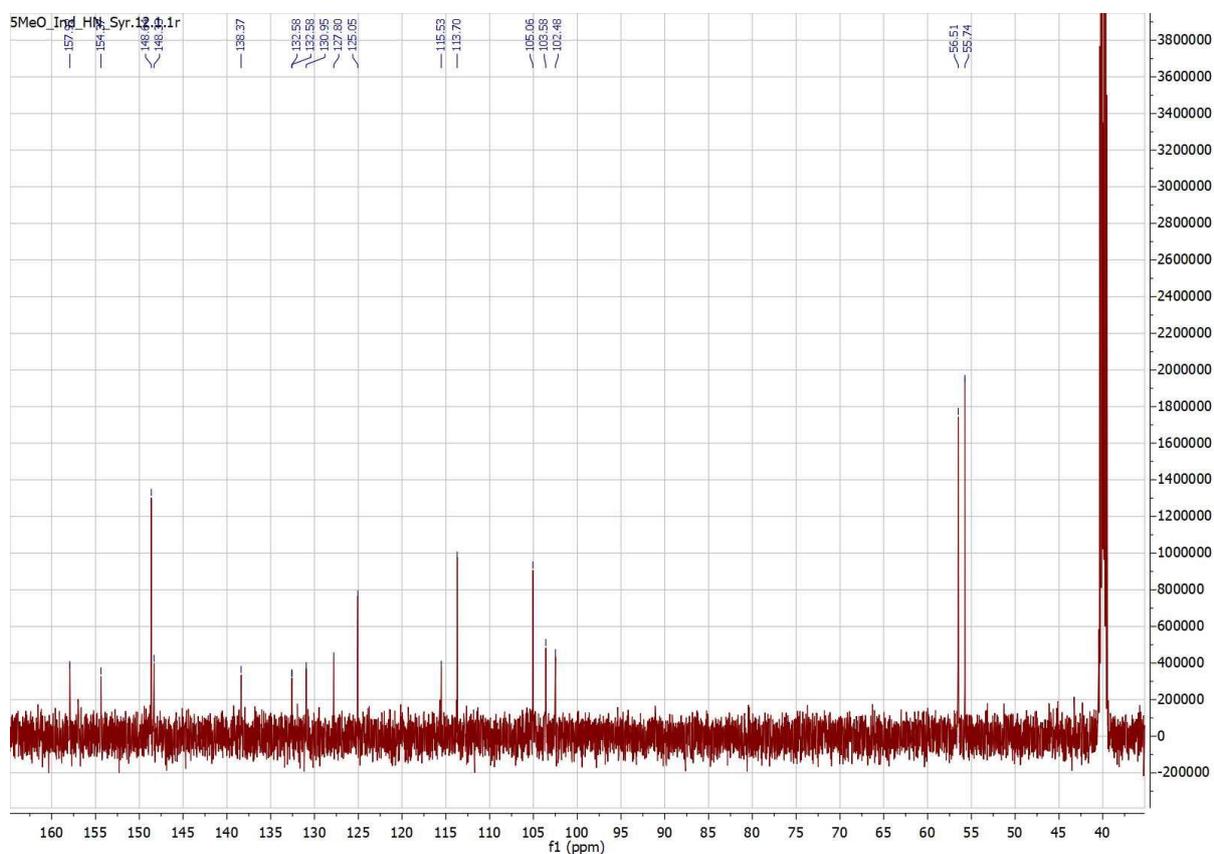


Figure S24. ^{13}C NMR spectrum of **5f** (151 MHz, DMSO-d_6)

3. IR spectra of the synthesized compounds

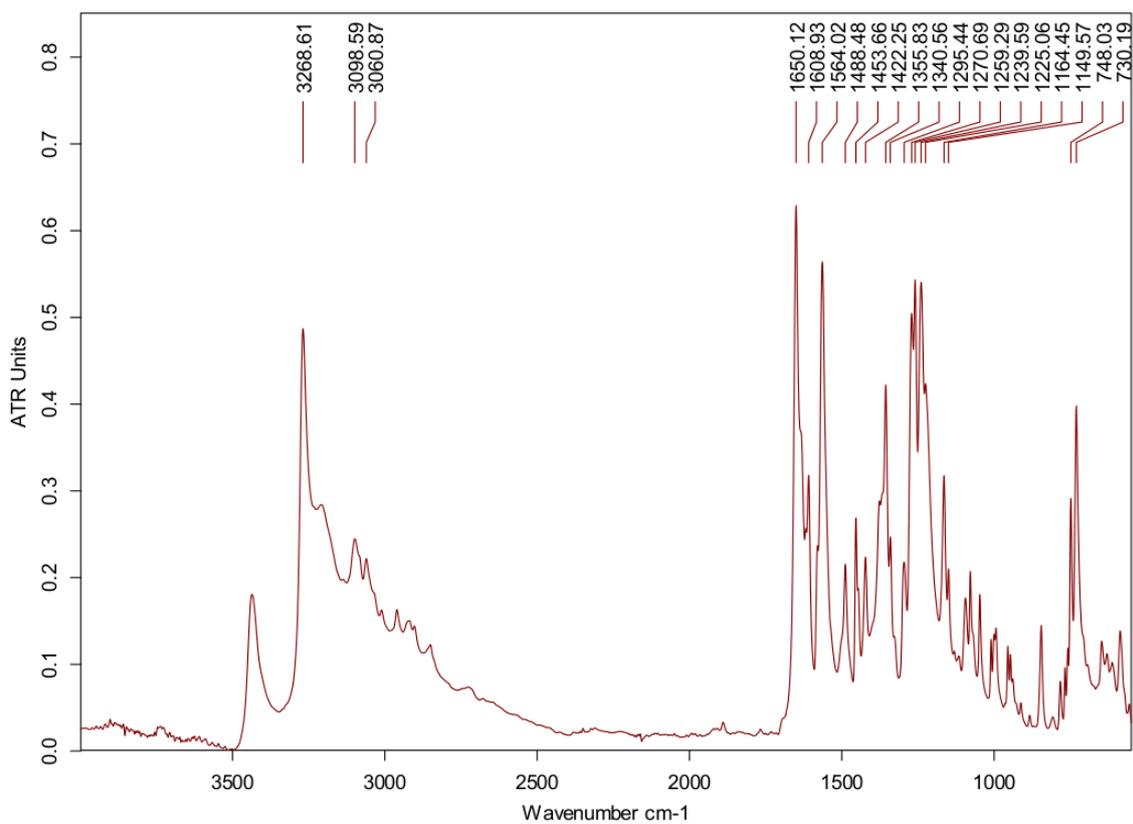


Figure S25. ATR-IR spectrum of 3a

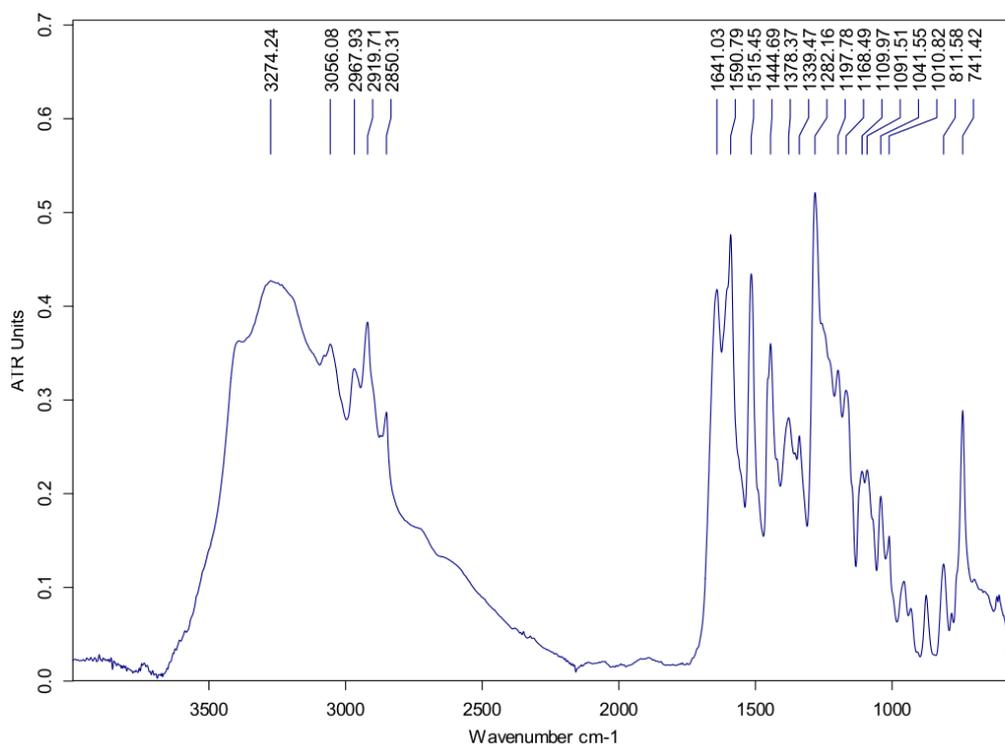


Figure S26. ATR-IR spectrum of 3b

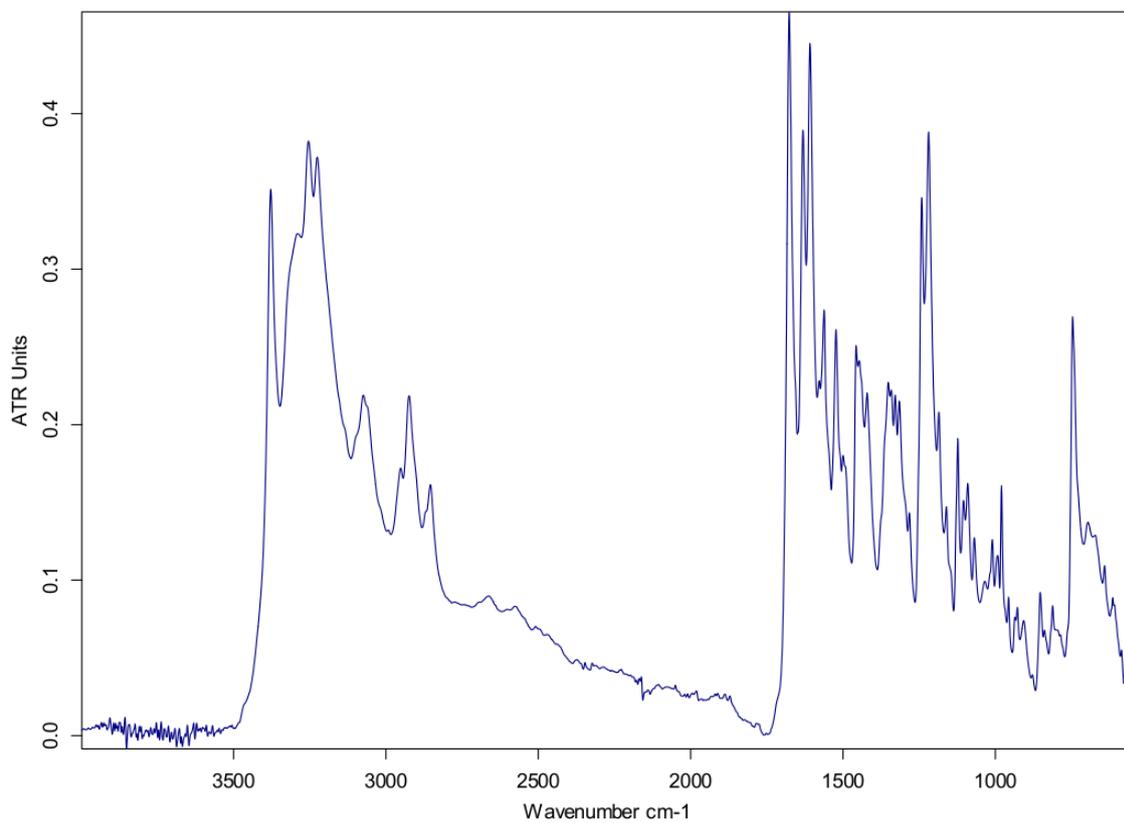


Figure S27. ATR-IR spectrum of **3c**

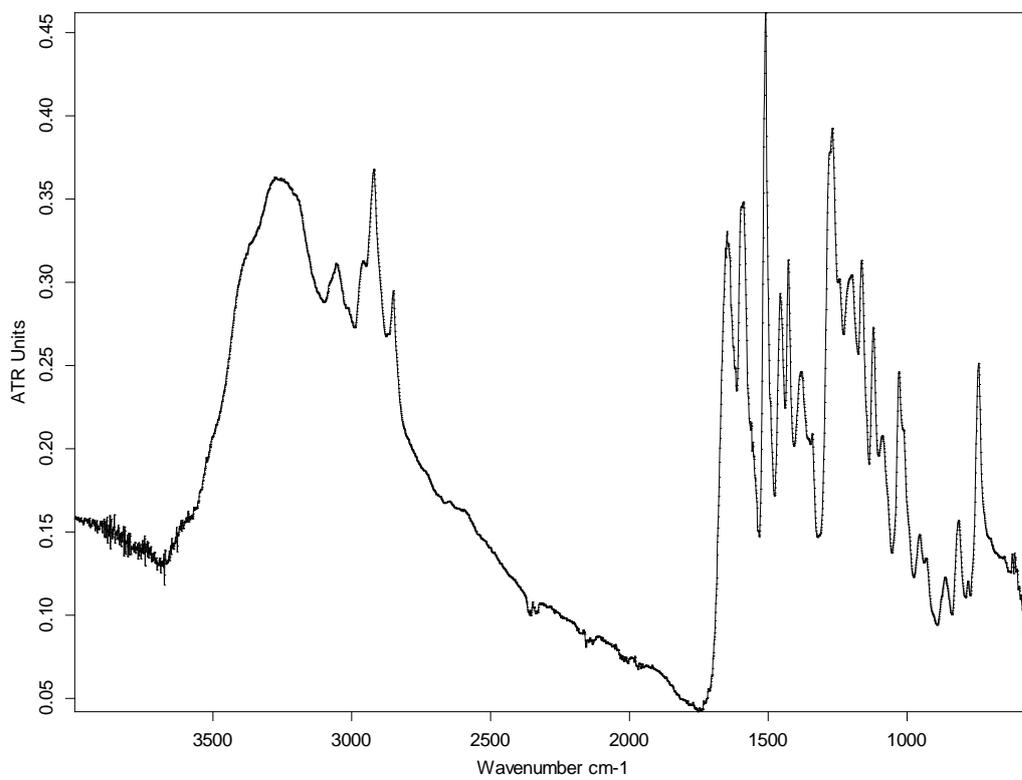


Figure S28. ATR-IR spectrum of **3d**

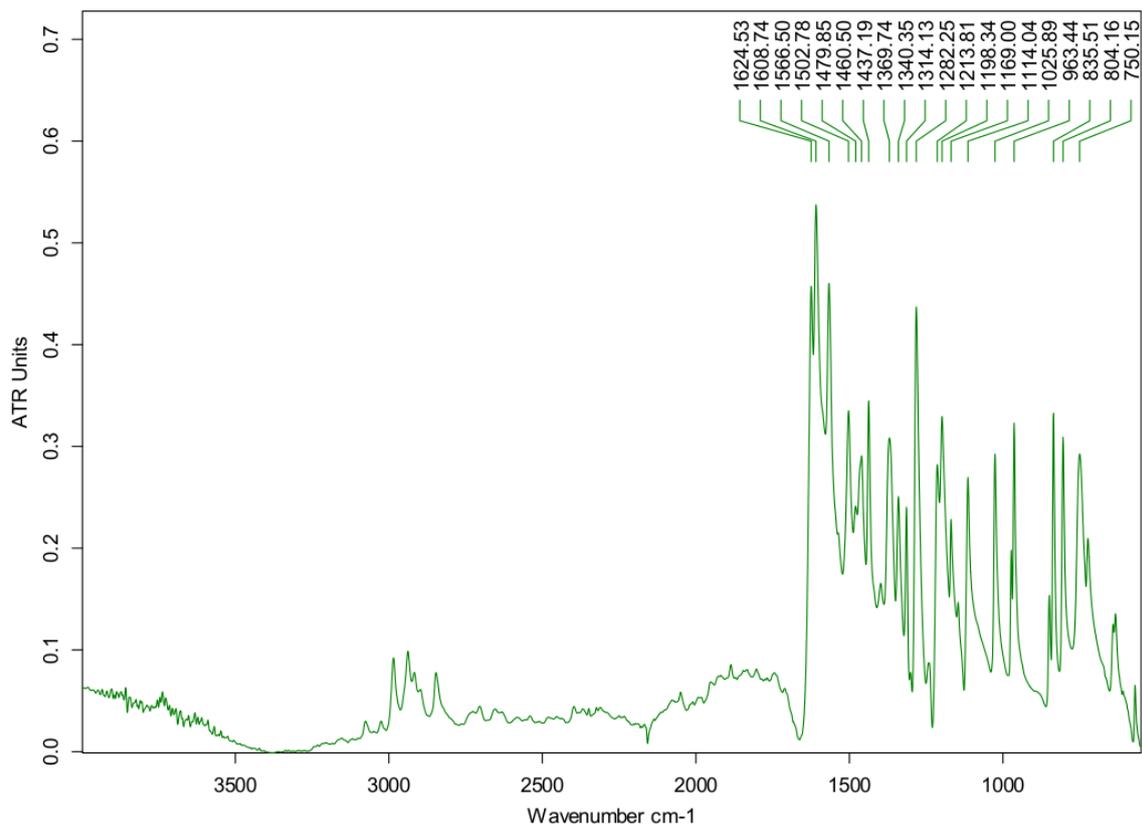


Figure S29. ATR-IR spectrum of **3e**

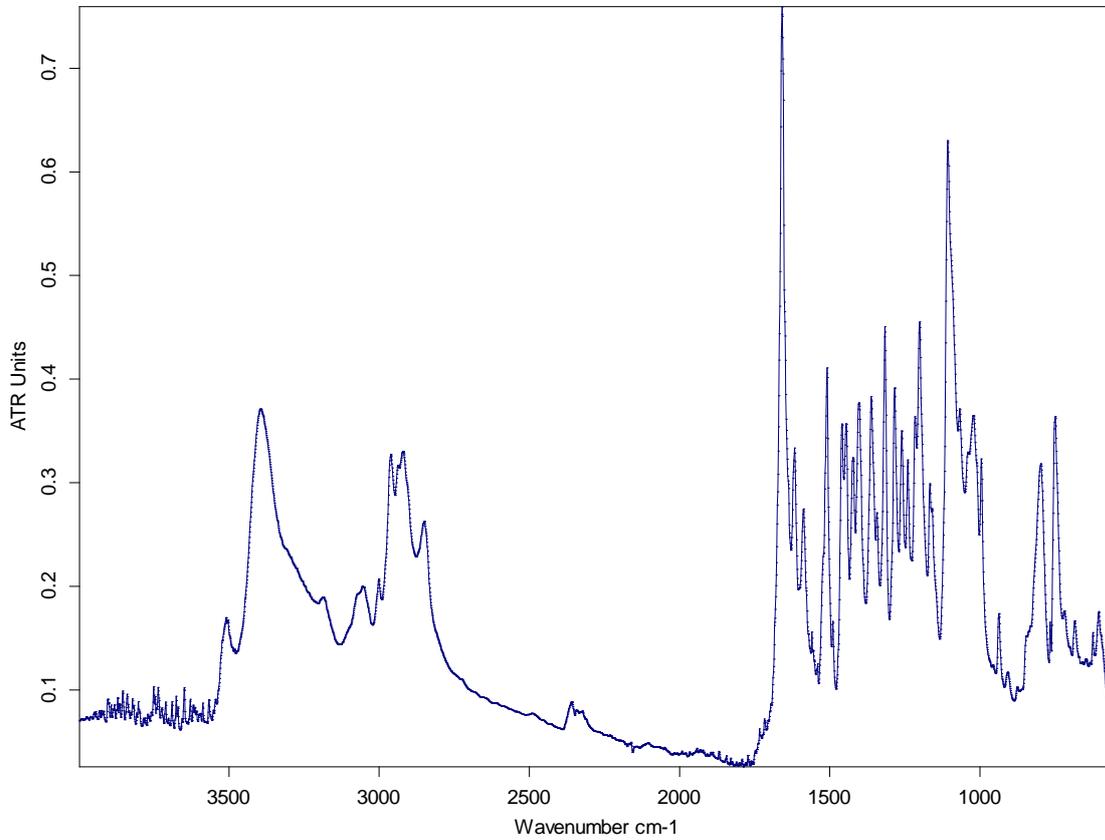


Figure S30. ATR-IR spectrum of **3f**

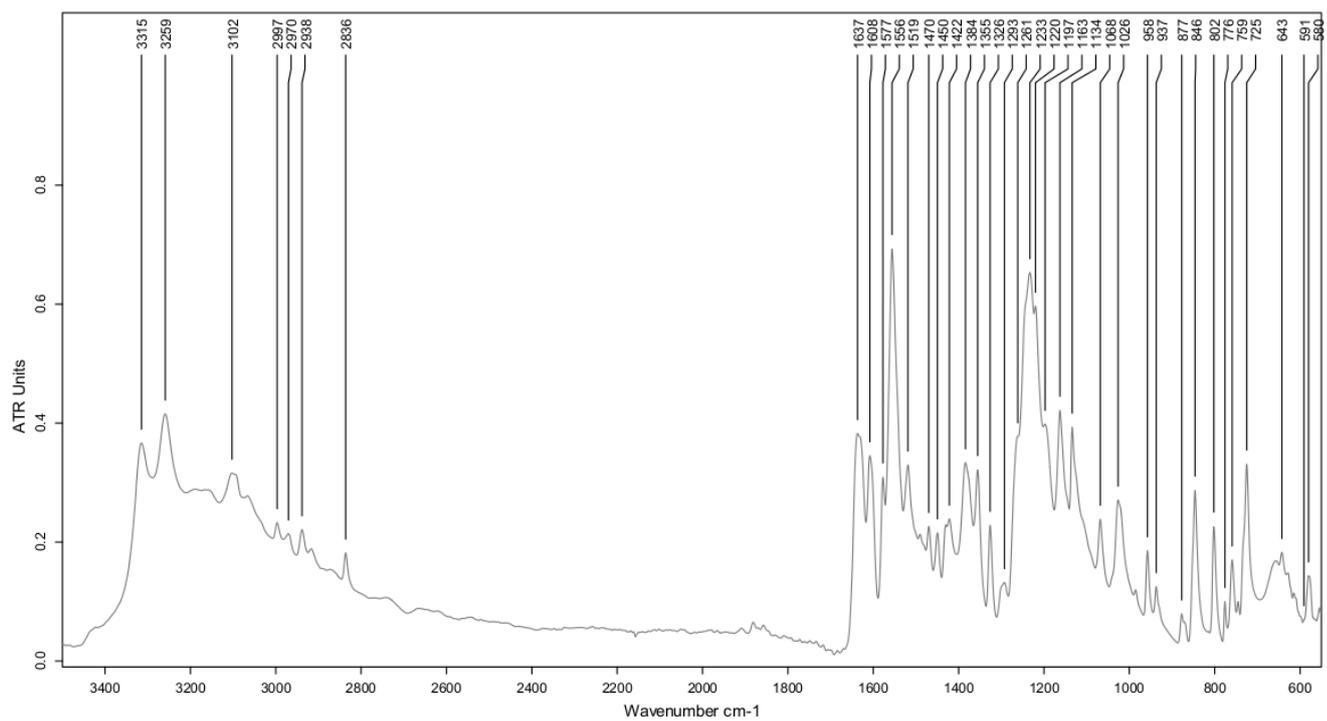


Figure S31. ATR-IR spectrum of **5a**

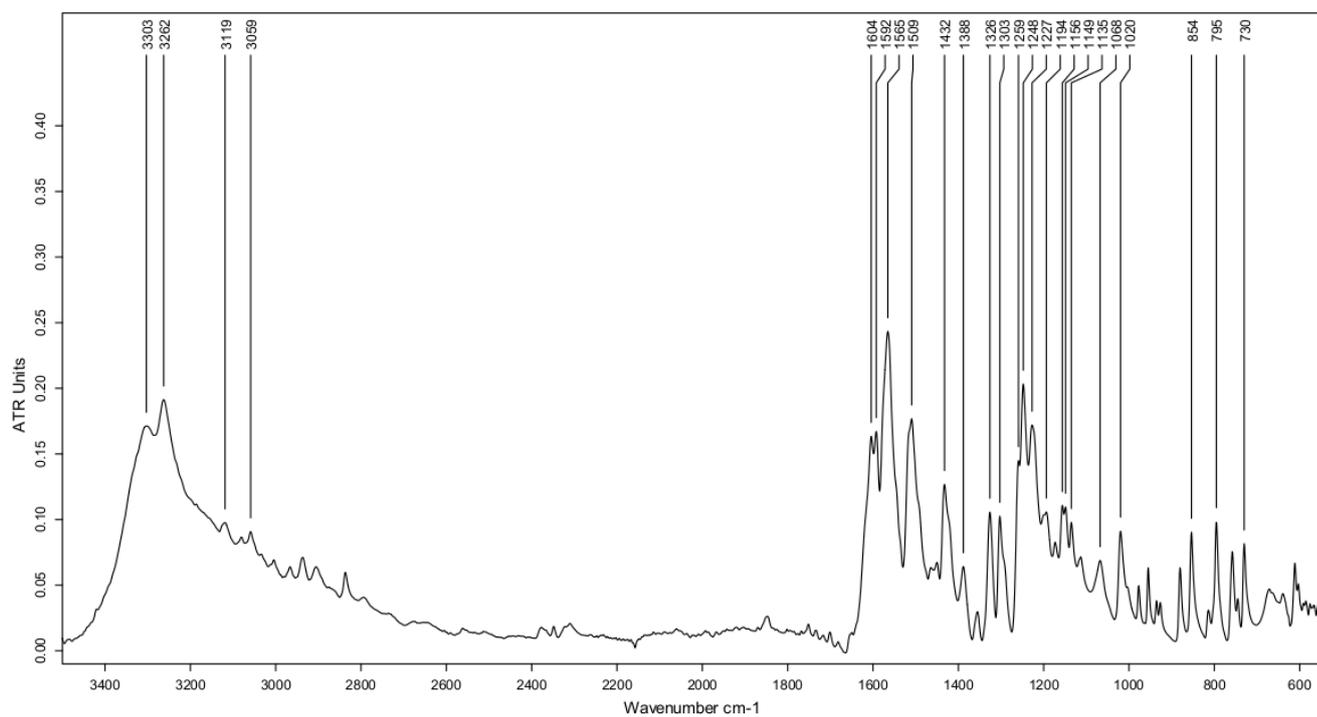


Figure S32. ATR-IR spectrum of **5b**

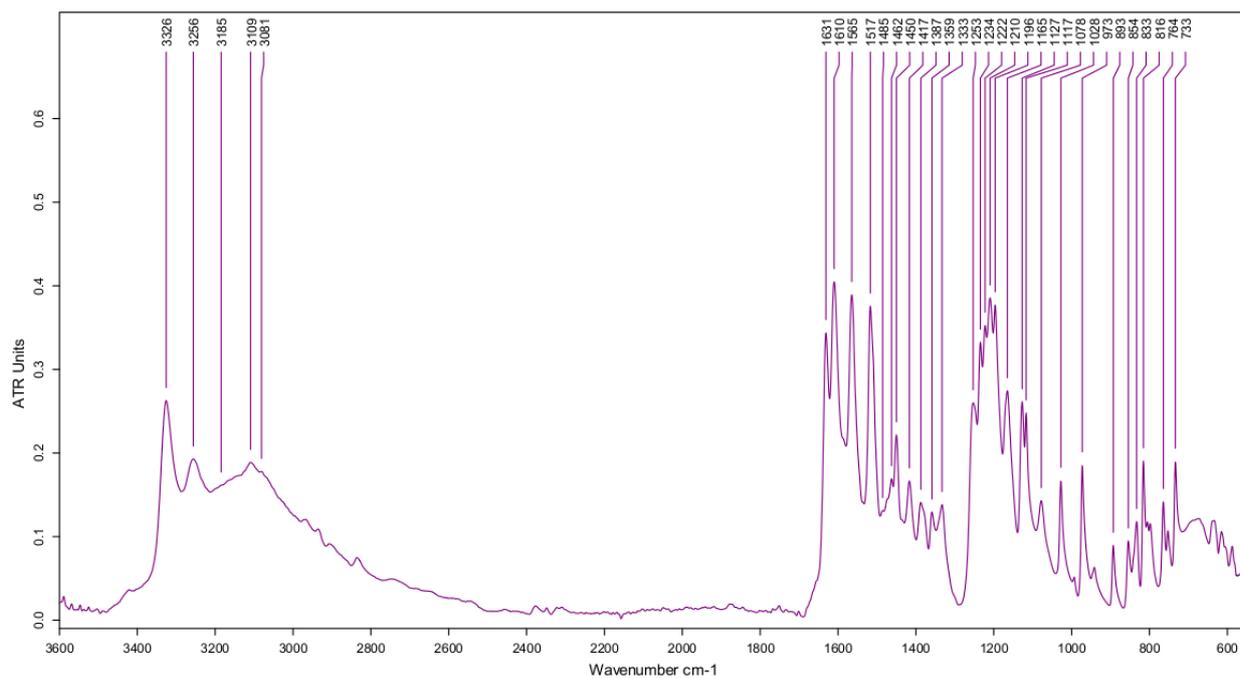


Figure S33. ATR-IR spectrum of **5c**

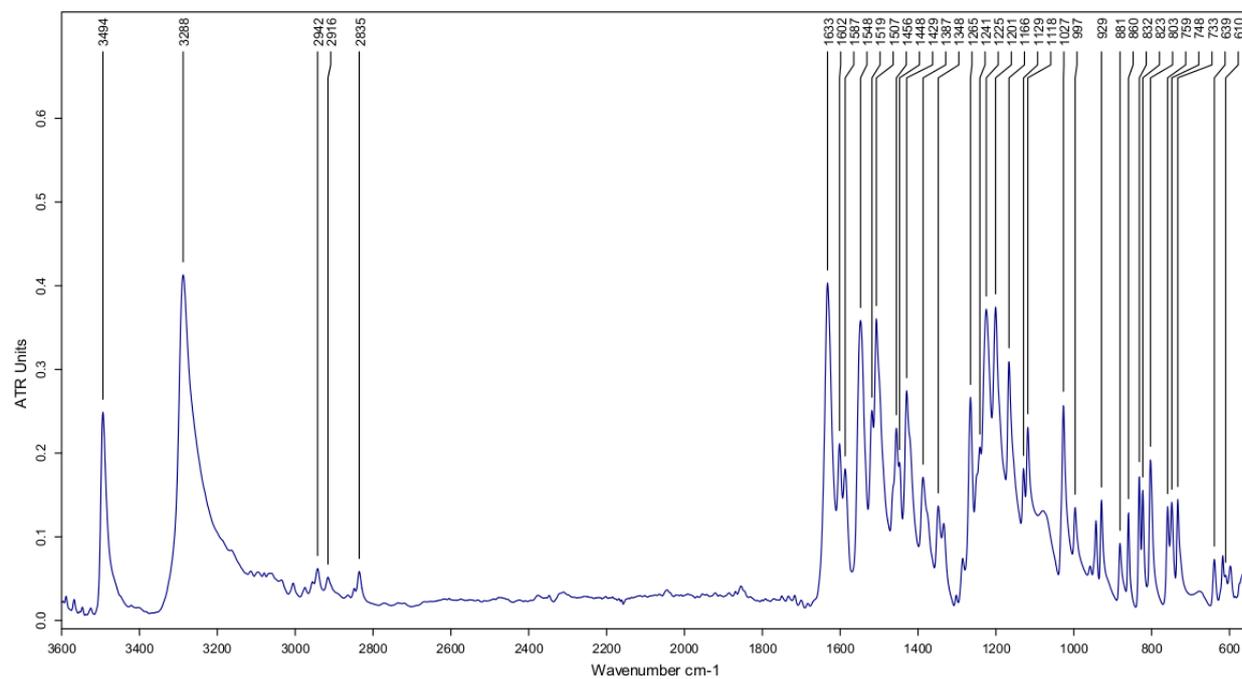


Figure S34. ATR-IR spectrum of **5d**

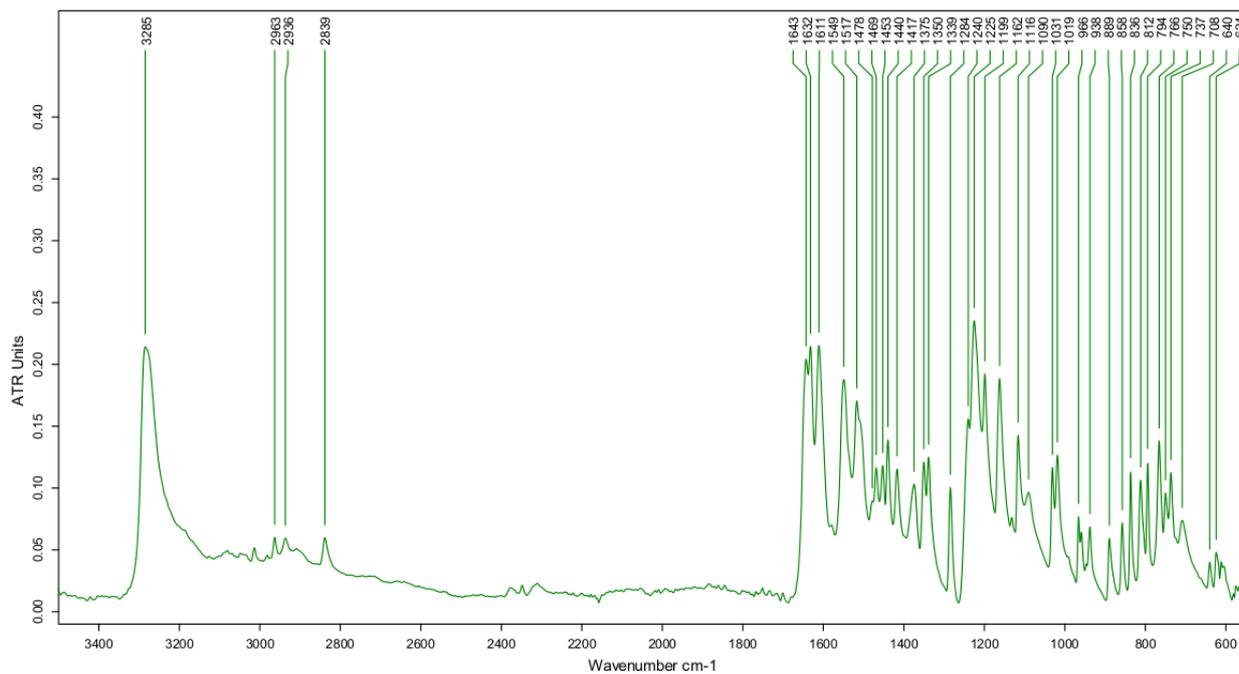


Figure S35. ATR-IR spectrum of **5e**

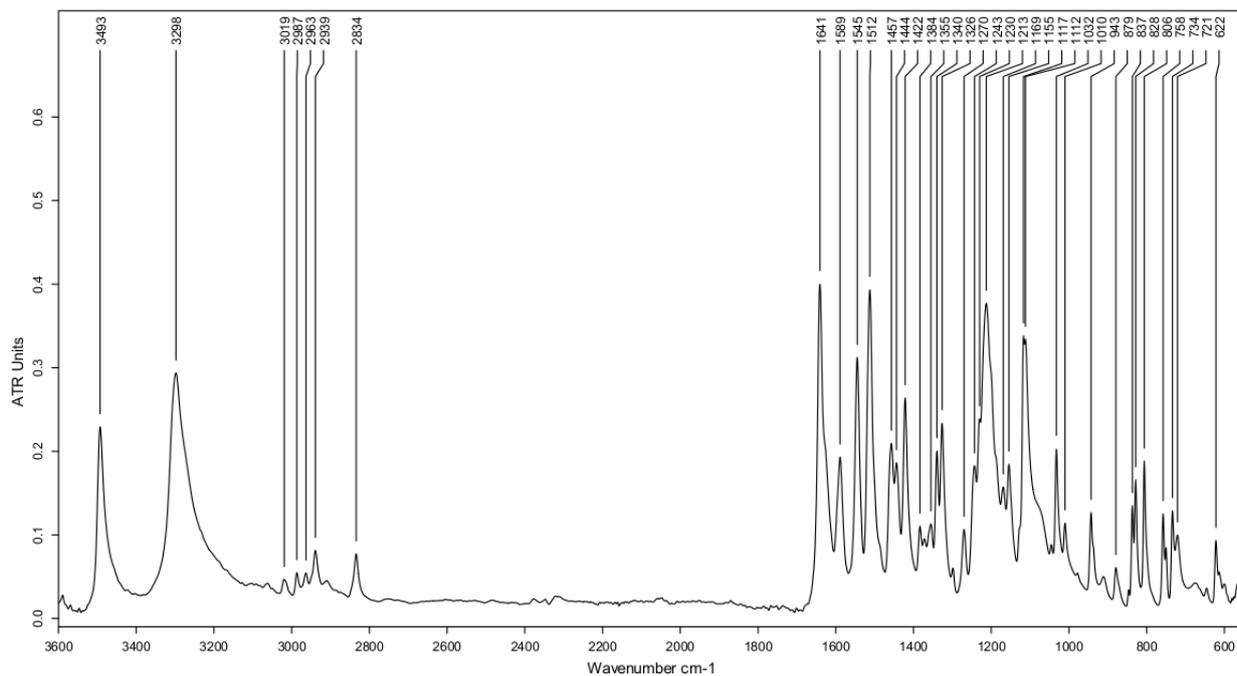


Figure S36. ATR-IR spectrum of **5f**

3. UV-Vis spectra absorbance spectra of the: Control - standard orange-red Fe(II) – 1,10 Phenanthroline complex; the tested hydrazone compounds

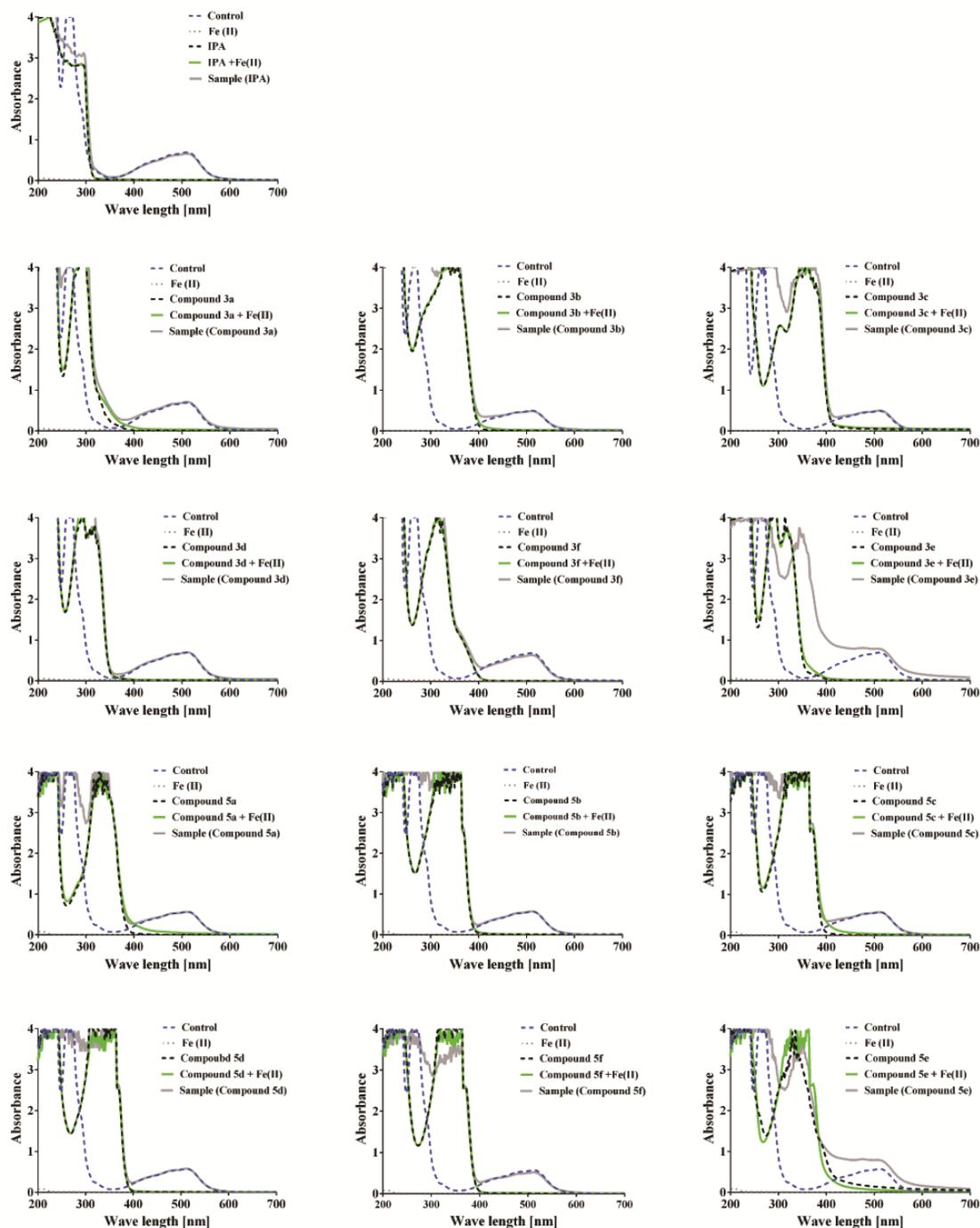


Figure S37. UV-Vis spectra absorbance spectra of the: Control - standard orange-red Fe(II) – 1,10 Phenanthroline complex; the tested hydrazone compounds [0.2 mmol/L] alone and in the presence of Fe(II) [0.05 mmol/L]; and the sample solution containing 1,10 phenanthroline [0.2 mmol/L], Fe(II) [0.05 mmol/L] and the hydrazone derivatives [0.2 mmol/L].

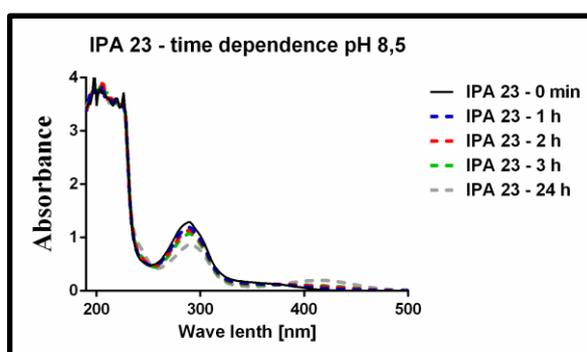
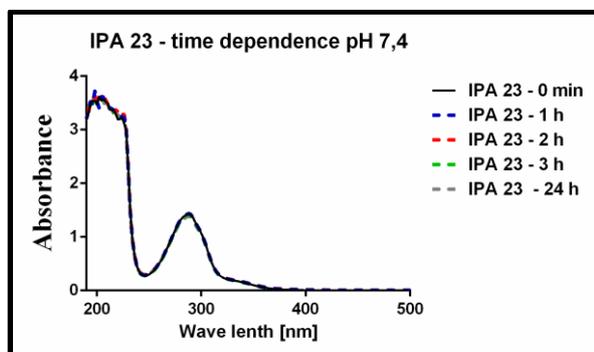
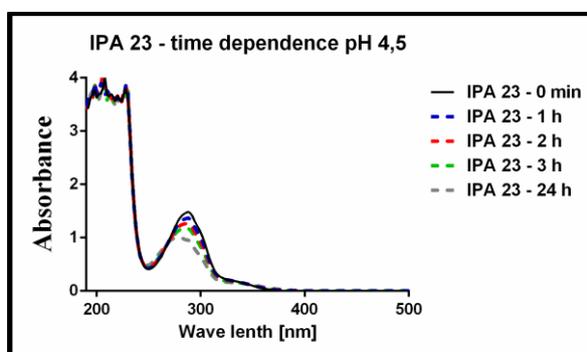
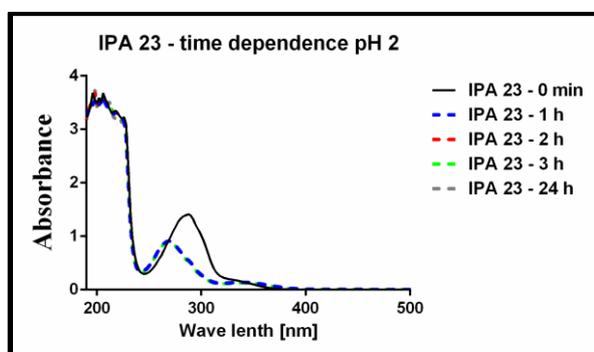
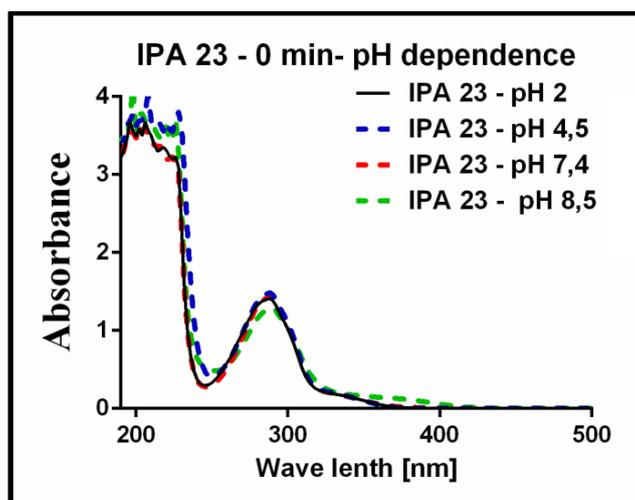


Figure S38. UV spectra of **3a** in buffers with pH 2, 4.5, 7.4 and 8.5 measured at the initial point (0 min) and after 1, 2, 3 and 24 h

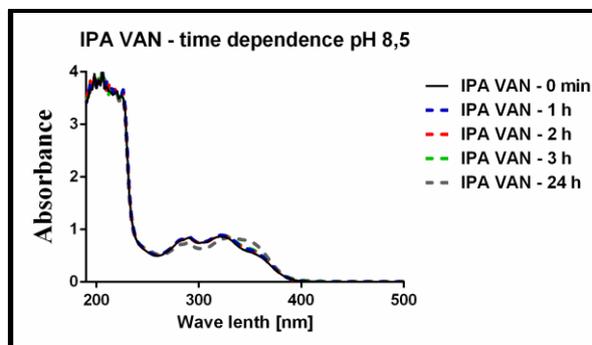
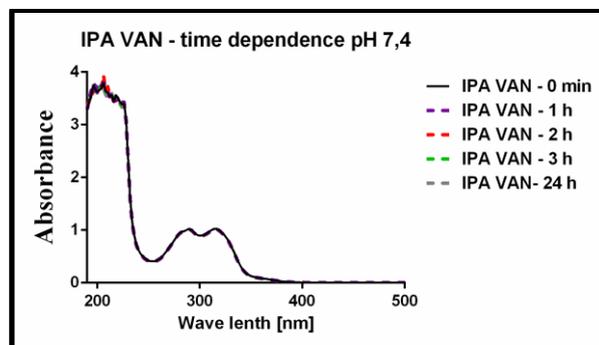
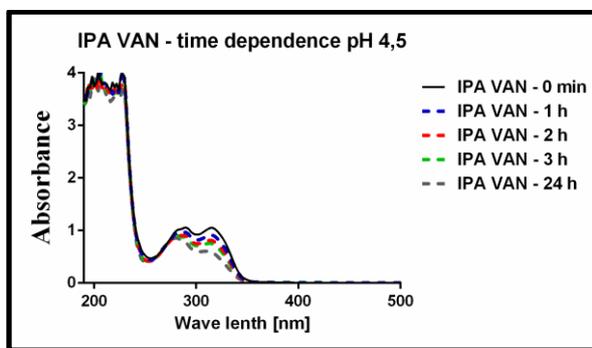
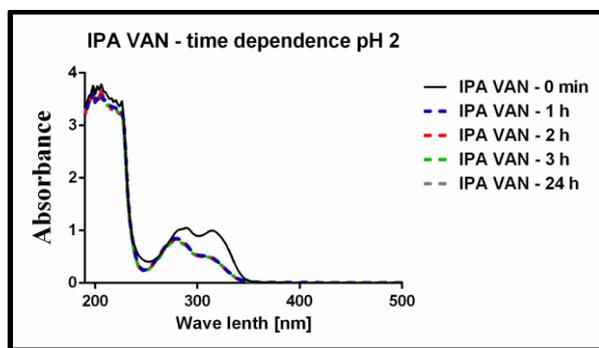
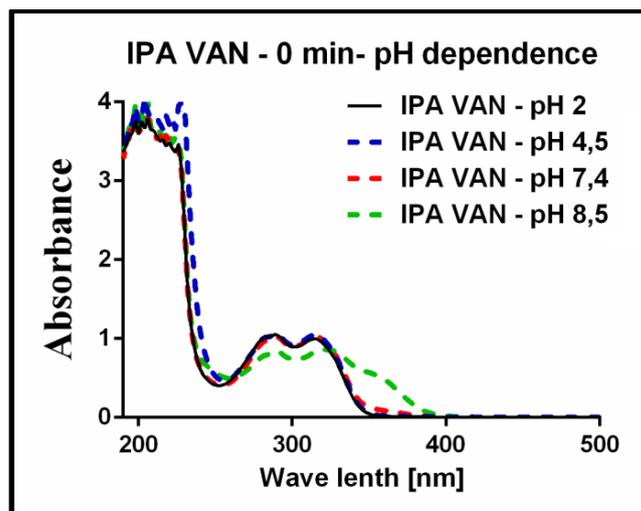


Figure S39. UV spectra of **3d** in buffers with pH 2, 4.5, 7.4 and 8.5 measured at the initial point (0 min) and after 1, 2, 3 and 24 h

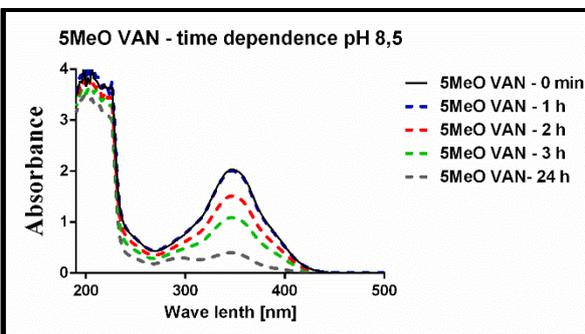
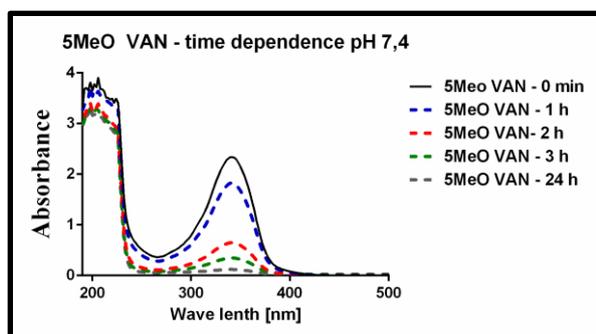
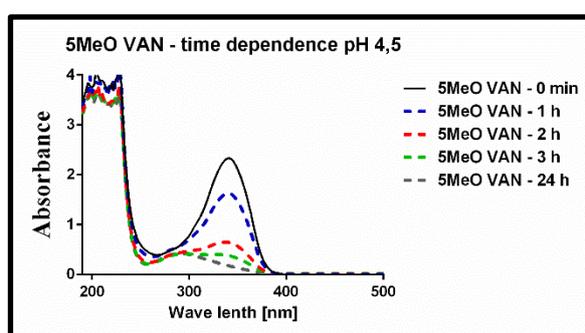
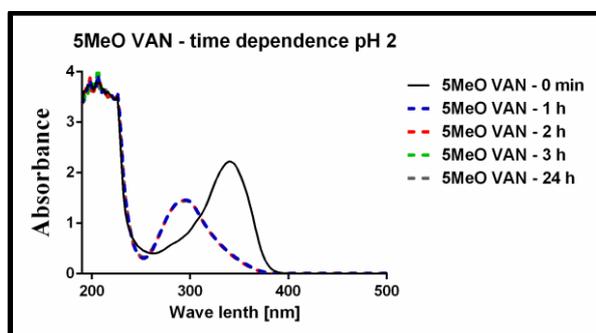
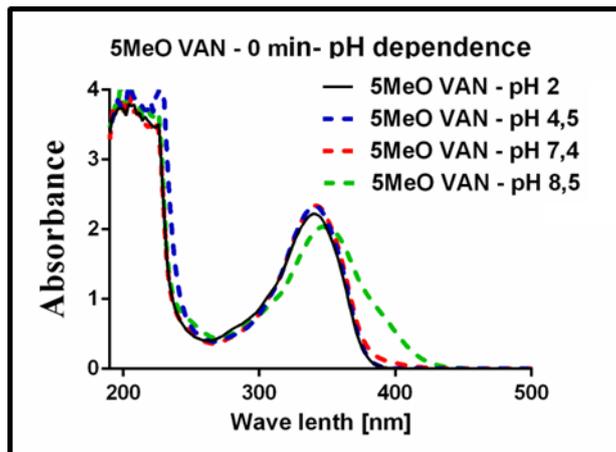


Figure S40. UV spectra of **5d** in buffers with pH 2, 4.5, 7.4 and 8.5 measured at the initial point (0 min) and after 1, 2, 3 and 24 h

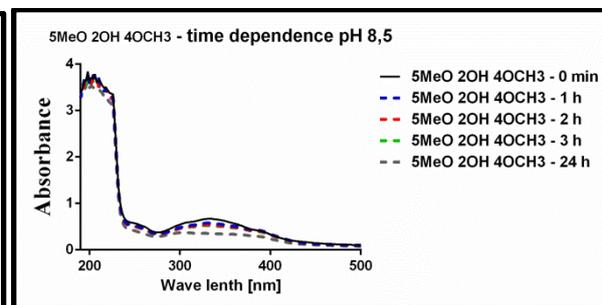
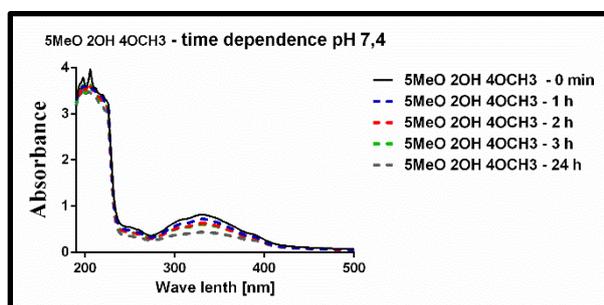
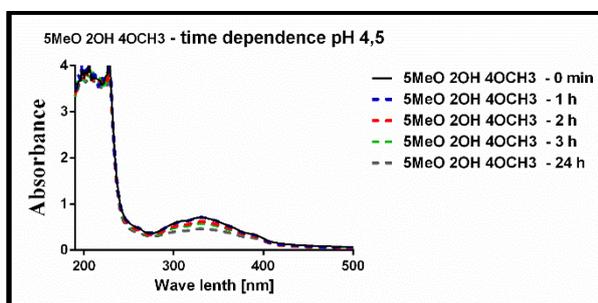
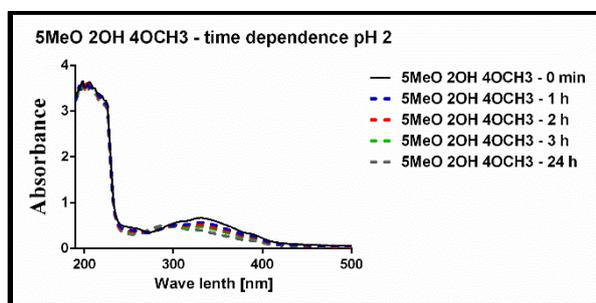
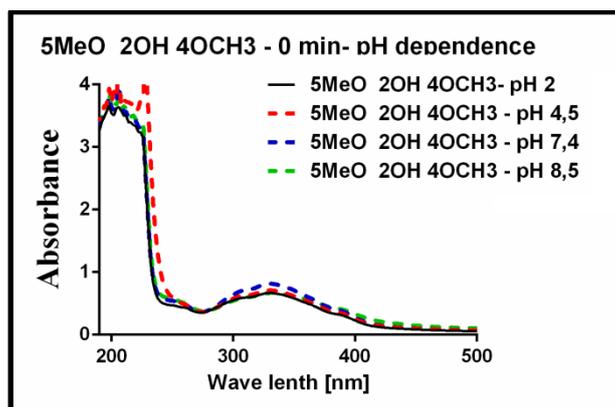


Figure S41. UV spectra of **5e** in buffers with pH 2, 4.5, 7.4 and 8.5 measured at the initial point (0 min) and after 1, 2, 3 and 24 h