

Supplementary Information

Evaluation of Anticancer Potency of Copper(II) Complexes of 7-Hydroxycoumarin N(3)-Substituted Thiosemicarbazones

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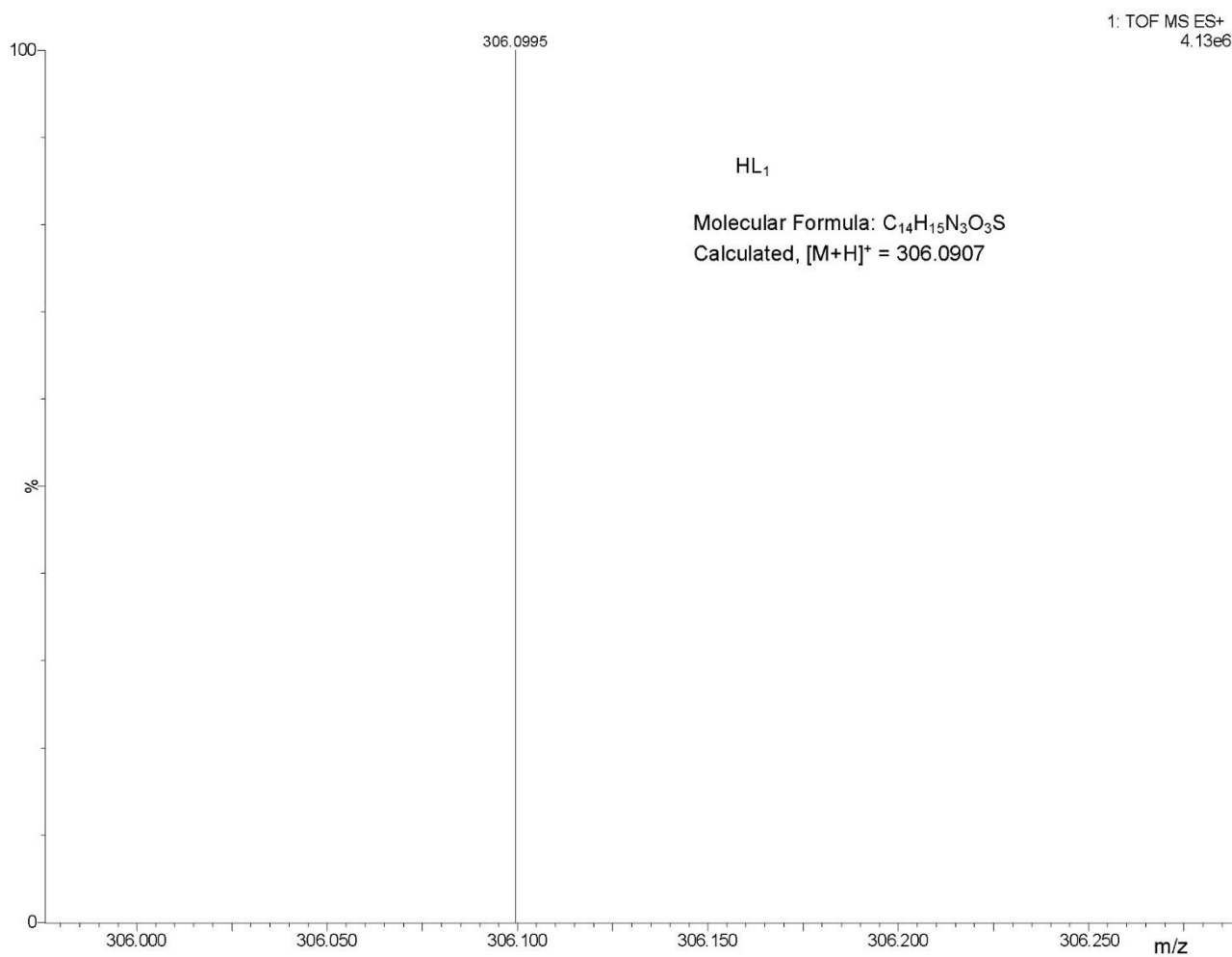


Figure S1. ESI-(+)-HRMS spectrum of (*E*)-2-(1-(7-hydroxy-2-oxo-2*H*-chromen-3-yl)ethylidene)-*N,N*-dimethylhydrazine carbothioamide (**HL₁**).

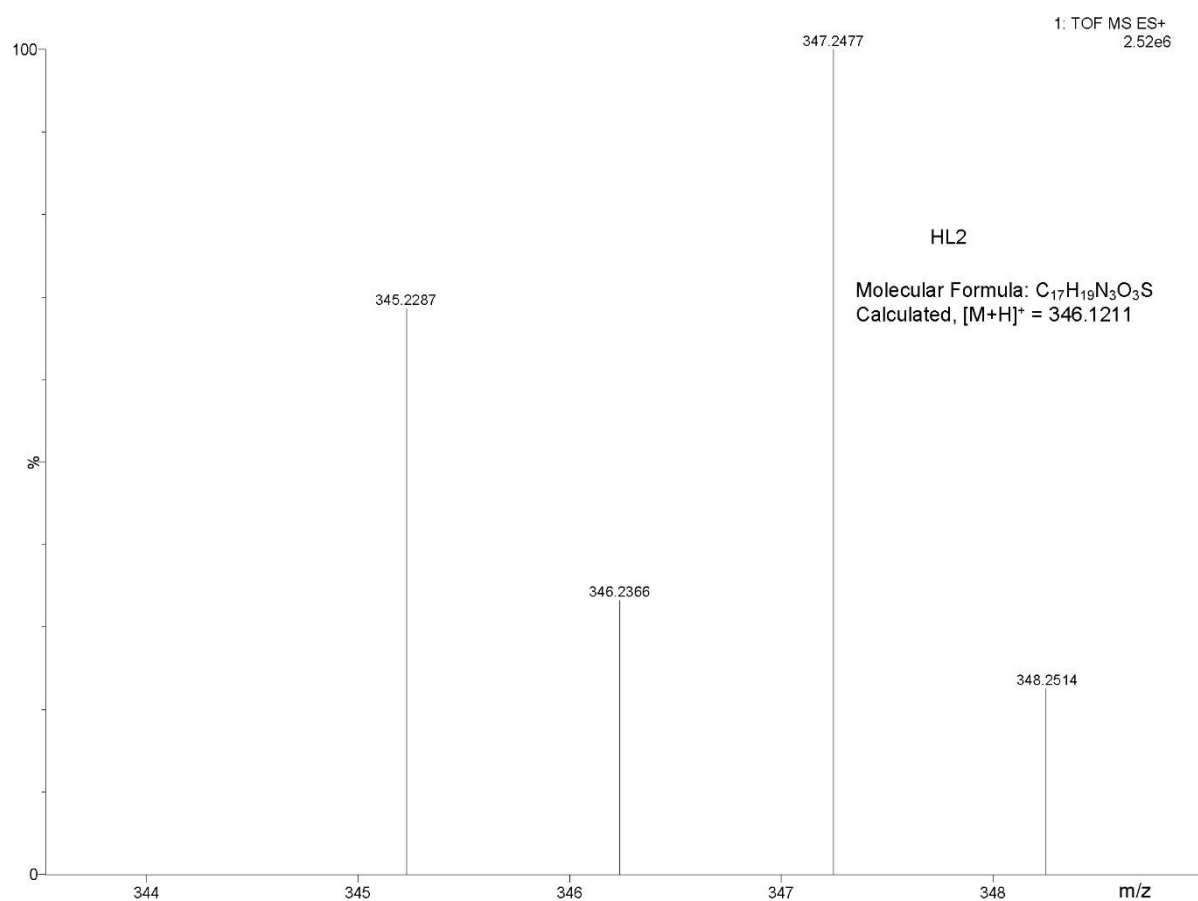


Figure S2. ESI-(+)-HRMS spectrum of (*E*)-*N*-(1-(7-hydroxy-2-oxo-2*H*-chromen-3-yl)ethylidene)piperidine-1-carbothioamide (**HL₂**).

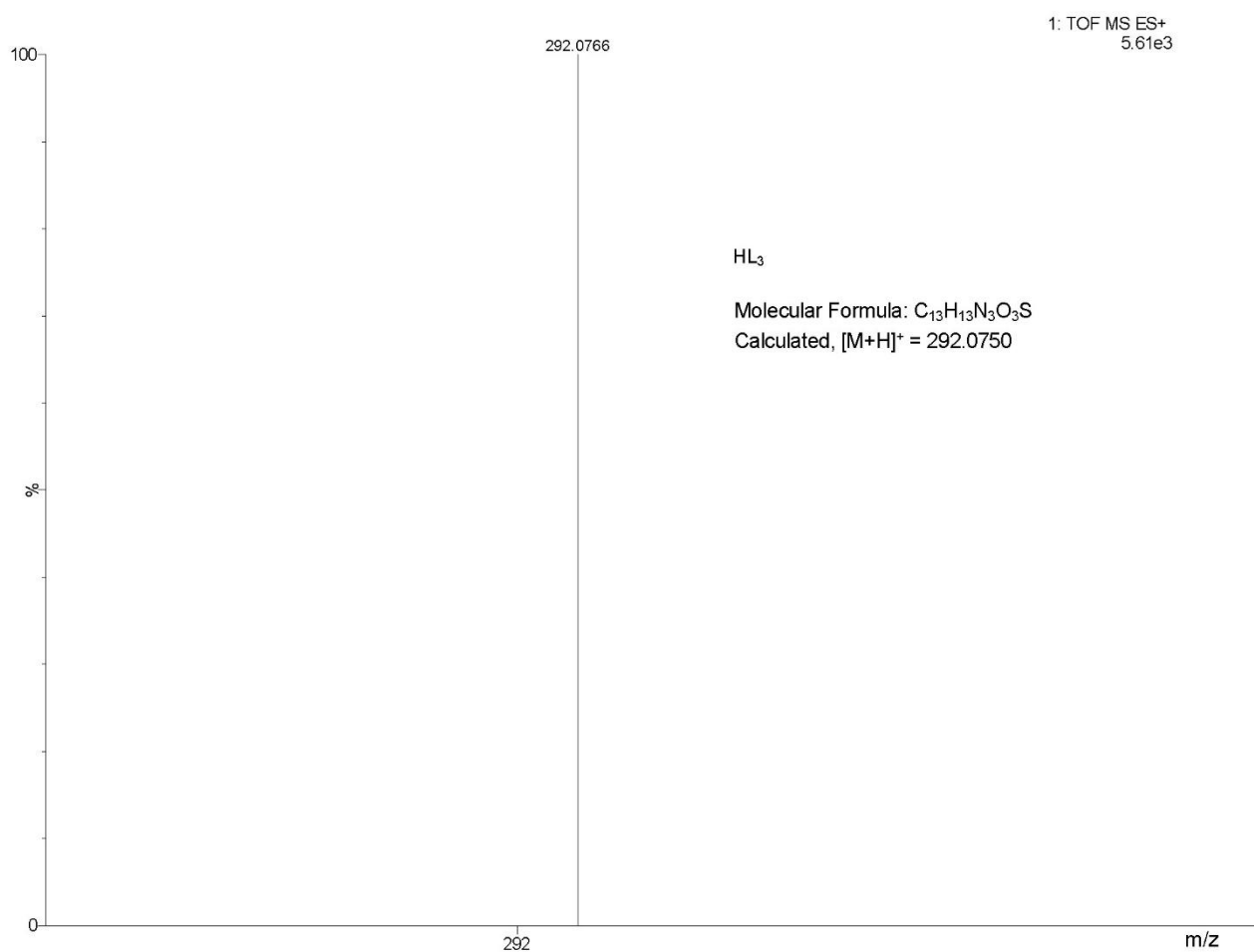


Figure S3. ESI(+)-HRMS spectrum of (*E*)-2-(1-(7-hydroxy-2-oxo-2*H*-chromen-3-yl)ethylidene)-*N*-methyl hydrazine carbothioamide (**HL₃**).

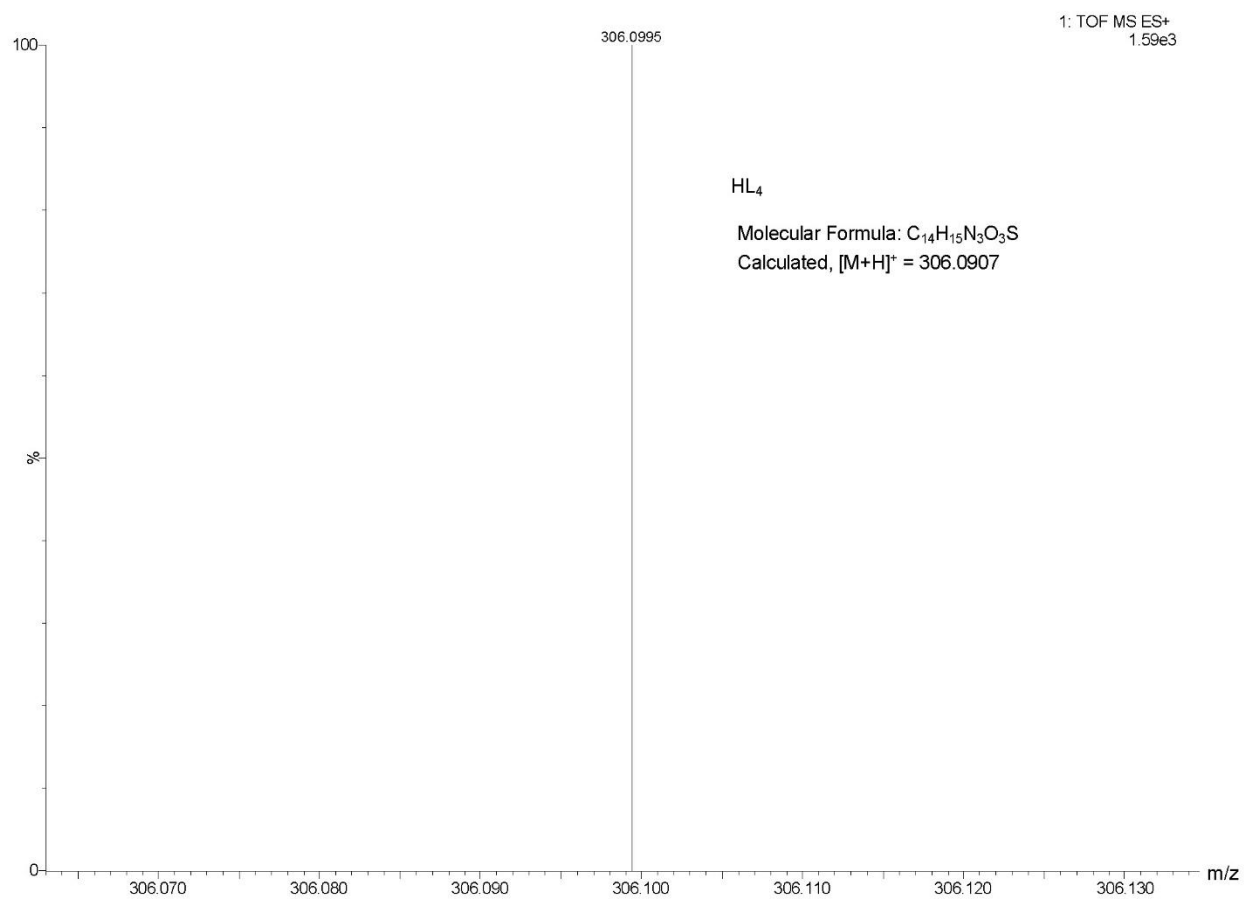


Figure S4. ESI-(+)-HRMS spectrum of (*E*)-*N*-ethyl-2-(1-(7-hydroxy-2-oxo-2*H*-chromen-3-yl) ethylidene) hydrazine carbothioamide (**HL₄**).

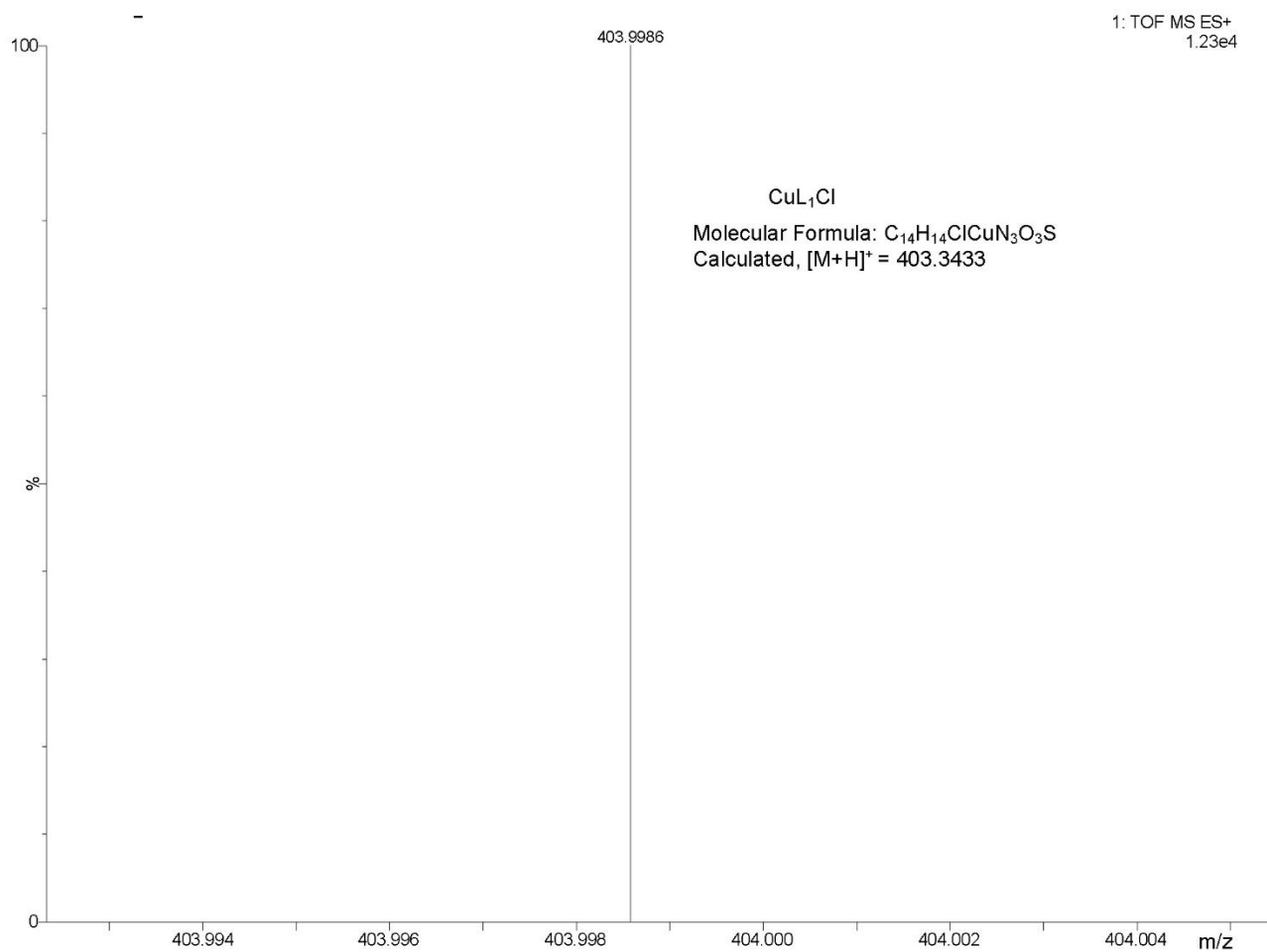


Figure S5. ESI-(+)-HRMS spectrum of (*E*)-2-(1-(7-hydroxy-2-oxo-2*H*-chromen-3-yl)ethylidene)-*N,N*-dimethylhydrazinecarbothioamide copper(II) chloride (**CuL₁Cl**).

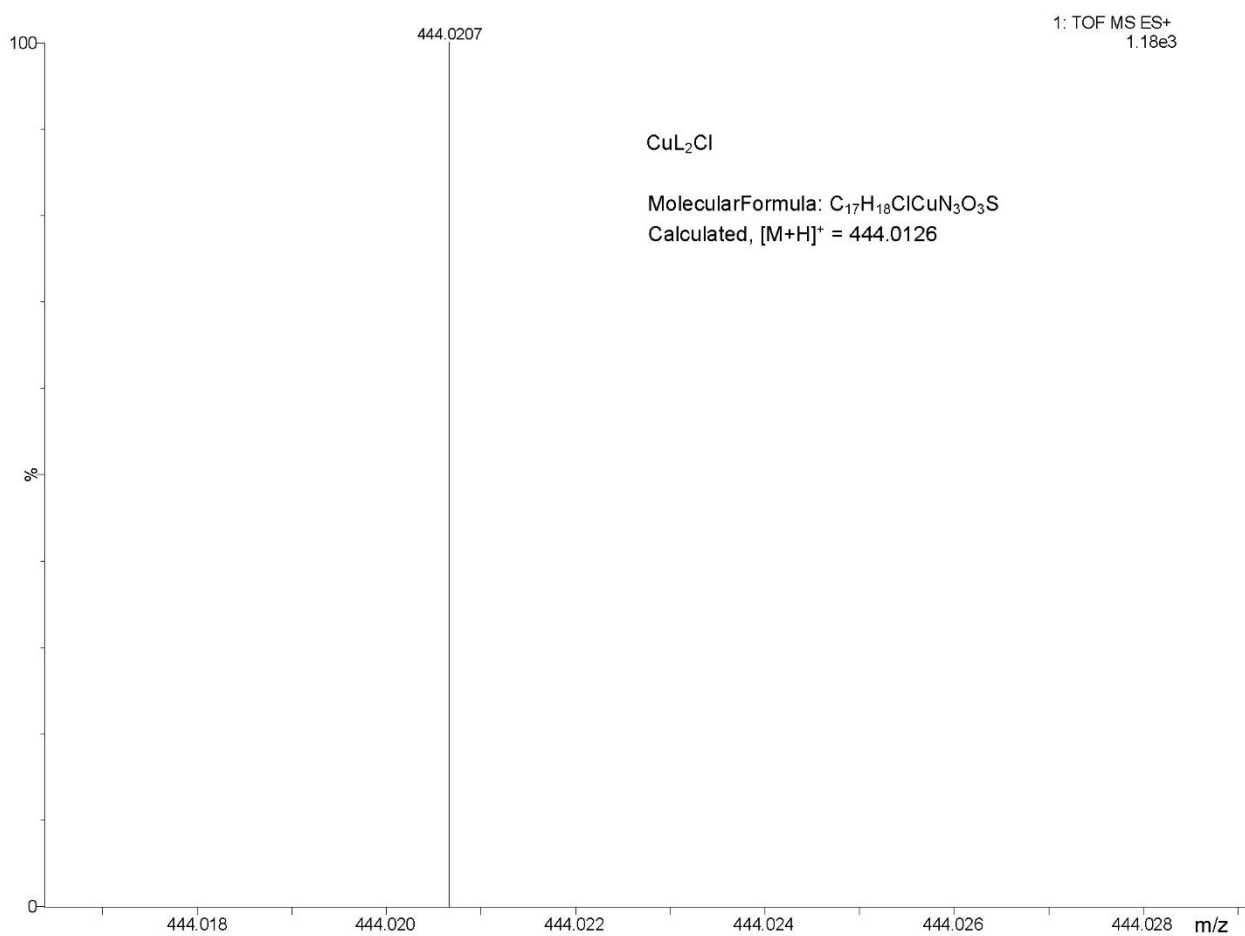


Figure S6. ESI-(+)-HRMS spectrum of (*E*)-*N*-(1-(7-hydroxy-2-oxo-2*H*-chromen-3-yl)ethylidene)piperidine-1-carbothioamide copper(II) chloride (**CuL₂Cl**).

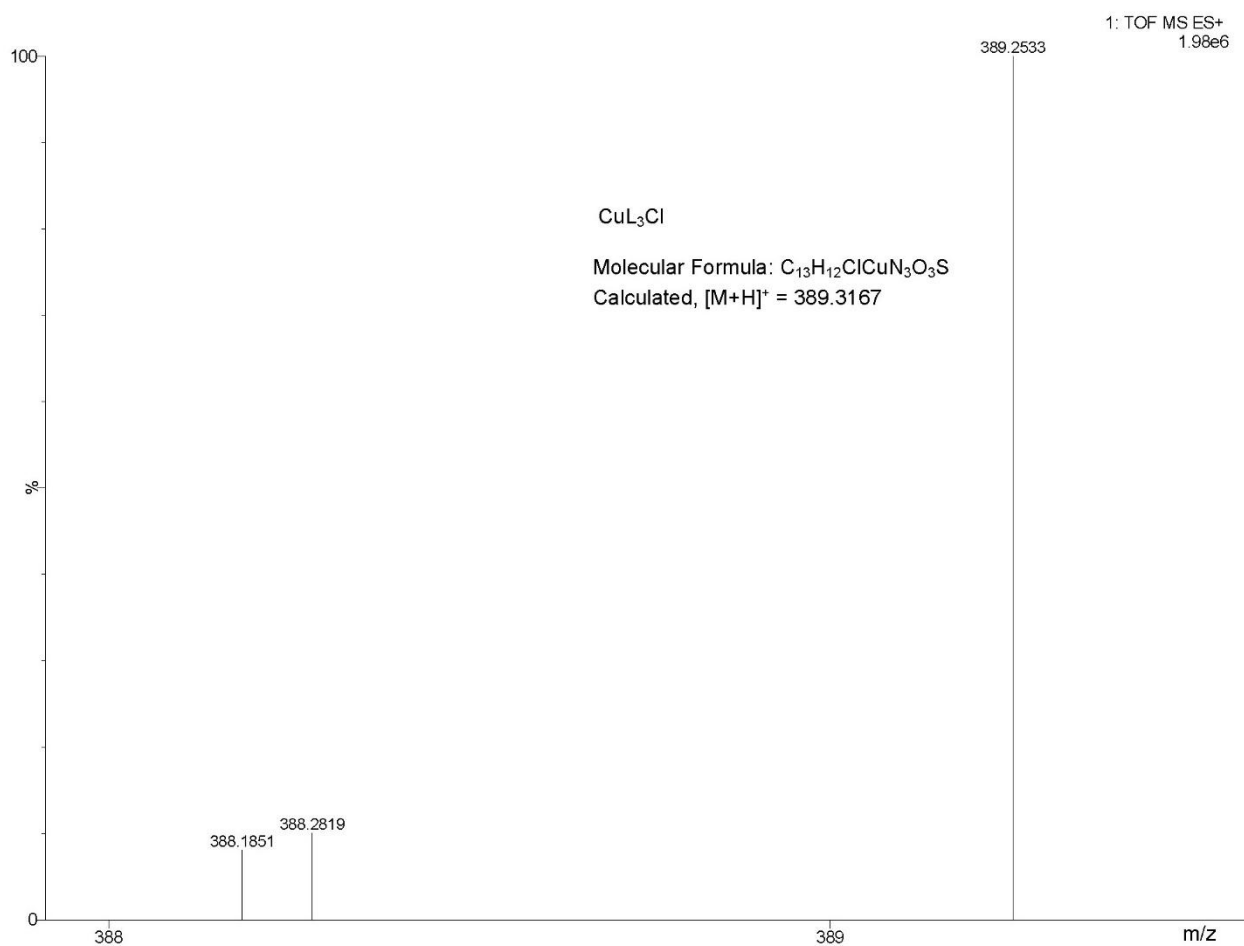


Figure S7. ESI-(+)-HRMS spectrum of (*E*)-2-(1-(7-hydroxy-2-oxo-2*H*-chromen-3-yl)ethylidene)-*N*-methyl hydrazine carbothioamide copper(II) chloride (**CuL₃Cl**).

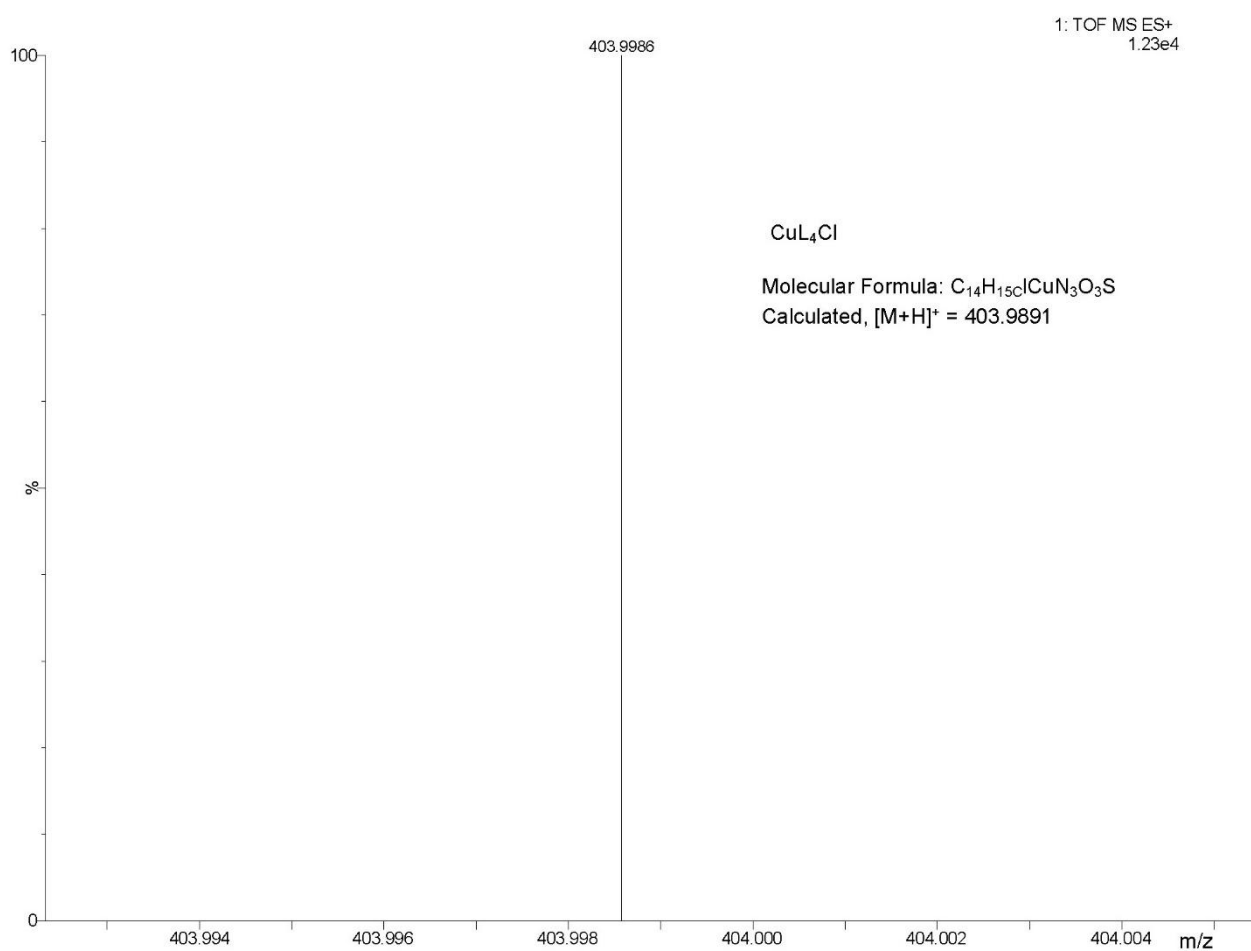


Figure S8. ESI-(+)-HRMS spectrum of (*E*)-2-(1-(7-hydroxy-2-oxo-2*H*-chromen-3-yl)ethylidene)-*N*-ethylhydrazine carbothioamide copper(II) chloride (**CuL₄Cl**).

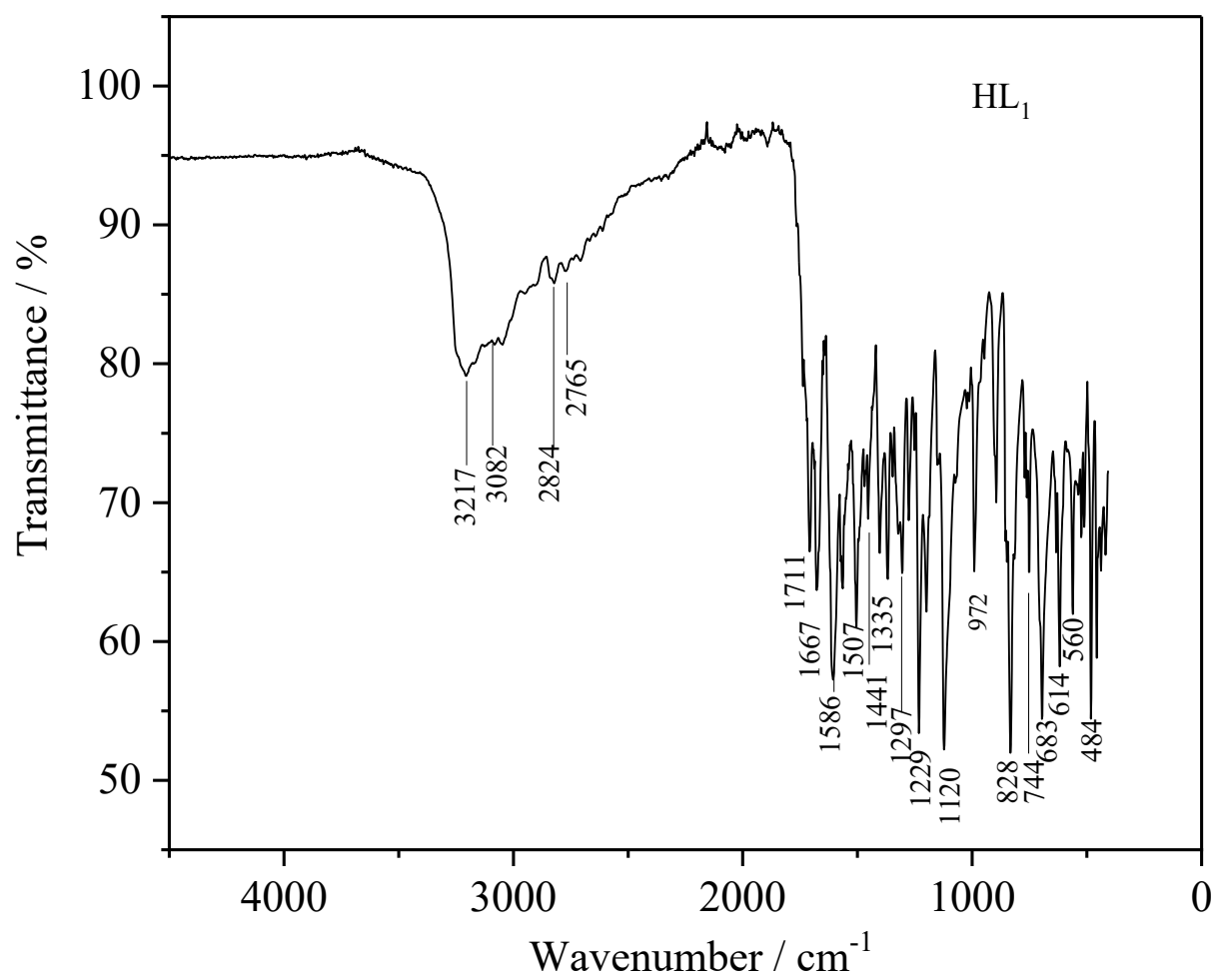


Figure S9. FTIR (ATR) spectrum of **HL₁**.

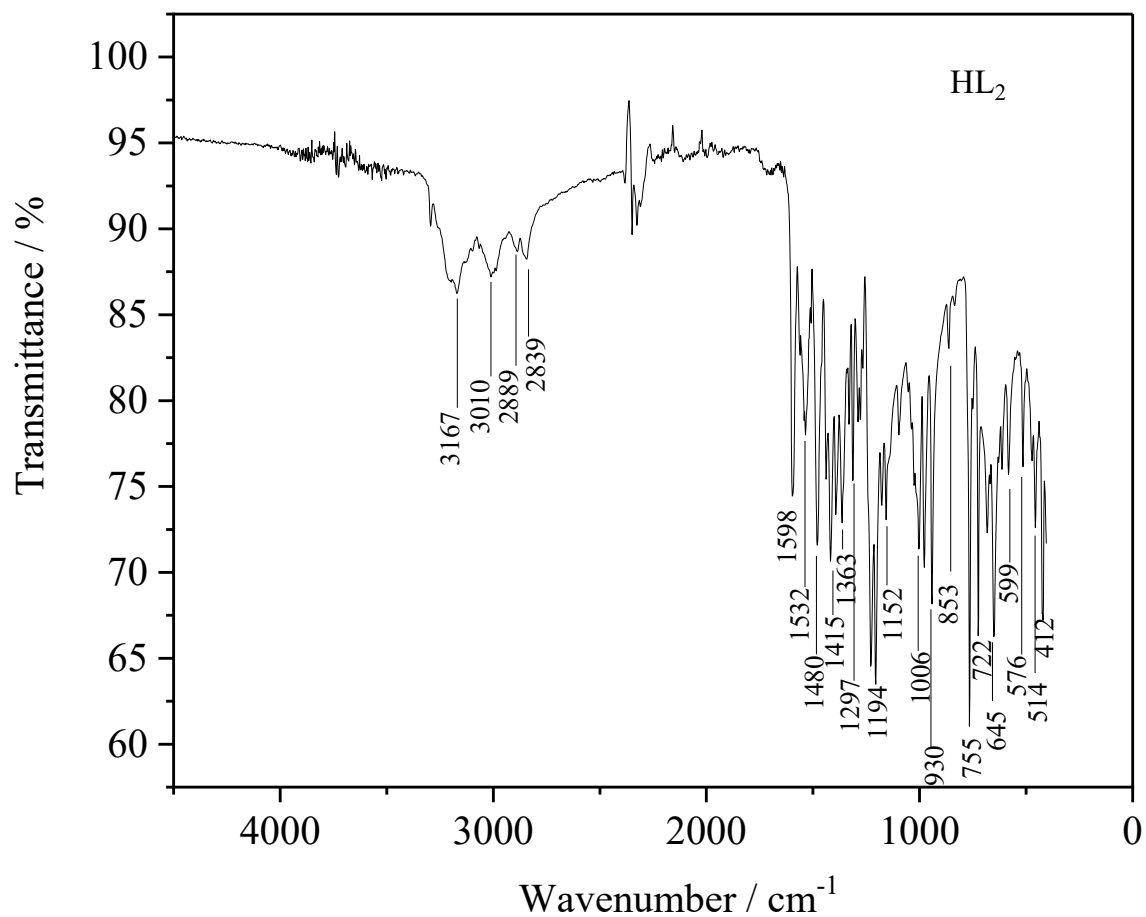


Figure S10. FTIR (ATR) spectrum of **HL₂**.

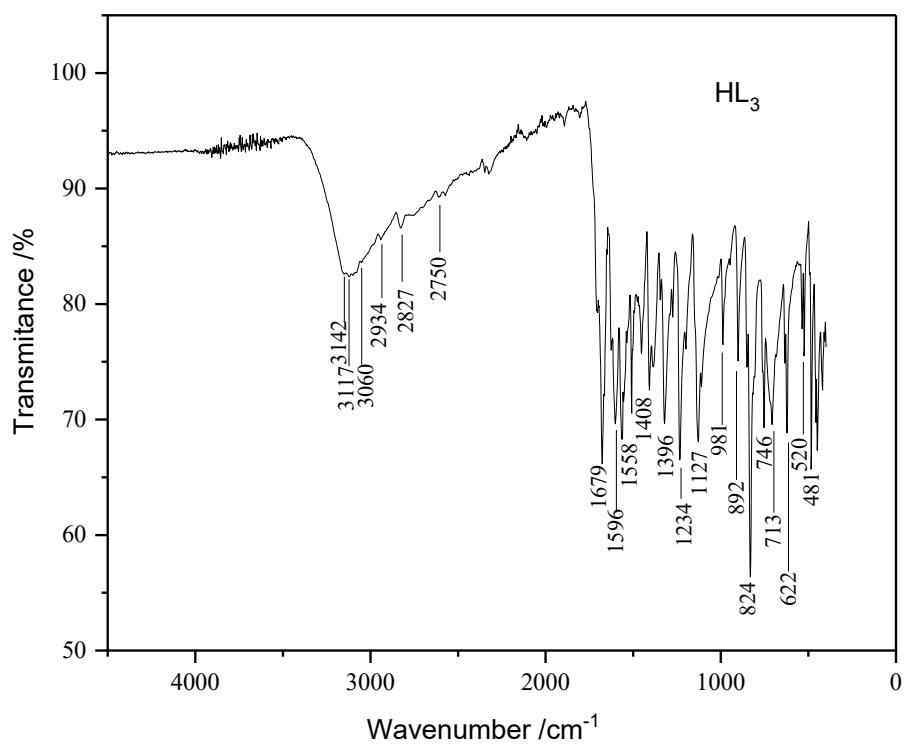


Figure S11. FTIR (ATR) spectrum of **HL₃**.

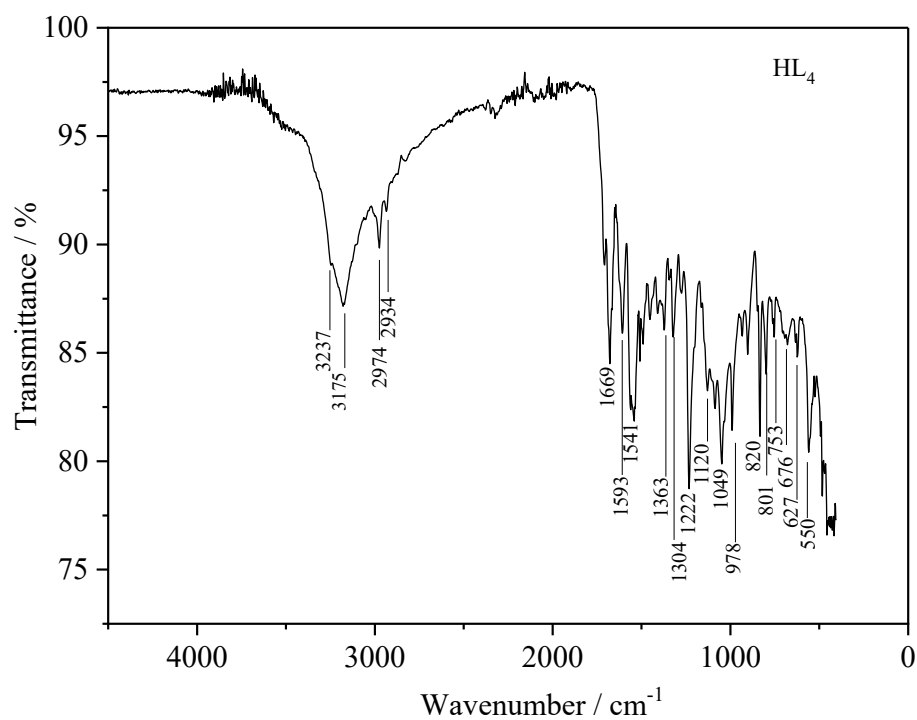


Figure S12. FTIR (ATR) spectrum of **HL₄**.

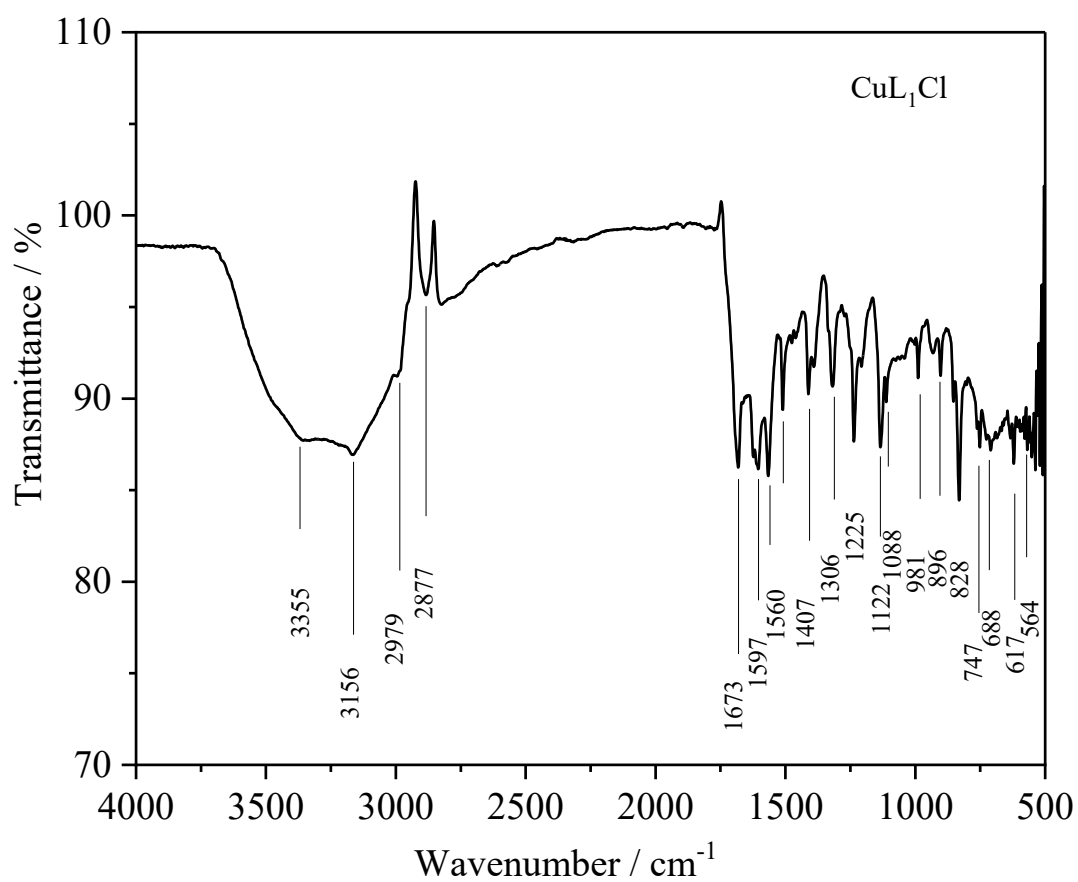


Figure S13. FTIR (ATR) spectrum of **CuL₁Cl**.

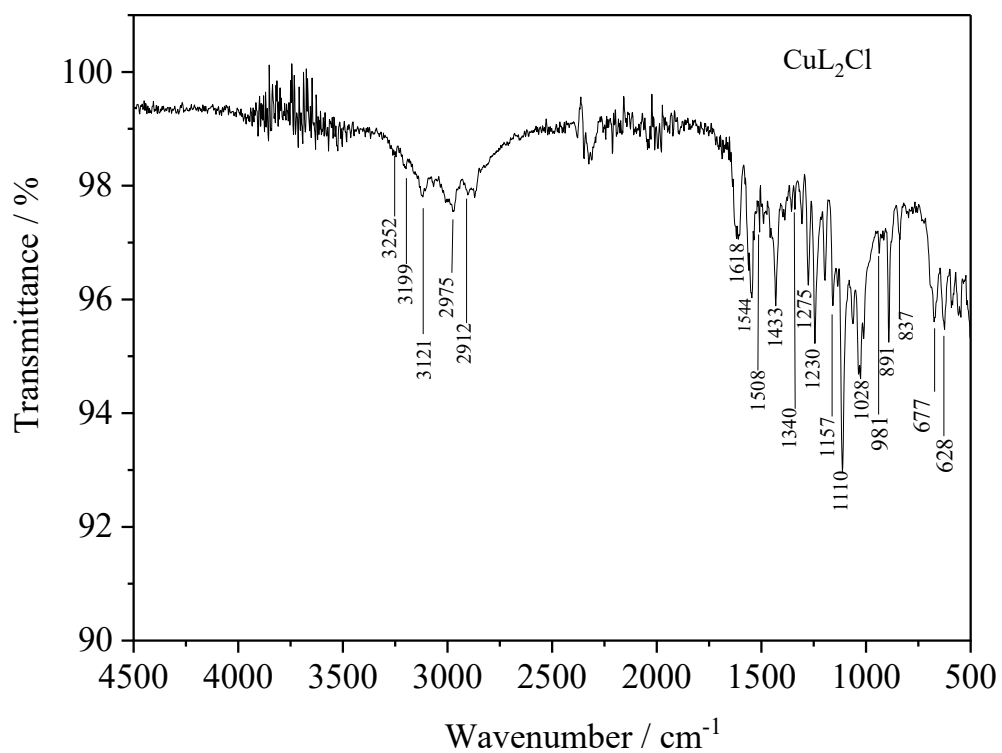


Figure S14. FTIR (ATR) spectrum of CuL_2Cl .

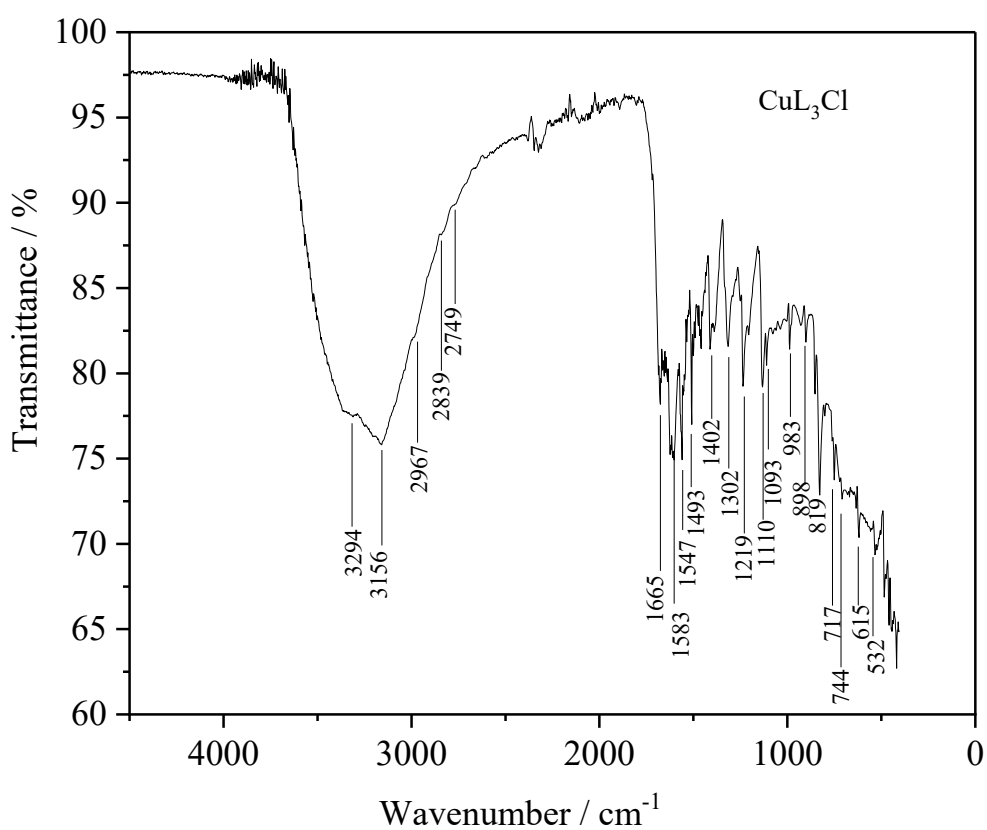


Figure S15. FTIR (ATR) spectrum of CuL_3Cl .

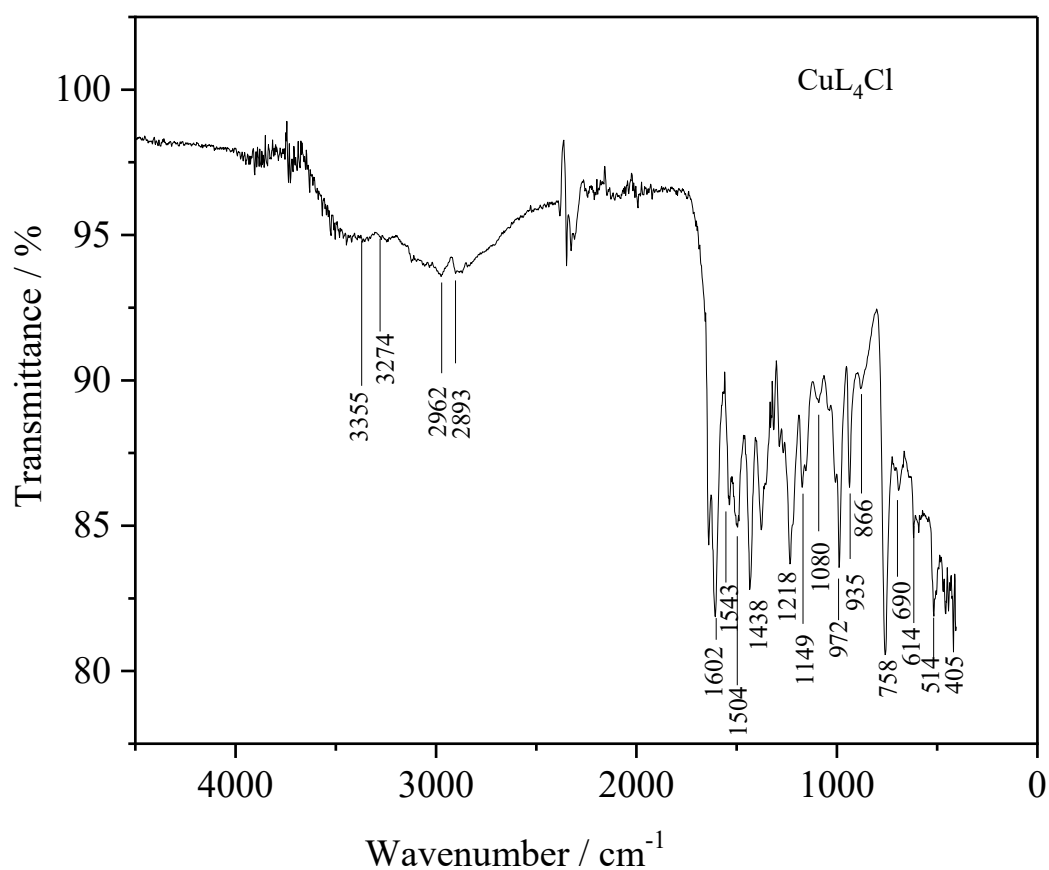


Figure S16. FTIR (ATR) spectrum of CuL_4Cl .

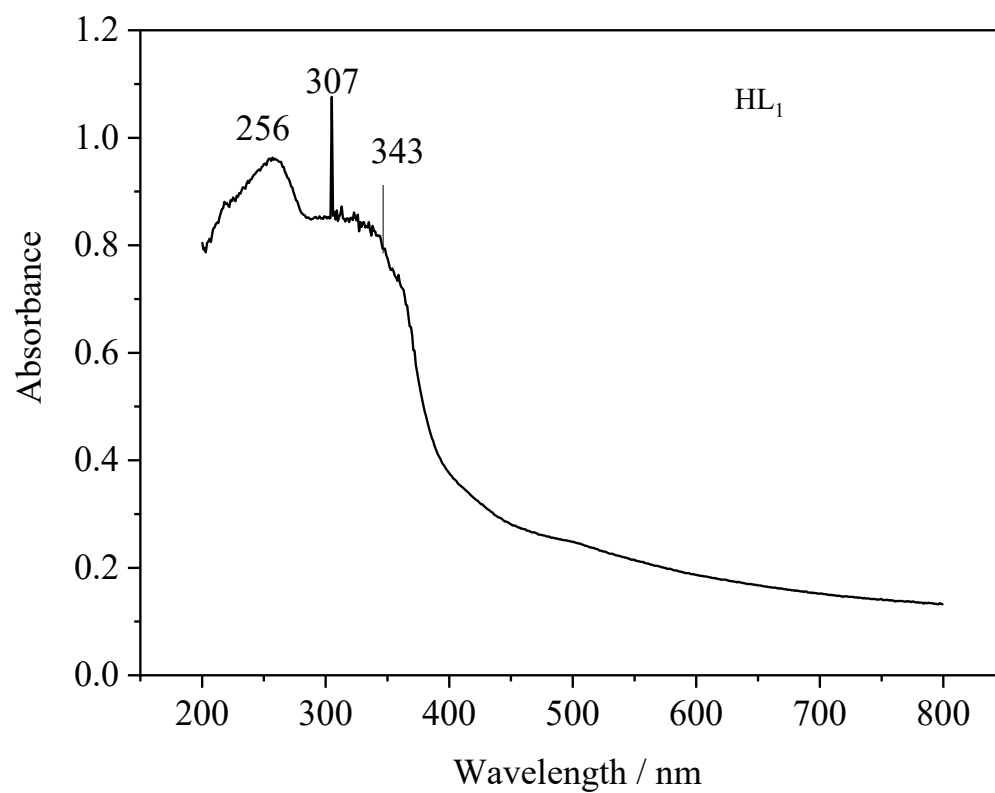


Figure S17. UV-Vis spectrum of HL_1 .

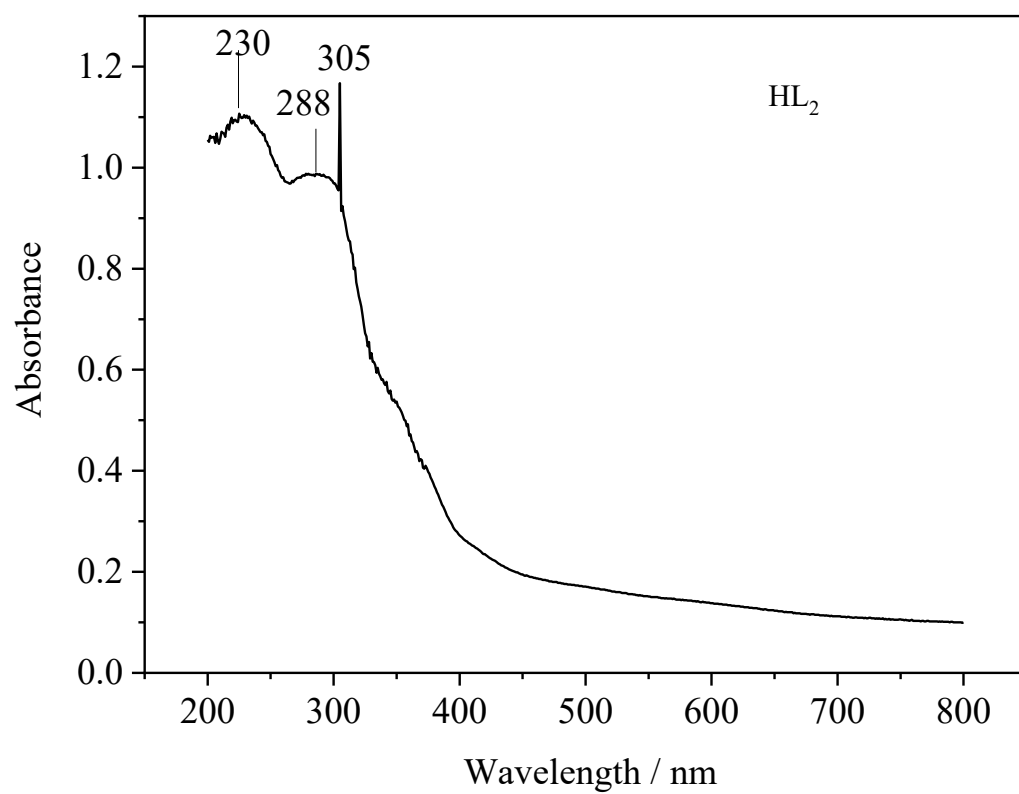


Figure S18. UV-Vis spectrum of **HL₂**.

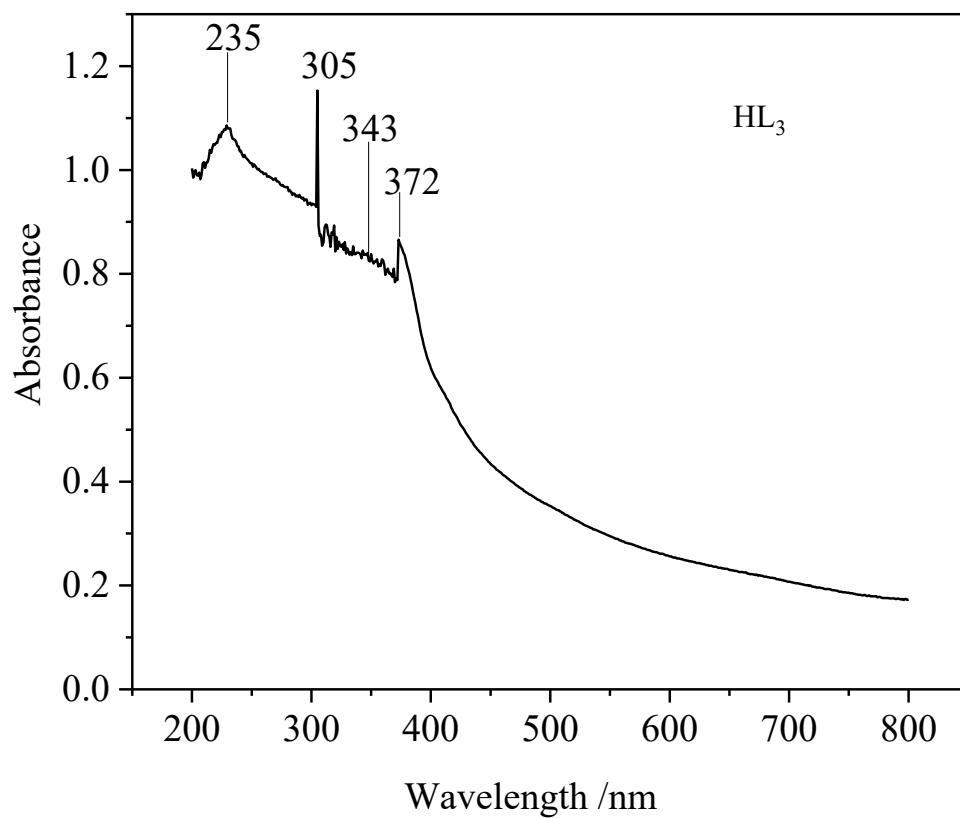


Figure S19. UV-Vis spectrum of **HL₃**.

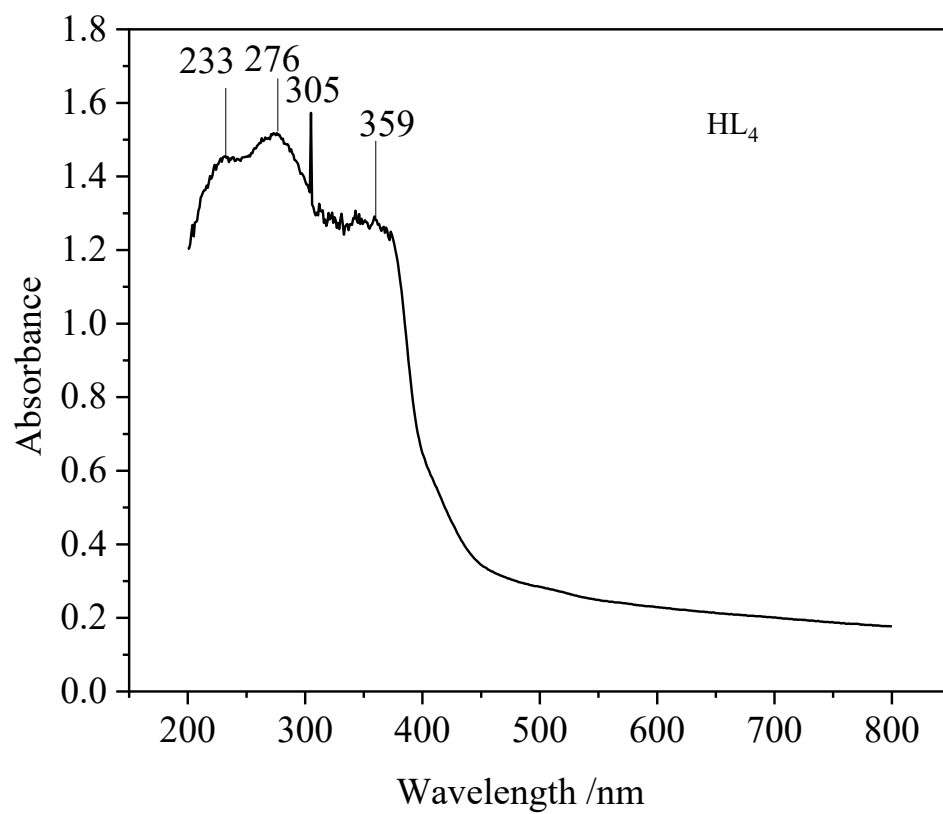


Figure S20. UV-Vis spectrum of **HL₄**.

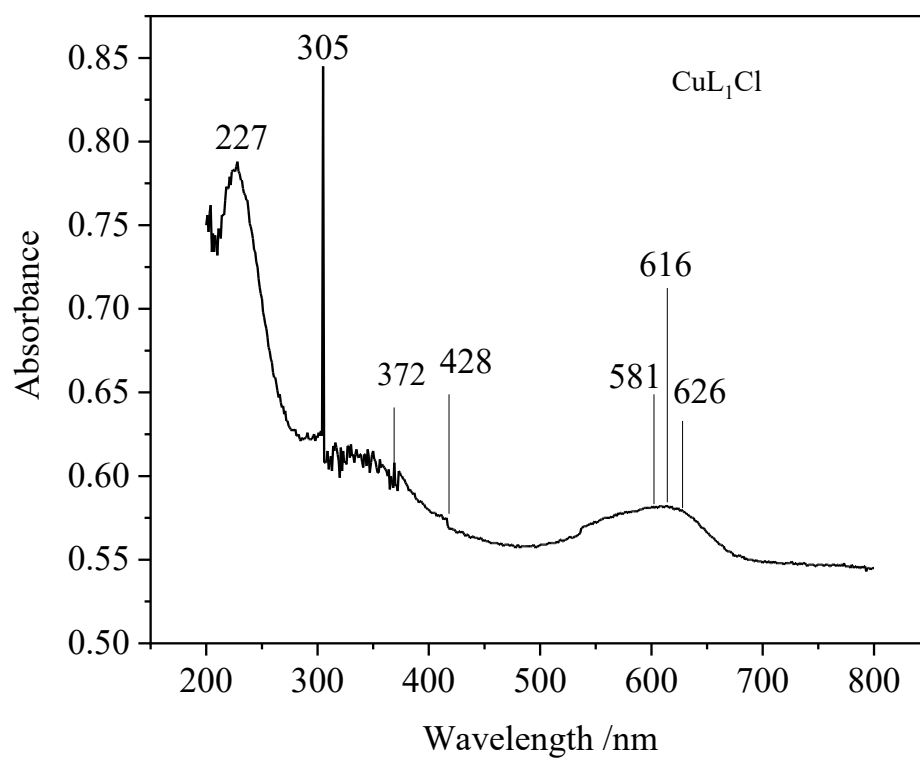


Figure S21. UV-Vis spectrum of **CuL₁Cl**.

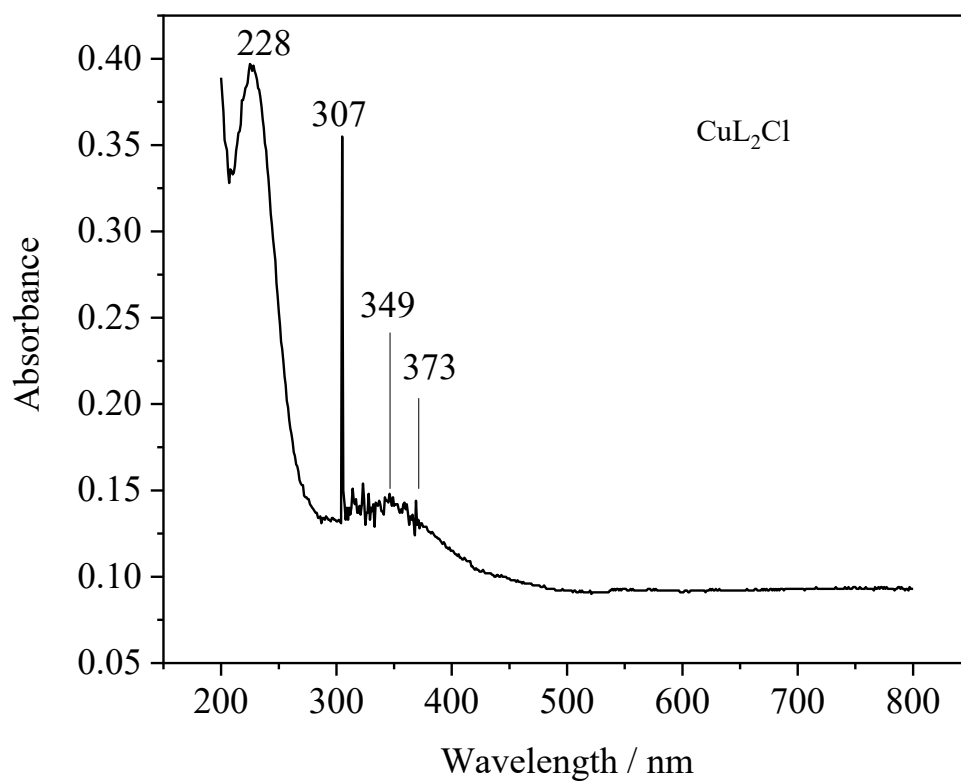


Figure S22. UV-Vis spectrum of CuL_2Cl .

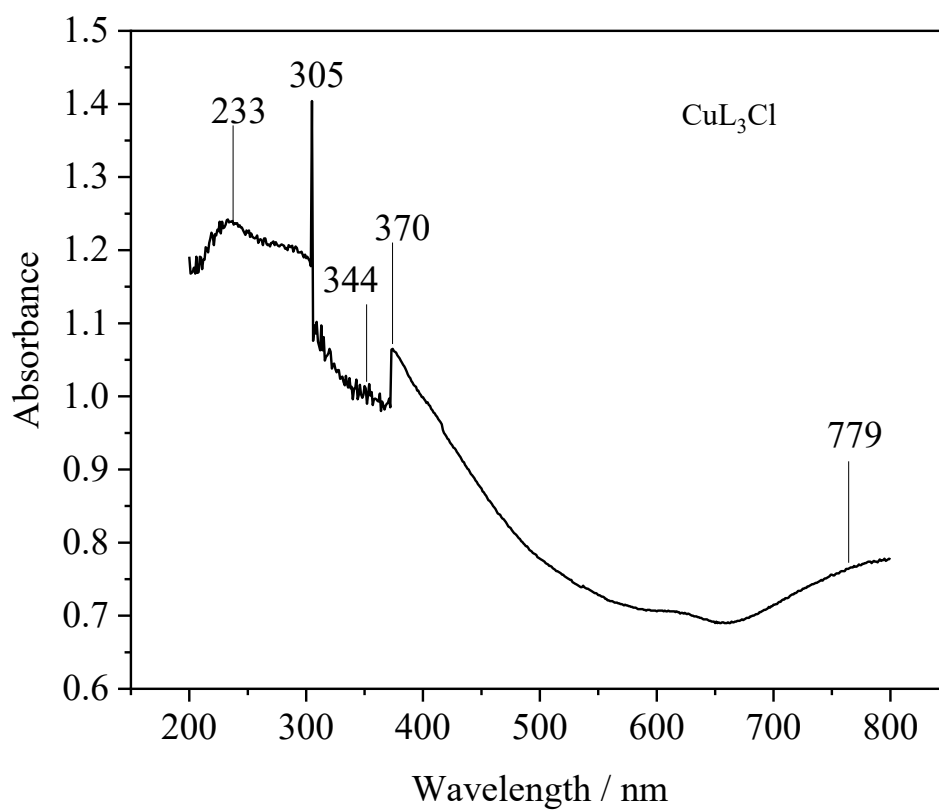


Figure S23. UV-Vis spectrum of CuL_3Cl .

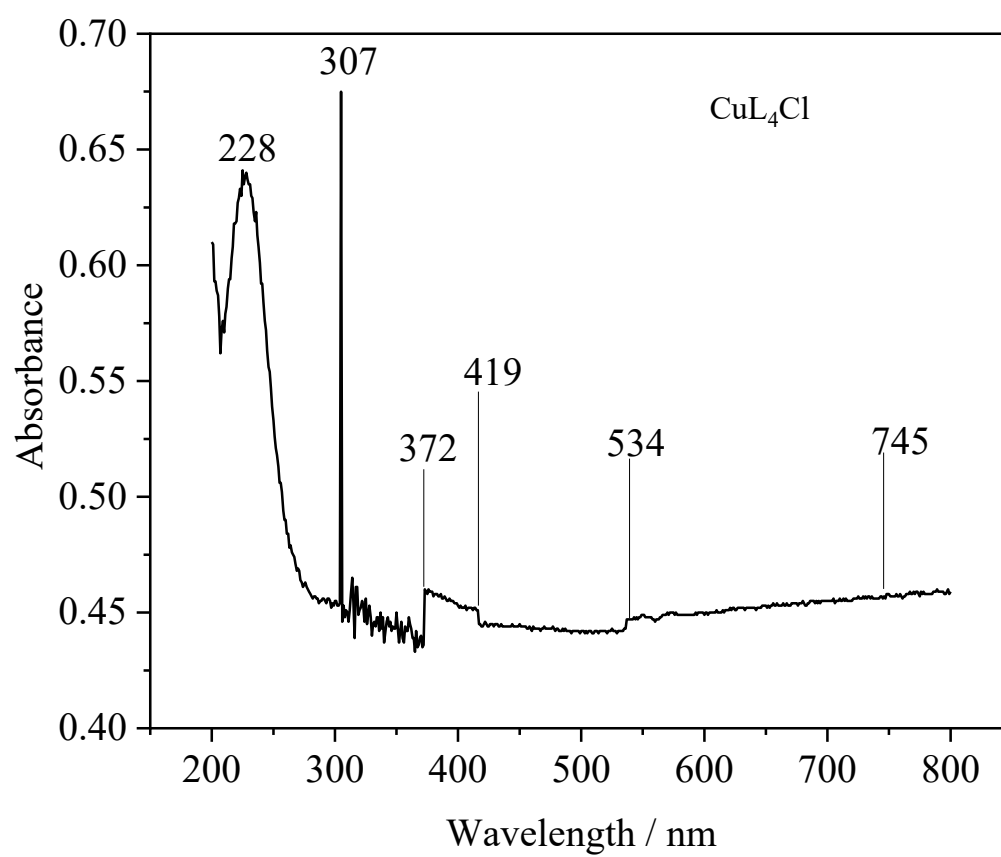


Figure S24. UV-Vis spectrum of CuL_4Cl .

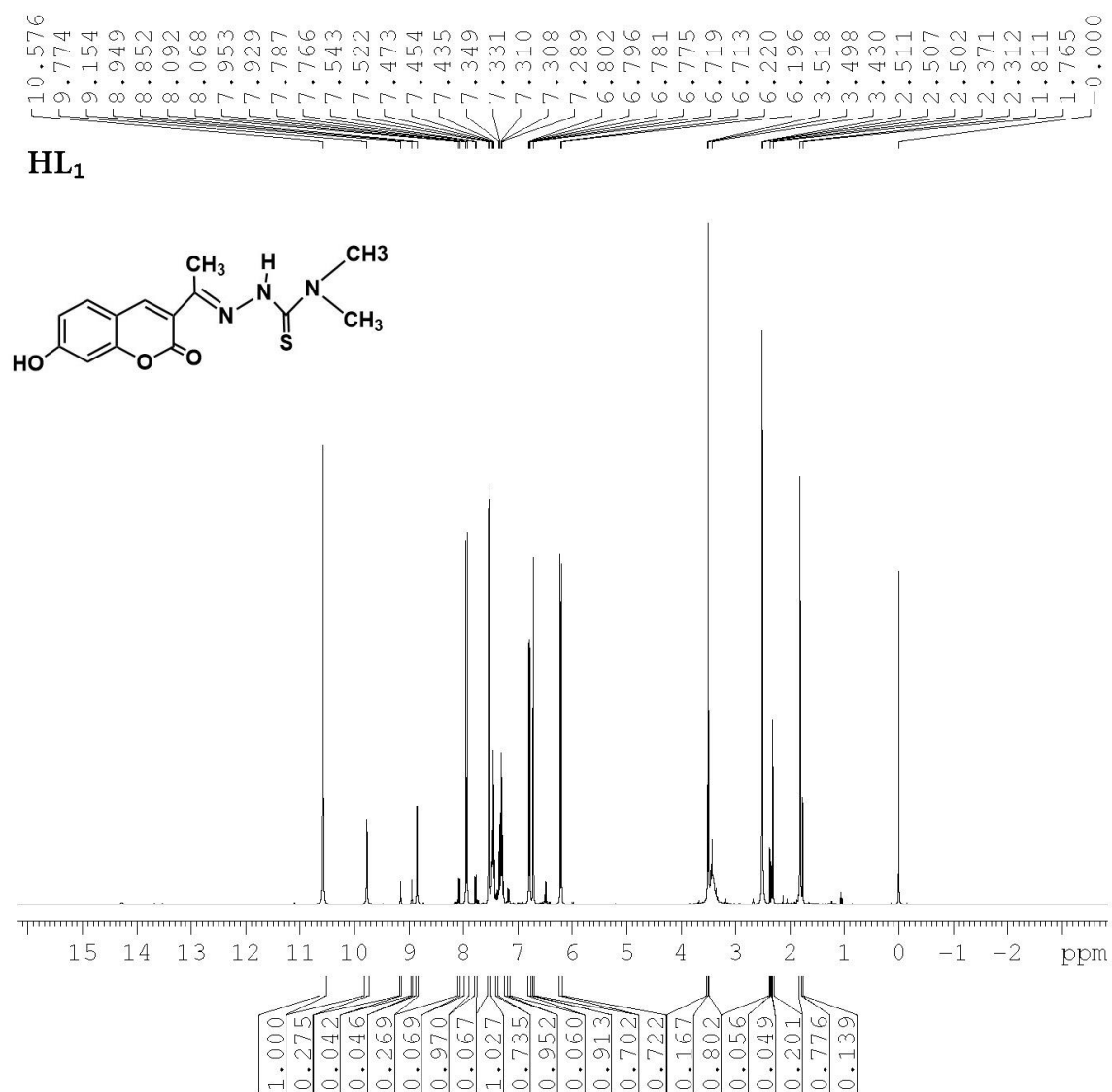


Figure S25. ¹H NMR spectrum (400 MHz, DMSO-*d*₆) of **HL₁**.

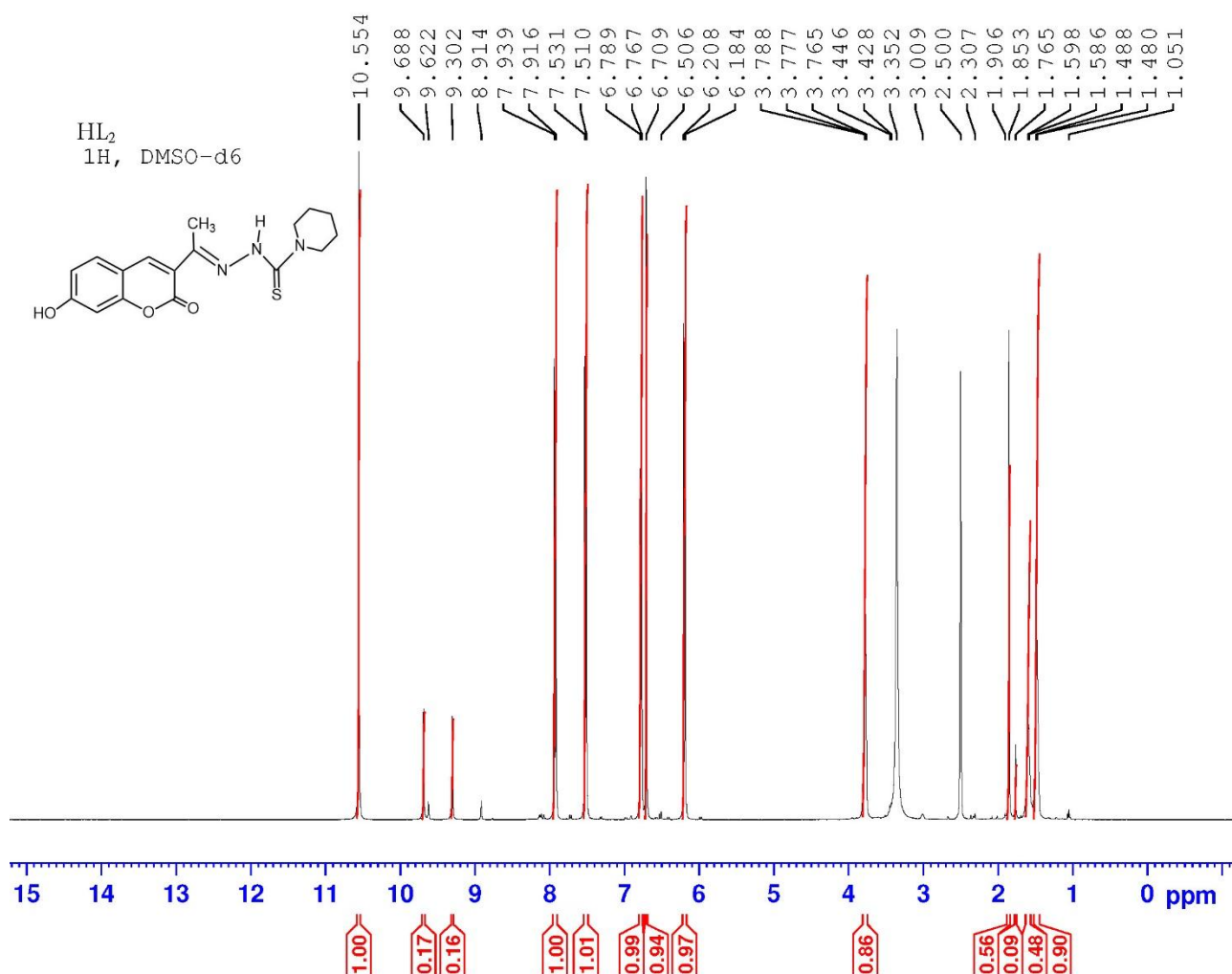


Figure S26. ¹H NMR spectrum (400 MHz, DMSO-*d*₆) of HL₂.

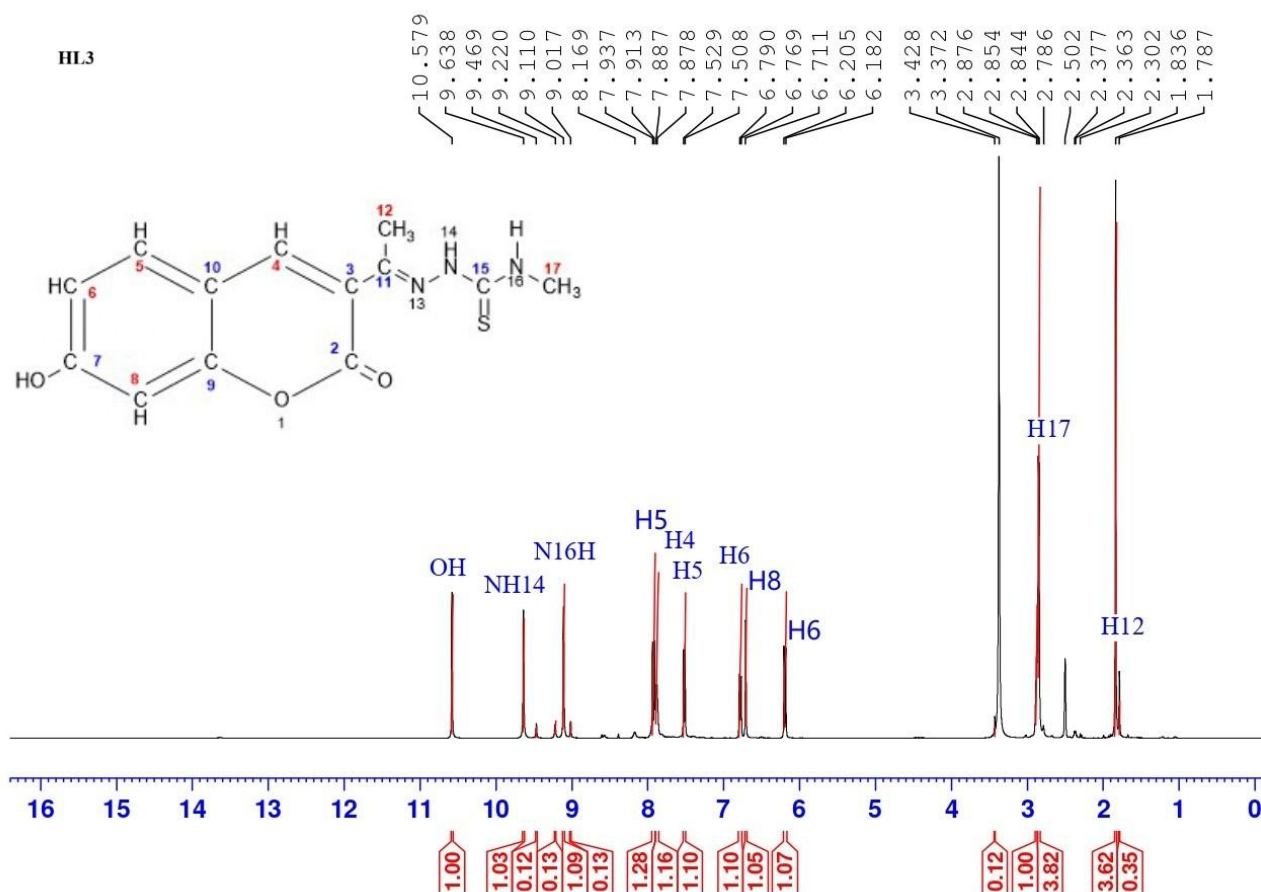


Figure S27. ^1H NMR spectrum (400 MHz, $\text{DMSO}-d_6$) of **HL3**.

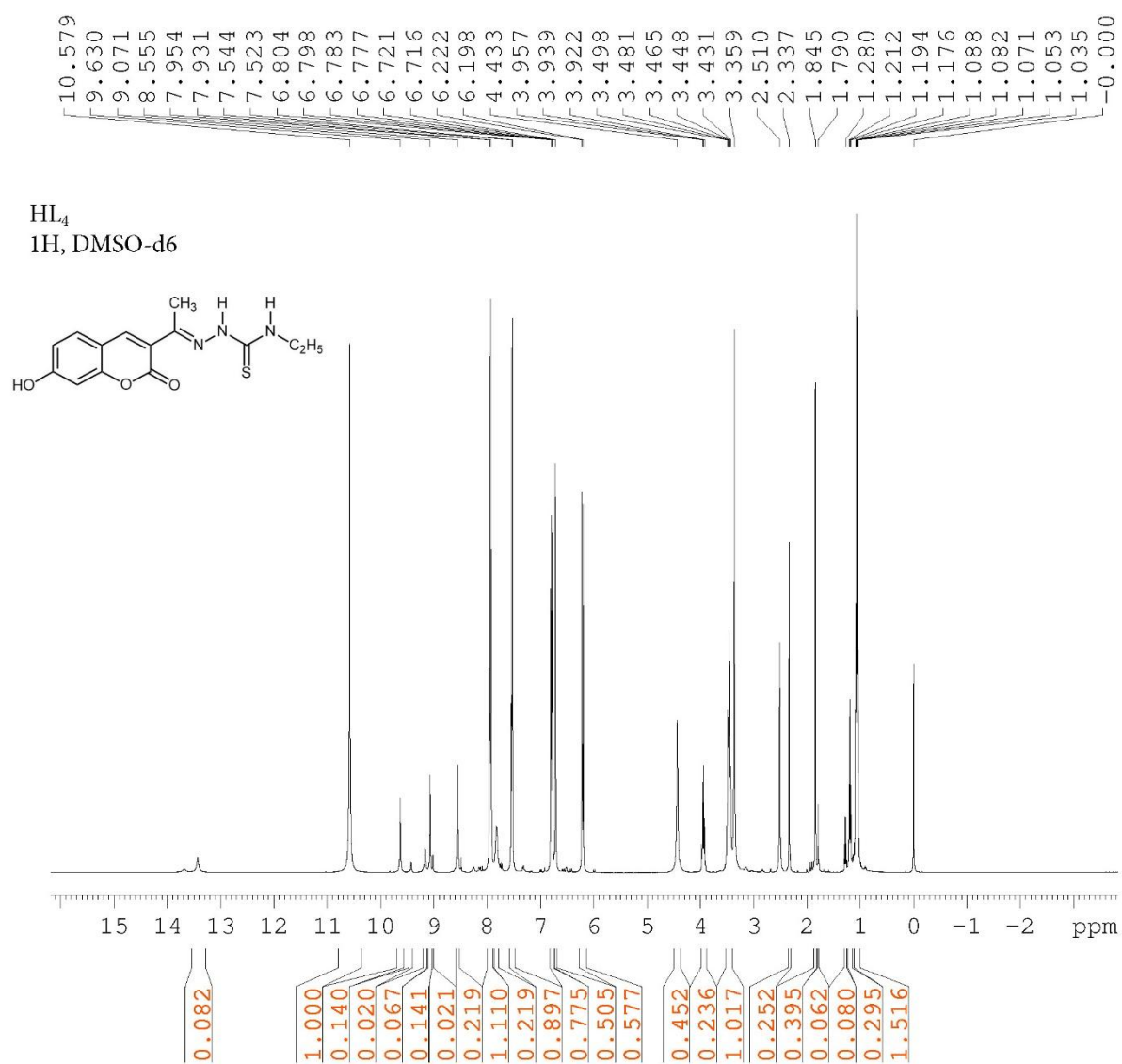


Figure S28. ¹H NMR spectrum (400 MHz, DMSO) of HL₄.

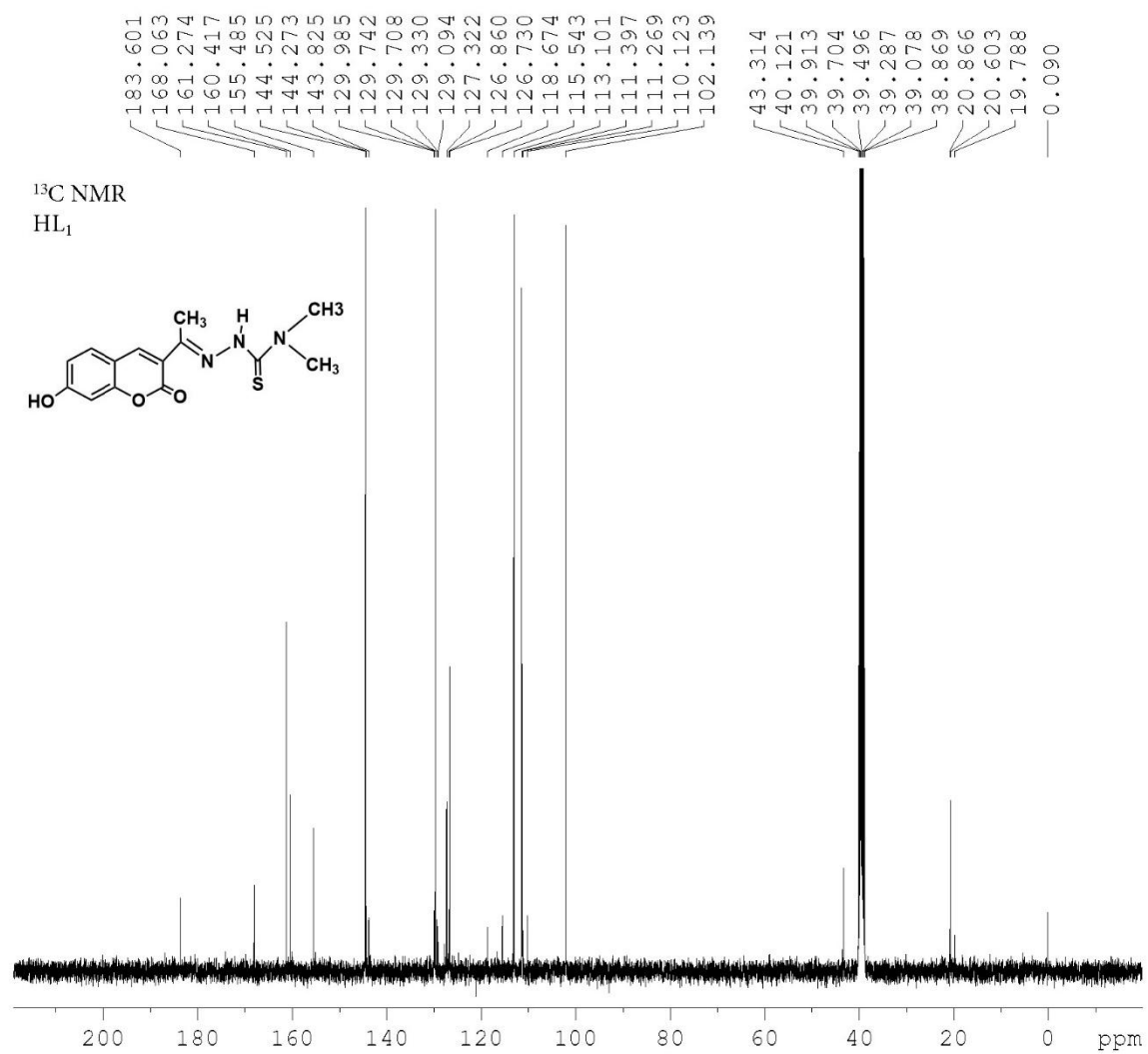


Figure S29. ¹³C NMR spectrum (100 MHz, DMSO-*d*₆) of HL₁.

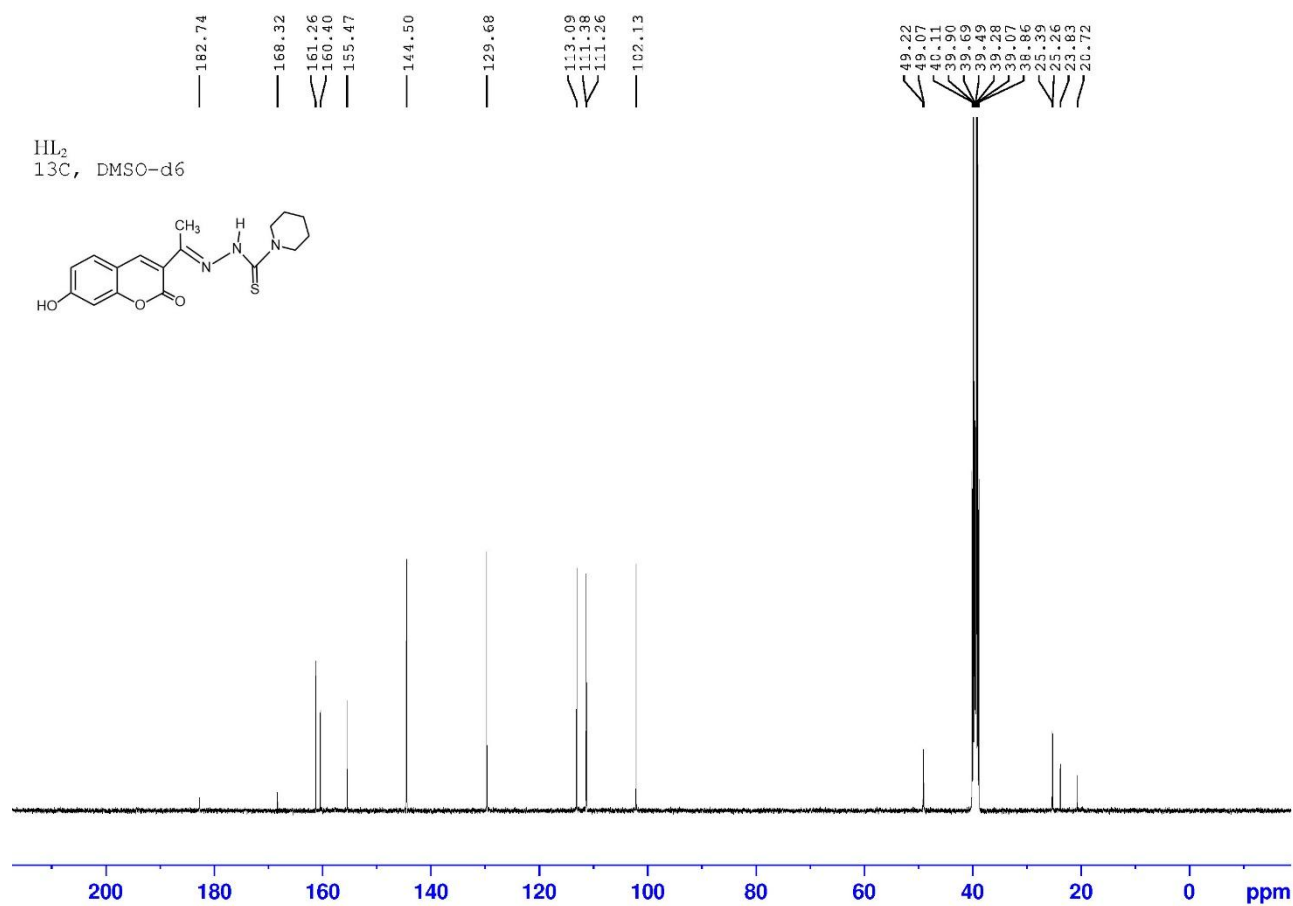


Figure S30. ¹³C NMR spectrum (100 MHz, DMSO-*d*₆) of HL₂.

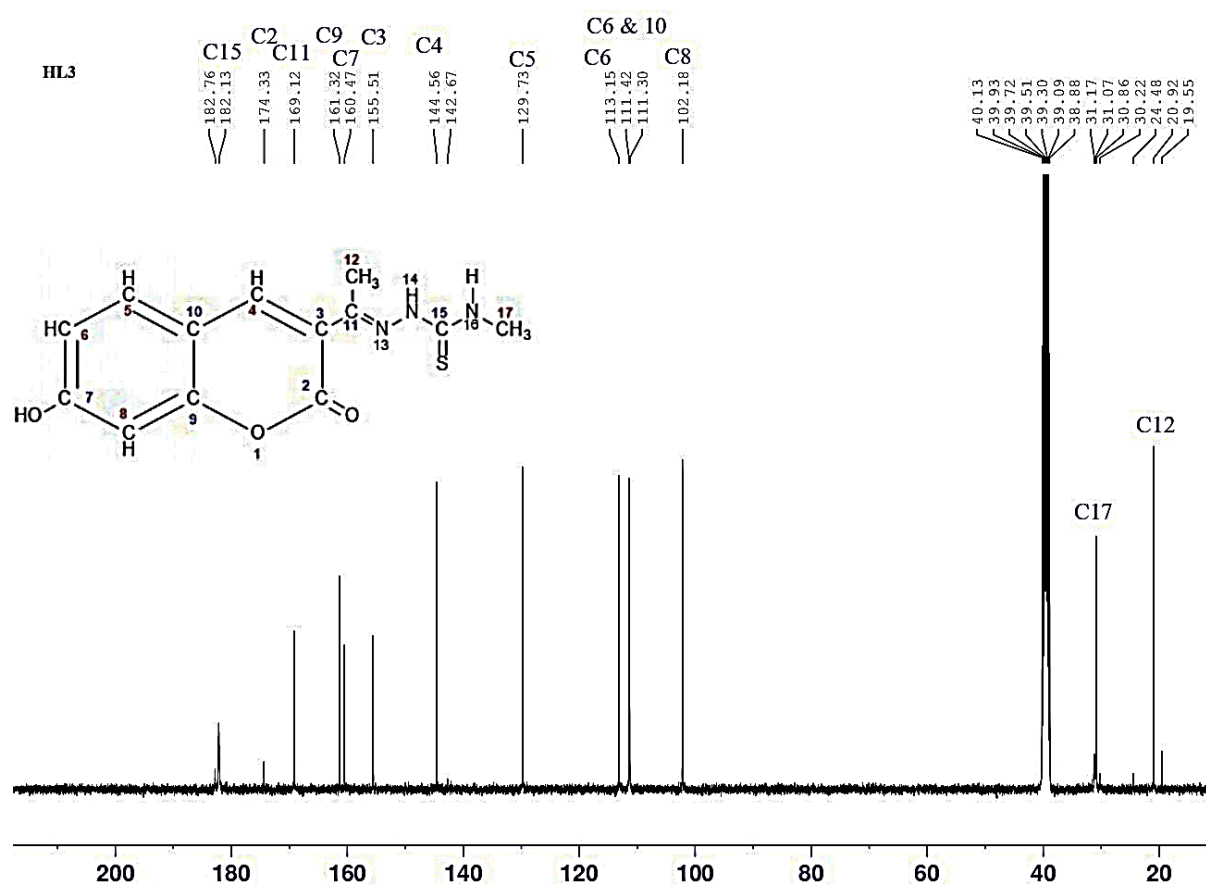


Figure S31. ¹³C NMR spectrum (100 MHz, DMSO-*d*₆) of HL3.

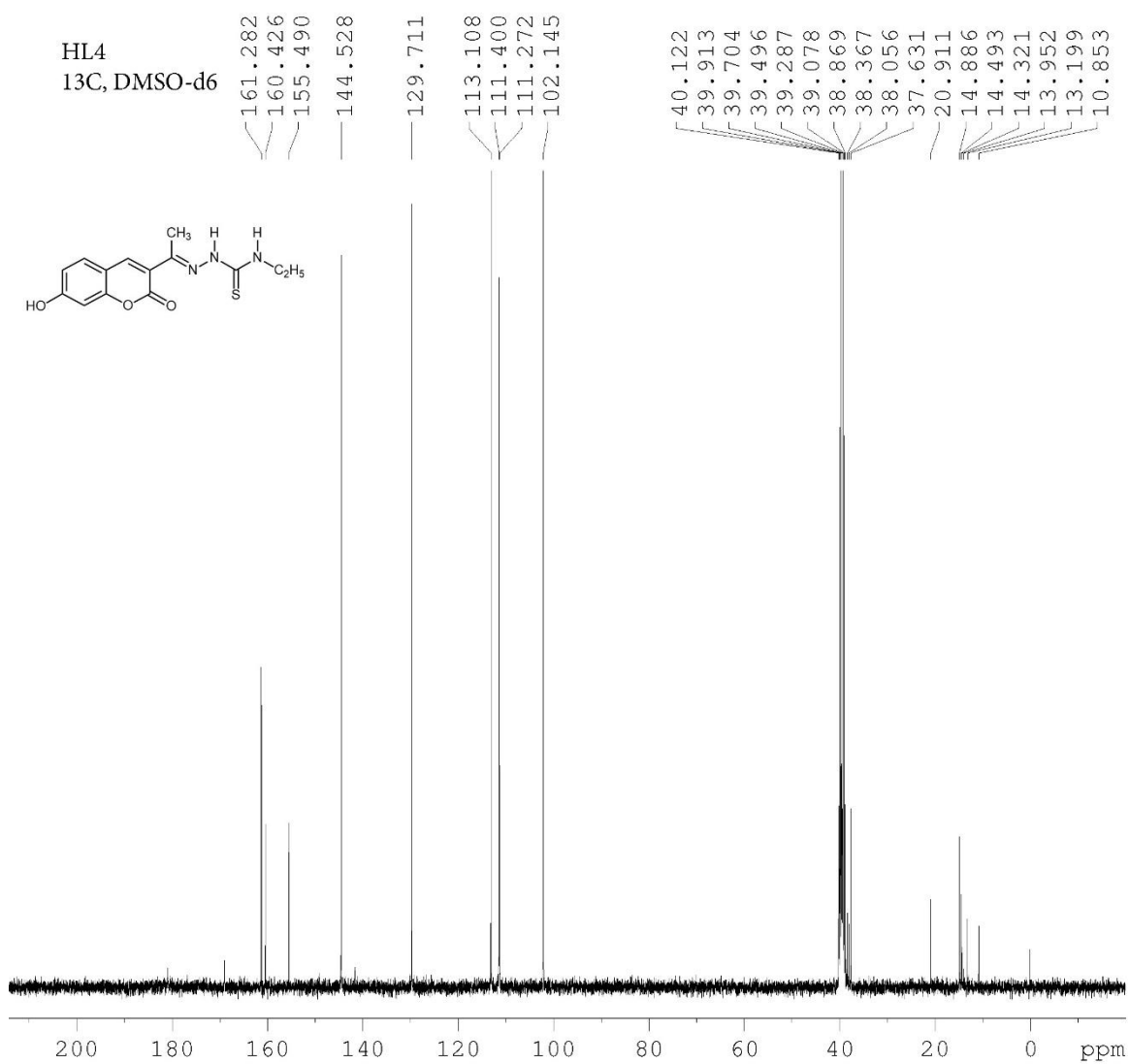


Figure S32. ¹³C NMR spectrum (100 MHz, DMSO-*d*₆) of **HL4**.

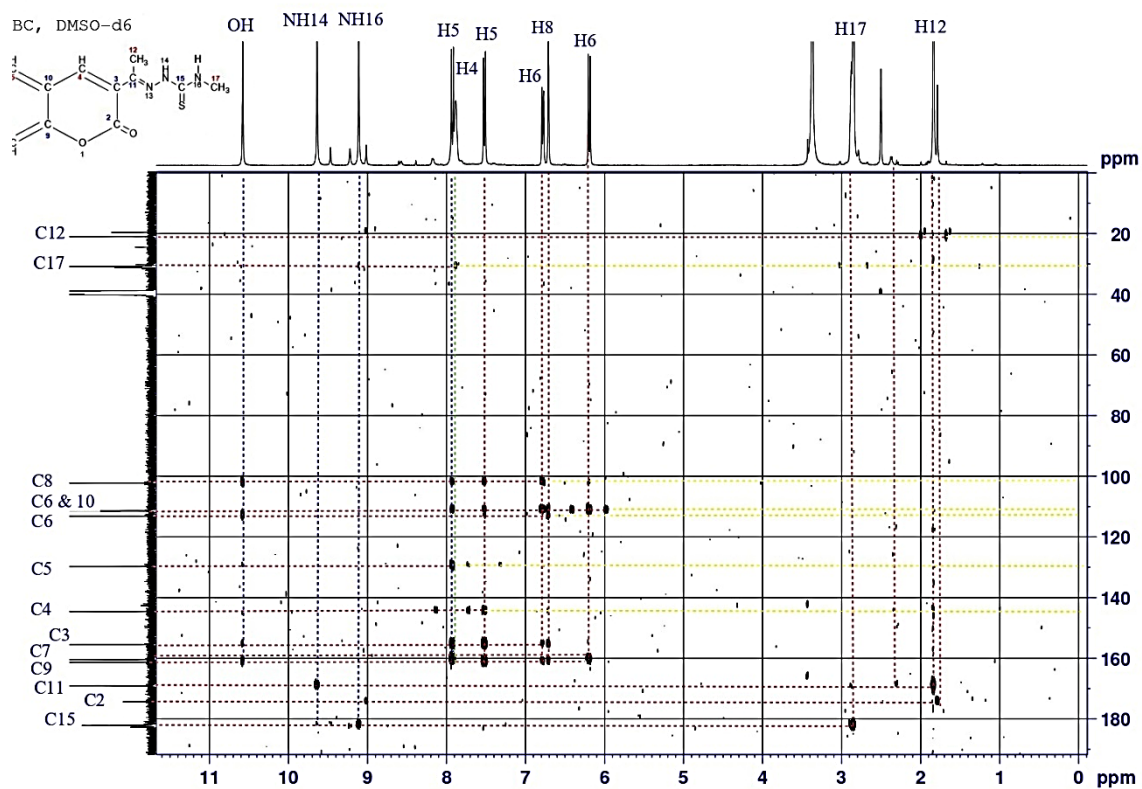


Figure S33. 2D HMBC NMR spectrum of **HL₃**.

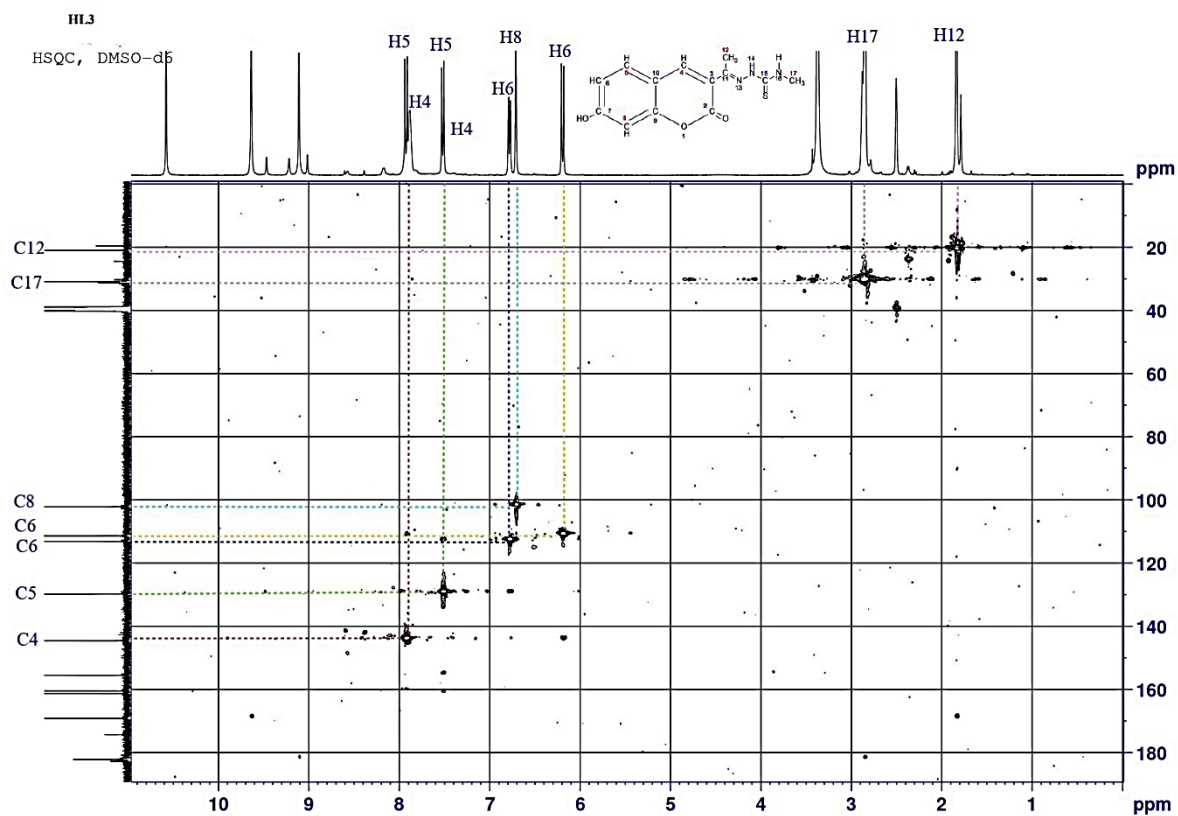


Figure S34. 2D HSQC NMR spectrum of **HL₃**.

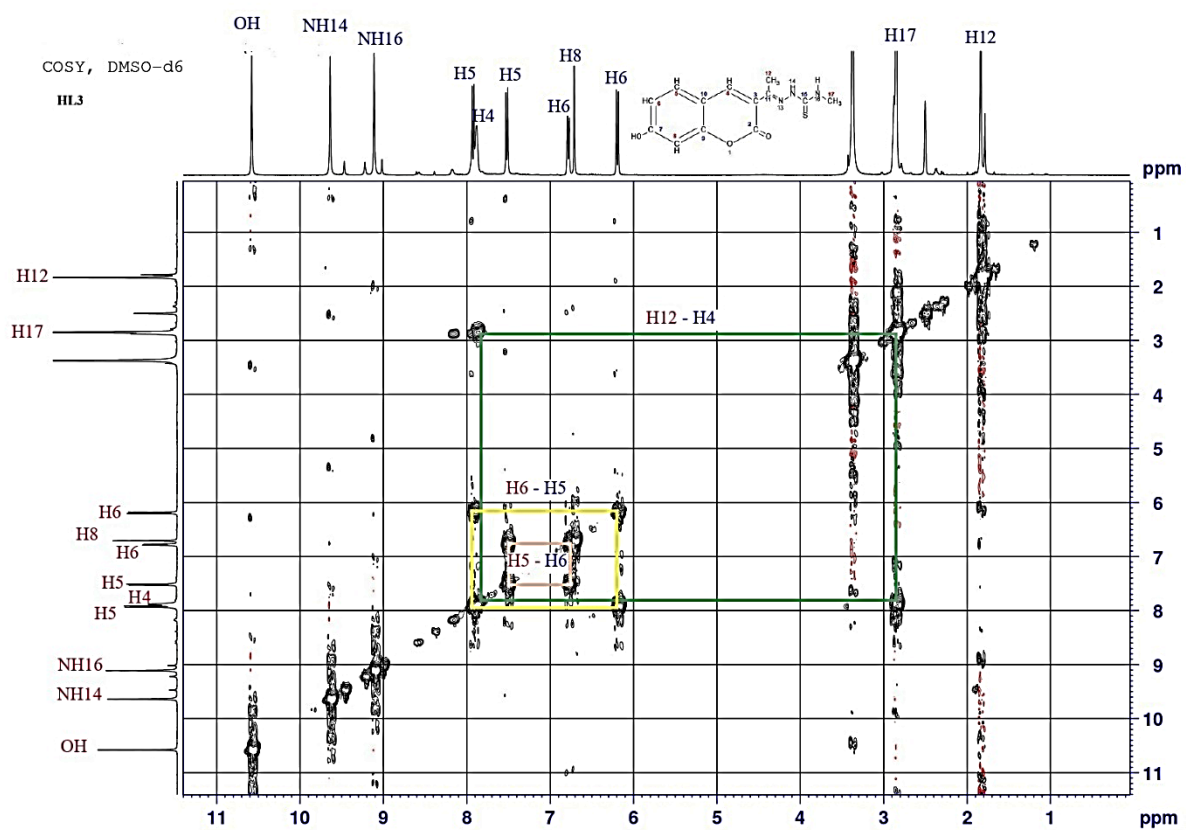


Figure S35. 2D COSY NMR spectrum of **HL3**.

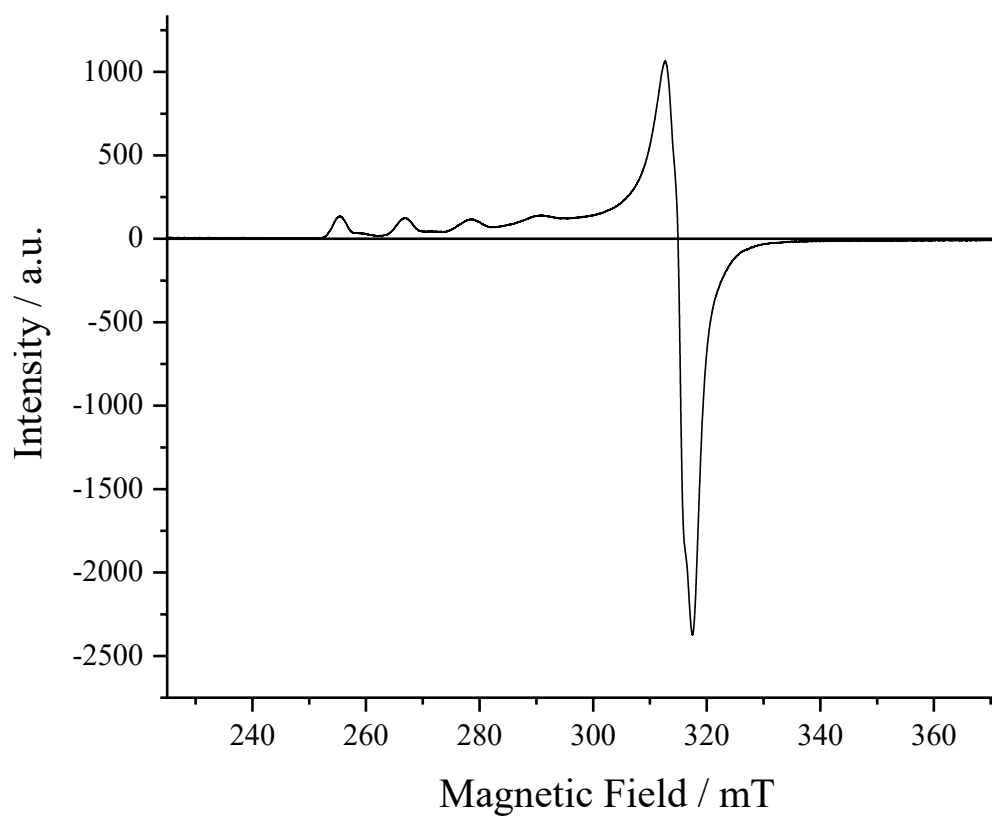


Figure S36. EPR spectrum of [CuL₁Cl].

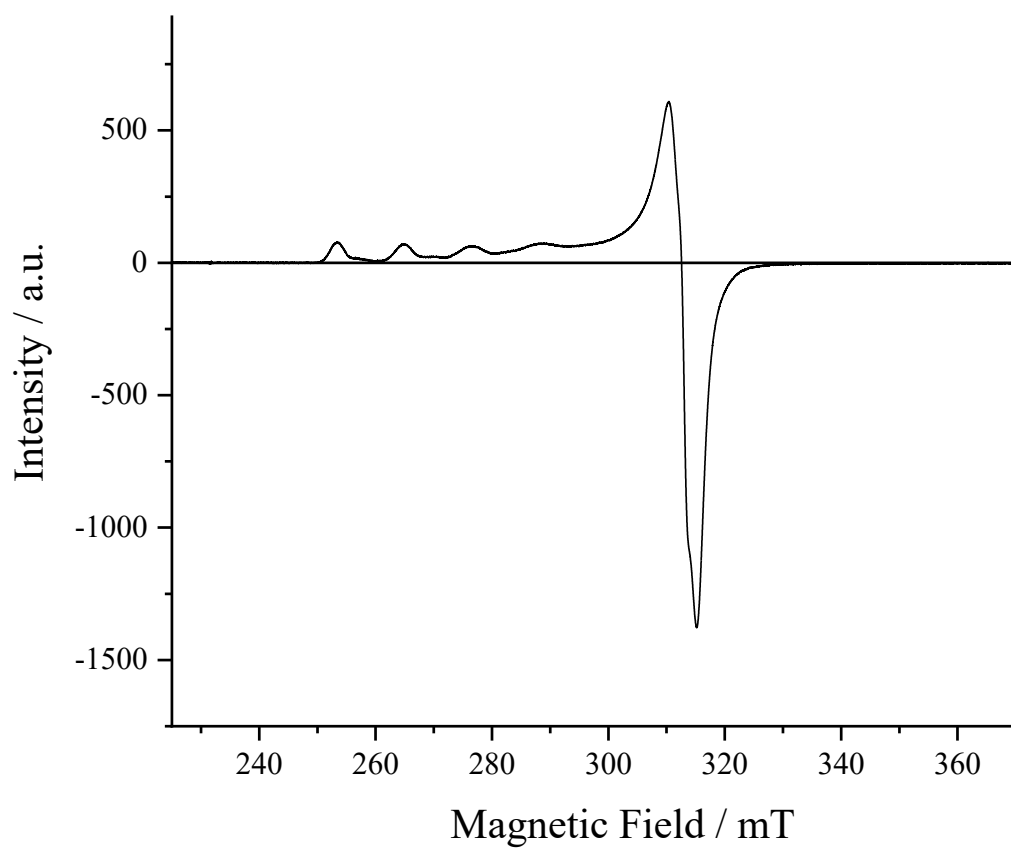


Figure S37. EPR spectrum of [CuL₂Cl].

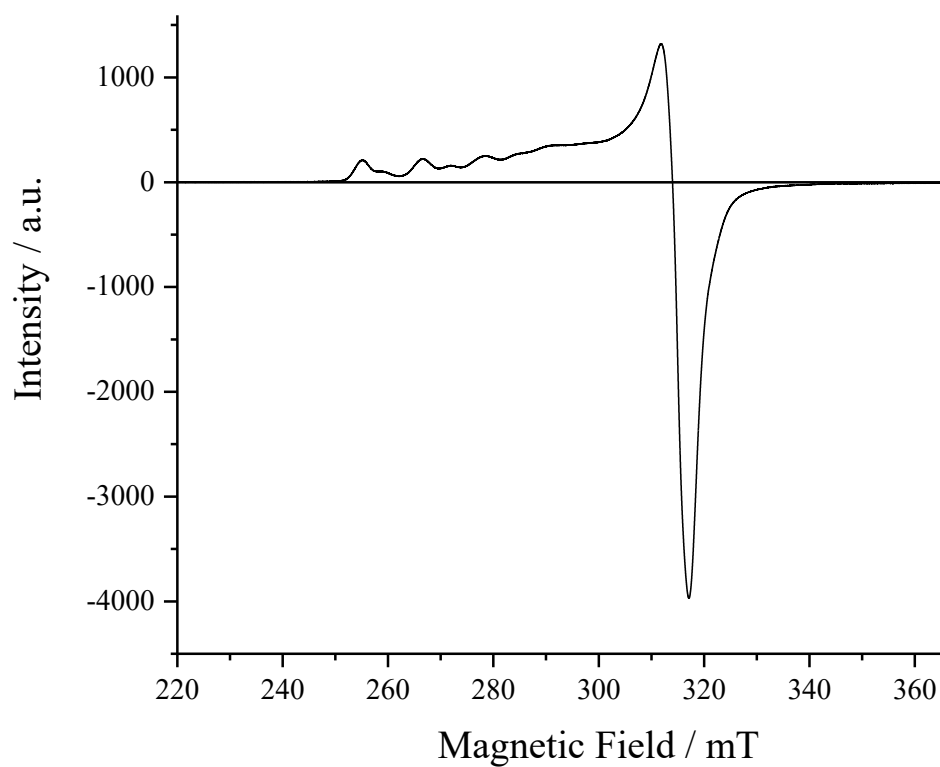


Figure S38. EPR spectrum of [CuL₃Cl].

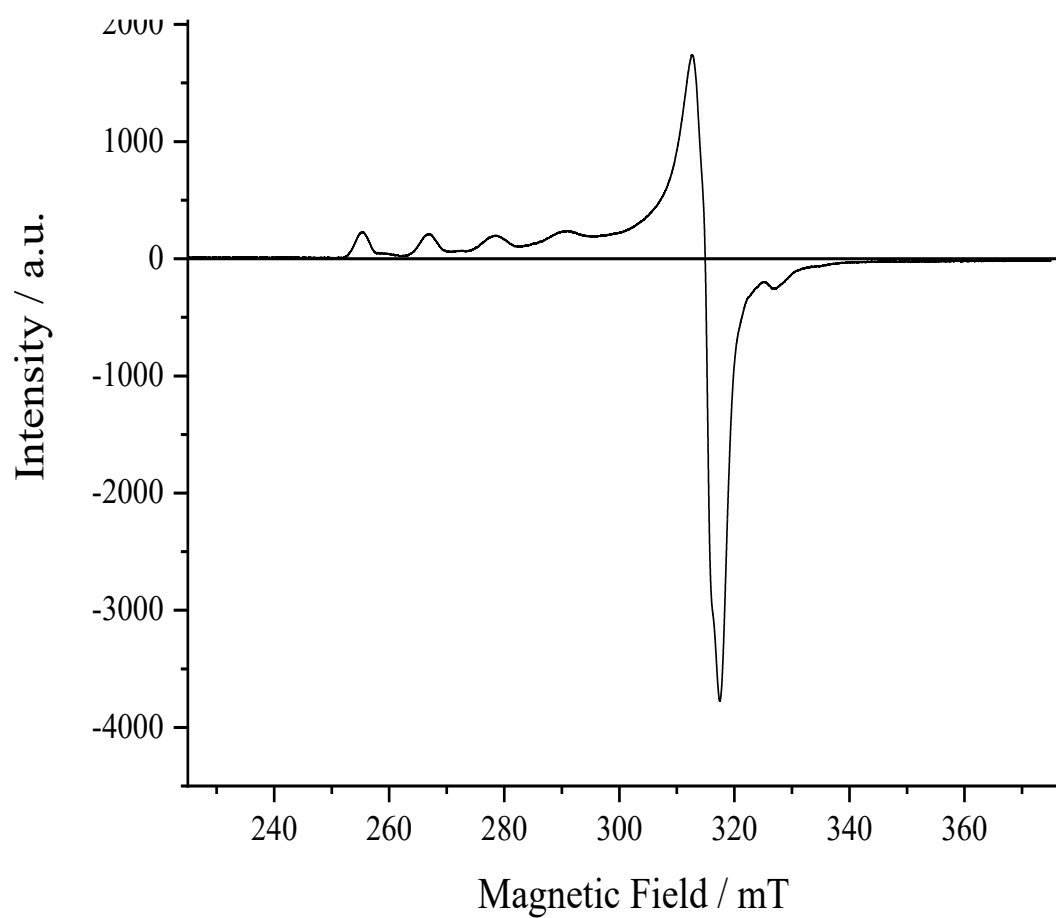


Figure S39. EPR spectrum of [CuL₄Cl].