Fluorescence Data

Batch titrations were set up for all samples. Stock solutions of **L1**, **L2**, **L3**, and **L4** were made to 0.001 M solution in 40 mL of dimethylformamide (DMF). Metal stock solution of both Cu(II) acetate or UO_2^{2+} acetate were made to 0.001 M in 25 mL of DI H_2O. For each ligand batch contained a ligand blank with no metal followed by 14 other samples of 1 equivalent of ligand and introducing 0.1 equivalents of metal stock solution all the way up to 1 equivalents of metal, after reaching 1 equivalent of metal, separate equivalents were added until reaching 5 equivalents of metal. All samples were made and allowed to sit for 24 hours then UV-vis spectra were taken. After the first spectra was taken, 1 µL of 0.1 M TEA in DMF was added to the samples to help facilitate deprotonation. The samples were allowed to sit for 1 hour after addition of TEA then UV-Vis spectra were taken of the samples. All samples were 5 mL in volume and contained 10% H_2O.

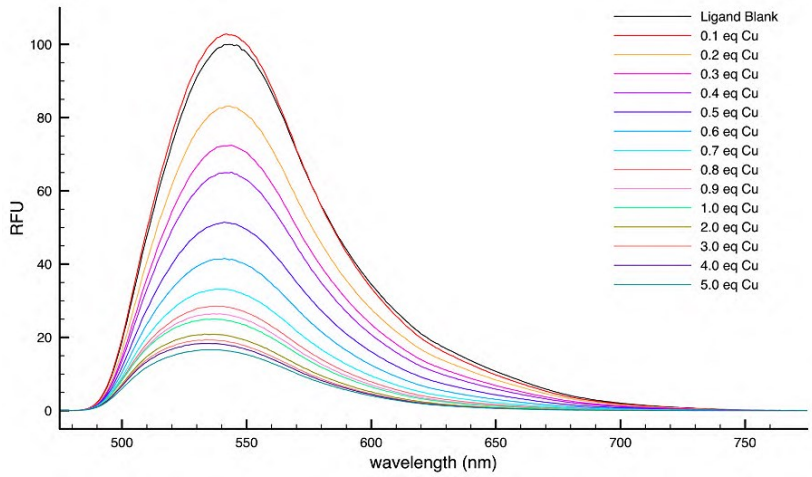

*Figure S19. Salimidizine (**L1**) Fluorescence Titration with Cu (II); 408 nm excitation*

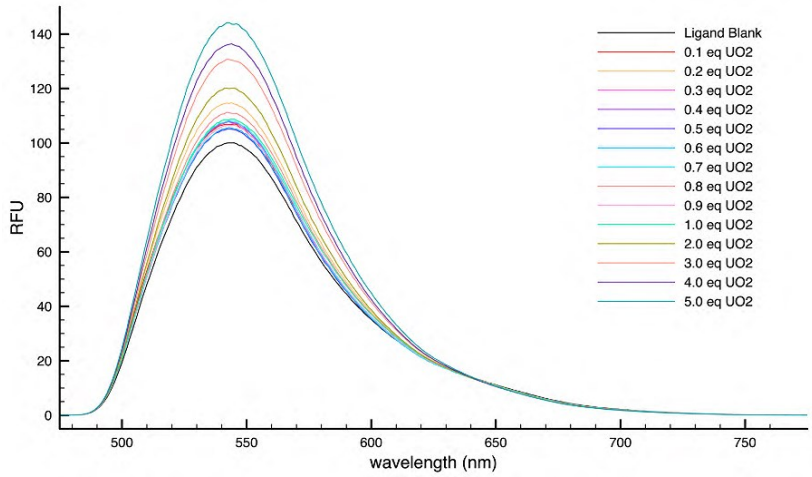

*Figure S20. Salimidizine (**L1**) Fluorescence Titration with UO_2; 408 nm excitation*

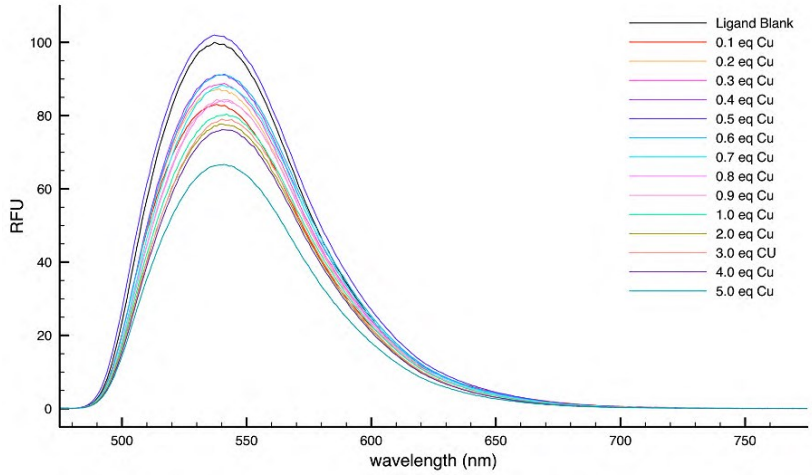

*Figure S21. DTB Salimidizine (**L2**) Fluorescence Titration with Cu (II); 408 nm excitation*

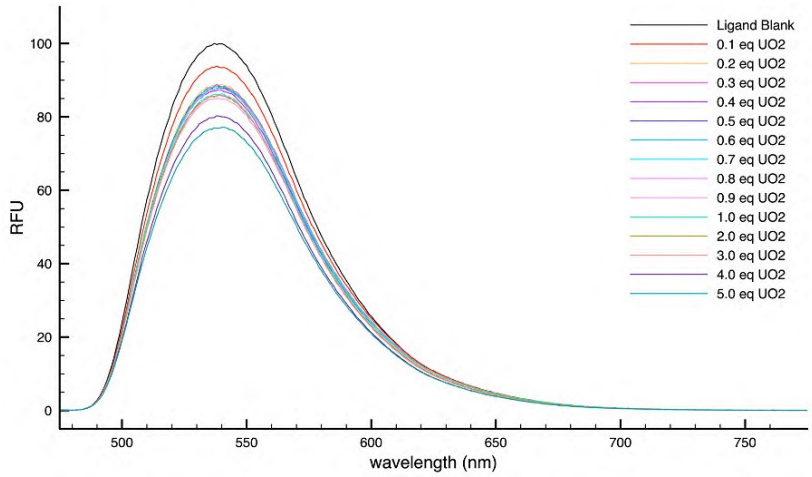

*Figure S22. DTB Salimidizine (**L2**) Fluorescence Titration with UO_2; 408 nm excitation*

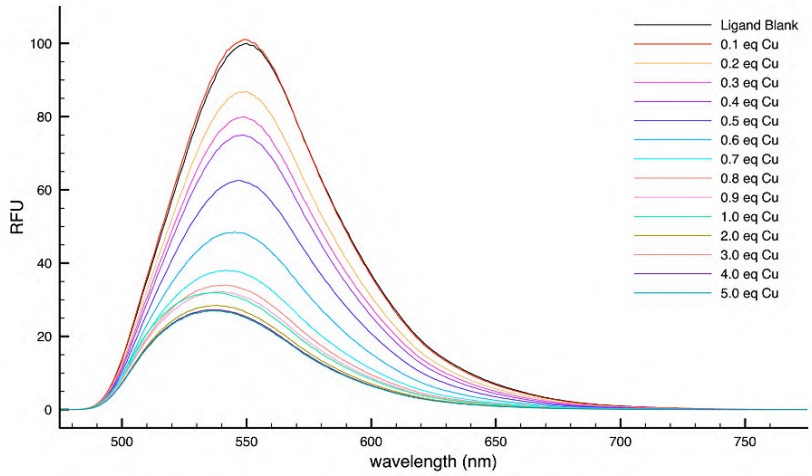

*Figure S23. OMe Salimidizine (**L3**) Fluorescence Titration with Cu (II); 408 nm excitation*

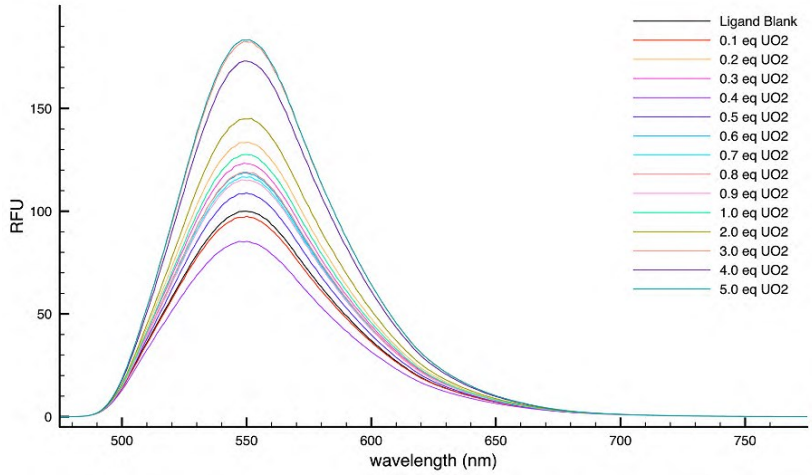

*Figure S24. OMe Salimidizine (**L3**) Fluorescence Titration with UO_2; 408 nm excitation*

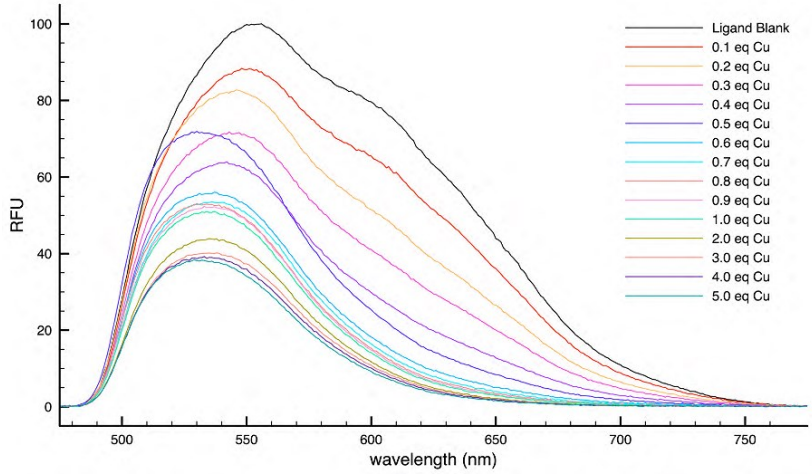

*Figure S25. CN Salimidizine (**L4**) Fluorescence Titration with Cu (II); 408 nm excitation*

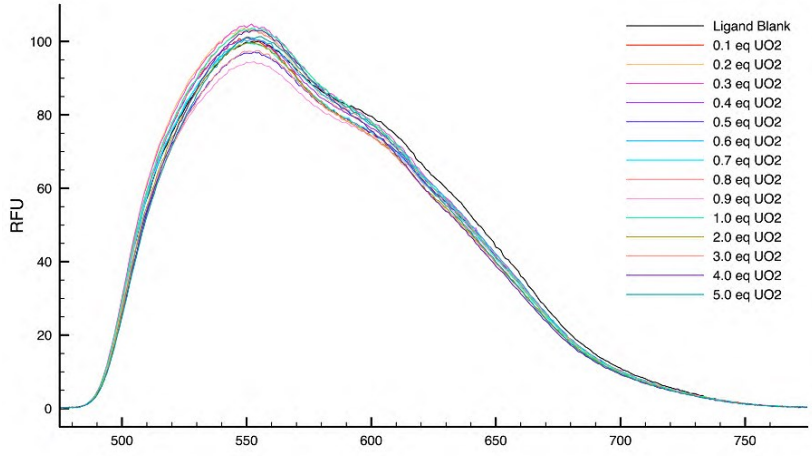

*Figure S26. CN Salimidizine (**L4**) Fluorescence Titration with UO_2; 408 nm excitation*

IR Spectra

Infrared spectra were obtained in the solid state using an attenuated total reflectance (ATR) method on a Thermo Scientific Nicolet iS50 FT-IR instrument.

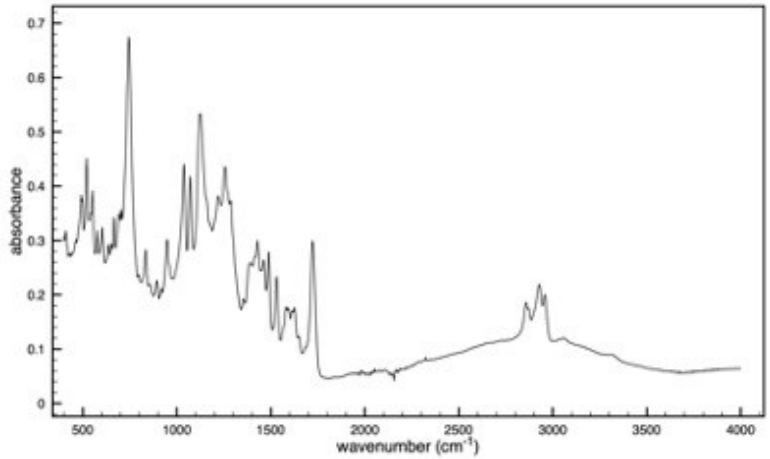

*Figure S27. Salimidizine (**L1**) IR Spectra*

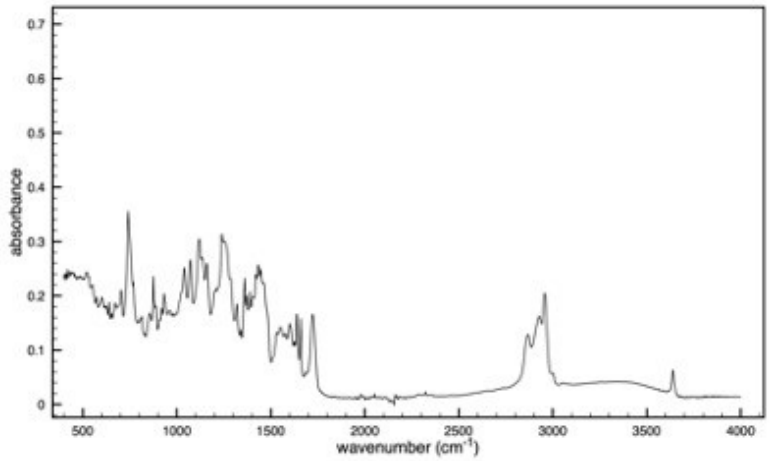

*Figure S28. Salimidizine (**L1**) Cu IR Spectra*

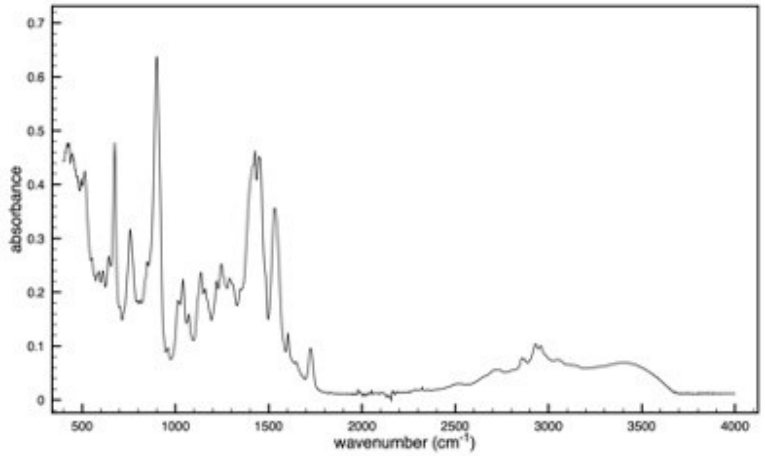

*Figure S29. Salimidizine (**L1**) UO_2 IR Spectra*

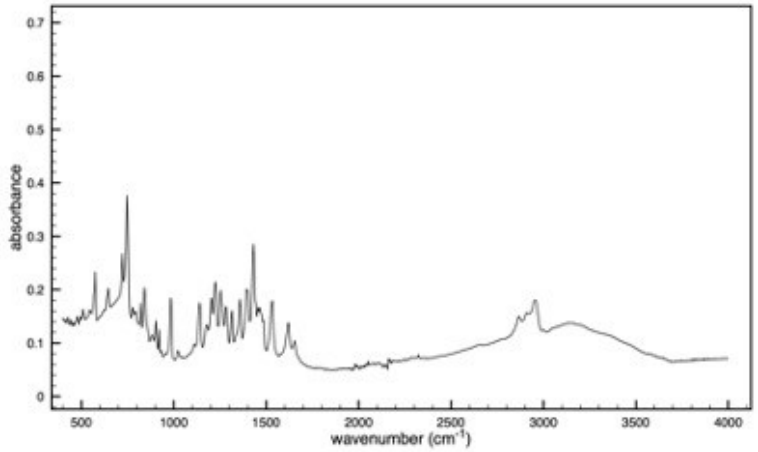

*Figure S30. DTB Salimidizine (**L2**) IR Spectra*

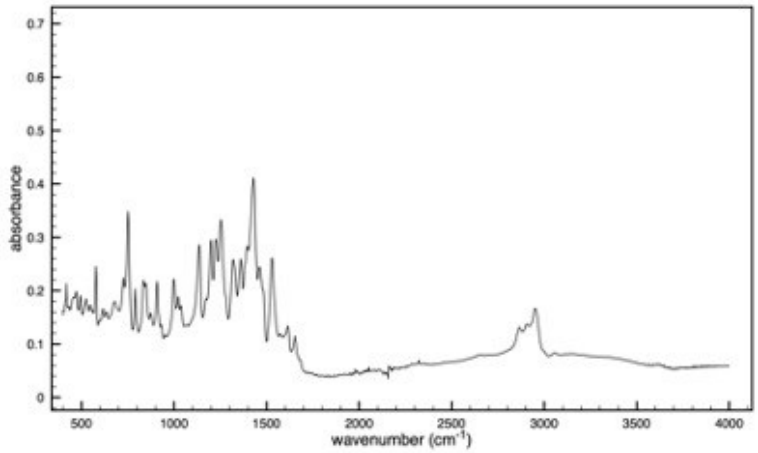

*Figure S31. DTB Salimidizine (**L2**) Cu IR Spectra*

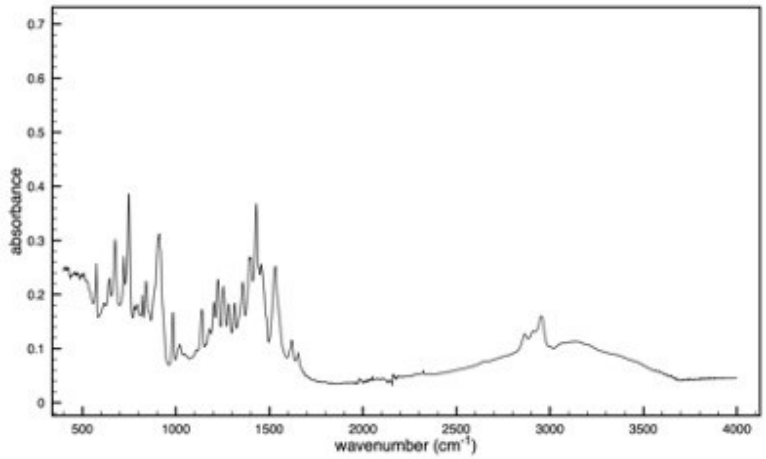

*Figure S32. DTB Salimidizine (**L2**) UO_2 IR Spectra*

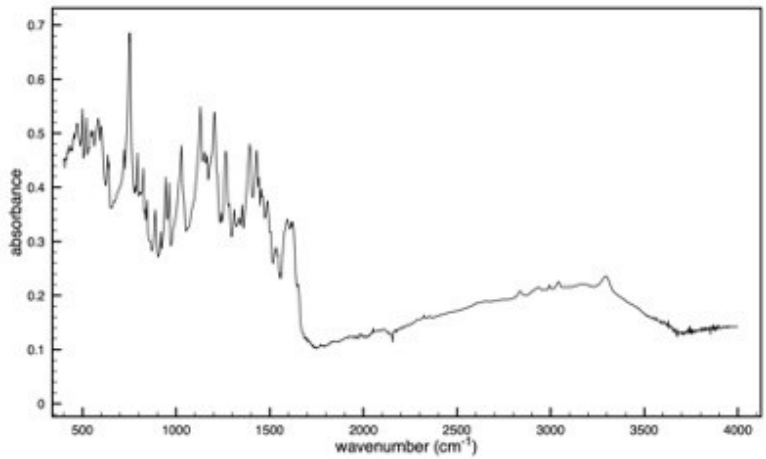

*Figure S33. OMe Salimidizine (**L3**) IR Spectra*

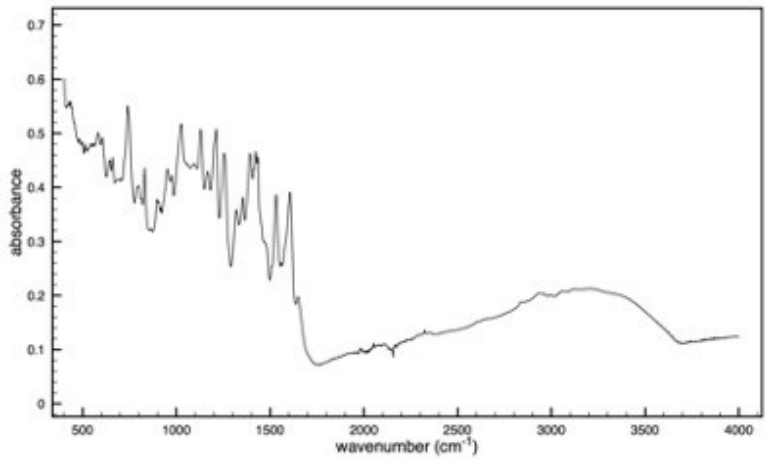

*Figure S34. OMe Salimidizine (**L3**) Cu IR Spectra*

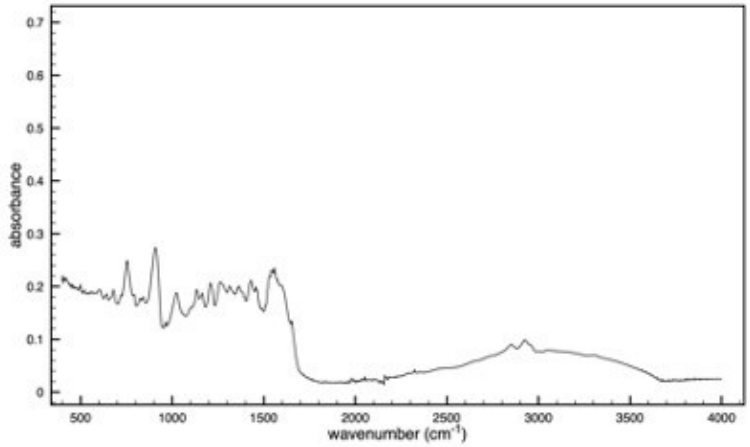

*Figure S35. OMe Salimidizine (**L3**) UO_2 IR Spectra*

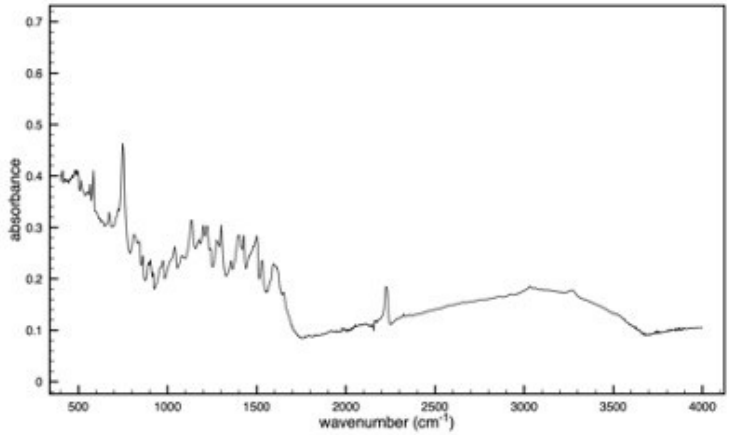

*Figure S36. CN Salimidizine (**L4**) IR Spectra*

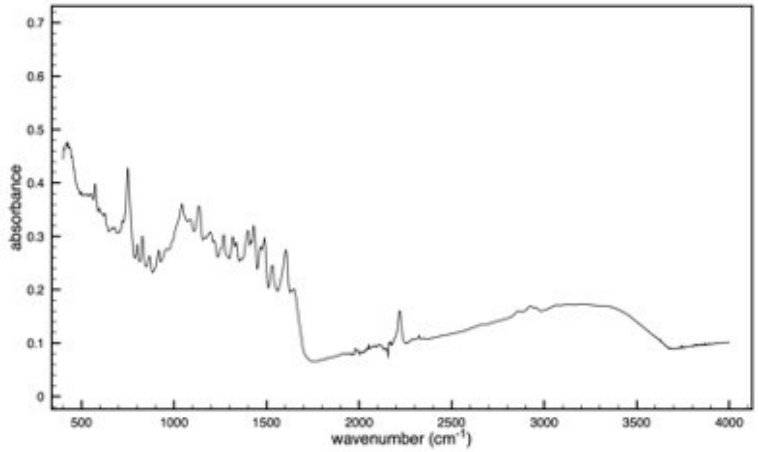

*Figure S37. CN Salimidizine (**L4**) Cu IR Spectra*

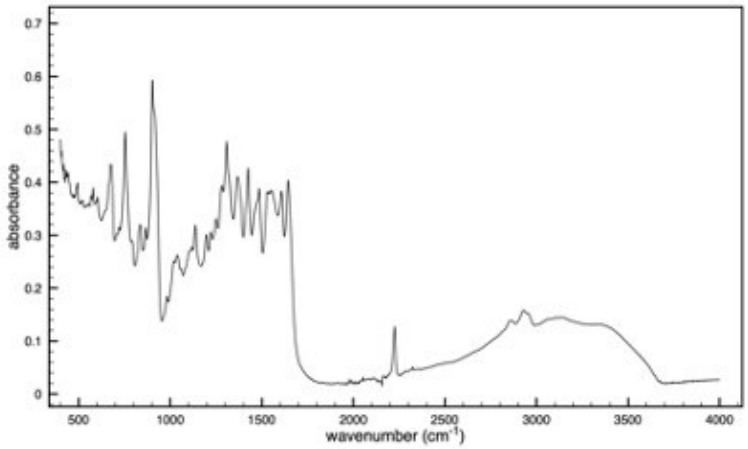

*Figure S*38. *CN Salimidizine (**L4**) UO_2 IR Spectra*