

Synthesis, DFT, Antimicrobial and Molecular docking studies of Novel thiophene hydrazone ligand with Fluorescence turn-on response of Fe(III) and colorimetric detection of Cu(II).

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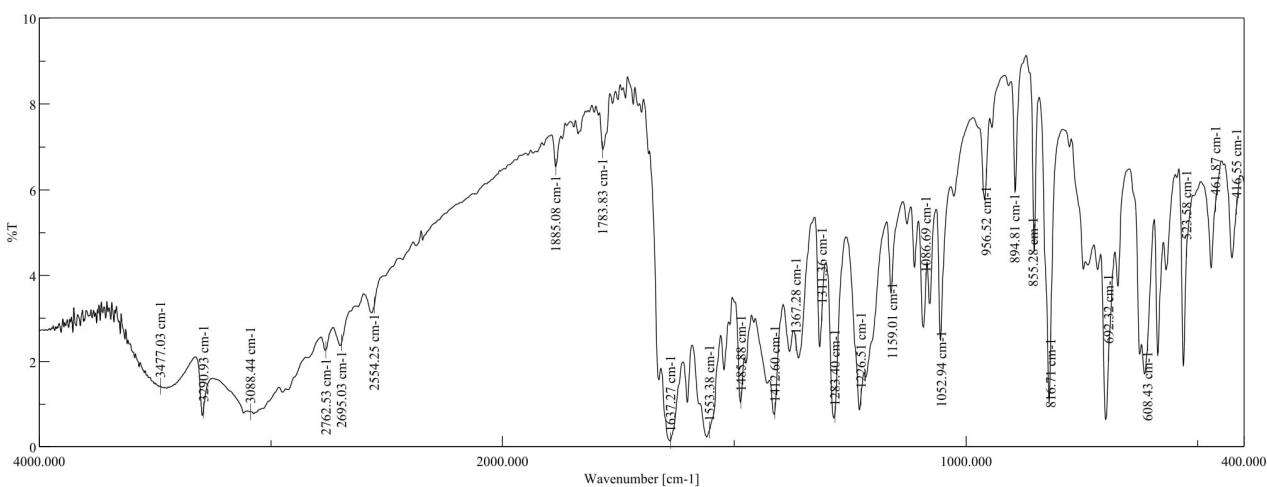


Fig. S1. FT-IR of L.

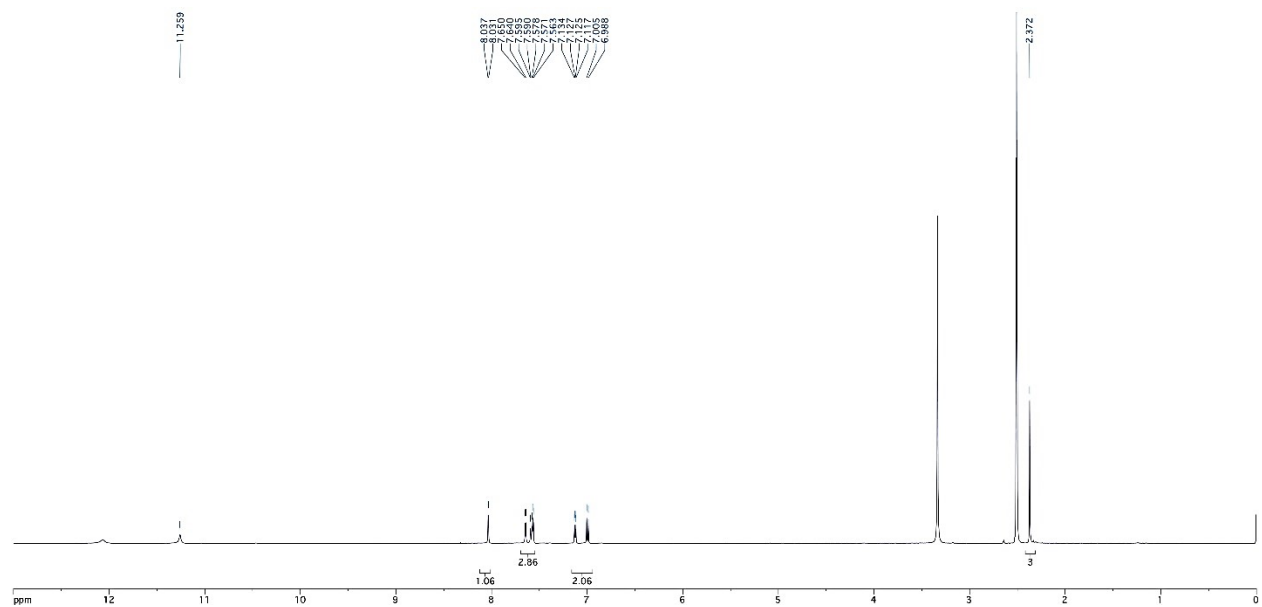


Fig. S2. ^1H NMR of L.

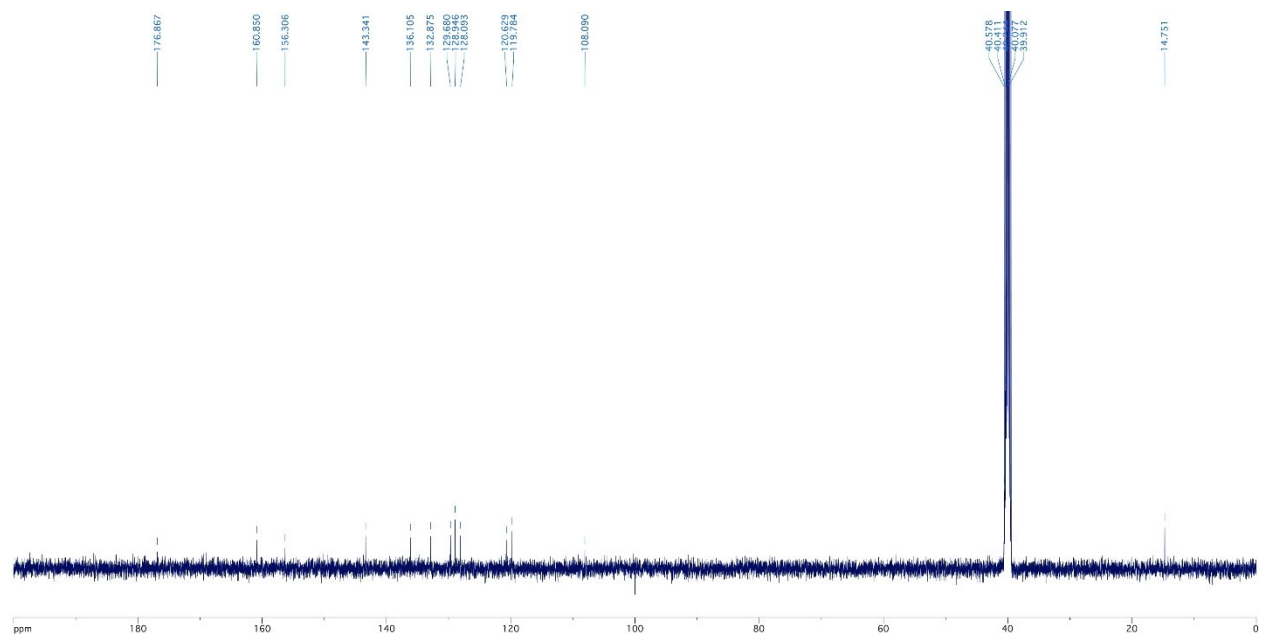


Fig. S3. ^{13}C NMR of L.

Tolerance = 100.0 mDa / DBE: min = -1.5, max = 50.0
Selected filters: None

Monoisotopic Mass, Even Electron Ions

1 formula(e) evaluated with 0 results within limits (all results (up to 1000) for each mass)

Elements Used:

C: 13-13 H: 11-11 N: 2-2 O: 2-2 P: 1-1 S: 1-1 Br: 1-1

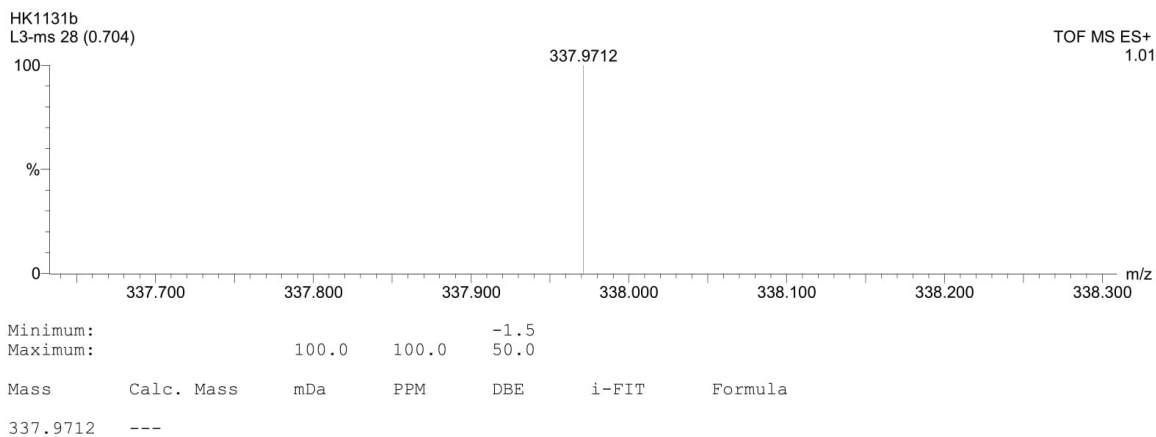


Fig. S4. Mass Spectra of **L**.

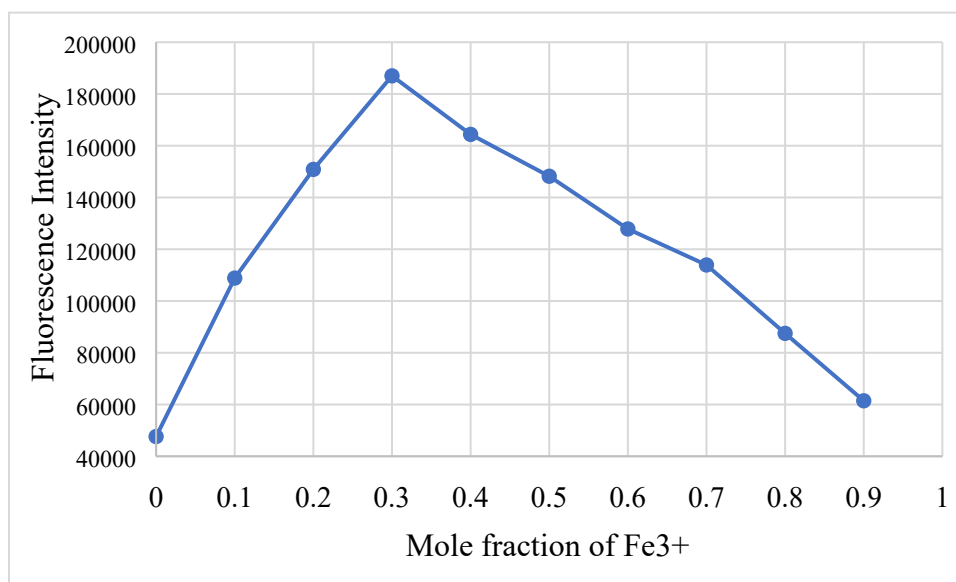


Fig. S5. Job plot for the reaction of **L** with Fe³⁺. Fluorescent emission at 550 nm was plotted as a function of the molar ratio $[\text{Fe}^{3+}]/([\text{L}]+[\text{Fe}^{3+}])$.

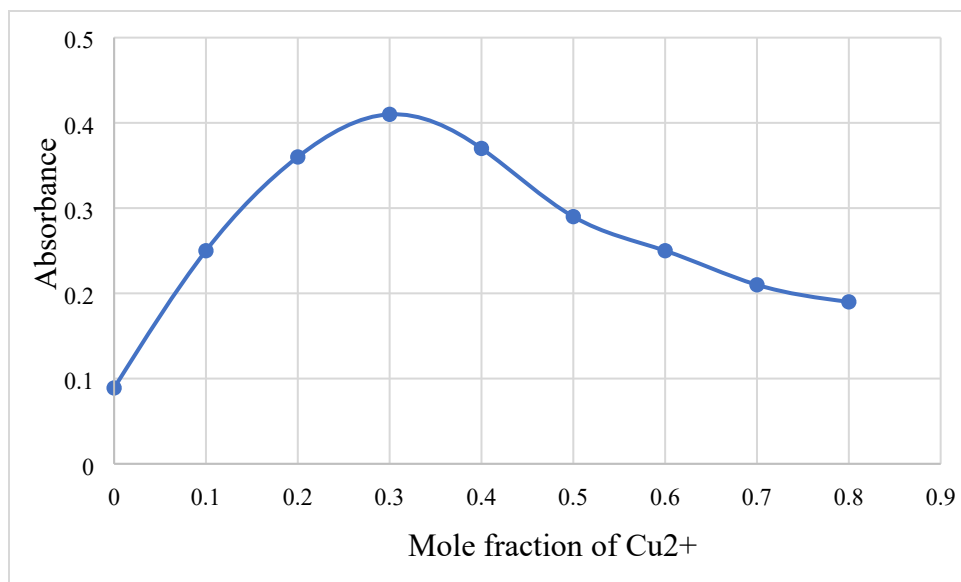


Fig. S6. Job's plot according to the method of continuous variations, indicating the 1:2 stoichiometry for L + Cu²⁺