

SUPPORTING INFORMATION

Dual-Mode N_4O_3 Tripodal Hemi-Salen Schiff Base Sensor for Selective Colorimetric Detection of Ni^{2+} and Fluorometric Sensing of Zn^{2+} : Analytical Applications across Food, Environmental, and Forensic Matrices

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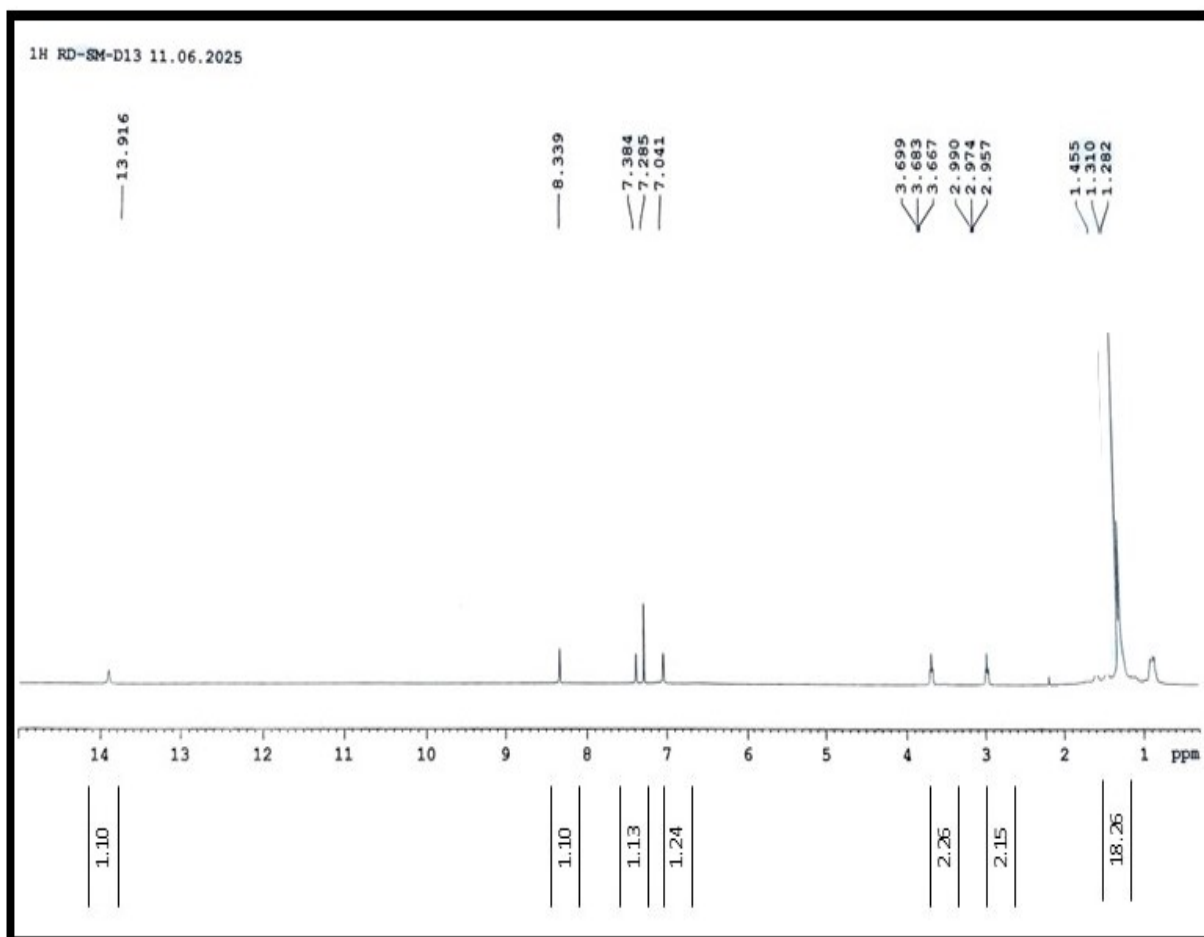


Fig. S1 ¹H-NMR spectra of L in $CDCl_3$

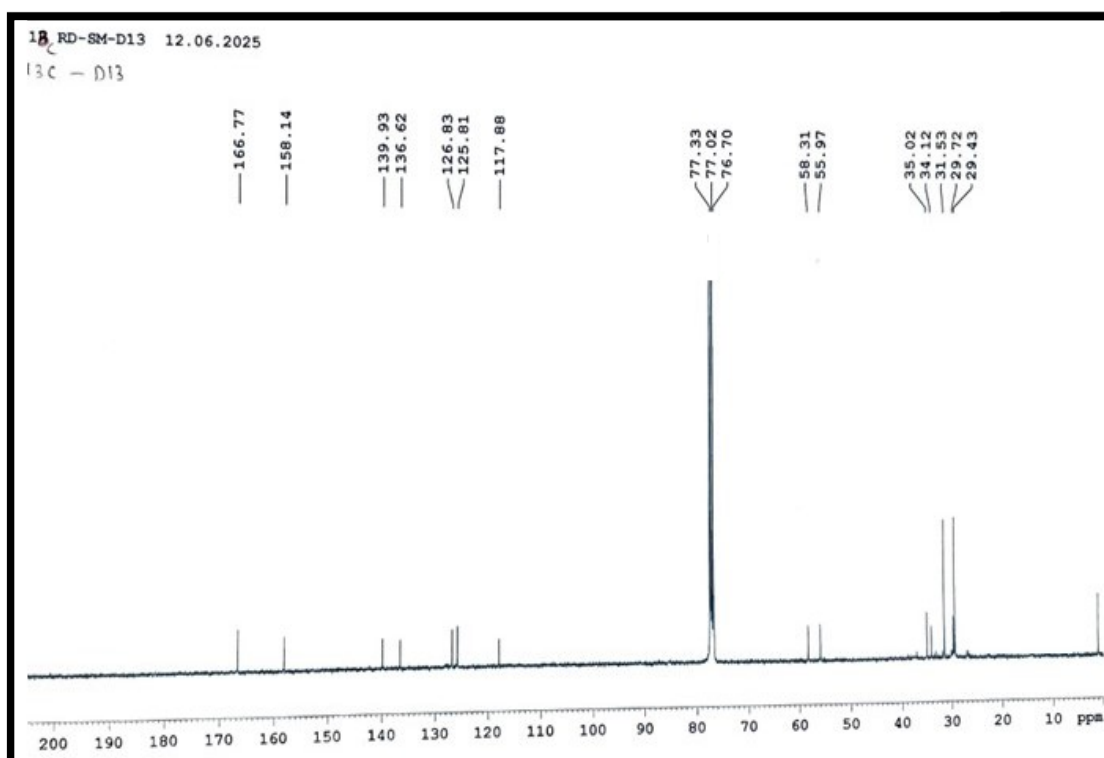


Fig. S2 ¹³C-NMR spectra of L in CDCl₃

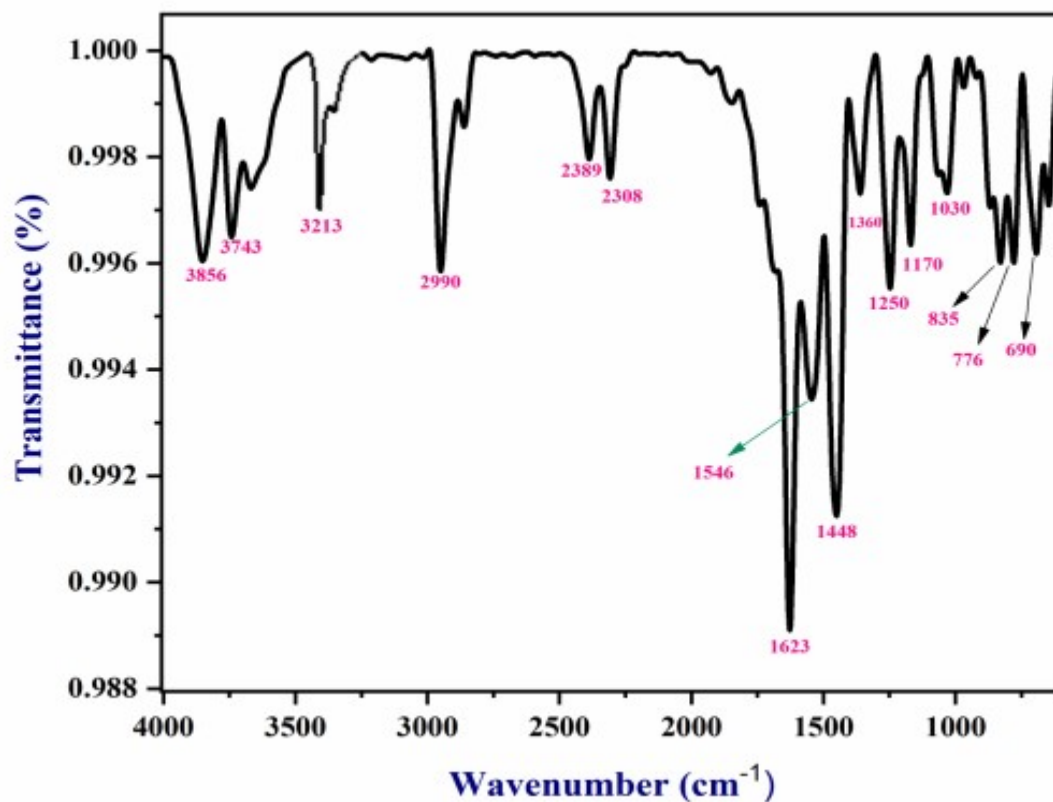


Fig. S3 FT-IR spectra of L

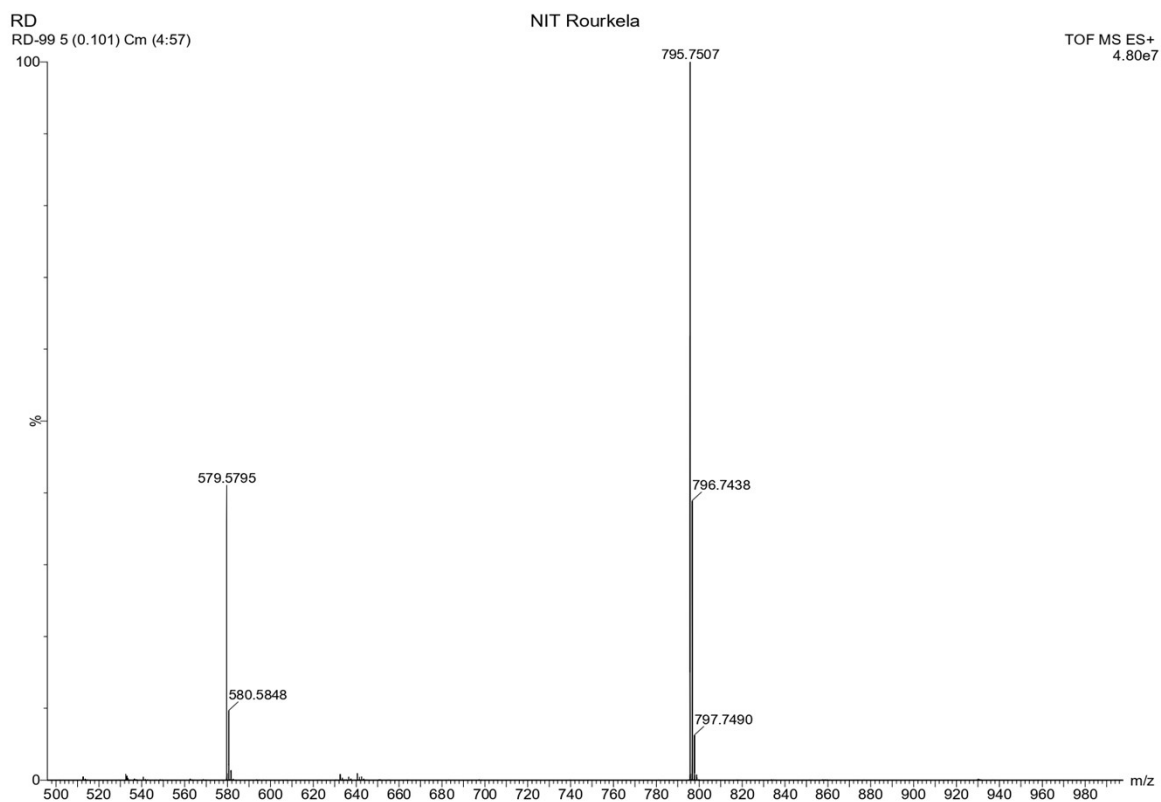


Fig. S4 Mass spectra of **L**

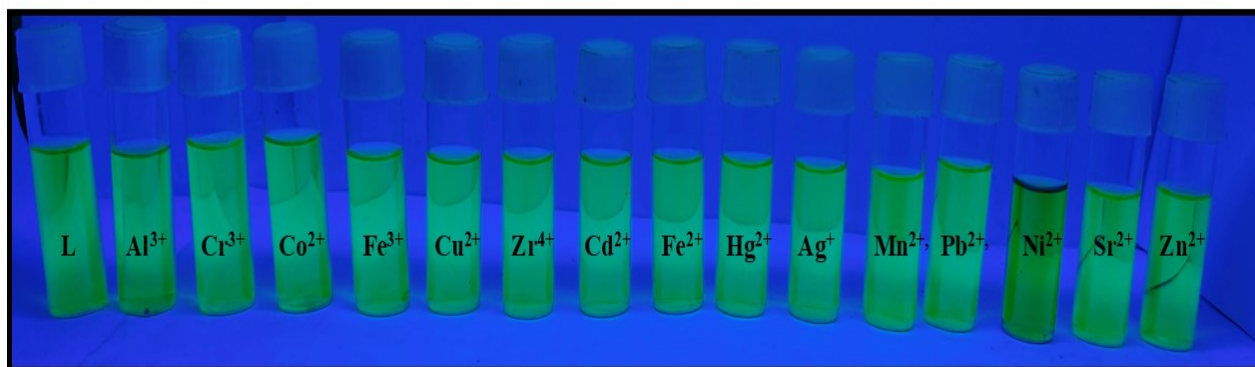


Fig. S5 Colour change of **L** with different metal ions under UV light.

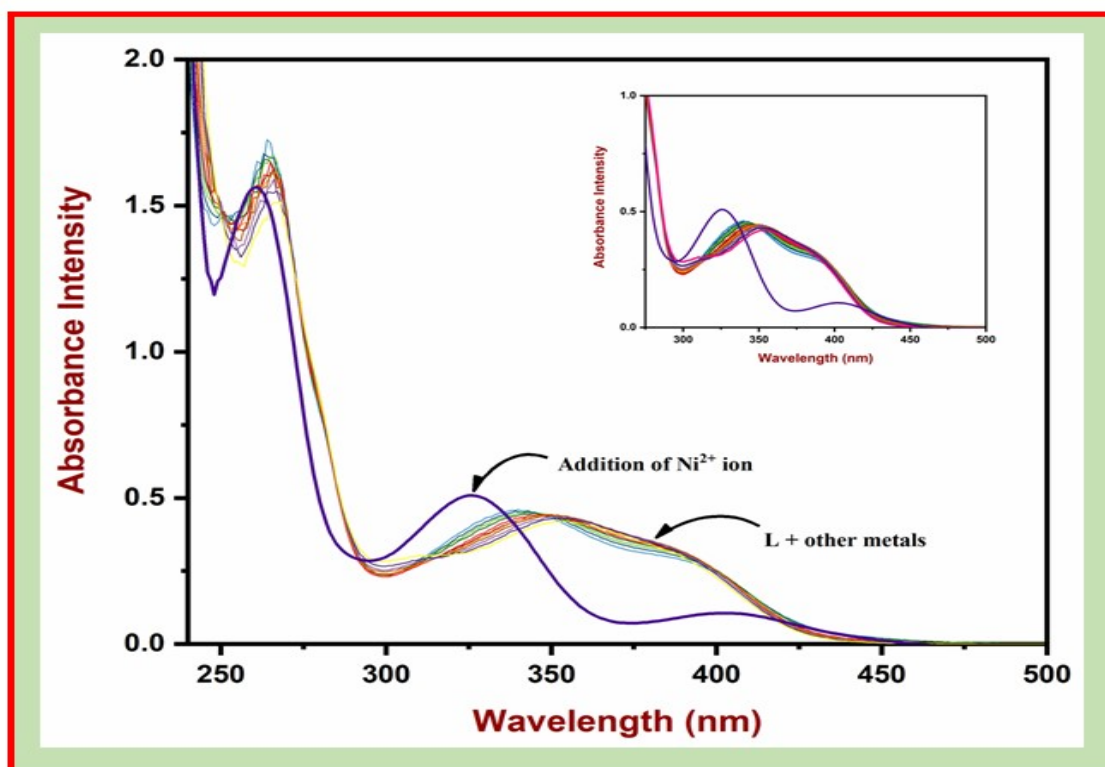


Fig. S6 UV-Vis spectra of **L** (10 mM in CH₃OH-H₂O;1:1, v/v) in presence of different metal ions (Al³⁺, Cr³⁺, Co²⁺, Fe³⁺, Cu²⁺, Zr⁴⁺, Cd²⁺, Fe²⁺, Hg²⁺, Ag⁺, Mn²⁺, Pb²⁺, Ni²⁺, Sr²⁺ and Zn²⁺)

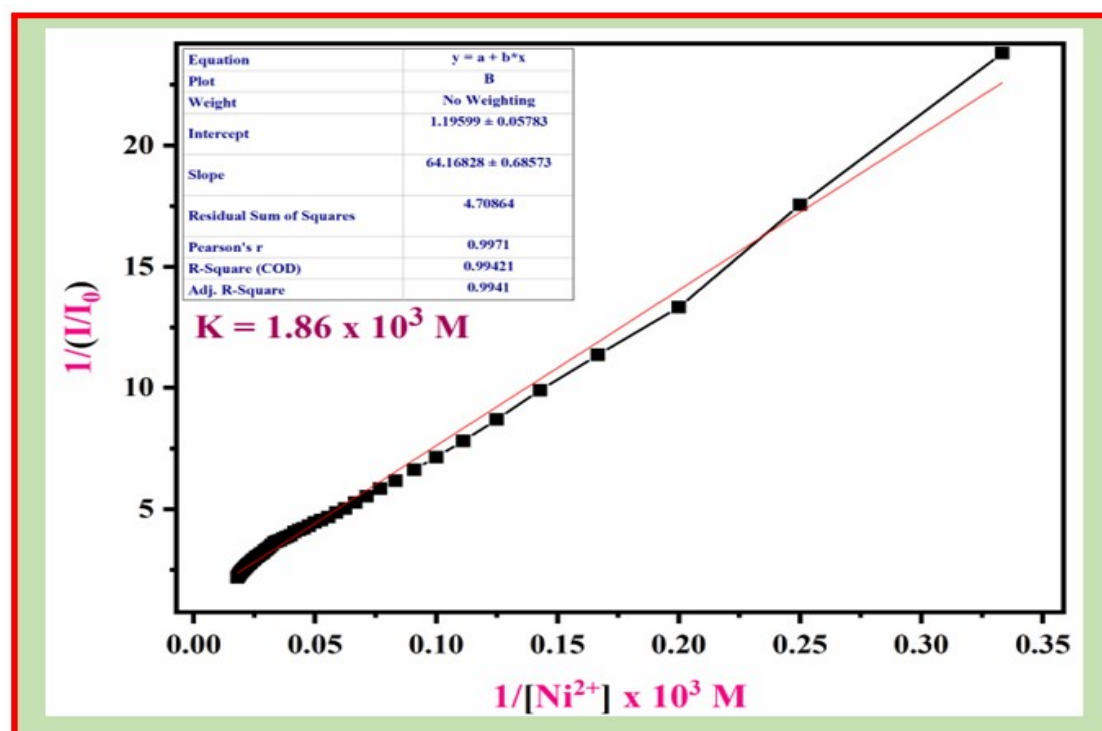


Fig. S7 Association constant of **L** for Ni²⁺ from UV-absorption data

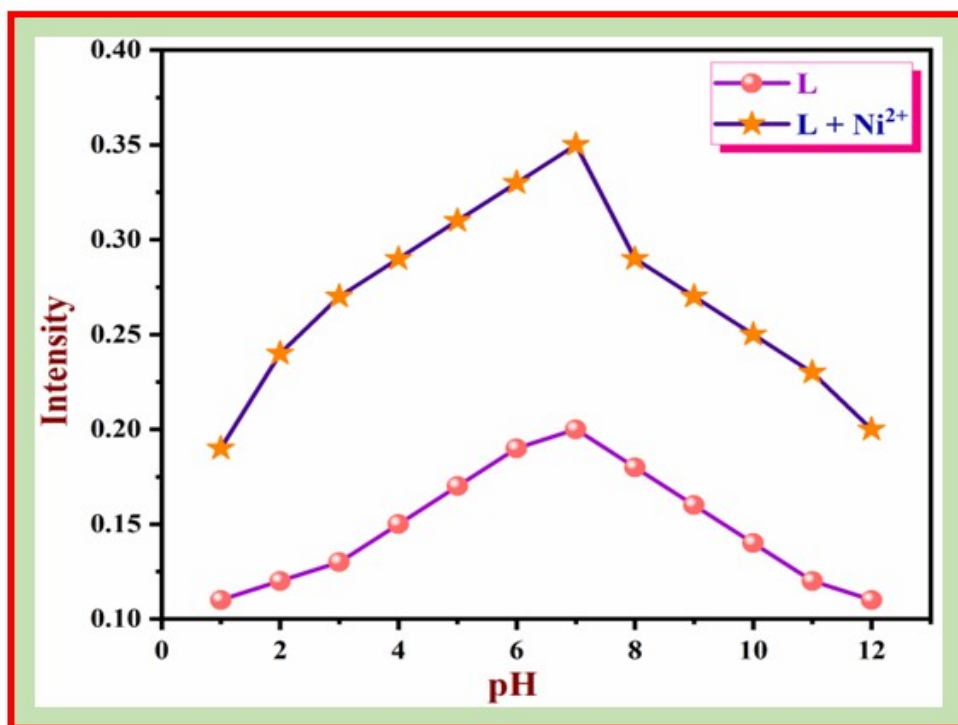


Fig. S8 Effect of pH on L and L-Ni²⁺ in UV-Vis and absorbance spectroscopy.

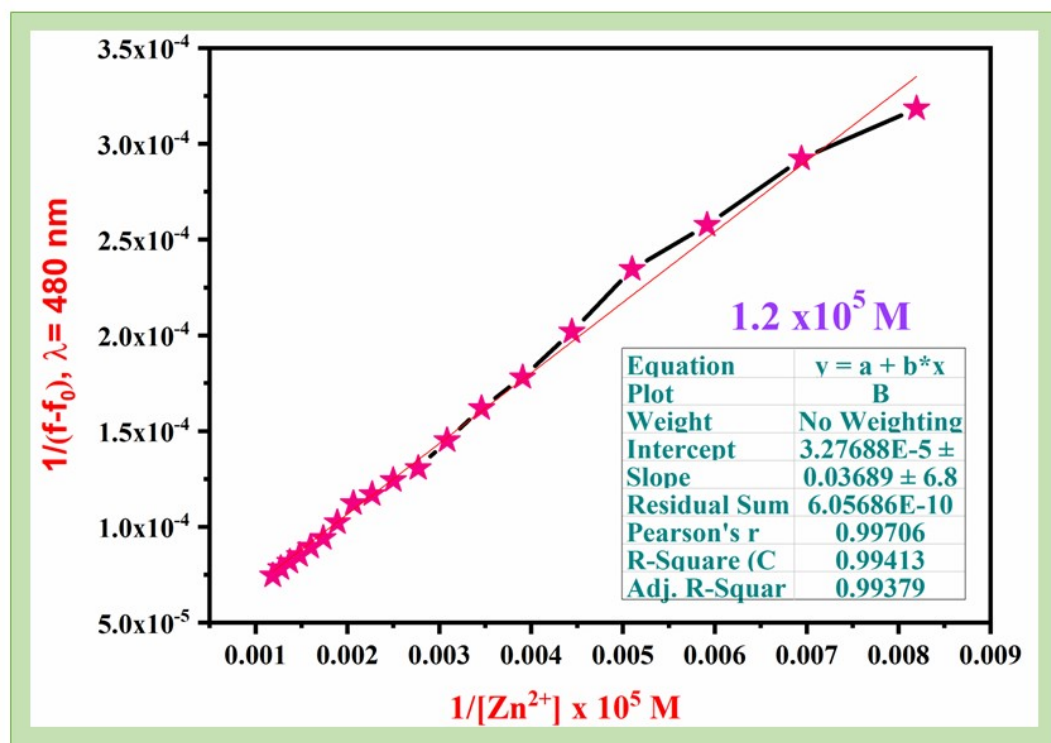


Fig. S9 Association constant of L for Zn²⁺ from fluorescence data

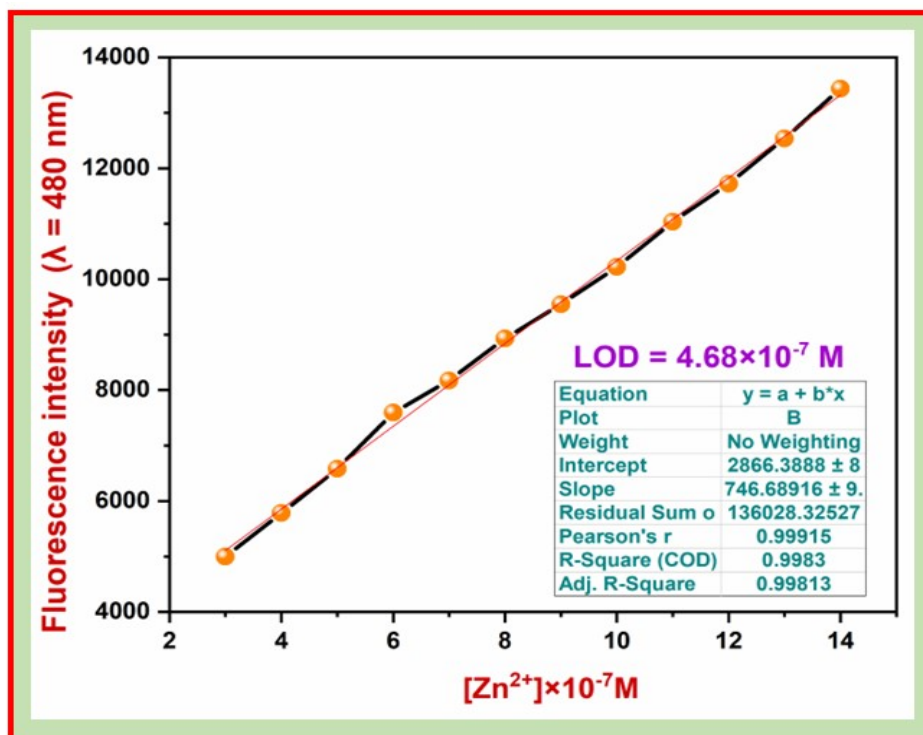


Fig. S10 Detection limit of **L** for Zn^{2+} by emission titration method

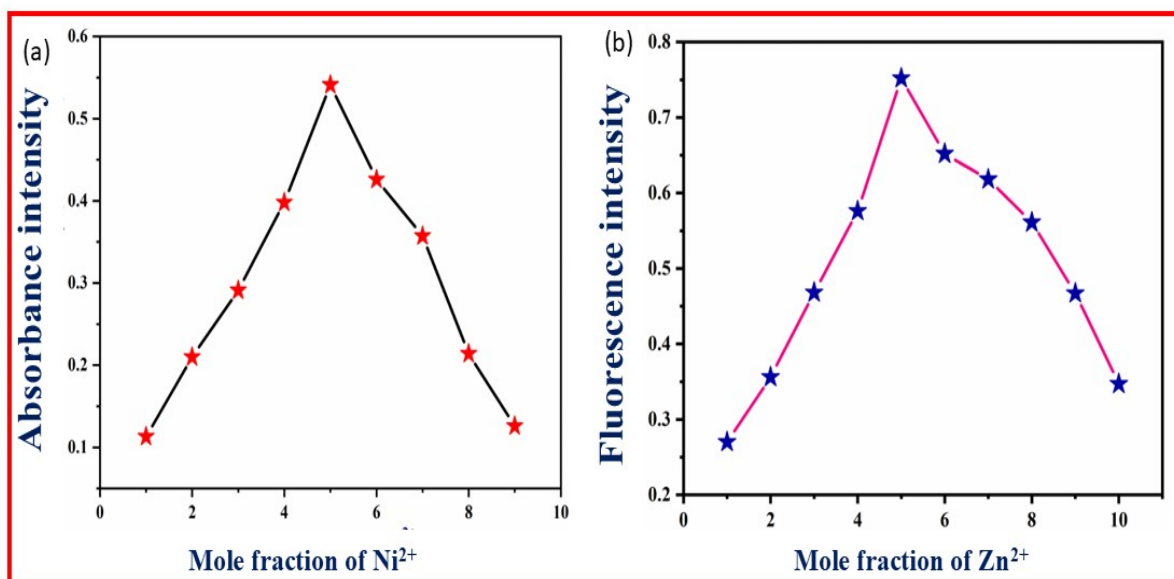


Fig. S11 (a) Job's plot measurement of **L** for Ni^{2+} by UV-Vis analysis and (b) for Zn^{2+} by fluorometric analysis

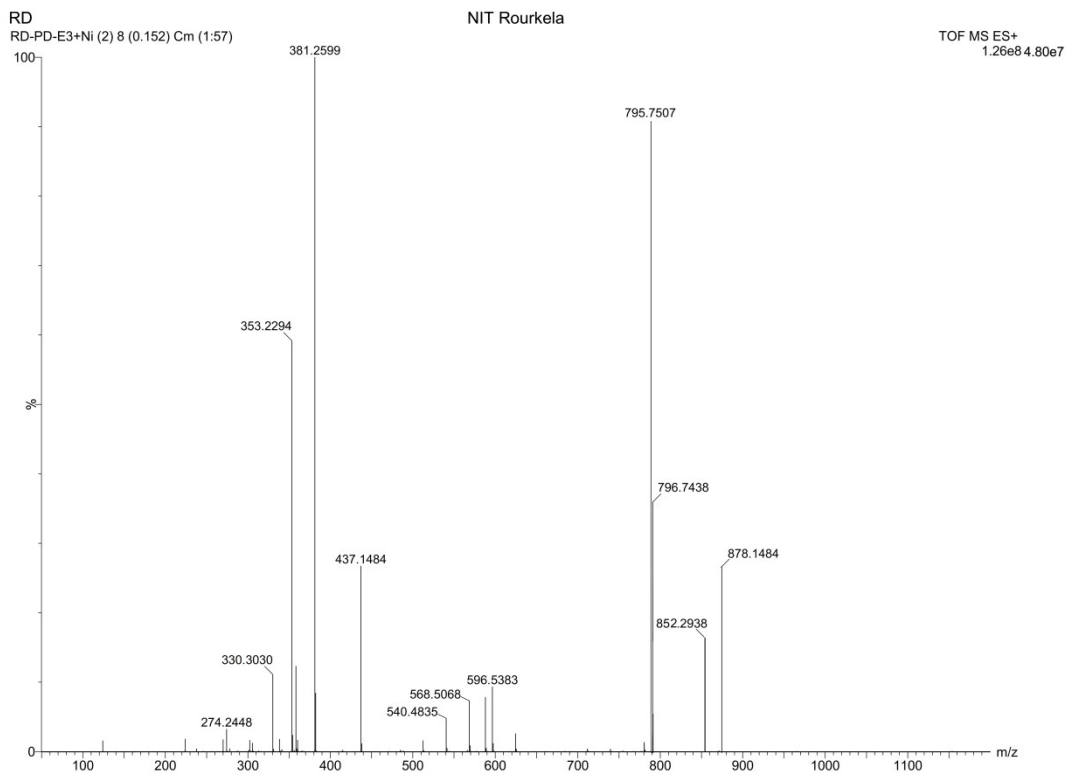


Fig. S12 ESI-mass spectra of $L-Ni^{2+}$ adduct

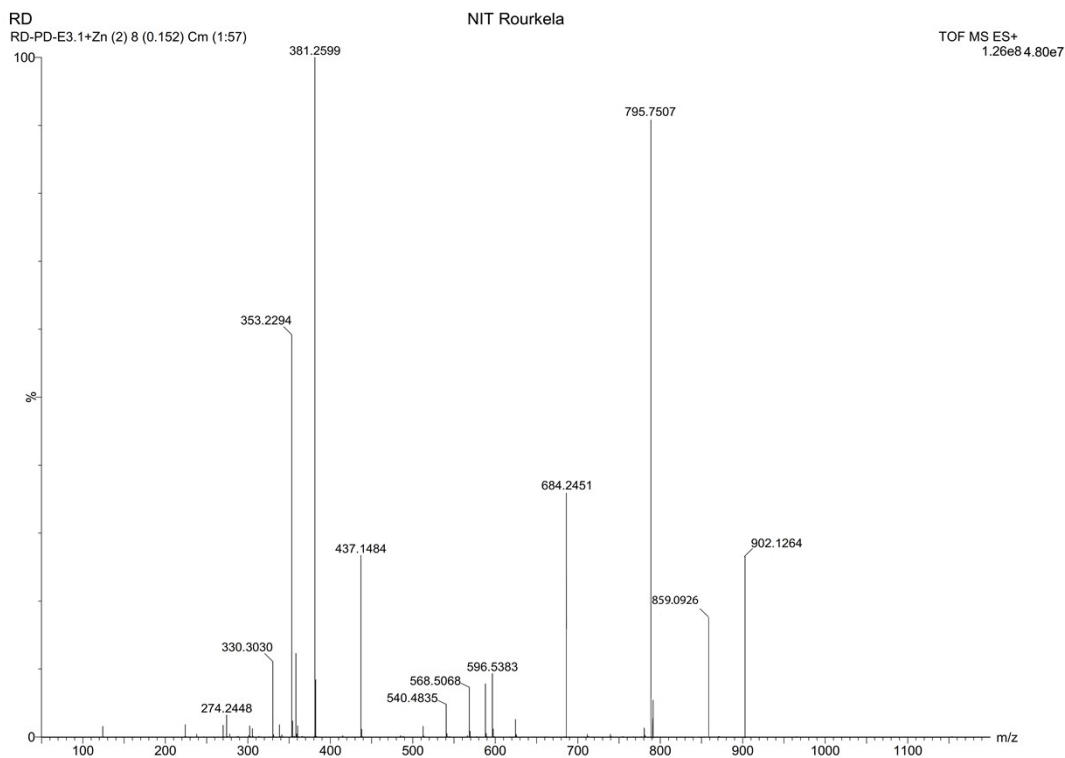


Fig. S13 ESI-mass spectra of $L-Zn^{2+}$ adduct

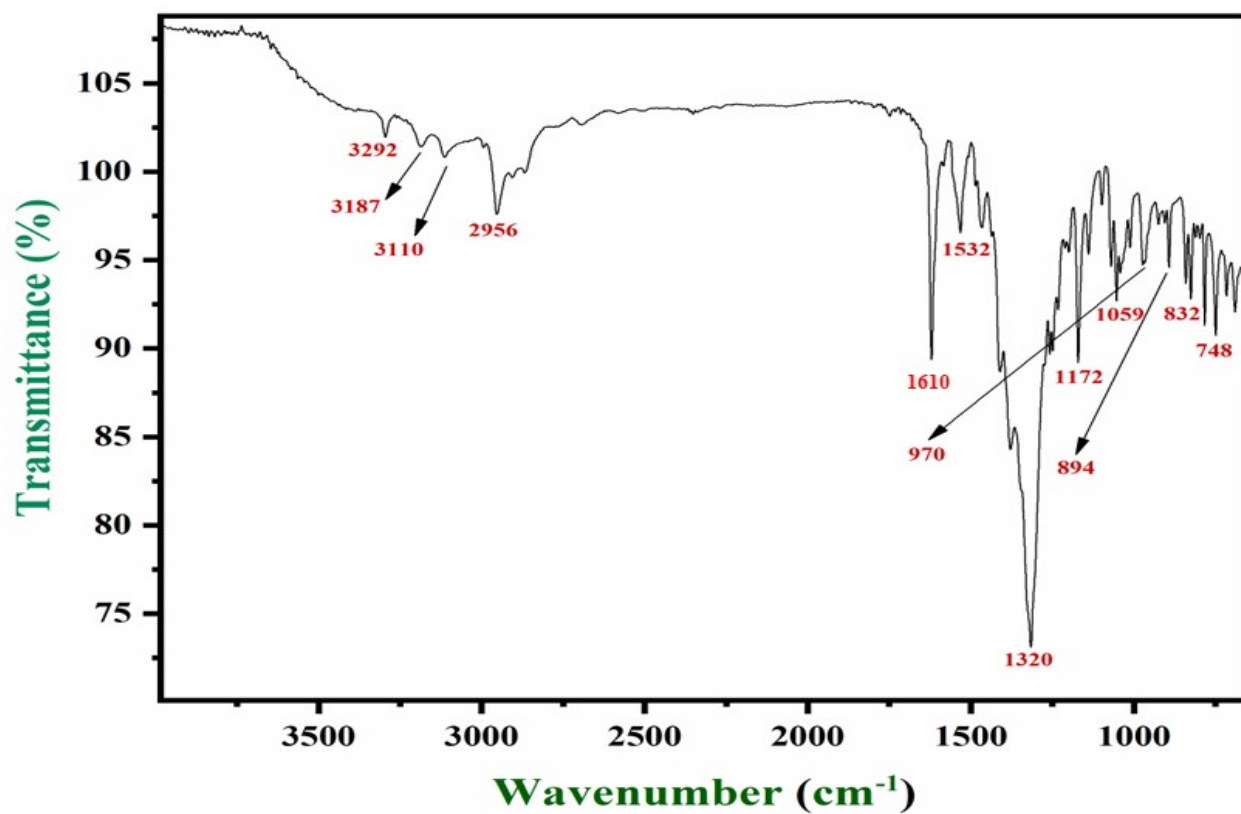


Fig. S14 FT-IR spectra of L-Ni²⁺ adduct

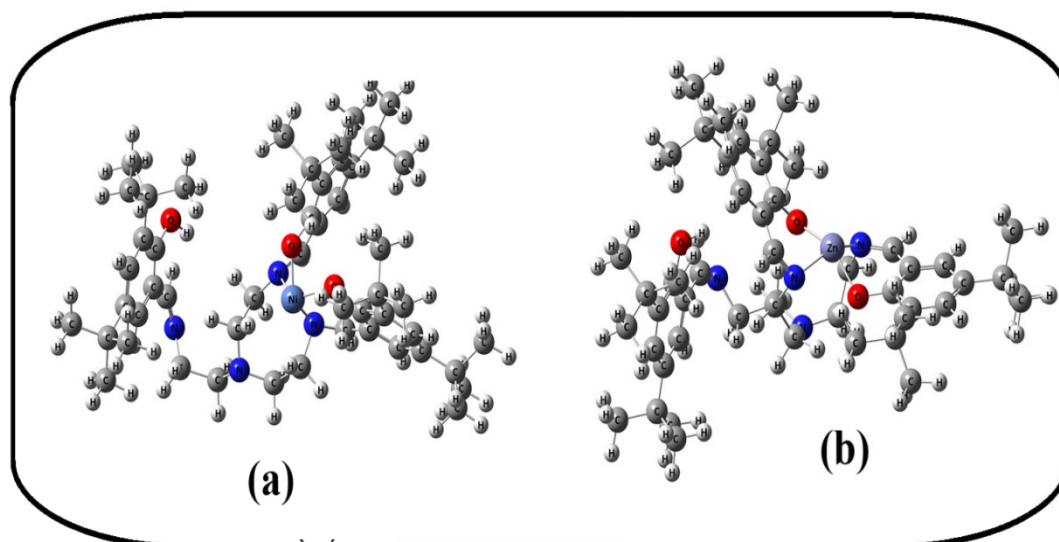


Fig. S15 DFT optimized structures of (a) L-Ni²⁺ and (b) L-Zn²⁺ adducts.