Indian Journal of Chemistry
Vol. 64, February 2025, pp. 165-171
DOI: 10.56042/ijc.v64i2.14927

Schiff base ligand and metal (II) complex: Synthesis, characterization and biological evaluation

Dipen Panchani, Tirth Thaker* & Chaitali Lamse

Department of Chemistry, Parul Institute of Applied Sciences, Parul University, Waghodiya, Vadodara 391 760, Gujarat, India

E-mail: tirth6582@gmail.com

Received 7 November 2024; accepted (revised) 22 January 2025

Mixed ligand complexes of Cu (II), Ni (II), Mg (II), Hg (II) and Fe (II) with an innovative Schiff base ligand denoted as (L1), (Z)-2-(1-hydrazineylideneethyl)-3*H*-benzo[*f*]chromen-3-one and (L2), (E)-2-(1-(2-phenylhydrazineylidene)ethyl)-3*H*-benzo[*f*]chromen-3-one, as the principal ligands have been synthesized and characterized. Assessments include elemental analyses and mass spectrometry, Fourier transform-infrared and ultraviolet-visible spectroscopy. The mixed ligand complex has been evaluated for its antibacterial activity against two Gram-positive bacteria (*Bacillus subtilis*, MTCC 441 and *Staphylococcus aureus*, MTCC 96) and two Gram-negative bacteria (*Pseudomonas aeruginosa*, MTCC 1866 and *Escherichia coli*, MTCC 443).

Keywords: Schiff base complex, Spectral studies, Anti-microbial activity