

Synthesis, spectral characterization and biological evaluation of Mn^{II}, Ni^{II} and Cu^{II} complexes with new N₂S₂ Schiff base ligand

S. Vigneswari, K. M. Avinash Raj and A. Jeyarajendran*

Advanced Materials Research Laboratory, Department of Chemistry, Loyola College, Chennai-600 034, India

E-mail: jeyarajend@gmail.com

Manuscript received online 29 August 2018, accepted 10 October 2018

Schiff base ligand of isophthalidene-bis-(methylhydrazinylcarbothiamide) abbreviated as (IMHC) was synthesized by the condensation reaction of isophthalaldehyde and *N*-methylhydrazinylcarbothiamide. Metal complexes were synthesized by using metal ions, Mn^{II}, Ni^{II}, Cu^{II} and the ligand, IMHC which were characterized by UV-Visible, IR, and ¹H NMR spectroscopy and further confirmed by mass analysis. The IMHC and the metal complexes were screened for *in vitro* antimicrobial activity against *Salmonella typhimurium*, *Shigella flexneri* and *Micrococcus leuteus* by disc diffusion method and found that Mn^{II} and Cu^{II} complexes showed higher inhibitory activity compared to Ni^{II} complex.

Keywords: Schiff base, isophthalidene-bis-(*N*-methylhydrazinylcarbothiamide), biological activity, antimicrobial agents, tetradentate ligand.