

Synthesis and Structural Characterization of 16-Membered Schiff Base Macrocycles

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Abstract: Novel tetraazamacrocyclic complexes of Cu(II), Co(II), Ni(II) and Zn(II) has been synthesized from the reaction of ethylenediamine with Meldrums acid and divalent metal ions using solid-supported perchloric acid ($\text{HClO}_4\text{-SiO}_2$) as a catalyst. The complexes were characterized by IR, ^1H NMR, EPR spectra, magnetic moments, conductance, thermal analysis (TGA and DTA), and powder X-ray analysis (XRD). The antimicrobial studies of these complexes against *Staphylococcus typhi*, *Staphylococcus aureus*, *Escherichia coli*, *Bacillus subtilis* species by Minimum Inhibitory Concentration (MIC) method revealed that these complexes possess potent antibacterial activity.

Keywords: Structural Characterization of 16-Membered

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