

Synthesis, Characterization and Antimicrobial Activity of Coordination Compounds of Thiosemicarbazone Moiety

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ABSTRACT

The synthesis and spectral analysis of coordination complexes of Copper(II), Nickel(II), Cobalt(II), Zinc(II) 1-(3-bromo-4-hydroxy-5-methoxybenzylidene)-4-(4-chlorophenyl)thiosemicarbazide was synthesized. Elucidation of ligand and coordinated compounds were done using Mass spectroscopy, IR, ^1H NMR, ^{13}C NMR spectroscopy, elemental analysis (C, H, N, S), and UV-Visible spectroscopy. All Metal complexes were prepared in a molar ratio of 1:2 (M:L) as stoichiometry data disclose. Thermo gravimetric analysis (TGA) was conducted to support the structures of all four metal complexes. Antibacterial and antifungal screenings of these coordinated compounds reveal good to excellent results with respect to ligand and standard drugs.