



GREEN AND CONVENTIONAL SYNTHESIS, CHARACTERIZATION AND BIOLOGICAL STUDIES OF SOME NEW MN (II) COMPLEXES DERIVED FROM N[∩]O AND N[∩]S DONOR AZOMETHINES

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Abstract

Series of new Mn (II) complexes of biologically potent (N[∩]O and N[∩]S) donor azomethines are synthesized by classical thermal and microwave-irradiation techniques and characterized by the elemental analysis, IR, UV and EPR spectral and X-ray powder diffraction studies. The azomethine ligands have been prepared from the condensation of 2-acetyl-5-methyl furan and 3-acetyl coumarin with semicarbazide hydrochloride and thiosemicarbazide in 1:1 molar ratio, respectively. The Mn (II) complexes of azomethine ligands have been prepared by mixing MnCl₂·4H₂O in 1:1 and 1:2 molar ratios with azomethine ligands (L¹H, L²H, L³H and L⁴H) in methanol. The synthesized ligands and their new metal complexes have also been screened for biological activity. The spectral data suggested that complexes have tetra-coordinated environment around the central metal ion. Thus tetrahedral geometry of the said complexes has been proposed.

Keywords: Schiff base ligands, Transition metal complexes, antifertility activity, cyclic voltametric study, Microwave-assisted synthesis.

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