



Synthesis, Characterization, and Antibacterial Activity of the Schiff Base derived from P-Toluic hydrazide and 2-hydroxy-4-methoxy Acetophenone (HMAPPTH Ligand) and their Mn (II), Co (II), Ni (II) and Cu (II) Complexes

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ABSTRACT

Metal complexes of a novel Schiff base derived from condensation of p-toluic hydrazide and 2-hydroxy-4-methoxy acetophenone are reported and characterized based on elemental analyses, FT-IR, ¹H-NMR, UV-Visible, VSM, Molar conductance, and micro analytical data and also found to be an anti bacterial activity. From the elemental analyses data, 1:2 metal complexes are formed. The magnetic properties of these Mn (II), Co (II), Ni (II) and Cu (II) complexes are 5.40 B.M., 4.89 B.M., 3.18 B.M and 1.61 B.M respectively. This result clearly indicates that the metal complexes of this ligand show octahedral geometry. The IR spectrums of these Schiff base metal complexes shows bands at 1612 cm⁻¹, 1590 cm⁻¹, 1585cm⁻¹, and 1602cm⁻¹ respectively, which is assigned to (C=N) stretching vibrations, a fundamental feature of azomethine group. The anti bacterial results also indicate that the metal complexes are better antibacterial agents as compare to the Schiff base. All the metal chelates are found to be non-electrolytes.

Keywords: Schiff base, p-Toluic hydrazide, 2-hydroxy-4-methoxy Acetophenone, Anti bacterial activity and characterization.
