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Synthesis, Characterization and Antimicrobial studies of N^1-(1-(2-Hydroxy-5-Methylphenyl) Ethylidene)-2-Oxo-2H-Chromene-3-Carbohydrazide and its Metal Complexes

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ABSTRACT

A new complexes of the type ML and M′L [where M=Cu(II), Co(II), and Ni(II), Mn(II) and Fe(III) M′=Zn(II), Cd(II) and Hg(II)]. L=N'-(1-(2-hydroxy-5-methylphenyl)ethylidene)-2-oxo-2H-chromene-3-carbohydrazide (HL) Schiff base have been synthesized and characterized by elemental analysis, magnetic susceptibility, molar conductance, IR, ^{1}H NMR, UV-Visible and ESR data. The studies indicate the HL acts as doubly Monodentate Bridge for metal ions and form mononuclear complexes. The complexes Ni(II), Co(II), Cu(II), Mn(II) and Fe(III) complexes are found to be octahedral, where as Zn(II), Cd(II) and Hg(II) complexes are four coordinated with tetrahedral geometry. The synthesized ligand and its metal complexes were screened for their antimicrobial activity.

Keywords: Coumarin, metal complexes, antimicrobial activity, spectral data.