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Synthesis, Spectral Characterization, Biological Activity and Dna Cleavage Studies of Cu(II), Ni(II) AND Zn(II) SCHIFF Base Complexes Derived from 2,4-Dihydroxy Benzaldehyde and P-Chloroaniline

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Abstract: Metal complexes of Schiff base derived from condensation of 2,4-dihydroxy benzaldehyde and p-chloroaniline were synthesised and characterized by elemental analysis, IR, ^{1}H NMR spectra, magnetic moment, molar conductance, UV– Visible and thermal analysis (TGA). From the elemental analysis data, the complexes were proposed to have the general formula [M (HL)] where M = Cu(II), Ni(II) and Zn(II). The molar conductance data revealed that all the metal chelates were non-electrolytes. The IR spectra showed that, HL is coordinated to the metal ions in a tetradentate manner with donor sites of the azomethine-N, phenolic-OH. The synthesized ligand, in comparison to its metal complexes were screened for their antibacterial activity against bacterial species, *Escherichia coli*, *Pseudomonas*, *Bacillus subtillus, Staphylococcus aureus*. The activity data showed that the metal complexes to be more potent / antimicrobial than the parent Shciff base ligand against one or more microbial species. From the magnetic moment and electronic spectra data, it is found that the geometrical structures of these complexes are square planar. The thermal behaviour of these chelates showed that decomposition of the anions and ligand molecules in subsequent steps.

Key Words: Schiff base, p-chloroaniline, 2, 4-dihydroxybenzaldehyde and antibacterial activity.

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