

**SYNTHESIS, CHARACTERIZATION AND ANTIMICROBIAL  
SCREENING OF SCHIFF BASE LIGAND  
AND COPPER(II) COMPLEXES**

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## ABSTRACT

### SYNTHESIS, CHARACTERIZATION AND ANTI-MICROBIAL SCREENING OF SCHIFF BASE LIGAND AND COPPER(II) COMPLEXES

Two copper(II) complexes derived from *o*-phenylenediamine and 4-methylbenzaldehyde or *trans*-cinnamaldehyde were synthesized. Structural features of Schiff base and complexes were determined by analytical and spectral techniques like elemental analysis, IR, UV - visible spectroscopy, melting point and molar conductivity measurements. The result suggested that the Schiff base ligands behaved as bidentate ligand coordinate through azomethine nitrogen to the central metal ions forming complex compound,  $ML^1$  while complex  $ML^2$  was prepared by using in-situ method. Molar conductance values in ethanol indicate both of complexes are non-electrolytic nature. The anti-microbial activity of the synthesized ligand and its complexes were studied against *Escherichia coli* and *Staphylococcus aureus* by disc diffusion method. The activity data shows that the metal complex ( $ML^1$ ) tends to be more potent against the microbial species, *Escherichia coli* than the parent Schiff base ligand ( $L^1$ ) and metal complex ( $ML^2$ ).