



## Synthesis, Physico-Chemical, Spectral And Biocidal Studies on New Complex of Copper (II) Containing Benzimidazole Moiety

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### ABSTRACT

*Metal complex of Cu(II) has been synthesized with Rabeprazole drug that is 2-([4-(3-methoxypropoxy)-3-methylpyridin-2-yl]methylsulfinyl)-1H-benzimidazole, a proton pump inhibitor (PPI). Formation of new complex has been supported by elemental analysis, conductivity measurements and spectral studies including IR, <sup>1</sup>H NMR, UV, magnetic susceptibility, ESR, TGA, XRD, SEM and mass spectral studies. The molar conductance measurements of the complex in DMSO indicate that the complex is non-electrolytic in nature. Analytical data and stoichiometry suggest ligand metal ratio of 2:1 for Cu(II) complex. The spectroscopic results show the involvement of C=N and S=O groups in coordination to the central metal ion. Based on spectral studies, tetragonally distorted octahedral geometry has been proposed for the complex. The ligand and its complex were tested for their antibacterial and antifungal activities against bacteria *Pseudomonas*, *Staphylococcus aureus* and fungi *A. niger* and *A. flavous*. It is observed that the complex is a better bactericidal agent than the parent drug.*

**Keywords:** Complex, Benzimidazole, Ligand, PPI, XRD, SEM.

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