



## Synthesis, Characterization and Study of Microbiological Activity of Copper(II) Complex with 2-(5- Bromo-2- Oxindolin-3-Ylidene) Hydrazine-1-Carbothioamide

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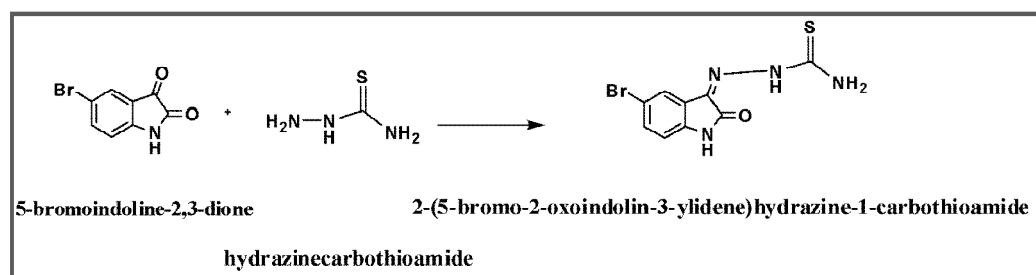
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### ABSTRACT

5-Bromoisatin and thiosemicarbazide, a Schiff base ligand [2-(5-Bromo -2-Oxoindolin-3-ylidene)-1-Hydrazine Carbothioamide], [HBITSC] is derived and its complex with Cu (II) has been synthesized. The solid metal complex formed is yellow in colour. The characterization was done by electronic spectra elemental analysis, molar conductance, NMR and IR spectroscopy. The Schiff base ligand is bidentate in nature, The Schiff base ligand gets coordinated through azomethine nitrogen and thioketo sulphur to the metal ion. Electronic spectral analysis proposes tetrahedral geometry of complex. Non - electrolytic nature of complex is revealed by the molar conductivity data. Basis of on the above studies ratio of metal to ligand proposed to be 1:2 i.e., two ligands were suggested to be coordinated to copper atom. They are coordinated through thioketo sulphur and azomethine nitrogen to form tetrahedral complexes. The ligand and Cu(II) complex have also been studied by microbiological activity.

### Graphical Abstract



Synthesis of 2-(5-Bromo -2-Oxoindolin-3-ylidene)-1-Hydrazine carbothioamide

**Keywords:** Tetrahedral geometry, Schiff base HBITSC, Microbiological activity.