



## Structural Elucidation of Bio-Active Metal Complexes of Schiff Base Derived from Condensation of 2,5-Dimethoxybenzaldehyde with Substituted 1,2,4-Triazine Scaffold

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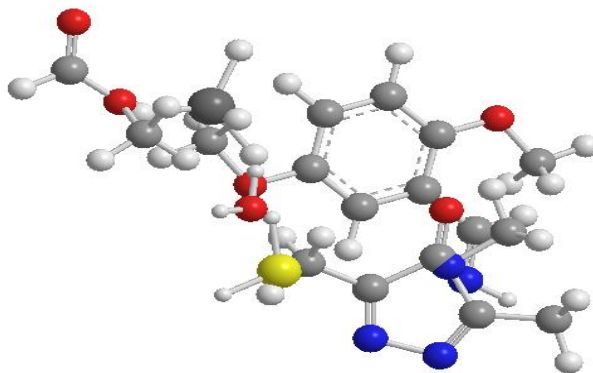
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Accepted on 8<sup>th</sup> February 2017, Published online on 27<sup>th</sup> March 2017

### ABSTRACT

Coordination complexes of Co(II), Ni(II), Cu(II) and Zn(II) metal ions have been reported with newly synthesized Schiff base derived from refluxing the equimolar mixture of 4-amino--3-mercapto-6-methyl-5-oxo-1,2,4-triazine with 2,5-dimethoxybenzaldehyde. Formation of Schiff base was confirmed by IR and <sup>1</sup>H-NMR spectroscopy. Electronic, Thermal, Fluorescence and Electrochemical studies have been used to study the different behavior of metal complexes. The general empirical formula proposed for 1:1 Co(II), Ni(II) and Zn(II) complexes are M(L)(OAc).3H<sub>2</sub>O, for Cu(II) complex Cu(L)(OAc).H<sub>2</sub>O, for 1:2 Co(II), Ni(II) and Zn(II) complexes are M(L)<sub>2</sub>.2H<sub>2</sub>O and for Cu(II) complex Cu(L)<sub>2</sub>. Agar well diffusion method was used to evaluate Schiff base and all the metal complexes against various microbes named as: *B. subtilis*, *Staphylococcus aureus*, *Pseudomonas aeruginosa*, *Escherichia coli*, *Candida albicans* and *Saccharomyces cerevisiae* and compared with standard drugs Ciprofloxacin and Amphotericin B. This study suggests that activity of Schiff base enhances upon complexation.

### GRAPHICAL ABSTRACT



Optimized Structure of Cu (L)(OAc).H<sub>2</sub>O

**Keywords:** Schiff base, Metal complexes, ESR, Electronic spectra, Antimicrobial activity.