



Synthesis, Characterization and *in vitro* Studies of Metal Complexes Derived from Isoxazole Schiff base

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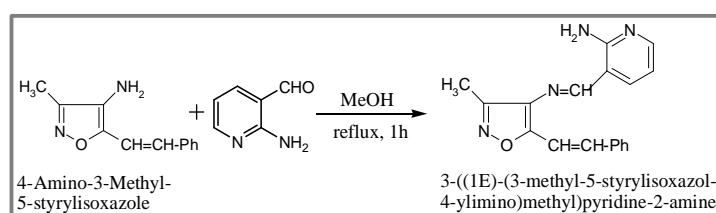
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ABSTRACT

In the present study some new isoxazole based Schiff base binary metal complexes were synthesized from Schiff base ligand 3-((1E)-(3-methyl-5-styrylisoxazol-4-ylimino)methyl)pyridine-2-amine(L) derived by condensation of 4-amino-3-methyl-5-styrylisoxazole with 2-aminopyridine-3-carbaldehyde. All the synthesized Schiff base ligand and metal complexes were well characterized by different physico and spectral techniques such as Elemental Analysis, Magnetic susceptibility, Thermogravimetric Analysis (TGA), Mass spectra, ¹H and ¹³CNMR, IR, UV-Vis, EPR spectroscopy. The spectral studies revealed that Co(II) and Cu(II) complexes have octahedral geometry; Zn(II) complex has Tetrahedral structure where as Pd(II) complex shown square planar geometry. The Schiff base ligand and its corresponding metal complexes were further screened for their DNA binding activity and antimicrobial evaluation studies and *in vitro* cytotoxic activity.

Graphical Abstract



Synthesis of Schiff base Ligand

Keywords: Isoxazole scaffold, Schiff base, Metal complexes, *in vitro* biological studies.