



## **Synthesis, Structural Characterization, and Catalytic Properties of Cu(II), Ru(II) and Pd(II) Complexes with Nitrogen & Oxygen donor Tetradentate Schiff base ligands**

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**Abstract** : Cu (II), Pd (II) and Ru (II) metal complexes of N<sub>4</sub> and N<sub>2</sub>O<sub>2</sub> based tetradentate Schiff base ligands were prepared via non-template method by the condensation of 3, 5-diaminobenzoic acid with o-salicylaldehyde (HL) and o-phthalaldehyde (OPA) (HL<sup>1</sup>) respectively. The synthesized ligands and metal complexes were well characterized by a variety of techniques such as elemental analysis, FTIR, <sup>1</sup>H NMR, MS, electronic spectroscopy, and conductance measurements. The catalytic activity of Schiff base metal complexes were screened in the reduction of dabigatran, which is an intermediate in the morphine synthesis, and C-N cross coupling reactions resulting nilutamide is an anticancer drug, abacavir that is antiviral drug. The Schiff base metal complexes can catalyze selectively and shows moderate to high yields.

**Key words** : Schiff bases ligands, metal complexes, characterization, catalysis.