

## **Synthesis, Characterization and Catalytic Applications of Divalent Schiff Base Metal Complexes Derived from Amino Coumarins and Substituted Benzaldehydes and Acetophenones**

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**Abstract :** A series of new heterodentate N, O-donor ligands derived from condensing 3-amino Coumarins with hydroxy benzaldehydes and acetophenones were used to afford new mononuclear Mn(II), Co(II), Ni(II), Cu(II), Zn(II) and Pd(II) coordination compounds. All the complexes were characterized by IR, <sup>1</sup>H-NMR, <sup>13</sup>C-NMR, Mass, ESR, Electronic spectra, Conductance, Magnetic and Thermal studies. The ligands show hexa coordination in Mn(II), Co(II), Ni(II), and Pd(II) complexes resulting octahedral geometries, while the ligands in Zn(II) and Cu(II) complexes show tetra coordination resulting tetrahedral and square planar geometries respectively. These mononuclear complexes were investigated as catalysts in the hydrothiolation of aromatic and aliphatic alkynes with thiols. These metal complexes were acted as versatile catalysts and gave good yields.

**Keywords :** schiff bases, divalent metal complexes of schiff bases, Catalytic activity, hydrothiolation

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