

## **ABSTRACT:**

Schiff bases have greatly changed the medicine and drug field. New Schiff base as ligand which was synthesized using primary amine 4,4'-oxydianiline with aldehyde salicylaldehyde. Product was obtained as the condensation between amine group and aldehyde. Prepared ligand was condensed by metals to synthesize the coordinated compounds. In this research work Zn, Ni, Co, and Cu metals were used for complexation. All the prepared complexes and ligand were examined for biological as well as spectral study. All the techniques used were UV-Vis, IR, Photoluminescence (PL). Ligand and metal complexes showed different results in antibacterial application. Bacteria like E. coli and Bacillus cereus were tested for ligand and metal complexes. In anti-oxidant activity DPPH and ABTS method were used to check the scavenging activity of free radicals that was the main reason of many diseases like cancer, fever, liver damage etc. The main reason to write up this work was to check the ligand and complexes behavior as coordination compounds in coordination chemistry.