Abstract

Research is focused on describing the synthesis, characterization and biological activities of Benzylidene ligand and its metal complexes. The benzylidene ligand synthesis entailed the condensation reaction between aniline a primary amine and benzaldehyde maintaining a stoichiometric ratio of 1:1. Metal salt such as Zn, Cu, Ni, Cr and Cd are used to form metal complexes with Schiff base ligand in 1:2 respectively under certain conditions. Schiff base complexes have garnered substantial attention within the medical domain due to their significant contributions to antibacterial and antifungal properties. Synthesis of ligand was confirmed by FT-IR peak which observed at 1625 cm^{-1} which confirms imine (C=N) group. Synthesized product was examined through UV-visible spectroscopy, Infra-red spectroscopy (IR) and Photoluminescence (PL) while antimicrobial activity was also checked against different bacterial strains (*E.coli, Bacillus cereus*) and fungal strain (Aspergillus Niger).Cd^{+2} and Zn^{+2} Schiff base complexes showed effective results against bacterial strain. The physical properties of the synthesized compounds such melting point and solubility were also used to confirm them.