Abstract

On a global scale public health affected drastically due to advent of antibiotic resistance. Due to their abundant bioactivity, Schiff bases and transition metal complexes have amassed significant attention as alternative antimicrobial agents to find out new treatments. The aim of our study is to evaluate the effectiveness of antimicrobial agents against certain pathogenic microorganisms including fungi and bacteria. Schiff bases are synthesized by combining the acetophenone with heterocyclic and aromatic amines through condensation reaction. These compounds formed complexes with metal ions such as Cu, Zn, Co etc. Various spectroscopic techniques such as UV-Vis, FT-IR, NMR spectroscopy are used to analyze the synthesized Schiff bases and their metal complexes. Agar diffusion were used to test their ability against microorganisms. These microorganisms may be gram negative and gram-positive bacteria as well as fungal strains. Standard antibiotics and Antifungal drugs are used to study the comparison between them as a positive control. Results revealed that tested microorganisms showed significant susceptibility to Schiff base metal complexes. The antimicrobial potential can be increased by introducing certain metal ions into the Schiff base framework.