Abstract:

This study focused on the formation of amino acid metal complexes. In biological systems, amino acid-metal complexes play important role. Different metal complexes of amino acids have been synthesized by extracting amino acids from plant extract, different metal complexes of amino acids have been synthesized. Hibiscus Rosa Sinensis L. plant leaves were used to extract amino acids. Hibiscus Rosa Sinensis has proven very beneficial due to its unique functional group characteristics. This plant contains several metabolites, antioxidants, and phytochemicals; making it useful for medical purposes. The extract was then prepared using ethanol as solvent. After extract formation, both IR technique and qualitative tests were conducted to check the presence of amino acids. Hibiscus Rosa Plant amino acid extract was then used for the reaction of metals with amino acids present in the extract. Chloride salts of Cu and Zn were used for complex formation. The metal complex was produced in 1: 2 molar concentrations. IR spectra of complexes were taken and compared with the literature values. Antimicrobial activities against different fungal strains, gram-negative and gram-positive bacteria were studied using the well diffusion method. Antioxidant activity of both complexes was performed using the DPPH technique. Copper complex gave better results in the water while zinc complex gave better results in DMSO. Results were then compared with simple plant extract. Amino acid metal complex showed much more valuable results than simple extract.