

# ABSTRACT

All pyridine derivatives are compounds of medicinal importance and used in the treatment of various fetal diseases. The ligand *pyridine 2-methanol* is such a type of pyridine derivative, used to form the metal complexes, which are biologically active compounds. The ligand *pyridine 2-methanol* is a bidentate ligand, having two binding sites, N from pyridine and O from methanol. It attaches with metal atom providing two binding sites. The ligand *pyridine 2-methanol* has affinity to make coordination complexes with transition and rare earth metals. In present work, metal complexes of pyridine 2-methanol with copper(II), cobalt(II), cerium(III), praseodymium(III) and gadolinium(III) were synthesized. The characterization of these metal complexes was carried out by using FT-IR analysis and single crystal X-ray diffraction studies. Bioassay activity of metal complexes was also performed. It was found that copper(II) complex of pyridine 2-methanol was biologically active compound and it showed positive results for antibacterial and antioxidant activities.