Abstract

Present study discussed the preparation of triacetic lactone by deacetylation of dehydroacetic acid. Derivative of Triacetic lactone 3-Nitro-4-hydroxy-6-methyl-2H-pyran-2-one was prepared which was used as ligand for the preparation of metal complexes. Reaction of ligand with metals Ni (II), Co (II), Zn (II), Mn (II), Mg (II), Cd (II), Cu (II), Fe (II), Ag (I) in ethanolic solution in the presence of sodium carbonate resulted in the formation of corresponding metal complexes. Their structural characterization was done using different instrumental techniques such as UV Visible, FTIR and elemental analysis. Antimicrobial activities of ligand and complexes were determined against bacterial strain *Bacillus subtilis* and fungal strain *Aspergillus niger* by using agar well diffusion method. Ligand and metal complexes showed significant antimicrobial activity.