

ABSTRACT

Some new derivatives of Ethyl 4-(phenyl)-6-methyl-2-oxo-1, 2, 3, 4-tetrahydropyrimidine-5-carboxylate have been synthesized. It is a rich oxygen and nitrogen donor ligand which has two carbonyl groups one as ester and other as amide in addition to the ring nitrogens which can make it to act as an ambidentate or polydentate ligand. Keeping in mind these properties of Ethyl 4-(phenyl)-6-methyl-2-oxo-1, 2, 3, 4-tetrahydropyrimidine-5-carboxylate, efforts result in its complexation with Ni, Cu, Hg and Cr. Ethyl 4-(phenyl)-6-methyl-2-oxo-1, 2, 3, 4-tetrahydropyrimidine-5-carboxylate was synthesized by Biginelli condensation reaction and the complexes were synthesized in methanol and ethanol by heating under reflux in a 50.0 ml capacity round bottom flask. Their X-ray diffractometry and FT-IR studies were carried out. One novel derivative of pyrimidine [*N, N*-(6-hydroxypyrimidine-2, 4-diyl) diacetamide] has been synthesized by the *N*-acetylation of 2, 4-diamino-6-hydroxy pyrimidine with acetyl chloride in DMF and characterized by IR and elemental analysis. This is also an oxygen and nitrogen donor ligand having two amide groups which also help in charge balance of the central metal atom. Its Ni-complex was synthesized by heating under reflux in a 50.0 ml round bottom flask. The complex was characterized by FT-IR.