**ABSTRACT**

Complexes of Fe(III), Co(II) and Cu(II) with a bidentate Schiff base ligand derived from 2-hydroxy-1naphthaldehyde and thiocarbohydrazide have been synthesized. The complexes have been characterized by IR,UV, magnetic susceptibility, molar conductance and thermal studies. From the data, an octahedral geometry has been suggested for Fe(III) and Co(II) complexes and square planar geometry for Cu(II) complex. 3D molecular modeling and energies of all complexes are furnished and the analysis for bond length has been carried out for one of the complex. The complexes have been tested for their antimicrobial and nuclease activity.