Antibacterial, cytotoxic studies and characterization of some newly synthesized symmetrical N 3, N 3 ′ -bis(disubstituted)isophthalyl- bis(thioureas) and their Cu(II) and Ni(II) complexes

ABSTRACT

A series of some novel ,-bis(disubstituted)isophthalyl-bis(thioureas) compounds with general formula [C6H4 {CONHCSNHR}2], where R = 2-ClC6H4S (L1), 3,5-(Cl)2C6H3 (L2), 2,4-(Cl)2C6H3 (L3), 2,5-(Cl)2C6H3 (L4), and 2-NH2C6H4 (L5), and their Cu(II) and Ni(II) complexes (C1–C10) have been synthesized. These compounds (L1–L5) and their metal(II) complexes (C1–C10) have been characterized by elemental analysis, infrared spectroscopy, 1H NMR and 13C NMR spectroscopy, magnetic moments, and electronic spectral measurements. The ligands are coordinated to metal atom in a bidentate pattern producing a neutral complex of the type [ML]2. These compounds (L1–L5) and their metal(II) complexes (C1–C10) were also screened for their antibacterial and cytotoxic activities.

Keyword: Thioureas; Antibacterial; Cytotoxic screening.