

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 $[C_6H_4 \{CONHCSNHR\}_2]$, 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.