SYNTHESIS AND TOXICITY TEST OF Co(II)/Zn(II) COMPLEXES WITH PYRIDINE-2,6-DICARBOXYLIC ACID LIGAND

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Abstract

Heterodinuclear complex kobalt(II)/seng(II) with pyridine-2,6-dicarboxylic (H₂dipic, dipicolinate) has been synthesis. The reddish purple crystal obtained had parallelogram shaped with a width of 940-955 µm and 1500-1730 µm long. Molecul formula from the complex compound is [Zn(H₂O)₅Co(dipic)₂]·2H₂O. This molecular formula obtained from assay result (%) of complex elements with AAS and CHN elemental analyzer (C = 28,96; H= 3,47; N = 5,42; Co = 10,15 and Zn = 11,26). The IR spectrum showed characteristic absorptions of Co-N at wavenumber 433,95 cm⁻¹ and Zn-O vibration at wavenumber 536,17 cm⁻¹. Complex was paramagnetic with μₐff value of 3,78 BM. Toxicity test of complex by the methods of Brine Shrimp Lethality Test (BSLT) obtained LC₅₀ values of 283,71mg/L.

Key words : complex compounds, toxicity, paramagnetic, pyridine-2,6-dicarboxylic ligand, metal ion zinc(II), metal ion cobalt(II), heterodinuclear.