Formation of Novel Amino Vic-Dioxime Complexes of Cu(II), Ni(II) and Co(II) of 1,3-Dioxalane Groups Containing the Oxime Moiety: Thermal, Magnetic and Spectral Studies

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ABSTRACT

Vic-Dioximes and their complexes constitute an important class of compounds having versatile reactivities [1]. Oxime metal chelates are biologically active and are reported to possess semiconducting properties [2,3]. The substitution of the vic-dioxime moiety affects the structure and stability of the complex [4]. Compounds containing the 1,3-dioxalane groups are used as solvents, additive compounds, and corrosion retardants, while polymers containing 1,3-dioxalane groups exhibit semiconducting behavior [5, 6].

A new amino vic-dioxime complexes derived from N,N′-[2,2′-ethane-1,2-di-ylbis(oxy)bis(2,1-phenylene)]bis(N′-hydroxy)-2-(hydroxyimino)acetimidamide (LH4) with Cu(II), Ni(II) and Co(II) complexes of 6,7-o-cyclopentylidine-1-amino-4-azaheptane have been prepared and characterized by electronic, infrared, magnetic and 1H-NMR spectral measurements in addition to elemental and thermogravimetric analyses. The data revealed different geometries around the metal ions, depending on both the ligand and metal ions.

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