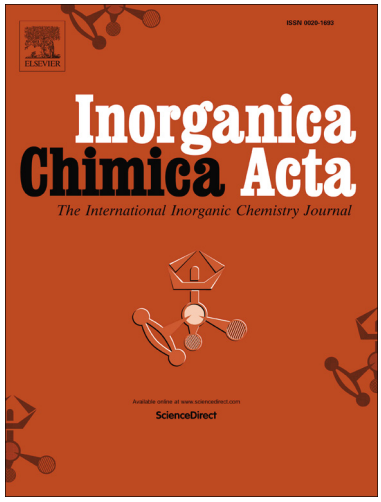

Research paper

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Template synthesis and structure of Co(II), Ni(II), and Cu(II) complexes with pyridoxilydenetaurinate Schiff base ligand

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Abstract

Co(II), Ni(II), and Cu(II) complexes with a Schiff base ligand pyridoxylidenetaurinate (L^-) were prepared by a template reaction of pyridoxal (3-hydroxy-5-(hydroxymethyl)-2-methylpyridine-4-carbaldehyde), taurine (2-aminoethane-1-sulfonic acid), and the corresponding metal acetate in water-ethanol solution. Composition of the product was $[ML_2(H_2O)_2]$ for all three central metals. Coordination geometry varied from weakly distorted octahedral (Co, Ni) to strongly distorted octahedral (Cu) with *trans* arrangement of both water molecules and imine N atoms. Each bidentate ligand formed one chelate ring *via* iminic N and phenolic O donor atoms. The complexes were characterised by elemental analysis, FTIR spectroscopy, and XRD crystal and powder analyses. All complexes crystallize in monoclinic system with space group $P2_1/c$. IR spectra of the complexes showed changes typical for Schiff base coordination, comparing with IR spectrum of the ligand.