[Cu(X-salicylato)$_2$(*N*,*N*-diethylnicotinamide)$_2$(H$_2$O)$_2$] complexes: conformational polymorphism and its consequence in supramolecular hydrogen-bonding networks formation.

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Streszczenie

Novel copper(II) X-salicylate complexes withN,N-diethylnicotinamide (dena) of the formula [Cu(R-COO)2(dena)2(H2O)2] (RCOO=3-methylsalicylate anion(3-Mesal,1), 4-methylsalicylate anion (4-Mesal,2),5-methylsalicylate anion (5-Mesal,3), 5-methoxysalicylateanion (5-MeOsal,4) or 4-methoxysalicylate anion (4-MeO-sal,5)), and complex [Cu(3-MeOsal)2(dena)2(H2O)2]•2H2O(3-MeOsal=3-methoxysalicylate anion (6)) have been pre-pared in the crystalline forms and characterized by spectro-scopic methods (IR, Vis–UV, EPR). All the compoundsaccording to their composition (1–5) seem to possess octahe-dral copper(II) stereochemistry. The complex1has been pre-pared in two different forms. X-ray analyses of the complexes1,4,and5were carried out and they featured a tetragonal-bipy-ramidal geometry around the copper atoms. The tetragonalplanes are created by X-salicylate anions bonded to thecopper(II) atoms via unidentate carboxylate oxygen atomsand the pyridine ring nitrogen atoms of the neutral ligandN,N-diethylnicotinamide, while in axial positions are watermolecules. The two forms of complex1present conformationpolymorphs and supramolecular isomers.

Słowa kluczowe

copper complexes, crystal structure, hydrogen binds, Spectra polymorphism, Supramolecular isomerism

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