Modifications of Cu(3-Metylsalicylato)2(ronicol)2 moieties – synthesis and structure of 3-methylsalicylatocopper complexes with ronicol

Miroslava Puchoňová[1], Vladimír Jorík[1], Ján Moncoľ[1], and Dušan Valigura[2]

[1]*Department of Inorganic Chemistry, Faculty of Chemical and Food Technology STU, Bratislava 812 37, Slovakia*
[2]*Department of Chemistry, University of SS. Cyril and Methodius, J. Herdu 2, Trnava, SK-917 01, Slovakia*

Copper complexes containing N-donor ligands are studied for many years from different points of view. For instance, the carboxylatocopper(II) complexes with ronicol form various structural motifs. [1,2] The study of preparation and properties of copper(II) complexes with derivatives of salicylic acid in presence of ronicol have resulted in four types of methylsalicylatocopper(II) complexes. The solid state complexes were characterized by spectral methods (infrared, electronic and EPR spectra) and by X-ray analyses.The complex $[Cu(3\text{-Mesal})_2(ron)_2(H_2O)] \cdot H_2O$ (**1**) (3-Mesal$^-$ = 3-methylsalicylate, ron =ronicol) was obtained from mixture solvent water-acetonitrile. On the other hand, the using of pure acetonitrile solvent led to formation three compounds of formulae $[Cu(3\text{-Mesal})_2(ron)_2]_x$ (**2**) (where x= 1 or n) with coordination environment $CuO_2N_2O'_2$. The laboratory temperature below 27 °C led to creation light blue polymeric compound (**2a**) which exhibits one dimensional chain. However, the increasing of the reaction temperature to 40 °C caused the formation of molecular complex $[Cu(3\text{-Mesal})_2(ron)_2]$ (**2b**) of purple color. Another increasing of the temperature caused that the polymeric complex $[Cu(3\text{-Mesal})_2(ron)_2]_n$ (**2c**) builds up the 2D supramolecular network. [3]

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