

New Layered Structures of Copper(II) and Silver(I) Salts of 4-Sulfobenzoic Acid

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Reactions of Cu²⁺ and Ag⁺ ions with potassium 4-sulfobenzoic acid have yielded several new structures featuring direct coordination between the metal ions and sulfonate oxygen atoms. In the case of copper, the product crystallizes without any potassium ions, while the silver compounds contain significant amounts of K⁺ disordered with Ag⁺. Compositions were verified with energy dispersive X-ray spectroscopy analysis. In all structures studied so far, the benzoic acid remains protonated and so has only limited participation in the coordination spheres of the metal ions. The structures adopt layered packing schemes with the metal ions and coordinated water molecules segregated from the 4-sulfobenzoic acid anions. Details of the structures are presented and the results placed in the context of the known structural chemistry of copper and silver sulfonates.