MS33-P13 | Crystal Engineering meets Stereochemistry: Investigations of the crystal structures and resulting properties of copper compounds featuring tartaric acid

Kremer, Marius (Institute of Inorganic Chemistry, RWTH Aachen, Aachen, GER); Englert, Ulli (Institute of Inorganic Chemistry, RWTH Aachen, Aachen, GER)

Crystallisation of copper tartrate with TMEDA (Tetramethylethylendiamine) as co-ligand was performed. The experiment was carried out with all available Enantiomers and Diastereomers of tartaric acid (*D, L, meso, rac.*). New crystal structures were found for all resulting compounds. The physical properties of the new materials were investigated, and several different synthetic routes and stoichiometric combinations of the reactants were explored. While most of the obtained compounds crystallise as one-dimensional chain polymers, a discrete trinuclear compound could be obtained for meso tartaric acid. The properties of the new compounds differ significantly from the plain copper tartrate in certain regards. The solubility in Water is drastically increased, for example. Further research could provide new materials for possible industrial or medical applications.