

Poster Presentation

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Cocrystallization of acetaminophen and glutaric acid with different coformers

T. Timofeeva¹, S. Antal¹, S. Draguta¹, K. Ordonez¹, R. Castaneda¹, E. Leonova¹

¹*New Mexico Highlands University, Department of Biology and Chemistry, Las Vegas, NM, USA, ⁶1*

Recently cocrystallization became a popular tool for crystal engineering that allows, for instance, improving properties of pharmaceutical materials, creating new materials for nonlinear optical applications and solar cell technologies. To attract students to crystallographic studies we carried out project that included crystal growth of two series of cocrystals with acetaminophen and with dicarboxylic glutaric acid. We attempted cocrystallization of acetaminophen with more than ten different coformers which gave no cocrystals or salts. However, as a result of cocrystallization we obtained new polymorph modification of hydroxyquinoline. On the contrary, cocrystallization of glutaric acid with basic organic compounds gave several new salts. Interesting examples among them are systems of glutaric acid with 2-pyridinamine and with 6-methyl-2-pyridinamine. In spite of the presence of the same substituents that are prone to H-bond formation, cocrystals have different H-bonding systems and even different molecular conformation of glutaric acid. Details of physical properties, such as spectral characteristics and melting points, of obtained multicomponent materials are discussed.

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