

W0016

Pharmaceutical Co-crystals – Do They Represent a New Path to Improved Medicines? M. Zaworotko, J. Bis, J. McMahon, V. Peddy, T. Shattock, Dept. of Chemistry, Univ. of South Florida, 4202 E. Fowler Ave., SCA400, Tampa, FL, 33620, USA, xtal@usf.edu

Crystal engineering has evolved in such a manner that it is synonymous with the paradigm of supramolecular synthesis. It is salient to note that crystal engineering invokes self-assembly of existing molecules and that a wide range of new compounds can be generated without the need to break or form covalent bonds. This presentation will be organized as follows:

- An introduction that addresses self-assembly of carboxylic acids, primary amides and alcohols and its meaning in the context of polymorphs and co-crystals.
- There are important intellectual property, regulatory and efficacy implications if one is able to discover new compositions of matter for active pharmaceutical ingredients (API's). Emphasis will be placed upon pharmaceutical co-crystals, a long known but little unexplored alternative to the three accepted forms of API (polymorphs, solvates, salts). The presentation will detail how one can design and generate pharmaceutical co-crystal phases that contain one or more API's, examples of which are illustrated alongside.

