Mechanistic Investigations of Solid State Desolvation Processes

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Many pharmaceuticals can crystallize in hydrate and/or other solvate forms. While not all solvates have properties suitable for commercial development, they can serve as important precursor phases which, upon process-induced desolvation, yield crystal forms that may not be accessible through conventional growth methods. Yet predicting the products and mechanistic pathway(s) by which desolvation reactions occur remains a real challenge.
Using a combination of time-resolved synchrotron PXRD and thermogravimetric methods, we will share insight into the mechanisms and molecular-level structural changes associated with the desolvation processes in select systems.