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Pharmaceutical Co crystallization an emerging trend to modify the physico-chemical properties

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Crystal engineering provides an opportunity to develop new solid forms based on non-covalent intermolecular forces interactions among components, and pharmaceutical co crystallization is being widely investigated as a strategy to improve the physicochemical and stability properties of solid dosage forms of APIs. Formulation of two or more APIs having complementary functional groups into a single dosage can save manufacturing, packaging and storage resources as well as being provide convenient to patients. Isoniazid is a key anti tubercular agent which exhibits poor Chemical stability in the solid state. Co crystallization with hydroxyl derivatives of cinnamic acid2, which themselves possesses anti tubercular and antioxidant activity may produce solid forms with improved pharmaceutical properties3. The complementary nature of the functional groups4 of isoniazid and the chosen co formers resulted in a high success rate for co crystal formation. All synthesized co crystals were characterized by solid-state NMR, DSC, PXRD and single crystal XRD. NMR chemical shifts were observed to distinguish between a key synthon involving the carboxylic acid of cinnamic acid5

Biography

Syed Muddassir Ali Mashhadi is currently working as Assistant Professor (Research) Department of Chemistry, University of Sialkot, Pakistan. His area of research is Pharmaceutical cocrystallization and during his PhD he won IRSIP scholarship from HEC Pakistan for Durham University, UK and conducted important research in UK. So far, his research work has been published in seven research papers in international journals. He has attended four International conferences before.