

**X-RAY DIFFRACTION ANALYSIS OF COCRYSTALS
EXHIBITING A DISORDERED GUEST MOLECULAR
ARRANGEMENT WITHIN A CRYSTALLINE HOST LATTICE.**

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Cocrystals and disordered solid forms have been the subject of extensive studies to determine their potential as routes for improved API bioavailability. X-ray diffraction data will be presented on a series of novel disordered carbamazepine (CBZ) cocrystals which exhibit a similar host crystalline lattice but where the guest molecules are apparently disordered within channels. A combined single crystal and powder diffraction x-ray study will be presented characterizing the nature of the molecular disorder and its dependence on the type of guest molecule. The disordered systems will be compared and contrasted to related ordered cocrystals with similar host crystal lattices to highlight the essential structural differences.