

## Investigating the cocrystallization of Caffeine and p-hydroxybenzoic acid in Rotating Disk Crystallizer

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Cooling cocrystallization of caffeine and p-hydroxybenzoic acid have produced two previously known 2:1, 1:2 cocrystals, and 1:3 cocrystals was found. The cocrystallization was carried out in a rotating disk (RD) crystallizer, in which generated the periodic Batchelor flow. Also, it was compared with the influence of a random turbulent flow in a mixing tank (MT) crystallizer. It was shown that the final cocrystals in both crystallizers were the same with the same initial concentration because of the thermodynamic reason. But at the same initial concentration, the pathways were totally different in both crystallizers because of the kinetic reason. Moreover, we investigated the effect of rotation/agitation speed, in RD and MT crystallizer, the pathway also different. Meanwhile, the process times in MT crystallizer were at least 4 times longer when compared to the RD crystallizer.