Supporting information

Cocrystals of Hydrochlorothiazide : Solubility and diffusion/permeability enhancements through drug-coformer interactions.

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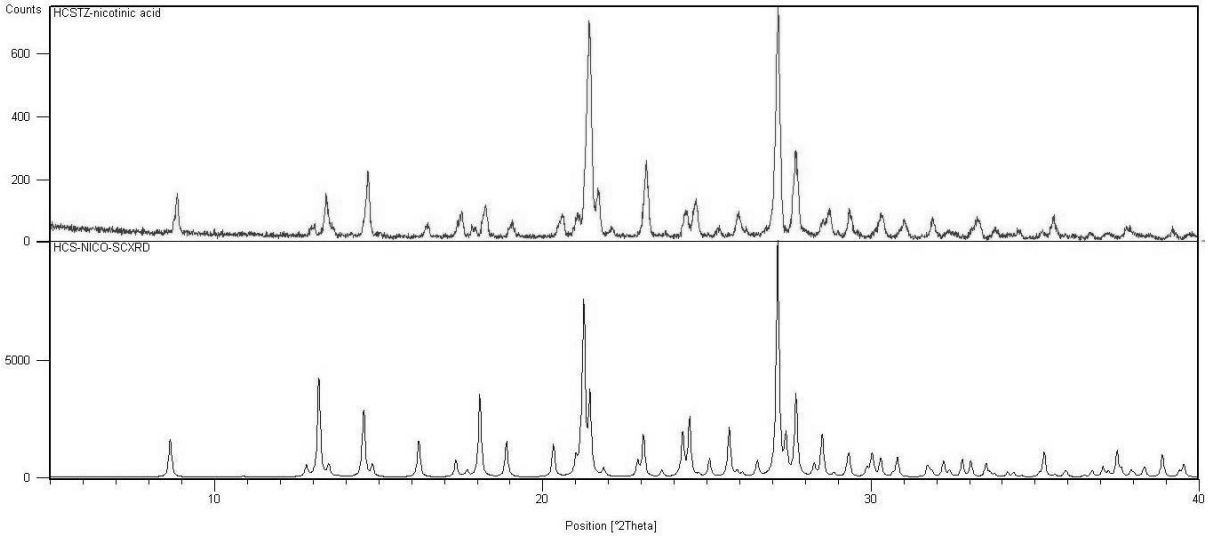
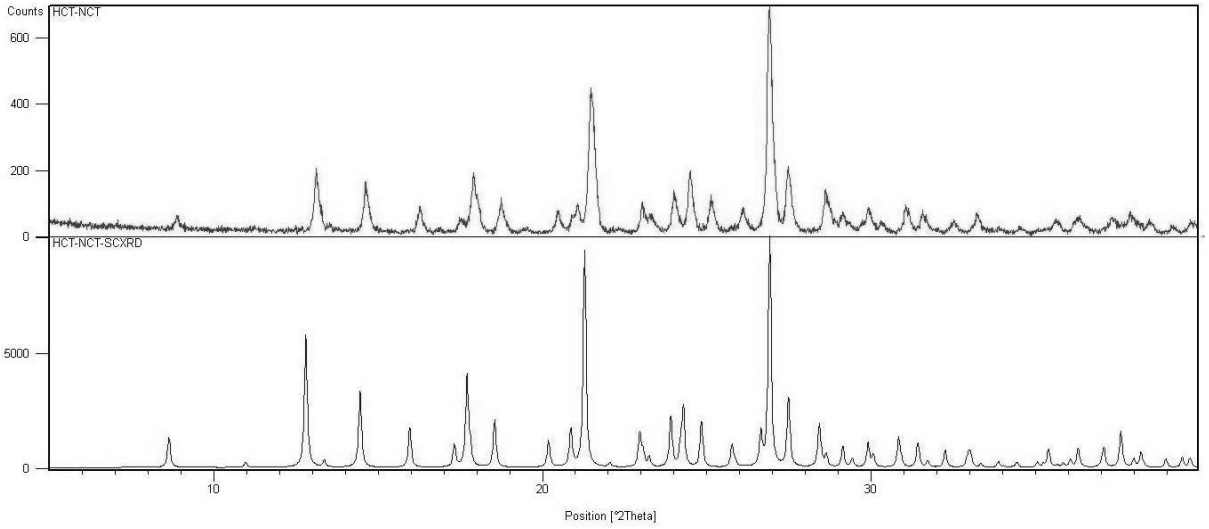
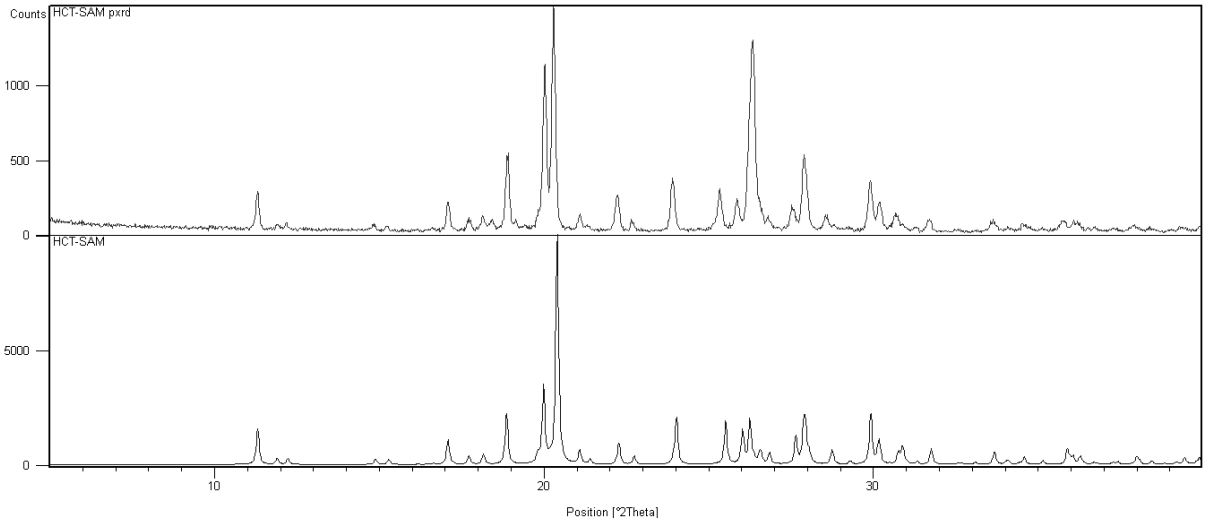


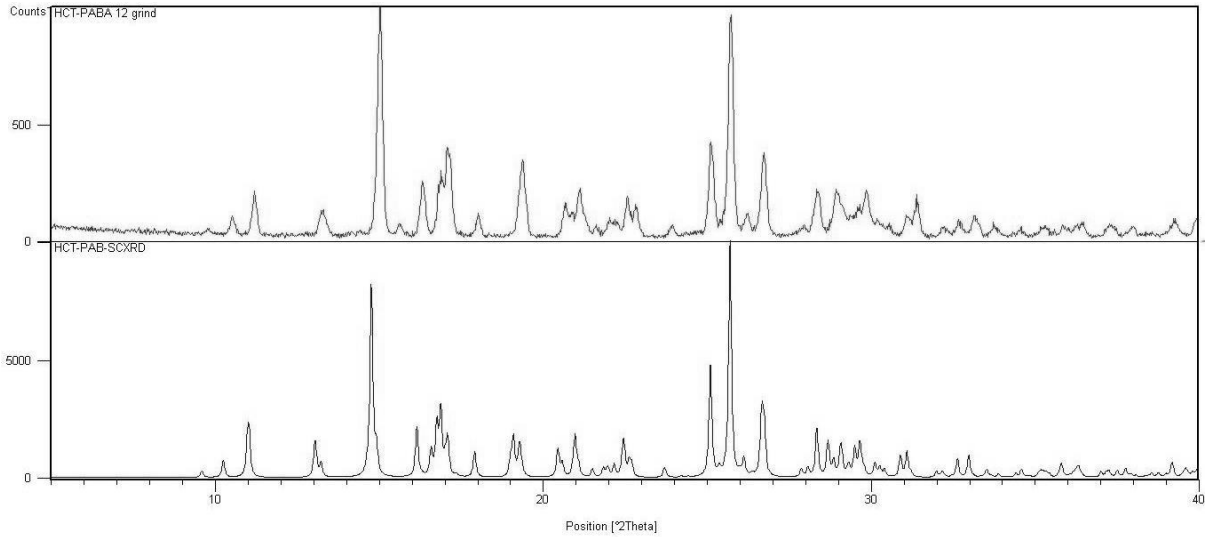
(a) HCT–NIC (1:1)



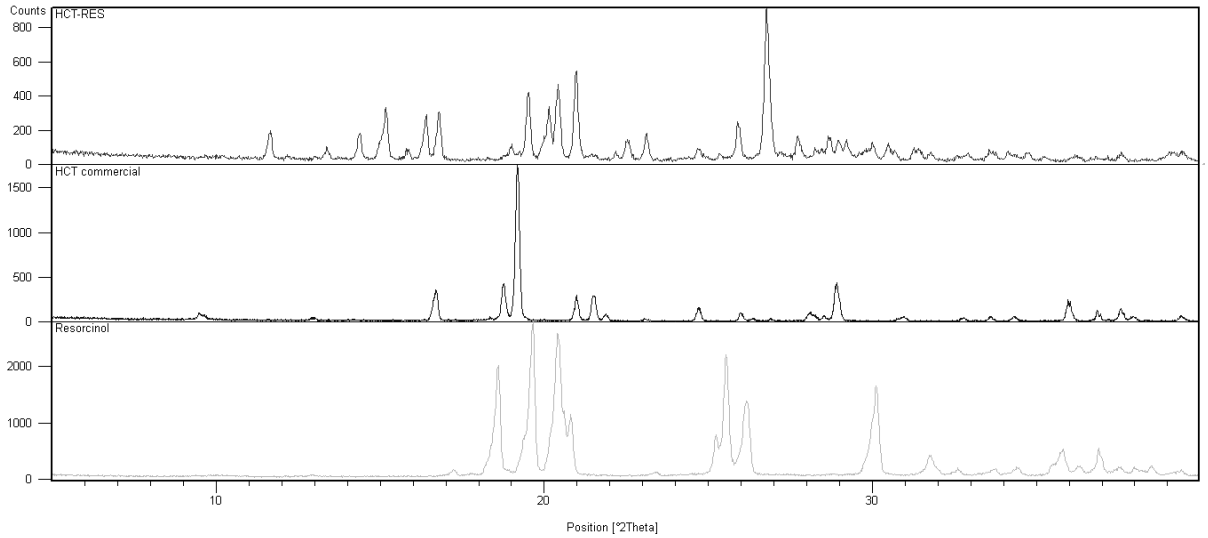
(b) HCT–NCT (1:1)



(c) HCT–SAM (1:0.5)

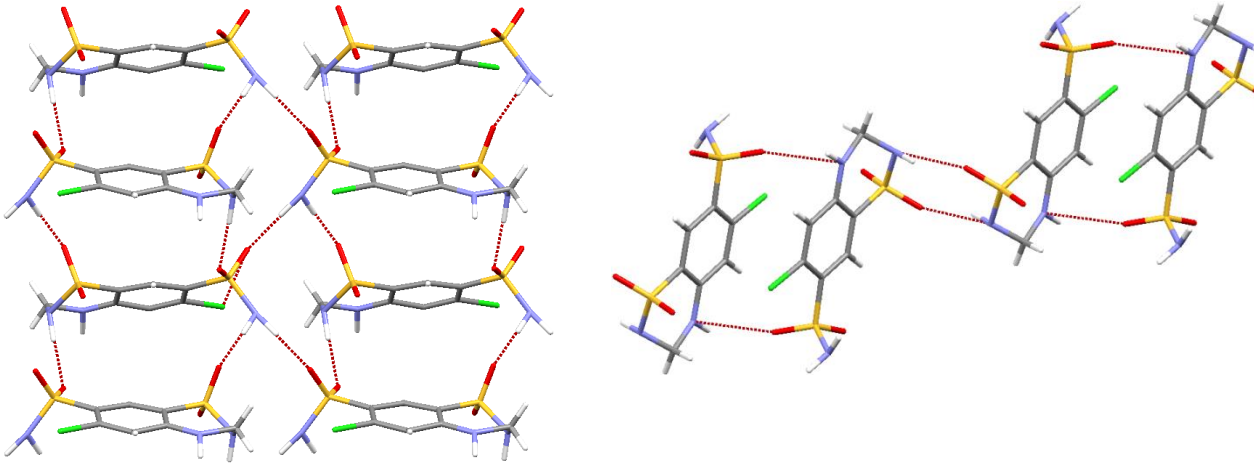


(d) HCT–PABA (1:2)



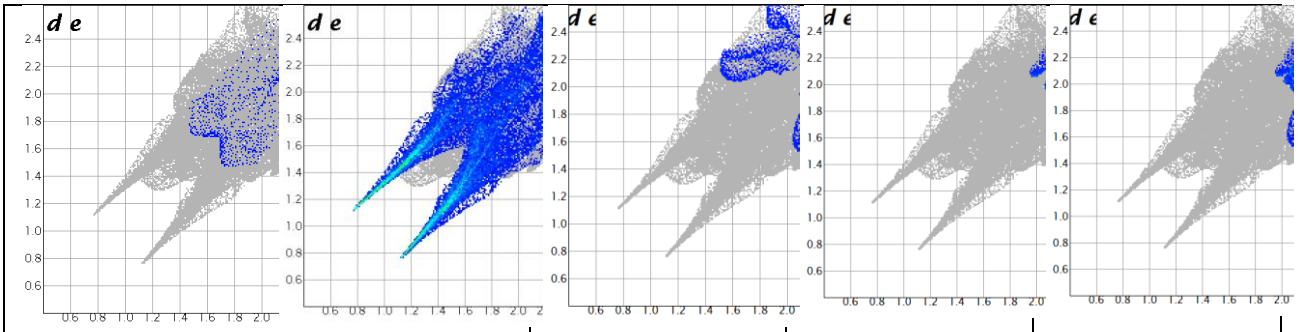
(e) HCT–RES (1:1)

Figure S1. PXRD (upper trace) comparison of HCT cocrystals (a-e) with the calculated X-ray lines of their crystal structures (lower trace) indicates bulk phase purity.

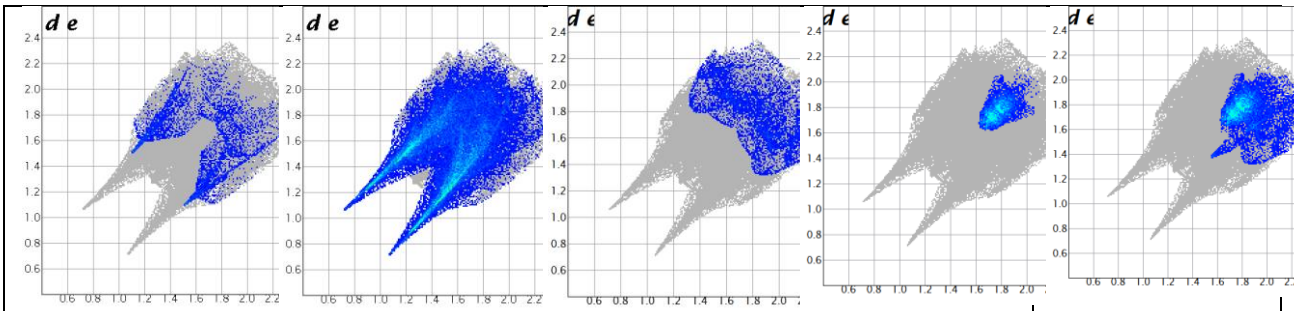


(a) (b)

Figure S2. Crystal structure of reported HCT polymorphs (a) primary sulfonamide catemer chain motif in stable form I and (b) secondary sulfonamide dimer synthon in form II.

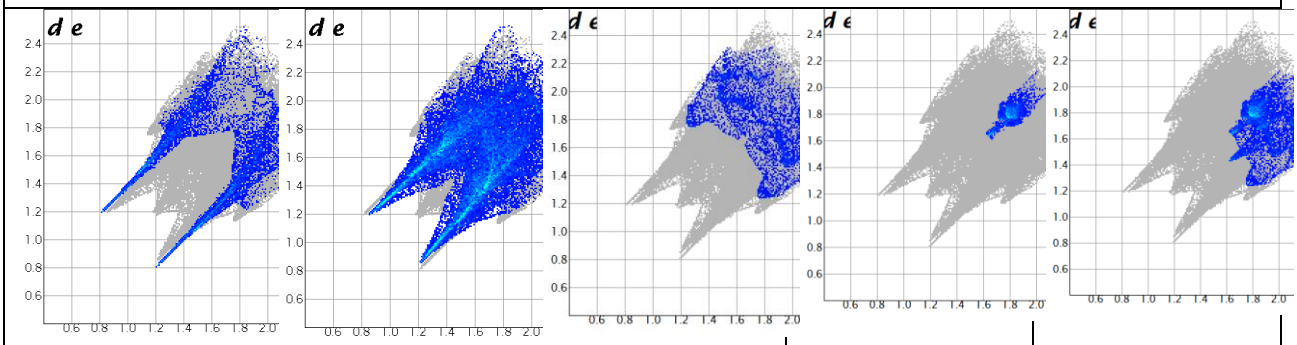


N...H, 1.5%	O...H, 45.2%	C...H, 6.8%	C...C, 2.2%	C...all,8.4%
Form I, HCT				



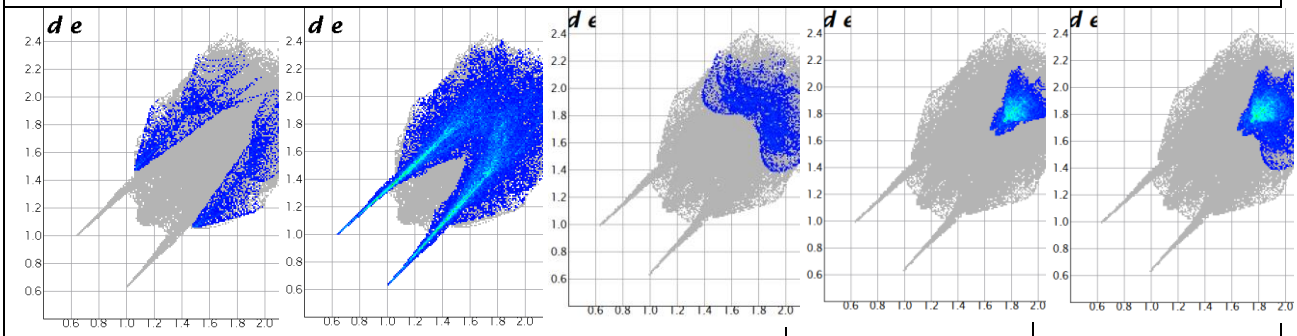
N...H, 5.0%	O...H, 44.9%	C...H, 7.0%	C...C, 7.7%	C...all, 14.0%

HCT–NIC



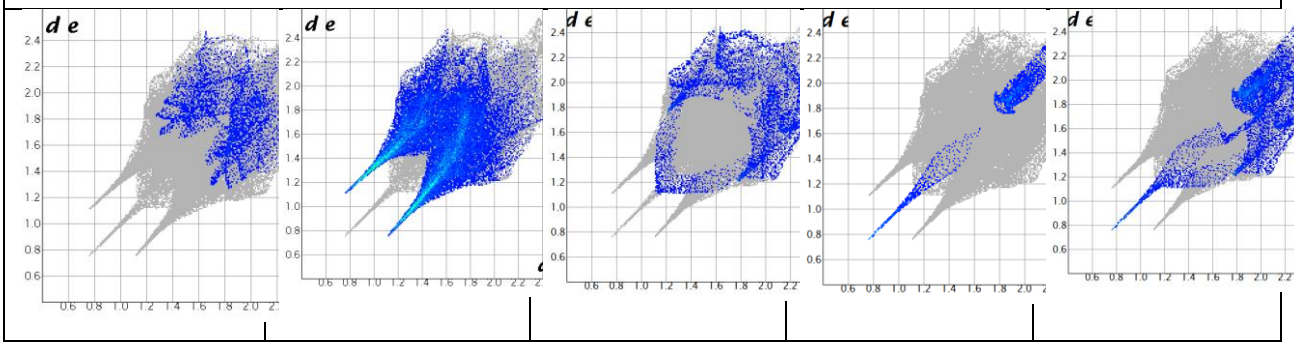
N...H, 11.0%	O...H, 41.6%	C...H, 7.3%	C...C, 3.0%	C...all, 8.8%

HCT–NCT



N...H, 4.9%	O...H, 42.2%	C...H, 5.6%	C...C, 8.7%	C...all, 13.1%

HCT–PABA



N...H, 5.1%	O...H, 41.4%	C...H, 8.0%	C...C, 4.1%	C...all, 10.7%
HCT–SAM				

Figure S3. Hirshfeld 2D finger print plots of the interactions present in HCT and co crystals

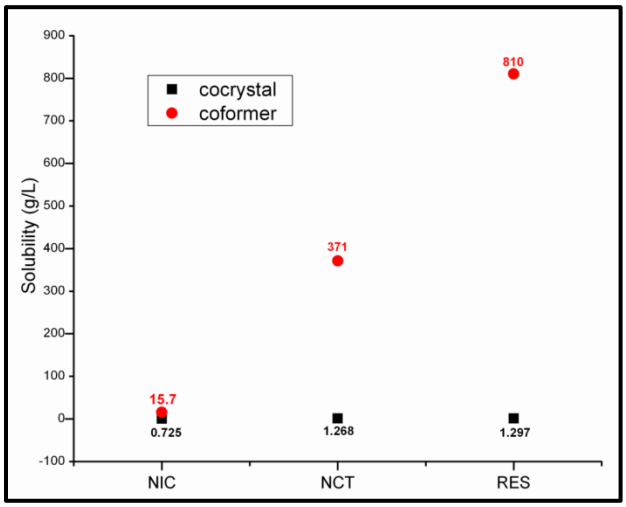


Figure S4. Plot of cocrystal and coformer solubility in pH 7.4 buffer

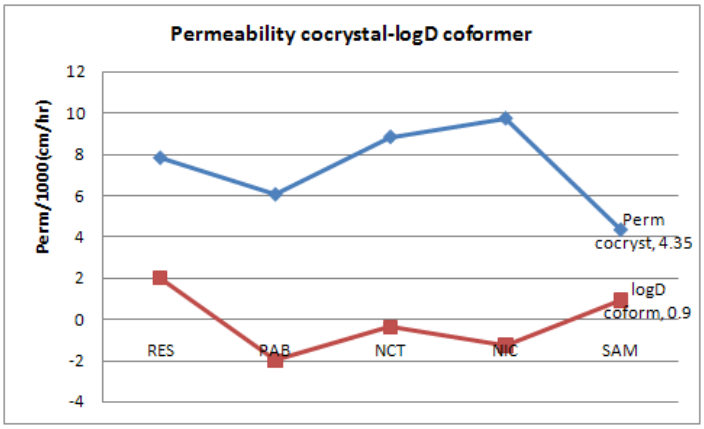
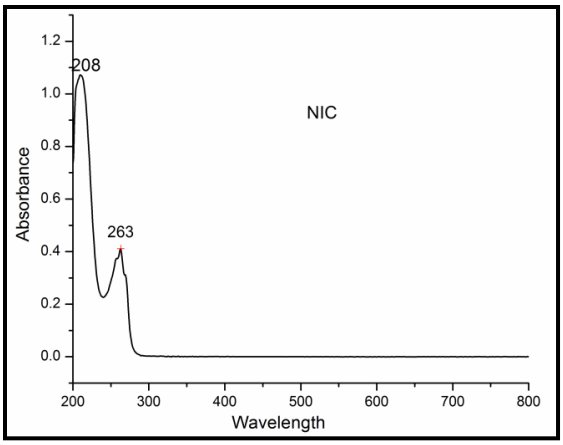
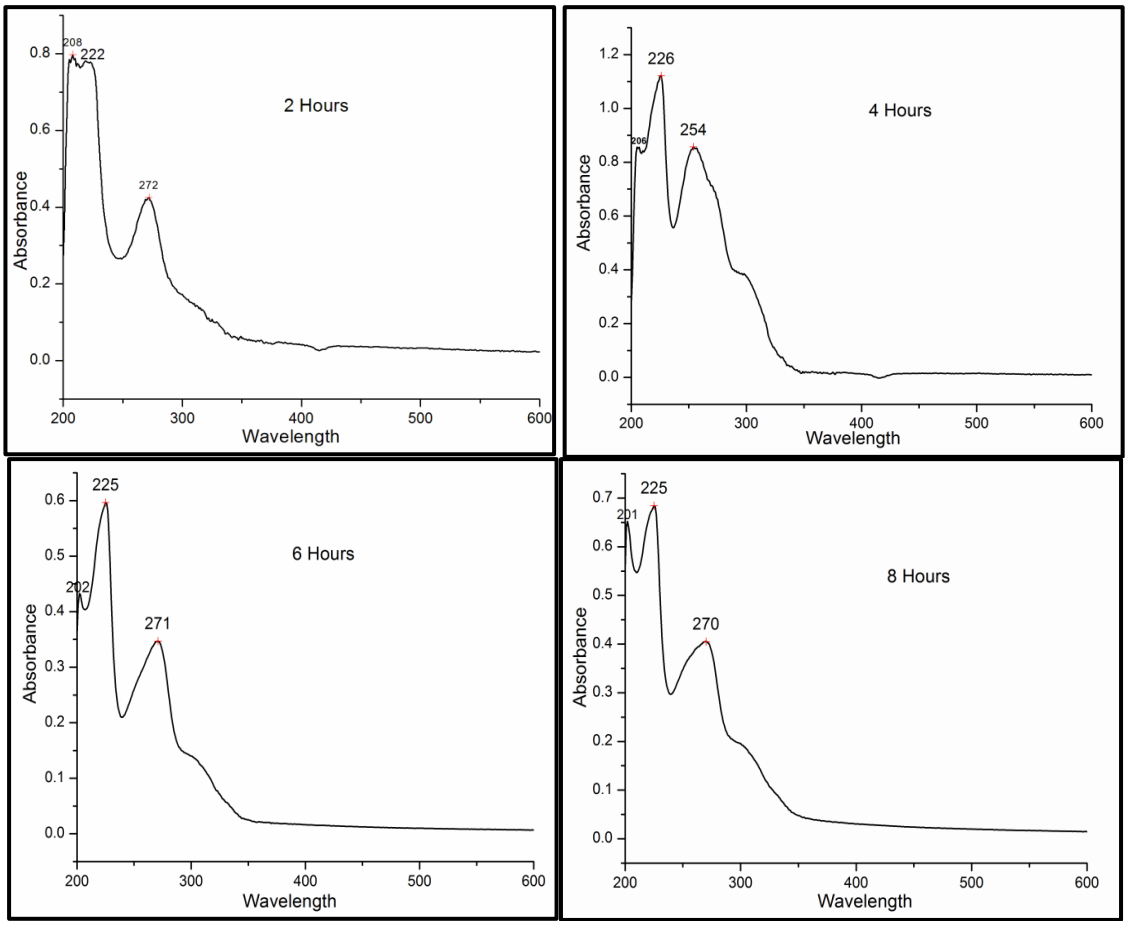


Figure S5. Plot of Permeability of cocrystal and logD coformer



(a)



(b)

Figure S6. (a) UV absorbance spectra of NIC (b) UV absorbance spectra of HCT+ NIC physical mixture at different time intervals