Hollow crystals generation through polymorphic transformation - A case study of flufenamic acid

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Supplementary information

Basic Pharmaceutical Terms used in the manuscript

Dissolution efficiency (DE_{60}) is the area under the dissolution curve up to certain time (here in this study, up to 60 min) expressed as a percentage of the area of the rectangle described by 100% dissolution in the same time.

Q_{60}- is the amount of drug released in 60 min.

Similarity factor f_2 –When the two profiles are identical, f_2= 100. An f_2 value of 50 or greater (50–100) ensures equivalence of the performance of the two products.

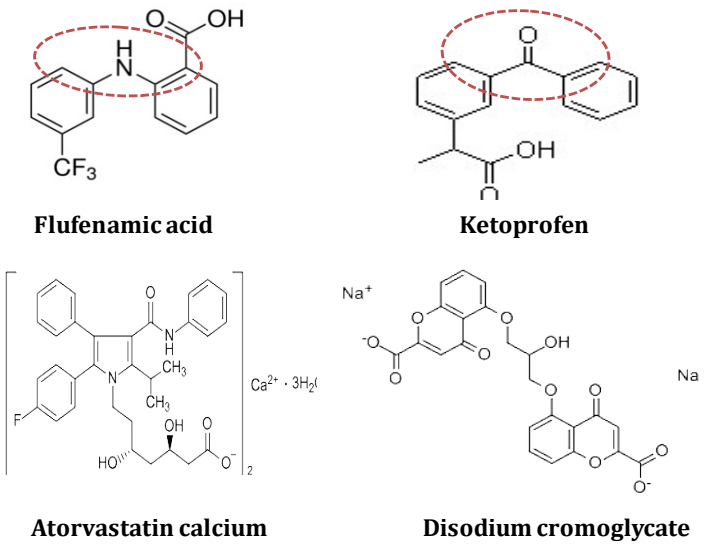

Figure S1 Chemical structure of drug molecules selected for the study

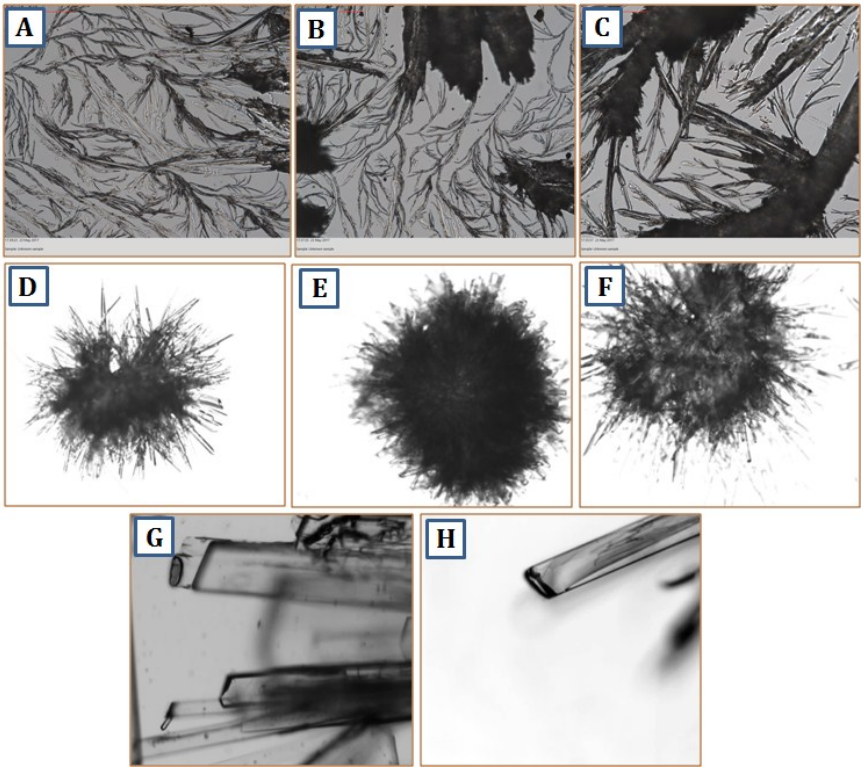

Figure S2 Optical images of preliminary screening experiment from different solvent/ anti solvent combinations: ketoprofen (A- EtOH/EA, B- EtOH/n-hexane and C- EtoH/Chloroform); atorvastatin calcium (A- EtOH/n-hexane, B- EtOH/EA, and C- EtOH/IPA) and flufenamic acid (A and B- EtOH/EA)

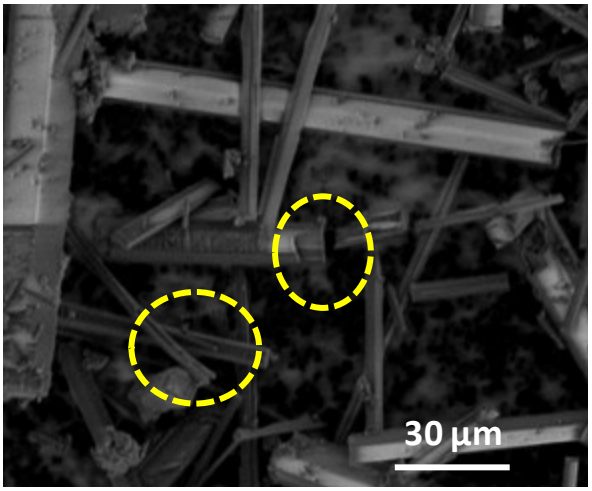

Figure S3 SEM analysis of hollow crystals of flufenamic acid after blending (750X). Bracket value is the magnification.

Table S1 Qualitative solubility data of flufenamic acid

Solvent	**Solubility (mg/mL) at RT**
Ethanol	5
Acetone	5
Methanol	0.8
Chloroform	1
Isopropyl alcohol	0.8
Acetonitrile	1
Ethyl acetate	0.8

Table S2 Well's protocol for compressibility study

Sample amount	**500 mg +5 mg magnesium stearate**		
	A	B	C
Blending time	5 min	5 min	30 min
Compression using 13 mm die at 250 kg/cm^2			
Dwell time	2 s	30 s	2 s