

Trimorphic forms of 5-fluorocytosine-gentisic acid with enhanced hydration stability

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Table S1 The hydrogen bond geometries of 5FC-GEA polymorphs.

5FC-GEA F-I				
D—H···A	D—H/Å	H···A/Å	D···A/Å	D—H···A/°
C3—H3A···O4 ⁱ	0.93	2.29	3.176 (7)	158
N3—H2N···O3 ⁱⁱ	0.91 (4)	2.12 (4)	2.999 (7)	159 (3)
N3—H3N···O5 ⁱⁱⁱ	0.84 (3)	2.05 (3)	2.835 (8)	154 (3)
N1—H1N···O2	0.88 (3)	1.94 (3)	2.804 (8)	168 (2)
C7—H7···N2 ^{iv}	0.93	2.56	3.425 (8)	155
O3—H3O···O1	0.93 (2)	1.56 (2)	2.483 (7)	169 (3)
O4—H4O···O2	0.95 (4)	1.74 (4)	2.557 (5)	143 (3)
O5—H5O···O1 ^{iv}	0.81 (4)	1.97 (4)	2.725 (6)	153 (4)
Symmetry codes: (i) $-x+1, -y+2, -z+1$; (ii) $-x-1, y+1/2, -z+1/2$; (iii) $x, y+1, z$; (iv) $-x-1, y-1/2, -z+1/2$.				
5FC-GEA F-II				
N3—H2N···N2 ⁱ	0.92 (2)	2.10 (2)	3.009 (2)	174.2 (19)
N3—H3N···O5 ⁱⁱ	0.86 (2)	2.21 (2)	2.948 (2)	143.5 (18)
O5—H5O···O1 ⁱⁱⁱ	0.97 (3)	1.76 (3)	2.723 (2)	175 (2)
N1—H1N···O2	0.96 (2)	1.85 (2)	2.810 (2)	172.6 (19)
O3—H3O···O1	0.92 (2)	1.67 (2)	2.583 (2)	169 (2)
O4—H4O···O2	0.98 (3)	1.71 (3)	2.596 (2)	150 (2)
Symmetry codes: (i) $-x+2, -y+2, -z+1$; (ii) $x, -y+3/2, z+1/2$; (iii) $-x+1, y-1/2, -z+1/2$.				
5FC-GEA F-III				
N1—H1N···O2 ⁱ	0.921 (19)	1.843 (19)	2.7543 (13)	169.5 (17)
N3—H4N···O1 ⁱⁱ	0.887 (18)	1.956 (19)	2.8364 (13)	171.6 (16)
O5—H5O···O4 ⁱⁱⁱ	0.86 (2)	1.89 (2)	2.7443 (15)	171 (2)
N2—H2N···O2	0.966 (18)	1.732 (18)	2.6969 (13)	176.1 (16)
N3—H3N···O3	0.918 (17)	1.840 (17)	2.7576 (14)	178.1 (14)
O4—H4O···O3	0.98 (3)	1.60 (3)	2.5154 (14)	154 (2)
Symmetry codes: (i) $-x+1/2, y-1/2, -z+3/2$; (ii) $x-1/2, -y+1/2, z-1/2$; (iii) $x+1/2, -y+3/2, z+1/2$.				

Table S2 Different screening methods used in 5FC-GEA polymorph preparation.

S. No	Method	Solvent used	Form-I	Form-II	Form-III	Remarks
1.	Slow evaporation	Purified water	✓	✓		Concomitantly formed
		Acetonitrile/H ₂ O		✓		
		Methanol/H ₂ O		✓		
		Ethanol/ H ₂ O (7-8 days)			✓	
		Ethanol/ H ₂ O (0-1 day)	✓	✓		Concomitantly formed
		IPA/ H ₂ O				5FC. H ₂ O
		n-butanol/ H ₂ O	✓	✓	✓	Three forms formed concomitantly
		Acetone/H ₂ O		✓		
		MEK/H ₂ O		✓		

2.	Slurry	Purified water		✓		
		Purified water (Reflux condition)		✓		
		Acetonitrile/H ₂ O		✓		
		MEK/H ₂ O		✓		
		Ethanol/ H ₂ O		✓		
		Ethanol		✓		
		Ethyl acetate		✓		
3.	Liquid Assisted Grinding	Acetonitrile/H ₂ O		✓		
		Ethanol/H ₂ O		✓		
		Purified water		✓		
4.	Rota-evaporation method	Acetonitrile/H ₂ O		✓		
		Ethanol/H ₂ O		✓		
5.	Ball-milling	Ethanol/H ₂ O		✓		

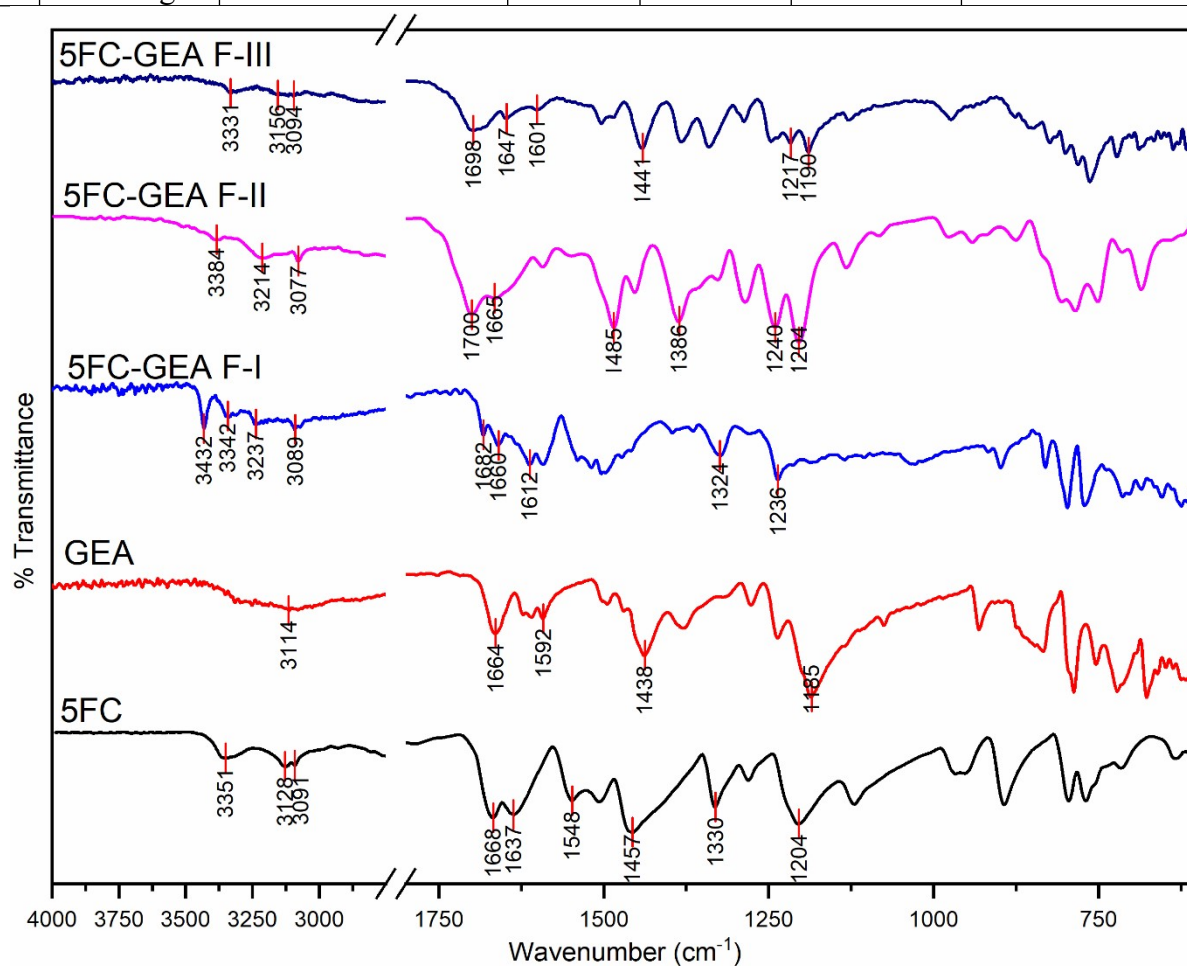


Fig. S1 The FT-IR comparison of three polymorphs with 5FC and GEA.

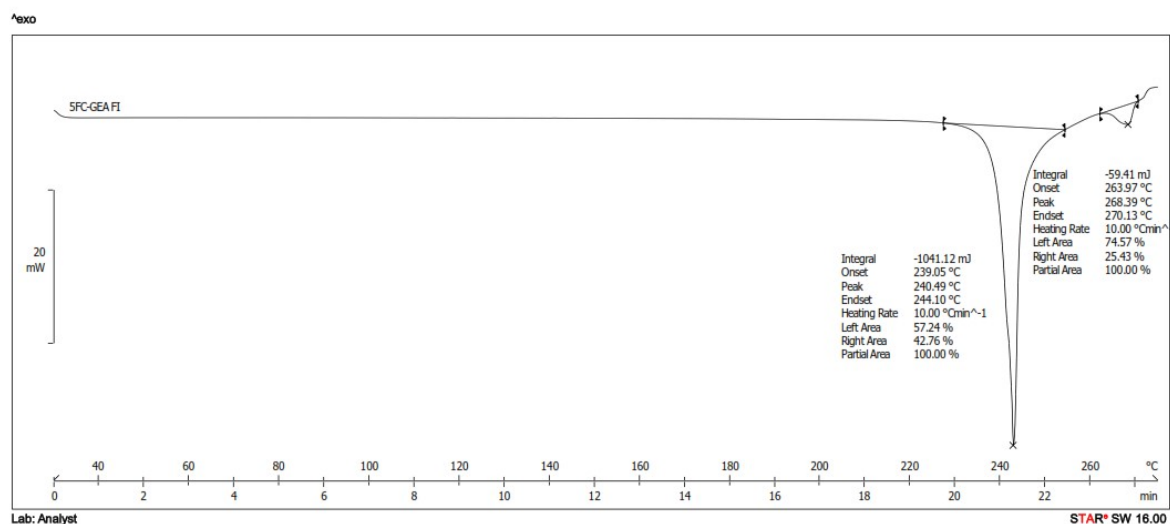


Fig. S2 DSC thermogram of 5FC-GEA F-I.

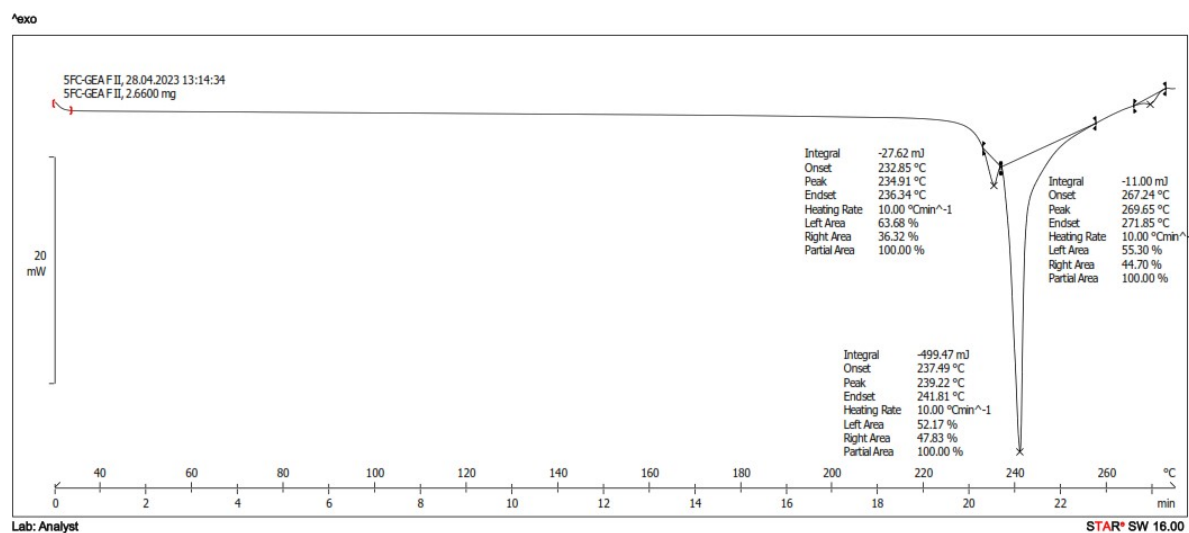


Fig. S3 DSC thermogram of 5FC-GEA F-II.

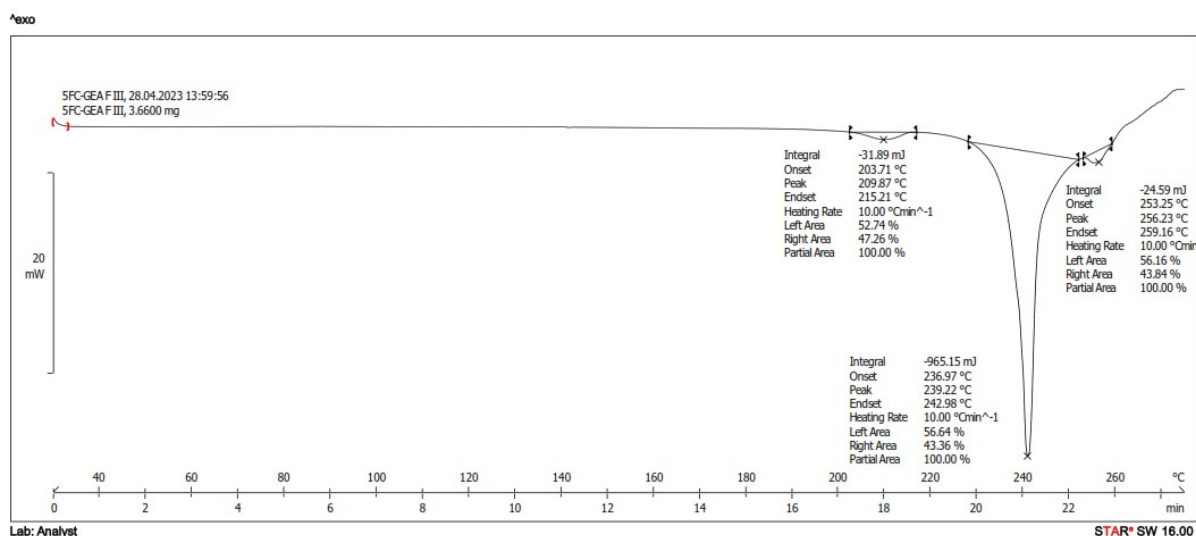


Fig. S4 DSC thermogram of 5FC-GEA F-III.

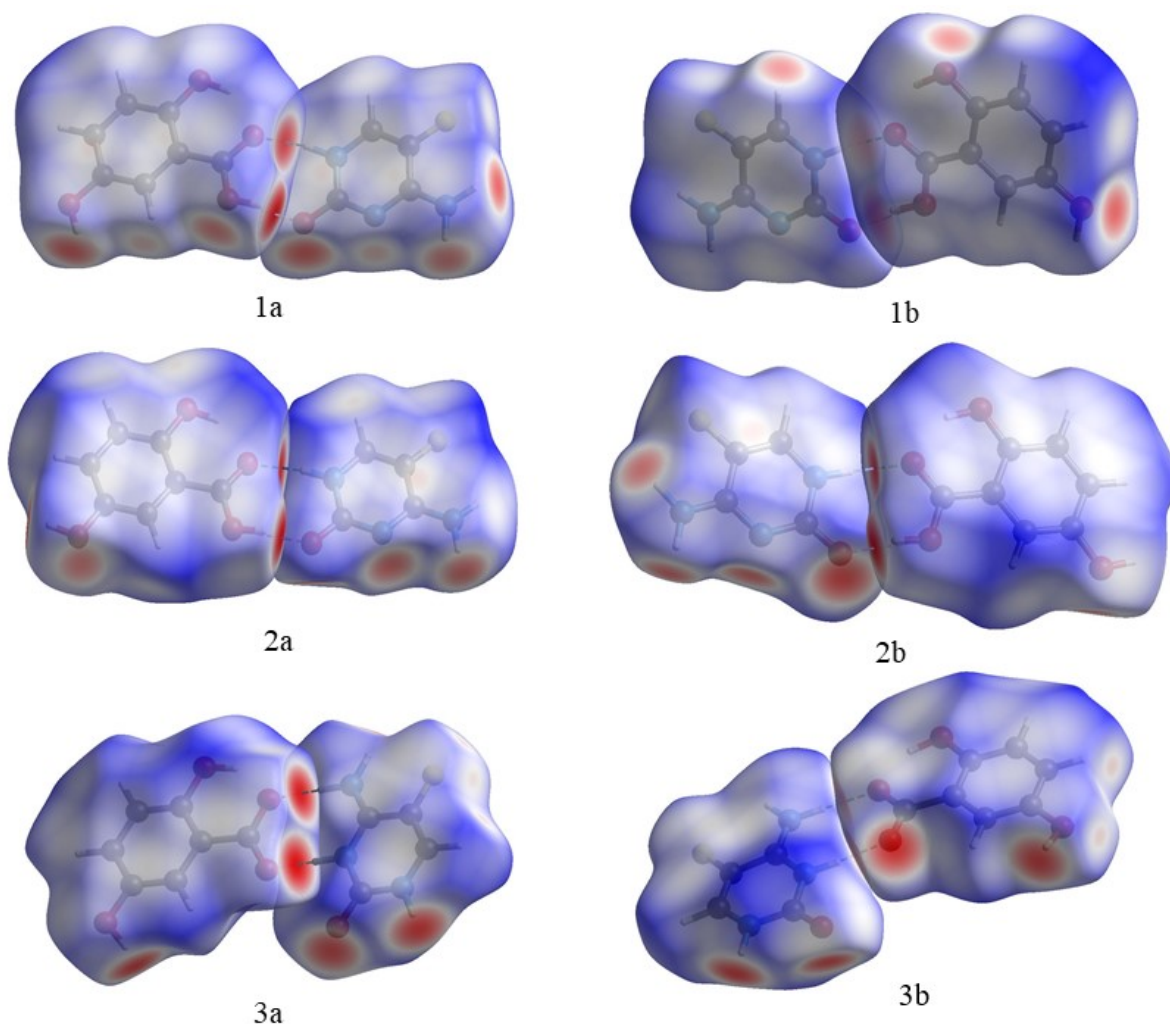


Fig. S5 3-D Hirshfeld surface of **1a)** 5FC-GEA F-I front view, **1b)** 5FC-GEA F-I rear view, **2a)** 5FC-GEA F-II front view, **2b)** 5FC-GEA F-II rear view, **3a)** 5FC-GEA F-III front view **3b)** 5FC-GEA F-III rear view.

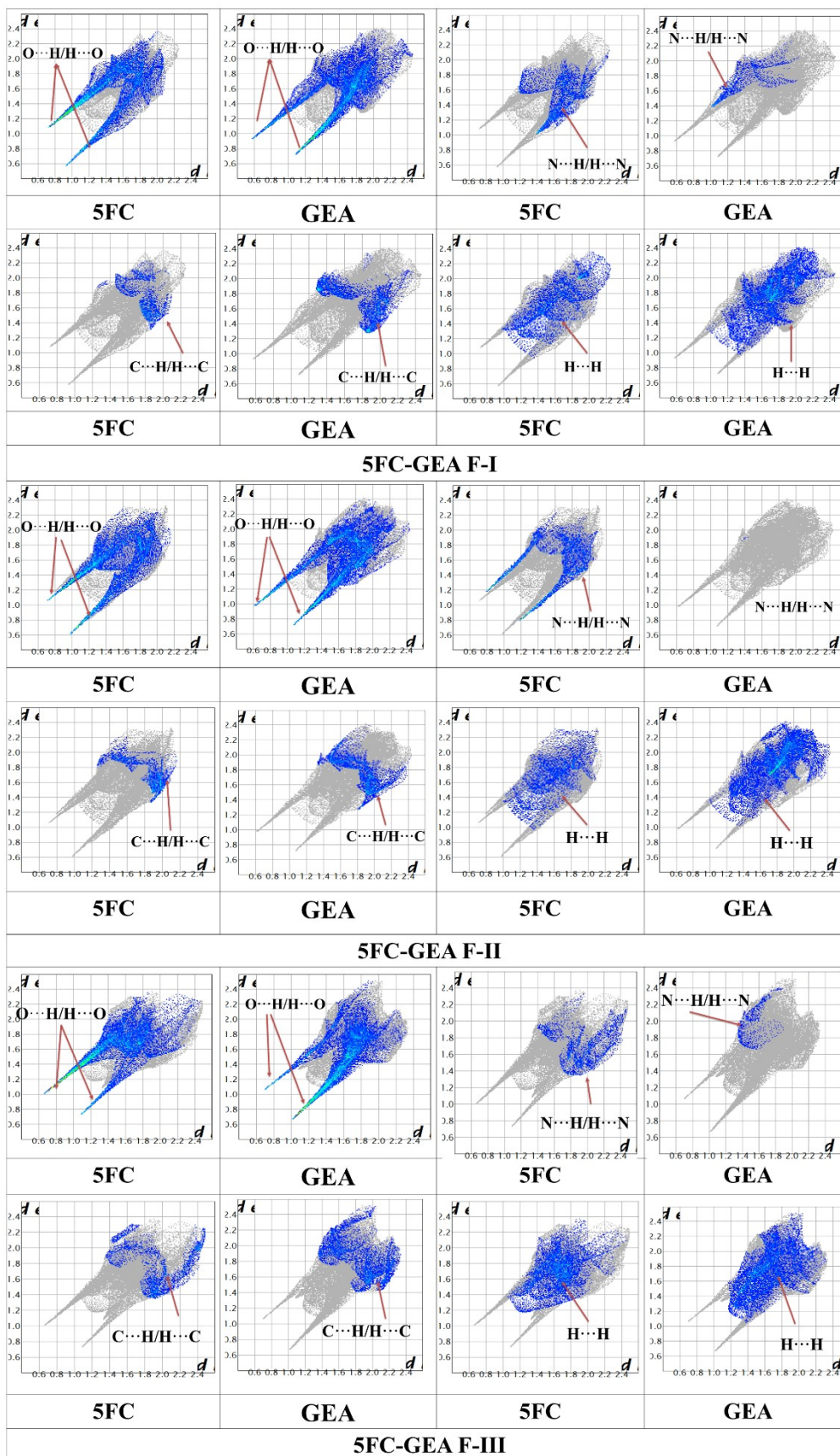


Fig. S6 2-D fingerprint plot of 5FC-GEA Form-I, Form-II and Form-III.