

*Electronic Supplementary Information (ESI)*

**Pharmaceutical cocrystals of nomegestrol acetate with superior  
dissolution**

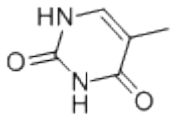
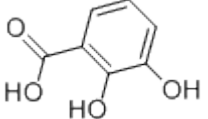
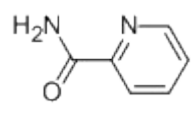
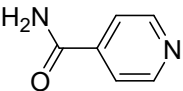
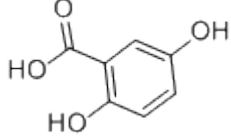
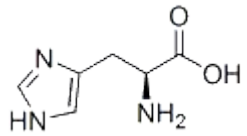
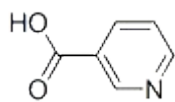
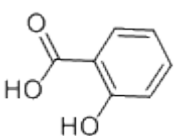
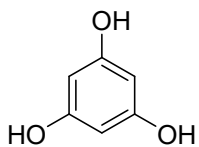
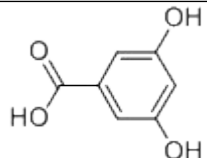
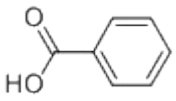
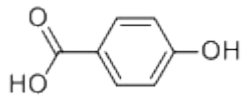
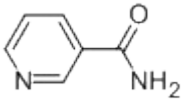
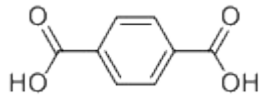
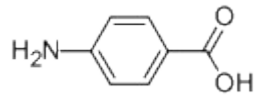
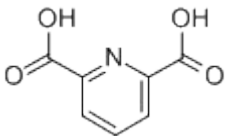
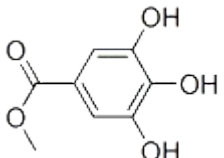
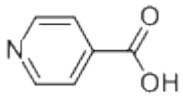
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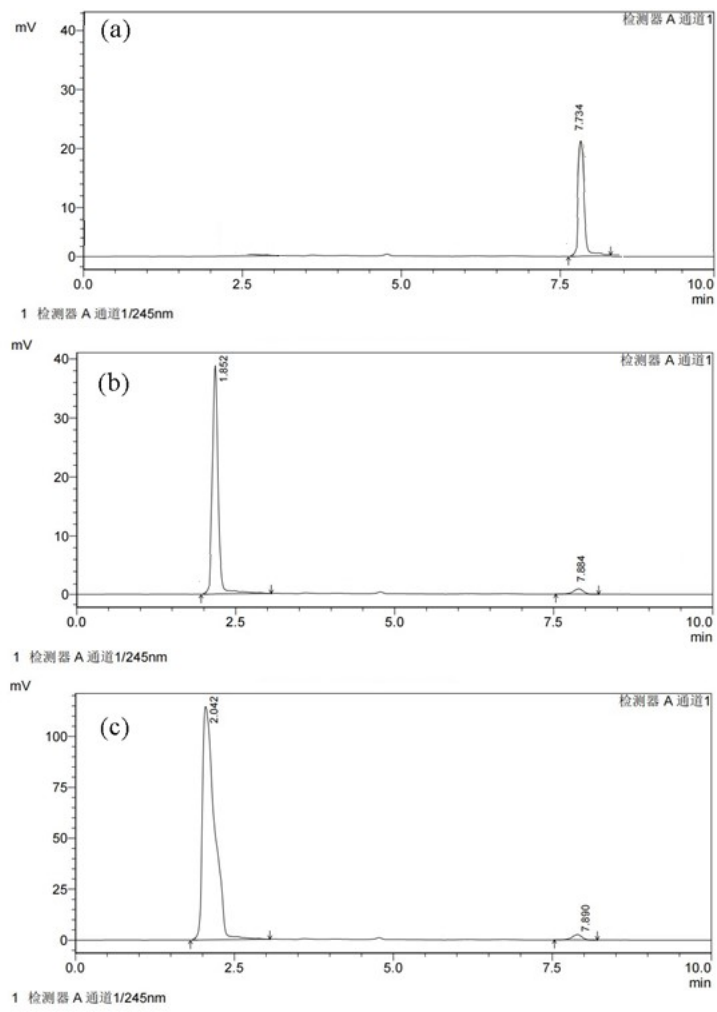
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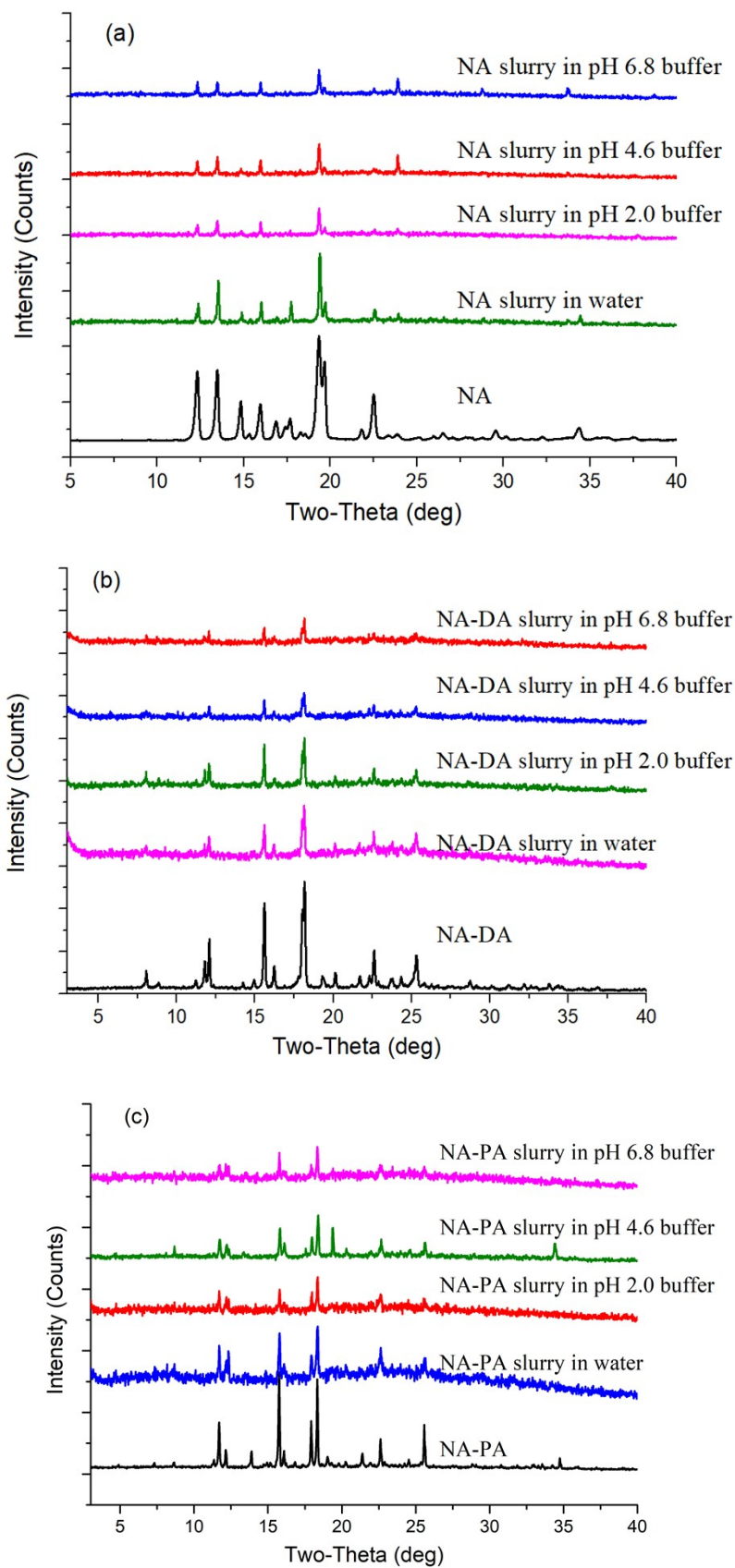
**Scheme S1.** Library of cofomers.

		
x	x	x
		
x	√	x
		
x	x	x
		
x	x	√
		
x	x	x
		
x	x	x

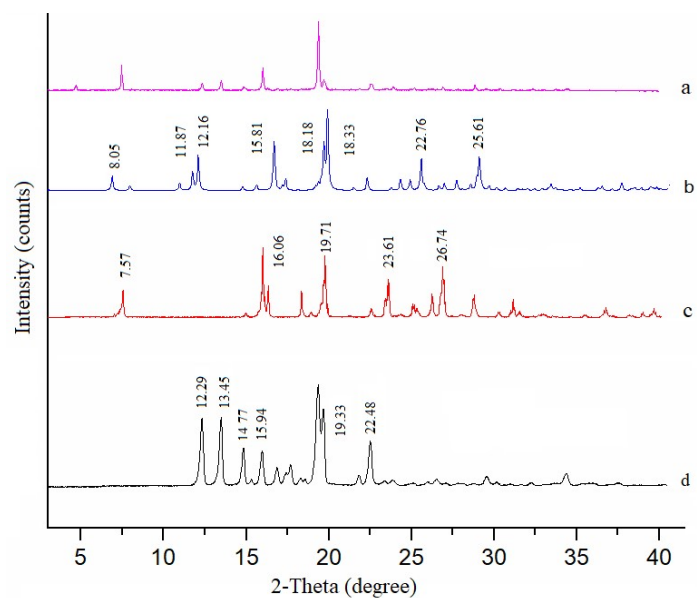
\*Formation of co-crystal is denoted by “√”



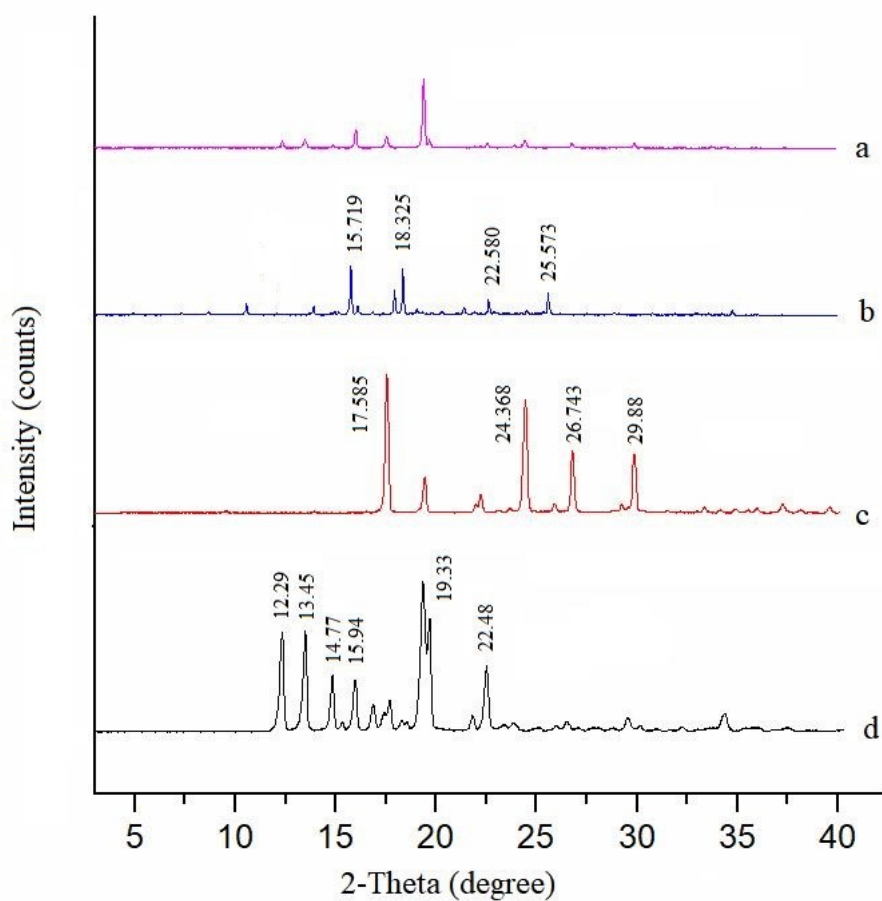
**Fig. S1** Typic chromatograms of (a) NA, (b) NA-DA, and (c) NA-PA.



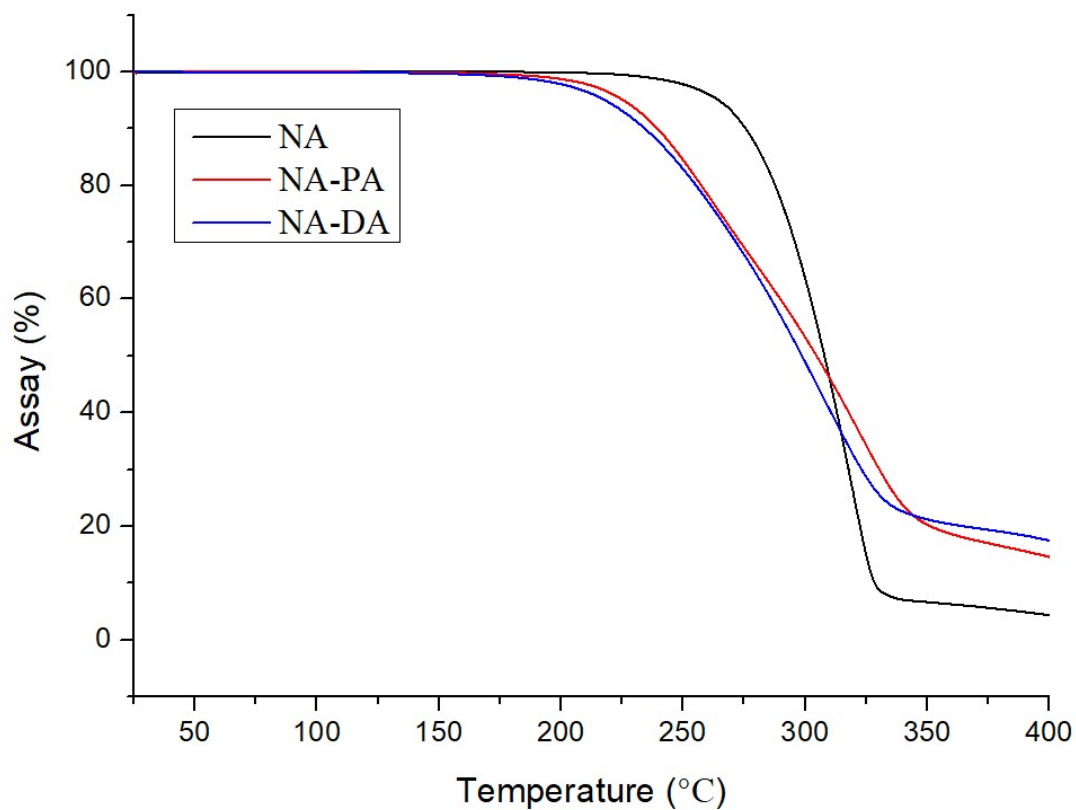
**Fig. S2** Comparison of PXRD patterns before and after dissolution experiments (a) NA, (b) NA-DA, and (c) NA-PA.



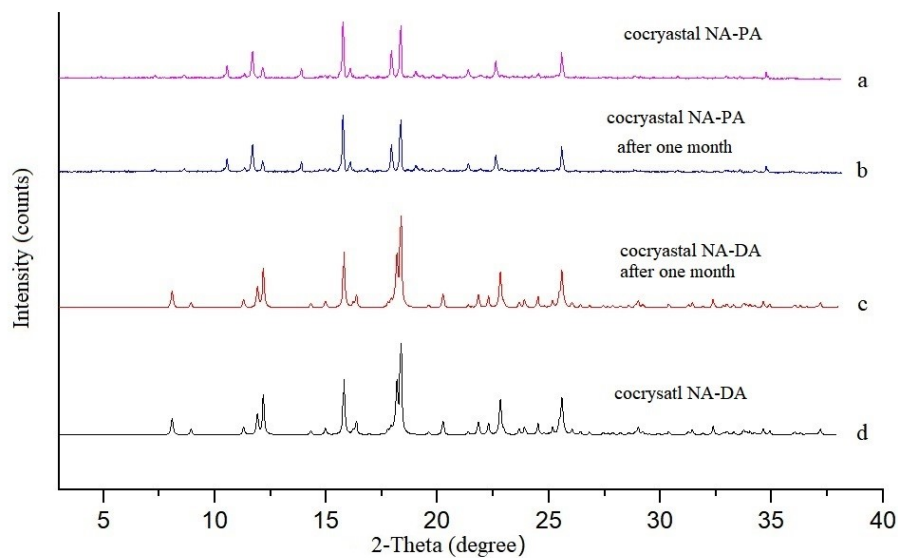
**Fig. S3** PXR D patterns of (a) NA-DA PM, (b) NA-DA, (c) DA and (d) NA.



**Fig. S4** PXR D diffractograms of (a) NA-PA PM, (b) NA-PA, (c) PA and (d) NA.



**Fig. S5** Comparison of TGA thermograms of NA, NA-DA, and NA-PA



**Fig. S6** PXRD patterns of cocryastal NA-DA and NA-PA at 40 °C /75% RH two months

**Table S1** Hydrogen bonding distances and angles for NA-DA and NA-PA

	D-H...A	H...A (Å)	D...A (Å)	∠D-H...A (°)	Symmetry code
<b>NA-DA</b>	O7-H7A...O1	1.78	2.5920(2)	173	x, 1/2+y, -1-z
	O8-H8A...O4	1.98	2.8013(2)	171	2-x, 1/2+y, 1-z
	O5-H5...O6	1.89	2.6185(2)	144	x, y, z
<b>NA-PA</b>	O5-H5...O1	1.85	2.6853(3)	173	1+x, y, 1+z
	O6-H6...O4	1.86	2.6933(3)	171	x, y, -1+z

**Table S2** Summary of equilibrium solubility of NA, NA-DA, and NA-PA

Material	Equilibrium Solubility (ug/mL)			
	deionized water	pH 2.0	pH 4.6	pH 6.8
NA	2.7	2.1	2.3	2.6
NA-DA	8.0	4.8	4.2	4.6
NA-PA	5.3	4.0	4.2	4.8