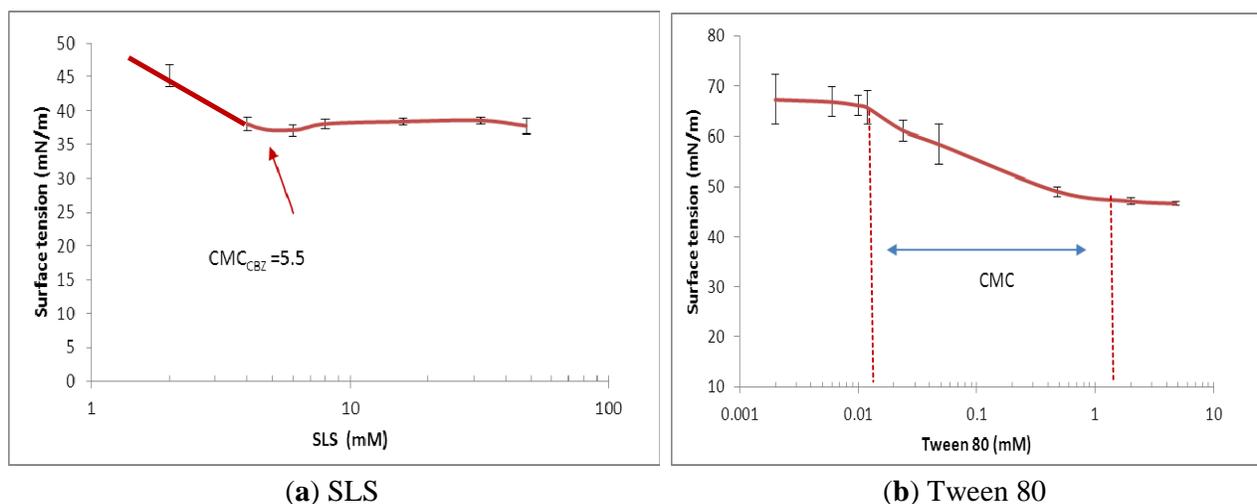


## Supplementary Information

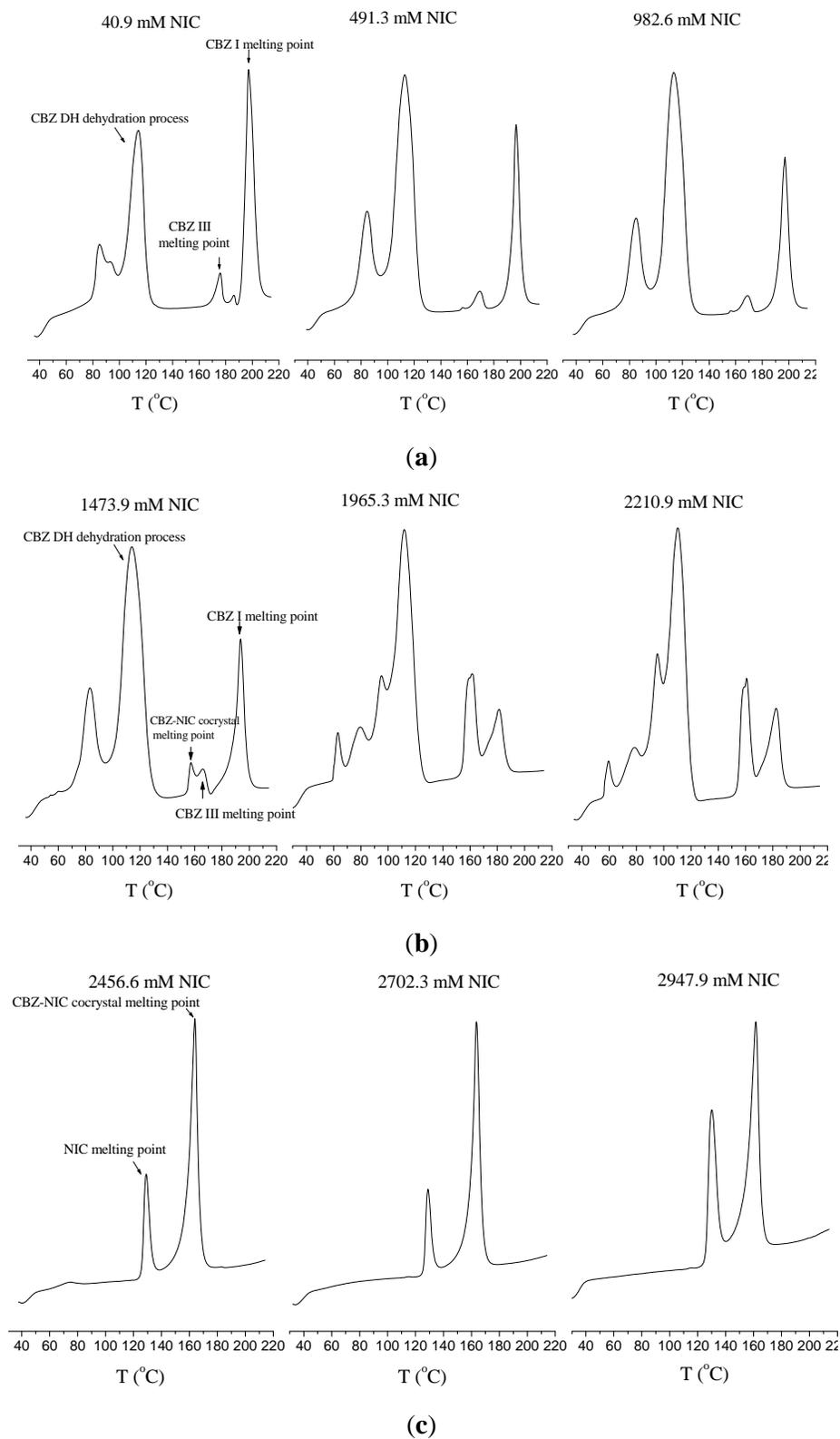
**Table S1.** Equilibrium solubility of CBZ DH, Cocrystal, and physical mixture at 25 °C as a function of surfactant concentration after 72 h.

	Concentration mM	CBZ DH	Cocrystal		Physical mixture	
		CBZ (mM)	CBZ (mM)	NIC (mM)	CBZ (mM)	NIC (mM)
SLS	0.000 (water)	0.538 ± 0.038	0.502 ± 0.028	2.613 ± 0.140	0.575 ± 0.036	2.569 ± 0.164
	0.347	0.476 ± 0.020	0.473 ± 0.030	2.482 ± 0.162	0.550 ± 0.024	2.776 ± 0.042
	1.734	0.457 ± 0.015	0.450 ± 0.041	2.382 ± 0.230	0.525 ± 0.020	2.672 ± 0.103
	3.468	0.461 ± 0.011	0.487 ± 0.019	2.449 ± 0.109	0.516 ± 0.021	2.565 ± 0.104
	6.935	0.695 ± 0.004	0.694 ± 0.015	2.469 ± 0.039	0.763 ± 0.015	2.648 ± 0.121
	10.403	1.762 ± 0.202	1.704 ± 0.088	2.475 ± 0.140	1.684 ± 0.062	2.546 ± 0.081
	17.339	4.557 ± 0.859	4.139 ± 0.173	16.066 ± 4.084	4.412 ± 0.234	15.337 ± 1.066
	34.677	9.385 ± 0.191	9.324 ± 0.212	14.148 ± 0.607	9.732 ± 0.481	17.010 ± 1.081
Tween 80	0.000 (water)	0.538 ± 0.038	0.502 ± 0.028	2.613 ± 0.140	0.575 ± 0.036	2.569 ± 0.164
	0.076	0.623 ± 0.034	0.520 ± 0.023	2.581 ± 0.077	0.646 ± 0.033	2.574 ± 0.102
	0.763	0.574 ± 0.039	0.531 ± 0.026	2.442 ± 0.055	0.573 ± 0.041	2.534 ± 0.148
	1.527	0.643 ± 0.054	0.588 ± 0.032	2.453 ± 0.062	0.636 ± 0.005	2.636 ± 0.009
	2.290	0.683 ± 0.052	0.683 ± 0.025	2.576 ± 0.073	0.714 ± 0.024	2.625 ± 0.060
	3.817	0.828 ± 0.021	0.783 ± 0.048	2.578 ± 0.045	0.902 ± 0.114	2.785 ± 0.279
	7.634	1.092 ± 0.083	1.035 ± 0.048	2.440 ± 0.023	1.154 ± 0.120	2.647 ± 0.124
	17.328	1.841 ± 0.149	2.097 ± 0.225	15.755 ± 0.253	2.177 ± 0.206	17.535 ± 4.597
	34.733	3.830 ± 0.095	3.871 ± 0.407	15.182 ± 0.410	3.789 ± 0.126	16.418 ± 1.112

**Figure S1.** Surface tension *versus* surfactant concentration. (a) SLS; (b) Tween 80.



**Figure S2.** DSC thermograms of solid residues at different NIC concentration solutions. (a) DSC thermograms in *Region I*; (b) DSC thermograms in *Region II*; (c) DSC thermograms in *Region III*; (d) DSC thermograms in region IV.





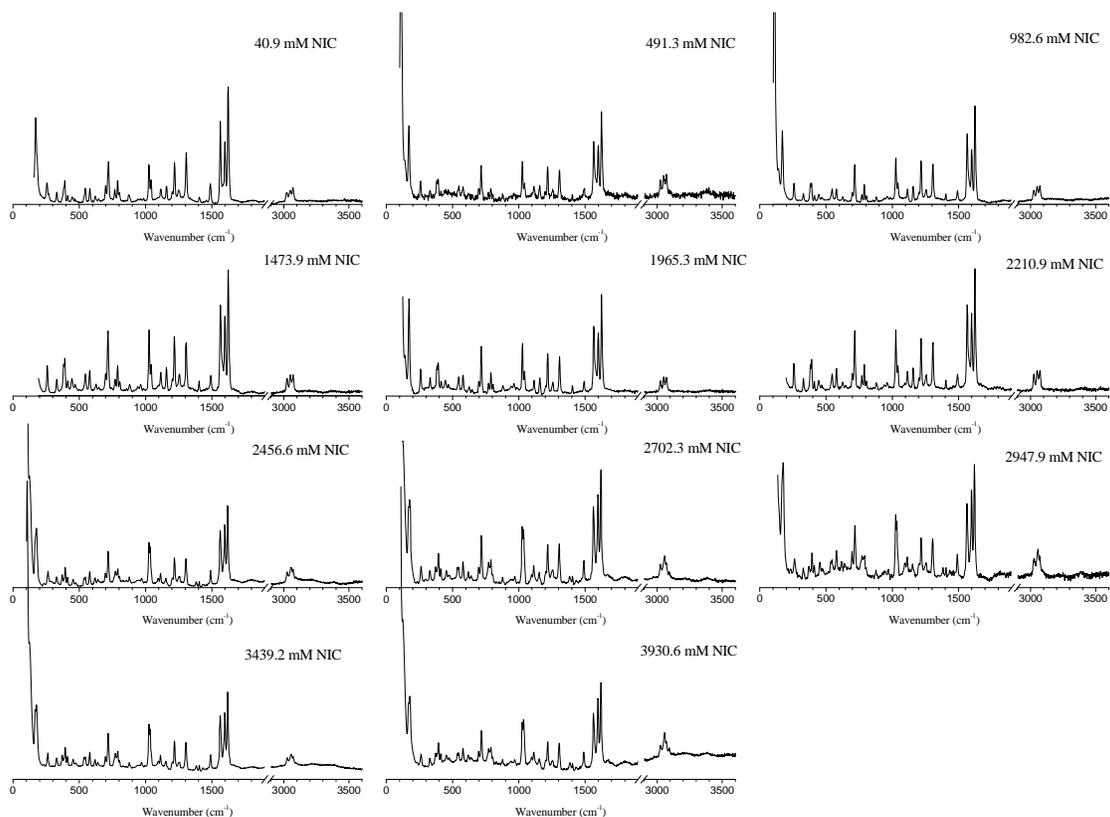
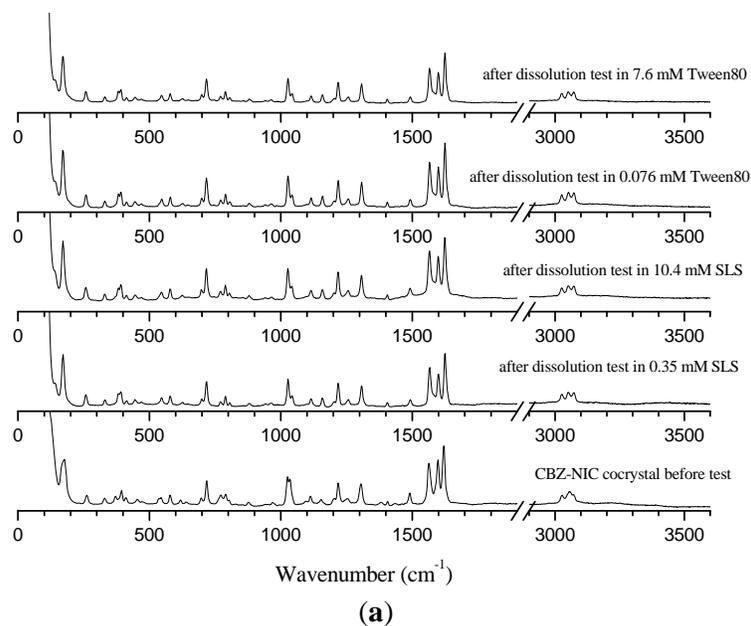
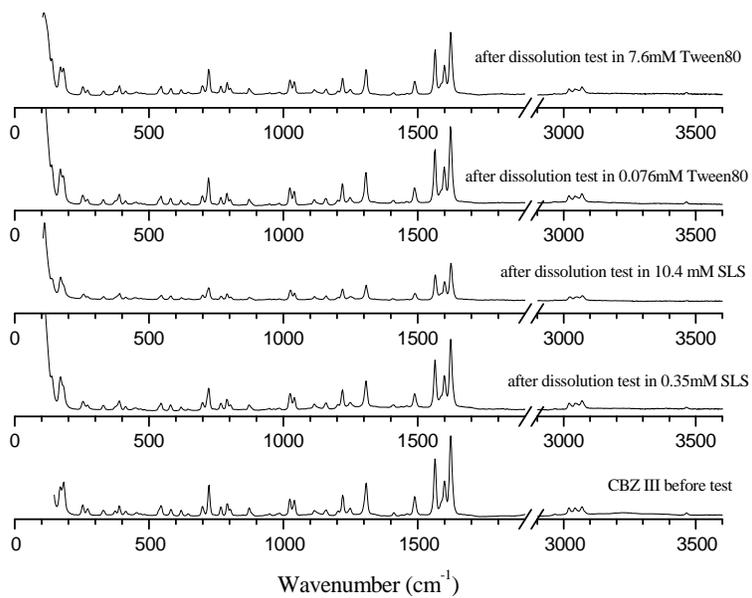
**Figure S4.** Raman spectra of solid residues at different NIC concentration solutions.**Figure S5.** Raman spectra of the compacts before and after UV imaging dissolution at different dissolution media. (a) CBZ-NIC cocrystal; (b) CBZ III.

Figure S5. Cont.

**(b)**

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