

Supporting Information

Single-Walled Carbon Nanotube Induced Re-entrant Hexagonal Phases in a Pluronic Block Copolymer System

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Table S1. Scattering peak positions at each concentration of F127 in H₂O. The unit of peak position is nm⁻¹. The peak position ratios are given in parenthesis.

Concentration (main phase)	1 st peak	2 nd peak	3 rd peak	4 th peak	5 th peak	6 th peak	7 th peak	8 th peak
20% (FCC)	0.357 (√3)	0.586 (√8)	0.684 (√11)	0.712 ^a (√12)	0.822 ^a (√16)	0.906 (√19)		
25% (FCC)	0.390 (√3)	0.435 (-)	0.629 (√8)	0.728 (√11)	0.974 (√19)			
30% (BCC +FCC)	0.411 (1) (√3)	0.577 (√2)	0.649 (√8)	0.722 (√3)	0.811 (√4)			
35% (BCC +FCC)	0.364 (-)	0.418 (1) (√3)	0.600 (√2)	0.664 (√8)	0.733 (√3)	0.823 (√4)		
40% (BCC)	0.426 (1)	0.607 (√2)	0.738 (√3)	0.848 (√4)	0.951 (√5)	1.139 (√7)		
45% (BCC)	0.439 (1)	0.622 (√2)	0.760 (√3)	0.872 (√4)	1.081 (√6)	1.165 (√7)	1.307 (√9)	
50% (BCC)	0.440 (1)	0.623 (√2)	0.760 (√3)	0.995 (√5)	1.078 (√6)	1.164 (√7)	1.312 (√9)	
55% (BCC)	0.428 (1)	0.611 (√2)	0.740 (√3)	0.976 (√5)	1.064 (√6)	1.139 (√7)	1.268 (√9)	
60% (BCC)	0.423 (1)	0.599 (√2)	0.685 ^a (-)	0.725 (√3)	0.850 (√4)	0.954 (√5)	1.042 (√6)	1.120 (√7)
65% (hexagonal)	0.401 (1)	0.681 (√3)	0.789 ^a (√4)	1.074 (√7)				
70% (hexagonal)	0.404 (1)	0.684 (√3)	1.072 (√7)					
75% (hexagonal)	0.423 (1)	0.727 (√3)	0.846 (√4)	1.114 (√7)	1.263 (√9)	1.458 (√12)		
80% (hexagonal)	0.423 (1)	0.732 (√3)	0.844 (√4)	1.121 (√7)	1.261 (√9)			
85% (Lam +Hex)	0.328 (1)	0.425 (1)	0.656 (2)	0.732 (√3)	0.841 (√4)	1.122 (√7)	1.263 (√9)	
90% (Lamellar)	0.342 (1)	0.428 (-)	0.686 (2)					
100% (Lamellar)	0.350 (1)	0.701 (2)						

* (-) comes from the transition peak which is under appearing or disappearing.

* a : recognizable peaks which can not be detected by fitting.

Table S2. Scattering peak positions at each concentration of F127-SWNT in H₂O. The unit of peak position is nm⁻¹. The peak position ratios are given in parenthesis.

Concentration (main phase)	1 st peak	2 nd peak	3 rd peak	4 th peak	5 th peak	6 th peak	7 th peak
20% (hexagonal)	0.323 (1)	0.567 ($\sqrt{3}$)	0.655 ($\sqrt{4}$)	0.864 ($\sqrt{7}$)	0.963 ^a ($\sqrt{9}$)		
25% (hexagonal)	0.335 (1)	0.585 ($\sqrt{3}$)	0.683 ($\sqrt{4}$)	0.900 ($\sqrt{7}$)	1.028 ($\sqrt{9}$)		
30% (FCC +hex)	0.355 (1)	0.378 ($\sqrt{3}$)	0.429 ($\sqrt{4}$)	0.615 ($\sqrt{8}$) ($\sqrt{3}$)	0.716 ($\sqrt{11}$) ($\sqrt{4}$)	0.934 ($\sqrt{7}$)	
35% (FCC +hex)	0.357 (1)	0.389 ($\sqrt{3}$)	0.431 ($\sqrt{4}$)	0.627 ($\sqrt{8}$) ($\sqrt{3}$)	0.730 ($\sqrt{11}$) ($\sqrt{4}$)	0.937 ($\sqrt{7}$)	
40% (BCC +FCC)	0.396 (-)	0.413 (1) ($\sqrt{3}$)	0.602 ($\sqrt{2}$)	0.666 ($\sqrt{8}$)	0.741 ($\sqrt{3}$)	0.966 ($\sqrt{5}$)	
45% (BCC)	0.427 (1)	0.621 ($\sqrt{2}$)	0.683 (-)	0.750 ($\sqrt{3}$)	0.972 ($\sqrt{5}$)		
50% (BCC)	0.386 (-)	0.432 (1)	0.624 ($\sqrt{2}$)	0.728 ($\sqrt{3}$)	0.969 ($\sqrt{5}$)	1.079 ($\sqrt{6}$)	1.162 ($\sqrt{7}$)
55% (BCC)	0.388 (-)	0.425 (1)	0.623 ($\sqrt{2}$)	0.714 ($\sqrt{3}$)	0.967 ($\sqrt{5}$)	1.074 ($\sqrt{6}$)	
60% (BCC)	0.418 (1)	0.598 ($\sqrt{2}$)	0.666 (-)	0.731 ($\sqrt{3}$)	0.970 ($\sqrt{5}$)	1.036 ($\sqrt{6}$)	1.113 ($\sqrt{7}$)
65% (hexagonal)	0.407 (1)	0.704 ($\sqrt{3}$)	0.803 ($\sqrt{4}$)	1.002 (-)	1.085 ($\sqrt{7}$)	1.207 ^a ($\sqrt{9}$)	
70% (hexagonal)	0.410 (1)	0.712 ($\sqrt{3}$)	0.812 ($\sqrt{4}$)	1.011 (-)	1.092 ($\sqrt{7}$)	1.215 ^a ($\sqrt{9}$)	
75% (Lam +Hex)	0.328 (1)	0.414 (1)	0.658 (2)	0.718 ($\sqrt{3}$)	0.800 ^a ($\sqrt{4}$)	1.017 (-)	1.104 ($\sqrt{7}$)
80% (Lam +Hex)	0.324 (1)	0.418 (1)	0.639 (2)	0.722 ($\sqrt{3}$)	0.833 ($\sqrt{4}$)	1.104 ($\sqrt{7}$)	1.250 ($\sqrt{9}$)
85% (Lamellar)	0.324 (1)	0.415 (-)	0.643 (2)	1.019 (-)	1.103 (-)		
90% (Lamellar)	0.332 (1)	0.662 (2)					
100% (Lamellar)	0.347 (1)	0.694 (2)					

* (-) comes from the transition peak which is under appearing or disappearing.

* a : recognizable peaks which can not be detected by fitting.