Supporting Information

Composition Dependent Morphological Transitions and Pathways in Switching of Fine Structure in Thin Films of Block Copolymer Supramolecular Assemblies

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Figure 1S. Room temperature SAXS profile of thermally annealed SMA200. The SAXS profile clearly shows peaks in the ratio $1:2^{1/2}:4^{1/2}:5^{1/2}:8^{1/2}:13^{1/2}$ which reveals tetragonally packed cylindrical morphology in SMA200.
Figure 2S. Temperature dependent SAXS profiles of neat HABA.
Figure 3S. Plot depicting variation of Bragg's spacing (D) with HABA/4VP molar ratio.
Figure 4S. AFM height images obtained for samples casted from chloroform solution (a) SMA100; (b) SMA075; (c) SMA050; (d) SMA025. SMA150 and SMA200 were not prepared in chloroform since HABA had limited solubility in chloroform.
Figure 5S. AFM height images obtained for samples casted from 1,4-dioxane solution (a) SMA100; (b) SMA075; (c) SMA050; (d) SMA025; (e) SMA150; (f) SMA200.
Figure 6S. AFM height images of SMA075 samples annealed in dioxane vapors and then further annealed in chloroform vapors for different times. The numbers on the AFM images indicates annealing time (in minutes) in chloroform vapors.
Figure 7S. AFM height images of SMA100 samples annealed in chloroform vapors and then further annealed in dioxane vapors for different times. The numbers on the AFM images indicates annealing time (in minutes) in dioxane vapors.
Figure 8S. Swelling of PS and P4VP+HABA (at stoichiometric ratio) films in (a) chloroform vapors, (b) 1,4-dioxane vapors. The figure shows that neither chloroform is a neutral solvent for the two components nor 1,4-dioxane is a strongly selective solvent for PS especially at low swelling ratios.
Figure 9S. AFM height images of as-casted SMA150 samples annealed in chloroform vapors for different times. The numbers on the AFM images indicates annealing time (in minutes) in chloroform vapors.