

Electronic Supplementary Information

Morphology Control of Three-Dimensional Nanostructures in Porous Templates Using Lamellae- Forming Block Copolymers and Solvent Vapors

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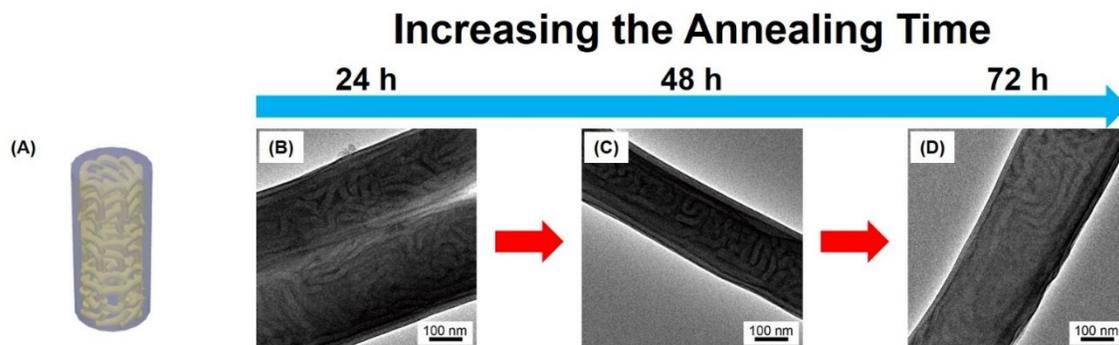


Figure S1. Graphical illustration and corresponding TEM images of PS-*b*-PDMS nanostructures annealed in mixtures of toluene and hexane ($\phi_{\text{Tol}} = 0.16$) with different annealing times.

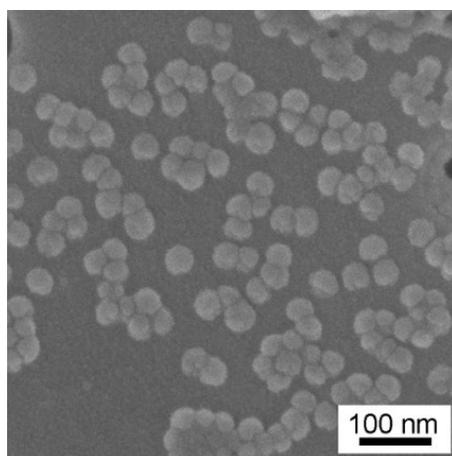


Figure S2. SEM image of polymer nanostructures by annealing PS-*b*-PDMS in mixtures of toluene and hexane ($\phi_{\text{Tol}} = 0.125$) and selectively removing the PDMS domain using a 48 wt % HF solution. The image is taken at a region containing spherical nanostructures.

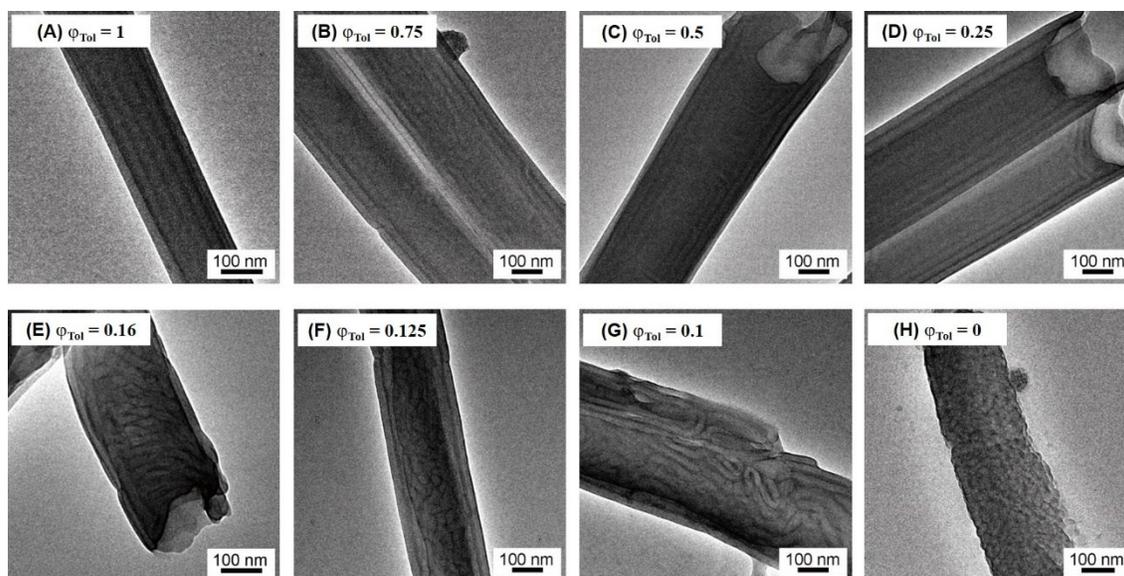


Figure S3. TEM images of PS-*b*-PDMS nanostructures annealed in mixtures of toluene and hexane with different volume ratios of toluene (ϕ_{Tol}): (A) 1, (B) 0.75, (C) 0.5, (D) 0.25, (E) 0.16, (F) 0.125, (G) 0.1, and (H) 0.

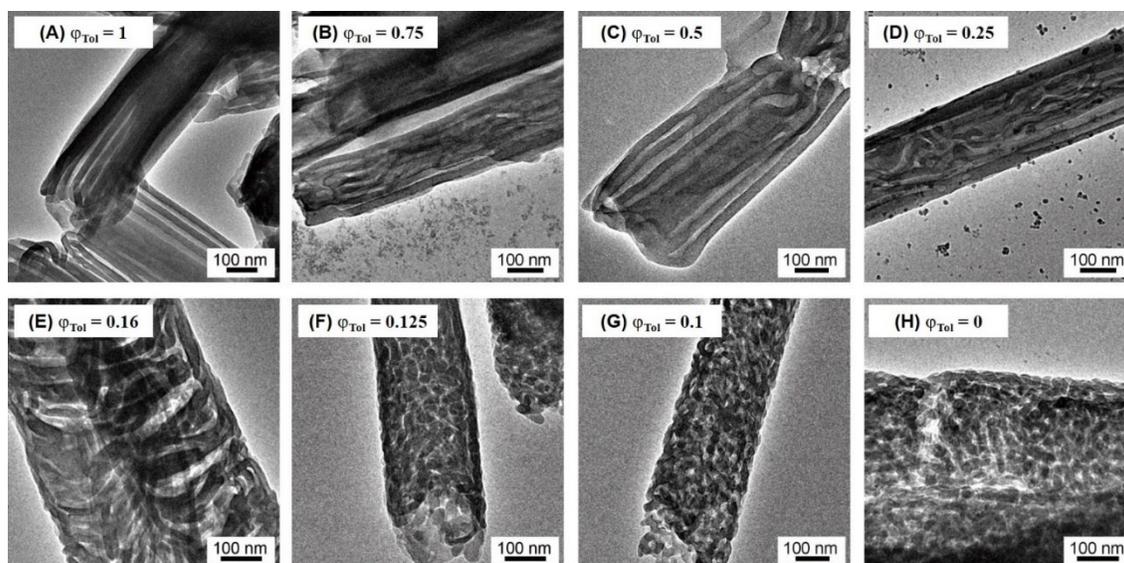


Figure S4. TEM images of PS-*b*-PDMS nanostructures annealed in mixtures of toluene and hexane with different volume ratios of toluene (ϕ_{Tol}) after the selective removal process: (A) 1, (B) 0.75, (C) 0.5, (D) 0.25, (E) 0.16, (F) 0.125, (G) 0.1, and (H) 0.

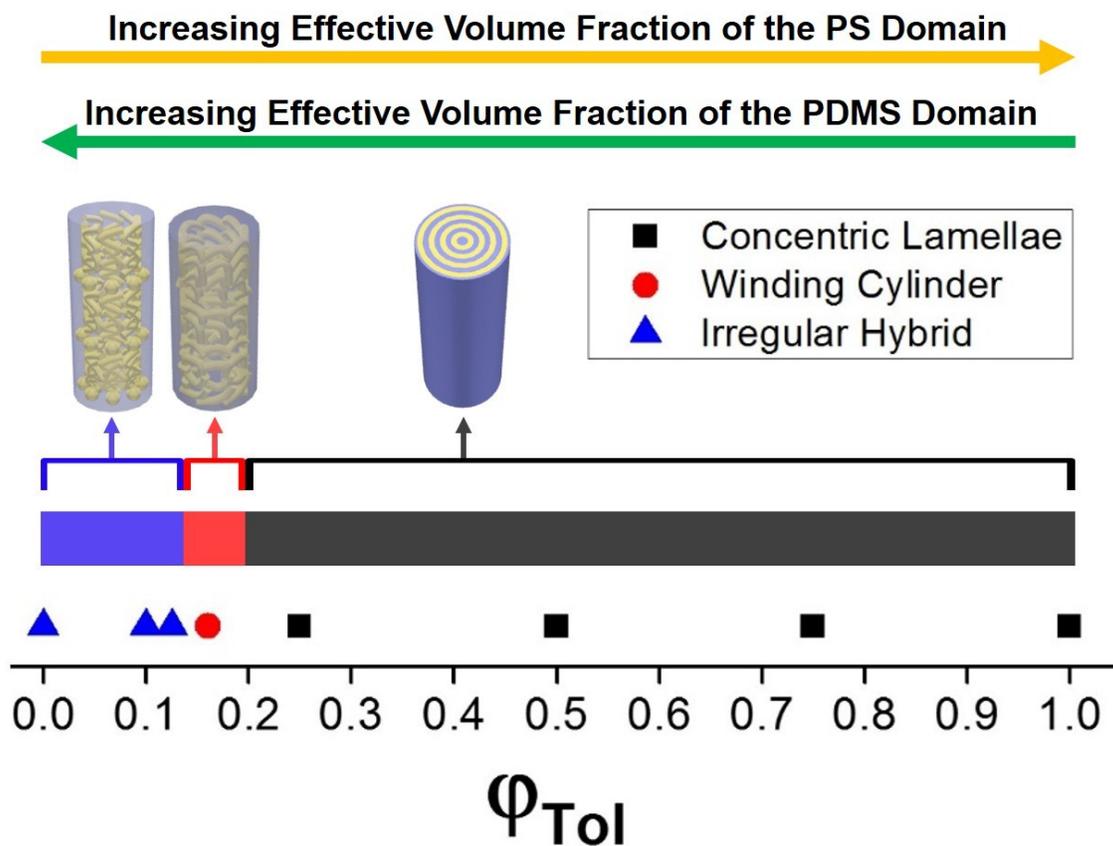


Figure S5. Morphologies of PS-*b*-PDMS nanostructures annealed using mixtures of toluene and hexane.

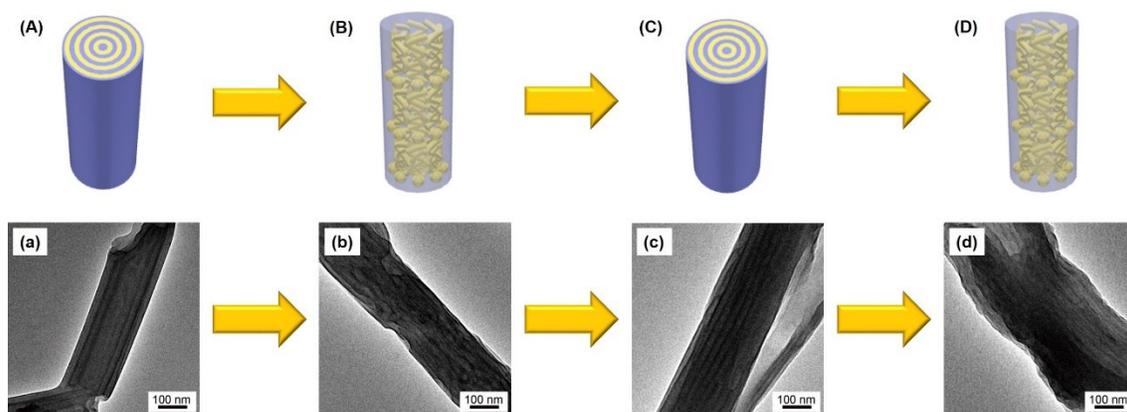


Figure S6. Graphical illustration (A, B, C, and D) and corresponding TEM images (a, b, c, and d) for the reversible process. (a and c) The samples are annealed in toluene solvent vapors ($\varphi_{\text{Tol}} = 1$). (b and d) The samples are annealed in hexane solvent vapors ($\varphi_{\text{Tol}} = 0$).