

Supporting information for manuscript entitled

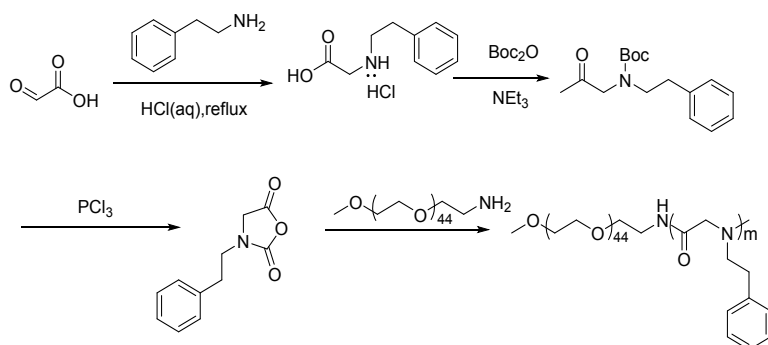
Dimension Control on self-assembly of crystalline core-forming
polypeptoid block copolymer: 1D nanofiber versus 2D nanosheet

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Scheme S1: Synthetic route of PEG-*b*-PNPE block copolymer.

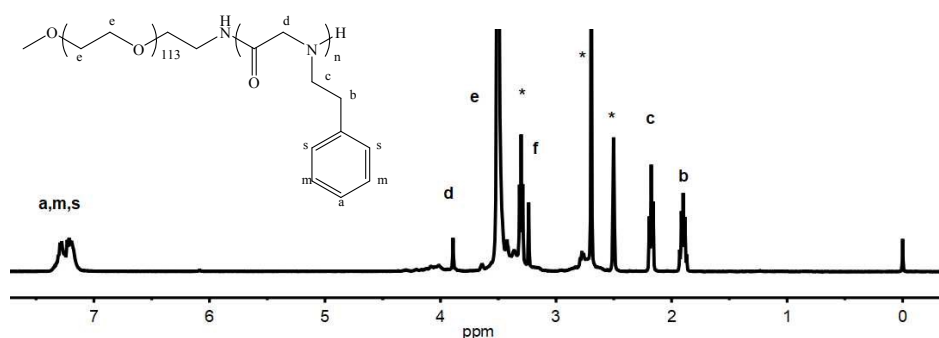


Figure S1. Representative ^1H NMR spectra of PEG-*b*-PNPE. ^1H NMR (500 MHz, DMSO- d_6) δ 7.35 – 7.08 (m, $-\text{C}_6\text{H}_5$), 3.89 – 4.30 (s, COCH_2N), 3.50 (s, $\text{CH}_2\text{CH}_2\text{O}$), 3.23 (s, CH_3O), 2.17 (t, NCH_2CH_2), 1.92 – 1.83 (m, NCH_2CH_2).

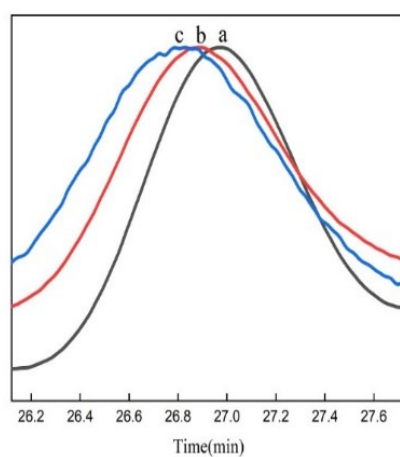


Figure S2. GPC traces of PEG₁₁₃-*b*-PNPE_m block copolymers, (a): PEG₁₁₃-*b*-PNPE₄; (b): PEG₁₁₃-*b*-PNPE₁₀, (c): PEG₁₁₃-*b*-PNPE₁₇.

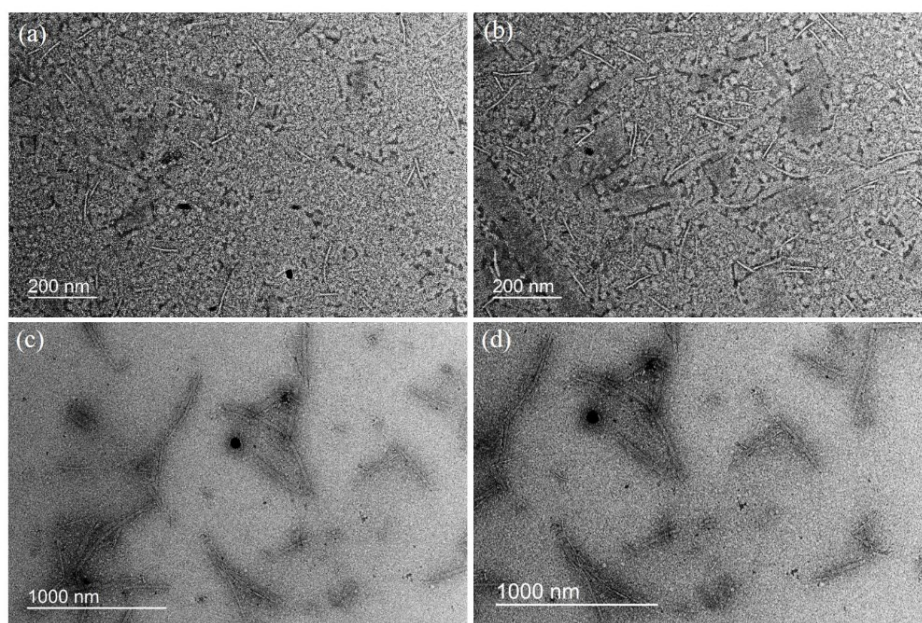


Figure S3. TEM images of the self-assembled structure of PEG₄₄-*b*-PNPE₄ in deionized water quenched in liquid N₂ after treatment at 70 °C for 7 h.

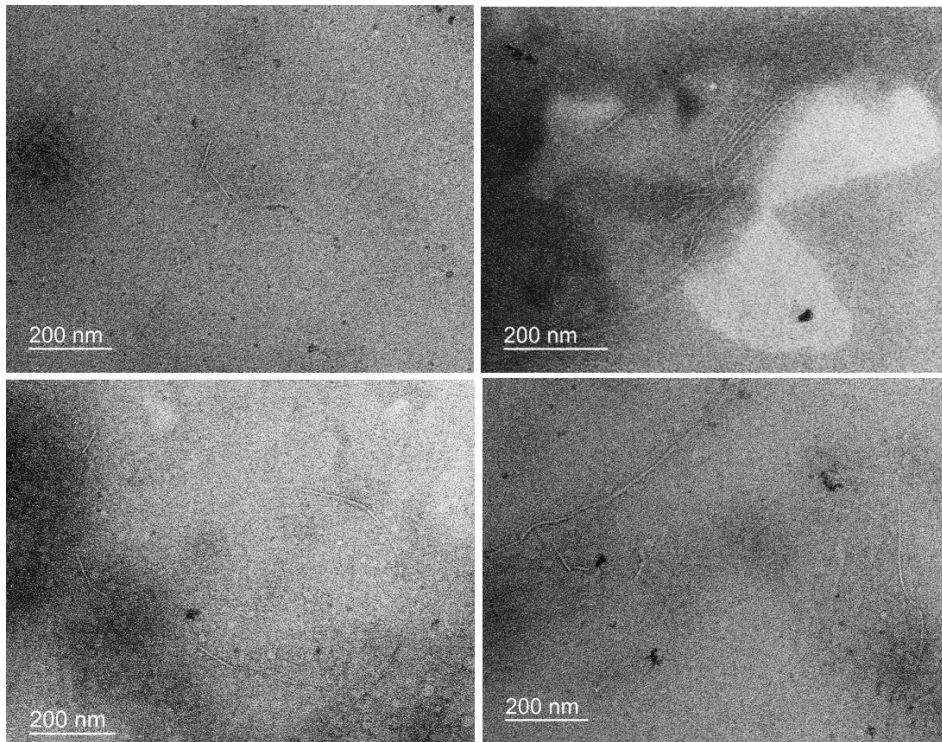


Figure S4. TEM images of the self-assembled structure of PEG₄₄-*b*-PNPE₉ in deionized water quenched in liquid N₂ after treatment at 70 °C for 7 h.

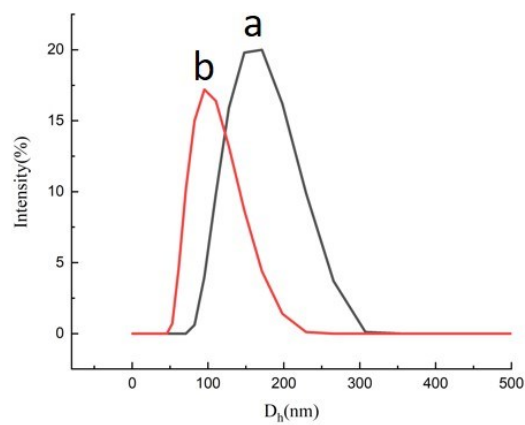


Figure S5. DLS curves of the PEG₄₄-*b*-PNPE₉ in deionized water as increasing the solution temperature, (a) at room temperature, (b) at 70°C.

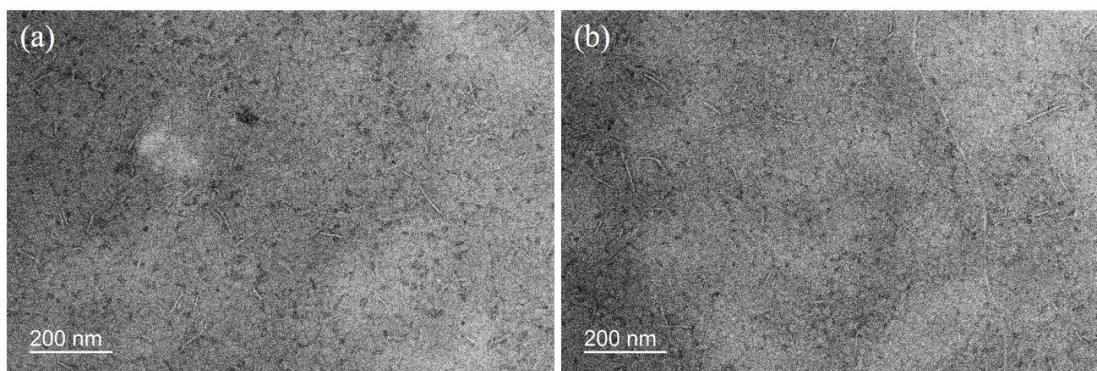


Figure S6. TEM images of the PEG₄₄-*b*-PNPE₉ after dispersed in deionized water with the assist of ultrasonic unit for 20 min.

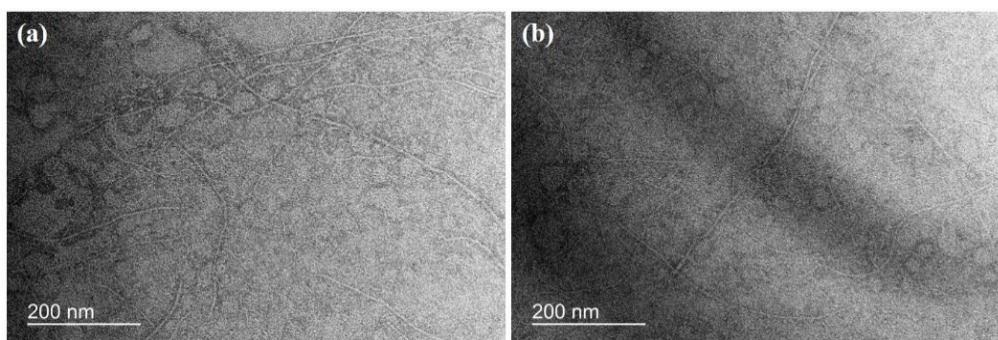


Figure S7. TEM images of the (a): PEG₄₄-*b*-PNPE₁₆ and (b) PEG₄₄-*b*-PNPE₂₄ after dispersed in deionized water at room temperature with the assist of ultrasonic unit.

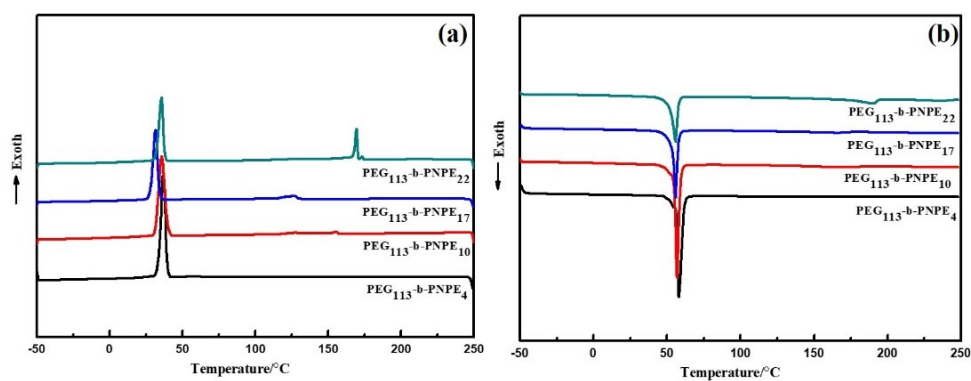


Figure S8. (a) First cooling and (b) second heating DSC curves of the four PEG₁₁₃-*b*-PNPE_m block polymers at 10°C/min.

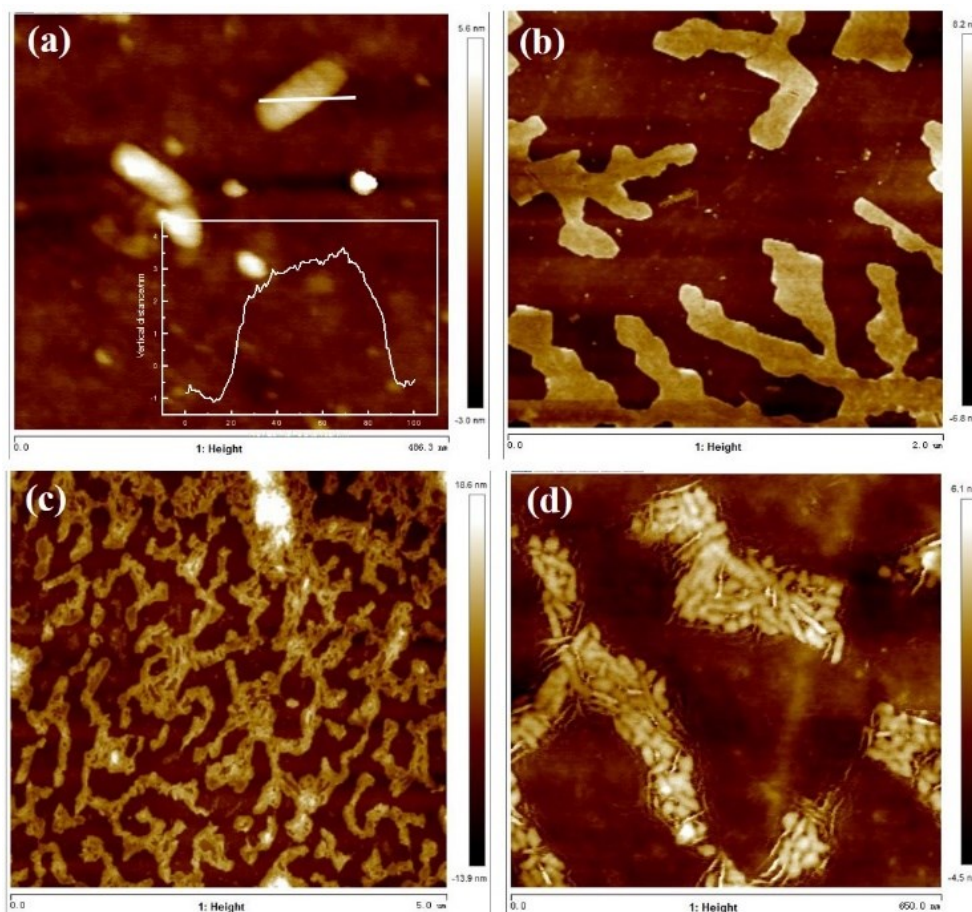


Figure S9. AFM height image of the spin-coated film from (a, b) PEG₁₁₃-*b*-PNPE₄, (c) PEG₁₁₃-*b*-PNPE₁₀, (d) PEG₁₁₃-*b*-PNPE₁₇. The inserted image in (a) is the respective profile image of the nanosheet indicated by the white line.

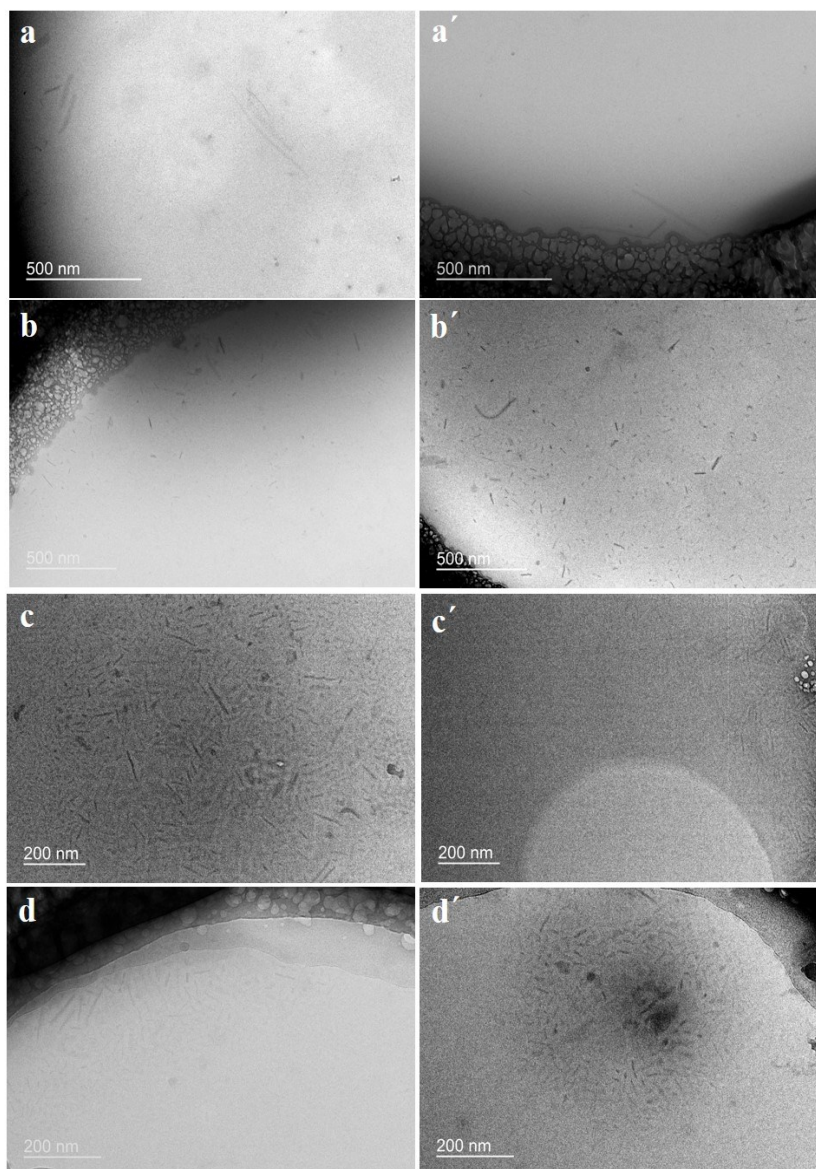


Figure S10. Cryo-TEM images of the self-assembled structure of the block copolymer (a) PEG₁₁₃-*b*-PNPE₄ (b) PEG₁₁₃-*b*-PNPE₁₀ (c) PEG₁₁₃-*b*-PNPE₁₇ (d) PEG₁₁₃-*b*-PNPE₂₂ in deionized water.