

Ordering of PS-*b*-P4VP on Patterned Silicon Surfaces

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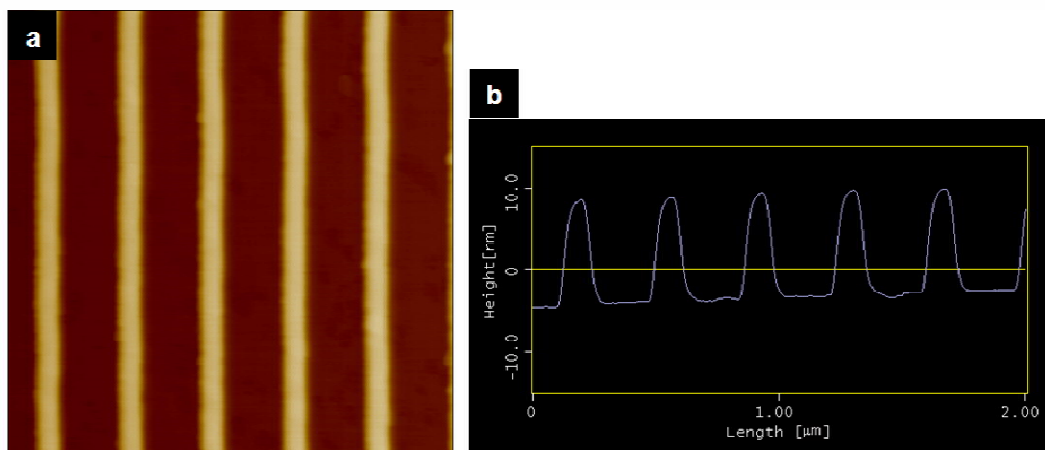


Figure S1. (a) Height mode SFM image ($2\ \mu\text{m} \times 2\ \mu\text{m}$) of representative bare grating pattern with a line width of 100 nm and a separation distance of 380 nm and (b) cross-sectional line scan showing depth of $\sim 14\ \text{nm}$.

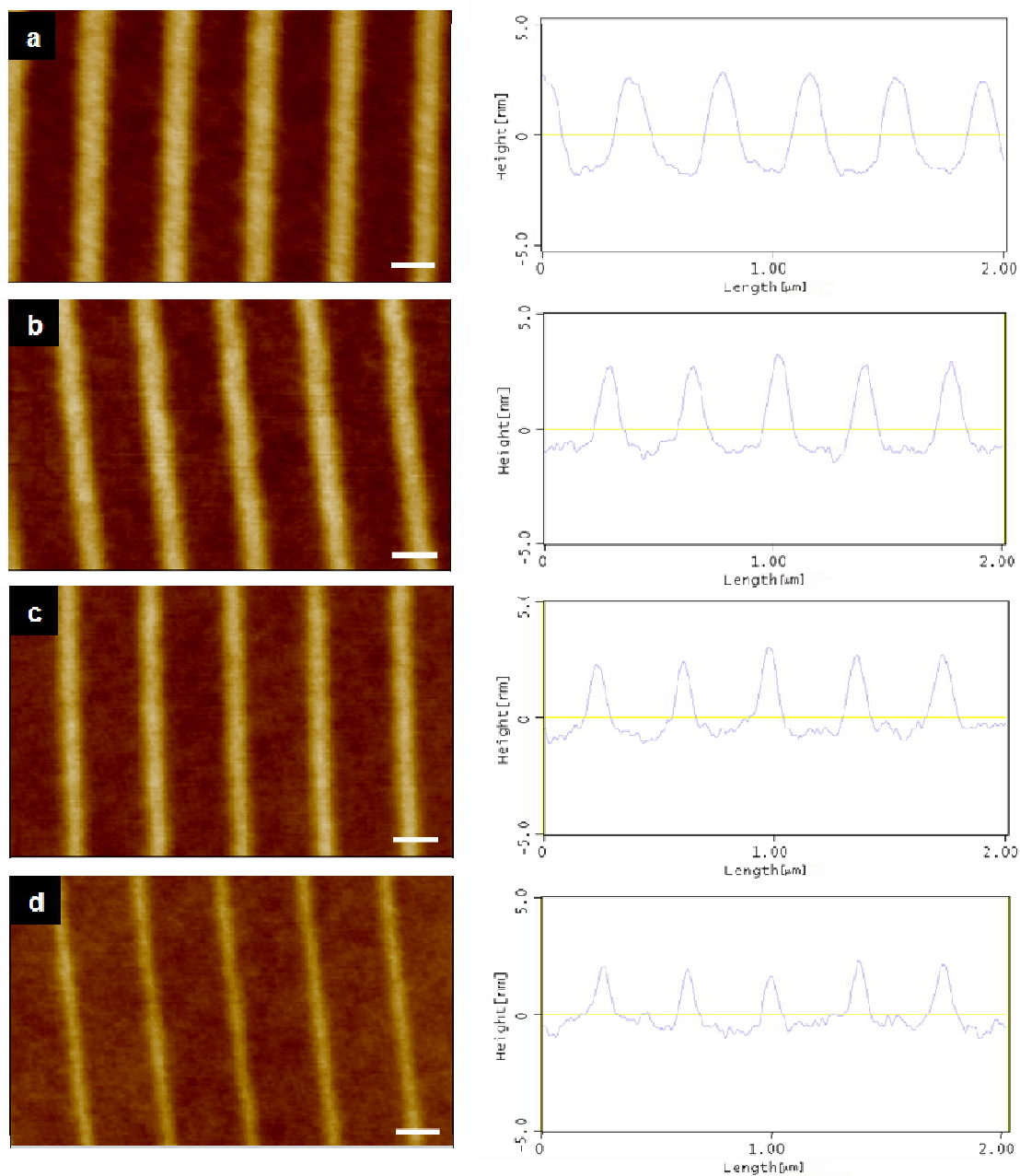


Figure S2. SFM cross sectional scans used to measure height for spin-coated PS-b-P4VP films on three different grating widths. (a) 120 nm width, (b) 100 nm width, (c) 80 nm width, and (d) 50 nm width (Height mode SFM images: scale bars are 200 nm).

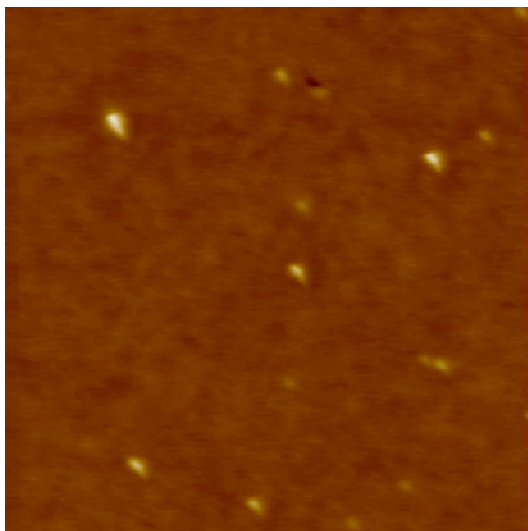


Figure S3. Height mode SFM image ($2\ \mu\text{m} \times 2\ \mu\text{m}$) of 12.8 nm thick PS-b-P4VP thin films after solvent annealing in THF vapor for 3 hrs.

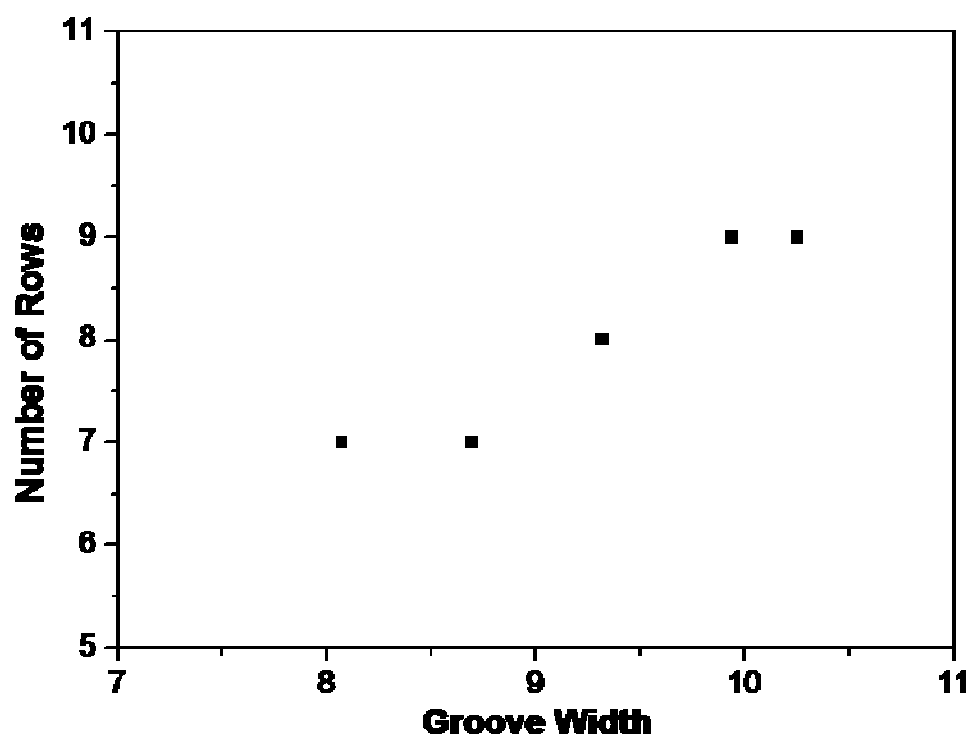


Figure S4. The number of rows of PS-b-P4VP micelles in the trough versus the trough widths expressed in terms of the row spacing, which is 37.2 nm in this polymer.

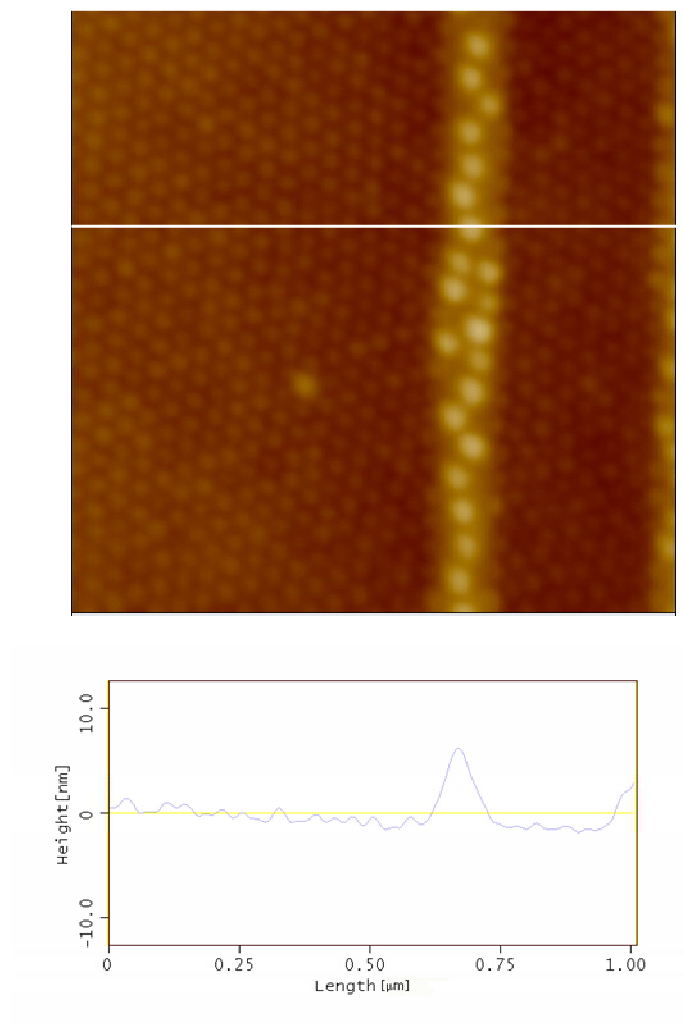


Figure S5. Height mode SFM image (top, 1 μm x 1 μm) of PS-b-P4VP micelle on the crest and trough of grating pattern after solvent annealing in THF vapor for 8 hrs and cross sectional line scan (bottom).

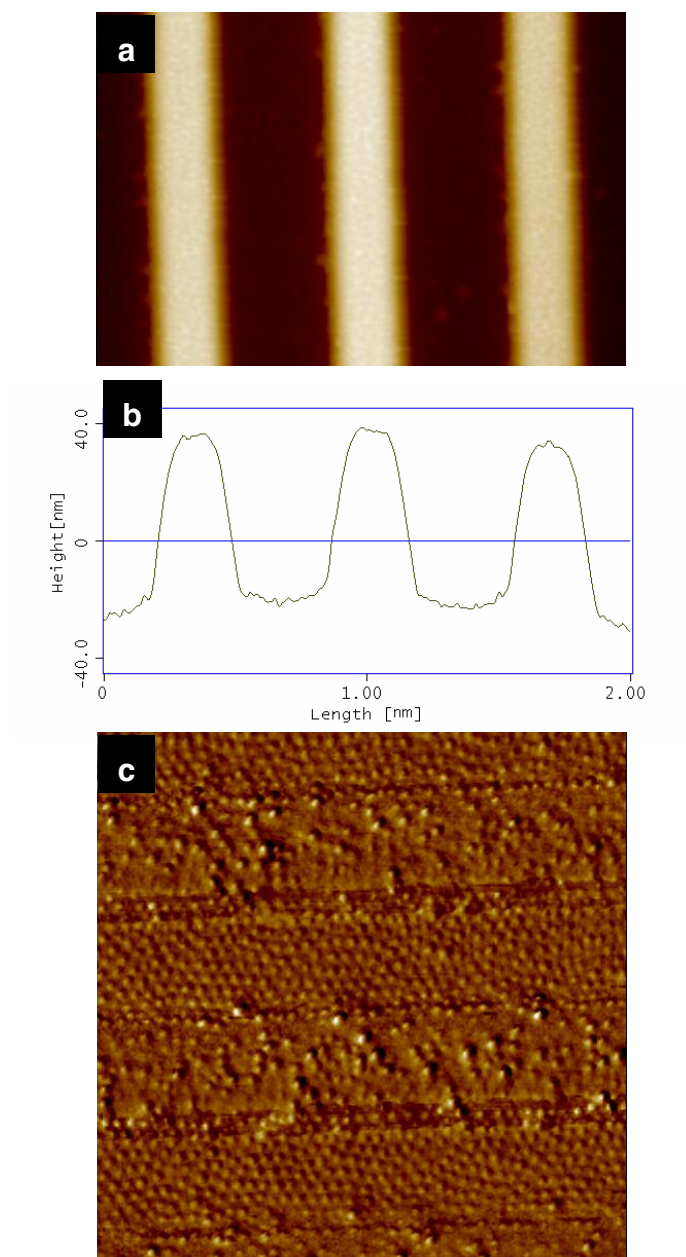


Figure S6. SFM image of trench pattern and micellar structure annealed under THF vapor on the trench. (a) SFM image of trench pattern ($2\ \mu\text{m} \times 1.4\ \mu\text{m}$), (b) Cross-section of trench pattern, and (c) Long-range ordered micelles on the trench pattern ($1.5\ \mu\text{m} \times 1.5\ \mu\text{m}$).

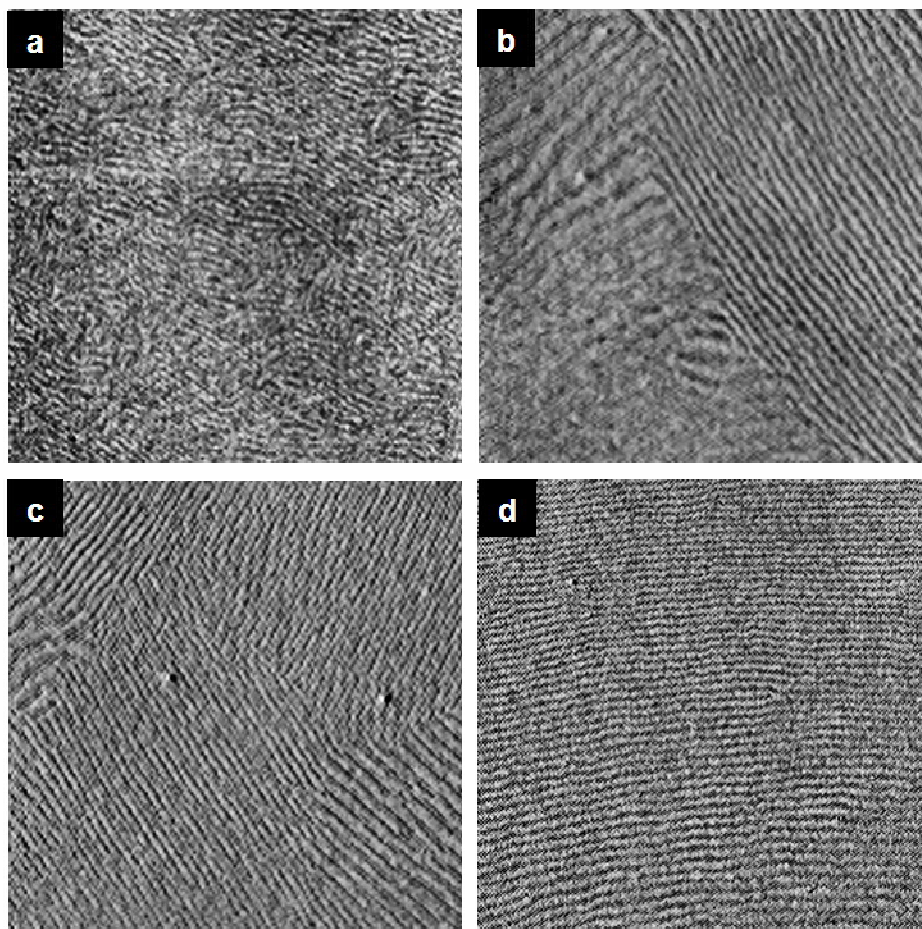


Figure S7. Moiré patterns obtained from different annealing time (Phase mode SFM, $5\mu\text{m} \times 5\mu\text{m}$). Solvent annealing of PS-b-P4VP micellar films was carried out in THF vapor for (a) 1 hr, (b) 2 hrs, (c) 4 hrs, and (d) 6 hrs. As annealing time increases, grain size gradually increases as shown in Moiré patterns.