Electronic Supplementary Material (ESI) for Soft Matter. This journal is © The Royal Society of Chemistry 2016 Directed Self-Assembly of Solvent-Vapor-Induced Non-Bulk

## rected Self-Assembly of Solvent-Vapor-Induced Non-Bulk Block Copolymer Morphologies on Nanopatterned Substrates

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## **Supporting Information**



**Figure S1.** Top-down SEM images of PS-*b*-PMMA (95k-*b*-92k) ultrathin films on non-patterned area and chemical patterns with  $L_{\rm S} = 80$  nm. The films were annealed in chlorobenzene, toluene, and carbon disulfide vapor for 12 h.



**Figure S2**. Top-down SEM images of PS-*b*-PMMA (95k-*b*-92k) ultrathin films on substrates grafted with PS-OH,  $PS_{57\%}$ -*r*-PMMA-OH, and PMMA-OH. The films were annealed in acetone vapor for 1.5, 5, and 44 h. The films on substrates grafted with  $PS_{57\%}$ -*r*-PMMA-OH (middle row) were imaged after the PMMA block was removed by exposing the film to extreme ultraviolet and soaking in acetic acid.



**Figure S3**. Top-down SEM images of PS-*b*-PMMA (52k-*b*-52k) ultrathin films on chemical patterns with  $L_{\rm S}$  = 80 nm. The films were annealed in acetone vapor for 1.5 and 5 h.



Figure S4. Top-down SEM images of PS-*b*-PMMA (95k-*b*-92k) ultrathin films annealed in acetone vapor for 5, 10, and 46 h on chemical patterns with  $L_{\rm S} = 70$  nm. The PMMA block was removed by exposing the film to extreme ultraviolet and soaking in acetic acid.