Electronic Supplementary Material (ESI) for Soft Matter.
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Supporting Information

Tuning Polymer-Surface Chemistries and Interfacial Interactions with UV Irradiated Polystyrene Chains to Control Domain Orientations in Thin Films of PS-*b*-PMMA

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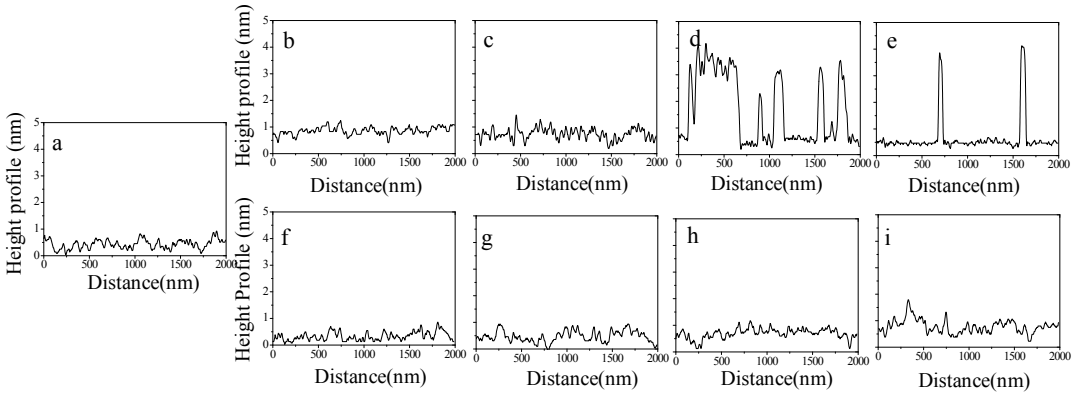

Figure S1 Cross-sectional height profiles of the AFM topographic images of PS films before (a) and after UVIA (b-e) or UVIN (f-i) of varied extent: (b&f) 10, (c&g) 60, (d&h) 360, and (e&i) 540 min.

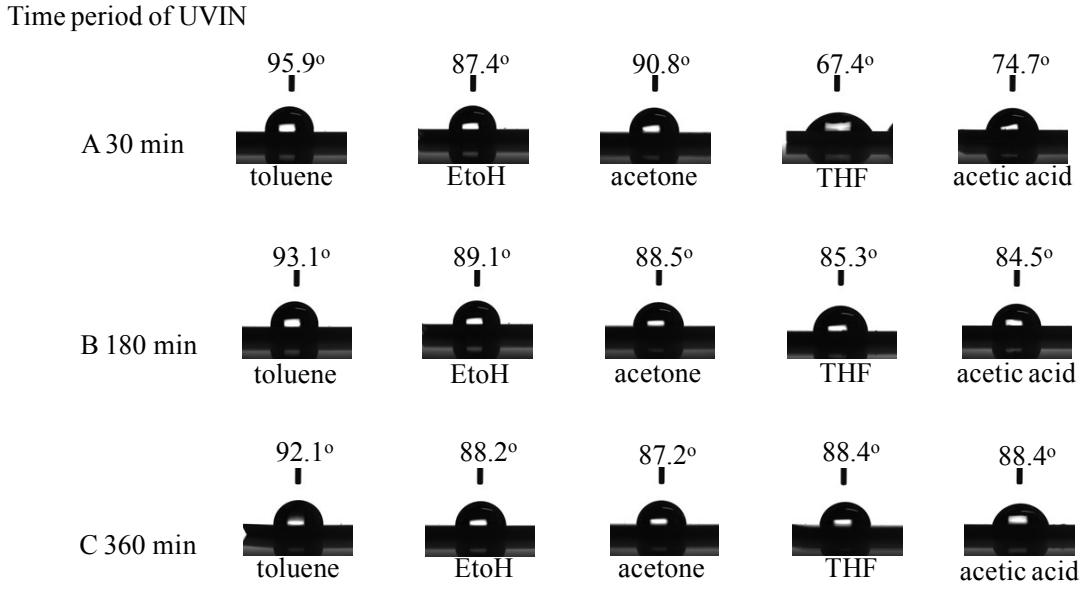

Figure S2 static contact angle of a water droplet on the surface of the PS-covered

SiOx/Si substrate after UVIN treatment of varied extent, (A) 30, (B) 180 and (C) 360 min, followed by immersion in organic solvents: toluene, ethanol, acetone, THF and acetic acid.

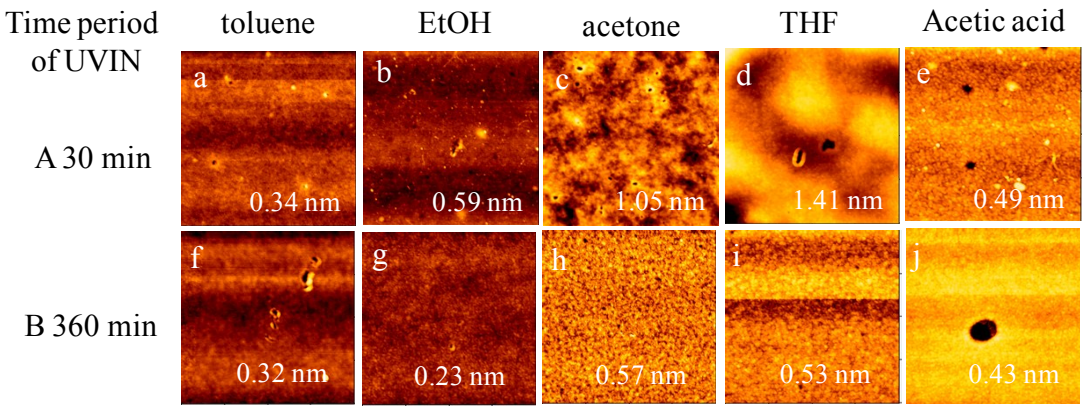

Figure S3 2×2 μm^2 AFM topographic images of the surface of the PS-covered SiOx/Si substrate after UVIN treatment of varied extent, (A) 30, and (B) 360 min, followed by immersion in organic solvents: toluene, ethanol, acetone, THF and acetic acid. Mean surface roughness values measured by AFM are designated in the images.

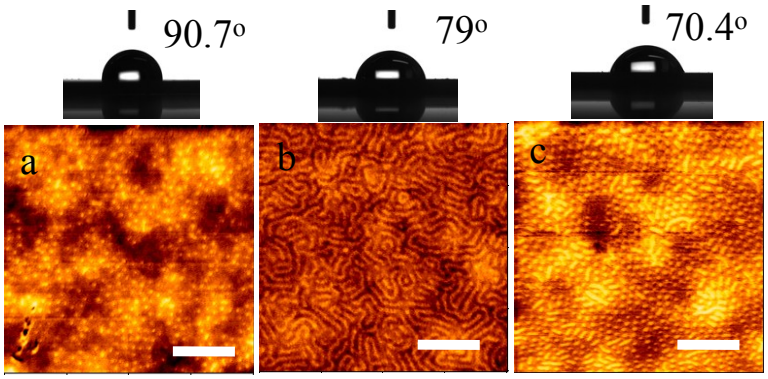

Figure S4 AFM topographic images of lamellar nanodomains of PS-*b*-PMMA on a PS film having different contact angle values: (a) 90.7°, (b) 79° and (c) 70.4 °. Scale bar: 500 nm.

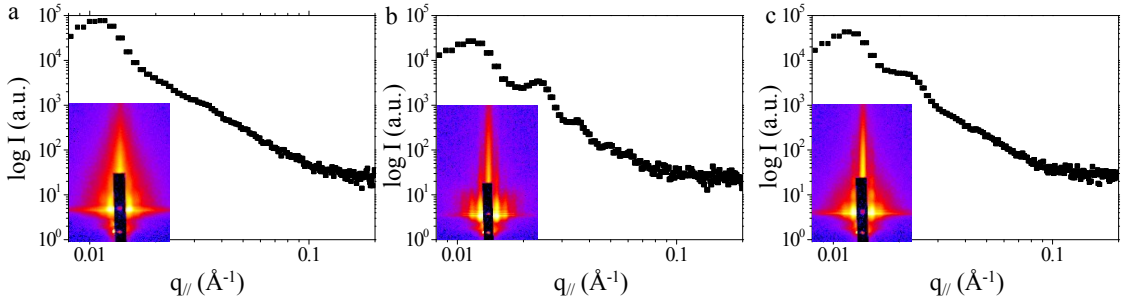

Figure S5 GISAXS 1D profiles of lamellar nanodomains of PS-*b*-PMMA on a PS film having different contact angle values: (a) 90.7°, (b) 79 ° and (c) 70.4 °. Inserts show the corresponding 2D patterns.

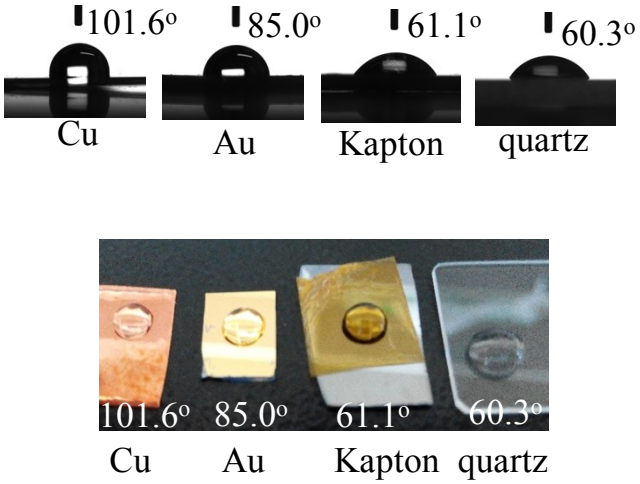

Figure S6 static contact angle of a water droplet on bare Cu, Au, Kapton and quartz.

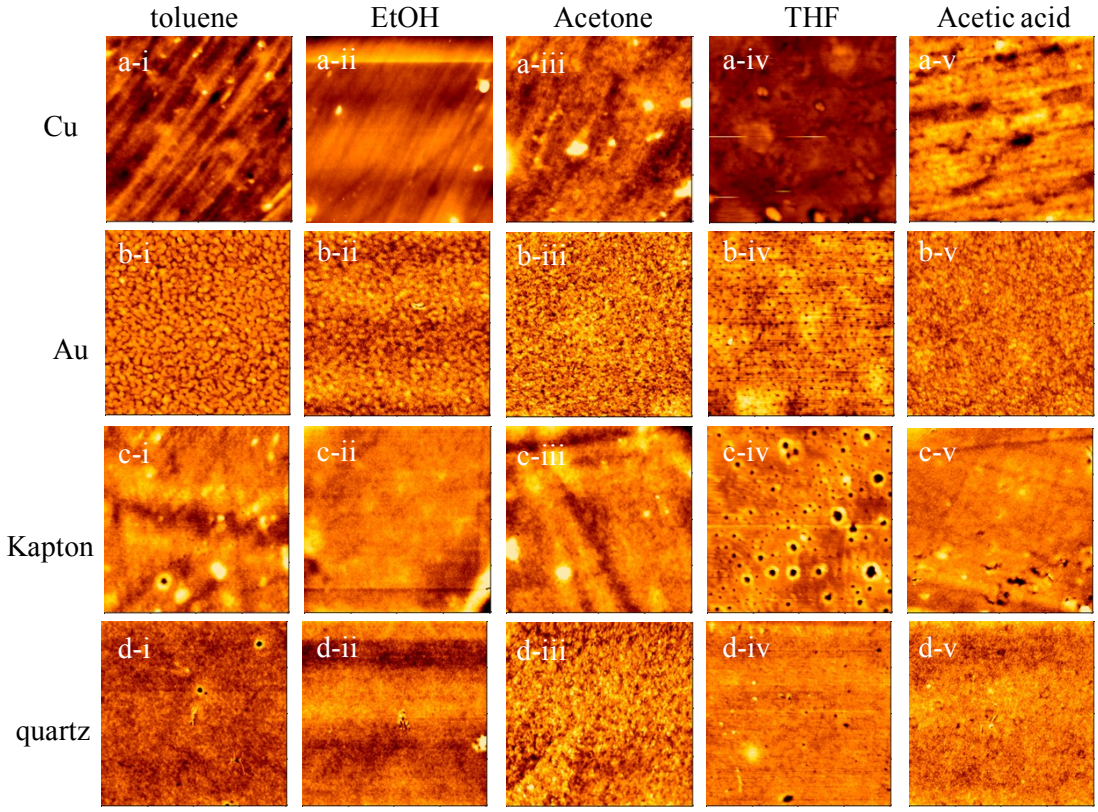

Figure S7 2×2 μm^2 AFM topographic images of the surface of the PS-covered substrates of four types (such as (a) Cu, (b) Au, (c) kapton and (d) quartz) after UVIN of 6 h, followed by immersion in organic solvents: (i) toluene, (ii) ethanol, (iii) acetone, (iv) THF and (v) acetic acid.

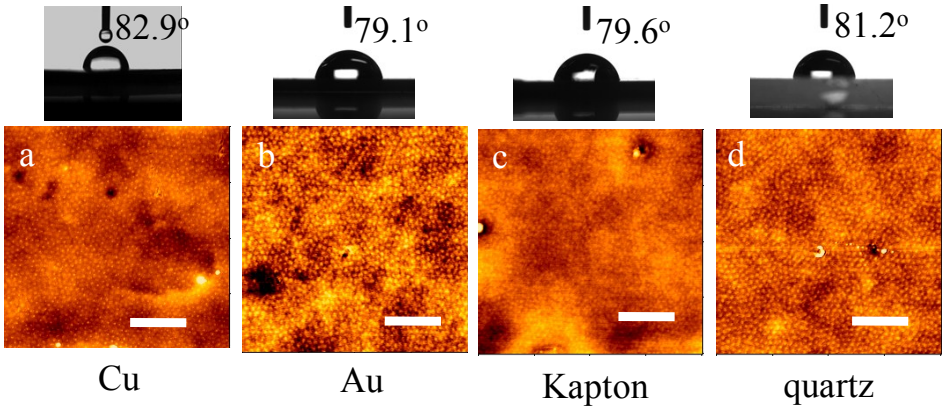

Figure S8 AFM topographic images of PS-*b*-PMMA films on a PS layer of initial thickness 7.7 nm and with a neutral surface property over (a) Cu, (b) Au, (c) Kapton, and (d) quartz. Scale bars: 500 nm.