

Control of Layer Thickness of Onion-like Multilayered Composite Polymer Particles Prepared by the Solvent Evaporation Method

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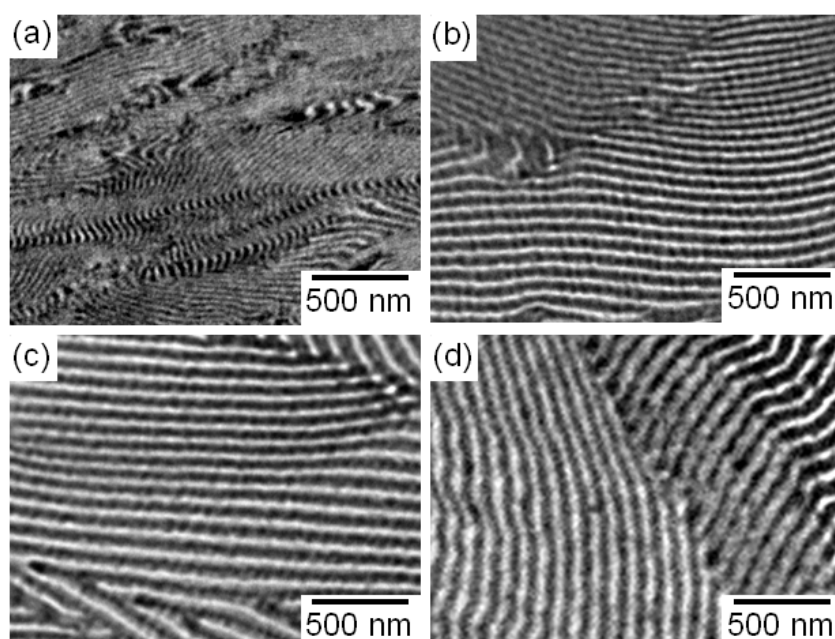


Figure S1. TEM photographs of ultrathin cross sections of PS-*b*-PMMA films cast from PS-*b*-PMMA/toluene (1/10, w/w) solution. M_n of PS-*b*-PMMA ($\times 10^4$ g·mol⁻¹): (a) 7.8; (b) 20.0; (c) 26.3; (d) 29.0. Average layer thickness (nm): (a) 29.5; (b) 50.1; (c) 68.9; (d) 71.3. They were estimated from the TEM photographs by the length of layers divided by the number of layers. Only layers having PS (dark) and PMMA (bright) phases of equal length for at least 20 locations were used for the measurement.

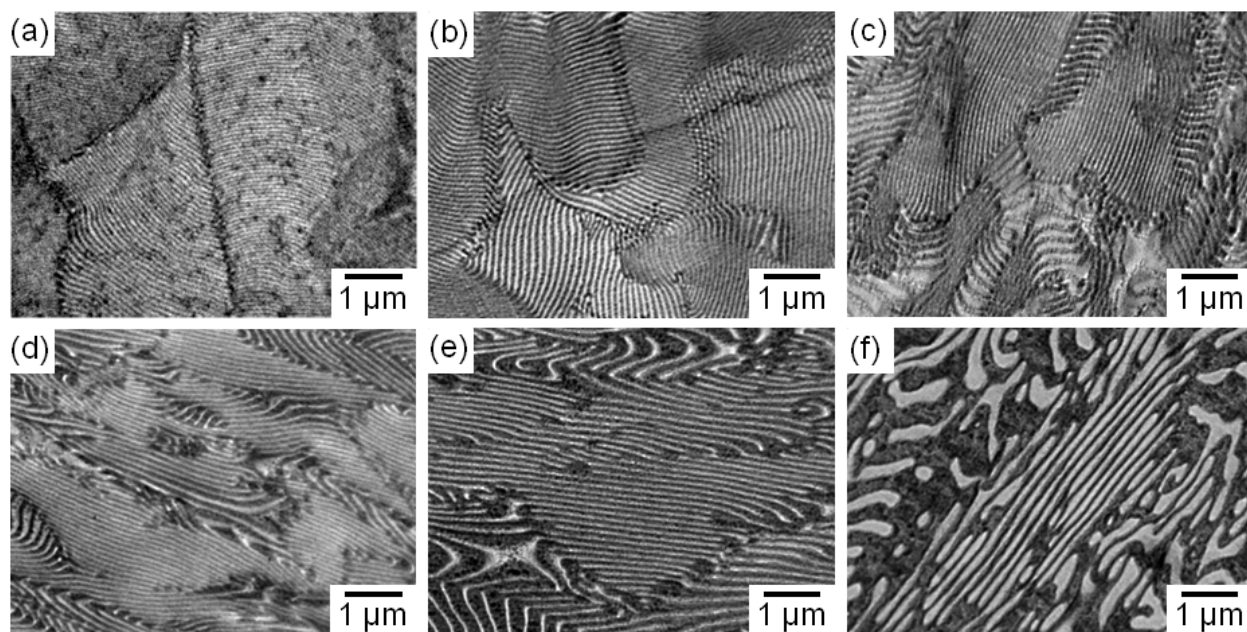


Figure S2. TEM photographs of ultrathin cross sections of RuO₄-stained PS1/PS-*b*-PMMA29/PMMA1 blend films cast from the polymer/toluene (1/10, w/w) solution. $\phi_{\text{PS}}/\phi_{\text{PS-}b\text{-PMMA}}/\phi_{\text{PMMA}}$: (a) 0/1/0; (b) 0.1/0.8/0.1; (c) 0.2/0.6/0.2; (d) 0.3/0.4/0.3; (e) 0.4/0.2/0.4; (f) 0.45/0.1/0.45. Average layer thickness (nm): (a) 75.7; (b) 78.4; (c) 84.3; (d) 115.0; (e) 162.4. They were estimated from the TEM photographs by the length of layers divided by the number of layers. Only layers having PS (dark) and PMMA (bright) phases of equal length for at least 20 locations were used for the measurement.

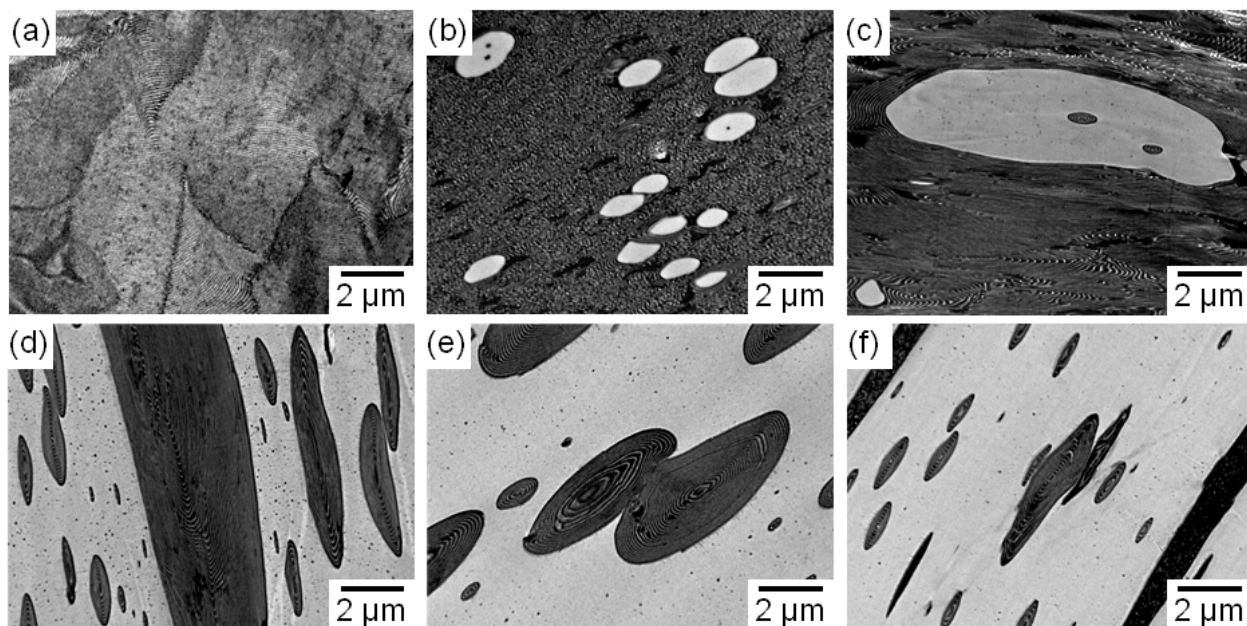


Figure S3. TEM photographs of ultrathin cross sections of RuO_4 -stained PS49/PS-*b*-PMMA29/PMMA47 blend films cast from the polymer/toluene (1/30, w/w) solution. $\phi_{\text{PS}}/\phi_{\text{PS-}b\text{-PMMA}}/\phi_{\text{PMMA}}$: (a) 0/1/0; (b) 0.1/0.8/0.1; (c) 0.2/0.6/0.2; (d) 0.3/0.4/0.3; (e) 0.4/0.2/0.4; (f) 0.45/0.1/0.45. Bright regions in photographs are not the epoxy resin but the macrophase separated PMMA phase.

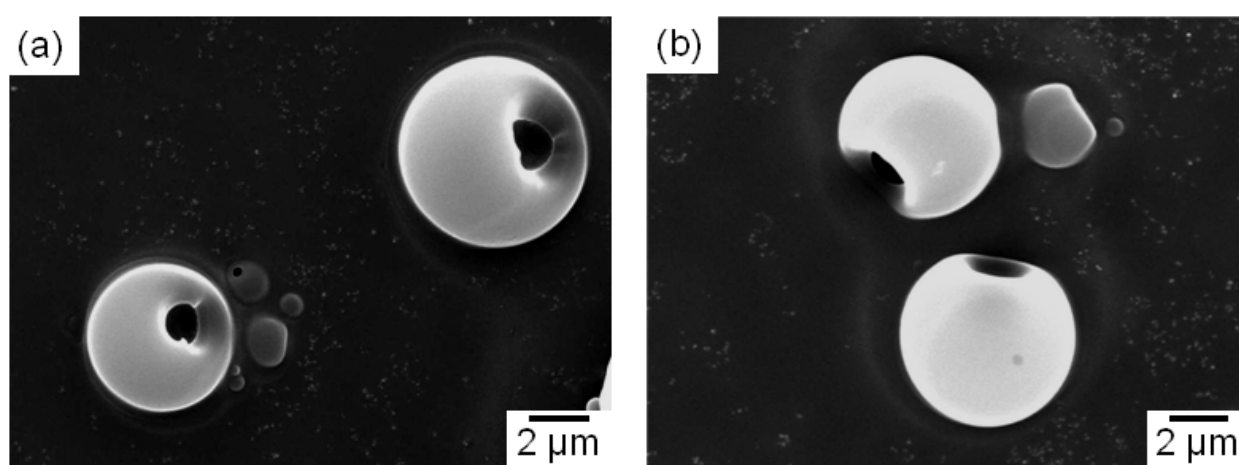


Figure S4. SEM photographs of PS49/PS-*b*-PMMA29/PMMA47 composite particles obtained by slow release of toluene from the polymer/toluene (1/100, w/w) droplets dispersed in 0.5 wt% SDS aqueous solution. $\phi_{\text{PS}}/\phi_{\text{PS-}b\text{-PMMA}}/\phi_{\text{PMMA}}$: (a) 0.4/0.2/0.4; (b) 0.45/0.1/0.45.