

Enhancing ordering dynamics in solvent-annealed block-copolymer films by lithographic hard masks supports

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SUPPORTING INFORMATION

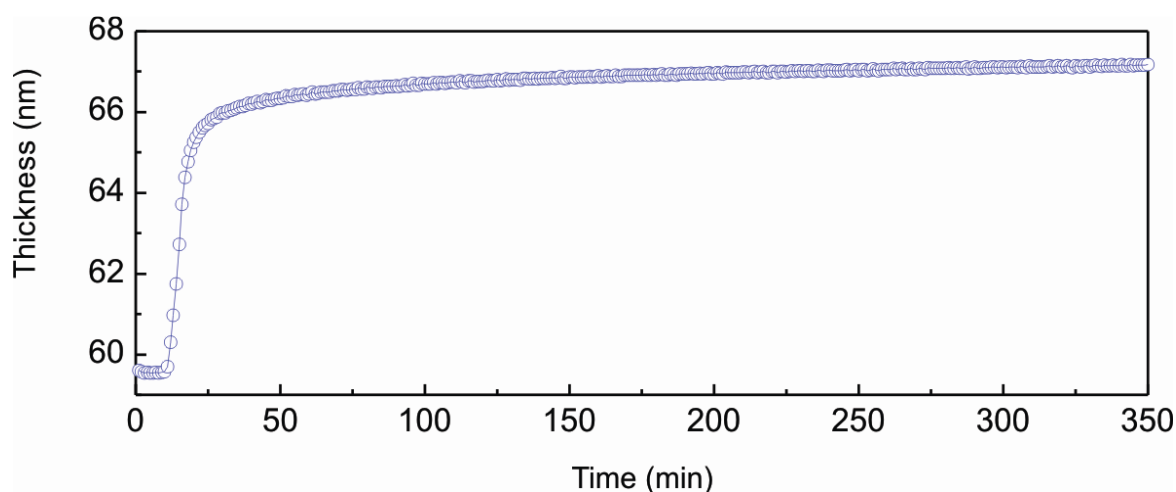


Figure S1: Kinetics of swelling upon long-term annealing of HM-layer on silicon wafer under 20% of the partial vapor pressure of chloroform p/p_0 . The plot indicates a steady slow increase of the swollen thickness even upon almost 6 h of annealing.

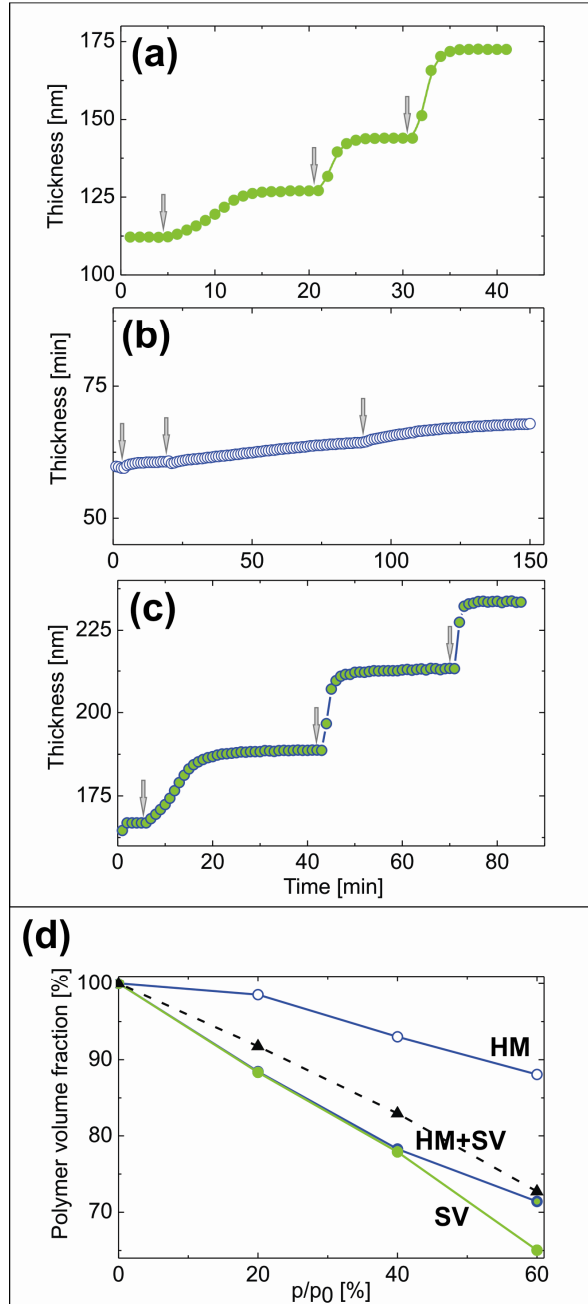
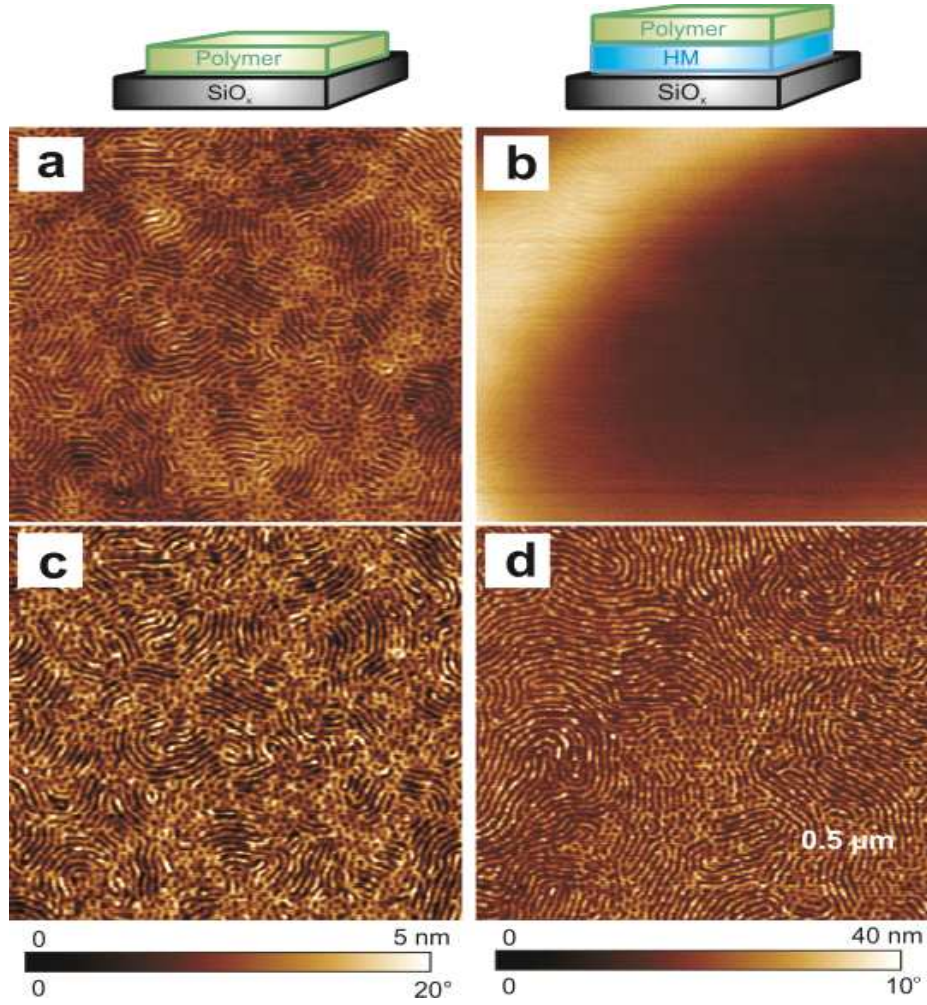


Figure S2: Kinetics of swelling upon step-wise increase of the partial vapor pressure p/p_0 of chloroform (as indicated by arrows from left to right) to 20, 40 and 60 % of (a) a 115 nm-thick SV film on a silicon wafer, (b) HM-layer on a silicon wafer, and (c) a 166 nm-thick bilayer sample (SV-film on HM-support). (d) Comparison of the swelling behavior evaluated from the corresponding swelling curves in (a-c) and expressed as a polymer volume fraction ϕ_p versus p/p_0 for HM-layer (empty circles), for SV film on silicon substrate (solid circles) and SV film on HM-support (Blue-green solid circles). Triangles indicate calculated values assuming a summation of the degrees of swelling of respective layers.



S3: SFM topography (a,b) and phase (c,d) images of the microphase separated structures in ~40 nm-thick SB films as in Figure 7(c-d) annealed on silicon substrate (a,c) and on HM-support (b-d). The films have been annealed for 10 min in chloroform vapor under standard thermal and flow conditions at 60% of p/p_0 resulting in ϕ_p of 0.71 ± 0.02 . The images reveal coexisting C_{\parallel} and PL phases on silica substrate and of PL phase in terrace T_1 and C_{\parallel} phase in terrace T_2 on HM-support.