Supporting Information

Stress-strain behavior of block-copolymer and its nanocomposites filled with uniform or Janus nanoparticles under shear: A Molecular Dynamics Simulation

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Figure S1. Plot of the stress–strain curve for A₅B₁₀A₅ tri-block below and above Tᵥ, the inset indicates the stress–strain behavior at the small deformation.

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Figure S2. The effect of the tensile rate on the tensile stress-strain curves for $A_5B_{10}A_5$ tri-block.
(b) \( \varepsilon_{\text{eff}}/kT = 1 \), \( \varepsilon_{\text{eff}}/kT = 5 \), \( \varepsilon_{\text{eff}}/kT = 10 \), \( \varepsilon_{\text{eff}}/kT = 15 \)

(c) \( \varepsilon_{\text{eff}}/kT = 1 \), \( \varepsilon_{\text{eff}}/kT = 5 \), \( \varepsilon_{\text{eff}}/kT = 10 \), \( \varepsilon_{\text{eff}}/kT = 15 \)

(d) \( \varepsilon_{\text{eff}}/kT = 1 \), \( \varepsilon_{\text{eff}}/kT = 5 \), \( \varepsilon_{\text{eff}}/kT = 10 \), \( \varepsilon_{\text{eff}}/kT = 15 \)
Figure S3. The tensile stress-strain curves for lamellar structure with different $\varepsilon_{A-A}$ when changing the box length in the direction (a) perpendicular and (b) parallel to the lamellar structure. The tensile stress-strain curves for (c) island and (d) cylindrical structure with different $\varepsilon_{A-A}$. 