Electronic Supplementary Material (ESI) for Physical Chemistry Chemical Physics.

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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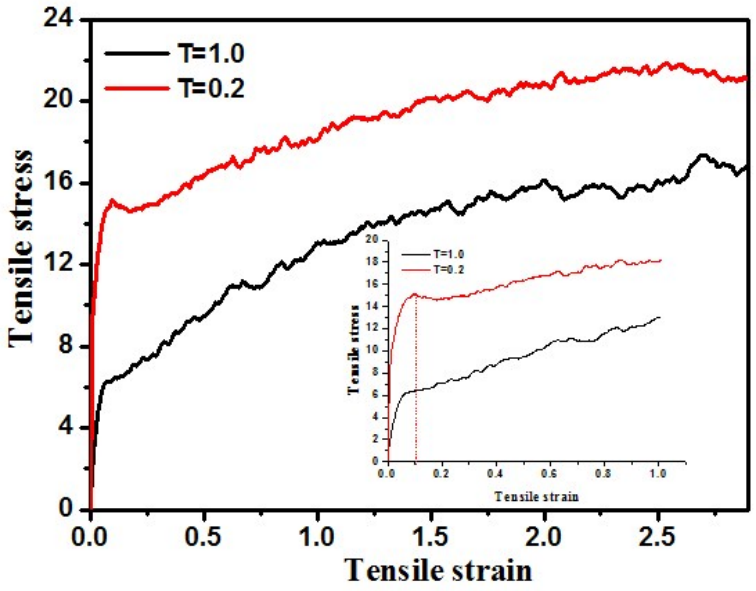

Figure S1. Plot of the stress–strain curve for $A_5B_{10}A_5$ tri-block below and above T_g, the inset indicates the stress–strain behavior at the small deformation.

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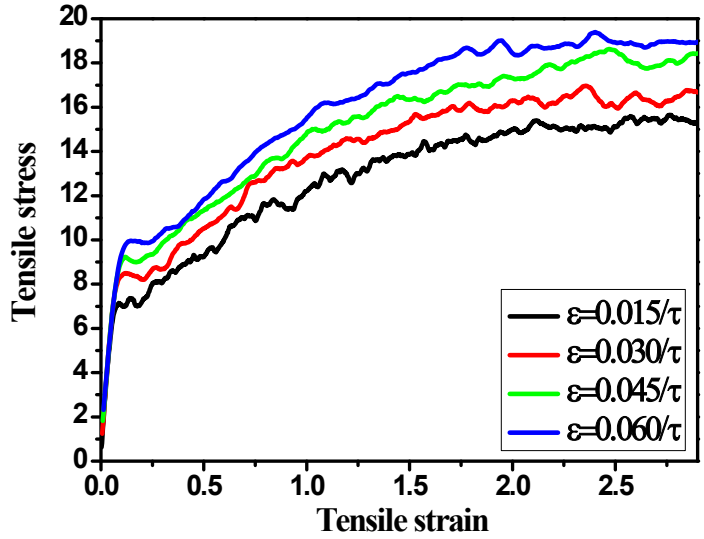
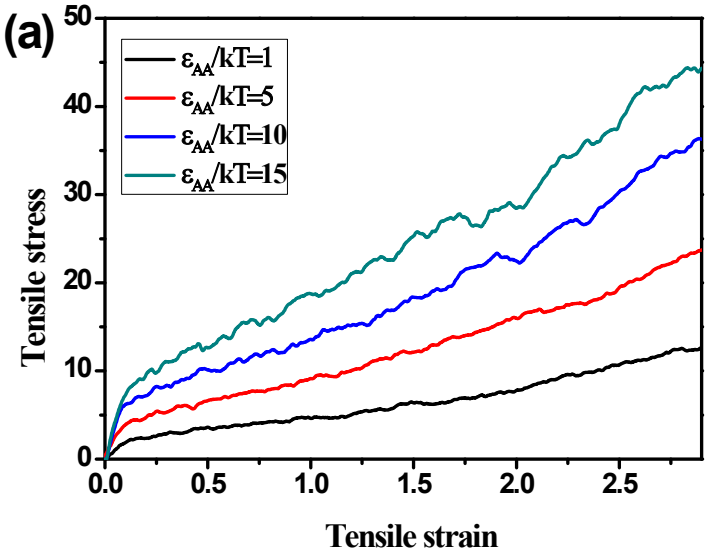
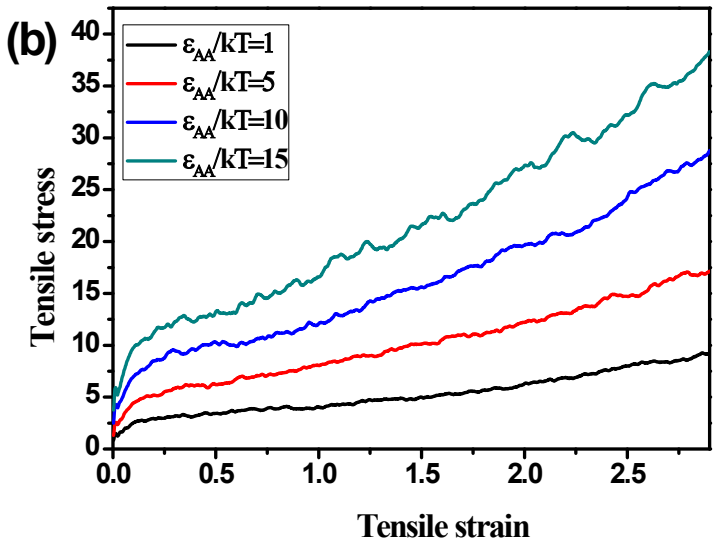
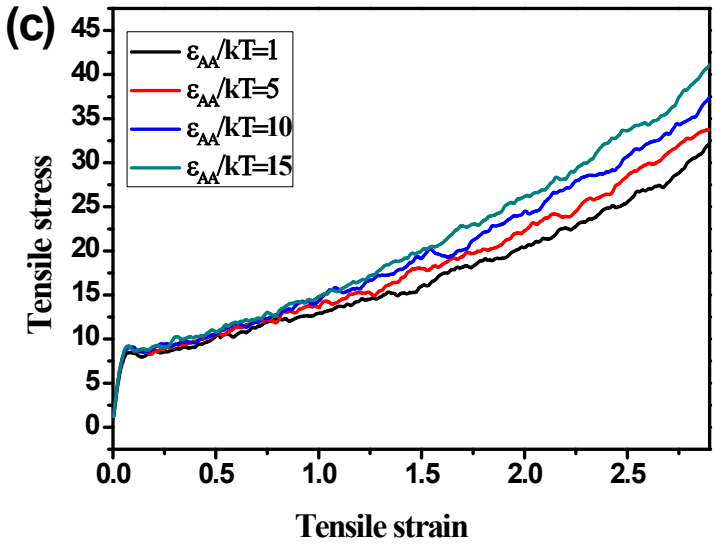


Figure S2. The effect of the tensile rate on the tensile stress-strain curves for $A_5B_{10}A_5$ tri-block.




(b)
ε_{AA}/kT=1
ε_{AA}/kT=5
ε_{AA}/kT=10
ε_{AA}/kT=15
Tensile stress
Tensile strain
0
5
10
15
20
25
30
35
40
0.0
0.5
1.0
1.5
2.0
2.5


(c)
ε_{AA}/kT=1
ε_{AA}/kT=5
ε_{AA}/kT=10
ε_{AA}/kT=15
Tensile stress
Tensile strain
0
5
10
15
20
25
30
35
40
45
0.0
0.5
1.0
1.5
2.0
2.5

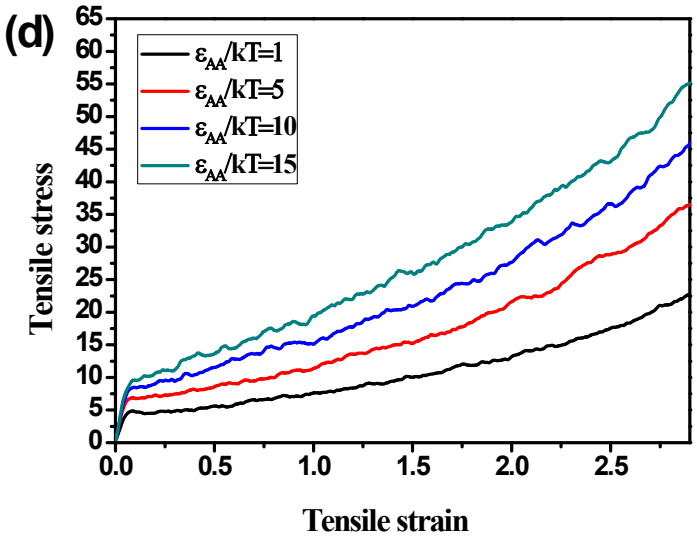

(d)
ε_{AA}/kT=1
ε_{AA}/kT=5
ε_{AA}/kT=10
ε_{AA}/kT=15
Tensile stress
Tensile strain
0
5
10
15
20
25
30
35
40
45
50
55
60
65
0.0
0.5
1.0
1.5
2.0
2.5

Figure S3. The tensile stress-strain curves for lamellar structure with different ε_{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 ε_{A-A} .