

Abstract Submitted  
for the MAR15 Meeting of  
The American Physical Society

**The effect of copolymers on the interfaces in incompatible homopolymers blend: Molecular dynamics study**<sup>1</sup> JIHO RYU, WON BO LEE, Sogang Univ — Using molecular dynamics simulations the effect of copolymers as compatibilizer for reducing interfacial tension and enhancement of interfacial adhesion at the interface of thermodynamic unfavorable homopolymers blend is studied with block- and graft-copolymers. We have calculated local pressure tensor of system along the axis perpendicular to interface, varying bending potential energy of one part, which consist of just one kind of beads, of copolymer chain to examine the effect of stiffness of surfactin molecules. Here we consider symmetric diblock copolymer ( $f=1/2$ ) having  $1/2 N$  make of beads of type A and the other part made of beads of type B, and graft copolymer having backbone linear chain consist of  $1/2 N$  beads of type of A and branched with two side-chain consist of  $1/4 N$  beads of type B. All simulations were performed under the constant NPT ensemble at  $T^*=1$ ,  $\rho^*\sim 0.85$ . Also we studied changes of effect of copolymers with increasing pairwise repulsive interaction potential between two beads of types A and B while homopolymers chain length are fixed,  $N=30$ .

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Date submitted: 13 Nov 2014

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