

## Order-to-Disorder Transition of Polystyrene-b-Poly(methyl methacrylate) Films on Neutral Surface

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The physical properties of block copolymer (BCP) in confined geometries are different from bulk states polymers due to the significant influences of interfaces. As the interfacial interactions can control the microdomain orientations of block copolymers in the films, the balanced interfacial interactions can also have an effect on order-disorder transition (ODT) not to mention of the difference in bulk ODT, which determines whether the phase is homogeneously mixed or separated.

We investigated ODT behaviors of a symmetric polystyrene-b-poly(methyl methacrylate) (PS-b-PMMA) block copolymer films on a neutrally modified substrate which exhibit no preferential interactions with both block components. The thickness dependence of transition temperatures for PS-b-PMMA films will be discussed by in-situ grazing incidence small angle x-ray scattering (GISAXS).