

Abstract Submitted
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Thermoreversible bond formation in multi-component polymer blends RICHARD ELLIOTT, GLENN FREDRICKSON, Univ. of California, Santa Barbara — We investigate theoretically thermoreversible bond formation and phase transitions in a system composed of end-linking, difunctional linear polymers. The two chemically distinct polymer species are allowed to bond heterogeneously so that only linear chains with alternating block sequences form. Interactions between dissimilar segments are described with Flory-Huggins contact potential, whereas the amount of reversible bonding is controlled with a single parameter of binding affinity. We use a mean-field approach to describe the onset of meso-scale ordering as a function of the binding affinity.

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