Features of Structural Relaxation in Diblock Copolymers  
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— Time- and temperature-dependent structural relaxation (physical aging) of poly(styrene-b-methyl methacrylate) (PS-b-PMMA) block copolymers was investigated by calorimetry. Our study reveals the interplay of the relaxation responses of the two components of the copolymer in an intermediate temperature regime. That is, when the testing temperature is closely below the glass transition temperatures of PS and PMMA, structural relaxation in these polymer phases takes place concurrently, the corresponding thermogram displays partially superposed dual endothermic peaks as a feature of physical aging in the diblock copolymers. The aging response for each component is identified from a curve fitting method and analyzed by the relaxation of enthalpy. Comparing with the homopolymer analogs, the PS and PMMA in diblock copolymers show enhanced aging rate.

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