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**Effect of Fluctuation on Order-Disorder Transition in Polydisperse Block Copolymer Melts** GUNJA PANDAV, VENKAT GANESAN, University of Texas at Austin — We examine fluctuation effects on order-disorder transition (ODT) temperature in polydisperse block copolymer melts using single chain in mean field simulations. Diblock copolymer melts having monodisperse A blocks and polydisperse B blocks with symmetric composition on an average are examined. Increase in polydispersity at constant composition resulted in change in equilibrium morphology in accordance with the mean-field theory prediction. The dependence of ODT temperature on the strength of fluctuations as characterized by Ginzburg parameter is examined and scaling prediction for fluctuation induced shift in ODT is reported. Also, the qualitative shift in ODT as a function of increasing polydispersity in asymmetric copolymers is investigated.

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