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Kinetics of Chain Collapse Induced by Adding Non-Solvent ZHENGNAN YANG, ALI DHINOJWALA, University of Akron — Previous studies have shown that decreasing the temperature of dilute polymer solution below theta condition results in a coil-to-globule transition. This kinetics of this transition involves a formation of a sausage-shaped structure which collapses to a globule (two-stage transition). Here, we have studied this coil-to-globule transition by adding a non-solvent (water) into a solution containing high molecular weight poly(methyl methacrylate) (PMMA) in THF. By measuring radius of gyration and hydrodynamic radius, we found a three-stage transition finally forming a multi-chain globular aggregate. We will discuss the kinetics of this transition as a function of concentration of non-solvent and molecular weight.

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