

Abstract Submitted
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Scaling Model for Symmetric Star Polymers DURGESH RAI, RAM-NATH RAMACHANDRAN, GREGORY BEAUCAGE, University of Cincinnati — Star polymers have been widely investigated for its synthesis, structure and properties owing to their suitability in various applications. SANS has emerged as a useful tool to understand the architecture of these structures for their qualitative analysis. We will present a scaling model to analyze SANS data for dilute C60 connected Poly-urethane star polymers having six arms. A Unified Function Fit is employed for analyzing star polymers has been presented and tested under good and θ -solvent conditions. The understanding of architecture of the star polymer is extended by considering rigid, zero entropy states, where at one extreme, the arms get linearly extended while at the other extreme, they collapse into densely packed spherical state. A generalized model for symmetric star polymers implicating the understanding of the star conformations under different solvent conditions will be presented.

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