

Abstract Submitted
for the MAR16 Meeting of
The American Physical Society

Novel coarse-graining approach for Star polymer and linear Homopolymer mixtures EMANUELE LOCATELLI, CHRISTOS LIKOS, University of Vienna — We present a novel coarse-graining approach, suitable for star polymer mixtures. The approach is based on the calculation of the effective interaction between a star polymer and a single monomer, which can be used to coarse-grain the interaction between a star and a complex object. The effective interaction has been calculated numerically for star polymers of different functionalities f and for different degrees of polymerization N . We find that these potentials can be scaled following the star polymer scaling laws. We test our approach, calculating the effective interaction between a star polymer and a linear homopolymer, comparing the results obtained from coarse graining and monomer resolved simulations. We employ this technique to study star - linear homopolymer mixtures, focusing on the limit of very long homopolymers.

Emanuele Locatelli
University of Vienna

Date submitted: 26 Nov 2015

Electronic form version 1.4