

Abstract Submitted
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Application of the entropy theory of glass formation to poly(alpha-olefins KARL FREED, EVGENY STUKALIN, University of Chicago, JACK DOUGLAS, NIST — The lattice cluster theory for the configurational entropy is combined with the Adam-Gibbs model to describe the dependence of the glass transition temperature, structural relaxation time, and fragility of polymer melts on the monomer molecular structure, the molecular weight, pressure, and molecular parameters, such as the backbone and side chain stiffness, cohesive energy, and the side chain length. Specific applications provided to poly(alpha-olefins) where agreement with experiment ranges from quantitative to qualitative depending on the particular property.

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