

Abstract Submitted  
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**The Molecular Weight and Composition Dependence of Measured Flory-Huggins Interaction Parameters for Blends of Model Polyolefins**<sup>1</sup> ALISYN NEDOMA, Univ. of California, Berkeley, MEGAN ROBERTSON, Univ. of Minnesota, NISITA WANAKULE, NITASH BALSARA, Univ. of California, Berkeley — The thermodynamics of binary blends of model polyolefins (deuterated polybutadiene and polyisobutylene) was studied using small angle neutron scattering (SANS) and small angle light scattering (SALS). SANS experiments on single phase blends reveal that the Flory-Huggins interaction parameter,  $\chi$ , for this system depends on both blend composition and component molecular weights. This is in contrast to numerous previous studies on thermodynamics of polymer blends where  $\chi$  is reported to be independent of molecular weight. The phase separation temperatures of our blends, determined by SALS and SANS, will be compared to predictions based on the measured  $\chi$  parameters.

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