Abstract Submitted
for the MAR07 Meeting of
The American Physical Society

T_g in Polymer/Oligomer Athermal Blends WEI ZHENG, SINDEE SIMON, Texas Tech University — The glass transition behavior of poly(α-methyl styrene), its tridecamer, and athermal blends with its hexamer is investigated using differential scanning calorimetry. The blends are prepared to exhibit approximately the same T_g as the tridecamer but with varying molecular weight distributions. The glass transition of the blends is found to become broader than that of the pure materials. However, the absolute heat capacity of the blends maintains unchanged from its components indicating that the blends are athermal mixtures. The broadening of the Tg is evaluated in the context of recent models describing this behavior. In addition, we examine the ability of the TNM model to describe the rate dependence of T_g and aging effects.

Wei Zheng
Texas Tech University

Date submitted: 06 Nov 2006 Electronic form version 1.4