

Abstract Submitted
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The Glass Transition of Nanoconfined Polycyanurate: Intrinsic Size and Surface Effects EVELYN LOPEZ, SINDEE L. SIMON, Texas Tech University — The glass transition temperature (T_g) of a low molecular weight polycyanurate (6700 g/mol, PDI=2.47) is investigated under nanopore and thin film confinement. The nanopore-confined material is synthesized in-situ and the reaction kinetics are followed by differential scanning calorimetry (DSC); after reaction, the T_g values of the polymer are also measured by DSC. Thin films are spin coated from material synthesized in the bulk, and the T_g values are measured using a fast scanning calorimeter (Mettler-Toledo Flash DSC1). Results under nanopore confinement show that the reaction is accelerated and the T_g is depressed as the diameter of the nanopore decreases. The characteristic length for the different confinement geometries, defined as the surface area over volume, is used to compare the effects of nanoconfinement on T_g .

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