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The T_g of polycyanurate in cylindrical nanoporous confinement

SIYANG GAO, SINDEE SIMON — The glass transition behavior of materials under nanoconfinement is often different than their behavior in the bulk. A leading explanation is that enhanced mobility at free surfaces or neutral interfaces results in depressions in T_g , whereas attractive interfaces result in increases in T_g . In this work, we examine the T_g of a polycyanurate using differential scanning calorimetry for both material confined in cylindrical nanopores and for freely-standing nanocylinders. Preliminary results using an alumina nanofilter for the confining matrix indicate that the T_g depression for the supported and freely standing nanocylinders are similar. The implications of the results will be discussed.

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