

Abstract Submitted
for the MAR07 Meeting of
The American Physical Society

Viscoelastic properties of Ionomer Melt MONOJOY GOSWAMI¹,
SANAT KUMAR, Columbia University — Viscoelastic properties of a model telechelic ionomer, i.e., a melt of non-polar polymers with a charge at each chain end along with neutralizing counterions, have been examined using molecular dynamics simulation. Equilibrium calculation of the loss modulus $G''(\omega)$ and storage modulus $G'(\omega)$ shows plateau at lower temperatures when the systems are not relaxed. In this situation the specific heat (C_v) peak corresponds to the self-assembly of the system, at lower temperatures the specific heat begins to plateau. Similarities of the dynamic features found for telechelic melts with those observed in glass-forming liquids and entangled polymers have been shown. Furthermore, using an athermal 'probe', the properties of these materials is being distinctly classified as 'strong' glass or physical gels.

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Date submitted: 20 Nov 2006

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