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Dynamics of ionomer melts and reversible networks

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Ionomers in their liquid state have intermolecular ionic associations that slow down their dynamics. Such delays are modeled using a sticky Rouse model if the chains are short enough, and a sticky reptation model when chains are long enough to entangle. If the nonionic portions of the ionomeric liquid are made to be more polar (higher dielectric constant) then the ionic associations weaken and in the strongly polar limit the ionic polymer acts like a polyelectrolyte, dissociating charges to repel other chains.