Abstract Submitted
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Rheological behavior of Slide Ring Gels. VIVEK SHARMA, JONG SEUNG PARK, JUNG O. PARK, School of Polymer, Textile and Fiber Engineering, MOHAN SRINIVASARAO, School of Polymer, Textile and Fiber Engineering and School of Chemistry and Biochemistry, Georgia Institute of Technology, Atlanta, GA — Slide ring gels were synthesized by chemically crosslinking, sparsely populated α-cyclodextrin (α-CD) present on the polyrotaxanes consisting of α-CD and polyethylene glycol (PEG). [1] Unlike physically or chemically crosslinked gels, slide ring gels are topological gels where crosslinks can slide along the chain. [2] We investigate the rheological behavior of these gels swollen in water and compare their viscoelastic properties to those of physical and chemical gels. We also study the equilibrium swelling behavior of these gels. [1] Okumura and Ito, Adv. Mater. 2001, 13, 485 [2] C. Zhao et al, J. Phys. Cond. Mat. 2005, 17, S2841

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