

Abstract Submitted
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Gels formed by worm-like micelles : Yielding and fluidization characteristics RONAK GUPTA, RODRIGO MITISHITA, GWYNN ELFRING, Dept. of Mechanical Engineering, University of British Columbia, IAN FRIGAARD, Departments of Mathematics and Mechanical Engineering, University of British Columbia — A rarely studied system of long chain surfactant molecules has been shown to display 'gel-like' rheology at room temperature despite the absence of cross-linking.¹ Using a similar model system, we investigate the yielding characteristics of micellar gels using creep and amplitude sweeps and elucidate dependencies on temperature and surfactant concentration. Further, we study the phenomenon of shear driven fluidization to better quantify the solid-liquid and yielding transitions in worm-like micellar gels.

¹Kumar, Rakesh, et al. "Wormlike micelles of a C22-tailed zwitterionic betaine surfactant: from viscoelastic solutions to elastic gels." *Langmuir* 23.26 (2007): 12849-12856.

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