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**Surface Freezing Controlled Meniscus Relaxation in Side Chain Comb Polymers** SHISHIR PRASAD, ZHANG JIANG, MICHAEL SPRUNG, SUNIL SINHA, ALI DHINOJWALA, THE UNIVERSITY OF AKRON TEAM, THE UNIVERSITY OF CALIFORNIA, SAN DIEGO TEAM — The formation of a frozen monolayer on the surface of poly(n-alkyl acrylate) melt results into a dramatic slowing down of the relaxation of liquid meniscus. There are no abrupt changes in bulk viscosity or surface tension at these temperatures. X-ray photon correlation spectroscopy measurements suggest that the surface ordered monolayer considerably slows down the surface capillary fluctuations and is responsible for the slower meniscus relaxation. This work demonstrates that the formation of a nanometer thin surface frozen layer has a dramatic influence on the macroscopic flow of the liquid contact line and provides important guidelines to determine the coating process parameters for these commercially important polymers.

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