

Abstract Submitted
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Single-molecule measurements of adsorbed polymer CHANGQIAN YU, JUAN GUAN, SUNG CHUL BAE, STEVE GRANICK, Department of Materials Science and Engineering, University of Illinois at Urbana-Champaign — Single-molecule tracking is used to study the surface mobility of PEG (polyethylene glycol) chains adsorbed to the solid-liquid interface from dilute aqueous solution. The end-labeled chains are visualized by objective-based total internal reflection fluorescence microscopy (TIRFM) and their trajectories are analyzed after cleaning the images with denoising algorithms. Surface mobility, which in this system depends on pH, is decomposed into one family of chains which remains adsorbed over the observation time window, and another family that appears to translate from point to point by hopping. This we quantify with nm-level resolution.

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