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Dynamic Surface Tension and Adsorption Kinetics of Polyelectrolyte Solutions NIKHILA PARSI, LEIDY N. JIMENEZ, VIVEK SHARMA, Chemical Engineering, University of Illinois at Chicago — Adsorption of polyelectrolyte at fluid-fluid interfaces influences the stability and physical properties of emulsions, and foams used in cosmetics, food, petrochemical and pharmaceutical applications. In this study, we measure the dynamic surface tension of polyelectrolytes using pendant drop tensiometry as a function of polyelectrolyte concentration, molecular weight and added salt concentration. While polyelectrolytes can reduce the surface tension at liquid/air interface, the overall kinetics is quite slow in contrast to small molecule surfactants, and appears to be strongly correlated with charge fraction and counterion type and concentration.

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