Abstract Submitted
for the MAR08 Meeting of
The American Physical Society

Raft Formation of Rod-like Polyelectrolytes[1] DANIEL W. SINKOVITS, ERIK LUIJTEN, University of Illinois at Urbana-Champaign — We investigate the formation of raft-like aggregates by charged rod-like polyelectrolytes, as reported from experiments employing F-actin as well as from theoretical analyses. Through extensive molecular-dynamics simulations of pairs of rods at different salt concentrations we construct free-energy landscapes, which in turn elucidate the most likely kinetic pathways to aggregation. Additional simulations of layers of rods at varying skew orientations and lateral spacings demonstrate to what extent the lessons learned from pair simulations apply to large aggregates.

[1]This work was supported by the U.S. Department of Energy under Grant No. DE-FG02-02ER461019.

Daniel W. Sinkovits
University of Illinois at Urbana-Champaign

Date submitted: 20 Nov 2007 Electronic form version 1.4