

Abstract Submitted  
for the MAR07 Meeting of  
The American Physical Society

**Complexation in poly-electrolyte solutions: field theoretic simulations of fluctuation induced phase transition** JONGHOON LEE, YURI POPOV, GLENN FREDRICKSON, UCSB — We study complexation phenomenon in symmetric poly-electrolyte solutions using field theoretic framework. The mean field approximation is incapable to capture the phase transition in the system. We performed large-scale field theoretic simulations using complex Langevin dynamics algorithm to include the field fluctuation effect. This allows us to study thermodynamics and structural properties of the complexes in detail and, ultimately, construct a phase diagram of the complexation transition, which is compared with the beyond-mean-field (one-loop) analytic result.

Jonghoon Lee  
UCSB

Date submitted: 20 Nov 2006

Electronic form version 1.4