Abstract Submitted
for the MAR09 Meeting of
The American Physical Society

Hofmeister effect and the phase diagram of lysozyme[1] STEVEN LETTIERI, XIAOFEI LI, JAMES GUNTON, Lehigh University — The phase diagrams for lysozyme are calculated for two different precipitant salts, NaCl and NaSCN, using a potential of mean force that takes into account contributions from ion-dispersion forces (J.Phys.Chem.B, 110, 24757). Our results are consistent with a recent perturbation theory calculation (J.Phys.Chem.B, 110, 24757) in that the phase diagram for lysozyme with NaCl is quite different than for lysozyme with NaSCN for the same molar concentration (0.2M). However, in contrast to the perturbation theory calculation, we find that the lysozyme phase diagram with NaCl has a metastable fluid-fluid coexistence curve and that the metastability gap in the case of NaSCN is much larger than predicted by perturbation theory.

[1]This work was supported by grants from Harold G. and Leila Y. Mathers Charitable Foundation and the National Science Foundation.

Steven Lettieri
Lehigh University

Date submitted: 16 Oct 2008 Electronic form version 1.4