

Abstract Submitted
for the MAR13 Meeting of
The American Physical Society

Study of Aggregation of Janus Ellipsoids DONOVAN RUTH, Lehigh University, WEI LI, University of California Santa Barbara, SHREEYA KHADKA, Colgate University, JEFFREY RICKMAN, JAMES GUNTON, Lehigh University — We perform numerical simulations of a quasi-square well potential model of one-patch colloidal particles to investigate the collective structure of a system of Janus ellipsoids. We show that for Janus ellipsoids such that one half is an attractive patch, while the entire ellipsoid has a hardcore repulsion, the system organizes into a distribution of orientationally ordered micelles and vesicles. We analyze the cluster distribution at several temperatures and low densities and show that below certain temperatures the system is populated by stable clusters and depending on temperature and density the system is populated by either vesicles or micelle structures.

Donovan Ruth
Lehigh University

Date submitted: 09 Nov 2012

Electronic form version 1.4