Abstract Submitted
for the MAR13 Meeting of
The American Physical Society

Polymer single crystal membrane from liquid/liquid interface WENDA WANG, CHRISTOPHER LI, Drexel University, SOFT MATTER RESEARCH GROUP-DREXEL UNIVERSITY TEAM — Vesicles, mimicking the structure of cell membrane at the molecular scale, are small membrane-enclosed sacks that can store or transport substances. The weak mechanical properties and the nature of environment-sensitivity of the current available vesicles: liposomes, polymersomes, colloidsomes limit their applications as an excellent candidate for targeting delivery of drugs/genes in biomedical engineering and treatment. Recently, we developed an emulsion-based method to grow curved polymer single crystals. Varying the polymer concentration and/or the emulsification conditions (such as surfactant concentration, water-oil volume ratio), curved crystals with different sizes and different openness could be obtained. This growing process was attributed to polymer crystal growth along the liquid/liquid interface. In addition, the liquid/liquid interfacial crystal growth is promising for synthesis of enclosed hollow sphere.

Wenda Wang
Drexel University

Date submitted: 09 Nov 2012 Electronic form version 1.4