

Abstract Submitted  
for the MAR15 Meeting of  
The American Physical Society

**Polymer Crystals Formed at Liquid-Liquid Interface Show Broken Symmetry** WENDA WANG, HAO QI, ZIYIN HUANG, CHRISTOPHER Y. LI, Drexel University, SOFT MATTER RESEARCH GROUP TEAM — Curved space is incommensurate with typical ordered structures with three-dimensional translational symmetry. However, upon assembly, soft matter, including colloids, amphiphiles, and block copolymers, often form structures depicting curved surface/interface. On the other hand, twisted and curved crystals are often observed in crystalline polymers. Various mechanisms have been proposed for these non-flat crystalline morphologies. In this presentation, we will discuss the recent development of crystallization at flat and curved liquid/liquid (L/L) interface. We show that structure, morphology and chain folding behaviors are strongly affected by L/L interfacial energy and polymer chain ends. Both polyethylene and poly-L-lactic acid single crystal shells have been obtained using curved L/L interface. Polymer crystallization behavior at L/L interface will be compared with solution and bulk crystallization.

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Date submitted: 14 Nov 2014

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