Abstract Submitted
for the MAR17 Meeting of
The American Physical Society

Understanding ordering of block-copolymer-based supramolecules on lithographically patterned surfaces KATHERINE EVANS, TING XU, University of California Berkeley — Block copolymer-based supramolecular self-assembly offers a simple method to overcome issues with incommensurability, surface chemistry, and assembly kinetics to access a range of nanostructures. However, for many applications, precise control over the location, directionality, and spacing of supramolecular features is necessary. Here, the stoichiometry of the small molecule that comprises one component of the supramolecule and the solvent annealing condition were systematically investigated to achieve control over the ordering of thin films on flat and templated substrates. It was shown that manipulating these two parameters can create long-range, directional ordering of the supramolecule in the templated surface with a low defect-density. Upon ordering, the periodicity of the templated pattern changes, but one uniform periodicity can be achieved by changing the film thickness.

Katherine Evans
University of California Berkeley

Date submitted: 10 Nov 2016 Electronic form version 1.4