

Abstract Submitted
for the MAR07 Meeting of
The American Physical Society

Real-time observation of self-assembling nanostructures of Langmuir-Blodgett films of vinylidene fluoride-trifluoroethylene copolymer by Atomic Force Microscopy.¹ JIHEE KIM, STEPHEN DUCHARME, Physics and Astronomy and Nebraska Center for Materials and Nanoscience, University of Nebraska, Lincoln, NE 68588-0111, BRIAN RODRIGUEZ, SERGEI KALININ, Materials Science and Technology Division, Oak Ridge National Laboratory, Oak Ridge, TN 37831 — Annealing studies have shown that ferroelectric polymer Langmuir-Blodgett (LB) films less than 10 nm thick undergo drastic morphology change after annealing in the crystalline ferroelectric phase [M. Bai *et al.*, *Appl. Phys. Lett.* **85**, 3528 (2004)] During annealing in the crystalline paraelectric phase, continuous films self-assemble into disk shape features, nanomesas, with approximately 9 nm thickness and 100 nm diameter. The nanomesa self-assembly was observed in real time with an Atomic Force Microscope, which was equipped with a heating stage. This results show that the nanomesas formed during annealing agree well with nanomesas observed in ferroelectric phase at room temperature after annealing in the paraelectric phase.

¹the Nebraska Research Initiative and the National Science Foundation

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Date submitted: 20 Nov 2006

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