Abstract Submitted
for the MAR05 Meeting of
The American Physical Society

Graphoepitaxy of triblock and diblock copolymer blend thin films. K.E. SOHN, G.E. STEIN, E.J. KRAMER, UCSB — The ordering of a thin film of poly(styrene-b-ethylene-r-butylene-b-styrene) SEBS and poly(styrene-b-ethylene-butylene) blend laterally confined in a long, rectangular silicon oxide well is investigated as a function of annealing time and temperature. [1] The blend is 65wt% triblock (MW=81,000 g/mol) and 35wt% diblock, with the diblock being half the molecular weight of the triblock. In bulk, the blend shows a cylinder to sphere transition at $\sim$140 $^\circ$C. Thick films exhibit the cylindrical morphology after annealing at 120 $^\circ$C for several days, but in single layer thin films the PS domains remain spherical even after 7 days annealing. Close packed rows of these spherical domains align along the edges of the wells and form templated grains that grow outwards from these edges as the annealing time increases. [1] R.A. Segalman, H. Yokoyama, and E.J. Kramer, Adv. Mater. **13**, 1152 (2001).

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Date submitted: 30 Nov 2004 Electronic form version 1.4