

Abstract Submitted
for the MAR14 Meeting of
The American Physical Society

Cell Dynamics Simulations of Cylinder-Forming Diblock Copolymers in Thin Films on Topographical and Chemically Patterned Substrates ANDREI ZVELINDOVSKY, ROBERTA DESSI, MARCO PINNA, MARIA SERRAL, University of Central Lancashire, JOSEP BONET, Universitat Rovira I Virgili — Using 3-dimensional cell dynamics simulation, we demonstrate that the tetragonal phase of cylinder forming diblock copolymers can be induced on both topographical and chemical patterned substrates. The results quantitatively describe the different effect of both substrates on the degree of imperfection in the tetragonal phase observed in recent experiments [Xu, J.et al. *Soft Matter* 2011, 7, 3915]. Comparative analysis of the structural evolution for different thermal noise level in square, rectangular and diamond-shape lateral confinements is performed. A set of patterned substrates has been investigated.

Andrei Zvelindovsky
University of Central Lancashire

Date submitted: 15 Nov 2013

Electronic form version 1.4