Abstract Submitted
for the MAR11 Meeting of
The American Physical Society

Nucleation and Growth of Hydroxyapatite on Hierarchically Ordered Polymer Nanofibers XI CHEN, BIN DONG, Drexel University, BINGBING WANG, CHRISTOPHER LI, Drexel University — The hierarchically ordered polymer nanofibers, named as nanofiber shish kebabs (NFSKs), were constructed via combination of electrospinning polycaprolactone (PCL) (shish polymer) and controlled crystallization of polycaprolactone-b-poly acrylic acid (PCL-b-PAA) (kebab polymer). These NFSKs were then employed as a template to control the nucleation and growth of hydroxypatite nanocrystals. Electron microscopy and diffraction technique were used to characterize this novel hybrid structure. The growth of minerals starts on the surface of single crystal kebabs and eventually covers the surface of NFSKs. The formation mechanism of hydroxyapatite on NFSKs is of great interest because of the NFSKs' potential application as bone scaffold materials.

Xi Chen
Drexel University

Date submitted: 28 Nov 2010 Electronic form version 1.4