

Abstract Submitted  
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**Hierarchical Structure on Nanofiber via Combination of Electrospinning and Polymer Crystallization** XI CHEN, Drexel University, BING-BING WANG, RUCHA SHAH, CHRISTOPHER LI — We report the formation of hierarchically ordered polymer nanofiber structures, named as nano fiber shish kebabs (NFSKs), by combining electrospinning and controlled polymer crystallization methods. Both poly caprolactone (PCL) and poly (ethylene oxide) (PEO) nanofibers were produced by electrospinning. These polymer nanofibers served as the shish and a secondary polymer (block copolymer) was decorated on the nanofiber in the form of single crystal lamellae by either an incubation (slow crystallization), or a solvent evaporation (fast crystallization) method. The structural parameters of the NFSK such as the fiber diameter, periods, the kebab size etc., were readily controlled by changing the electrospinning and crystallization conditions. This hierarchical architecture is of great technological interest because it provides a platform for incorporating different functionalities into nanoscale polymer fibers in an ordered fashion.

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