

Abstract Submitted
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Assembly of carbon nanotube/polymer hybrids at liquid/liquid interface WENDA WANG, ERIC LAIRD, Graduate Student, CHRISTOPHER LI, Associate Professor — Carbon nanotube (CNT)-templated polymer crystallization has led to controllable patterns on individual CNTs. Previous work has demonstrated that crystalline block copolymers (BCP) can be uniformly patterned on CNTs and the mechanism was attributed to CNT-induced BCP phase separation. Herein, we report that at liquid/liquid interface, CNTs can be bent into nanoscale rings. The structure and morphology of these intriguing CNT rings were investigated using electron microscope and Raman spectroscopy. Furthermore, these CNT rings were used as a template for polymer crystallization. Homopolymer, BCP and gold nanoparticles have been successfully patterned on sub-200 nm CNT rings. These unique hybrids are of great interest in various areas of nanoelectronics and single-electron devices.

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