

Abstract Submitted
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Self-consistent field theory for directed self-assembly in non-cylindrical confinement TATSUHIRO IWAMA, Asahi Kasei E-Materials Co., University of California Santa Barbara, NABIL LAACHI, BONGKEUN KIM, KRIS DELANEY, GLENN FREDRICKSON, University of California Santa Barbara — We use self-consistent field theory to study the directed self-assembly (DSA) of diblock copolymers under non-cylindrical pore confinement such as oval, rectangular or the like. Our goal is to understand whether block copolymers can rectify non-cylindrical holes with reduced critical dimension in both minor direction and major direction of the non-cylindrical prepattterns. We explore a wide range of prepatttern shapes, polymer characteristics to optimize DSA non-cylindrical holes. We also discover defects of DSA morphologies in the non-cylindrical prepattterns.

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