

233e Nanoscale Protein Patterning Using Self-Assembled Diblock Copolymers

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Novel methods for immobilizing proteins on surfaces have the potential to impact basic biological research as well as various biochip applications. In this talk, we demonstrate a unique method to pattern proteins with a nanometer periodicity on silicon oxide substrates using microphase-separated diblock copolymer thin films. We show that the model proteins selectively self-organize themselves on the microdomain regions of specific polymer components. This diblock copolymer-based, self-assembly approach represents a step forward for facile, nanometer-spaced protein immobilization with high areal density, and could provide a pathway to high-throughput proteomic arrays and biosensors.