

## **291r Design of 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. We demonstrate a unique method to pattern proteins with a nanometer periodicity on silicon oxide substrates using microphase-separated diblock copolymer thin films. The self-organizing nature of the diblock copolymer was exploited to produce periodically alternating, nanometer-spaced polymeric domains exposing the two chemical compositions of the diblock to surface. We demonstrate that the model proteins selectively self-organize themselves on the microdomain regions of specific polymer components due to their preferential interactions with one of the two polymer segments.