

Nanopatterned polymer brushes: conformation, fabrication and applications

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Abstract

Surfaces with end-grafted, nanopatterned polymer brushes that exhibit well-defined feature dimensions and controlled chemical and physical properties provide versatile platforms not only for investigation of nanoscale phenomena at biointerfaces, but also for the development of advanced devices relevant to biotechnology and electronics applications. In this review, we first give a brief introduction of scaling behavior of nanopatterned polymer brushes and then summarize recent progress in fabrication and application of nanopatterned polymer brushes. Specifically, we highlight applications of nanopatterned stimuli-responsive polymer brushes in the areas of biomedicine and biotechnology.

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