SURFACE-INITIATED POLYMERIZATION

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ABSTRACT

Surface-initiated polymerization reactions result in chain-end surface-tethered polymer assemblies, which are colloquially referred to as polymer brushes. This polymerization strategy represents a very versatile and powerful approach to enhance and modify functionality and properties at surfaces and interfaces and has been explored for applications that range from biointerfaces to sensing as well as energy-harvesting.

This tutorial talk will provide an introduction to and an overview of the fundamental structure and properties of polymer brush films prepared by surface-initiated polymerization, present the main synthetic approaches that can be utilized to prepare polymer brushes and will end with a selection of examples that will highlight both potential applications of this strategy and point towards further challenges and opportunities for further research in this area.