

Dual Stimuli-Responsive and Electrografted Smart Coatings

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Polymer coatings based on polymer brushes are intriguing from the viewpoint of preparing robust coatings based on tethered polymers. Surface initiated polymerization (SIP) enables the preparation of these coatings based on tethered small molecule initiators and macroinitiators. In this talk, we will describe strategies for the preparation of smart coatings capable of stimuli response to two variables. The use of weak polyelectrolytes and temperature (LCST) responsive polymers enables stimuli response via two directions. In another case, we are able to prepare these polymers via SIP from Langmuir-Blodgett film deposited macroinitiators. Lastly, we detail methods for the electrodeposition of these initiators or preformed polymers for the preparation of electrografted smart coatings on electrodes and metal surfaces.

