

Rendering block copolymer films amphiphilic using external triggers

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A strategy to use block copolymer technology to modify surface properties of thin films is presented.

Focus is paid on external physical stimuli, such as temperature, to trigger changes in surface character of polymer films. In contrast to chemical modification, external physical triggers render the processes more amenable to industrially-relevant roll-to-roll printing processes.

The specific materials discussed are targeted for use in organic photovoltaics, however, the strategy should be amenable to a variety of surface technologies/applications.

The use of x-ray scattering to probe the nanomorphology of the thin films is also explained and discussed in reference to controlling the film properties through manipulation of the molecular composition of the block copolymers.

