

Stimuli-Responsive Smart Polymer Particles

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Complex microscale colloids are material platforms for a wide range of sensing scenarios and can be tuned and configured by a variety of chemical and physical phenomena. In particular, the soft boundaries of colloids produce various synergetic effects by exploiting self-assembling polymers. In this talk, I will present the state-of-the-art in programmed design of anisotropically shaped polymer particles driven by phase-separation upon solvent evaporation from interface-engineered emulsions. In particular, two different topics: 1) block copolymer (BCP) particles with reversible shape-changing property activated by wavelength-selective light irradiation, and 2) full-color reflective photonic polymer particles capable of a dynamic color change will be discussed.