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Stimuli-Response of Charged Diblock Copolymer Brushes DONG MENG, QIANG WANG, Colorado State University — We have performed self-consistent field calculations to study the stimuli-response of diblock copolymer brushes on a planar substrate. One of the two blocks carries either weakly or strongly dissociating charges, making the brush surface responsive to the solution pH, ionic strength and applied electric field, in addition to the solvent selectivity. We have investigated in detail the influence of these stimuli on the polymer segmental distribution and surface switchability of the brush. Our result can be used to guide the experimental design of "smart surfaces" from diblock copolymer brushes.

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