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**Highly Ordered Nanoporous Template from ABC Triblock Copolymer** DONG HYUN LEE, SOOJIN PARK, THOMAS RUSSELL, Univ of Massachusetts, Amherst — In this study, silicon nanoporous templates from polyisoprene-*block*-polystyrene-*block*-poly(2-vinyl pyridine) (PI-*b*-PS-*b*-P2VP) were fabricated. The films, spin-coated from toluene, showed a dimpled texture with short-range lateral order. When exposed to a mixed solvent vapor (toluene/hexane), a highly ordered and oriented core-shell structure of PI-*b*-PS-*b*-P2VP copolymers was obtained. The morphology consisted of an external shell of PI, a middle shell of PS, and a core of P2VP. After removal of the PI from by UV-Ozone treatment, subsequently, polydimethylsiloxane (PDMS) was spin coated onto this film and allowed diffused into the pores by capillary action. When the film was exposed to oxygen plasma, the PDMS was converted to silicon oxide, while all other remaining polymer was removed. This led to a highly ordered and oriented nanoporous structure that could be used as an etching mask or templates for secondary metal loading. Highly ordered arrays of gold nanoparticles for the potential applications for surface enhanced plasmon, immobilization of DNA or organic dyes, or epitaxial growth of crystal were obtained by loading gold salt into well-defined core-shell structure.

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