

## Fabrication of Dual Nanopatterns using Block Copolymer Containing Photocleavable Linker

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Block copolymers (BCPs) with various nanodomains, such as spheres, cylinders, and lamellae, have received attention for their applicability to nanolithography. However, those microdomains are determined by the volume fraction of one block. Meanwhile, nanopatterns with multiple shapes are required for the next-generation nanolithography. Although various methods have been reported to achieve dual nanopatterns, all the methods need sophisticated processes using E-beam. Here, we synthesized two kinds of BCP, linear and miktoarm BCP, containing o-nitrobenzyl alcohol(ONB) as photo-cleavable linker. In the case of linear one, dual nanopatterns consisting of nano-dots and nano-hole can be easily fabricated according to the wavelength of ultraviolet(UV) light. Besides, we fabricated dual nanopatterns consisting of dots and lines at desired regions on a single substrate using miktoarm type BCP. Since these methods can easily control the nanopatterns using light, it could be employed as next-generation nanolithography.