

Abstract Submitted
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Nanohole Structure in Polystyrene-*block*-poly(methyl methacrylate) Thin Film¹ WONCHUL JOO, SEUNG YUN YANG, JIN KON KIM, Pohang Univ. Sci. Tech., HIROSHI JINNAI, Kyoto Institute of Technology — Cylindrical nanoporous structures were prepared by using the mixture of polystyrene-*block*-poly(methyl methacrylate) copolymer and PMMA homopolymer, and they were analyzed by using transmission electron microtomography and X-ray reflectivity. Two methods were employed for nanoporous structures: (1) whole PMMA phase was removed by UV irradiation and (2) only PMMA homopolymer was removed with selective solvent. We found that the nanoporous structure in the film prepared by method (1) exhibited cylindrical shape through the entire the film thickness. On the other hand, when the nanoporous film was prepared with the selective solvent, nanoporous structures exhibited a funnel-shape that the diameter of nanopores located near the top of the film is larger than that located near the bottom of the film.

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