

Abstract Submitted
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Control self-assembled nanowire using chemically modified substrates SHUSUKE ABURAYA, SATOSHI AKASAKA, MIKIHITO TAKENAKA, HIROKAZU HASEGAWA, Kyoto University, YASUHIKO TADA, HIROSHI YOSHIDA, Hitachi Ltd, NIKOS HADJICHRISTIDIS, Athens University, KYOTO UNIVERSITY TEAM, HITACHI LTD TEAM, ATHENS UNIVERSITY TEAM — Block copolymer lithography is a promising method for fabricating periodical nanopatterns. Strongly segregated block copolymers are required for the formation of smaller size microphase-separated structures. In this study, we used a poly(styrene-*b*-dimethylsiloxane) (PS-*b*-PDMS) which has large Flory-Huggins interaction parameter. In addition, we investigated this cylinder-forming PS-*b*-PDMS has large segregation in the bulk condition by small-angle X-ray scattering (SAXS). Consequently, We demonstrated a fabrication of well-ordered arrays of 15nm period PDMS cylinder on the grating substrate with chemical modification. So, we can obtaine less than 10 nm L/S fabrication.

Shusuke Aburaya
Kyoto University

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