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**Offset block copolymer printing using brushless substrates and elastomeric stamps** HYO SEON SUH, University of Wisconsin - Madison, HYUNSIK YOON, DO KYEONG KWON, KOOKHEON CHAR, Seoul National University, M. SERDAR ONSSES, JEONG IN LEE, PAUL NEALEY, University of Wisconsin - Madison — The block copolymer (BCP) films have been utilized as the useful templates for the nanopatterning because of their ability to form quite small feature size with a relatively easy and cheap method. Recently, the control of orientation as well as the perfect registration with long range order of nanostructures in BCP films has been achieved by directing the assembly of BCP films with the chemical or topographical templates. However, such control of nanostructures and utilization of BCP films are limited on Si wafers since the templates are usually prepared by the semiconductor fabrication process. In this study, we will introduce a technique that overcomes such limitation on the application of BCP films. The chemical pattern prepared by e-beam lithography on the substrate without polymer brushes or mats was used as a template for the directed assembly of BCP films. Because the adhesion between this template and a BCP film is fairly weak, the directed assembled BCP films on this template could be easily transferred to the other substrates with adhesion-controlled elastomeric stamps. We believe that this transfer method, or printing method, would expand the applications of BCP films to areas where the nanotemplates are required.

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