Abstract Submitted
for the MAR14 Meeting of
The American Physical Society

**Distribution of short block copolymer chains in Binary Blends of Block Copolymers Having Hydrogen Bonding** JONGHEON KWAK, SUNGHYUN HAN, JIN KON KIM, Pohang University of Science and Technology — A binary mixture of two block copolymers whose blocks are capable of forming the hydrogen bonding allows one to obtain various microdomains that could not be expected for neat block copolymer. For instance, the binary blend of symmetric polystyrene-block-poly(2-vinylpyridine) copolymer (PS-b-P2VP) and polystyrene-block-polyhydroxystyrene copolymer (PS-b-PHS) blends where the hydrogen bonding occurred between P2VP and PHS showed hexagonally packed (HEX) cylindrical and body centered cubic (BCC) spherical microdomains. To know the exact location of short block copolymer chains at the interface, we synthesized deuterated polystyrene-block-polyhydroxystyrene copolymer (dPS-b-PHS) and prepared a binary mixture with PS-b-P2VP. We investigate, via small angle X-ray scattering (SAXS) and neutron reflectivity (NR), the exact location of shorter dPS block chain near the interface of the microdomains.

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Date submitted: 10 Nov 2013 Electronic form version 1.4