Abstract Submitted
for the MAR06 Meeting of
The American Physical Society

Modified Side-Chain Liquid Crystalline Polymer Thin Films as Low Adhesion Surfaces HARIS RETSOS, E.S.P.C.I., PARIS, Lab PPMD, DAE-WON LEE, School of Chem & Bio. Engr., Seoul National University, Seoul, Korea, COSTANTINO CRETON, E.S.P.C.I., PARIS, Lab PPMD, KOOKHEON CHAR, School of Chem. & Biol. Engr., Seoul National University, Seoul, Korea — The adhesive properties of side-chain liquid crystalline block copolymer thin films against soft acrylic pressure-sensitive-adhesive layers have been investigated with the probe method. Since the structure of the thin films varies from crystalline to liquid crystalline or to fully isotropic state as a function of temperature, we investigated the effect of annealing temperature of the interface on the adhesive properties. All the layers displayed very low adhesion at room temperature but above the crystalline to LC transition temperature, this low adhesion property disappears, presumably due to the reorganization of interfacial structure. To avoid this reconstruction, the 14C alkyl side-chains were modified by the incorporation of SO_2 groups that experience the dipole-dipole interactions and provide remarkable temperature stability to the crystalline phases. We further investigated the influence of the position and the kind of polar group in the side-chains on the structural and adhesion properties of those block-copolymers.

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Date submitted: 03 Dec 2005 Electronic form version 1.4