

Abstract Submitted
for the MAR11 Meeting of
The American Physical Society

**Facile Synthesis and Characterization of Well-Defined Rod-Coil
Block Copolymers Composed of Regioregular Poly(3-hexyl thiophene)**

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— We synthesized rod-coil block copolymers composed of regioregular poly(3-hexyl thiophene) (P3HT) block via anionic coupling reaction. Three different coil blocks (poly(2-vinyl pyridine) (P2VP) and polyisoprene (PI) and poly(methyl methacrylate) (PMMA)) were selected. For the synthesis of P2VP-*b*-P3HT-*b*-P2VP and P2VP-*b*-P3HT-*b*-P2VP, the chain ends of the P3HT were capped by the aldehyde group. On the other hand, phenyl acrylate (PA)-capped P3HT was prepared for coupling reaction with living PMMA anions. When the excess amount of the used living anions was removed by column chromatography, all of the neat block copolymers showed lower PDI without leaving any homopolymers. We also investigated the optical property and thin film morphology of synthesized various block copolymers.

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Date submitted: 16 Nov 2010

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