J. LEE, H. RYU, S. PARK, M. CHO, T.-L. CHOI* (ETH ZÜRICH, SWITZERLAND)

Living Suzuki–Miyaura Catalyst-Transfer Polymerization for Precision Synthesis of Length-Controlled Armchair Graphene Nanoribbons and Their Block Copolymers

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Living Polymerization of Length-Controlled GNR

Significance: The living Suzuki–Miyaura catalyst-transfer polymerization (SCTP) is successfully applied to achieve length-controlled armchair graphene nanoribbons (GNR). The SCTP-enabled length control over the polymers is confirmed by the narrow polydispersity.

Comment: The armchair GNRs prepared via SCTP show both narrow dispersity and excellent yields. The great potency of the method is demonstrated with the acquirement of different polymer structures, including GNR block copolymers.

Category

Synthesis of Materials and Unnatural Products

Key words

conjugated polymers

catalyst-transfer polymerization

graphene nanoribbons

precision synthesis

