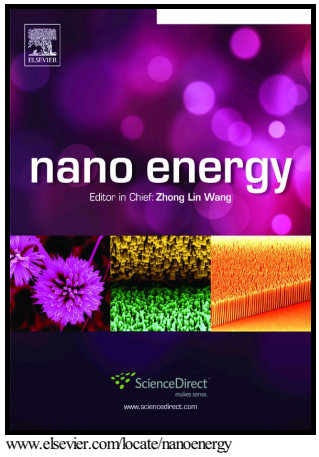

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Abstract

Morphological control over the bulk heterojunction (BHJ) microstructure of a high-efficiency small molecule photovoltaic system composed of a quinquethiophene based molecule (DRCN5T) as electron donor and [6, 6]-phenyl-C71-butyric acid methyl ester ($PC_{70}BM$) as electron acceptor is demonstrated using three different post-processing strategies, including thermal annealing (TA), solvent vapor annealing (SVA), and two-step annealing (TA-SVA) treatments. We systematically analyze the processing condition-microstructure-device property relationships, explore the corresponding morphology evolution and their effects on