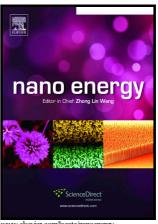
### Author's Accepted Manuscript

Over 10% Efficiency in Single-Junction Polymer Solar Cells Developed from Easily Accessible Random Terpolymers

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#### **ACCEPTED MANUSCRIPT**

Over 10% Efficiency in Single-Junction Polymer Solar Cells Developed from Easily Accessible Random Terpolymers

Hye Jin Cho <sup>a,1</sup>, Yu Jin Kim <sup>b,1</sup>, Shanshan Chen <sup>a</sup>, Jungho Lee <sup>a</sup>, Tae Joo Shin <sup>c,\*</sup>, Chan Eon Park <sup>b,\*</sup>, Changduk Yang <sup>a,\*</sup>

<sup>a</sup>Department of Energy Engineering, School of Energy and Chemical Engineering, Low Dimensional Carbon Materials Center, Perovtronics Research Center, Ulsan National Institute of Science and Technology (UNIST), 50 UNIST-gil, Ulju-gun, Ulsan 44919, Republic of Korea.

<sup>b</sup>POSTECH Organic Electronics Laboratory, Department of Chemical Engineering, Pohang University of Science and Technology (POSTECH), Pohang 790-784, Republic of Korea <sup>c</sup>UNIST Central Research Facilities & School of Natural Science, Ulsan National Institute of Science and Technology (UNIST), Ulsan 44919, Republic of Korea

tjshin@unist.ac.kr

cep@postech.ac.kr

yang@unist.ac.kr

#### **Abstract**

Despite the numerous random polymers recently developed for polymer solar cells (PSCs), very limited attention has been directed toward controlling the ratio of widely used thiophene (T) to bithiophene (2T) chromophores in their backbones. Herein, we developed a new family of thieno[2',3':5',6']pyrido[3,4-g]thieno[3,2-c]isoquinoline-5,11(4H,10H)-dione-based random terpolymers containing different T and 2T compositions. In-depth structure—property investigations covering physical properties, morphology, and PSC performance with respect to T:2T in the polymers were performed by several structural characterization techniques. Over a range of compositions, these random terpolymers provide impressive fill factor (FF)

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