Electronic Supplementary Material (ESI) for Polymer Chemistry

Supporting Information
For

Dithiazolyl-benzothiadiazole-containing polymer acceptor: Synthesis, characterization, and all-polymer solar cells

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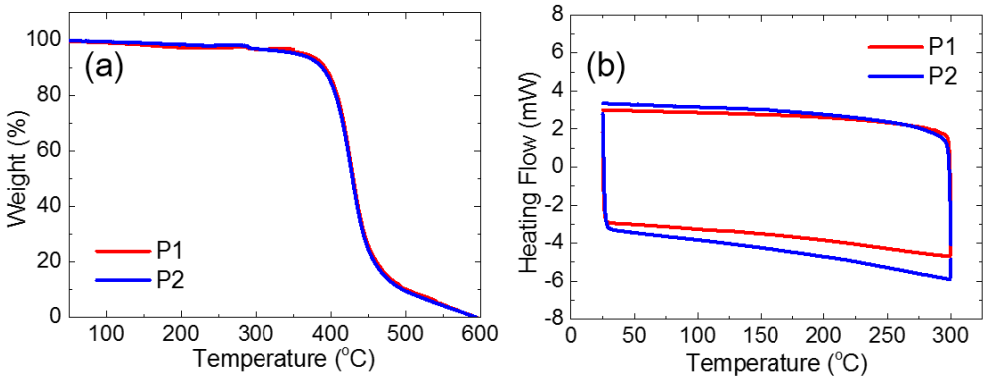

Figure S1. (a) Thermal gravity analyses (TGA) of **P1** (5% loss, 366 °C) and **P2** (5% loss, 355 °C). (b) Differential scanning calorimetry (DSC) traces of **P1** and **P2** (scan rate: 10 °C/min). No phase transition was observed.

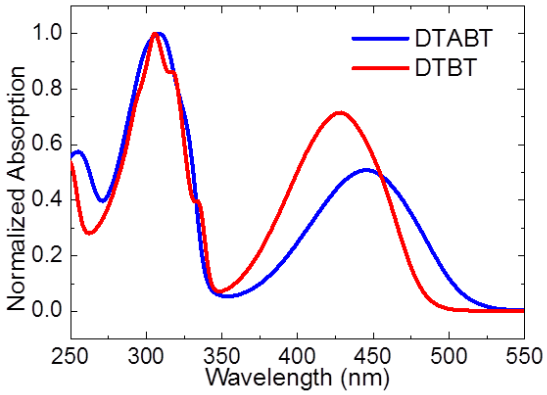

Figure S2. Normalized absorption spectra of **DTABT** and **DTBT** in $CHCl_3$ (1×10^{-5} M). Absorption bands from 350 to 550 nm are attributed to the intramolecular charge transfer from thiazole or thiophene to BT. Similar absorption features were observed in band II absorption of **P1** and **P2**. The peaks around 306 nm are the absorption of BT moieties. Three obvious vibrational peaks around 306 nm indicated that **DTABT** has a rigid π system.

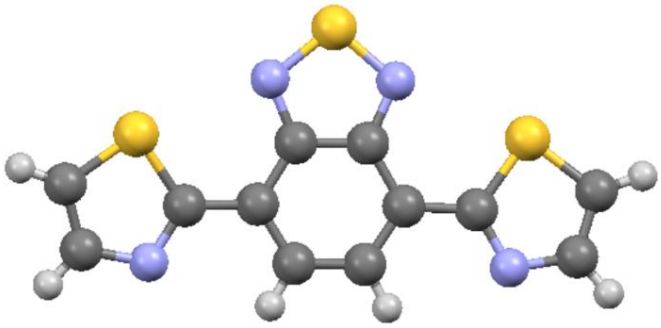

Figure S3. Single crystal packing diagrams of compounds **DTABT**.[1] Only one conformation in **DTABT** single crystal was observed and no disorder caused by the thiazole ring rotation. The S atoms of the thiazole units are shortly contacted with the N atom of the thiazole with a distance of 2.9 Å. Dihedron angle between BT and thizaole is 6°, indicating **DTABT** has an almost planar structure.

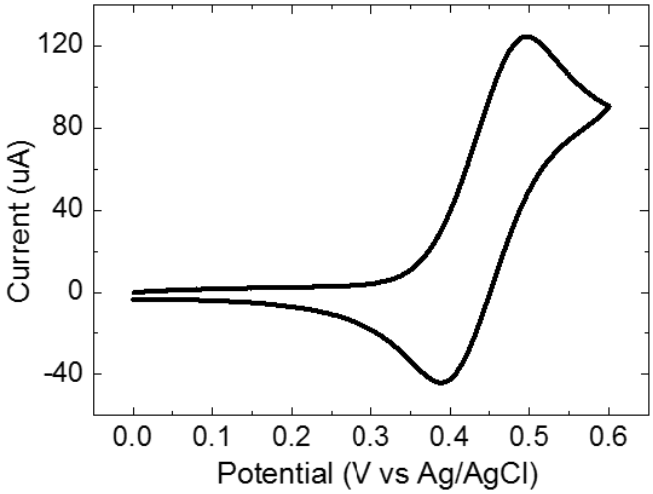

Figure S4. Cyclic voltammogram of ferrocene in solution. Measurements were carried out in acetonitrile containing 0.1 M *n*-Bu_4NPF_6 as supporting electrolyte.

Reference:

1 M. Akhtaruzzaman, N. Kamata, J. Nishida, S. Ando, H. Tada, M. Tomura and Y. Yamashita, *Chem. Commun.*, **2005**, 3183-3185.