

Electronic Supplementary Information

Phototransistors based on Donor-Acceptor conjugated polymer with high response speed

Qinghe Wang,^{a,b,c} Min Zhu,^{a,b,c} Di Wu,^a Guobing Zhang,^{a,b,c} Xiaohong Wang,^{a,b,c}
Hongbo, Lu,^{a,b,c} Xianghua Wang,^a Longzhen Qiu^{a,b,c*}

a. Key Lab of Special Display Technology, Ministry of Education, National Engineering Lab of Special Display Technology, State Key Lab of Advanced Display Technology, Academy of Opto-Electronic Technology, Hefei University of Technology, Hefei, 230009, People's Republic of China.

b. Key Laboratory of Advanced Functional Materials and Devices, Anhui Province, School of Chemistry and Chemical Engineering, Hefei University of Technology, Hefei, 230009, People's Republic of China.

c. School of Chemistry and Chemical Engineering, Hefei University of Technology, Hefei, 230009, People's Republic of China.

* Corresponding author. Tel: +86 055162902821.

E-mail address: lzhqiu@hfut.edu.cn (L Qiu)

Figure Captions:

Figure S1. The absorption coefficient of PBIBDF-BT polymer at different wavelength.

Figure S2. Photo-response properties of device based on PBIBDF-BT measured in vacuum. (a) hole-carriers transport, (b) electron-carriers transport.

Figure S3. AFM images near the film and OTS-treated substrate with different spin-speed. (a) 4000 rpm, (b) 5000 rpm, and (c) 6000 rpm. The thickness of films obtained from different spin-speed. (d) 83 ± 2 nm, (e) 72 ± 2 nm, (f) 63 ± 2 nm.