Electronic Supplementary Material (ESI) for Journal of Materials Chemistry

Supporting Information

Observation of Ambipolar Field-effect Behavior in Donor-Acceptor Conjugated Copolymers

Shinuk Cho,[1,*] Jung Hwa Seo,[2] Gi-Hwan Kim,[3] Jin Young Kim,[3,*] Han Young Woo[4]

[1]*Department of Physics, University of Ulsan, Ulsan 680-749, Republic of Korea*
[2]*Department of Materials Physics, Dong-A University, Busan 604-714, Republic of Korea*
[3]*Interdisciplinary School of Green Energy, Ulsan National Institute of Science and Technology, Ulsan 689-798, Republic of Korea*
[4]*Department of Nanofusion Technology (BK21) and Cogno-Mechatronics Engineering (WCU), Pusan National University, Miryang 627-706, Republic of Korea*

[*]Corresponding Author. E-mail address:
sucho@ulsan.ac.kr (S.Cho), jykim@unist.ac.kr (J. Y. Kim)

I. Atomic force microscopy (AFM) images

Figure S1 shows the tapping mode AFM topology images of PPcB and PCDTBT on PPcB. The AFM image obtained from PCDTBT deposited on an OTS-treated surface is presented for comparison.

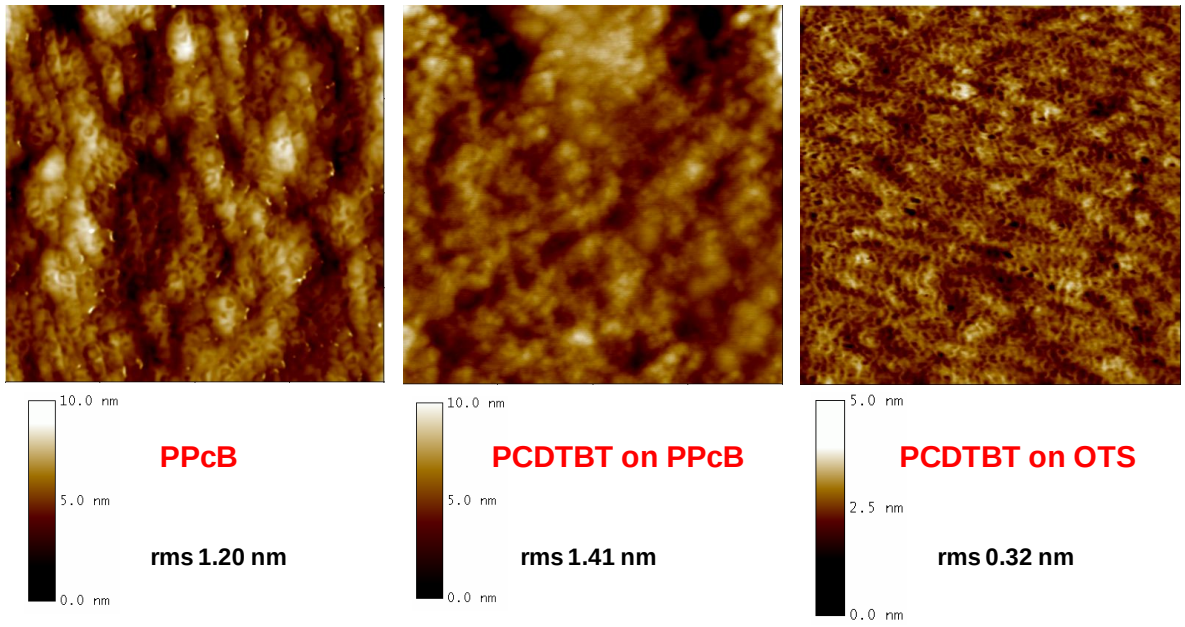

Figure S1. AFM images of PPcB, PCDTBT on PPcB and PCDTBT on OTS.

II. Additional FET results

Figure S2 shows the FET results obtained from PTBT FET fabricated on an OTS-treated SiO_2 substrate. The transport and output characteristics are typical of p-type polymer FETs.

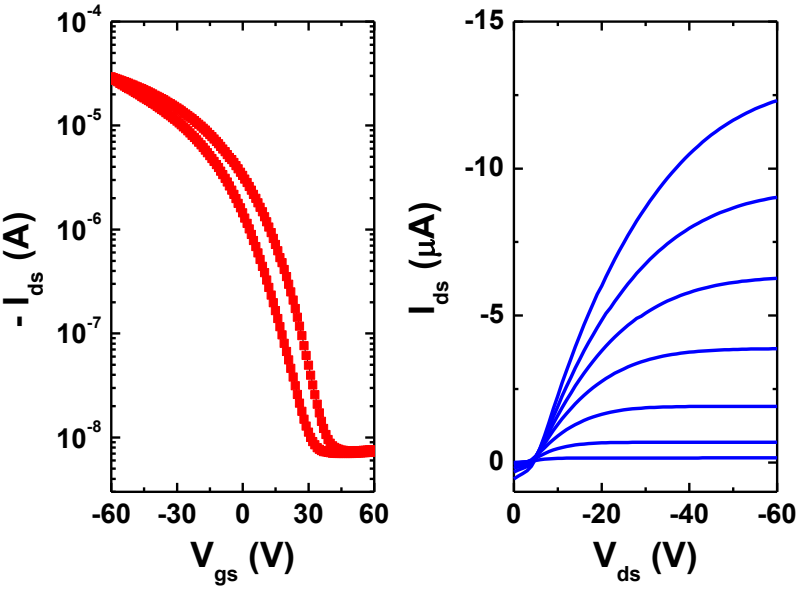

Figure S2. PTBT FET fabricated on OTS-treated SiO_2 substrate.

Figure S3 shows the output characteristic curves of PTBT FET fabricated on a PPcB passivation layer.

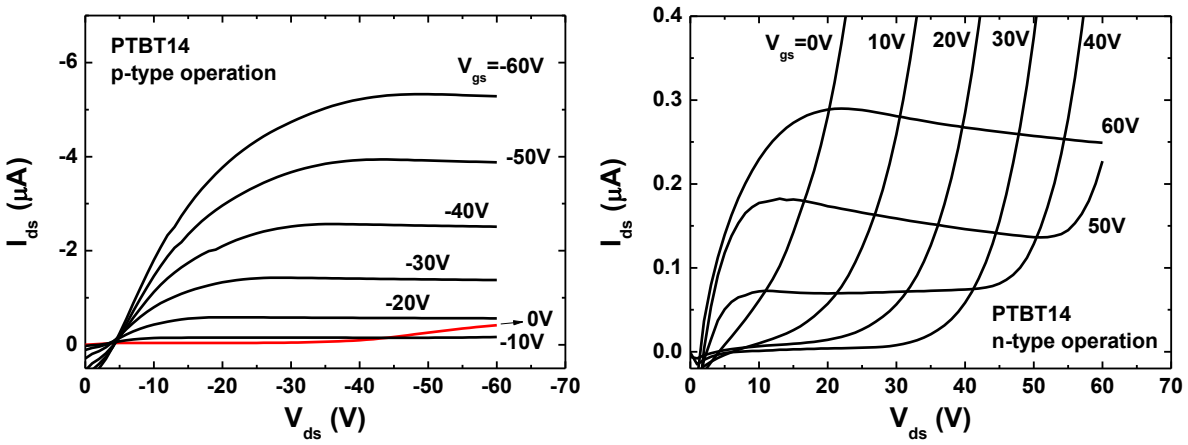

Figure S3. Output characteristics of a PTBT ambipolar FET fabricated on a PPcB layer.

Figure S4 shows the output characteristic curves of Si-PCPDTBT FET fabricated on a PPcB passivation layer.

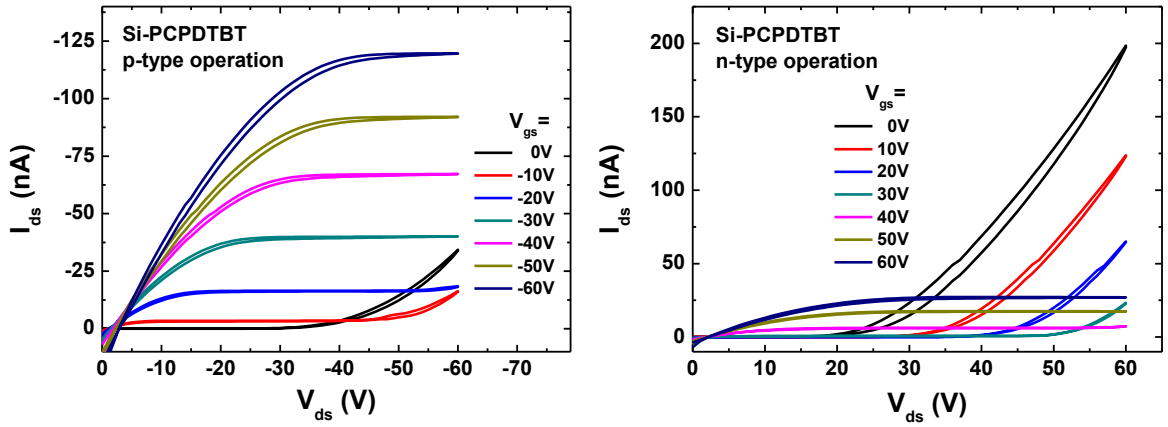

Figure S4. Output characteristics of a Si-PCPDTBT ambipolar FET fabricated on a PPcB layer.