

SUPPLEMENTARY INFORMATION

**Effect of Fullerene Acceptor on the Performance of Solar Cells based on
PffBT4T-2OD**

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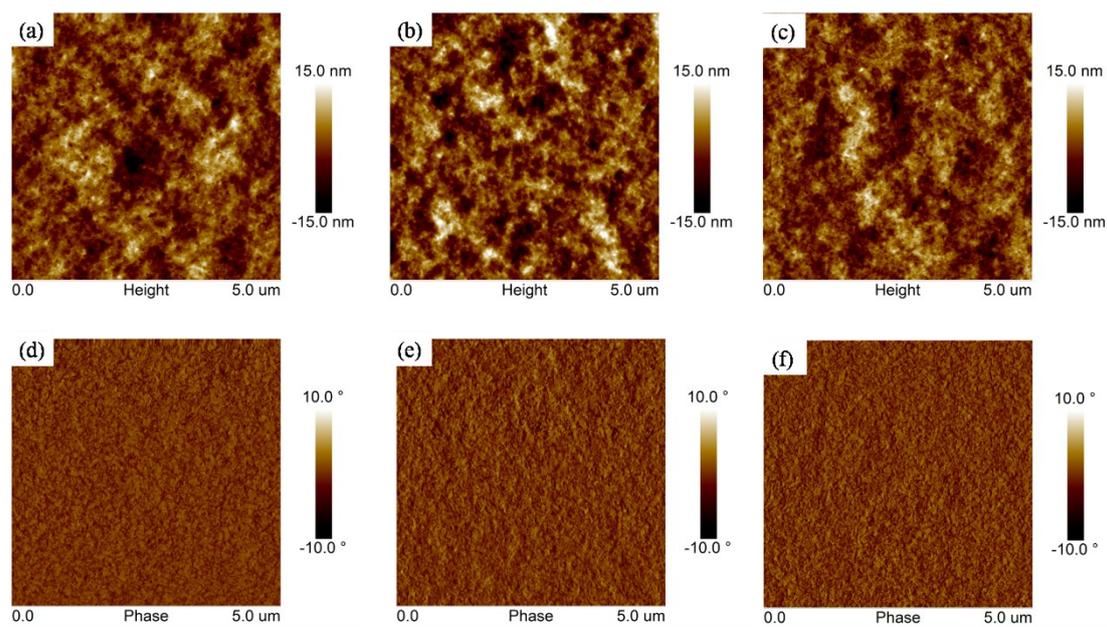


Figure S1. AFM images of the BHJ films. (a) and (d) PffBT4T-2OD:PC₇₁BM; (b) and (e) PffBT4T-2OD:PC₆₁BM; (c) and (f) PffBT4T-2OD:ICBA.

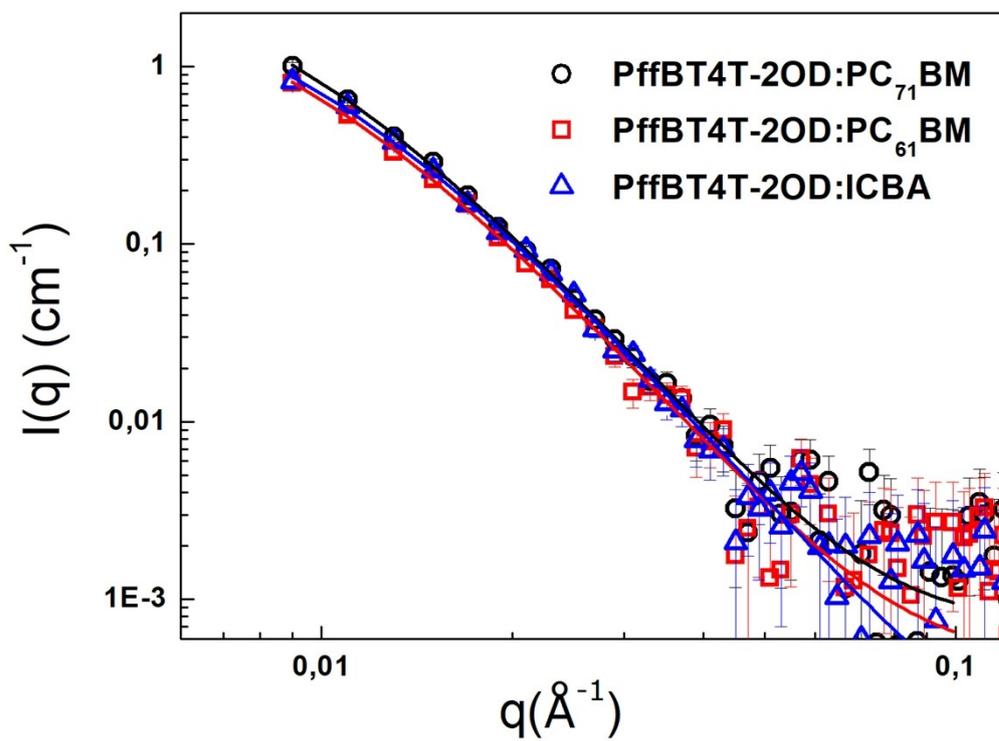


Figure S2. SANS intensity (I) on an absolute scale as a function of scattering vector (q) for BHJ films with different fullerenes.

	Scaling factor C_{DB}	Length L (nm)	$(\chi^2/Npts)$
PffBT4T-2OD : PC ₇₁ BM	2.84×10^{-6}	11.7 ± 0.4	0.72
PffBT4T-2OD : PC ₆₁ BM	2.38×10^{-6}	11.1 ± 0.4	0.87
PffBT4T-2OD : ICBA	2.63×10^{-6}	10.8 ± 0.4	0.65

Table S1. Scaling factors (C_{DB}) and correlation lengths (L) obtained by fitting the experimental data using the Debye-Anderson-Brumberger (DAB) model in the interval $q=0.009 - 0.1 \text{ \AA}^{-1}$.

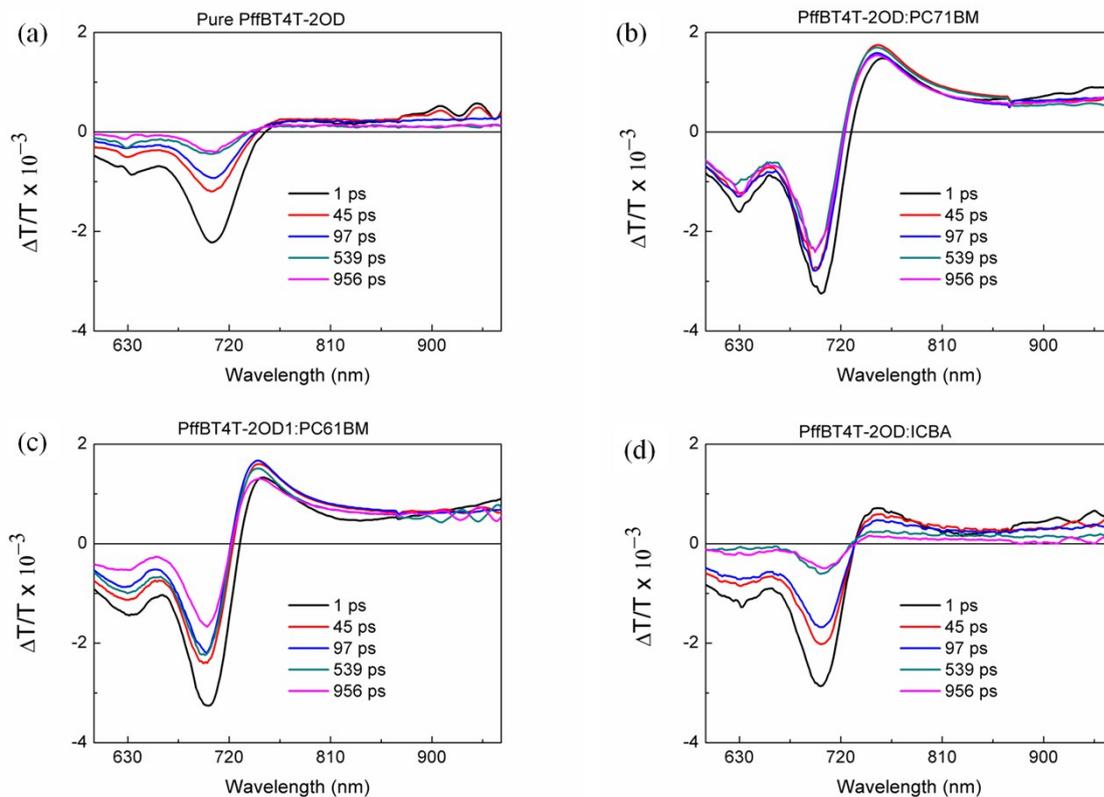


Figure S3. Transient absorption (TA) spectra of thin films of pure PffBT4T-2OD and PffBT4T-2OD blended with PC₇₁BM, PC₆₁BM and ICBA respectively measured at different time after excitation with 630 nm (200 fs, 0.1 mW/cm²).