

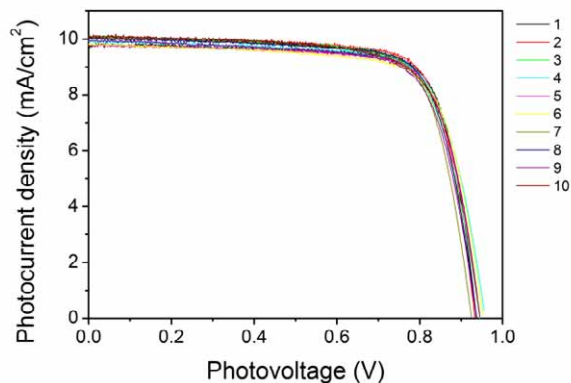
### Supporting Information

#### Light Controlled Assembling of Iodine-Free Dye-Sensitized Solar Cells with Poly(3,4-ethylenedioxythiophene) as Hole Conductor

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Fig. S1 and Table S1 show the reproducibility of D205 dye-sensitized solar cells with PEDOT as hole conductor. The PEDOT was prepared by the photoelectrochemical polymerization method under 670 nm illumination in porous TiO<sub>2</sub> electrodes.



**Fig. S1** the I-V curves of ten PEDOT DSSCs fabricated under the optimized 670 nm illumination. The I-V measurements were performed under 100mW/cm<sup>2</sup> AM1.5 illumination.

**Table S1.** The photoelectrical performance of ten PEDOT DSSCs fabricated under the optimized 670 nm illumination.  $J_{SC}$  is short circuit photocurrent density,  $V_{OC}$  is open circuit photovoltage,  $FF$  is fillfactor,  $PCE$  is solar-to-electric conversion efficiency.

	$J_{SC}$ (mA/cm <sup>2</sup> )	$V_{OC}$ (mV)	$FF$	$PCE$ (%)
1	9.8	937	0.77	7.11
2	10.1	929	0.76	7.15
3	10.1	944	0.74	7.01
4	9.9	955	0.74	7.03
5	9.8	945	0.75	6.96
6	9.8	952	0.74	6.91
7	10.1	925	0.75	6.98
8	10.0	938	0.75	7.07
9	10.0	936	0.73	6.87
10	10.1	944	0.73	6.92