

Supplementary information

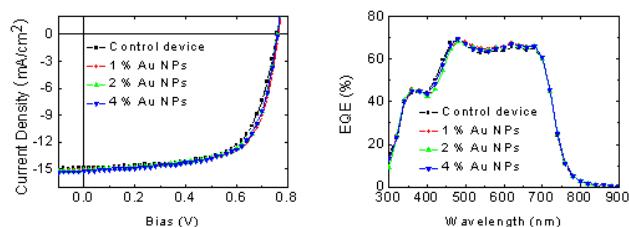


Fig. S1. Comparison of OSCs results with and without Au NPs in PTB7:PC₇₀BM layer: (a) J-V characteristics of the OSCs under AM1.5G 100 mW/cm² illumination, and (b) EQE of the OSCs.

Table S1. Conductivity of pristine PEDOT:PSS, rGO and PEDOT:PSS:rGO mixture.

Material	Conductivity S/cm
PEDOT:PSS	456
rGO	4.42
PEDOT:PSS:rGO (1:1)	498
PEDOT:PSS:rGO (1:2)	533
PEDOT:PSS:rGO (1:3)	542
PEDOT:PSS:rGO (1:4)	503

Table S2. Photovoltaic parameters of solar cells with different Au NPs concentrations in PTB7:PC₇₀BM layer under AM1.5G illumination at 100 mW/cm².

Au NPs	J _{sc} (mA/cm ²)	V _{oc} (V)	FF (%)	PCE (%)
Control	14.86±0.02	0.76±0.01	65.49±0.01	7.39±0.01
1%	15.03±0.02	0.76±0.01	66.32±0.04	7.63±0.02
2%	15.07±0.03	0.76±0.01	67.48±0.11	7.78±0.02
4%	15.03±0.01	0.76±0.01	67.29±0.02	7.74±0.03