Electronic Supplementary Material (ESI) for Sustainable Energy & Fuels.

Supplementary Information

Improved Efficiency of Polymer Solar Cells by Plasmonically Enhanced Photon Recycling

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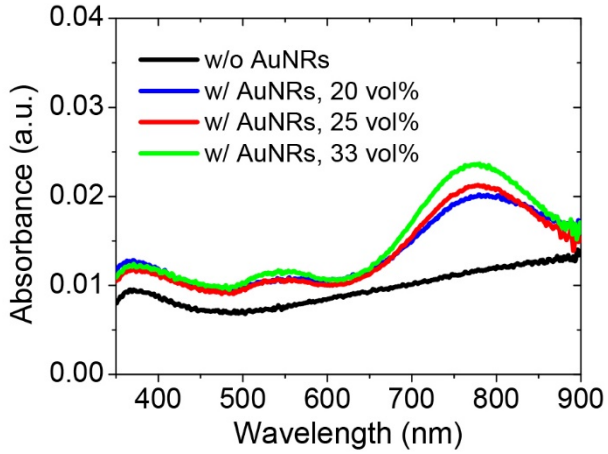

Fig. S1 Measured absorbance spectra for pristine films of PEDOT:PSS (black line) and AuNR-embedded PEDOT:PSS spin-coated with blended solutions of AuNRs and PEDOT:PSS with 20 (blue line), 25 (red line), and 33 vol% (green line).

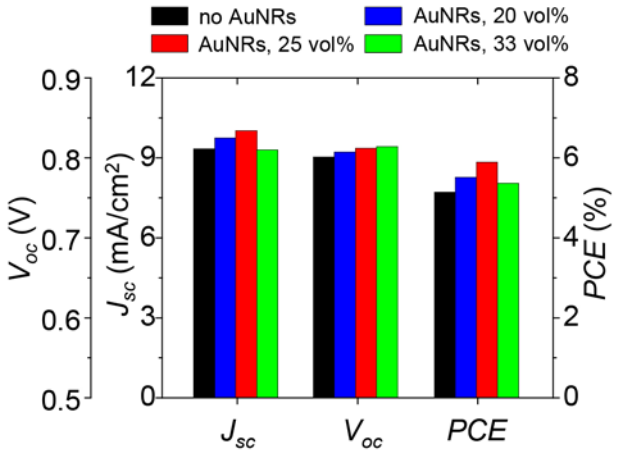

Fig. S2 Measured photovoltaic parameters of short-circuit current density (J_{sc}), open-circuit voltage (V_{oc}), and power conversion efficiency (*PCE*) for reference P3HT:ICBA device (black bar) and P3HT:ICBA devices with AuNRs fabricated using blended solutions of AuNRs and PEDOT:PSS with 20 (blue bar), 25 (red bar), and 33 vol% (green bar).

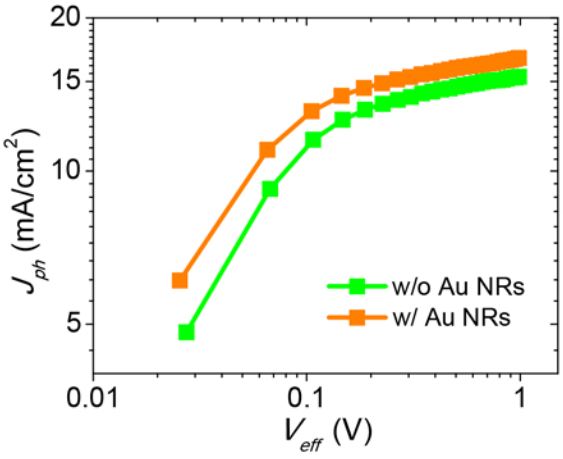

Fig. S3 Photocurrent density (J_{ph})-effective voltage (V_{eff}) curves of PTB7-Th:$PC_{71}BM$ devices with and without AuNRs.

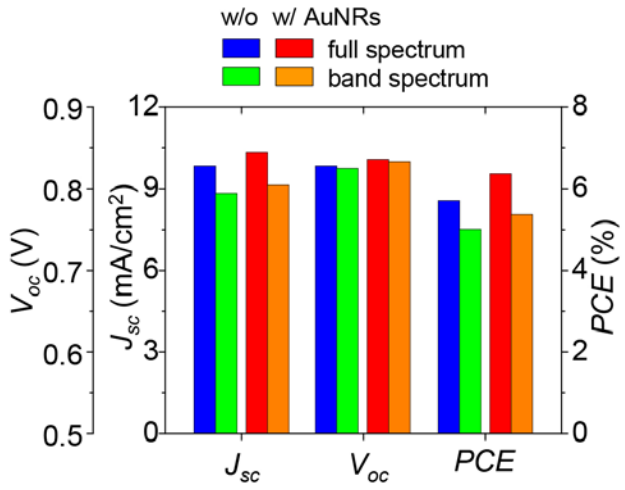

Fig. S4 Measured photovoltaic parameters of short-circuit current density (J_{sc}), open-circuit voltage (V_{oc}), and power conversion efficiency (*PCE*) for P3HT:ICBA devices with and without AuNRs under the full AM 1.5G spectrum illumination and the spectrally confined AM 1.5G illumination by a bandpass filter, respectively.