

Table S1. Photovoltaic parameters of i-PSCs fabricated with each P3MT film and PEDOT:PSS calculated from *J-V* curves of backward voltage scan (1.3 V $\rightarrow$ -0.2 V). Data collected from 8-11 cells.

HTL	J_{sc} (mA cm ⁻²)	V_{oc} (V)	FF	PCE (%)
P3MT: nanoleaf	10.46 $\pm$ 0.43	0.823 $\pm$ 0.091	0.639 $\pm$ 0.045	4.92 $\pm$ 1.57
P3MT: nanowire	11.49 $\pm$ 0.77	0.847 $\pm$ 0.028	0.657 $\pm$ 0.104	6.37 $\pm$ 0.98
P3MT: nanopillar	15.19 $\pm$ 0.10	0.931 $\pm$ 0.022	0.718 $\pm$ 0.011	10.45 $\pm$ 0.32
PEDOT: PSS	15.36 $\pm$ 0.90	0.948 $\pm$ 0.028	0.717 $\pm$ 0.015	10.21 $\pm$ 0.70

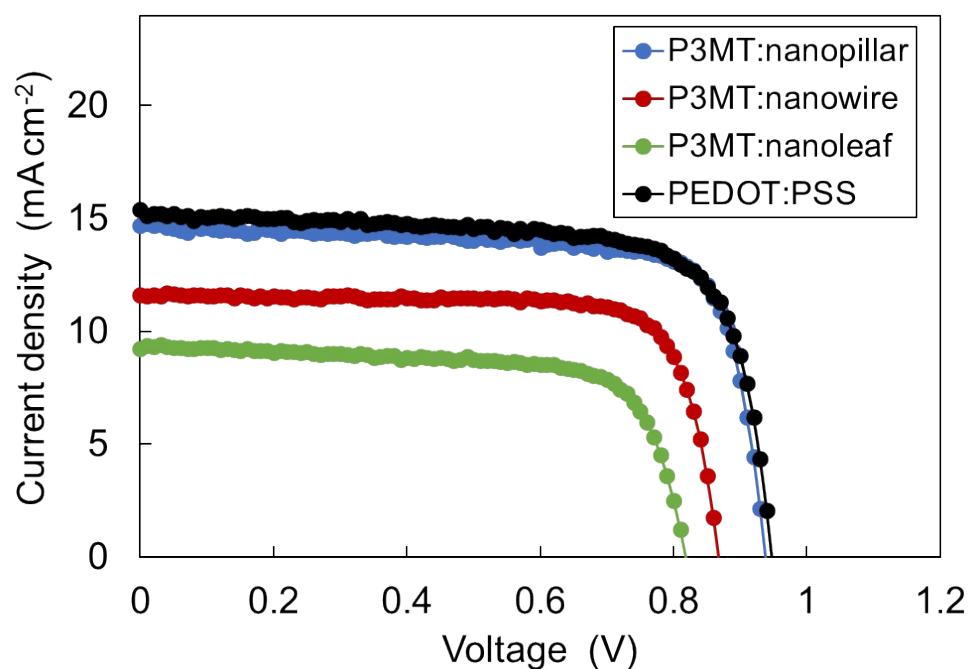


Fig. S1. *J-V* curves of each i-PSCs device measured under 1 sun illumination (blue line, P3MT:nanopillar; red line, P3MT:nanowire; green line, P3MT:nanoleaf; voltage scan: 1.3 V $\rightarrow$ -0.2 V).