Supporting Information

Figure S1. Effect of average perovskite grain size on PSC performance parameters measured using forward scan: (a) $J_{sc}$, (b) $V_{oc}$, (c) $FF$, and (d) PCE. All PCSs were fabricated using ITO/compact TiO,(1-butanol $T_s = T_a = 450^\circ C$)/MAPbI$_3$/Spiro-OmeTAD/Au).
Figure S2. The effect of c-TiO₂ thickness on the PSC performance.

Figure S2. Effect of average perovskite grain size on (a) series resistance \( (R_s) \) and (b) shunt resistance \( (R_{sh}) \) for PSC samples with 1-butanol as solvent at \( T_s = T_a = 450 \)°C with 0.54 cm² as an active area. Data was collected from the forward scan.
Figure S3. Distribution reproducible graphs of PSCs (0.16cm² active area samples) comparing forward scan and reverse scan: (a) $J_{sc}$ (b) $V_{oc}$ (c) FF and (d) PCE.