Electronic Supplementary information (ESI)

Epitaxial 1D Electron Transport Layer for High Performance Perovskite Solar Cells

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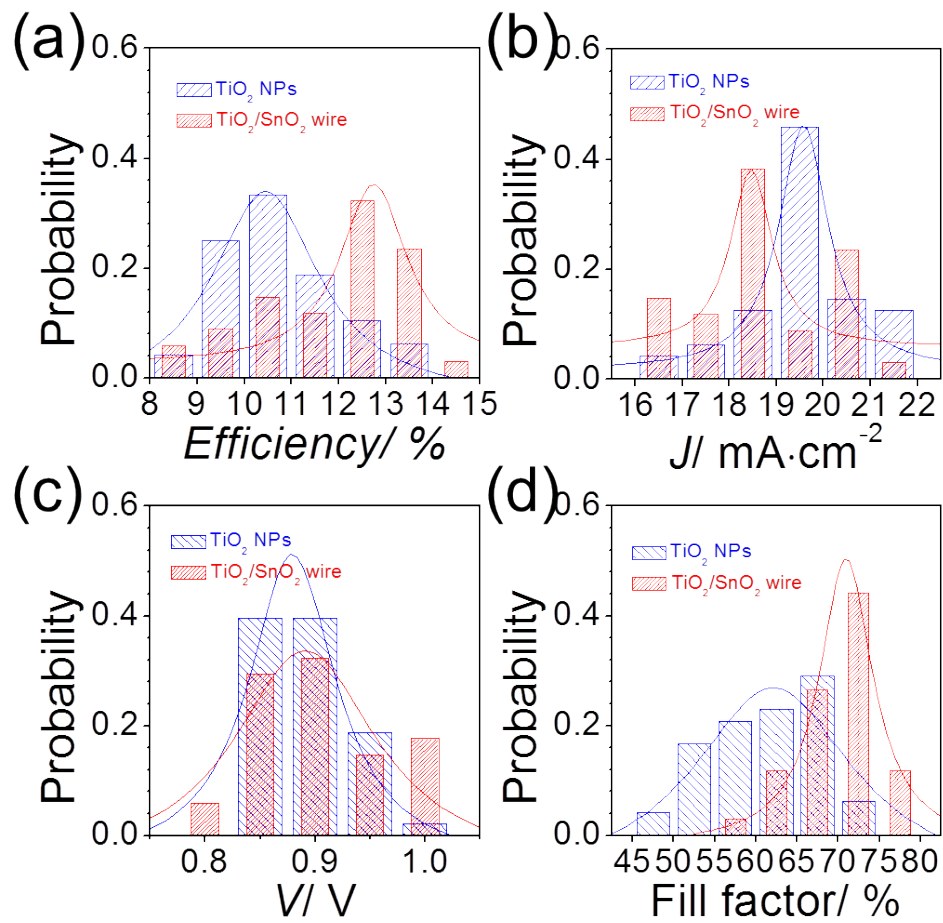
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Figure S1. Histograms of the parameters of the TiO$_2$ NP based mp-ETL cells (48 devices) compared to TiO$_2$/SnO$_2$ NWs based 1D-ETL cells (34 devices). (a) Power conversion efficiency PCE, (b) short-circuit current density J_{sc}, (c) open-circuit voltage V_{oc}, and (d) fill factor FF.
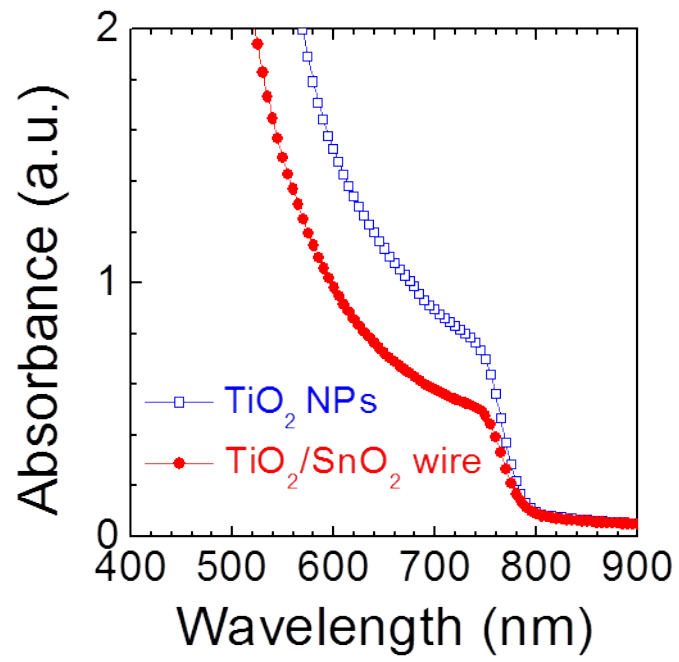
Figure S2. UV-vis absorption spectrum of the TiO_2 NP based mp-ETL cell and TiO_2/SnO_2 NWs based 1D-ETL cell.

Figure S3. Cross-sectional FE-SEM image of (a) the TiO_2 NP based mp-ETL cell, and (b) TiO_2/SnO_2 NWs based 1D-ETL cell.
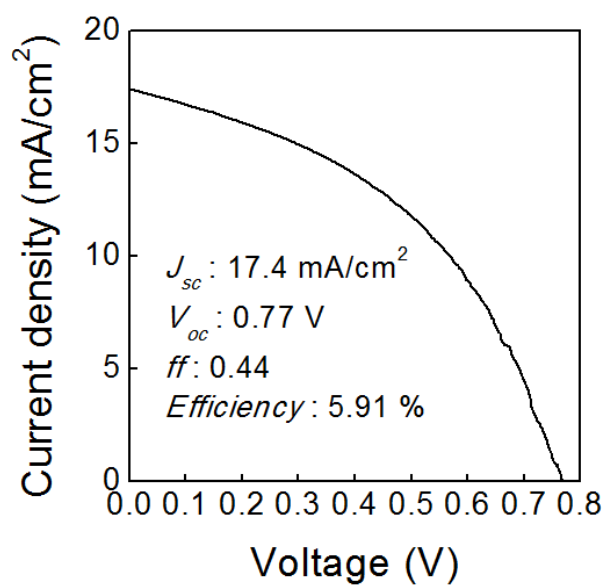
Figure S4. *J-V* curve of bare SnO$_2$ NW based ETL PSC