SUPPPORTING INFORMATION

Mesoscopic $CH_3NH_3PbI_3$ perovskite solar cells using TiO_2 inverse opal electron conducting scaffold

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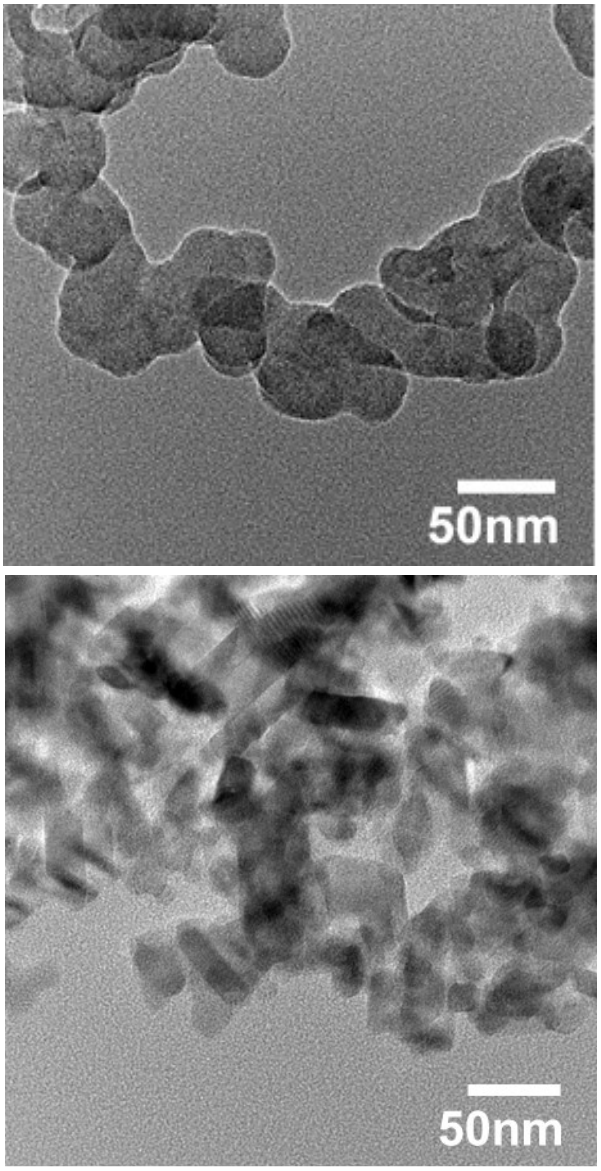

Figure S1. TEM image of (up) the meso-IO film and (down) NP TiO_2 film.

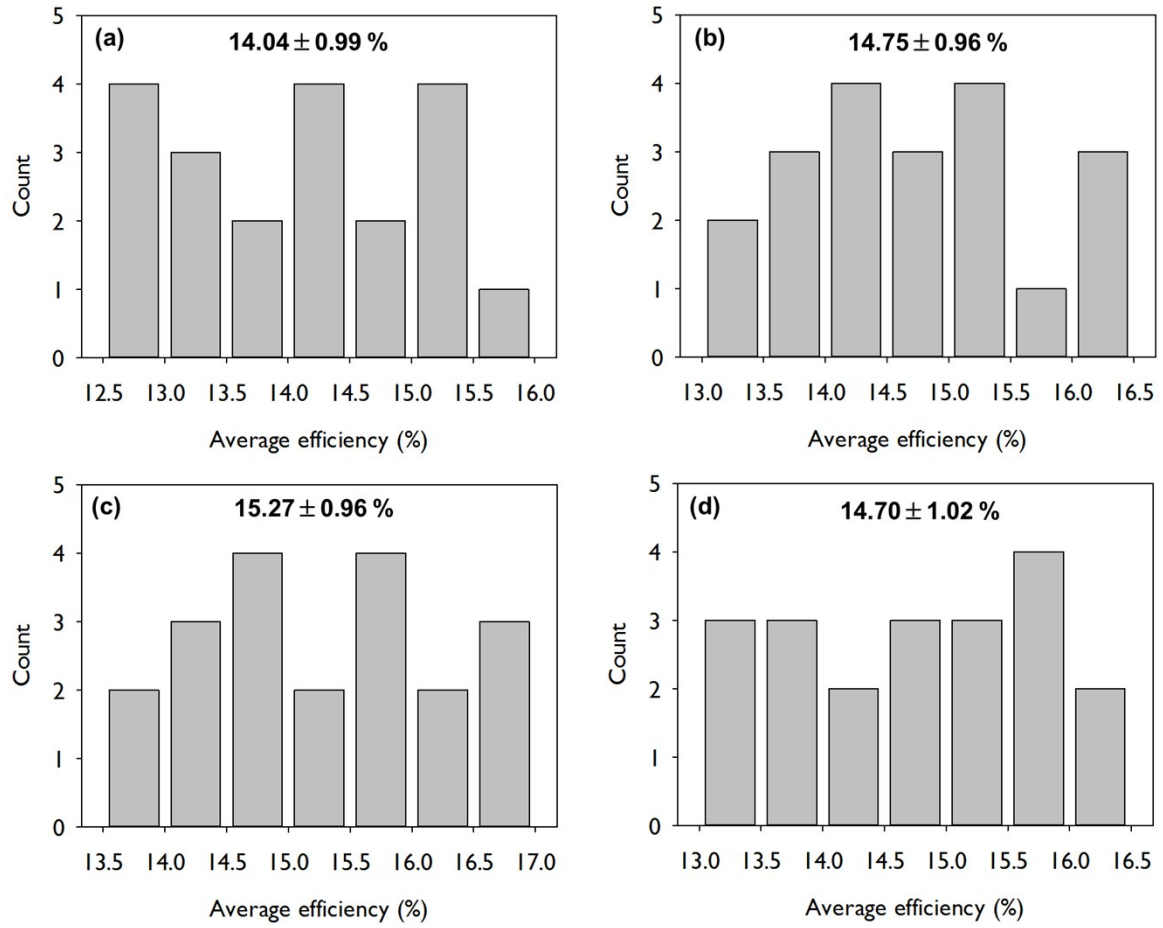

Figure S2. The average efficiency deviation of 20 samples indicating that (a) 400 nm, (b) 500nm, (c) 600nm, and (d) 800 nm-thick meso-IO based solar cells.

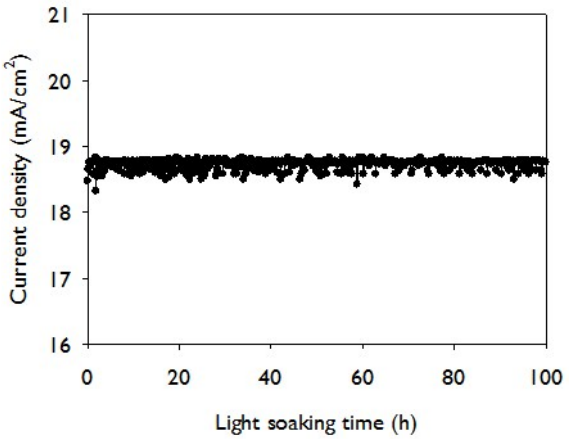

Figure S3. The current density of meso-IO TiO_2-based perovskite solar cells measured under light soaking for 100 hrs.

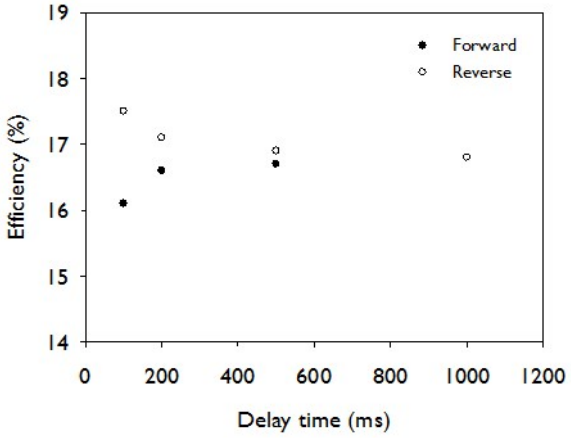

Figure S4. The power conversion efficiency during forward and reverse scan with different delay time for 600nm thick-meso-IO TiO_2 scaffold.