

Supporting Information:

Mesoporous-Planar hybrid architecture of methylammonium lead iodide perovskite based solar cells

Ravi K. Misra, Sigalit Aharon, Michael Layani, Shlomo Magdassi & Lioz Etgar

Institute of Chemistry, Casali Center for Applied Chemistry, Hebrew University of Jerusalem, Givat Ram

Campus, Jerusalem, Israel-91904

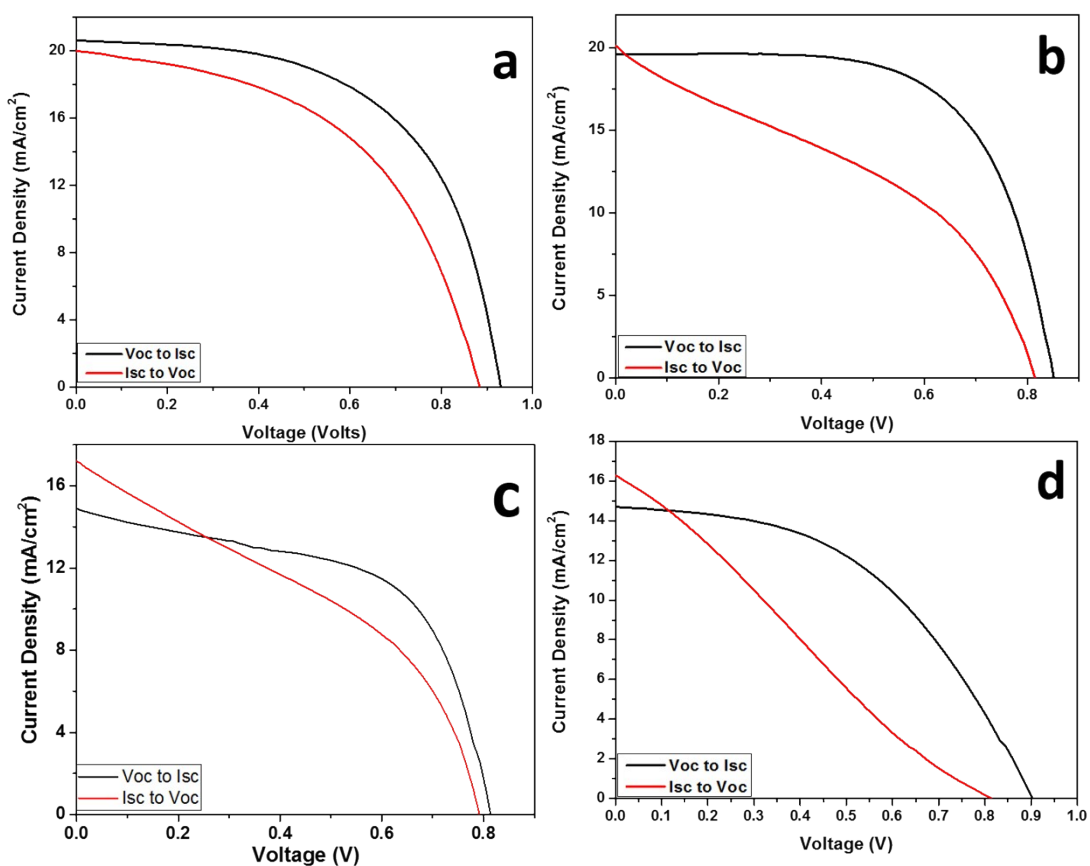


Figure S1: The forward and backward J-V scans of (a) mesoporous cell, (b) meso-planar hybrid cell (50 micron grid), (c) meso-planar hybrid cell (72 micron grid), and (d) planar cell, showing the extent of hysteresis in these architectures.

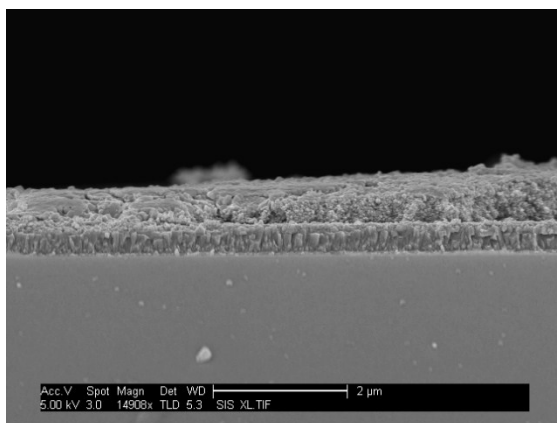


Figure S2: Cross sectional HR-SEM image of meso-planar hybrid architecture of the cell (as captured).

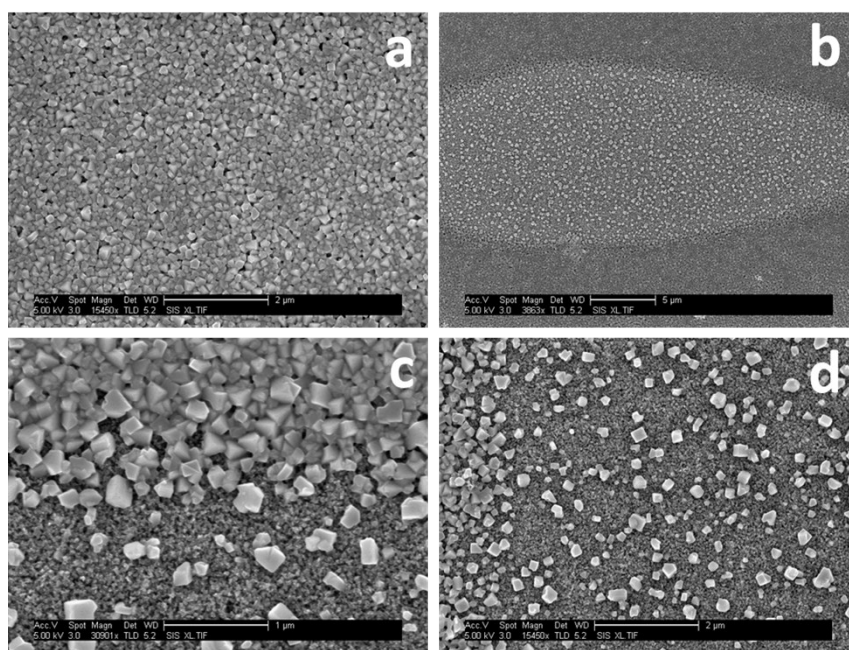


Figure S3: a-d are showing the perovskite density at different locations of grid cells, the much dense perovskite coverage is evident in image a, the valley region of the titania grid, whereas b-d are showing enlarged view of the junction of meso-planar area and peaks of titania at mesh junction points. These recombination centers are responsible for some of the performance loss of meso-planar hybrid cell structures.

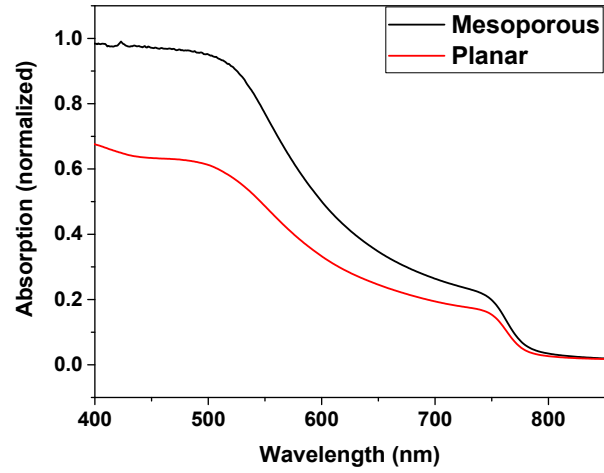


Figure S4: Absorption spectra of Mesoporous and planar cells, showing normalized spectra in the range of 400-850 nm.