Improved Photovoltaic Performance of Mesoporous Perovskite Solar Cells with Hydrogenated TiO_2: Prolonged Photo-electrons Lifetime and High Separation Efficiency of Photoinduced Charge

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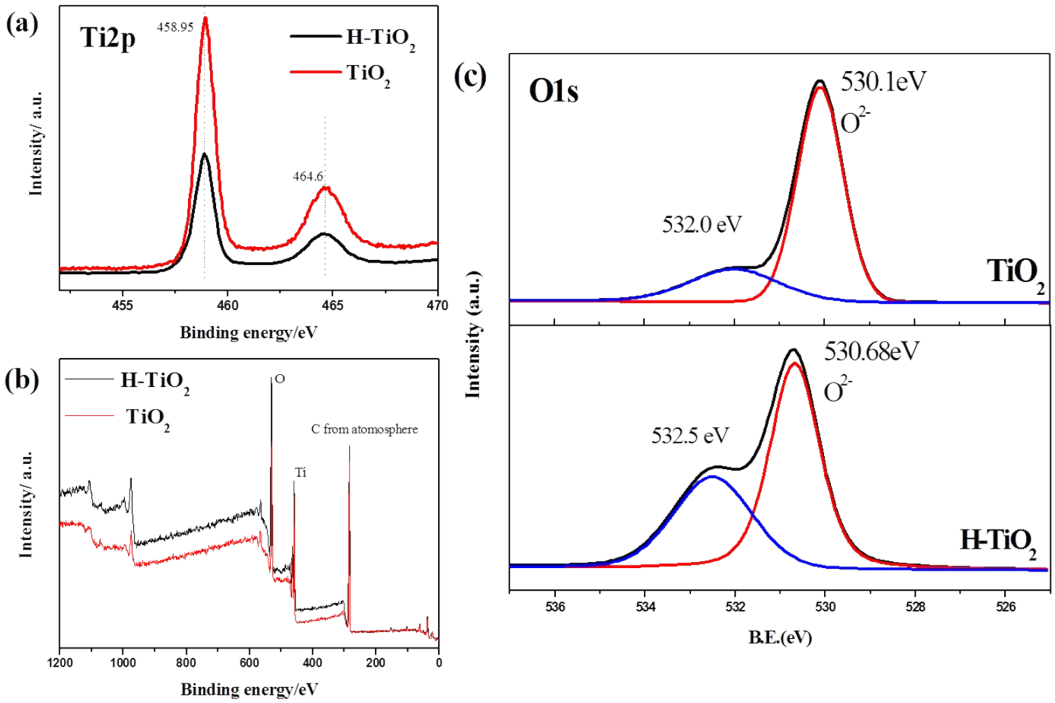

Figure S1. (a) Ti 2p, (b) Survey, (c) and (d) O 1s core-level XPS spectra of the TiO_2 and the H-TiO_2 nanopowders, collected under the same conditions.

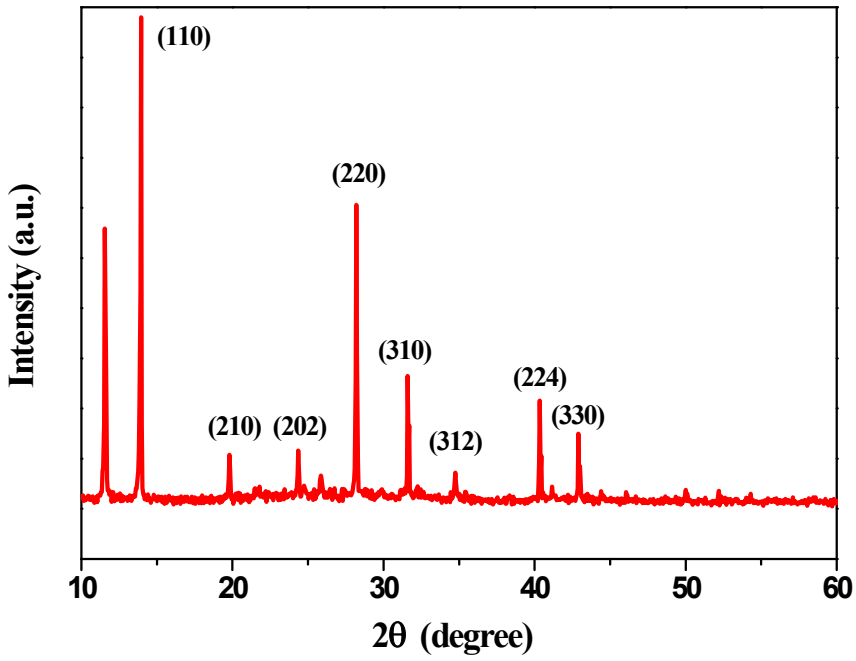

Figure S2. XRD patterns of the TiO_2/perovskite layer.

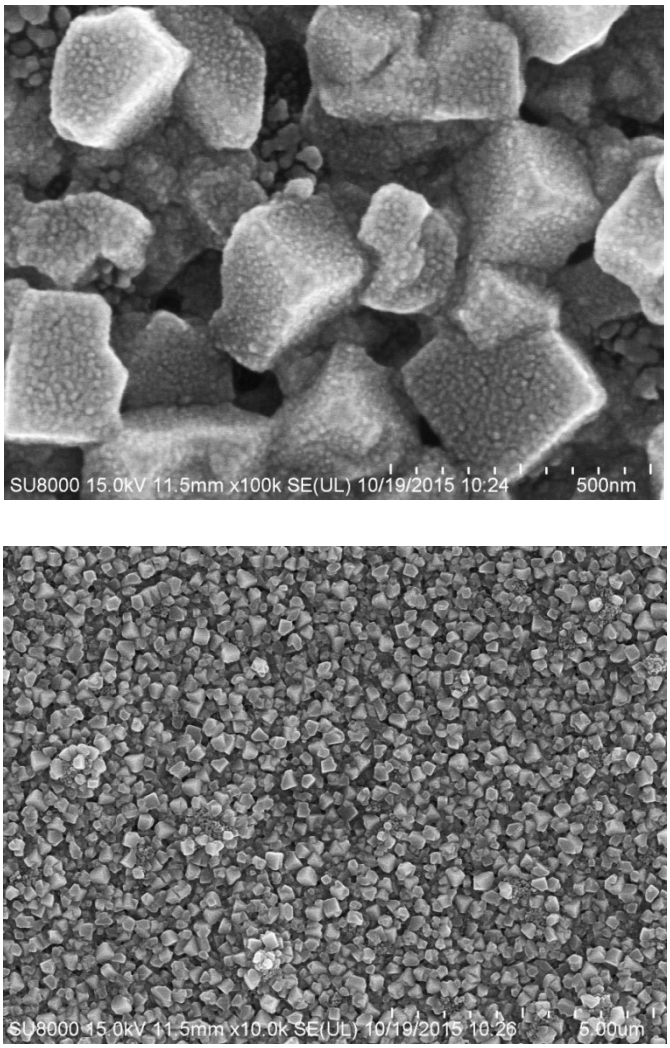

Figure S3. Higher-magnification SEM image of the PbI_2 layer.

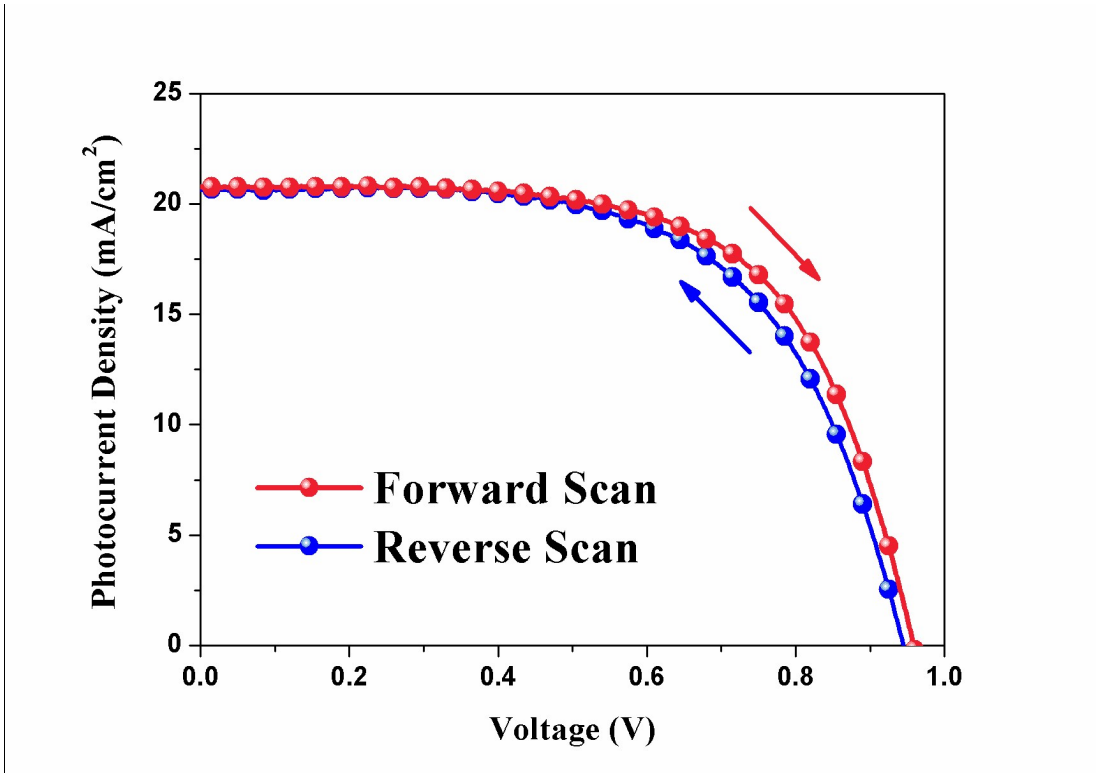

Figure S4. Hysteresis investigation of the PSCs based on H-TiO_2

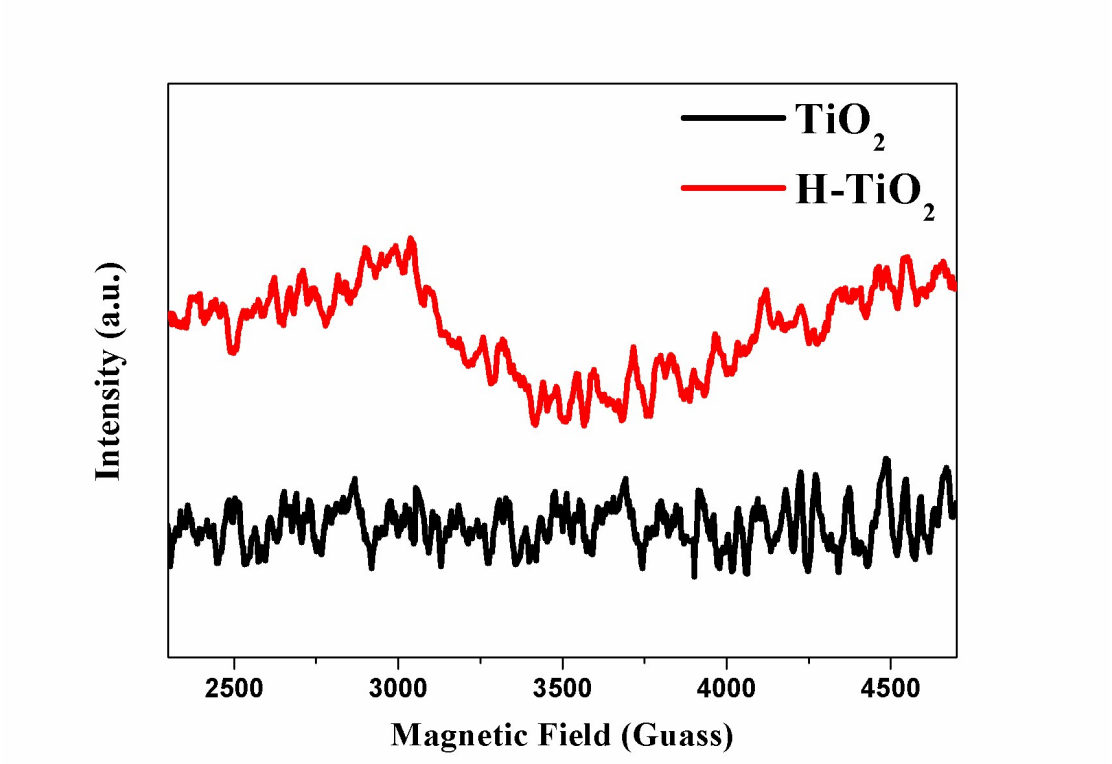

Fig. S5 EPR spectra recorded at 300 K for TiO_2, H-TiO_2 samples