Supplementary Information

Efficient and stable planar heterojunction perovskite solar cells with a MoO_3/PEDOT:PSS hole transporting layer

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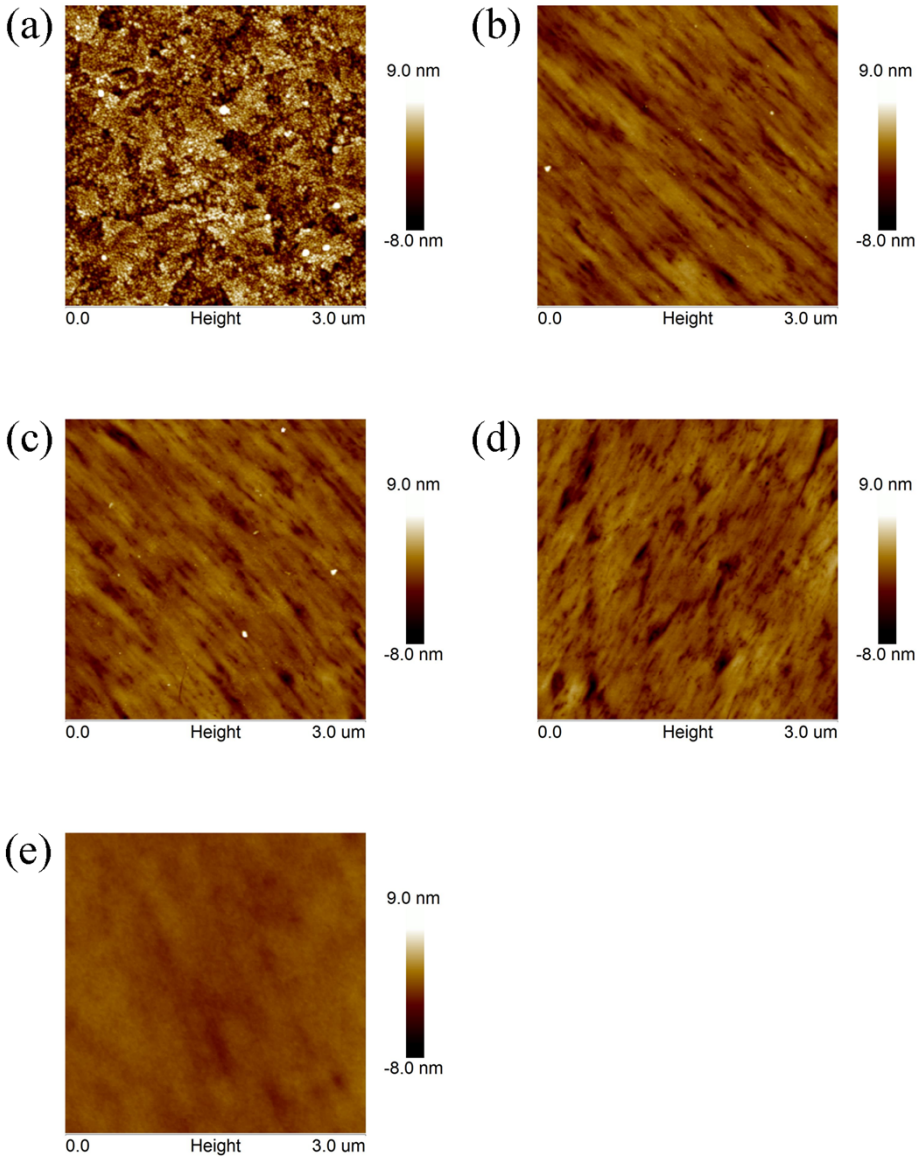

Figure S1. AFM images of (a) bare ITO and MoO_3 films prepared from (b) 0.2 wt%, (c) 0.5 wt%, (d) 1.0 wt%, and (e) 2.0 wt%MoO_3 solutions on ITO substrates.

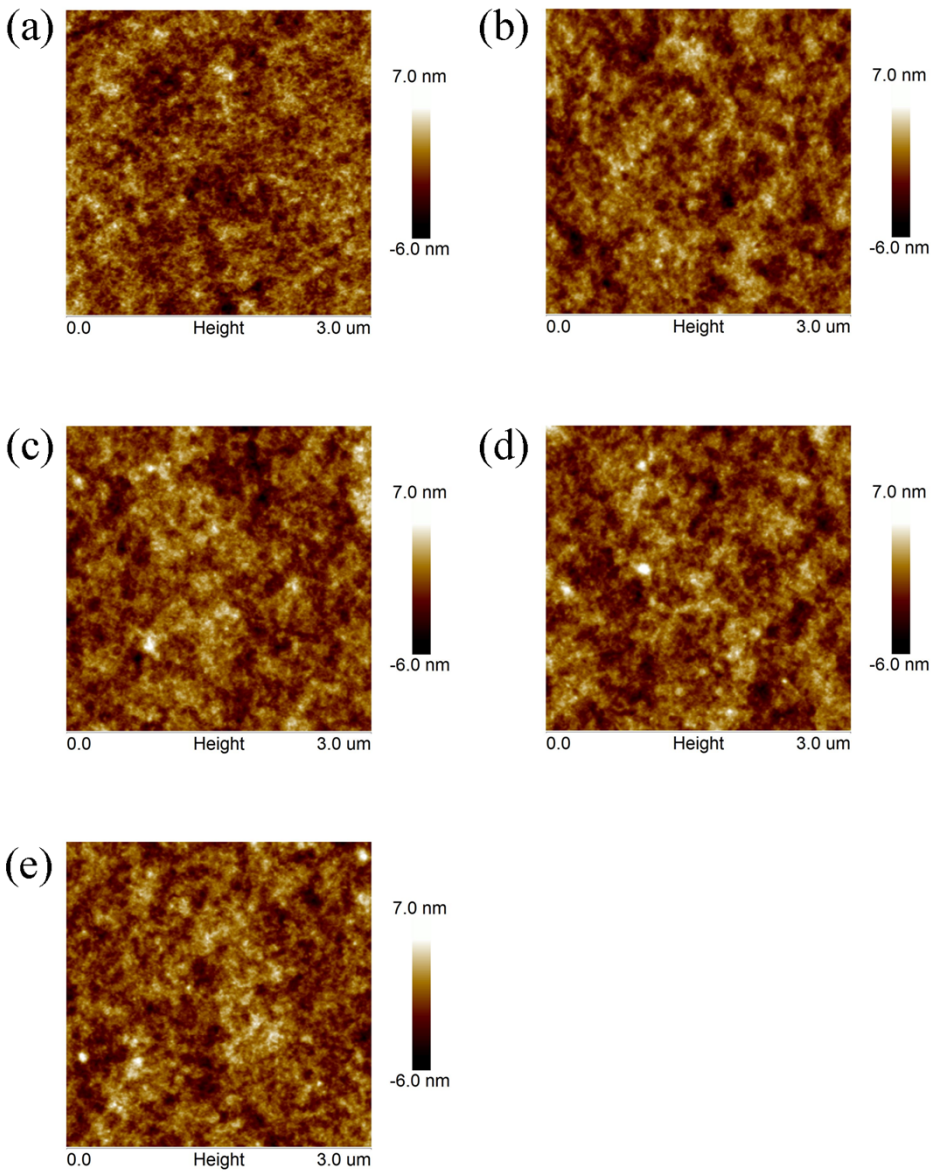

Figure S2. AFM images of PEDOT:PSS films on (a) ITO and MoO_3 layers prepared from (a) 0.2 wt%, (c) 0.5 wt%, (d) 1.0 wt%, and (e)2.0 wt% MoO_3 solutions.

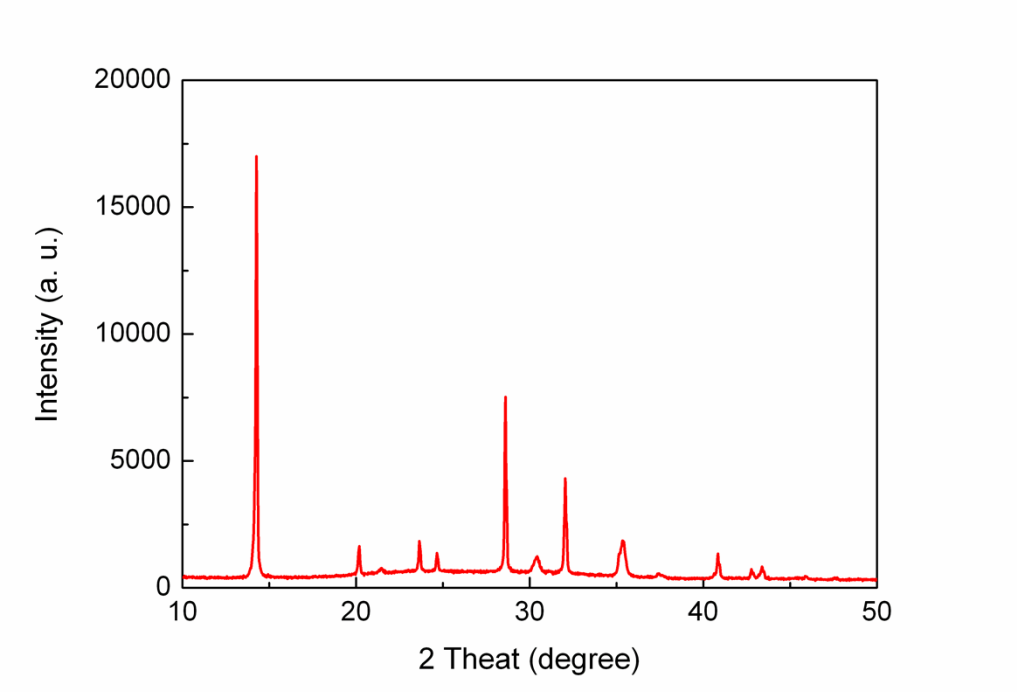

Figure S3. XRD pattern of $CH_3NH_3PbI_3$ on a MoO_3/PEDOT:PSS substrate.

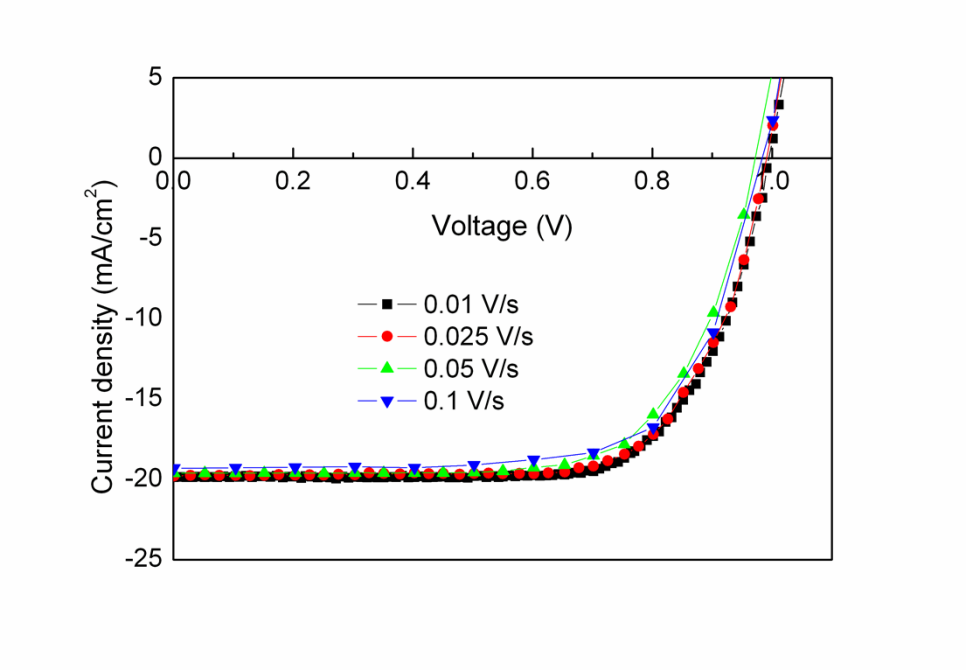

Figure S4. *J-V* curves measured with different scanning rates of one of the devices fabricated with 1.0 wt% MoO_3.

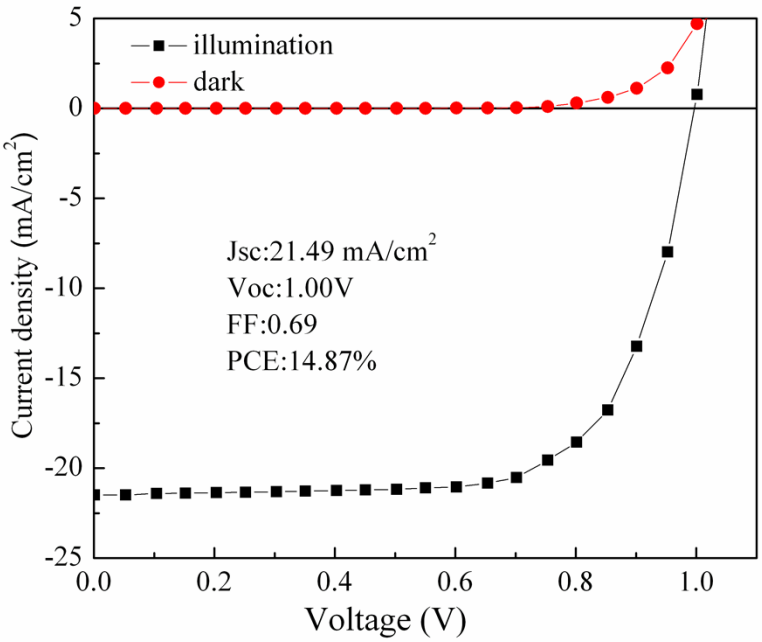

Figure S5. *J-V* curves of the optimized device with a MoO_3/PEDOT:PSS HTL under illumination and in dark after storage in ambient conditions in dark for 72 h.