Supporting information

Direct Observation of Crystal Engineering in Perovskite Solar Cells in a Moisture-Free Environment using Conductive Atomic Force Microscopy and Friction Force Microscopy

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Figure S1. Schematic representation of energy band diagram of perovskite solar cells.



Figure S2. Cross sectional scanning electron microscopy (SEM) image of the perovskite solar cells.



Figure S3. Current-voltage characteristics of 2 point measurement of perovskite film fabricate in humidity-free environment and high humidity environment with (a) 30 μ m and (b) 90 μ m distance between Au electrodes.