Electronic Supplementary Information for:

Thermally Evaporated Methylammonium Tin Triiodide Thin Films for Lead-Free Perovskite Solar Cell Fabrication

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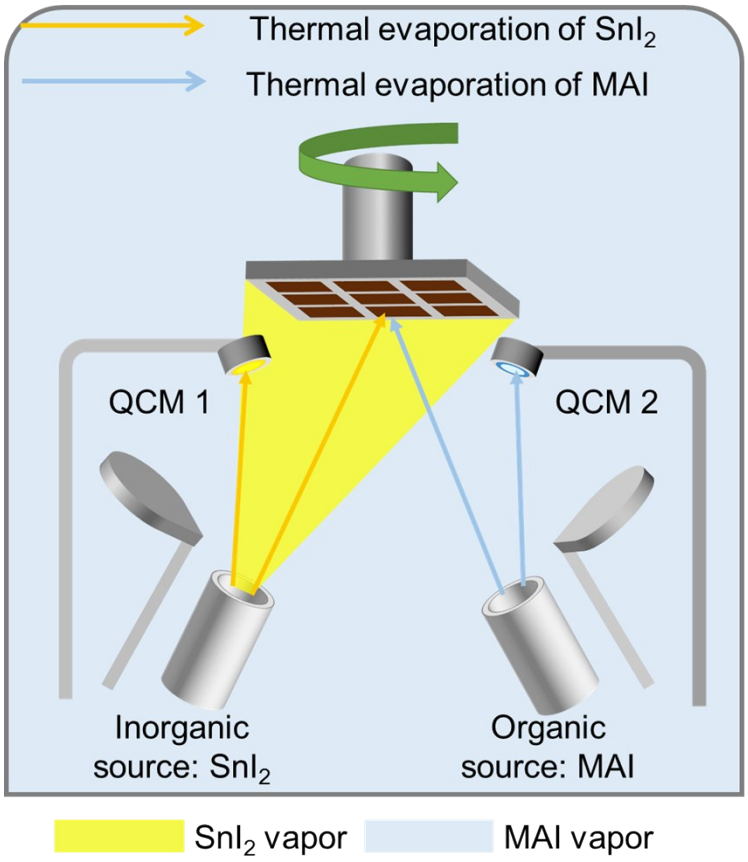

Fig. S1 The schematic diagram of the hybrid thermal evaporation process of the $CH_3NH_3SnI_3$ by using SnI_2 and MAI as the inorganic and organic precursor source, respectively.

Fig. S2 A photo showing the highly reflective surface of the as-deposited $MASnI_3$ thin film.

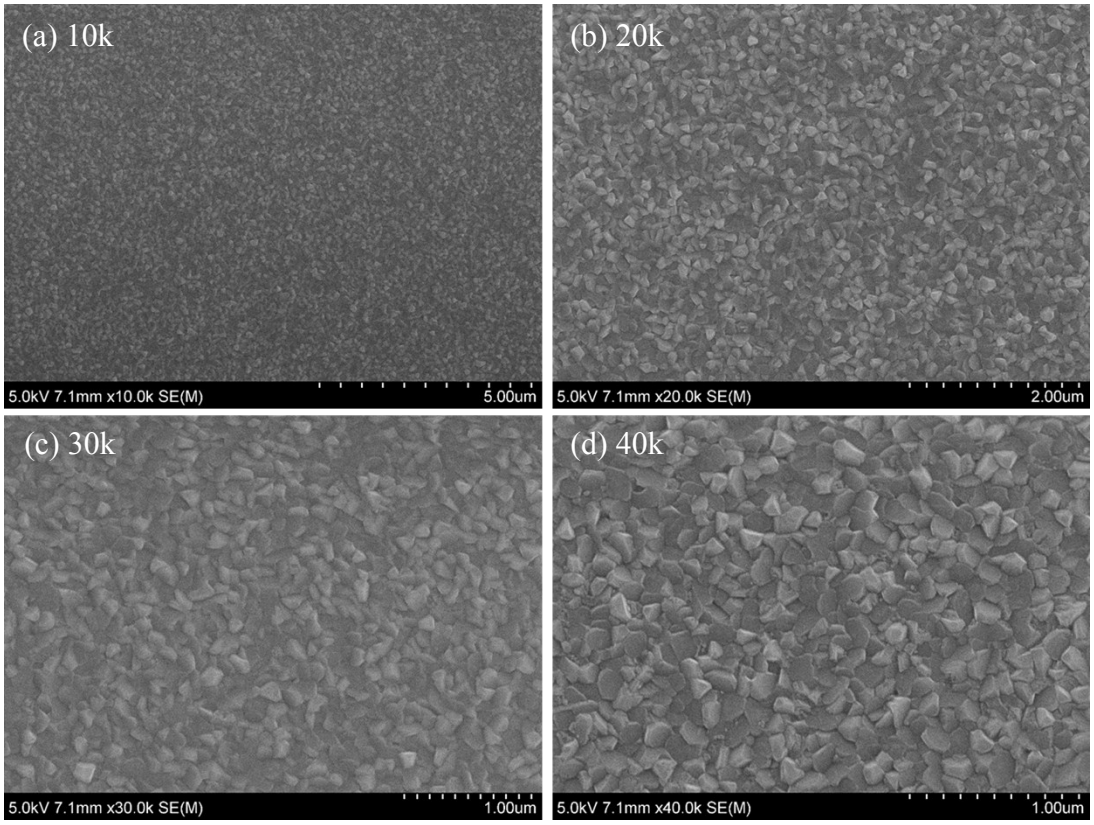

Fig. S3 Top-view SEM images of the $MASnI_3$ thin film taken at different magnifications (a) 10k, (b) 20k, (c) 30k, and (d) 40k.

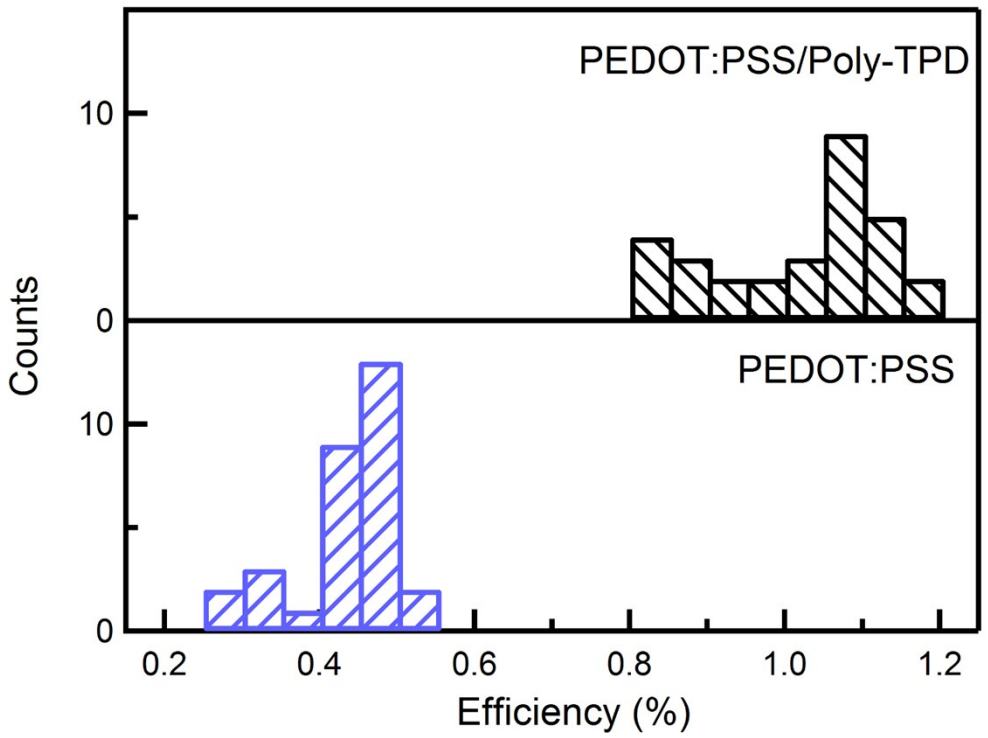

Fig. S4 The efficiency histogram of $MASnI_3$ perovskite solar cells with PEDOT:PSS-only and PEDOT:PSS/Poly-TPD hole selective layer and 30 nm C_{60} layer.

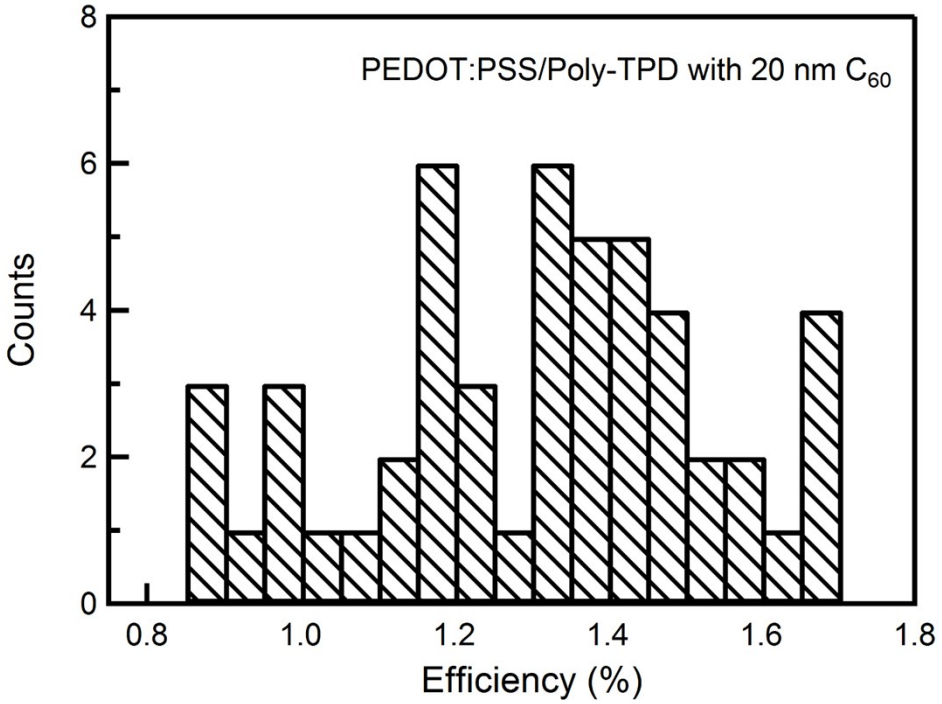

Fig. S5 The efficiency histogram of $MASnI_3$ perovskite solar cells with 20 nm C_{60} layer.

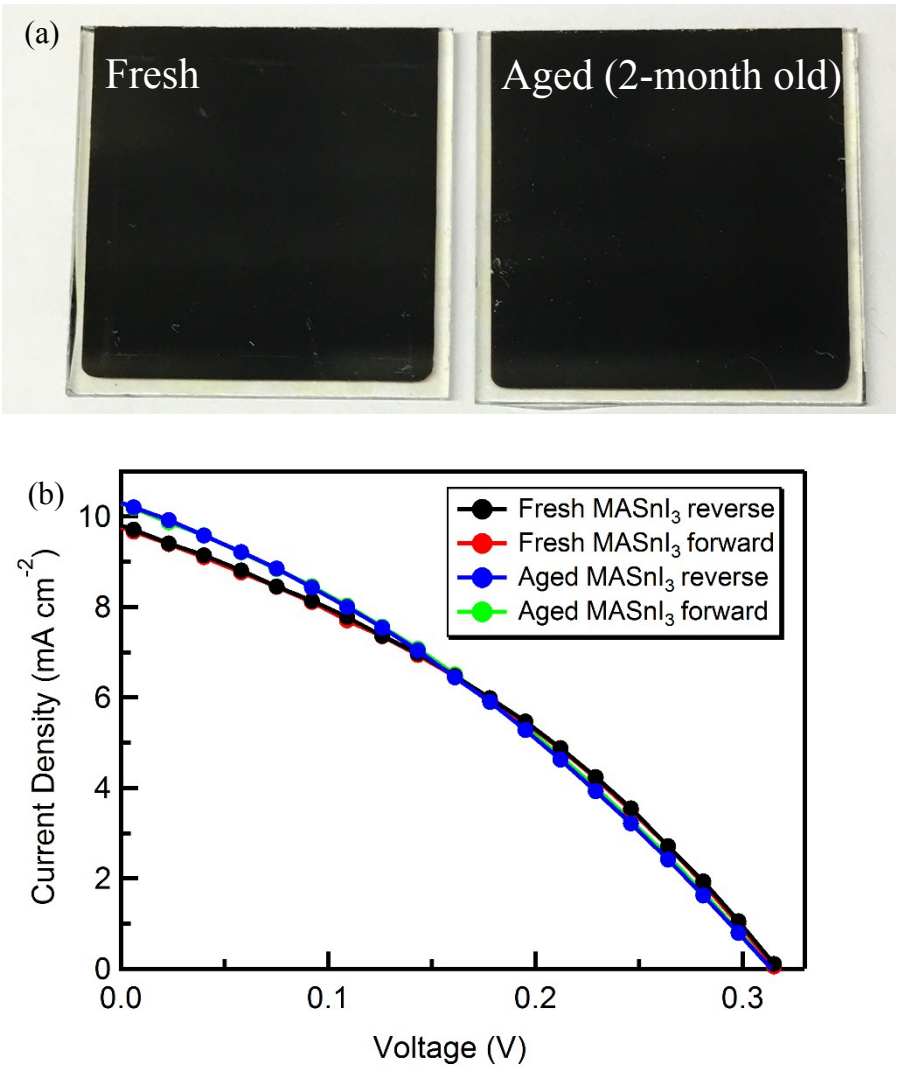

Fig. S6 (a) Photos of the fresh $MASnI_3$ film and the $MASnI_3$ film stored in a nitrogen-filled glove box for more than two months. (b) *J–V* curves of $MASnI_3$ perovskite cells using fresh and aged (2-month old) $MASnI_3$ as the light harvesters. No obvious difference of the either the appearance or the device performance between these two samples.

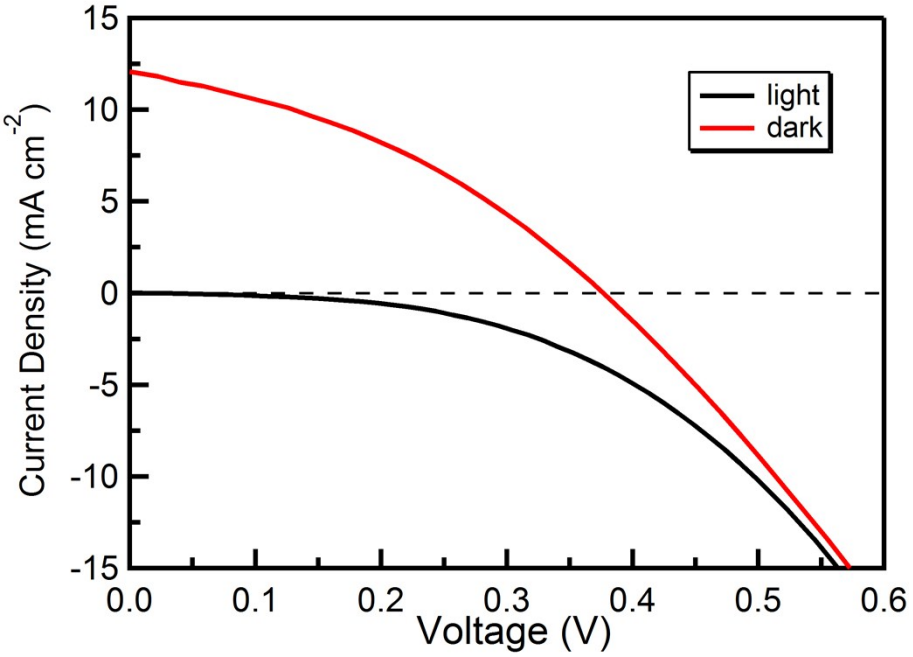

Fig. S7 A representative light and dark *J*–*V* curve of $MASnI_3$ perovskite cells.