Electronic Supplementary Information

C_{60} Additive-Assisted Crystallization in $CH_3NH_3Pb_{0.75}Sn_{0.25}I_3$ Perovskite Solar Cells with High Stability and Efficiency

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#Both authors contributed equally to this work

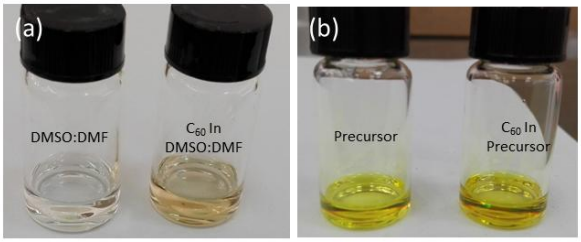

Fig. S1 Photograph of (a) DMSO:DMF mixed solvent with the volume ratio of 1:5 (left) and C_{60} in the mixed solvent (right); (b) Pristine precursor solution (left) and C_{60} in precursor solution (right).

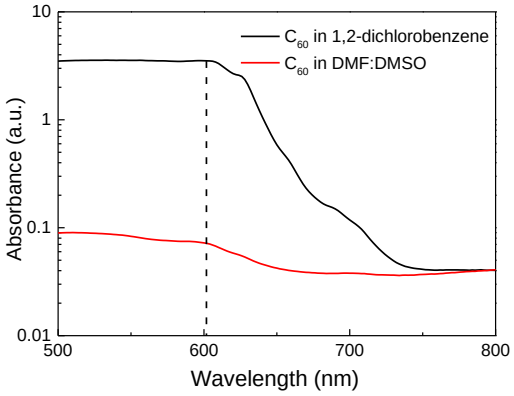

Fig. S2 Absorption spectrum of C_{60} disolved in 1,2-dichlorobenzene (5 mg/mL) and C_{60} disolved in DMF:DMSO mixed solvent (saturated at 25 ℃).

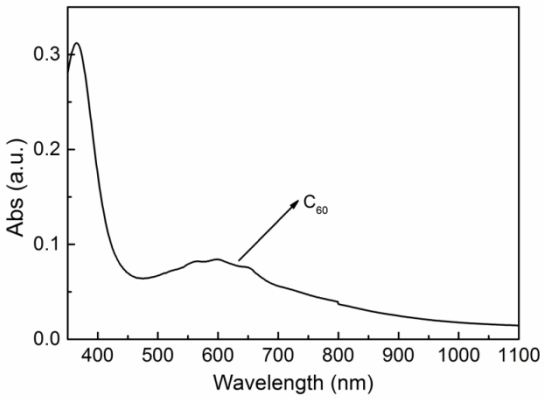

Fig. S3 Absorption spectrum of the as-prepared C_{60}-additive perovskite thin films immersed into 1,2-Dichlorobenzene solvent for 30 min.

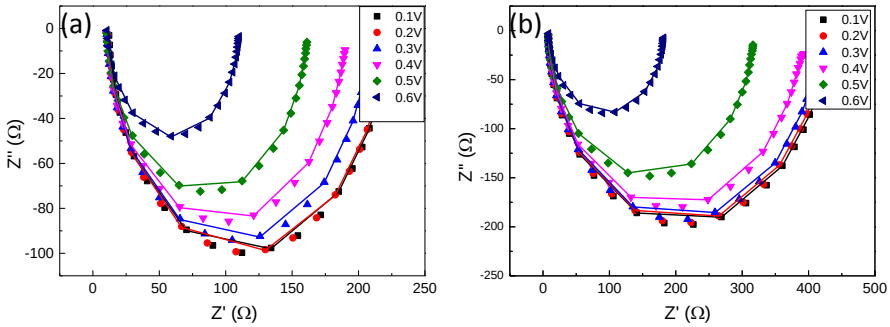

Fig. S4 Nyquist plots and the fitted plots of the $MAPb_{0.75}Sn_{0.25}I_3$ devices (a) without C_{60} additive and (b) with C_{60} additive, obtained between the frequency range of 10^6 HZ to 10^{-1} HZ under illumination in the range of 0.1 V to 0.6 V.

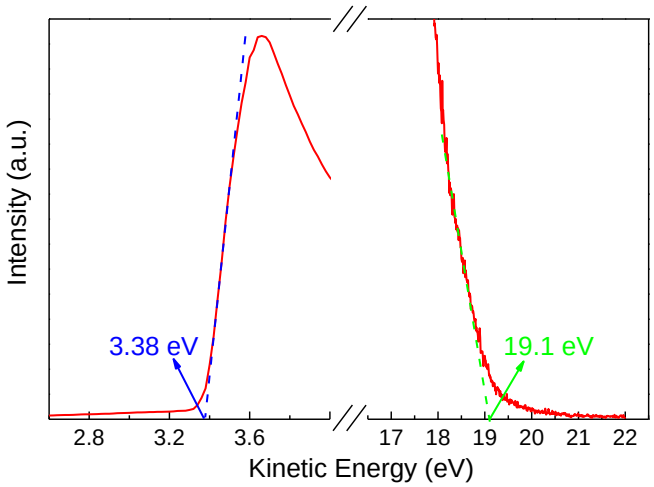

Fig. S5 UPS cutoff spectra of the $MAPb_{0.75}Sn_{0.25}I_3$ thin films.

HOMO=21.22-(19.1-3.38)=5.5 eV; LUMO=5.5-1.3=4.2 eV

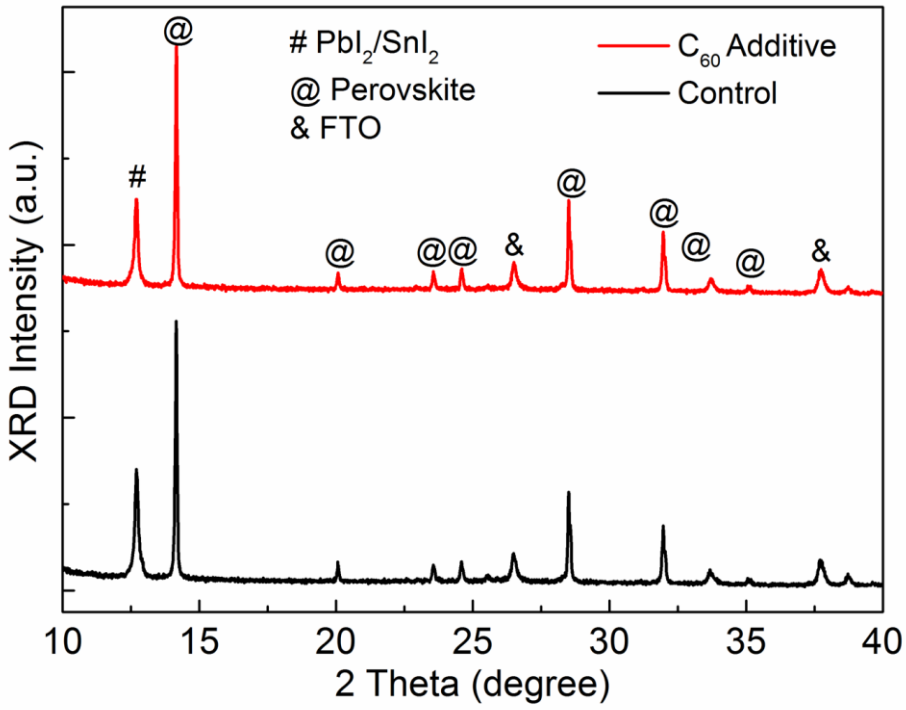

Fig. S6 XRD patterns of the as-prepared $MAPb_{0.75}Sn_{0.25}I_3$ thin films.