Supporting Information

Addictive-assisted Construction of All-inorganic CsSnIBr$_2$ Mesoscopic Perovskite Solar Cells with Superior Thermal Stability up to 473 K

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![Figure S1](https://example.com/supp_fig1.png)

**Fig. S1** High-resolution XPS spectra (P 2p) of CsSnIBr$_2$ thin film.

![Figure S2](https://example.com/supp_fig2.png)

**Fig. S2** Electron and hole mobility of CsSnIBr$_2$ films under different bias voltage at room temperature.
Fig. S3 Apparent doping densities as determined from the Mott-Schottky analysis.

Fig. S4 Cross-section SEM images of mesoscopic PSCs.

Fig. S5 Nyquist plots of the devices under illumination at a bias of $-0.25$ V.
**Fig. S6** Dark current of the devices.

**Fig. S7** Device performances with different HPA concentration
**Fig. S8** $J$-$V$ curves scanned with different speed.

**Fig. S9** Weight loss and differential scanning calorimetry (DSC) plot as a function of temperature for the powdered perovskite CsSnIBr$_2$. Thermogravimetric analysis was performed at a rate of $5 \, ^\circ{C} \, \text{min}^{-1}$ under an argon atmosphere.

**Fig. S10** SPO results of the devices at high temperature and vacuum.
**Fig. S11** Statistical PCE of the devices obtain from $J-V$ curves at 300 to 500K temperature.