Supporting Information

# Inverted Planar NH$_2$CH=NH$_2$PbI$_3$ Perovskite Solar Cells With 13.56% Efficiency via Low Temperature Processing

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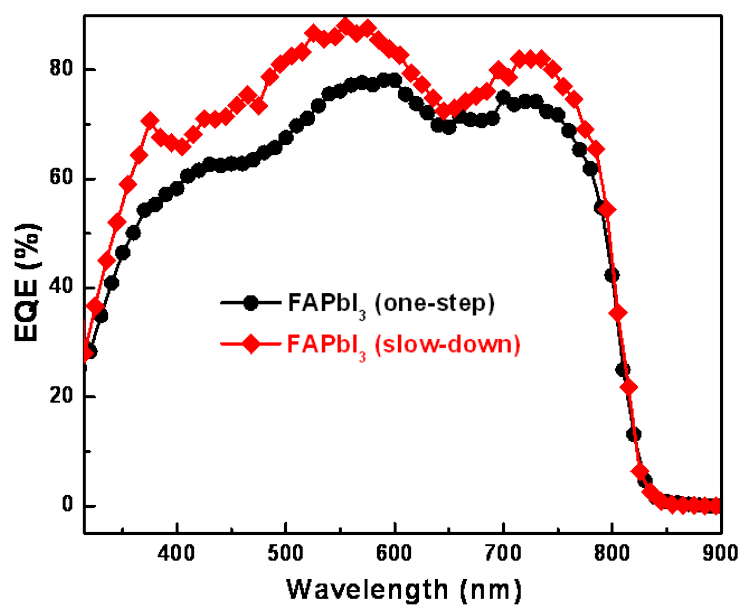
Fig. S1 EQE spectra of the one-step annealed and slow-down annealed FAPbI$_3$ perovskite solar cells, when PCBM act as electron transporting layer.
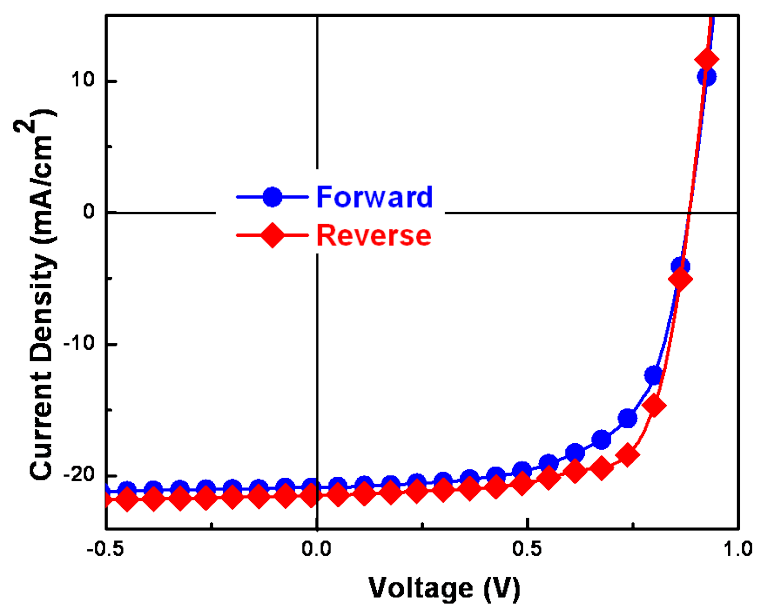
Fig. S2 J-V curve of a representative modified $FAPbI_3$ device tested under forward and reverse bias, respectively. Our $FAPbI_3$ based device also showed obvious hysteresis.
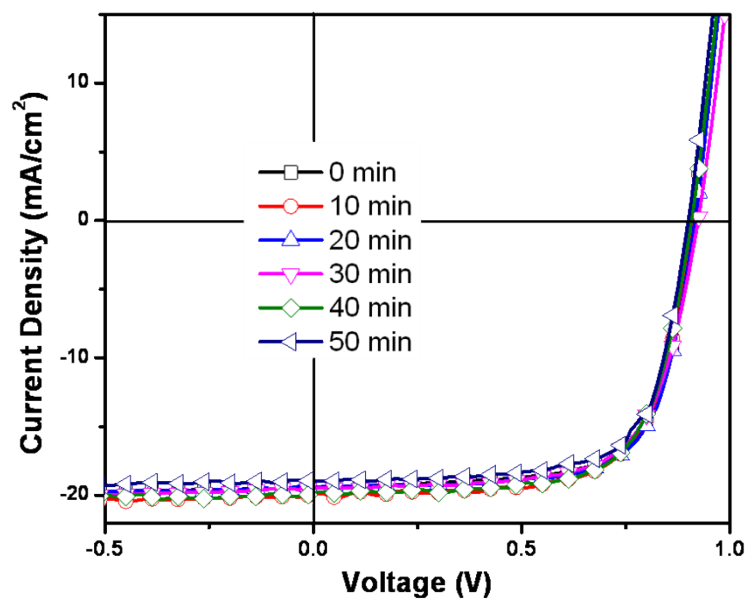
Fig. S3 J-V curve of a representative slow-down annealed FAPbI$_3$ based solar cells tested every 10min in air (humidity:~45%, temperature:~26℃) under continuous light illumination.
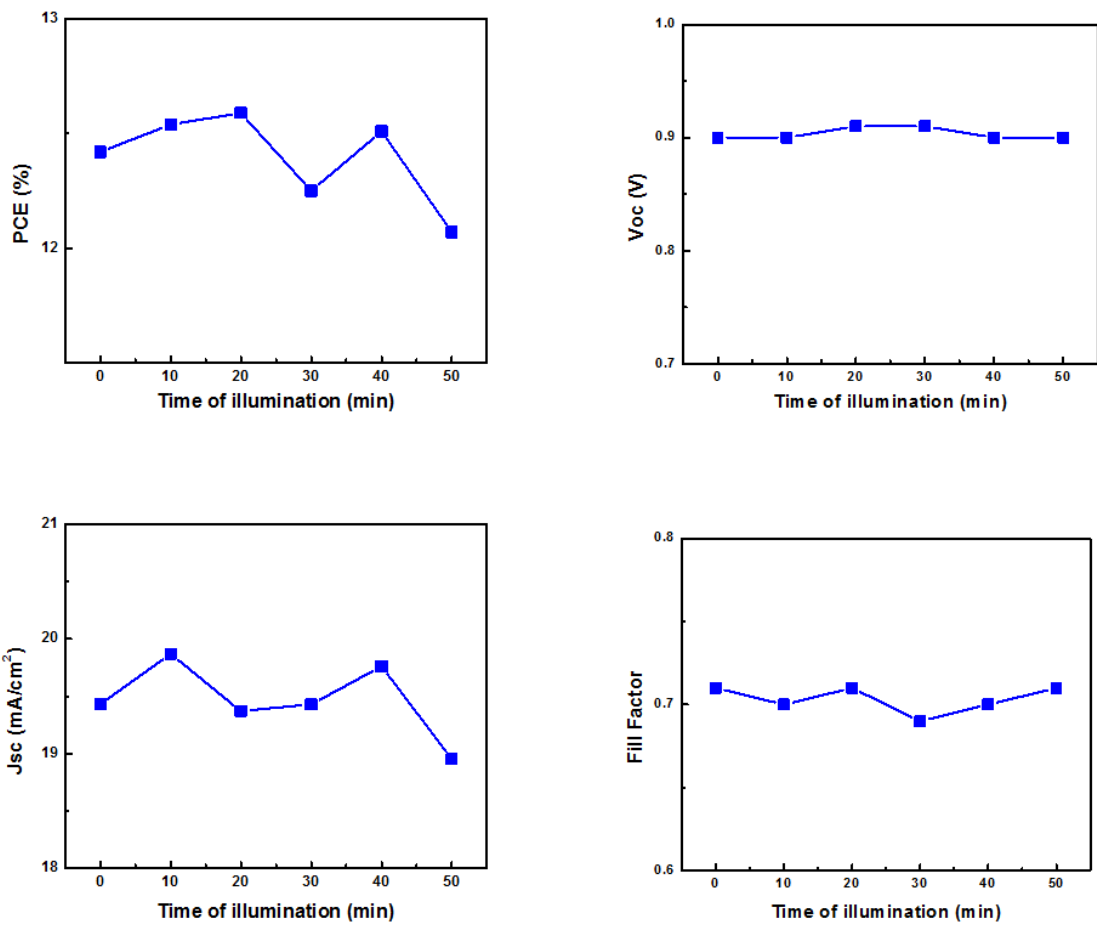
Fig. S4 Key parameters changing with illumination time.

Table S1 Photovoltaic parameters of some representative modified $FAPbI_3$ perovskite solar cells.

Jsc (mA/cm^2)	Voc (V)	Fill Factor (%)	PCE (%)
20.62	0.89	0.73	13.28
21.47	0.89	0.71	13.56
20.61	0.89	0.72	13.10
19.73	0.89	0.73	12.76
19.43	0.89	0.73	12.66
19.58	0.90	0.69	12.15
20.10	0.90	0.69	12.55
19.77	0.89	0.71	12.38
19.44	0.89	0.73	12.56
19.20	0.90	0.71	12.27