

# Surface-Passivated CsPbBr<sub>3</sub> for Developing Efficient and Stable Perovskite Photovoltaics

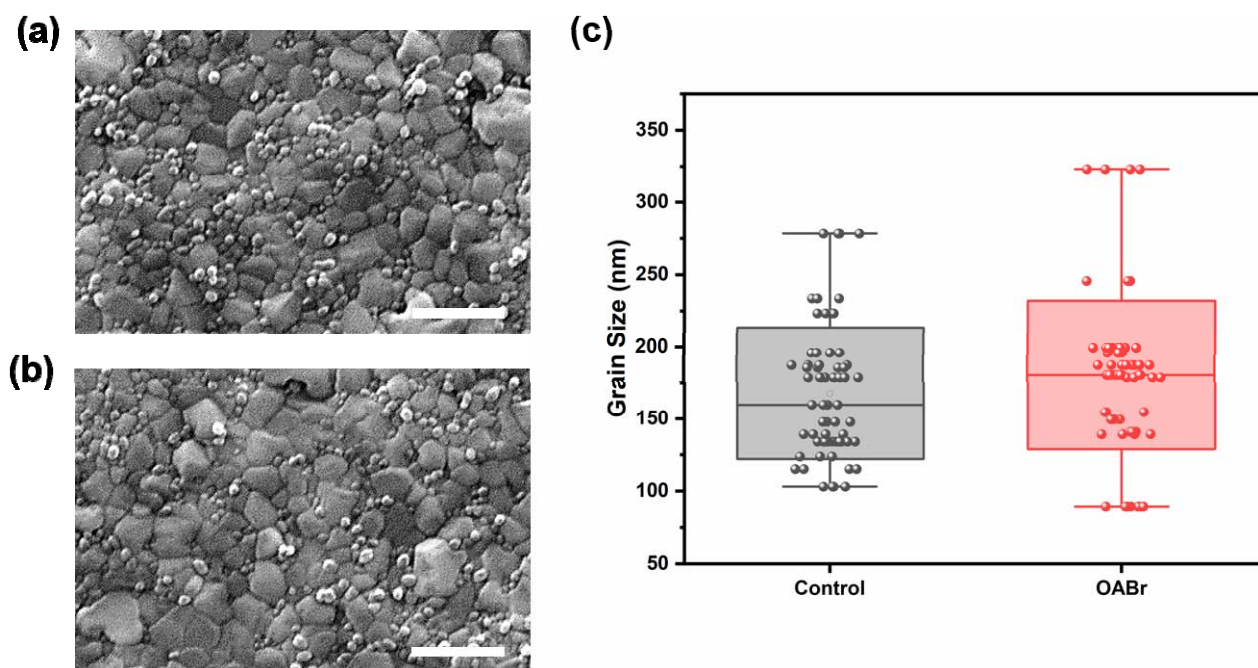
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**Figure S1.** Top view SEM images of (a) control and (b) OABr-treated CsPbBr<sub>3</sub> films. The scale bar is 500 nm. (c) Grain size distribution obtained from SEM images.

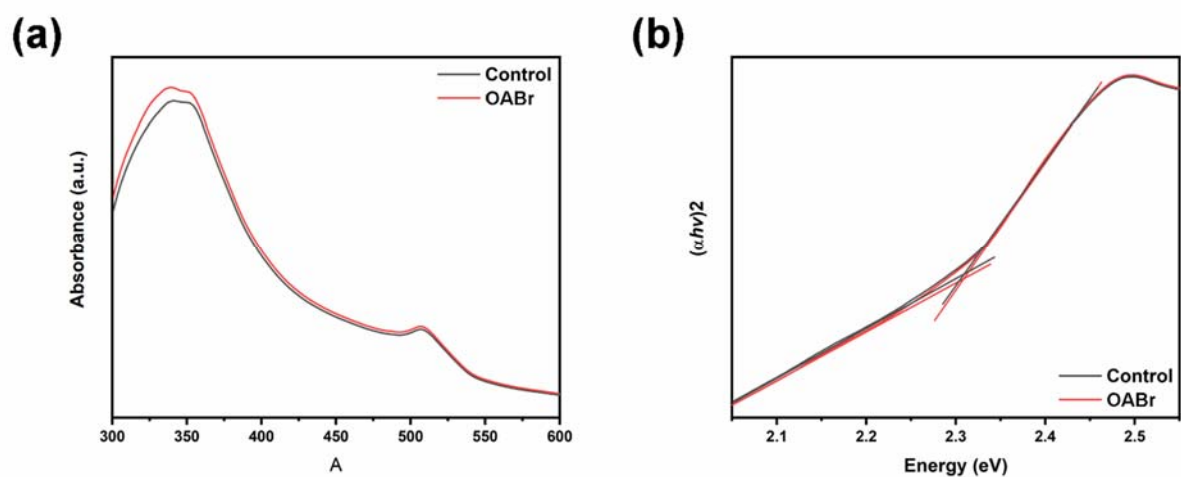


Figure S2. (a) UV-Vis spectra of CsPbBr<sub>3</sub> films on glass substrates and (b) its corresponding Tauc plot.

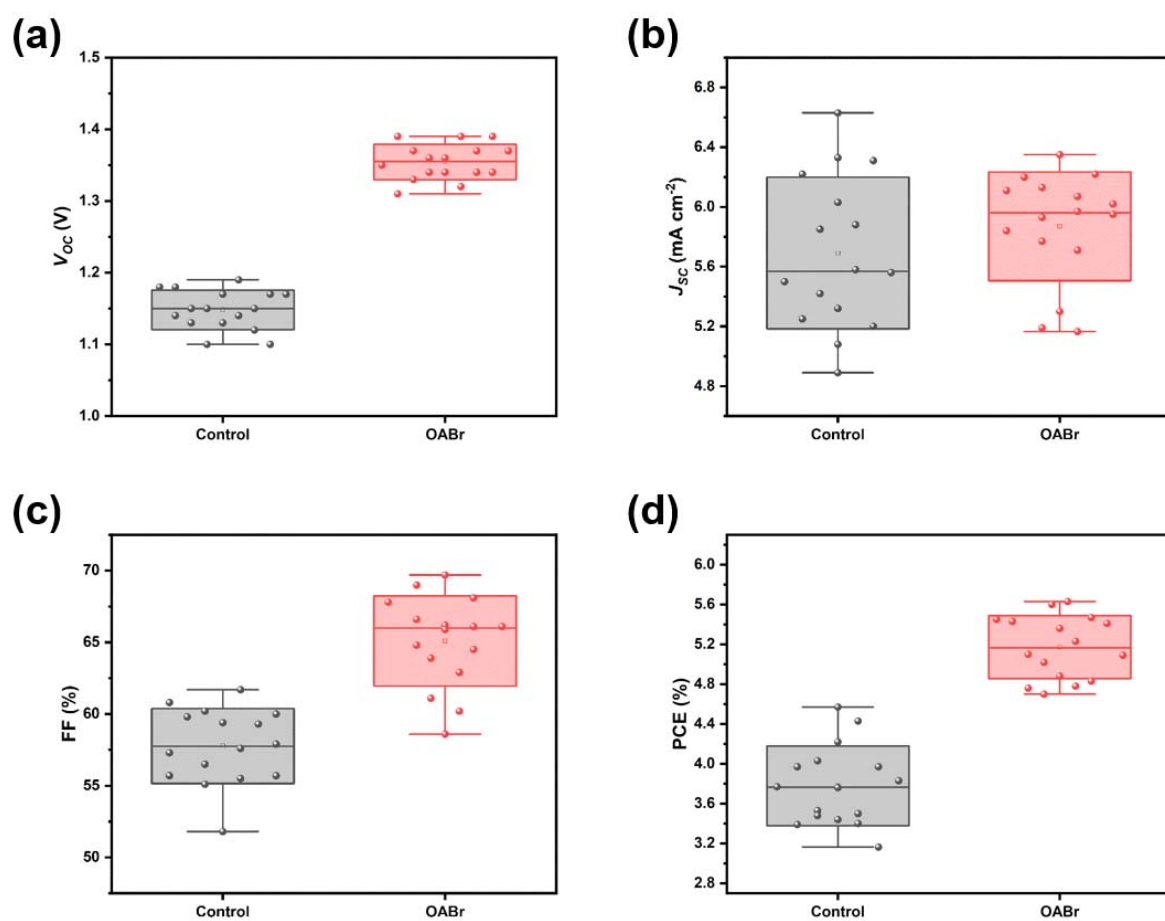


Figure S3. Detailed distribution data of (a)  $V_{oc}$ , (b)  $J_{sc}$ , (c) FF and (d) PCE for control and OABr-treated CsPbBr<sub>3</sub> PPVs.

**Table S1.** Photovoltaic parameters of CsPbBr<sub>3</sub> PPVs with and without OABr surface treatment.

		V <sub>oc</sub> (V)	J <sub>sc</sub> (mA cm <sup>-2</sup> )	FF (%)	PCE (%)	PCE <sub>avg</sub> (%)
Control	Reverse	1.17	6.33	61.7	4.57	4.12
	Forward	1.08	6.30	54.0	3.67	
OABr	Reverse	1.34	6.35	66.2	5.63	5.44
	Forward	1.28	6.33	64.8	5.25	

**Table S2.** Photovoltaic parameters of reported CsPbBr<sub>3</sub> PPVs.

Structure	Method	V <sub>oc</sub> (V)	J <sub>sc</sub> (mA cm <sup>-2</sup> )	FF (%)	PCE (%)	Ref.
FTO / c-TiO <sub>2</sub> / m-TiO <sub>2</sub> / CsPbBr <sub>3</sub> + PEG / Carbon	1-Step	1.41	7.56	73	7.8	S1
FTO / c-TiO <sub>2</sub> / m-TiO <sub>2</sub> / CsPbBr <sub>3</sub> / Carbon	1-Step	1.22	7.40	81.4	7.37	S2
FTO / CsPbBr <sub>3</sub> / Carbon	2-Step	1.05	4.64	48.2	2.35	S3
FTO / TiO <sub>2</sub> / CsPbBr <sub>3</sub> / CuPc / Carbon	2-Step	1.26	6.62	74.4	6.21	S4
FTO / TiO <sub>2</sub> / CsPbBr <sub>3</sub> / P3HT / Carbon	2-Step	1.36	7.02	68	6.49	S5
FTO / TiO <sub>2</sub> / CsPbBr <sub>3</sub> / Carbon	2-Step	1.24	7.4	73	6.7	S6
FTO / TiO <sub>2</sub> / CsPbBr <sub>3</sub> / Carbon	2-Step	1.37	7.66	82.2	8.63	S7
FTO / TiO <sub>2</sub> / CsPbBr <sub>3</sub> / Carbon	2-Step	1.458	8.12	82.1	9.72	S8
FTO / TiO <sub>2</sub> / CsPbBr <sub>3</sub> / P3HT / ZnPC / Carbon	2-Step	1.578	7.652	83.06	10.03	S9
FTO / c-TiO <sub>2</sub> / m-TiO <sub>2</sub> / CsPbBr <sub>3</sub> / Carbon	1-Step	1.34	6.35	66.2	5.63	This Work

## References

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