

## Supporting Information for

# **Improving the performance of inverted two-dimensional perovskite solar cells by adding anti-solvent into perovskite precursor**

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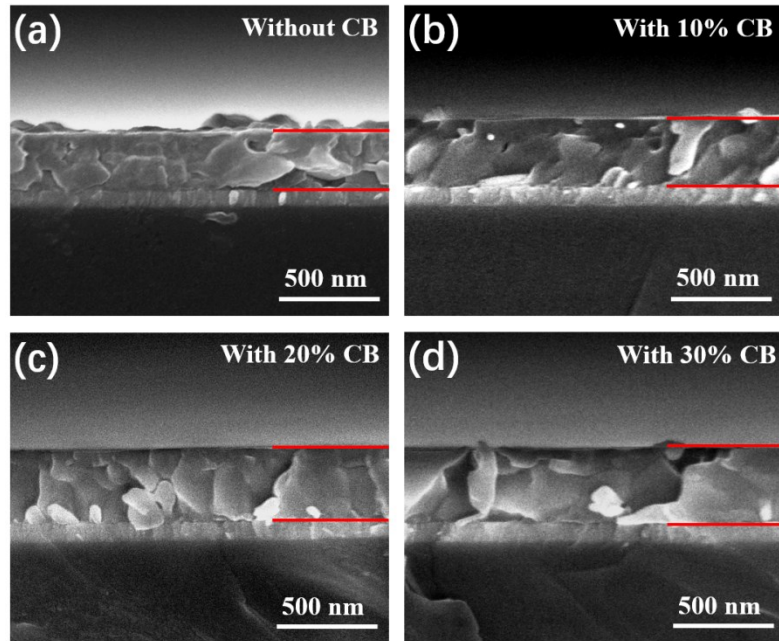
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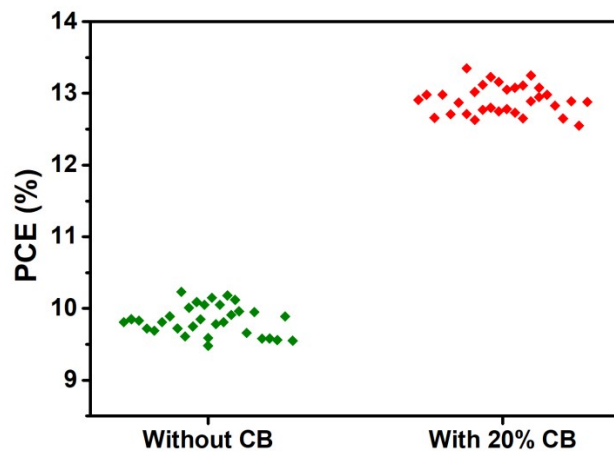
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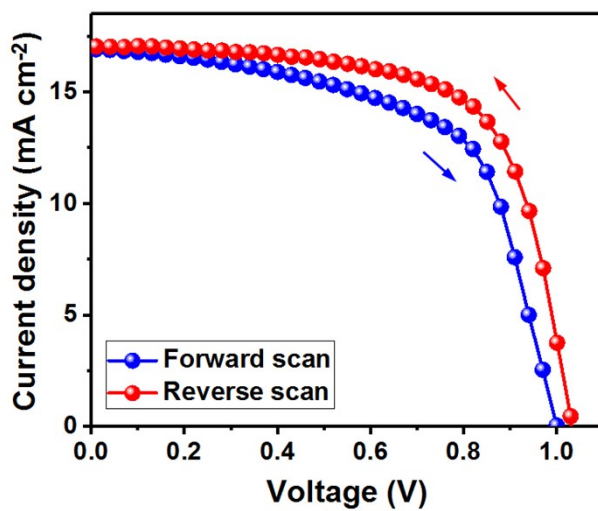
**Fig. S1.** Cross-sectional SEM images of perovskite films processed from precursor (a) without CB, (b) with 10% CB, (c) with 20% CB and (d) with 30% CB.



**Fig. S2.** Photographs of perovskite precursors without and with 10%, 20%, 30% and 40% CB



**Fig. S3.** Statistic PCE values for 32 individual PSCs processed from precursor without and with 20% CB.



**Fig. S4.** Forward and reverse  $J$ - $V$  characteristics of the best performance 2D PSC processed from precursor without CB.