

Supporting information

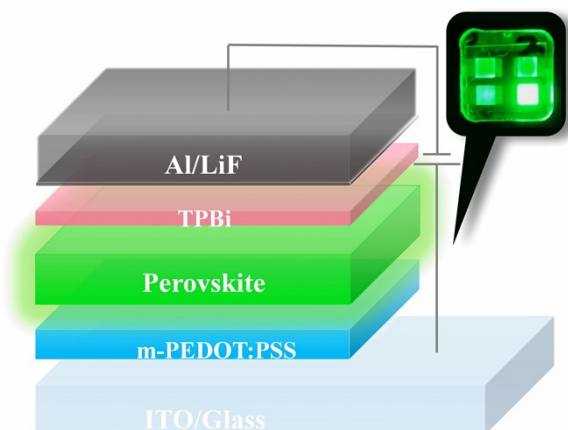


Fig. S1. Device architecture of the as-fabricated PeLEDs

Table S1. Device performance of the PeLEDs before and after being operated at a constant current density for 90 min.

PeLEDs based on	V_{on} (V)	Maximum luminance (L_{max} , cd/m ²)	Maximum current efficiency (CE_{max} , cd/A)	Maximum EQE(%)
W/O EVA-Fresh	3.4	10960	17.4	4.6
With EVA-Fresh	3.2	11673	22.9	5.75
W/O EVA-CC	4	3135.4	6.31	1.62
With EVA-CC	3.8	7762	7.84	2.02

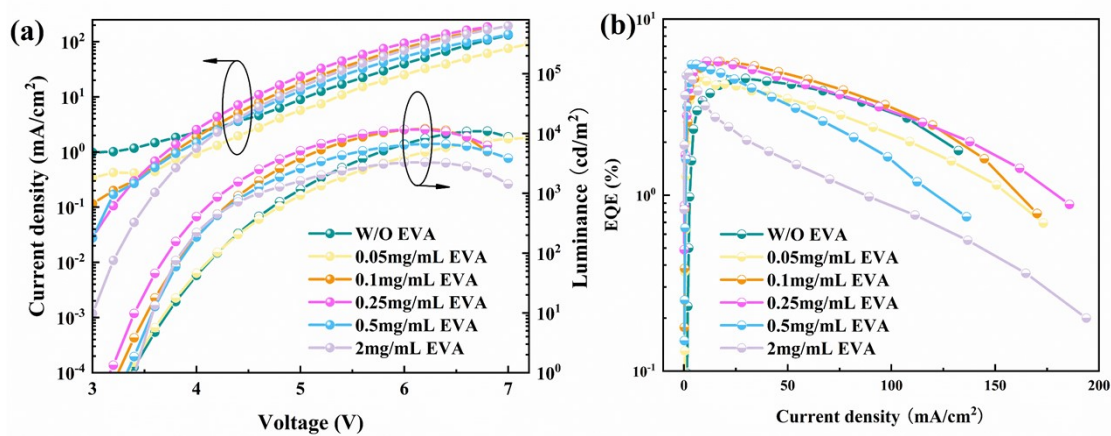


Fig. S2. Current density-voltage-luminance curves and EQE characteristic curves of quasi-2D PeLEDs with different concentration EVA

Table S2. Device performance of PeLEDs with different concentration EVA

PeLEDs based on	V_{on} (V)	Maximum luminance (L_{max} , cd/m ²)	Maximum current efficiency (CE_{max} , cd/A)	Maximum EQE(%)
W/O EVA	3.4	10960	17.4	4.6
0.05 mg/mL EVA	3.4	8402.6	18	4.67
0.1mg/mL EVA	3.4	12038	22.2	5.75
0.25mg/mL EVA	3.2	11673	22.9	5.75
0.5mg/mL EVA	3.4	6763.4	21.6	5.52
2mg/mL EVA	3.6	3296.5	19.4	4.94

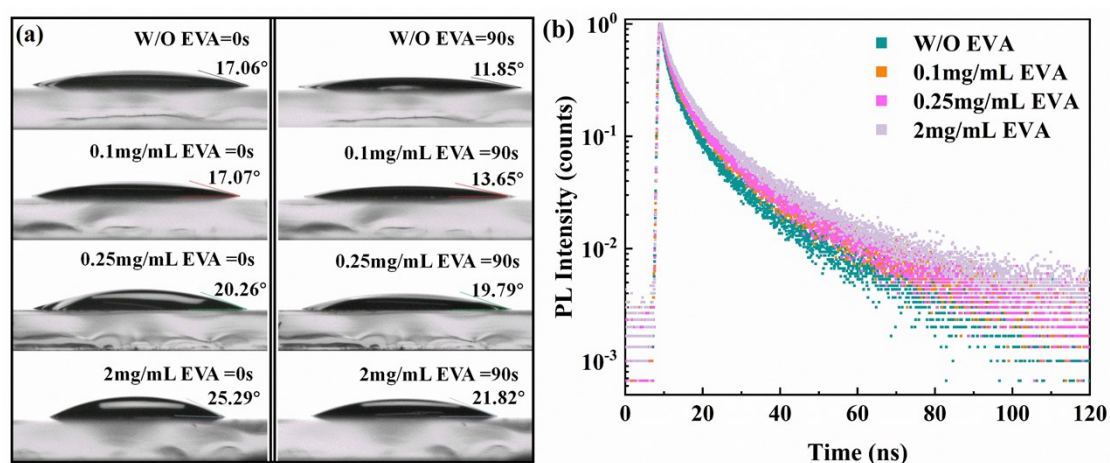


Fig. S3. a) Water contact-angle measurement and b) Transient PL decay of quasi-2D perovskite films.

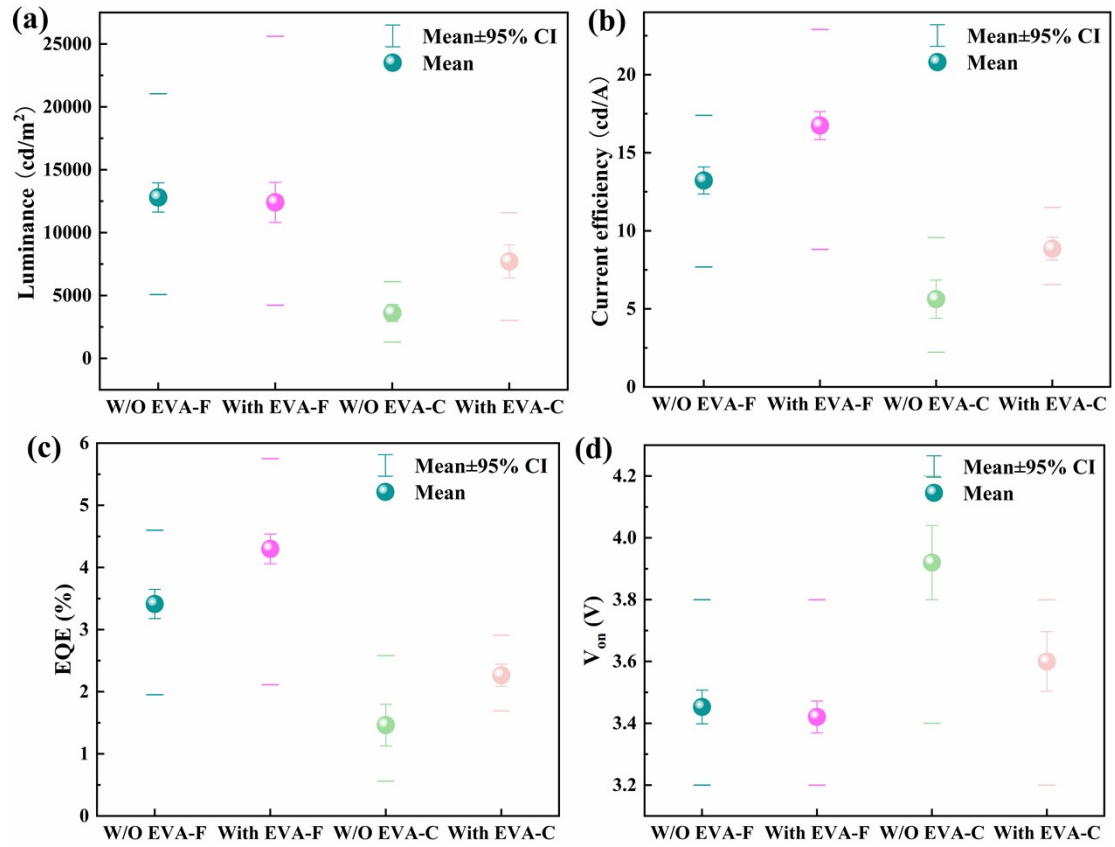


Fig. S4. Statistics of luminance, current efficiency, EQE, V_{on} of 34 devices (fresh, F) and 5 devices (after constant current, C) fabricated with and without EVA.