Supporting information

Efficient Transparent Blue-Emitted Perovskite Light-Emitting Diodes Based on Multilayer Transparent Top Electrodes

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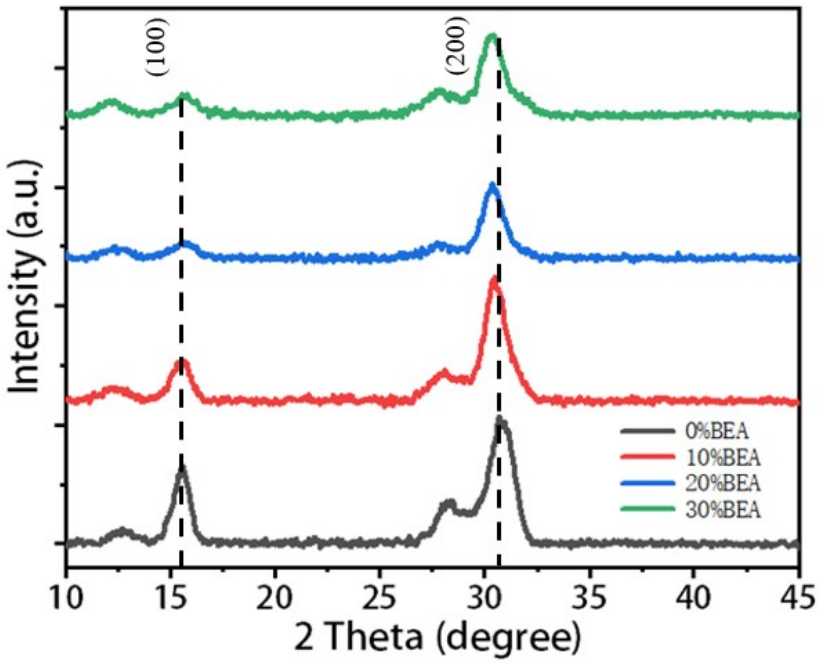

Figure S1. XRD patterns of perovskite films with BEABr concentration of 0%, 10%, 20%, and 30%, respectively.

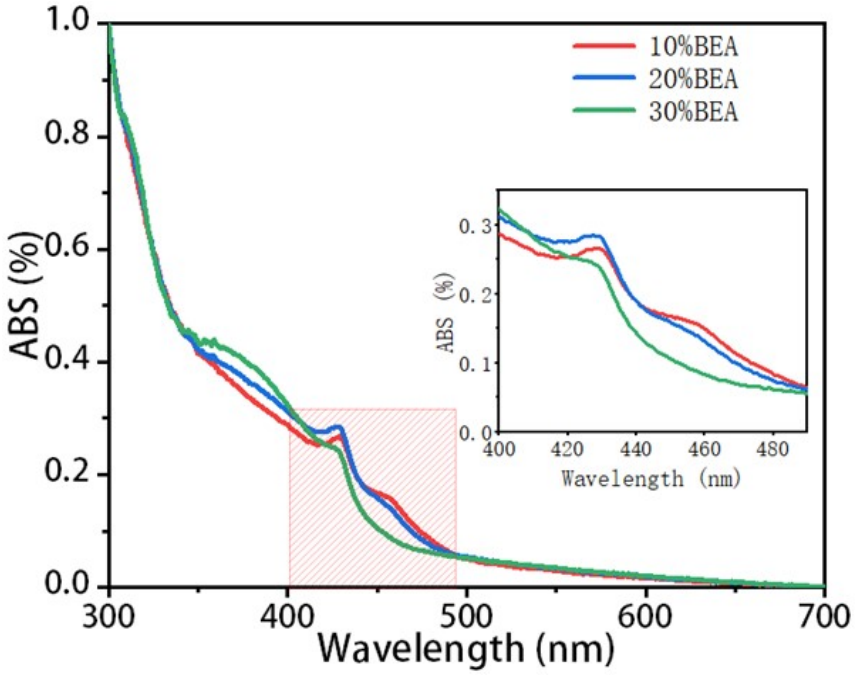

Figure S2. Absorption curves of perovskite films with BEABr concentration of 10%, 20%, and 30%, respectively.

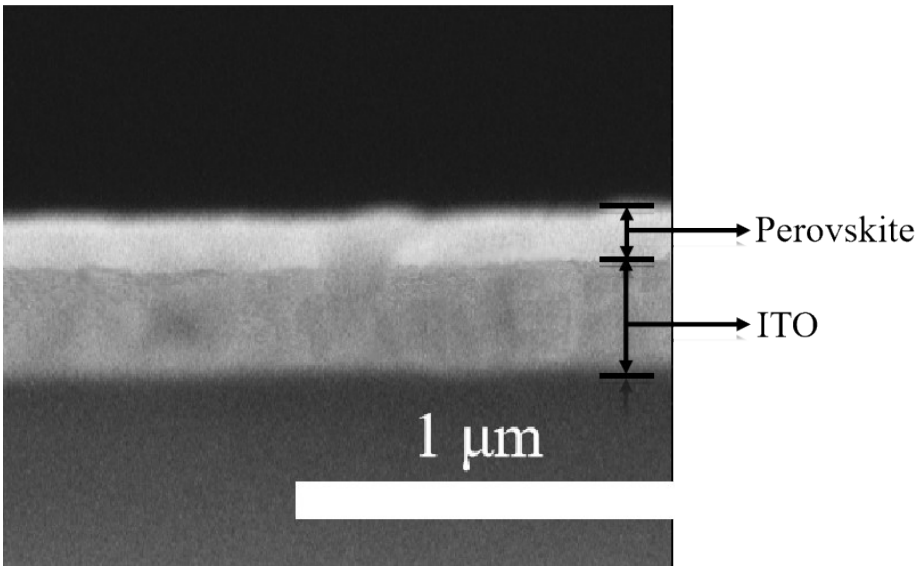

Figure S3. Cross-sectional SEM images of the perovskite film.

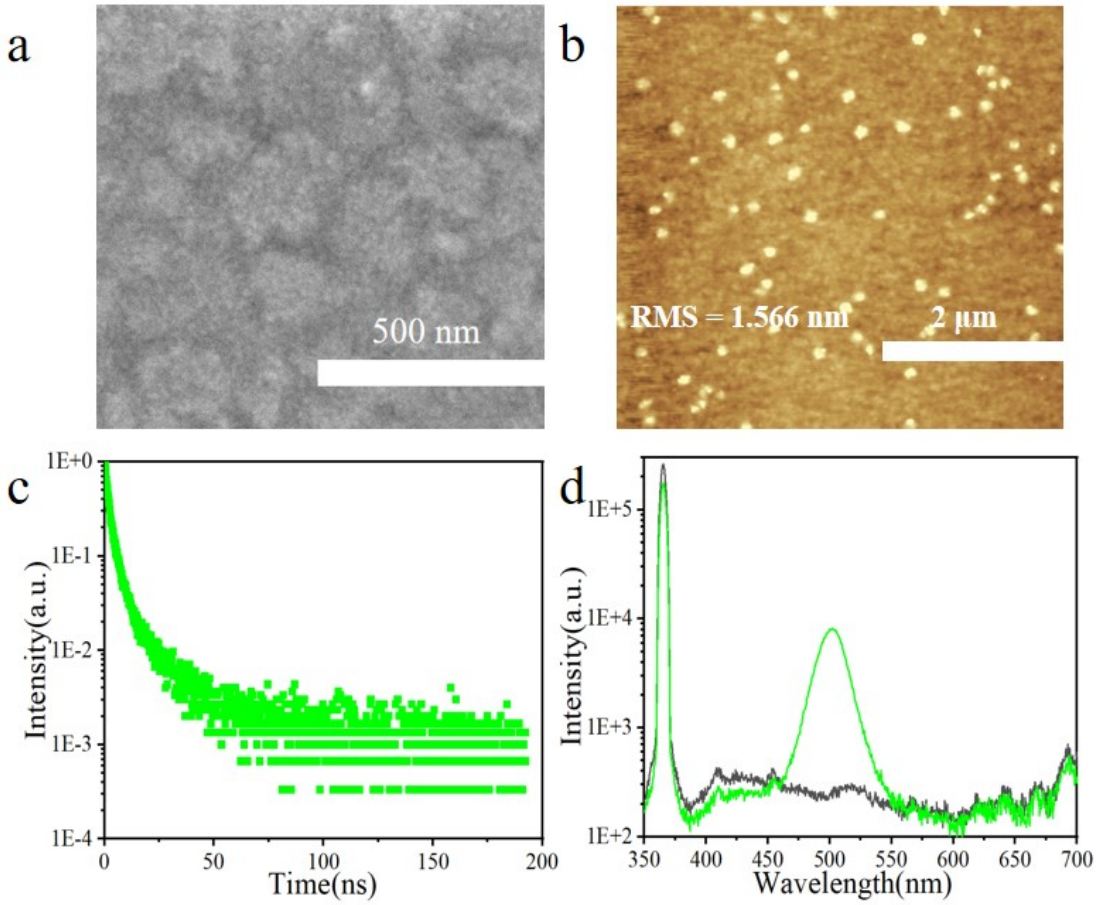

Figure S4. (a) SEM, (b) AFM, (c) Fluorescence lifetime and (d) PLQY of perovskite films without BEABr, respectively.

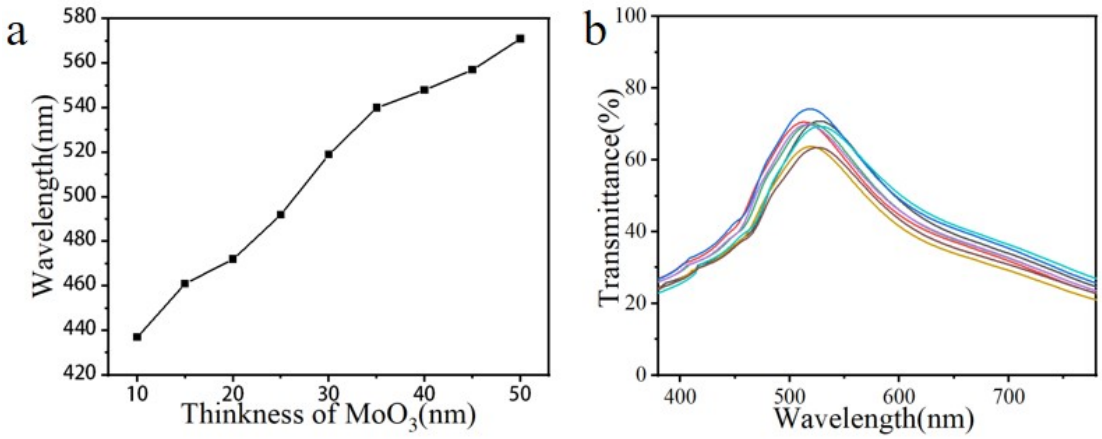

Figure S5. (a) The changes of the maximum transmittance wavelength of TPeLEDs with varying MoO_3 thickness. (b) The transmittance of TPeLED devices with MoO_3 thickness of 30 nm.

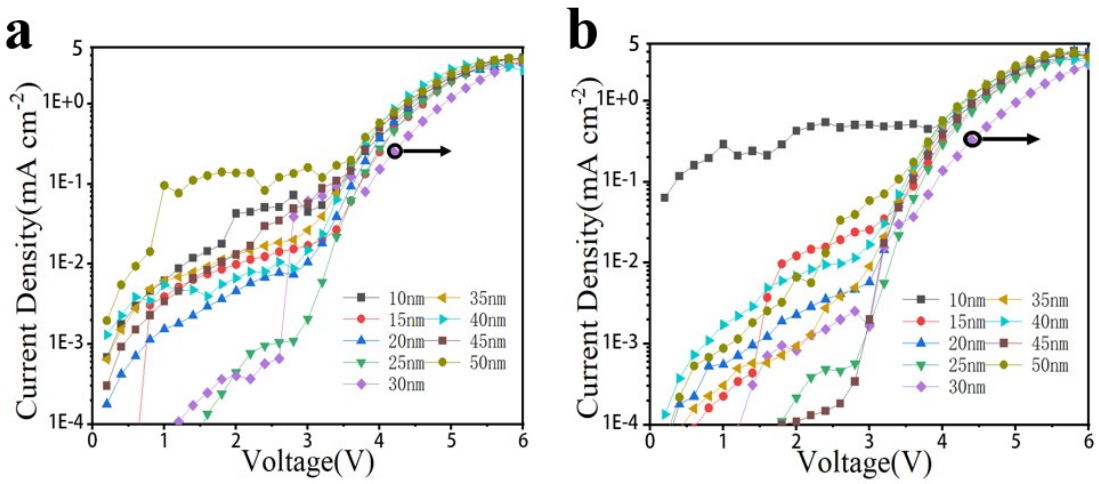

Figure S6. Current density varied with voltage of the TPeLEDs tested from (a) ITO side and (b) MoO_3 side with different MoO_3 thicknesses.

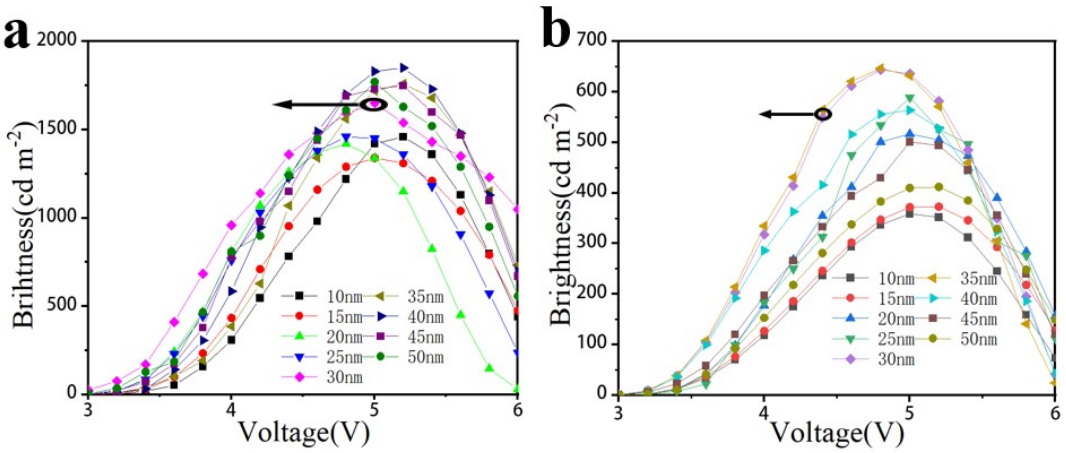

Figure S7. Brightness of the TPeLEDs tested from (a) ITO side and (b) MoO_3 side with different MoO_3 thicknesses.

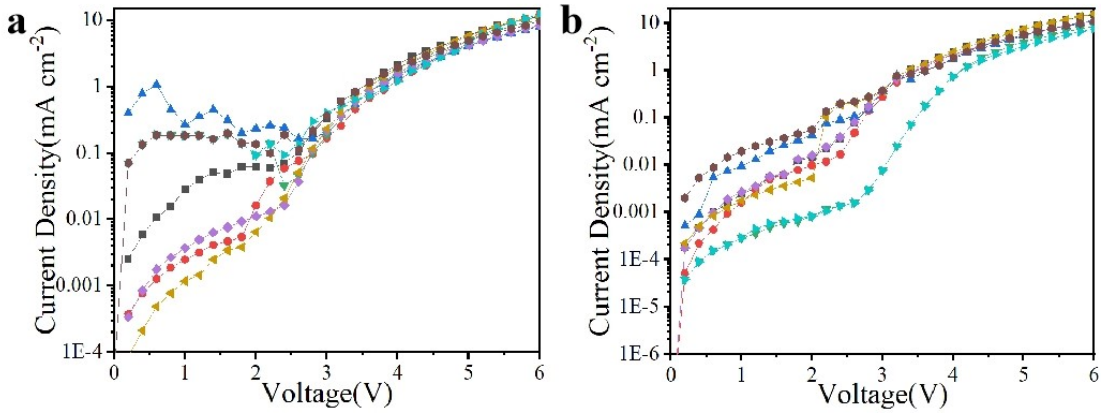

Figure S8. Current Density of devices with a MoO_3 thickness of (a) 30 nm, and (b) 0 nm. Device structure: ITO/PEDOT:PSS/TPBi/Bphen/Cs_2CO_3/Ag/MoO_3.

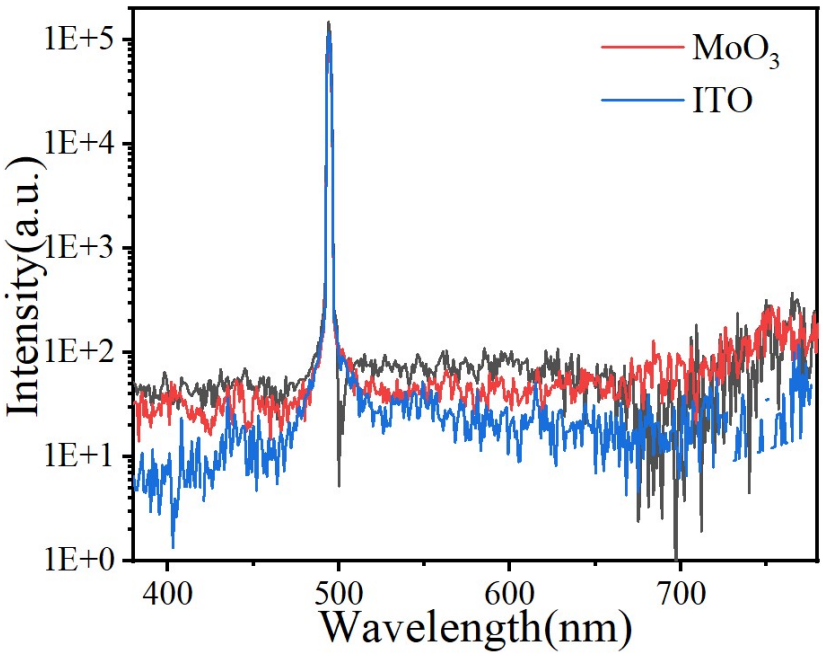

Figure S9. PLQY of TPeLED device on MoO_3 side and ITO side.