

Supplementary information

**Comparative Optical Characterization of CsPbBr₃ Quantum Dots and
CVD-Grown CsPbBr₃ Mircoplates**

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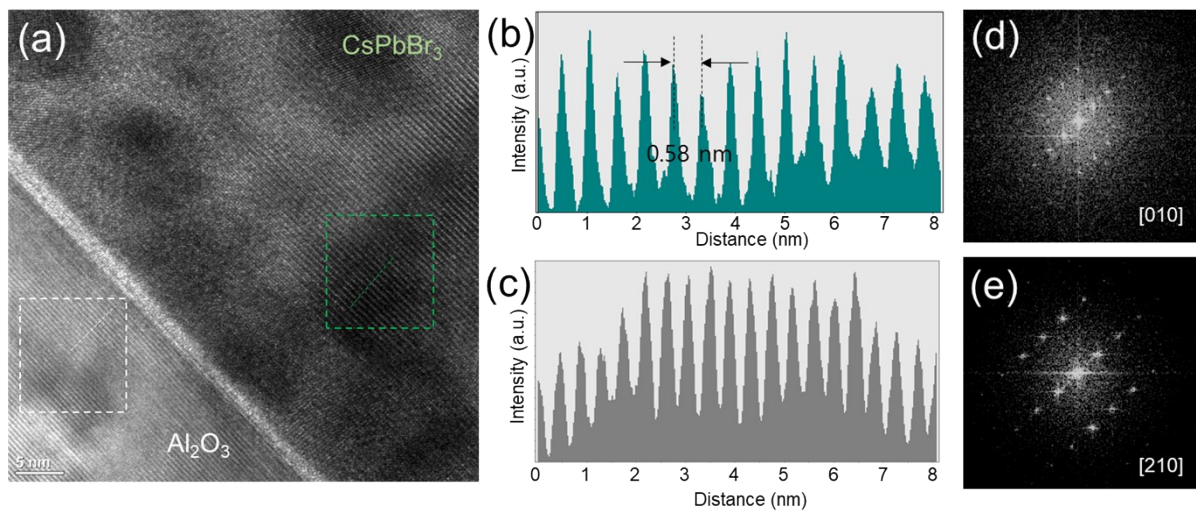


Figure S1. (a) Image of the interface between a CsPbBr₃ microplate and the *c*-plane Al₂O₃ substrate. (b, c) Intensity line profiles for the boxed regions in CsPbBr₃ (b, green) and Al₂O₃ (c, gray), indicating the lattice fringes of each material.

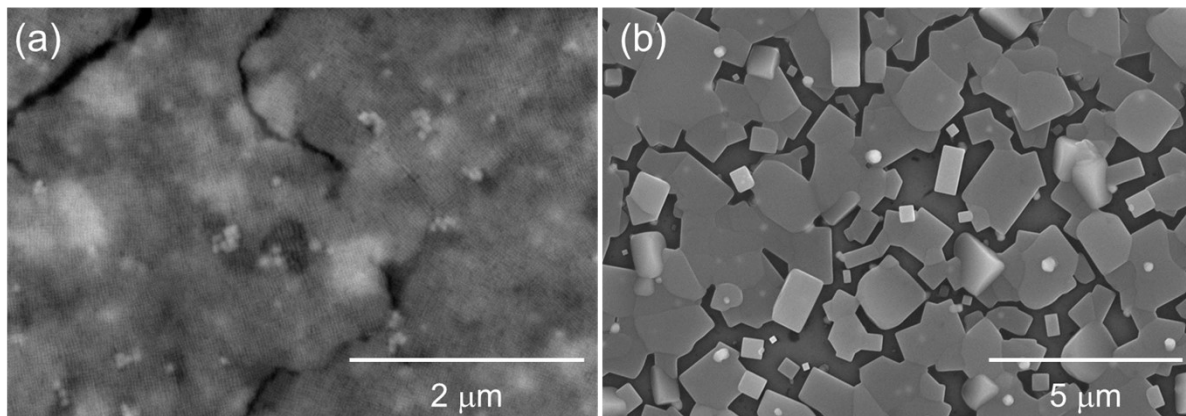


Figure S2. High-resolution FE-SEM image of CsPbBr₃ (a) QDs coated on Si substrate and (b) microplates on c-Al₂O₃ grown by CVD.

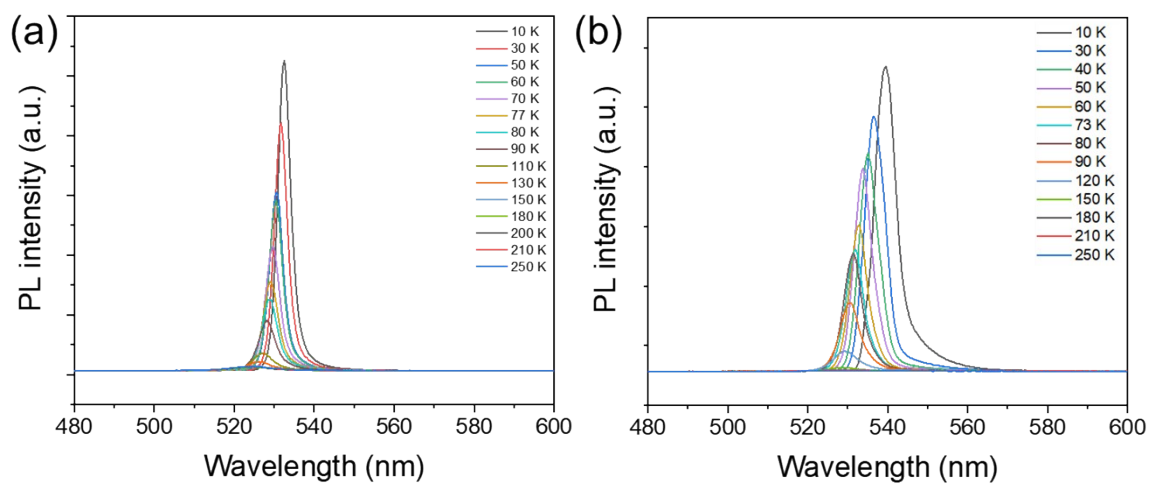


Figure S3. Temperature dependent PL spectra in the range of 10–250 K for (a) QDs and (b) microparticles.

Table S1. Biexponential decay parameters for room temperature TRPL decay for CsPbBr₃ QDs and nanoplates

	A_1	τ_1 (ns)	A_2	τ_2 (ns)	τ_{ave} (ns)
QDs	0.330	4.550	0.021	16.476	6.78
Microplates	0.210	5.070	0.061	12.385	8.11

Here, τ_1 and τ_2 are the fast and slow decay components, respectively, and A_1 and A_2 are their amplitudes. The average decay time τ_{ave} was determined from the equation

$$\tau_{ave} = (A_1\tau_1^2 + A_2\tau_2^2)/(A_1\tau_1 + A_2\tau_2).$$