

Supporting Information

Stretch induced photoluminescence enhanced perovskite quantum dot polymer composites

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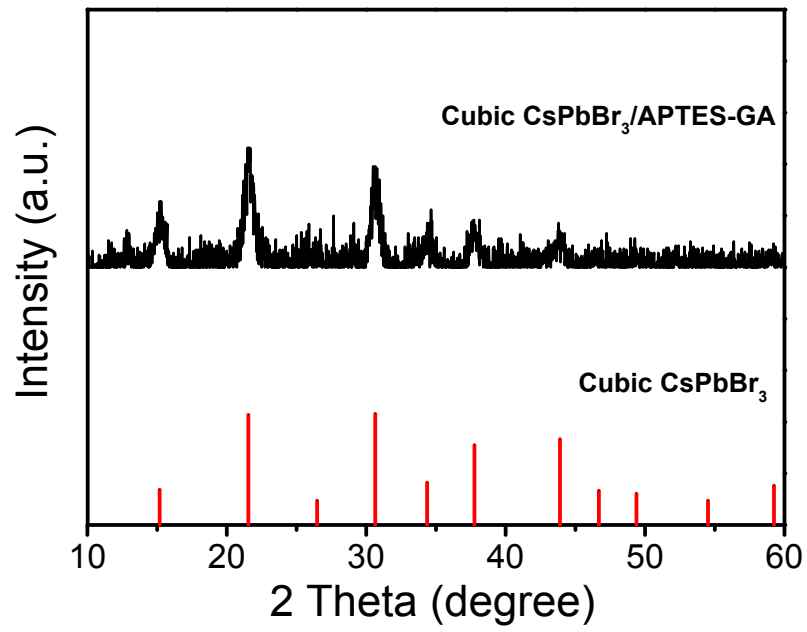


Figure S1 X-ray diffraction (XRD) pattern (Cu K α) of CsPbBr₃ QDs/APTES-GA (black) with the standard XRD pattern of cubic CsPbBr₃ (Red).

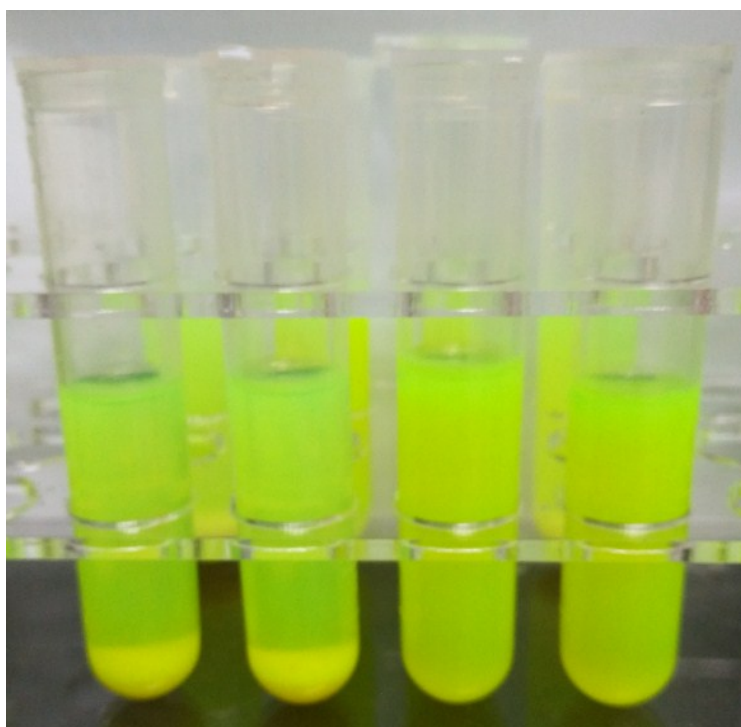


Figure S2 CsPbBr₃ QDs/APTES-GA dispersed in toluene (left) and ethanol (right) after 30-day storage.

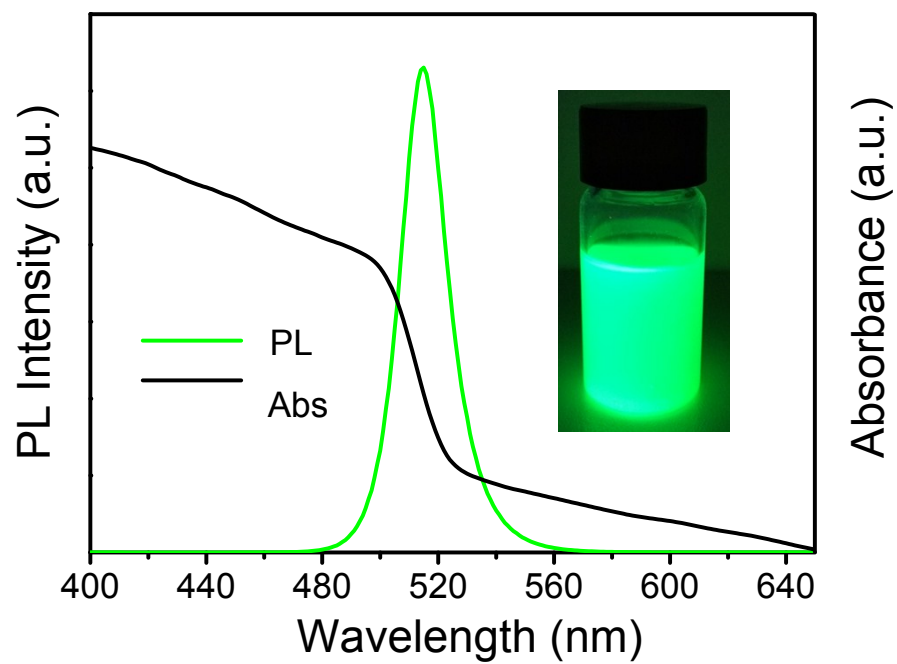


Figure S3 (a) Absorbance (black) and PL (green) spectrum of CsPbBr₃ QDs/APTES-GA. Inset: CsPbBr₃ QDs/APTES-GA dispersed in ethanol under UV light (365 nm).

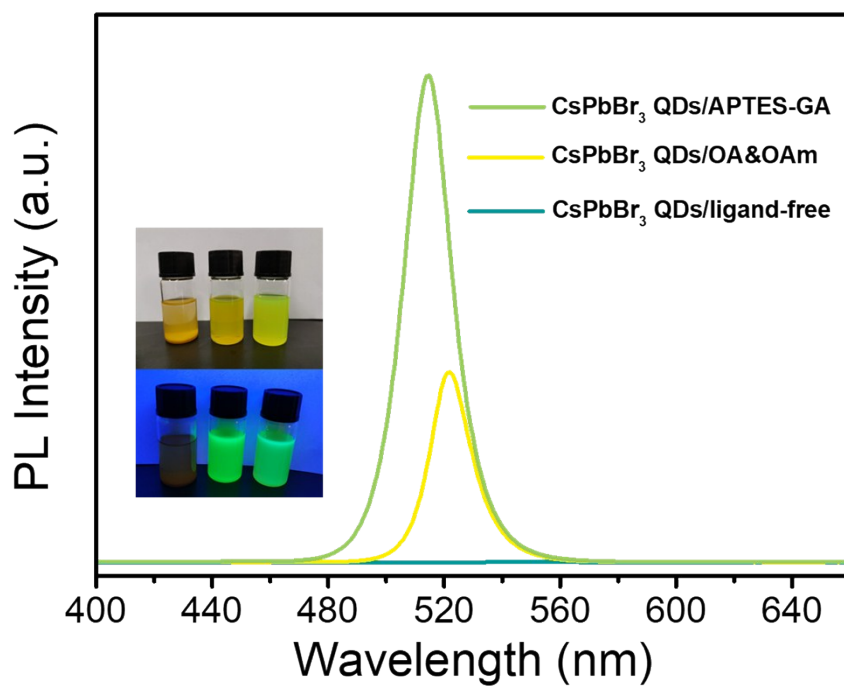


Figure S4 PL spectra of CsPbBr₃ QDs/APTES-GA, CsPbBr₃ QDs/OA&OAm and CsPbBr₃ QDs/no ligand. Inset: images of three samples under indoor light and UV light (365 nm).

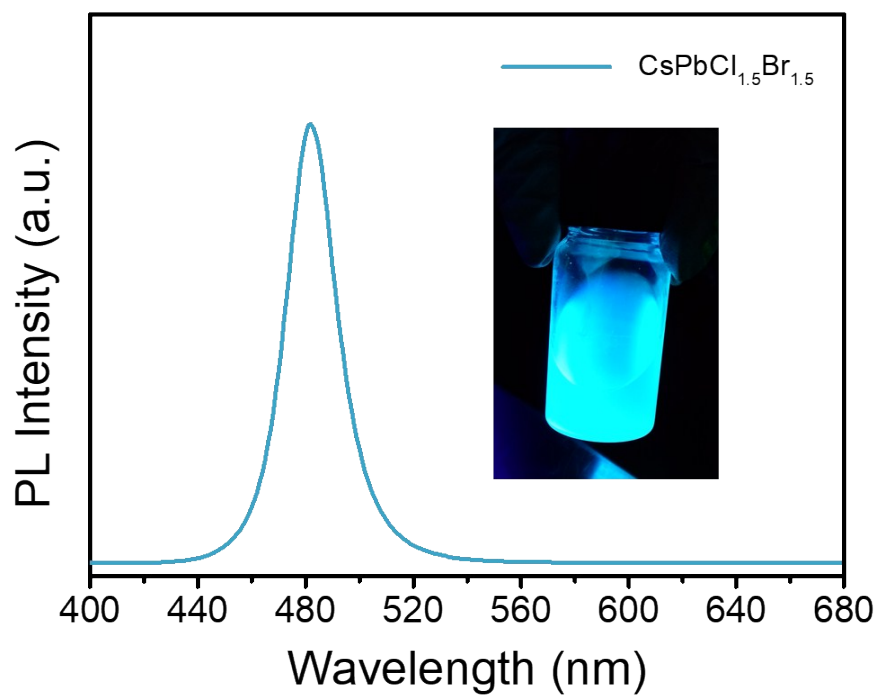


Figure S5 PL spectrum of CsPbCl_{1.5}Br_{1.5} QDs/APTES-GA. Inset: CsPbCl_{1.5}Br_{1.5} QDs/APTES-GA dispersed in ethanol under UV light (365 nm).

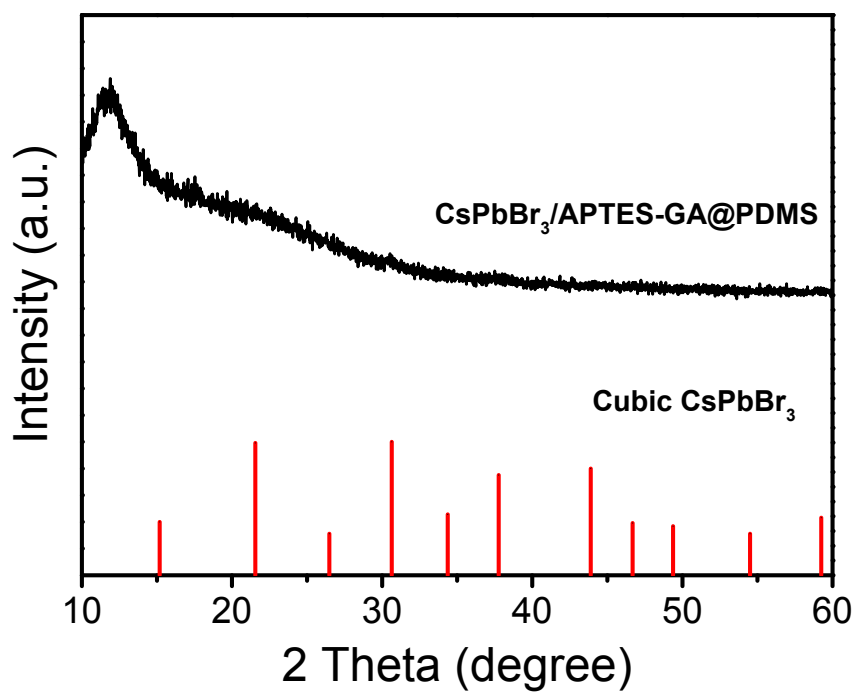


Figure S6 X-ray diffraction (XRD) pattern ($\text{Cu K}\alpha$) of CsPbBr_3 QDs/APTES-GA@PDMS composite film (black) with the standard XRD pattern of cubic CsPbBr_3 (Red).

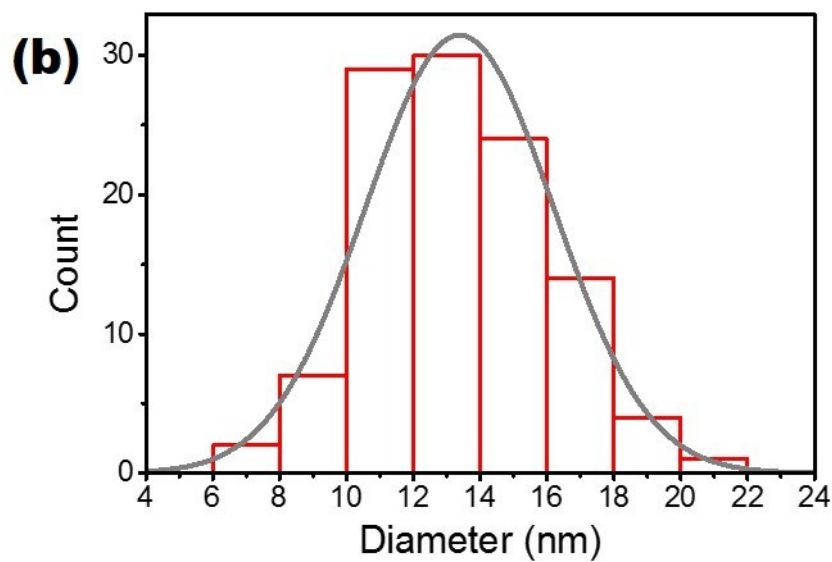
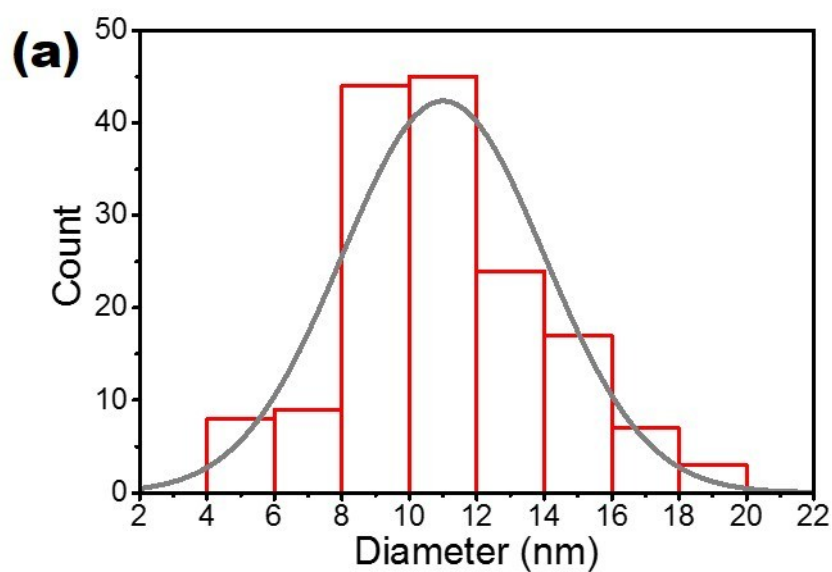


Figure S7 Size distribution of CsPbBr₃ QDs/APTES-GA in ethanol (a) and in PDMS (b).

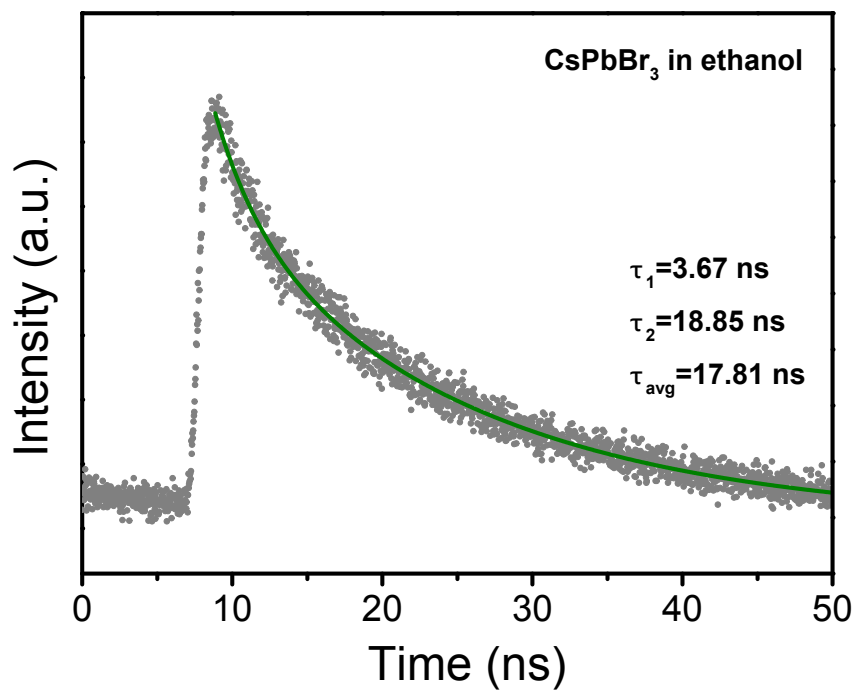


Figure S8 PL decay curves of CsPbBr₃ QDs in ethanol.

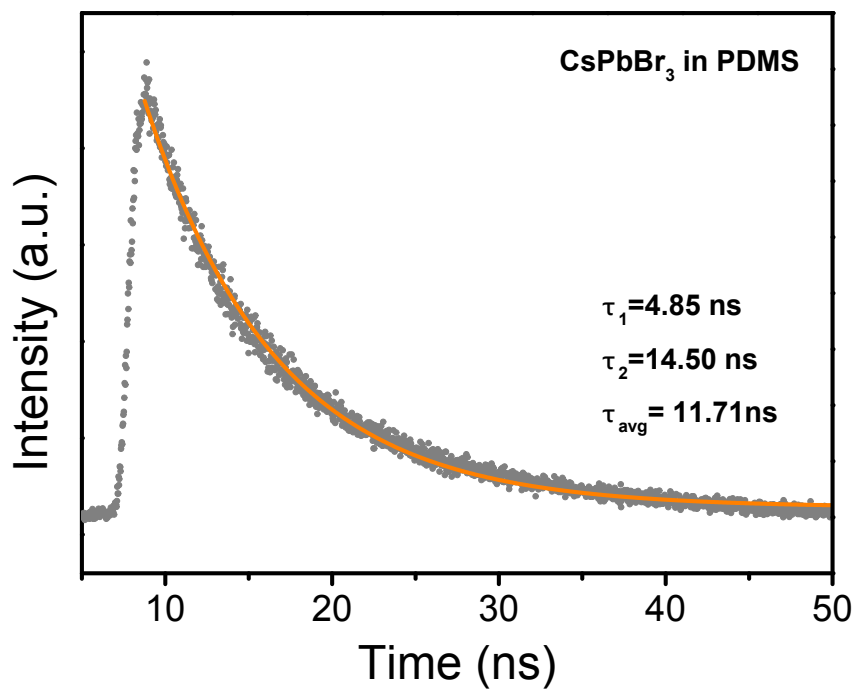


Figure S9 PL decay curves of CsPbBr₃ QDs in PDMS.

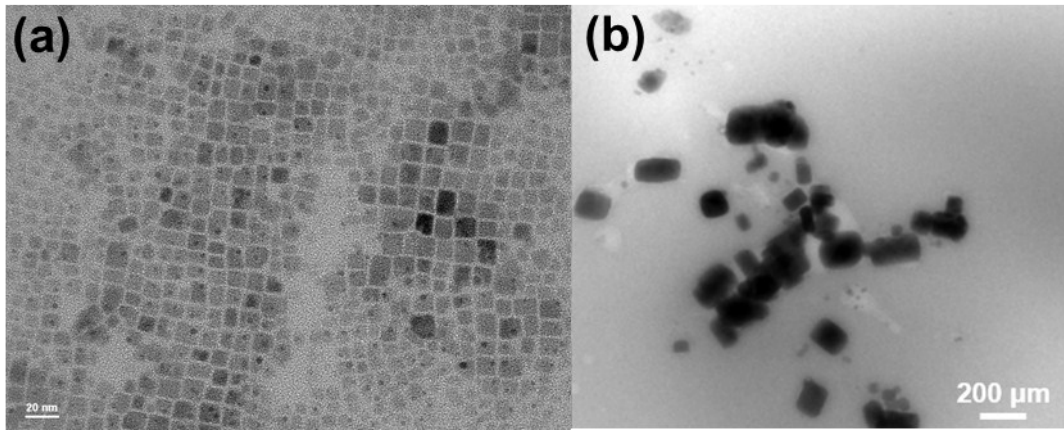


Figure S10 TEM images of the CsPbBr₃ QDs/OA&OAm in toluene (a) and in PDMS (b).

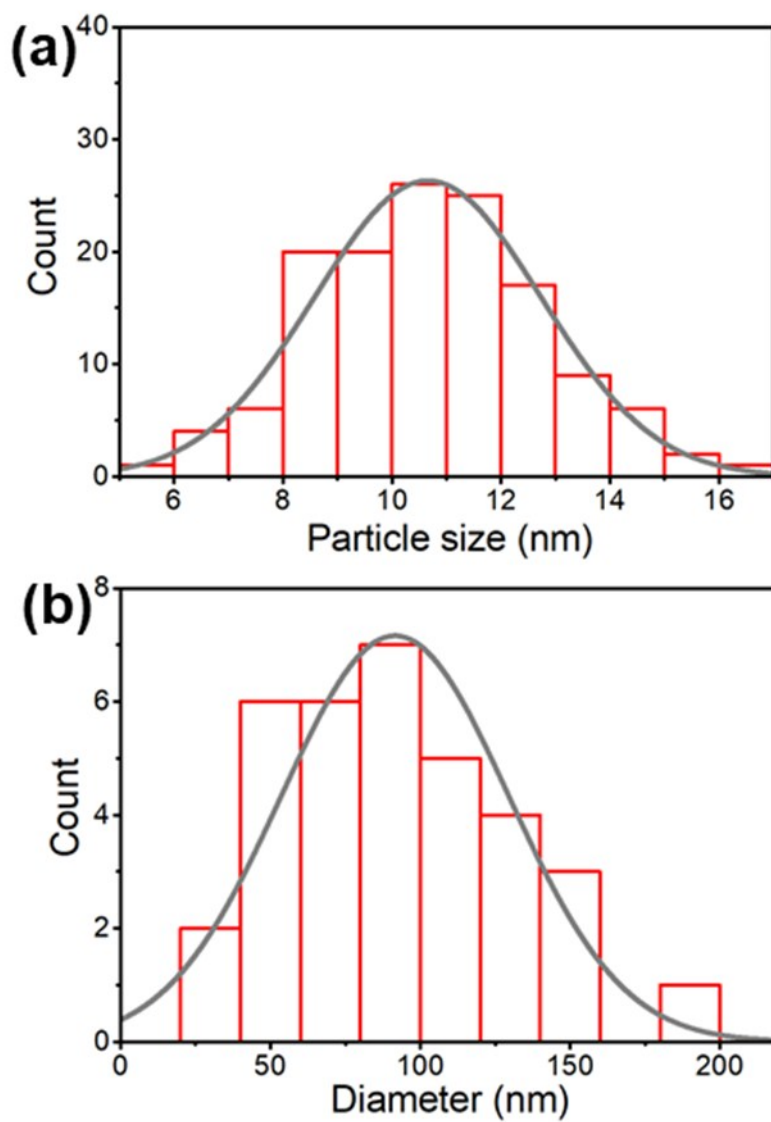


Figure S11 Size distribution of CsPbBr₃ QDs/OA&OAm in ethanol (a) and in PDMS (b).

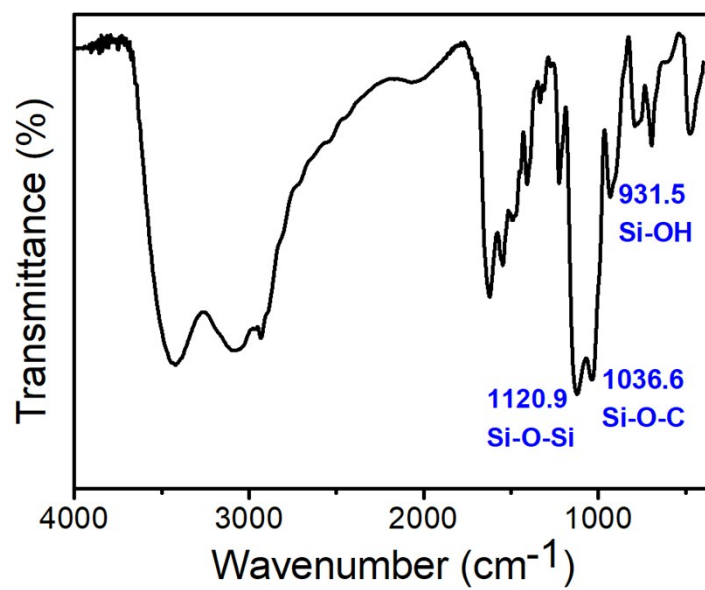


Figure S12 FTIR characterization of CsPbBr₃ QDs/APTES-GA@PDMS.

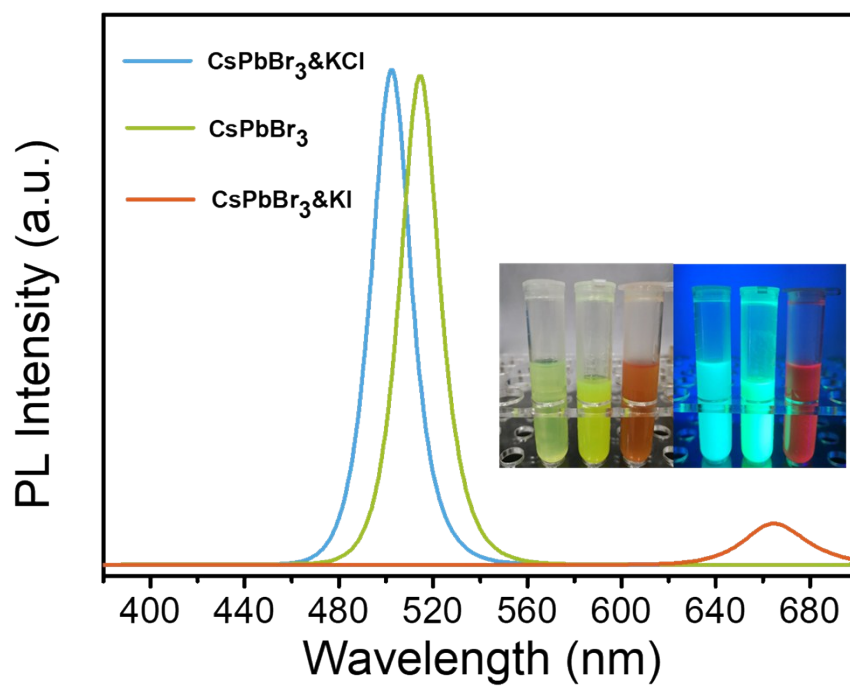


Figure S13 PL spectra of CsPbBr₃ QDs, CsPbBr₃ QDs&KCl and CsPbBr₃ QDs&KI. Inset: images of three samples under indoor light and UV light (365 nm).

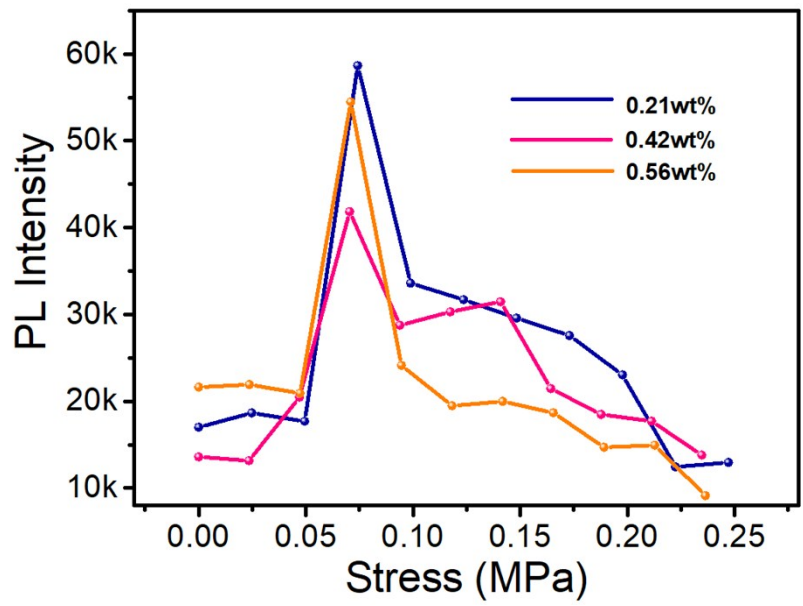


Figure S14 PL Peak Intensity of CsPbBr₃ QDs/APTES-GA@PDMS composite films with different weight ratios under various tension.

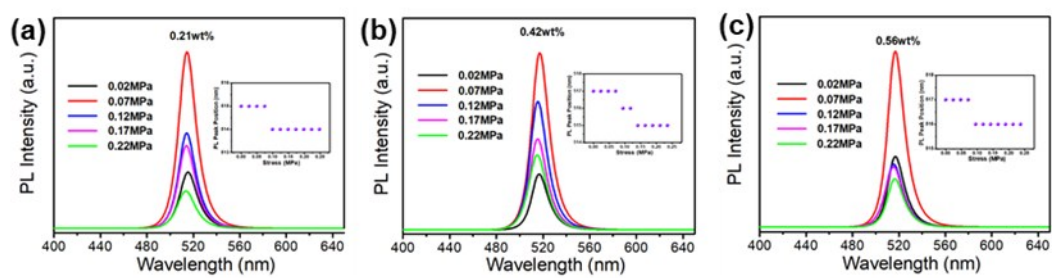


Figure S15 PL spectra of CsPbBr₃ QDs/APTES-GA@PDMS composite films under various tension. inset: PL Peak Position of composite films under various tension.

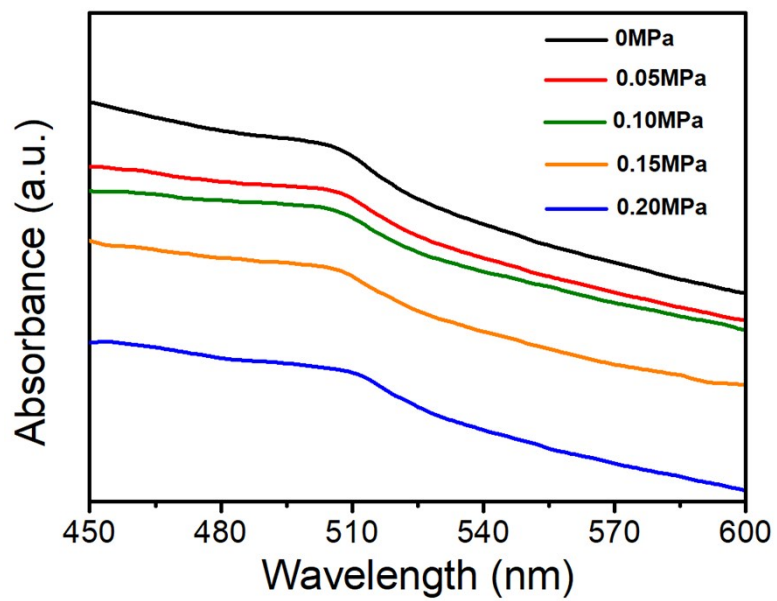


Figure S16 Absorbance spectra of CsPbBr₃ QDs/APTES-GA@PDMS composite films under various tension.

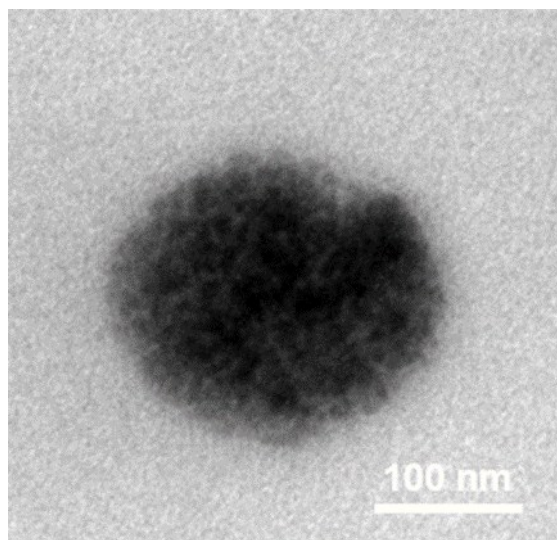


Figure S17 TEM images of the CPB QDs/ APTES-GA@PDMS composite film.

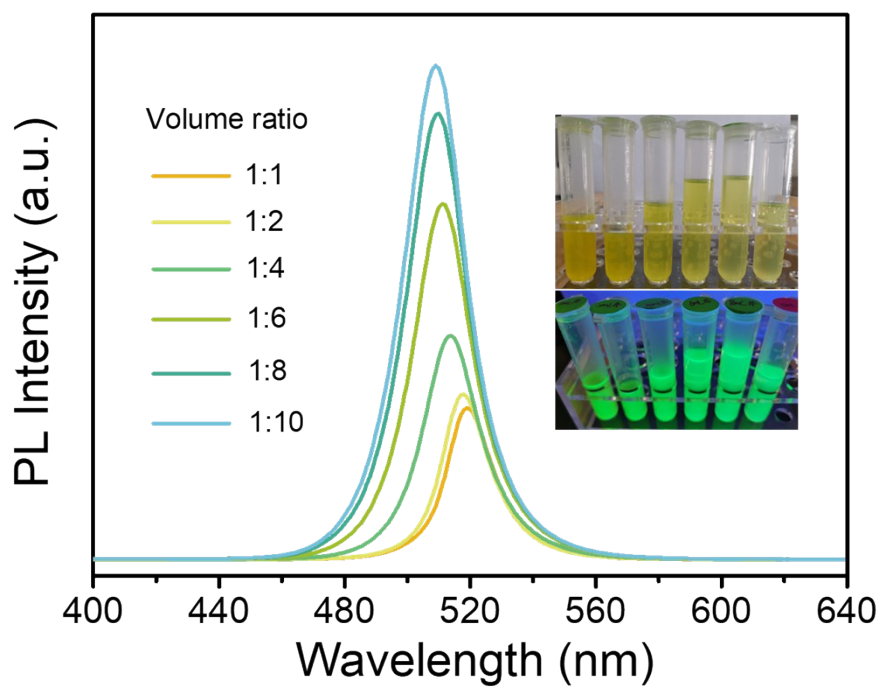


Figure S18 PL spectra of CsPbBr₃ QDs/ethanol with different volume ratios. Inset: images of six samples under indoor light and UV light (365 nm).

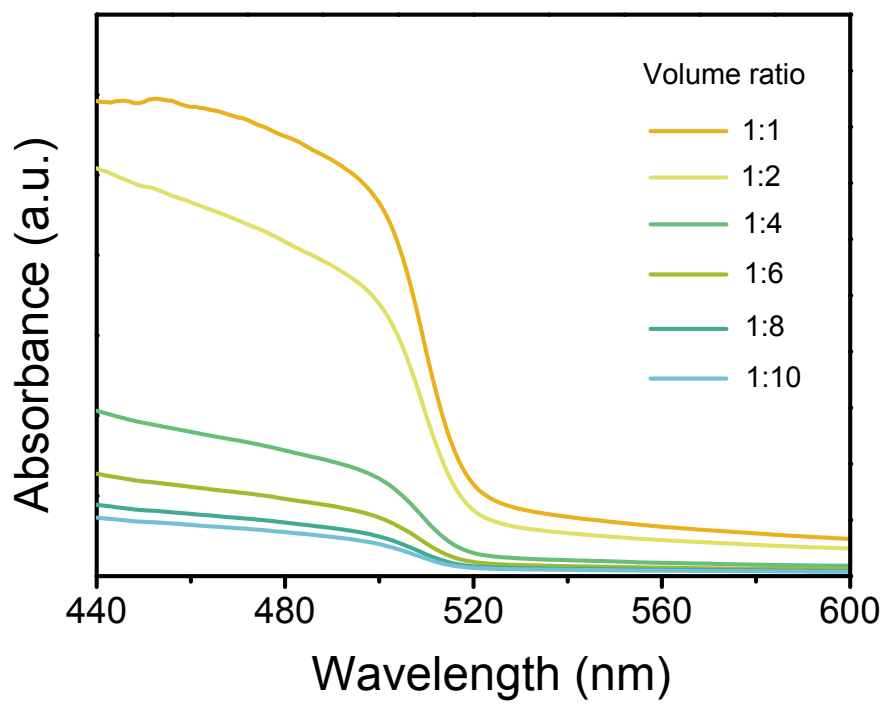


Figure S19 Absorbance spectra of CsPbBr₃ QDs/ethanol with different volume ratios.