Supplementary Information

Surface Passivation of Mixed-Halide Perovskite CsPb $(Br_xI_{1-x})_3$ Nanocrystals by Selective Etching for Improved Stability

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Fig. S1. XRD patterns of CsPbBr₃ (a) and CsPbI₃ (b) NCs after washing with ethanol and acetone.



Fig. S2. (a) Photograph of colloidal solutions of different perovskite $CsPb(Br_xI_{1-x})_3$ NCs under normal and UV light ($\lambda = 365$ nm). (b,c) Normalized PL spectra of nanoparticles $CsPb(Br_xI_{1-x})_3$ after washing with ethanol and acetone. (d) Corresponding PL peak possition vs stoichiometric ratio of halide ions, extracted from Figure S1b and S1c.



Fig. S3. Normalized PL spectra of mix-halide pervoskite CsPb(BrxI1-x)3 NCs after washed with different antislovents.



Fig. S4. High-resolution XPS spectra corresponding to Pb 4f, Br 3d, I 3d, Cs 4d and Cs 3d in $CsPb(Br_xI_{1-x})_3$ (x = 0.2) nanoparticles after washing with ethanol and acetone.



Fig. S5. Absolute quantum yield (QY) of mixed-halide $CsPb(Br_xI_{1-x})_3$ nanocrystals with different x values.