Electronic Supplementary Material (ESI) for Journal of Materials Chemistry C.

Electronic Supplementary Information

Highly luminescent perovskite-aluminum oxide composites

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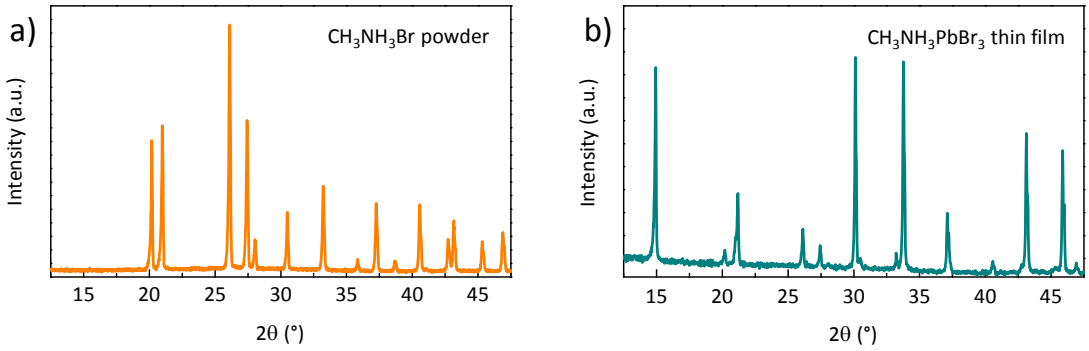

Figure S1. GIXRD spectra of a) CH_3NH_3Br powder and b) a pure $CH_3NH_3PbBr_3$ thin film.

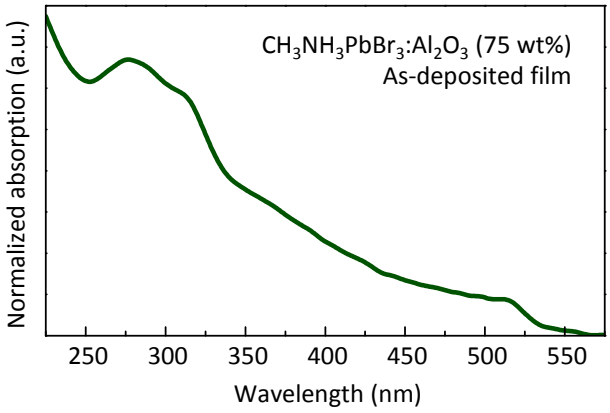

Figure S2. UV-Vis absorption of a pristine $CH_3NH_3PbBr_3$:Al_2O_3 thin film with 75 wt% alumina content. The absorption onset at 525 nm indicates that the perovskite forms even without thermal annealing.

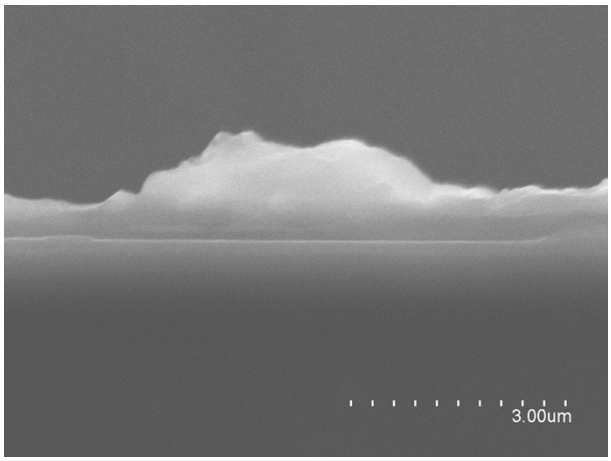

Figure S3. Cross-sectional SEM image of a $CH_3NH_3PbBr_3/Al_2O_3$ NPs thin film on ITO/glass at 30 wt% Al_2O_3.

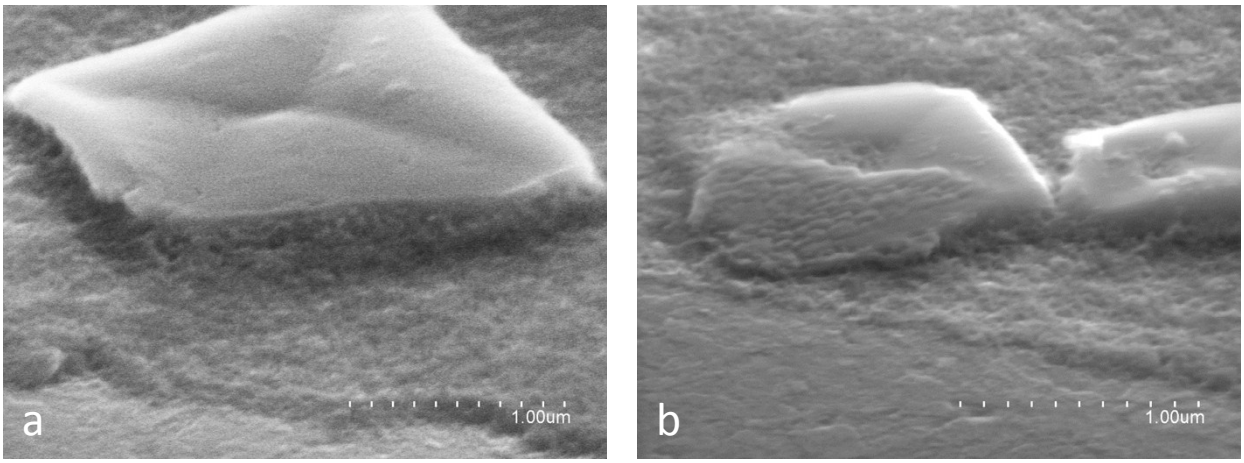

Figure S4. Tilted angle SEM images of a $CH_3NH_3PbBr_3/Al_2O_3$ NPs thin film on ITO/glass at (a) 30 wt% Al_2O_3 and (b) 50 wt% Al_2O_3. With increasing NPs content, the crystal formation is hindered.