

Supporting Information

Construction of Zero-Dimensional Halide Perovskite in Micron Scale towards a Deeper Understanding of Phase Transformations Mechanism and Fluorescent applications

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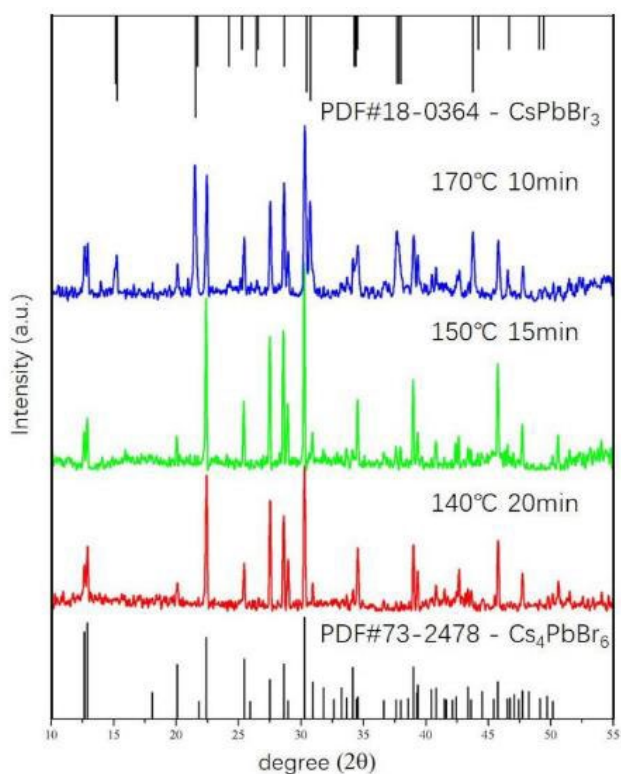


Fig. S1 XRD spectra of Cs₄PbBr₆ synthesized under different reaction conditions.

Table. S1 Information of ligands used in the synthesis

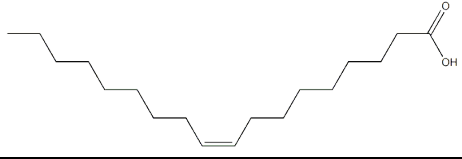
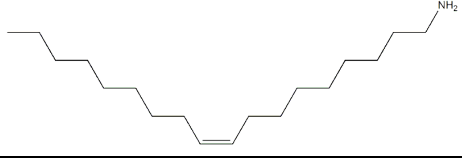
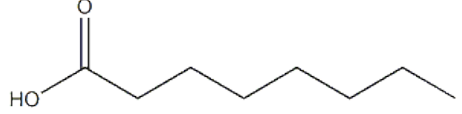
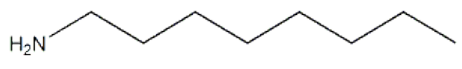
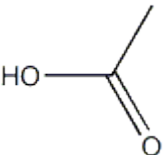
oleic acid	
Oleyl amine	
octoic acid	
octyl amine	
ethylic acid	

Table. S2 The size of products with different ratio of ligands

oleic acid (mL)	Oleylamine (mL)	octyl amine (mL)	ethylic acid (mL)	Products size
0.8	0.8	0.8	0	(0.5~1.0 μm)*400 nm
0.8	0.8	0.8	0.1	(0.8~1.4 μm)*400 nm
0.8	0.8	0.8	0.4	(2.5~4 μm)*400 nm
0.6	0.8	0.8	0.4	(2.5~3 μm)*400 nm
1.2	0.8	0.8	0.4	(6~7 μm)*400 nm
0.8	0.8	0.6	0.4	500 nm*500 nm
0.8	0.8	1.2	0.4	20 μm *500 nm
0.8	0.6	0.8	0.4	2.5 μm *2.5 μm
0.8	1.2	0.8	0.4	2.27 μm *300 nm
1.4	0.8	0.8	0.6	(9~10 μm)*700 nm

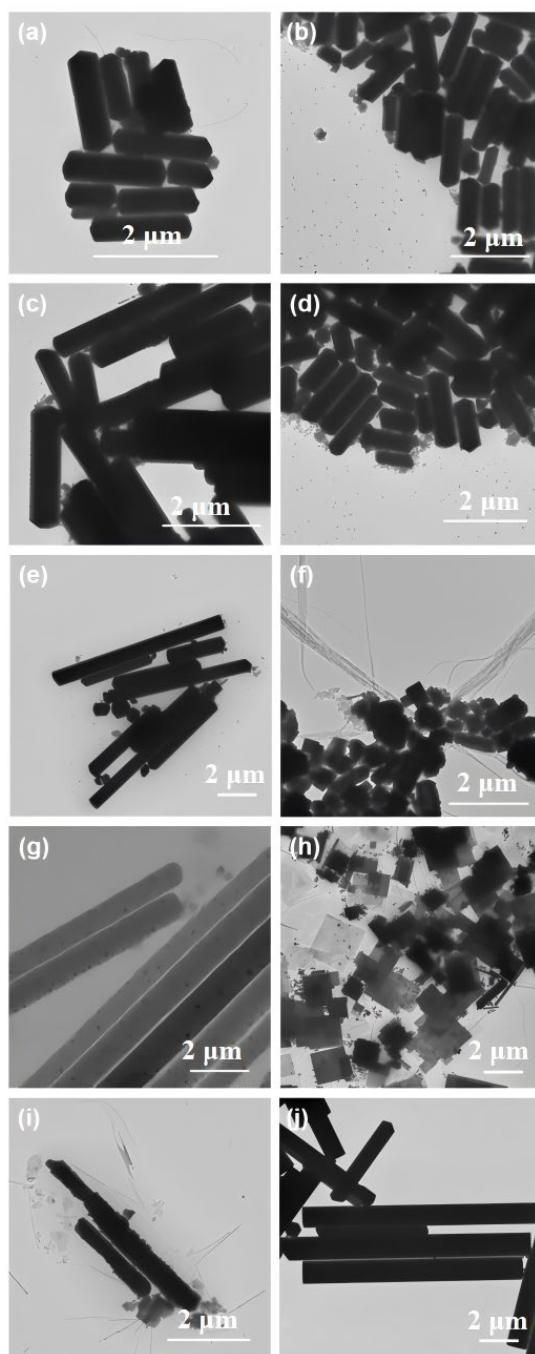


Fig. S2 TEM images of Cs₄PbBr₆ synthesized with different ratio of ligands.

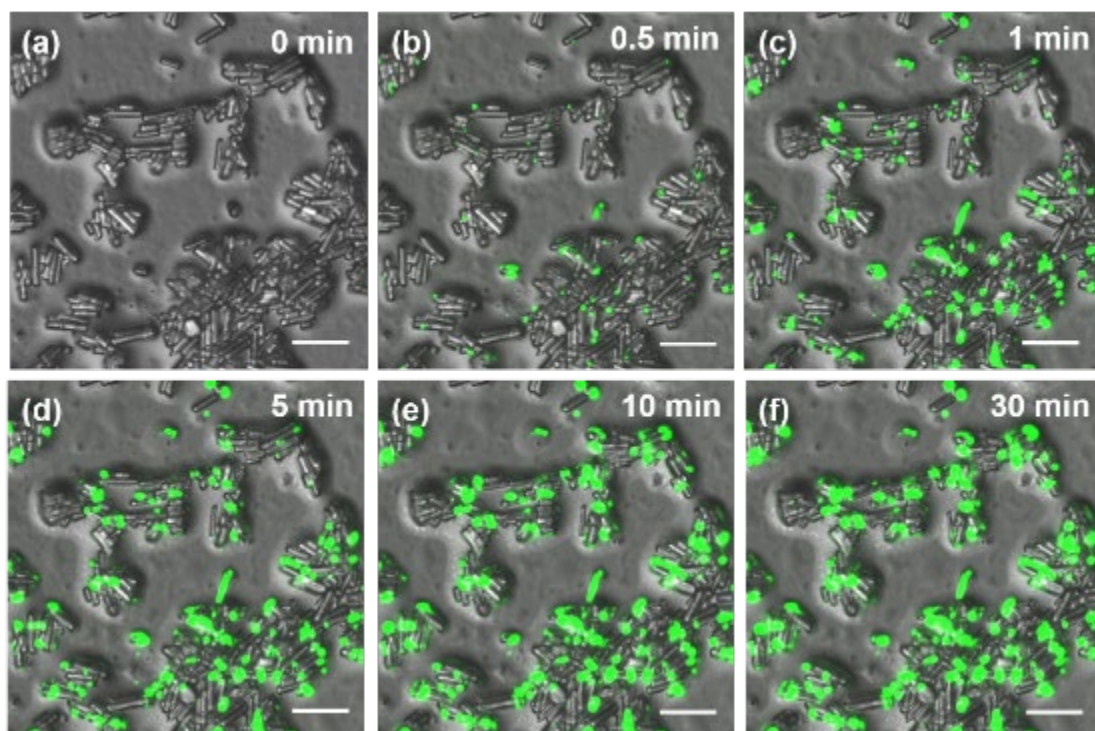


Fig. S3 CLSM image of micro scale Cs_4PbBr_6 with airborne water induced transformation. The legend is 10 μm , with excited wavelength 488 nm.