Supporting Information

Temperature dependent geometry in perovskite microcrystals for whispering gallery and Fabry-Pérot mode lasing

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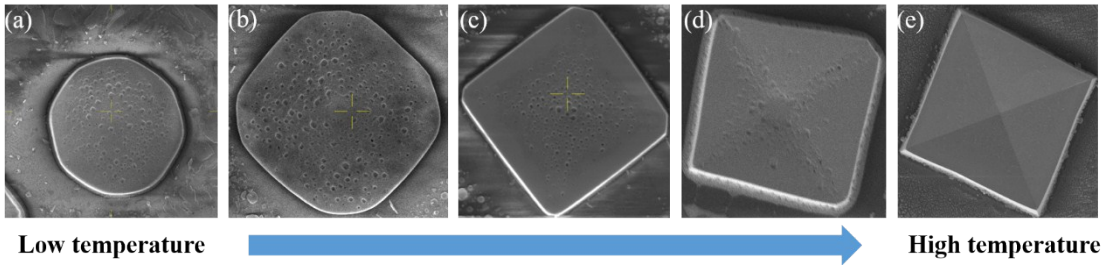

Fig. S1 The evolution of geometrical shapes in perovskite crystals along with the increase of temperature.

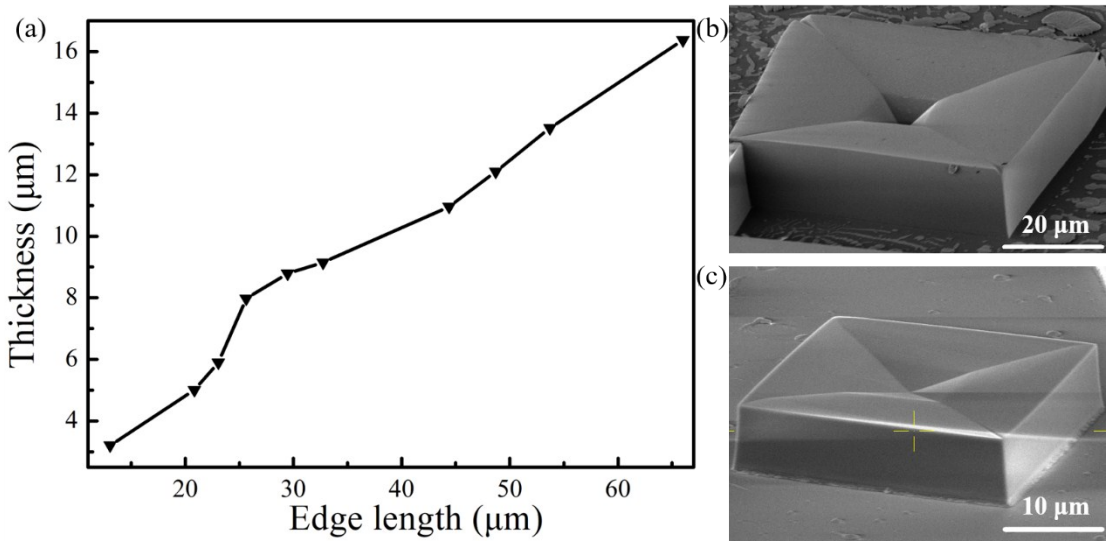

Fig. S2 (a) The relationship between the edge length and thickness in the perovskite crystals. (b) and (c) are the three-dimensional SEM image of quasi-cubic crystals with different edge-lengths.

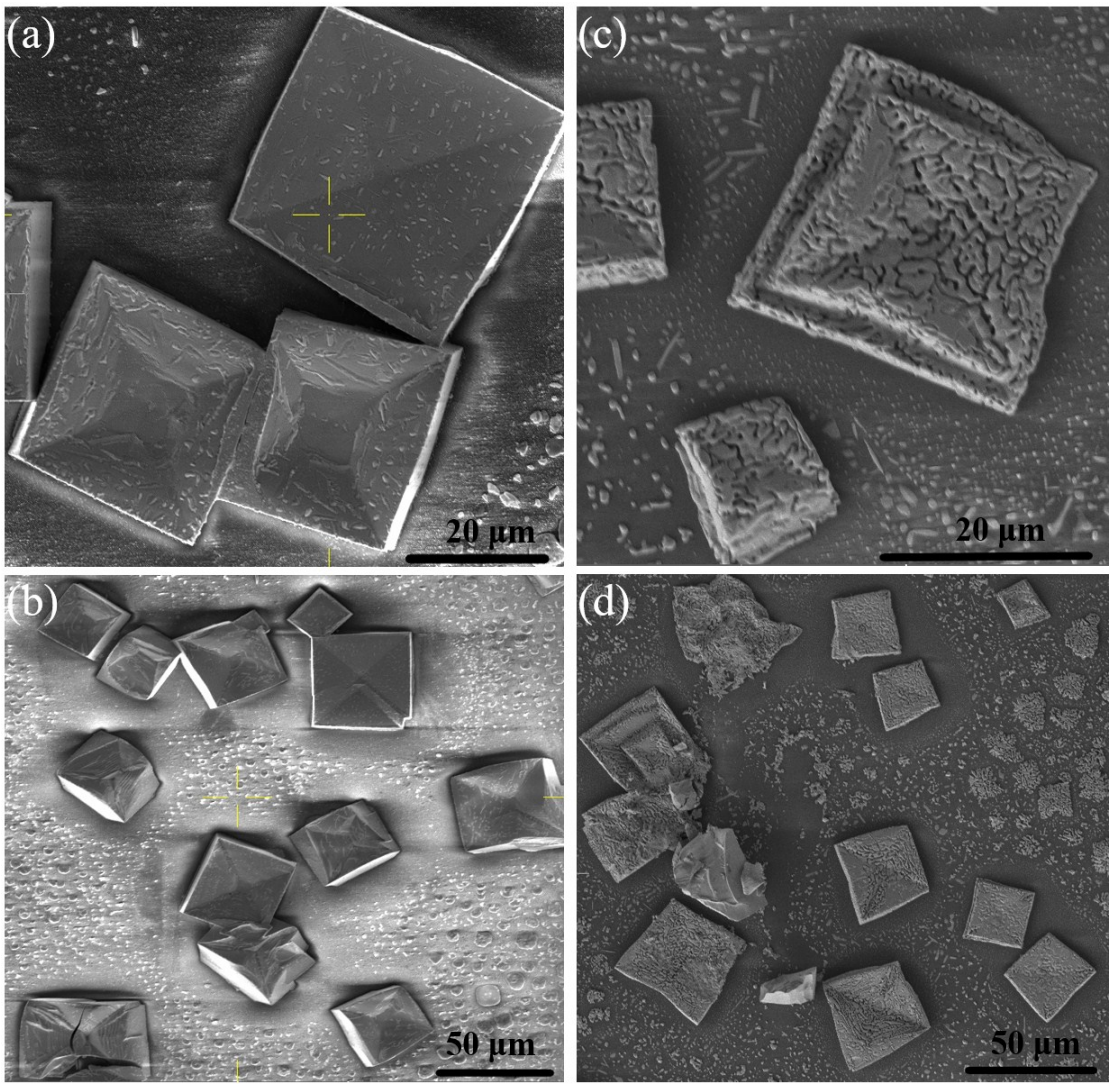

Fig. S3 Surface morphology of perovskite crystals grown under high temperature of (a) and (b) 150 ℃, (c) and (d) 180 ℃.

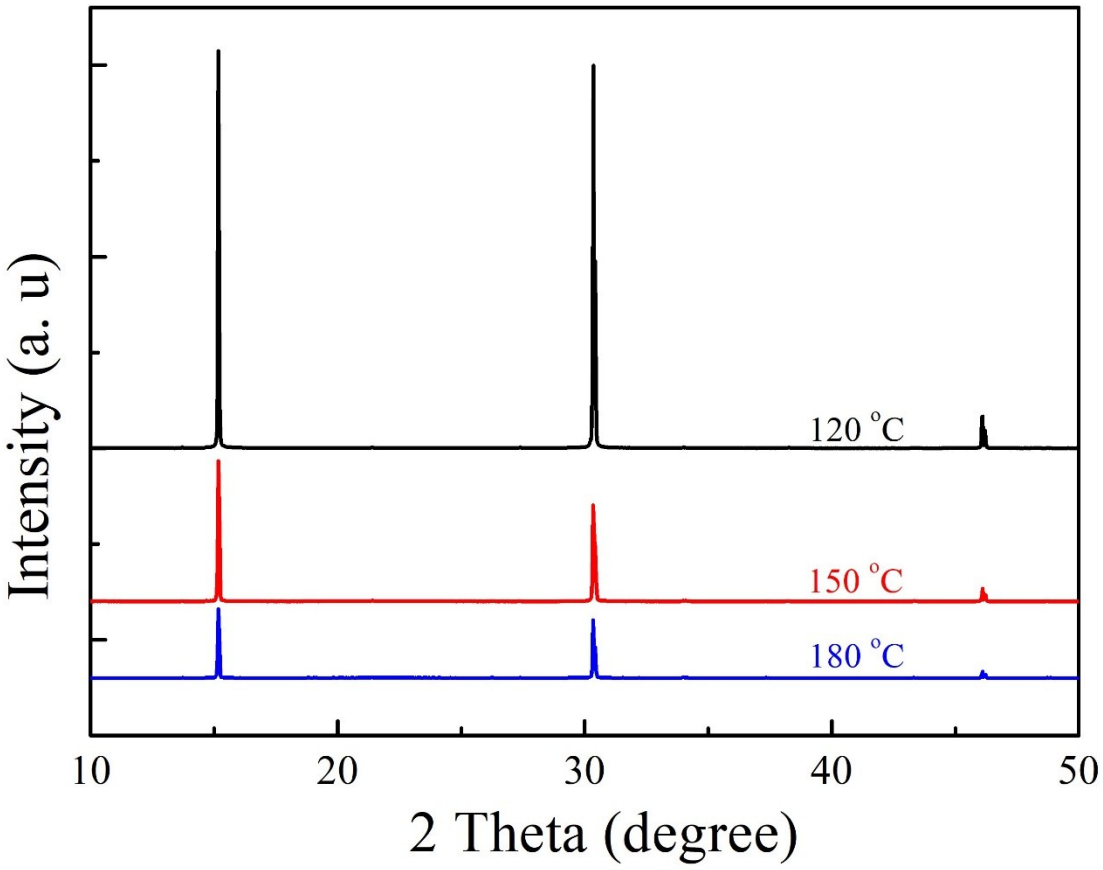

Fig. S4 X-ray diffraction patterns of $CH_3NH_3PbBr_3$ perovskite crystals obtained from high temperature (120 ℃ , 150 ℃ and 180 ℃)

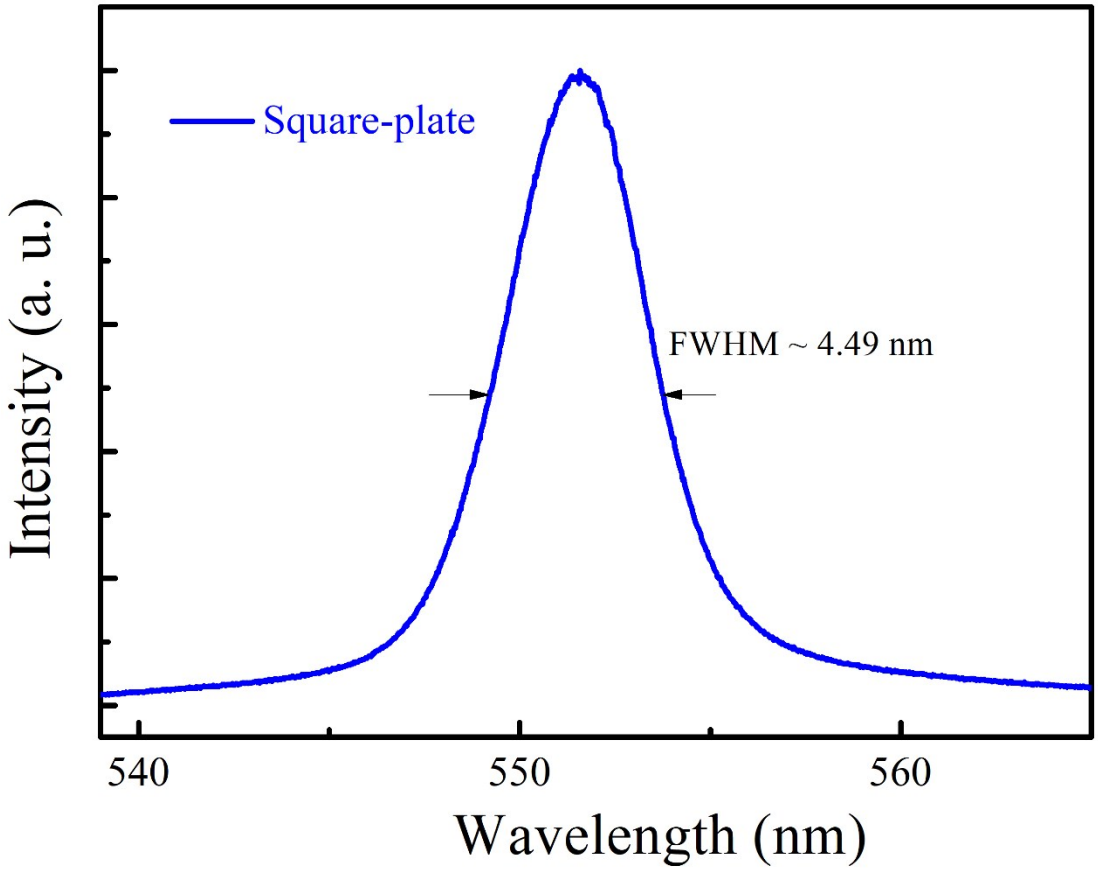

Fig. S5 μ-PL spectrum from a single square crystal.

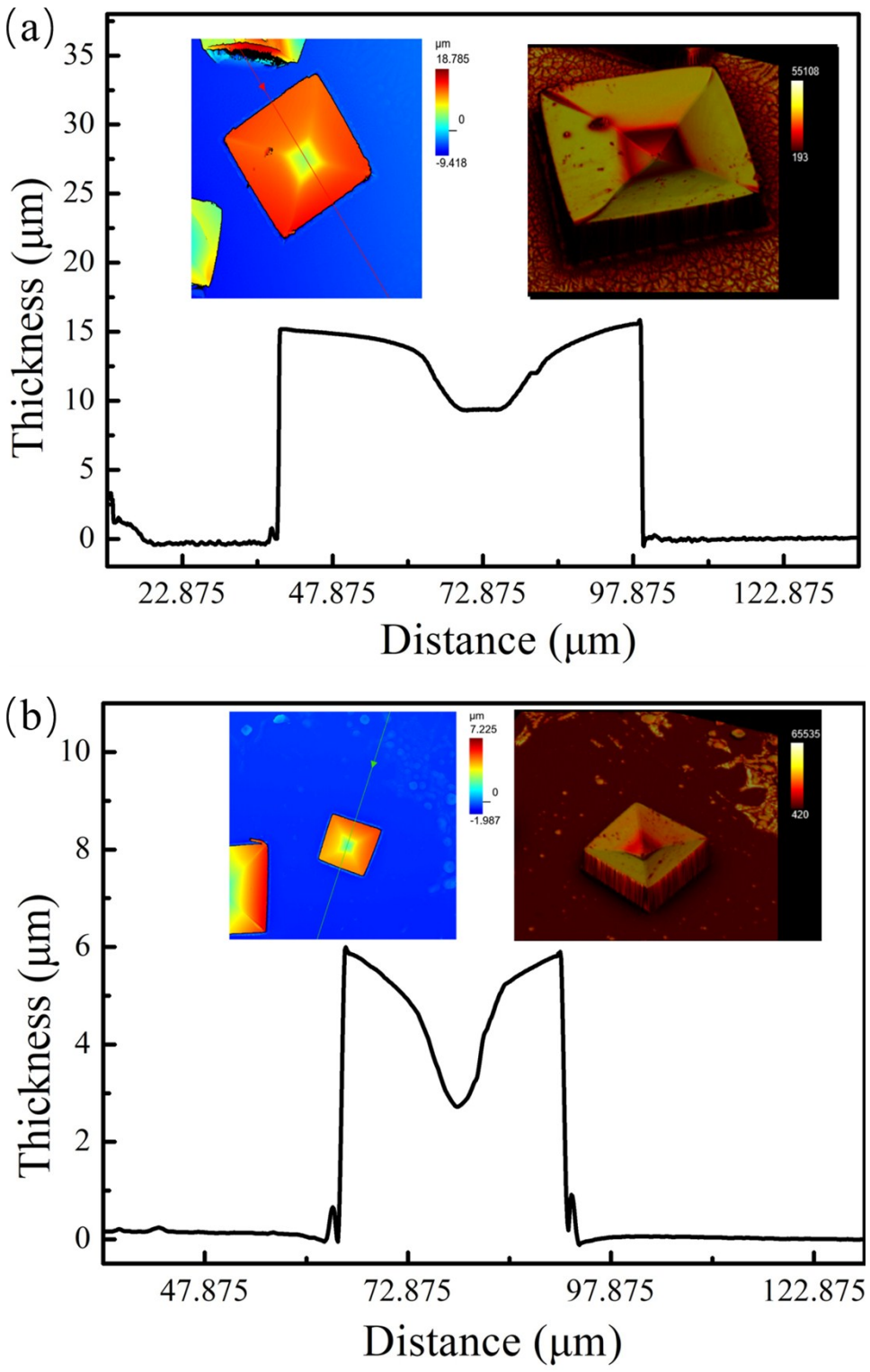

Fig. S6 The 3D profiles of two representative perovskite crystals with different edge-lengths: (a) 26 μm and (b) 59 μm.