Supporting Information for

Formamidinium Lead Bromide ($FAPbBr_3$) Perovskite Microcrystals for Sensitive and Fast Photodetectors

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Supplementary Figures

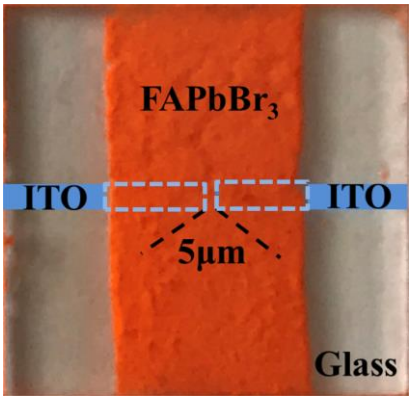

Fig. S1 Schematic diagram of $FAPbBr_3$ microcrystalline deposited photodetector

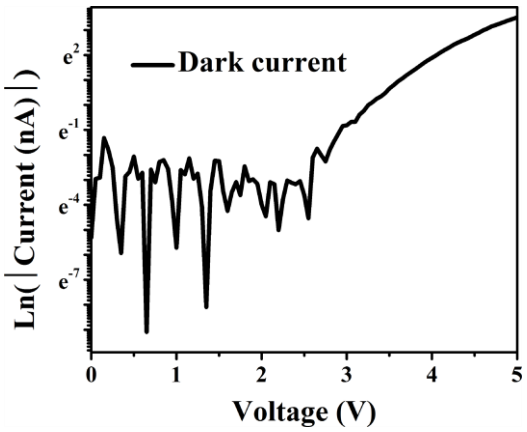

Fig. S2 Current-voltage characteristic of $FAPbBr_3$ microcrystalline photodetector in the dark

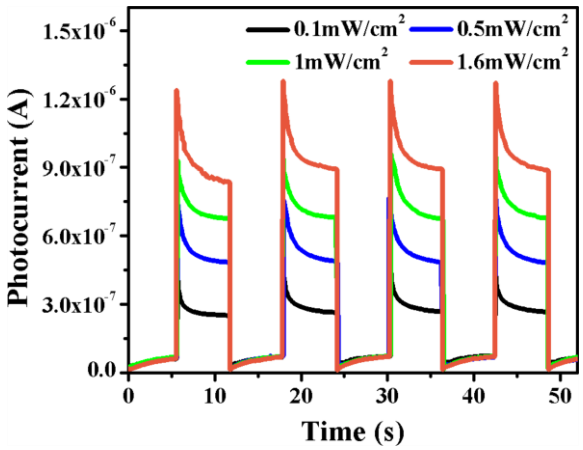

Fig. S3 Transient photocurrent of the photodetector measured at bias voltages of 5V with changed incident light power of 495 nm

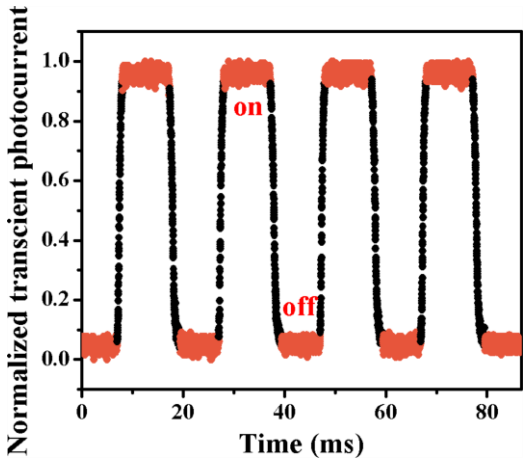

Fig. S4 Response time of $FAPbBr_3$ MCs photodetector with periodic irradiation of 400 nm monochromatic light

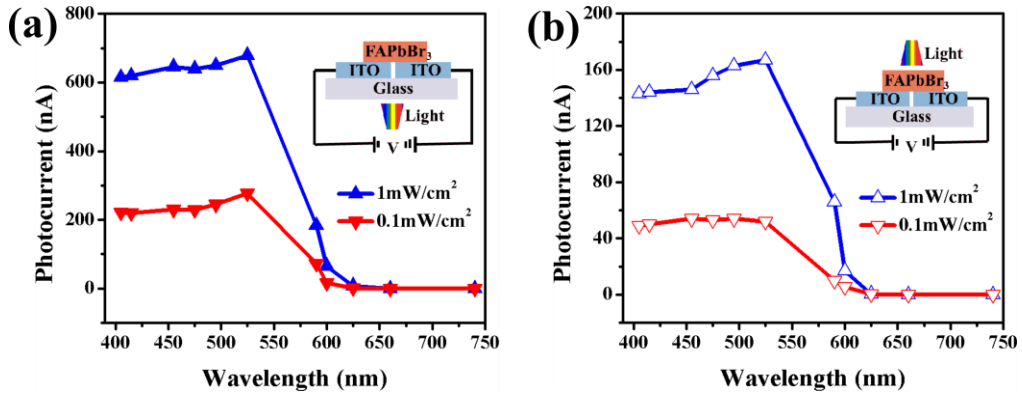

Fig. S5 Photocurrent of $FAPbBr_3$ photodetector under different incident light power (1 and 0.1 mW cm^{-2}) upon **a** bottom illumination and **b** top illumination

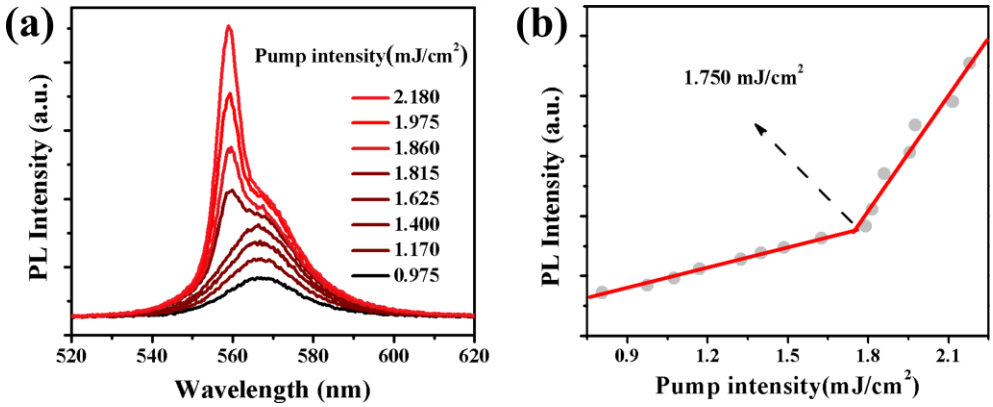

Fig. S6 a Pump intensity-dependent PL spectra and **b** integrated PL intensity versus pump intensity for $FAPbBr_3$ MCs film under the irradiation of 800 nm