

High performance ultraviolet photodetector based on MAPbCl₃ perovskites for surface defect detection

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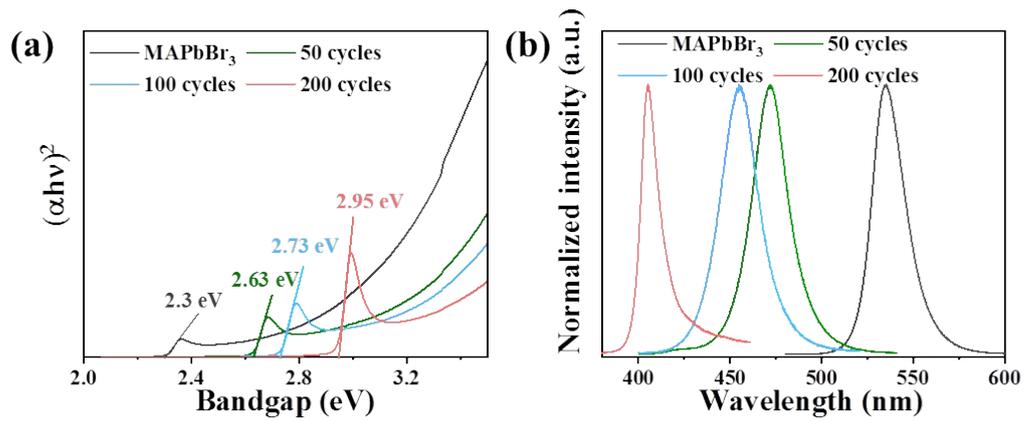


Figure S1(a) The bandgap of perovskites film under different reaction cycles and (b) corresponding Photoluminescence spectrum.

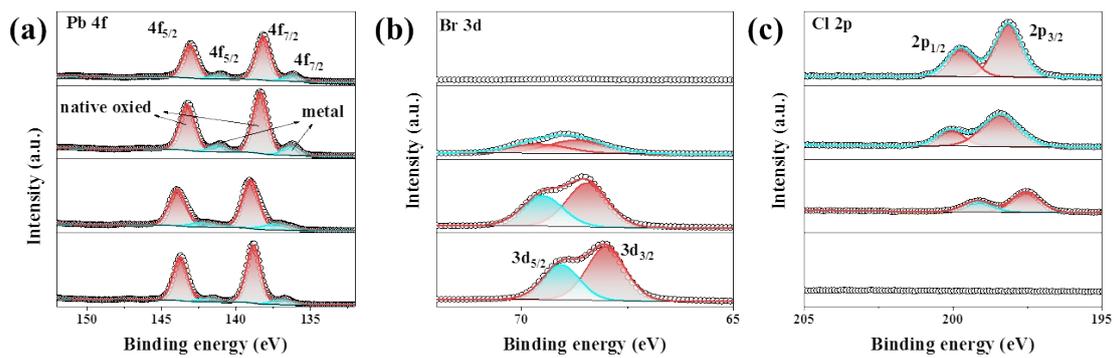


Figure S2 the perovskites film XPS spectrum of (a) Pb element, (b) Br element and (c) Cl element.

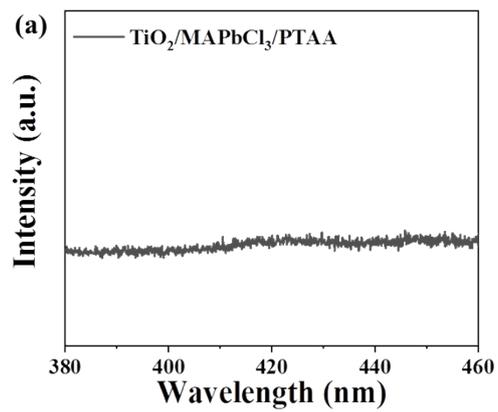


Figure S3 the enlarge figure of Fig. 1(g).

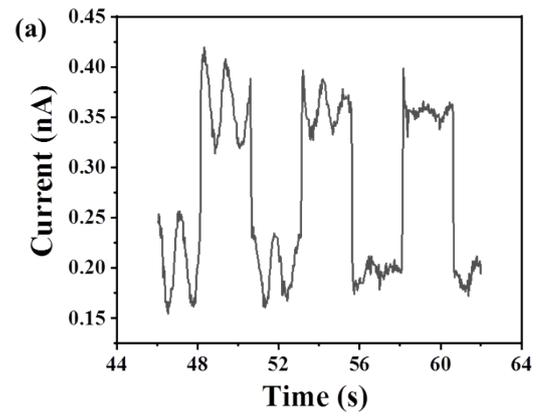


Figure S4 the I-t curve of UV PD under incident power of 200 nW/cm².

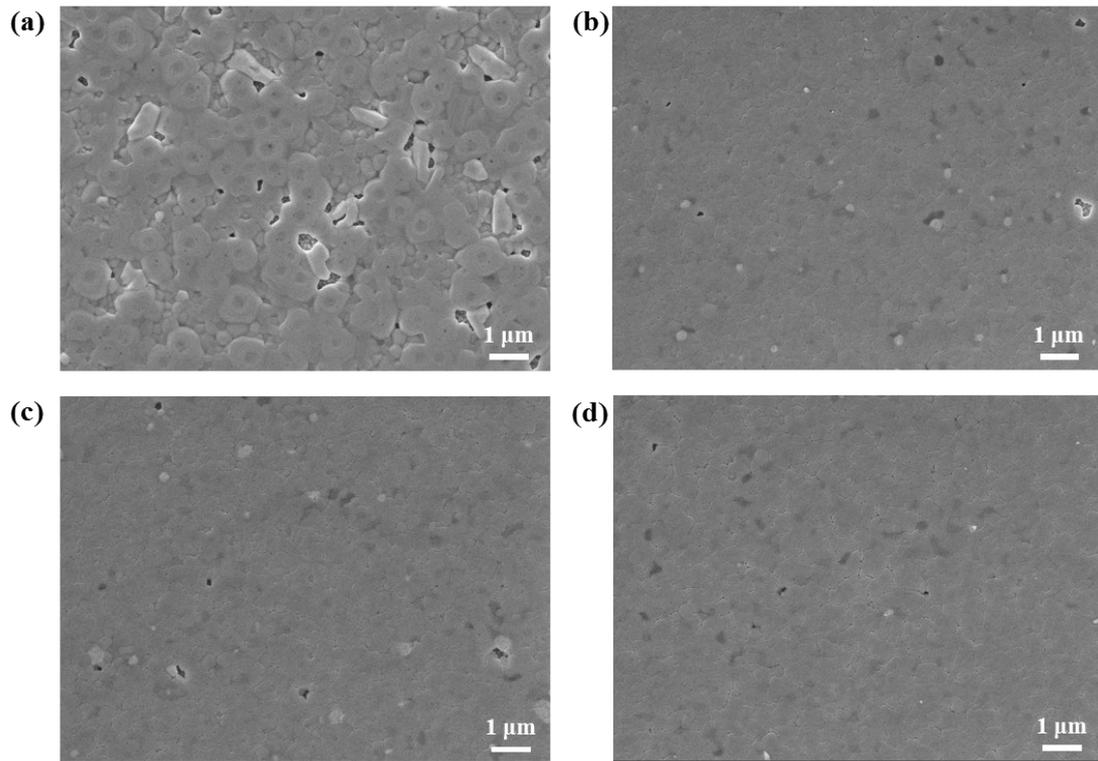


Figure S5 the perovskite morphology under the (a) 0 cycle; (b) 50 cycles; (c) 100 cycles; (d) 200 cycles

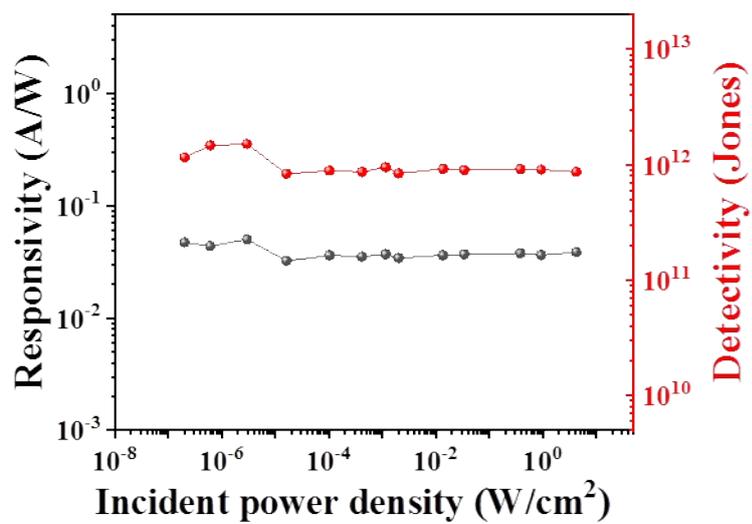


Figure S6 Specific detectivity (D^*) at different incident power calculated via $D^* = RA^{1/2}/(2qI_d)^{1/2}$

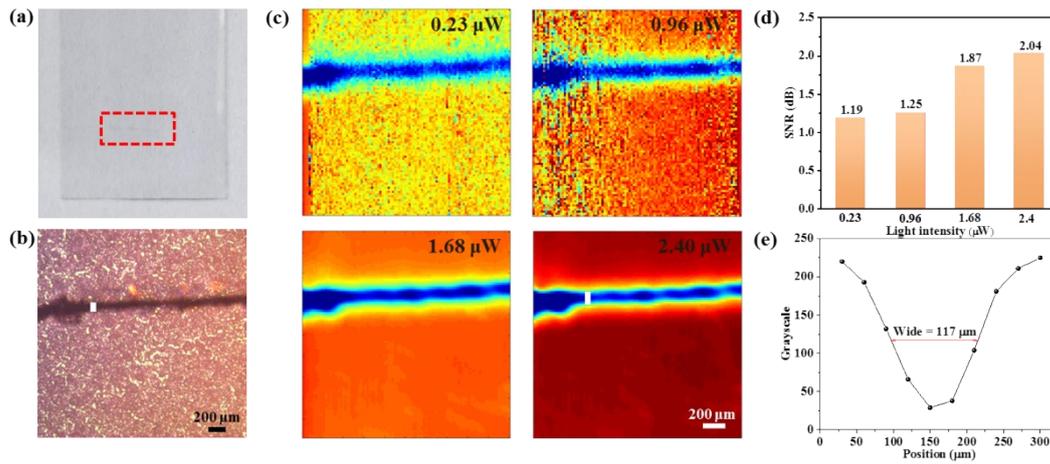


Figure S7 (a) Photo of scratched glass taken by smart phone. (b) Photograph of the scratched glass taken by optical microscope. (c) Imaging results obtained from UV PD based imaging system under different incident power. (d) SNR from Figure S7(c). (e) Gray value of Y-axis from Figure S7(c) marked area