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

Supporting Information

Perovskite single crystal with one-dimensional structure enables photodetector with negligible hysteresis

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Table S1. Crystallographic Data of the $DMEDAPbI_4$ single crystal

Temperature	296.15K
chemical formula	C4 H12 I4 N2 Pb
formula weight	802.95
crystal system	orthorhombic
space group	I m m a
a/Å	15.295
b/Å	6.482
c/Å	15.084
volume/$Å^3$	1496.00
Z	4
μ/mm^{-1}	19.501
F(000)	1376

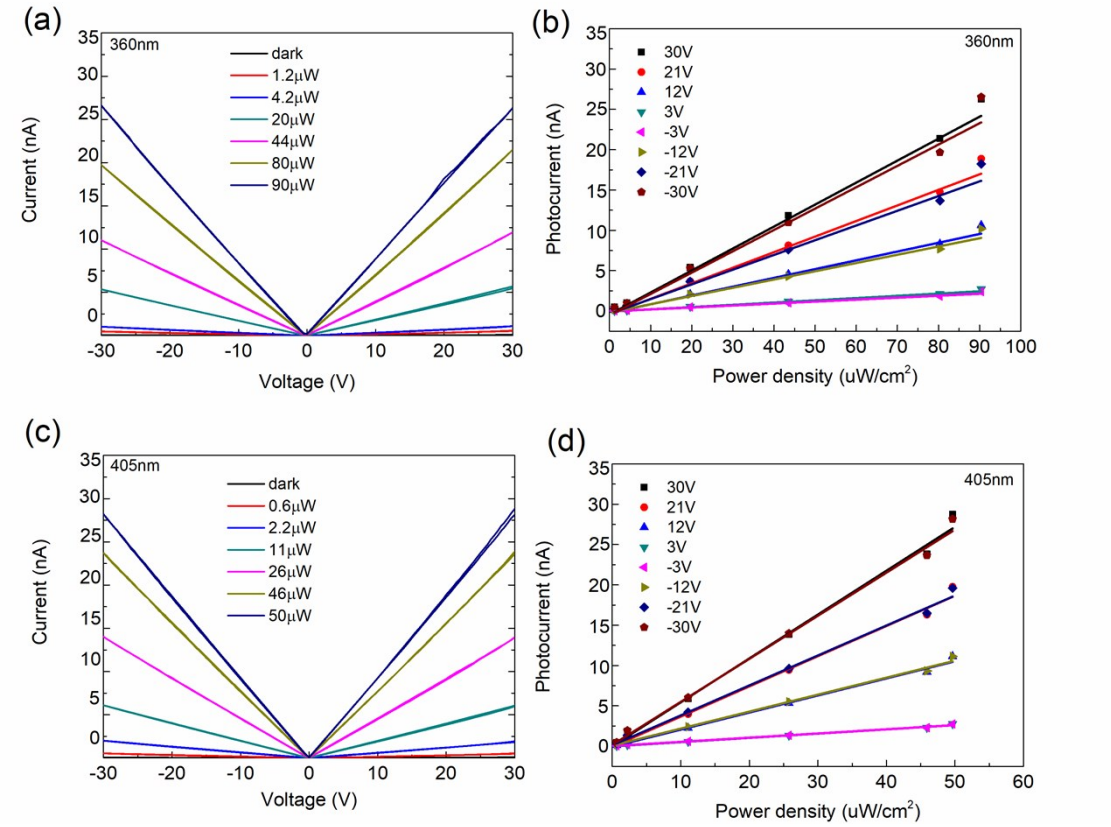

Figure S1. The photo responsibility of the single crystal based photodetector upon 360nm and 405nm laser.

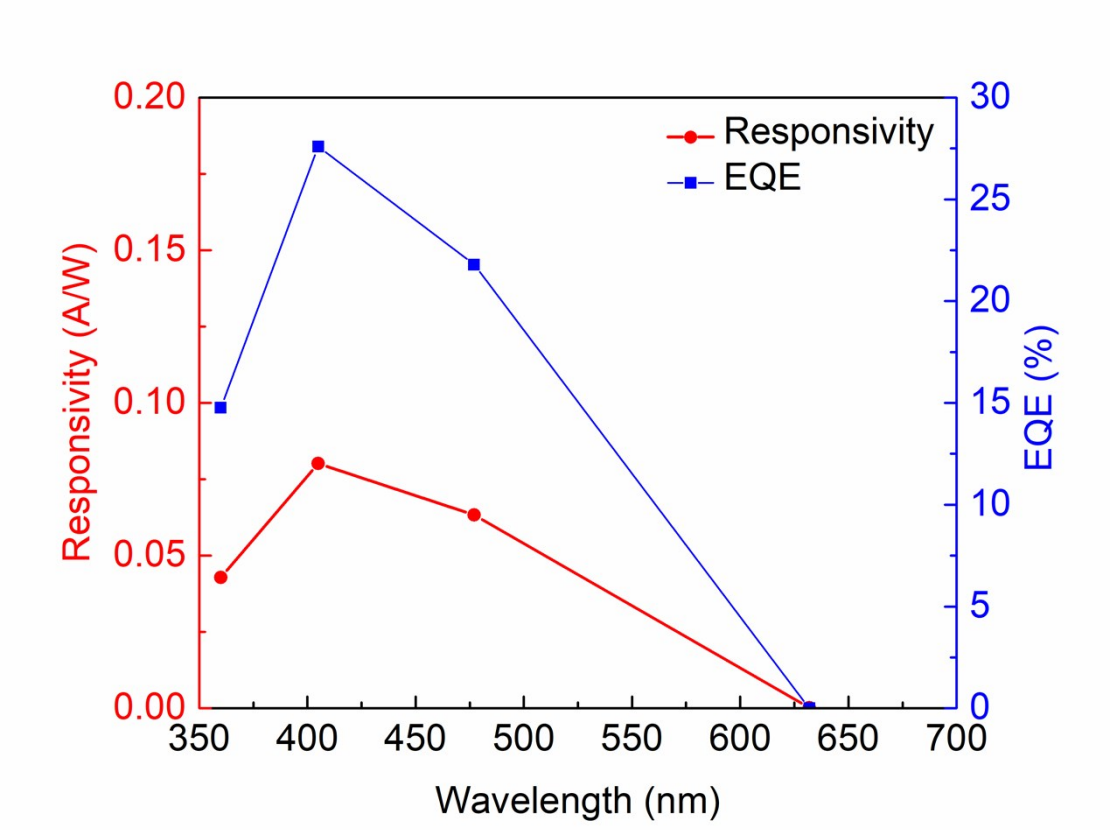

Figure S2. Wavelength dependent responsivity and EQE of the single crystal based photodetector under a constant bias of 3V.

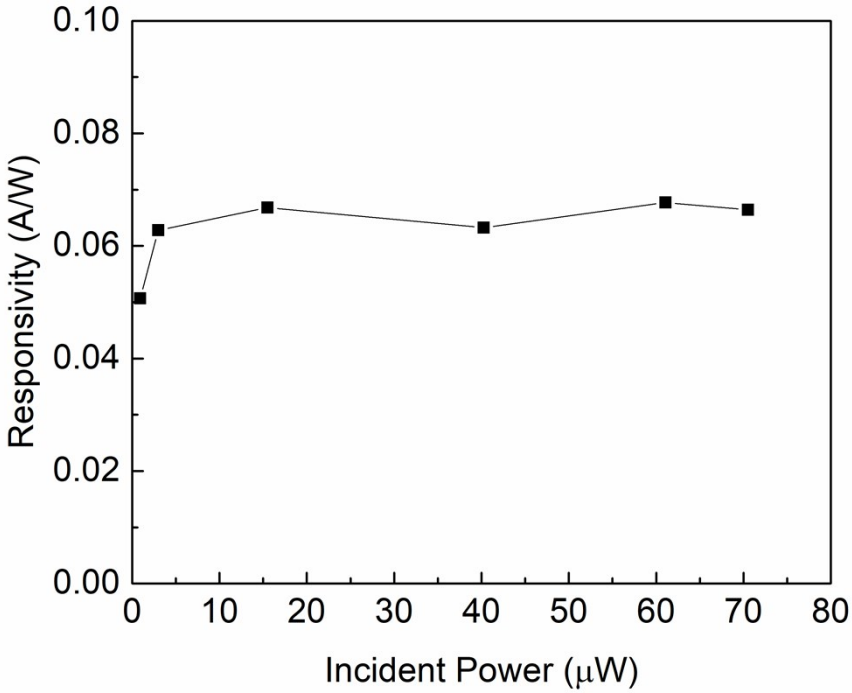

Figure S3. Responsivity as a function of incident power under excitation of 473nm.

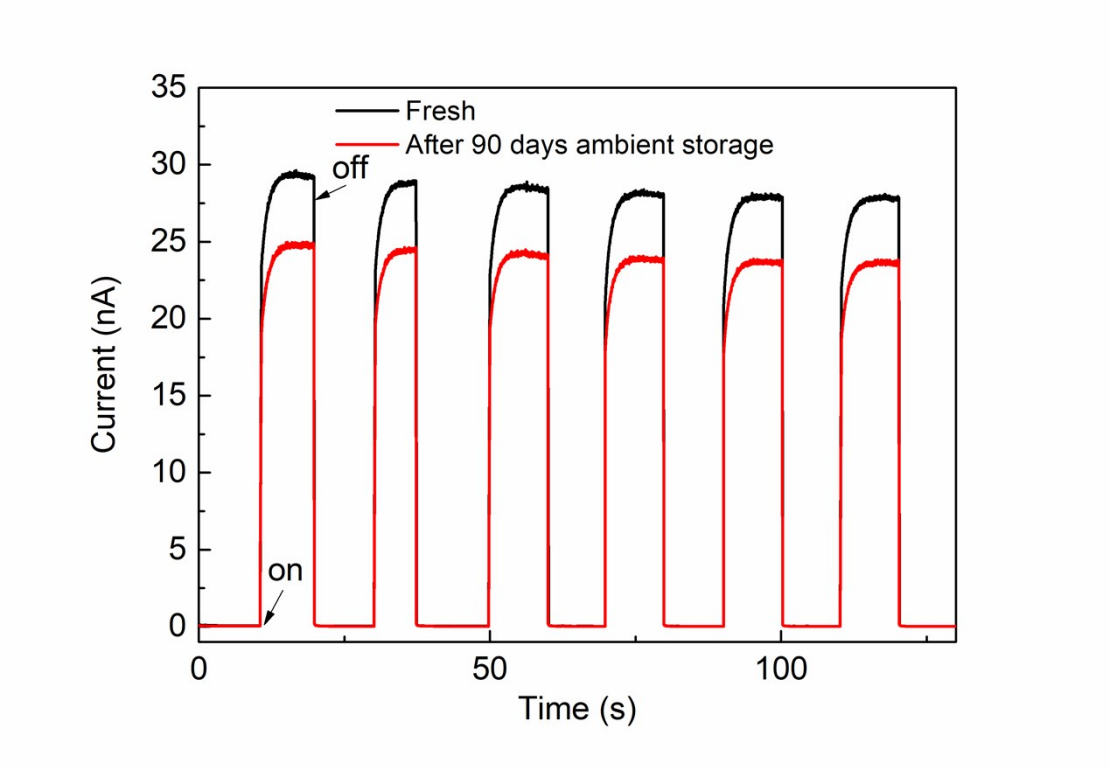

Figure S4. Lifetime performance of the single crystal based photodetector.