Supplementary Information

Two-dimensional Ruddlesden-Popper perovskite microcrystals photodetectors with high detectivity for ultra-weak light detection

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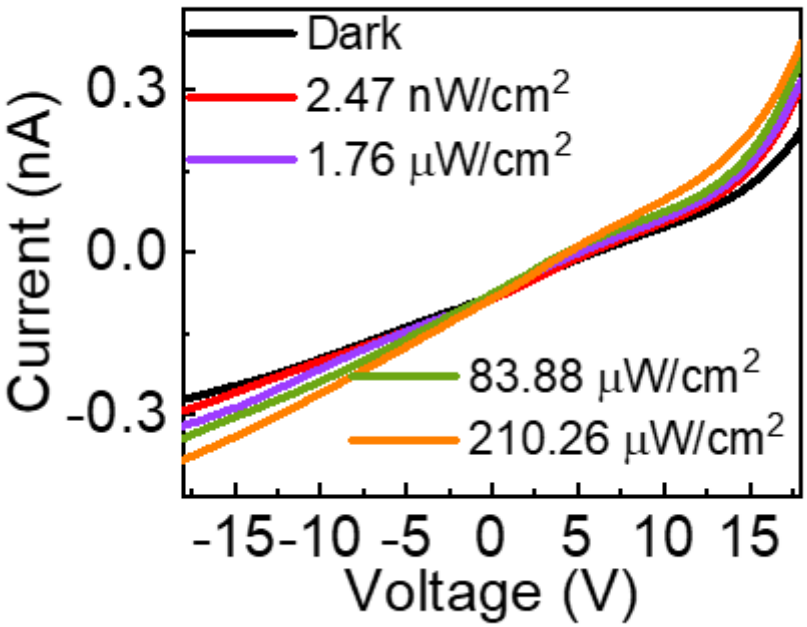

Figure S1. Current–voltage (I–V) characteristics of the device measured after 8 days of aging in the dark and under 405 nm illumination at various light intensities.

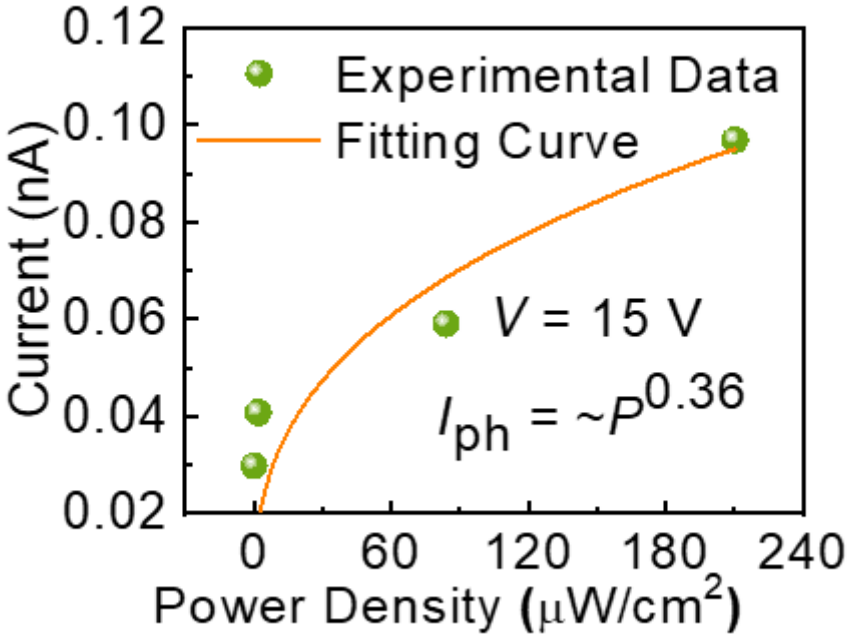

Figure S2. When the bias voltage is 15 V, the relationship between photocurrent and optical power density measured after 8 days of device aging.

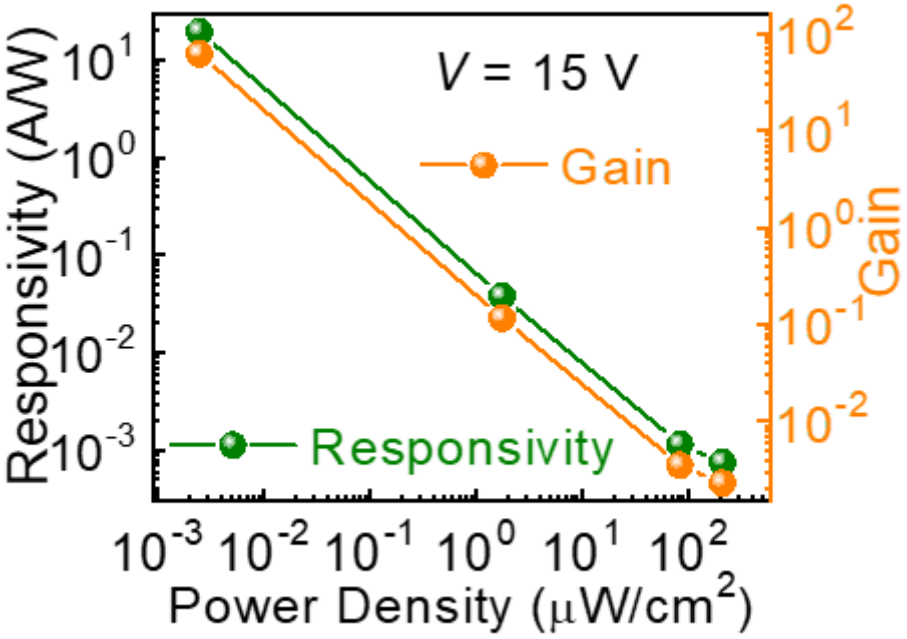

Figure S3. At a fixed bias of 15 V, the responsivity (R) and gain (G) of the photodetector under different incident light power densities measured after 8 days of device aging.

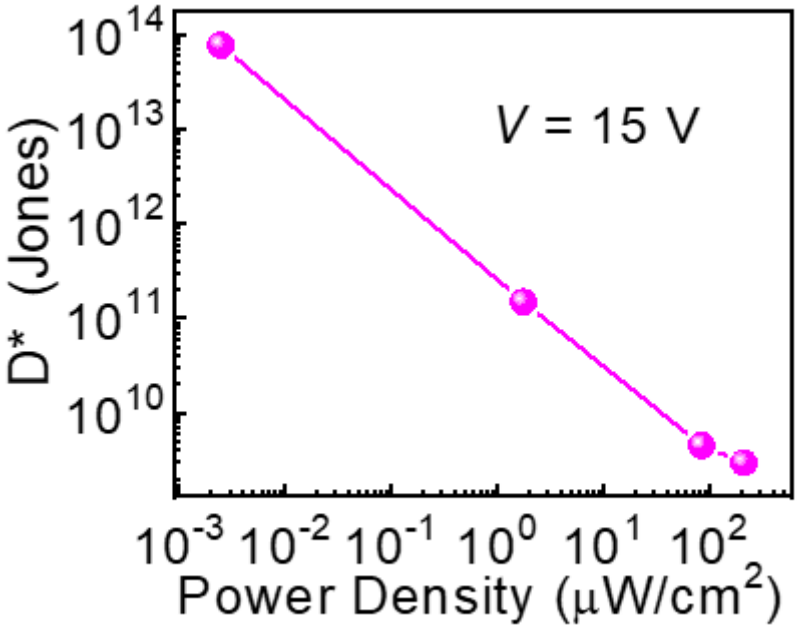

Figure S4. At a fixed bias of 15 V, the specific detectivity (D*) as a function of incident light intensity measured after 8 days of device aging.