Supporting Information

Flexible Photodetectors based on Reticulated SWNTs/Perovskites Quantum Dots Heterostructures with Ultrahigh Durability

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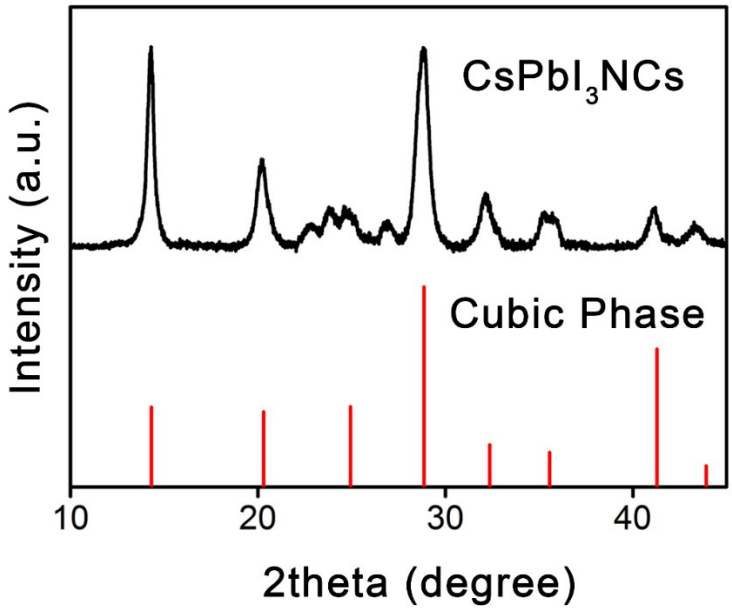

Figure S1 XRD image of the PQDs (PDF card: 01-080-4039).

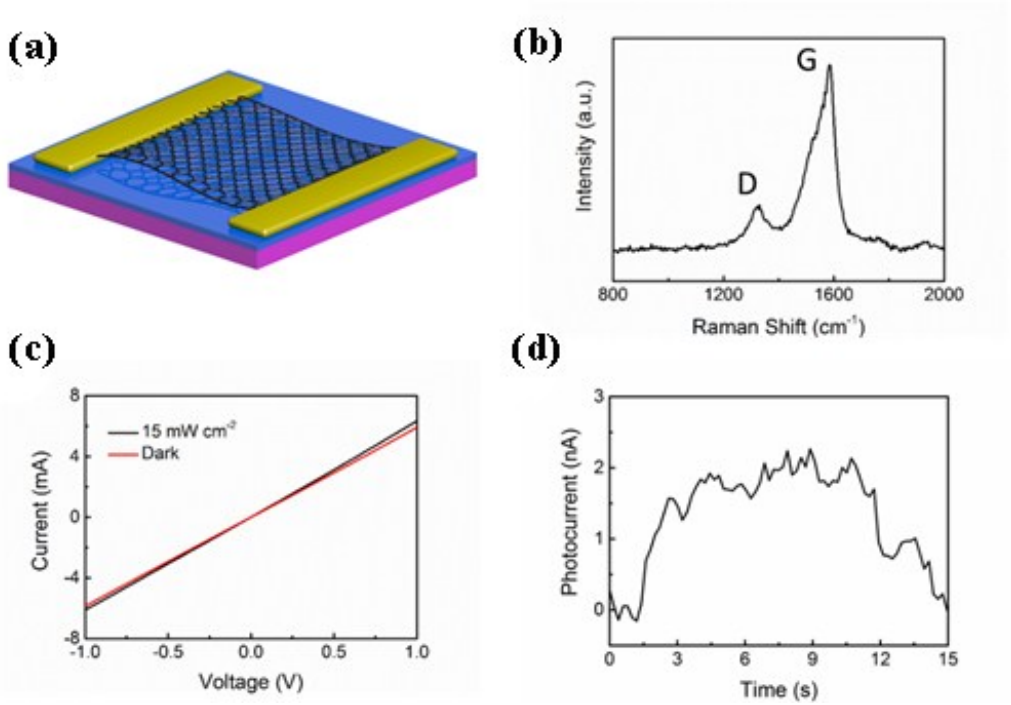

Figure S2: Pure reticulated SWNTs photodetectors have a very low sensitivity to external light, with limited photodetection gain (a) Schematic of a photodiode based on SWNTs film. (b) The Raman characterization of the CNT. (c)The I-V curve of the device with and without light illumination (635nm laser). (d) The temporal photocurrent response excited at 635 nm.

active materials	EQE (%)	responsivity (A W^{-1})	rise/decay time (ms)
$CsPbBr_3$ microparticles	42	0.18	1.8/1.0
$CsPbI_3$ NCs	–	–	24/29
$CsPbBr_3$ nanosheet	–	–	17.8/14.7
$CsPbBr_3$ nanoparticles/Au NCs	40	0.01	0.2/1.2
$CsPb(Br/I)_3$ nanorods	–	–	680/660
$CsPbBr_3$ 2D nanosheet	53	0.25	0.019/0.025
$MAPbI_3$ nanoparticles	1190	3.49	100/100
$MAPbI_3$ (network)	–	0.1	0.3/0.4
TiO2-$MAPbI_3$	–	0.00049	20/20
$MAPbBr_3$ single crystal film	$>10^6$	4×10^3	0.025/0.025
$MAPbI_3$ nanowires	–	5×10^{-3}	0.5/0.5
$MAPbI_3$ nanowires	–	1.32	0.3/0.3
$MAPbI_3$ microwires	–	13.5	0.08/0.24
$(RNH_3)_2(CH_3NH_3)_{n-1}M_nX_{3n+1}$	–	0.013	10/7.5

Table (Supplementary): The EQE and photoresponsivity of different perovskite-based devices[1]

1. X. Li, D. Yu, J. Chen, Y. Wang, F. Cao, Y. Wei, Y. Wu, L. Wang, Y. Zhu, Z. Sun, J. Ji, Y. Shen, H. Sun and H. Zeng, *ACS Nano*, 2017, **11**, 2015-2023.