Electronic Supplementary Information

Self-powered Multifunctional UV and IR Photodetector as Artificial Electronic Eye

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Figure S1. Digital photographs of conductivity test process of the RGO film using a four-point probe system.

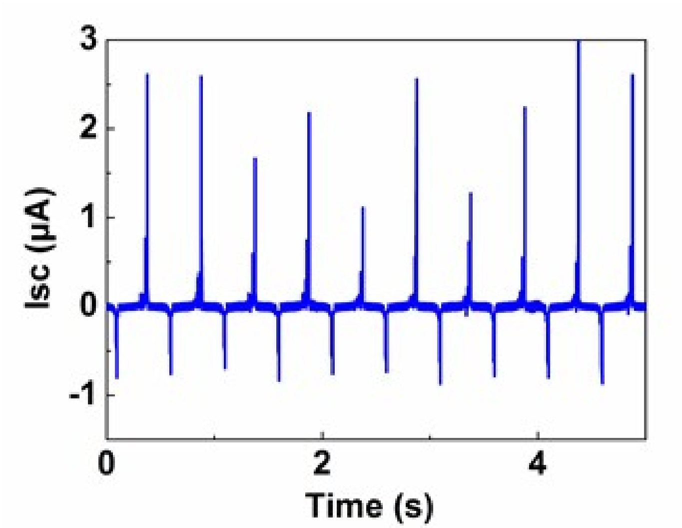

Figure S2. Short-circuit current of TENG after 12000 contact-separation cycles

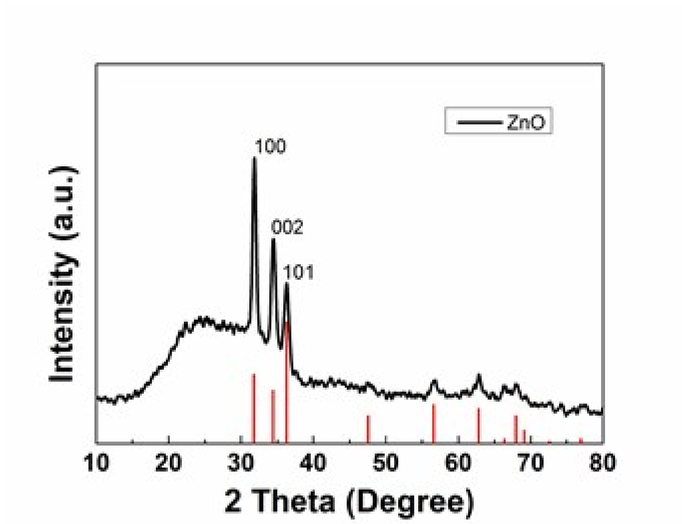

Figure S3. XRD pattern of ZnO thin layer

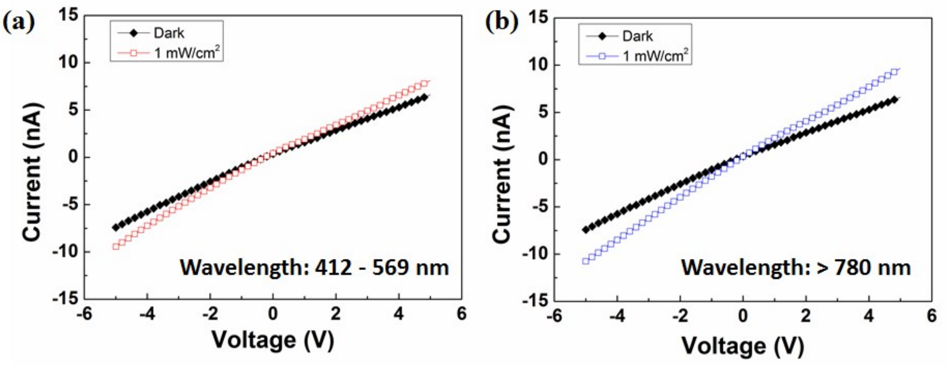

Figure S4. Dark and photocurrents of MSM UV photodetector with (a) visible light illumination, (b) IR illumination, at 5 V forward and reverse bias.

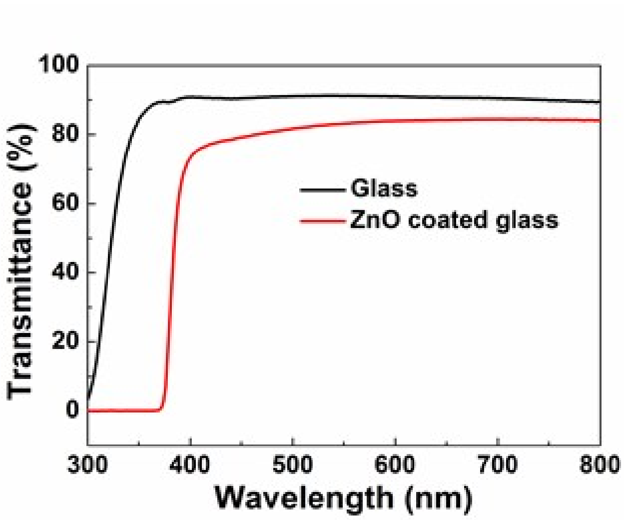

Figure S5. UV-Vis transmission spectrum of glass and ZnO coated glass.

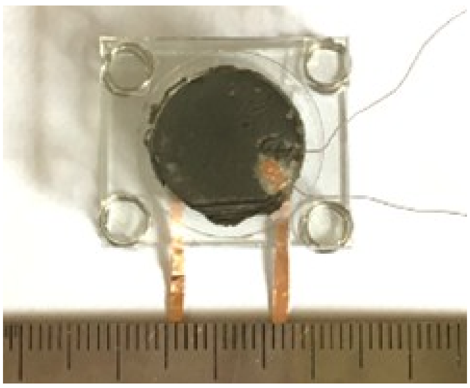

Figure S6. The digital picture of the integrated electronic eye (the minimum scale on the ruler is 1 mm).

Table S1 Comparison of the characteristic parameters of different photodetector

Photodetector	Wavelength(nm)	R (A/W)	D*(10^{12} Jones)	Response time (rise/decay time)	Ref..
Ag-ZnO-Ag	365	0.25	4.2	10.3 s/18.1 s	This work
ZnO/SnO_2	300	-	-	32.2 s/7.8 s	S1
Cu NW/ZnO 360	360	0.26×10^{-3}	-	< 0.5 s/>30 s> 30 s	S2
ZnO NWs/Au	365	0.40	-	0.13 s/0.40 s	S3
Au1–ZnO–Au2	<400	0.02	-	-	S4
Pt-GaN-Ni	<400	0.03	1.78	-	S5
TiO_2–PANI	320	0.36×10^{-2}	0.39	3.8 ms/30.7 ms	S6
SnO_2/NiO	<400	-	-	17 s / 9 s	S7
TiO_2/NiO	350	0.67×10^{-3}	1.1×10^{-2}	1.2 s/7.1 s	S8
Ni/TiO_2/Ni	260	889.6	-	13.34 ms/11.43s11.4	S9
Bi/WS_2/Si	635	0.42	13.6	<100 ms/-	S10
Bi_2Te_3/Si	635	1	0.25	<100 ms/-	S11

Reference

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