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>
<thead>
<tr>
<th>Photodetector</th>
<th>Wavelength(nm)</th>
<th>R (A/W)</th>
<th>D* (10^{12} Jones)</th>
<th>Response time (rise/decay time)</th>
<th>Ref.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ag-ZnO-Ag</td>
<td>365</td>
<td>0.25</td>
<td>4.2</td>
<td>10.3 s/18.1 s</td>
<td>This work</td>
</tr>
<tr>
<td>ZnO/ SnO_2</td>
<td>300</td>
<td>-</td>
<td>-</td>
<td>32.2 s/7.8 s</td>
<td>S1</td>
</tr>
<tr>
<td>Cu NW/ZnO</td>
<td>360</td>
<td>0.26 x 10^{-3}</td>
<td>-</td>
<td>&lt; 0.5 s/30 s &gt; 30 s</td>
<td>S2</td>
</tr>
<tr>
<td>ZnO NWs/Au</td>
<td>365</td>
<td>0.40</td>
<td>-</td>
<td>0.13 s/0.40 s</td>
<td>S3</td>
</tr>
<tr>
<td>Au1–ZnO–Au2</td>
<td>&lt;400</td>
<td>0.02</td>
<td>-</td>
<td>-</td>
<td>S4</td>
</tr>
<tr>
<td>Pt-GaN-Ni</td>
<td>&lt;400</td>
<td>0.03</td>
<td>1.78</td>
<td>-</td>
<td>S5</td>
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<tr>
<td>TiO_2–PANI</td>
<td>320</td>
<td>0.36 x 10^{-2}</td>
<td>0.39</td>
<td>3.8 ms/30.7 ms</td>
<td>S6</td>
</tr>
<tr>
<td>SnO_2/NiO</td>
<td>&lt;400</td>
<td>-</td>
<td>-</td>
<td>17 s/9 s</td>
<td>S7</td>
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<tr>
<td>TiO_2/NiO</td>
<td>350</td>
<td>0.67 x 10^{-3}</td>
<td>1.1 x 10^{-2}</td>
<td>1.2 s/7.1 s</td>
<td>S8</td>
</tr>
<tr>
<td>Ni/TiO_2/Ni</td>
<td>260</td>
<td>889.6</td>
<td>-</td>
<td>13.34 ms/11.43 s/11.4s</td>
<td>S9</td>
</tr>
<tr>
<td>Bi/WS_2/Si</td>
<td>635</td>
<td>0.42</td>
<td>13.6</td>
<td>&lt;100 ms/-</td>
<td>S10</td>
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<tr>
<td>Bi_2Te_3/Si</td>
<td>635</td>
<td>1</td>
<td>0.25</td>
<td>&lt;100 ms/-</td>
<td>S11</td>
</tr>
</tbody>
</table>

Reference