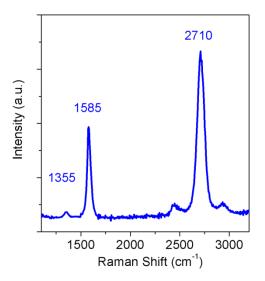
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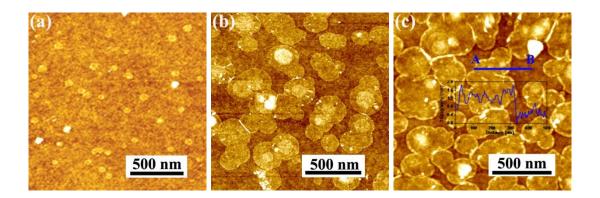
## **Supporting Information**

Transfer-free and printable graphene/ZnO-nanoparticle nanohybrid photodetectors with high performance

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**Figure S1**. Raman spectrum of the metal-free CVD monolayer graphene without Zn(Ac)<sub>2</sub> coating after thermal anneal of 1 h at 350 °C in air.



**Figure S2**. AMF images of the evolution of the graphene nuclei and grains in metal-free CVD process.

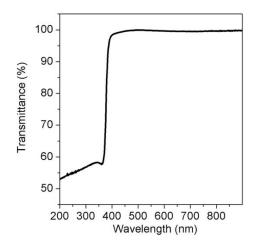
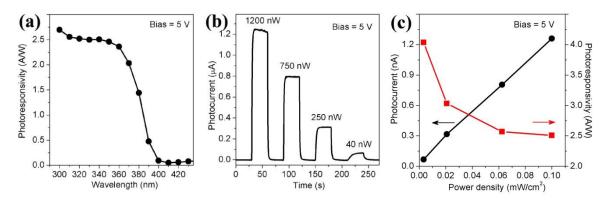


Figure S3. Transmittance of the graphene/ZnO-NP nanohybrids.



**Figure S4**. (a) Spectral photoresponsivity of a representative ZnO-NP film photodetector. (b) Dynamic photoresponse at different incident UV (340 nm) illumination powers at applied bias of 5V. (c) Photocurrent and photoresponsivity as function of the UV illumination power density.