

## Supporting Information

### Performance Modulation on MgZnO/ZnO Heterojunction Flexible UV

#### Photodetector by Piezophototronic Effect

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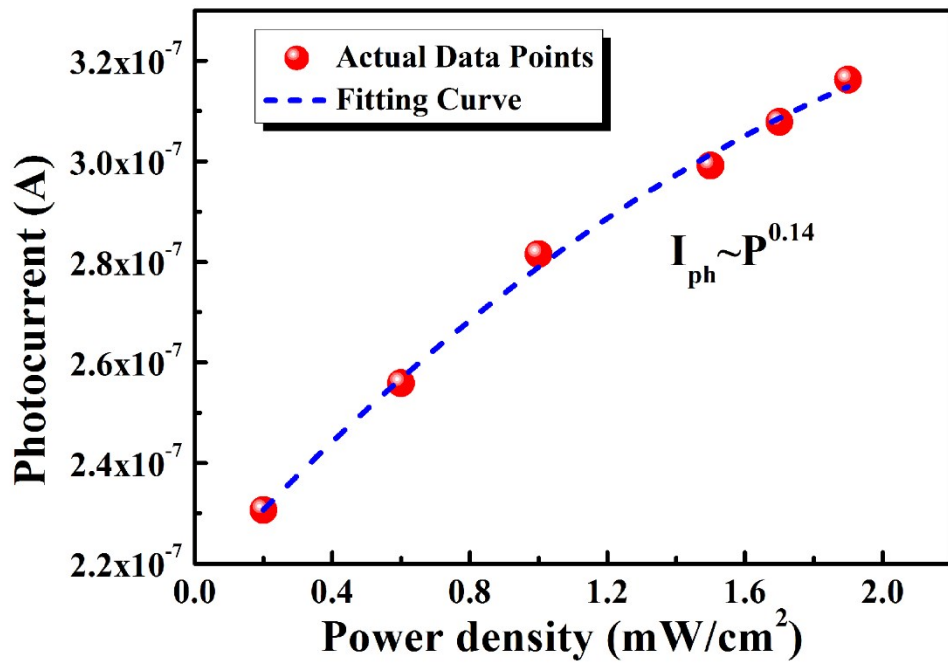


Figure S1. Fitting curve of photocurrent vs. power densities by power law.

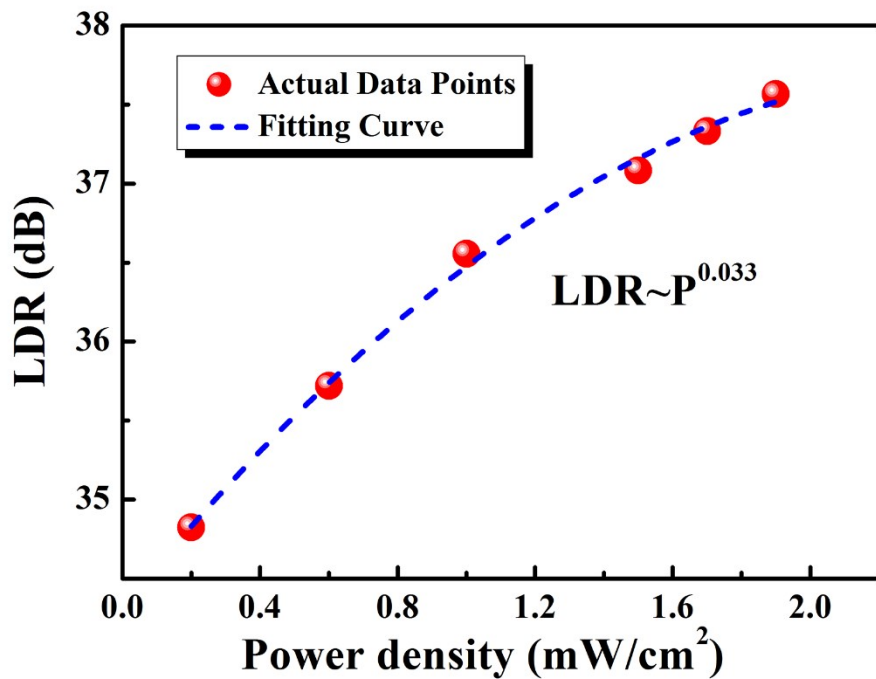
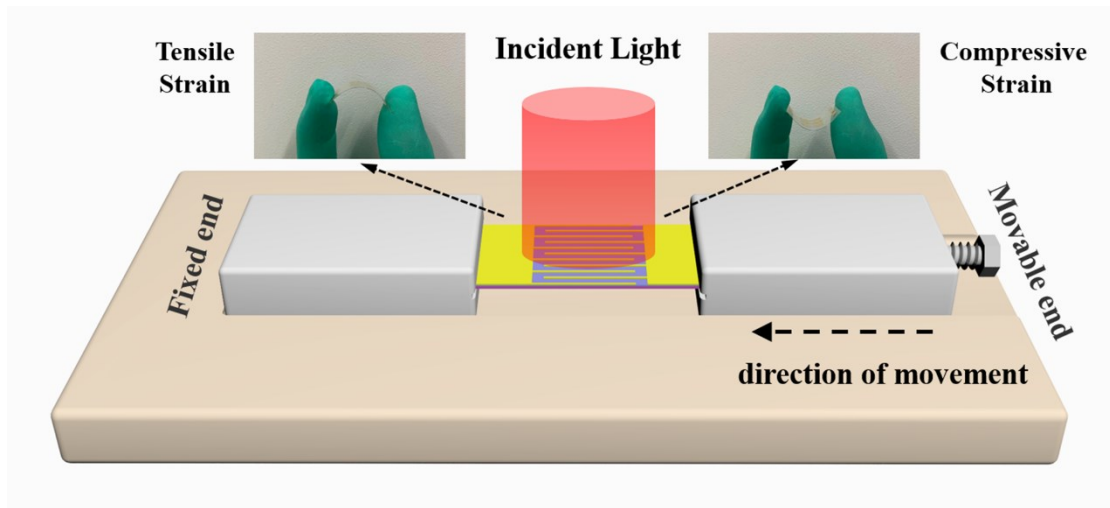
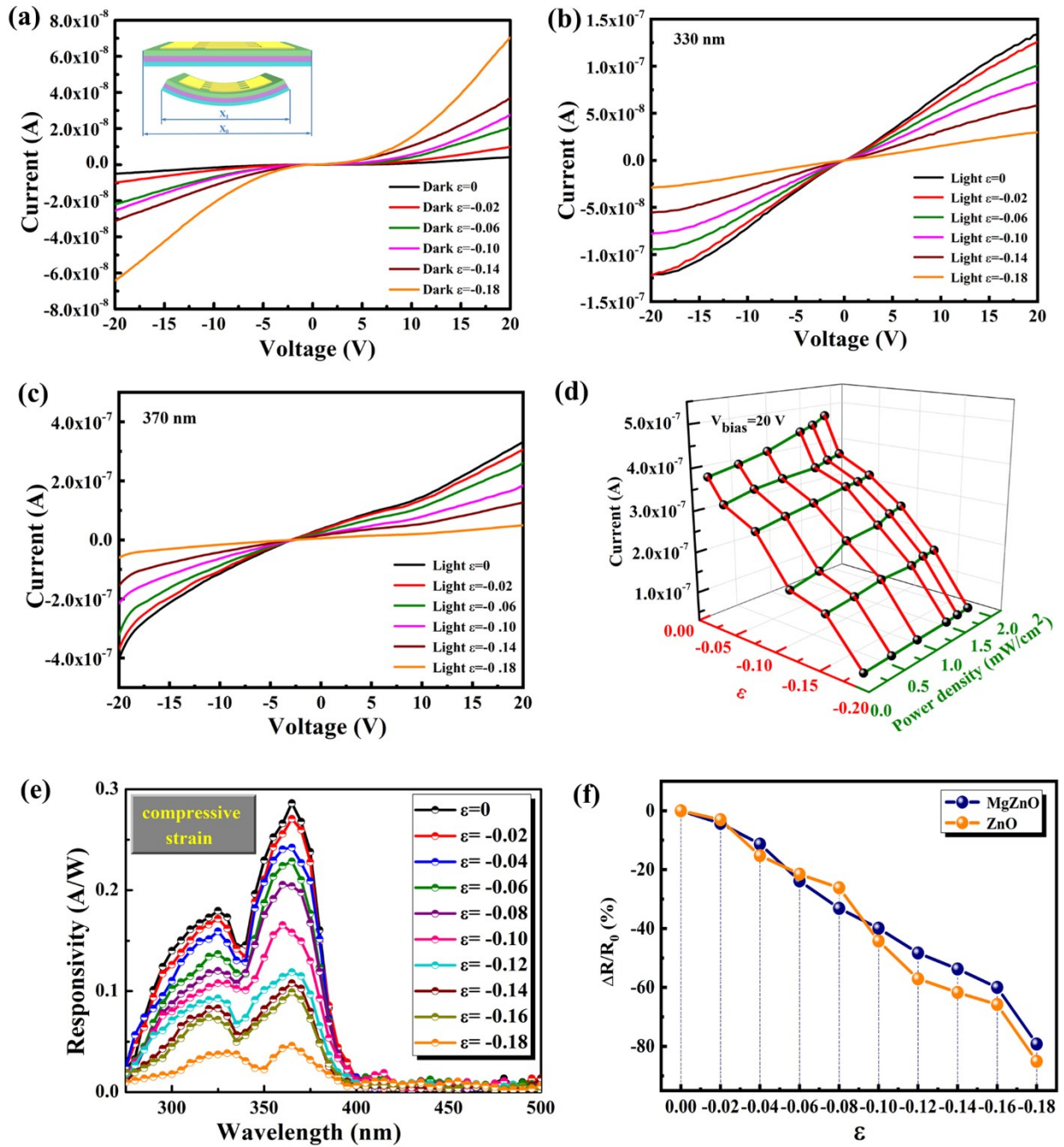


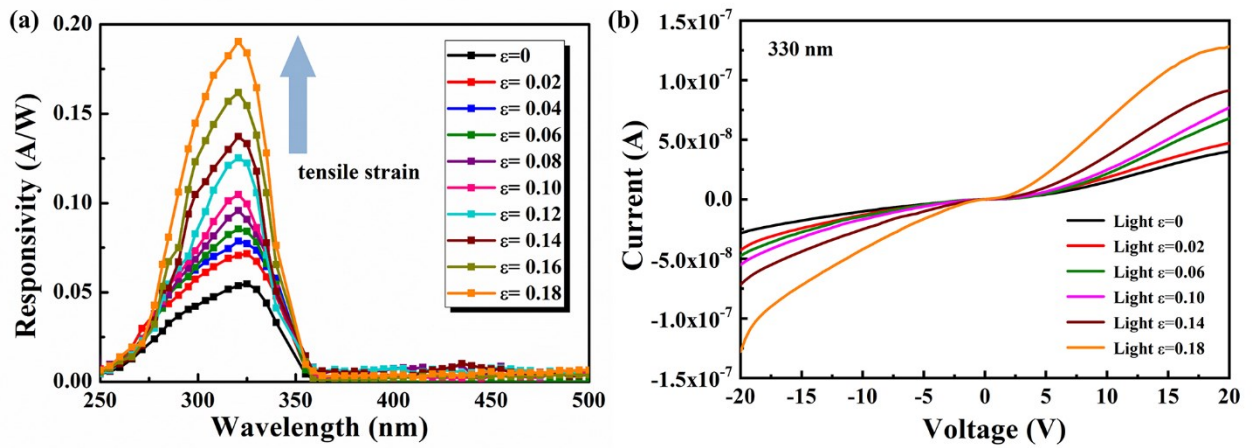
Figure S2. Fitting curve of LDR vs. power densities by power law.



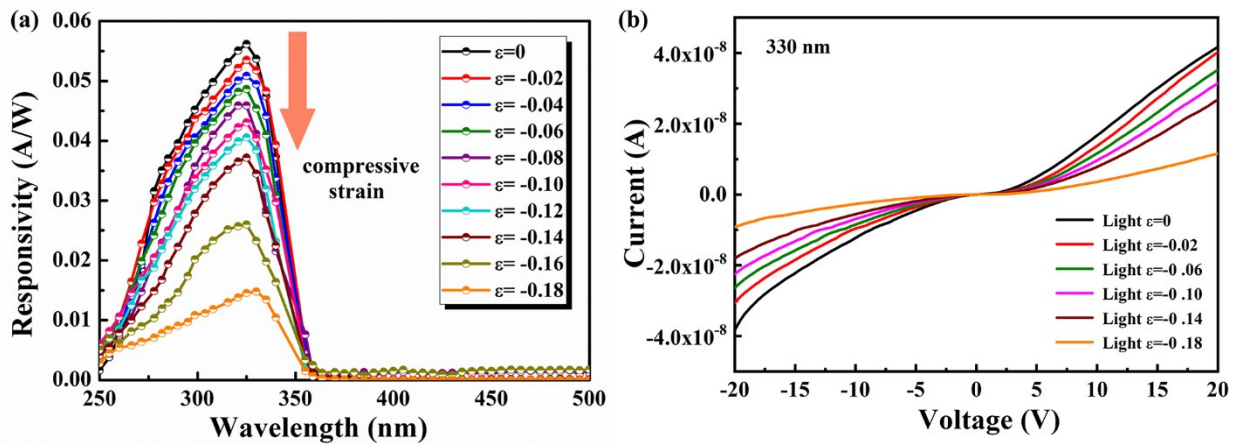
**Figure S3.** Schematic diagram of test platform used to bend the PD at different strains.



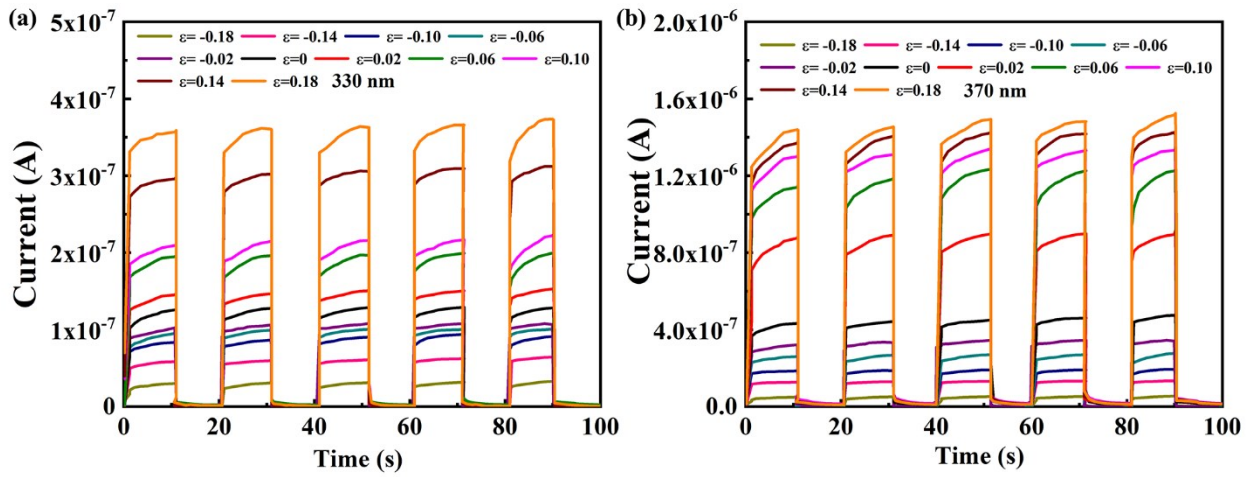
**Figure S4.** a)  $I$ - $V$  characteristics of PD in dark with application of different external compressive strains. Inset is schematic structure of MgZnO/ZnO heterojunction PD under compressive strain. b)  $I$ - $V$  characteristics of the PD under 330-nm illumination with application of different external compressive strains. c)  $I$ - $V$  characteristics of the PD under 370-nm illumination with application of different external compressive strains. d) 3D scatter plot of photocurrent for different compressive strains and laser power densities at 20 V. e) Responsivity spectra of MgZnO/ZnO heterojunction PD with different compressive strains under 20 V. f) The relative change of responsivity as a function of compressive strain.



**Figure S5.** a) Responsivity spectra of Au/MgZnO Schottky PD with different tensile strains under 20 V. b)  $I$ - $V$  characteristics of Au/MgZnO Schottky PD under 330-nm illumination with the application of different external tensile strains.



**Figure S6.** a) Responsivity spectra of Au/MgZnO Schottky PD with different compressive strains under 20 V. b)  $I$ - $V$  characteristics of Au/MgZnO Schottky PD under 330-nm illumination with the application of different external compressive strains.



**Figure S7.** a) Time responses to dark and 330-nm UV illumination of the PD with different tensile and compressive strains at 20 V bias. b) Time responses to dark and 370-nm UV illumination of the PD with different tensile and compressive strains at 20 V bias.