Supporting Information

Light-induced pyro-phototronic effect improving ZnO/NiO/Si heterojunction photodetector for selectively detecting ultraviolet or visible illumination

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Figure S1 The spectrums of the light sources.

Figure S2 (a) TEM image and (b) HRTEM image of ZnO nanorods.
Figure S3 (a) The I-V curves of the ZnO/Si heterojunction in dark and under 367nm, 448nm and 609nm illumination. (b)-(d) The phototcurrent responses of the PD based on the ZnO/Si heterojunction under 367 nm, 448 nm and 609nm illumination at -0.05V, 0V, 0.05V bias voltage.
Figure S4 (a) TEM image and (b) HRTEM image of NiO/SiO2/Si interface.

Figure S5 Energy band diagram of the device.
Figure S6 (a) The I-V curves of the ZnO/SiO$_2$/Si heterojunction in dark and under 367nm, 448nm and 609nm illumination. (b)-(d) The photocurrent responses of the PD based on the ZnO/SiO$_2$/Si heterojunction under 367nm, 448nm and 609nm illumination at -0.05V, 0V, 0.05V bias voltage.