

Supplementary information

Photo-response performance regulation of type-Ib diamond-based photodetector by H₂ annealing and ozone treatment

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1. The optical image of PD

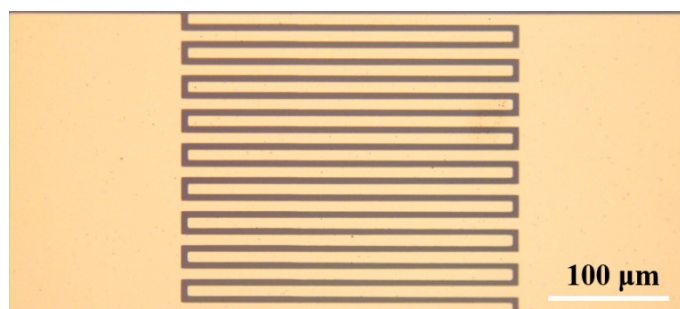


Figure S1. Optical image of PD.

2. The photo response stability of PDs

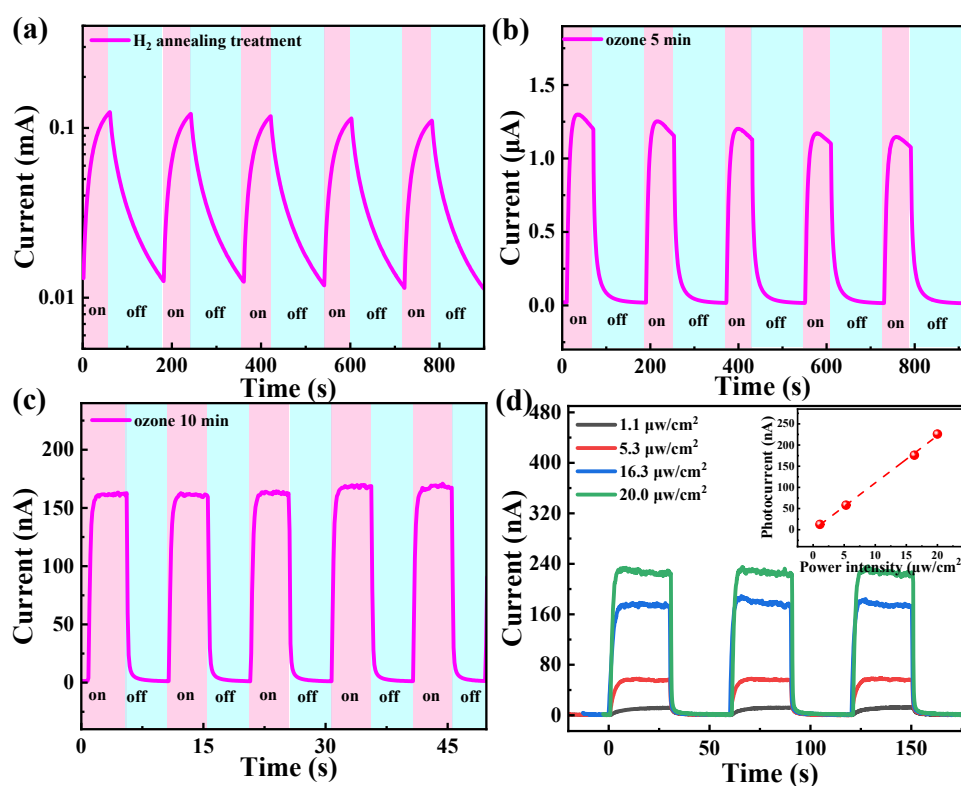


Figure S2. Photo stability of PDs. (a) H₂-annealed, (b) Ozone 5 min (c) Ozone 10 min. (d) Time-dependent photo-response of the 10 min ozone treated PD under different light power intensity.

The time-dependent photoresponse of the PDs have been measured, as shown in Figure S2. It can be seen that the PDs' current rise and fall as the light source is turned on and off. After multiple cycle tests, the PD's photoresponse did not decay, indicating that the PDs have excellent stability. Furthermore, as the incident light energy density increases, the photocurrent shows a linear upward trend.