Supporting information

In-plane WSe₂ p-n homojunction two-dimensional diode by laser-induced doping

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Figure S1

Optical microscope images of the WSe$_2$ flake (a) before and (b) after laser treatment. The white dashed square defines the laser-treated region, which became transparent owing to the formation of WO$_x$. The scale bar is 5 µm.
Figure S2

(a) Schematic of laser treatment of a WSe$_2$ FET (b) AFM height profiles of as-exfoliated and laser-treated (60 s) WSe$_2$ (c) Transfer curves of WSe$_2$ FET at varying laser exposure time
Figure S3

Optical microscope image of partially laser-treated WSe$_2$ with corresponding photocurrent mapping images at different $V_{BG}$ ($V_{DS} = 0$).