Electronic Supplementary Material (ESI) for Journal of Materials Chemistry C.

Supporting information

In-plane WSe_2 p-n homojunction two-dimensional diode by laser-induced doping

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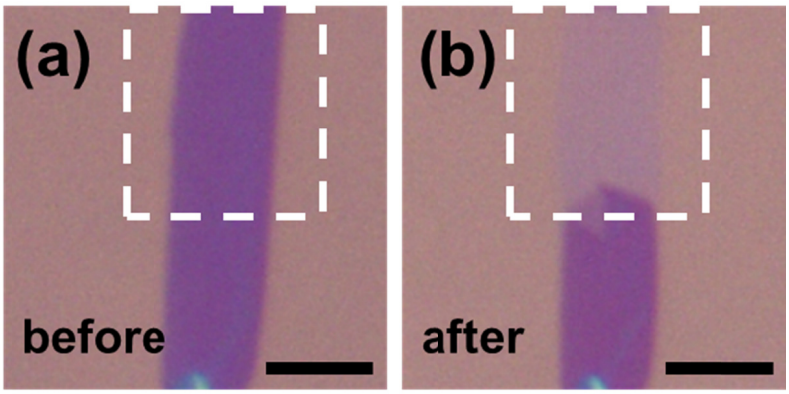
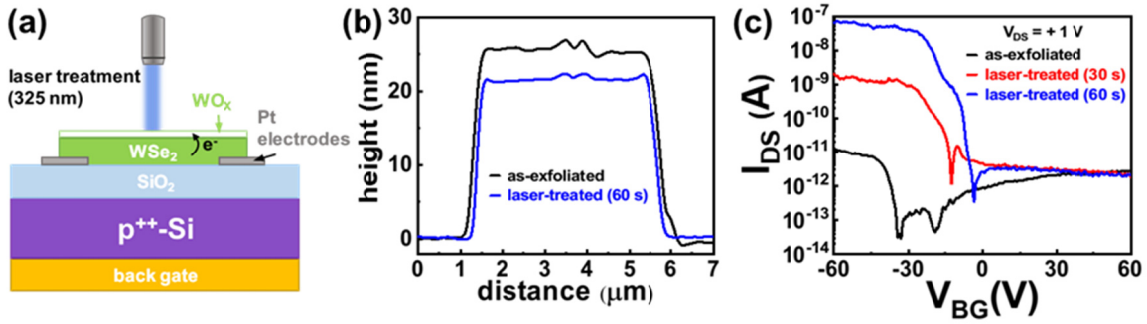
Figure S1



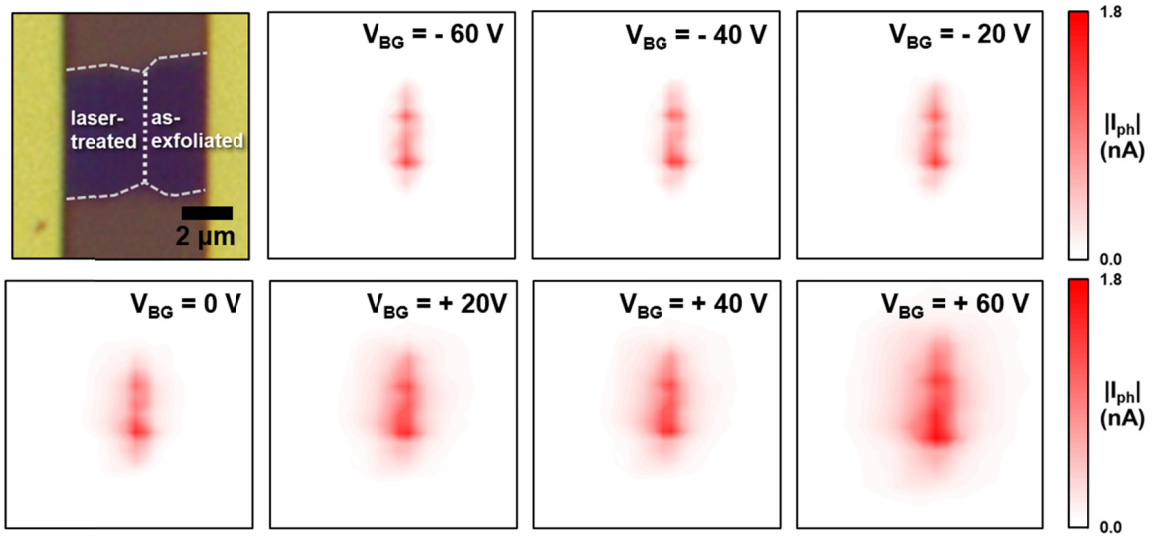
Optical microscope images of the WSe_2 flake (a) before and (b) after laser treatment. The white dashed square defines the laser-treated region, which became transparent owing to the formation of WO_x. The scale bar is 5 μm.

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).