

Enhancing Electronic and Optoelectronic Performance of Tungsten Diselenide by Plasma Treatment

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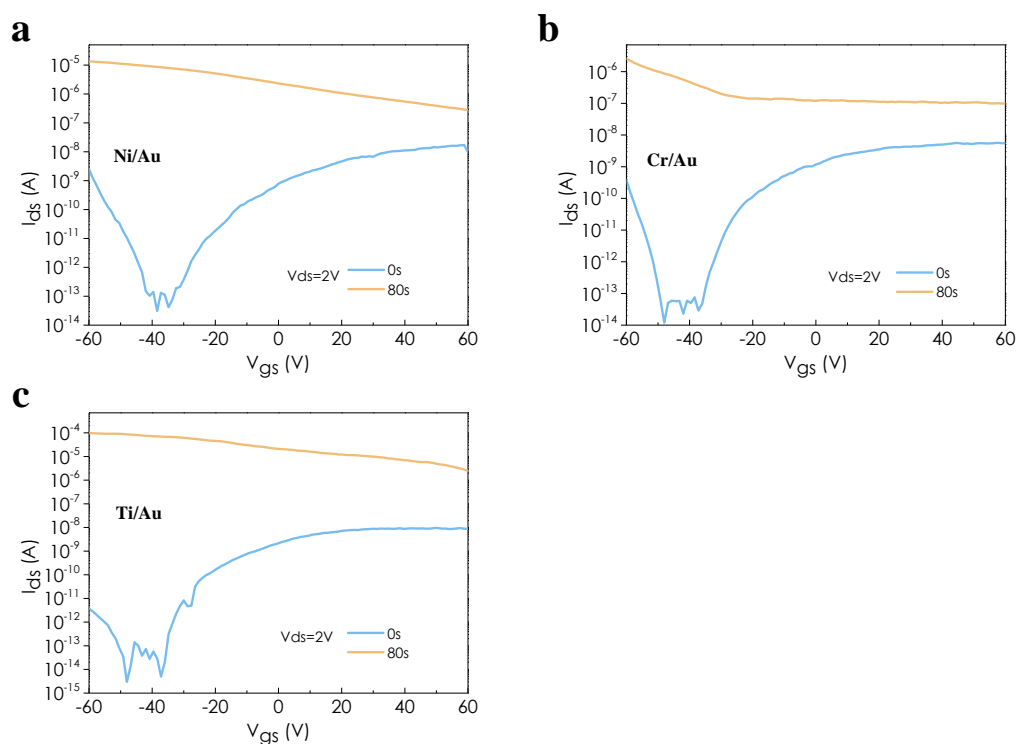


Fig. S1 Transfer curves of WSe₂ FETs with different contact metals. (a). Ni/Au. (b). Cr/Au. (c). Ti/Au

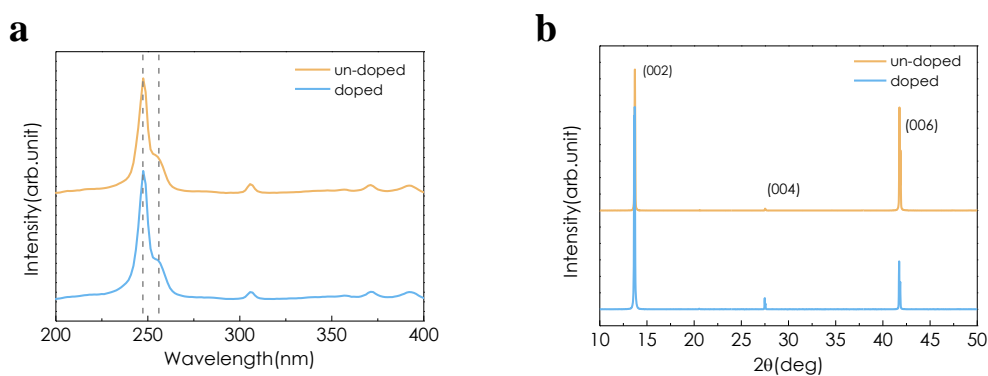


Fig. S2: Raman spectroscopy (a) and XRD (b) of un-doped and doped WSe₂.

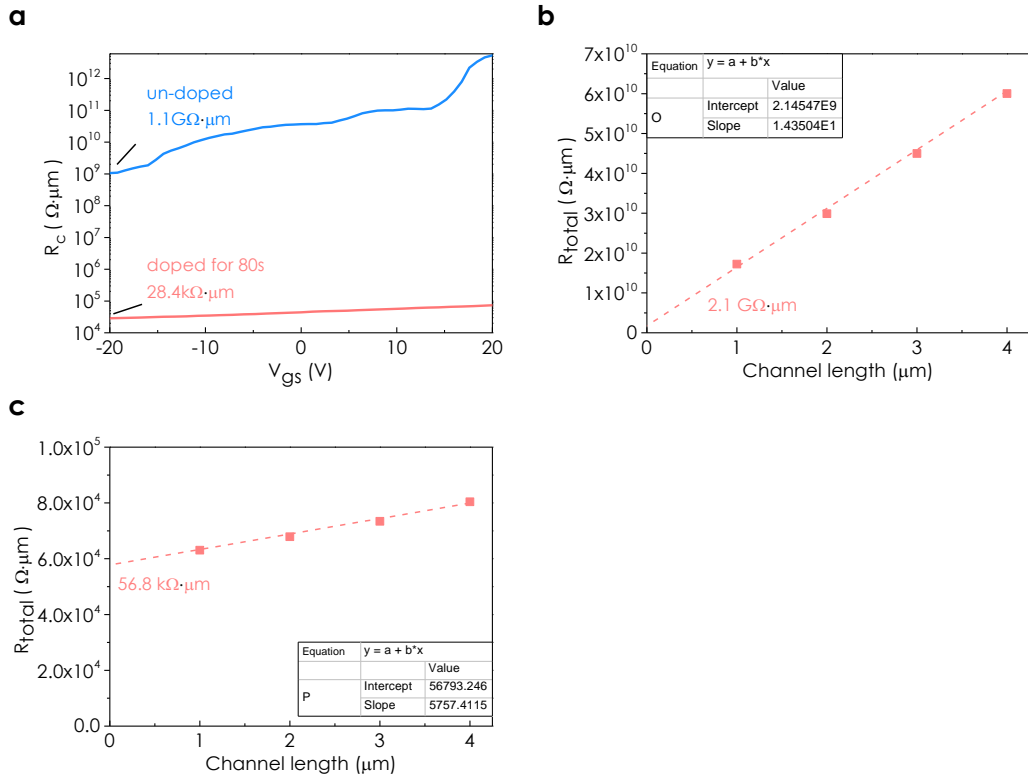


Fig. S3 (a) Contact resistance of the WSe₂ FET under different gate voltage. Linear fitting of total resistance of the un-doped WSe₂ (b) and doped WSe₂ (c) at $V_{\text{gs}} = -20$ V. Inset table is the detailed fitting information.

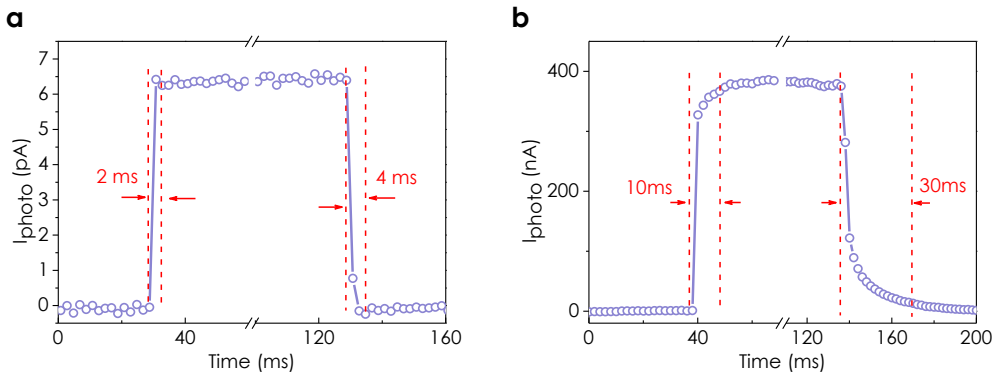


Fig. S4 Comparison of response and recovery time of un-doped (a) and doped (b) WSe₂ FETs.

To compare the response and recovery time of un-doped and doped WSe₂ more clearly, we define these as the signal takes to change between 0% and 100% of its entire range on the rising and falling edges.

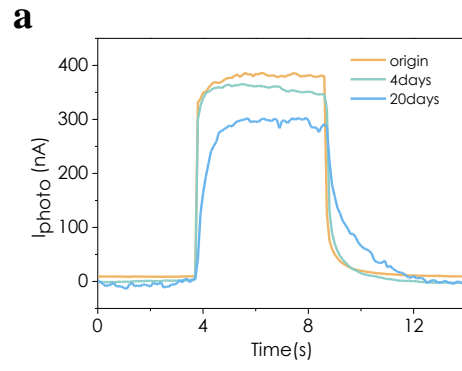


Fig. S5: Photocurrent of doped WSe₂ photoconductor with different exposure time in air.