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Construction of mixed-dimensional WS_2/Si heterojunctions for high-performance infrared photodetection and imaging applications

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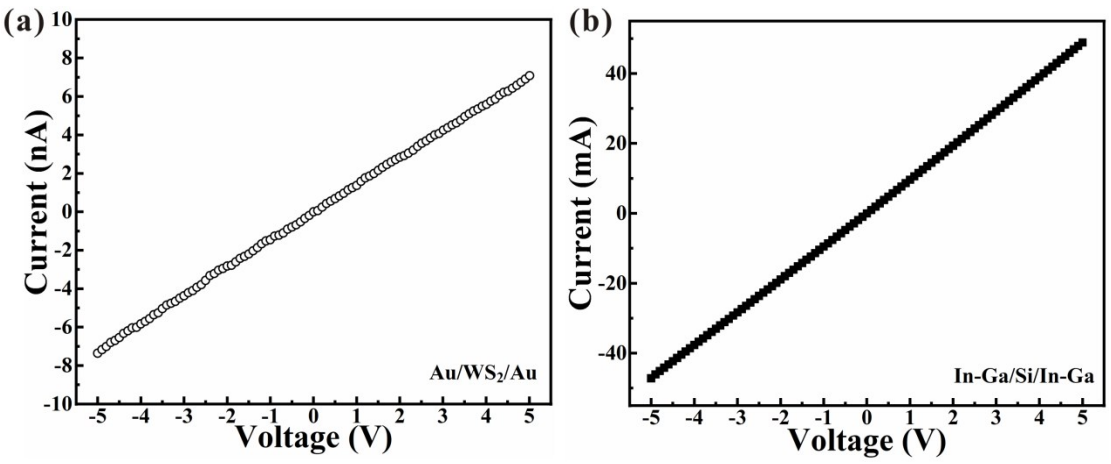

Fig. S1 I-V curves of (a) Au/WS_2/Au and (b) In-Ga/Si/In-Ga.

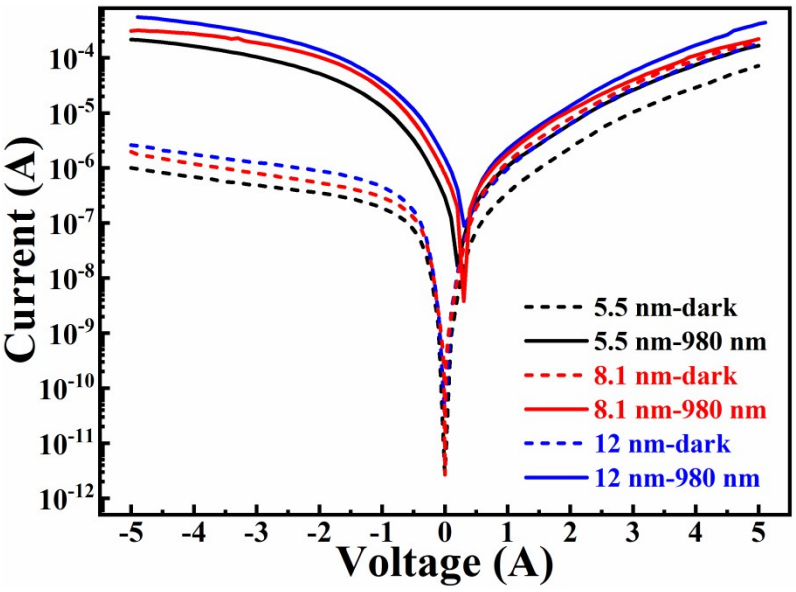

Fig. S2 I-V curves of WS_2/Si heterojunction devices with WS_2 thickness of 5.5, 8.1 and 12 nm in dark and under 980 nm.

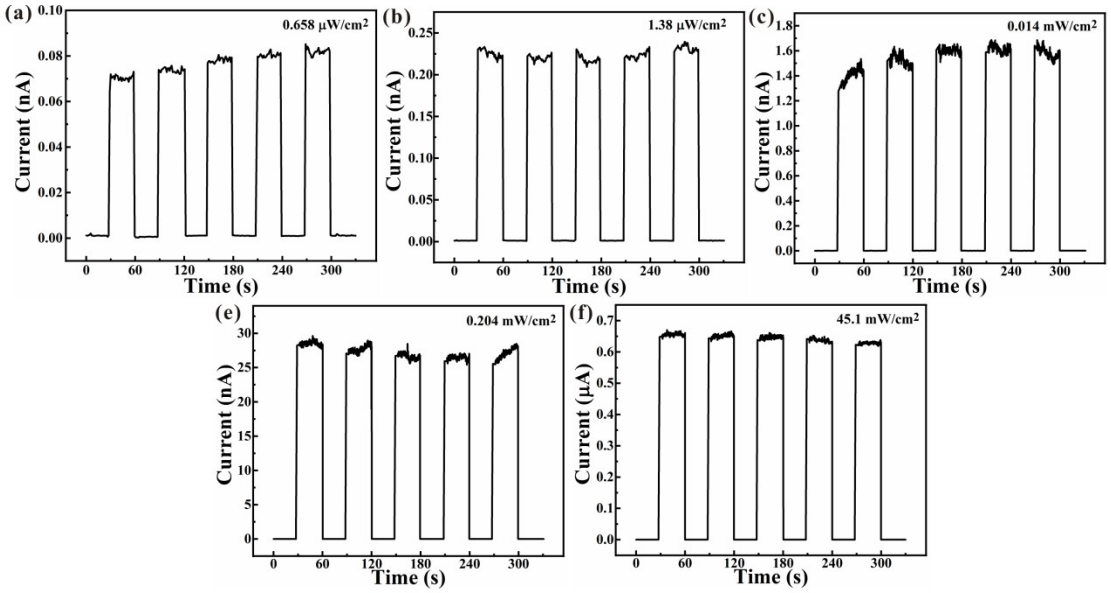

Fig. S3 Time-dependent photoresponse of the WS_2/Si heterojunction under 980 nm light with varying light intensities in linear scale.

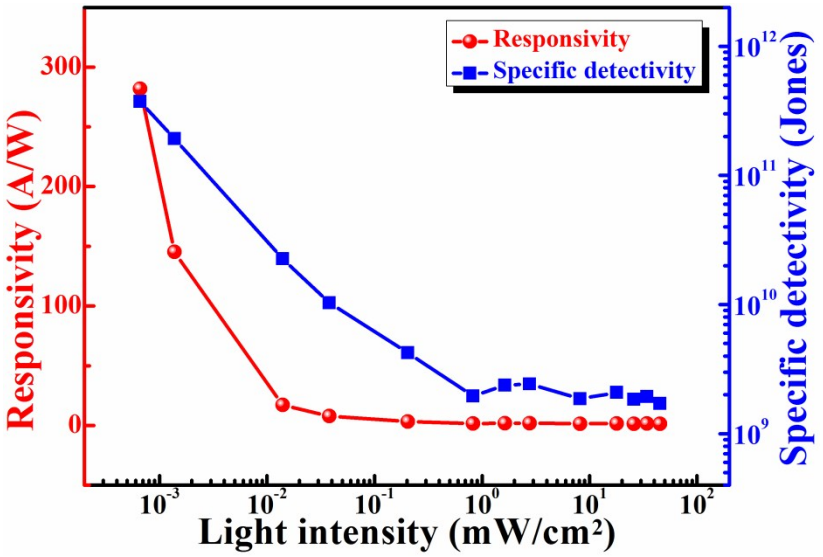

Fig. S4 Responsivity and specific detectivity of the WS_2/Si heterojunction at a voltage bias of -5 V.

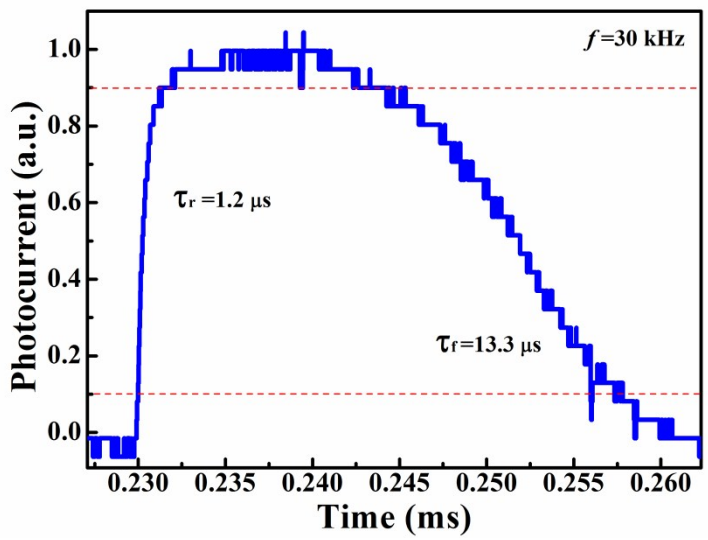

Fig. S5 Response speeds of the WS_2/Si heterojunction at a frequency of 30 kHz.