Electronic Supplementary Material (ESI) for Journal of Materials Chemistry C.
This journal is © The Royal Society of Chemistry 2018

# Room-temperature near-infrared photodetector based on $MoS_2$/CdTe p-n heterojucntion with a broadband response upto 1700 nm

Yuange Wang,†[a] Xiaowen Huang,†[b] Di Wu,*[a] Ranran Zhuo,[a] Enping Wu,[a] Chen Jia,[a] Zhifeng Shi,[a] Tingting Xu,*[a] Yongtao Tian[a] and Xinjian Li[a]

[a]*School of Physics and Engineering and Key Laboratory of Material Physics, Zhengzhou University, Zhengzhou, 450052, P. R. China.*

**E-mail: wudi1205@zzu.edu.cn, xutt@zzu.edu.cn*

[b]*Department of Applied Physics and Materials Research Center, The Hong Kong Polytechnic University, Hung Hom, Kowloon, Hong Kong, China.*

†Yuange Wang and Xiaowen Huang contributed equally to this work.

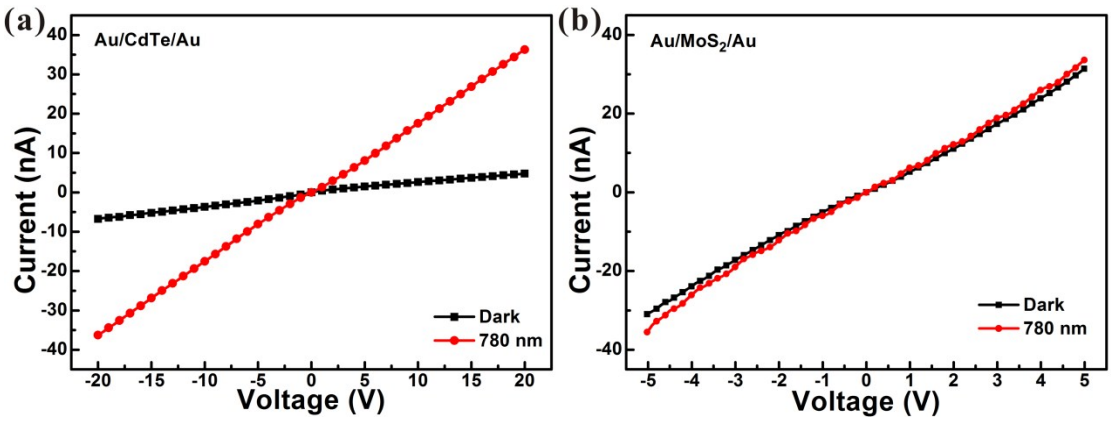


**Fig. S1** I-V curves of (a) CdTe and (b) $MoS_2$ in the dark and under 780 nm light illumination.

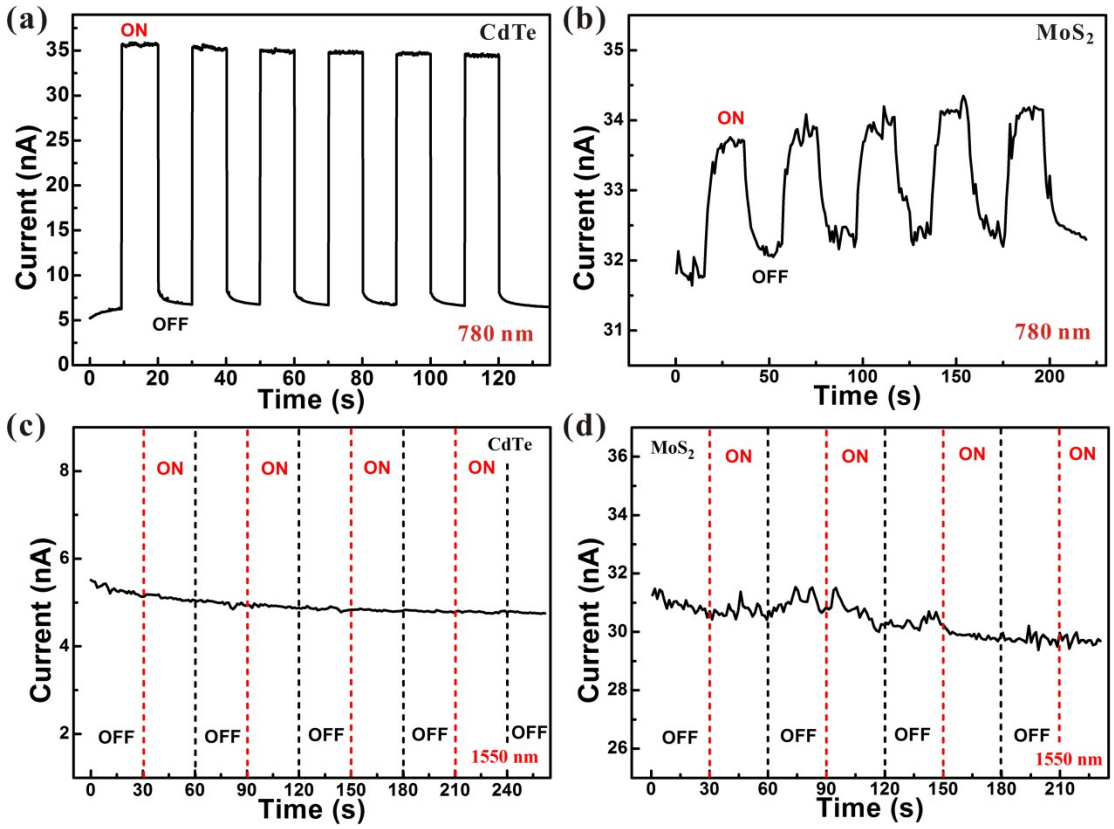


**Fig. S2** Photoresponse properties of CdTe and $MoS_2$ to light of 780 nm and 1550 nm.