

This supplementary information was **updated** on **23/06/2020**.

**Carrier Polarity Modulation of Molybdenum Ditelluride (MoTe₂) for
Phototransistors and Switching Photodiodes**

The previous supplementary information file contained an error in the caption of Figure S3 – this referred incorrectly to “WSe₂”, and should have referred to “MoTe₂” instead. This has been corrected in the current document.

The Royal Society of Chemistry apologises for these errors and any inconvenience to our readers.

Please contact Nanoscale@rsc.org with any enquiries, citing: doi.org/10.1039/D0NR03904G

Supplementary Information

Carrier Polarity Modulation of Molybdenum Ditelluride (MoTe₂) for Phototransistors and Switching Photodiodes

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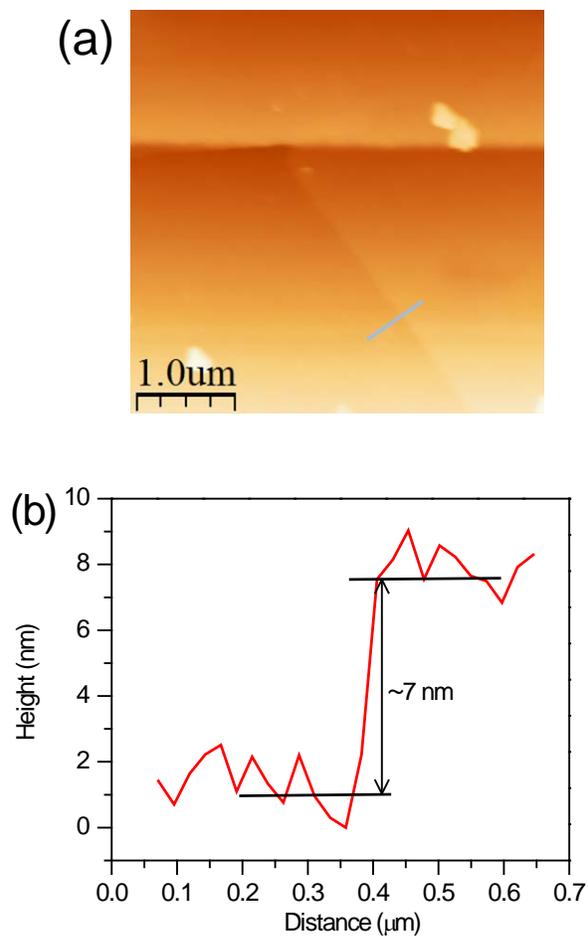


Figure S1. (a) Typical AFM image of the MoTe₂ FET on the SiO₂/p⁺-Si substrate. (b) Step height profile along the line indicated in the AFM image. The MoTe₂ flake had a thickness of ~7 nm.

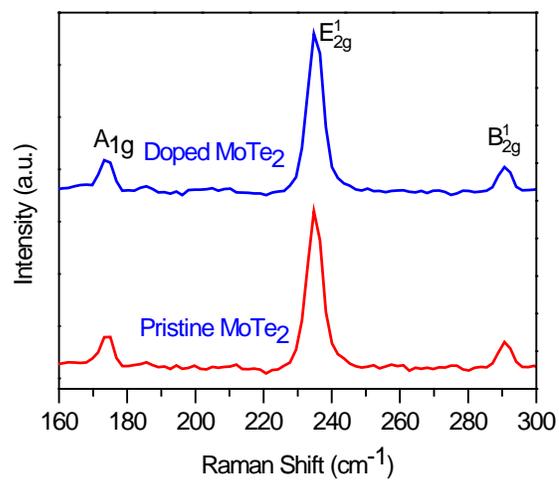


Figure S2. Raman spectra of pristine and doped MoTe₂.

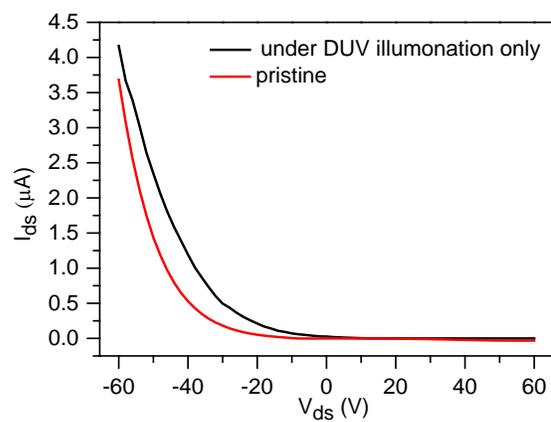


Figure S3. Transfer characteristics of pristine MoTe₂ and after DUV illumination.

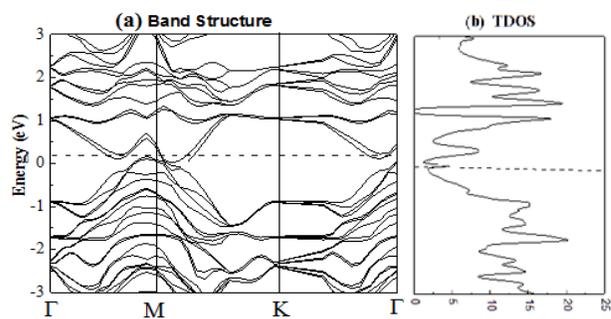


Figure S4. Calculated the band structure and total density of states (TDOS) of the bulk MoTe₂ in (a) and (b) respectively.

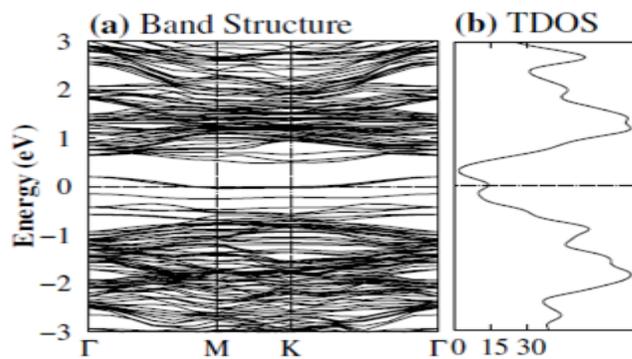


Figure S5. Calculated the band structure and total density of states (TDOS) of Nitrogen doped the bulk MoTe₂ (a) and (b) respectively

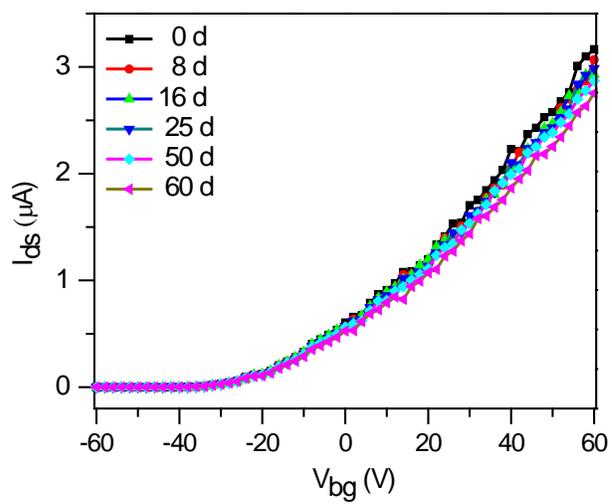


Figure S6. Transfer characteristics of the doped MoTe₂ FET device, indicating the stability over different time intervals.