

Supporting figures

Room-Temperature Electrically Driven Phase Transitions of Two-Dimensional 1T-TaS₂ Layers

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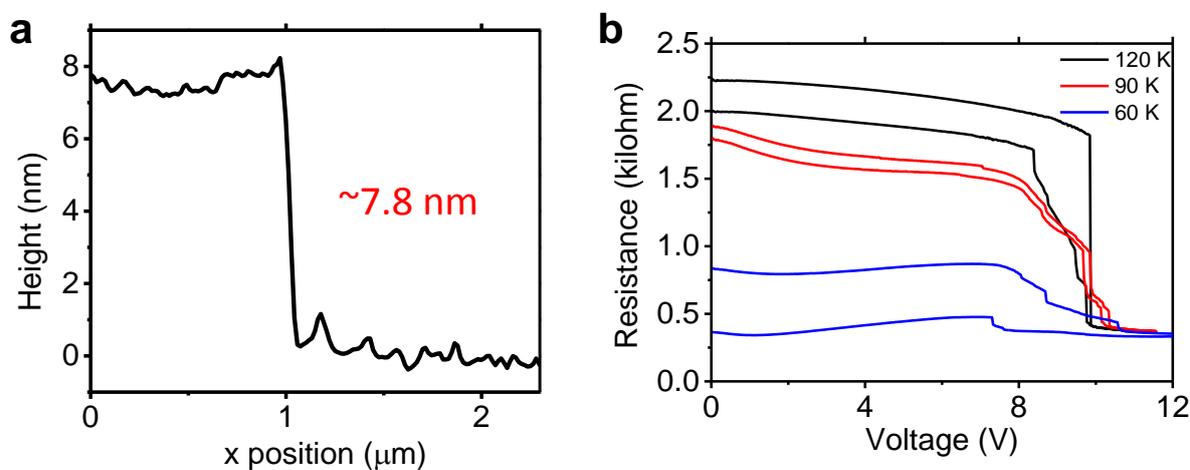


Fig. S1 (a) AFM data of sample in Fig. 1. (b) Electrically driven phase transitions at 90 K and 60 K become irreversible beyond the threshold of electric field.

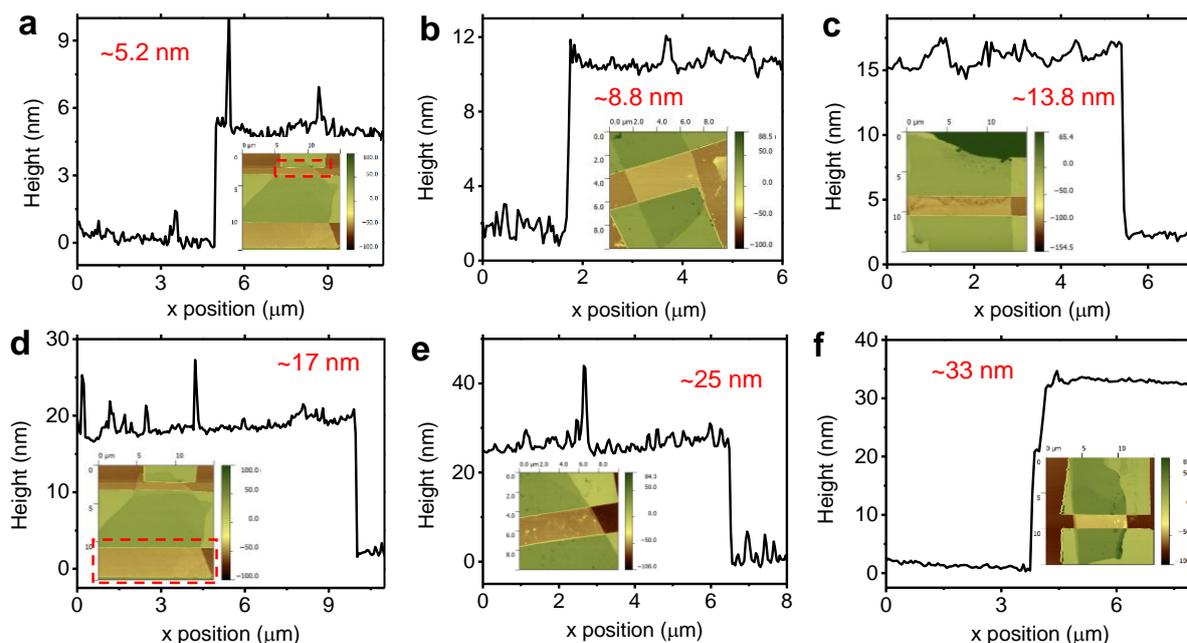


Fig. S2 AFM depth profiles and corresponding optical images of the samples in Fig. 2.

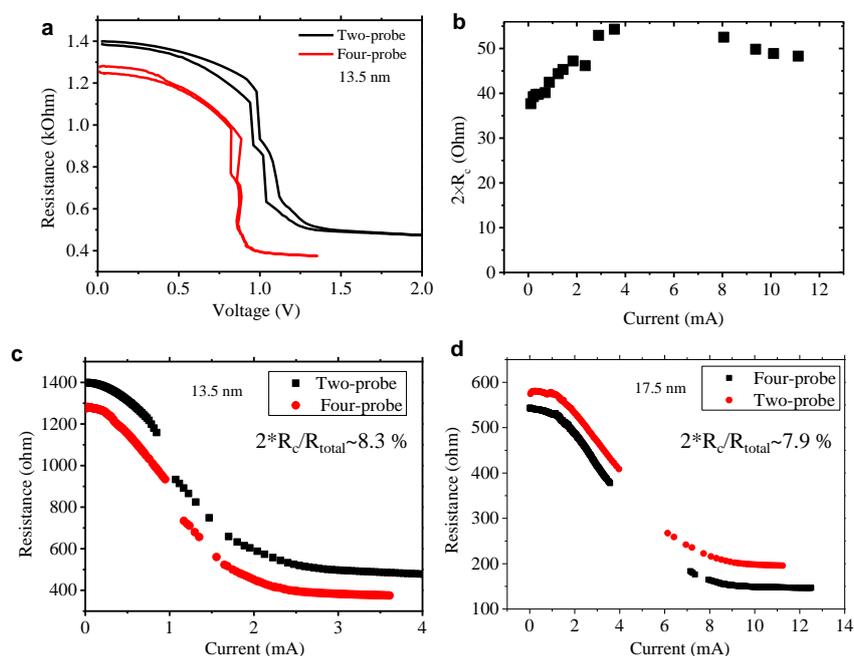


Fig. S3 (a) Comparison of two-probe and four-probe measurement of a 13.5 nm thickness flake. (b) Change of the contact resistance at the phase transition process. (c-d) Flake resistance comparison between two-probe and four-probe measurement as a function of the current of 13.5 nm and 17.5 nm thick samples.

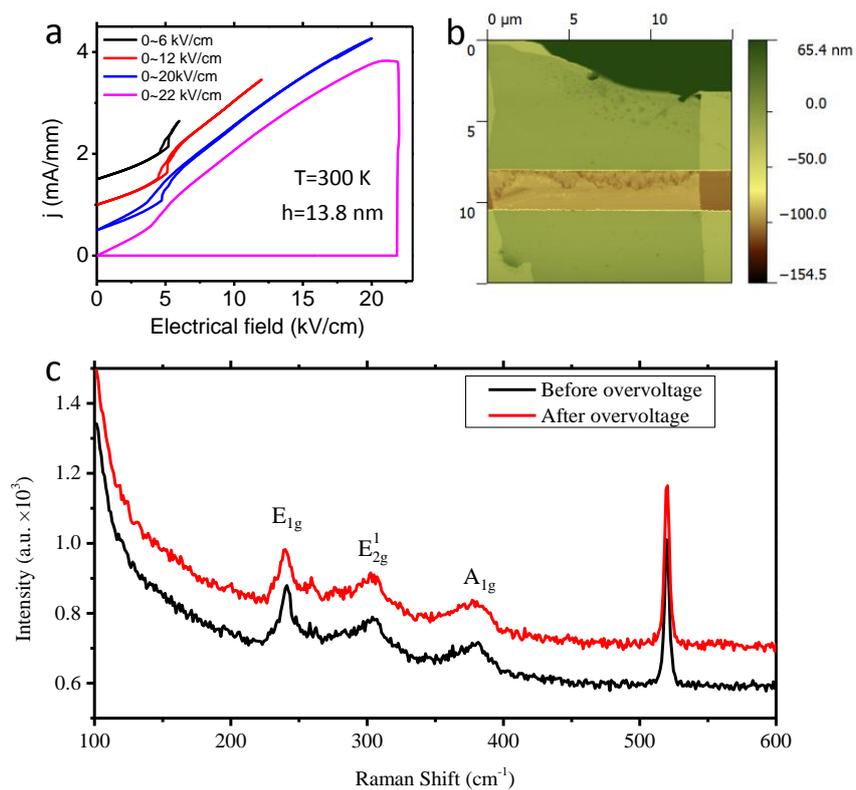


Fig. S4 (a) Electric field threshold of 13.8 nm sample and device breakdown. (b) AFM image shows the detail of sample after breakdown. There is a crack trace near to one electrode. (c) Raman spectra comparison before overvoltage and after overvoltage.