Supporting Information

Controllable growth of two-dimensional h-GaTe with screw dislocations

Jingyao Wang‡[a], Yuxiang Liu[a], Zhitao Wu[a], Peiyao Xiao[a], Xinke Liang[a], Dongfei Wang [a], Wende Xiao*[a]

[a] Key Laboratory of Advanced Optoelectronic Quantum Architecture and Measurement, Ministry of Education, School of Physics, Beijing Institute of Technology, Beijing, 100081, China.

Fig. S1 shows the Raman spectrum of the sample with m-GaTe rods (the sample shown in Fig. 3f).

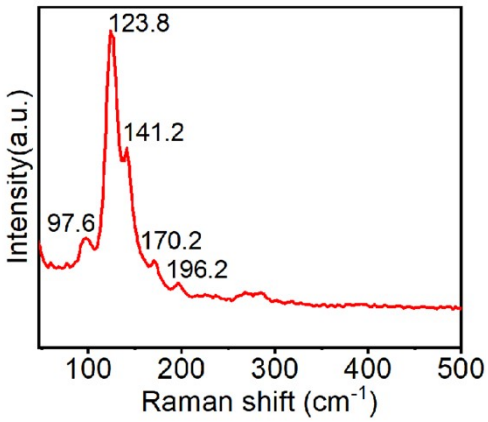

Fig. S1 Raman spectrum of the as-prepared h-GaTe films (with m-GaTe).

Fig. S2 shows the X-ray diffraction of the GaTe films. The diffraction peaks at 2θ = 27.0 ° and 55.0 ° correspond to the (0 0 2) and (0 0 4) planes of the HOPG, respectively.[1]

In addition, diffraction peaks are observed at 2θ = 24.4 °, 29.5 °, 31.0 ° and 57.5 °, which can be attributed to the (1 0 -1 0), (1 0 -1 3), (1 0 -1 4), and (2 0 -2 5) planes of h-GaTe, respectively.[2] The XRD Peaks at 2θ = 36.0 ° (5 1 1), 39.5 ° (6 0 -4), 43.2 ° (5 1 -4), 47.6 ° (3 1 4), and 48.6 ° (4 2 0) correspond to the m-GaTe peaks.[3]

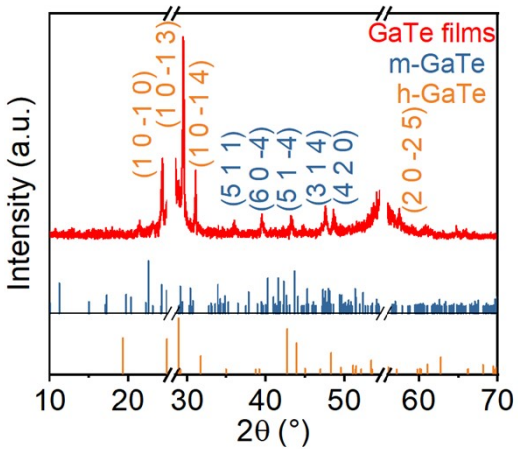

Fig. S2 X-ray diffraction of the GaTe films.

1 A. J. Cooper, N. R. Wilson, I. A. Kinloch and R. A. W. Dryfe, *Carbon*, 2014, **66**, 340–350.

2 X-ray diffraction data have been deposited in the Materials Project (https://www.osti.gov/servlets/purl/1184820/).

3 X-ray diffraction data have been deposited in the Materials Project (https://www.osti.gov/servlets/purl/1266737/).