Supplementary Material: Observation of Shubnikov-de Haas Oscillations in Large-Scale Weyl Semimetal WTe_2 Films

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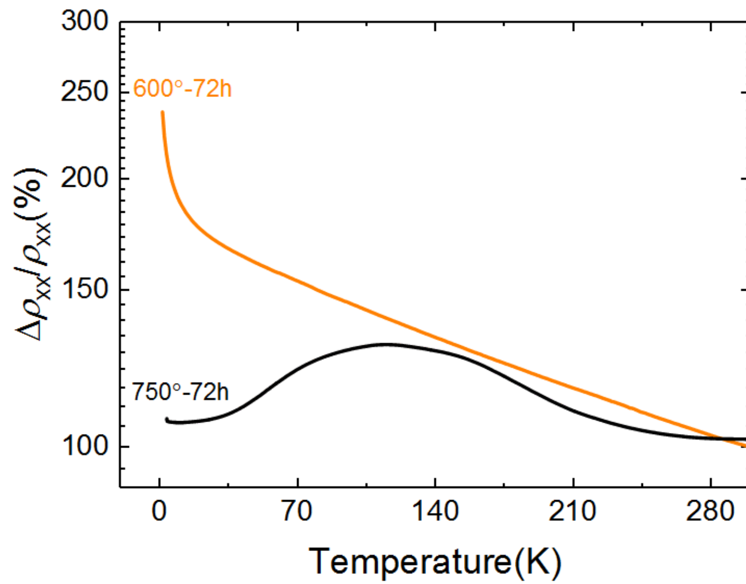

Fig. S1. Temperature dependent ρ_{xx} of the WTe_2 films annealed at 600°C and 750°C for 72 hours, respectively. The ρ_{xx} is normalized by the values measured at 300 K.

The temperature dependent ρ_{xx} of the WTe_2 films annealed at 600℃ and 750℃ for 72 hours are shown in Fig. S1. The RRR values are much smaller than that annealed at 700℃ [Fig. 2(a)]. The temperature dependent ρ_{xx} even shows the insulating behavior, which further indicates that other annealing temperatures turn out the worse samples.

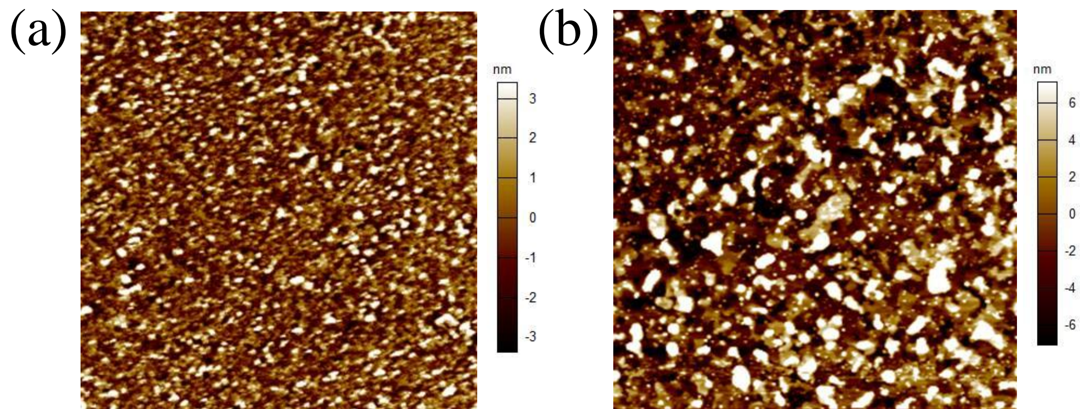

Fig. S2. Surface morphology of the 100-nm-thick film (5×5 μm^2) before (a) and after (b) annealing.

The roughness of the 100-nm film before annealing is ~1.5 nm; while the one after annealing is ~5 nm, as shown in Fig. S2. Here, the annealing process may slightly deteriorate the surface morphology of the WTe_2 film.