# Supplementary Materials

## The Electronic Properties Evolution of Tellurium Crystals with Plasma Irradiation Treatment

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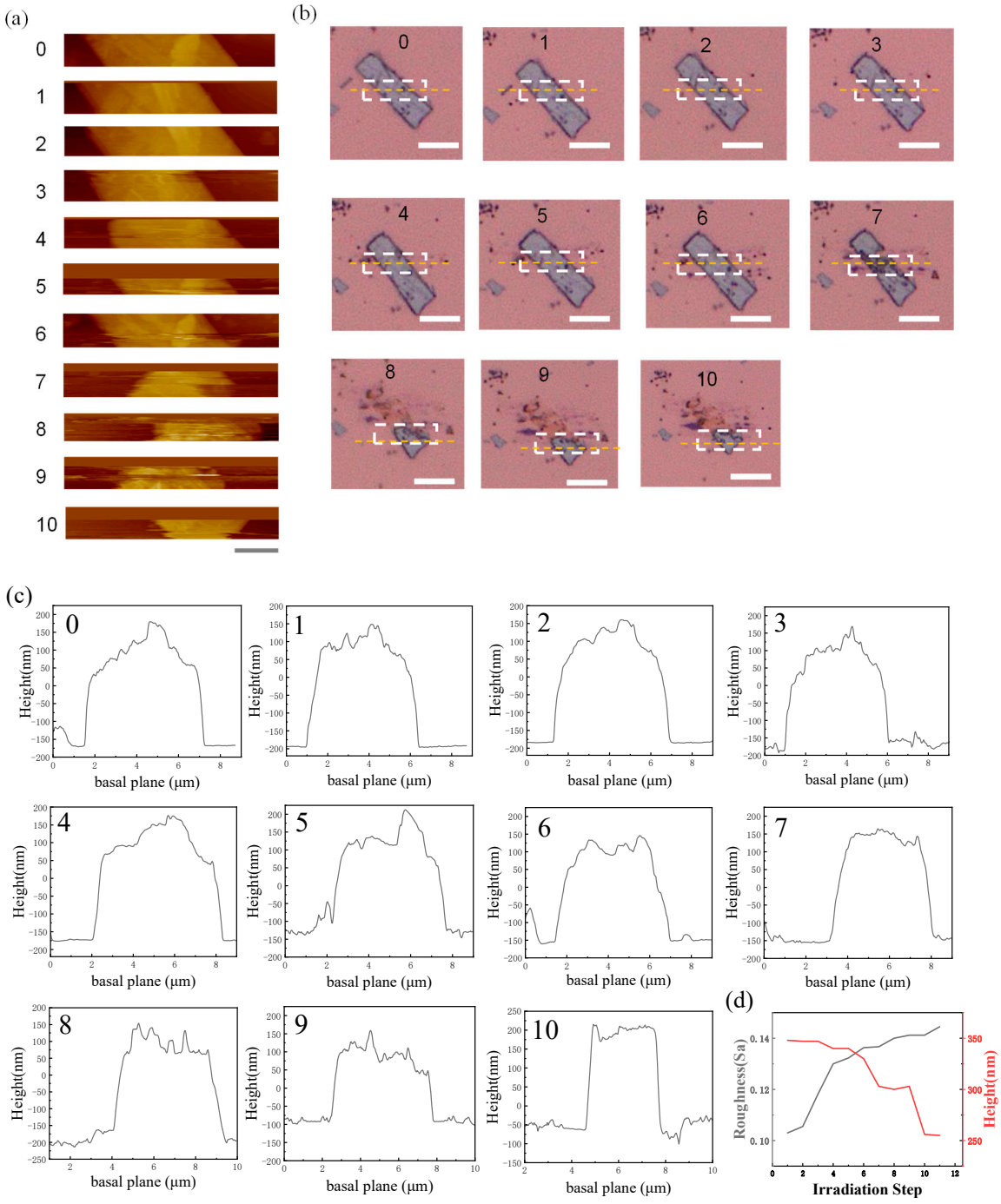


Figure S1. Atomic force microscope characterization of tellurium flake irradiated by HP. (a) atomic force microscope images, the scale bar is 1um; (b) the optical microscope images show the corresponding scanned AFM region by the white dashed square (the scale bar is 3um for each image), and the orange dashed line in each image corresponds to the cross section height profile that shown in (c), the number in the upper corner represents the irradiation steps; (d) the evolution of surface roughness and height of tellurium flakes with irradiation step.

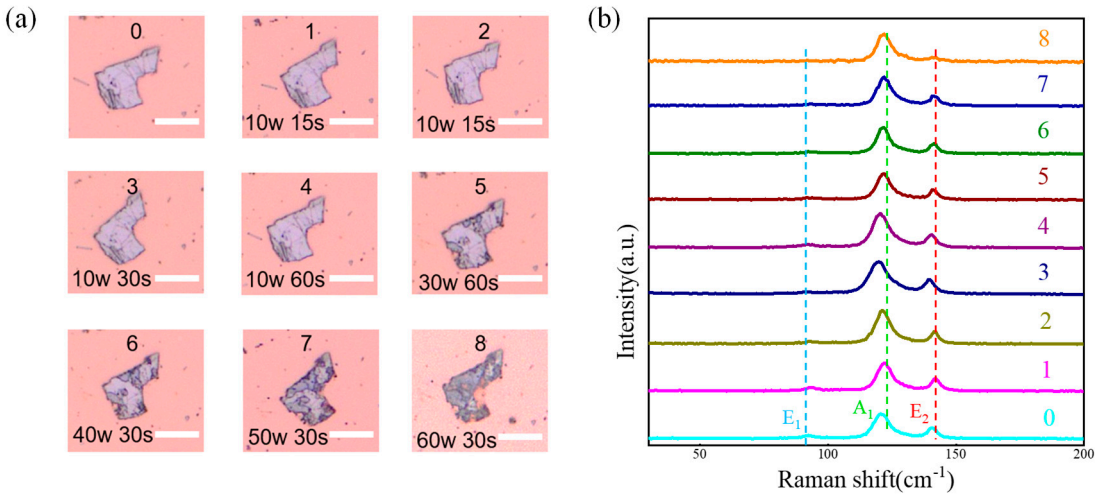


Figure S2. Characterization of tellurium flakes irradiated by AP. (a) The optical microscope images with the scale bar of 5um (the irradiation power and duration are marked accordingly for each image); (b) Raman spectra of the tellurium flake with successive AP irradiation treatment.