Supporting Information for

Control of crystal growth and thermoelectric properties of sputter-deposited BiTe thin films embedded with alumina nanoparticles

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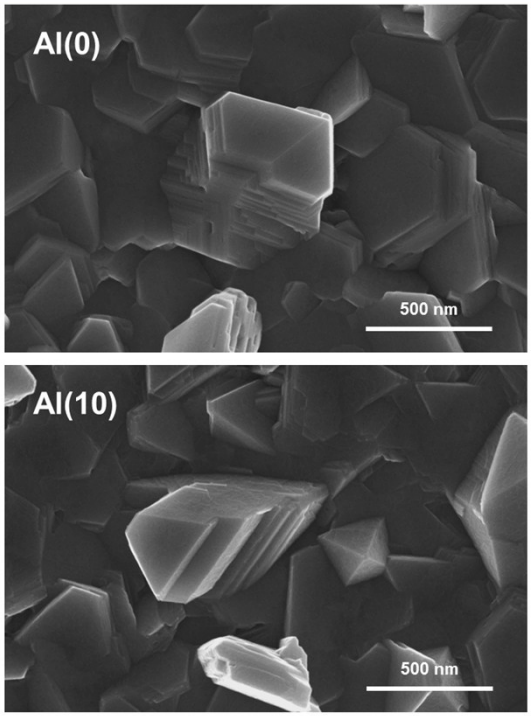

Fig. S1 Surface FESEM images of Al(0) and Al(10)

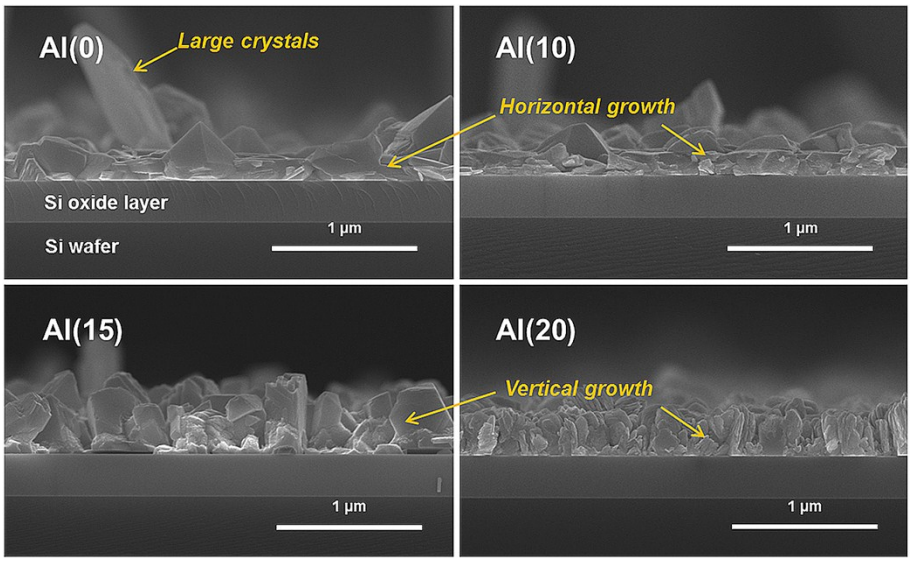

Fig. S2 Cross-sectional FESEM images of BiTe thin films as a function of the applied DC power of Al target.

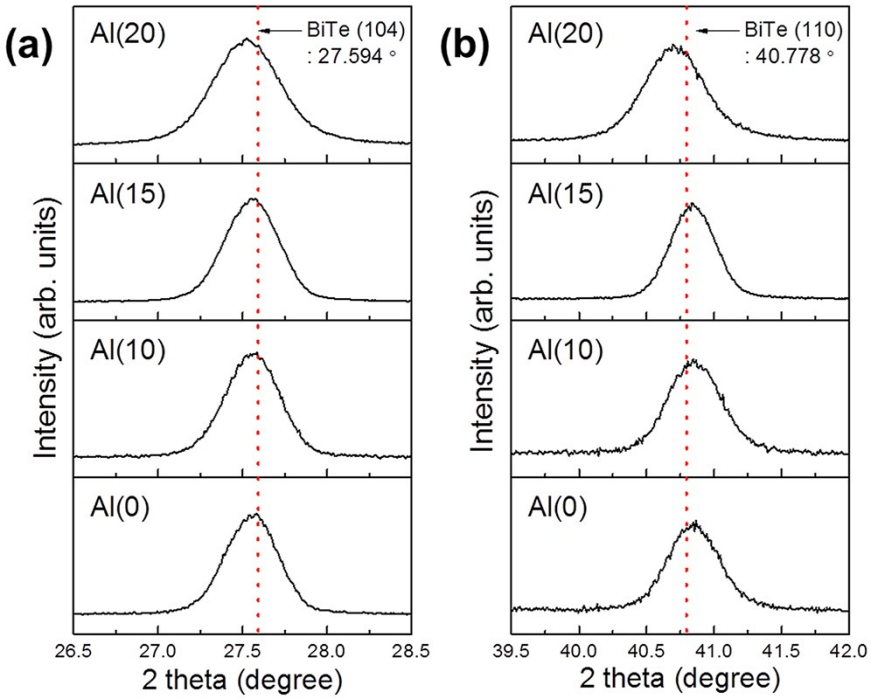

Fig. S3 The enlarged XRD spectra of films deposited with different applied DC power of Al.

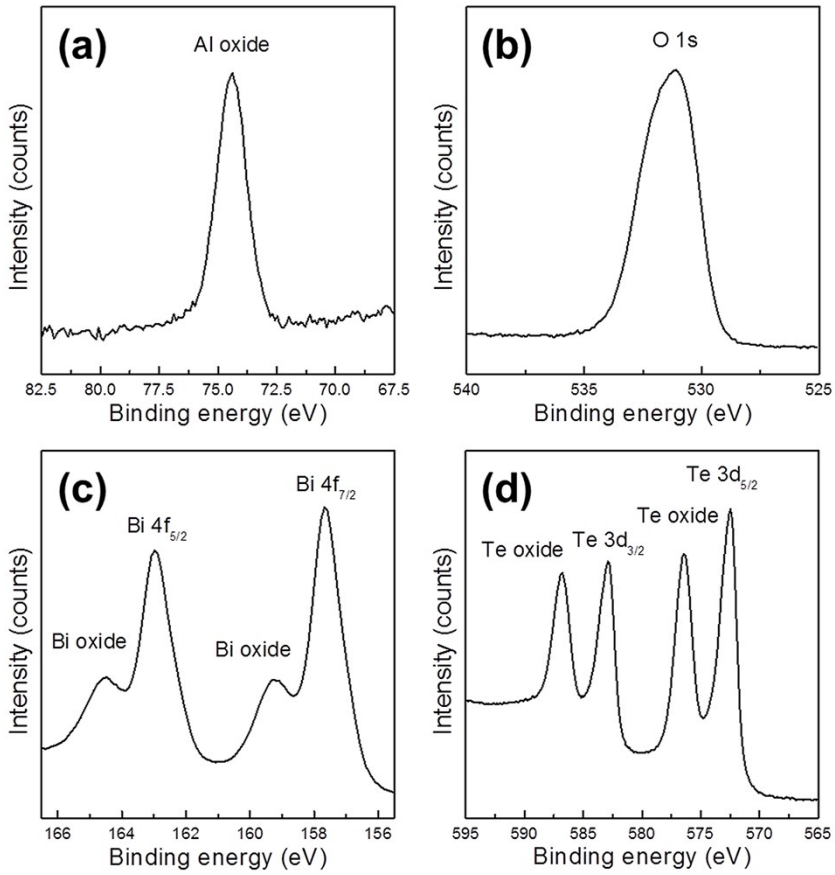

Fig. S4 XPS spectra of each element in films before Ar ion etching: (a) Al, (b) O, (c) Bi, and (d) Te.

Table 1. Corresponding binding energies of elements in films before Ar ion etching

	Al oxide	O 1s	Bi $4f_{7/2}$	Bi oxide	Bi $4f_{/2}$
Binding energy (eV)	74.3	531.1	157.6	159.2	162.9

	Bi oxide	Te $3d_{5/2}$	Te oxide	Te $3d_{3/2}$	Te oxide
Binding energy (eV)	164.5	572.5	576.4	582.9	586.8