SUPPORTING INFORMATION

Suppressing Ag_2Te Nanoprecipitates for Enhancing Thermoelectric Efficiency of $AgSbTe_2$

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Table S1. Rietveld refinement of XRD in Figure S2 for all off-stoichiometry samples without thermal annealing and quenching showing fraction of Sb_2Te_3.

sample	UC volume	Fraction (%)	UC volume	Fraction (%)	Chi^2
$Ag_{0.91}Sb_{1.09}Te_{2.09}$	225.0841	100	N.A.	0	5.89
$Ag_{0.88}Sb_{1.12}Te_{2.12}$	225.4260	100	N.A.	0	3.1
$Ag_{0.85}Sb_{1.15}Te_{2.15}$	224.7639	100	N.A.	0	3.9
$Ag_{0.82}Sb_{1.18}Te_{2.18}$	224.9342	81.87	461.9025	18.13	4.85
$Ag_{0.79}Sb_{1.21}Te_{2.21}$	225.2061	93.19	458.813	6.81	4.21

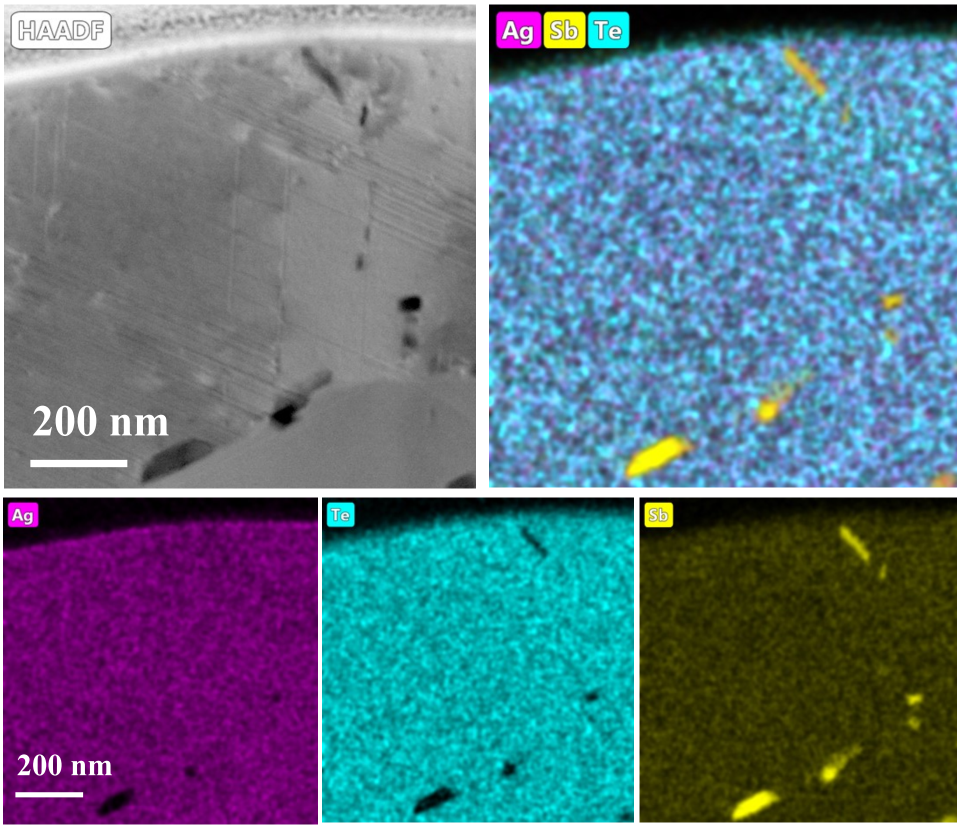

Figure S1. HAADF and EDS from HRTEM of $Ag_{0.79}Sb_{1.21}Te_{2.21}$ showing small amount of Sb-rich regions.

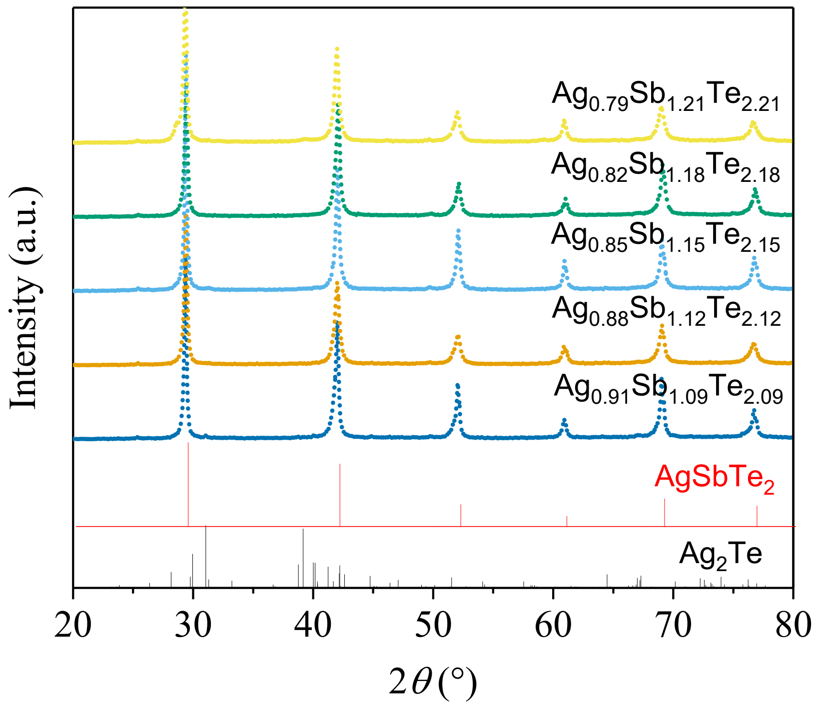

Figure S2. XRD (x-ray diffraction) for samples without thermal annealing and quenching.

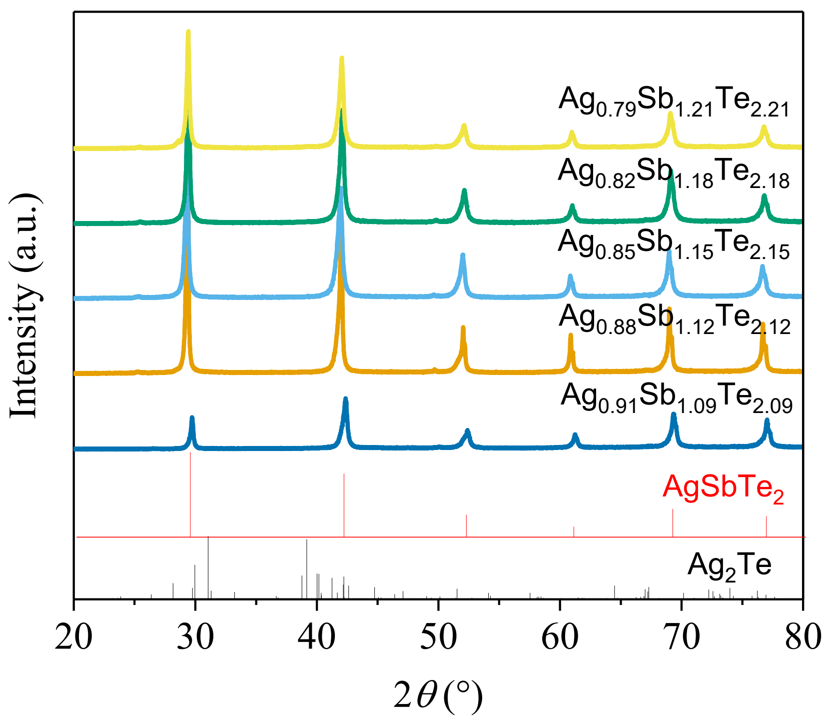

Figure S3. XRD (x-ray diffraction) for all samples annealed at 773 K followed by quenching after transport properties testing.

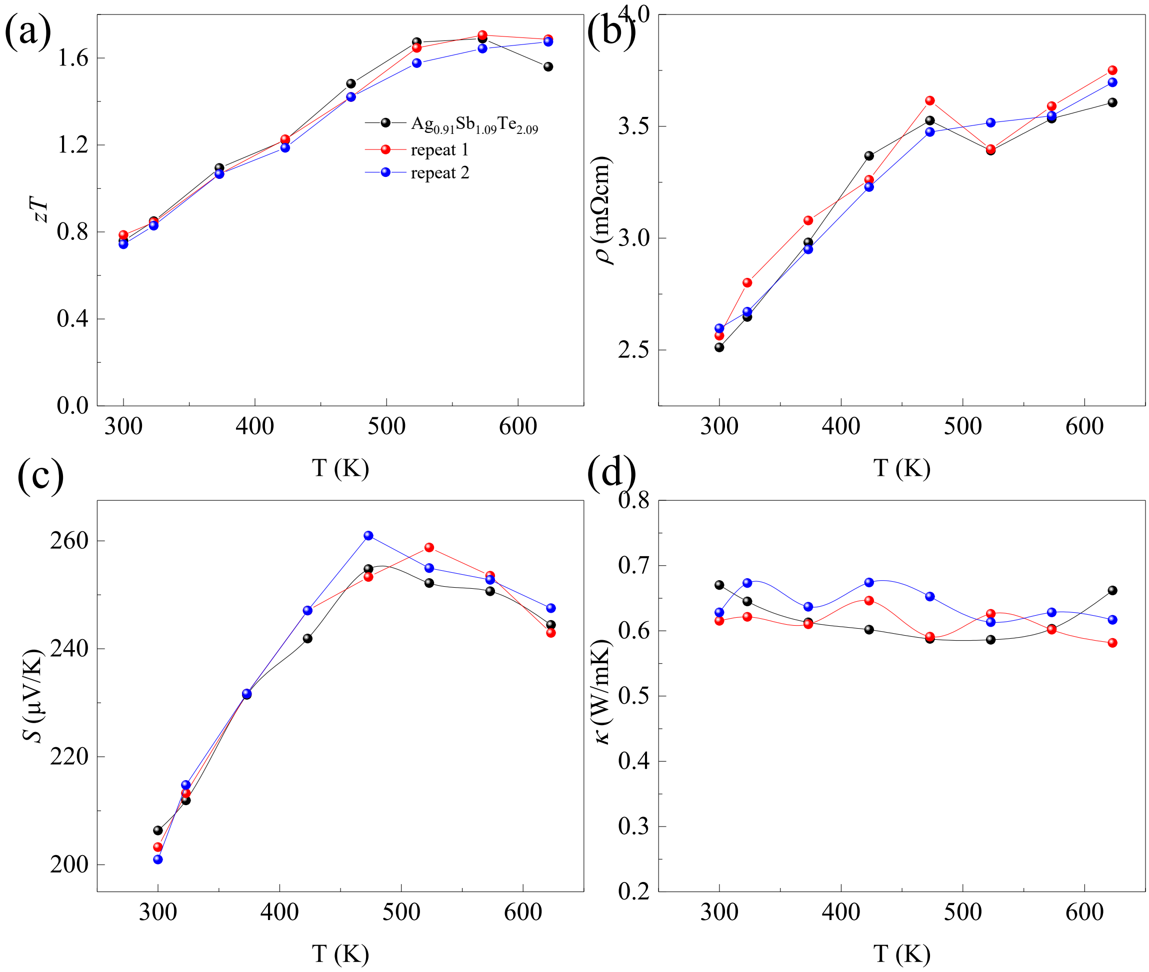

Figure S4. Cyclic testing of heating-cooling for $Ag_{0.91}Sb_{1.09}Te_{2.09}$ sample (a) zT (b) electrical resistivity (c) Seebeck coefficient and (d) thermal conductivity.

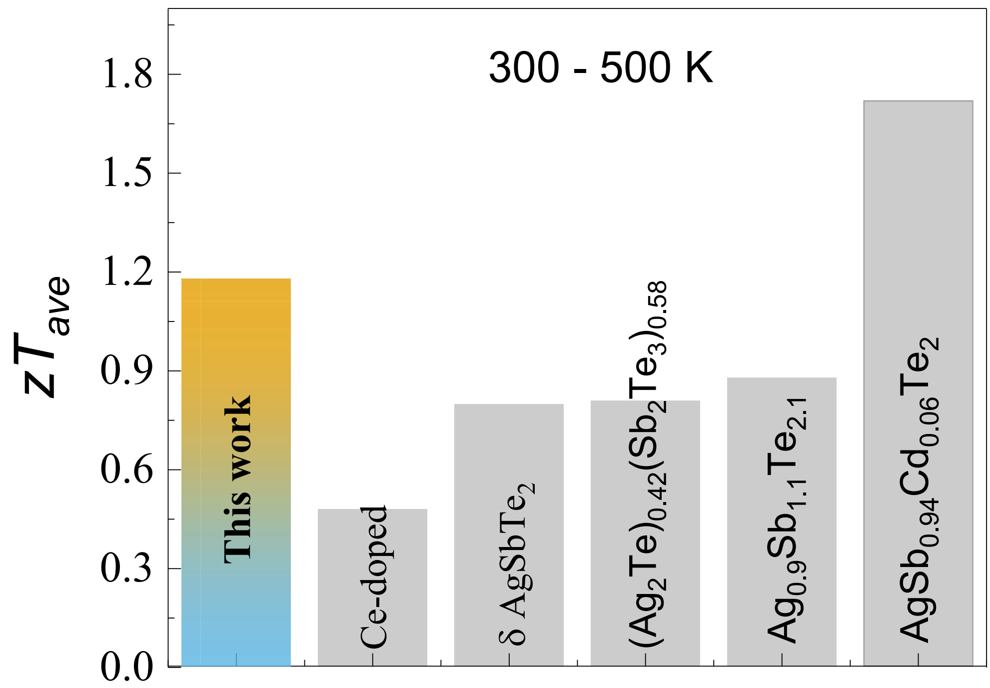

Figure S5. Literature comparison of average zT in this work with literatures between 300 – 500 K.[1-4]

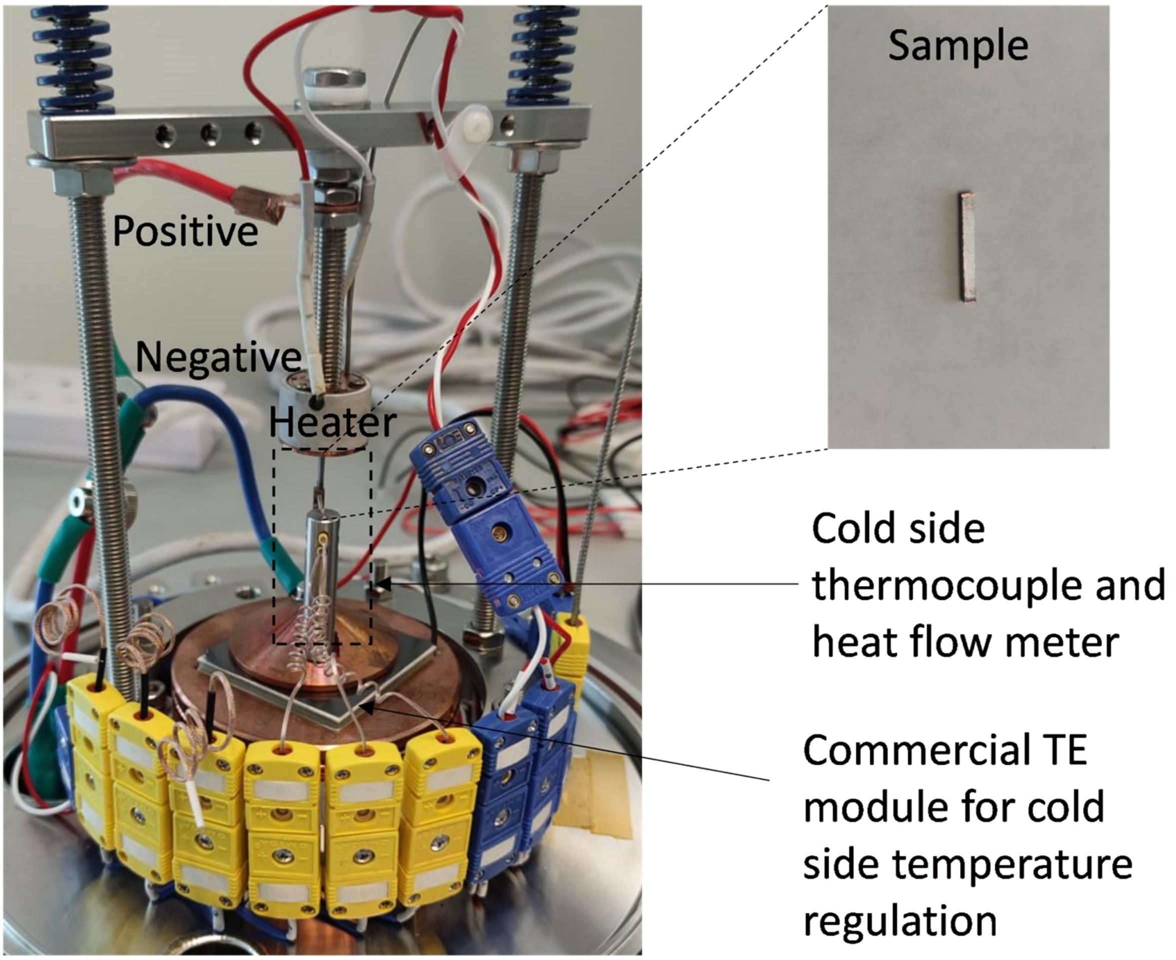

Figure S6. Single leg setup schematic.

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