Electronic Supplementary Material (ESI) for Journal of Materials Chemistry A.

Supporting Information

SnTe-$AgBiTe_2$ as efficient thermoelectrics with low thermal conductivity

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Table S1. Room temperature densities (d) for the $AgSn_xBiTe_{x+2}$ samples in this study.

Compositions		d (g/cm^3)
SnTe		6.21
x in $AgSn_xBiTe_{x+2}$	25	6.32
	20	6.26
	15	6.21
	10	6.29
	5	6.31

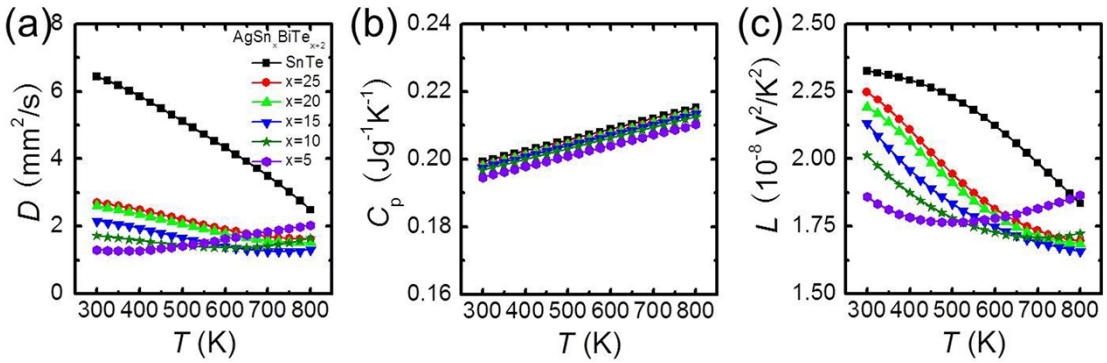

Figure S1. (a) Thermal diffusivity D, (b) heat capacity C_p, and (c) Lorenz number L as a function of temperature for $AgSn_xBiTe_{x+2}$.

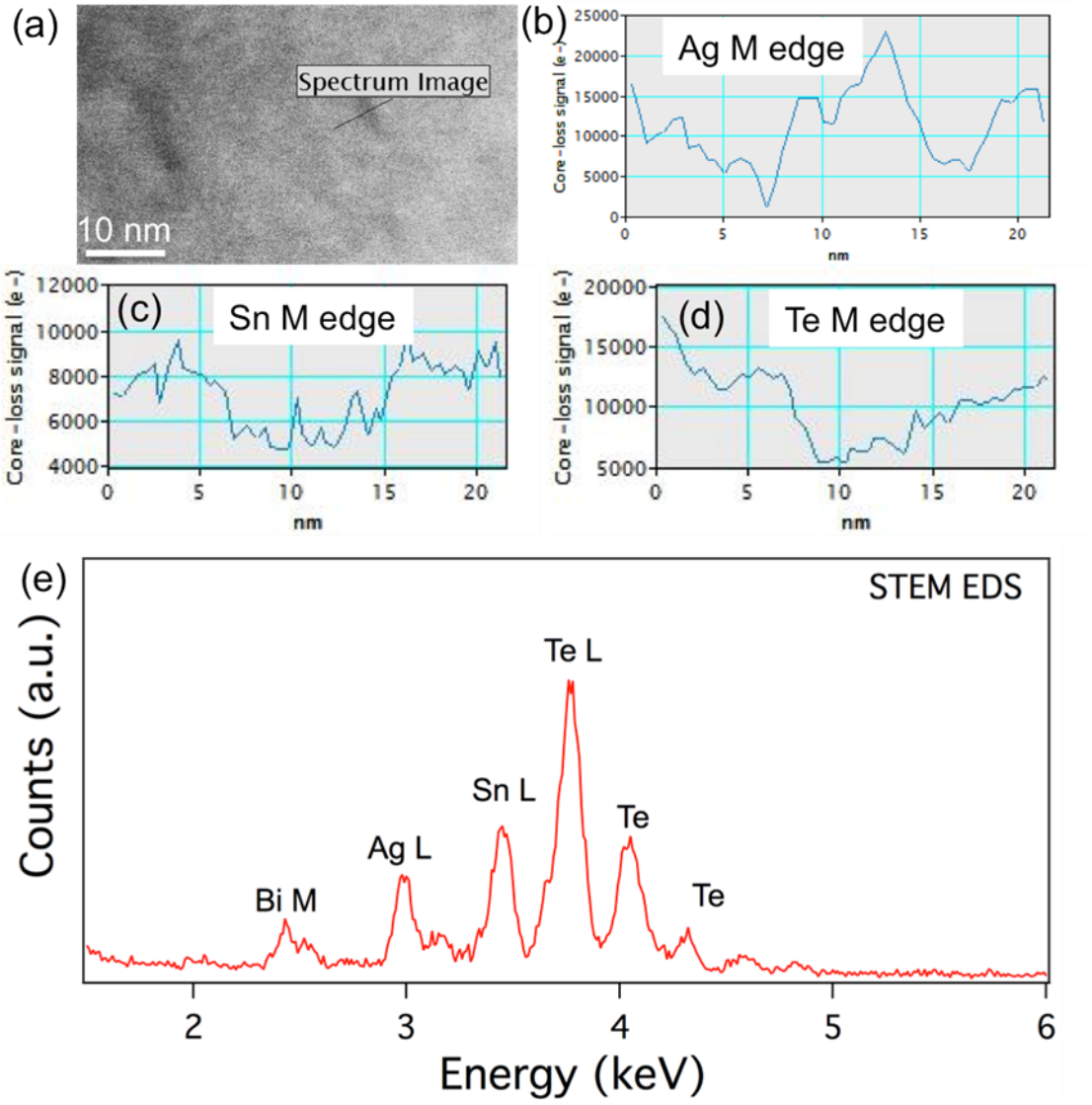

Figure S2. STEM EELS line profile across a nanoscale precipitate. (a) STEM image of the precipitate where the line profile was taken. (b), (c) and (d) show the profiles of Ag M edge, Sn M edge and Te M edge, respectively. (e) STEM EDS of the matrix.

Compositional analysis was carried out by STEM EELS. Figure S2 shows a STEM EELS line profile across a nanoscale precipitate (darker contrast compared to the matrix). The line profiles show that the precipitates are rich in Ag but deficient in Sn and Te. The energy loss peaks of Bi are out of the acquired range for this SI, but EDS results as shown in Figure S2 (e) suggest Ag and Bi are alloyed into the matrix as well.