

Supporting information:

## Ioffe-Regel limit and lattice thermal conductivity reduction of high performance $(\text{AgSbTe}_2)_{15}(\text{GeTe})_{85}$ thermoelectric materials

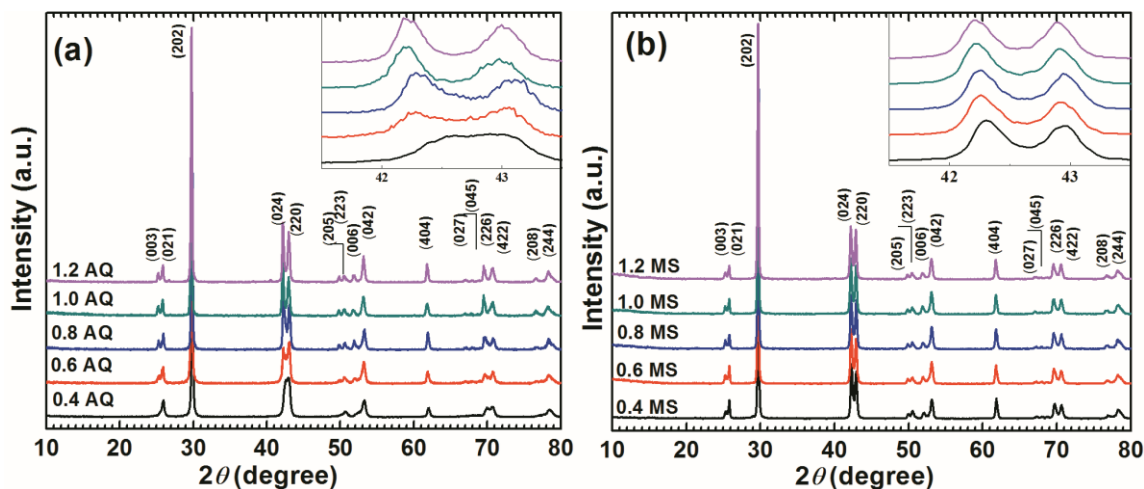
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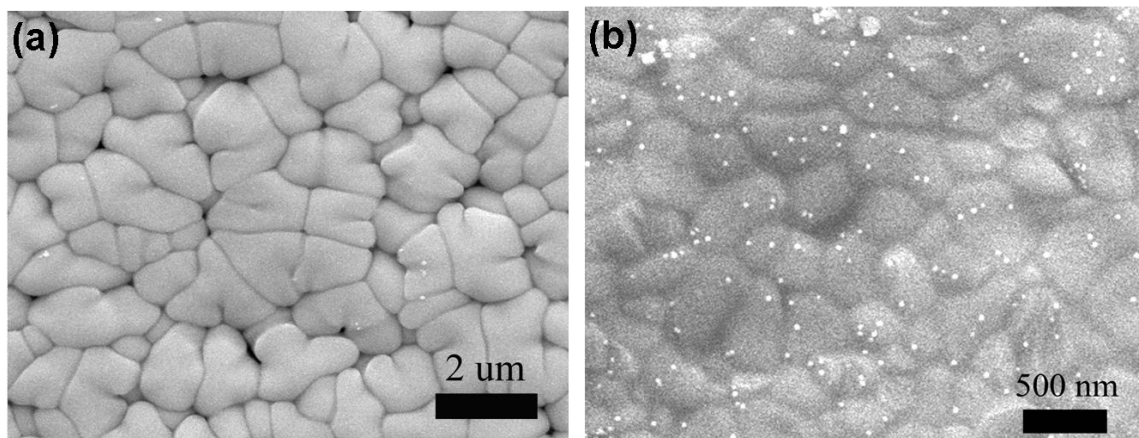
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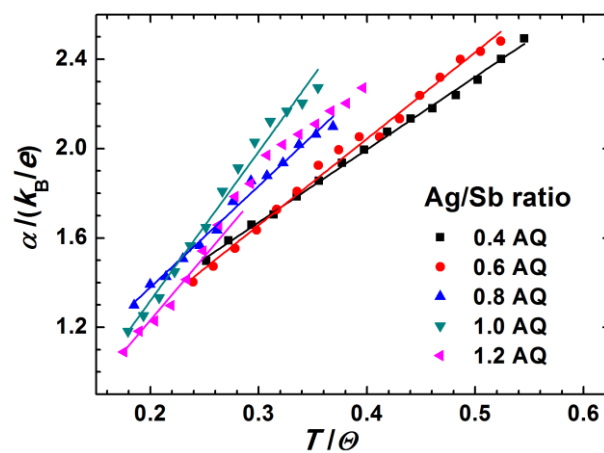
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**Fig. S1** Comparison of XRD patterns for (a) slowly cooled samples and (b) melt spun samples. All the samples have formed solid solution with the space group R3m (JCPDS No. 47-1079). The insert shows the shift of (024) and (220) peak positions with increasing Ag content.



**Fig. S2** SEM images of melt spun ribbon of TAGS-85 material. (a) free surface and (b) contact surface.



**Fig. S3** Reduced Seebeck coefficient ( $\frac{\alpha}{k_B/e}$ ) versus reduced temperature ( $\frac{T}{\Theta}$ ) for slowly cooled TAGS-85 samples