Electronic Supplementary Information (ESI)

Nanostructuring, Carrier Engineering and Bond Anharmonicity Synergistically Boost the Thermoelectric performance in *p*-type $AgSbSe_2$-ZnSe †

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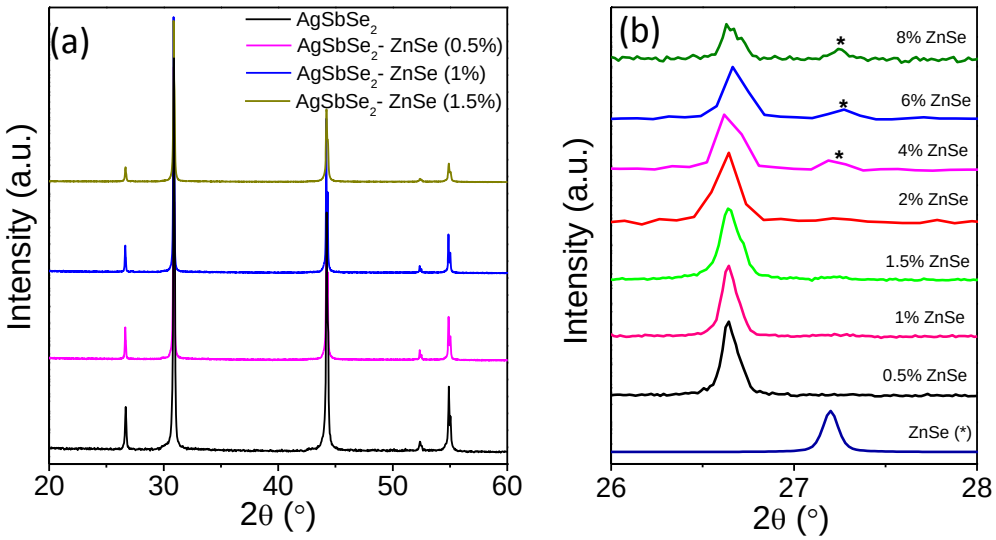

Fig. S1 (a) Powder XRD patterns of $AgSbSe_2$-ZnSe (x %) [x = 0-1.5 mol%] samples. (b) Zoomed PXRD of $AgSbSe_2$-ZnSe (0.5-8 mol %) and ZnSe. The extra peak (*) in the PXRD of can be indexed based on cubic ZnSe structure (*F*4-3*m*).

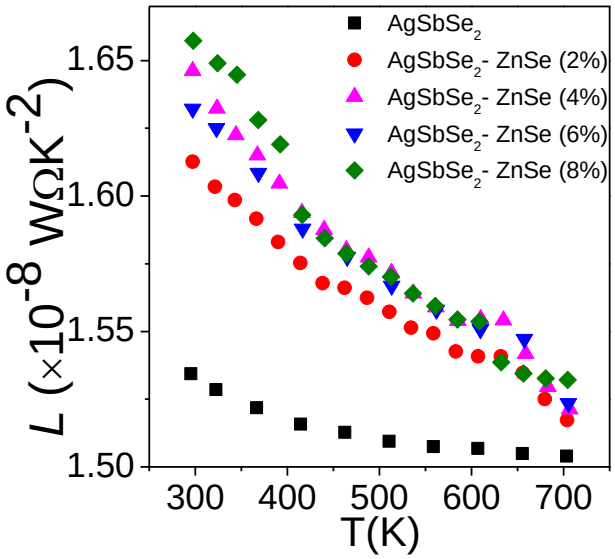

Fig. S2 Calculated Lorenz numbers based on the fitting of respective Seebeck coefficient values to estimate the reduced chemical for pristine and doped samples.

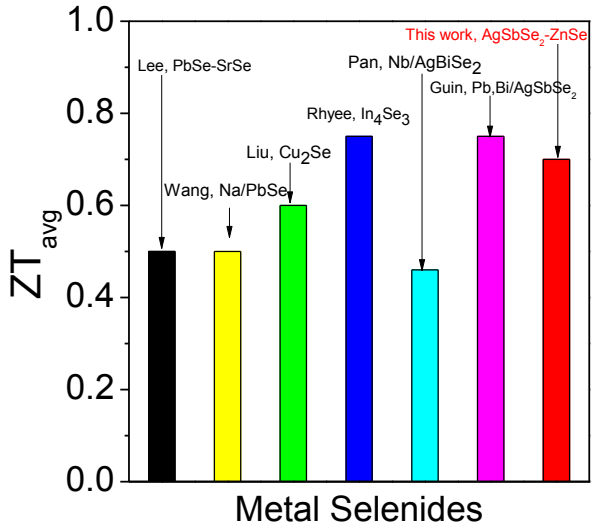

Fig. S3 Comparison ZT_{avg} plot of leading metal selenides reported in recent literature and $AgSbSe_2$-ZnSe (2 mol%) considering a hot side temperature of 640 K and cold side temperature of 350 K. ZT_{avg}'s of different outstanding metal selenides are obtained from literature.[1-6]

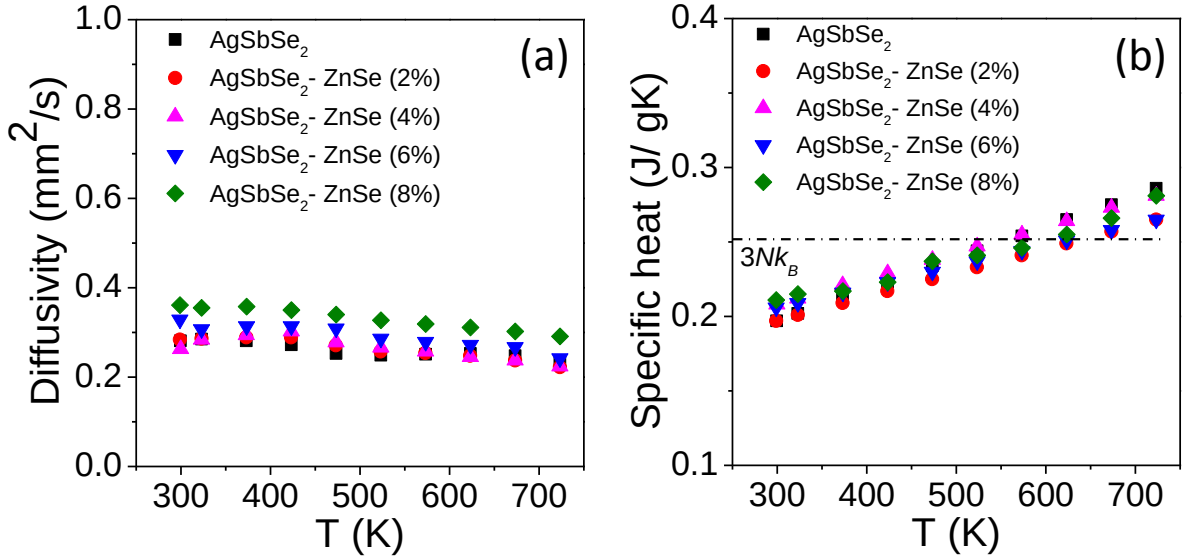

Fig. S4 (a) Temperature dependent thermal diffusivity and (b) specific heat plot of $AgSbSe_2$-ZnSe (x %) [x = 0-8 mol%] with Dulong–Petit specific heat at constant volume.

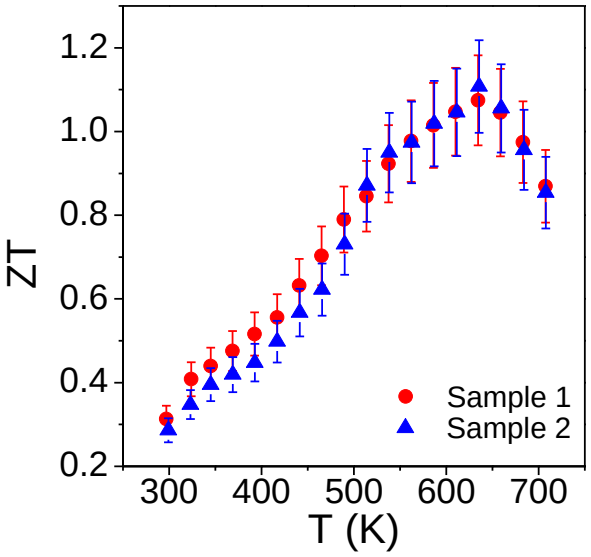

Fig. S5 *ZT* plot with 10% error bar of multiple samples with same nominal composition ($AgSbSe_2$-ZnSe (2 mol%)) obtained from different synthesis.

References

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