Journal Name

ARTICLE

Electronic Supplementary Information

Synergetic optimization of electronic and thermal transport for high-performance thermoelectric GeSe-$AgSbTe_2$ alloy

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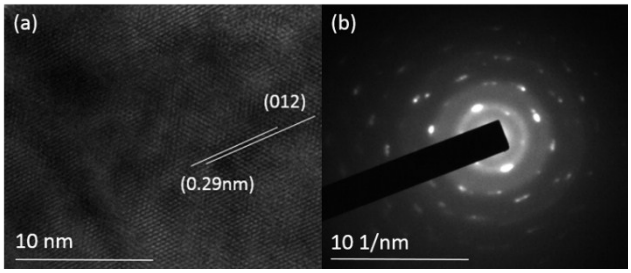

Fig. S1 (a) HRTEM image and (b) SAED pattern of $GeSeAg_{0.2}Sb_{0.2}Te_{0.4}$.

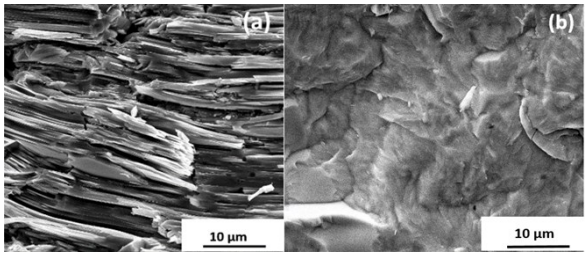

Fig. S2 SEM images of pure GeSe (a) and GeSe-20%$AgSbTe_2$ (b).

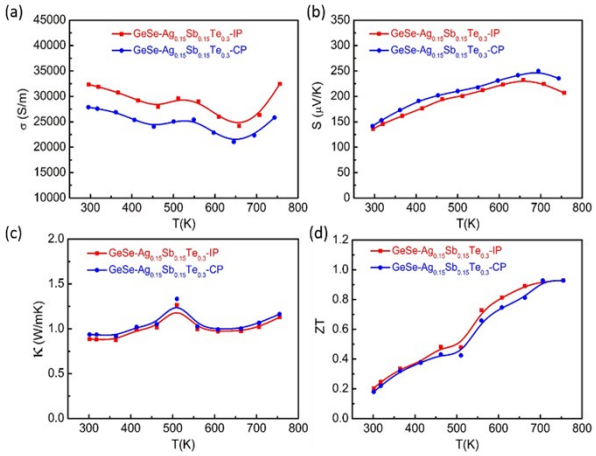

Fig. S3 Thermoelectric properties of GeSe-15%$AgSbTe_2$ along the directions perpendicular (IP) and parallel (CP) to the pressing direction.

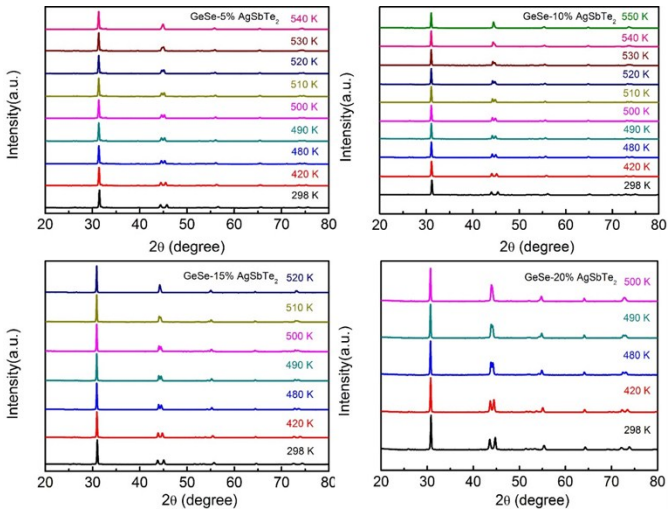

Fig. S4 Temperature-dependent powder XRD of GeSe-x$AgSbTe_2$ (x=5%, 10%, 15%, 20%).

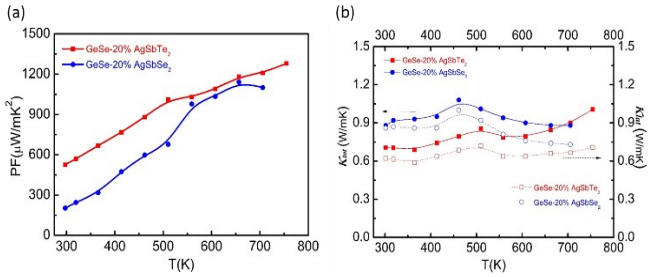

Fig. S5 Comparison of power factor (a) and thermal conductivity (κ_{tot}, κ_{lat}) (b) of $GeSeAg_{0.2}Sb_{0.2}Te_{0.4}$ and $GeSeAg_{0.2}Sb_{0.2}Se_{0.4}$.

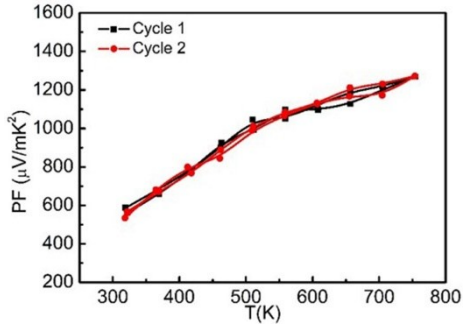

Fig. S6 Power factor of $GeSeAg_{0.2}Sb_{0.2}Te_{0.4}$ during two-cycle heating-cooling processes.

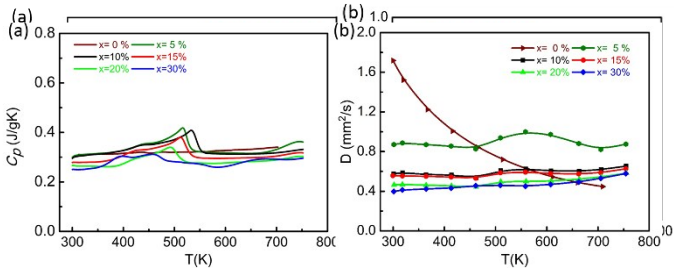

Fig. S7 Temperature dependence of heat capacity (a) and thermal diffusion coefficients (b) of $GeSe\text{-}xAgSbTe_2$.