

Supporting Information:

Flux synthesis and thermoelectric properties of eco-friendly Sb doped $\text{Mg}_2\text{Si}_{0.5}\text{Sn}_{0.5}$ solid solution for energy harvesting

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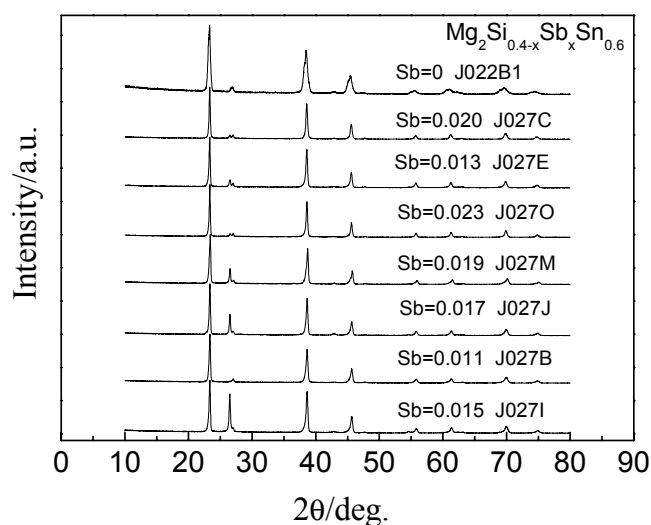


Figure S1. XRD patterns of flux synthesized $\text{Mg}_2\text{Si}_{0.4-x}\text{Sb}_x\text{Sn}_{0.6}$ alloys.

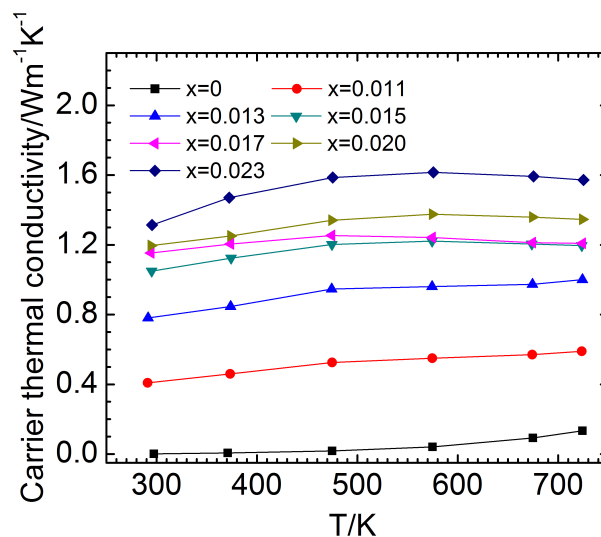


Figure S2. Carrier thermal conductivity for $\text{Mg}_2\text{Si}_{0.5-x}\text{Sn}_{0.5}\text{Sb}_x$ samples.

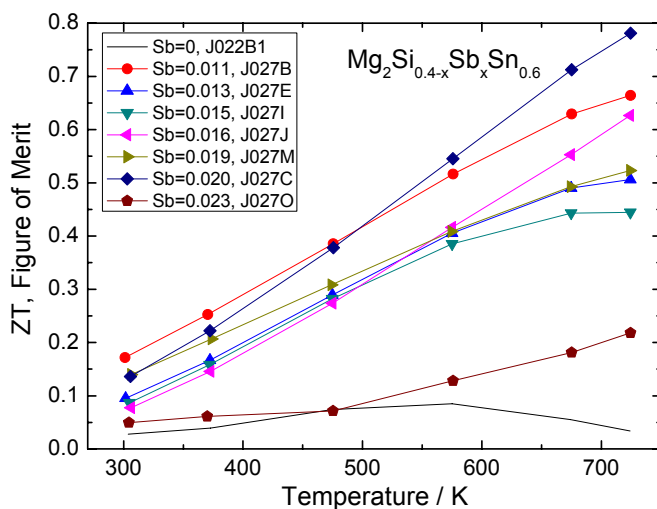


Figure S3. Temperature dependence of ZT of the flux synthesized $\text{Mg}_2\text{Si}_{0.4-x}\text{Sb}_x\text{Sn}_{0.6}$ alloys.

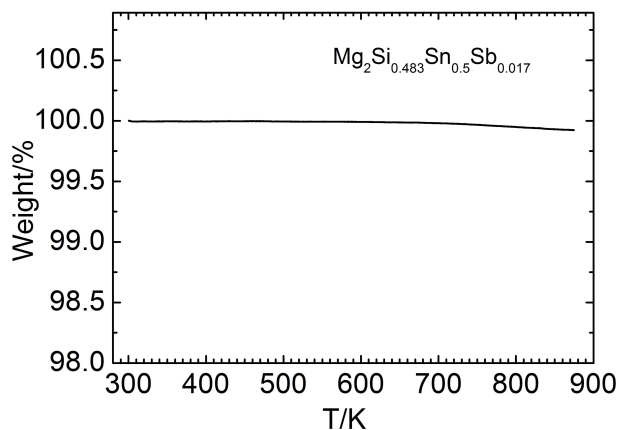


Figure S4. TG curve for the $\text{Mg}_2\text{Si}_{0.483}\text{Sn}_{0.5}\text{Sb}_{0.017}$ sample.

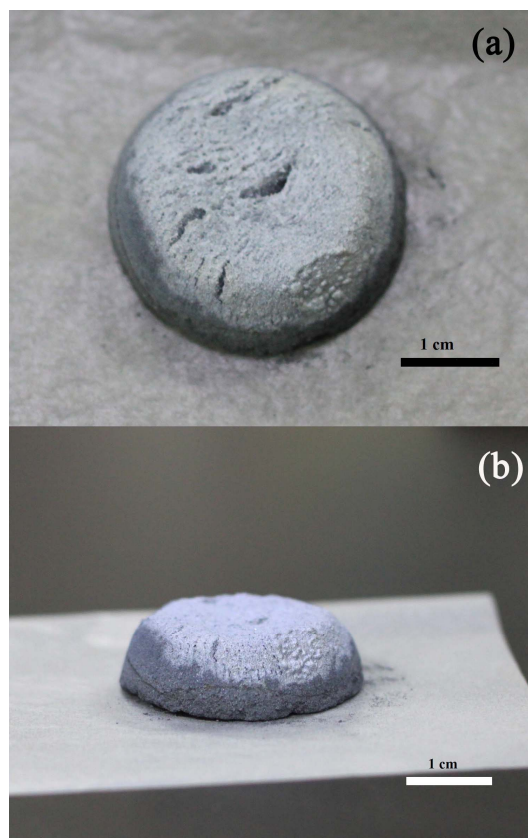


Figure S5. A large size of flux synthesized $\text{Mg}_2\text{Si}_{0.5}\text{Sn}_{0.5}$ based alloys showing the scale-up capability of the method. The ingot is about 15 g compared to usual 3g of products in this work due to a larger crucible used.