

Supporting information

Unequal bonding in Ag-CuIn₃Se₅-based solid solutions responsible for reduction in lattice thermal conductivity and improvement in thermoelectric performance

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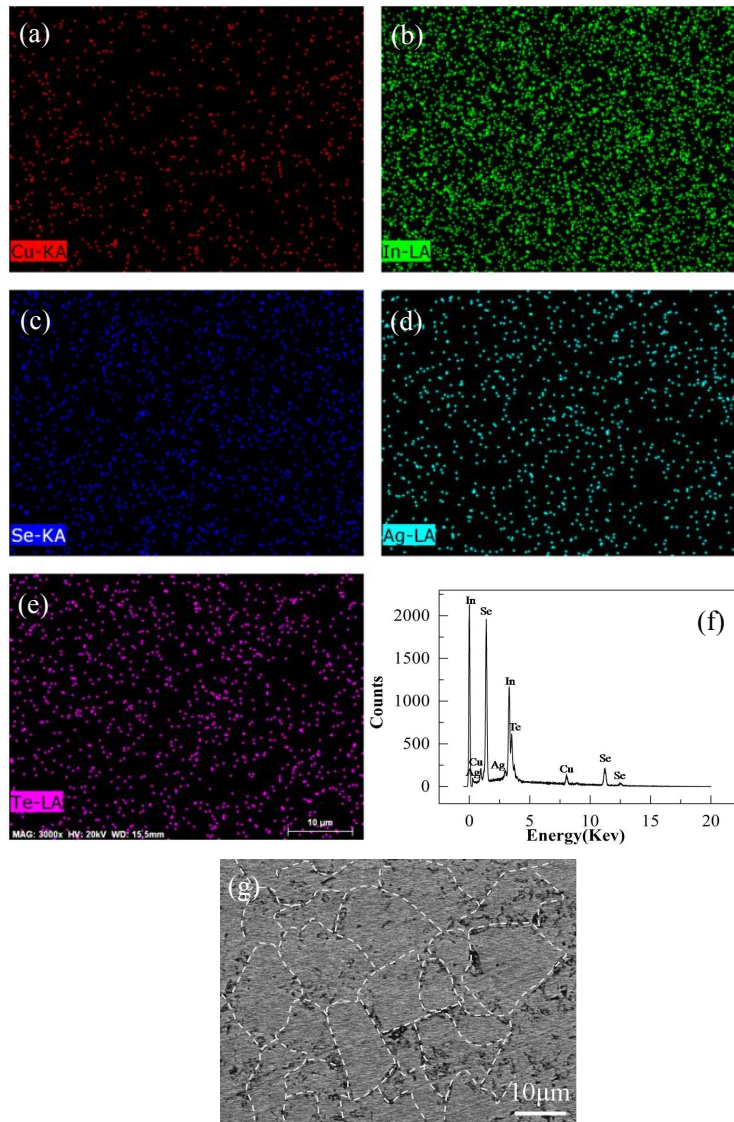


Fig.S1 (a-e) EPMA mapping of five elements, Cu, In, Se, Ag and Te on polished $\text{Cu}_{0.8}\text{Ag}_{0.2}\text{In}_3\text{Se}_{4.9}\text{Te}_{0.1}$ surface; (f) A SEM image, where an average grain size of 10~15 μm was observed; (g) EDAX analysis of the chemical compositions.

Table S1 The chemical compositions of the sample $\text{Cu}_{0.8}\text{Ag}_{0.2}\text{In}_3\text{Se}_{4.9}\text{Te}_{0.1}$ determined using EDAX.

Composition	Cu	In	Se	Te	Ag
$\text{Cu}_{0.8}\text{Ag}_{0.2}\text{In}_3\text{Se}_{4.9}\text{Te}_{0.1}$	0.81	2.95	4.90	0.06	0.17

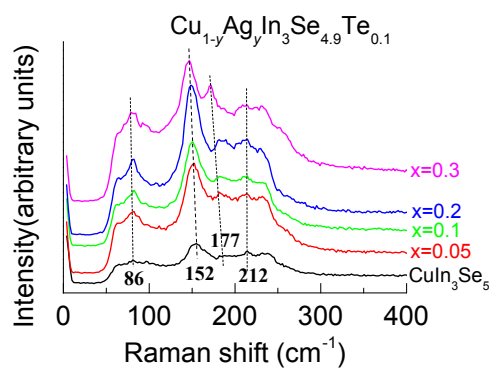


Fig. S2 Raman spectra of $\text{Cu}_{1-y}\text{Ag}_y\text{In}_3\text{Se}_{4.9}\text{Te}_{0.1}$ ($y=0.05, 0.1, 0.2$ and 0.3) samples. The Raman spectrum of CuIn_3Se_5 is presented for comparison.