Supporting information for

Synergistically optimized electrical and thermal properties by introducing electron localization and phonon scattering centers for $CuGaTe_2$ with enhanced mechanical properties

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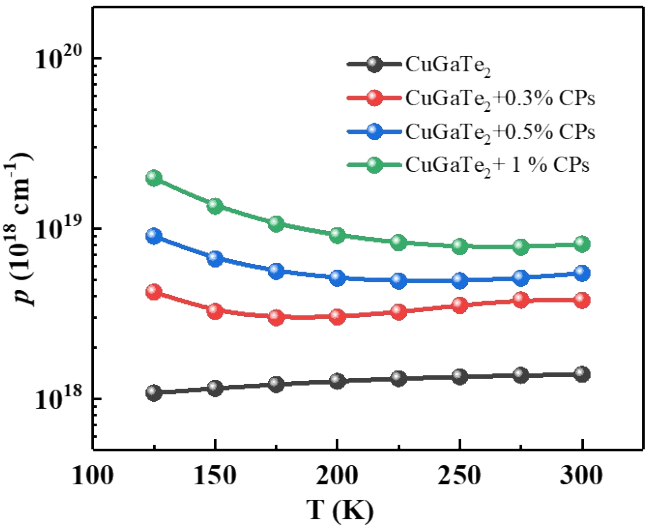

Figure S1. Temperature dependence of carrier concentrations (p) of CuGaTe$_2$+x *wt.*% CPs ($0 \leq x \leq 1$) samples at 300-125 K.

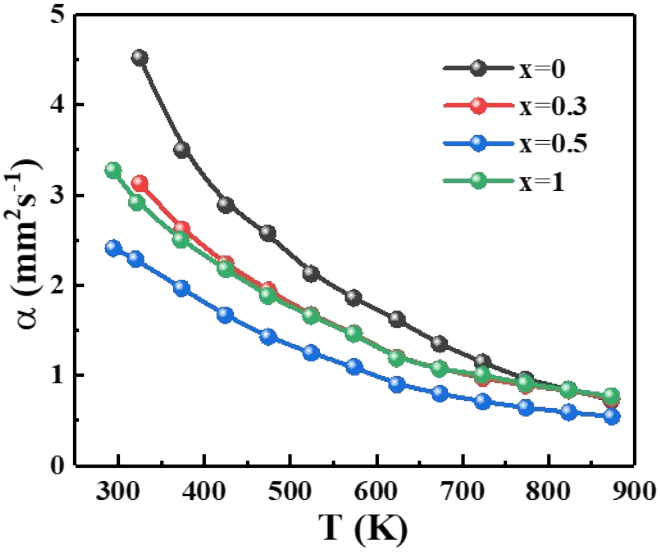

Figure S2. Temperature-dependent of thermal diffusivity (α) of the CuGaTe$_2$+x *wt.*% CPs (x= 0, 0.3, 0.5, 1) specimens.

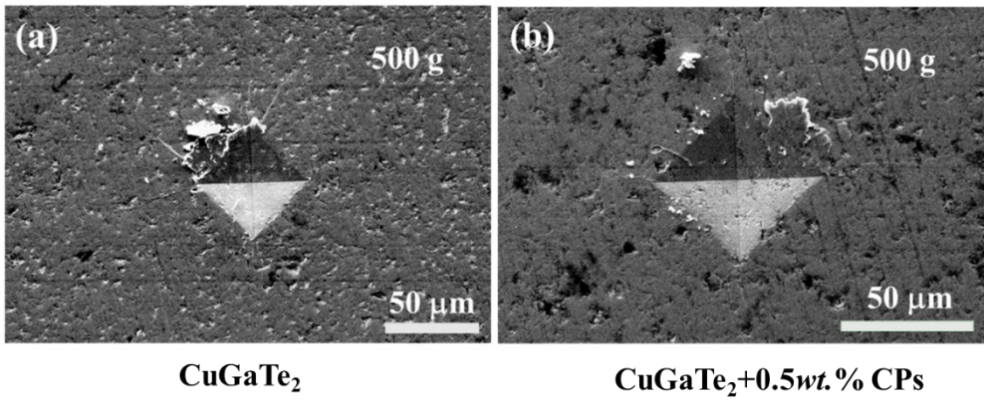

Figure S3. Scanning electron micrographs of radial crack systems. (a) $CuGaTe_2$ (P= 500 g), (b) $CuGaTe_2$+0.5 *wt.*% CPs (P=500 g).