# Supporting Information

## Optimizing the Thermoelectric Performance of N-type PbSe through Dynamic Doping Driven by Entropy Engineering

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## Supplementary details

**Figure S1.** Temperature-dependent thermal properties properties in $Pb_{1-y}Sn_ySe_{1-x}Te_xS_x$-2at%Cu (x=0, y=0; x=0.1, y=0; x=0.25, y=0; x=0.25, y=0.125) samples: (a) thermal diffusivity, D; (b) specific heat capacity, $C_p$; (c) Lorenz number, L; (e) electronic thermal conductivity, $\kappa_{ele}$.

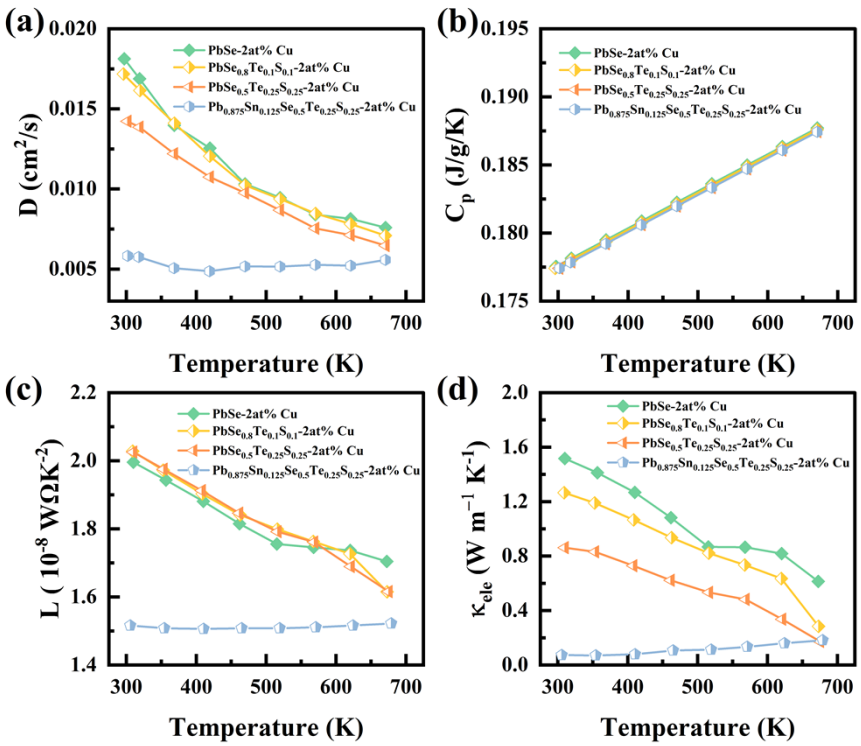


**Figure S2.** Electronic absorption spectra of the PbSe-2at%Cu and $Pb_{0.875}Sn_{0.125}Se_{0.5}Te_{0.25}S_{0.25}$-2at%Cu.