

Supplementary Information

Table S1 The atomic ratios for $\text{AgPb}_{10}\text{LaTe}_{12}$ measured by EDS and ICP-AES techniques

	Ag	Pb	La	Te	composition
EDS	3	31	6	33	$\text{Ag}_{0.98}\text{Pb}_{10}\text{La}_{1.9}\text{Te}_{10.6}$
ICP-AES	2.4	22.1	3.2	24.6	$\text{Ag}_{1.1}\text{Pb}_{10}\text{La}_{1.45}\text{Te}_{11.2}$

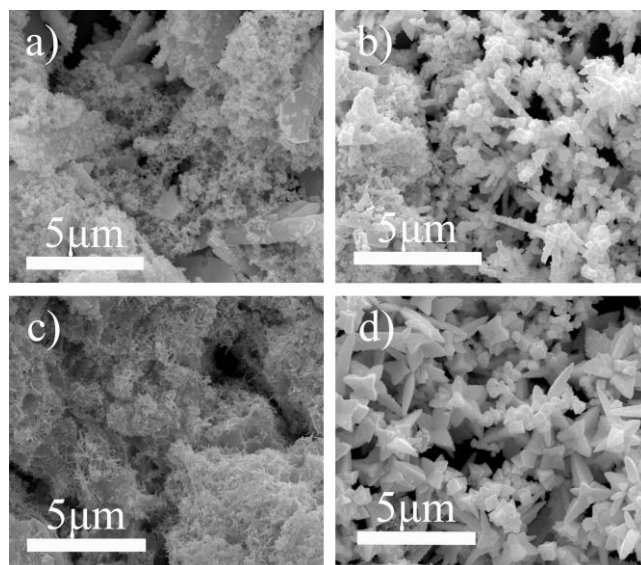


Fig. S1 SEM images of $\text{AgPb}_{10}\text{LaTe}_{12}$ samples synthesized with the solvent of water and different amount of KOH a) 0 g, b) 0.5 g, c) 1.5g, d) 2.0 g in the presence of PVP

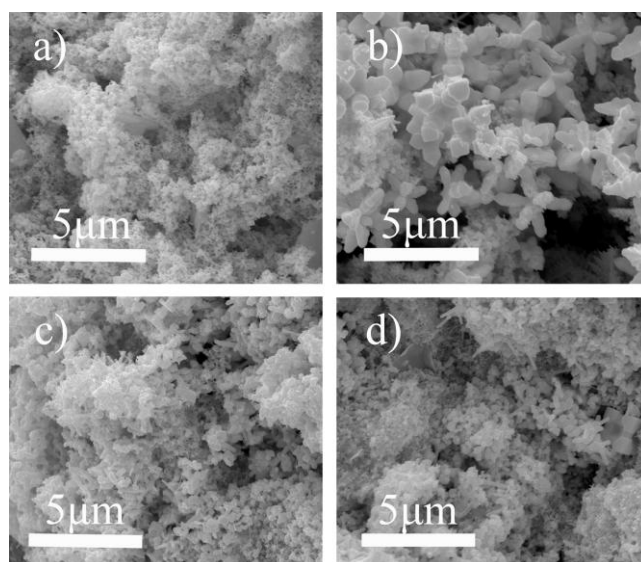


Fig. S2 SEM images of $\text{AgPb}_{10}\text{LaTe}_{12}$ samples synthesized with the solvent of water and different amount of KOH a) 0 g, b) 0.5 g, c) 1.5g, d) 2.0 g in the absence of PVP

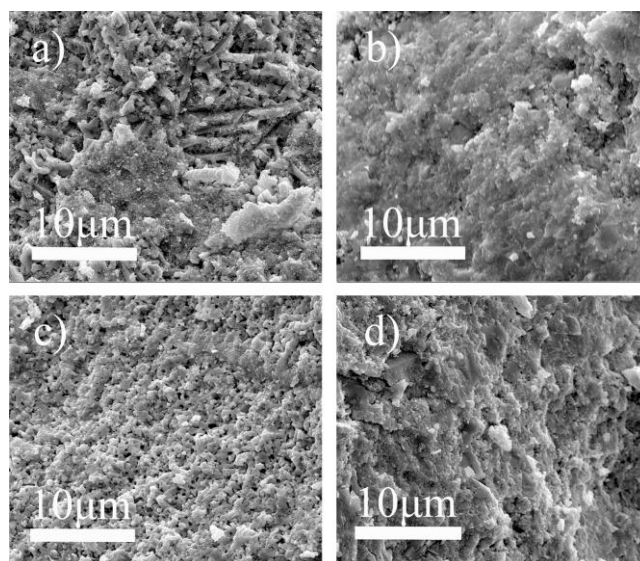


Fig. S3 SEM images of the cross section of $\text{AgPb}_{10}\text{LaTe}_{12}$ bars with different morphologies a) rod-like particles, b) cubic particles, c) flower-like particles with eight serrated petals, d) flower-like particles with eight smooth petals