

Enhanced thermoelectric properties of $\text{Pb}_{1-x}\text{Bi}_x\text{S}$ prepared with hydrothermal synthesis and microwave sintering

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SUPPORTING INFORMATION

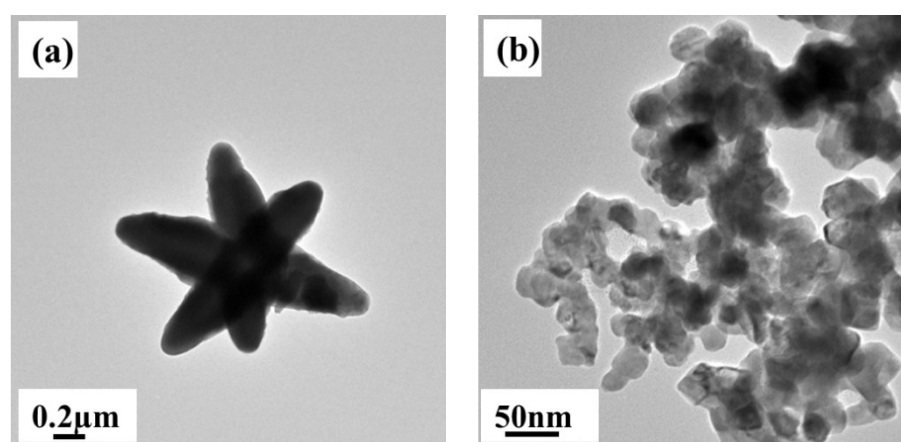


Fig. S1 TEM image of hydrothermally synthesized PbS powder, (a) primary star-shaped structure; (b) secondary nano particles

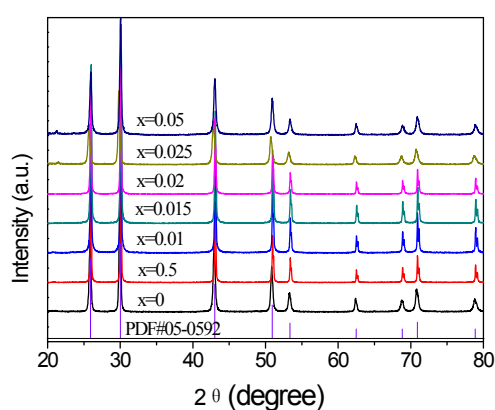


Fig. S2 XRD patterns of hydrothermally synthesized powders for $\text{Pb}_{1-x}\text{Bi}_x\text{S}$ ($x=0, 0.005, 0.01, 0.015, 0.02, 0.025, 0.05$)

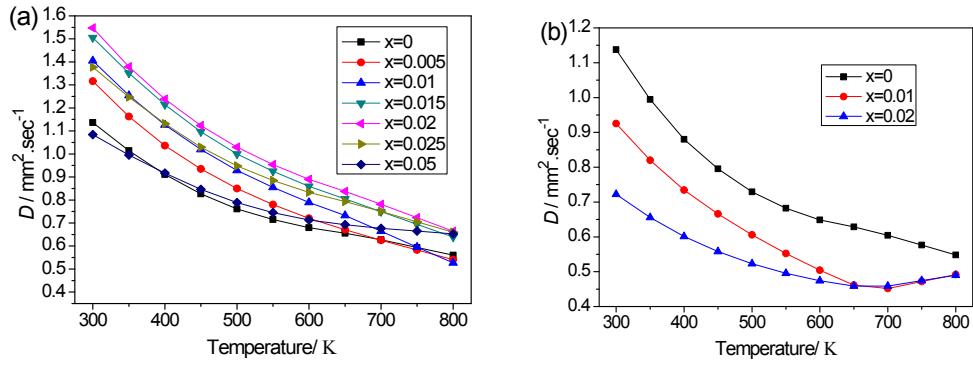


Fig. S3 Temperature dependence of thermal conductivity for microwave (a) and PAS (b) sintered $Pb_{1-x}Bi_xS$ samples ($x=0-0.05$)

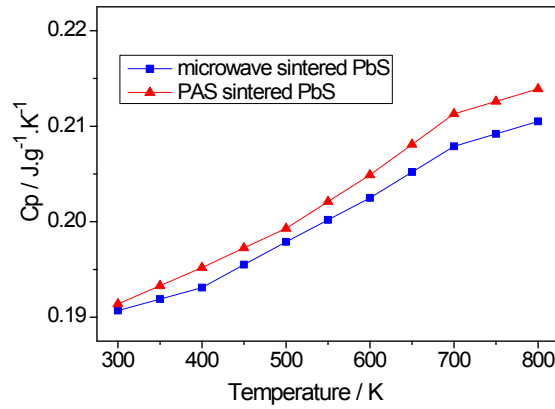


Fig. S4 Cp of microwave and PAS sintered PbS samples

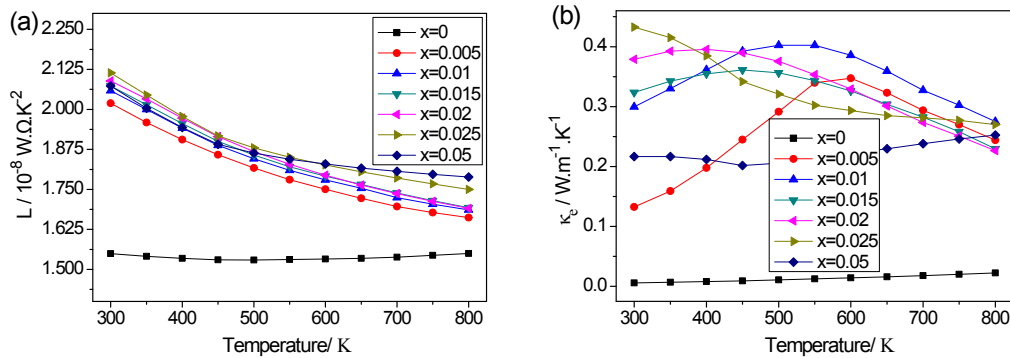


Fig. S5 The Lorenz number (a) and electric thermal conductivity (b) for microwave sintered $Pb_{1-x}Bi_xS$ samples ($x=0, 0.005, 0.01, 0.015, 0.02, 0.025, 0.05$)

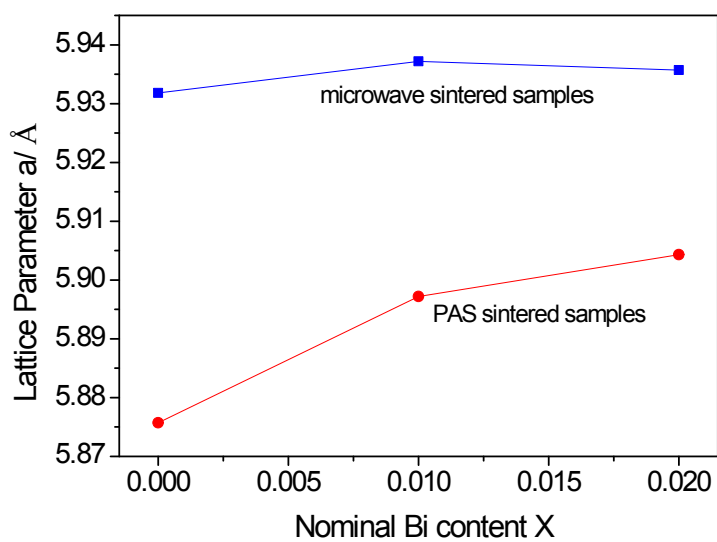


Fig. S6 Lattice parameters of microwave and PAS sintered $Pb_{1-x}Bi_xS$ samples ($x=0, 0.01, 0.02$)

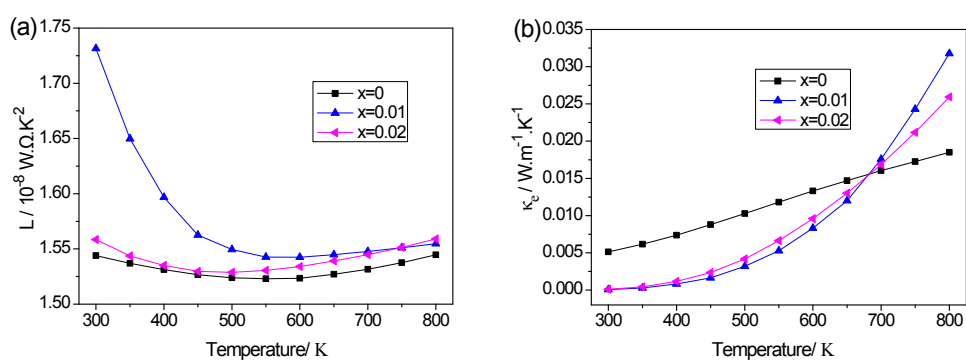


Fig. S7 The Lorenz number (a) and electric thermal conductivity (b) for PAS sintered $Pb_{1-x}Bi_xS$ samples ($x=0, 0.01, 0.02$)