

Electronic Supplementary Information

A Strategy for Boosting Thermoelectric Performance of Famatinite Cu_3SbS_4

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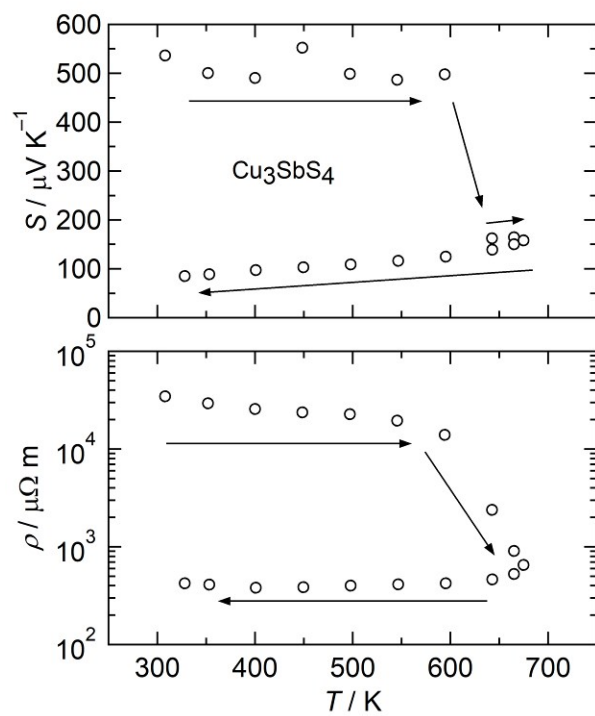


Fig. S1 Temperature dependence of Seebeck coefficient S and electrical resistivity ρ for the sample of Cu_3SbS_4 . S and ρ showed drops above 600 K.

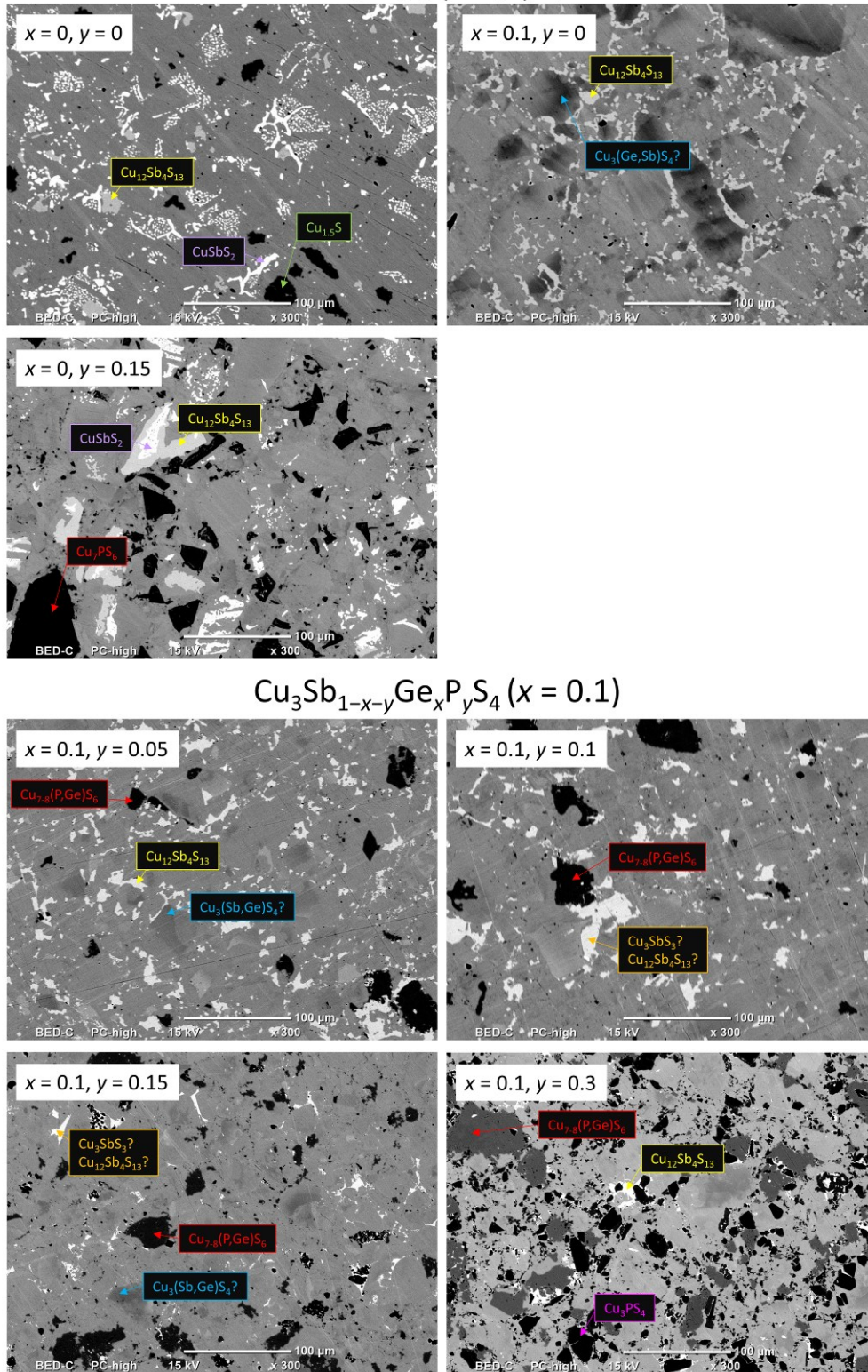
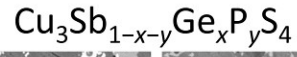


Fig. S2. Backscattered electron images for the samples of $\text{Cu}_3\text{Sb}_{1-x-y}\text{Ge}_x\text{P}_y\text{S}_4$.

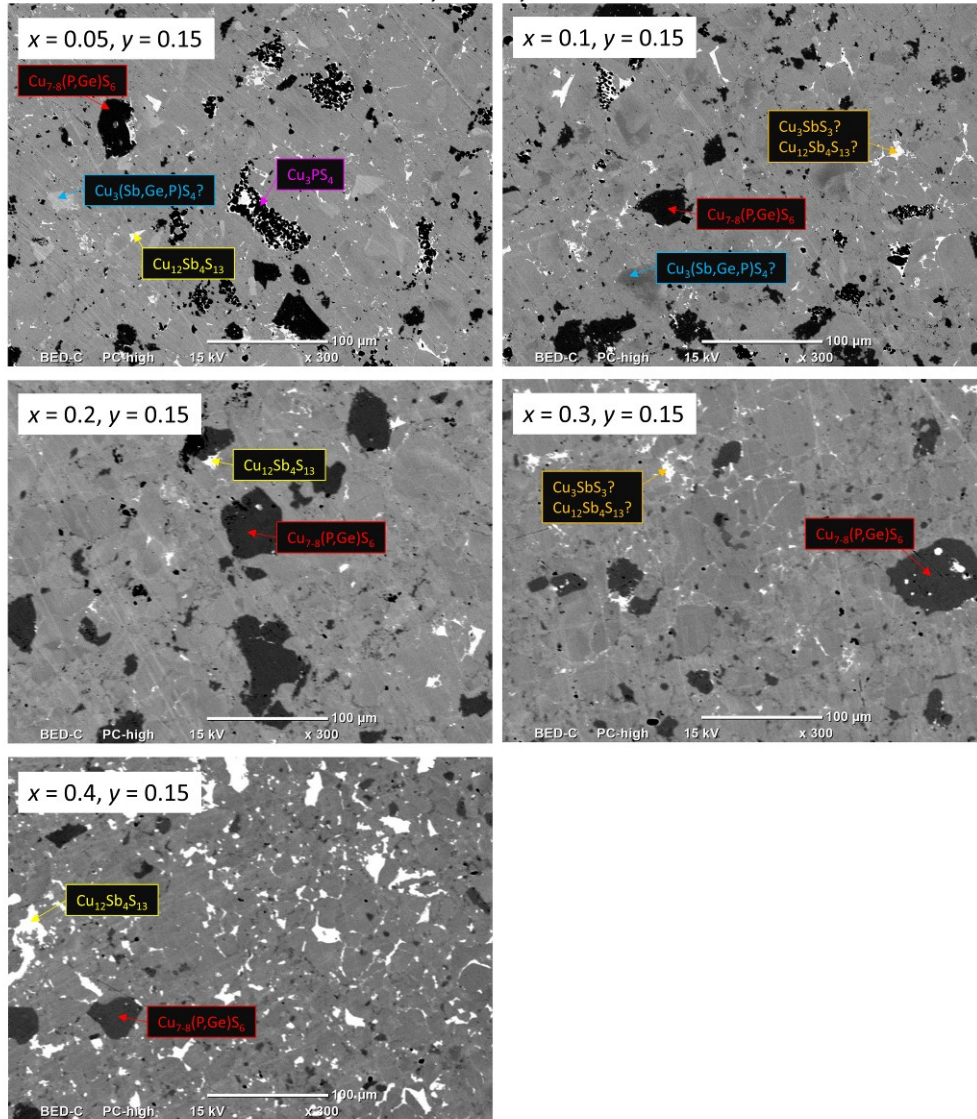
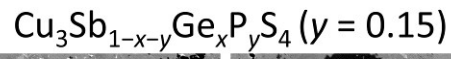


Fig. S2. Continued.

Table S1. Lattice parameters, a and c , c/a ratio, and the chemical compositions of famatinites $\text{Cu}_3\text{Sb}_{1-x-y}\text{Ge}_x\text{P}_y\text{S}_4$.

The chemical compositions were calculated by assuming the sum of the composition of cation (Cu, Sb, Ge, and P) as being 4. The standard deviation of the composition is given in the parentheses.

x	y	$a / \text{Å}$	$c / \text{Å}$	c/a	Cu	Sb	Ge	P	S
0	0	5.386	10.751	1.996	2.96(2)	1.04(2)	—	—	3.76(4)
0.1	0.05	5.366	10.701	1.994	2.99(3)	0.88(2)	0.09(3)	0.04(2)	3.65(5)
0.1	0.1	5.360	10.683	1.993	3.00(3)	0.83(3)	0.09(4)	0.08(2)	3.61(4)
0.1	0.15	5.353	10.660	1.991	2.97(3)	0.81(2)	0.09(3)	0.13(1)	3.68(4)
0.1	0.3	5.349	10.651	1.991	2.97(2)	0.78(5)	0.11(5)	0.15(3)	3.73(8)
0	0.15	5.382	10.734	1.994	2.96(1)	1.00(3)	—	0.04(3)	3.73(4)
0.05	0.15	5.362	10.678	1.992	2.98(2)	0.85(2)	0.04(2)	0.12(2)	3.68(5)
0.1	0.15	5.353	10.660	1.991	2.97(3)	0.81(2)	0.09(3)	0.13(1)	3.68(4)
0.2	0.15	5.337	10.625	1.991	2.98(3)	0.67(3)	0.20(4)	0.15(2)	3.72(4)
0.3	0.15	5.326	10.597	1.990	2.99(3)	0.56(4)	0.31(5)	0.15(3)	3.66(7)
0.4	0.15	5.320	10.576	1.988	2.98(5)	0.51(3)	0.38(5)	0.13(1)	3.71(6)