Supporting Information

Grain-to-grain compositional variations and phase segregation in CZTS films

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Table S1. Elemental analysis of Zn/Cu/Sn stack before annealing

Element	at %	S.D.
Cu	38.56	0.4
Zn	23.07	0.45
Sn	38.36	0.17
Cu/Zn	Cu/Sn	Zn/Sn
1.67	1.01	0.60

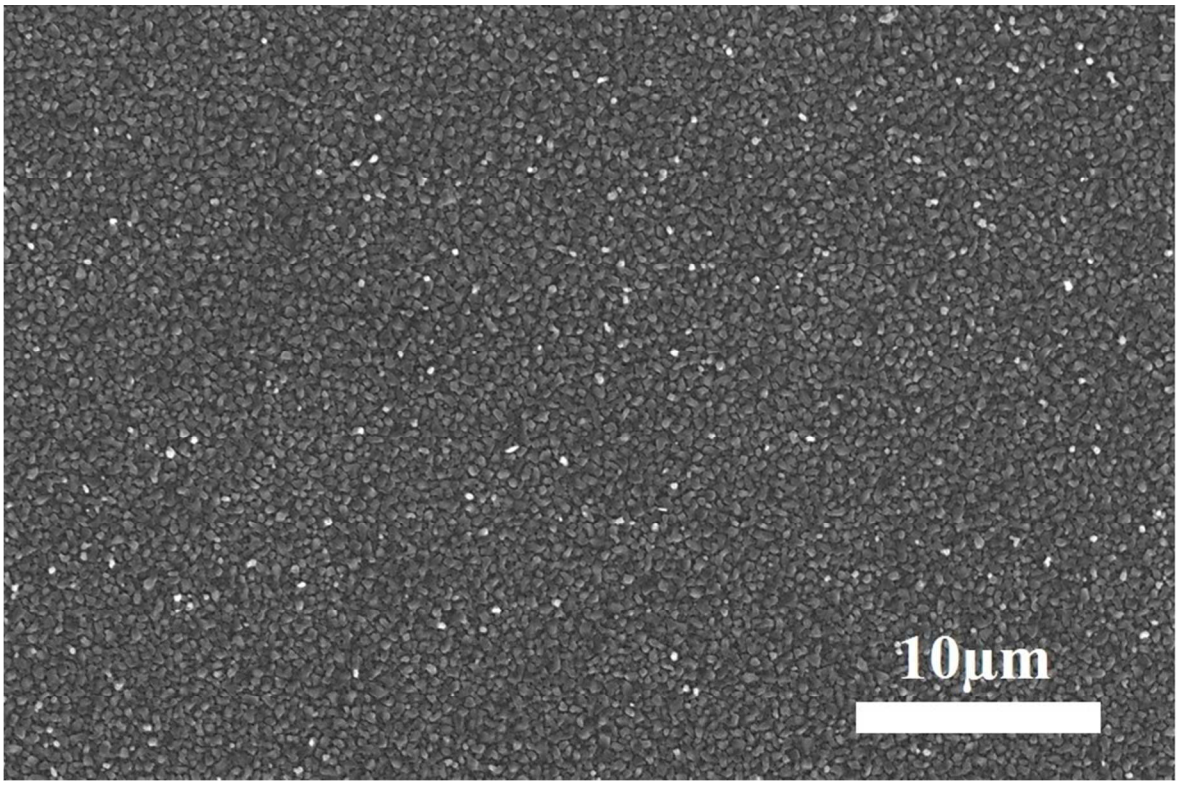

Figure S1. SEM image of Zn/Cu/Sn stack before annealing.

Table S2. At% of individual grains resulting from elemental EDS analysis

Grain#	Zn (%)	Cu (%)	Sn (%)	S (%)
1	13.46	22.81	13.9	49.83
2	13.44	23.42	13.84	49.31
3	12.21	27.23	14.59	45.97
4	14.84	22.64	14.22	48.3
5	13.08	24.3	14.46	48.17
6	14.03	24.54	13.44	47.98
7	14.53	22.01	14.29	49.17
8	13.04	25.51	14.03	47.42
9	13.13	25.82	15.07	45.97
10	13.74	25.63	14.71	45.92
11	14.35	22.15	14.13	49.37
12	13.23	25.13	13.38	48.26
13	12.63	25.67	13.06	48.63
14	13.01	26.16	13.95	46.88
15	12.94	25.77	13.91	47.37
16	13.69	24.07	14.17	48.06
17	13.11	26.88	14.35	45.66
18	12.67	27.16	13.07	47.1
19	13.1	24.14	13.81	48.95
20	13.78	23.76	14.45	48.01

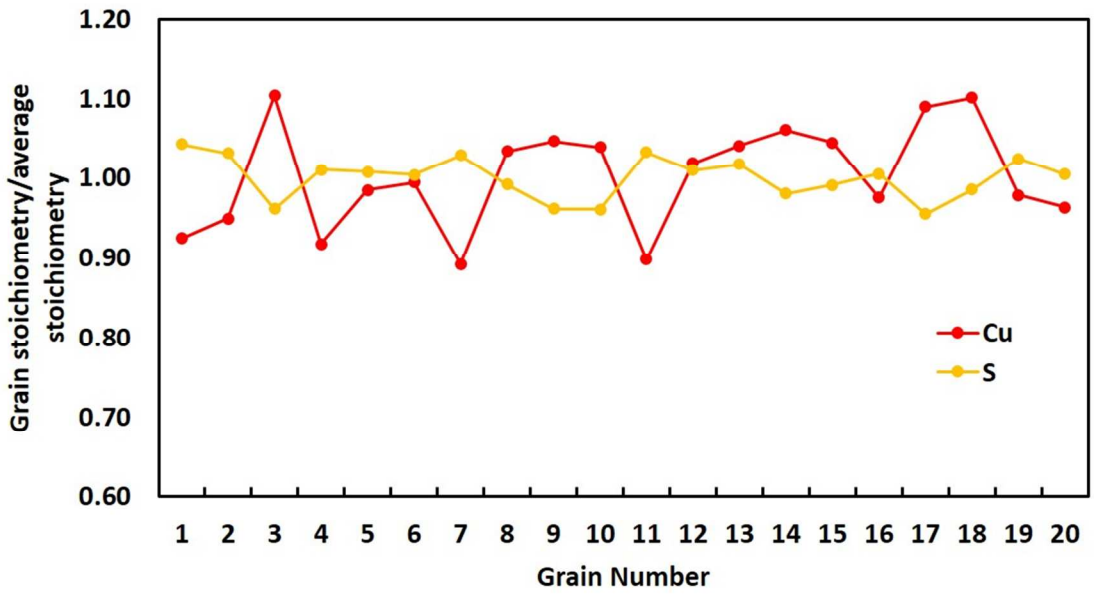

Figure S2. Another visualization of the Cu-sulphur dependence described in the main document.