

Supporting information for

Crystal Structure of a Large Cubic Tin Mono-Sulfide Polymorph: an Unraveled Puzzle

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Table S1: Summary of analyses of the XRD patterns of 260 nm thick SnS-CUB films deposited twice consecutively at 17°C for 10 hr.

| Sample processing | a (Å) | grain diameter (Å) | Relative Intensity of (hkl) Diffraction Peaks (%) | | | | |
|--------------------------|-------------|--------------------|---|------|------|------|------|
| | | | 222 | 400 | 410 | 440 | 622 |
| <i>As-prepared*</i> | 11.59±0.02 | 196.6 | 100 | 94 | 23.2 | 25.2 | 13.1 |
| <i>Heated at 350°C</i> | 11.59±0.015 | 193 | 100 | 85.6 | 25.3 | 23.9 | 14.3 |
| <i>Heated at 400°C**</i> | 11.60±0.01 | 203 | 100 | 87.6 | 25.8 | 23.7 | 15.4 |

* Fig. 1(a) ** Fig. 1(b) in main text.