

Supplementary Information:

Figure S1: Cross sectional SEM images of absorbers annealed at different temperature with 2.5% H_2S concentration: (a) 330 °C, (b) 430 °C, (c) 520 °C and (d) the Cu/Sn ratio comparison between top half, bottom half and overall portion.

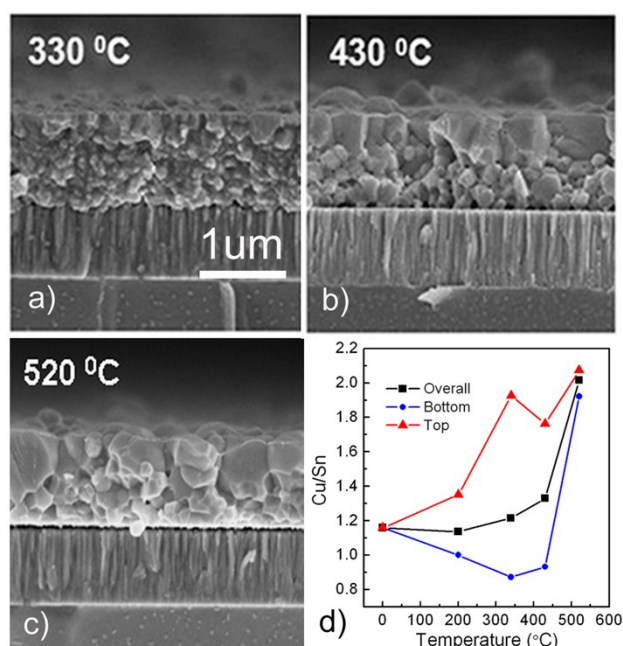


Figure S2: Cross sectional SEM images of the cleaved absorbers annealed at different ramping rate: (a) 12 °C/min, (b) 5 °C/min and (c) 3 °C/min.

