

Supplementary information

Thermoelectric and photosensitive characteristics of Bridgman grown $\text{Cu}_x\text{Sb}_{1-x}\text{Se}_2$ ($x = 0.2, 0.4, 0.6, 0.8$) crystals with different Cu/Sb ratios

Zubin R. Parekh ^{a,*}, M. P. Deshpande ^{a,*}, Sandip V. Bhatt ^b, Rohitkumar M. Kannaujiya ^a,
Swati J. Pandya ^a, S. H. Chaki ^a

^aP. G. Department of Physics, Sardar Patel University, Vallabh Vidyanagar, 388120, Gujarat, India.

^bP. G. Department of Applied & Interdisciplinary Sciences, CISST, Sardar Patel University, Vallabh Vidyanagar, 388120, Gujarat, India.

*Corresponding author: zubinparekh1997@gmail.com
vishwadeshpande@yahoo.co.in

X-ray diffraction (XRD)

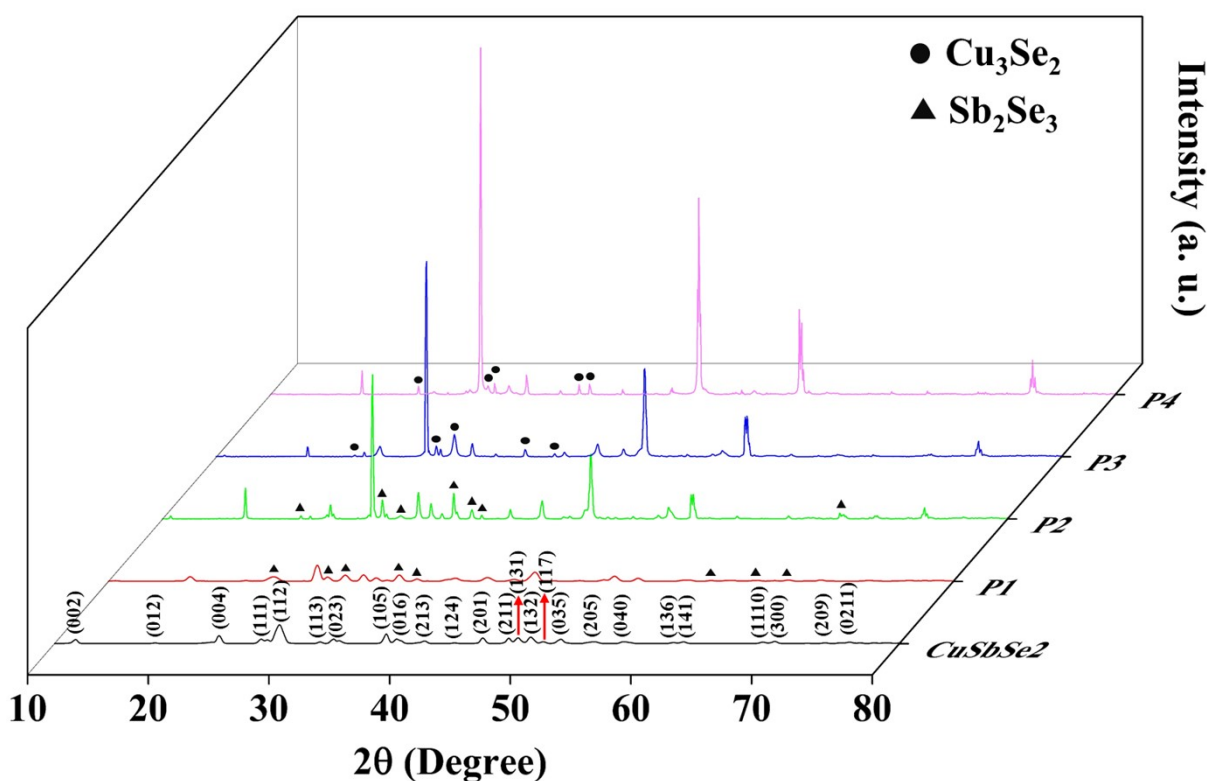


Figure S1. The 3D plot of powder XRD pattern of as-grown $\text{Cu}_x\text{Sb}_{1-x}\text{Se}_2$ ($x = 0.2, 0.4, 0.6, 0.8$) crystals.

Thermal analysis

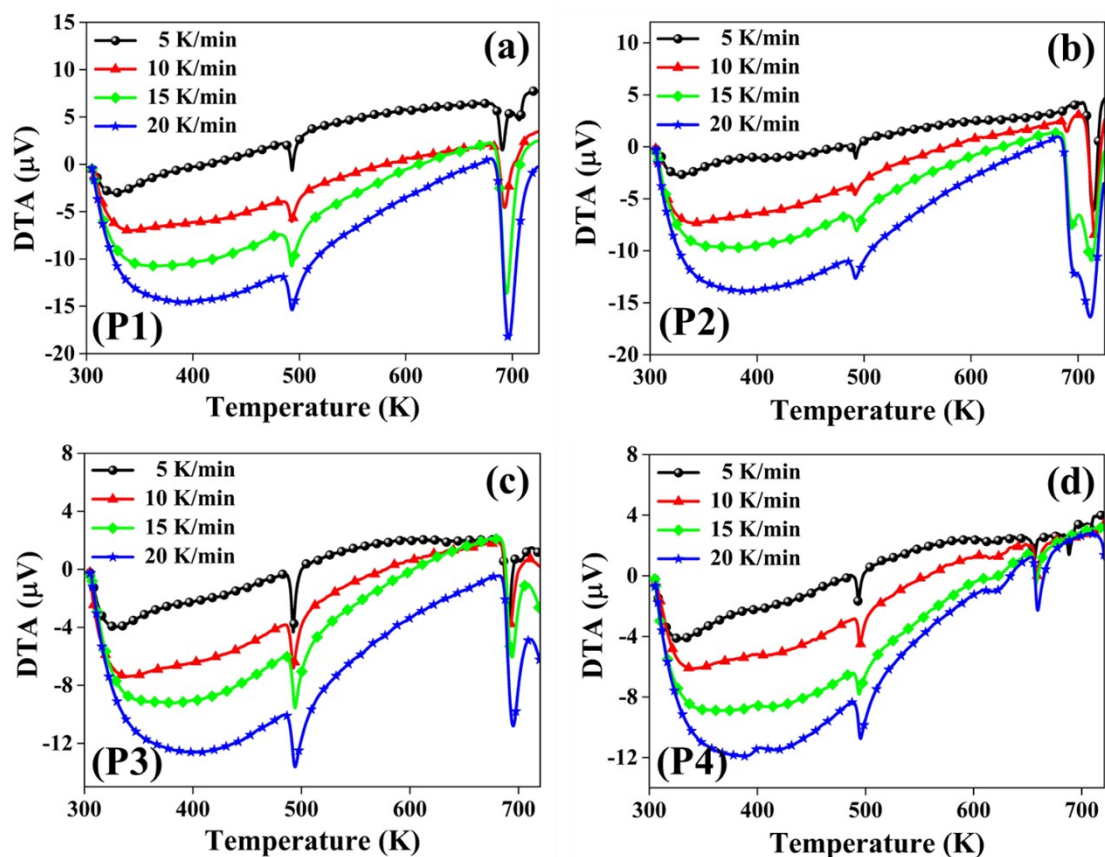


Figure S2. The DTA curves of grown $\text{Cu}_x\text{Sb}_{1-x}\text{Se}_2$ crystals.

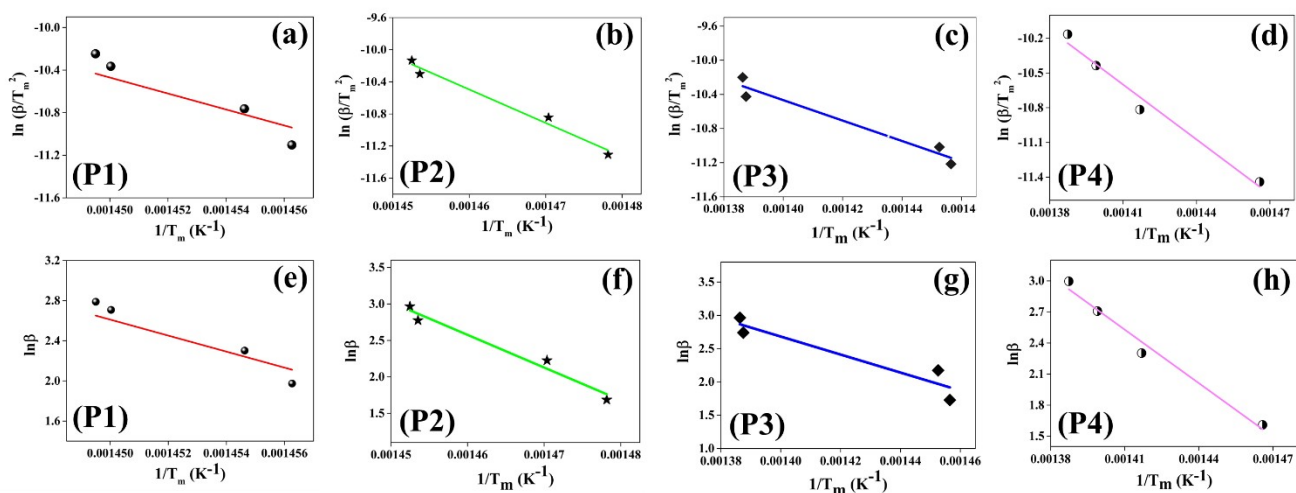


Figure S3. The Kissinger model (a, b, c, d) and FWO model (e, f, g, h) plots of as grown $\text{Cu}_x\text{Sb}_{1-x}\text{Se}_2$ crystals.

Table S1. Detailed information on weight loss corresponding to distinct temperature ranges for $\text{Cu}_x\text{Sb}_{1-x}\text{Se}_2$ crystals, analysed from TG curves.

Sample	Heating rate (K/min)	Weight loss (%) (300 K- 725 K)	DTG peak positions T_m (K)
P1	5	9.47	686.69
	10	7.56	687.46
	15	5.01	689.64
	20	3.66	689.89
Sample	Heating rate (K/min)	Weight loss (%) (300 K- 725 K)	DTG peak position T_m (K)
P2	5	7.64	676.51
	10	7.10	680.10
	15	4.25	687.98
	20	3.14	688.48
Sample	Heating rate (K/min)	Weight loss (%) (300 K- 725 K)	DTG peak position T_m (K)
P3	5	12.79	686.59
	10	11.24	688.44
	15	8.88	720.73
	20	6.70	721.32
Sample	Heating rate (K/min)	Weight loss (%) (300 K- 725 K)	DTG peak position T_m (K)
P4	5	18.07	682.21
	10	16.68	705.79
	15	15.86	714.81
	20	8.59	720.79