Supporting Information

Enhanced Photoresponse in Ag_2S/In_2Se_3 Heterojunction Based Visible Light Photodetector

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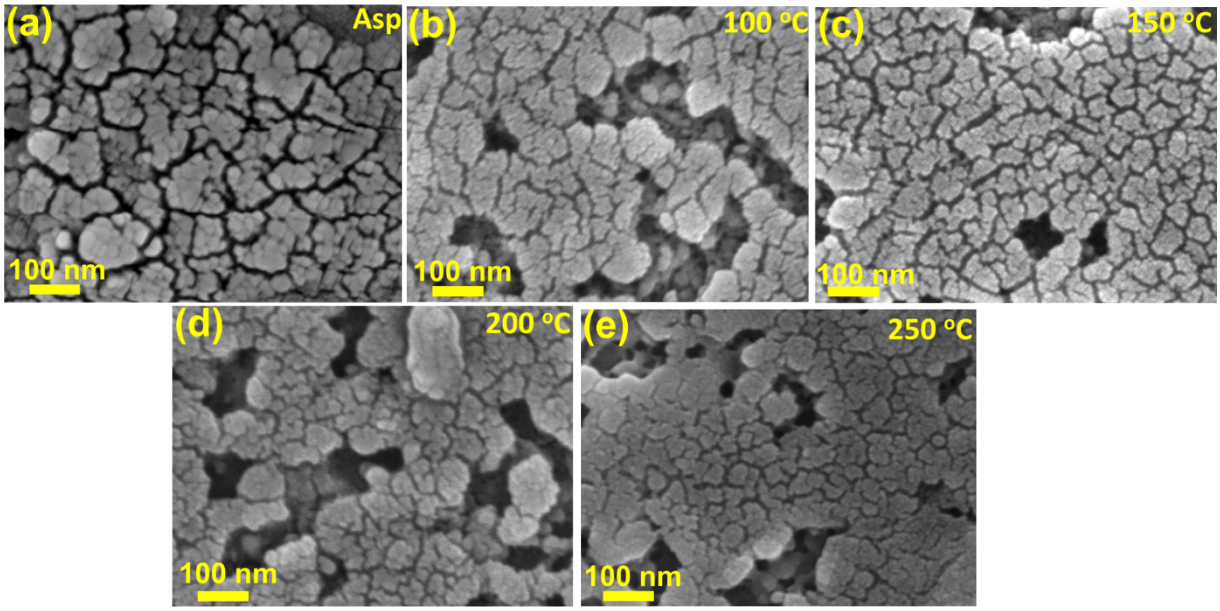

Fig. S1. FESEM image of (a) as-prepared, (b) 100 °C, (c) 150 °C, (d) 200 °C and (e) 250 °C Ag_2Se/In_2Se_3 thin films in 100 nm scale.

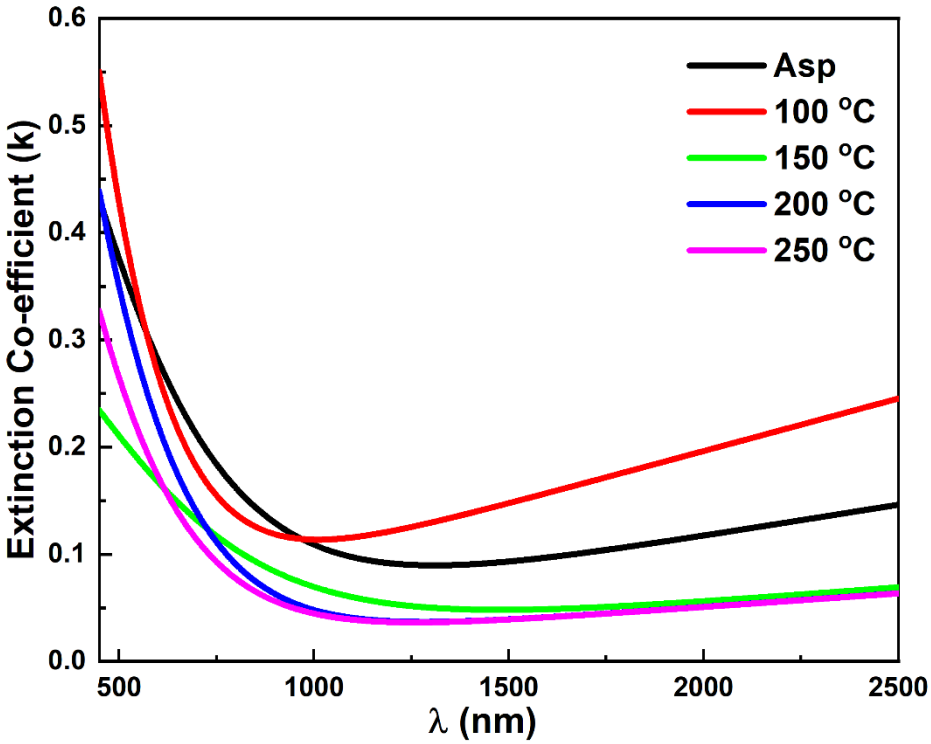

Fig. S2. Extinction coefficient variation with wavelength for all the films.

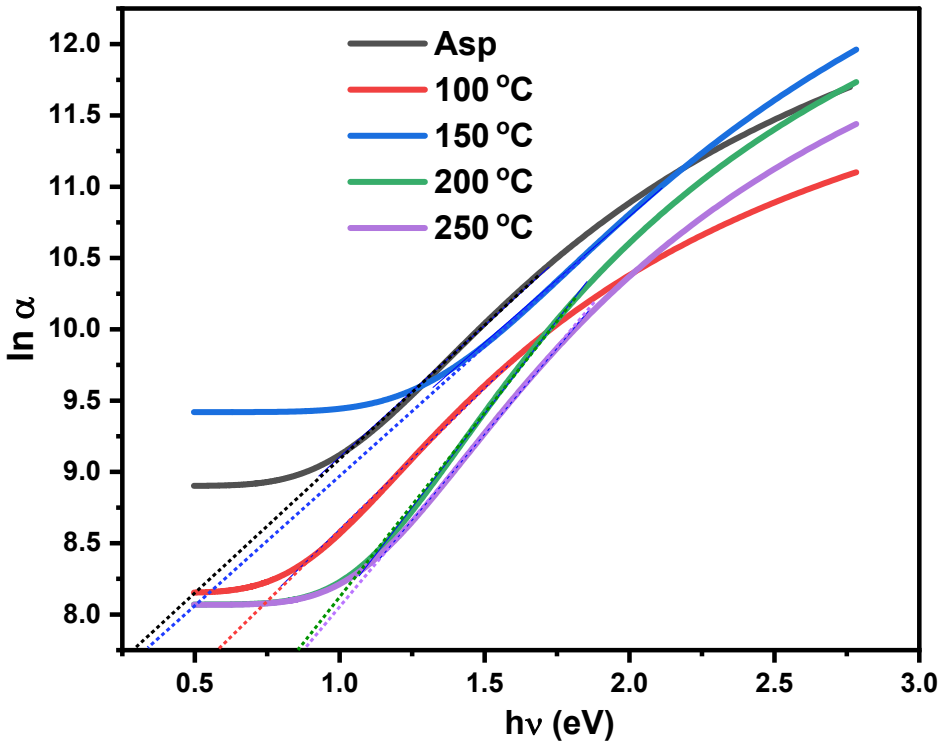

Fig. S3. ln α vs. hν plot from which Urbach energy (E_u) is calculated.

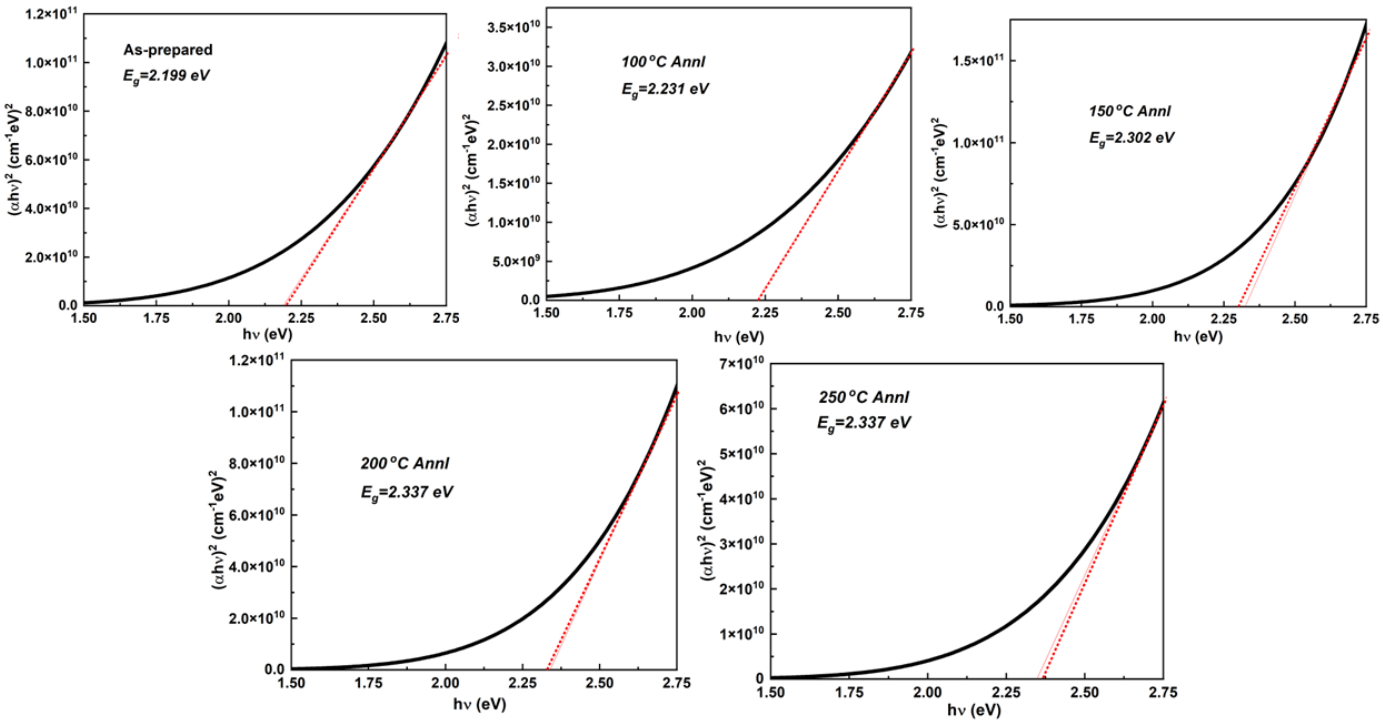

Fig. S4. Individual bandgap plot for all the films.

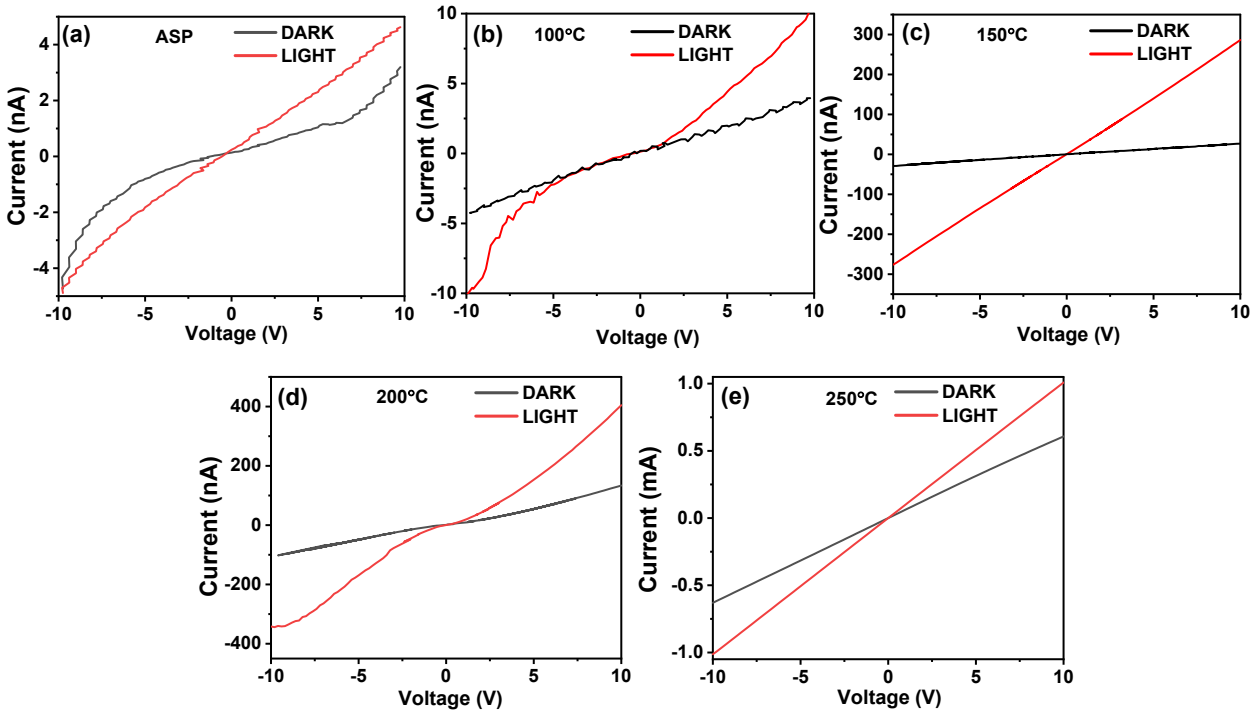

Fig. S5. I ~V characteristic plots with the linear y-axis in dark and light conditions, of the annealed thin film samples (a) asp, (b) 100°C, (c) 150°C, (d) 200°C, and (e) 250°C.

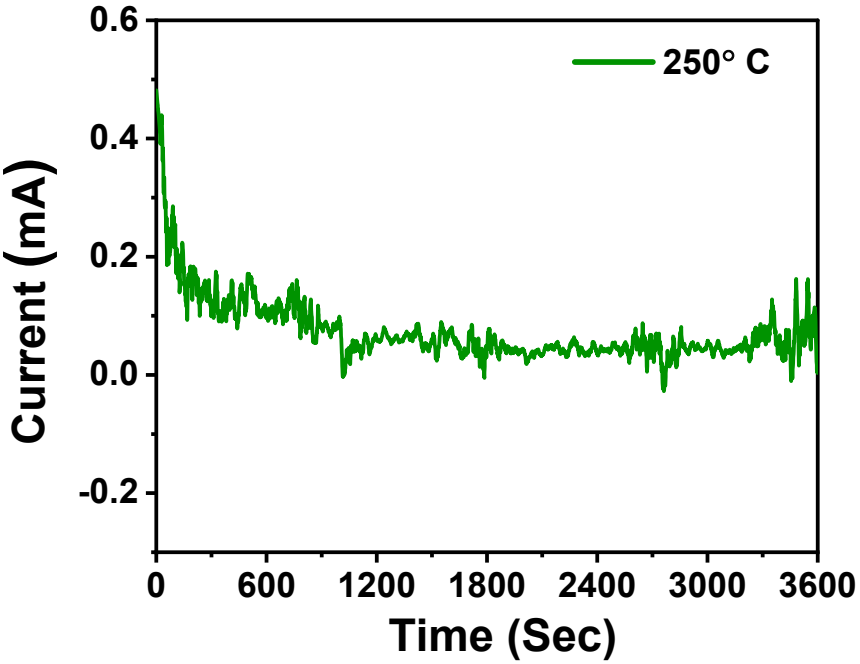

Fig. S6. I~T Stability plot of 250 °C annealed Ag_2Se/In_2Se_3 thin film.