

Supplementary Information:

Morphology Controlled Synthesis of Low bandgap SnSe₂ with High Photodetectivity

Rajeev Kumar Rai[†], Saurav Islam[‡], Ahin Roy[†], Garvesh Agrawal[‡], Abhishek K. Singh[†], Arindam Ghosh[‡], and N Ravishankar^{*†}

[†]Materials Research Centre, Indian Institute of Science, Bangalore-560012

[‡]Department of Physics, Indian Institute of Science, Bangalore-560012

1 Supplementary Figures

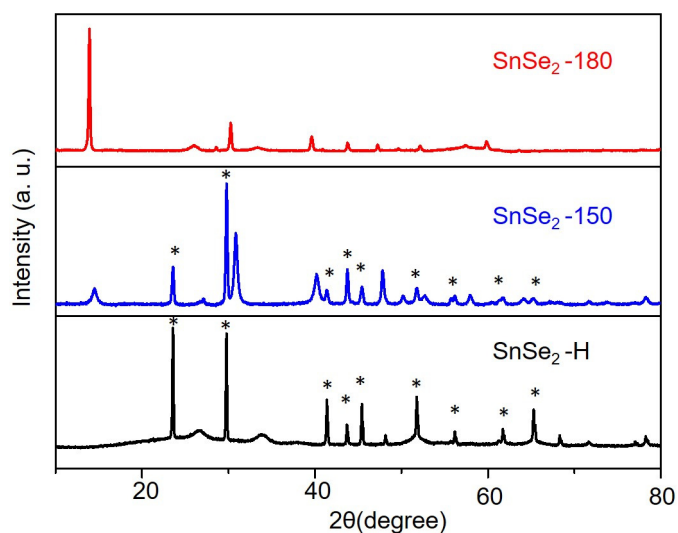


Figure S1: XRD of SnSe₂ synthesized in ethanol and oleic acid at 180°C (top panel), and 150°C (middle panel); Bottom panel shows XRD of synthesized SnSe₂ at 180 °C in hexane.

*nravi@iisc.ac.in

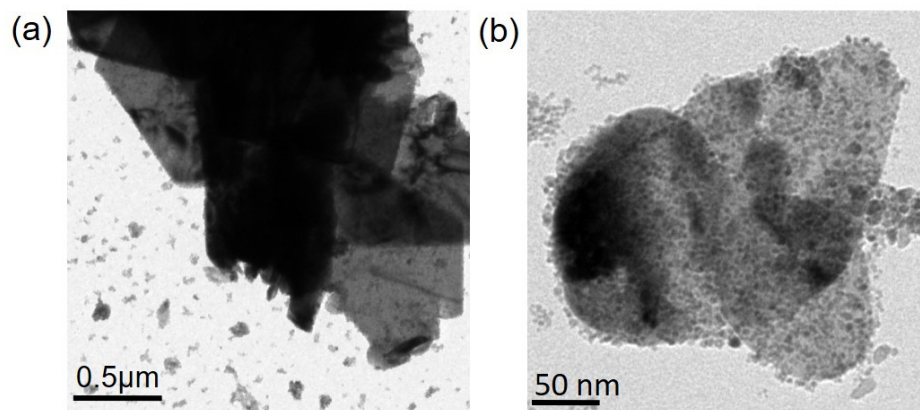


Figure S2: (a) SnSe₂ flakes formed in the reaction at 180°C with excess ethanol, (b) shows not well-formed flakes in the reaction.

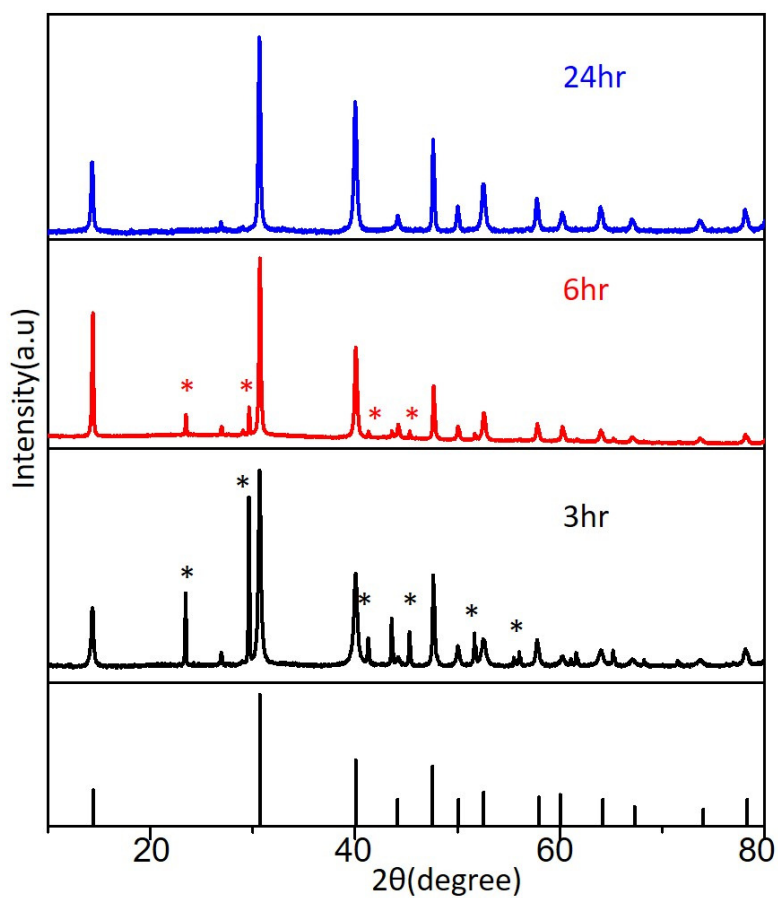


Figure S3: XRD pattern of time series reactions 3 hours ,6 hours, and 24 hours. In 3 hours and 6 hours of reaction, extra Se peaks are observed, marked as *

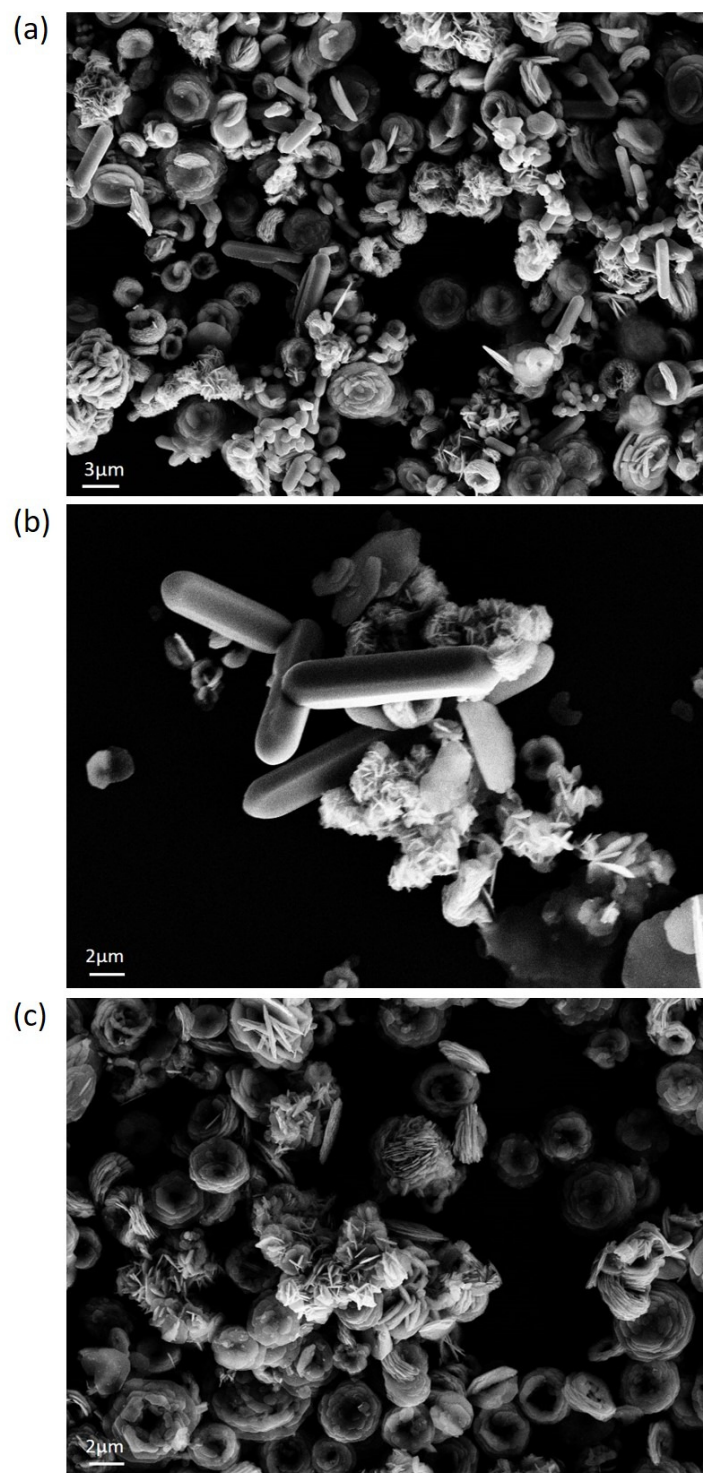


Figure S4: SEM micrographs of the reaction products obtained at different time interval (a) 3 hours; (b) 6 hours; (c) 24 hours. Rod shaped t-Se can be seen in the micrographs obtained at 3 hours and 6 hours whereas after 24 hours of the reaction only SnSe₂ flowers can be seen.