Electronic Supplementary Information

Ascorbic acid-assisted solvothermal growth of γ-In$_2$Se$_3$

hierarchical flowerlike architectures

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Fig. S1 The Raman scattering spectrum of the typical product.
**Fig. S2** The TEM image of common sphere when the reaction time is 1.5 h.

**Fig. S3** The SEM image of common sphere when the reaction time is 1.5 h.
Fig. S4 The EDX image of common sphere when the reaction time is 1.5 h.

Fig. S5 (a) XRD patterns of sample synthesized at 220 °C for 1 h, (b) the magnification image of (a), which demonstrates the existence of amorphous indium selenide.
Fig. S6 The FTIR spectrum of the In$_2$Se$_3$ flowerlike microsphere.

Fig. S7 The FTIR spectrum of the standard ascorbic acid.
**Fig. S8** SEM images of the samples when the ascorbic acid is (a) 1 mmol, and (b) 3 mmol.

**Fig. S9** Nitrogen adsorption-desorption isotherms of the truncated double hexagonal pyramids.
Fig. S10 SEM image of the side of the film consisted of In$_2$Se$_3$ flowerlike microspheres.