Supporting Information for

Thermally-derived liquid phase involving multiphase
Cu(In,Ga)Se₂ nanoparticles for solution-processed
inorganic photovoltaic devices

Yeong-Hui Seo, Yejin Jo, Youngmin Choi, KyungHoon Yoon, Beyong-Hwan Ryu, SeJin Ahn and Sunho Jeong
Figure S1. (a) SEM image, (b) STEM image and TEM-EDS compositional profiles for as-synthesized multiphase, stoichiometric CIGSe nanoparticles.
**Figure S2.** XRD spectra for as-synthesized multiphase, stoichiometric CIGSe nanoparticles by multiple experiments under same synthetic condition for proving reproducibility of multiphase CIGSe nanoparticles.

**Figure S3.** Top-view optical microscope images for the solution-processed multiphase CIGSe-based particulate films selenized at (a) 300, (b) 400, and (b) 550 °C. All scale bars are 10 μm.
Figure S4. TGA results for PVP under an oxygen free atmosphere (nitrogen). The heating rate was 5 °C/min. The weight loss below 90 °C is due to the evaporation of absorbed water and the weight loss above 100 °C is attributed to the thermal decomposition of PVP.

Figure S5. (a) Cross-sectional SEM image and (b) AES depth profile for the solution-processed multiphase CIGSe-based particulate films selenized at 550 °C.