

Electronic Supplementary Information

**Air-Stable CuInSe₂ Nanoparticles Formed through Partial
Cation Exchange in Methanol at Room Temperature**

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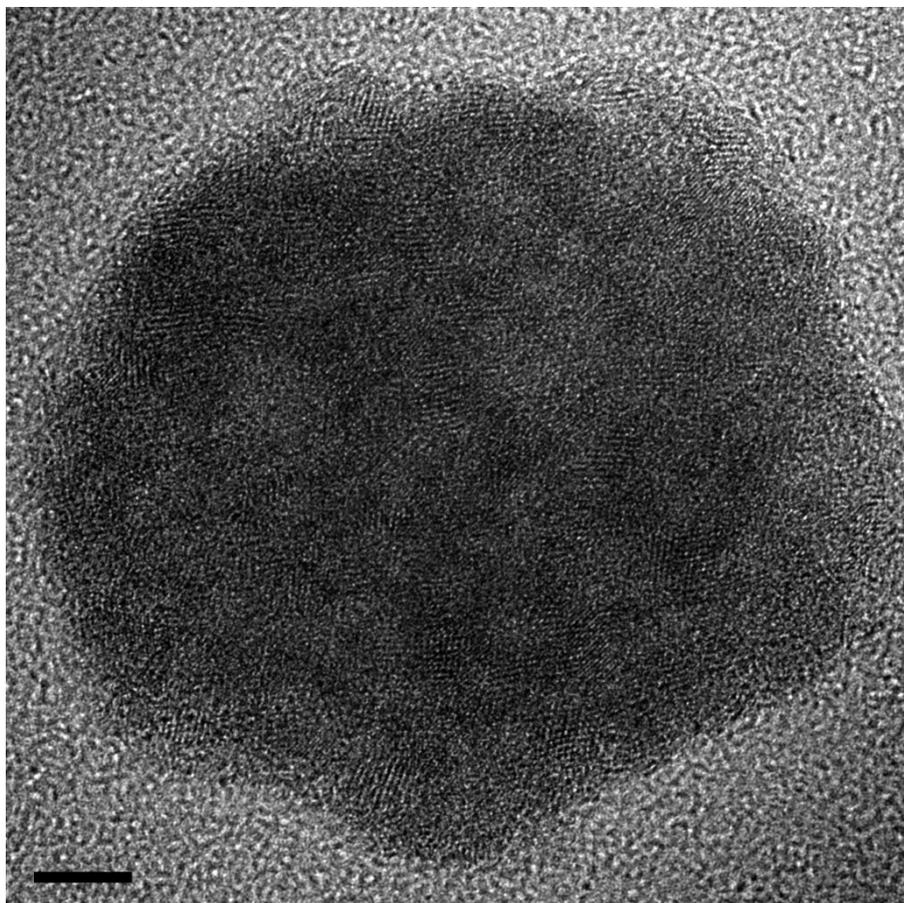


Fig. S1 HRTEM image of CuInSe NPs. The bar represents 5 nm.

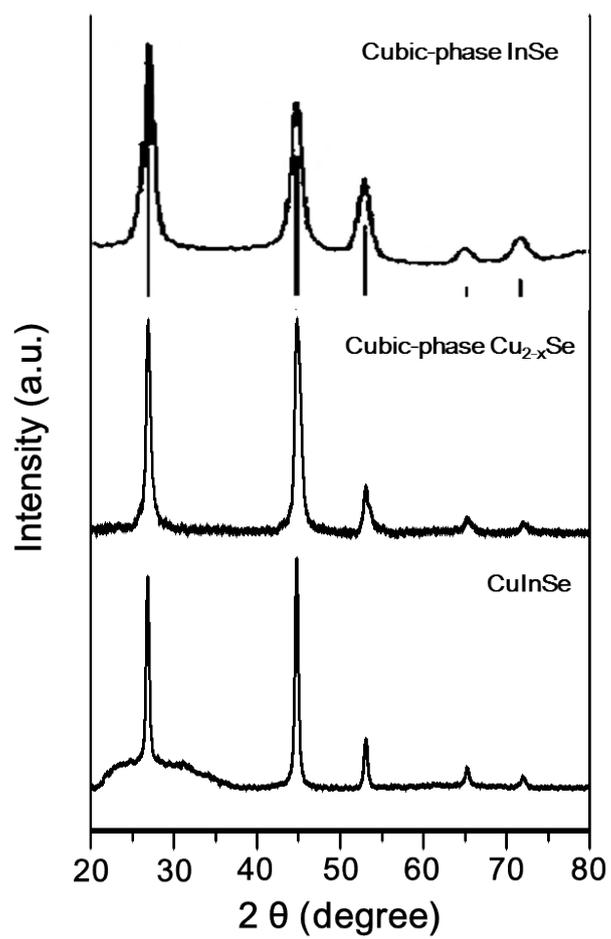


Fig. S2 XRD data of cubic phase CuInSe, Cu_{2-x}Se, and InSe NPs.

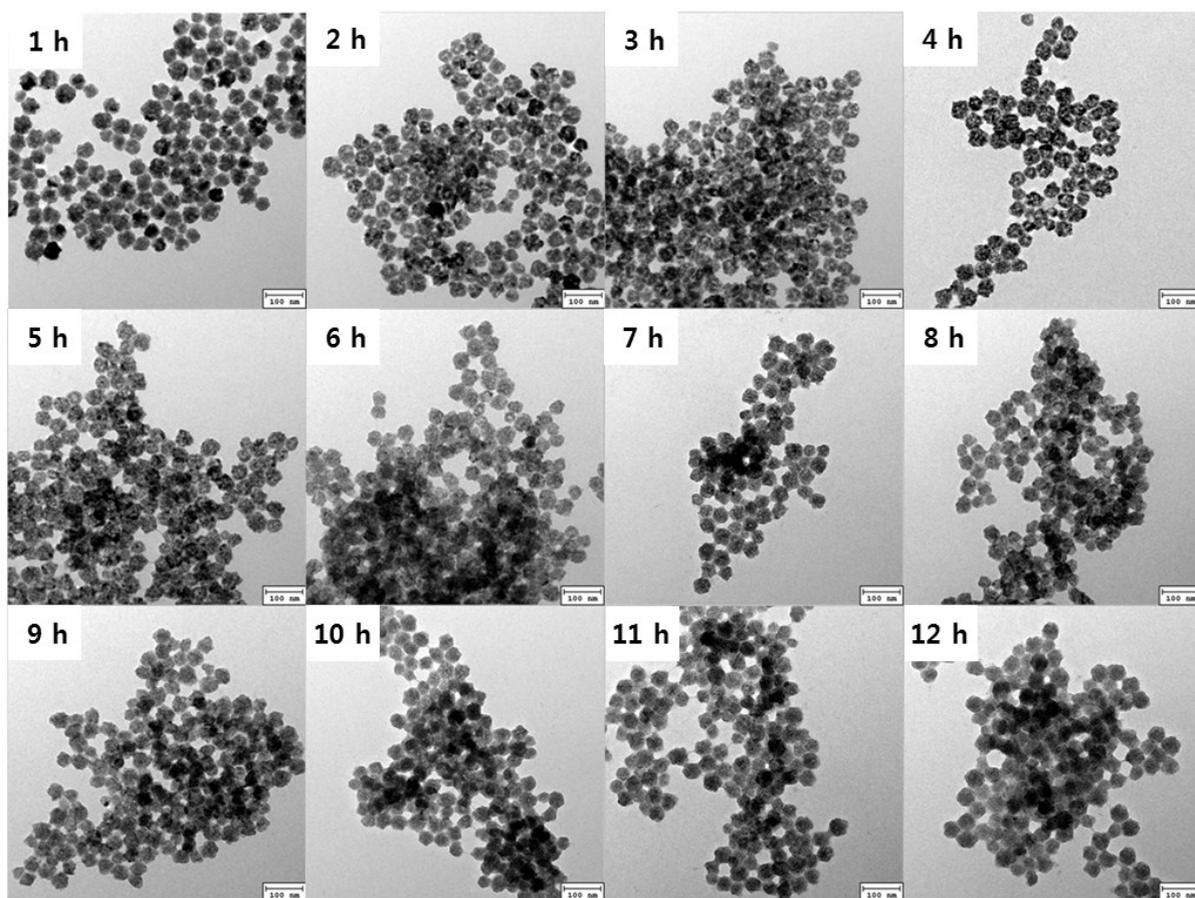


Fig. S3 TEM images of ClSe NPs converted from Cu_{2-x}Se NPs along the reaction progress.

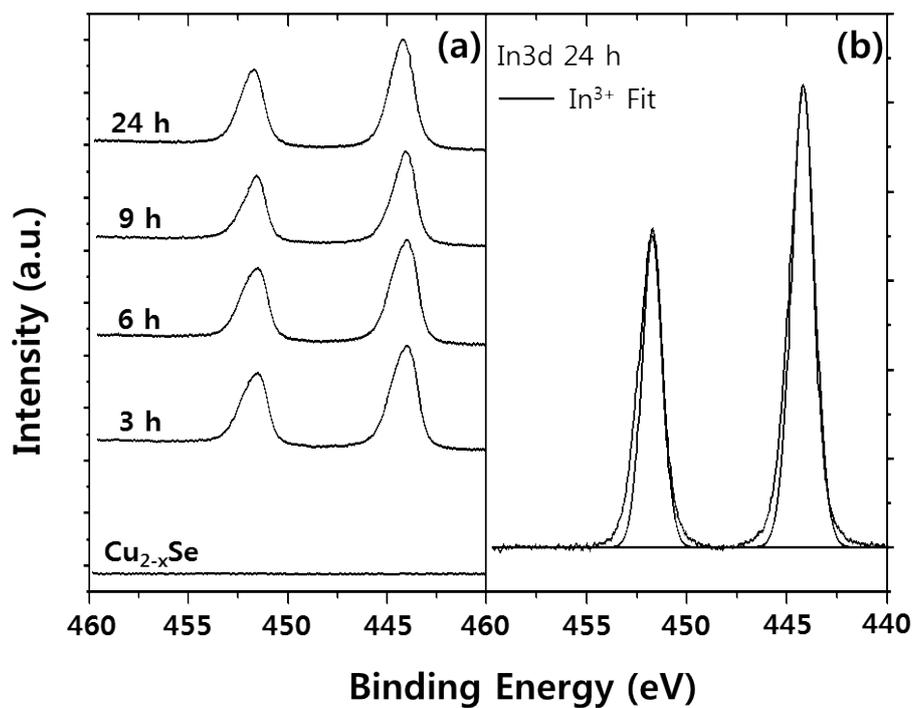


Fig. S4 (a) XPS spectra in the In3d region of (a) the samples at the different reaction periods, and (b) CISe NPs after the reaction for 24 h.

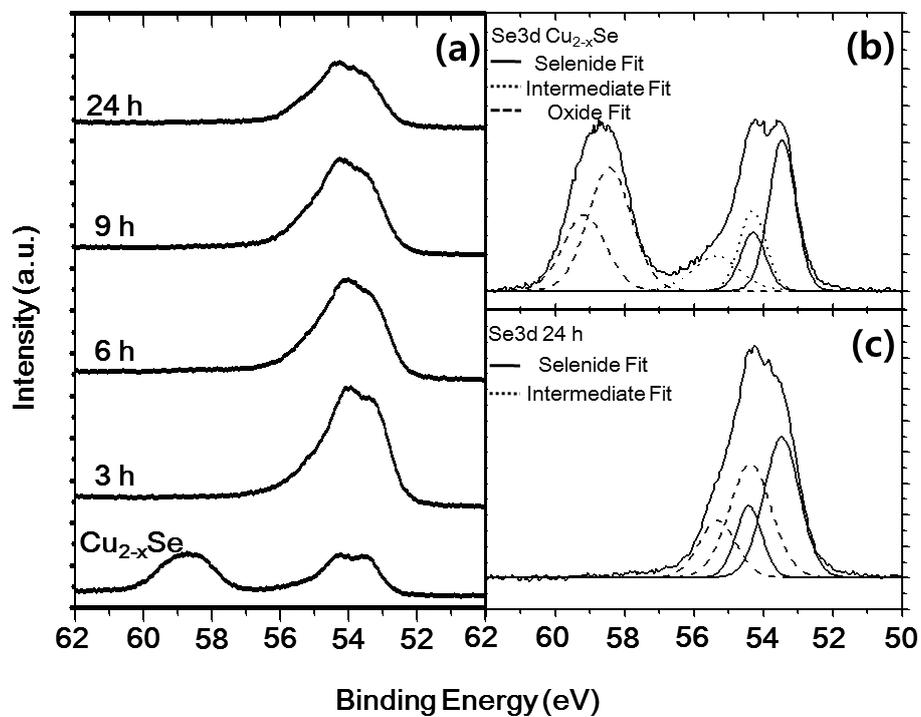


Fig. S5 (a) XPS spectra in the Se3d region of (a) the samples at the different reaction periods, (b) Cu_{2-x}Se NPs before the reaction, and (c) ClSe NPs after the reaction for 24 h.

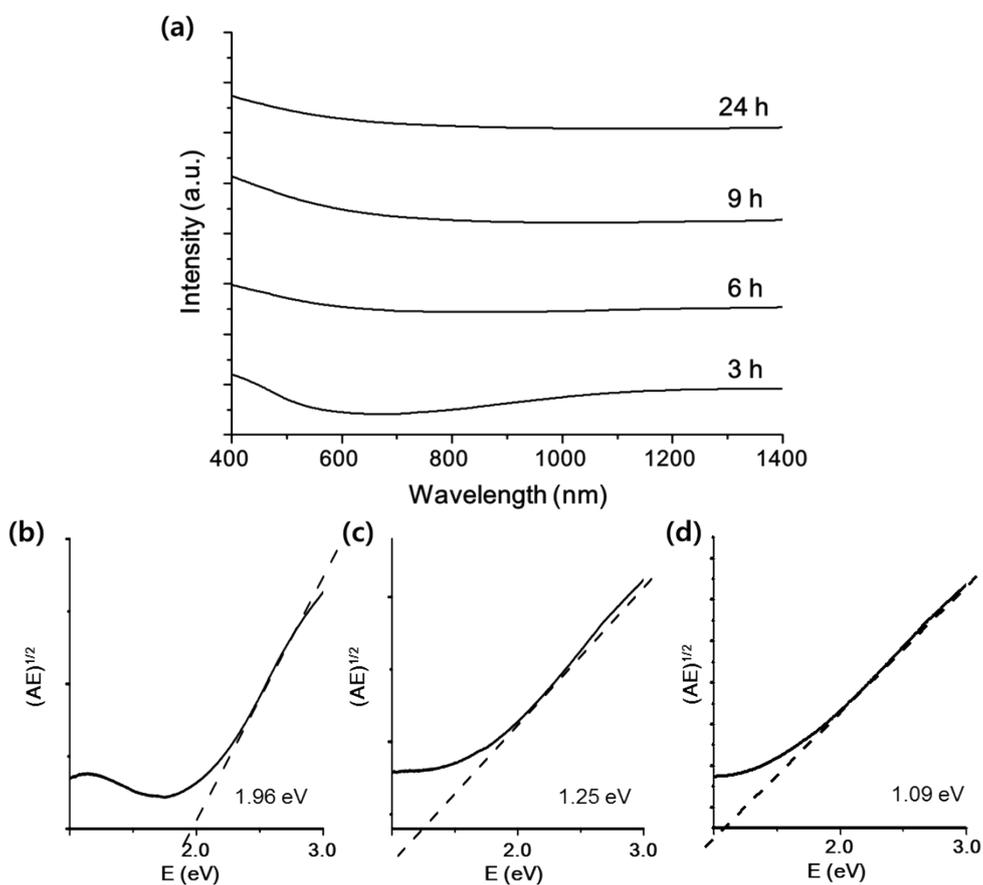


Fig. S6 (a) UV-vis-NIR absorption spectra of ClSe NPs at different reaction periods. (b-d) Determination of the indirect bandgap of ClSe NPs at the reaction period of (b) 3 h, (c) 6 h, and (d) 9 h by the Tauc plot of $(AE)^{1/2}$ versus E .