

## Supporting Information

# Remarkable Photoluminescence Enhancement of ZnS-AgInS<sub>2</sub> Solid Solution Nanoparticles by Post-synthesis Treatment

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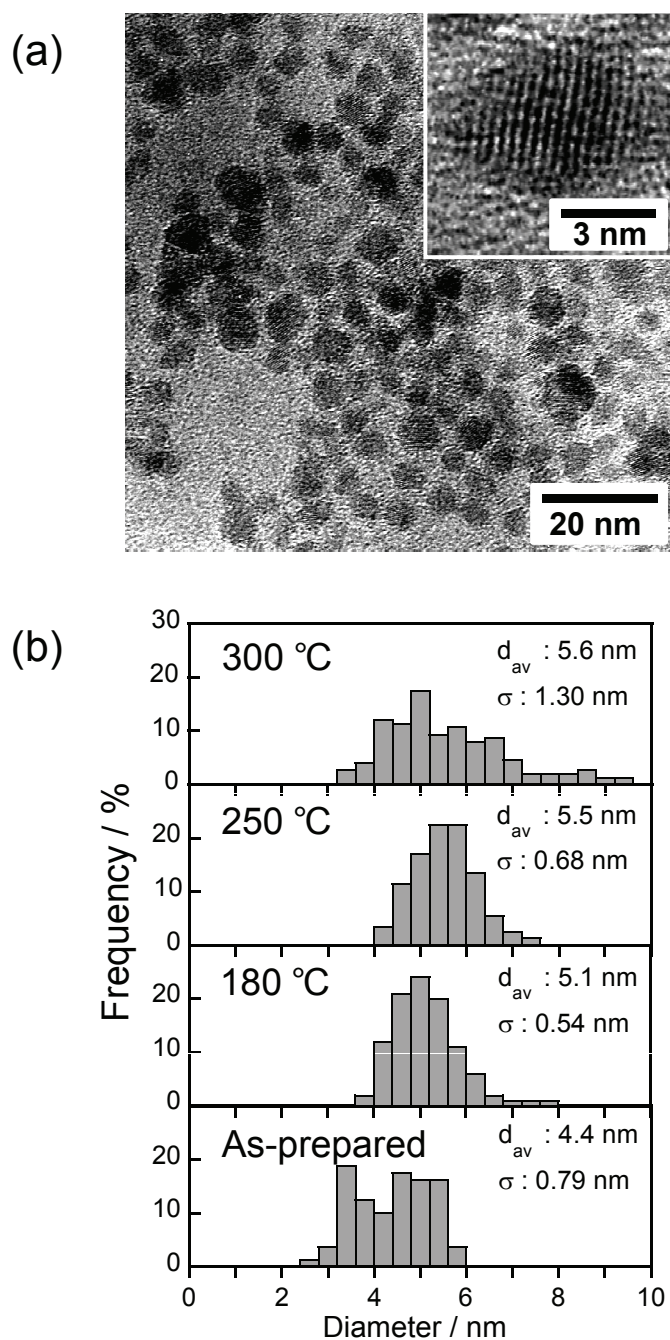
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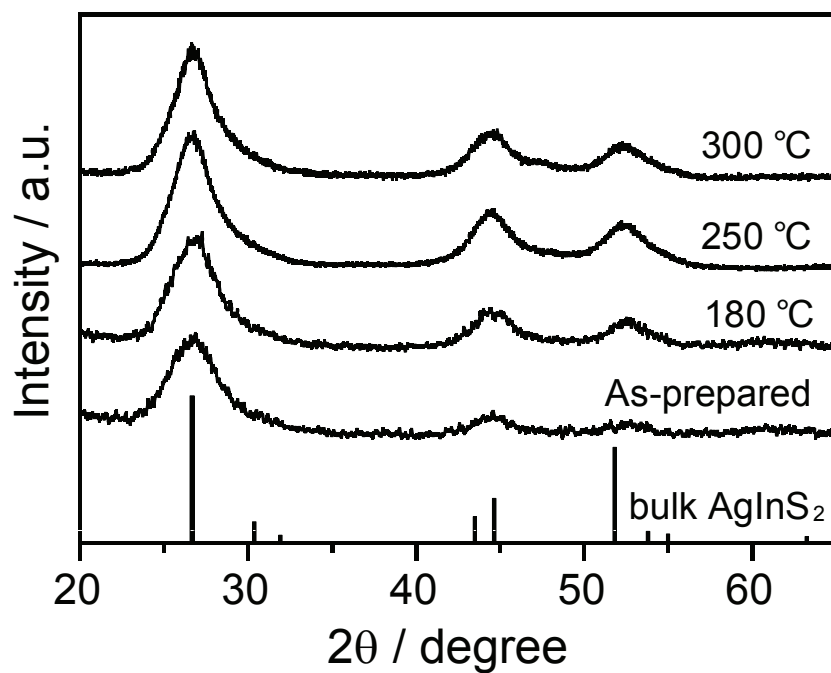
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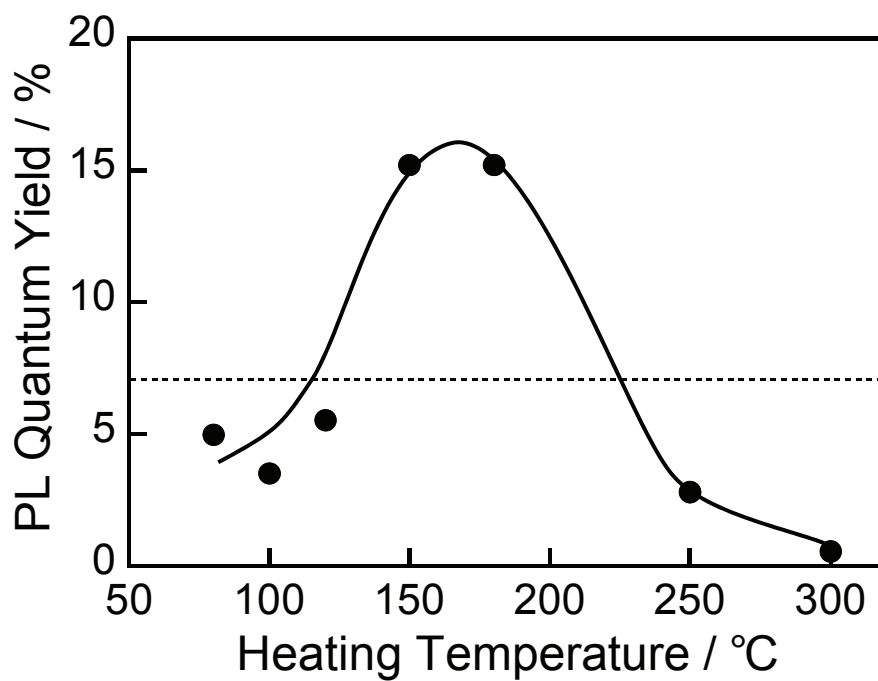
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**Fig. S1** (a) A typical TEM image of ZAIS nanoparticles ( $x=1.0$ ) heat-treated at 250 °C for 30 min. The inset show a high magnification image of an individual particle. (b) Size distribution of ZAIS nanoparticles ( $x=1.0$ ) heat-treated at various temperatures.



**Fig. S2** X-ray diffraction patterns of ZAIS nanoparticles ( $x = 1.0$ ) heat-treated at various temperatures. A reference pattern of tetragonal  $\text{AgInS}_2$  crystal structure is also shown.



**Fig. S3** Relationship between post-heat-treatment temperature and PL quantum yield of ZAIS nanoparticles ( $x=1.0$ ). A Dotted line indicates PL quantum yield of as-prepared particles.