

## ESI

# From (Au<sub>5</sub>Sn + AuSn) physical mixture to phase pure AuSn and Au<sub>5</sub>Sn intermetallic nanocrystals with tailored morphology: digestive ripening assisted approach

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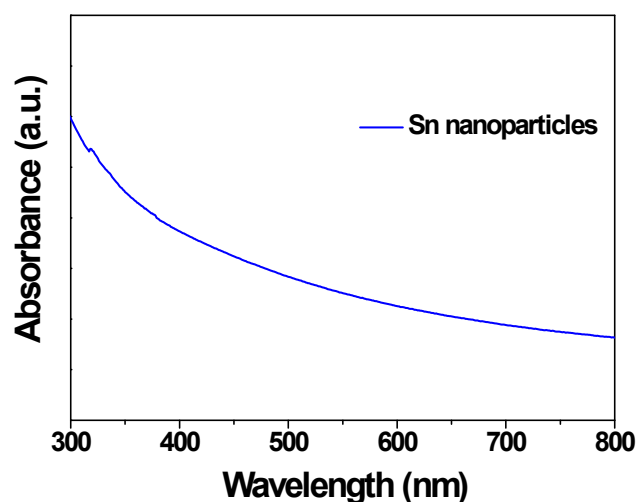


Fig. S1 UV-visible spectrum of Sn nanoparticles.

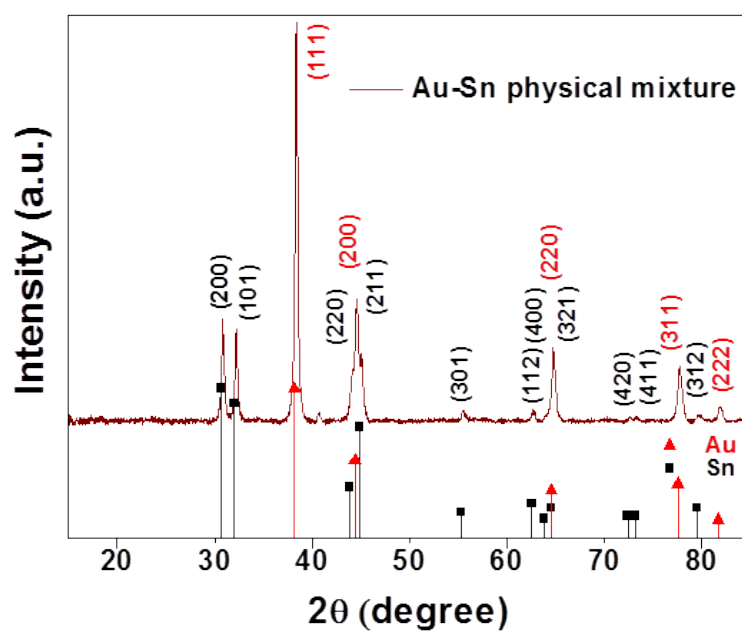
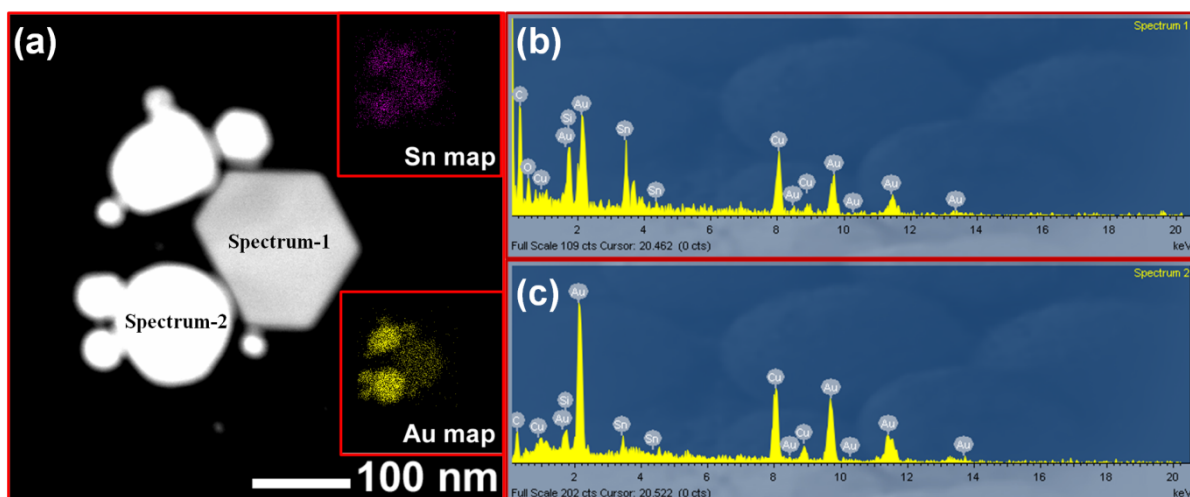
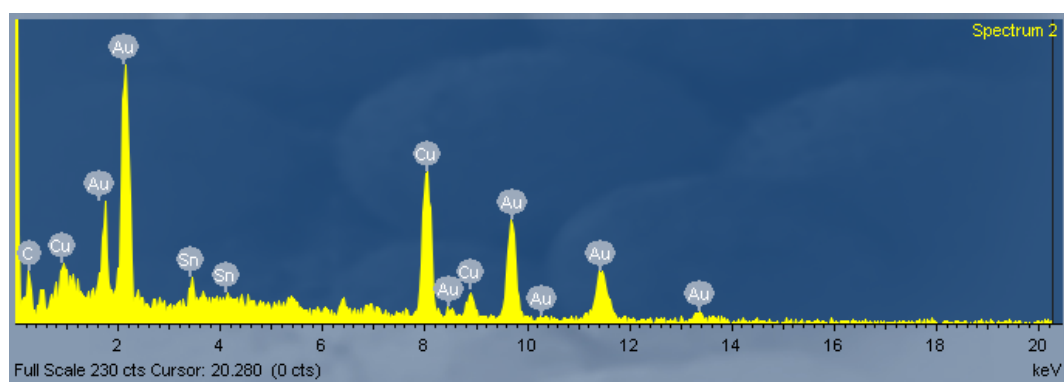


Fig. S2 Powder XRD pattern of physical mixture of Au and Sn nanoparticles



**Fig. S3** STEM-EDS mapping for  $\text{Au}_5\text{Sn}$  +  $\text{AuSn}$  intermetallic nanocrystals (a) STEM dark field image (inset: Au and Sn EDS maps); (b), (c) point EDS spectra.



**Fig. S4** EDS spectrum of  $\text{Au}_5\text{Sn}$  intermetallic nanocrystals.

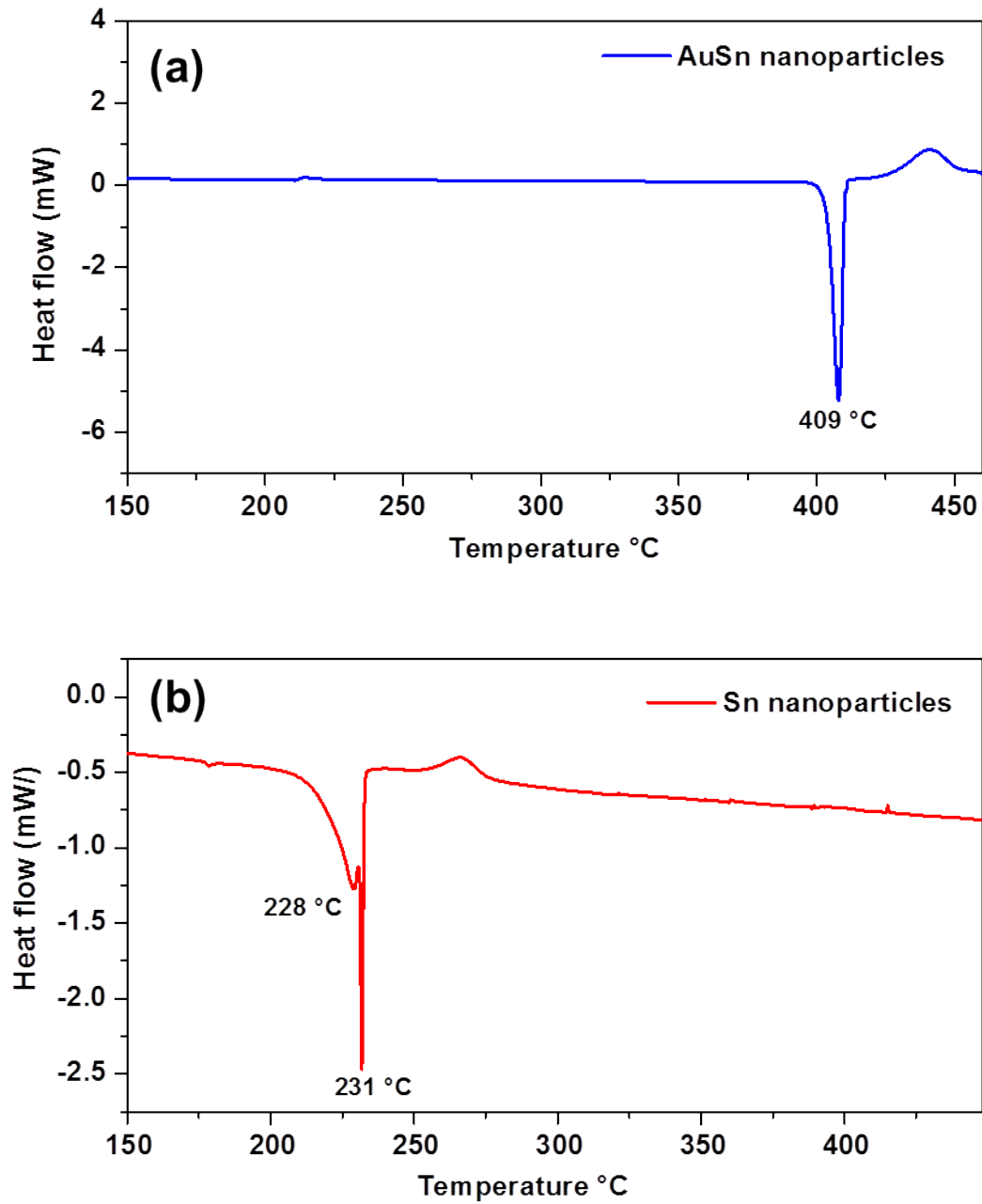


Fig. S4 DSC profiles of nanopowders (a) AuSn, (b) Sn.