

## Supplementary Information

### Synergistic effect in bimetallic copper–silver

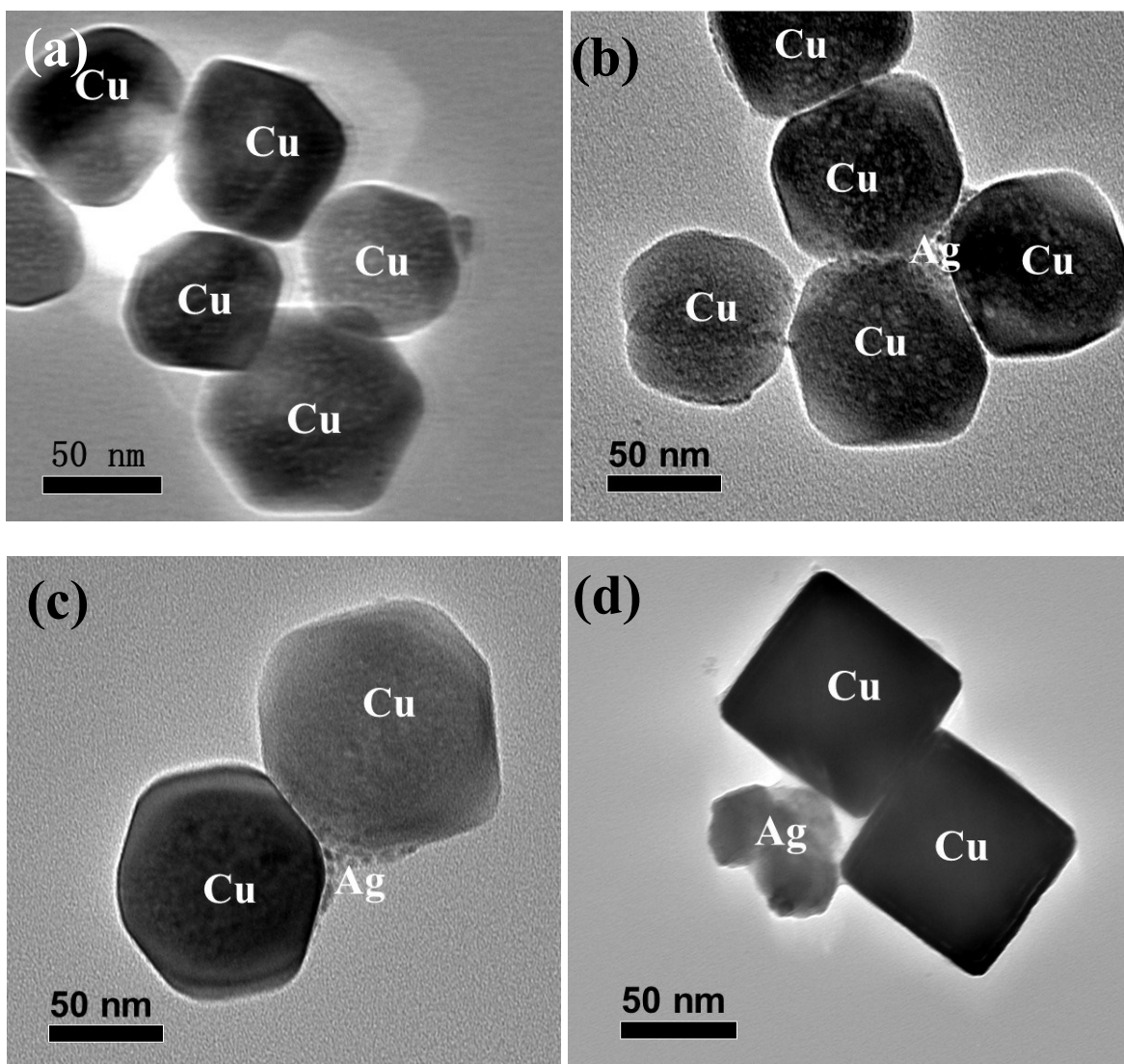
### (Cu<sub>x</sub>Ag) nanoparticles enhances silicon conversion in Rochow reaction

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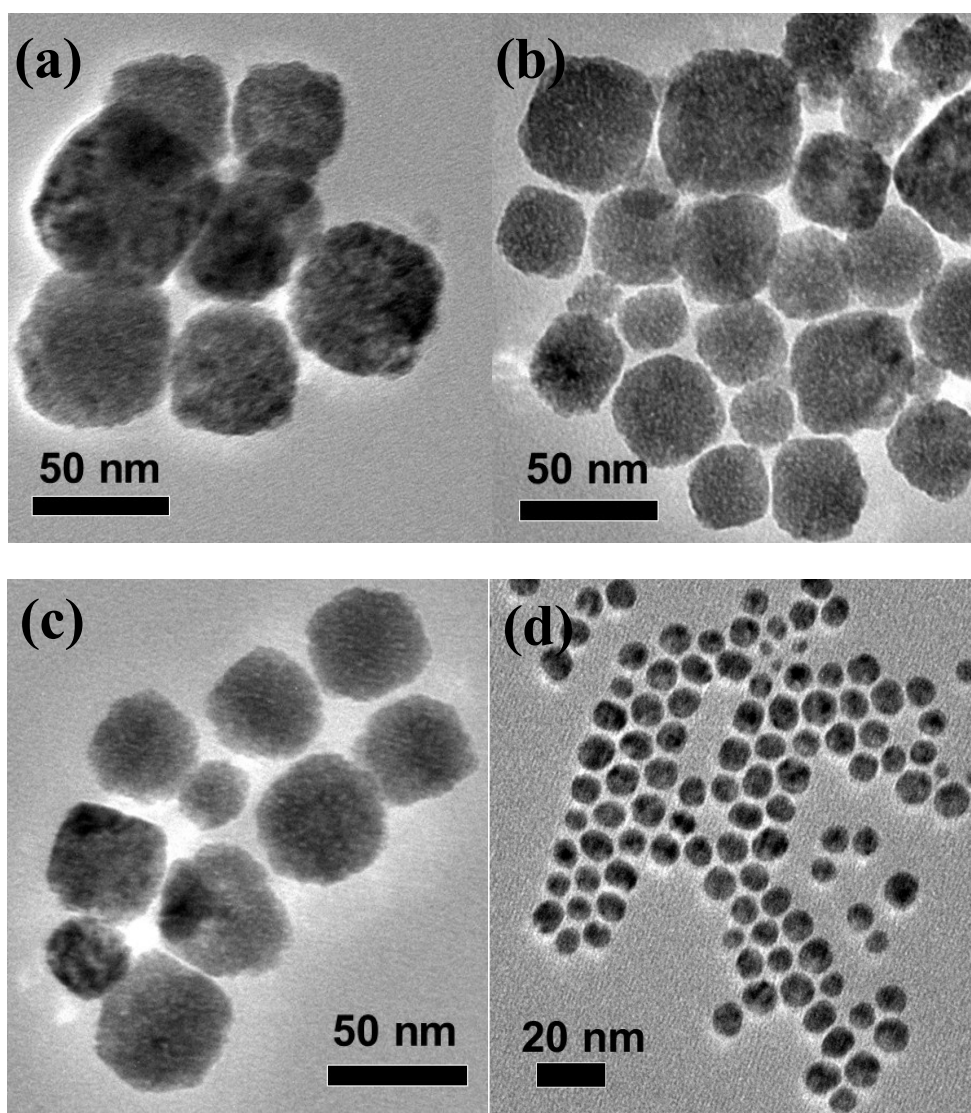
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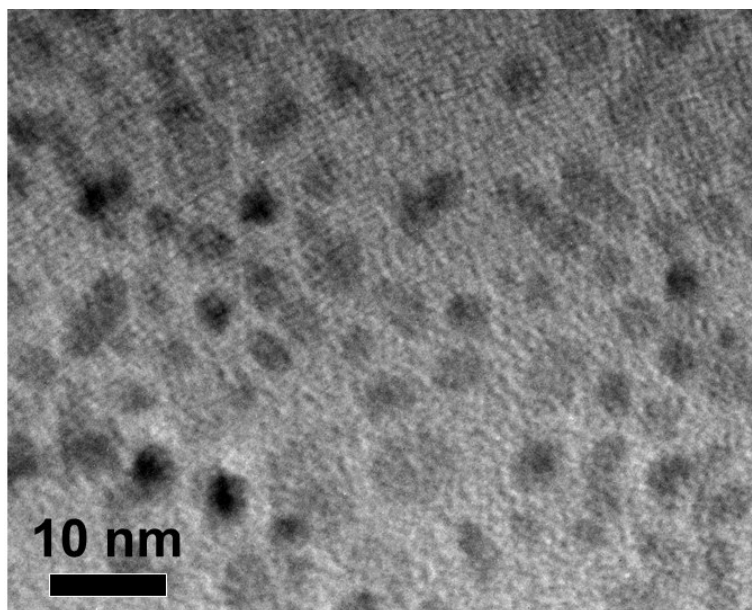


**Fig. S1** TEM images of  $\text{Cu}_{50}\text{-Ag}$  (a),  $\text{Cu}_{20}\text{-Ag}$  (b),  $\text{Cu}_{10}\text{-Ag}$  (c), and  $\text{Cu}_5\text{-Ag}$  (d) nanoparticles.



**Fig. S2** TEM image of  $\text{Cu}_{50}\text{Ag}$  (a),  $\text{Cu}_{20}\text{Ag}$  (b),  $\text{Cu}_{10}\text{Ag}$  (c), and  $\text{CuAg}_2$  (d) bimetallic nanoparticles.

TEM image of Fig. S3 shows that CuAg nanoparticles have a mean size of 2.8 nm and a standard deviation of 1.9 after reaction for 1.5 h at 180 °C.



**Fig. S3** TEM image of CuAg nanoparticles after reaction for 1.5 h at 180 °C.