

## Supplementary Information

### Low Temperature Synthesis of Copper Telluride Nanostructures: Phase Formation, Growth and Electrical Transport Properties

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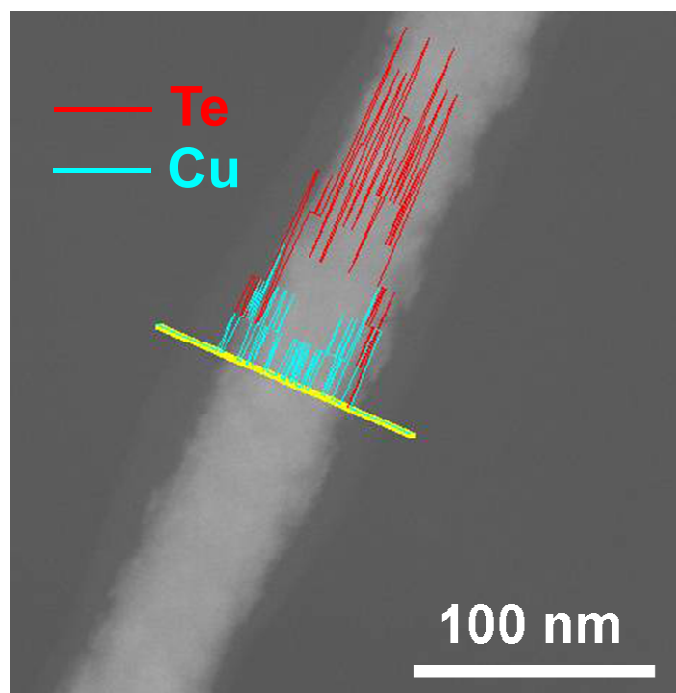


FIGURE S1 Elemental line profiles of Te/Cu core shell nanowire.

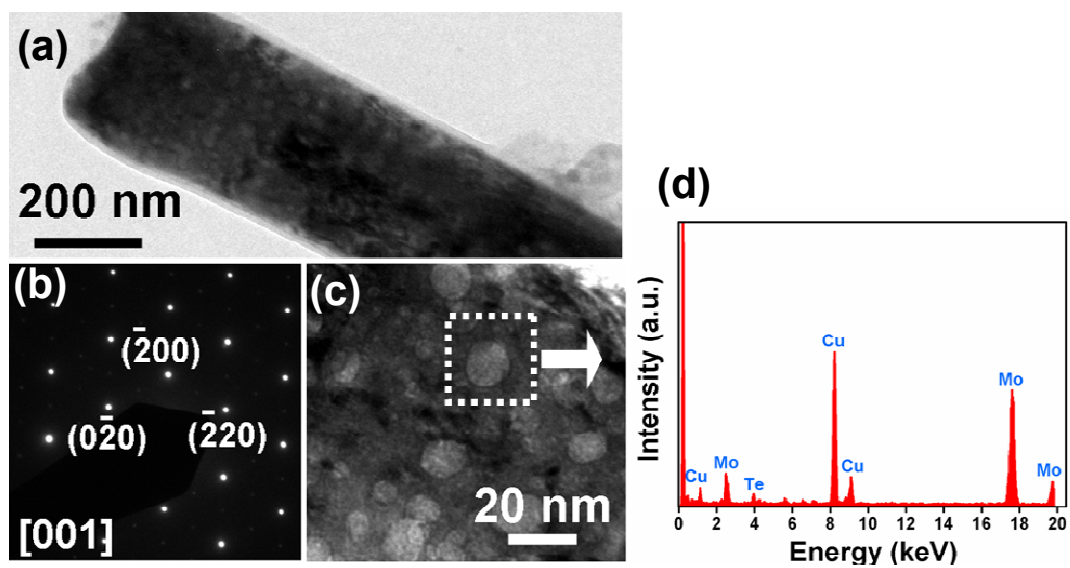


FIGURE S2. (a) Low magnification TEM image of a  $\text{Cu}_2\text{Te}/\text{Cu}$  nanobelt. (b) Corresponding selected diffraction pattern with [001] zone axis. (c) High magnification TEM image taken from an area in (a). (d) EDS spectrum provides evidence for the coating of Cu nanoparticles on the surface of the  $\text{Cu}_2\text{Te}$  nanobelt.

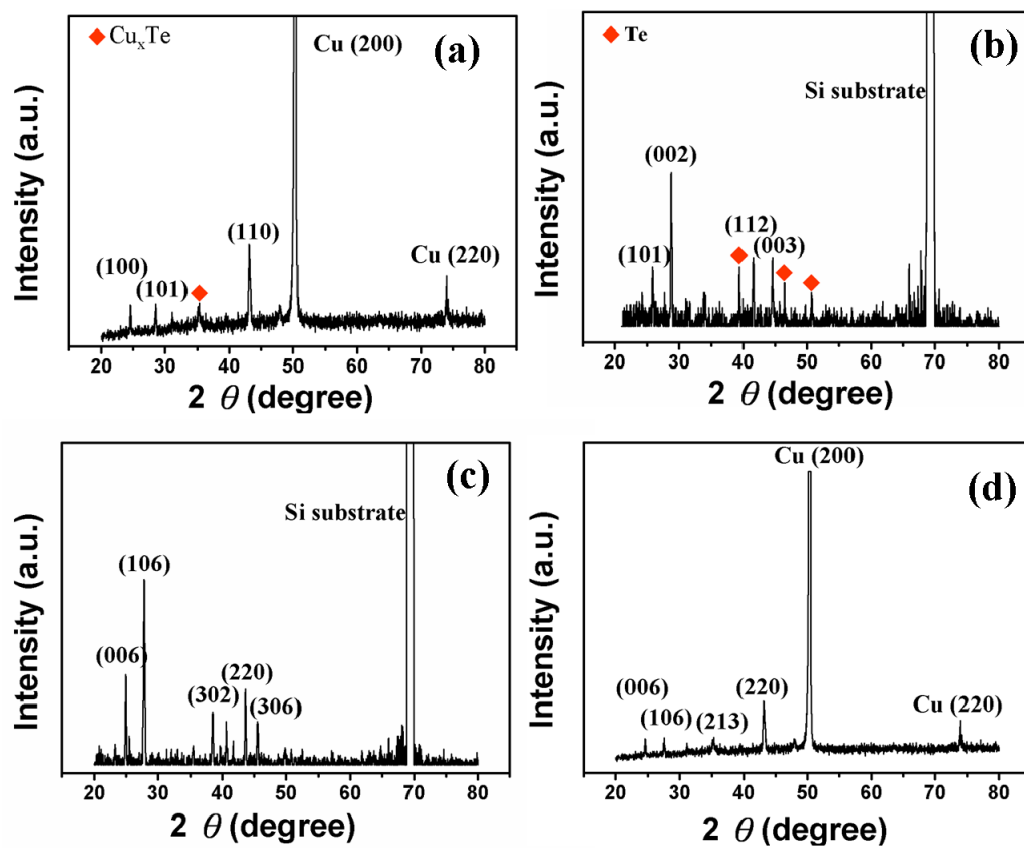


FIGURE S3. XRD spectra of (a) Te/Cu core/shell nanowires, (b)  $\text{Cu}_3\text{Te}_2$  nanowires, (c)  $\text{Cu}_2\text{Te}$  nanowires, and (d)  $\text{Cu}_2\text{Te}$  nanobelts with Cu NPs.<sup>1-3</sup>

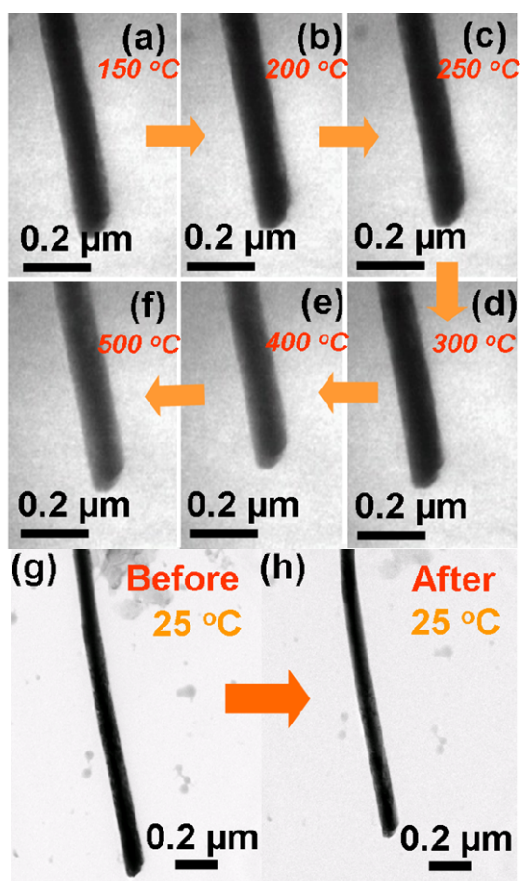


FIGURE S4. *In-situ* TEM images of a  $\text{Cu}_2\text{Te}$  nanowire at annealing temperatures ranging from (a) 150 °C, (b) 200 °C, (c) 250 °C, (d) 300 °C, (e) 400 °C to (f) 500 °C. The TEM images at room temperature before and after annealing were also shown in (g) and (h), respectively.

## References

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