

Supporting Information for

## **Seeded Growth of Gold-Silver Ultrathin Wire-dot Hybrid Nanostructures**

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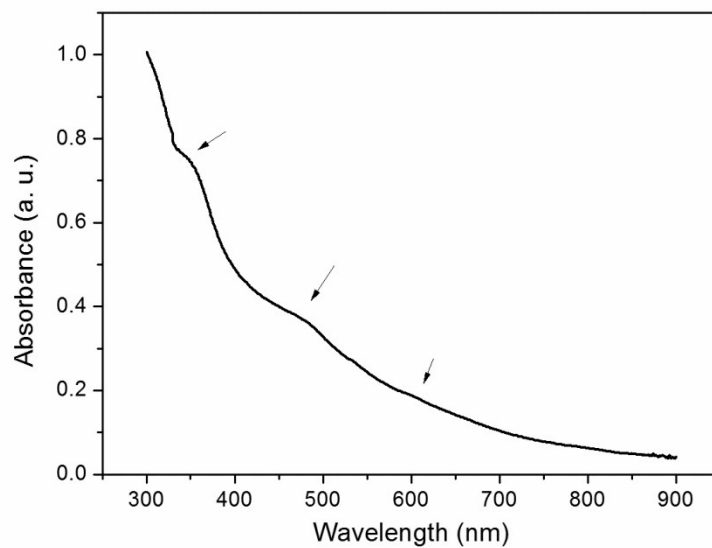
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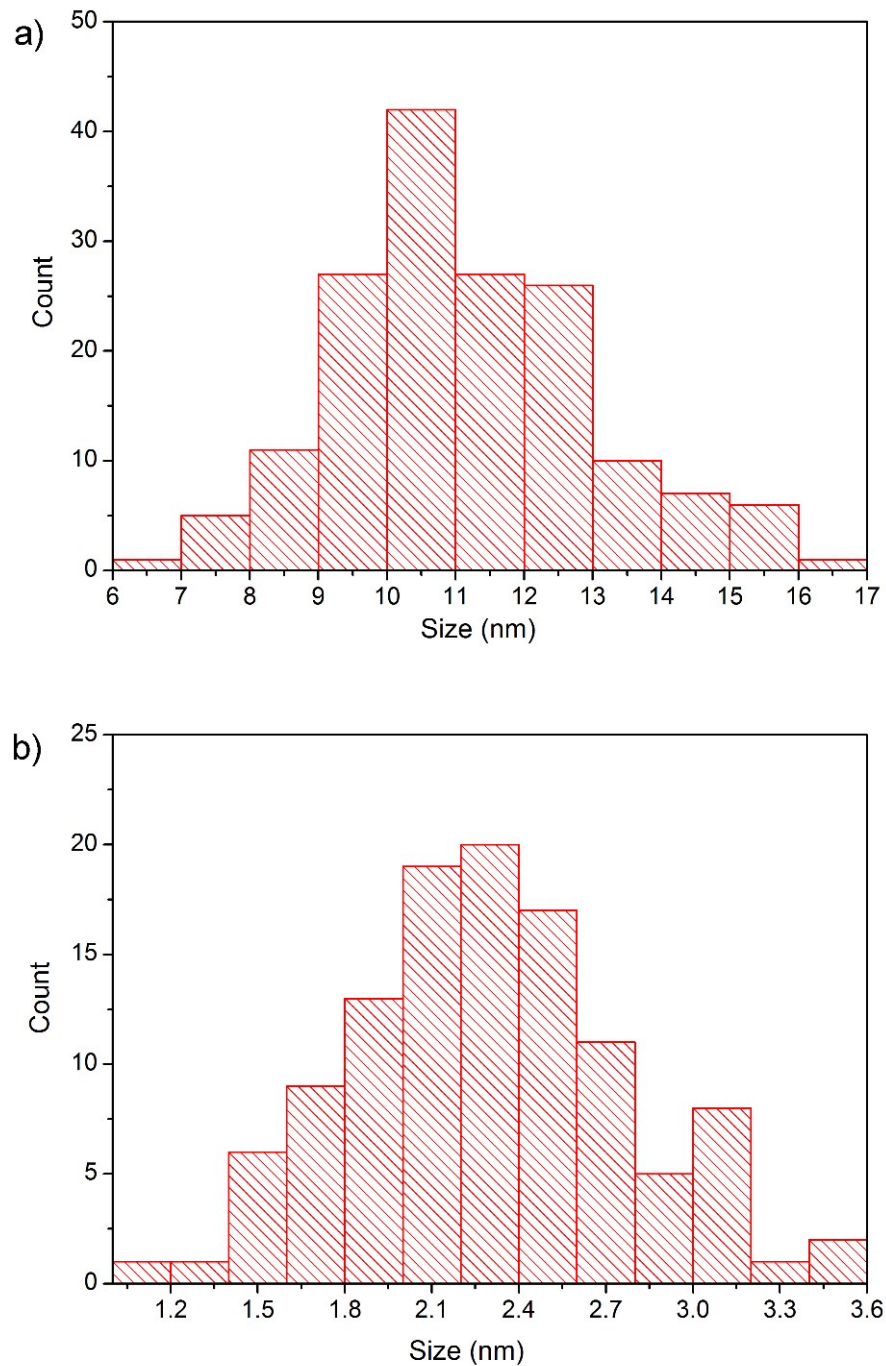
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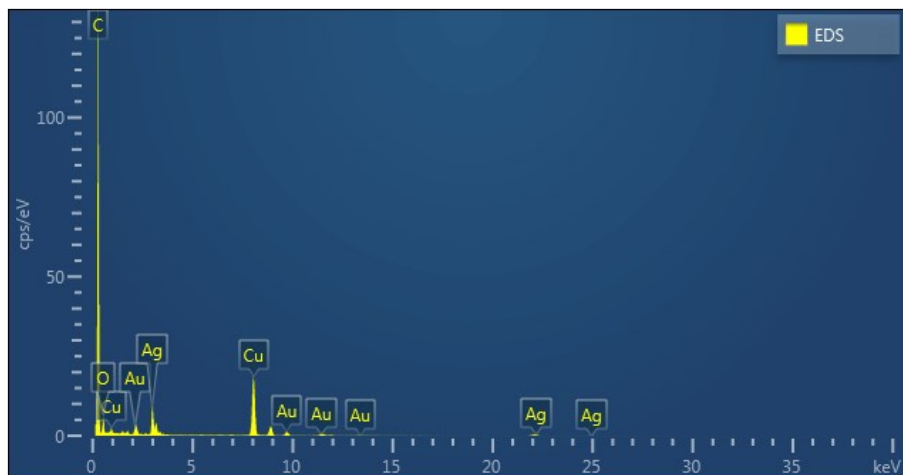
<sup>\*</sup>*Corresponding Author: Prof. Y. Zheng, E-mail: whzyq@163.com*



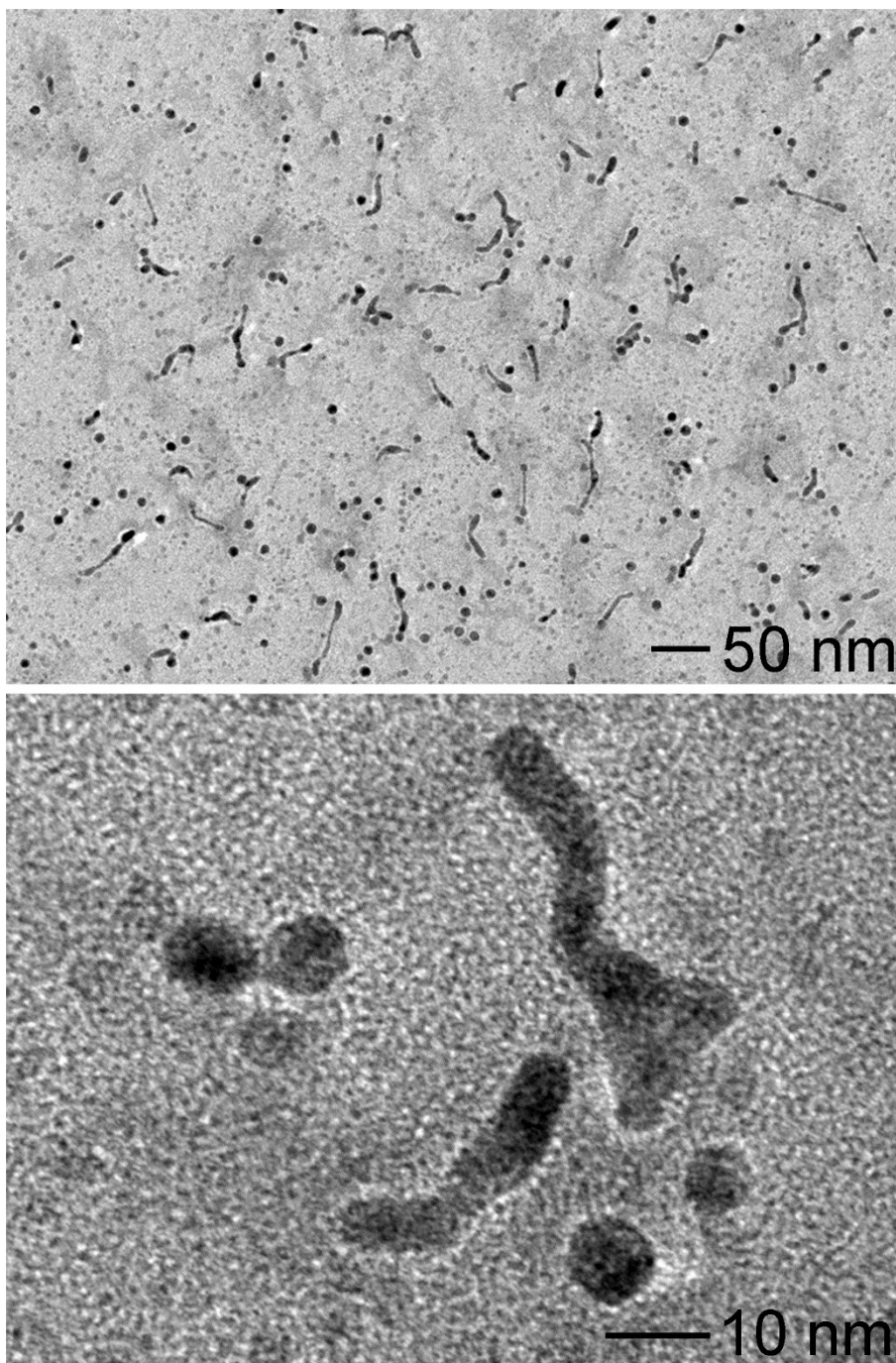
**Figure S1.** UV-vis extinction spectrum of CTAB-Au seeds aqueous suspension. The arrows indicate the presence of characterized shoulder peaks.



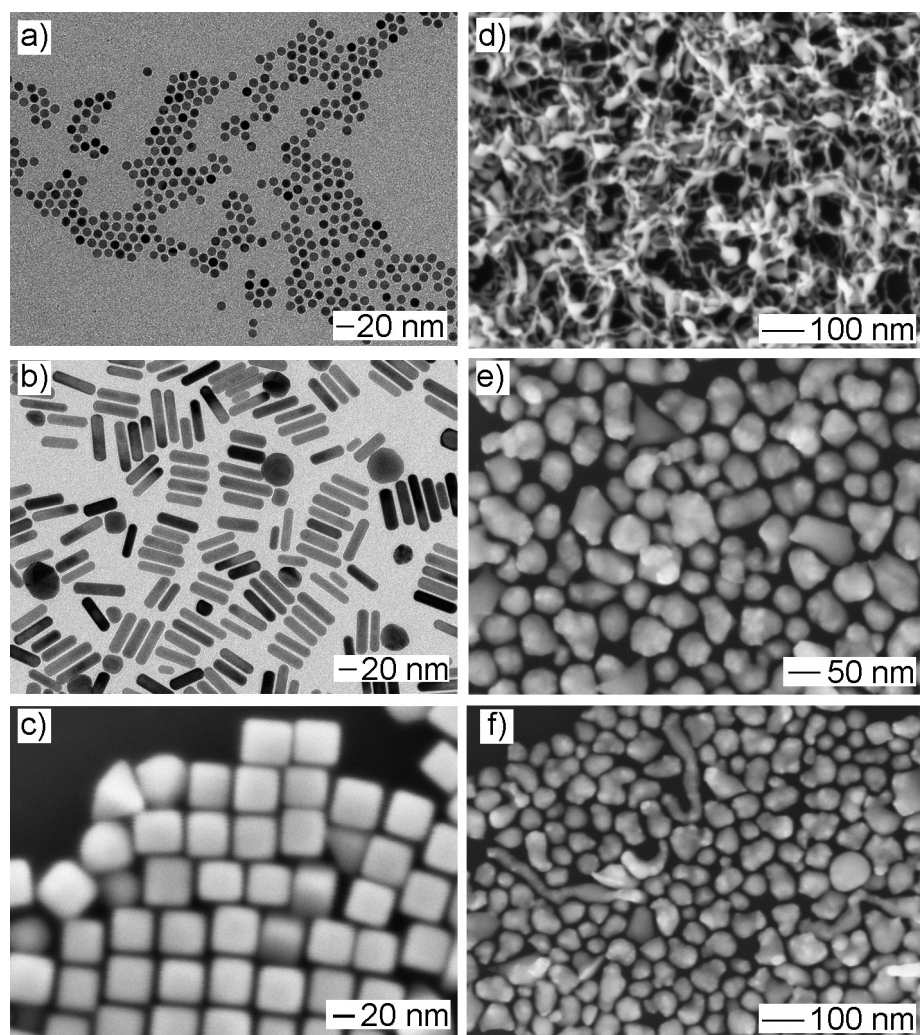
**Figure S2.** Histograms showing the size distribution for both a) dot and b) wire regions in Au-Ag ultrathin wire-dot nanostructures. They were statistically measured by counting 100 typical regions in corresponding TEM images.



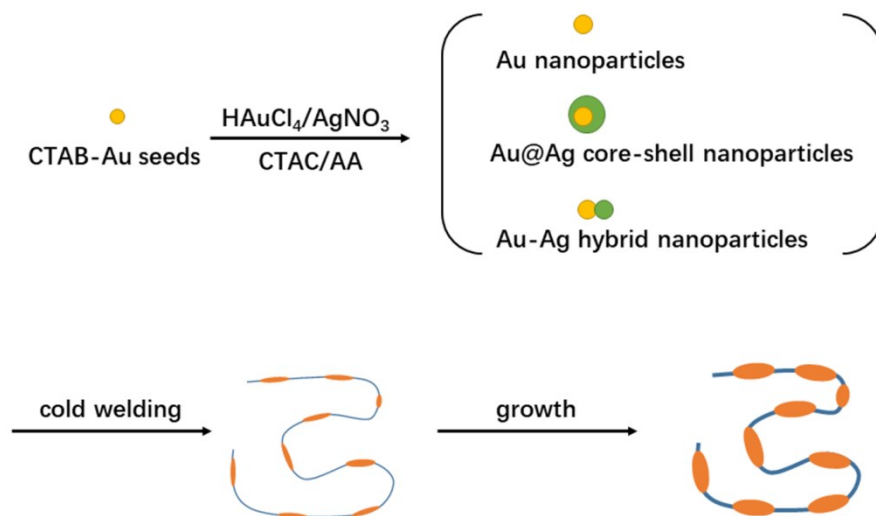
**Figure S3.** EDX spectrum of Au-Ag ultrathin wire-dot nanostructures. The molar ratio of Ag to Au was measured to be 3:1.



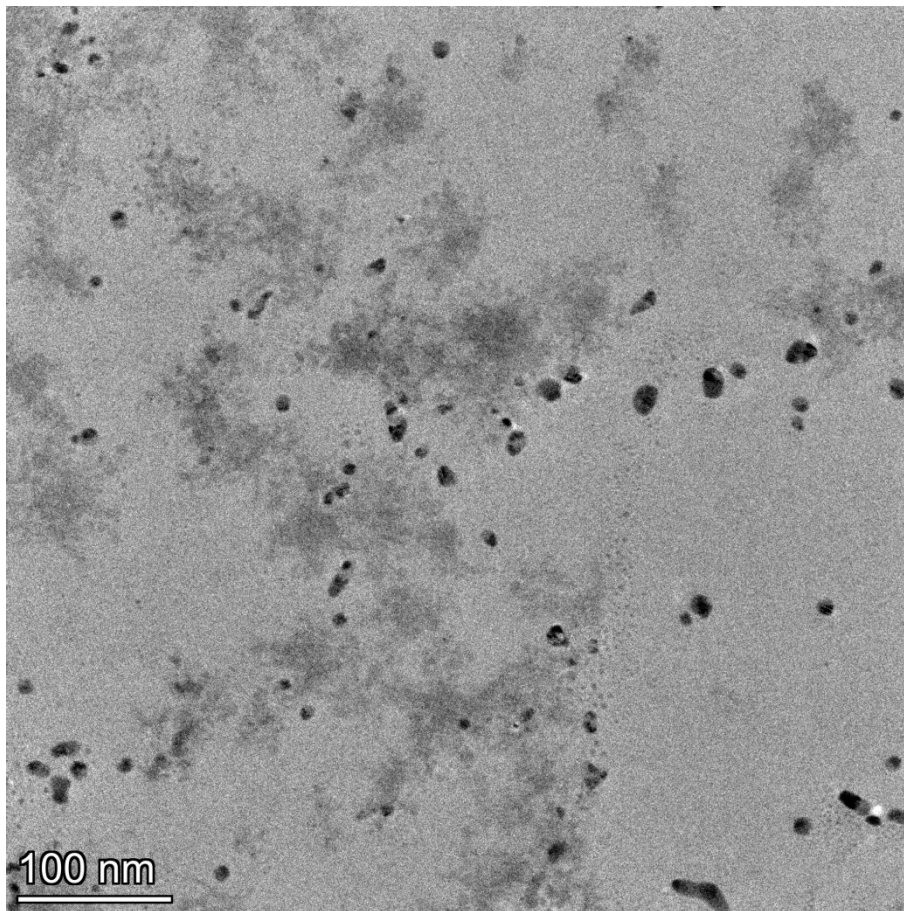
**Figure S4.** TEM image of products obtained by reacting one-batch of Au-Ag ultrathin wire-dot nanostructures with 0.5  $\mu\text{mol}$  of  $\text{HAuCl}_4$ .



**Figure S5.** Effect of seed size/morphology on product morphology. a, b) TEM and c) SEM images of seeds in the form of a) Au nanospheres (10 nm in diameter); b) Au nanorods ( $\Phi 12 \cdot L 47$  nm); c) Au@Ag nanocubes (44 nm in edge length), respectively. d-f) SEM images of products obtained via the standard procedure, except that the Au seeds were replaced by corresponding seeds as displayed in a-c), respectively.

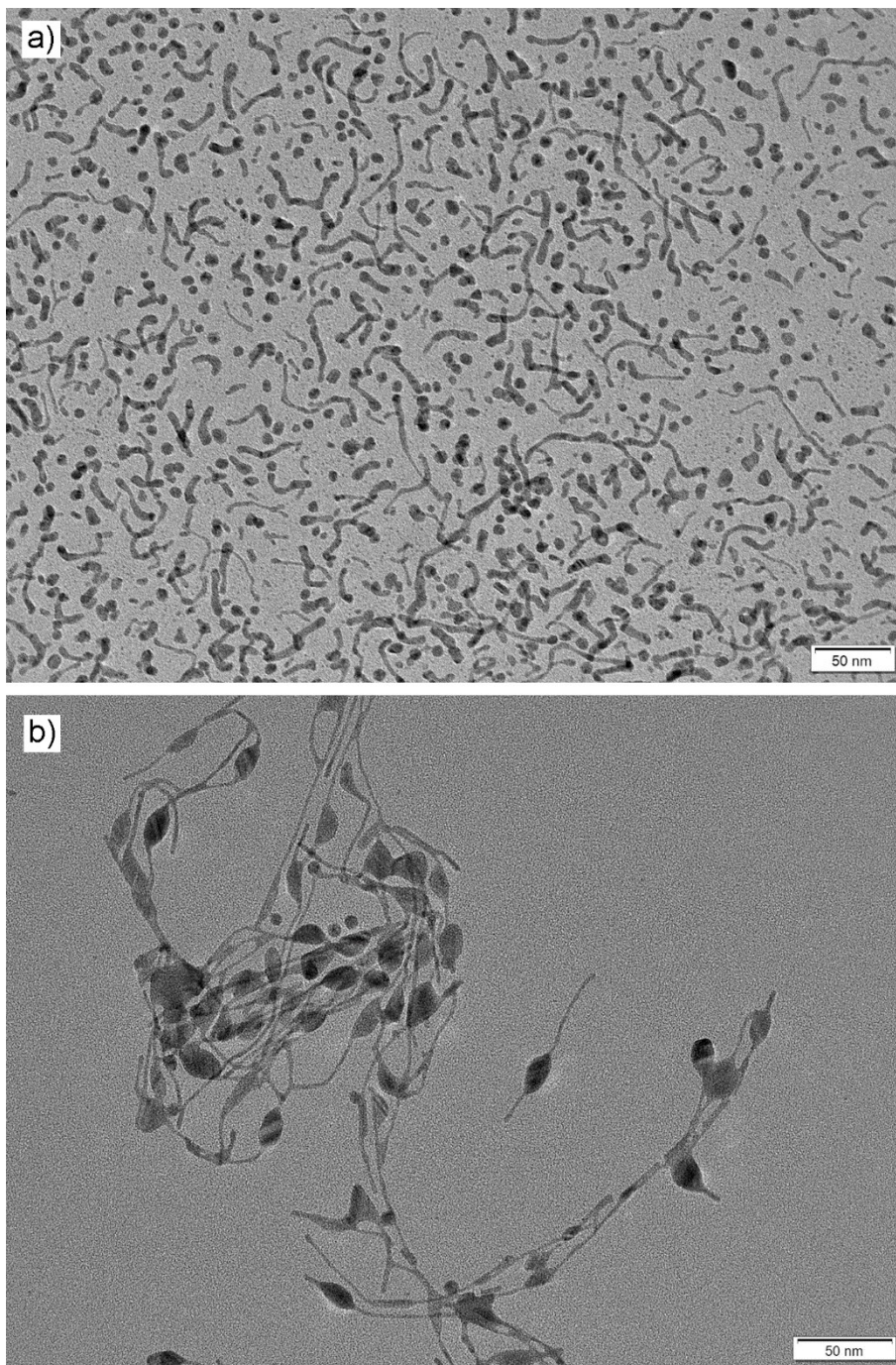


**Figure S6.** Schematic illustration showing the formation mechanism of Au-Ag ultrathin wire-dot hybrid nanostructure.

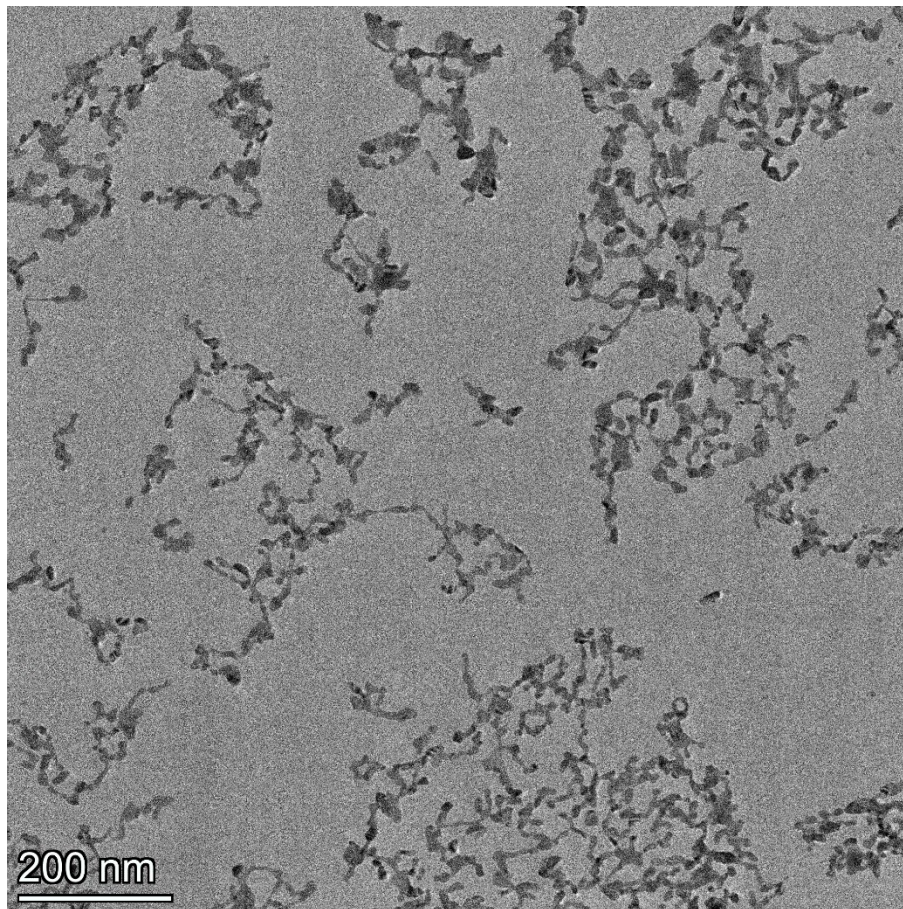


**Figure S7.** Effect of CTAC on product morphology. TEM image of product obtained via the standard procedure, except that the CTAC amount was varied from 400  $\mu\text{mol}$  in standard procedure to 40  $\mu\text{mol}$ .





**Figure S8.** Effect of AA amount on product morphology. TEM images of products obtained via the standard procedure, except that the amount of AA was varied from 150  $\mu\text{mol}$  in standard procedure to a) 100 and b) 300  $\mu\text{mol}$ , respectively.



**Figure S9.** TEM image of sample as illustrated in Figure 1 after being aged on copper grid for one month.