**Supporting Information**

# Continuous Crafting of Uniform Colloidal Nanocrystals by Inert-Gas-Driven Microflow Reactor

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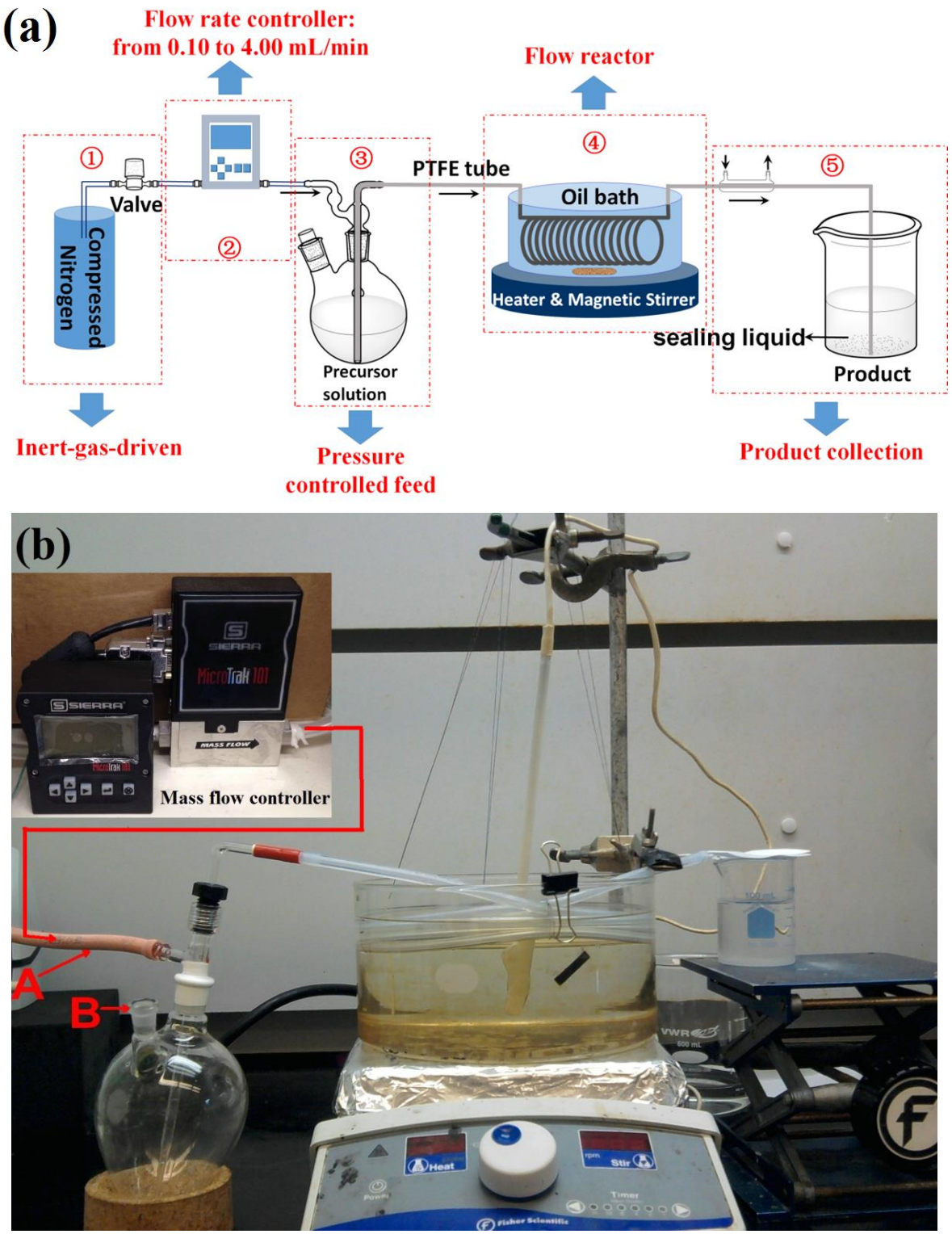


**Figure S1. (a)** The schematic illustration of five functional sections of inert-gas-driven continuous microflow reactor. (b) Digital image of the inert-gas-driven continuous microflow reactor. Inert gas was introduced to the microflow reactor through A with a controlled flow rate, and the precursor solution was injected into the vessel through B.

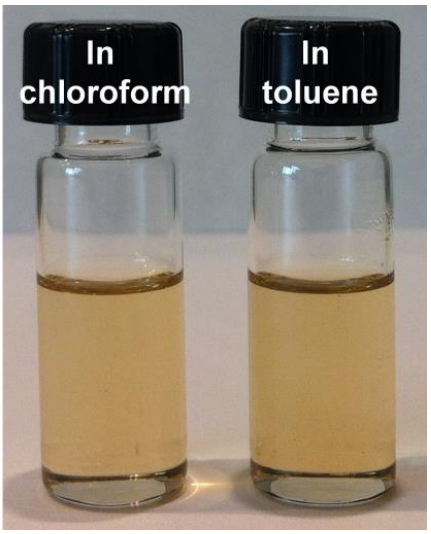


**Figure S2**. Digital images of the 13.5-nm $Cu_2S$ nanocrystals dissolved in chloroform and toluene. Clearly, the $Cu_2S$ nanocrystals have good solubility in various organic solvents (e.g., chloroform, toluene, hexane) due to the surface passivation by DDT ligands.

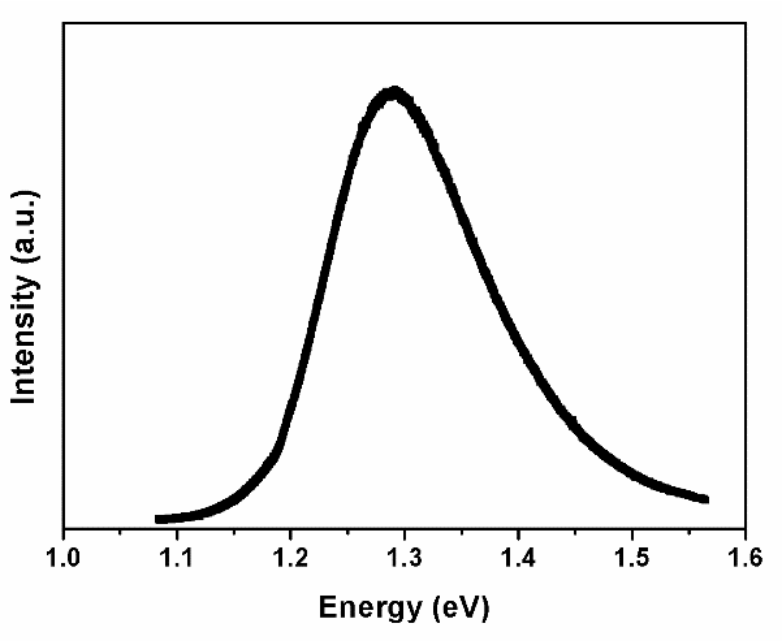


**Figure S3.** PL spectrum of the 13.5-nm $Cu_2S$ nanocrystals.

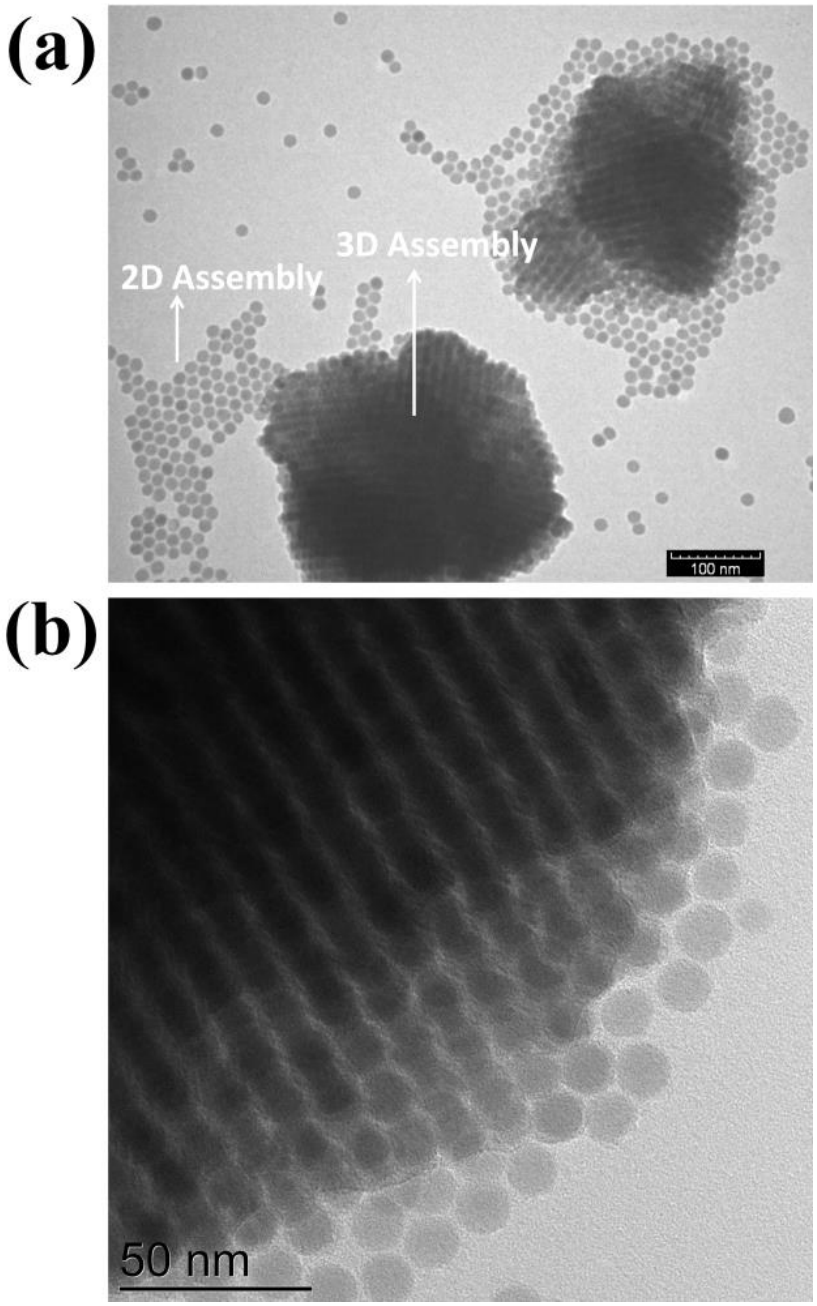


**Figure S4**. (a) TEM image of 2-D and 3-D self-assemblies of the 13.5-nm $Cu_2S$ nanocrystals, and (b) the corresponding TEM image of 3-D self-assembly at higher magnification.

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**Synthesis and characterizations of Ag nanocrystals**

In a typical synthesis of Ag nanocrystals, 0.1 g of silver acetate [$CH_3COOAg$, 99%, Sigma Aldrich] was dissolved in the mixture of oleylamine (5 mL) and 1,2,4-trichlorobenzene (50 mL) to prepare the precursor solution. In this reaction system, oleylamine served as the reducer and surface ligand. The microflow reactor was preheated to 150 $^{o}$C. The precursor solution was then introduced into the microflow reactor system. The flow rate was controlled at 3 mL/min (corresponding to the reaction time of 10 min). On the basis of calculation using equation (1), the Reynolds number *Re* for the synthesis of Ag nanocrystals was approximately 35, which was below the upper critical value of laminar flow (i.e., 2100). The final Ag nanocrystals were obtained after purification by centrifuging and rinsing with methanol, and they were readily soluble in chloroform. The nanocrystal production rate (milligram per hour; mg/h) was approximately 212 mg/h

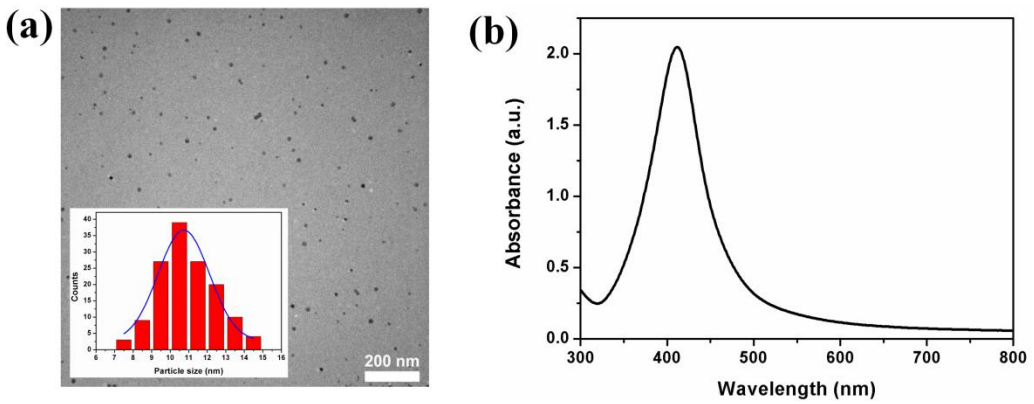


**Figure S5**. (a) TEM image, and (b) UV-vis spectrum of Ag nanocrystals synthesized by inert-gas-dirven continuous microflow reactor. The corresponding size distribution histogram is shown as an inset in (a), where the blue curve is the Gaussian fitting of nanocrystal size distribution. The as-synthesized Ag nanocrystals have an average diameter of 11.0 ± 1.5 nm. They showed a characteristic plasmonic absorption peak at 411 nm.