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Electronic Supplementary Information

Growth mechanism of Ag_2S nanocrystals in a nonpolar organic solvent

Hui Liu, Weiwei Hu, Feng Ye, Yulong Ding, Jun Yang*

State Key Laboratory of Multiphase Complex Systems, Institute of Process Engineering, Chinese Academy of Sciences, Beijing 100190, China. Fax: 86-10-8254 4814; Tel: 86-10-8254 4915; E-mail: jyang@mail.ipe.ac.cn

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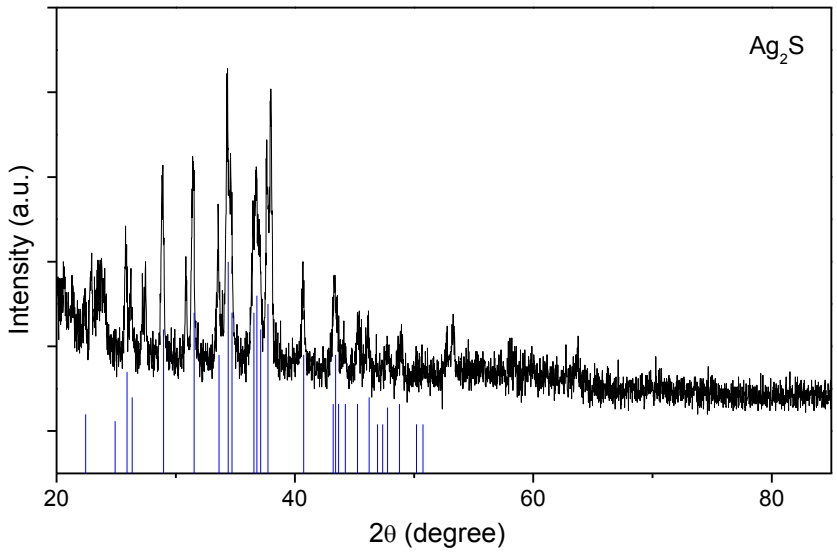

Fig. S1 XRD pattern of Ag_2S nanocrystals obtained by reacting DDA-Ag^+ complexes and S powder in toluene at 283 K.

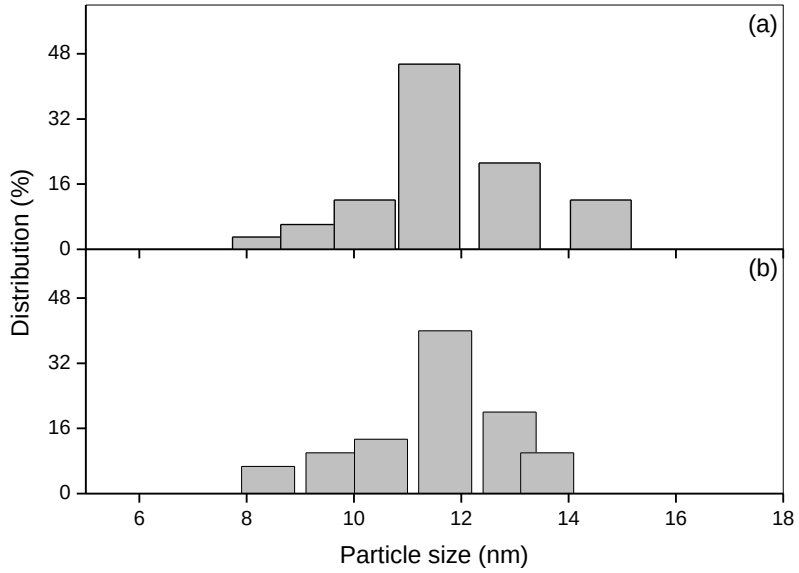

Fig. S2 Histograms depicting the average size and size distribution of Ag_2S nanocrystals obtained at 283 K (a, corresponding to Fig. 1h) and 333 K (b, corresponding to Fig. 3c).

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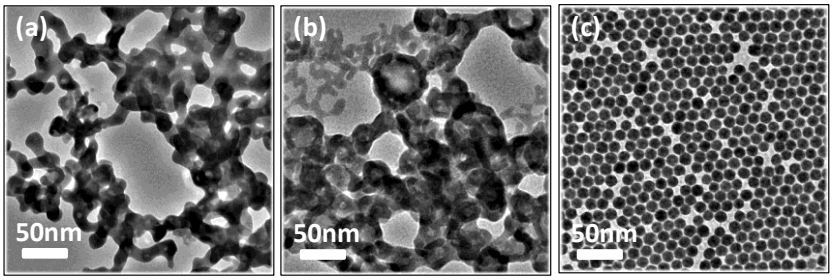

Fig. S3 TEM images of Ag_2S nanocrystals obtained by reacting DDA-Ag^+ complexes with element sulfur in toluene at 5 min (a), 30 min (b), and 240 min (c). The temperature and Ag/S molar ratio were controlled at 298 K and 1/100, respectively.

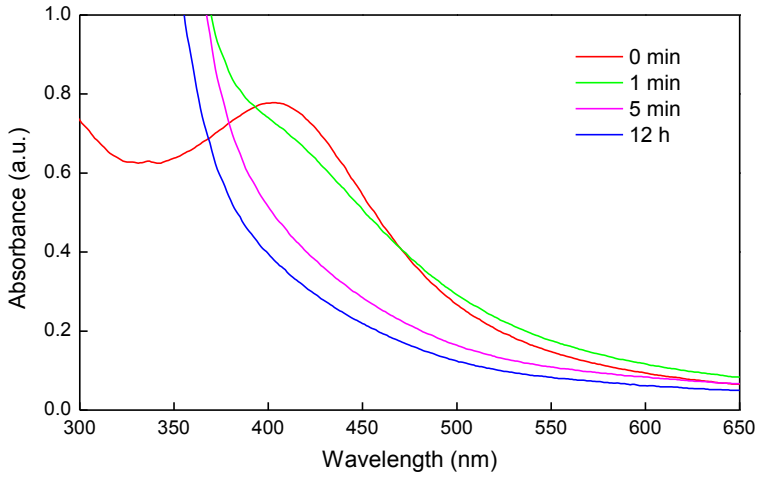

Fig. S4 UV-visible spectra of the mixture of Ag nanoparticles and S powders in toluene at different time.

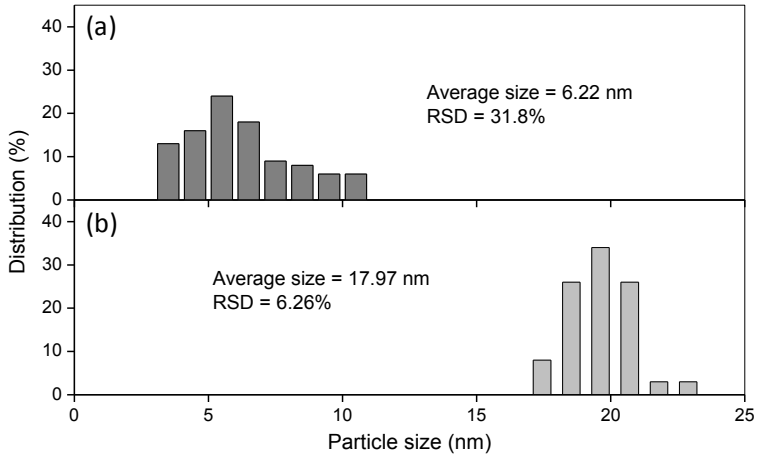

Fig. S5 Histograms depicting the average size and size distribution of initial Ag nanoparticles (a) and final Ag_2S nanocrystals (b).