

Supporting Information

Controlled Synthesis of Pyramid-Aggregated Sphere-like Cadmium Sulfide in the Presence of a Polymer

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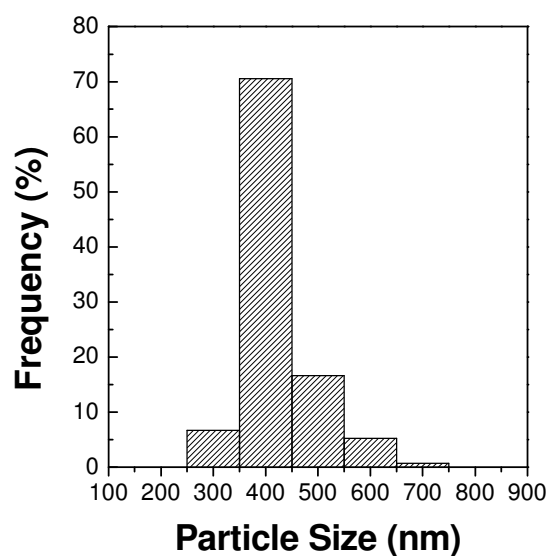


Figure S1 Size distribution of the as-synthesized sphere-like CdS products in 1.0mM F127 solution at 80°C for 6h.



Figure S2. FE-SEM image of CdS synthesized in aqueous solution in the absence of F127 at 80°C for 6h.

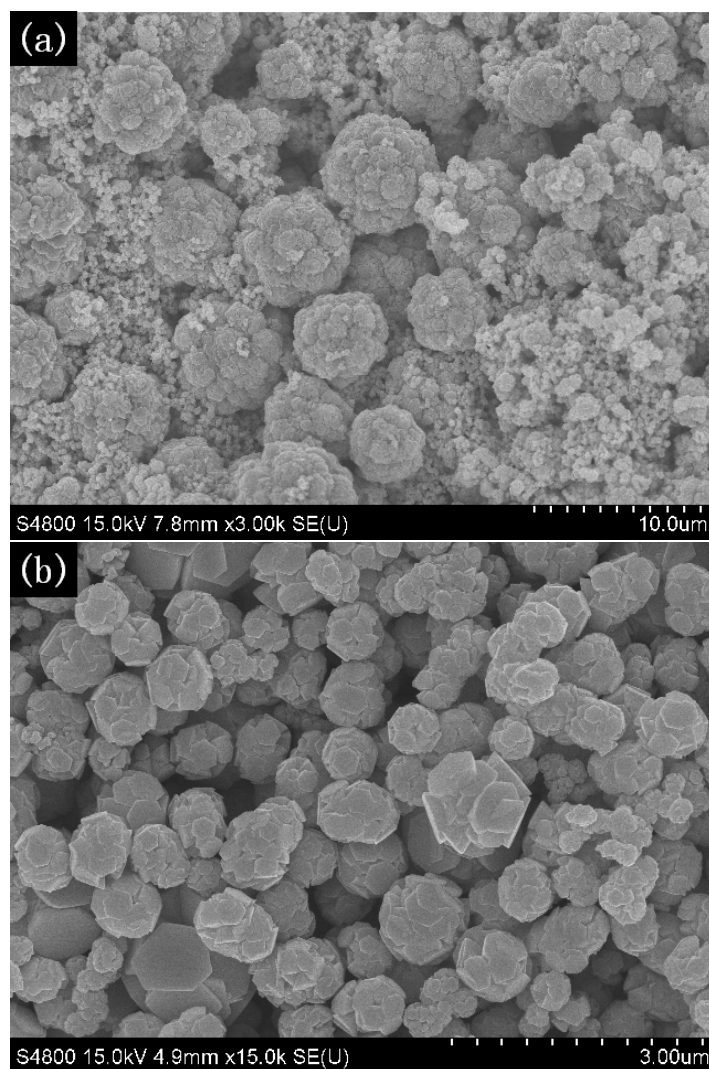


Figure S3. FE-SEM image of CdS synthesized prepared in (a) $5.0 \times 10^{-6} \text{ M}$ and (b) $1.0 \times 10^{-4} \text{ M}$ F127 solution at 80°C for 6h.

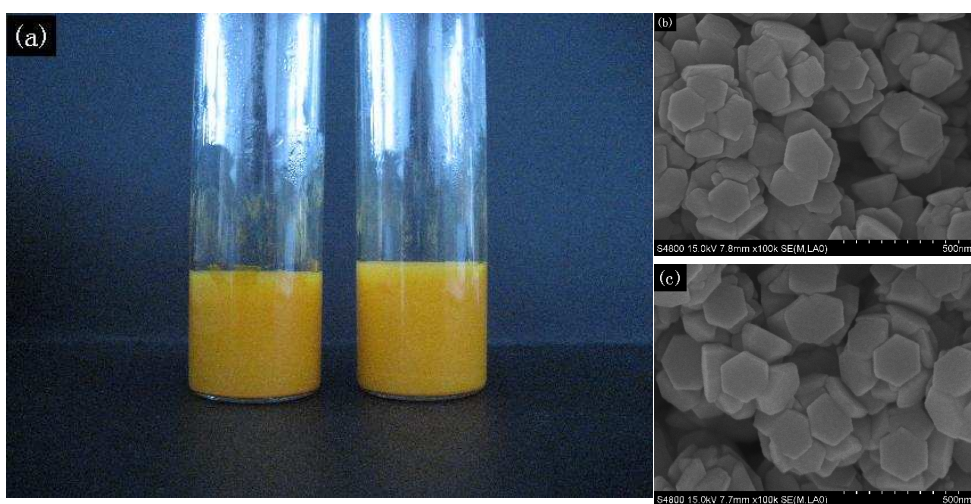


Figure S4. (a) Picture of CdS products without (left) and with (right) ultrasonic pretreatment at 80°C for 6h; (b) FE-SEM image of the CdS product without ultrasonic pretreatment; (c) FE-SEM image of the CdS product with ultrasonic pretreatment.

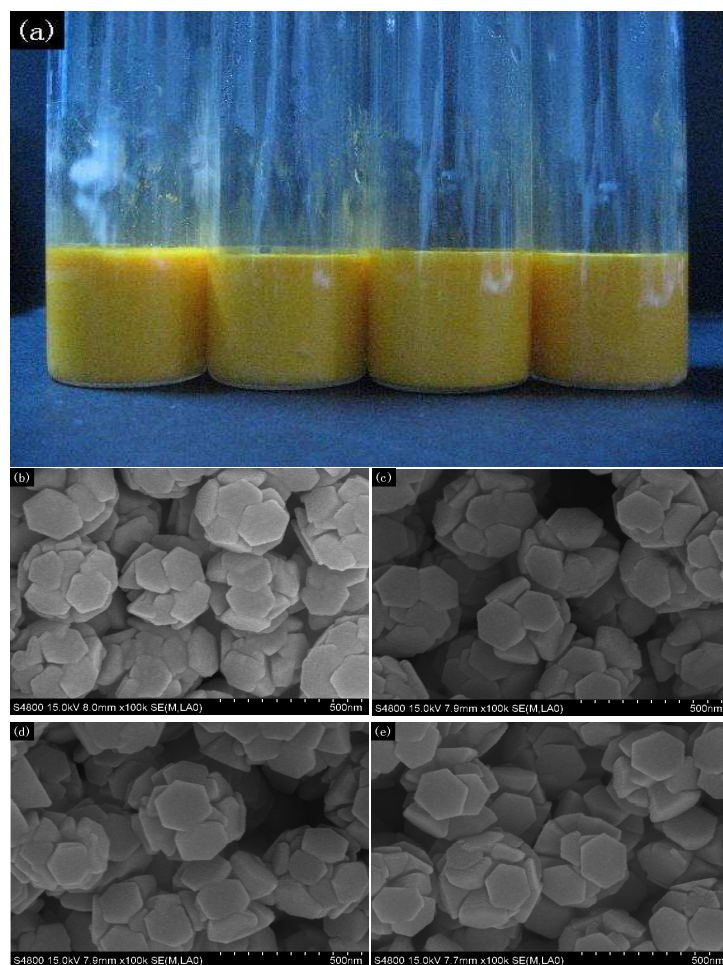


Figure S5. (a) The CdS product with ultrasonic pretreatment for different time (5,10,20,40min from left to right) at 80°C for 6h; (b,c,d,e) The FE-SEM images of the CdS obtained at different ultrasonic pretreatment times (5,10,20,40min).

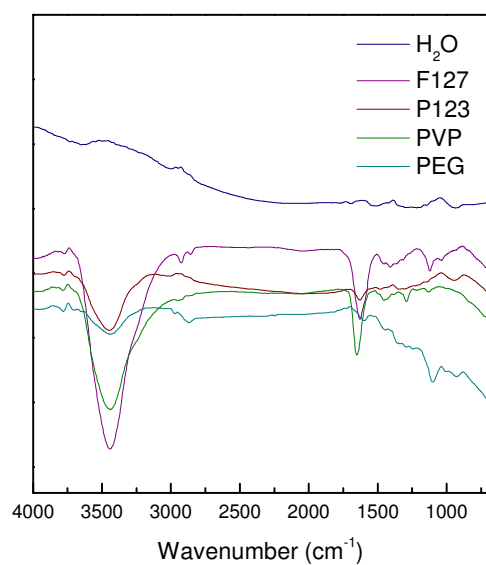


Figure S6. The FT-IR spectra of CdS fabricated in different solution.

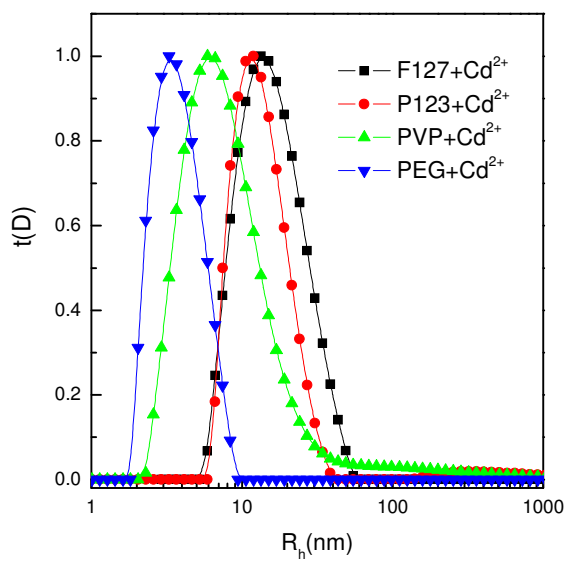


Figure S7. The Hydrodynamic radius (R_h) distribution of different polymers with the addition of Cd^{2+} .

The concentrations of polymers and Cd^{2+} are all $1.0 \times 10^{-3} \text{ M}$ and 0.1 M , respectively.

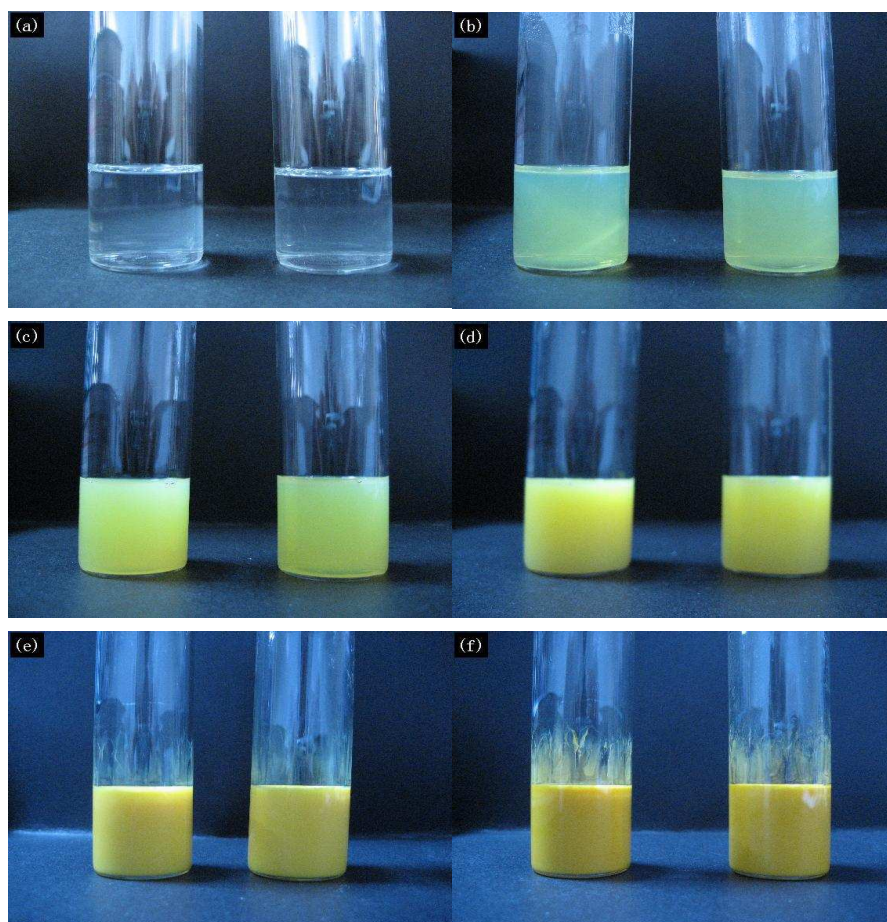


Figure S8. The color change of the CdS samples using thioacetamide as sulfur source for both without and with ultrasonic pretreatment at different reaction time (0min, 30min, 1h, 2h, 4h, 6h).

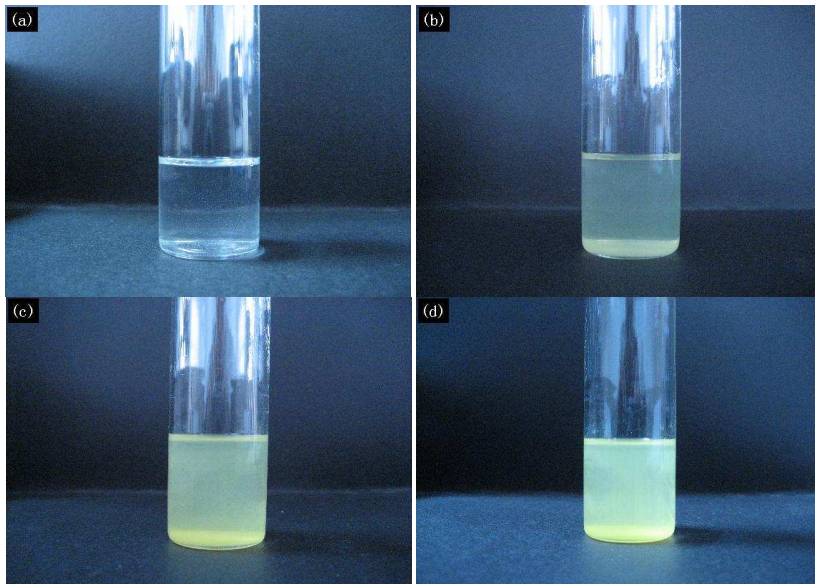


Figure S9. The color change of CdS samples using thiourea as sulfur source at different times (0h, 2h, 4h, 6h).