

Supplementary Materials for

Aqueous phase- and size-controlled synthesis, and secondary assemblies of CdS nanocrystals at room temperature

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Table S1

item \ pH	2.5	3.5	5.0	6.5	7.5	8.5	9.5
K'_{MY}	4.56	6.98	10.01	12.54	13.68	14.69	15.53
$C_{Cd^{2+}}$	2.23* $10^{-3.78}$	2.23* $10^{-4.99}$	2.23* $10^{-6.5}$	2.23* $10^{-7.77}$	2.23* $10^{-8.35}$	2.23* $10^{-8.85}$	2.23* $10^{-9.26}$

Table S2

item \ pH	1.5	4.5	6.0	7.5	9.0
K'_{MY}	17.85	23.85	27.85	28.31	29.08
$C_{Cd^{2+}}$	2.23* $10^{-10.43}$	2.23* $10^{-13.43}$	2.23* $10^{-13.93}$	2.23* $10^{-15.65}$	2.23* $10^{-16.04}$

Table S. Conditional stability constants (K'_{MY}) and cadmium ion concentration of cadmium ion complexes with different ligands at different pH values: Table S1) ethylenediaminetetraacetic acid disodium salt dihydrate (EDTA); Table S2) sulfosalicylic acid (SSA).

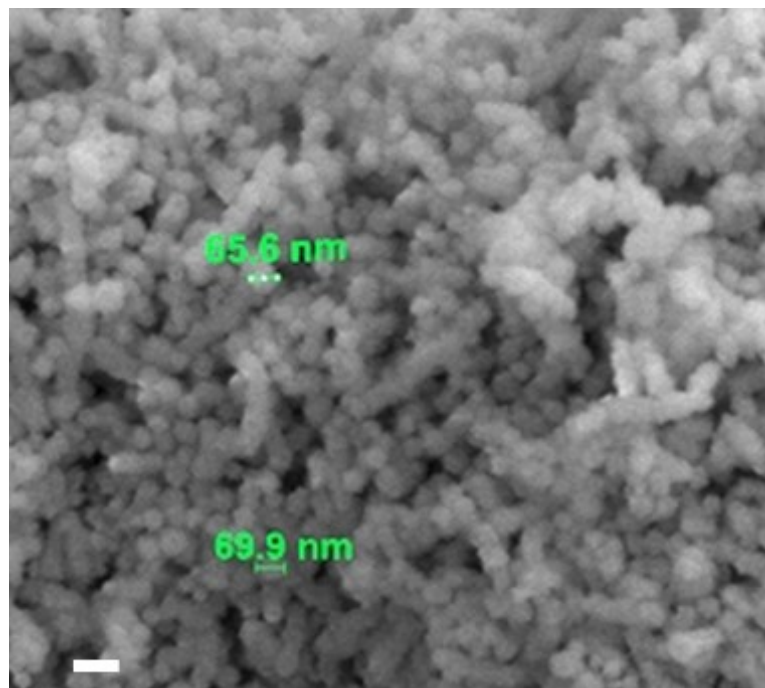


Fig S1. SEM images of CdS NCs synthesized with EN as stabilizer at pH = 7.5. Scale bars, 100 nm.

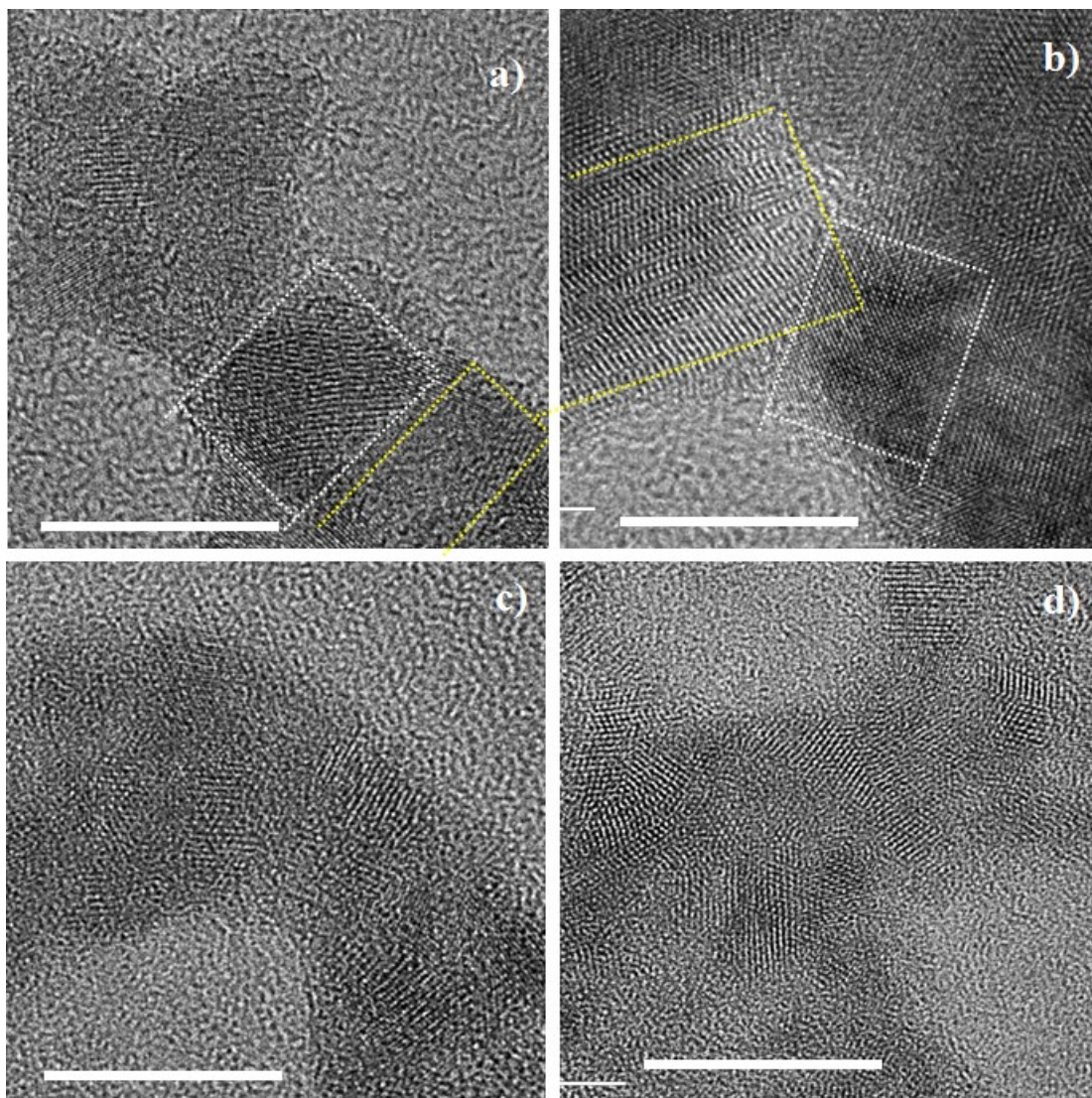


Fig S2. a, b, c, and d) HRTEM of joining regions of CdS single crystal chain. Scale bars, 10 nm.

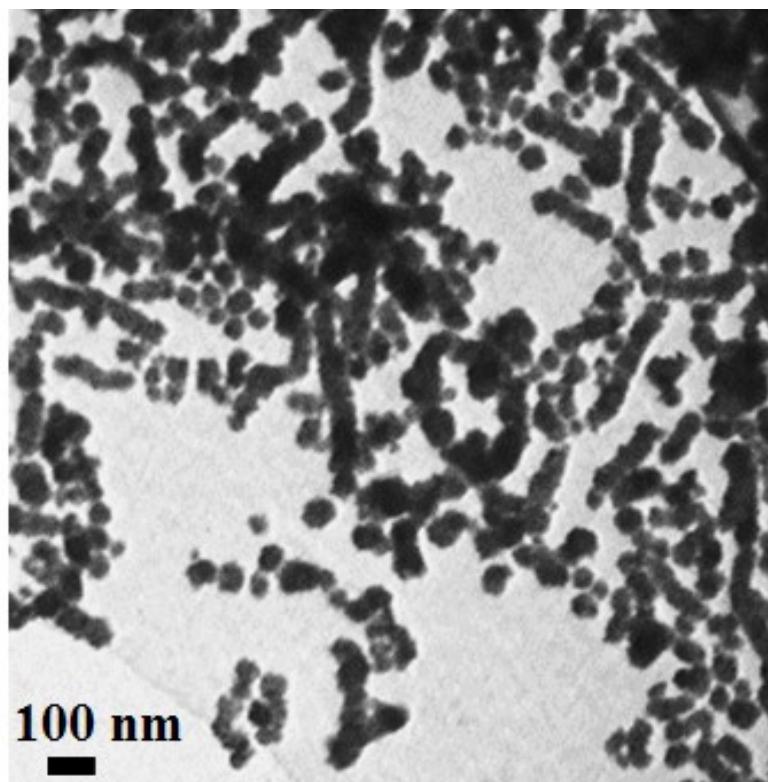


Fig S3. TEM images of CdS NCs synthesized with EN as stabilizer at 80 °C. Scale bars, 100 nm.

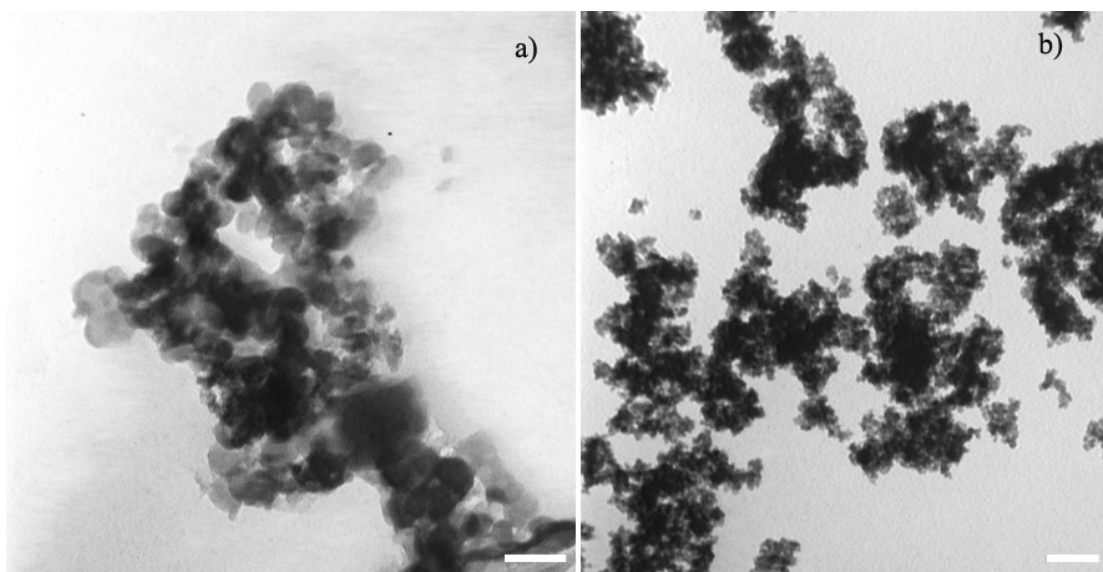


Fig S4. TEM images of CdS NCs synthesized with SSA as stabilizer at pH = 4.5 a), and 9.0 b).

Scale bars, 100 nm.

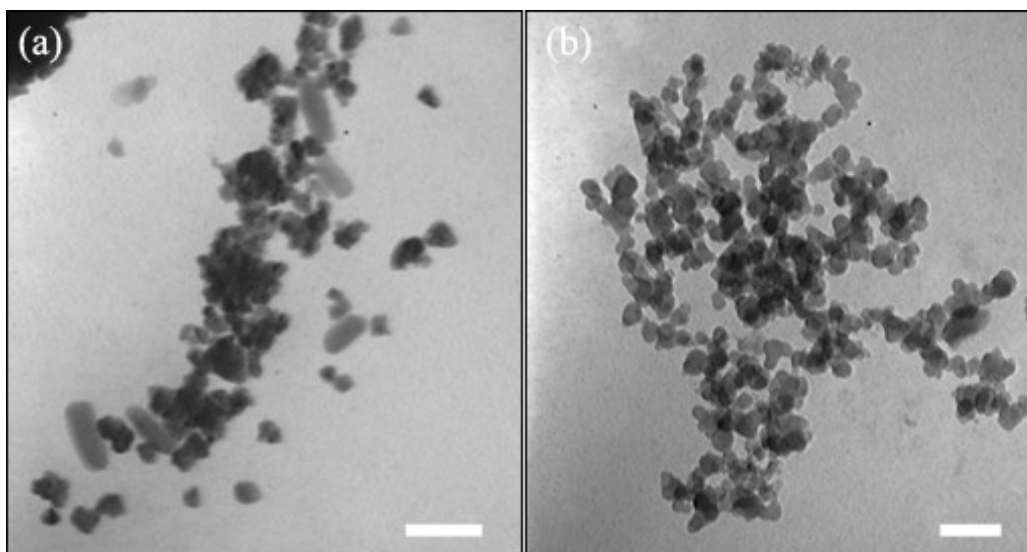


Fig S5. TEM images of CdS NCs prepared with ligand EDTA at pH = 7.5 a), and 9.5 b). Scale bars, 100 nm.