

Oil Phase Evaporation Induced Self-Assembly of Hydrophobic Nanoparticles into Spherical Clusters with Controlled Surface Chemistry in an Oil-in-Water Dispersion and Comparison of Behaviors of Individual and Clustered Iron Oxide Nanoparticles

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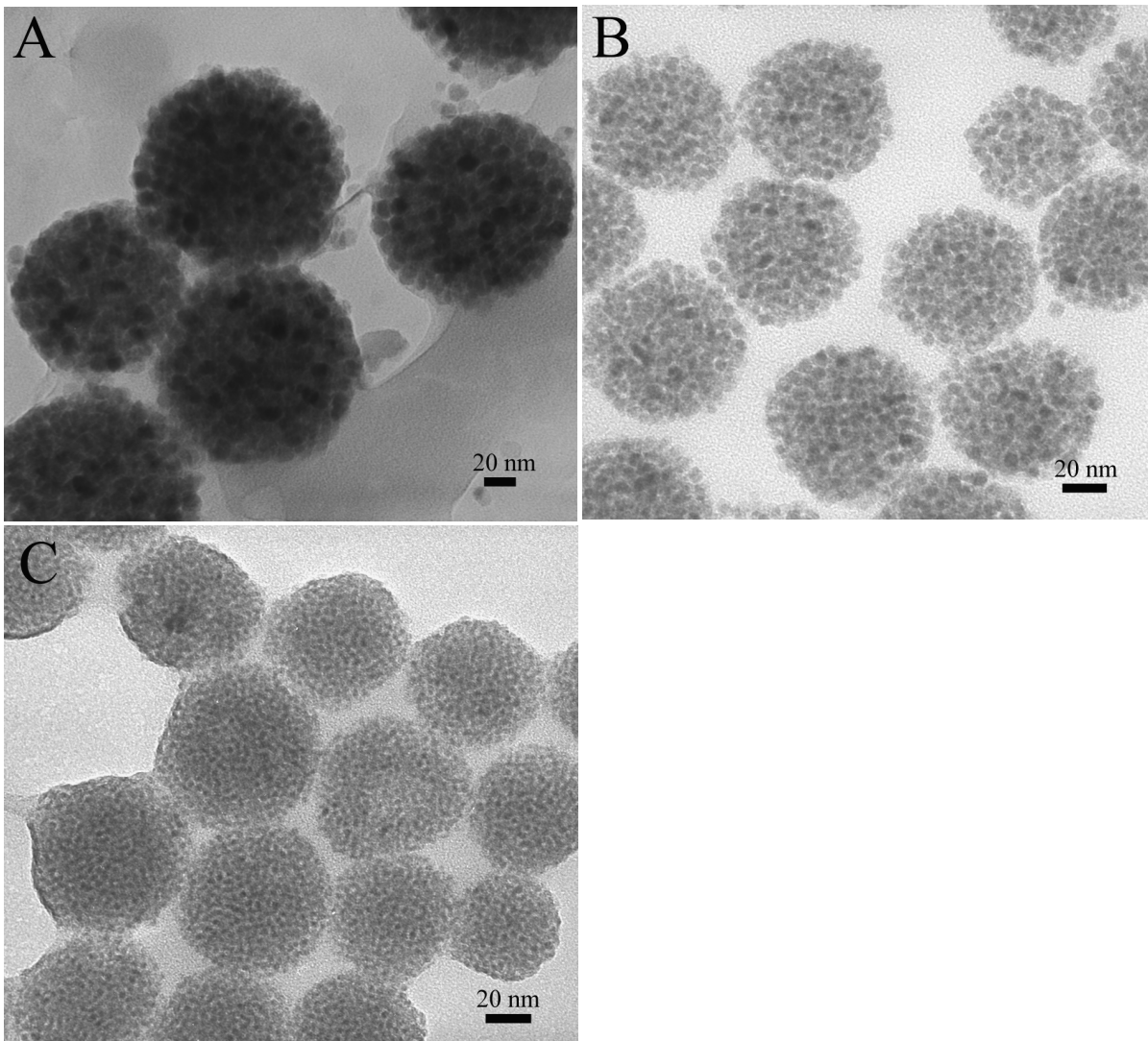


Fig. S1, Larger view of NPCs in Fig. 1 with different iron oxide nanoparticles size. A-C corresponds to 12, 6 and 3 nm NPs respectively.

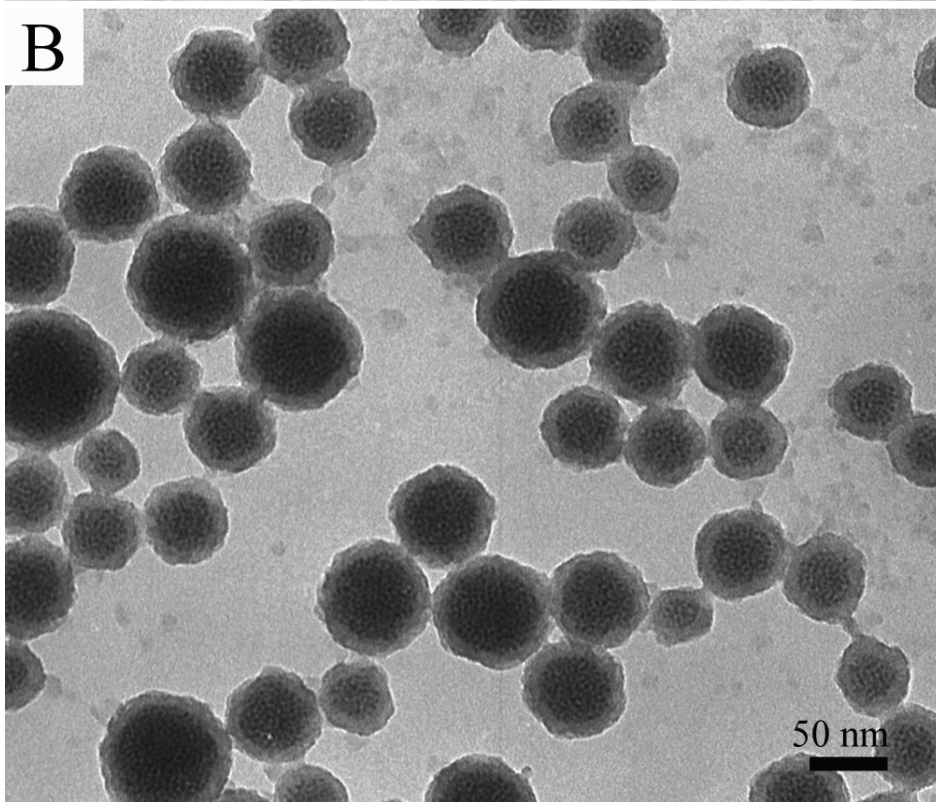
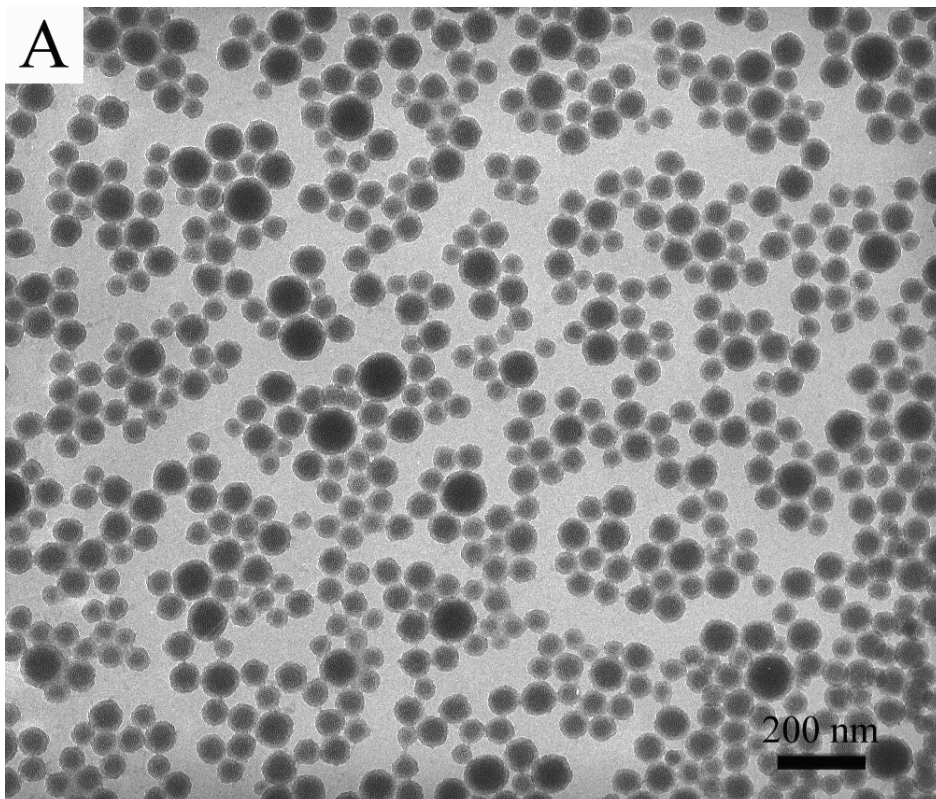


Fig. S2, Silica coating of 3 nm iron oxide NPCs derived from CTAB as surfactant. No size selection was applied to the NPCs before silica coating.

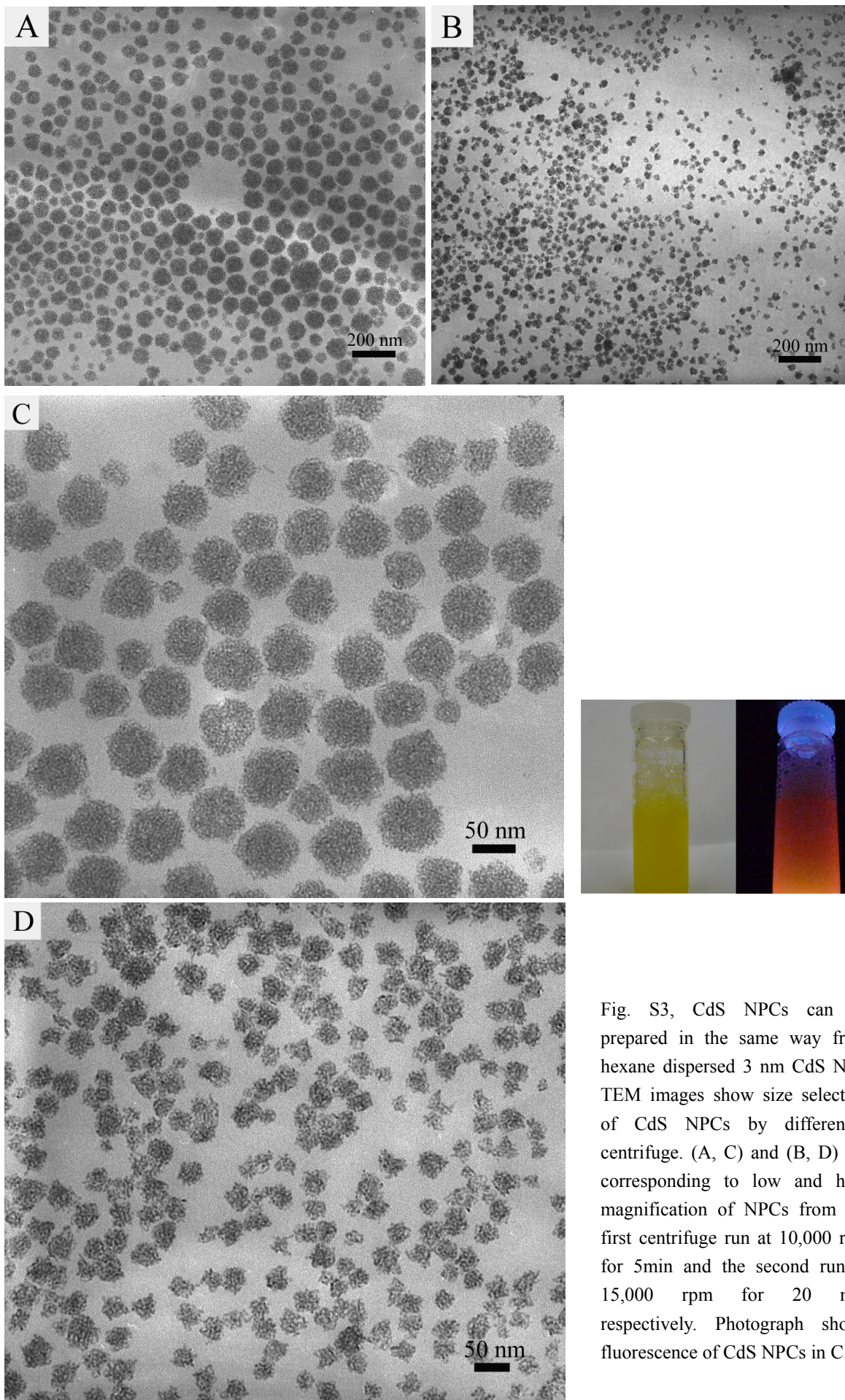


Fig. S3, CdS NPCs can be prepared in the same way from hexane dispersed 3 nm CdS NPs. TEM images show size selection of CdS NPCs by differential centrifuge. (A, C) and (B, D) are corresponding to low and high magnification of NPCs from the first centrifuge run at 10,000 rpm for 5min and the second run at 15,000 rpm for 20 min respectively. Photograph shows fluorescence of CdS NPCs in C.

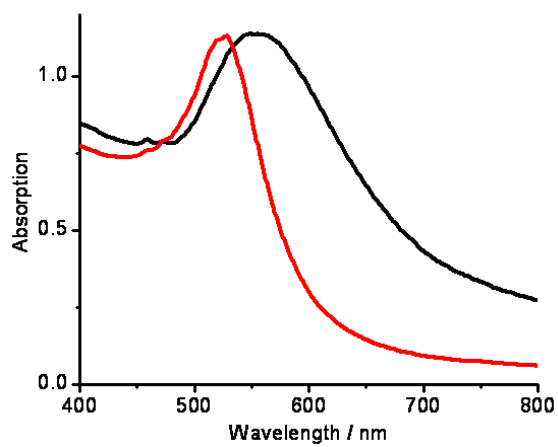
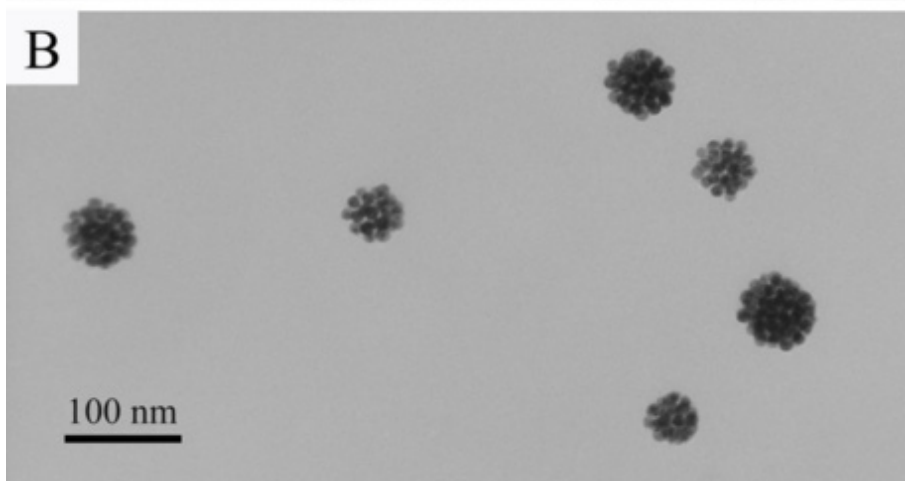
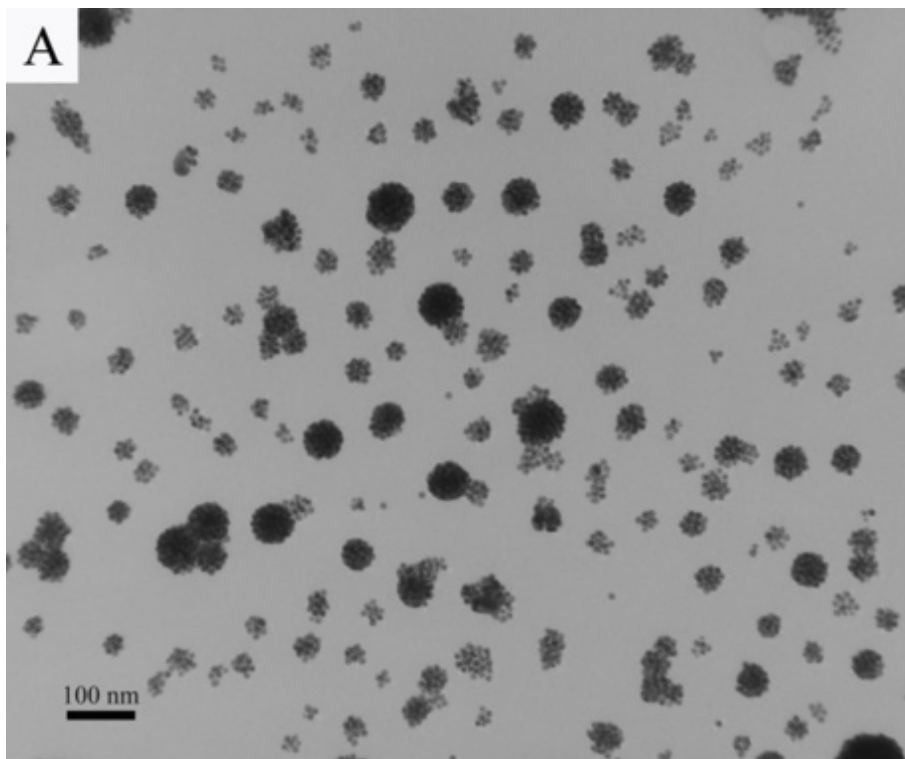


Fig. S4, gold NPCs: (A, B) low and high magnification of TEM images; (C) UV-Vis spectrum of individual AuNPs (red line) and Au NPCs (black line) indicating the coupling of surface plasmon upon the formation of clusters.

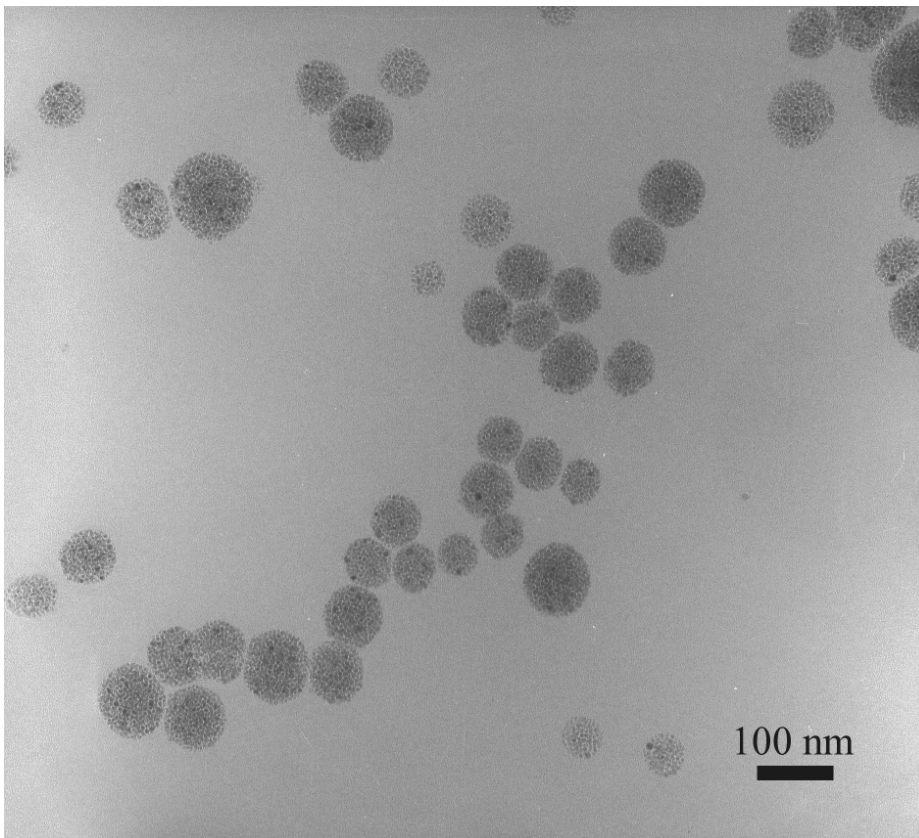


Fig. S5, Fe_3O_4 NPCs using PAA as emulsifier. Clusters were collected by 10,000 rpm for 5 min.

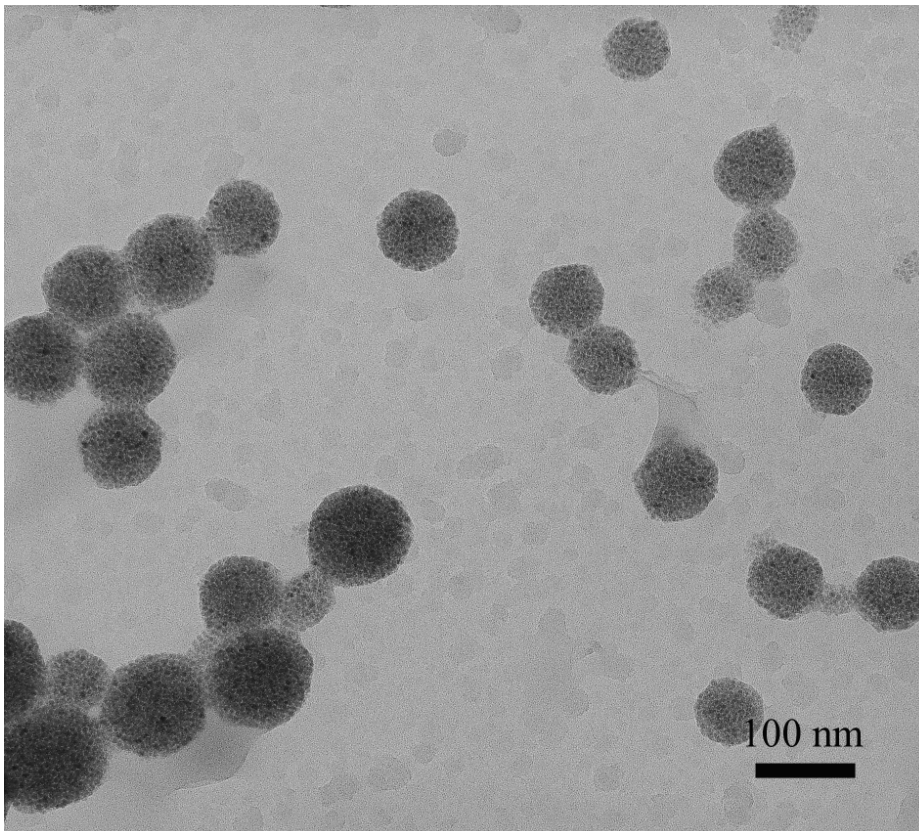


Fig. S6, Fe_3O_4 NPCs using PEI as emulsifier. Clusters were collected by 10,000 rpm for 5 min.

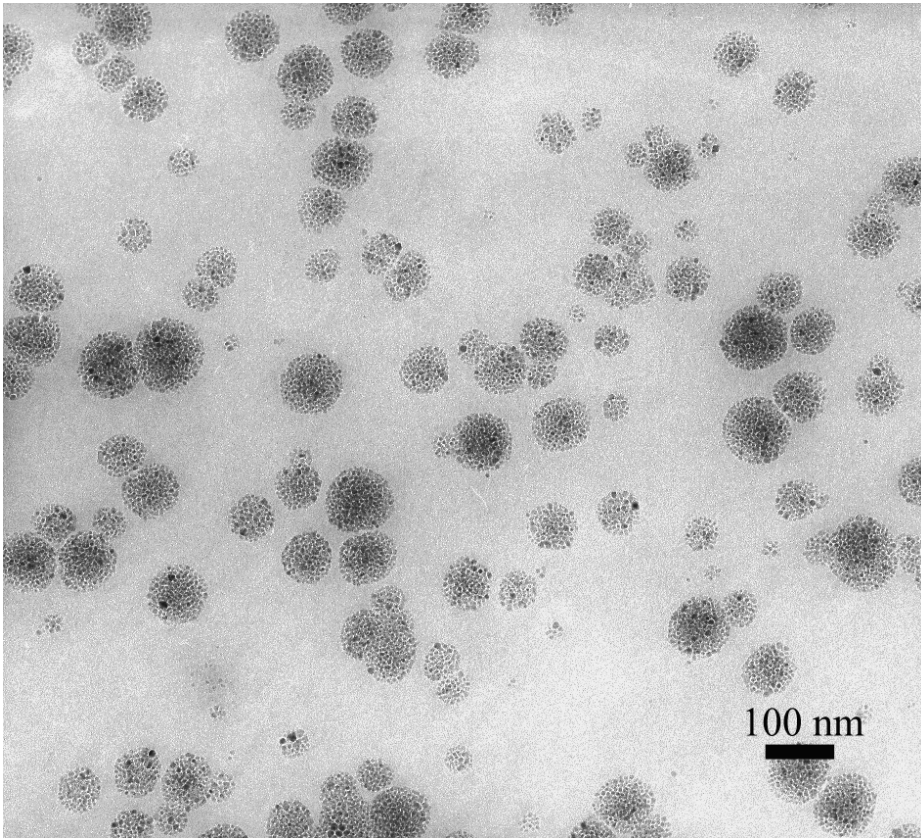


Fig. S7, Fe₃O₄ NPCs using PSS as emulsifier. Clusters were collected by 10,000 rpm for 5 min.

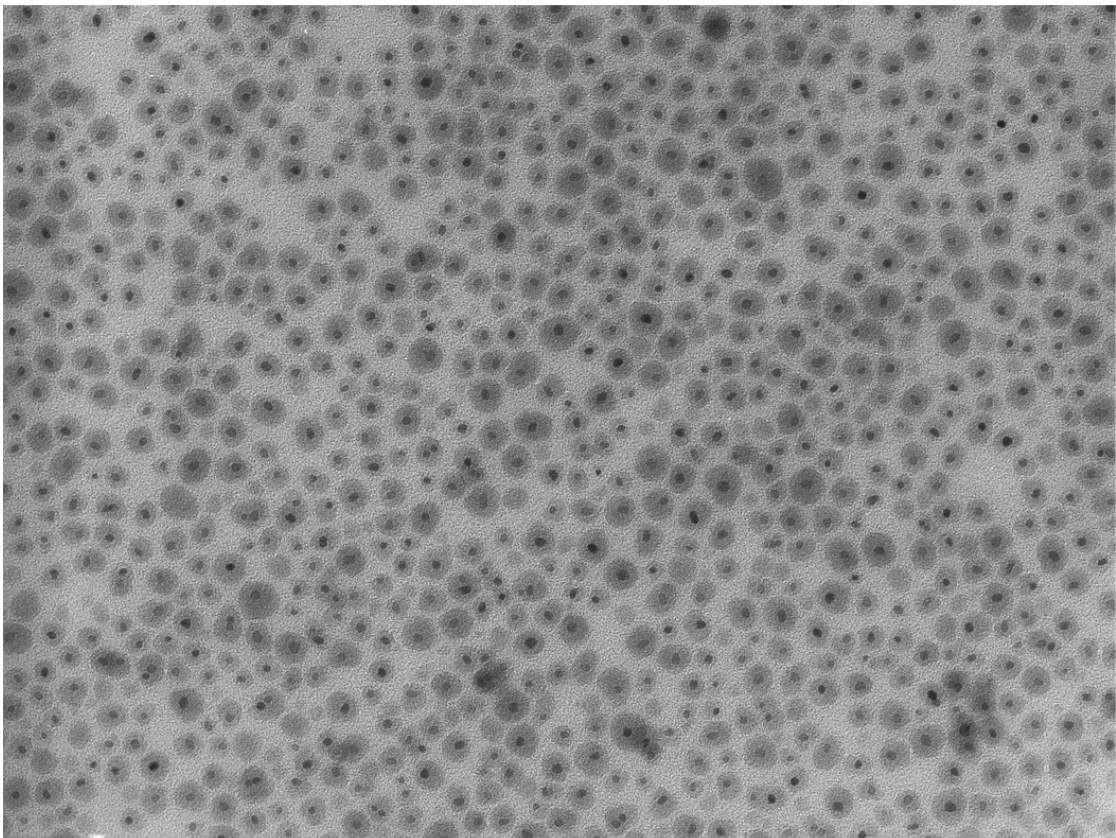
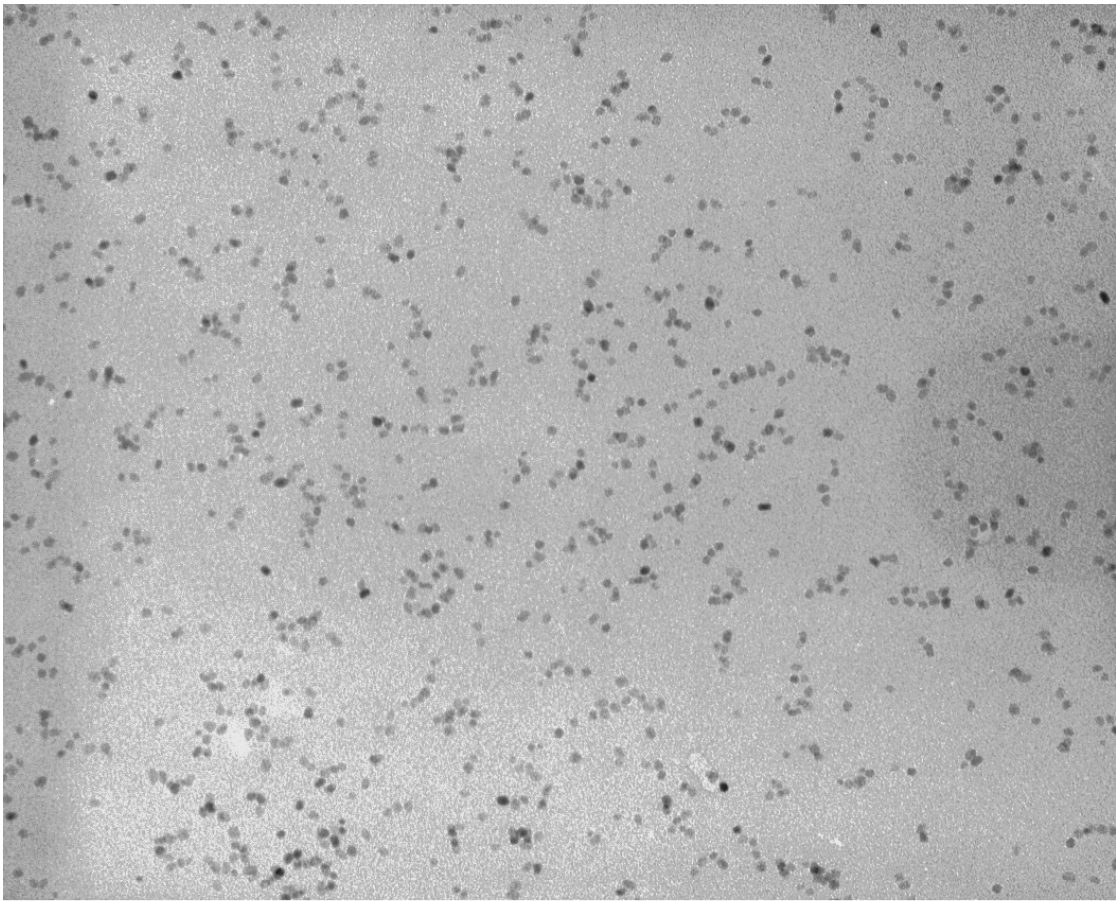


Fig. S8, TEM image of larger view of 6 nm iron oxide nanoparticles dispersed individually in water after phase transfer. Silica coated iron oxide nanoparticles is also shown here as a more direct evidence for the individual dispersion of nanoparticles.