

Supporting information for:

Connecting quantum dots and bionanoparticles in hybrid nanoscale ultra-thin films

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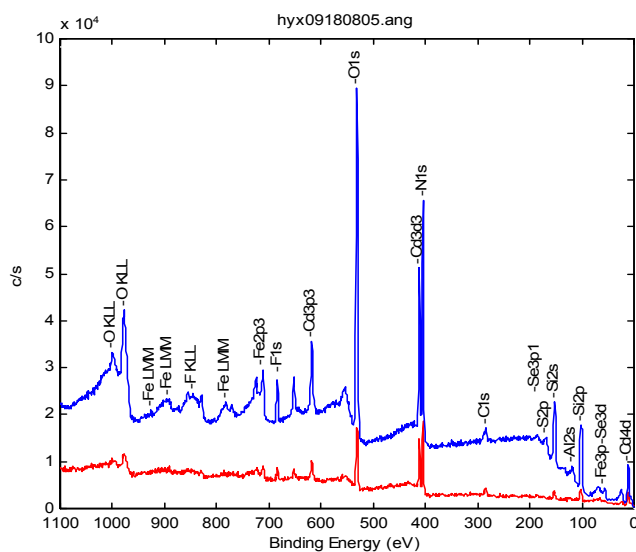


Figure S1. XPS spectra recorded on a CdSe/ferritin cross-linked film prepared by assembly of benzaldehyde-functionalized CdSe quantum dots and ferritin nanoparticles at a flat toluene-water interface, showing the presence of Cd, Se, Fe and N. The analysis was performed after etching the sample with oxygen plasma to remove carbon.

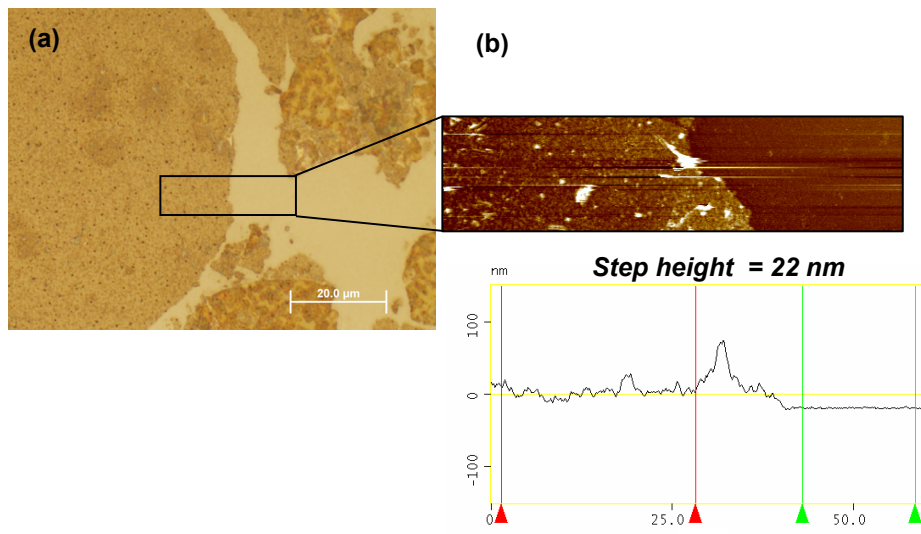


Figure S2. (a) Optical micrograph of a crosslinked CdSe/ferritin film; (b) AFM image of the same film, showing a thickness of 22 nm.

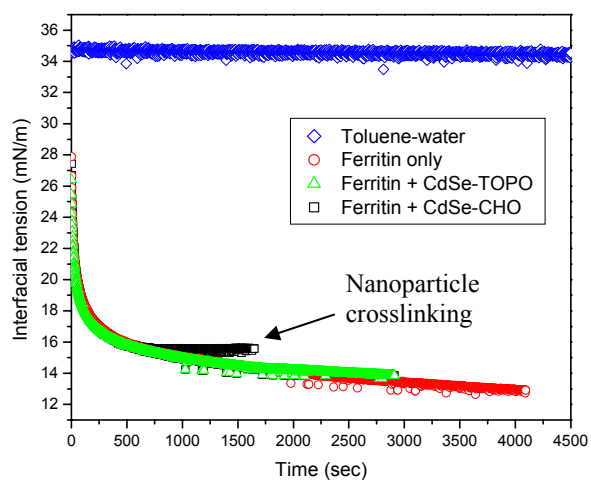


Figure S3. Pendant drop tensiometry results from nanoparticle assemblies and cross-linked assemblies.

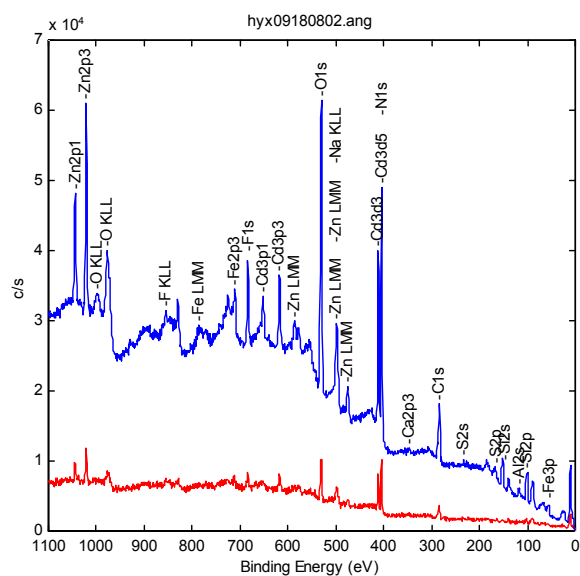


Figure S4. XPS spectrum of a plasma-etched film containing norbornene-functionalized CdSe/ZnS quantum dots and ferritin nanoparticles, following crosslinking by ROMP. Peaks corresponding to Cd, Se, Zn, Fe and N confirm the presence of both types of nanoparticles.

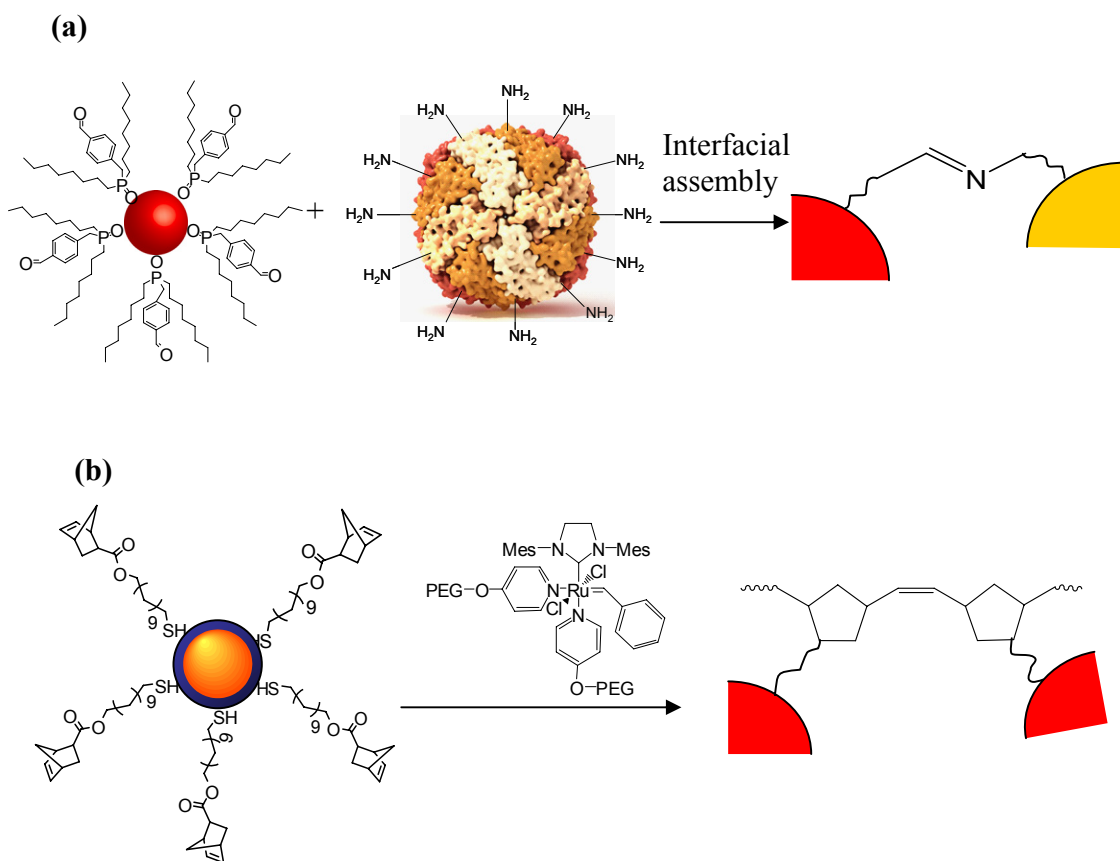


Figure S5. Depiction of interparticle reactions that cross-link nanoparticle assemblies, using (a) imine formation and (b) ROMP to bridge the assembled particles.