Electronic Supplementary Information

Template-free Syntheses of CdS Microspheres Composed of Ultrasmall Nanocrystals and their photocatalytic study

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Fig. S1 FT-IR Spectrum of uncapped CdS microspheres S3.
Fig. S2 FT-IR Spectrum of MCE-capped CdS microspheres S4.
**Fig. S3.** Band gap calculation plot for S1.

![Graph of (dνh²) vs. hν for S1.](image)

**Fig. S4.** Band gap calculation plot for S2.

![Graph of (dνh²) vs. hν for S2.](image)
Fig. S5. Band gap calculation plot for S3.

![Graph showing band gap calculation for S3.](image)

Fig. S6. Band gap calculation plot for S4.

![Graph showing band gap calculation for S4.](image)
Scheme S1. Proposed mechanism of photocatalytic degradation of MO showing possible pathways enroute to the formation of CO$_2$ and H$_2$O.