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## **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.



Fig. S4. Band gap calculation plot for S2.



Fig. S5. Band gap calculation plot for S3.



Fig. S6. Band gap calculation plot for S4.



Scheme S1. Proposed mechanism of photocatalytic degradation of MO showing possible pathways enroute to the formation of  $CO_2$  and  $H_2O$ .

