

**Supplementary material**

**Synthesis of urchin-like  $\text{Fe}_3\text{O}_4@\text{SiO}_2@\text{ZnO}/\text{CdS}$  core shell microspheres for the repeated  
photocatalytic degradation of rhodamine B under visible light**

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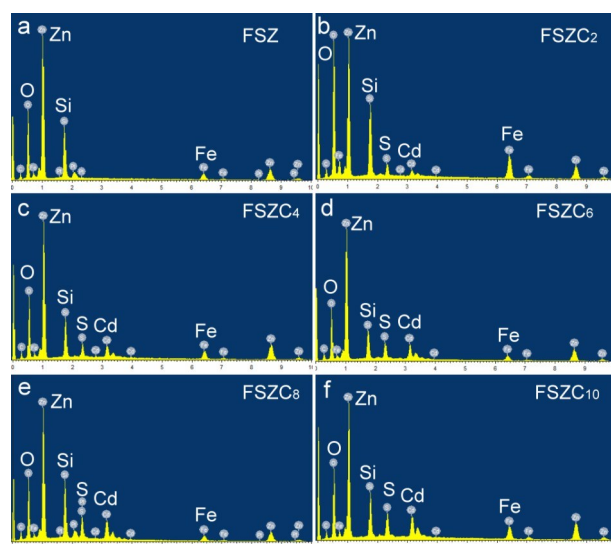
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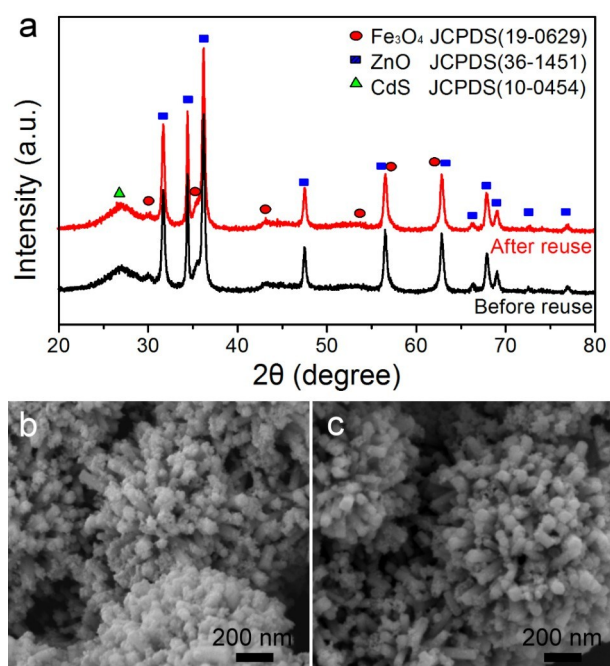
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**Fig.S1** EDS patterns of  $\text{Fe}_3\text{O}_4@\text{SiO}_2@\text{ZnO}/\text{CdS}$  microspheres with different CdS deposition cycles. (a) 0 cycles; (b) 2 cycles; (c) 4 cycles; (d) 6 cycles; (e) 8 cycles; (f) 10 cycles.

Name	CdS SILARC ycles	CdS amount (wt.%)	BET surface areas (m <sup>2</sup> .g <sup>-1</sup> )
FSZ	0	0	15.57
FSZC <sub>2</sub>	2	2.6	18.73
FSZC <sub>4</sub>	4	4.2	20.07
FSZC <sub>6</sub>	6	8.3	21.75
FSZC <sub>8</sub>	8	10.1	23.24
FSZC <sub>10</sub>	10	13.9	22.08

**Table S1** Summarized CdS amount and BET surface areas of FSZC<sub>x</sub> samples.



**Fig.S2** XRD patterns and SEM images of FSZC<sub>x</sub> before and after RhB discoloration.