Supplementary Information

Ag Nanoparticles / Hematite Mesocrystals Superstructure Composite: a Facile Synthesis and Enhanced Heterogeneous Photo-Fenton Activity

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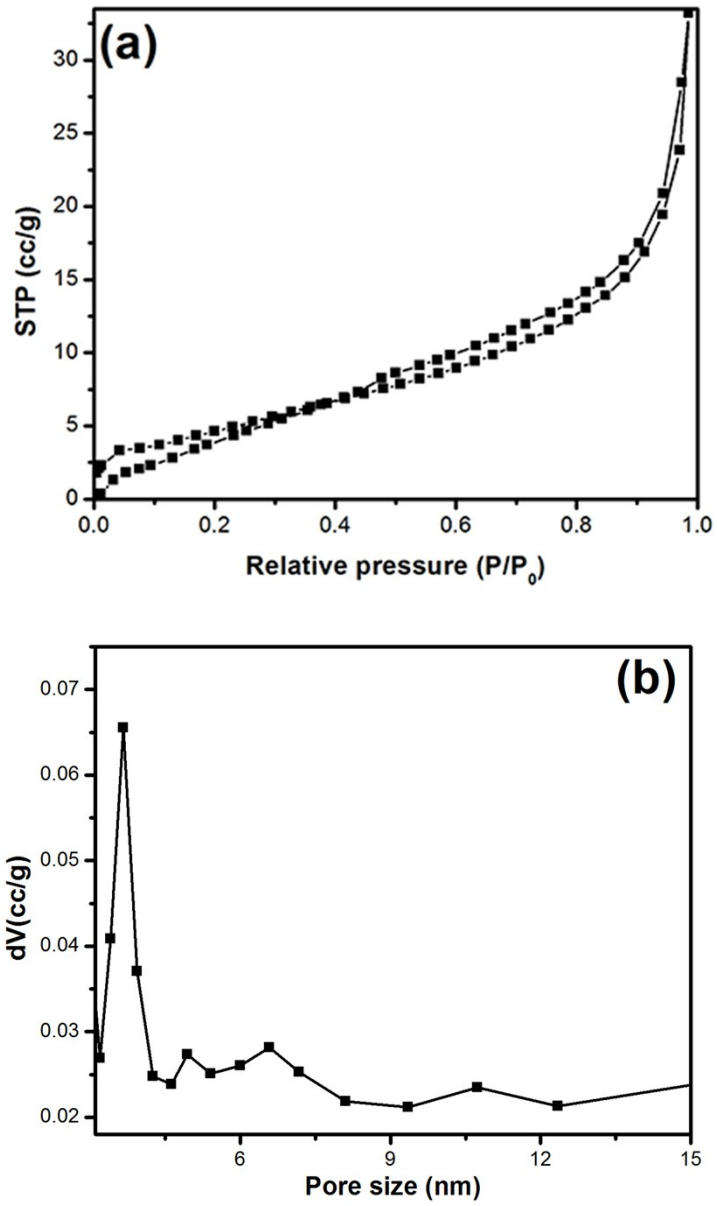

Fig. S1. Nitrogen adsorption–desorption isotherms (a) and pore size distribution (b) of Fe_2O_3 MCs

Table S1. A comparison of BET surface areas and average pore distribution of Fe_2O_3 MCs and Ag / Fe_2O_3 MCs composites.

Samples	Fe_2O_3 MCs	Ag/ Fe_2O_3 MCs-1%	Ag/ Fe_2O_3 MCs-2%	Ag/ Fe_2O_3 MCs-3%
BET surface area (m^2/g)	18.8	14.0	17.9	9.77
Average pore size (nm)	3.69	3.72	3.65	3.68

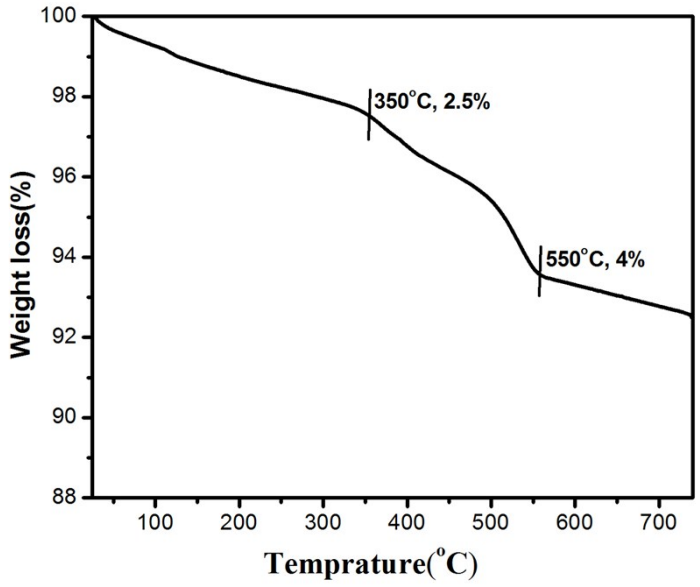

Fig. S2. TG-DTA curve of as-prepared Fe_2O_3 MCs.

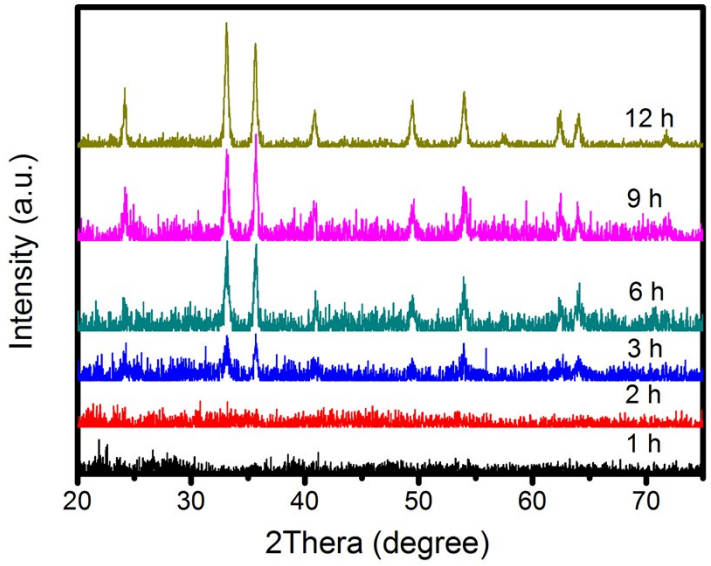

Fig. S3 Time-dependent XRD patterns of hematite mesocrystals during the solvothermal process

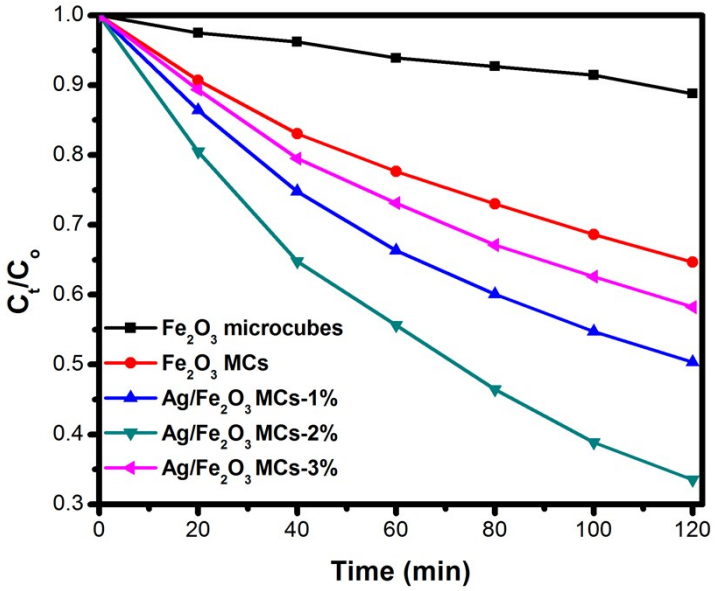

Fig. S4. Photocatalytic degradation of MO with the presence of H_2O_2 by different photocatalysts under visible light irradiation.

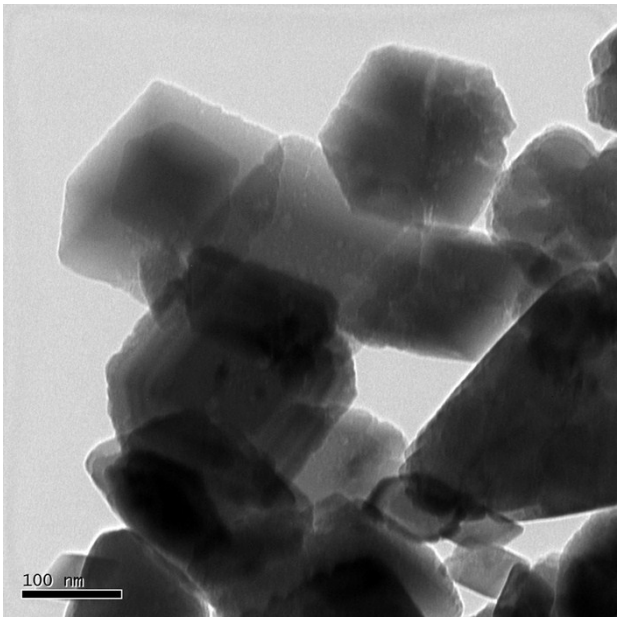

Fig. S5. TEM image of Fe_2O_3 nanocubes

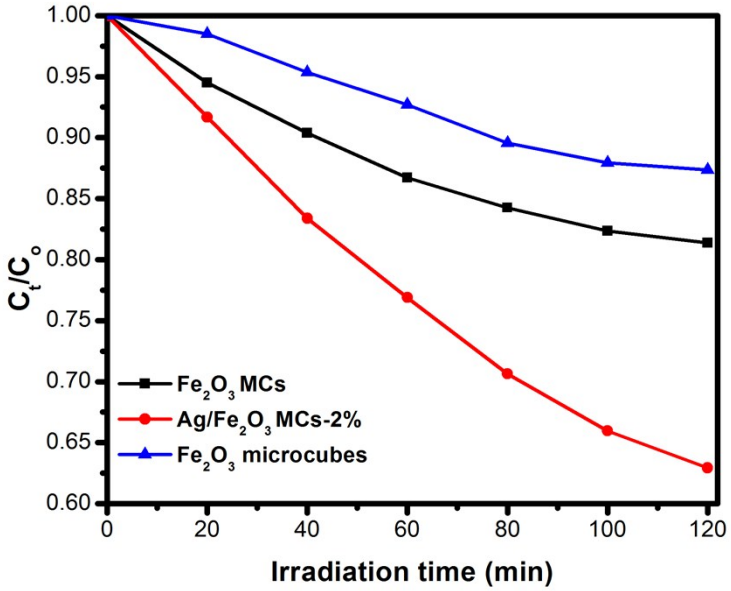

Fig. S6. The photocatalytic degradation of RhB over Fe_2O_3 MCs, Ag/Fe_2O_3 MCs-2% and Fe_2O_3 microcubes without the addition of H_2O_2 under visible light.

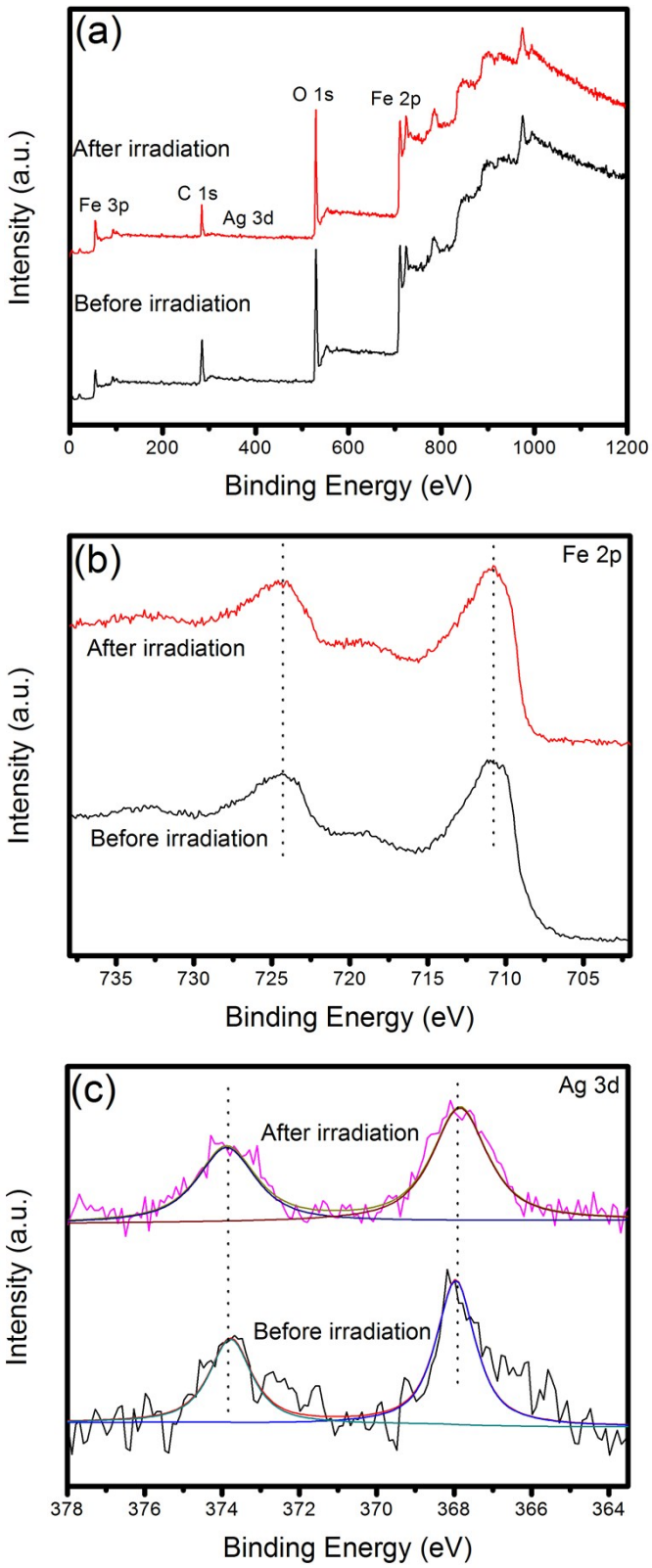

Fig. S7. The XPS spectrum of Ag/Fe_2O_3 MCs-2% before and after irradiation for 2 h, the whole spectra (a), Fe 2p (b), Ag 3d (c).

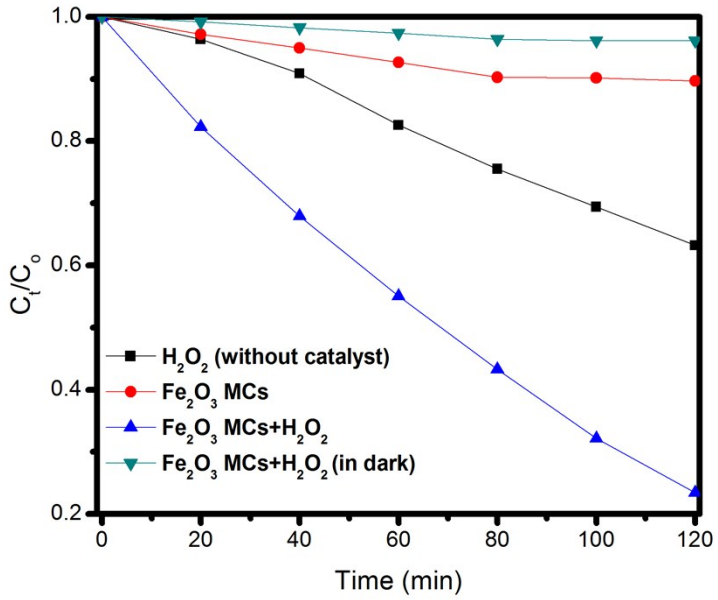

Fig. S8. Photocatalytic mechanism experiments of the degradation of RhB under visible light irradiation.