Electronic Supplementary Material (ESI) for RSC Advances.

Green Synthesis and Characterization of Gold Nanoparticles Embedded into Magnetic Carbon Nanocages and Their High Efficient Degradation for Methylene Blue

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Supplementary data

Fig. S1 IR spectra of (1) the CNSs, (2) the CNSs-DETA, (3) the CNSs-DETA-DIB, (4) the Fe_3O_4 NPs/CNSs, (5) the Au NPs/MCNSs, respectively.

Fig. S2 (A) XPS spectra of the Fe_3O_4 NPs/CNSs (a-1) and the Au NPs/MCNSs (a-2) in the N1s region. (B) XPS spectra of the Fe_3O_4 NPs/CNSs (b-1) and the Au NPs/MCNSs (b-2) in the O1s region.

Fig. S3 UV-vis spectral changes of MB (50 μM) aqueous solution with $NaBH_4$ (8 μM) in the absence of the Au NPs/MCNSs catalyst at 1 min intervals in 12 minutes.

Fig. S4 UV-vis spectral changes of MB (40 μM) aqueous solution with $NaBH_4$ (6 μM) in the presence of the Fe_3O_4 NPs/CNSs at 1 min intervals in 12 minutes.

Fig. S5 UV-vis spectral changes of R6G (A), RB (B) and MO (C) aqueous solution with $NaBH_4$ (6 μM) at 1 min intervals. (D) The degradation efficiency of R6G, RB and MO.

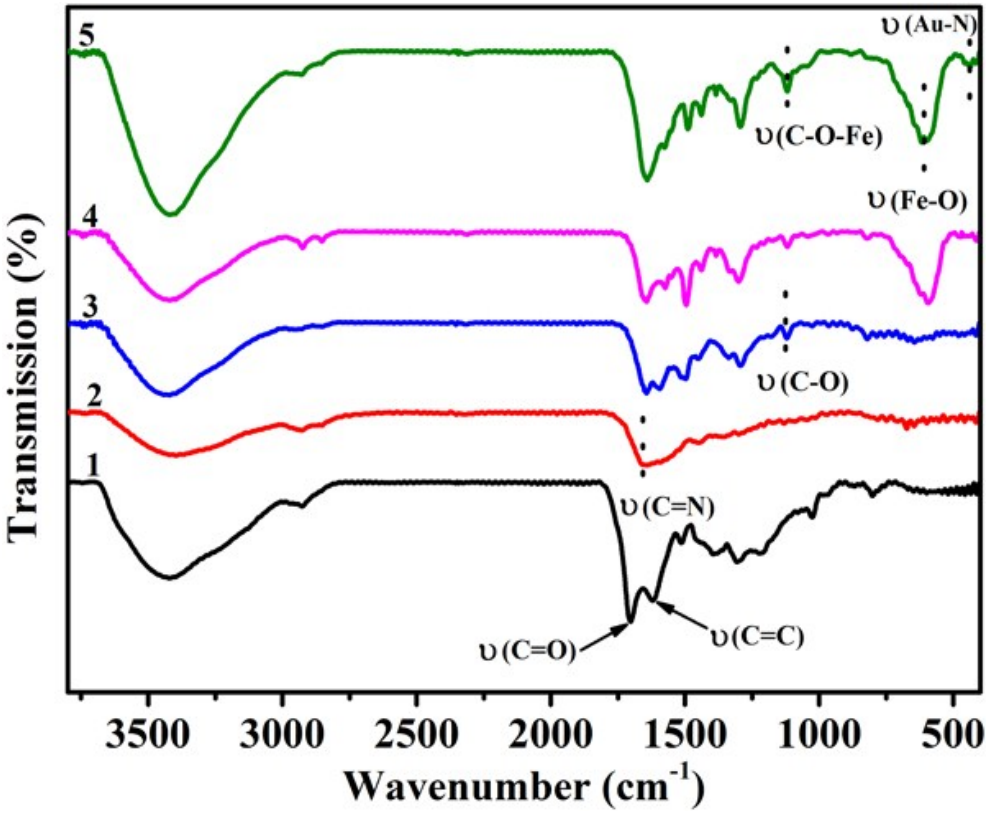
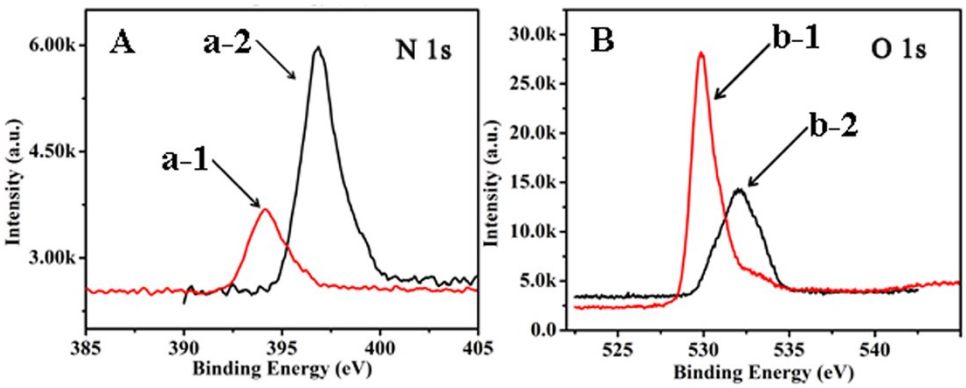


Fig. S1 IR spectra of (1) the CNSs, (2) the CNSs-DETA, (3) the CNSs-DETA-DIB, (4) the Fe_3O_4 NPs/CNSs, (5) the Au NPs/MCNSs, respectively.



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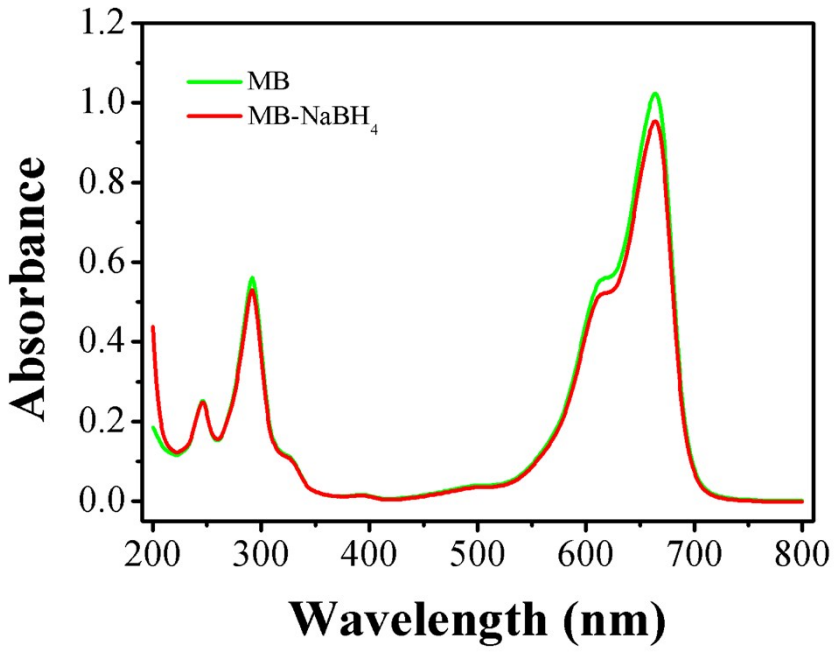

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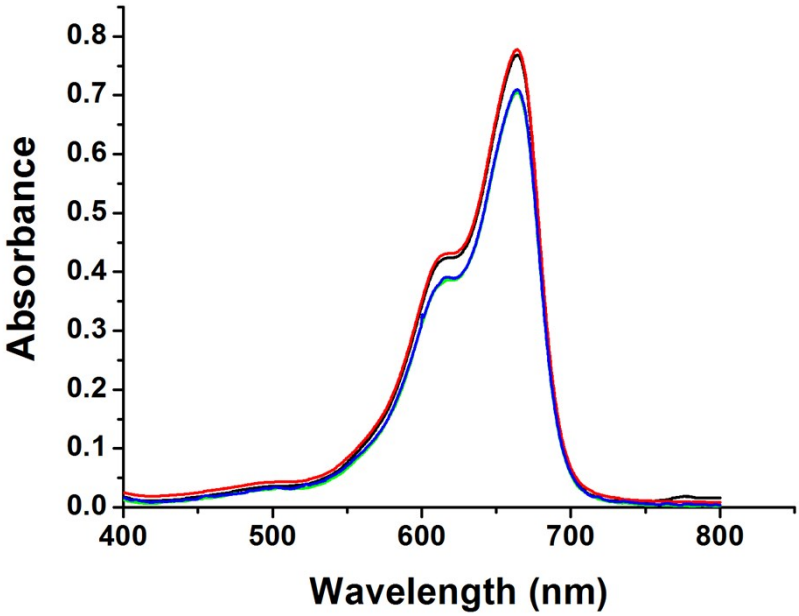
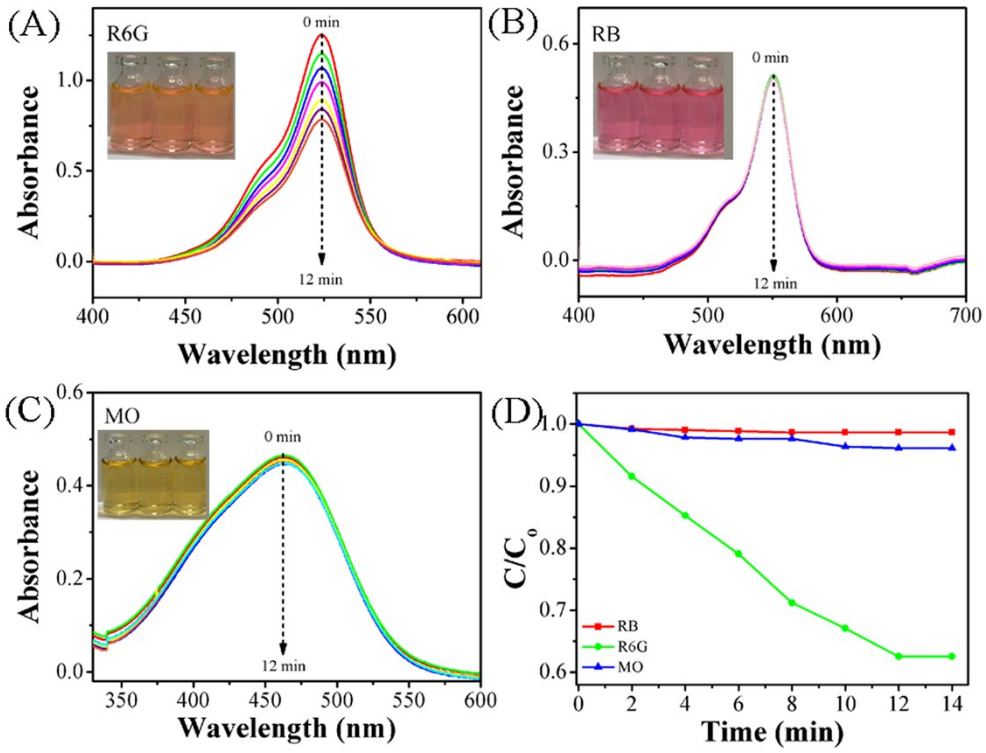


Fig. S4 UV-vis spectral changes of MB (40 μM) aqueous solution with $NaBH_4$ (6 μM) in the presence of the Fe_3O_4 NPs/CNSs at 1 min intervals in 12 minutes.



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