Supplementary Materials

Mesoporous Composite Networks of Linked $MnFe_2O_4$ and $ZnFe_2O_4$ Nanoparticles as Efficient Photocatalysts for the Reduction of Cr(VI)

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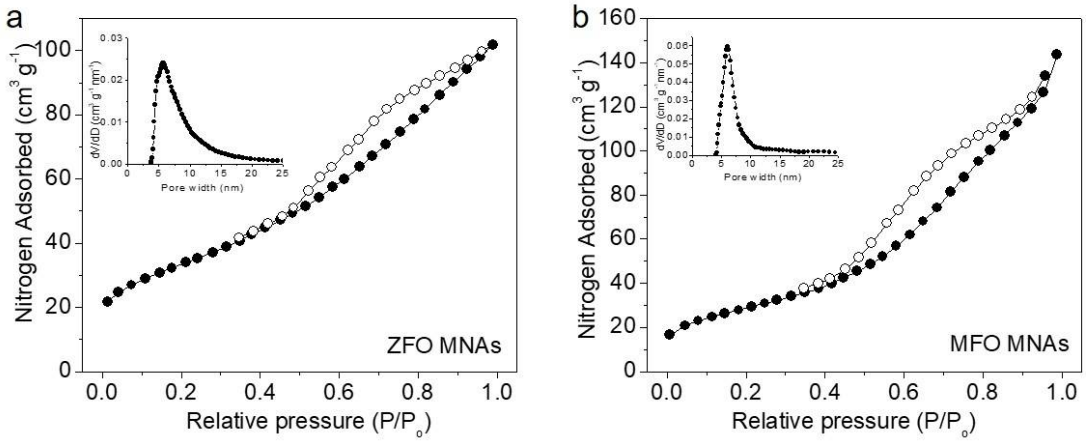

Figure S1. N_2 adsorption-desorption isotherms and the corresponding pore-size distribution plots (inset) for the ZFO and MFO MNAs catalysts.

Analysis of the adsorption data indicate a surface area of 105 $m^2 g^{-1}$ and a pore volume of 0.15 $cm^3 g^{-1}$ for ZFO MNAs and a surface area of 106 $m^2 g^{-1}$ and a pore volume of 0.21 $cm^3 g^{-1}$ for MFO MNAs. The pore-size distribution calculated from the adsorption branch of isotherm according to the NLDFT method (based on slit-like pores) indicates an average pore size of 5.8 and 6.1 nm for ZFO and MFO MNAs, respectively.

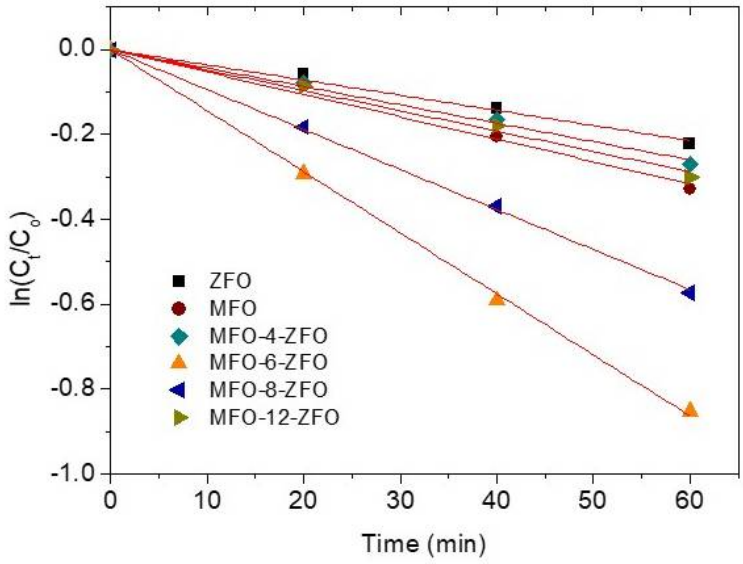

Figure S2. Kinetic profiles for UV–visible light-induced reduction of Cr(VI) over different ZFO and MFO based catalysts. The red lines are fit to the data.

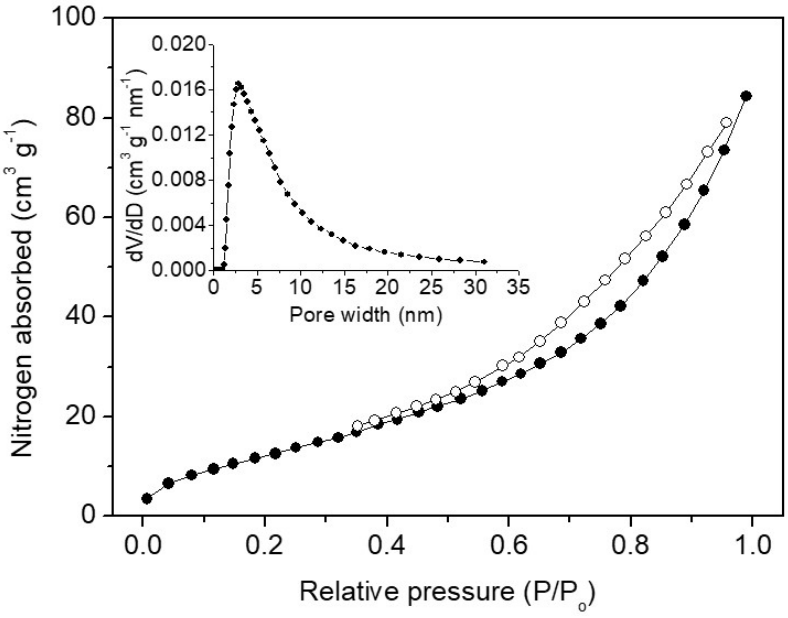

Figure S3. N_2 adsorption and desorption isotherms at –196 °C (Inset: the pore-size distribution calculated from the adsorption branch of isotherm according to the NLDFT method, indicating a pore size of about 2.9 nm) of the MFO-6-ZFO RNAs.

Analysis of the adsorption data indicate a BET surface area of 50 $m^2 g^{-1}$ and a total pore volume of 0.13 $cm^3 g^{-1}$.

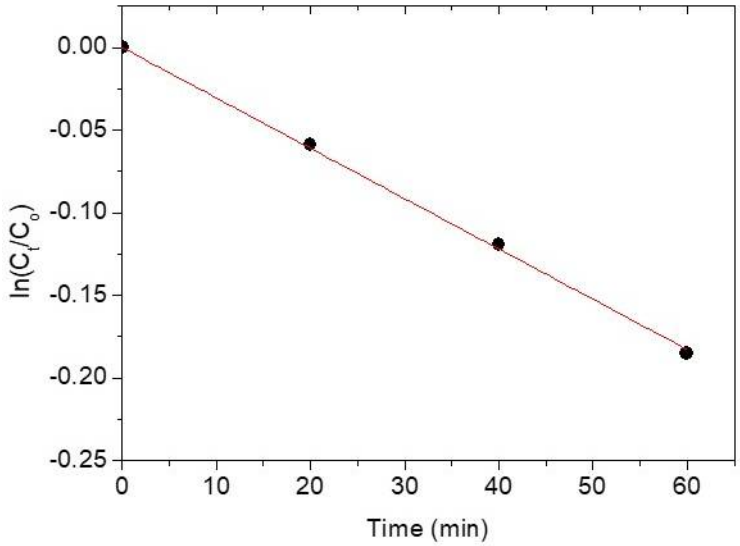

Figure S4. Kinetic profile for UV–visible light-induced reduction of Cr(VI) over untemplated MFO-6-ZFO catalyst (MFO-6-ZFO RNAs). The red lines are fit to the data.

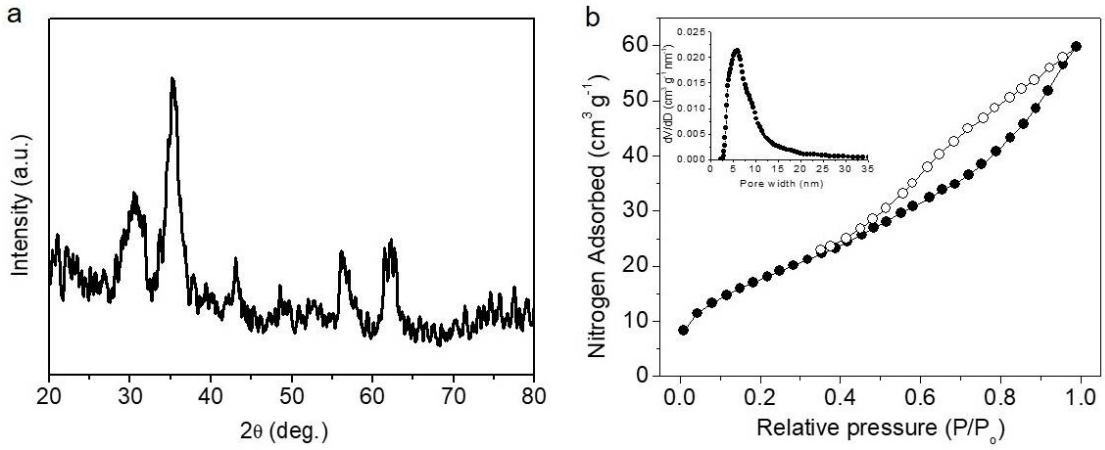

Figure S5. (**a**) Powder XRD pattern and (**b**) N_2 adsorption and desorption isotherms at –196 °C (Inset: the NLDFT pore-size distribution calculated from the adsorption branch of isotherm, indicating an average pore size of about 5.9 nm) of the MFO-6-ZFO catalyst retrieved after the cycling test.

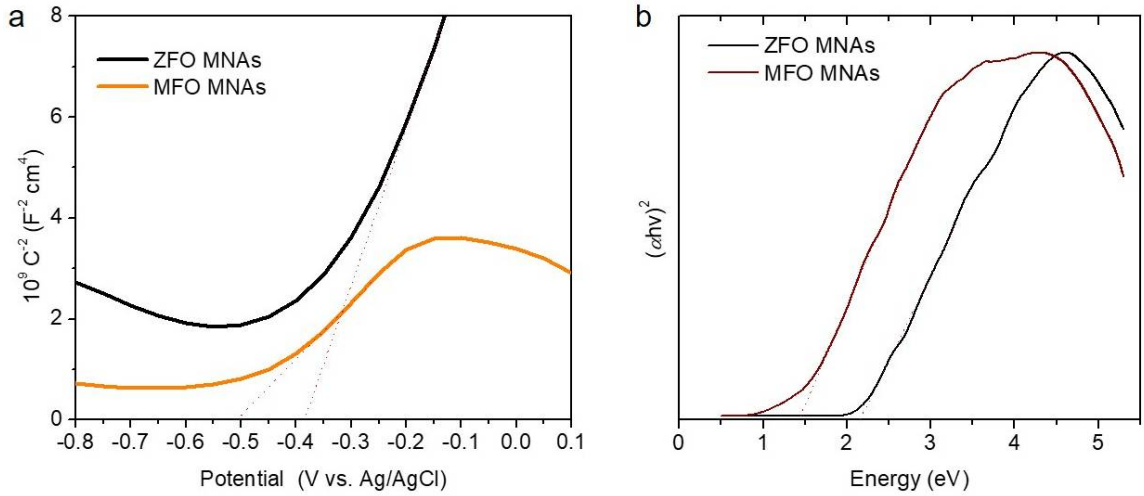

Figure S6. (**a**) Mott-Schottky plots and (**b**) Tauc plots of the ZFO and MFO MNAs.

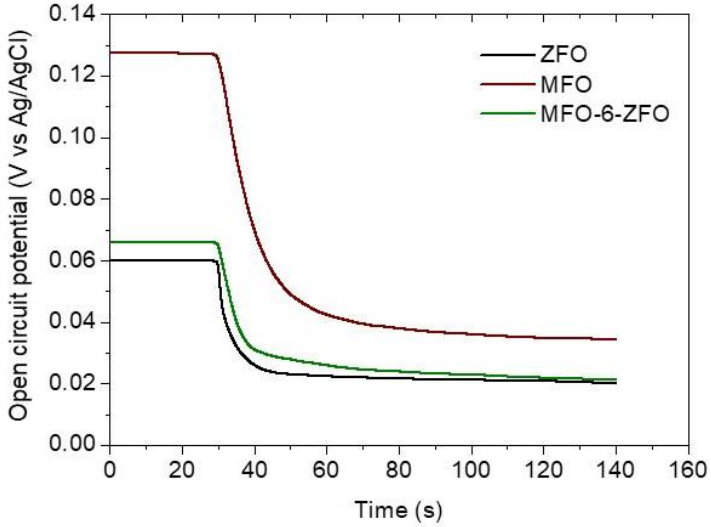

Figure S7. Open-circuit photovoltage (OCP) decay curves of ZFO, MFO and MFO-6-ZFO MNAs in 0.5 M Na_2SO_4 solution.