Electronic Supplementary Material (ESI) for Journal of Materials Chemistry B.

Electronic Supporting Information

Enhanced highly toxic reactive oxygen species levels by iron oxide core-shell mesoporous silica nanocarrier-mediated Fenton reactions for cancer therapy

Kai Sun, Zhiguo Gao, Yu Zhang, Hongshuai Wu, Chaoqun You, Senlin Wang,

Peijing An, Chen Sun, Baiwang Sun*

School of Chemistry and Chemical Engineering, Southeast University, Nanjing 210089, People's Republic of China. Fax: +86 25 52090614, Tel: +86 25 52090614, E-mail address: chmsunbw@seu.edu.cn

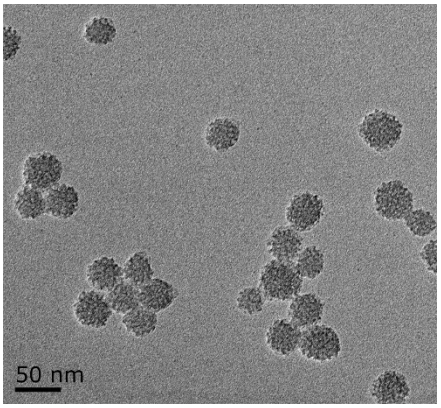

Fig. S1 The TEM image of MSN-TPP-PEG-FA

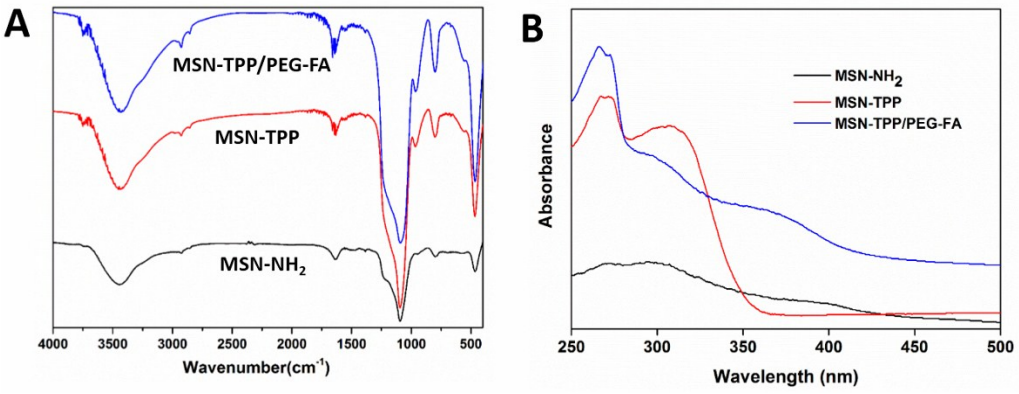

Fig. S2 (A) The FTIR spectra of different MSN materials; (B) The UV-vis spectra of $MSN-NH_2$, MSN-TPP and MSN-TPP/PEG-FA.

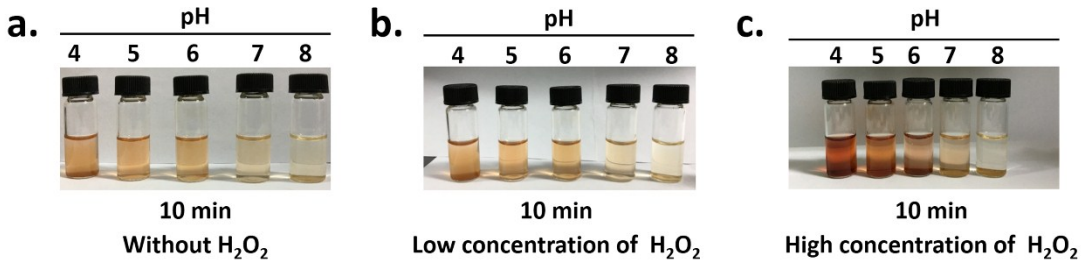

Fig. S3 Actual pictures of color changes induced by ferric ions released from Fe_3O_4@MSN-TPP/PEG-FA. (a) Without H_2O_2, (b) low concentration of H_2O_2 and (c) high concentration of H_2O_2.

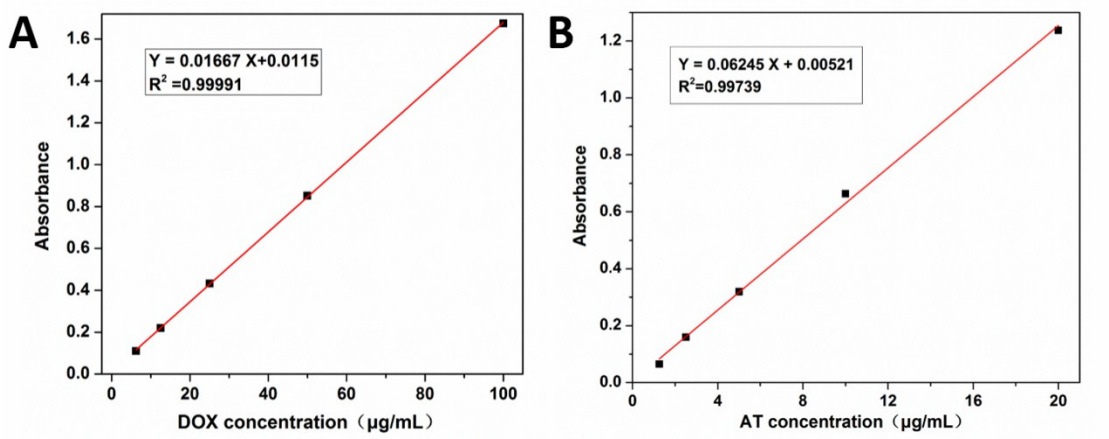

Fig. S4 Standard calibration curves of DOX (A) and AT (B) in aqueous solution.

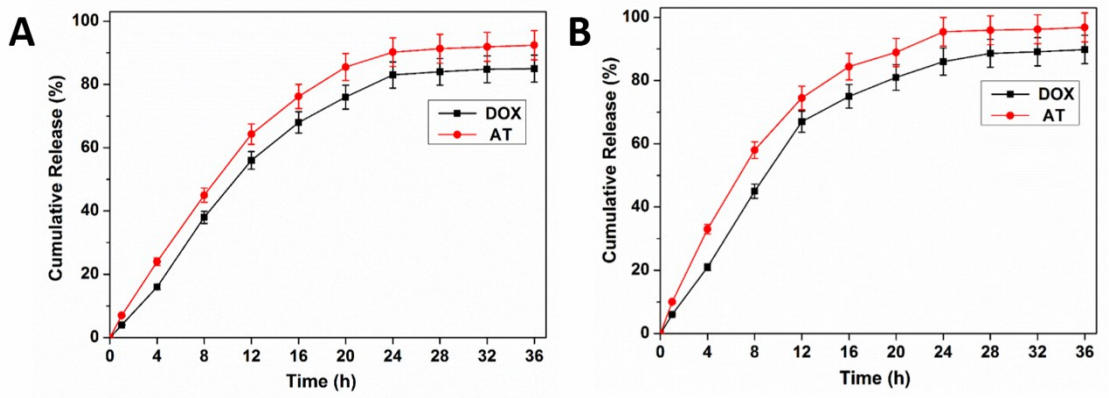

Fig. S5 Release curves of DOX and AT from Fe_3O_4@MSN-TPP/PEG-FA in PBS solutions at different pH = 8.0 (A) and pH = 6.8 (B).

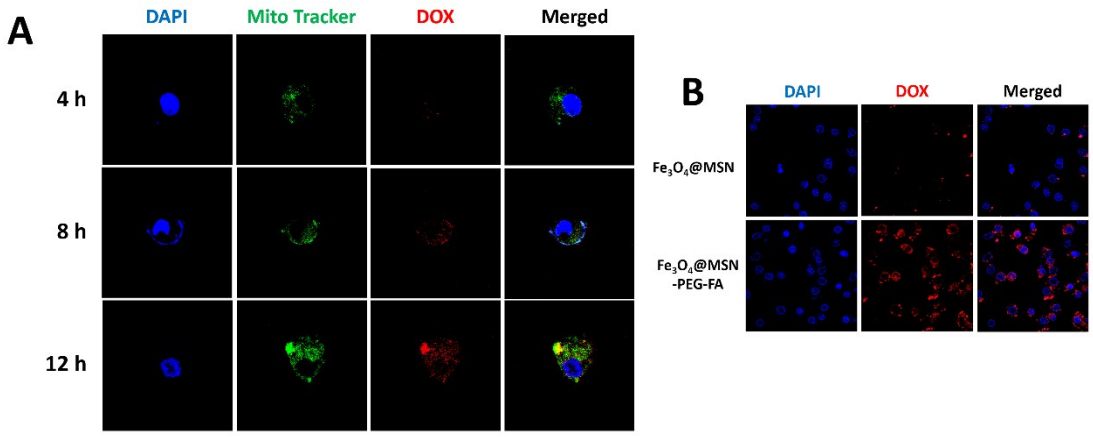

Fig. S6 (A) Mitochondrial targeting ability of the Fe_3O_4@MSN-TPP/PEG-FA to MCF-7 cells at different incubation time intervals (4 h, 8 h, 12 h). (B) Binding efficacy of non-FA-conjugated and FA-conjugated Fe_3O_4@MSN to MCF-7 cells at 6 h of incubation.