Electronic Supplementary Material (ESI) for Journal of Materials Chemistry

Supporting Information

Synthesis of Magnetic, Fluorescent, and Mesoporous Core-Shell –Structured Nanoparticles for Imaging, Targeting and Photodynamic Therapy**

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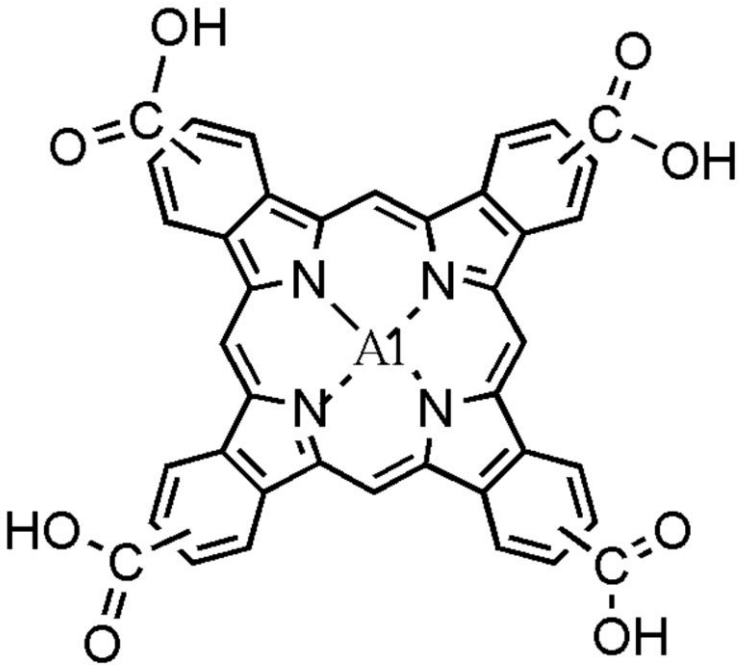

Figure S1. The structure of AlC_4Pc.

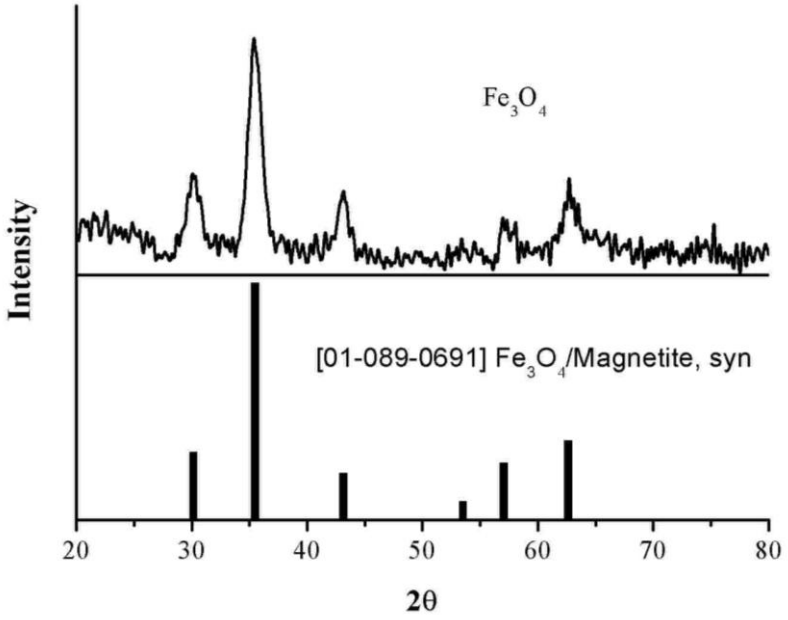

Figure S2. XRD pattern of Fe_3O_4 nanoparticles.

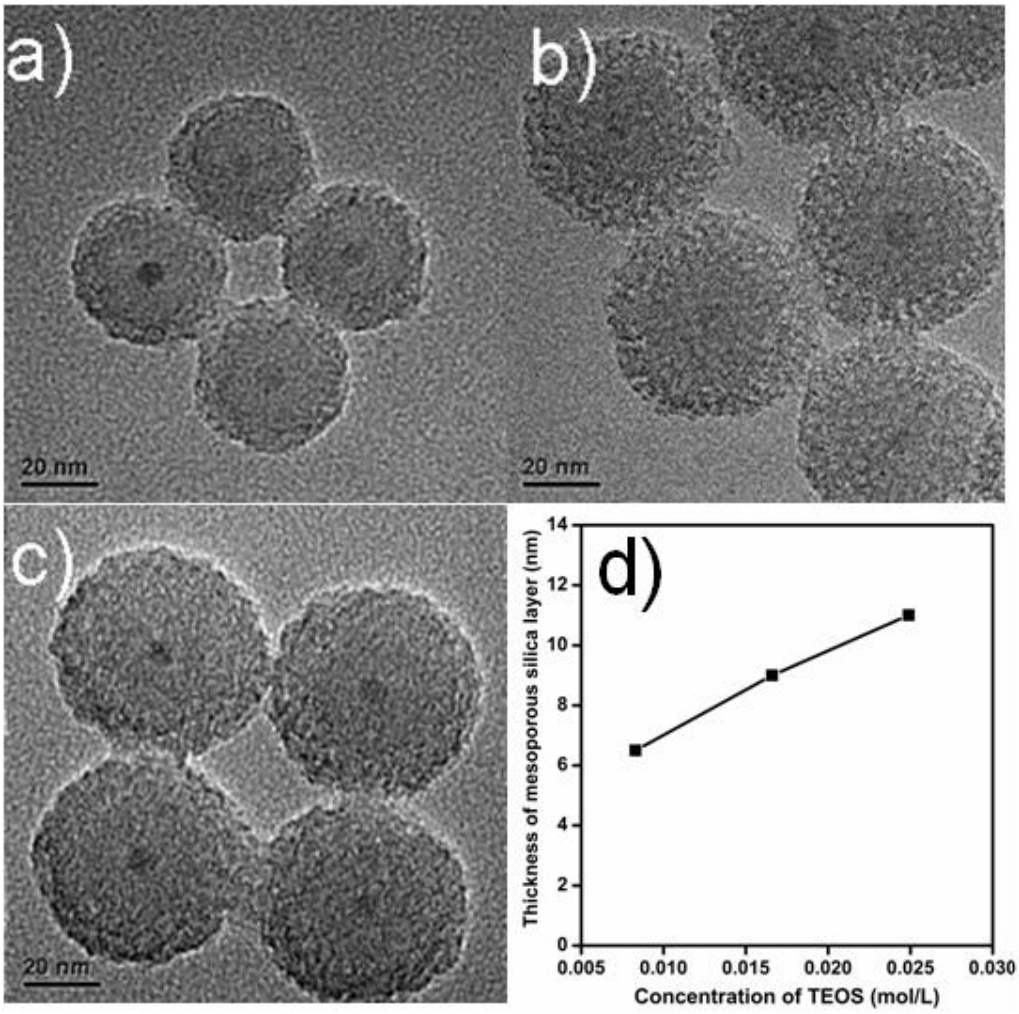

Figure S3. TEM images of Fe_3O_4@SiO_2(F)@meso-SiO_2(P) with different amounts of TEOS, a) 8.3×10^{-3} mol/L， b) 1.66×10^{-2} mol/L and c) 2.49×10^{-2} mol/L, respectively. d) Effect of TEOS concentration on the thickness of mesoporous silica layer at a fixed 8 h reaction time. The thickness of mesoporous SiO_2 layer from a) to c) is about 6.5 nm, 9 nm and 11 nm, respectively.

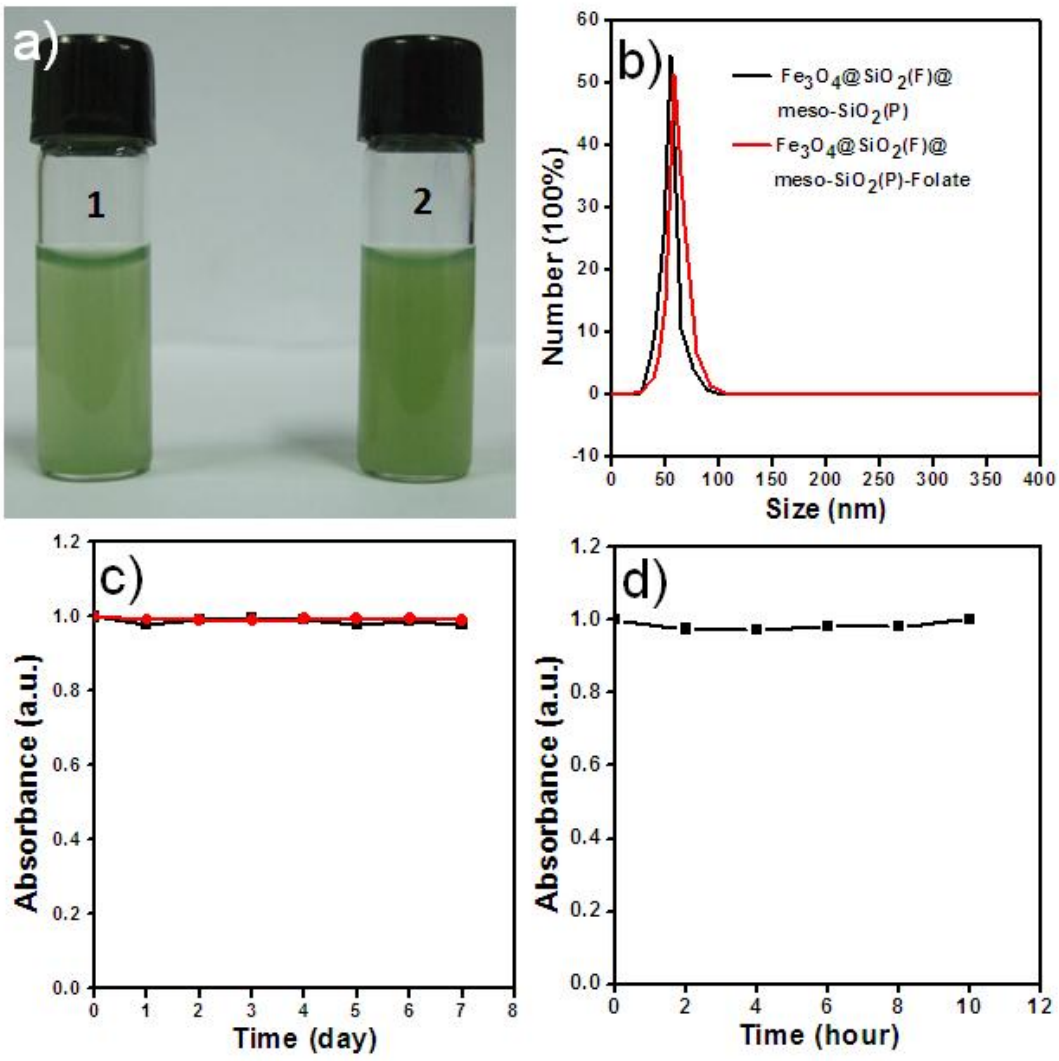

Figure S4. (a) Digital photographs of Fe_3O_4@SiO_2(F)@meso-SiO_2(P) (1) and Fe_3O_4@SiO_2(F)@meso-SiO_2(P)-Folate (2) nanoparticles dispersion in water. (b) DLS of Fe_3O_4@SiO_2(F)@meso-SiO_2(P) and Fe_3O_4@SiO_2(F)@meso-SiO_2(P)-Folate nanoparticles in water. The dispersion stability of Fe_3O_4@SiO_2(F)@meso-SiO_2(P) or Fe_3O_4@SiO_2(F)@meso-SiO_2(P)-Folate nanoparticles in water (red) and in PBS (black) for seven days respectively (c), and in cell medium for 10 h (d).

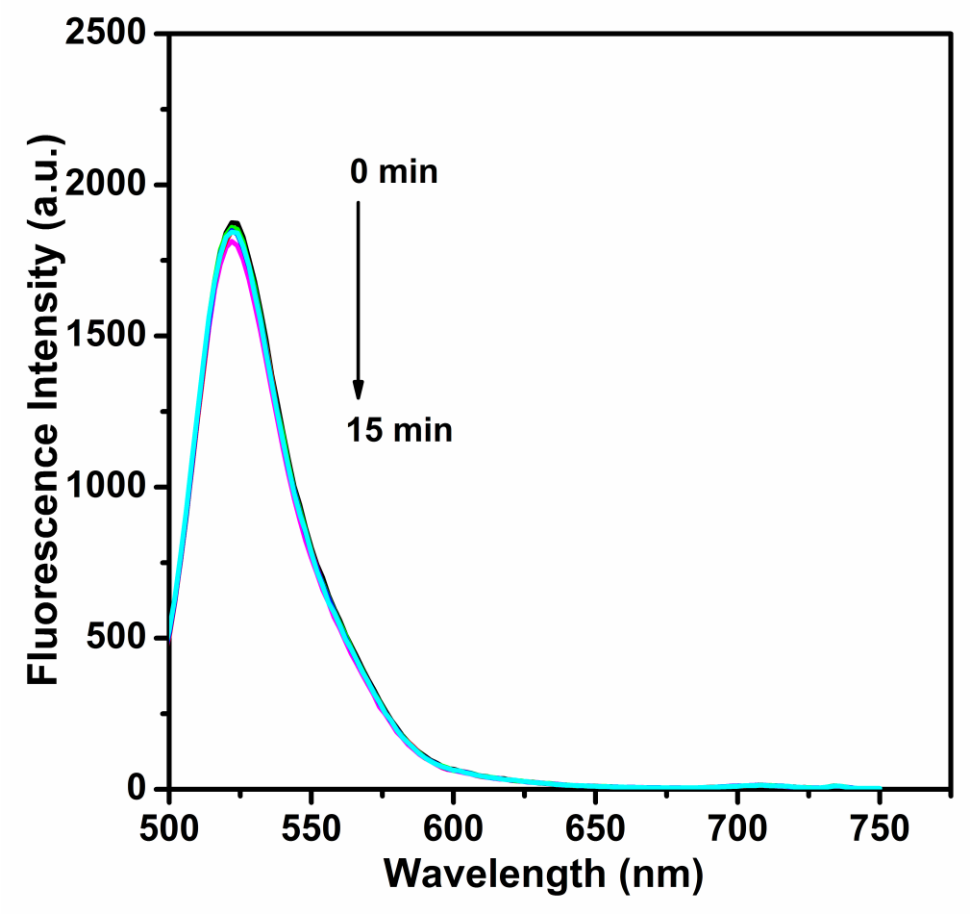

Figure S5. Fluorescence spectra of Fe_3O_4@SiO_2(F)@meso-SiO_2(P) under 488 nm excitation after different periods of irradiation with a 660 nm laser beam.

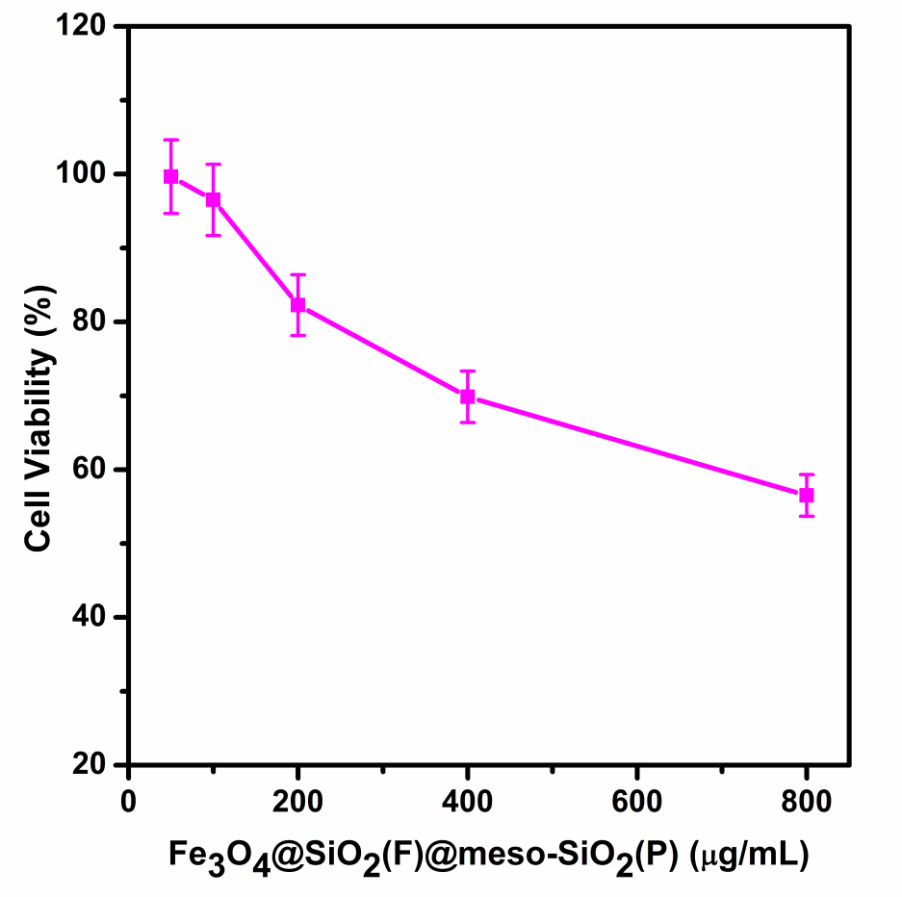

Figure S6. The viability of human hepatocyte cells incubated with Fe_3O_4@SiO_2(F)@meso-SiO_2(P) at different concentrations.

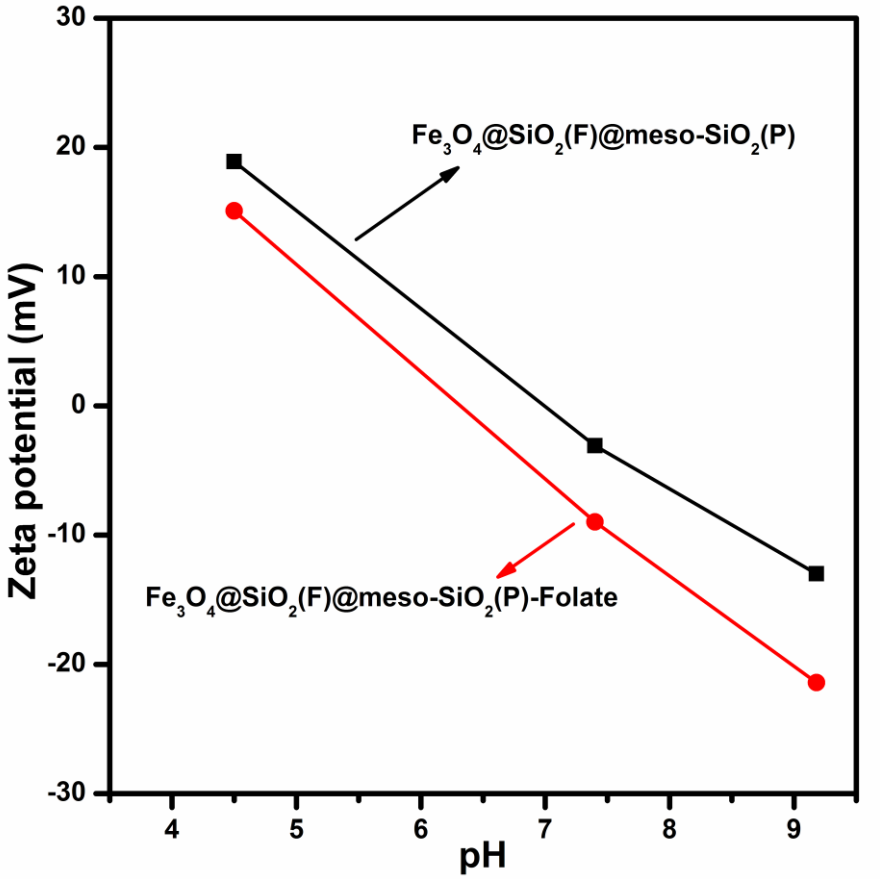

Figure S7. The zeta-potential of Fe_3O_4@SiO_2(F)@meso-SiO_2(P) and Fe_3O_4@SiO_2(F)@meso-SiO_2(P)-Folate nanoparticles at different pH.

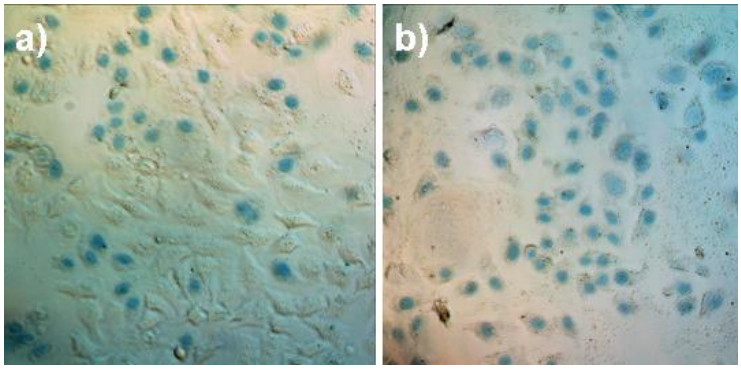

Figure S8. Optical imagings of HeLa cells stained with Trypan blue after different treatment: a) 100 μg/mL Fe_3O_4@SiO_2(F)@meso-SiO_2(P) and 10-min light exposure with 75 mW/cm^2; b) 100 μg/mL Fe_3O_4@SiO_2(F)@meso-SiO_2(P)-Folate and 10-min light exposure with 75 mW/cm^2.

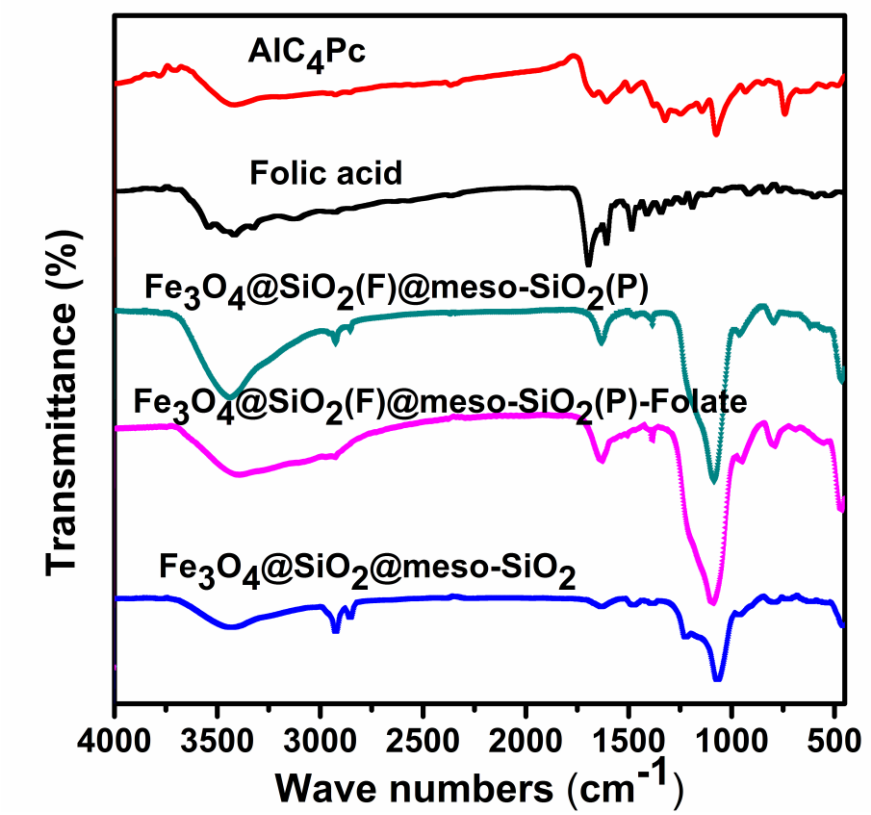

Figure S9. FT-IR spectra of Fe_3O_4@SiO_2(F)@meso-SiO_2(P) and Fe_3O_4@SiO_2(F)@meso-SiO_2(P)-Folate.