Supplementary Information

An iron silicate based pH-sensitive drug delivery system utilizing coordination bonding

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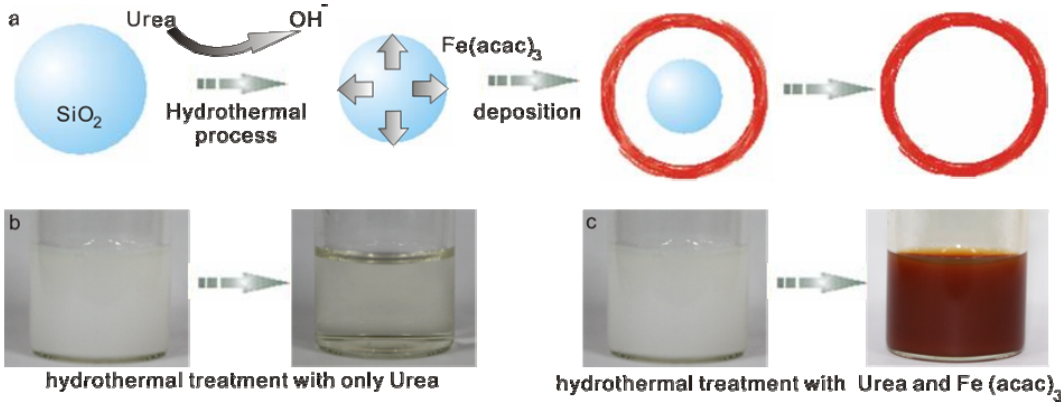

Scheme S1. a) Mechanism of HISS preparation, b) after hydrothermal treatment with urea, SiO_2 template dissolved, c) in the presence of iron acetylacetonate, HISS could be synthesized.

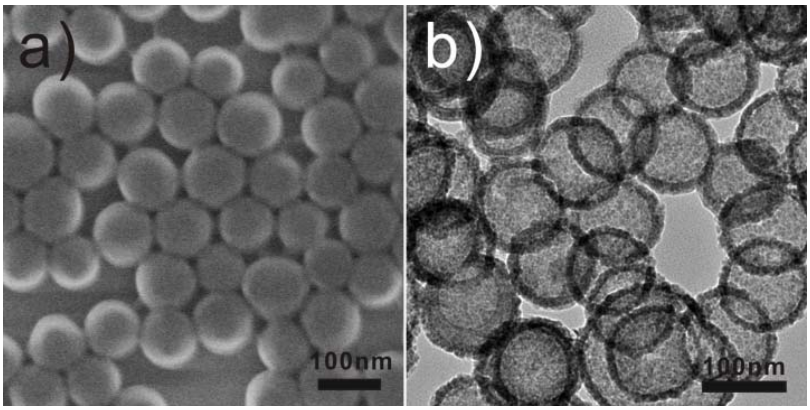

Figure S1. a) SEM image of the silica template and b) TEM image of the as-prepared hollow iron silicate nanoparticles

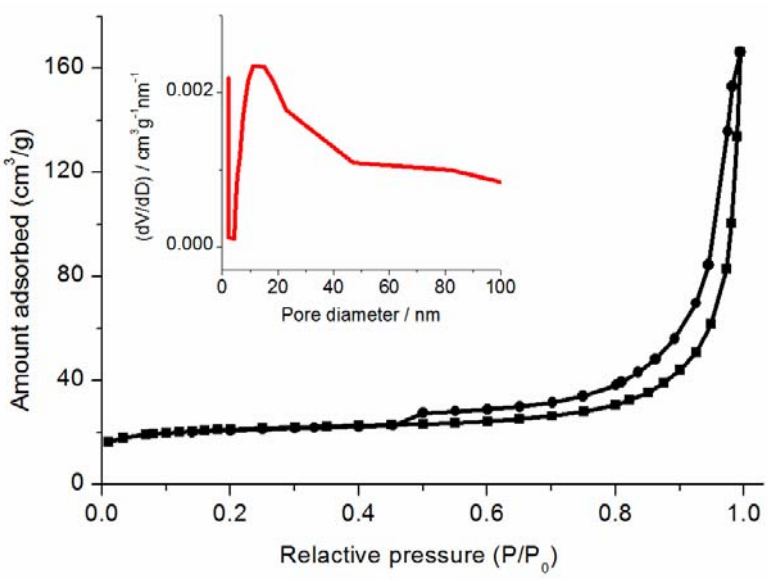

Figure S2. N_2 adsorption/desorption isotherm and the pore size distribution (inset) of HISS.

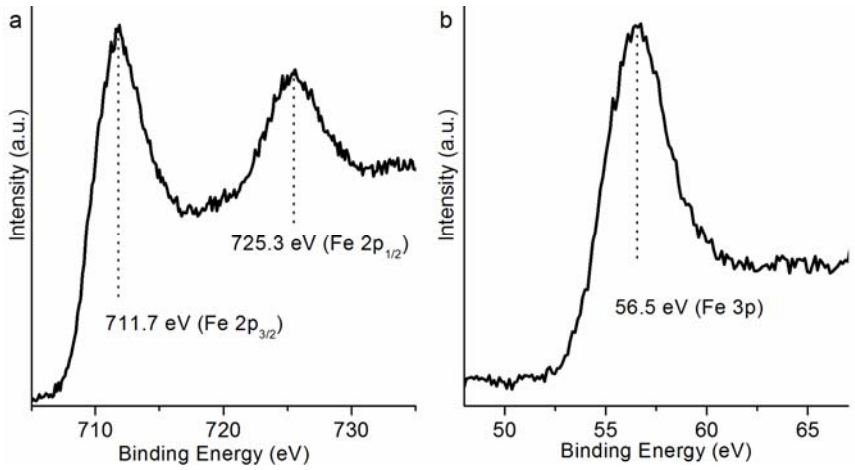

Figure S3. a) Fe 2p and b) Fe 3p XPS spectrum of HISS

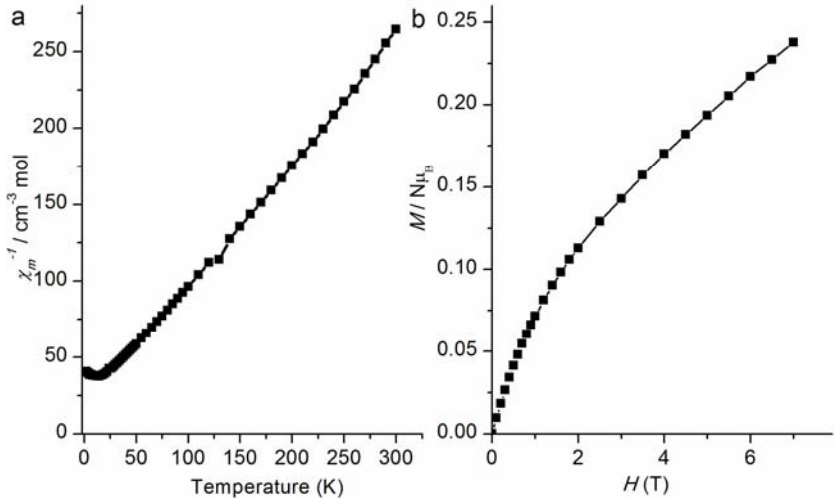

Figure S4. Magnetic properties of HISS. a) χ^{-1}-T and b) M-H curves.

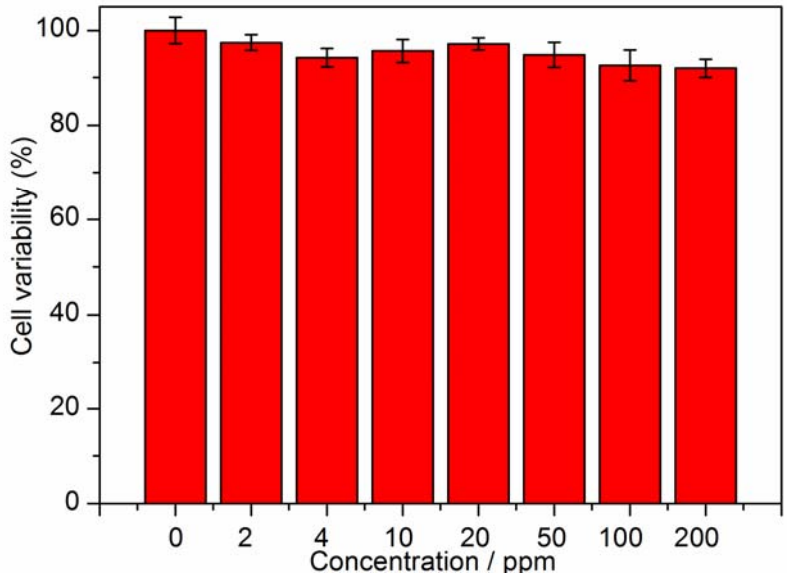

Figure S5. Viability of QGY-7701 cells incubated for 24 h with different concentrations of HISS.

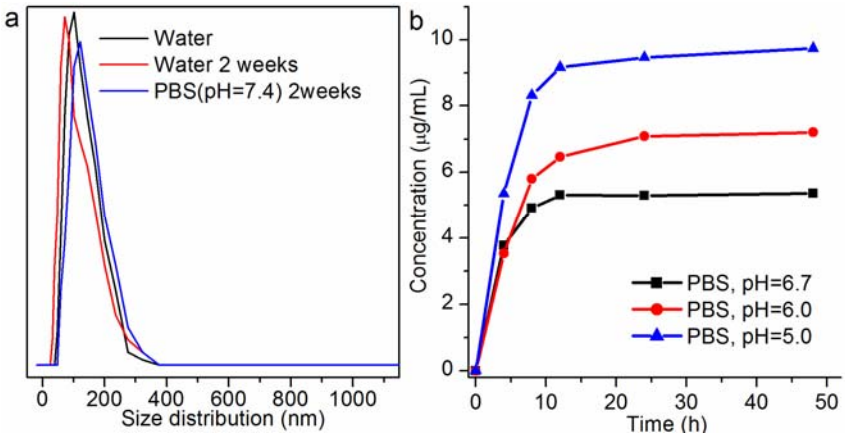

Figure S6. a) Stability of HISS dispersed in water and PBS. b) iron compounds released in different pH.

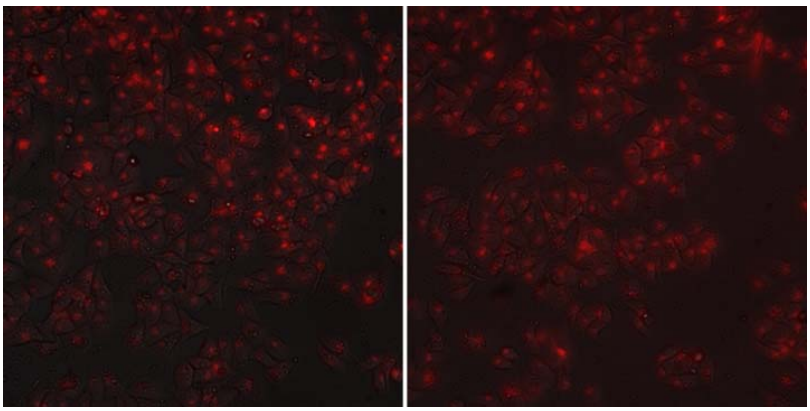

Figure S7. Fluorescence microscopic images of QGY-7703 cells after being incubated with DOX-HISS for 12 h.

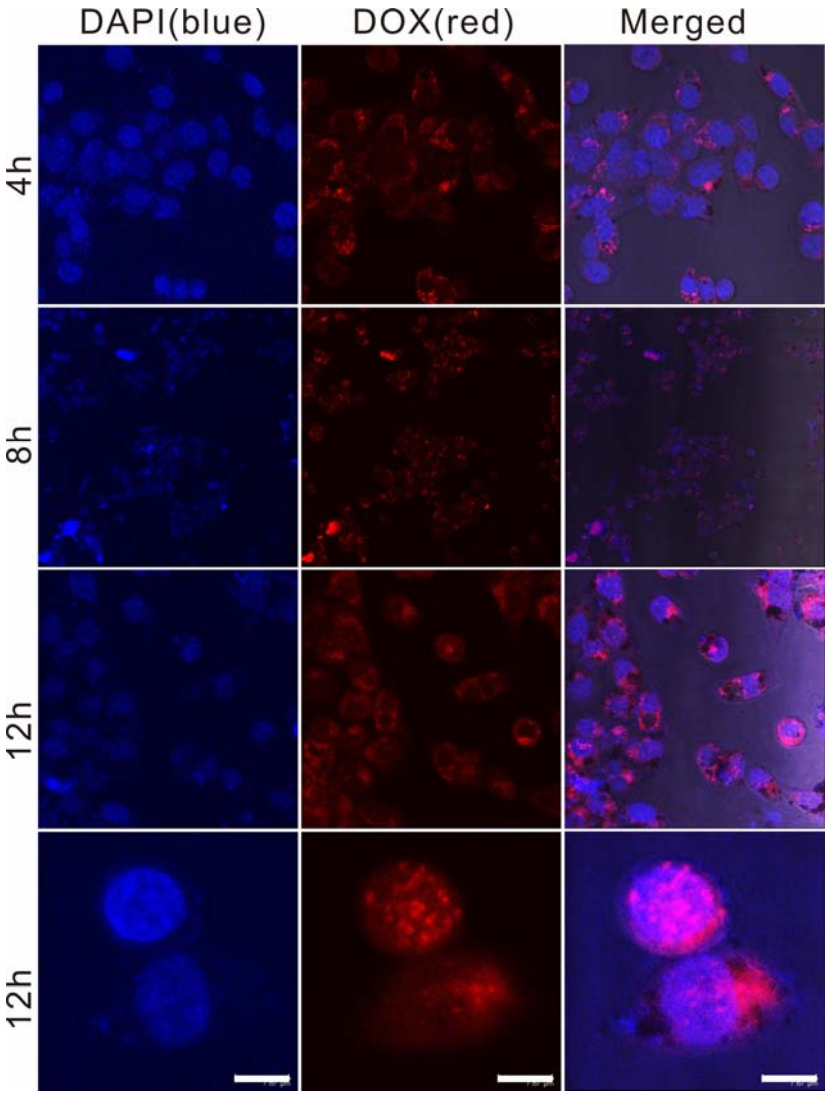

Figure S8. Confocal laser scanning microscopic images of QSG-7703 cells incubated with DOX-loaded HISS for 4 h, 8h and 12h.

Table S1. DOX loadings under different concentration of DOX

Trial NO.	Mass of HISS	Mass of DOX	Loading content	Loading efficiency
1	1 mg	0.2 mg	20%	100%
2	1 mg	0.5 mg	50%	100%
3	1 mg	1 mg	100%	100%
4	1 mg	1.5 mg	103.43%	68.93%
5	1 mg	2 mg	104.21%	51.7%