Electronic Supplementary Material (ESI) for RSC Advances.

Supporting Information

DOX-Fe_3O_4@mSiO_2-PO-FA nanocomposite for synergistic chemo- and photothermal therapy

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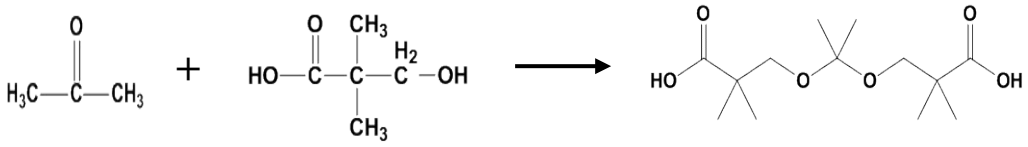
1. Synthesis of 3, 3'-(propane-2, 2-diylbis (oxy)) bis (2, 2-dimethylpropanoic acid)

In a three necked round bottomed flask, anhydrous acetone and hydroxy-2, 2-dimethylpropionic acid by a ratio of 1: 3 was injected. At the same time, a proper amount of p-toluensulfonic acid as catalyst also was joined. Then, pouring into a certain amount of benzene as solvent reflux 16 h, and rotating evaporation was adopted to remove solvent.



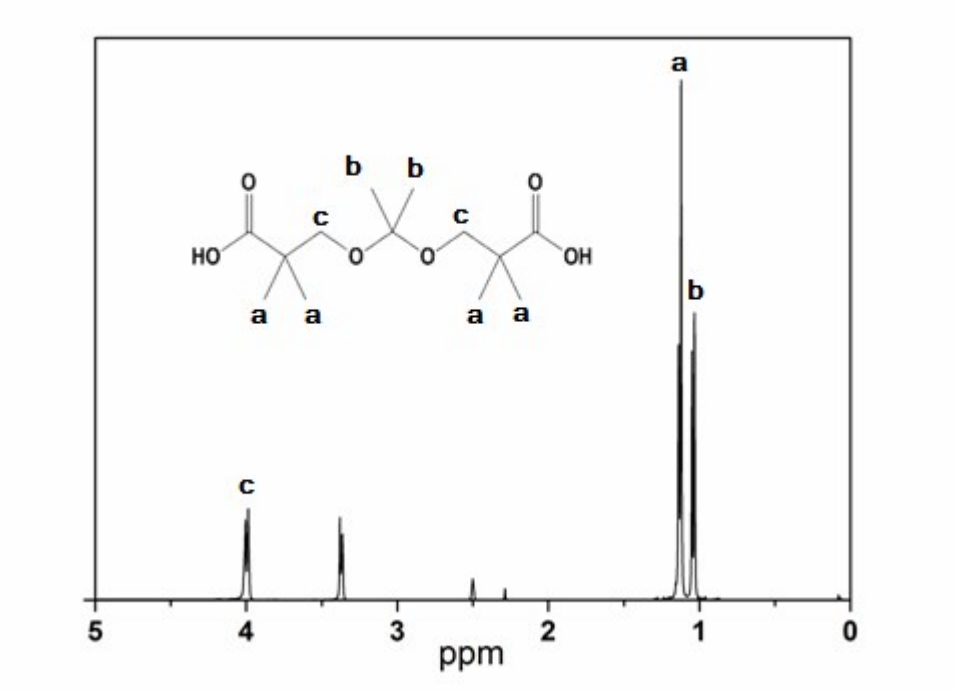


Figure S1. The synthetic route and ^{1}HNMR spectrum of 3, 3'-(propane-2, 2-diylbis (oxy)) bis (2, 2-dimethylpropanoic acid).

2. Synthesis of the linker-PO

In a typical procedure, 276.0 mg (1mmol) of S1, 191.7 mg (1mmol) of N-(3-Dimethylaminopropyl)-N-ethylcarbodiimidehydrochcoride (EDC), 115.1 mg (1mmol) of N-Hydroxysuccinimide (NHS),and 442.7 mg (2 mmol) (3-aminopropyl)triethoxysilane (APTES) were dissolved in 2 mL of dimethylsulfoxide (DMSO) and stirred for 24 h.

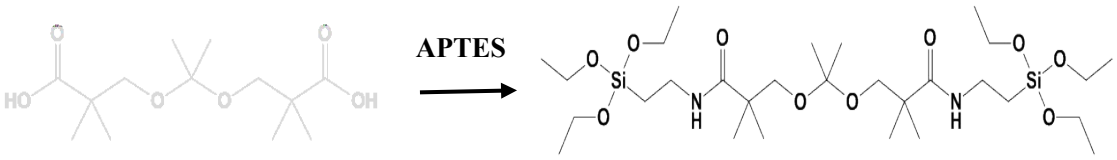


Figure S2. The Synthetic route of PO linker.

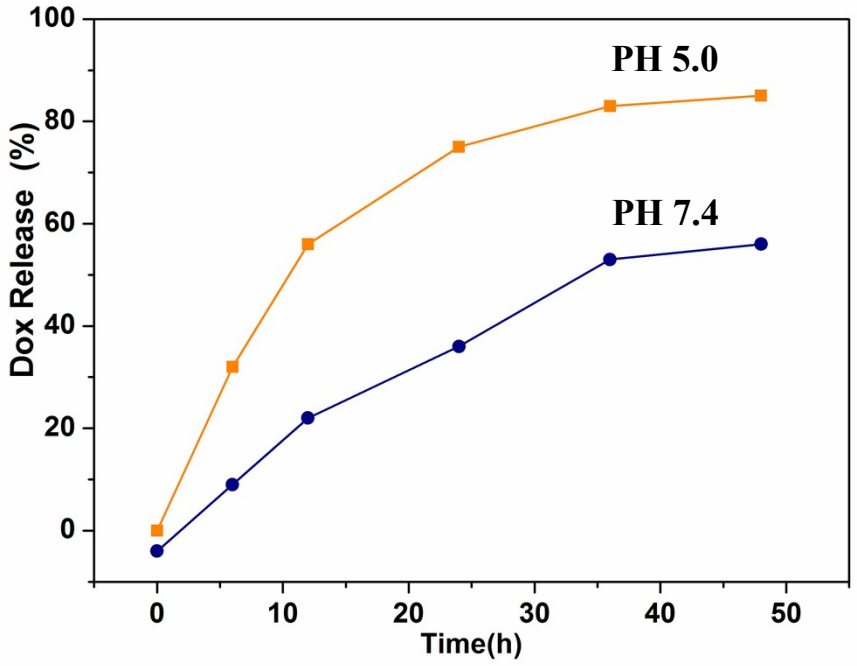


Figure S3. Release profiles of DOX from DOX-Fe_3O_4@mSiO_2 at pH 5.0 and 7.4.

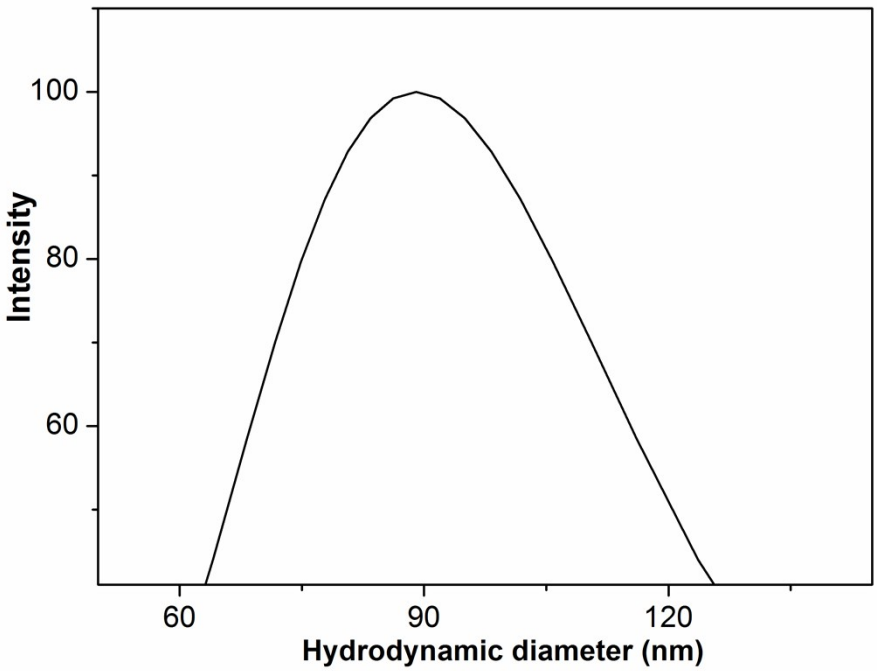


Figure S4. DLS results of Fe_3O_4@mSiO_2