

One-Pot Construction of Doxorubicin Conjugated Magnetic Silica Nanoparticles

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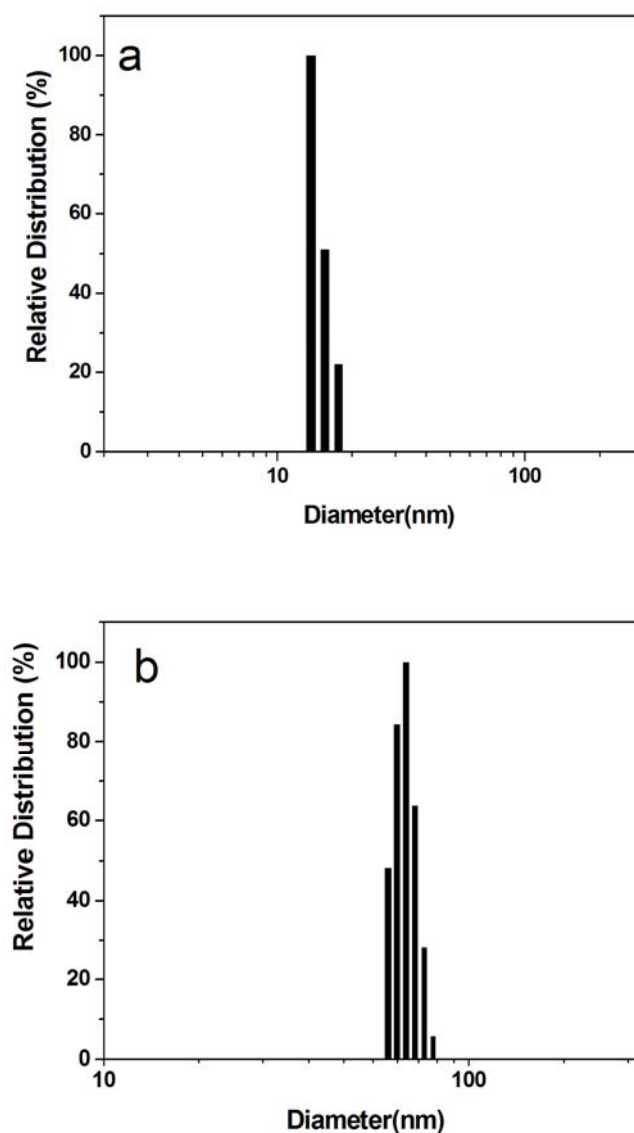


Figure S1. DLS size distribution profiles: (a) the citric acid modified Fe_3O_4 nanoparticles, (b) the DOX- Fe_3O_4 - SiO_2 nanoparticles.

The DLS size distribution profile of the citric-acid-modified magnetic nanoparticles is shown that the modified magnetic nanoparticles are well dispersed (Figure S1a). The average particle size is about 13.7 nm with a narrow size distribution.

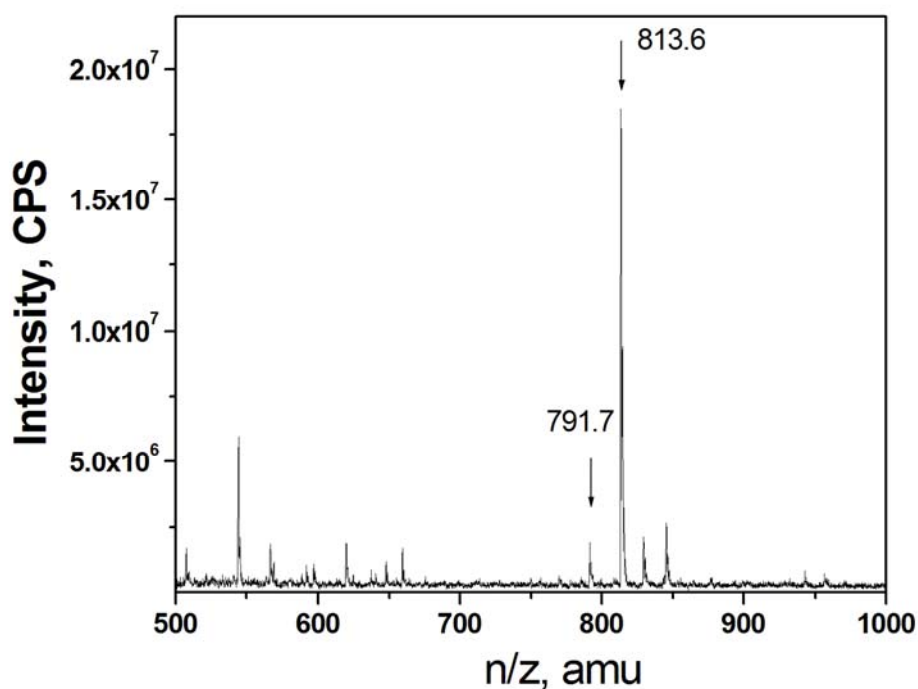


Figure S2. Mass spectra of the mixture of DOX and ICPTES after sonication.

The obtained Fe₃O₄ nanoparticles were then mixed with DOX·HCl and ICPTES by ultrasonication in aqueous solution. The formation of the intermediate of DOX and ICPTES was proved by mass spectra (m/z : calcd for C₃₇H₅₀N₂O₁₅Si: 790.88; found: 791.7 [M+H]⁺ and 813.6 [M+Na]⁺) (Figure S2). Then, sol-gel processes (Si-OCH₃CH₂ + H₂O → Si-OH + CH₃CH₂OH followed by Si-OH + Si-OH → Si-O-Si + H₂O) occurred on the surface of Fe₃O₄ nanoparticles, resulting in the DOX-SiO₂-Fe₃O₄ nanoparticles. The DLS measurement showed that the mean diameter of the coated particle is about 66.9 nm with a narrow size distribution (Figure S1b).