Electronic Supplementary Material (ESI) for Analytical Methods.

Supplementary material

Selective Extraction and Quantitative Analysis of Pyrroloquinoline Quinone from Food

Ke Ma, Ze-Yu Su, An-Ran Pei, Xue-Peng Yang*

School of Tobacco Science and Engineering, Zhengzhou University of Light Industry, Kexuedadao Road, Zhengzhou 450008, People's Republic of China

Content

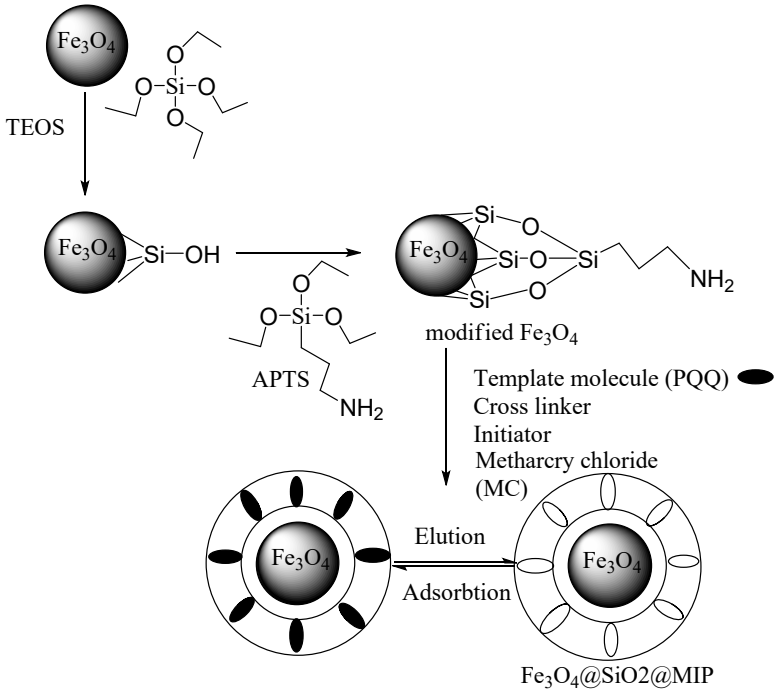

Fig.1S. Scheme of the preparation of Fe_3O_4@SiO_2@MIPs.

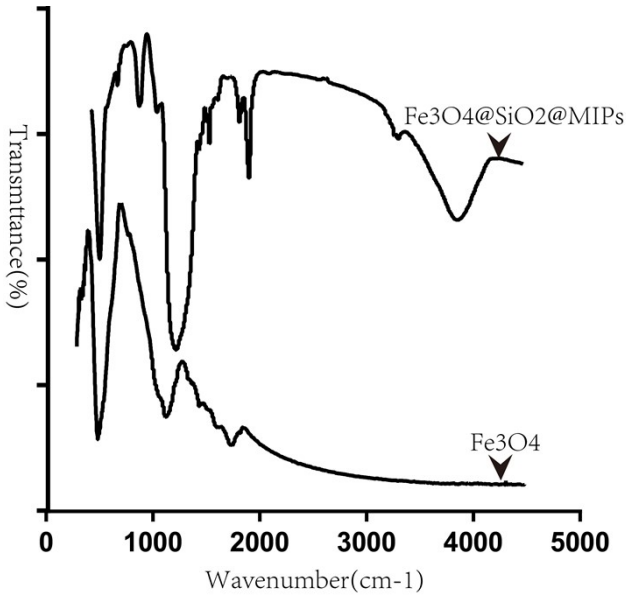

Fig. 2S FTIR spectra of Fe3O4 nanoparticles and Fe3O4@SiO2@MIPs.

S-1 The detail method of modifying the surface of Fe_3O_4-magnetic nanoparticle.

Fe_3O_4-magnetic nanoparticles (1.8 g) were dispersed in 200 ml ethanol using an ultrasonic oscillator. After 30 minutes, the pH of the solution was adjusted to 9.8 using ammonium hydroxide. TEOS (3.688 ml) was then added and the mixture was stirred for 12 h at 70 °C. The products were collected using an external magnetic field and then rinsed thoroughly with deionized water and ethanol until no oily suspension was detected. The obtained modified Fe_3O_4-magnetic nanoparticles were then modified with APTS. The modified Fe_3O_4-magnetic nanoparticles were dispersed in ethanol (200 ml) in a three-neck 500 ml flask using an ultrasonic oscillator, After 30 minutes, the pH was adjusted to 8 using ammonium hydroxide with constant stirring. APTS (3.688 ml) was then added and the mixture was stirred for 10 h at 80 °C.

S-2 The polymerization of PQQ and MC

The APTS-modified Fe_3O_4-magnetic nanoparticles (300 mg) were dispersed in acetonitrile in a nitrogen environment. Then, 3 ml of MC and PQQ (0.1 mmol) were added dropwise and the mixture was stirred for 12 h at 25 °C. EGDMA (2.0 mmol) and AIBN (40.0 mg) were then added and the mixture was purged by nitrogen for 10 min and placed in a thermostated water bath at 65 °C for 24 h.

Table 1S Study of Fe_3O_4@MIP (MMIP) and Fe_3O_4@NIP (MNIP) surface area and porosity by the BET method

Material	Surface area, SBET (m^2/g)	Average pore volume (cm^3/g)	Average pore diameter (nm)
Fe_3O_4@SiO_2 @MIP	33.2	0.098	3
Fe_3O_4@SiO_2 @NIP	9.3	0.015	7