

Supporting information

Prussian blue modified iron oxide magnetic nanoparticles and their high peroxidase-like activity

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Table S1 Experimental conditions of control groups and positive groups for IgG based immunoassay.

	blank control 1	blank control 2	negative control	positive groups			
IgG incubating	×	CB	CB	IgG in CB (µg/mL)			
				1	1.5	2	2.5
BCS blocking	×	10% BCS	10% BCS	10% BCS			
PBMNPs-SPA incubating	×	1% BSA	PBMNPs-SPA	PBMNPs-SPA			

× indicates the 96 wells were with no treatment. CB, BCS, BSA and SPA are abbreviations for carbonate buffer, bovine calf serum, bovine serum albumin and Staphylococcal protein A, respectively.

Table S2 Atom and weight ratio for nitrogen to iron (N/Fe) in PBMNPs1, PBMNP s2 and PBMNPs3.

Sample	Atom ratio	Weight ratio
	(N/Fe)	(N/Fe)
PBMNPs1	0.58	0.15
PBMNPs2	1.12	0.28
PBMNPs3	1.43	0.36

Figure S1 Average hydrodynamic diameter for PBMNPs3.

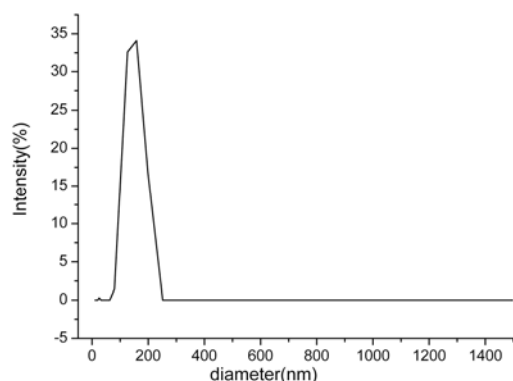


Figure S2 UV-vis spectra for PBMNPs3 (a) before and (b) after colorful reactions.

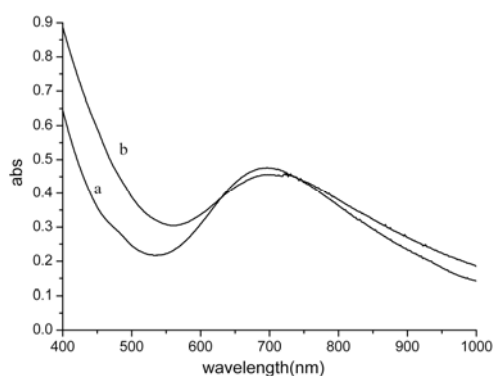
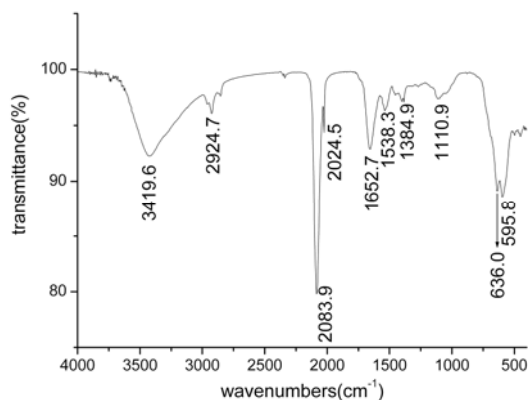


Figure S3 FTIR spectrum of PBMNPs conjugated with SPA.



The spectrum represents the typical IR absorption of protein A conjugated PBMNPs. The peaks at about 600cm^{-1} and 2083cm^{-1} are attributed to PBMNPs. The typical IR characteristic absorption bands of proteins can be observed, including strong typical amide I and amide II bands (mainly stretching C=O and bending N-H in peptides, respectively at 1652.7 and 1538.4cm^{-1}), as well as symmetric and antisymmetric vibration bands of CH_2 and CH_3 groups of amino acid side chains (at the range of 3000 and 2800cm^{-1}).