

Supplementary Information

Facile and green synthesis of polysaccharide-based magnetic molecularly imprinted nanoparticles for protein recognition

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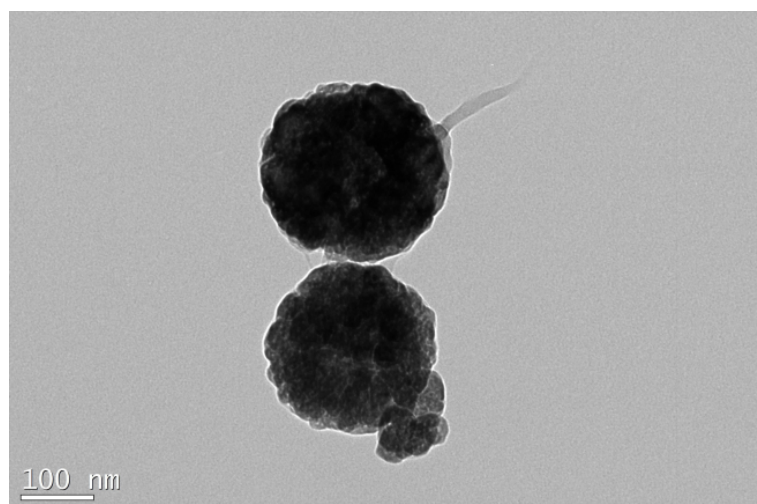


Fig. S1 TEM image of $\text{Fe}_3\text{O}_4@\text{CS}$.

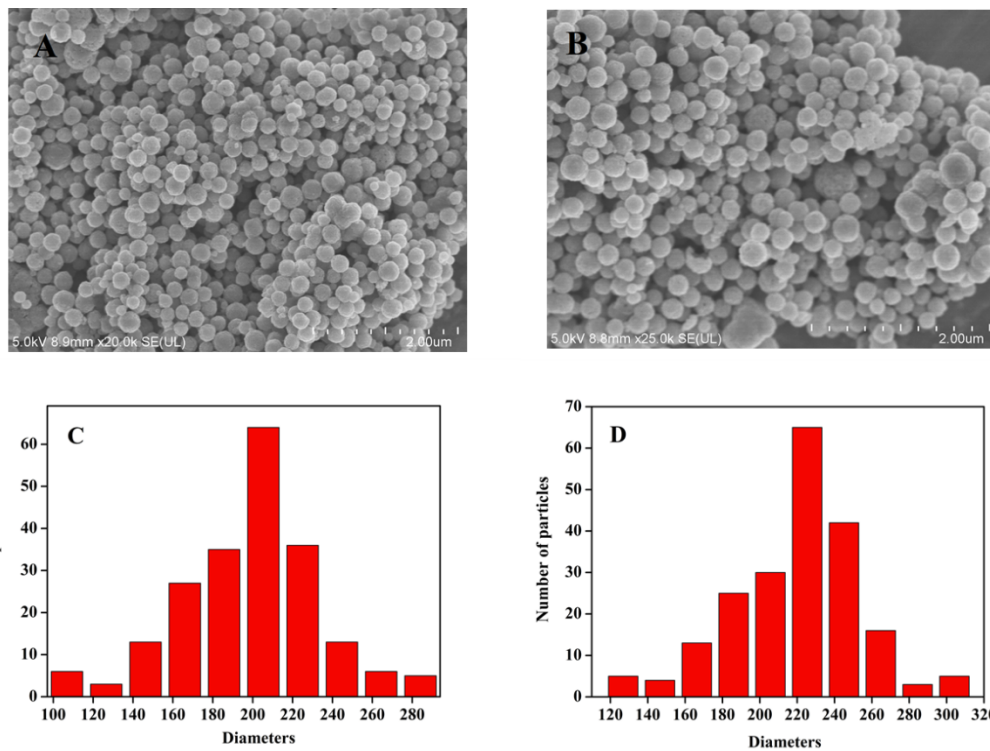


Fig. S2 SEM images and particle size distributions of Fe_3O_4 (A and C) and MP-MIPs (B and D).

Table S1 Some works on molecularly imprinted protein with polysaccharide.

Polysaccharides	Used as	Preparation methods	Proteins	Ref
cellulose	filter membrane	surface imprinting	Lyz	1
cyclodextrin	monomer	surface imprinting, copolymerization	BSA, Lyz	2-3
chitosan	supporter, monomer	sol-gel process, copolymerization, surface imprinting	Hb, BSA Lyz, OVA	4-8
alginate	supporter	graft-copolymerization, surface imprinting	BSA	9-11

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Table S2 Effect of mass ratios of SA and CS on the imprinting performance of MP-MIPs and MP-NIPs.^a

	Q_{MIPs} (mg g ⁻¹)	Q_{NIPs} (mg g ⁻¹)	IF
$M_{\text{SA}}/M_{\text{CS}}^{\text{b}}$			
1:3	28.11	14.55	1.93
1:2	92.22	22.61	4.07
1:1	70.45	25.28	2.79

^a In this experiment, 10 mg of MP-MIPs or MP-NIPs were incubated in the solution of OVA at a concentration of 0.5 mg mL⁻¹ for 40 min.

^b The mass amount of CS was maintained at 90 mg in all preparation.

Table S3 The parameters of Langmuir and Freundlich models for MP-MIPs and MP-NIPs.

Isothermal model	Parameters	MP-MIPs	MP-NIPs
Langmuir	$Q_{\max}$ (mg g ⁻¹)	100.0	26.53
	K_L (mL mg ⁻¹)	16.67	6.39
	R^2	0.9918	0.9904
Freundlich	K_F (mg g ⁻¹)	121.03	26.42
	m	0.3826	0.4262
	R^2	0.8538	0.9110