

Electronic Supplementary Information (ESI)

Preparation of metallic pivot-based imprinted monolith with hydrophilic macromonomer

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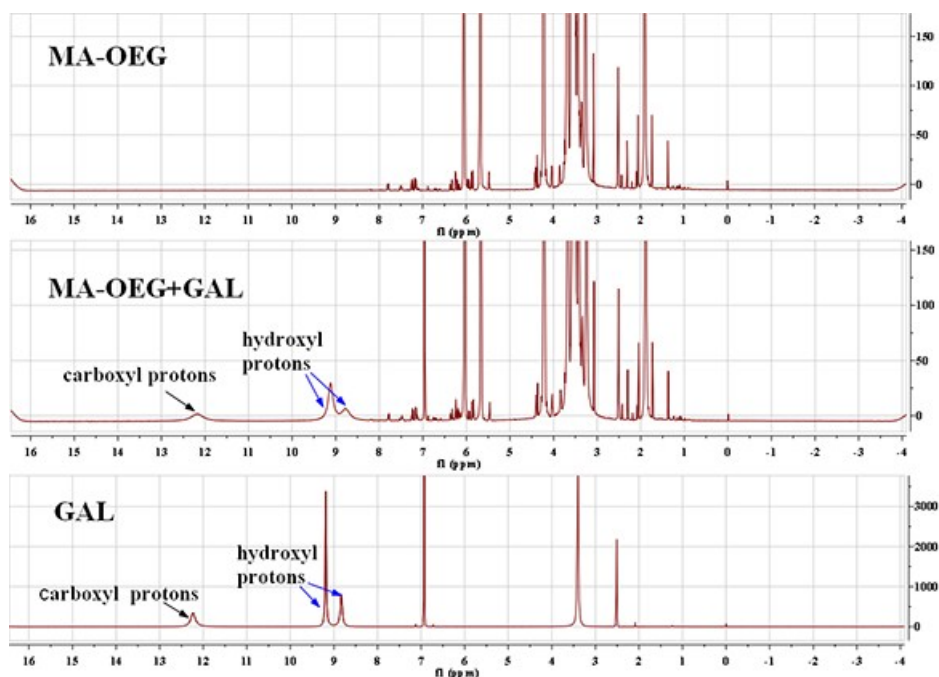


Fig. S1. ¹H NMR spectra in CDCl₃ with the pseudo-pre-polymerization: (a) oligo(ethyleneglycol) methyl ether methacrylate (MA-OEG); (b) MA-OEG + Gallic acid (GAL); (c) GAL

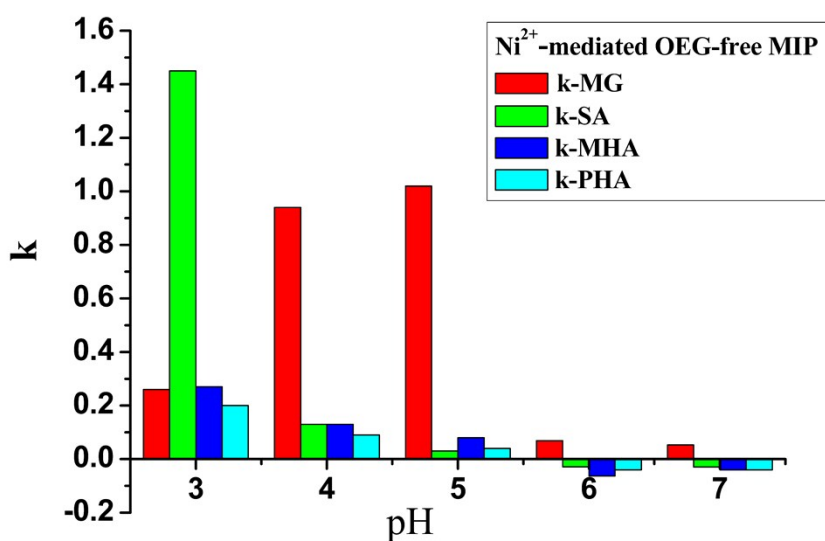


Fig. S2. Influence of the pH value of mobile phase on the retention factors and imprinting factor of GA analogues on the Ni²⁺-mediated OEG-free MIP (C15). HPLC conditions: column temperature, 25 °C; mobile phase, acetonitrile/acetate buffer (50 mmol L⁻¹) (70/30, v/v); flow rate, 0.5 mL min⁻¹; detection wavelength, 271 nm; injected volume, 20 μL.

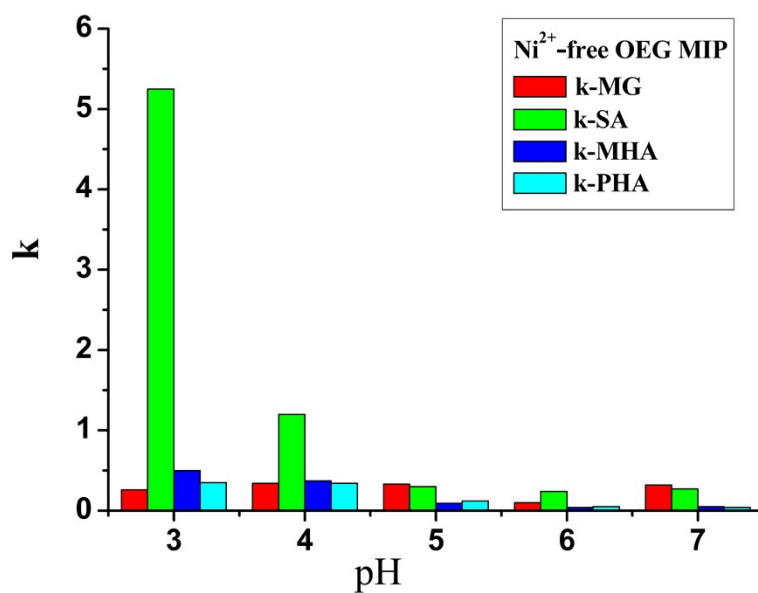


Fig. S3. Influence of the pH value of mobile phase on the retention factors and imprinting factor of GA analogues on the Ni²⁺-free OEG MIP (C5). HPLC conditions: column temperature, 25 °C; mobile phase, acetonitrile/acetate buffer (50 mmol L⁻¹) (70/30, v/v); flow rate, 0.5 mL min⁻¹; detection wavelength, 271 nm; injected volume, 20 μL.

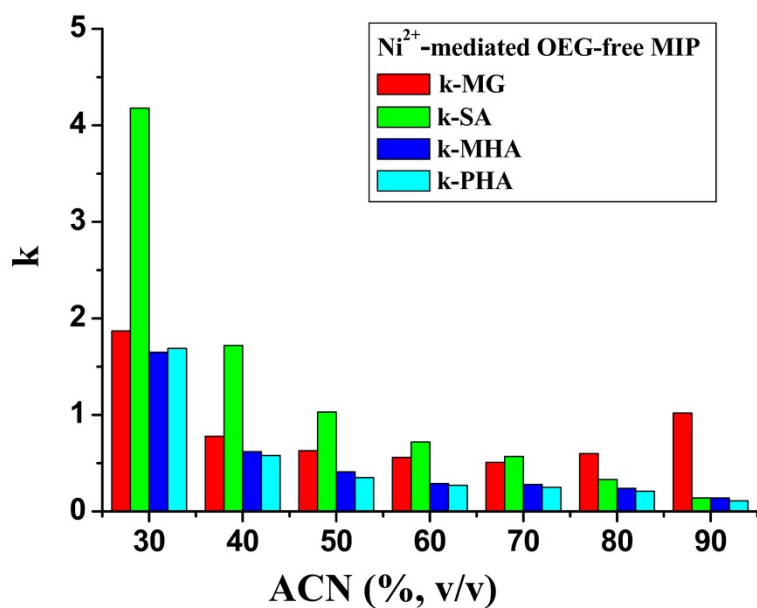


Fig. S4. Influence of the ACN content of mobile phase on the retention factors and imprinting factor of GA analogues on the Ni²⁺-mediated OEG-free MIP (C15). HPLC conditions: column temperature, 25 °C; mobile phase, acetonitrile/acetate buffer (50 mmol L⁻¹) (70/30, v/v); flow rate, 0.5 mL min⁻¹; detection wavelength, 271 nm; injected volume, 20 μL.

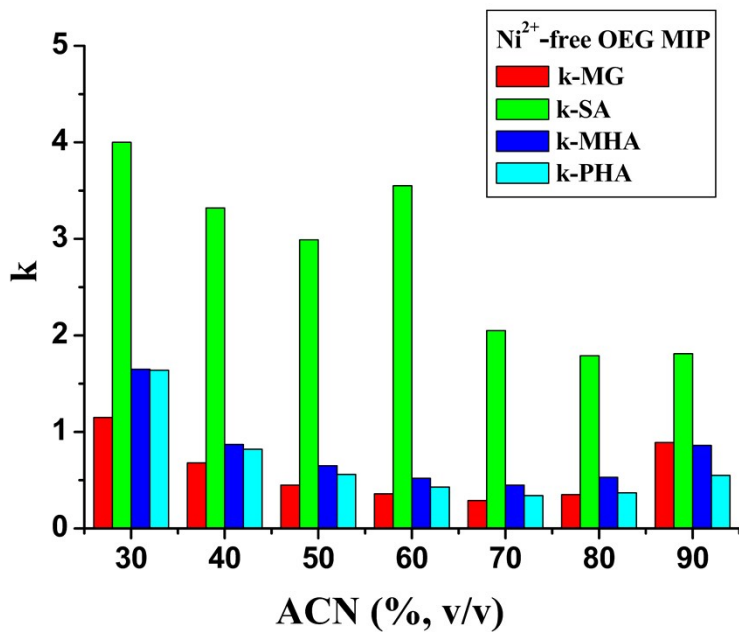


Fig. S5. Influence of the ACN content of mobile phase on the retention factors and imprinting factor of GA analogues on the Ni²⁺-free OEG MIP (C5). HPLC conditions: column temperature, 25 °C; mobile phase, acetonitrile/acetate buffer (50 mmol L⁻¹) (70/30, v/v); flow rate, 0.5 mL min⁻¹; detection wavelength, 271 nm; injected volume, 20 μL.

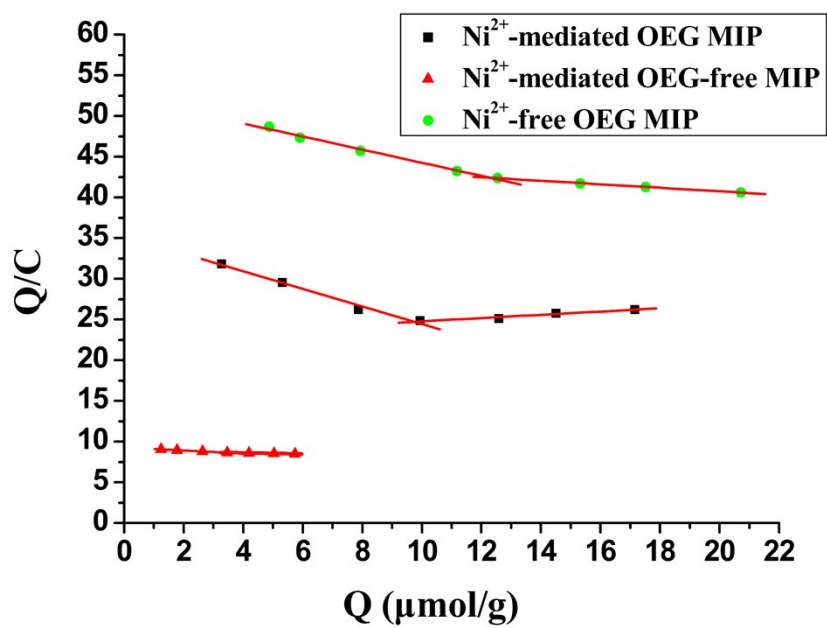


Fig. S6. Scatchard-Rosenthal plots for the Ni^{2+} -mediated OEG MIP (C11); Ni^{2+} -mediated OEG-free MIP (C15) and Ni^{2+} -free OEG MIP (C5).

Table S1 Imprinting factors of Ni²⁺-mediated OEG MIP prepared with different ratio of OEG/4-VP

MA-OEG/4-VP	EDMA	OEG	4-VP	MIP	<i>k</i>	IF
2.5:1	54%	33%	17%	C21	0.58	1.12
				C22	0.52	
2:1	65%	23%	15%	C11	1.64	8.63
				C12	0.26	
1.5:1	62%	23%	12%	C23	0.32	0.58
				C24	0.55	
1:1	66%	17%	13%	C17	0.38	0.42
				C18	0.90	
0:1	80%	0%	20%	C15	1.01	0.94
				C16	1.07	

Mobile phase: acetonitrile/acetate buffer (50 mmol L⁻¹, pH 5.0) (70/30, v/v); flow rate, 0.5 mL min⁻¹; detection wavelength, 271 nm; injected volume, 20 μL; temperature, 25 °C.

Table S2 Effect of the ratio of template to nickel ions

GA/Ni ²⁺	Column	<i>k</i>	IF
2:1	C7-MIP	0.60	0.34
	C8-NIP	1.74	
1:1	C2-MIP	1.96	11.53
	C4-NIP	0.17	
1:0	C5-MIP	4.16	0.95
	C6-NIP	4.39	

Mobile phase, acetonitrile/acetate buffer (50 mmol L⁻¹, pH 3.6) (90/10, v/v); flow rate, 0.5 mL min⁻¹; detection wavelength, 271 nm; injected volume, 20 μL; temperature, 25 °C.