

Supporting Information

Synthesis of graphene oxide functionalized surface-imprinted polymer for the preconcentration of tetracycline antibiotics

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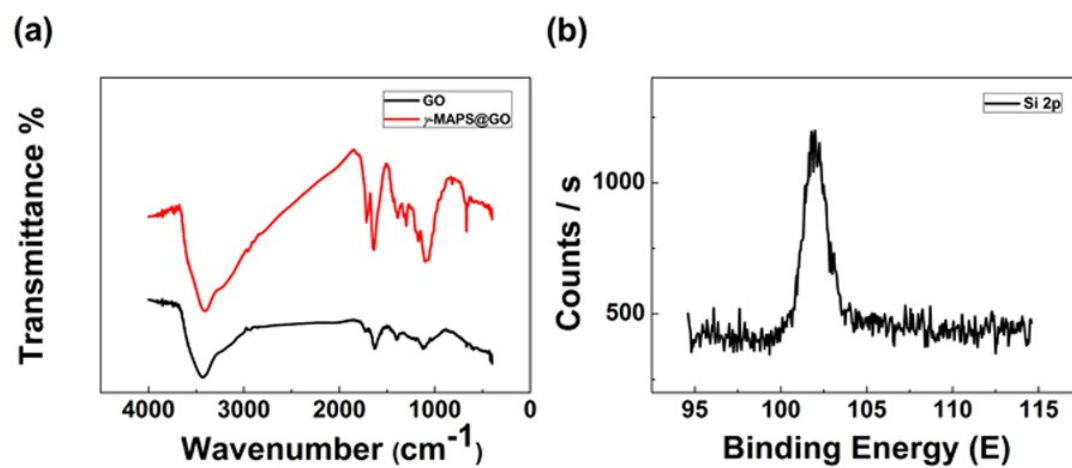


Fig. S1 (a) FT-IR spectra and (b) XPS spectra of γ -MAPS@GO.

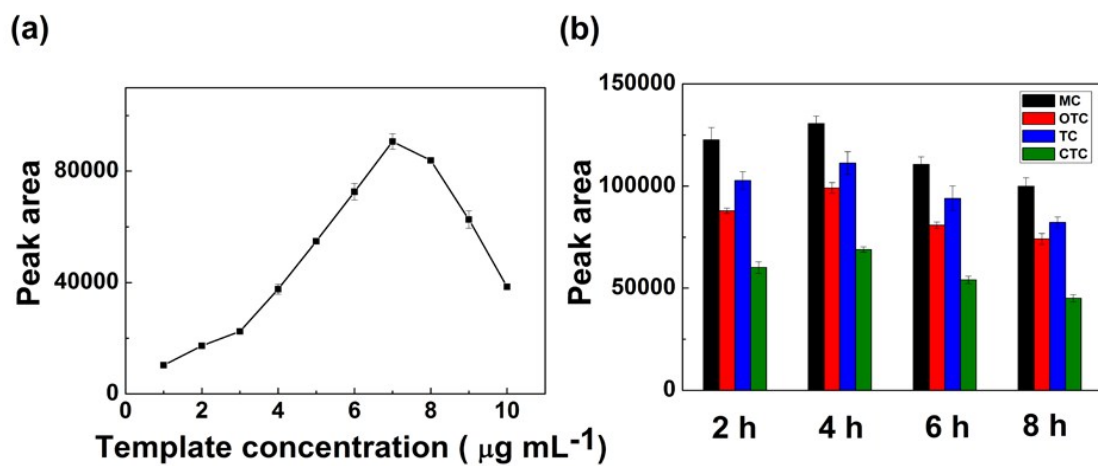


Fig. S2 (a) Effects of different template concentration for preparation of MIP monolith. (b) Effects of self-polymerization time of dopamine for preparation of MIP monolith.

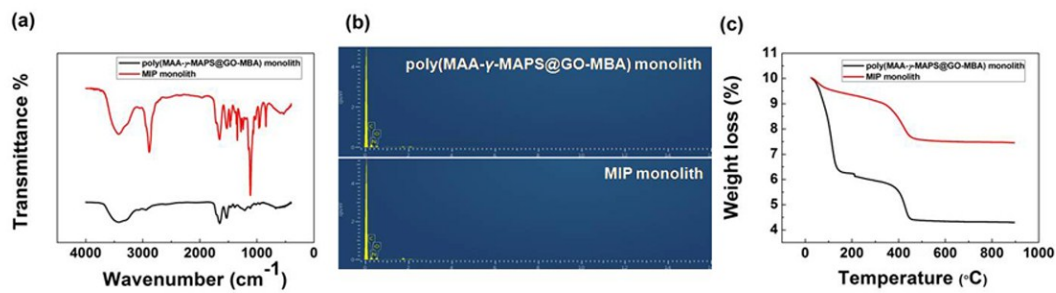


Fig. S3 Poly(MAA- γ -MAPS@GO-MBA) monolith and MIP monolith. (a) FT-IR spectra, (b) EDS elements analysis, and (c) TGA curves.

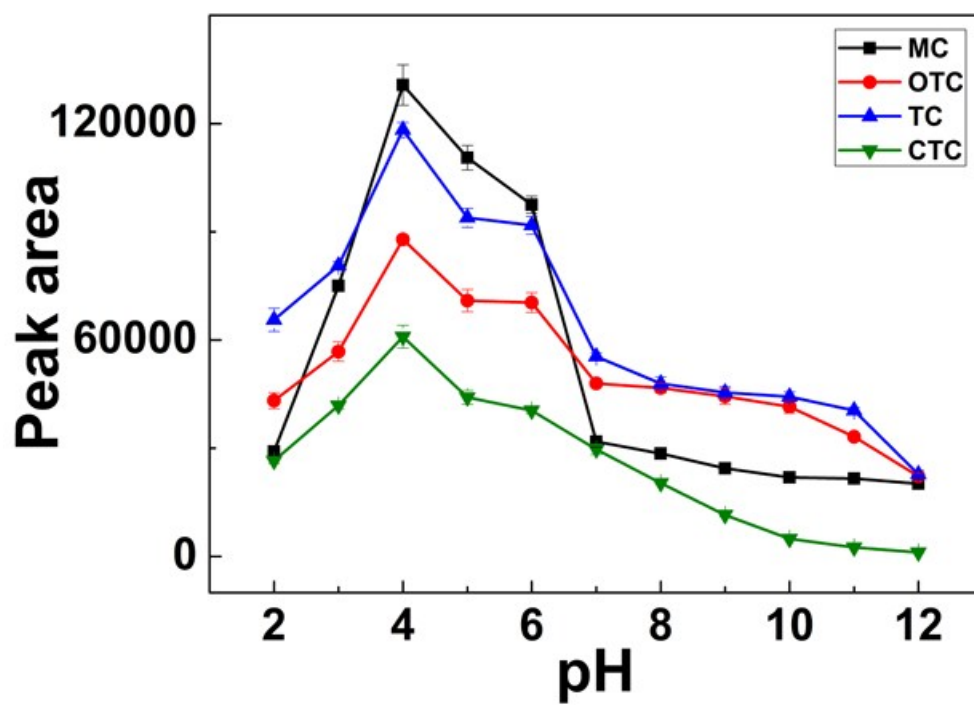


Fig. S4 Effects of sample pH on the extraction efficiency using minocycline-imprinted poly(MAA- γ -MAPS@GO-MBA) monolith.

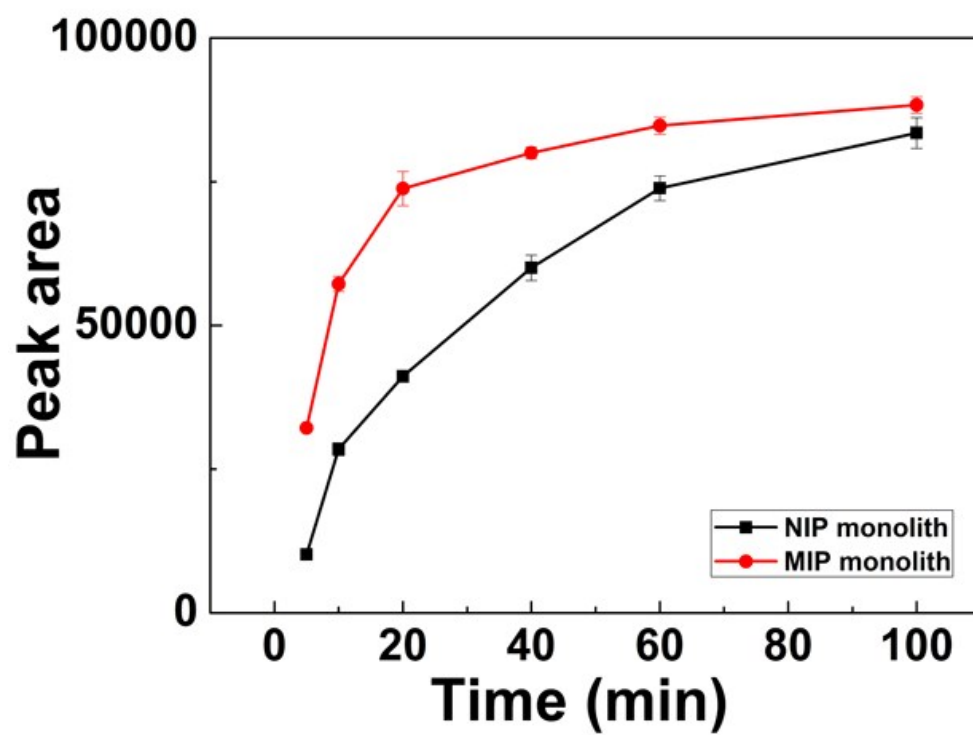


Fig. S5 Adsorption equilibrium of MIP and NIP monoliths.

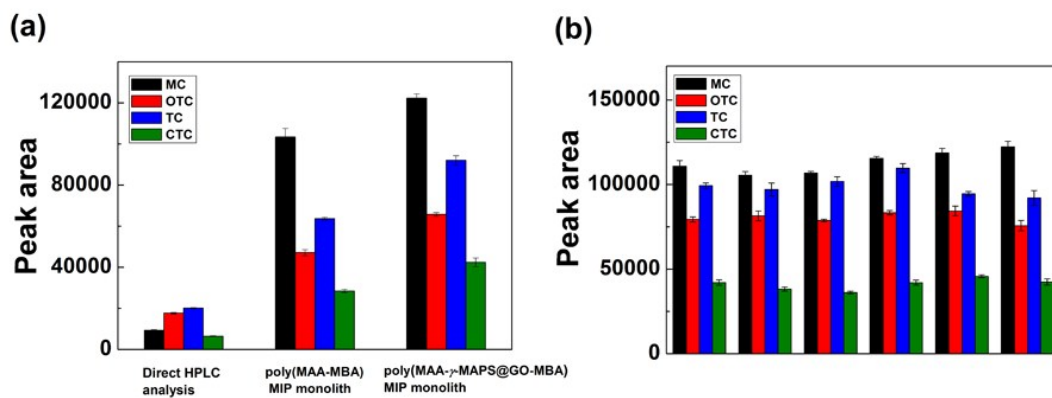


Fig. S6 (a) Comparison of the analytical performance of TCs extraction by direct HPLC analysis, poly(MAA-MBA) MIP monolith and poly(MAA- γ -MAPS@GO-MBA) MIP monolith. (b) Batch-to-batch reproducibility of MIP monolith.

Table S1 Atomic compositions of poly(MAA- γ -MAPS@GO-MBA) monolith and MIP monolith.

Atomic compositions	poly(MAA- γ -MAPS@GO-MBA) monolith	MIP monolith
C	62.80	65.73
N	15.35	7.98
O	21.85	26.29
C/N	4.09	8.24

Table S2 Selectivity of MIP monolith.

Analyte	$C_0 - C_e$ ($\mu\text{g mL}^{-1}$)		Q ($\mu\text{g g}^{-1}$)		IF
	MIP monolith	NIP monolith	MIP monolith	NIP monolith	
MC	12.61	6.72	40.43	21.45	1.89
OTC	6.35	4.87	21.28	15.54	1.37
TC	7.42	5.32	23.40	16.98	1.38
CTC	9.04	5.67	29.79	18.10	1.65

Table S3 Comparison of LODs by various pretreatment methods for the determination of the target analytes.

Extraction method	Analytes	Sample matrix	Detection method	Linear range ($\mu\text{g mL}^{-1}$)	LOD ($\mu\text{g mL}^{-1}$)	Ref.
Two phase freezing	OTC, TC, CTC, Doxycycline (DC),	Chicken	HPLC-DAD	0.025–1 $\mu\text{g g}^{-1}$	0.025–1 $\mu\text{g g}^{-1}$	1
Ultrasound-assisted extraction	OTC, TC, CTC, DC	Manure	HPLC-UV	0.1–20	0.03–0.05	2
Solid-phase extraction	TC	Bovine milk	Ultra-violet/visible spectrophotometry	1.0–9.0	0.03	3
Solid phase pre-concentration	OTC, CTC, TC	Surface water	Photochemically induced fluorescence	0.08–4.0	0.005–0.032	4
Solid-phase extraction	Metacycline (MTC), DC, OTC,	Milk	HPLC	0.075–1.0	0.0014–0.0076	22
Coated capillary column-dimethylethanolamine aminated polychloromethyl styrene nano-latex PMME	OTC, TC, CTC, DC	Pig plasma	Electrophoretic	0.025–0.8	0.003–0.007	25
	OTC, TC, CTC, MC	Milk	HPLC	0.05–20	0.030–0.053	Present work

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