Support Information

Boronate-modified polyethyleneimine dendrimer as solid-phase extraction adsorbent for the analysis of luteolin via HPLC

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The XRD patterns of obtained nanomaterials

The XRD patterns of PS@PDA@PEI-Ag and PPEI-Ag@CPBA in Fig. S4 show that five typical diffraction peaks of Ag (2θ = 38.12°, 44.28°, 64.43°, 77.47, and 81.54°) can be observed. The peak positions at the corresponding 2θ values are denoted as (111), (200), (220), (311), and (222), respectively. It shows that the crystal structure of Ag modified by CPBA is well maintained.

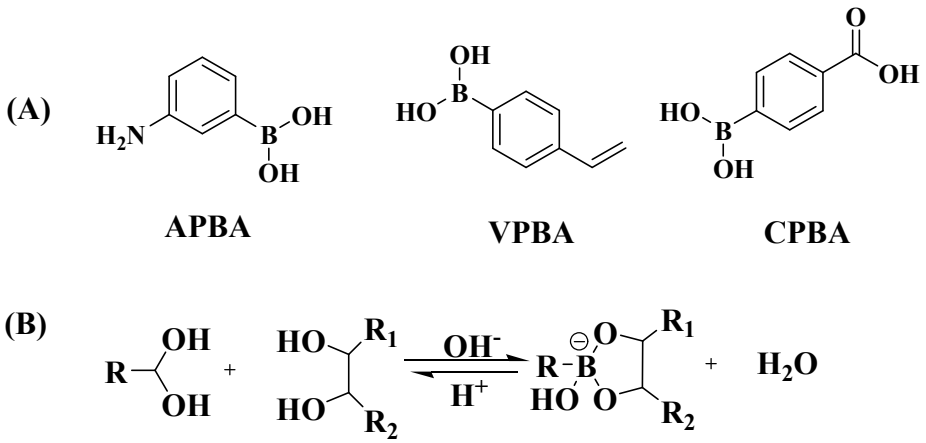

Fig. S1 The structure of APBA, VPBA, and CPBA (A); Mechanism of boronate affinity (B).

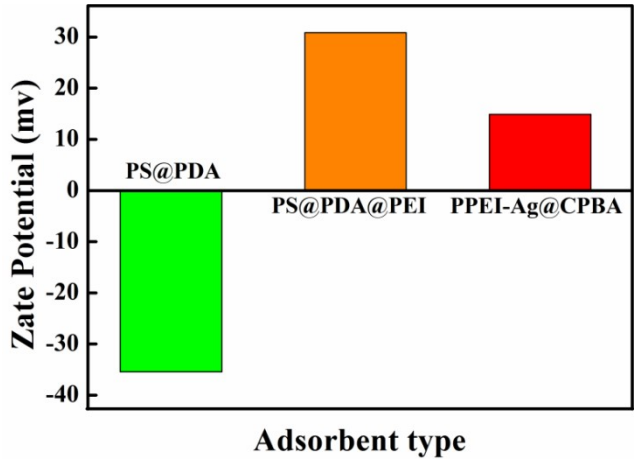

Fig. S2 The zeta potentials of PS@PDA, PS@PDA@PEI, and PPEI-Ag@CPBA.

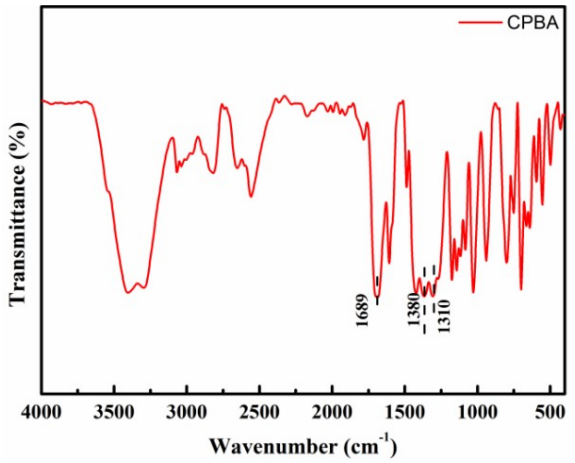

Fig. S3 FT-IR spectra of CPBA.

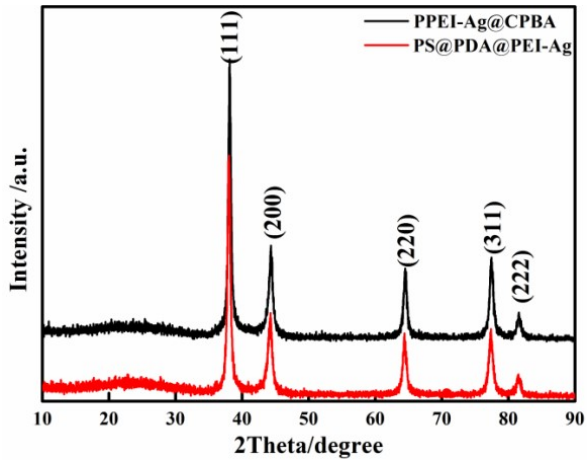

Fig. S4 XRD patterns of PPEI-Ag@CPBA and PS@PDA@PEI-Ag.

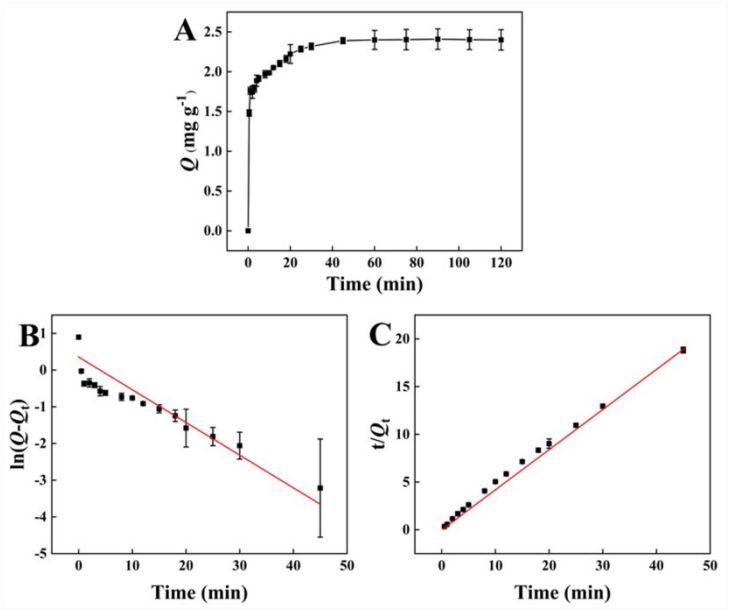

Fig. S5 Adsorption kinetics model. Adsorption equilibrium time (A); Pseudo-first-order kinetic model fitting line (B); Pseudo-second-order model fitting line (C).

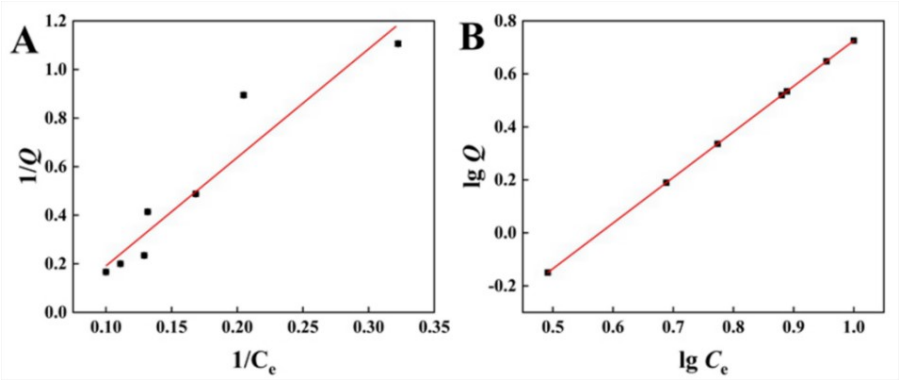

Fig. S6 Isotherm adsorption model. Langmuir isotherm (A); Freundlich isotherm (B).

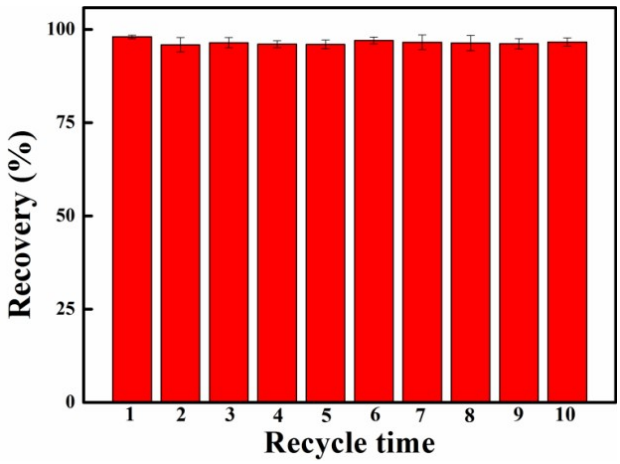

Fig. S7 Reusability of PPEI-Ag@CPBA.

Table S1 Kinetic parameters from adsorption of LTL onto PPEI-Ag@CPBA.

Adsorbents	$Q_{e,e}$[a] (mg g^{-1})	pseudo-first-order equation			pseudo-second-order equation				
		$Q_{e,c}$[b] (mg g^{-1})	k_1 (L min^{-1})	R^2	$Q_{e,c}$[b] (mg g^{-1})	k_2 (g mg^{-1} min^{-1})	R^2	h (mg g^{-1} min^{-1})	$t_{1/2}$ (min)
PPEI-Ag@CPBA	2.41	2.40	0.065	0.964	2.49	0.105	0.999	1.54	3.83

[a] is the equilibrium adsorption amount from kinetic experiments.
[b] is the equilibrium adsorption amount calculated from kinetic equations.

Table S2 Adsorption isotherm constants for PPEI-Ag@CPBA.

Adsorption isotherm models	Langmiur equation			Freundlich equation		
	R^2	Q_m (mg g^{-1})	K_L (L min^{-1})	R^2	K_F (g mg^{-1})(L mg^{-1})$^{1/n}$	$1/n$
PPEI-Ag@CPBA	0.875	2.45	0.056	0.906	0.101	1.72