Electronic Supplementary Material (ESI) for Analytical Methods.

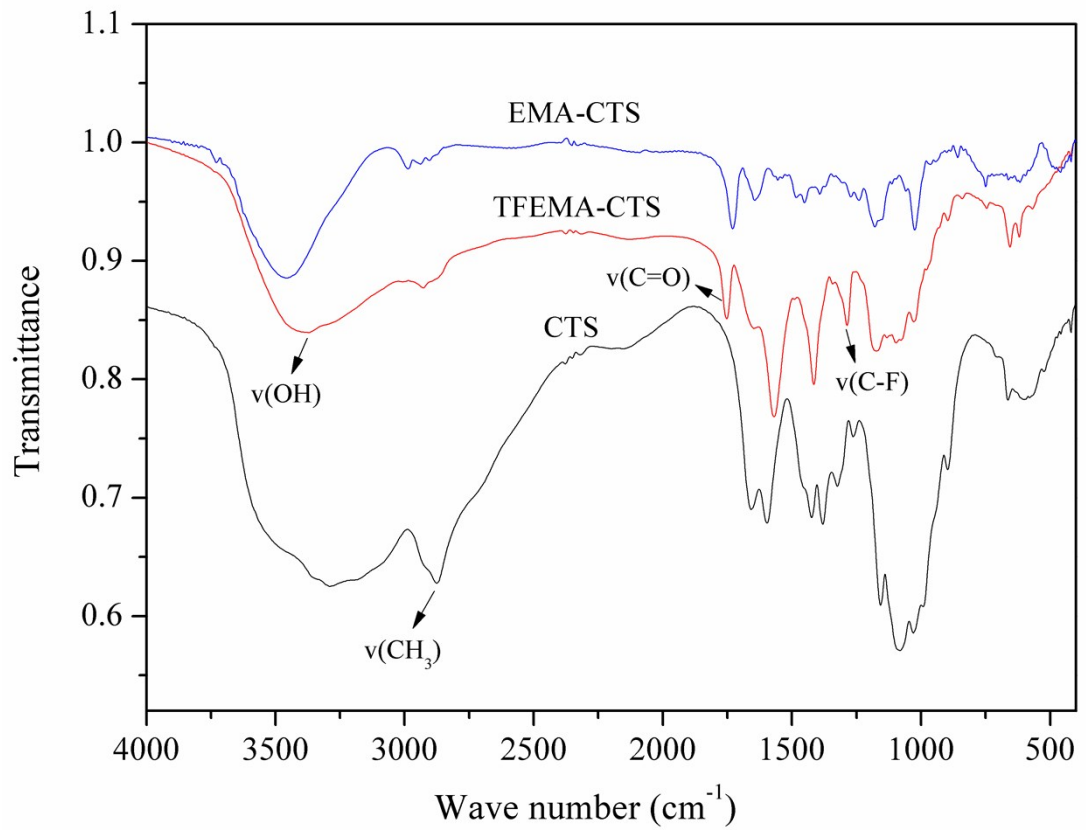

Fig.S1 FT-IR spectrum of CTS, EMA-CTS and TFEMA-CTS

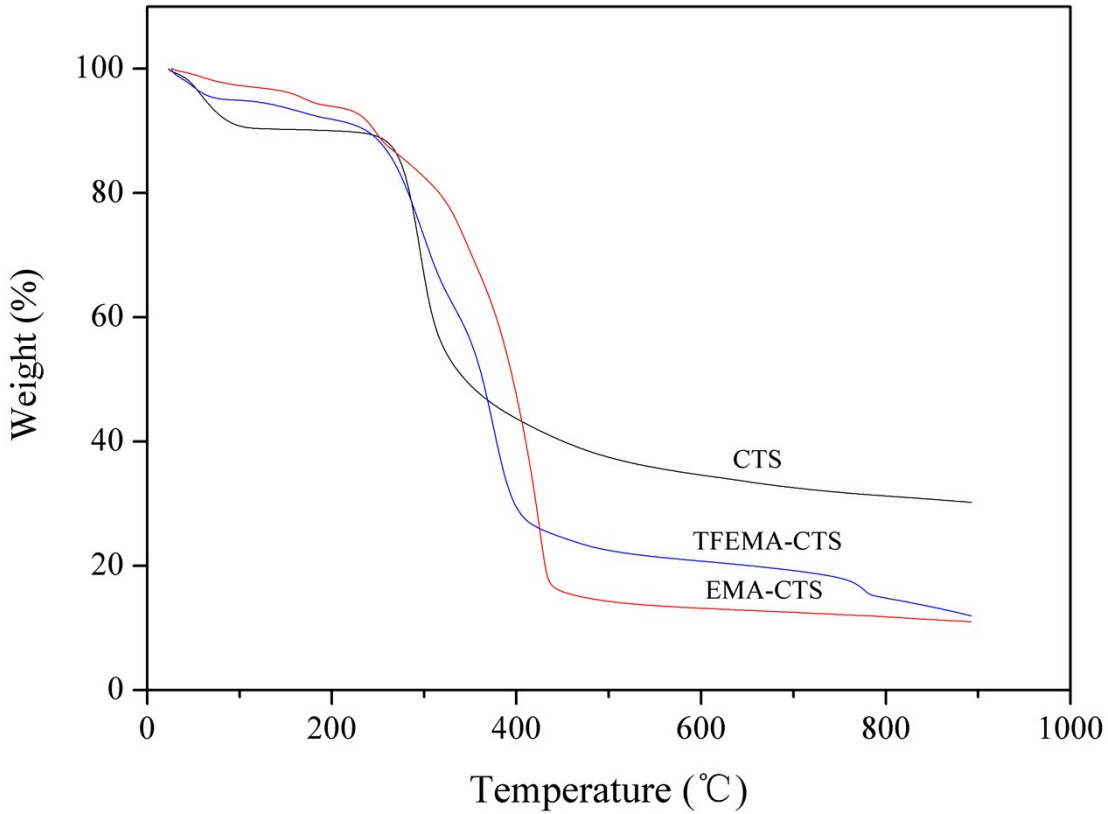

Fig.S2 The TGA curves of CTS, EMA-CTS and TFEMA-CTS

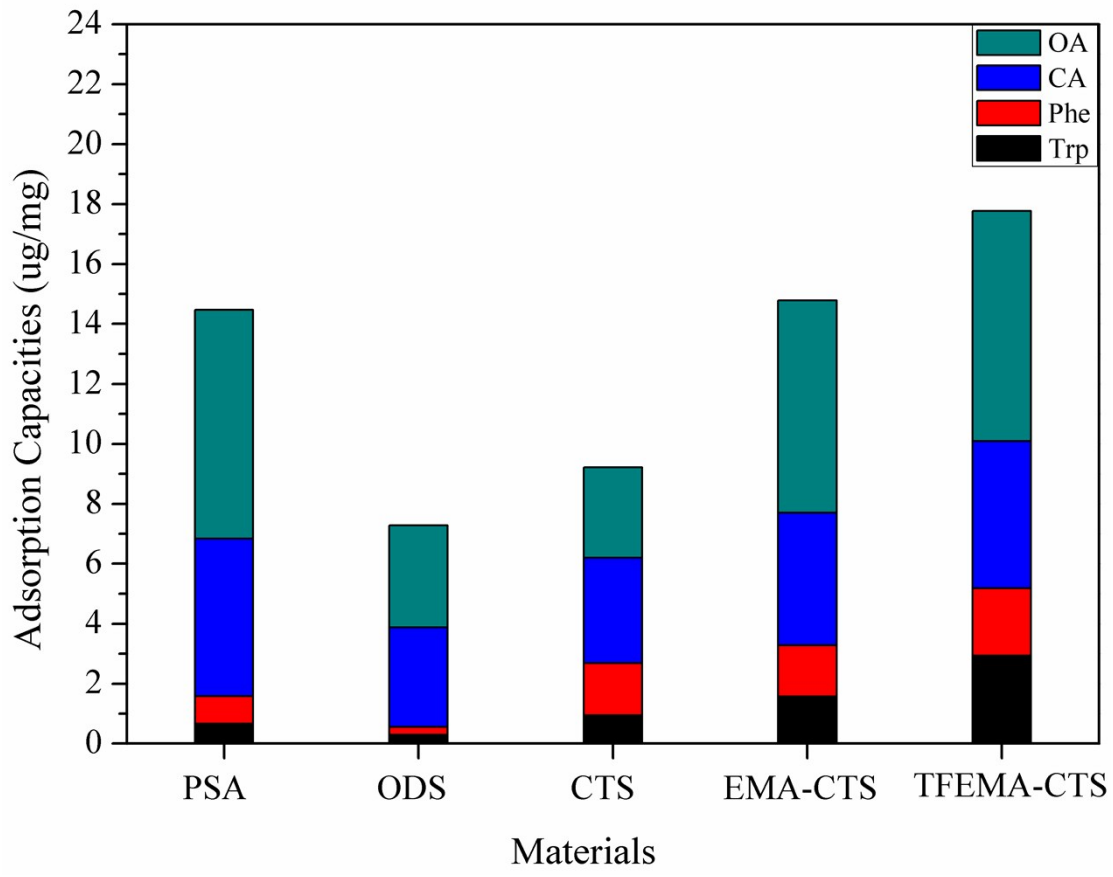

Fig.S3 Adsorption capacities of two kinds of organic acids and amino acids by five adsorbents

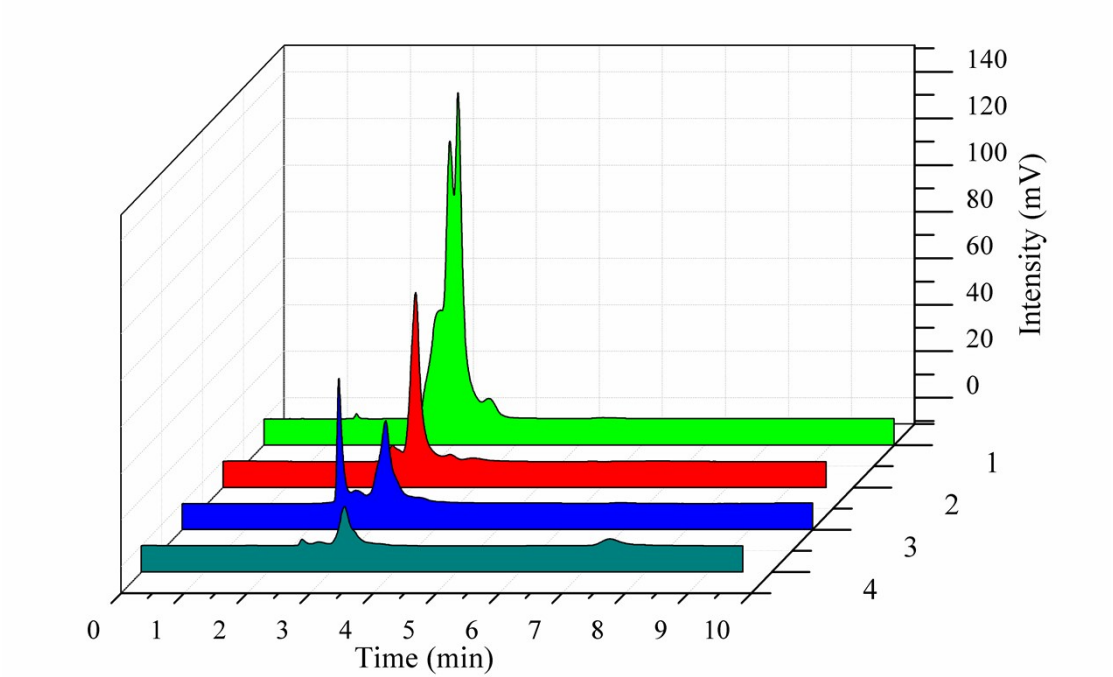

Fig.S4 The chromatograms of different samples before and after QuEChERS method with TFEMA-CTS: 1, tea sample before clean-up; 2, tea sample after clean-up; 3, milk sample before clean-up; 4, milk sample after clean-up

Table S1 Elemental composition of CTS, EMA-CTS and TFEMA-CTS

Materials	Elemental composition (%)			
	C	N	O	F
CTS	57.28	6.14	36.58	0
EMA-CTS	69.97	2.85	27.18	0
TFEMA-CTS	64.72	1.64	27.96	5.68

Table S2 Equations for regression curves, in solvent and blank matrix, determination coefficient, method LOD and LOQ

Analytes	Regression equation in pure solvent		Regression equation in apple blank samples		Linear range	Instrumental	
	Y=aX+b	R^2	*Y=aX+b*	R^2	mg/kg	LOD (μg/kg)	LOQ (μg/kg)
DMP	$Y=2.47\times10^4X+7.66\times10^3$	0.9996	$Y=2.14\times10^4X+5.01\times10^4$	0.9854	0.1-200	1.90	6.10
DAP	$Y=1.97\times10^4X+9.15\times10^3$	0.9997	$Y=1.93\times10^4X-4.12\times10^4$	0.9958	0.1-200	3.00	9.80
MTL	$Y=1.14\times10^4X+3.89\times10^3$	0.9995	$Y=1.13\times10^4X-9.68\times10^3$	0.9996	1-200	6.80	22.0
Di-BP	$Y=1.84\times10^4X+6.50\times10^3$	0.9997	$Y=1.97\times10^4X-1.84\times10^4$	0.9995	0.1-200	4.40	4.80

Table S3 Comparison of the results obtained with this new adsorbent with other adsorbents reported in the literature.

Analytes	Adsorbents	Linear rage	RSD (%)	Recovery (%)	Reference
DMP	PSA +C_{18}	5-500 μg/L	6.80	84.8	[10]
	Acrylamide modified PSA analogue	0.1-100.0 g/mL	2.30	84.10	[11]
	PSA +C_{18}	20–500 μg/L	1.81	71.36	[12]
	TFEMA-CTS	0.1-200.0 mg/kg	0.50	98.82	This work
DAP	PSA +C_{18}	20–500 μg/L	3.27	84.84	[12]
	PSA + $MgSO_4$	10–500 μg/L	8.70	86.51	[13]
	PSA	1–250 μg/L	4.0	98.0	[14]
	TFEMA-CTS	0.1-200.0 mg/kg	1.70	96.9	This work
MTL	PSA-kit-04A	0.01–1000 ng/mL	/	65.0	[15]
	PSA+ C_{18} +GCB+ $MgSO_4$	0.01-1.00 mg/L	5.78	93.5	[16]
	TFEMA-CTS	0.1-200.0 mg/kg	114.3	2.60	This work
Di-BP	PSA/C_{18}	5-500 μg/L	7.4	99.3	[10]
	PSA/C_{18}	20–500 μg/L	3.35	81.01	[12]
	PSA + $MgSO_4$	10–500 μg/L	8.90	85.10	[13]
	TFEMA-CTS	0.1-200.0 mg/kg	0.60	100.5	This work