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Article

Development of a Zeolite H-ZSM-5-Based D-μSPE Method for the Determination of Organophosphorus Pesticides in Tea Beverages

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1 Supplementary Figures and Tables

1.1 Supplementary Figures

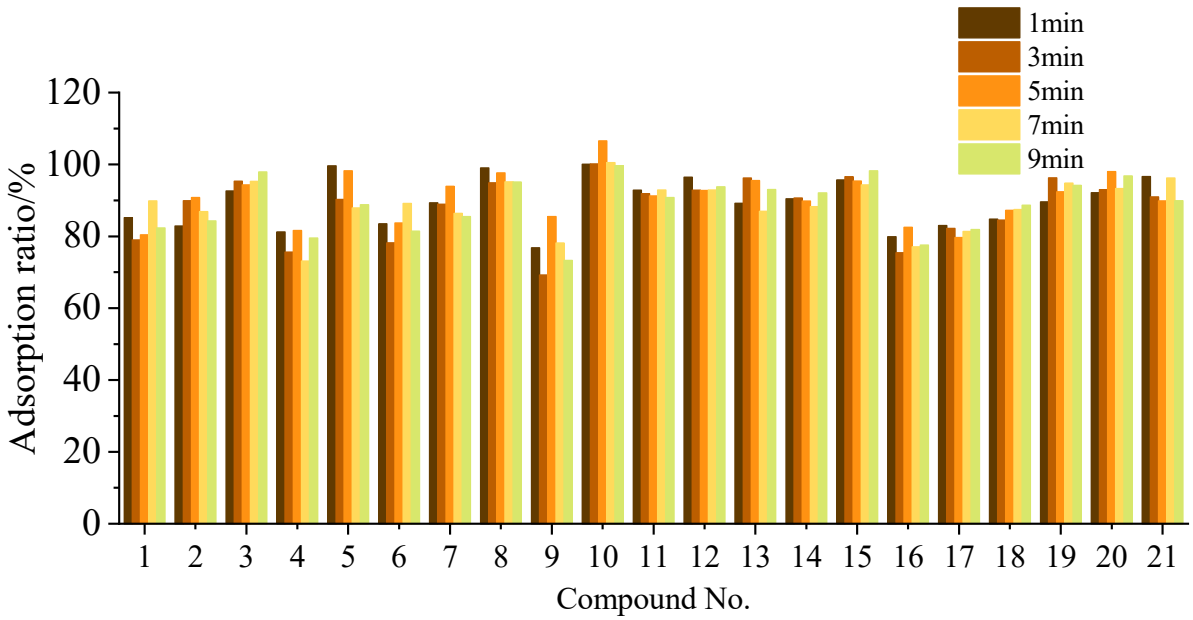

Figure S1. The percentage of adsorption for time evolution

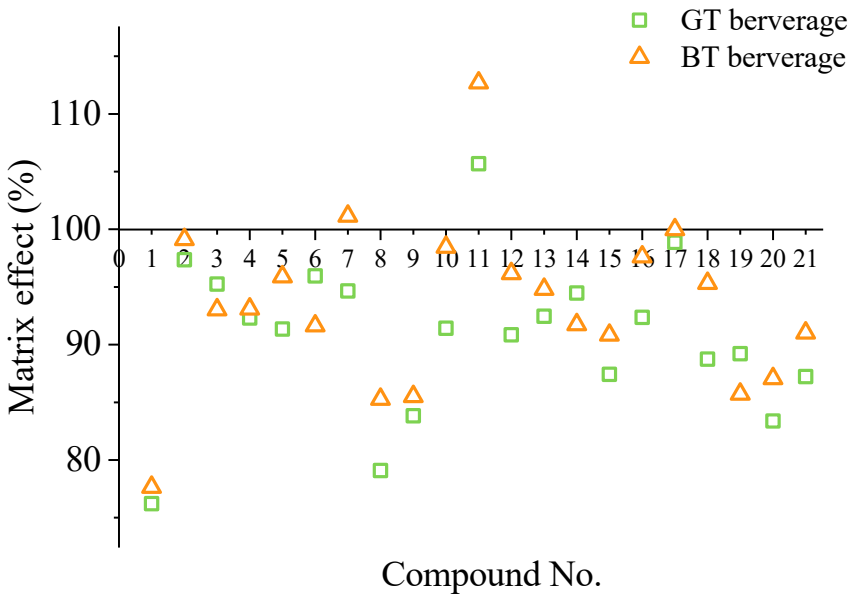

Figure S2. The matrix effects of 21 pesticides in black tea (BT) and green tea (GT) beverages

1.2 Supplementary Tables

Table S1 Chemical information and Multiple Reaction Monitoring parameters for 21 pesticides

No.	Compound name	CAS number	Formula	Q1 m/z	Q3 m/z	DP Voltage (V)	CE (V)	Log K_{ow}	PMV/cm3
1	bupirimate	41483-43-6	C13H24N4O3S	317	166	90	31	2.7	262.7±3.0
				317	210	90	33		
2	butachlor	23184-66-9	C17H26ClNO2	312.1	238	20	15	4.5	290.5±3.0
				312.1	162	20	32		
3	cadusafos	95465-99-9	C10H23O2PS2	271	159	40	19	3.3	252.8±3.0
				271	131	40	31		
4	coumaphos	56-72-4	C14H16ClO5PS	363	227	100	35	4.5	261.8±5.0
				363	307	100	23		

5	demeton	8065-48-3	C16H38O6P2S4	259 259	89 61	48 48	22 45	3.21	225.4±3.0
6	disulfoton	298-04-4	C8H19O2PS3	275.1 275.1	89 61	20 20	17 46	4	233.3±3.0
7	disulfoton sulfone	2497-6-5	C8H19O3PS3	291 291	185 213	70 70	15 22	1.9	240.3±3.0
8	disulfoton sulfoxide	2497-7-6	C8H19O2PS2	275.1 275.1	89 61	60 60	17 12	1.7	228.8±3.0
9	ethoprophos	13194-48-4	C11H17O4PS2	243 243	97 131	67 67	43 26	3.6	219.0±3.0
10	fensulfothion	115-90-2	C11H17O6PS	309.1 309.1	253 175	85 85	23 33	2.2	235.0±5.0
11	fensulfothion oxon sulfone	6132-17-8	C11H17O6PS	325 325	269 297	90 90	21 15	1.5	241.6±3.0
12	fensulfothion sulfone	14255-72-2	C11H17O5PS2	309 309	281 253	80 80	18 25	2.6	249.5±3.0
13	fluopyram	658066-35-4	C16H11ClF6N2O	397 397	207.9 172.9	60 60	30 40	4.5	279.2±3.0
14	myclobutanil	88671-89-0	C15H17ClN4	289 289	70 125	80 80	35 46	2.9	247.9±7.0
15	phorate sulfoxide	2588-5-8	C7H17O4PS2	277 277	199 153	25 25	13 19	3.5	204.4±3.0
16	prochloraz	67747-09-5	C15H16Cl3N3O2	376.2	308	20	15	4.6	274.2±7.0

				376.2	266	20	22		
				373	302.9	80	25		
17	profenofos	41198-08-7	C11H15BrClO3PS	373	345.2	80	18	4.7	252.1±3.0
				342.1	159	70	43		
18	propiconazole	60207-90-1	C15H17Cl2N3O2	344.1	161	70	43	3.5	244.9±7.0
				341	189	94	30		
19	pyridaphenthion	119-12-0	C14H17N2O4PS	341	205	94	30	3.3	260.6±7.0
				305	187	57	20		
20	terbufos sulfoxide	10548-10-4	C9H21O3PS3	305	131	57	38	2.2	245.4±3.0
				372	159	98	40		
21	tetraconazole	112281-77-3	C13H11Cl2F4N3O	372	70	98	50	4.4	247.2±7.0

Table S2 The linearity and calibration curves of twenty-one pesticides

Compound name	Calibration curves	Linearity(ng/mL)	R^2
bupirimate	y = 1.76740e8 x + 5116.24031	0.2-50	0.99969
butachlor	y = 9.98264e7 x + 688.07208	0.2-50	0.99886
cadusafos	y = 5.88125e8 x + 1.21945e5	0.2-50	0.98691
coumaphos	y = 1.45802e8 x + 3547.05691	0.2-50	0.99975
demeton	y = 1.30732e7 x + 348.36930	0.2-50	0.99819
disulfoton	y = 6.42813e7 x + 4054.57404	0.2-50	0.99783
disulfoton sulfone	y = 1.09659e8 x + 10803.06446	0.2-50	0.99733
disulfoton sulfoxide	y = 2.75946e8 x + 24330.15218	0.2-50	0.99844

ethoprophos	y = 1.26336e8 x + 4309.57993	0.2-50	0.99917
fensulfothion	y = 1.64836e8 x + 5670.31266	0.2-50	0.99945
fensulfothion oxon sulfone	y = 1.52374e8 x + 5387.59941	0.2-50	0.99965
fensulfothion sulfone	y = 1.20170e8 x + 5197.57029	0.2-50	0.99962
fluopyram	y = 2.51263e8 x + 2566.31757	0.2-50	0.99738
myclobutanil	y = 3.46090e7 x + 2033.02901	0.2-50	0.9994
phorate sulfoxide	y = 3.72061e8 x + 3.38838e4	0.2-50	0.99766
prochloraz	y = 2.38377e8 x + 3332.60858	0.2-50	0.99968
profenofos	y = 1.00781e8 x + 15025.68219	0.2-50	0.99305
propiconazole	y = 6.30089e7 x + 3215.60019	0.2-50	0.99969
pyridaphenthion	y = 2.32578e8 x + 4192.60307	0.2-50	0.99933
terbufos sulfoxide	y = 2.78442e8 x + 25852.26451	0.2-50	0.99784
tetraconazole	y = 5.09799e7 x + 2177.35288	0.2-50	0.99956