Electronic Supplementary Material (ESI) for Analytical Methods.

Novel use of PVPP in a modified QuEChERS extraction for UPLC-MS/MS analysis of neonicotinoid insecticides in tea

Ruyan Hou, [†1] Weiting Jiao, [†1] Yu Xiao, [†] Jiagang Guo,[†] Yaning LV,[‡] Huarong Tan, [$] Jingwei Hu,[$] Xiaochun Wan[*†]

[†] State Key Laboratory of Tea Plant Biology and Utilization, Anhui Agricultural University, Hefei, 230036, P. R. China

[‡]Anhui Entry-Exit Inspection and Quarantine Bureau of the P. R. China, Hefei, 230022, P. R. China

[$]School of Life Science, Anhui Agricultural University, Hefei, 230036, P. R. China

[*]Corresponding author

Xiaochun Wan (tel: +86-551-65786002; fax: +86-551-65786765; E-mail: xcwan@ahau.edu.cn)

Author contributions

[†1] Ruyan Hou and Weiting Jiao contributed equally to this work.

Table S1. Concentration[a] of Neonicotinoid Residues in 29 Commercial Tea Samples

		residue (mg kg^{-1})		
	NO.	imidacloprid	acetamiprid	thiamethoxam
green tea	1	<LOQ	0.016	<LOQ
	2	<LOQ	<LOQ	<LOQ
	3	0.025	0.089	<LOQ
	4	<LOQ	<LOQ	<LOQ
	5	<LOQ	<LOQ	<LOQ
	6	<LOQ	<LOQ	<LOQ
	7	<LOQ	<LOQ	<LOQ
	8	0.042	<LOQ	<LOQ
	9	<LOQ	<LOQ	<LOQ
	10	<LOQ	<LOQ	<LOQ
	11	<LOQ	<LOQ	<LOQ
	12	<LOQ	<LOQ	<LOQ
	13	<LOQ	<LOQ	<LOQ
black tea	1	<LOQ	0.055	<LOQ
	2	<LOQ	<LOQ	<LOQ
	3	<LOQ	<LOQ	<LOQ
	4	<LOQ	<LOQ	<LOQ
	5	<LOQ	<LOQ	<LOQ
	6	0.032	<LOQ	<LOQ
	7	<LOQ	<LOQ	<LOQ
	8	<LOQ	<LOQ	<LOQ
	9	<LOQ	0.126	<LOQ
	10	<LOQ	0.052	<LOQ
	11	<LOQ	<LOQ	<LOQ
	12	<LOQ	<LOQ	<LOQ
	13	<LOQ	<LOQ	<LOQ
oolong tea	1	0.013	0.012	0.014
	2	<LOQ	<LOQ	<LOQ
	3	<LOQ	<LOQ	<LOQ

[a] the other 10 residues levels were all below the LOQ, date not shown in this table

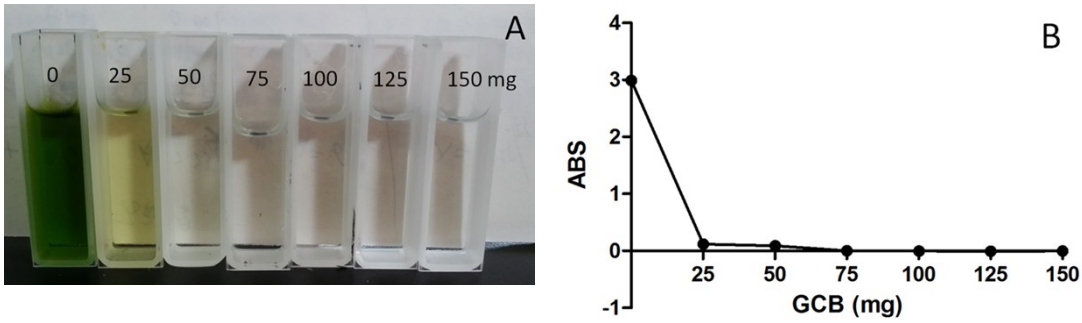

Fig. S1. Absorbance of tea extracts treated with different dosages of GCB. A. Visual of test solutions; B. Absorbance (ABS) of solution at 477 nm (the maximum absorption wavelength of tea extract). The GCB removed pigments compounds such as chlorophyll, etc.

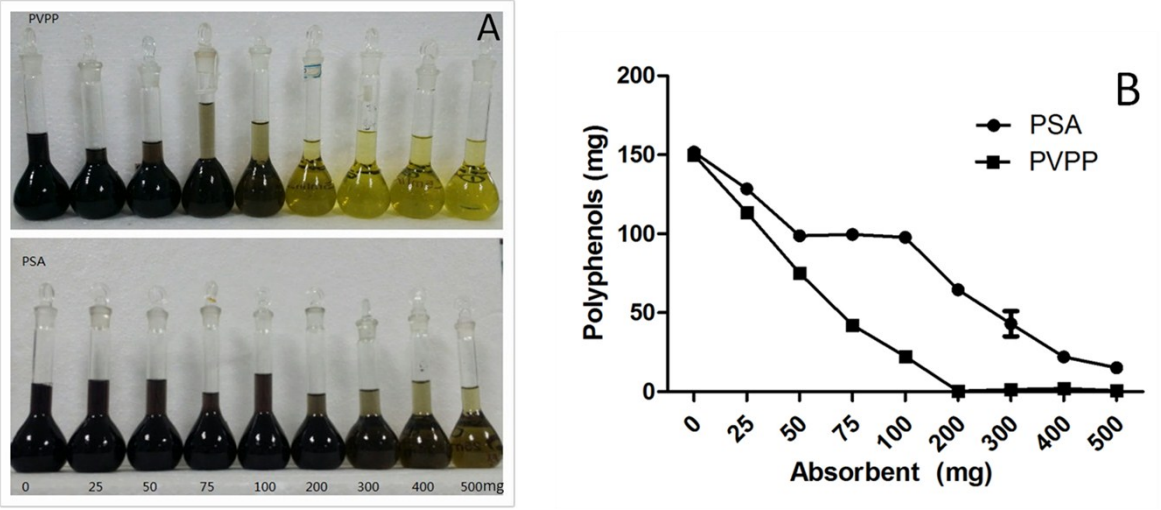

Fig. S2. Polyphonols in tea extracts treated with different dosage of PSA and PVPP. A. Visual of test solutions; B. Quantification of polyphenols after treatment with various levels of absorbent (mg).