

## Supplementary Data

An enhanced dispersive liquid-liquid microextraction based on  
solidification of floating organic drop for the determination of pyrethroid  
pesticides in tea infusions

Ziwei Ju, Heng Qian, Nianyou Pan, Yuting Huang, Qinqin Xu, Chen Yan, Wenfeng  
Zhou\*

Department of Applied Chemistry, China Agricultural University, Yuanmingyuan  
West Road 2#, Haidian District, Beijing 100193, China

\*Corresponding author, tel: +86-10-62730244 (W. Zhou)

E-mail addresses: zhouwenfeng@cau.edu.cn (W. Zhou)

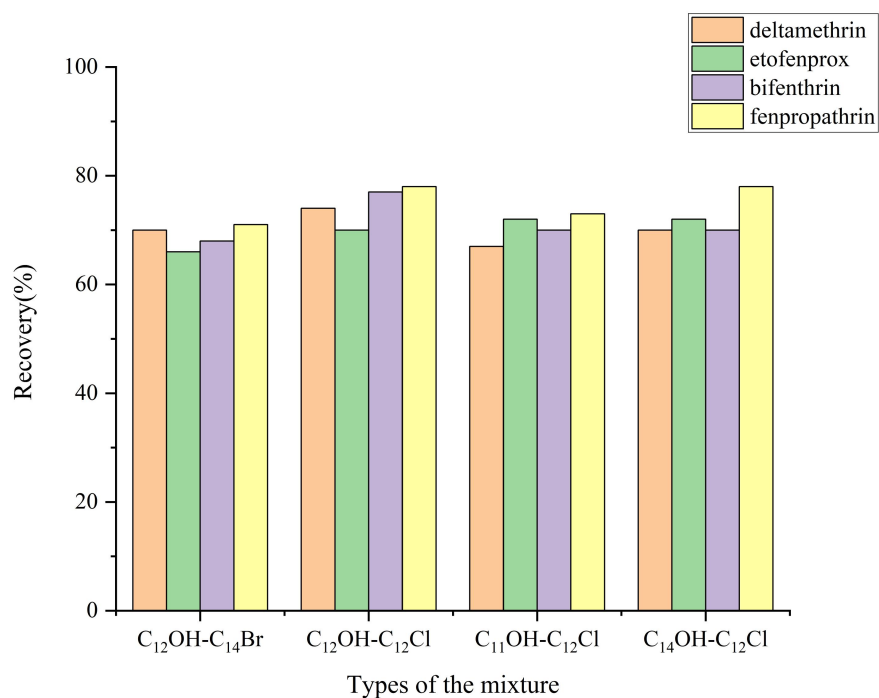


Fig. S1. Effects of Types of the mixture on the extraction efficiency under the following extraction conditions: the molar ratio of halogenated hydrocarbons to alcohols, 1:2, 50  $\mu$ L of the solvent mixture, the molar ratio of [P<sub>4,4,4,12</sub>]Br to KPF<sub>6</sub>, 1:2, 160mg of NaCl, 50°C.

- \* C<sub>12</sub>OH: 1-dodecanol
- C<sub>11</sub>OH: 1-undecanol
- C<sub>12</sub>Cl: 1-chlorododecane
- C<sub>12</sub>Br: 1-bromotetradecane

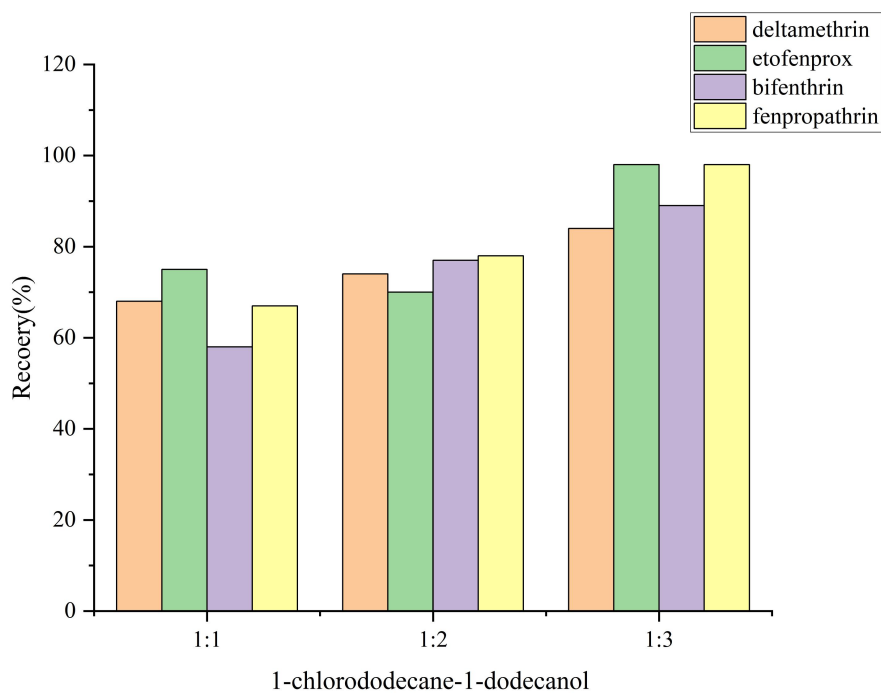


Fig. S2. Effects of the molar ratio of 1-chlorododecane and 1-dodecanol on the extraction efficiency under the following extraction conditions: 50  $\mu\text{L}$  of the solvent mixture, the molar ratio of  $[\text{P}_{4,4,4,12}]\text{Br}$  to  $\text{KPF}_6$ , 1:2, 160 mg of  $\text{NaCl}$ ,  $50^\circ\text{C}$ .

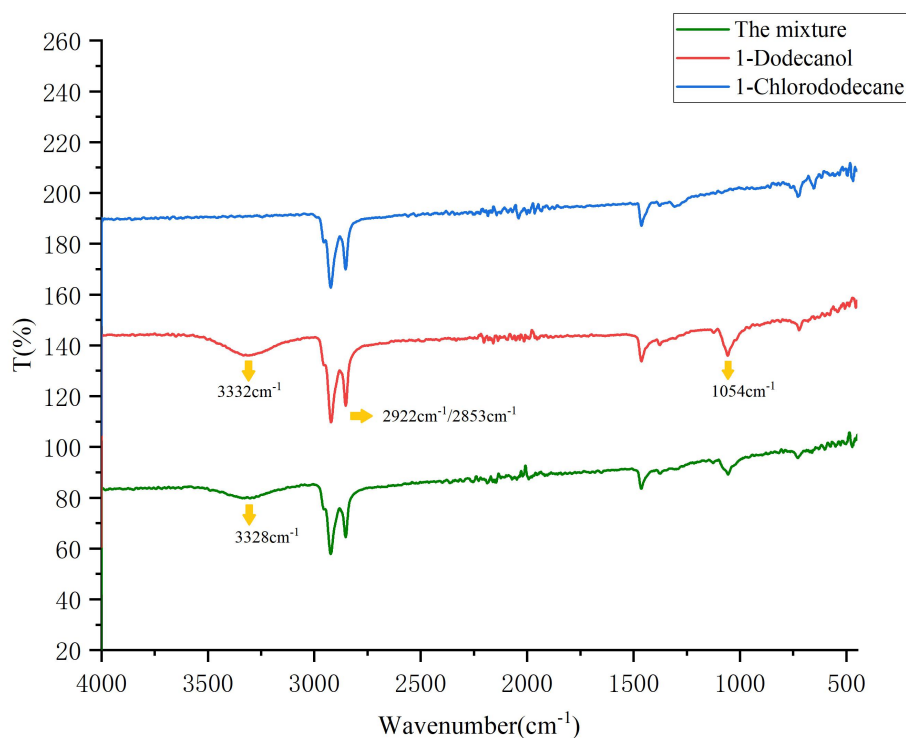


Fig. S3. The FT-IR spectrum of the solvent mixture, 1-dodecanol and 1-chlorododecane.

Table S1. Melting point, density and viscosity of the mixtures mentioned in the experiment.

Types of the mixture (HBD:HBA=2:1)		Melting point( $^\circ\text{C}$ )	Density(g/mL)	Viscosity( $\text{mm}^2/\text{s}$ )
Component 1	Component 2			
$\text{C}_{12}\text{OH}$	$\text{C}_{12}\text{Cl}$	18.1	0.853	13.44
	$\text{C}_{14}\text{Br}$	6.5	0.929	12.77
$\text{C}_{11}\text{OH}$	$\text{C}_{12}\text{Cl}$	8.1	0.869	9.75
$\text{C}_{14}\text{OH}$		33.4	–	–

\* $\text{C}_{12}\text{OH}$ : 1-dodecanol

$\text{C}_{11}\text{OH}$ : 1-undecanol

$\text{C}_{14}\text{OH}$ : 1-tetradecanol

$\text{C}_{12}\text{Cl}$ : 1-chlorododecane

$\text{C}_{14}\text{Br}$ : 1-bromotetradecane

Table S2. Analytical performance data for spike recovery experiment in blank tea, spike level: 10  $\mu\text{g/L}$ , 50  $\mu\text{g/L}$ , 100  $\mu\text{g/L}$ . (n=3)

Pyrethroid	green tea			black tea		
	Spike level ( $\mu\text{g/L}$ )	RSD	Recovery (%)	Spike level ( $\mu\text{g/L}$ )	RSD	Recovery (%)
deltamethrin	10	3.4%	89.3%	10	4.7%	97.6%
	50	4.1%	81.2%	50	4.5%	91.5%
	100	4.2%	92.4%	100	4.5%	89.4%
etofenprox	10	2.9%	87.5%	10	5.0%	85.9%
	50	5.0%	91.2%	50	4.8%	92.1%
	100	4.7%	93.5%	100	3.9%	92.5%
bifenthrin	10	4.8%	91.4%	10	4.8%	94.2%
	50	4.3%	95.7%	50	4.2%	103.7%
	100	3.3%	92.8%	100	3.5%	98.1%
fenpropathrin	10	5.1%	89.6%	10	4.7%	101.0%
	50	3.2%	87.3%	50	4.1%	98.3%
	100	2.2%	92.3%	100	3.8%	92.0%