

**Electronic Supplementary Information**

**An Ionic Liquid Improved HPLC-ICP-MS Method for Simultaneous Determination of**

**Arsenic and Selenium Species in Animal/Plant-Derived Foodstuffs**

***Analytical Methods***

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### 3. Results and discussion

#### 3.1. Optimization of chromatography separating condition

##### 3.1.1. Selection of ion pair reagent

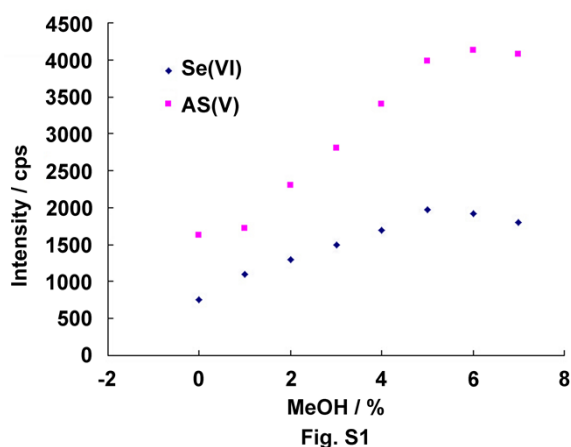
**Table S1** Influence of [HMIM]BF<sub>4</sub> with different concentrations on the retention of As species

[HMIMBF <sub>4</sub> ]	0.0% (v/v)	0.1% (v/v)	0.2% (v/v)	0.3% (v/v)	0.4% (v/v)
	t <sub>R</sub> / min	t <sub>R</sub> / min	t <sub>R</sub> / min	t <sub>R</sub> / min	t <sub>R</sub> / min
AsC	2.05	2.13	2.11	2.22	2.16
As(III)	2.56	2.66	2.77	2.94	2.88
AsB	2.59	2.76	3.90	3.98	4.06
DMA	2.68	3.38	4.79	4.33	4.13
MMA	4.21	5.08	5.75	5.45	5.15
As(V)	4.56	6.97	9.90	8.21	7.36

**Table S2** Influence of [BMIM]BF<sub>4</sub> with different concentrations on the retention of Se species

[BMIM]BF <sub>4</sub>	0.0% (v/v)	0.2% (v/v)	0.4% (v/v)	0.6% (v/v)	0.8% (v/v)
	t <sub>R</sub> /min	t <sub>R</sub> /min	t <sub>R</sub> /min	t <sub>R</sub> /min	t <sub>R</sub> /min
SeCys <sub>2</sub>	2.43	2.45	2.45	2.46	2.43
Se(IV)	4.23	3.79	3.44	3.29	3.08
SeMet	4.26	4.25	4.34	4.19	3.90
Se(VI)	10.06	8.60	6.66	5.67	4.40

##### 3.1.4. Optimization of methanol content in mobile phase



**Fig.S1:** The influences of methanol content in the range of 0-7% (v/v) on the intensity of As (V) and

Se (VI). Analytes, As (V): 1  $\mu\text{g L}^{-1}$ , Se (VI): 1  $\mu\text{g L}^{-1}$ ; other conditions were as in Fig. 4

#### 3.2. Optimization of extraction procedure for the speciation analysis of As or Se

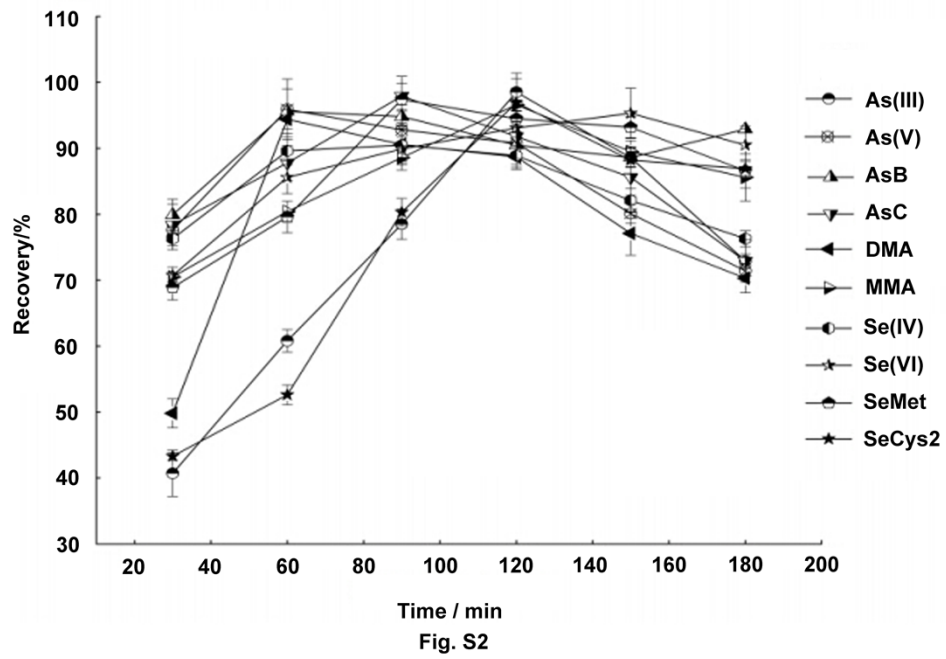


Fig.S2: The effect of ultrasonic extraction time on the extraction efficiency