Electronic supplementary information (ESI)

Microwave closed digestion with HF + HNO_3 + HCl: Approximately 50 mg of the homogenized sample was weighed into the Teflon vessel, then 3.0 mL HNO_3, 2.0 mL HCl and 1.0 mL HF were added and the vessel was sealed. Microwave digestion was applied as follow: the temperature was ramped to 160 ^{o}C within 10 min at 800W, holding for 10 min; then ramped to 200 ^{o}C within 10 min at 1600W, holding for 30 min. After the vessel had cooled down, the vessel was opened and heated at 120 ^{o}C to dryness (but not baked) on a hot plate. One mL of HNO_3 was added, evaporated to dryness, and followed by a second addition of HNO_3 and that was evaporated to dryness to help remove HF and Si. 1.0 mL HNO_3 and 2.0 mL ultra pure water were added, followed by gentle heating while covered to extract As from the residues. The final solution was made up to 50 mL by addition of high purity water and 0.5 mL of 1 mg L^{-1} Rh internal standard solution.

Mass spectral interferences checking

The main interferences were investigated under the conventional standard mode ICP-MS, and the signal intensity contributions of interfering ions on m/z 75 were evaluated. As shown in Table S1, the signal intensity of 1.0 ng mL^{-1} As at m/z 75 is 1176 ± 14 cps. However, the signal intensities of interfering ions are very high, 2801 ± 23 cps, 2740 ± 20 cps, 811 ± 15 cps and 104 ± 3 cps for 0.1% Cl (equal to 2.4 ng mL^{-1} As),

15 mg mL^{-1} $CaCl_2$ (equal to 2.3 ng mL^{-1} As), 100 ng mL^{-1} Nd+Eu+Sm (equal to 0.69 ng mL^{-1} As) and 10 mg mL^{-1} K (equal to 0.088 ng mL^{-1} As) (Table S1), respectively. These interferences could result in significant positive bias for the trace levels of As determination.

Table S1 Signal contribution on m/z 75 with different matrices (n=3)

Signal intensity, cps	Elements					
	Blank 2% HNO_3	As 1 ng mL^{-1}	Cl 0.1% HCl	$CaCl_2$ 25 mg mL^{-1}	K 10 mg mL^{-1}	Nd+Eu+Sm 100 ng mL^{-1}
m/z 75	5 ± 3	1176 ± 14	2801 ± 23	2740 ± 20	104 ± 3	811 ± 15
BEC [a]	0.004	1	2.38	2.33	0.088	0.69

[a] BEC indicate background equivalent concentration of arsenic in ng mL^{-1}.