

Support information

Table and Legends

Table S1 ICP-MS parameters

Table S2 Method detection limits for organotin Species using different CE-hyphenated techniques

Table S3 Spiked recoveries of organotin compounds in groundwater samples by CE-ICP-MS under optimized condition.

Table S4 Recoveries and concentrations of organotin compounds in wine and *Mya arenaria* *Linnaeus* samples by CE-ICP-MS under optimized condition.

Fig. S1 Electropherograms of the four organotin compounds (TMT, TBT, DBT, MBT), each as $1\mu\text{g mL}^{-1}$ as Sn, under different separation electrolyte buffers. (1) tartaric acid 20mM and methanol 20% (v/v); (2) Na_2HPO_4 20mM and boric acid 20mM; (3) boric acid 60mM and Tris 60mM.

Fig. S2 Effect of injection time on the organotin compounds peak intensity. The data was obtained by determining 1 mg L^{-1} mixed solution of TMT, TBT, DBT and MBT with CE-ICP-MS under optimized condition except sample injection time.

Fig. S3 Effect of HNO_3 concentrations in the make up solution on peak intensity. The data was obtained by determining 1 mg L^{-1} mixed solution of TMT, TBT, DBT and MBT with CE-ICP-MS under optimized condition except HNO_3 concentrations in the make up solution.

Fig. S4 Electropherograms of tap water samples. Electropherograms: (A) tap water samples spiking with 0.5 mg L^{-1} each individual organotin compound; (B) blank tap water sample. The data was obtained under the optimized condition by CE-ICP-MS.

22 **Table S1** ICP-MS parameters

23

Parameters	Settings
Plasma RF power /W	1500
Plasma gas flow /(L min ⁻¹)	15.0
Carrier gas flow /(L min ⁻¹)	0.7
Makeup gas flow /(L min ⁻¹)	0.4
Peak pattern	Full-Quant
Integration time per mass / s	0.3
Nebulizer	micromist
Isotope monitored	¹¹⁷ Sn, ¹¹⁸ Sn, ¹¹⁹ Sn, ¹²⁰ Sn

24

25 **Table S2** Method detection limits for organotin Species using different CE-hyphenated techniques

26

Technique	Analyts	Detection limit	Reference and Note
CE-UV	TMT, TET, TBT, and TPhT	2–20 $\mu\text{mol L}^{-1}$	(13)
CE-fluorescence	TMT, TET, TPT, TBT, and TPhT	8–18 $\mu\text{mol L}^{-1}$	(14)
CE-UV	TBT, TPhT, TPrT, DPhT	0.4–14 $\mu\text{mol L}^{-1}$	(15)
CE-HG-AFS	TMT, MBT, DBT, and TBT	1–10 $\mu\text{mol L}^{-1}$	(24)
CE-ICP-MS	TMT, TBT, DBT, MBT	0.31–0.943 $\mu\text{mol L}^{-1}$	This work

27

28

29

30

31

32 **Table S3** Spiked recoveries of organotin compounds in groundwater samples by CE-ICP-MS

33 under optimized condition.

34

Compound	Recovery (%)					
	Tap water		River water 1		River water 2	
	0.1 mg L ⁻¹	0.5 mg L ⁻¹	0.1 mg L ⁻¹	0.5 mg L ⁻¹	0.1 mg L ⁻¹	0.5 mg L ⁻¹
TMT	87.8	104.6	73.0	105.7	73.4	104.5
TBT	90.3	99.5	76.3	104.8	86.9	99.7
DBT	96.7	97.6	77.9	103.5	84.6	105.2
MBT	90.2	99.8	87.8	99.7	90.8	93.2

35

36 **Table S4** Recoveries and concentrations of organotin compounds in wine and *Mya arenaria*

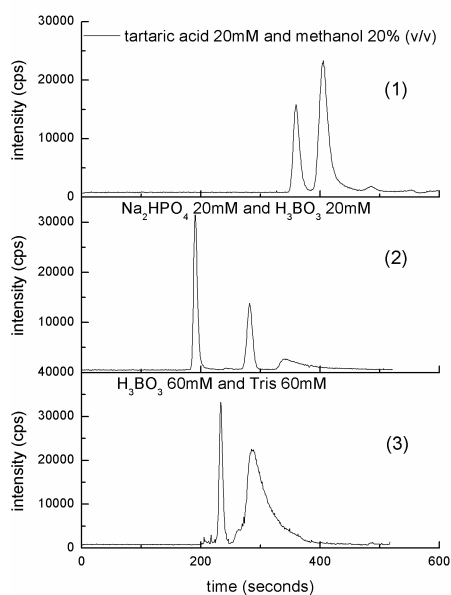
37 *Linnaeus* samples by CE-ICP-MS.

38

compound	Concentrations of organotin compounds in wine sample (blank) ($\mu\text{g L}^{-1}$)	Recovery (%) of wine sample spiked with 0.5 mg L^{-1} (as Sn)	Concentrations ($\mu\text{g g}^{-1}$) of organotin compounds in <i>Mya arenaria</i> <i>Linnaeus</i> samples (blank)	Recovery (%) of <i>Mya arenaria</i> <i>Linnaeus</i> samples	
				0.1 mg L^{-1} (as Sn)	0.5 mg L^{-1} (as Sn)
TMT	nd	98.7	nd	81.7	80.0
TBT	nd	96.8	1.02	77.5	68.6
DBT	nd	62.3	nd	78.0	70.3
MBT	325	31.8	nd	61.7	73.7

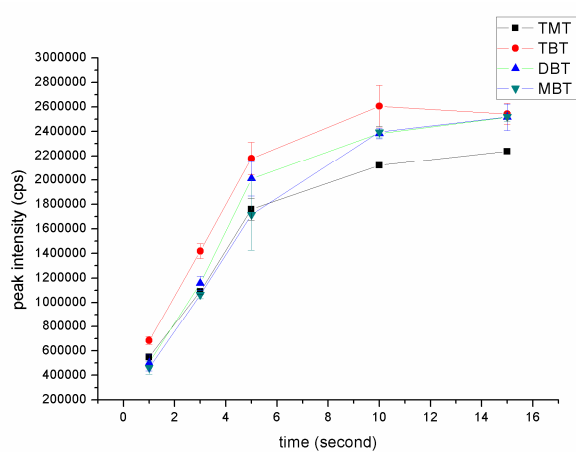
39

40 **Fig. S1** Electropherograms of the four organotin compounds (TMT, TBT, DBT, MBT), each as
41 $1\mu\text{g mL}^{-1}$ as Sn, under different separation electrolyte buffers. (1) tartaric acid 20mM and
42 methanol 20% (v/v); (2) Na_2HPO_4 20mM and boric acid 20mM; (3) boric acid 60mM and Tris
43 60mM.
44



45

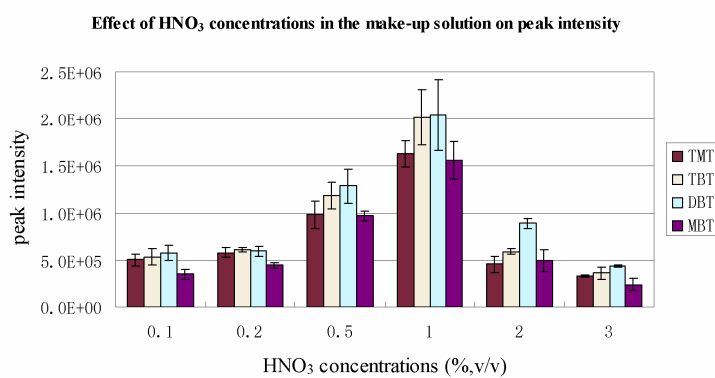
46 **Fig. S2** Effect of injection time on the organotin compounds peak intensity. The data was
47 obtained by determining 1 mg L⁻¹ mixed solution of TMT, TBT, DBT and MBT with CE-ICP-MS
48 under optimized condition except the injection time.
49



50

51

52 **Fig. S3** Effect of HNO₃ concentrations in the make-up solution on peak intensity. The data was
53 obtained by determining 1 mg L⁻¹ mixed solution of TMT, TBT, DBT and MBT with CE-ICP-MS
54 under optimized condition except HNO₃ concentrations in the make-up solution.
55

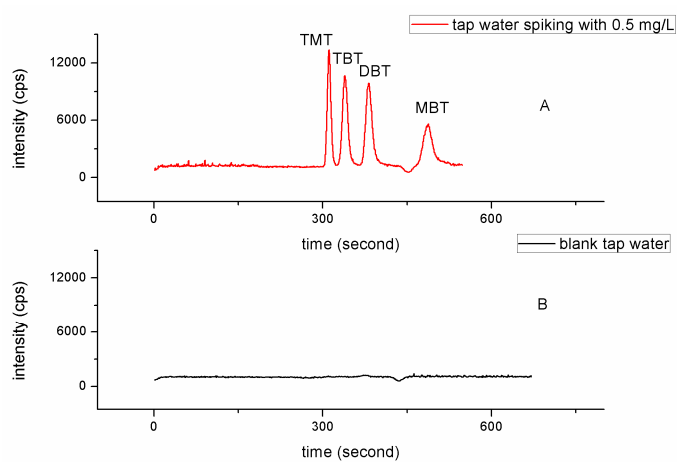


56

57

58 **Fig. S4** Electropherograms of tap water samples. Electropherograms: (A) tap water samples
59 spiking with 0.5 mg L^{-1} each individual organotin compound; (B) blank tap water sample. The
60 data was obtained under the optimized condition by CE-ICP-MS.

61



62

63