

Supplementary materials

Determination of selenomethionine, selenocystine and methylselenocysteine in egg sample by high performance liquid chromatography - inductively coupled plasma mass spectrometry

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Figure S1 HPLC–ICP–MS chromatograms by Agilent SB-Aq column of egg sample extracted by different extraction procedures: (A) Extraction with ultrapure water; (B) Extraction with HCl (0.1 M); (C) Extraction with NaOH (0.1 M); (D) Extraction with 20 mM ammonium acetate solution containing 5% of methanol (v/v); (E) Hydrolysis with protease XIV. Gray short dash line represents the HPLC–ICP–MS chromatogram of a mixture of Se species at 50 µg L⁻¹ (as Se) in solution on Agilent SB-Aq column.

Figure S2 HPLC–ICP–MS chromatograms by Agilent SB-Aq column of regular egg (red line) and Se-enriched egg (blue line). Gray short dash line represents the HPLC–ICP–MS chromatogram of a mixture of Se species at 50 µg L⁻¹ (as Se) in solution on Agilent SB-Aq column.

Table S1. Analytical performances of five Se species.

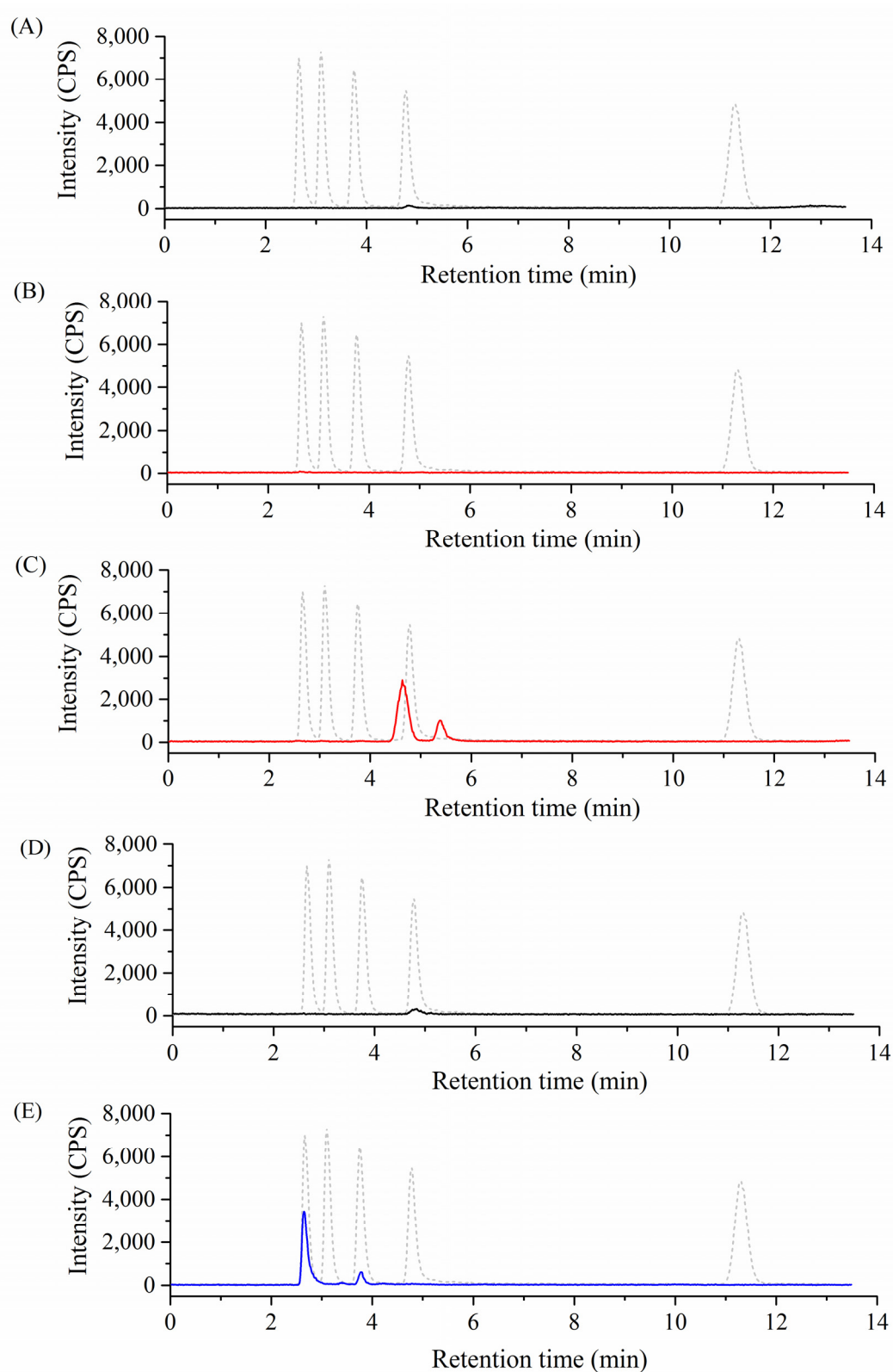


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XIV. Gray short dash line represents the HPLC–ICP–MS chromatogram of a mixture of Se species at $50 \mu\text{g L}^{-1}$ (as Se) in solution on Agilent SB-Aq column.

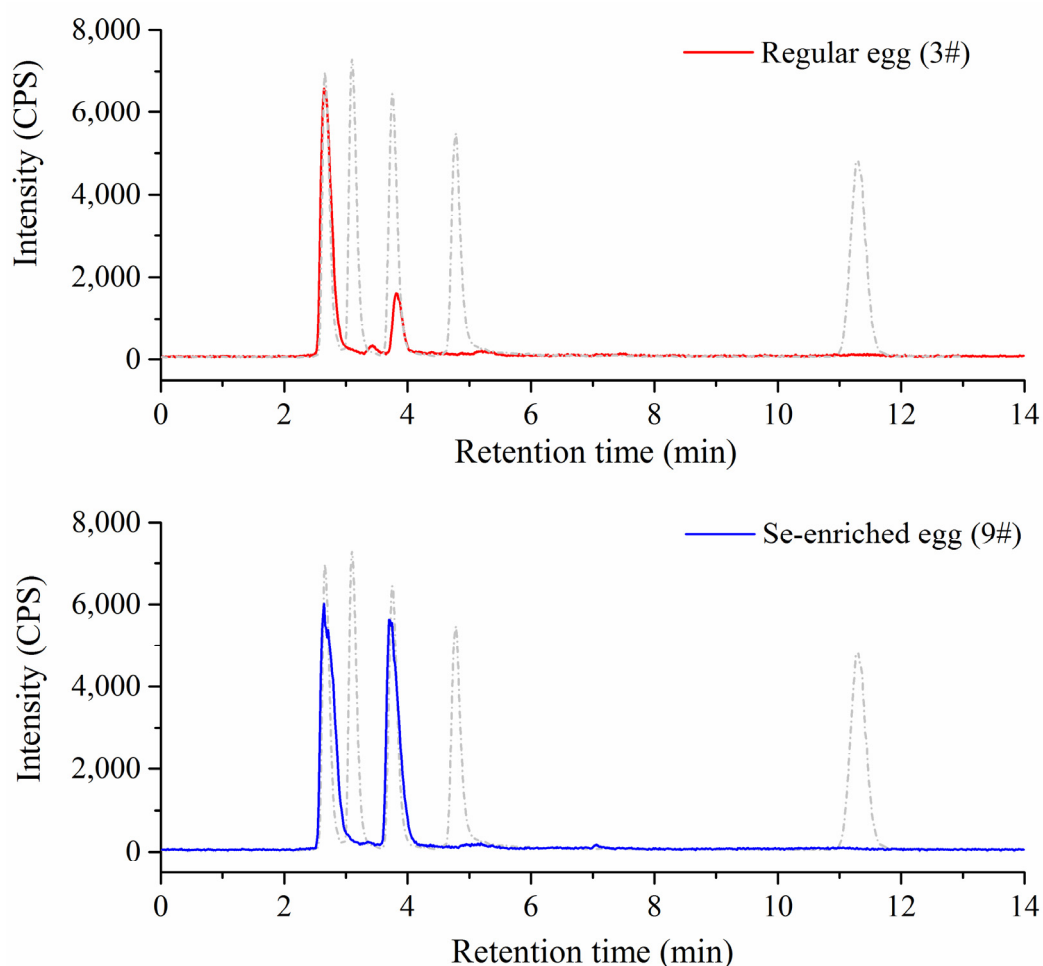


Figure S2. HPLC–ICP–MS chromatograms by Agilent SB-Aq column of regular egg (red line) and Se-enriched egg (blue line). Gray short dash line represents the HPLC–ICP–MS chromatogram of a mixture of Se species at $50 \mu\text{g L}^{-1}$ (as Se) in solution on Agilent SB-Aq column.

Table S1. Analytical performances of five Se species.

| Se species | RT (min) ^a | Regression equation ^b | Linear range ($\mu\text{g L}^{-1}$) | Correlation coefficient (<i>r</i>) | LOD ($\mu\text{g L}^{-1}$) | LOQ ($\mu\text{g L}^{-1}$) |
|--------------------|-----------------------|----------------------------------|---------------------------------------|--------------------------------------|------------------------------|------------------------------|
| SeCys ₂ | 2.67 ± 0.01 | $y = 1201.2x - 622.1$ | 2–100 | 0.9996 | 0.56 | 1.86 |
| MeSeCys | 3.11 ± 0.01 | $y = 1181.4x + 988.66$ | 2–100 | 0.9997 | 0.49 | 1.62 |
| SeMet | 3.77 ± 0.02 | $y = 1205.5x + 456.8$ | 2–100 | 0.9997 | 0.55 | 1.82 |
| Se (IV) | 4.83 ± 0.04 | $y = 1149.1x - 142.2$ | 3–100 | 0.9999 | 0.71 | 2.37 |
| Se (VI) | 11.46 ± 0.08 | $y = 1662.6x + 746.1$ | 2–100 | 0.9998 | 0.59 | 1.98 |

^a Retention time (RT) is expressed as the mean \pm SD of 60 replicates.

^b Standard curves were constructed with six points ($n = 6$) from seven replicates; x and y in the equations are the concentrations and corresponding peak areas, respectively.