The role of glutathione in the metabolism of diphenylarsinic acid in rats

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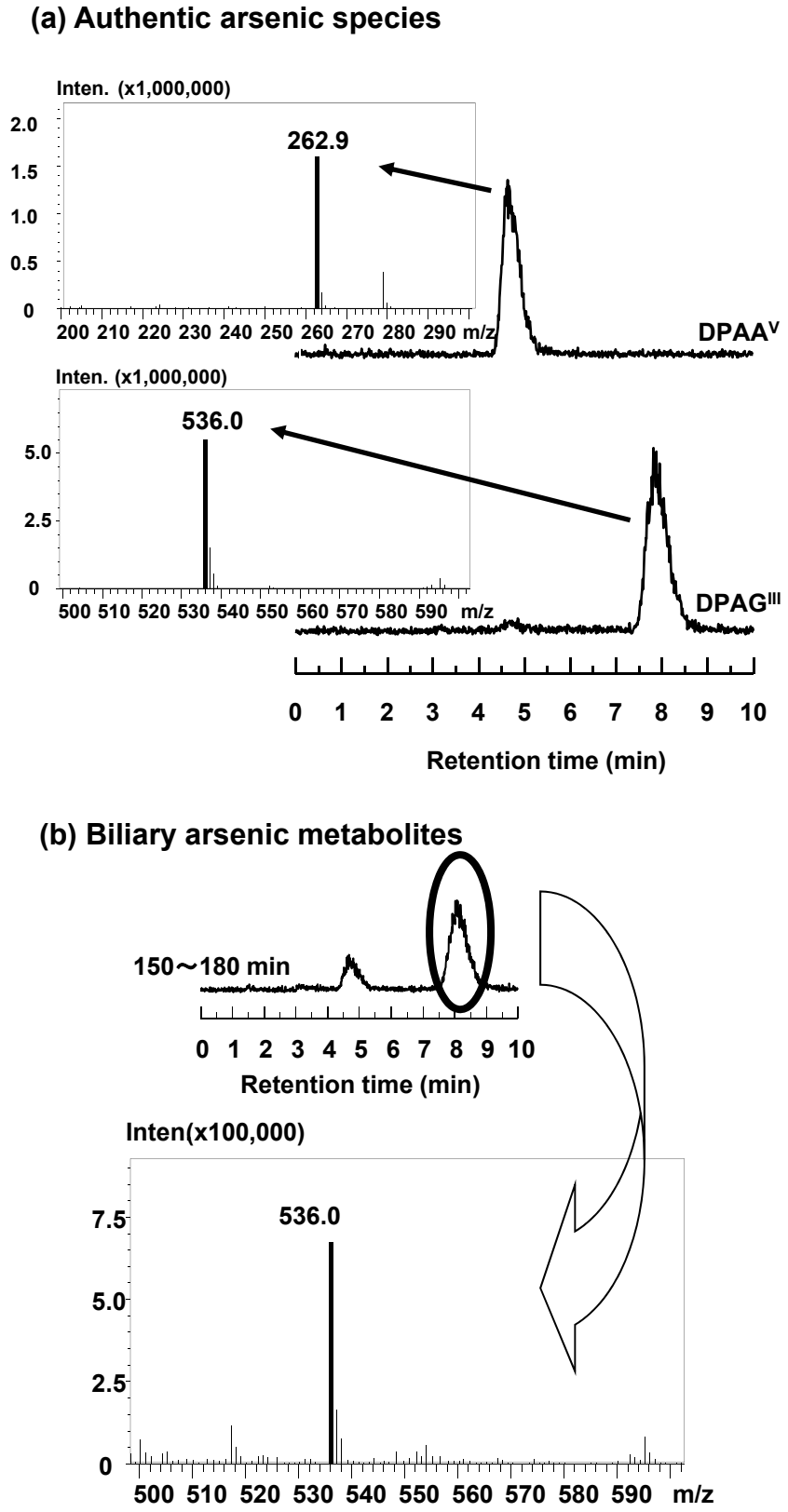

Fig. S-1. Elution profiles and mass spectra by HPLC-ESI-MS of (a) authentic arsenicals and (b) biliary arsenic metabolites. $DPAA^{V}$ and $DPAG^{III}$ complex in bile were applied to the reversed phase column (Inertsil® C8-3 ; 150 mm × 2.1 mm; GL Science, Tokyo, Japan). The column effluent was analyzed by monitoring positive ions by electro spray ionization (ESI) coupled to a mass spectrometer. Selective ion monitoring (SIM) was used to identify $DPAA^{V}$ (*m/z* 262.9 $[M+H]^{+}$) and $DPAG^{III}$ (*m/z* 536.0 $[M+H]^{+}$).

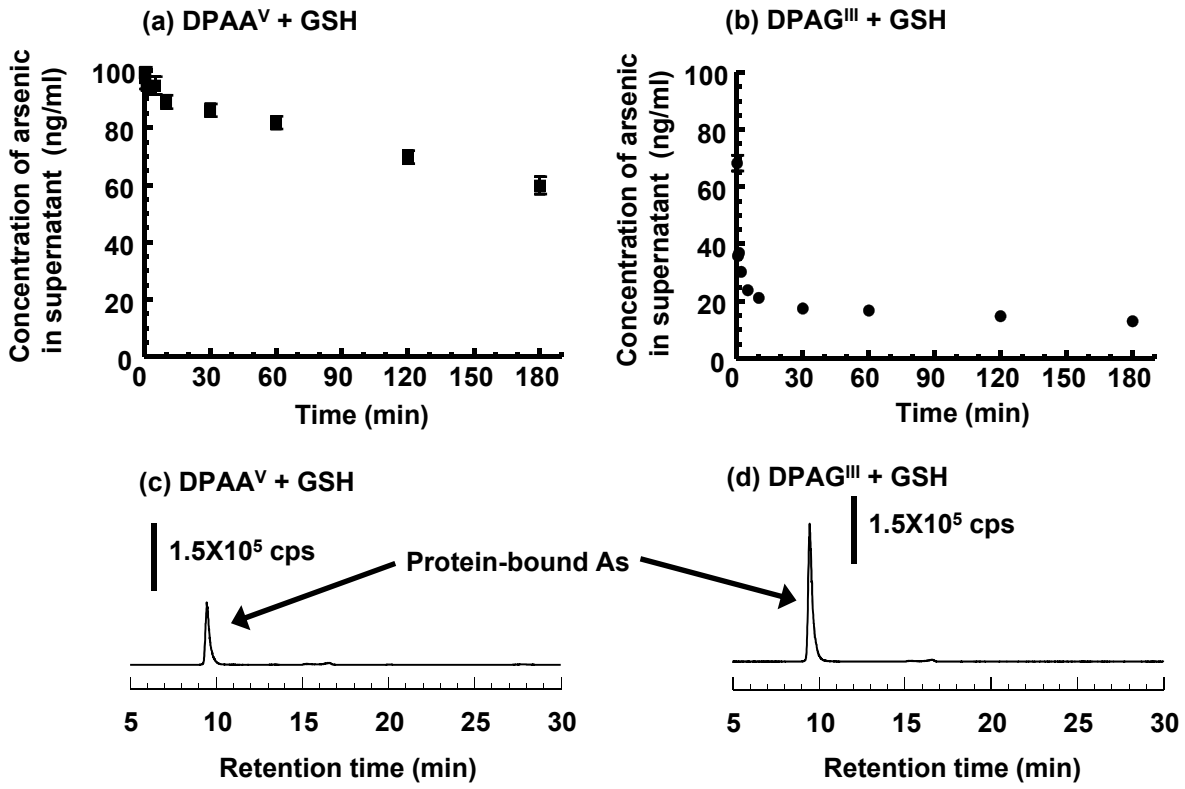

Fig. S-2. Time-course of changes in accumulation of (a) DPAAV and (b) DPAGIII in erythrocytes and (c and d) elution profiles of arsenic in 10% erythrocytes lysate. The erythrocytes were washed three times with 50 mM Tris-buffered saline (TBS) (pH 7.4, 25 ˚C), and then a 10% erythrocyte suspension was prepared for the study of uptake of DPAA into the erythrocytes. (a and c) DPAAV (final 500 ng As/ml) and GSH (final 5 mM) or (b and d) DPAGIII (final 500 ng As/ml) and GSH (final 5 mM) were added to the 10% erythrocyte suspension and incubated at 37 ºC for up to 3 h. The erythrocytes and supernatant were separated by centrifugation (8,000 *g*, 10 sec). Each supernatant was digested with HNO3 and H2O2, and the concentration of arsenic in the sample was determined by ICP-MS. Values are mean±SD (n=3). The erythrocytes were washed three times with TBS, resuspended to 10% in TBS, and the erythrocytes in the suspension were lysed by freezing and thawing after completion of the reaction. The resulting lysate was centrifuged at 15,000 *g* for 10 min to prepare a 10% erythrocyte lysate fraction, and the lysate fractions were applied to the gel-filtration column for determination of the chemical forms of arsenic by HPLC-ICP-MS.

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