

Supplementary material

Arsinothricin, a novel organoarsenic species produced by a rice rhizosphere bacterium

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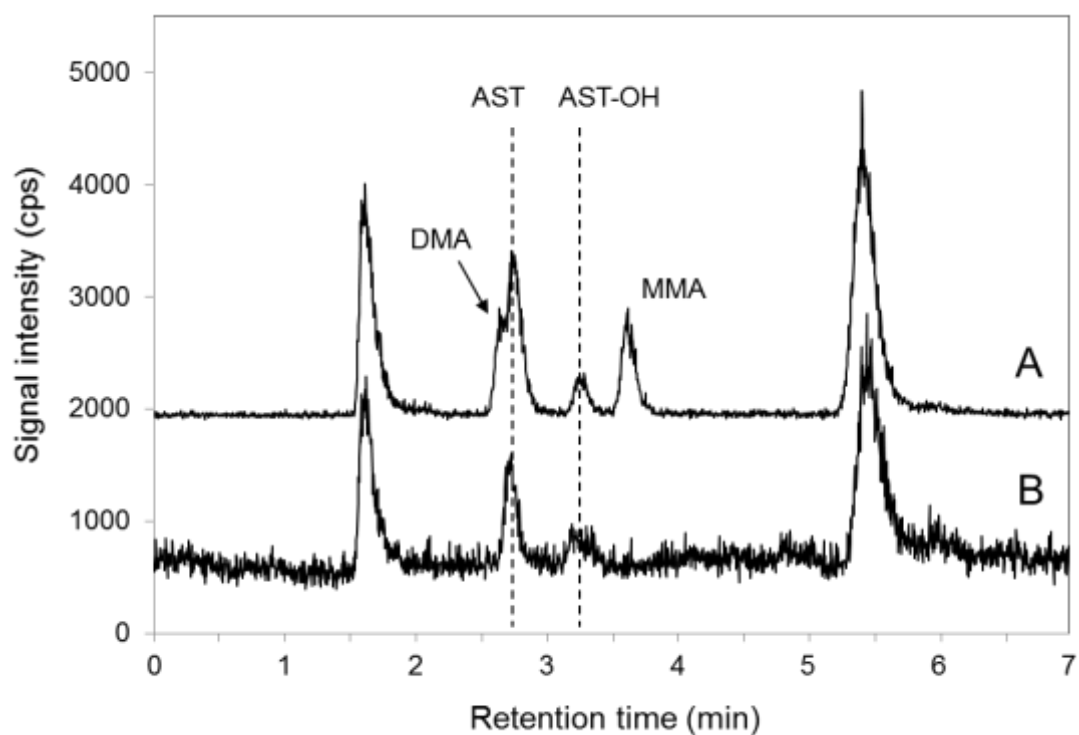


Fig. S2. HPLC-ICP-MS chromatograms of the 120-h sample with DMA and MMA spikes. (a) 2 ng mL⁻¹ spikes of DMA and MMA were added to the sample; (b) the original sample. (cps, counts per second.)

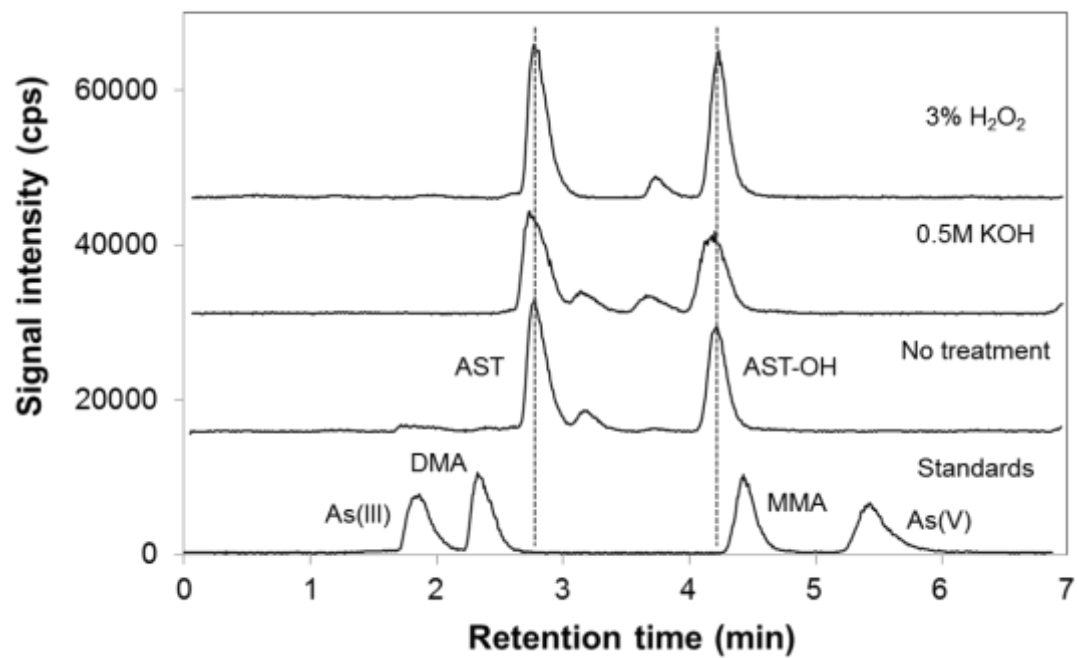


Fig. S3. HPLC-ICP-MS chromatograms of AST and AST-OH after treatment with 3 % H₂O₂ or 0.5 M KOH. (cps, counts per second.)

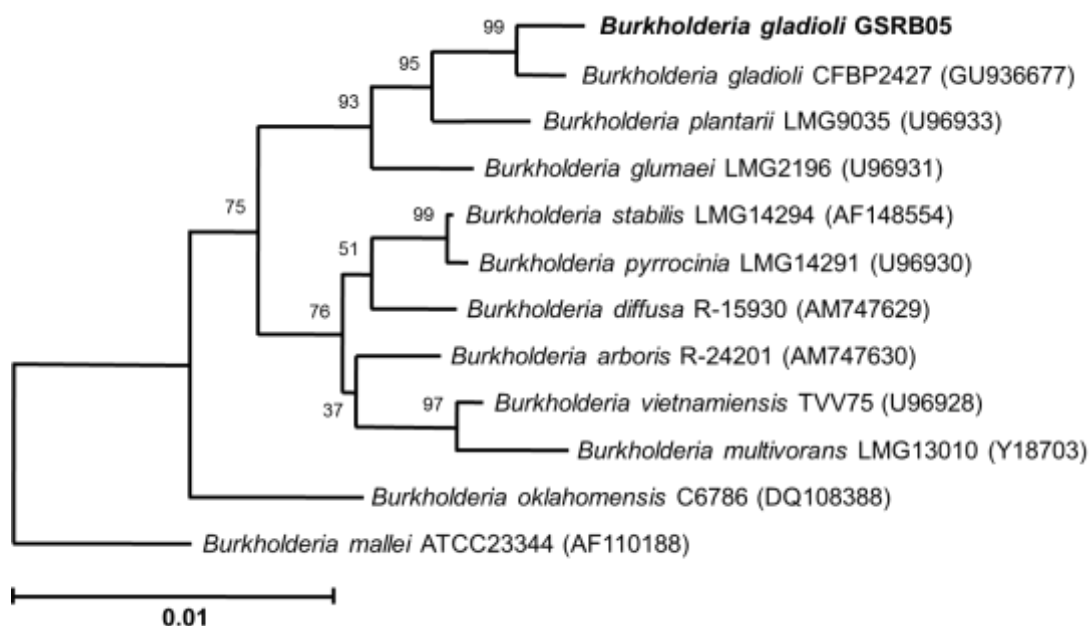


Fig. S4. Phylogenetic relationships of the *Burkholderia gladioli* GSRB05 strain isolated in the present study and related species. The phylogenetic tree of the 16S rRNA sequences was generated by the neighbour-joining method. The tree was tested for support by performing bootstrap resampling (1000 replicates). The bootstrap values are given at each branch; GenBank accession numbers of each sequence employed are in parentheses.

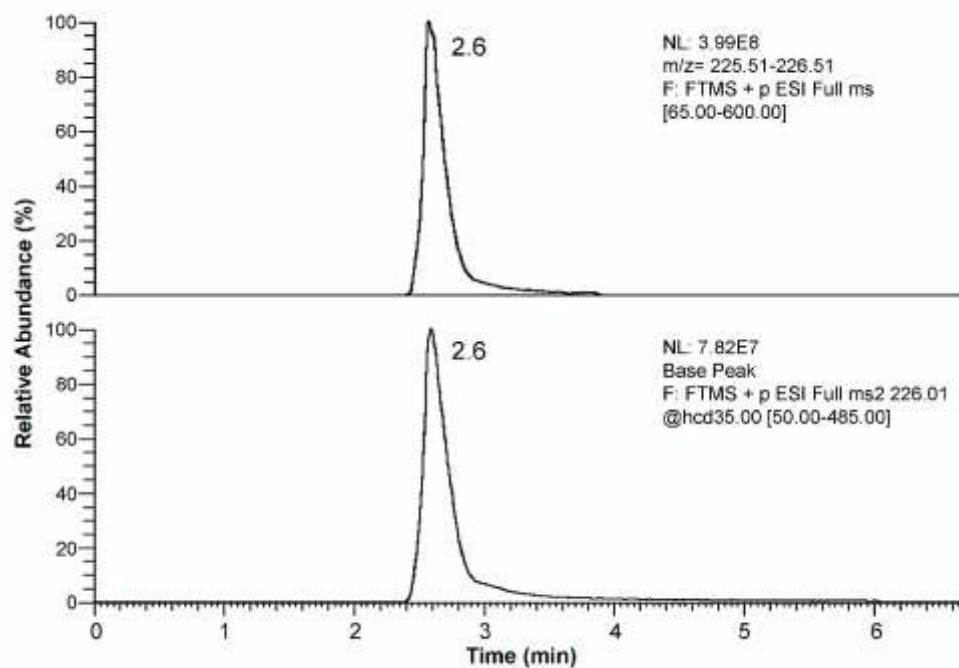


Fig. S5. LC-MS (top) and LC-MS-MS (bottom) chromatograms of AST in the positive-ion mode.

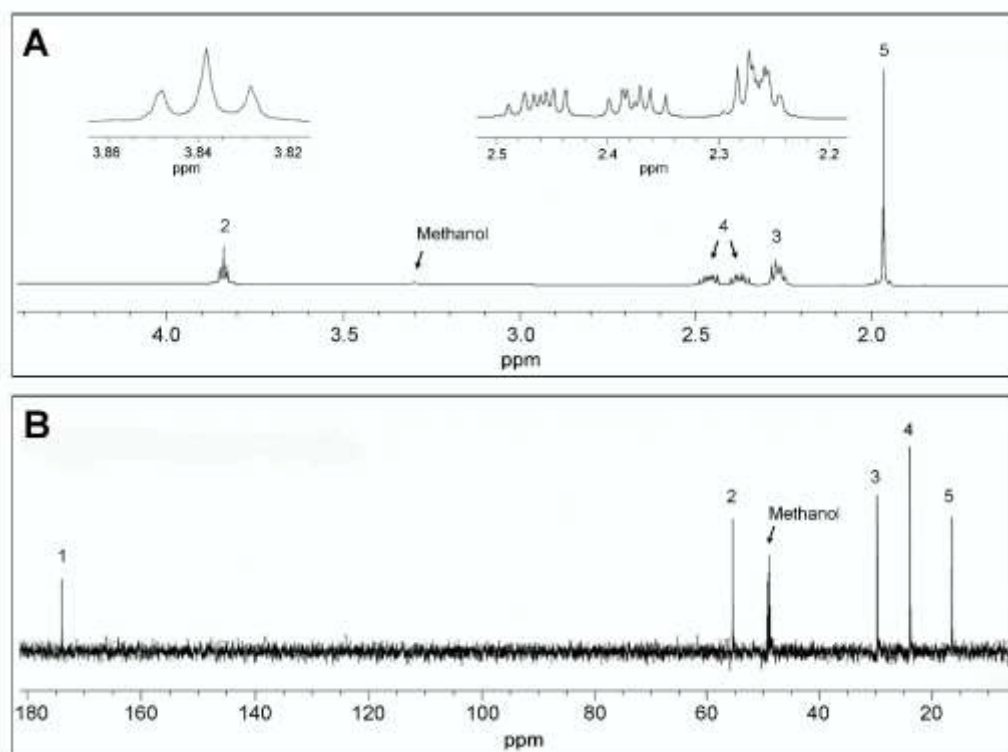


Fig. S6. (a) ¹H NMR, and (b) ¹³C NMR spectra of AST in D₂O. Deuterated methanol (CD₃OD) was added as a chemical shift reference for both NMR analyses.

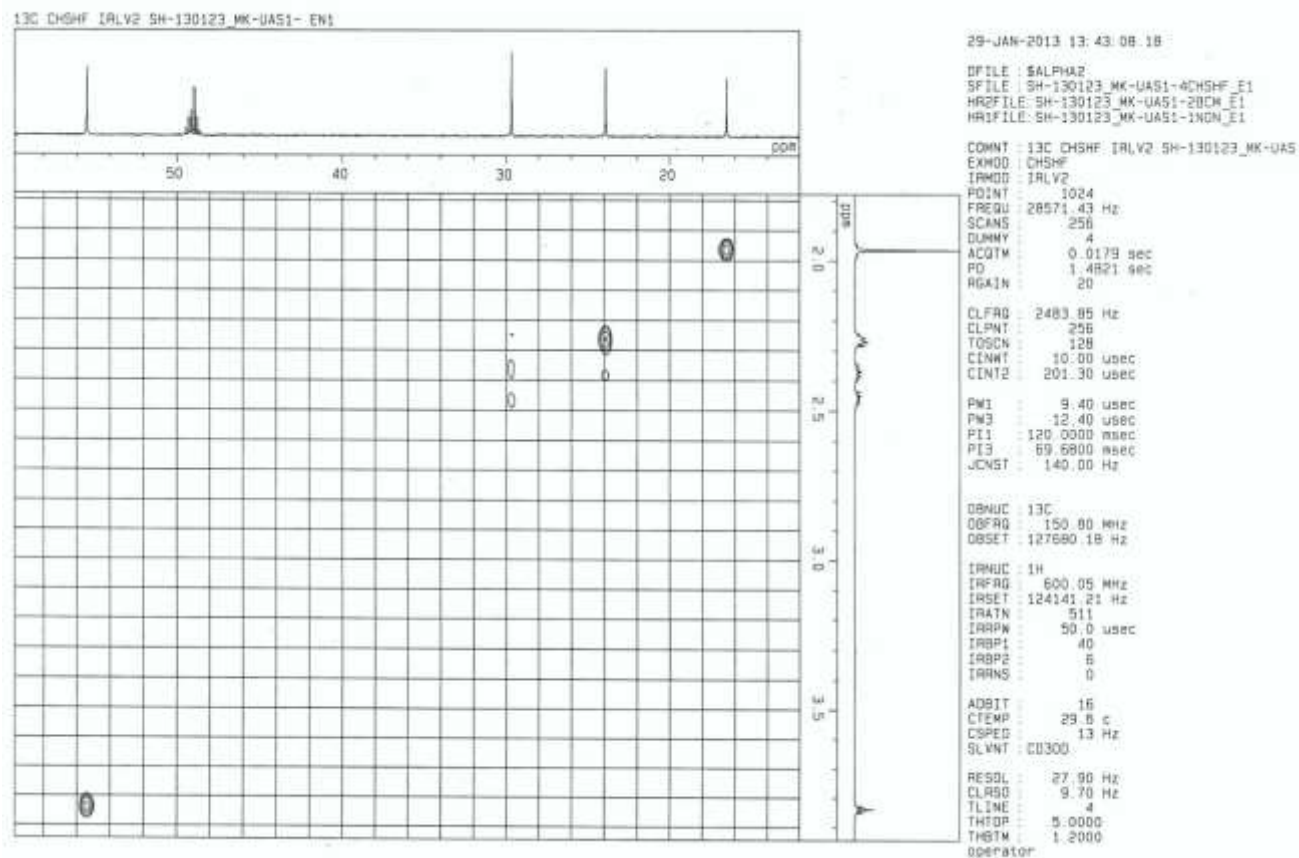


Fig. S7. 2-D HMQC NMR spectrum of AST in D₂O.

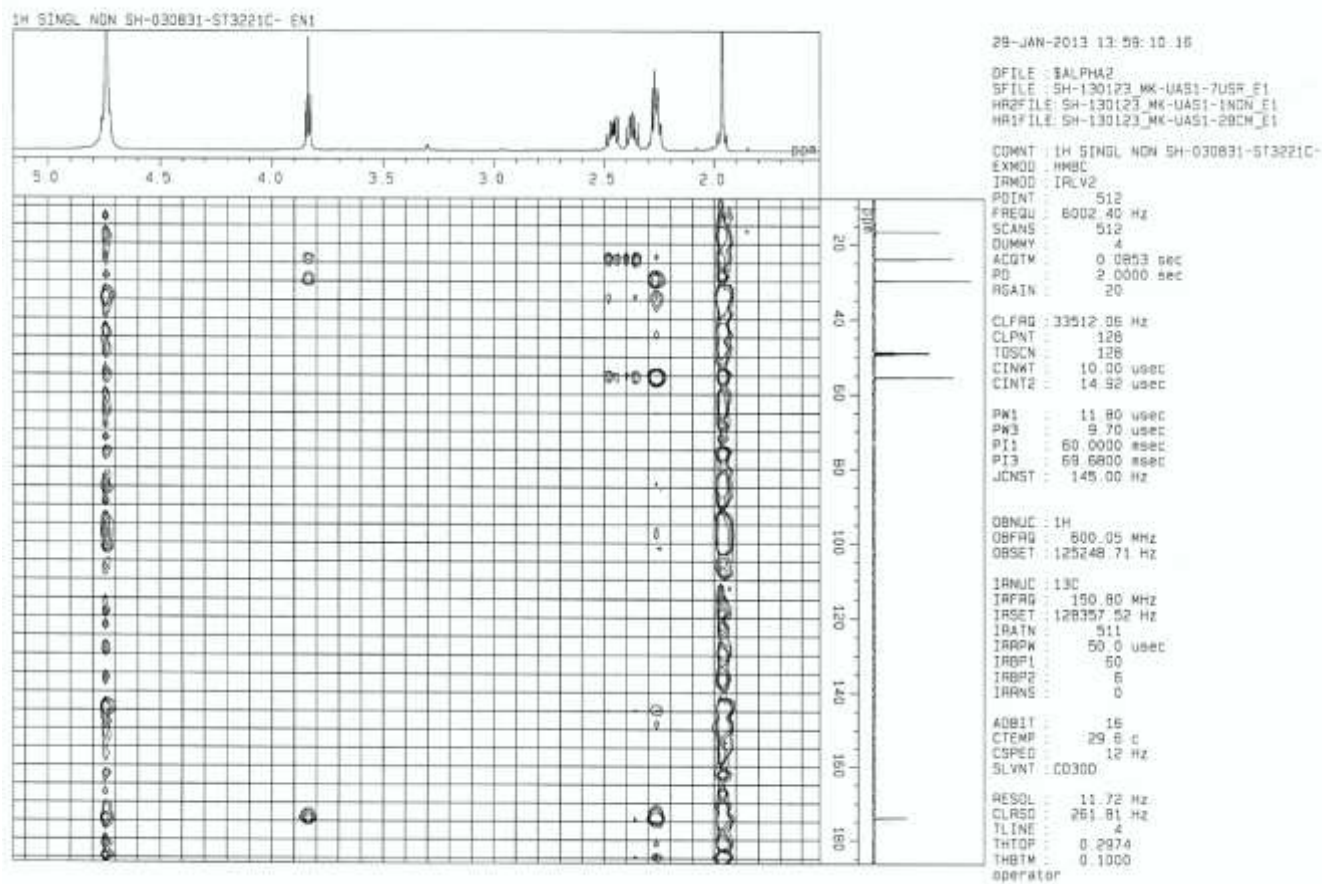


Fig. S8. 2-D ^1H - ^1H COSY NMR spectrum of AST in D_2O .

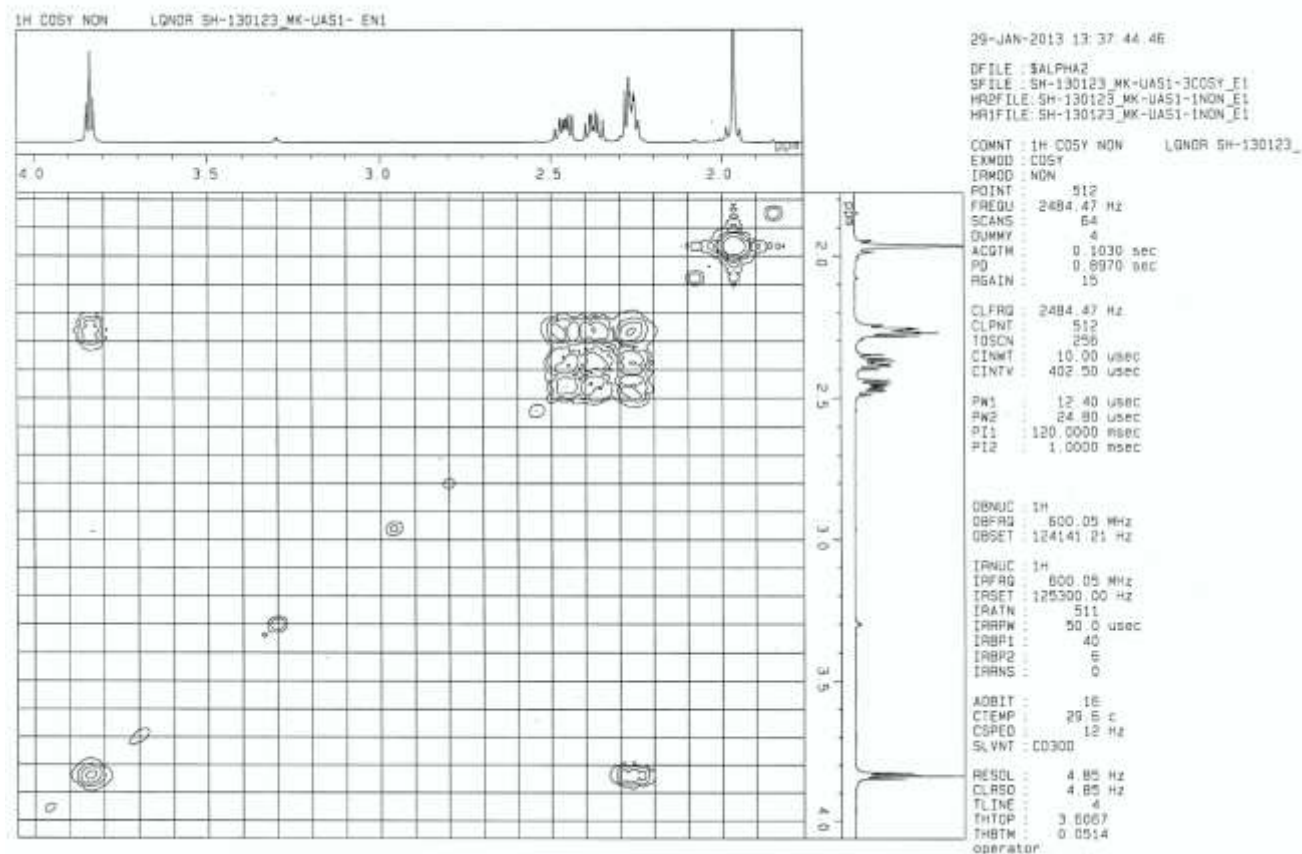


Fig. S9. 2-D HMBC NMR spectrum of AST in D₂O.

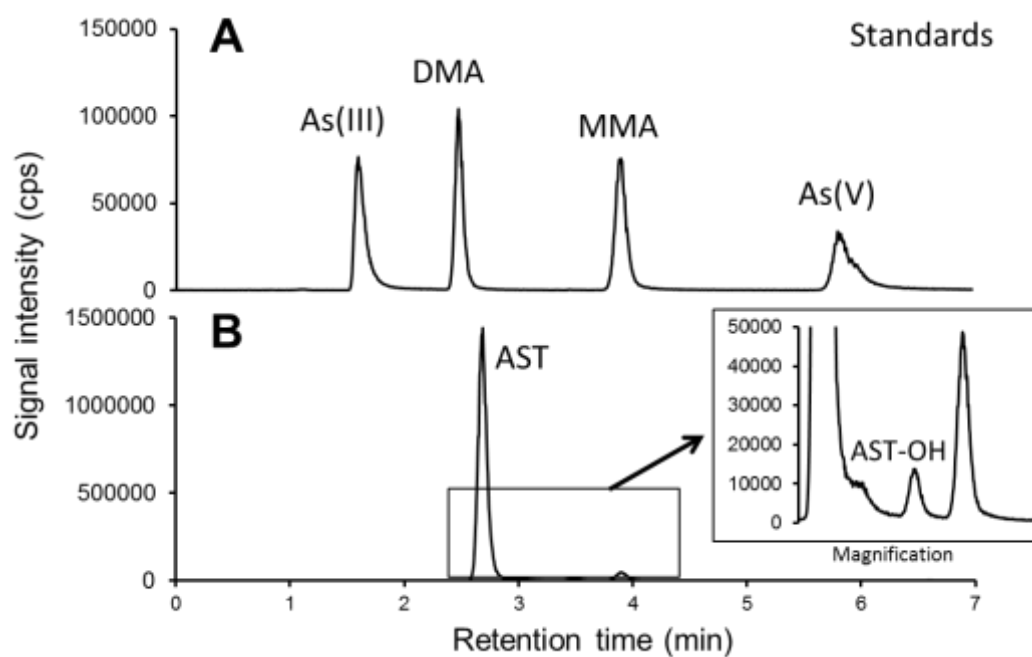


Fig. S10. HPLC-ICP-MS chromatogram of the crude AST sample containing AST-OH. (a) Standard mixture containing As^{III}, As^V, MMA and DMA. (b) Crude AST sample containing AST-OH.

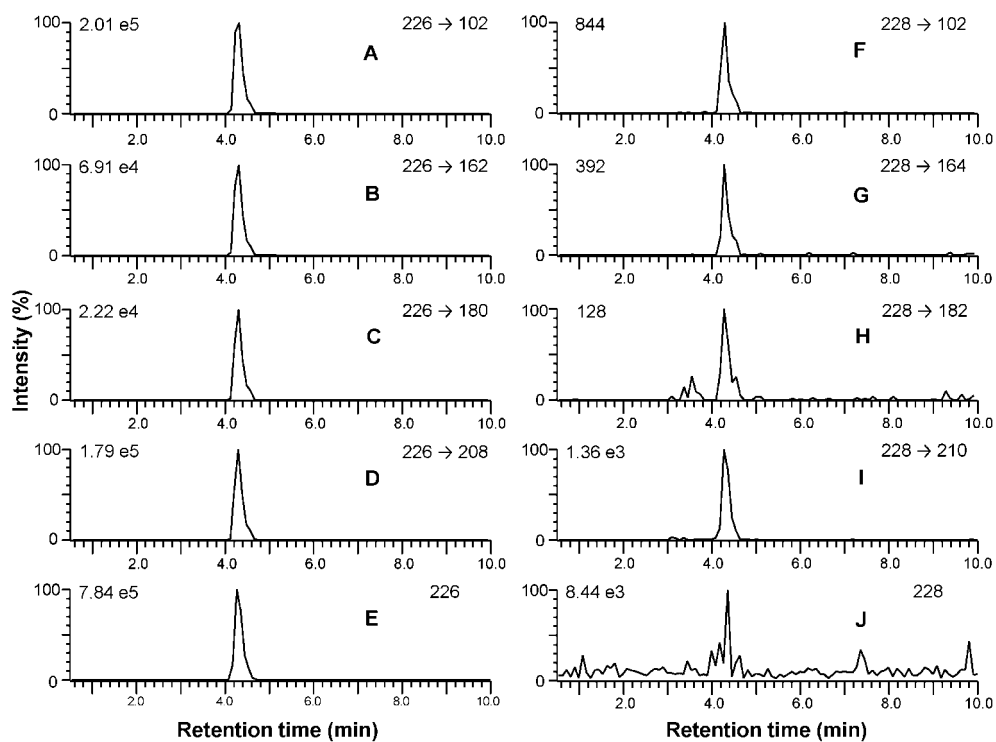


Fig. S11. LC-MS-MS chromatograms for AST and AST-OH at each multiple reaction monitoring (MRM) transition and daughter scan (Fig. S8). Chromatograms A, B, C and D represent the MRM transitions 226 → 102, 226 → 162, 226 → 180 and 226 → 208 respectively; the daughter scan of 226 for AST is shown in E. For AST-OH, chromatograms F, G, H and I represent the MRM transitions 228 → 102, 228 → 164, 228 → 182 and 228 → 210 respectively; the daughter scan of 228 is shown in J.