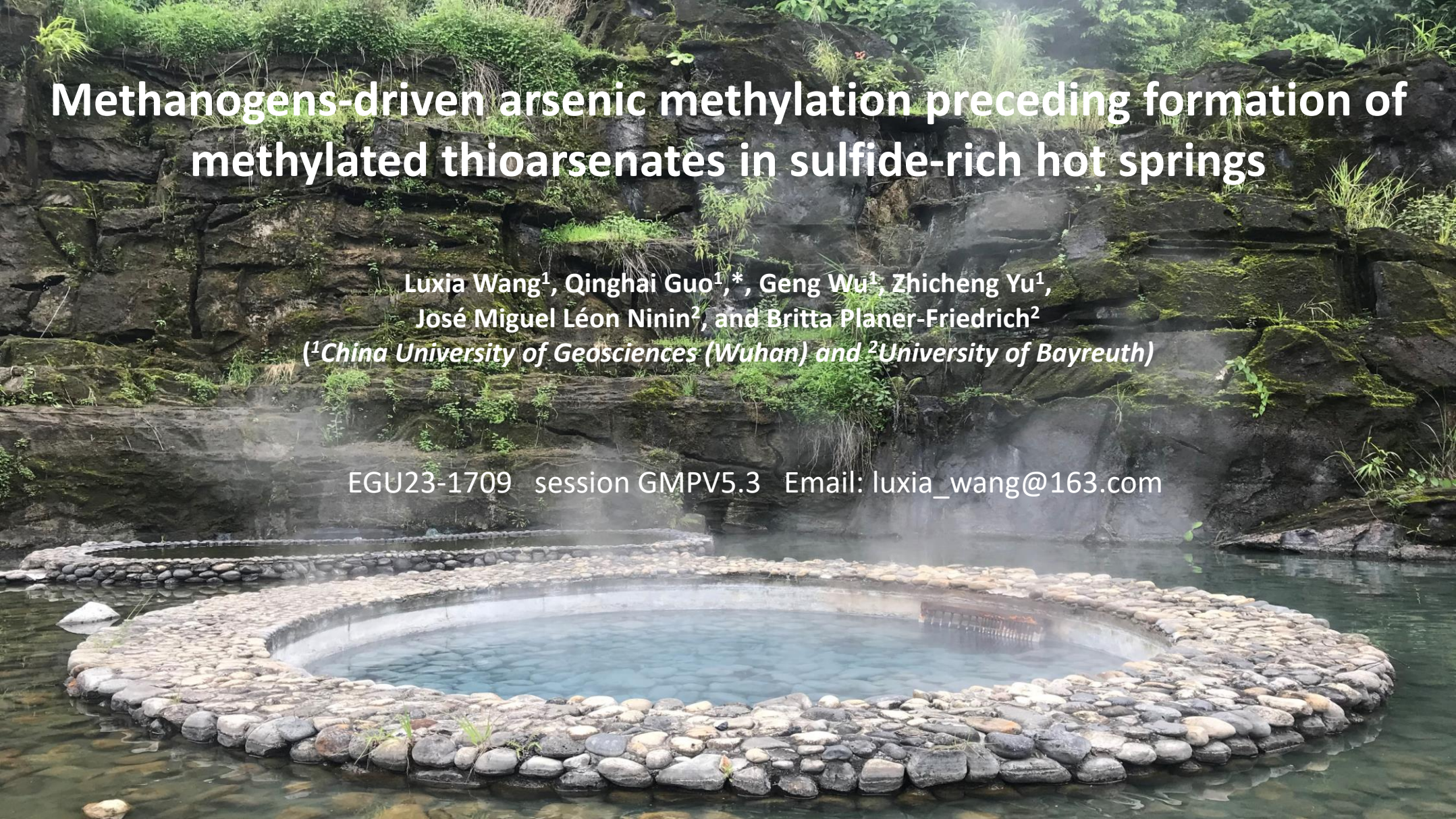


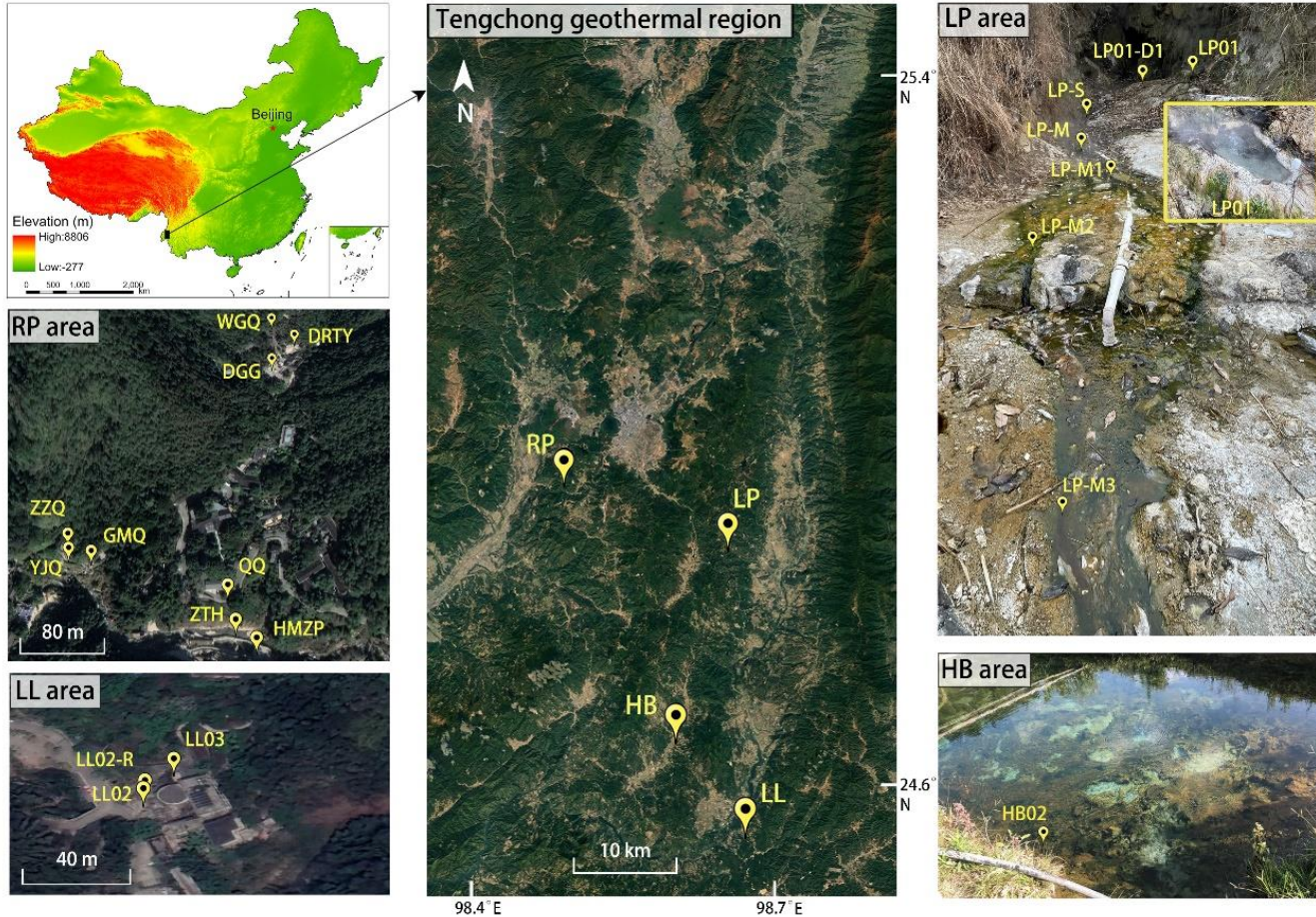
Methanogens-driven arsenic methylation preceding formation of methylated thioarsenates in sulfide-rich hot springs

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EGU23-1709 session GMPV5.3 Email: luxia_wang@163.com

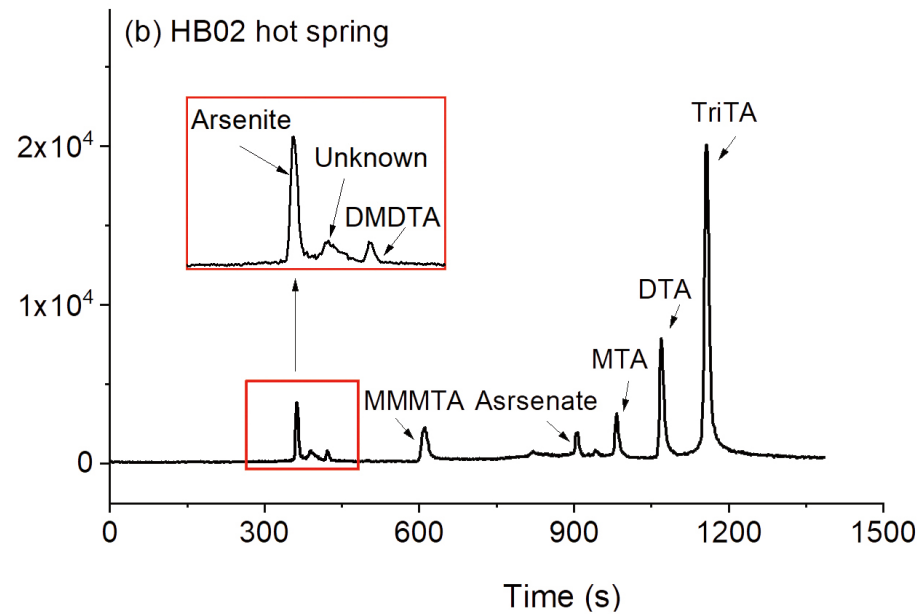
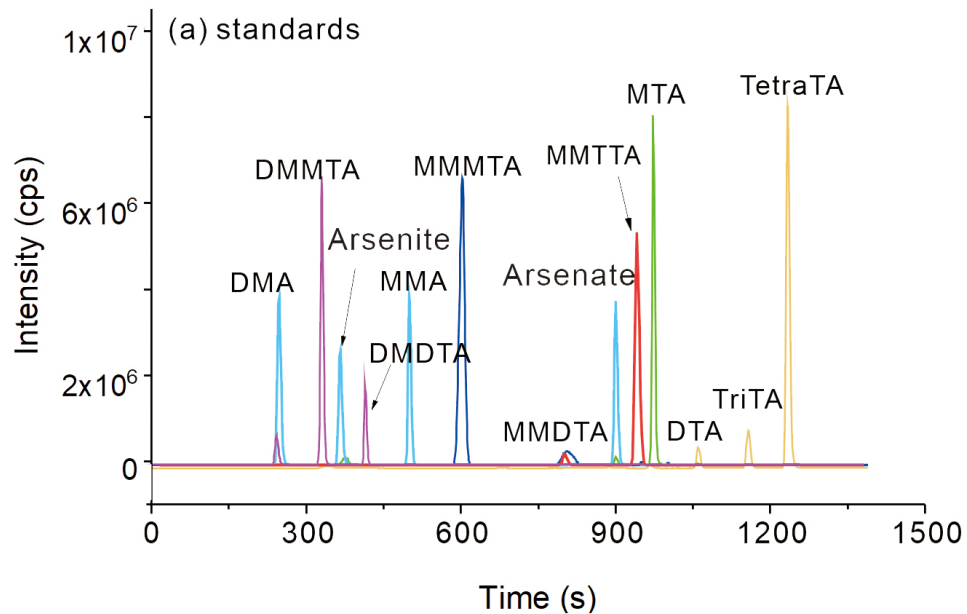


Methanogens-driven arsenic methylation preceding formation of methylated thioarsenates in sulfide-rich hot springs



Distribution of all hot spring samples in Tengchong geothermal region

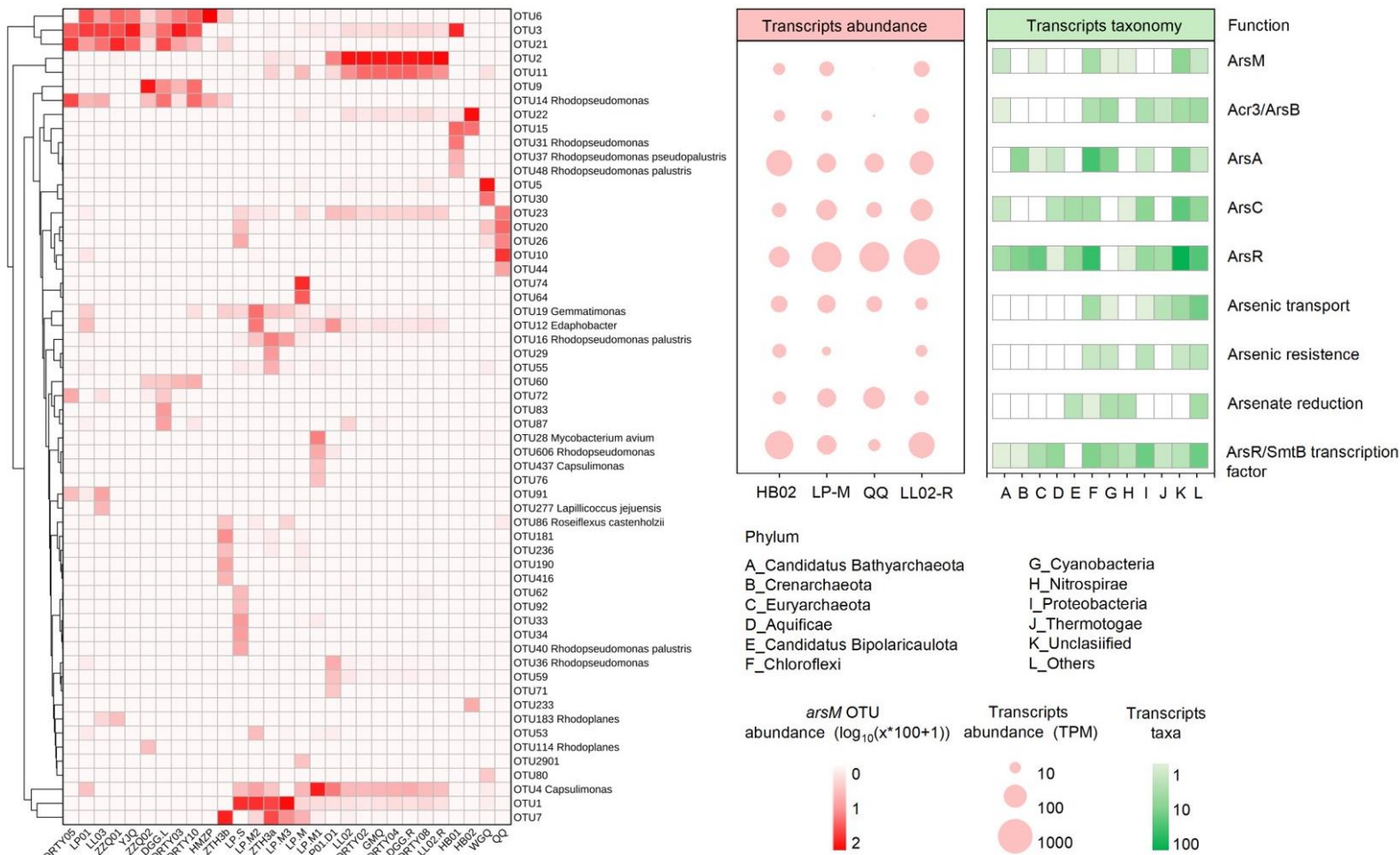
Methanogens-driven arsenic methylation preceding formation of methylated thioarsenates in sulfide-rich hot springs



- synthetic MTA
- synthetic TetraTA
- synthetic DMMTA
- synthetic MMTTA
- synthetic MMMTA
- standards of Arsenite, Arsenate, DMA, MMA

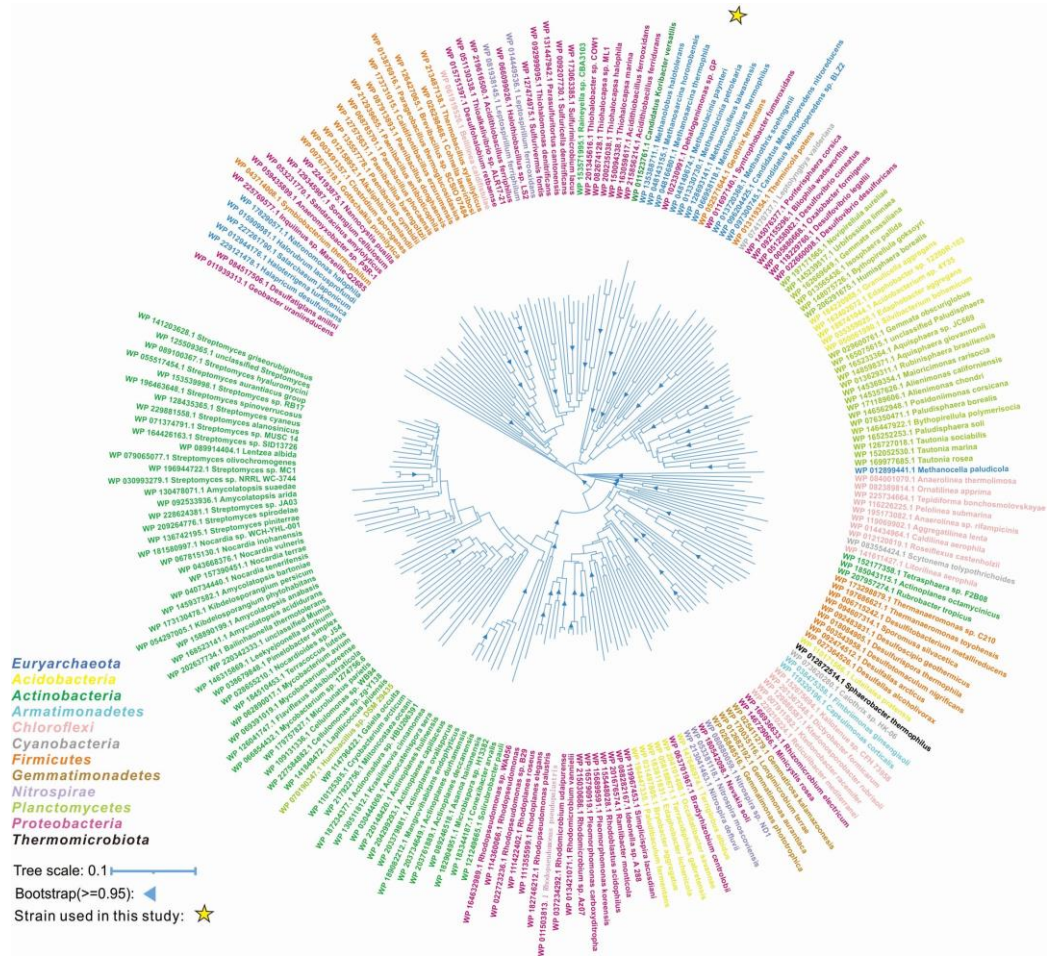
Chromatogram for determination of arsenic speciation by IC-ICP-MS

Methanogens-driven arsenic methylation preceding formation of methylated thioarsenates in sulfide-rich hot springs



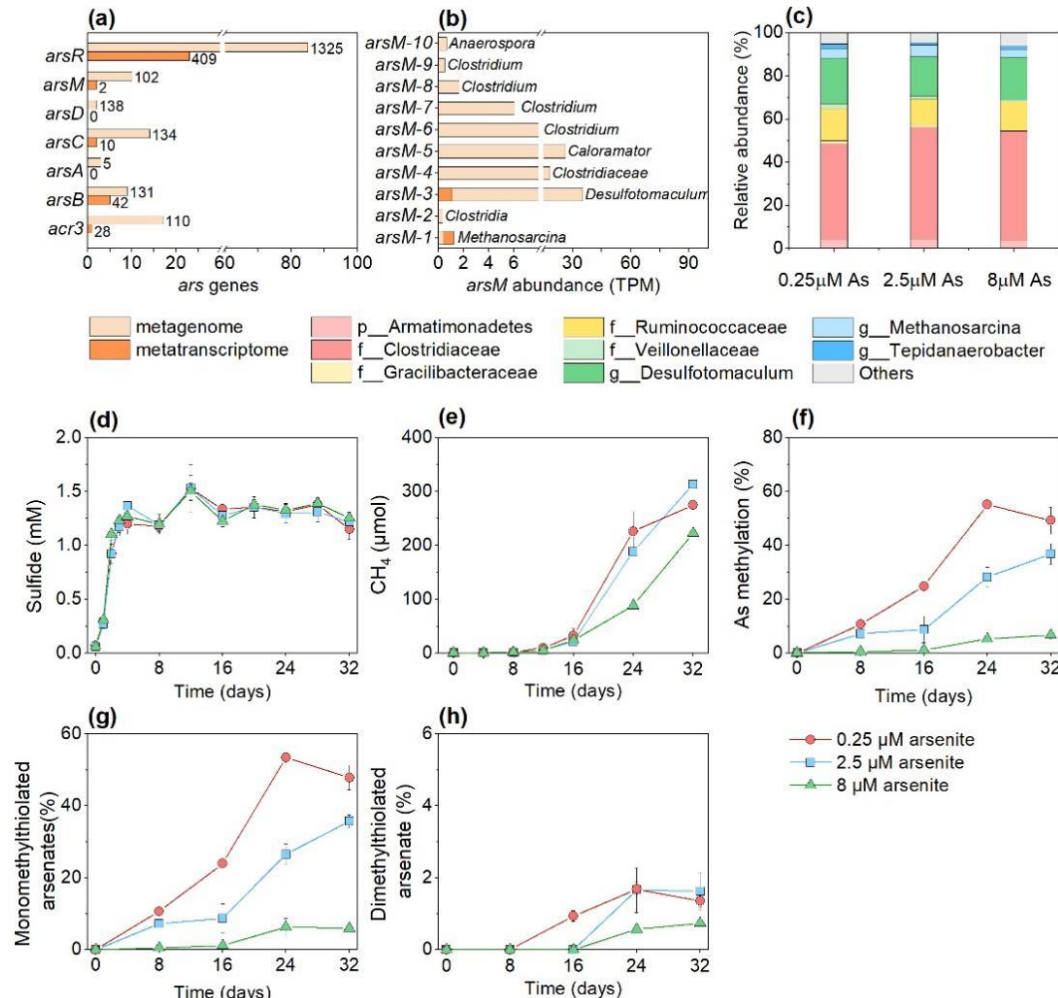
Distribution of *arsM* genes and transcribed *ars* genes in hot springs

Methanogens-driven arsenic methylation preceding formation of methylated thioarsenates in sulfide-rich hot springs



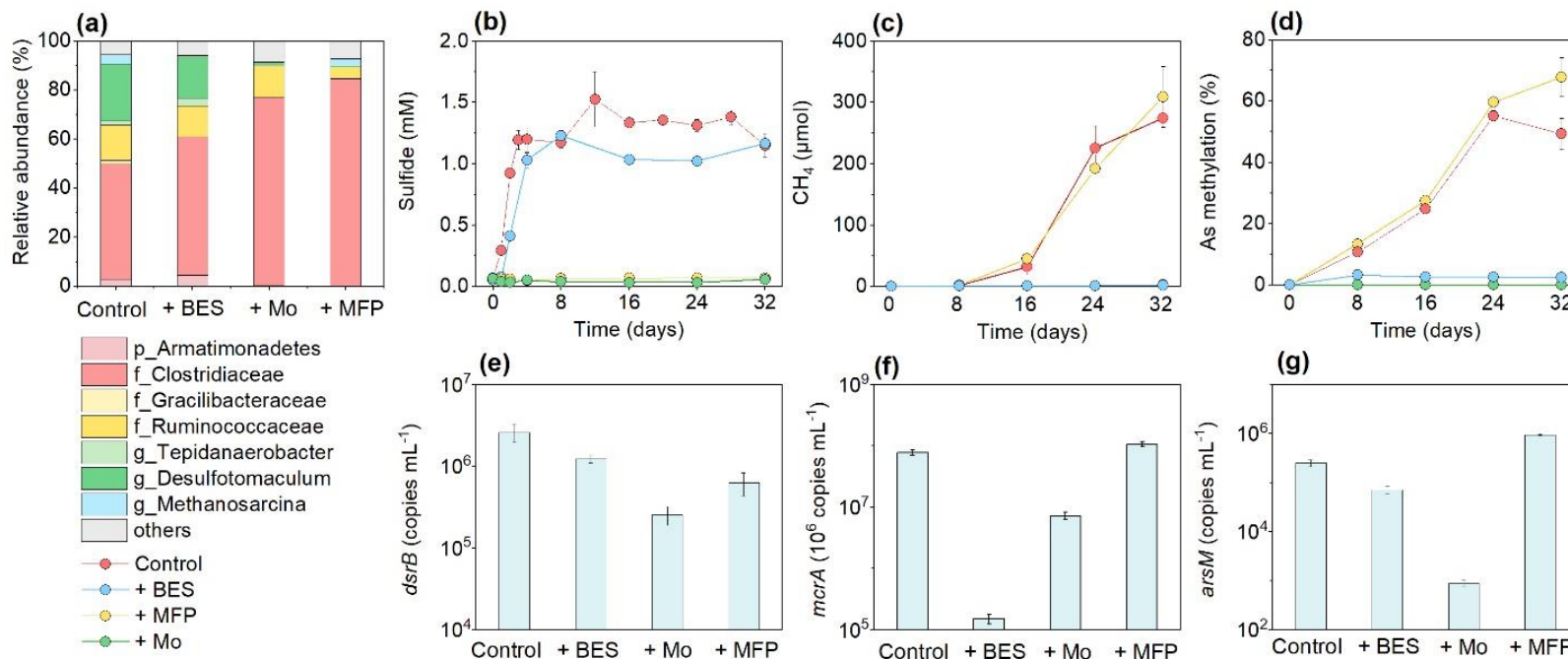
Neighbor-joining phylogenetic tree of reference ArsM amino acid sequences

Methanogens-driven arsenic methylation preceding formation of methylated thioarsenates in sulfide-rich hot springs



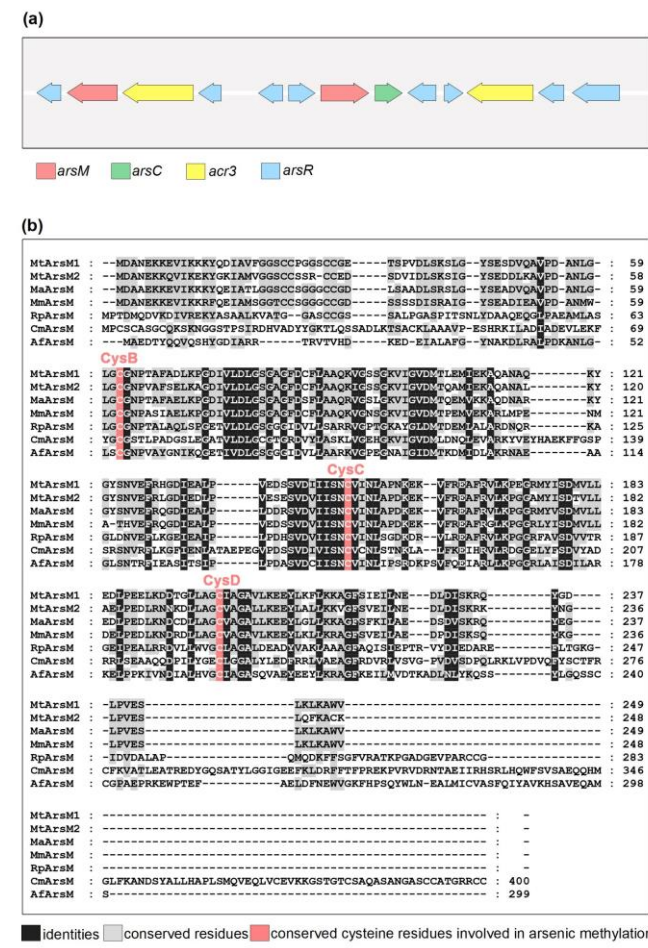
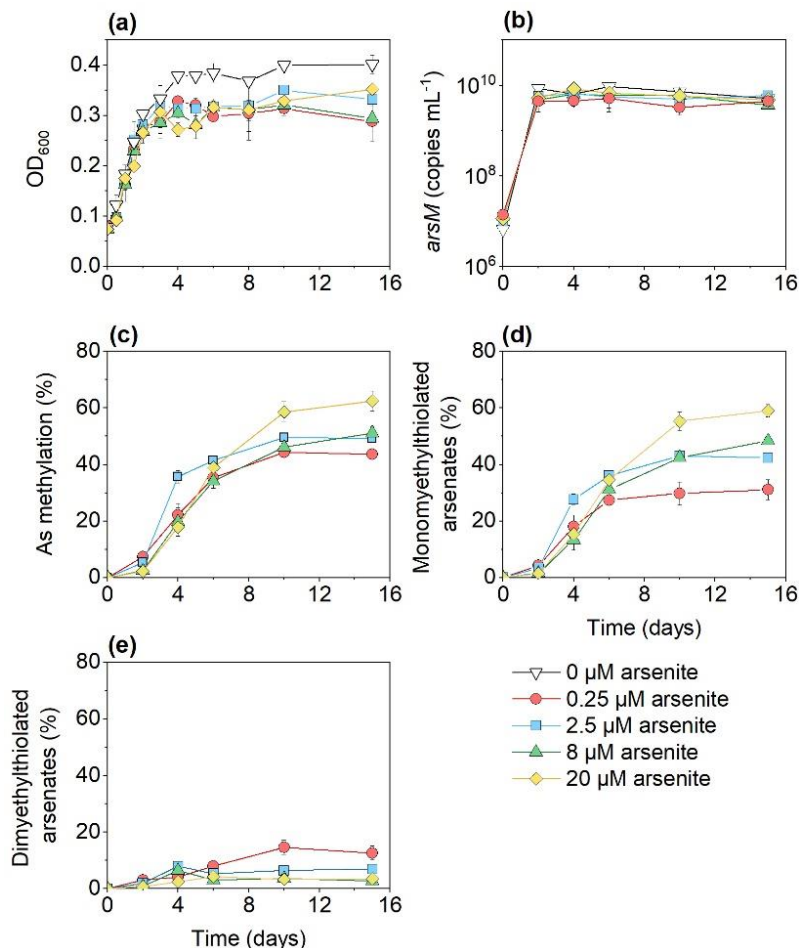
Arsenic methylation in the enrichment cultures

Methanogens-driven arsenic methylation preceding formation of methylated thioarsenates in sulfide-rich hot springs



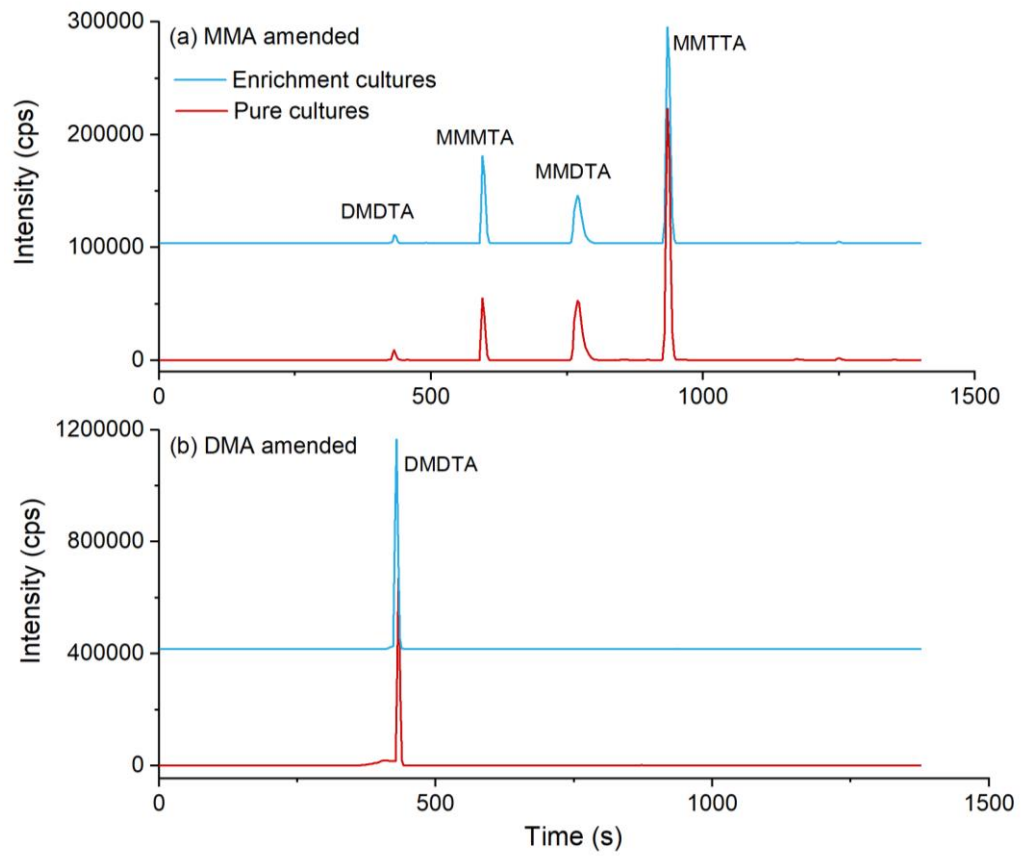
Arsenic methylation in the experiments with inhibitors being added

Methanogens-driven arsenic methylation preceding formation of methylated thioarsenates in sulfide-rich hot springs



Arsenic methylation in the pure cultures of *Methanosarcina thermophila*

Methanogens-driven arsenic methylation preceding formation of methylated thioarsenates in sulfide-rich hot springs



Arsenic speciation with MMA and DMA amended in the enrichment and pure cultures