

Quantitative speciation analysis using organic solvent gradients in HPLC-ICPMS

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Accurate and species-independent quantification with HPLC-ICPMS is a challenging problem when separations are based on gradient elution using organic solvents. In the present work, the change in ICPMS response is equalized by direct introduction of a volatile organic solvent into the thermostatted spray chamber of the ICPMS. This method was tested with a newly developed chromatographic method for the simultaneous separation of anionic arsenic species, oxo- and thio-arsenosugars using a Hamilton PRP-X100 column and applying a methanol gradient from 0-50% (v/v). The accuracy of the gradient compensation method was validated with the BCR 710 oyster tissue candidate reference material.