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# A new multivariate standard addition strategy for stripping voltammetric electronic tongues: application to the determination of Tl(I) and In(III) in samples with complex matrices

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## ABSTRACT

A new multivariate standard addition strategy applicable to stripping methods was proposed as an extension of the classical univariate standard addition method for the resolution of complex samples involving overlapped peaks and complex matrices. The proposed strategy consists in alternate additions of the considered analytes and the further extrapolation to a simulated blank solution measured by skipping the preconcentration step (deposition time = 0). This calibration approach was successfully tested in tonic water samples spiked with Tl(I) and In(III) using a sensor array based on a SeCyst-SPCNFE and an *ex-situ*-BiSPCE, providing good concordance between replicates and much better accuracy than the usual multivariate external calibration method.

**Keywords:** sensor array, multivariate standard addition, partial least squares (PLS) calibration, matrix effect, anodic stripping voltammetry

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