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## Hyperbolic Subtraction Method: Determination of the Concentration of an Analyte in the Presence of an Unknown Interferent via Spectral Data

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### Abstract

A theoretical model to determine the concentration of an analyte in the presence of unknown interferents using spectral-type data is described. The method involves absorbance measurements at three wavelengths and the calculation of specific absorbances yielding a hyperbolic relationship between absorbance ratios and analyte concentrations. The concentration of the analyte of known spectrum can be determined in the presence of an interferent or mixture of interferents of unknown concentration(s) and spectra can be determined combining data for different sets of wavelengths. Application to indigo and isatin solutions in DMSO related to the so-called Maya blue problem is reported as an illustrative application example.

**Keywords:** Hyperbolic subtraction method; Unknown interferents; Analyte determination; Spectroscopy; Maya blue.

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