

USE OF CHELATING AGENTS TO IMPROVE THE SENSITIVITY
OF ESTIMATION OF CHROMIUM AND LEAD USING
ATOMIC ABSORPTION SPECTROPHOTOMETRY

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ABSTRACT

The enhancement of the absorbance signal in analytical Atomic Absorption Spectrometry through the combined use of chelating agents and organic solvents is well documented and sufficiently widely used. However the technique has not been without any problems, particular those connected with the choice and use of organic solvents.

The present study is an attempt to investigate the feasibility of obtaining satisfactory signal enhancement through the use of selected chelating agents in a purely aqueous medium. The study was confined to the analyte elements Lead (pb) and Chromium (Cr).

After a brief discussion of the main factors governing the stability of metal complexes, the experimental data regarding the complex formation of Lead (Pb) and Chromium (Cr) under different reaction conditions with different chelating agents is presented.

The investigation has revealed a depression of the analytical signal for Lead (Pb) relative to that for Chromium (Cr). An Attempt Is made to explain these observation.