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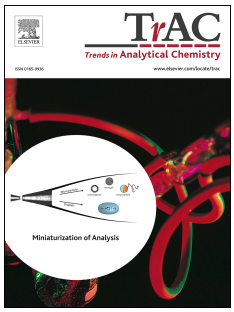

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X-ray fluorescence analysis of milk and dairy products: a review

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Abstract

A small mineral fraction substantially determines the nutrition value and quality of milk. The X-ray fluorescence spectrometry (XRF) is an expanding method in the field of elemental analysis of milk. Different configurations of XRF spectrometers are commercially available, and they are known as providing cheap and fast analyses of minerals and some trace elements with the accuracy and reproducibility required for food products. This research review particularly concerns the XRF instrumentation, sample preparation, calibration and quantification procedures. The practical examples of using XRF techniques for determination of minerals and trace elements in milk samples are also demonstrated.

Key words: X-ray fluorescence; milk; dairy products; elements; sample preparation; calibration