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## **QUALI-QUANTITATIVE ANALYSIS OF SPECIFIC ELEMENTS USING MINI-XRF SPECTROMETER**

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The use of alternative analytical techniques to investigate specific elements in body fluids has increase in last year's presenting significant progress in clinical chemistry. Recently, the Energy Dispersive X-ray Fluorescence technique (EDXRF) using the Fundamental Parameters method showed to be adequate for the determination of several elements in biological samples (serum and blood) using the SHIMADZU Co. EDXRF spectrometer, Rayny 720 model, at IPEN/CNEN-SP. This motivated us to check the performance of the Mini-XRF spectrometer (X-123SDD, Amptek) consisting of an Ag X-ray tube associated with a Si Drift detector (25 mm<sup>2</sup> x 500 µm) with Be window (12.5 µm) for this clinical finality. Some specific elements (Ca, Cl and Fe) were investigated using standard solutions. The calibration curves, the elemental sensitivity values as well as the detection and qualification limits were obtained. The results emphases that this spectrometer is very promising for this finality offering a new procedure for clinical practices.

**Keywords:** Radiation Detection, X-ray, Si Drift detector, calibration curves

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