

Investigating Metals' Content and Oxidation States in Edible Liquids using XRF Analysis with VOXES X-ray Spectrometer

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X-Ray Fluorescence (XRF) is a valuable analytical technique for investigating the properties of metals. The MITIQO project is focused on using XRF to identify the metals' content and oxidation states in various edible products, with a particular emphasis on liquids such as wine and oil. In this study, we showcase the MITIQO experimental apparatus at the INFN laboratory of Frascati, based on the VOXES X-ray spectrometer, with a focus on the identification of the oxidation state of Iron. As a first outcome of the project, we demonstrated the capability of MITIQO to establish the correct oxidation state of the Iron present in a liquid sample. This research opens up new possibilities like using XRF to analyze the concentration and oxidation state of metals in edible liquids, which has important implications for food safety and quality control.

Summary

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