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Safety Analysis of Edible Oil Products via Raman Spectroscopy

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Abstract

Raman spectroscopy is a spectroscopic technique based on Raman scattering effects and provide a structural fingerprint by which molecules can be identified. Owing to its non-destructive, high sensitivity and allowing on-line detection, Raman spectroscopy is now increasingly being applied in various fields from fundamental research to engineering in food safety. Edible oils provide high nutritional value in the human diet and their safety and quality have become a major concern and issue. Thus, Edible oils have been the subject of a number of applications of Raman spectroscopy. This present review briefly evaluates Raman spectroscopy applications in the quality and safety analysis of oil products in the latest decade. In addition, by integrating the introduction of the detection of harmful substances and bioactive components in oil product, this paper also summarizes a series of emerging analytical technologies in applications of Raman spectroscopy.

Graphical Abstract

¹ These authors contributed equally to this work.

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