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Abstract title:

DETERMINATION OF FATTY ACIDS ETHYL ESTERS IN VIRGIN OLIVE OILS: PROPOSALS TO ENHANCE THE EU OFFICIAL METHOD

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Short abstract:

Fatty acids ethyl esters (FAEEs) are markers for virgin olive oils obtained from olives of poor quality or not adequately stored before being processed. FAEEs can also be considered as indirect markers in detecting the illegal treatment of soft deodorization that can be applied to slightly defective olive oils, as they are difficult to be removed from the oils at the conditions reached during this technological process. The official FAEEs determination (EU Reg. 61/2011) suffers some drawbacks in terms of amount of solvents and long time of analysis, linked with the preparative procedure to isolate these compounds.

The aim of this work is to study the application of an HPLC-UV as a rapid alternative approach to the traditional liquid chromatography applied in the preparative phase. After the set up of the most appropriate working conditions (eg. mobile phase, flow, injection volume), some validation parameters (eg. precision, accuracy, LOD and LOQ, recovery) have been evaluated, in order to check the effectiveness of the proposed method. Moreover, considering the GC-FID step, the use of a PTV (programmed temperature vaporizer) injector as an alternative of the on-column one was evaluated.

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QUALITY, AUTHENTICITY, SOFT-DEODORIZATION