

Author's Accepted Manuscript

A NEW ANALYTICAL METHOD FOR QUANTIFICATION OF OLIVE AND PALM OIL IN BLENDS WITH OTHER VEGETABLE EDIBLE OILS BASED ON THE CHROMATOGRAPHIC FINGERPRINTS FROM THE METHYL-TRANSESTERIFIED FRACTION



www.elsevier.com/locate/talanta

Ana M. Jiménez-Carvelo, Antonio González-Casado, Luis Cuadros-Rodríguez

PII: S0039-9140(16)30964-X
DOI: <http://dx.doi.org/10.1016/j.talanta.2016.12.024>
Reference: TAL17114

To appear in: *Talanta*

Received date: 19 September 2016
Revised date: 4 December 2016
Accepted date: 9 December 2016

Cite this article as: Ana M. Jiménez-Carvelo, Antonio González-Casado and Luis Cuadros-Rodríguez, A NEW ANALYTICAL METHOD FOR QUANTIFICATION OF OLIVE AND PALM OIL IN BLENDS WITH OTHER VEGETABLE EDIBLE OILS BASED ON THE CHROMATOGRAPHIC FINGERPRINTS FROM THE METHYL-TRANSESTERIFIED FRACTION, *Talanta*, <http://dx.doi.org/10.1016/j.talanta.2016.12.024>

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and a review of the resulting galley proof before it is published in its final citable form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain

A NEW ANALYTICAL METHOD FOR QUANTIFICATION OF OLIVE AND PALM OIL IN BLENDS WITH OTHER VEGETABLE EDIBLE OILS BASED ON THE CHROMATOGRAPHIC FINGERPRINTS FROM THE METHYL-TRANSESTERIFIED FRACTION

Ana M. JIMÉNEZ-CARVELO , Antonio GONZÁLEZ-CASADO, Luis CUADROS-RODRÍGUEZ


Department of Analytical Chemistry, University of Granada, c/ Fuentenueva, s.n. E-18071 Granada, Spain.

Abstract

A new analytical method for the quantification of olive oil and palm oil in blends with other vegetable edible oils (canola, safflower, corn, peanut, seeds, grapeseed, linseed, sesame and soybean) using normal phase liquid chromatography, and applying chemometric tools was developed. The procedure for obtaining of chromatographic fingerprint from the methyltransesterified fraction from each blend is described. The multivariate quantification methods used were Partial Least Square-Regression (PLS-R) and Support Vector Regression (SVR). The quantification results were evaluated by several parameters as the Root Mean Square Error of Validation (RMSEV), Mean Absolute Error of Validation (MAEV) and Median Absolute Error of Validation (MdAEV). It has to be highlighted that the new proposed analytical method, the chromatographic analysis takes only eight minutes and the results obtained showed the potential of this method and allowed quantification of mixtures of olive oil and palm oil with other vegetable oils.

Keywords

Olive oil, palm oil, blends, vegetable oil, fingerprint, liquid chromatography

 Corresponding author: phone: +34 958240797; fax: +34 958243328; email: amariajc@ugr.es

Download English Version:

<https://daneshyari.com/en/article/5141351>

Download Persian Version:

<https://daneshyari.com/article/5141351>

[Daneshyari.com](https://daneshyari.com)