Dear Editor,

Please find attached our paper:

**Gas chromatography – mass spectrometry system applied to determine botanical origin of various types of edible vegetable oils**

whose authors are:

KRISTIAN PASTOR1, \*, VESNA VUJASINOVIĆ2, ANA MARJANOVIĆ JEROMELA3, DJURA VUJIĆ1, DJORDJE JOVANOVIĆ4, MARIJANA AČANSKI1

*1Faculty of Technology, University of Novi Sad, Bul. cara Lazara 1, 21000 Novi Sad, Srbija*

*2The College of Hotel Management, Kneza Višeslava 70, 11030 Belgrade, Serbia*

*3Institute of Field and Vegetable Crops, Maksima Gorkog 30, 21000 Novi Sad, Serbia*

*4FIMEK, University Business Academy, Cvećarska 2, 21000 Novi Sad, Serbia*

\*Corresponding author: Kristian Pastor; e-mail: pastor@tf.uns.ac.rs; Department of Applied and Engineering Chemistry, Faculty of Technology, University of Novi Sad, Bulevar cara Lazara 1, 21000 Novi Sad, Serbia; Tel: +381-21-485-36-92

We would like to publish this article as a short communication article in the Journal of the Serbian Chemical Society.

This paper has not been previously published in any other language and it is not under consideration for publication elsewhere.

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The topic of food authentication became very popular in the sector of food science worldwide. Edible vegetable oils are products very susceptible to adulteration practices because of the high prices that they demand on the market, if they are manufactured properly and thus providing all aroma and health-beneficial constituents to the consumer. Therefore, development of new, rapid, easy-to-use routinely approaches and methods for authenticity testing of this kind of products can be characterized as necessary and urgent. The aim of the presented study was not to discover new or identify eluting components. It represents a new strategy for discrimination of 59 samples of various cold-pressed, virgin and refined edible vegetable oils according to the corresponding botanical origin. Samples were produced from 17 plant species: olive, sunflower, safflower, flax, pumpkin, sesame, hemp, walnut, hazelnut, almond, grapeseed, black cumin, apricot seed, plum seed, soybean, wheat germ and rapeseed. Some of the investigated samples include certified edible oil samples obtained from the Department of Food Preservation Engineering at the Faculty of Technology Novi Sad, and some of them were produced by cold-pressing under 200 bar at the Institute of Field and Vegetable Crops in Novi Sad, Serbia. A GC/MS device performing in a ion current (IC) mode, combined with multivariate clustering, were employed in the analysis. Derivatization reaction occurred in the injector of a gas chromatograph. The discriminations between species were based on marker-peaks of 9 molecular ions of dominant fatty acid methyl esters (FAMEs), which were chosen as descriptors, thus obtaining 16 botanically discriminated vegetable oil groups. These preliminary results demonstrate that IC-GC/MS approach with cluster analysis could be a useful tool in rapid semi-quantitative screening for botanical origin of commercial samples of various edible vegetable oils. Therefore, the presented approach avoids the application of analytical standards, accurate identifications and quantifications of eluting components and determinations of minor constituents using other instrumental techniques and/or methodologies.

The authors would like to suggest the following potential referees:

1. Prof. dr Branimir Jovančićević, Full professor, Faculty of Chemistry, Studentski trg 12-16, Beograd, Department of Applied Chemistry, bjovanci@chem.bg.ac.rs
2. Prof. dr Mira Pucarević, Full professor, Faculty of the Environmental Protection, EDUCONS University, Vojvode Putnika bb, 21208 Sremska Kamenica, mira.pucarevic@educons.edu.rs

We hope that you will find this topic very current, the paper interesting, and worth publishing.

Sincerely,

Kristian Pastor

The corresponding author

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