



Сојуз на хемичарите и технолозите на Македонија
Society of Chemists and Technologists of Macedonia

28th Congress of The Society of Chemists and
Technologists of Macedonia

BOOK OF ABSTRACTS

23 – 26 September 2026
Metropol Lake Resort
Ohrid, R. N. Macedonia



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Society of Chemists and Technologists of Macedonia

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Dear Esteemed Colleagues and Participants,

It is our great pleasure to present the Book of Abstracts of the 28th Congress of the Society of Chemists and Technologists of Macedonia (SCTM).

As with our previous congresses held over the past two decades, this event takes place in the cradle of Slavic literacy – a region with a rich cultural heritage, a long tradition of intellectual achievement, and a history that continues to inspire generations. We hope that the remarkable heritage of Ohrid, together with the beauty of Lake Ohrid and the city itself, will make your stay both enjoyable and memorable, while providing an additional source of inspiration for your scientific work.

Over the years, the SCTM Congress has developed into an important platform for researchers from across the region and beyond, bringing together scientists and professionals from all fields of chemistry and chemical engineering. We are particularly honored to welcome 13 plenary and invited speakers, 28 oral presentations, and 122 e-poster presentations, representing the work of more than 700 authors and co-authors. This year's participants come not only from Macedonia, but also from Bosnia and Herzegovina, Bulgaria, Croatia, Estonia, Finland, France, Georgia, Germany, Hungary, Italy, Kosovo, Latvia, Lithuania, Poland, Romania, Serbia, Slovenia, Spain, Sweden, Turkey, the United Kingdom and the United States. It is especially gratifying to see so many colleagues returning to the Congress year after year, becoming an integral part of the SCTM community.

We hope that this Book of Abstracts will serve not only as a record of the outstanding scientific contributions presented at the 28th SCTM Congress, but also as a source of inspiration for future research and collaboration. Let us use this occasion to celebrate not only our scientific achievements, but also our resilience, determination, and steadfast commitment to advancing knowledge. Through our collective efforts, we can overcome challenges, foster innovation, and contribute to scientific developments that have a meaningful and positive impact on society.

We would like to express our heartfelt gratitude to Prof. Marina Stefova, President of the Scientific Committee, and especially to Prof. Jasmina Petreska Stanoeva, President of the Organizing Committee, whose dedication, commitment, and tireless efforts ensured that every aspect of the Congress was carefully coordinated and carried out successfully. We are equally grateful to all members of the Scientific and Organizing Committees who worked diligently, often behind the scenes, to make this Congress possible.



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We extend our special appreciation to Marinela Cvetanovska for her excellent work on the Congress website, Ivona Sofronievska for her meticulous management of the finances, and Pece Šerovski for compiling and preparing this Book of Abstracts.

Our sincere thanks also go to all reviewers and participants whose valuable contributions have been essential to the success of the Congress. Your commitment to scientific excellence demonstrates the importance of collaboration, particularly in times of uncertainty and rapid change. It is through the exchange of ideas, the sharing of knowledge and the creation of lasting professional connections that we strengthen our scientific community and advance our respective fields.

Finally, we express our sincere gratitude to all of our sponsors, whose support is acknowledged at the end of this volume. We are especially grateful to our General Sponsors, Alkaloid and Pharmachem, for their generous and continued support of the Society of Chemists and Technologists of Macedonia.

We wish all participants a successful and inspiring Congress, fruitful discussions, new collaborations, and a pleasant and memorable stay in Ohrid.

Prof. Zoran Zdravkovski, President
Society of Chemists and Technologists of Macedonia



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AEC-O1

**LC-ESI-MS/MS DETERMINATION OF POLYPHENOLS IN
KRATOŠIJA WINE**

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Polyphenols are important compounds in red wine that determine the color, stability, sensory characteristics, astringency and bitterness as well as stabilizing wine during the aging period. This study is focused on the determination of polyphenols, including flavonoids (anthocyanins, pyranoanthocyanins, flavonols and flavan-3-ols) and non-flavonoids (phenolic acids and stilbenes), in red Kratošija wines, applying HPLC-ESI-MS/MS method. The wines were produced using two commercial yeasts for fermentation in order to study the effect of the yeast on the phenolic compounds profile and content. The chromatographic separation of compounds was performed by using a mobile phase consisting of acetonitrile as solvent A and formic acid (pH 2.8) as solvent B, in a gradient mode, as follows: 0-3 min 10% A, 3-10 min 20% A, 10-15 min 25% A, 15-31 min 90% A and 31-50 min 100% A. Wine samples were injected directly into the HPLC system, after filtration through 0.20 µm polyester membrane, using Kinetex C18 column (100 x 2.1 mm, 2.6 µm) for separation. The accuracy and precision of the method were evaluated and the LOD, LOQ and correlation coefficient were determined. The method showed satisfactory characteristics for the analysis of phenolic compounds in red wine. In the wine samples, analytes were identified based on the knowledge of their fragmentation pathway and by comparing the retention times with their reference standards. Quantification was performed by constructing calibration curves for the available standards and for the other compounds, relative amount was calculated based on the peak area calculation from the appropriate ion peak chromatogram. It was found that the content of polyphenolic compounds was significantly influenced by the yeast strain suggesting that the phenolic profile of wine can be modulated through the appropriate selection of yeast for fermentation.

Keywords: Polyphenols, red wine, HPLC-ESI-MS/MS.