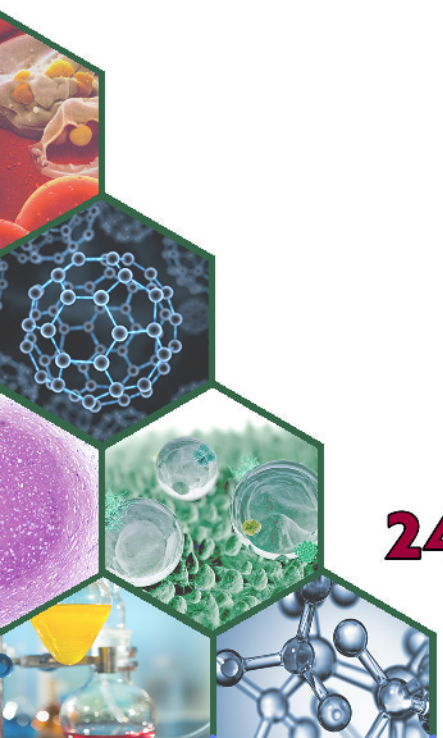
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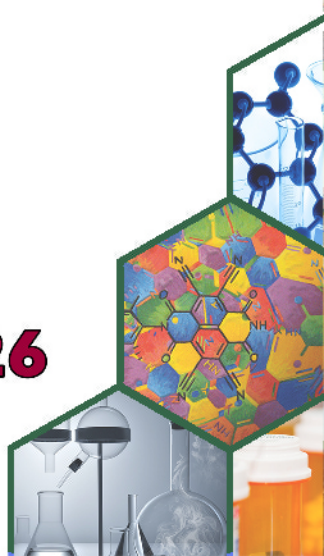
Serbian Young Chemists' Club

12th Conference
of the Young Chemists of Serbia
Book of Abstracts



Novi Sad

24th OCTOBER 2026



12th Conference of Young Chemists of Serbia

Book of Abstracts

24th October 2026

University of Novi Sad – Faculty of Science

CIP – Категоризација у публикацији
Народна библиотека Србије, Београд

54(048)
577.1(048)
60(048)
66.017/.018(048)

KONFERENCIJA mladih hemičara Srbije (12 ; 2026 ; Novi Sad)
Book of abstracts / 12th Conference of Young Chemists of Serbia, [Novi Sad], 24th October 2026 ; organized by Serbian Chemical Society [and] Serbian Young Chemist's Club]. - Belgrade : Serbian Chemical Society, 2026 (Belgrade : Development and Research Centre of Graphic Engineering Faculty of Technology and Metallurgy). - 174 str. : ilustr. ; 25 cm

Tiraž 15. - Bibliografija uz većinu apstrakata. - Registar.

ISBN 978-86-7132-093-1

а) Хемија -- Апстракти б) Биохемија -- Апстракти
в) Биотехнологија -- Апстракти
г) Наука о материјалима -- Апстракти

COBISS.SR-ID 205529353

12th Conference of Young Chemists of Serbia
Novi Sad, 24th October 2026
Book of Abstracts

Published and organized by
Serbian Chemical Society and Serbian Young Chemists' Club
Karnegijeva 4/III, 11000 Belgrade, Serbia
Tel./fax: +381 11 3370 467; www.shd.org.rs; office@shd.org.rs

Publisher
Serbian Chemical Society Belgrade, 2026.

Circulation
15 copies

ISBN 978-86-7132-093-1

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Printing
Development and Research Centre of Graphic Engineering
Faculty of Technology and Metallurgy, Karnegijeva 4, Belgrade, Serbia

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CB PP 09

ACE-inhibitory potential of red and white wine lees from autochthonous Serbian grape cultivars

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Wine lees are an underutilised winery by-product and a promising source of bioactive compounds, including proteins, peptides, phenolics and yeast-derived polysaccharides. Among their reported bioactivities, inhibition of angiotensin-converting enzyme (ACE) is of particular interest due to its relevance to blood pressure regulation and the identification of ACE-inhibitory peptides in wine lees [1]. This study investigated the ACE-inhibitory potential of red and white wine lees obtained from the autochthonous Serbian grape cultivars Probus and Grašac and its relationship with their previously characterised chemical composition. The two wine lees exhibited distinct chemical profiles, with white wine lees showing higher protein content and a more favourable essential amino acid profile, whereas red wine lees were substantially richer in phenolic compounds and exhibited stronger antioxidant activity. Despite these differences, both samples showed ACE-inhibitory activity within a comparable range, with IC_{50} values indicative of promising inhibitory potency. ACE inhibition was evaluated using an HPLC-based assay according to Čakarević et al. [2]. The comparable activity of these chemically distinct matrices suggests that ACE inhibition may not be directly associated with the abundance of a single compound class. These findings support the potential of wine lees as sources of ACE-inhibitory bioactive compounds and provide a basis for further investigation of protein- and peptide-rich fractions.

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Acknowledgments

This research was funded by the Ministry of Science, Technological Development and Innovation of the Republic of Serbia (Contract No. 451-03-33/2026-03/200222) and by the Provincial Secretariat for Higher Education and Scientific Research (Contract No. 003863453 2025 09418 003 000 000 001 04 004).