

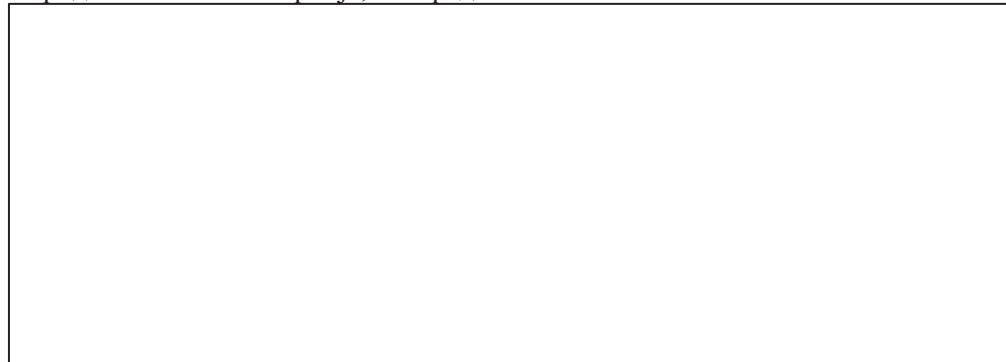
9th Conference of Young Chemists of Serbia

Book of Abstracts

4th November 2023

University of Novi Sad - Faculty of Sciences

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Novi Sad, 4th November 2023

Book of Abstracts

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Sponsorship

The organizing committee is grateful for the donations of the selected sponsor participants:

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Scientific Program

Time schedule	Program
	<i>Registration of the participants</i>
8:30	Mounting posters for the Poster Session 1 (ODD POSTER NUMBERS)
	<i>Conference opening</i>
9:30	Serbian Chemical Society Scientific Committee Serbian Young Chemists' Club presentation
	<i>Plenary Lecture</i>
9:45	PP OP 01 – Gordana Krstić University of Belgrade, Faculty of Chemistry, Belgrade, Serbia <i>“Determining the structure of natural products using NMR spectroscopy - is it enough or not?”</i>
10:20	<i>Popular Scientific Lecture</i> Luka Mihajlović (Analysis doo)
	<i>Invited Lecture</i>
10:50	PPP OP 01 – Jelena Lazić University of Belgrade, Institute of Molecular Genetics and Genetic Engineering, Belgrade, Serbia <i>“From waste streams to biotherapeutics: making a connection using bacteria”</i>
11:15	<i>Coffee break</i>
	<i>Invited Lecture</i>
11:30	PPP OP 02 – Alen Albreht National Institute of Chemistry, Ljubljana, Slovenia <i>“Towards future food supplement ingredients: chemical modification of natural antioxidants”</i>
	<i>European Young Chemists' Network (EYCN)</i>
11:55	Gaia De Angelis – Global Connection Team Leader Soft-skill presentation

12:25	<i>Oral presentations, Session 1</i>
	<p>DSC OP 01 – Nikola Radnović University of Novi Sad, Faculty of Sciences, Novi Sad, Serbia <i>“Syntheses and structures of Ag(I) complexes with pyrazole-type ligand”</i></p>
	<p>PFC OP 02 – Nikola Horvacki Innovation Centre of Faculty of Chemistry Ltd., Belgrade, Serbia <i>“Comparative assessment of preeminent sugars and organic acids in fruits of several apple cultivars”</i></p>
	<p>PCC OP 02 – Katarina Čeranić Innovation Centre of Faculty of Chemistry Ltd., Belgrade, Serbia <i>“Benzene coordination strengthens cation-π interactions: A DFT study”</i></p>
	<p>SCCE OP 01 – Andrija Vukov University of Novi Sad, Faculty of Sciences, Novi Sad, Serbia <i>“Hydration properties of the antidiabetic drug metformin in the presence of selected artificial sweeteners”</i></p>
	<p>SCFM OP 01 – Daliborka Odoboša University of Belgrade, Vinča Institute of Nuclear Sciences, National Institute of the Republic of Serbia, Belgrade, Serbia <i>“A novel gamma rays dosimeter based on organic dye and PVA: microwave synthesis and spectroscopic studies”</i></p>
	<p>PFC OP 03 – Nikolina Sibinčić Innovation Centre of Faculty of Chemistry Ltd., Belgrade, Serbia <i>“Arthrospira platensis and Porphyra sp. – prospective serum-substitute in HEK293T cell culture”</i></p>
13:25	*GROUP PHOTO*
13:30	<i>Poster session 1 (ODD POSTER NUMBERS)</i>
	<i>Lunch</i>
14:20	<p>Removing posters from Poster Session 1 Mounting posters for Poster Session 2 (EVEN POSTER NUMBERS)</p>

	<i>Workshop</i>
15:10	University of Novi Sad, Faculty of Sciences – Parliament University of Belgrade, Faculty of Chemistry – Parliament Young Division of Croatian Chemical Society
	<i>Invited Lecture</i>
	PPP OP 02 – Tatjana Majkić
15:55	University of Novi Sad, Faculty of Sciences, Novi Sad, Serbia <i>“Polyphenols as modulators of prostaglandin E₂ and thromboxane A₂ production”</i>
16:20	<i>Oral presentations, Session 2</i>
	PCC OP 01 – Milica Bogdanović
	University of Novi Sad, Faculty of Sciences, Novi Sad, Serbia <i>“The crystal structure of 3-(1-pyrazolyl)-L-alanine and its Ag(I) polymeric complex”</i>
	PFC OP 01 – Mihajlo Jakanovski
	Innovation Centre of Faculty of Chemistry Ltd., Belgrade, Serbia <i>“Validation and optimization of ion chromatography based method for citric acid determination in Robinia pseudoacacia honey”</i>
	CS OP 01 – Branislav Kokić
	Innovation Centre of Faculty of Chemistry Ltd., Belgrade, Serbia <i>“Teaching chirality on dynamic systems”</i>
	CB OP 01 – Ana Matošević
	Institute for Medical Research and Occupational Health, Zagreb, Croatia) <i>“Design, synthesis and biological evaluation of carbamates as cholinesterases inhibitors in the treatment of Alzheimer`s disease”</i>
	EA OP 01 – Marija Kuč
	University of Novi Sad, Faculty of Sciences, Novi Sad, Serbia <i>“Photodegradation of organic UV filters in water using UV/chlorine and UV/H₂O₂”</i>
	EA OP 01 – Sara Pepić
	University of Novi Sad, Faculty of Sciences, Novi Sad, Serbia <i>“Physico-chemical and structural characterization of the pharmacologically active ionic liquid tetracainium-ibuprofenate”</i>

17:10	<i>Poster session 2 (EVEN POSTER NUMBERS) and Coffee break</i>
	<i>Closing ceremony</i>
18:00	<ul style="list-style-type: none"> • Best Oral Presentation Award • Best Poster Presentation Award
18:15	<i>End of the Conference</i>

POSTER NUMBER is the last part of the contribution code, e.g. XY PP 15.

VENUE:

- Lectures and oral presentations will be taken place at the “Mihajlo Pupin“ amphitheater on the ground floor at the Department of Matematics and Informatics and the Department of Physics, Faculty of Science, University of Novi Sad (address: Trg Dositeja Obradovića 4, Novi Sad).
- The Poster sessions will take place in the hallway in front of the “Mihajlo Pupin“ amphitheater.

Synthesis and characterization of novel Co-PWB bronze using TGA/DTA, XRPD, FTIR and SEM-EDS methods

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Phosphate tungsten bronzes (PWBs) constantly attract a lot of attention due to their interesting chemical, electrical, optical, and mechanical features [1]. Heteropoly acid hydrate $\text{H}_3\text{PW}_{12}\text{O}_{40}\times 29\text{H}_2\text{O}$ (PWA) was obtained by dissolving $\text{Na}_2\text{WO}_4\times 2\text{H}_2\text{O}$ in a $\text{H}_3\text{PO}_4\text{-HCl}$ mixture and by extracting the precipitate with ether at room temperature. The dehydration process of $\text{H}_3\text{PW}_{12}\text{O}_{40}\times 29\text{H}_2\text{O}$ (PWA) to $\text{H}_3\text{PW}_{12}\text{O}_{40}\times 6\text{H}_2\text{O}$ (6-PWA) is done by heating of PWA in a kiln at 80 °C. An aqueous solution of $\text{H}_3\text{PW}_{12}\text{O}_{40}\times 6\text{H}_2\text{O}$ is then mixed with an aqueous solution of $\text{CoCl}_2\times 6\text{H}_2\text{O}$, gently heated to initiate the crystallization process, and left overnight to complete crystallization. The obtained with $(\text{CoHPW}_{12}\text{O}_{40}\times n\text{H}_2\text{O}, \text{CoPWA})$ is then heated in a furnace, from room temperature to 600 °C, during which cobalt phosphate tungsten bronze crystals are formed. Obtained CoPWB was further characterized by FTIR, XRPD and SEM-EDS methods which confirmed the formation of the desired structure. In this work, cobalt phosphate tungsten bronze was synthesized and characterized for the first time in order to obtain more information about its structure, chemical characteristics and potential practical application. A potential practical application of Co-PWB is in its incorporation into aqueous lithium-ion batteries and catalysts in the Briggs Rauscher reaction.

References

1. T. Maksimović, P. Tančić, J. Maksimović, D. Mara, M. Ilić, R. Van Deun, Lj. Joksović, M. Pagnacco, *Optical Materials*. **2023**, *143*, 114125.