

1. Name of the centre / laboratory / office / team

Laboratory for Chemical Research
Department for Chemical-Technological Science

2. Key words (for browsing on on-line catalogue)

Please provide as far as possible key words which best describe activities, research fields, expertise, trainings, projects within the centre / laboratory / office / team

Bioinorganic chemistry, medicinal inorganic chemistry, chemical kinetics, investigation of the mechanism of interactions, potential antitumor transition metal complexes, biologically relevant molecules.

3. Please describe the most important results achieved within the centre / laboratory / office / team

In Laboratory for Chemical Research the scientific investigations of the mechanism of interactions between complex compounds of transition metals with biologically relevant ligands, as well as the synthesis and characterization of new complex compounds are performed.

The aim of the Laboratory for Chemical Research is to contribute to the improvement of existing and development of new knowledge in the chemical science through the scientific research and education, with the continuous improvement of researchers capacity, scientific methods and techniques, establishment of international scientific cooperation and that contribute to the integration of the State University of Novi Pazar in European scientific research area.

4. Please describe the most important results achieved within the centre / laboratory / office / team

- four scientific papers accepted for publication in the field of bioinorganic chemistry (medicinal inorganic chemistry) M22 i M23 categories, as well ten meeting abstracts from the international conferences all over the Europe
- education of the students of studz program Chemistry in application of scientific-research methods
- several service tests of drinking and waste water quality have been carried out

5. Please describe key personnel within your team

Names, short CV, up to five the most important references

Prof. dr Tanja Soldatović

She has earned her MSc in Organic Chemistry (2001) and PhD in Inorganic Chemistry (2007) from Faculty of Science and Mathematics, University of Kragujevac, where she was employed from 2003 to 2007. Since 2007. year she is employed at State University Of Novi Pazar, where she was promoted in an associate professor 2015. for scientific field Chemistry. Since 2009. she is the Head of study program Chemistry. The field of her scientific research is Bioinorganic Chemistry (Medicinal Bioinorganic Chemistry).

1. T. Soldatović, E.Selimović, Kinetic studies of the reactions between dichlorido[1,2-diaminoethane]zinc(II) and biologically relevant nucleophiles in the presence of chloride, *Prog. React. Kinet. Mec.* 2017, accepted for publication.
2. T. Soldatović, S. Jovanović, Ž. D. Bugarčić and R. van Eldik, Substitution behaviour of novel dinuclear Pt(II) complexes with bio-relevant nucleophiles, *Dalton Trans.*, 2012, 41, 876-884.
3. T. Soldatović, Ž. D. Bugarčić and R. van Eldik, Influence of the chloride concentration on ligand substitution reactions of [Pt(SMC)Cl₂] with biologically relevant nucleophiles, *Dalton Trans.*, 2009, 4526-4531.
4. Ž. D. Bugarčić, T. Soldatović, R. Jelić, B. Algueró and A. Grandas, Equilibrium, kinetic and HPLC study of the reactions between platinum(II) complexes and DNA constituents in the presence and absence of glutathione, *J. Chem. Soc., Dalton Trans.*, 2004, 3869-3877.
5. I. Gutman, T. Soldatović, A. Graovac and S. Vuković, Approximating the total π -electron energy by means of spectral moments, *Chem. Phys. Lett.*, 2001, 334, 168-172.

Doc. dr Enisa Selimović

She has earned her PhD in Inorganic Chemistry (2015) from Faculty of Science and Mathematics, University of Kragujevac. Since 2010. year she is employed at State University Of Novi Pazar, where she was promoted in an assistant professor 2017. for scientific field Chemistry. The field of her scientific research is Bioinorganic Chemistry (Medicinal Bioinorganic Chemistry).

- 1 E. Selimović, S. Jeremić, B. Ličina, T. Soldatović, Kinetics, DFT study and antibacterial activity of zinc(II) and copper(II) terpyridine complexes, *J. Mex. Chem. Soc.* 2017, accepted for publication Ms. Ref. No.: JMCS17021
2. E. Selimović, T. Soldatović, Impact of the chloride concentration on ligand substitution reactions of zinc(II) complexes with relevant nitrogen nucleophiles, *Prog. React. Kinet. Mec.* 2017, No. PRK1700657
3. E. Selimović, T. Soldatović, J. Bogojeski, Ž. D. Bugarčić, Substitution reactions of dinuclear platinum(II) complexes with some nitrogen nucleophiles, *Trans. Met. Chem.*, 2015, 40, 137-144.
4. E. Selimović, T. Vulović, B. Petrović, Ž. D. Bugarčić, J. Bogojeski, Complex formation reactions of two sterically hindered platinum(II) complexes with some N-bonding ligands, *Trans. Met. Chem.*, 2013, 38, 635-640.
5. E. Selimović, B. Petrović, D. Čanović, Ž. D. Bugarčić, J. Bogojeski, Kinetic studies on the reactions of [(TL^{tBu})PtCl]⁺ and [Pt(tpdm)Cl]⁺ complexes with some thiols and thioethers, *Aust. J. Chem.* 2013, 66, 534-538

6. Please give the list of the most important projects within your centre / laboratory / office / team

International projects (FP7, CIP, TEMPUS, ERASMUS, LLL, COST, EUREKA, etc.) and national projects

Laboratory for Chemical Research performs the realization of scientific research project **No. 172011** entitled "Investigation of the mechanism of the reaction between transition metal complexes and biologically relevant molecules", financed by the Ministry of Education, Science and Technological Development, Republic of Serbia.

7. Please give the list of the most important prototypes/products/services including also concepts, strategies, methodologies

Laboratory for Chemical Research provides services to other researchers in the field of Chemistry, Food Technology, Agriculture Production and Biology.

8. Please give a list of the most important patents or other research valorization means (up to 10)

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9. Please describe the most important resources, equipment, software and test facilities which can be shared with other SMEs or research teams (figures, illustrations, links on web sites for video materials, photos, animations and contact details are welcome)

1. UV-Vis spectrophotometer Uvikon XS / 70/99-90289 (Schott Instruments, France)
2. Agilent 7890B/240MS GC-MS system (Agilent Technologies, USA) (State University of Novi Pazar Solvent recovery extractor for fats and oils - Soxhlet method M (J.P. Selecta, Spain)
3. Analytical balance, type: 05MK0201, (E.Metter, Switzerland)
4. pH-meter, pH/Ion 510, (Oakton Instruments, IL60061, USA).
5. Magnetic stirrer, type: IKA-WERK RET B, (GMBH & CO.KG Germany)
6. Solvent recovery extractor for fats and oils - Soxhlet method M (J.P. Selecta, Spain)
7. Rotary vacuum evaporator RV05Basic (Ika-Werke, Germany)
8. Centrifuge EBA 20, Hettich (Germany)

10. Are there some commercial services (e.g. consulting, training seminars) offered at your centre / laboratory / office / team? If yes, please describe which services and for which targeted groups.

No

11. Contact person (head, team leader etc.) of the centre / laboratory / office / team (name, address, tel., fax, e-mail, URL)

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