Ph.D. in Chemistry

Research Assistant

Department of Life Scieces

Adress: Kneza Višeslava 1, 11030 Belgrade

Phone: +381-11 2078459

Email: jskorac@imsi.rs, jskorac@gmail.com

ORCID ID: https://orcid.org/0000-0002-3802-6009

Jelena Korać Jačić

Research Area

- Coordination chemistry, interaction of biomolecules/drugs with transition metals
- Redox chemistry
- EPR spectroscopy
- Photo-degradation of drugs

Skills

- UV/Vis spectroscopy
- EPR spectroscopy
- Cyclic voltametry
- NMR spectroscopy
- Biochemical methods

Biography

1. Work experience:

2021-current: research associate, Institute for Multidisciplinary Research, University of Belgrade, Belgrade, Serbia

2018 – 2021: research assistant, Institute for Multidisciplinary Research, University of Belgrade, Belgrade, Serbia

2016 – 2018: junior research assistant, Institute for Multidisciplinary Research, University of Belgrade, Belgrade, Serbia

2. Education:

2020: Ph.D. in Chemistry, Faculty of Chemistry , University of Belgrade.

2014: M.Sc.: Physical Chemistry, Faculty of Physical Chemistry, University of Belgrade

2013: B.Sc.: Biochemistry, Faculty of Chemistry, University of Belgrade

3. Awards and certificates:

2023: Slovenian NMR center, Ljubljana, Slovenia, fellowship grant of CERIC-ERIC program.
2020: Award for scientific publication of a young researcher in the field of physiology and/or biophysics by the Foundation “Academician Radoslav K. Andjus”.
2019 (27.05. – 31.05.): COST Action CA15133 STSM research fellowship grant, NanoTemper company, Krakow, Poland.
18.11.2018 Award for best poster presentation, 8th Conference: "Coordination in Biochemistry and Life" , Novi Sad, Serbia.
2018 (04. 10. – 08.10.) Participant in the International Biophysical School “Academician Radoslav K. Andjus” (NERKA).
2017 (19.06. – 23.06.): COST Action CA15133 Grant for 1st FeSBioNet *Training School*, Lisboa, Portugal.

4. Other professional activities

Memberships:

- . Serbian Biochemical Society (since 2015), Serbian Biological Society (since 2018)

Projects:

Current:

1) 2023-2026: “Microalgae for biosynthesis of metal cluster compounds“. Science Fund of the Republic of Serbia (Belgrade, Serbia). (Grant agreement No.: HF-178)

Past:

1) 2011-2019: “Study of structure-function relationships in the plant cell wall and modifications of the wall structure by enzyme engineering”. Ministry of Eduction, Scienece and Technological Development of the Republic of Serbia (OI173017).

2) 2016-2020: CA15133 “The Biogenesis of Iron-sulfur Proteins: from Cellular Biology to Molecular Aspects (FeSBioNet) “(Member) (COST action).

Selected publications

Peer-reviewed international journals

1) **Korać Jačić J**., Dimitrijević M., Bajuk-Bogdanović D., Stanković D., Savić S., Spasojević I., Milenković RM. 2023. The formation of Fe^{3+}-doxycycline complex is pH dependent: implications to doxycycline bioavailability. Journal of biological inorganic chemistry. 28: 679–687. doi: 10.1007/s00775-023-02018-w.
2) **Korać Jačić J**., Bajuk-Bogdanović D., Savić S., Božić Cvijan B., Spasojević I., Milenković RM. 2023. Coordination of hydralazine with Cu^{2+} at acidic pH promotes its oxidative degradation at neutral pH. Journal of Inorganic Biochemistry 243: 112181. doi: 10.1016/j.jinorgbio.2023.112181
3) Božić Cvijan B., **Korać Jačić J**., Bajčetić M. 2023. The Impact of Copper Ions on the activity of antibiotic drugs. Molecules 28(13): 5133. doi: 10.3390/molecules28135133.
4) **Korać Jačić J**., Milenković M., Bajuk Bogdanović D., Stanković D. M., Dimitrijević M., Spasojević I. 2022. The impact of ferric iron and pH on photo-degradation of tetracycline in water. *Journal of Photochemistry and Photobiology A: Chemistry,* 433: 114155. doi: 10.1016/j.jphotochem.2022.114155
5) **Korać Jačić J.**, Nikolić Lj., Stanković DM., Opačić M., Dimitrijević M., Savić D., Grgurić-Šipka S., Spasojević I., Bogdanović Pristov J. (2020) Ferrous iron binding to epinephrine promotes the oxidation of iron and impedes activation of adrenergic receptors. Free Radical Biology and Medicine, 148: 123-127.
6) **Korać J.**, Stanković DM., Stanić M., Bajuk-Bogdanović D., Žižić M., Bogdanović Pristov J., Grgurić-Šipka S., Popović-Bijelić A., Spasojević I. (2018) Coordinate and redox interactions of epinephrine with ferric and ferrous iron at physiological pH. Scientific Reports, 8: 3530.
7) **Korać J.**, Todorović N., Zakrzewska J., Žižić M., Spasojević I. (2018) The conformation of epinephrine in polar solvents: an NMR study. Structural Chemistry, 29: 1533-1541.
8) Bozic B., **Korac J.**, Stankovic DM., Stanic M., Romanovic M., Bogdanovic-Pristov J., Spasic S., Popovic-Bijelic A., Spasojevic I., Bajcetic M. (2018) Coordination and redox interactions of beta-lactam antibiotics with Cu2+ in physiological settings and the impact on antibacterial activity. Free Radical Biology and Medicine, 129: 279-285.

9) Božić B., **Korać J.**, Stanković DM., Stanić M., Popović-Bijelic A., Bogdanović Pristov J., Spasojević I., Bajčetić M. (2017) Mechanisms of redox interactions of bilirubin with copper and the effects of penicillamine. Chemico-Biological Interactions, 278: 129-134.
10) Stevic N., **Korac J.**, Pavlovic J., Nikolic M. (2016). Binding of transition metals to monosilicic acid in aqueous and xylem (Cucumis sativus L.) solutions: A low-T electron paramagnetic resonance study. BioMetals 29: 945-951.
11) Rašković B., Babić N., **Korać J.**, Polović N. (2015) The evidence of β-sheet structure induced kinetic stability of papain upon thermal and sodium dodecyl sulphate denaturation. Journal of the Serbian Chemical Society, 80: 613-625.