

## PERSONAL INFORMATION

Name and surname	Žiko Milanović
Date and place of birth	17.03.1994., Prijepolje
Scientific title	Research assistant
E-mail	<a href="mailto:ziko.milanovic@uni.kg.ac.rs">ziko.milanovic@uni.kg.ac.rs</a> <a href="mailto:ziko.milanovic@pmf.kg.ac.rs">ziko.milanovic@pmf.kg.ac.rs</a>
Educational-scientific / educational-artistic field	Natural sciences
University, Faculty, Organizational unit	University of Kragujevac, Institute for Information Technologies
Research field and areas	Chemistry, Organic Chemistry

## EDUCATION

### BACHELOR

Year	2013 – 2017
Place	Novi Pazar
Institution	State university of Novi Pazar, Department of Chemical- Technological sciences

### MASTER STUDIES

Year	2017 – 2018
Place	Kragujevac
Institution	Faculty of Science, University of Kragujevac

### DOCTORAL DISSERTATION

Year	2018
Place	Kragujevac
Institution	Faculty of Science, University of Kragujevac
Title of doctoral dissertation	Structural and antioxidant properties of newly synthesized phenol derivatives of 4,7- dihydroxycumarin

Scientific title	–
Research area	Chemistry, Organic chemistry

### PROFESSIONAL BIOGRAPHY – ELECTION IN RESEARCH OR SCIENTIFIC TITLE

Date	Institution	Scientific title
16.01.2019.	Faculty of Science, University of Kragujevac	Junior research assistant
17.01.2021.	Institute for Information Technologies, University of Kragujevac	Research assistant

### PROFESSIONAL BIOGRAPHY - TRAINING

Year	Institution	Duration
2021.	University of Applied Sciences, Merseburg, Germany	3 months
2022.	University of Applied Sciences, Merseburg, Germany	3 months

### PARTICIPATION IN NATIONAL PROJECTS FINANCED BY MINISTRY OF EDUCATION/MINISTRY OF SCIENCE AND TECHNOLOGICAL DEVELOPMENT/SCIENCE FUND OF THE REPUBLIC OF SERBIA:

National projects financed by Ministry of science of the Republic of Serbia:  
 2019: The national project of the Ministry of Education, Science and Technological Development under title “Structure and Dynamics of the molecular systems in ground and excited molecular states” No. 172015.

### PARTICIPATION IN INTERNATIONAL PROJECTS

**2020:** ERASMUS+ project KA103 STT - Learning Mobility of Individuals- Dipartimento DiChimica E Tecnologie Chimiche.

## MEMBERSHIP IN SCIENTIFIC AND PROFESSIONAL ASSOCIATIONS

- Society of Physical Chemists of Serbia.
- Society of Biologists of Serbia.
- Serbian Society for Computational Mechanics.

## ORGANIZATION OF NATIONAL/INTERNATIONAL SCIENTIFIC MEETINGS (CONFERENCES, CONGRESSES...)

Member of the organizing committee of the *1<sup>st</sup> International Conference on Chemo and BioInformatics*, Kragujevac, Serbia, 2021.

## LIST OF SCIENTIFIC PAPERS:

Monographs, Monographic studies, Thematic anthologies	Sum
–	
Papers published in scientific journals of international scientific importance	Sum
	18
<ol style="list-style-type: none"><li>1. <b>Žiko Milanović</b>, Dušan Dimić, Marko Antonijević, Milan Žižić, Dejan Milenković, Edina Avdović, Zoran Marković. Influence of acid-base equilibria on the rate of the chemical reaction in the advanced oxidation processes: Coumarin derivatives and hydroxyl radical. <i>Chemical Engineering Journal</i>, 453 (2023) 139648. DOI: 10.1016/j.cej.2022.139648, ISSN: 1385-8947, IF<sub>2021</sub>=16.744, 4/143; <b>M21a</b>; area: Engineering, Chemical.</li><li>2. Ana Amić, Jasmina Dimitrić Marković, Zoran Marković, Dejan Milenković, <b>Žiko Milanović</b>, Marko Antonijević, Denisa Mastilák Cagardová, Jaime Rodríguez-Guerra Pedregal, Theoretical Study of Radical Inactivation, LOX Inhibition, and Iron Chelation: The Role of Ferulic Acid in Skin Protection against UVA Induced Oxidative Stress. <i>Antioxidants</i>, 10 (2021) 1303. DOI: 10.3390/antiox10081303, ISSN: 2076-3921, IF<sub>2021</sub>=7.675, 4/63; <b>M21a</b>; area: Chemistry, Medicinal).</li></ol>	

3. **Žiko Milanović**, Dušan Dimić, Milan Žižić, Zoran Marković, Edina Avdović, Mechanism of antiradical activity of newly synthesized 4,7-dihydroxycoumarinderivatives-experimental and kinetic DFT study, *International Journal of Molecular Science*, 22 (24) 2021. DOI: 10.3390/ijms222413273, ISSN: 1422-0067, IF<sub>2021</sub> = 6.208, 50/180; **M21**; area: Chemistry, Multidisciplinary).
4. Marko Antonijević, Edina Avdović, Dušica Simijonović, **Žiko Milanović**, Ana Amić, Zoran Marković, Radical Scavenging Activity and Pharmacokinetic Properties of Coumarin-Hydroxybenzohydrazide Hybrids. *International journal of molecular sciences*, 23 (1) 2022. DOI: 10.3390/ijms23010490, ISSN: 1422-0067, IF<sub>2021</sub> = 6.208, 50/180; **M21**; area: Chemistry, Multidisciplinary).
5. Dušan Dimić, **Žiko Milanović**, Goran Jovanović, Dragana Sretenović, Dejan Milenković, Zoran Marković, Jasmina Dimitric Marković, Comparative Antiradical Activity and Molecular Docking/Dynamics Analysis of Octopamine and Norepinephrine: the Role of OH Groups. *Computational Biology and Chemistry*, 84 (2020) 107170. DOI: 10.1016/j.compbiolchem.2019.107170, ISSN: 1476-9271, IF<sub>2020</sub> = 2.877, 59/112; **M22**; area: Computer Science, Interdisciplinary Applications).
6. D. Ramarajan, **Žiko Milanović**, Dejan Milenković, Zoran Marković, K. Tamilarasan, E. Kavitha, S. Sudha, Vibrational spectroscopic studies (FT-IR and FT-Raman) and molecular dynamics analysis of industry inspired 3-amino-4-hydroxybenzene sulfonic acid. *Journal of Molecular Structure*, 1205 (2020) 127579. DOI: 10.1016/j.molstruc.2019.127579, ISSN: 0022-2860, IF<sub>2020</sub> = 3.196; 92/159; **M22**; area: Chemistry, Physical).
7. Edina Avdović, **Žiko Milanović**, Marko Živanović, Dragana Šeklić, Ivana Radojević, Ljiljana Čomić, Srećko Trifunović, Ana Amić, Zoran Marković, Synthesis, spectroscopic characterization, biological activity, DFT and molecular docking study of novel 4-hydroxycoumarine derivatives and corresponding palladium (II) complexes. *Inorganica Chimica Acta*, 504 (2020) 119465. DOI: 10.1016/j.ica.2020.119465, ISSN: 0020-1693, IF<sub>2020</sub> = 2.545; 19/45; **M22**; област: Chemistry, Inorganic & Nuclear).

8. Dejan Milenković, Edina Avdović, Dušan Dimić, S. Sudha, D. Ramarajan, **Žiko Milanović**, Srećko Trifunović, Zoran Marković, Vibrational and Hirshfeld surface analyses, quantum chemical calculations, and molecular docking studies of coumarin derivative 3-(1-m-toluidinoethylidene)-chromane-2,4-dione and its corresponding palladium(II) complex. *Journal of Molecular Structure*, 1209 (2020) 127935. DOI: 10.1016/j.molstruc.2020.127935, ISSN: 0022-2860, IF<sub>2020</sub> = 3.196; 92/159; **M22**; area: Chemistry, Physical).
9. **Žiko Milanović**, Dušan Dimić, Edina Avdović, Dejan Milenković, Jasmina Dimitrić Marković, Olivera Klisurić, Srećko Trifunović, Zoran Marković, Synthesis and comprehensive spectroscopic (X-ray, NMR, FTIR, UV-Vis), quantum chemical and molecular docking investigation of 3-acetyl-4 hydroxy 2-oxo-2H-chromen-7-yl acetate. *Journal of Molecular Structure*, 1225 (2021) 129256. DOI: 10.1016/j.molstruc.2020.129256, ISSN: 0022-2860, IF<sub>2021</sub> = 3.841; 83/165; **M22**; area: Chemistry, Physical).
10. **Žiko Milanović**, Jelena Tošović, Svetlana Marković, Zoran Marković, Comparison of the scavenging capacities of phloroglucinol and 2,4,6-trihydroxypyridine towards HO· radical: a computational study. *RSC Advances*, 10 (2020) 43262-43272. DOI: 10.1039/d0ra08377a, ISSN: 2046-2069, IF<sub>2020</sub> = 3.361; 81/178; **M22**; област: Chemistry, Multidisciplinary).
11. **Žiko Milanović**, Marko Antonijević, Ana Amić, Edina Avdović, Dušan Dimić, Dejan Milenković, Zoran Marković, Inhibitory activity of quercetin, its metabolite, and standard antiviral drugs towards enzymes essential for SARS-CoV-2: the role of acid-base equilibria. *RSC Advances*, 11 (2021), 2838-2847. DOI: 10.1039/d0ra09632f, ISSN: 2046-2069, ISSN: 2046-2069, IF<sub>2021</sub> = 4.036; 75/180; **M22**; област: Chemistry, Multidisciplinary).
12. Edina Avdović, Dušan Dimić, Marek Fronc, Jozef Kozisek, Erik Klein, **Žiko Milanović**, Ana Kesić, Zoran Marković, Structural and theoretical analysis, molecular docking/dynamics investigation of 3-(1-m-chloridoethylidene)-chromane-2,4-dione: the role of chlorine atom. *Journal of Molecular Structure*, 2021, 129962. DOI:

- 10.1016/j.molstruc.2021.129962, ISSN: 2046-2069, ISSN: 2046-2069, IF<sub>2021</sub> = 3.841; 83/165; **M22**; област: Chemistry, Multidisciplinary).
13. **Žiko B. Milanović**, Zoran S. Marković, Dušan S. Dimić, Olivera R. Klisurić, Ivana D. Radojević, Dragana S. Šeklić, Marko N. Živanović, Jasmina Dimitrić Marković, Milanka Radulović, Edina H. Avdović, Synthesis, structural characterization, biological activity and molecular docking study of 4,7-dihydroxycoumarin modified by aminophenol derivatives. *Comptes Rendus. Chimie*, 24 (2021), 215-232. DOI: 10.5802/crchim.68, ISSN: 1631-0748, IF<sub>2020</sub> = 3.117; 88/178; **M22**; area: Chemistry, Multidisciplinary).
  14. Edina Avdović, **Žiko Milanović**, Krešimir Molčanov, Sunčica Roca, S., Dražen Vikić-Topić, Eimina Mrkalić, Ratomir Jelić, Zoran Marković, Z. S. (2022). Synthesis, characterization and investigating the binding mechanism of novel coumarin derivatives with human serum albumin: Spectroscopic and computational approach. *Journal of Molecular Structure*, 1254 (2022), 132366. DOI: 10.1016/j.molstruc.2022.132366, ISSN: 0022-2860, IF<sub>2021</sub> = 3.841; 83/165; **M22**; area: Chemistry, Physical).
  15. Filip Stašević, **Žiko Milanović**, Jelena Tošović, Jelena Đurđević Nikolić, Svetlana Marković, What Happens When Two Radicals Meet? A Practical Approach to Free Radical Reaction Mechanisms. *Journal of Chemical Education* (2022), DOI: <https://doi.org/10.1021/acs.jchemed.2c00622>, IF<sub>2021</sub>=3.208; 95/180; **M22**; area: Chemistry, Multidisciplinary).
  16. **Žiko Milanović**, Dušan Dimić, Jasmina Dimitrić Marković, Marijana Stanojević Pirković, Edina Avdović, Zoran Marković, The Interaction of Protonated Octopamine and Norepinephrine with  $\beta$ 1-Adrenergic Receptor: Molecular Docking and Dynamical Simulation. *Journal of the Serbian Society for Computational Mechanics*, Special issue (2020) 13-25, DOI: 10.24874/jsscm.2020.01.02.
  17. **Žiko Milanović**, Marko Antonijević, Jelena Đorović, Dejan Milenković, Comparative Antiradical Activity and Molecular Docking Study of Bergaptol and Xanthotoxol. *Journal of the Serbian Society for Computational Mechanics*, Special issue (2020) 71-84, DOI: 10.24874/jsscm.2020.01.07.

18. Dejan Milenković, Jelena Đorović, Edina Avdović, **Žiko Milanović**, Marko Antonijević, Thermodynamic and Kinetic Investigation of Antiradical Potential of Cyanidin. *Journal of the Serbian Society for Computational Mechanics*, Special issue (2020) 85-95. DOI: 10.24874/jsscm.2020.01.08.

**Proceedings of international scientific conferences**

**Sum  
23**

1. **Žiko Milanović**, Marko Antonijević, Jelena Đorović Jovanović, Edina Avdović, Dejan Milenković, Zoran Marković, Influence of nonpolar medium on antioxidant capacity of bergaptol and xanthoxol - kinetic DFT study. *The 24<sup>th</sup> International Electronic Conference on Synthetic Organic Chemistry*, 2020, DOI: 10.3390/ecsoc-24-08100.
2. Marko Antonijević, Jelena Đorović Jovanović, **Žiko Milanović**, Dejan Milenković, Edina Avdović, Dušica Simijonović, Zorica Petrović, Zoran Marković, Antiradical activity of (E)-N'-(1-(2,4-dioxochroman-3-yl)ethyl)-4 hydroxybenzohydrazide-thermodynamic DFT study. *The 24<sup>th</sup> International Electronic Conference on Synthetic Organic Chemistry*, 2020, DOI: 10.3390/ecsoc-24-08372.
3. Edina Avdović, **Žiko Milanović**, Milanka Radulović, Dušan Dimić, Antimicrobial activity of 3-(1-(3-hydroxyphenyl)-amino)-ethylidene)-chroman-2,4-dione and its corresponding palladium(II) complex; *1<sup>st</sup> International Conference on Chemo and BioInformatics*, Kragujevac, Serbia, 2021, p.387-390. ISBN: 978-86-82172-01-7. DOI: 10.46793/ICCBI21.387A.
4. Marko Antonijević, **Žiko Milanović**, Dušica Simijonović, Zoran Marković, Snežana Bogosavljević Bošković, Antioxidative potency and radical scavenging activity of selected coumarin-hybrids; *1<sup>st</sup> International Conference on Chemo and BioInformatics*, Kragujevac, Serbia, 2021, p.458-461. ISBN: 978-86-82172-01-7. DOI: 10.46793/ICCBI21.458A.
5. **Žiko Milanović**, Edina Avdović, Marko Antonijević, Zoran Marković, Direct scavenging activity of 4,7-dihydroxycoumarin derivative towards series of chloromethylperoxy radicals; *1<sup>st</sup> International Conference on Chemo and BioInformatics*, Kragujevac,

Serbia, 2021, p.462-465. ISBN: 978-86-82172-01-7. DOI: 10.46793/ICCBI21.462M.

6. **Žiko Milanović**, Edina Avdović, Dušica Simjonović, Zoran Marković, Estimation of Antiradical Properties of Series of 4,7-Dihydroxycoumarin Derivatives towards DPPH Radical-experimental and DFT Study; *The 21<sup>st</sup> IEEE International Conference on BioInformatics and BioEngineering*, Kragujevac, Serbia, 2021. ISBN: 978-86-81037-69-0. DOI: 10.1109/BIBE52308.2021.9635257.
7. Dušan Dimić, Edina Avdović, **Žiko Milanović**, Milanka Radulović, Dušica Simjonović, Marijana Stanojević Pirković, Structural, Antimicrobial, and Molecular Docking Study of 3-(1-(4-Hydroxyphenyl)-Amino) Ethylidene) Chroman-2,4-Dione and its Corresponding Pd Complex; *The 21<sup>st</sup> IEEE International Conference on BioInformatics and BioEngineering*, Kragujevac, Serbia, 2021. ISBN: 978-86-81037-69-0, DOI: 10.1109/BIBE52308.2021.9635500.
8. **Žiko Milanović**, Edina Avdović, Marko Antonijević, Zoran Marković, Potential inhibitory effect of coumarin palladium (II) complexes on SARS-CoV-2 Main Protease; *15<sup>th</sup> International Conference on Fundamental and Applied Aspects of Physical Chemistry*, Belgrade, Serbia, 2021, p.355, Volume II, ISBN: 978-86-82475-39-2.
9. Dušan Dimić, Edina Avdović, Dragana Sretenović, **Žiko Milanović**, Goran Kaluđerović, Jasmina Dimitrić Marković, Crystallographic and dft structural analysis of octopamine-coumarin derivative; *15<sup>th</sup> International Conference on Fundamental and Applied Aspects of Physical Chemistry*, Belgrade, Serbia, 2021, p.95, Volume I, ISBN: 978-86-82475-38-5.
10. Jelena Đorović Jovanović, Dejan Milenković, **Žiko Milanović**, Marko Antonijević, Zoran Marković, Antiradical potency of cynodontin toward hydroxyl radical; *15<sup>th</sup> International Conference on Fundamental and Applied Aspects of Physical Chemistry*, Belgrade, Serbia, 2021 p.347, Volume II, ISBN: 978-86-82475-39-2.
11. **Žiko Milanović**, Dejan Milenković, Zoran Marković, Comparative study of antioxidant activities of catechol, protocatehuic acid and 3,4-dihydroxypyridine; *4<sup>th</sup> South-East European Conference on*



*Computational Mechanics*, Kragujevac, Serbia, 2017, p.25. ISBN:978-86-921243-0-3.

12. **Žiko Milanović**, Jelena Đorović, Zoran Marković, Ana Amić, Svetlana Jeremić, Inactivation of free radical species with selected triazoles. *Belgrade BioInformatics Conference 2018*, Belgrade, Serbia, 2018, p.120, ISSN:2334-6590.
13. Zoran Marković, **Žiko Milanović**, Dušan Dimić, Jasmina Dimitrić Marković, Marijana-Stanojević-Pirković, The interaction of protonated octopamine and norepinephrine with  $\beta$ 1-adrenergic receptor: Molecular docking and dynamical simulation, *8<sup>th</sup> International Conference on Computational Bioengineering*, Belgrade, Serbia, 2018, p.71-72, ISBN: 978-86-81037-75-1(UK).
14. Zoran Marković, Edina Avdović, **Žiko Milanović**, Dejan Milenković, Svetlana Jeremić, Srećko Trifunović, Vibrational spectroscopy study of coumarine-derived ligand 3-(1-(o-toluidino)ethylidene)-chroman-2,4-dione: A combined theoretical and experimental investigation. *8<sup>th</sup> International Conference on Computational Bioengineering*, Belgrade, Serbia, 2018, p.85-86, ISBN 978-86-81037-75-1 (UK).
15. Zoran Marković, Sanida Šemović, **Žiko Milanović**, Ana Amić, Svetlana Jeremić, Scavenger capacity of the 1,2,4-trihydroxyxanthone toward hydroxyl, hydroperoxyl and methylperoxyl radicals. *8<sup>th</sup> International Conference on Computational Bioengineering*, Belgrade, Serbia, 2018, p.87, ISBN 978-86-81037-75-1(UK).
16. Edina Avdović, Danijela Stojković, Marko Živanović, **Žiko Milanović**, Dejan Milenković, Dušan Dimić, Zoran Marković, Synthesis and biological activity of new coumarin derivative, *XXI Mendeleev Congress on General and Applied Chemistry, Saint Petersburg, Russia*, 2019, p.108, ISBN: 978-5-6043248-4-4.
17. Dejan Milenković, Dušan Dimić, Edina Avdović, Jelena Đorović Jovanović, **Žiko Milanović**, Marko Antonijević, Jasmina Dimitrić-Marković, Zoran Marković, Neurotransmitter-coumarin derivatives as potential SARS-CoV-2 main protease inhibitors, *6<sup>th</sup> International Electronic Conference on Medicinal Chemistry*, 2020, DOI: 10.3390/ECMC2020-07308.
18. Jelena Đorović Jovanović, Marko Antonijević, **Žiko Milanović**, Edina Avdović, Dejan Milenković, Ana Amić, Marijana Stanojević-Pirković and Zoran Marković, Potential antioxidative and inhibitory activity

of parietin, *6<sup>th</sup> International Electronic Conference on Medicinal Chemistry*, 2020, DOI: 10.3390/ECMC2020-07297.

19. **Žiko Milanović**, Ana Kesić, Dejan Milenković, Edina Avdović, Zoran Marković, Inhibitor potential of some Au(III) complexes against SARS-CoV-2 Spike Glycoprotein: A Molecular Docking Study. *Belgrade BioInformatics Conference 2021*, Vinča, Belgrade, Serbia, 2021, p.123, ISSN:2334-6590.
20. **Žiko Milanović**, Marko Antonijević, Edina Avdović, Dejan Milenković, Zoran Marković, Time Dependent Density Functional Theory simulation of the UV-Vis absorption spectra of 4,7-dihydroxycoumarin derivatives, *14<sup>th</sup> Conference of the Society of Physicists of Macedonia*, Ohrid, Republic North Macedonia, 15–18 September, 2022, p. 45
21. Marko Antonijević, **Žiko Milanović**, Dušica Simijonović, Jelena Đorović, Jovanović, Zoran Marković, Application of density functional theory for structural and quantum chemical investigation of coumarin-hydroxybenzo-hydrazide hybrids, *14<sup>th</sup> Conference of the Society of Physicists of Macedonia*, Ohrid, Republic North Macedonia, 15–18 September, 2022, p.44.
22. **Žiko Milanović**, Jelena Đorović Jovanović, Dejan Milenković, Zoran Marković, Application of molecular modeling for predicting new structures of potential drugs; *1<sup>st</sup> Serbian International Conference on Applied Artificial Intelligence (SICAAI) Kragujevac*, Serbia, May 19-20, 2022, ISBN: 978-86-81037-71-3.
23. Marko Antonijević, **Žiko Milanović**, Edina Avdović, Dušica Simijonović, Zoran Marković, Application of artificial intelligence in the design of warfarin derivatives to overcome VKOR1 mutation-induced warfarin resistance; *1<sup>st</sup> Serbian International Conference on Applied Artificial Intelligence (SICAAI) Kragujevac*, Serbia, May 19-20, 2022, ISBN: 978-86-81037-71-3.

**Proceedings of national scientific conferences**

**Sum  
18**

1. Zoran Marković, Dženeta Numanović, Marko Antonijević, Dejan Milenković, Edina Avdović, **Žiko Milanović**; Komparativna studija

7-hidroksikumarina i 6,7-dihidroksikumarina; *XXIV Savetovanje o biotehnologiji*, Čačak, Srbija, 2019, str. 809. ISBN: 978-86-87611-68-9.

2. Zoran Marković, Edina Avdović, Dejan Milenković, Dušan Dimić, Svetlana Jeremić, Jelena Đorović, **Žiko Milanović**; Ispitivanje protein-ligand interakcija humane tirozil-DNK fosfodiesteraze 1 i 3-(1-(2-hidroksifenil)amino)etiliden)hroman-2,4-diona; *XXIV Savetovanje o biotehnologiji*, Čačak, Srbija, 2019, str. 815. ISBN: 978-86-87611-68-9.
3. **Žiko Milanović**, Zoran Marković; Inhibitory effect of 3-(1-(3-hydroxypropylamino)ethylidene)chroman-2,4-dione on Epidermal Growth Factor Receptor (EGFR): Molecular docking and molecular dynamic study; *XI Conference of agronomy students*, Čačak, Serbia, 2019, p.388-396, ISSN: 2334-9883.
4. **Žiko Milanović**, Ana Kesić, Edina Avdović, Jelena Đorović Jovanović, Dejan Milenković; Uticaj pH vrednosti na antiradikalni kapacitet 4,7-dihidroksikumarina; *XXVI Savetovanje o biotehnologiji*, Čačak, Srbija, 2021, str. 481. ISBN: 978-86-87611-80-1. DOI: 10.46793/SBT26.481M.
5. **Žiko Milanović**, Marko Antonijević, Ana Kesić, Dušan Dimić, Jelena Đorović Jovanović; Antioksidativni kapacitet antrahinona iz biljke *Rubia Cordifolia* Linn; *XXVI Savetovanje o biotehnologiji*, Čačak, Srbija, 2021, str. 481. ISBN: 978-86-87611-80-1. DOI: 10.46793/SBT26.487M.
6. **Žiko Milanović**, Edina Avdović, Dejan Milenković, Zoran Marković; Inhibitory effect of coumarin derivate on Vitamin K Epoxide Reductases (VKOR) responsible for anticoagulation effect; *8<sup>th</sup> International Congress of Serbian Society of Mechanics*. Kragujevac, Serbia, 2021, p.245-252, ISBN: 978-86-909973-8-1.
7. **Žiko Milanović**, Marko Antonijević, Svetlana Jeremić, Jelena Đorović Jovanović, Dejan Milenković; Napredni procesi oksidacije hlorfenolnih jedinjenja iz otpadnih voda-kinetička DFT studija; *XXVII Savetovanje o biotehnologiji*, Čačak, Srbija, 2022, str. 321. ISBN: 978-86-87611-86-3. DOI: 10.46793/SBT27.321M.
8. Marko Antonijević, **Žiko Milanović**, Edina Avdović, Dušica Simjonović, Zoran Marković; Another look at the biological roles of a plant alkaloid berberine; *XXVII Savetovanje o biotehnologiji*, Čačak, Srbija, 2022, str. 321. ISBN: 978-86-87611-86-3. DOI: 10.46793/SBT27.455A.

9. **Žiko Milanović**, Dejan Milenković, Zoran Marković, Comparative study of antioxidant activities of trihydroxypyridines and pyrogallol. *24<sup>th</sup> Conference of Serbian crystallographic society*, Vršac, Serbia, 2017, p.23, ISBN:978-86-912959-3-6.
10. Edina Avdović, Jelena Đorović, Dejan Milenković, **Žiko Milanović**, Dušan Dimić, Jasmina Dimitrić Marković, Ljubinka Joksović, Ana Amić; Antioksidativna aktivnost odabranih triazola; *Drugi kongres biologa Srbije, Srpsko biološko društvo*, Kladovo, Srbija, 2018, str. 24. ISBN: 978-86-81413-08-1.
11. **Žiko Milanović**, Edina Avdović, Srećko Trifunović, Svetlana Jeremić, Zoran Marković, Investigation interaction between a palladium (II) complexes with a coumarin ligands and substance P receptor; *7<sup>th</sup> International Congress of Serbian Society of Mechanics*, Sremski Karlovci, Serbia, 2019, p.168-169, ISBN: 978-86-909973-7-4.
12. **Žiko Milanović**, Edina Avdović, Srećko Trifunović, Zoran Marković, Molecular docking and molecular dynamic investigation of interactions between thyroid hormone receptor alpha (TR-alpha) and new coumarine derivatives, *7<sup>th</sup> International Congress of Serbian Society of Mechanics*. Sremski Karlovci, Serbia, 2019, p.170-171, ISBN: 978-86-909973-7-4.
13. Dejan Milenković, Ana Amić, Zoran Marković, **Žiko Milanović**, Structure and reactivity of folic acid, *7<sup>th</sup> International Congress of Serbian Society of Mechanics*. Sremski Karlovci, Serbia, 2019, p.148-150, ISBN: 978-86-909973-7-4.
14. **Žiko Milanović**, Edina Avdović, Dušan Dimić, Dejan Milenković, Zoran Marković, Cytotoxic activity evaluation, molecular docking and molecular dynamics study of the newly synthesized 3-acetyl-4-hydroxycoumarin derivatives. *18<sup>th</sup> Young Researchers Conference – Materials Science and Engineering*, December 4-6, 2019, Belgrade, Serbia, p.26, ISBN: 978-86-80321-35-6.
15. **Žiko Milanović**, Dušan Dimić, Ana Kesić, Dejan Milenković; Substituent effect on the binding mode and toxicity of selected 1,4-benzodiazepin-2-one; *8<sup>th</sup> International Congress of Serbian Society of Mechanics*. Kragujevac, Serbia, 2021, p.253-254, ISBN: 978-86-909973-8-1.
16. Edina Avdović, Krešimir Molčanov, **Žiko Milanović**, Marko Antonijević, Dušica Simjonović, Dejan Milenković, Zoran Marković,

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<b>Monographs of national importance</b>	<b>Sum</b>
–	
<b>Scientific papers in national journals</b>	<b>Sum</b>
	<b>2</b>
<p>1. <b>Žiko Milanović</b>, Jelena Tošović, Svetlana Marković, Test za procenu ukupne antioksidativne aktivnosti zasnovan na kvantno mehničkim proračunima- QM-ORSA protokol, <i>Hemijski pregled</i>, 2019 (60) , 32-36, ISSN: 04406826.</p> <p>2. Svetlana Marković, Slađana Đorđević, Izudin Redžepović, <b>Žiko Milanović</b>, Simuliranje hemijskih spektara pomoću softvera za molekulske modeliranje, <i>Hemijski pregled</i>, 2019 (60), 90-95, ISSN: 04406826.</p>	
<b>Technical solutions</b>	<b>Sum</b>
–	
<b>Patents</b>	<b>Sum</b>
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## CITATION OF SCIENTIFIC PAPERS

- SCOPUS: 172 citations (149 without self-citations); *h*-index: 7.
- Google Scholar: 196 citations; *h*-index: 9.

#### **BRIEF DESCRIPTION OF RESEARCH IN THE PREVIOUS PERIOD**

The synthesis, characterization, and evaluation of the biological activity of various coumarin derivatives have been the focus of recent research. In order to assess the structural properties and possible reactivity and stability of the chemical, the newly synthesized derivatives performed NBO and QTAIM research. Additionally, research during the previous time period included sophisticated computer methods and tools for molecular docking and molecular dynamics with the goal of evaluating inhibitory activity and rational drug design. By using the software, it was possible to predict how newly synthesized derivatives (potential drugs) will bind to their protein targets.

#### **BRIEF DESCRIPTION OF PLANNED RESEARCH IN THE NEXT PERIOD**

The antioxidant properties of recently synthesized coumarin derivatives will be investigated in future research. Application of spectroscopic methods (EPR) and standard assays for measuring antioxidant activity will be included of the examination (DPPH, ABTS, FRAP, CUPRAC). The use of sophisticated software applications for determining antioxidant activity mechanisms will be part of the examination. This will allow a thorough understanding of the antioxidant activity of substances by utilizing complementary research methods.