

## PERSONAL INFORMATION



## Violeta Marković

 Radoja Domanovica 12, 34000 Kragujevac, Serbia

 +381 34 336 223, ext. 251

 [violeta.markovic@pmf.kg.ac.rs](mailto:violeta.markovic@pmf.kg.ac.rs), [markovicvioleta@kg.ac.rs](mailto:markovicvioleta@kg.ac.rs)

Date of birth 02/07/1985 | Nationality Serbian

## WORK EXPERIENCE

September 2018 – to date

**Assistant Professor**

Faculty of Science, University of Kragujevac, Serbia; [www.pmf.kg.ac.rs](http://www.pmf.kg.ac.rs)

- Teaching: organic synthesis, organic chemistry, industrial chemistry, environmental chemistry, NMR and IR spectroscopy
- Research: synthesis, structural characterization and mechanistic studies of new heterocyclic, anthraquinone and adamantyl derivatives applying different spectroscopic and analytical techniques and DFT studies. Investigation of cytotoxic activity of newly synthesized compounds against human cancer cells, as well as the evaluation of their antioxidative potential. Total synthesis of natural compounds, and their corresponding synthetic analogues further used for the biological assays. Peptide design, synthesis, purification, characterization and activity evaluation (inhibition of protein-protein interactions using BLI (*Bio-Layer Interferometry*) and HTRF (*Homogeneous Time Resolved Fluorescence*) techniques).

July 2013 - September 2018

**Research Associate**

Faculty of Science, University of Kragujevac, Serbia; [www.pmf.kg.ac.rs](http://www.pmf.kg.ac.rs)

October 2008 - July 2013

**Research Assistant**

Faculty of Science, University of Kragujevac, Serbia; [www.pmf.kg.ac.rs](http://www.pmf.kg.ac.rs)

## EDUCATION

2019 – 2021

**Second postdoctoral study**

Wroclaw University of Science and Technology, Faculty of Chemistry, Department of Bioorganic Chemistry, supervised by professor Dr. Łukasz Berlicki (21 months)

2013 - 2014

**First postdoctoral study**

Sapienza, University of Rome, Department of Chemistry and Technology of Drug, Faculty of Pharmacy, supervised by professor Dr. Bruno Botta (10 months)

2011 - 2012

**PhD exchange program**

Sapienza, University of Rome, Department of Chemistry and Technology of Drug, Faculty of Pharmacy, supervised by professor Dr. Bruno Botta (6 months)

2008 - 2012

**PhD in Chemistry – Organic chemistry**

Doctoral studies at Faculty of Science, University of Kragujevac, Serbia

- Thesis title: "Synthesis, spectral characterization and mechanistic studies of new pyrazole and pyrazolone derivatives", supervised by professor Dr. Milan D. Joksović

2004 - 2008

**BSc degree in Chemistry**

Studies of chemistry at Faculty of Science, University of Kragujevac, Serbia

2000 - 2004

**First Grammar School of Kragujevac, Serbia**

## PERSONAL SKILLS

Mother tongue(s) Other language(s)	Serbian				
	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
English	B2	B2	B2	B2	B2
Italian	A2	A2	A2	A2	A2
Polish	A1	A1	A1	A1	A1

## Communicational / organisational skills

- good communicational and organisational skills gained through the experience as teaching assistant and researcher
- initiative, persistent, communicative, willing to teamwork, competitive, friendly sociable, responsible, reliable, well-organized

## Job-related skills

- good command of general synthetic techniques (including peptide microwave synthesis, preparative and analytical chromatography)
- good command of spectroscopic and analytical techniques (IR, NMR, MS, HPLC)

## ADDITIONAL INFORMATION

## Projects

National research projects:

- New electrochemical and chemical methods in the synthesis of organic molecules (12/2008 – 12/2010);
- Synthesis, modelling, physicochemical and biological properties of some organic compounds and corresponding metal complexes (01/2011 – 12/2019);
- Value added biologics through eco-sustainable routes, Project No. 7730810 (2022 – 2024)
- Deep eutectic solvents: A “green” route to benzimidazole-chalcone hybrids with potential antioxidant profile (2023-2024)

International research project:

- Peptide foldamer-based inhibitors of human ACE2 – SARS-CoV-2 S protein interaction (12/2020-7/2021)

## Awards

Award from the Serbian Chemical Society for extraordinary success during the studies of chemistry.

## Publications

1. I. Gutman, B. Furtula, B. Glišić, **V. Marković**, A. Vesel, Estrada index of acyclic molecules, *Indian Journal of Chemistry. Section A: Inorganic, physical, theoretical and analytical chemistry*, **46** (2007) 723-728.
2. I. Gutman, B. Furtula, **V. Marković**, B. Glišić, Alkanes with greatest Estrada index, *Zeitschrift fur naturforschung section A: Journal of physical sciences*, **62** (2007), 495-498.
3. M. D. Joksović, **V. Marković**, Z. D. Juranić, T. Stanojković, Lj. S. Jovanović, I. S. Damljanović, K. Meszaros Szecsenyi, N. Todorović, S. Trifunović, R. D. Vukicević, Synthesis, characterization and antitumor activity of novel N-substituted  $\alpha$ -amino acids containing ferrocenyl pyrazole-moiety, *Journal of Organometallic Chemistry*, **694**, (2009), 3935-3942.
4. M. D. Joksović, G. Bogdanović, V. Kojić, K. Meszaros Szecsenyi, V. M. Leovac, D. Jakimov, S. Trifunović, **V. Marković**, Lj. Joksović, Synthesis, cytotoxic activity, and thermal studies of novel N-[(1,3-Diphenylpyrazol-4-yl)methyl]  $\alpha$ -amino acids, *Journal of Heterocyclic Chemistry* **47** (2010) 850-856.
5. S. Marković, M. D. Joksović, P. Bombicz, V. M. Leovac, **V. Marković**, Lj. Joksović, Theoretical study on structural and mechanistic aspects of synthesis of a 3-aminopyrazole derivative, *Tetrahedron*, **66**, (2010), 6205-6211.
6. **V. Marković**, S. Erić, Z. D. Juranić, T. Stanojković, Lj. Joksović, B. Ranković, M. Kosanić, M. D. Joksović, Synthesis, antitumor activity and QSAR studies of some 4-aminomethylidene derivatives of edaravone, *Bioorganic Chemistry*, **39**, (2011), 18-27.
7. **V. Marković**, S. Erić, T. Stanojković, N. Gligorijević, S. Aranđelović, N. Todorović, S. Trifunović, N. Manojlović, R. Jelić, M. D. Joksović, Antiproliferative activity and QSAR studies of a series of new 4-aminomethylidene derivatives of some pyrazol-5-ones, *Bioorganic & Medicinal Chemistry Letters*, **21**, (2011), 4416-4421.
8. V. M. Leovac, G. A. Bogdanović, Lj. S. Jovanović, Lj. Joksović, **V. Marković**, M. D. Joksović, S. Misirlić Denčić, A. Isaković, I. Marković, F. W. Heinemann, S. Trifunović, I. Đalović, Synthesis, characterization and antitumor activity of polymeric copper(II) complexes with thiosemicarbazones of 3-methyl-5-oxo-1-phenyl-3-pyrazolin-4-carboxaldehyde and 5-oxo-3-phenyl-3-pyrazolin-4-carboxaldehyde, *Journal of Inorganic Biochemistry*, **105(11)**, (2011), 1413-1421.
9. **V. Marković**, S. Markovic, A. Janicijevic, M. V. Rodic, V. M. Leovac, N. Todorovic, S. Trifunovic, M. D. Joksovic, Mechanistic investigation and DFT calculation of the new reaction between S-methylisothiosemicarbazide and methyl acetoacetate, *Structural Chemistry*, **24**, (2013), 2127-2136.
10. **V. Marković**, A. Janićijević, T. Stanojković, B. Kolundžija, D. Sladić, M. Vujčić, B. Janović, Lj. Joksović, P. T. Djurdjević, N. Todorović, S. Trifunović, M. D. Joksović, Synthesis, cytotoxic activity and DNA-interaction studies of novel anthraquinone–thiosemicarbazones with tautomerizable methylene group, *European Journal of Medicinal Chemistry*, **64**, (2013), 228-238.
11. S. Marković, **V. Marković**, M. D. Joksović, N. Todorović, Lj. Joksović, V. Divjaković, S. Trifunović, Debromination of *endo*(+)-3-bromocamphor with primary amines, *Journal of the Brazilian Chemical Society*, **24(7)**, (2013), 1099-1108.
12. **V. Marković**, M. D. Joksović, S. Marković, I. Jakovljević, Influence of anthraquinone scaffold on *E/Z* isomer distribution of two thiosemicarbazone derivatives. 2D NMR and DFT studies, *Journal of Molecular Structure*, 1058, (2014), 291-297.
13. B. Kolundžija, **V. Marković**, T. Stanojković, Lj. Joksović, I. Matić, N. Todorović, M. Nikolić, M. D. Joksović, Novel anthraquinone based chalcone analogues containing an imine fragment: Synthesis, cytotoxicity and anti-angiogenic activity, *Bioorganic & Medicinal Chemistry Letters*, **24(1)**, (2014), 65-71.
14. **V. Marković**, N. Debeljak, T. Stanojković, B. Kolundžija, D. Sladić, M. Vujčić, B. Janović, N. Tanić, M. Perović, V. Tešić, J. Antić, M. D. Joksović, Anthraquinone-chalcone hybrids: Synthesis, preliminary antiproliferative evaluation and DNA-interaction studies, *European Journal of Medicinal Chemistry*, **89**, (2015), 401-410.
15. V.M. Leovac, M.V. Rodić, Lj.S. Jovanović, M.D. Joksović, T.P. Stanojković, M.T. Vujčić, D.M. Sladić, **V. Marković**, Lj.S. Vojinović-Ješić, Transition metal complexes with 1-adamantoyl hydrazones - cytotoxic copper(II) complexes of tri- and tetradentate pyridine chelators containing an adamantane ring system, *European Journal of Inorganic Chemistry*, **5**, (2015), 882-895.
16. **V. Marković**, M.D. Joksović, "On water" synthesis of N-unsubstituted pyrazoles: semicarbazide hydrochloride as an alternative to hydrazine for preparation of pyrazole-3-carboxylate derivatives and 3,5-disubstituted pyrazoles, *Green Chemistry*, **17**, (2015), 842-847.
17. M.V. Rodić, V.M. Leovac, Lj.S. Jovanović, V. Spasojević, M.D. Joksović, T. Stanojković, I.Z. Matić, Lj.S. Vojinović-Ješić, **V. Marković**, Synthesis, characterization, cytotoxicity and antiangiogenic activity of copper(II) complexes with 1-adamantoyl hydrazone bearing pyridine rings, *European Journal of Medicinal Chemistry*, **115**, (2016), 75-81.
18. C. Ingallina, I. D'Acquarica, G. Delle Monache, F. Ghirga, D. Quaglio, P. Ghirga, S. Berardozzi, **V. Markovic**, B. Botta, The Pictet-Spengler reaction still on stage, *Current Pharmaceutical Design*, **22**, (2016), 1808-1850.
19. N. Ivanovic, Lj. Jovanovic, Z. Markovic, **V. Markovic**, M. D. Joksovic, D. Milenkovic, P. T. Djurdjevic, A. Ciric, Lj. Joksovic, Potent 1,2,4-triazole-3-thione radical scavengers derived from phenolic acids: synthesis, electrochemistry, and theoretical study, *ChemistrySelect*, **1**, (2016), 3870 – 3878.
20. M. Z. Milošev, K. Jakovljević, M. D. Joksović, T. Stanojković, I. Z. Matić, M. Perović, V. Tešić, S. Kanazir, M. Mladenović, M. V. Rodić, V. M. Leovac, S. Trifunović, **V. Marković**, Mannich bases of 1,2,4-triazole-3-thione containing adamantane moiety: synthesis, preliminary anticancer evaluation, and molecular modeling studies, *Chemical Biology & Drug Design*, **89**, (2017), 943 – 952.

21. N. Mihailovic, **V. Marković**, I. Z. Matic, N. S. Stanisavljevic, Z. S. Jovanovic, S. Trifunovic, Lj. Joksovic, Synthesis and antioxidant activity of 1,3,4-oxadiazoles and their diacylhydrazine precursors derived from phenolic acids, *RSC Advances*, **7**, (2017), 8550-8560.
22. K. Jakovljević, I. Z. Matic, T. Stanojković, A. Krivokuća, **V. Marković**, M. D. Joksović, N. Mihailović, M. Nićiforović, Lj. Joksović, Synthesis, antioxidant and antiproliferative activities of 1,3,4-thiadiazoles derived from phenolic acids, *Bioorganic & Medicinal Chemistry Letters*, **27**, (2017), 3709-3715.
23. T. Stanojković, **V. Marković**, I. Z. Matic, M. P. Mladenović, N. Petrović, A. Krivokuća, M. Petković, M. D. Joksović, Highly selective anthraquinone-chalcone hybrids as potential antileukemia agents, *Bioorganic & Medicinal Chemistry Letters*, **28**, (2018), 2593–2598
24. K. Jakovljević, M. D. Joksović, I. Z. Matic, N. Petrović, T. Stanojković, D. Sladić, M. T. Vujčić, B. S. Janović, Lj. G. Joksović, S. Trifunović, **V. R. Marković**, Novel 1,3,4-thiadiazole-chalcone hybrids containing catechol moiety: Synthesis, antioxidant activity, cytotoxicity and DNA interaction studies, *MedChemComm*, **9**, (2018), 1679-1697.
25. K. Jakovljević, M. D. Joksović, Bruno Botta, Lj. S. Jovanović, E. Avdović, Z. Marković, V. Mihailović, M. Andrić, S. Trifunović, **V. Marković**, Novel 1,3,4-thiadiazole conjugates derived from protocatechuic acid: Synthesis, antioxidant activity, and computational and electrochemical studies, *Comptes Rendus Chimie*, **22**, (2019), 585-598.
26. M. M. Petrović, C. Roschger, S. Chaudary, A. Zierer, M. Mladenović, K. Jakovljević, **V. Marković**, B. Botta, M. D. Joksović, Potent human dihydroorotate dehydrogenase inhibitory activity of new quinoline-4-carboxylic acids derived from phenolic aldehydes: Synthesis, cytotoxicity, lipophilicity and molecular docking studies, *Bioorganic Chemistry*, **105**, (2020), 104373.
27. M. M. Petrović, C. Roschger, S. Chaudary, A. Zierer, M. Mladenović, **V. Marković**, S. Trifunović, M. D. Joksović, Low cytotoxic quinoline-4-carboxylic acids derived from vanillin precursors as potential human dihydroorotate dehydrogenase inhibitors, *Bioorganic & Medicinal Chemistry Letters*, **46**, (2021), 128194.
28. C. Tortora, L. Pisano, V. Vergine, F. Ghirga, A. Iazzetti, A. Calcaterra, **V. Marković**, B. Botta, D. Quaglio, Synthesis, biosynthesis, and biological activity of Diels–Alder adducts from *Morus* genus: an update, *Molecules*, **27**, (2022), 7580.
29. T. P. Andrejević, D. P. Ašanin, B. V. Pantović, N. Lj. Stevanović, **V. R. Marković**, M. I. Djuran, B. Đ. Glišić, Metal complexes with valuable biomolecules produced by *Pseudomonas aeruginosa*: a review of the coordination properties of pyocyanin, pyochelin and pyoverdines, *Dalton Transactions*, **52**, (2023), 4276–4289.
30. **V. Marković**, J. B. Shaik, K. Ožga, A. Ciesiolkiewicz, J. Lizandra Perez, E. Rudzińska-Szostak, Ł. Berlicki, Peptide foldamer-based inhibitors of the SARS-CoV-2 S protein–human ACE2 interaction, *Journal of Enzyme Inhibition and Medicinal Chemistry*, **38**, (2023), 2244693.
31. **V. Marković**, A. Szczepańska, Ł. Berlicki, Antiviral protein–protein interaction inhibitors, *Journal of Medicinal Chemistry*, **67**, (2024), 3205–3231.
32. L. Pantelic, S. Skaro Bogojevic, T. P. Andrejević, B. V. Pantović, **V. R. Marković**, D. P. Ašanin, Ž. Milanović, T. Ilic-Tomic, J. Nikodinovic-Runic, B. Đ. Glišić, J. Lazic, Copper(II) and zinc(II) complexes with bacterial prodigiosin are targeting site III of bovine serum albumin and acting as DNA minor groove binders, *International Journal of Molecular Sciences*, **25**, (2024), 8395.

## Conferences

1. **V. Marković**, S. Erić, T. Stanojković, M. Joksović, Synthesis, antitumor activity and QSAR studies of 4-aminomethylidene derivatives of some pyrazol-5-ones, *Preclinical testing of active substances and cancer research, Kragujevac, Serbia, March 16-18, 2011, Book of Abstracts P1, p. 53*.
2. **V. Marković**, M.D. Joksović, Synthesis of a novel anthrone derivative containing 6-azathiouracyl moiety, *52nd Meeting of the Serbian Chemical Society, Novi Sad, Serbia, May 29 and 30, 2015, Book of Abstracts OH P 23 p. 137*.
3. K. Jakovljević, **V. R. Marković**, M. D. Joksović, T. Stanojković, Synthesis, characterization and cytotoxicity of novel anthraquinone amides, *53rd Meeting of the Serbian Chemical Society, Kragujevac, Serbia, June 10-11, 2016, Book of Abstracts OH P10 p. 108*.
4. **V. R. Marković**, K. Jakovljević, M. D. Joksović, I. Matic, Synthesis and biological screening of novel triazole Mannich bases, *53rd Meeting of the Serbian Chemical Society, Kragujevac, Serbia, June 10-11, 2016, Book of Abstracts OH O1 p. 94*.
5. **V. R. Marković**, M. D. Joksović, K. Jakovljević, Lj. S. Jovanović, E. Avdović, Z. Marković, V. Mihailović, Novel 1,3,4-thiadiazole conjugates derived from protocatechuic acid: Synthesis, antioxidant activity, computational study and electrochemistry, *56th Meeting of the Serbian Chemical Society, Niš, Serbia June 7-8, 2019, Book of Abstracts OH 12 p. 100*.
6. K. Jakovljević, **V. Marković**, M. D. Joksović, I. Z. Matic, T. Stanojković, Synthesis and biological activity of 1,3,4-thiadiazoles derived from phenolic acids, *International Meeting on Medicinal and Bio(in)organic Chemistry, Vrnjačka Banja, Serbia, August 26-31, 2017, Book of Abstracts p. 18*.
7. **V. Marković**, I. Matic, T. Stanojković, M. D. Joksović, K. Jakovljević, Novel 1,3,4-thiadiazole-chalcone hybrids containing antioxidant phenolic moiety: Synthesis and biological evaluation, *Sixth international conference on radiation and applications in various fields of research, Ohrid, Macedonia, June 18-22, 2018, CR3*.
8. **V. Marković**, Ł. Berlicki, Exploration of catalytic properties of mini-protein-based artificial retro-aldolases, *Advances in Chemical Biology, Virtual Conference, January 26-28, 2021*.

9. T. Todorović, J. Muškinja, **V. Marković**, Synthesis and spectral characterization of novel alizarin diacylhydrazines derived from vanillin, **59th Meeting of the Serbian Chemical Society, Novi Sad, Serbia, 1-2 June 2023, Book of Abstracts OH 10 p. 107.**
10. D. P. Ašanin, S. Vojnović, T. P. Andrejević, **V. R. Marković**, F. Perdić, I. Turel, M. I. Djuran, J. Nikodinović-Runic and B. Đ. Glišić, Structural characterization and antitumor activity of platinum(II) complexes with phenothiazine and N-methylphenothiazine, **16th International Symposium on Applied Bioinorganic Chemistry (16-ISABC), Ioannina, June 11-14, 2023, Greece, MM5, p.195.**
11. T. P. Andrejević, D. P. Ašanin, **V. R. Marković**, N. Lj. Stevanović, B. V. Pantović, B. Đ. Glišić and M. I. Djuran, Synthesis, structural characterization and DNA/BSA interactions of new silver(I) complex with N-methylphenothiazine, **16th International Symposium on Applied Bioinorganic Chemistry (16-ISABC), Ioannina, June 11-14, 2023, Greece, MC11, p.254.**
12. B. V. Pantović, T. P. Andrejević, D. P. Ašanin, N. Lj. Stevanović, **V. R. Marković** and B. Đ. Glišić, Synthesis and crystal structure of a silver(I) complex with N-methylphenothiazine, **28th Conference of the Serbian Crystallographic Society, Čačak, Serbia, June 14– 15, 2023, P26.**
13. **V. Marković**, T. Todorović, J. Muškinja, Synthesis and antioxidant activity of novel vanillin-based ferrocenyl chalcones, **2nd International Conference on Chemo and Bioinformatics, 28-29 September 2023, Kragujevac, Serbia.**
14. B. V. Pantović, T. P. Andrejević, **V. R. Marković**, D. P. Ašanin and B. Đ. Glišić DNA/BSA binding study of phenothiazine and its N-methyl-substituted derivative, **The 9th International Electronic Conference on Medicinal Chemistry, session Natural Products and Biopharmaceuticals, November 1 – 30, 2023, DOI: 10.3390/ECMC2023-15663.**
15. T. P. Andrejević, **V. R. Marković**, D. P. Ašanin, N. Lj. Stevanović, B. V. Pantović, M. G. Bogdanović, M. V. Rodić and B. Đ. Glišić, Synthesis, structural characterization and DNA/BSA interactions of new palladium(II) and platinum(II) complexes with N-benzylphenothiazine, **52nd Conference Synthesis and Analysis of Drugs, Hradec Králové, Czech Republic, September 19 – 20, 2024, P03, p7.**
16. **V. R. Marković**, J. Branković, V. Petrović, T. P. Andrejević, N. Lj. Stevanović, B. V. Pantović, D. P. Ašanin and B. Đ. Glišić, *In silico* assessment of silver(I) complex with N-methylphenothiazine against selected microbial strains, **52nd Conference Synthesis and Analysis of Drugs, Hradec Králové, Czech Republic, September 19 – 20, 2024, P22, p26.**
17. B. V. Pantović, T. P. Andrejević, N. Lj. Stevanović, **V. R. Marković**, D. P. Ašanin, T. Ilić-Tomić, J. Nikodinović-Runić and B. Đ. Glišić, Structural characterization and cytotoxicity of silver(I) complexes with N-methylphenothiazine, **52nd Conference Synthesis and Analysis of Drugs, Hradec Králové, Czech Republic, September 19 – 20, 2024, P28, p32.**
18. D. P. Ašanin, **V. R. Marković**, T. P. Andrejević, N. Lj. Stevanović, B. V. Pantović and B. Đ. Glišić, DNA/BSA interactions of palladium(II) complexes with phenothiazine and N-methylphenothiazine, **52nd Conference Synthesis and Analysis of Drugs, Hradec Králové, Czech Republic, September 19 – 20, 2024, P36, p41.**
19. T. Todorović, J. Muškinja, T. Stanojković, Ž. Žižak, **V. Marković**, Synthesis, characterization, and antitumor activity of alizarine derivatives, **13th Conference of the Serbian Biochemical Society, Kragujevac, Serbia, September 19-20, 2024, Book of Abstracts, p127.**