

Nevenka Gligorijević

Senior Research Associate

BIOGRAPHY:

DATE AND PLACE OF BIRTH: 15.12.1978., Beograd, Republic of Serbia

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EDUCATION AND DEGREES:

2007 - 2012 Doctor of Philosophy (PhD) in Analytical Chemistry, University of Belgrade, Faculty of Chemistry, Serbia; thesis: „**Investigation of antiproliferative and *in vitro* antimetastatic potential of picolinate ruthenium(II)-cymene complex: Comparison to a series of ruthenium(II)-arene complexes with similar structure**“

2003 - 2007 Master of Science (MSc) in Analytical Chemistry, University of Belgrade, Faculty of Chemistry, Serbia; thesis: ”**Investigation of cytotoxic activity of novel complexes of Pt(II) and Pd(II) on tumor cell lines in comparison to *cisplatin***”

1997 - 2003 Bachelor of Science (BSc) in Biochemistry, University of Belgrade, Faculty of Chemistry, Serbia;

POSITION HELD:

2003. Started working at Institute for Oncology and Radiology of Serbia (IORS) at **Department of experimental oncology** in the **Laboratory for experimental pharmacology**

since 2003. hired to work on the project of Ministry of Science of the Republic of Serbia.

2007. Research Assistant

2013. Research Associate

22.04.2019. - Senior Research Associate

RESEARCH EXPERIENCE:

The work of Dr. Nevenka Gligorijević includes research in the field of medical chemistry, pharmacology and biology of tumor cells. Dr Nevenka Gligorijevic has 15 years of experience in *in vitro* screening of potential novel anticancer agents (metal-

based complexes, plant extracts, low temperature plasma). The work is mainly directed on the investigation of cytotoxic potential of novel compounds of potential biological and medical significance. Also, on investigation of their mechanism of action, determination of type of cell death, investigations in 3D cell culture model systems and comparison with previous standard drugs in clinical practice.

PROJECTS:

- Current** **Project of Ministry of Education, Science and Technological Development of Serbia (451-03-68/2022-14/ 200043)**
- Current** **Participant in project Ministry of Education, Science and Technological Development of Serbia with Austria- Institute for Inorganic Chemistry, Vienna, Austria (Prof Vladimir Arion) (Project No. P31293-N37)**
- 2011- 2020** **"Pharmacodynamic and pharmacogenomic research of new drugs in the treatment of solid tumors"** (Project of Ministry of Education, Science and Technological Development, III 41026, project leader: Dr. sci.med. Siniša Radulović)
- 2011- 2020** **"Structure-properties relationships of natural and synthetic molecules and their metal complexes"** (Project of Ministry of Education, Science and Technological Development, III 172017, project leader: Prof. Dr Dušanka Milojković-Opsenica)
- 2003-2011** hired to work on the projects of Ministry of Science of the Republic of Serbia (1691, 1713, 145035, 142062B)

NETWORKING: Serbian Association for Cancer Research (**SDIR**)
European Association for Cancer Research (**EACR**)

BIBLIOGRAPHIC DATA: **35 peer-reviewed scientific articles and 1 chapter in the book of international importance;** number of citations: 768-total citations (excluding self-citations) (Hirsch index from SCOPUS databases: ***h index* =17;** [Scopus](#)).

Book chapters and reviews:

1. **Nevenka Gligorijević**, Sandra Arandžević, Katarina K. Jovanović, Sanja Grgurić-Šipka, Siniša Radulović, The development of Ru(II)-p-cymene complexes with pyridine

derivatives as anticancer agents in Ruthenium Chemistry, 1st Edition by Ajay Kumar Mishra (Editor), Lallan Mishra (Editor), Published by Pan Stanford publishing Pte. Ltd. Singapore, ISBN-13: 978-9814774390, ISBN-10: 9814774391; 1 edition (January 17, 2018), p. 215-258.

Selected scientific papers:

1. **N. Malešević**, T. Srdić, S. Radulović, D. Sladić, V. Radulović, I. Brčeski, K. Anđelković, Synthesis and characterization of a novel Pd(II) complex with the condensation product of 2-(diphenylphosphino)benzaldehyde and ethyl hidrazinoacetate. Cytotoxic activity of the synthesized complex and related Pd(II) and Pt(II) complexes, *Journal of Inorganic Biochemistry* 100 (2006) 1811-1818.
2. **N. Gligorijević**, T. Todorović, S. Radulović, D. Sladić, N. Filipović, D. Gođevac, D. Jeremić, K. Anđelković, Synthesis and characterization of new Pt(II) and Pd(II) complexes with 2-quinolinecarboxaldehyde selenosemicarbazone: Cytotoxic activity evaluation of Cd(II), Zn(II), Ni(II), Pt(II) and Pd(II) complexes with heteroaromatic selenosemicarbazones, *European Journal of Medicinal Chemistry* 44 (2009) 1623-1629.
3. S. S. Arandžević, S. K. Bjelogrić, **N. N. Malešević**, Ž. Lj. Tešić, S. S. Radulović, Antitumor activity of Ru(III) complexes carrying β -diketonato ligands in vitro and in vivo, *Journal of BUON* 14 (2009) 271-279.
4. S. Grgurić-Šipka, I. Ivanović, G. Rakić, N. Todorović, **N. Gligorijević**, S. Radulović, V. B. Arion, B. K. Keppler, Ž. Lj. Tešić, Ruthenium(II)-arene complexes with functionalized pyridines: Synthesis, characterization and cytotoxic activity, *European Journal of Medicinal Chemistry* 45 (2010) 1051-1058.
5. I. Ivanović, S. Grgurić-Šipka, **N. Gligorijević**, S. Radulović, A. Roller, Ž. Lj. Tešić and B. K. Keppler, X-Ray structure and cytotoxic activity of a picolinate ruthenium(II)-arene complex, *J. Serb. Chem. Soc.* 76 (2011) 1-10.
6. V. Marković, S. Erić, T. Stanojković, **N. Gligorijević**, S. Arandžević, 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.
7. **N. Gligorijević**, S. Arandžević, L. Filipović, K. Jakovljević, R. Janković, S. Grgurić-Šipka, I. Ivanović, S. Radulović, Ž. Lj. Tešić, Picolinate ruthenium(II)-arene complex with in vitro antiproliferative and antimetastatic properties: comparison to a series of ruthenium(II)-arene complexes with similar structure, *Journal of Inorganic Biochemistry* 108 (2012) 53-61
8. M. Skorića, S. Todorovića, **N. Gligorijević**, R. Janković, S. Živković, M. Ristić, S. Radulović, Cytotoxic activity of ethanol extracts of in vitro grown *Cistus creticus* subsp. *creticus* L. on human cancer cell lines, *Industrial Crops and Products* 38 (2012) 153-159.
9. Mirjana Marčetić, Dragana Božić, Marina Milenković, **Nevenka Malešević**, Siniša Radulović and Nada Kovačević, Antimicrobial, antioxidant and anti-inflammatory

activity of young shoots of the smoke tree, *Cotinus coggygia* Scop, *Phytotherapy Research* (2012)

10. M. Milenković, A. Bacchi, G. Cantoni, S. Radulović, **N. Gligorijević**, S. Arandelović, D. Sladić, M. Vujčić, D. Mitić, K. Anđelković, Synthesis, characterisation and biological activity of Co(III) complex with the condensation product of 2-(diphenylphosphino)benzaldehyde and ethyl carbazate, *Inorganica Chimica Acta* 395 (2013) 33–43.
11. Milica Milenković, Alessia Bacchi, Giulia Cantoni, Jovana Vilipić, Dušan Sladić, Miroslava Vujčić, **Nevenka Gligorijević**, Katarina Jovanović, Siniša Radulović, Katarina Anđelković, Synthesis, characterization and biological activity of three squareplanar complexes of Ni(II) with ethyl (2E)-2-[2-(diphenylphosphino)benzylidene]hydrazinecarboxylate and monodentate pseudohalides, *European Journal of Medicinal Chemistry* 68 (2013) 111-120.
12. Ivana Z. Matić, Ivana Aljančić, Vlatka Vajs, Milka Jadranin, **Nevenka Gligorijević**, Slobodan Milosavljević and Zorica D. Juranića, Cancer-Suppressive Potential of Extracts of Endemic Plant *Helichrysum zivojinii*: Effects on Cell Migration, Invasion and Angiogenesis, *Natural Product Communications* 8 (2013) 1-2.
13. Ivanka Ivanović, **Nevenka Gligorijević**, Sandra Arandelović, Siniša Radulović, Alexander Roller, Bernhard K. Keppler, Živoslav Lj. Tešić, Sanja Grgurić-Šipka, New ruthenium(II)-arene complexes bearing hydrazides and the corresponding (thio)semicarbazones of 3- and 4-acetylpyridine: Synthesis, characterization, crystal structure determination and antiproliferative activity, *Polyhedron* 61 (2013) 112–118.
14. Lana Filipović, Sandra Arandelović, **Nevenka Gligorijević**, Ana Krivokuća, Radmila Janković, Tatjana Srđić-Rajić, Gordana Rakić, Živoslav Tešić, Siniša Radulović, Biological evaluation of transdichloridoplatinum(II) complexes with 3- and 4-acetylpyridine in comparison to cisplatin, *Radiology and Oncology* (2013) 1-12. OAJ
15. Ivanka Ivanović, Katarina K. Jovanović, **Nevenka Gligorijević**, Siniša Radulović, Vladimir B. Arion, Khalil Salem A.M. Sheweshein, Živoslav Lj. Tešić, Sanja Grgurić-Šipka, Ruthenium(II)-Arene Complexes with Substituted Picolinato Ligands: Synthesis, Structure, Spectroscopic Properties and Antiproliferative Activity, *Journal of Organometallic Chemistry* 749 (2014) 343-349.
16. Milica Milenković, Andrej Pevec, Iztok Turel, Miroslava Vujčić, Marina Milenković, Katarina Jovanović, **Nevenka Gligorijević**, Siniša Radulović, Marcel Swart, Maja Gruden-Pavlović, Kawther Adaila, Božidar Čobeljić, Katarina Anđelković, Synthesis, characterization, DFT calculation and biological activity of square-planar Ni(II) complexes with tridentate PNO ligands and monodentate pseudohalides. Part II, *European Journal of Medicinal Chemistry* 87 (2014) 284-297.
17. Miloš Nikolić, Katarina K. Jovanović, Tatjana Marković, Dejan Marković, **Nevenka Gligorijević**, Siniša Radulović, Marina Soković, Chemical composition, antimicrobial, and cytotoxic properties of five Lamiaceae essential oils, *Industrial Crops and Products* 61 (2014) 225–232.

18. Božidar Čobeljić, Milica Milenković, Andrej Pevec, Iztok Turel, Miroslava Vujčić, Barbara Janović, **Nevenka Gligorijević**, Dušan Sladić, Siniša Radulović, Katarina Jovanović, Katarina Anđelković, Investigation of antitumor potential of Ni(II) complexes with tridentate PNO acylhydrazones of 2-(diphenylphosphino) benzaldehyde and monodentate pseudohalides, *J Biol Inorg Chem* 21 (2016) 145-162.
19. Katarina K. Jovanović, **Nevenka Gligorijević**, Ruchi Gaur, Lallan Mishra, Siniša Radulović, Anticancer activity of two ruthenium(II)-DMSO-chalcone complexes: Comparison of cytotoxic, pro-apoptotic and antimetastatic potential, *Journal of BUON* 21 (2016) 482-490.
20. Stefan Nikolić, Loganathan Rangasamy, **Nevenka Gligorijević**, Sandra Arandelović, Siniša Radulović, Gilles Gasser, Sanja Grgurić-Šipka, Synthesis, characterization and biological evaluation of novel Ru(II)-arene complexes containing intercalating ligands, *Journal of Inorganic Biochemistry* 160 (2016) 156-165.
21. Katarina K. Jovanović, Miljana Tanić, Ivanka Ivanović, **Nevenka Gligorijević**, Biljana P. Dojčinović, Siniša Radulović, Cell cycle, apoptosis, cellular uptake and whole-transcriptome microarray gene expression analysis of HeLa cells treated with ruthenium(II)-arene complex with isoquinoline-3-carboxylic acid as ligand, *Journal of Inorganic Biochemistry* 163 (2016) 362-373.
22. Tamara R. Todorović, Jelena Vukašinović, Gustavo Portalone, Sherif Suleiman, **Nevenka Gligorijević**, Snezana Bjelogrić, Katarina Jovanović, Siniša Radulović, Katarina Anđelković, Analisse Cassar, Nenad R. Filipović, Pierre Schembri-Wismayer, (Chalcogen)semicarbazones and their cobalt complexes differentiate HL-60 myeloid leukaemia cells and are cytotoxic towards tumor cell lines, *MedChemComm* 8 (2016) 103-111.
23. Milan M. Milutinović, Ana Rilak, Ioannis Bratsos, Olivera Klisurić, Milan Vraneš, **Nevenka Gligorijević**, Siniša Radulović, Živadin D. Bugarčić, New 4'-(4-chlorophenyl)-2,2':6',2''-terpyridine ruthenium(II) complexes: Synthesis, characterization, interaction with DNA/BSA and cytotoxicity studies, *Journal of Inorganic Biochemistry* 169 (2017) 1-12.
24. Milos M. Nikolic, Katarina K. Jovanovic, Tatjana Lj. Markovic, Dejan Lj. Markovic, **Nevenka N. Gligorijevic**, Sinisa S. Radulovic, Marina Kostic, Jasmina M. Glamoclija and Marina D. Sokovic, Antimicrobial synergism and cytotoxic properties of Citrus limon L., Piper nigrum L. and Melaleuca alternifolia (Maiden and Betche) Cheel essential oils, *Journal of Pharmacy and Pharmacology*, 69 (2017) 1606-1614.
25. Afya A. Baroud, Ljiljana E. Mihajlović-Lalić, **Nevenka Gligorijević**, Sandra Arandelović, Dalibor Stanković, Siniša Radulović, Kristof Van Hecke, Aleksandar Savić, Sanja Grgurić-Šipka, Ruthenium(II) bipyridine complexes: from synthesis and crystal structures to electrochemical and cytotoxicity investigation, *Journal of Coordination Chemistry*, 70 (2017) 831-847.
26. Marijana Skorić, **Nevenka Gligorijević**, Milena Čavić, Slađana Todorović, Radmila Janković, Mihailo Ristić, Danijela Mišić, Siniša Radulović, Cytotoxic activity of Nepeta

- rtanjensis Diklić & Milojević essential oil and its mode of action, *Industrial Crops and Products* 100 (2017) 163–170.
27. Miljan Milunovic, Aliona Dobrova, Ghenadie Novitchi, **Nevenka Gligorijević**, Sinisa Radulovic, Jozef Kozisek, Peter Rapta, Eva Enyedy, Vladimir Arion, Effects of Terminal Substitution and Iron Coordination on Antiproliferative Activity of l-Proline-salicylaldehyde-Thiosemicarbazone Hybrids, *European Journal of Inorganic Chemistry*, 40 (2017) 4773-4783.
 28. Snežana Radisavljević, Ioannis Bratsos, Andreas Scheurer, Jana Korzekwa, Romana Masnikosa, Aleksandar Tot, **Nevenka Gligorijević**, Siniša Radulović, Ana Rilak Simović, New gold pincer-type complexes: synthesis, characterization, DNA binding studies and cytotoxicity, *Dalton Trans.*, 47 (2018) 13696-13712. M21 IF 3.872
 29. Oleg Palamarciuc, Miljan N. M. Milunovic, Angela Sîrbu, Elena Stratulat, Aurel Pui, **Nevenka Gligorijević**, Sinisa Radulovic, Jozef Kožíšek, Denisa Darvasiová, Peter Rapta, Eva A. Enyedy, Ghenadie Novitchi, Sergiu Shova, Vladimir B. Arion, Investigation of the cytotoxic potential of methyl imidazole-derived thiosemicarbazones and their copper(II) complexes with dichloroacetate as co-ligand, *New J. Chem.*, 2019, 43, 1340-1357
 30. Marijana Pavlović, Stefan Nikolić, **Nevenka Gligorijević**, Biljana Dojčinović, Sandra Arandelović, Sanja Grgurić-Šipka, Siniša Radulović, New organoruthenium compounds with pyrido[2',3':5,6]pyrazino[2,3-f][1,10]phenanthroline: synthesis, characterization, cytotoxicity and investigation of mechanism of action, *Journal of Biological Inorganic Chemistry* 2019
 31. Sonja Duletić-Laušević, Ana Alimpić Aradski, Jelena Živković, **Nevenka Gligorijević**, Katarina Šavikin, Siniša Radulović, Danijela Čočić and Petar D. Marin, Evaluation of bioactivities and phenolic composition of extracts of *Salvia officinalis* L. (Lamiaceae) collected in Montenegro, *Botanica SERBICA* 43 (1): (2019) 47-58.
 32. Aleksandar Savić, **Nevenka Gligorijević**, Sandra Arandelović, Biljana Dojčinović, Anna M. Kaczmarek, Siniša Radulović, Rik Van Deun, Kristof Van Hecke, Antitumor activity of organoruthenium complexes with chelate aromatic ligands, derived from 1,10-phenanthroline: Synthesis and biological activity, *Journal of Inorganic Biochemistry* 202 (2020) 110869.
 33. Marijana Pavlović, Ana Tadić, **Nevenka Gligorijević**, Jelena Poljarević, Tamara Petrović, Biljana Dojčinović, Aleksandar Savić, Siniša Radulović, Sanja Grgurić-Šipka, Sandra Arandelović, Synthesis, Chemical characterization, PARP Inhibition, DNA Binding and Cellular Uptake of Novel Ruthenium(II)-Arene Complexes Bearing Benzamide Derivatives in Human Breast Cancer Cells, *Journal of Inorganic Biochemistry*, 210 (2020) 111155
 34. Aleksandar Ž. Kostić, Marina P. Mačukanović-Jocić, Danijel D. Milinčić, Jovana D. Petrović, Uroš M. Gašić, **Nevenka N. Gligorijević**, Snežana V. Jarić, Marina D. Soković, Živoslav Lj. Tešić, Mirjana B. Pešić, *Hieracium valdsteinii* (Compositae) and *Onosma*

- stellulata (Boraginaceae) as a source of antioxidant and antimicrobial agents, *Chem. Biodiversity* **2022**, 19, e202200069
35. Tamara Petrović, **Nevenka Gligorijević**, Ferdinand Belaj, Sandra Arandelović, Ljiljana E. Mihajlović-Lalić, Sanja Grgurić-Šipka, Jelena Poljarević, Drug combination study of novel oxorhenium(V) complexes, *Journal of Inorganic Biochemistry* 231 (2022) 111807
 36. Irina Kuznetcova, Marija Ostojić, **Nevenka Gligorijević**, Sandra Arandelović, and Vladimir B. Arion, Enriching Chemical Space of Bioactive Scaffolds by New Ring Systems: Benzazocines and Their Metal Complexes as Potential, *Inorg. Chem.*, accepted <https://doi.org/10.1021/acs.inorgchem.2c03134>
 37. Tanja V. Soldatović, Biljana Šmit, Emina M. Mrkalić, Sanja Lj. Matić, Ratomir M. Jelić, Marina Čendić Serafinović, **Nevenka Gligorijević**, Milena Čavić, Sandra Arandelović, Sanja Grgurić-Šipka, Exploring heterometallic bridged Pt(II)-Zn(II) complexes as potential antitumor agents, *Journal of Inorganic Biochemistry* 240 (2023) 112100