**NAME AND SURNAME: Selma Špirtović-Halilović**

**Work experience:**

* 2022- current

Full professor

University of Sarajev- Faculty of Pharmacy

Department of Pharmaceutical Chemistry

* 2017-2022

Associate Professor

University of Sarajevo-Faculty of Pharmacy

Department of Pharmaceutical Chemistry

* 2013-2017.

Assistant Professor

University of Sarajevo- Faculty of Pharmacy

Department of Pharmaceutical Chemistry

* 2007-2013.

Senior Teaching Assistant

University of Sarajevo- Faculty of Pharmacy

Department of Pharmaceutical Chemistry

* 2004-2007.

Teaching Assistant

University of Sarajevo- Faculty of Pharmacy

Department of Pharmaceutical Chemistry

**Education:**

* *2013.*

Doctoral dissertation: "Synthesis, structure and testing of biological activity of 3-cinnamoyl-4-hydroxycoumarin derivatives"

University of Sarajevo, Faculty of Pharmacy

* 2008. Specialist in Sanitary chemistry
* *2007.* Master in Pharmaceutical Sciences

*Master's thesis*: "Determination of lipophilicity and QSPR/QSAR studies of synthesized 3-substituted derivatives of 4-hydroxycoumarin"

University of Sarajevo, Faculty of Pharmacy

* 2001. Master of Pharmacy

Diploma thesis: Comparative examination of the content of flavonoids in the drugs Sambuci flos, Verbasci flos, Tiliae flos

University of Sarajevo, Faculty of Pharmacy

**Study abroad:**

Faculty of Pharmacy and Biochemistry, University of Zagreb

**Academic/teaching work:**

Integrated study of the first and second cycles of the Faculty of Pharmacy, University of Sarajevo

* *Pharmaceutical Chemistry I*, *Pharmaceutical Chemistry II*, Selected chapters in Pharmaceutical Chemistry-Drug Design ,Selected chapters from Pharmaceutical Chemistry-Metabolic stability of drugs and strategies to increase metabolic stability, Selected chapters from Pharmaceutical Chemistry - Medicines for the treatment of flu and colds

Doctoral Study at Faculty of Pharmacy, University of Sarajevo

* Plan 2018, Subjects: Drugs in space, Research, design and development of drugs, Molecular basis of pharmaceutical chemistry, Application of QSAR and QSPR in drug design, Role of bioinformatics in drug design
* Plan 2023, Subjects: Methodology and ethics of scientific research, Molecular basis of pharmaceutical chemistry, Design and synthesis of new pharmacologically active compounds, Organic chemistry in drug synthesis

Integrated study of the first and second cycles of the University "Džemal Bijedić" in Mostar, study of Pharmacy

• Pharmaceutical Chemistry I, academic year 2022/2023

**Other academic positions and involments:**

* 2021- current: Head of the Department of Pharmaceutical Chemistry
* 2019- 2021: Responsible teacher for the course Selected chapters in Pharmaceutical Chemistry - Medicines for the treatment of flu and colds
* 2022-current: Responsible teacher for *Pharmaceutical Chemistry I*
* 2017-2019: Member of the quality assurance committee of the Faculty of Pharmacy, University of Sarajevo
* 2013-2016:Member of the Staff Council of the Faculty of Pharmacy, University of Sarajevo

**Projects:**

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| --- |
| * Stereoselective separation of enantiomers of NSAID drugs using biocatalysts. Ministry of Education and Science of Sarajevo Canton, 2003-2005. (project participant)
 |
| * Synthesis and QSPR/QSAR study of coumarin derivatives. Ministry of Education, Science, Culture and Sports FBiH, 2003-2004. (project participant)
 |
| * Experimental and computational determination of lipophilicity (logP, logD) of biologically active 3-substituted derivatives of 4-hydroxycoumarin. Ministry of Education, Science, Culture and Sports FBiH, 2005-2006. (project participant)
 |
| * Development of Acyclic Pyrimidine Analogues as PET –Tracer for Monitoring Gene Therapy. Project SCOPES 2009-2012. (project participant)
 |
| * Examination of bioactive newly synthesized derivatives of 3-substituted-4-hydroxycoumarins. Ministry of Education, Science, Culture and Sports FBiH, 2011-2012. year. (project participant)
 |
| * New analogues of acyclic nucleosides-synthesis, structure and biological activity. Ministry of Education, Science, Culture and Sports FBiH, 2013-2014. (Leader of the project)
 |
| * Application of green chemistry in the development and synthesis of biologically active xanthenes and biscoumarins. Ministry of Education, Science, Culture and Sports FBiH, 2013-2014. (project participant)
 |
| * Modeling and docking studies of new potent azomethine derivatives of thymoquinone and their organometallic complexes. Federal Ministry of Education and Science, 2014-2015. (project participant)
 |
| * Investigation of antitumor, antioxidant and microbiological effects of synthesized tetraketone derivatives. MONKS, 2016-2017. (project participant)
 |
| * Neural networks and QSAR in the design and synthesis of pharmacologically active xanthenes. Federal Ministry of Education and Science, Bosnia and Herzegovina, 2016 – 2017
* The importance of determining the parameters of oxidative stress, inflammation and hemostasis in the early diagnosis of obesity in the pediatric population. (project participant)
* Improving the solubility and biological activity of 3-cinnamoyl-4-hydroxycoumarin derivatives by inclusion complexation with hydrophilic B-cyclodextrin derivatives (participant in the project)
* Chemical composition and antioxidant potential of edible wild mushrooms from Bosnia and Herzegovina. (participant in the project)
* Health risk assessment based on the content of harmful substances in chemically analyzed wood biomass (pellets and briquettes) available on the Bosnian-Herzegovinian market. Federal Ministry of Education and Science of Bosnia and Herzegovina, 2019 (participant in the project)
* Compounds from marine organisms: *in silico* screening in search for potential drug against SARS CoV-2 (Leader of the project).

Ministry of Science, Higher Education and Youth of Canton Sarajevo, Bosnia and Herzegovina, 2021 – 2022* Examination of the antitumor activity and toxicity of synthesized xanthenes. Sarajevo Canton, Ministry of Science, Higher Education and Youth, 2021 (participant in the project)
* Bioactive profile and protective effects on human health of the bladder cherry - unused treasure of Bosnia and Herzegovina

Ministry of Science, Higher Education and Youth of Canton Sarajevo, Bosnia and Herzegovina, 2022 – 2023 (participant in the project)* Improving motion sickness therapy by inclusion complexes of dimenhydrinate with hydrophilic betacyclodextrin derivatives

Ministry of Science, Higher Education and Youth of Canton Sarajevo, Bosnia and Herzegovina, 2022 – 2023 (participant in the project)* Maternal exposure and child health: Investigating the transplacental transfer of pollutants

Ministry of Science, Higher Education and Youth of Canton Sarajevo, Bosnia and Herzegovina, 2024 – 2025 (participant in the project)* Rational design and "green" synthesis of new acridine derivatives with antitumor and antimicrobial effects

Ministry of Science, Higher Education and Youth of Canton Sarajevo, Bosnia and Herzegovina, 2024 – 2025 (participant in the project)* Combating drug resistance: design and synthesis of novel diarylideneacetone derivatives and their pharmacological and toxicological profiling

Federal Ministry of Education and Science, Bosnia and Herzegovina, 2024 – 2025 (participant in the project)* Artificial intelligence in the first search in B&H for an antiviral drug against hantavirus - the causative agent of hemorrhagic fever (Leader of the project)

Federal Ministry of Education and Science, Bosnia and Herzegovina, 2024 – 2025 |

**Selected publications (up to 10):**

* **Špirtović-Halilović S.**, Završnik D. Computer programs for calculating pKa: a comparative study for 3-(3-(2-nitrophenyl)prop-2-enoyl)-2H-1-benzopyran-2-one. Journal of the Serbian Chemical Society, 2010; 75 (2): 243–248.
* **Špirtović-Halilović S**., Završnik D., Imamović B., Bečić E. Distribution Coefficient of Coumarin-Based Compounds Containing a Chalcone Moiety. International Journal of Pharmacy Teaching and Practices, 2013; 4 (1): 489-491.
* **Špirtović-Halilović S.,** Salihović M., Džudžević-Čančar H., Trifunović S., Roca S., Softić Dž., Završnik D. DFT study and microbiology of some coumarin-based compounds containing a chalcone moiety. Journal of the Serbian Chemical Society, 2014; 79 (4): 435–443.
* **Špirtović-Halilović S.,** Salihović M., Trifunović S., Roca S., Veljović E., Osmanović A., Vinković M., Završnik D. Density functional theory: 1H and 13C NMR spectra of some coumarin derivatives. Journal of the Serbian Chemical Society, 2014; 79 (11):1405–1411.
* Salihović M., Osmanović A., **Špirtović-Halilović S.**, Roca S., Meščić A., Vujisić, L., Trifunović S., Završnik D., Sofić. Synthesis, structural, conformational and DFT studies of N-3 and O-4 alkylated regioisomers of 5-(hydroxypropyl) pyrimidine. Journal of Molecular Structure, 2015; 1091: 170-176.
* E. Veljović, **S. Špirtović-Halilović**, S. Muratović, A. Osmanović, S. Haverić, A. Haverić, M. Hadžić, M. Salihović, M. Malenica, D. Završnik. Antiproliferative and genotoxic potential of synthesized xanthene-3-on derivatives. Acta Pharmaceutica, 2019; 69(4):683-694.
* Salihović M., Pazalja M., Mahmutović-Dizdarević I., Jerković-Mujkić A., Suljagić J., **Špirtović-Halilović S.,** Šapčanin A. Synthesis, DFT study and antimicrobial activity of schiff bases derived from benzaldehydes and amino acids. Rasayan Journal of Chemistry, 2018; 11(3): 1074-1083.
* Glamočlija U., Subhash Padhye, **Špirtović-Halilović S.**, Osmanović A.,Veljović E., Roca S., Novaković I., Mandić B., Iztok Turel , Jakob Kljun ,Trifunović S., Kahrović E., Sandra Kraljević Pavelić , Harej A., Klobučar M., Završnik D. Synthesis, biological evaluation and docking studies of benzoxazoles derived from thymoquinone. Molecules,  2018, 23(12), 3297.
* **Špirtović-Halilović S**.,Veljović E., Salihović M., Osmanović A., Šapčanin A., Softić Dž., Roca S., Trifunović S., Škrijelj N., Škrbo S., Selmanagić A., Završnik D. [Synthesis, Microbiological Activity and In Silico Investigation for Some Synthesized Coumarin Derivatives](https://hrcak.srce.hr/index.php?show=clanak&id_clanak_jezik=350175). [Croatica Chemica Acta](https://hrcak.srce.hr/cca), 93 (1), 2020:23-31.
* **Špirtović-Halilović S.**, Salihović M., Osmanović A., Veljović E., Rahić O., Mahmutović E., Hadžiabdić J., Novaković I., Roca S., Trifunović S., Elezović A., Glamočlija U. *In Silico* Study of Microbiologically Active Benzoxazole Derivatives. *Indian Journal of Pharmaceutical Sciences* 2023, 85(3): 767-777.
* Bilajac E., Osmanović A., Glamočlija U., Veljović E., Imamović B., Bečić E., Roca S., Salihović M., Završnik D., **Špirtović-Halilović S**. Synthesis, *in silico* study and antitumor activity of coumarin compounds in lymphoma cells. *Farmacia* 2023, 71(6): 1263-1273.
* Zukić S., Osmanović A., Harej Hrkać A., Kraljević Pavelić S., **Špirtović-Halilović S.**, Elma Veljović, Sunčica Roca, Snežana Trifunović, Davorka Završnik, Uko Maran.[Data-Driven Modelling of Substituted Pyrimidine and Uracil-Based Derivatives Validated with Newly Synthesized and Antiproliferative Evaluated Compounds](https://scholar.google.com/citations?view_op=view_citation&hl=hr&user=R_ZZmIIAAAAJ&pagesize=80&citation_for_view=R_ZZmIIAAAAJ:ZHo1McVdvXMC). International journal of molecular sciences. *nt. J. Mol. Sci.* **2024**, *25*(17), 9390.
* Osmanović, A.; Salihović, M.; Veljović, E.; Hindija, L.; Pazalja, M.; Malenica, M.; Selmanagić, A.; **Špirtović-Halilović, S.** Marine Origin vs. Synthesized Compounds: In Silico Screening for a Potential Drug Against SARS-CoV-2. Sci. Pharm. 2025, 93, 2.