Igor Opsenica, Ph.D.

BIOGRAPHICAL SKETCH

PERSONAL INFORMATION
Date of birth: July 30th, 1977
Address: University of Belgrade - Faculty of Chemistry
Studentski trg 12-16, I/433, 11000 Belgrade, Republic of Serbia
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EDUCATION/TRAINING Institution and location	DEGREE	YEAR	FIELD OF STUDY Advisor
University of Belgrade – Faculty of Chemistry, Serbia	Ph.D.	2011	Organic Chemistry / Prof. Šolaja
University of Pittsburgh, Department of Chemistry, USA	Postdoctoral	2012	Organic Chemistry / Prof. Wipf

Positions and Employment

2022	Full professor, University of Belgrade – Faculty of Chemistry, Serbia
2017-2022	Associate professor, University of Belgrade – Faculty of Chemistry, Serbia
2012-2017	Assistant Professor, University of Belgrade – Faculty of Chemistry, Serbia
2007-2012	Teaching assistant, University of Belgrade – Faculty of Chemistry, Serbia

Author identification numbers

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Research Summary

Chemistry of Heterocyclic Compounds

- Synthesis, transformation and applications of heterocycles. Current studies are focused on aromatic and partially unsaturated heterocyclic compounds.

Organometallic Chemistry

- Investigation of homogeneous and heterogeneous transition-metal-catalyzed C–C and C–heteroatom cross-coupling reactions.

Green Chemistry

- Application of green chemistry principles in organic synthesis. Development of facile, eco-friendly and energetically efficient routes for the synthesis of biologically relevant compounds. This part of our research is focused on solid-supported catalysis and microwave-assisted organic synthesis (MAOS).

Medicinal Chemistry

- Design of pharmacophore-guided libraries of compounds active against eukaryotic pathogens, such as fungi and parasites, as well as viruses, bacteria and cancer cells, and investigating their mechanisms of action in biological systems.

Other activities

Member of the Serbian Chemical Society from 2003 - Vice-President of the Serbian Chemical Society from 2021

Member of the American Chemical Society from 2006

Member of the International Society of Heterocyclic Chemistry from 2021

Books:

1. Igor Opsenica: Chemistry of heterocyclic compounds I, Faculty of Chemistry, Belgrade, **2016**.
2. Igor Opsenica: Chemistry of heterocyclic compounds II, Faculty of Chemistry, Belgrade, **2021**.

Papers (58 papers, >800 citations, h-index: 19)

Selected Publications

Review:

1. Branislav Kokić, Bojan Vulović, Miloš Jović, Ana Andrijević, Vladimir Ajdačić, Igor M. Opsenica, "Strategies for Carbon Electrophile Addition to Carbonyls and Imines by Cobalt Catalysis", *Eur. J. Org. Chem.*, **2023**, *26*, e202300997.
2. Ž. Selaković, A. M. Nikolić, V. Ajdačić, I. M. Opsenica, "Application of transition metal-catalyzed decarbonylation of aldehydes in the total synthesis of natural products", *Eur. J. Org. Chem.*, **2022**, e202101265.

Selected papers:

1. Ljiljana Koračak, Vladimir Ajdačić, Milica Selaković, Milica Pajović, Miroslav Novakovic, Ema Lupšić, Ana Podolski-Renić, Mario Zlatović, Milica Pešić, Igor M. Opsenica "Novel pyrimidine-artesunate hybrids overcome multidrug-resistance in non-small cell lung carcinoma through collateral sensitivity"*, Bioorg. Chem.*, **2026**, *168*, 109307.
2. Miloš Jović, Radosveta Gencheva, Karoline C. Scholzen, Qing Cheng, Života Selaković, Elias S. J. Arnér, Igor M. Opsenica, "Development of novel analogs of the TRi-1 and TRi-2 selenoprotein thioredoxin reductase inhibitors with initial assessment of their cytotoxicity profiles", *Free Radical Biol. Med.*, **2025**, *241*, 689-706.
3. Pavle Stojković, Ema Lupšić, Nataša Terzić Jovanović, Ana Stepanović, Paraskev Nedialkov, Ana Podolski-Renić, Milica Pešić, Igor M. Opsenica, "Sclareol-Based Natural Nanoparticles with Adamantane Moieties Exert Anticancer Effects Against Non-Small Cell Lung Carcinoma Cells", *Bioorg. Chem.*, **2025**, *165*, 108967.
4. Pavle Stojković, Ana Kostić, Ema Lupšić, Nataša Terzić Jovanović, Miroslav Novaković, Paraskev Nedialkov, Antoaneta Trendafilova, Milica Pešić, Igor M. Opsenica, "Novel hybrids of sclareol and 1,2,4-triazolo[1,5-a]pyrimidine show collateral sensitivity in multidrug-resistant glioblastoma cells", *Bioorg. Chem.*, **2023**, *138*, 106605.
5. Ljiljana Koračak, Ema Lupšić, Nataša Terzić Jovanović, Mirna Jovanović, Miroslav Novakovic, Paraskev Nedialkov, Antoaneta Trendafilova, Mario Zlatović, Milica Pešić, Igor M. Opsenica, "Novel artesunate–pyrimidine-based hybrids with anticancer potential against multidrug-resistant cancer cells", *New J. Chem.*, **2023**, *47*, 6844-6855.