

ŽIVOTOPIS dr. sc. Zrinka Kovarik

Institut za medicinska istraživanja i medicinu rada
Ksaverska cesta 2, Zagreb

od 2017. znanstveni savjetnik u trajnom zvanju
2012.-2017. znanstveni savjetnik; 2008.-2012. viši znanstveni suradnik;
2004.-2008. znanstveni suradnik; 1995.-2004. znanstvena novak

od 2021. izvanredna profesorica (naslovno zvanje) iz područja prirodnih znanosti, polje
kemija, grana biokemija i medicinska kemija, Prirodoslovno-matematički fakultet Sveučilišta u Zagrebu



PODRUČJE ZNANSTVENO-NASTAVNOG INTERESA

Enzimski kinetika: Interakcije kolinesteraza s visokotoksičnim spojevima i protuotrovima, povezivanje
strukture enzima s inhibicijom i reaktivacijom i studiranje stereoselektivnosti enzimskih reakcija
Unaprijediti nastavu i mentorirati studente i mlade znanstvenike iz biokemije i medicinske kemije
odnosno enzimski kinetike i terapije trovanja i neurodegenerativnih bolesti

PUBLIKACIJE

88 znanstvenih radova (73 radova u časopisima indeksiranim u bazi *Current Contents*, 14 radova u
časopisima indeksiranim u *Science Citation Index* i *Chemical Abstracts*, 6 radova u zbornicima
međunarodnih skupova i 2 rada u knjigama) i 5 ostalih publikacija
Urednica 6 knjiga sažetaka, 3 monografije i gost urednica za 5 brojeva časopisa
Citiranost radova: 2029 citata, $h=26$ (8. veljače 2021.)

ŠKOLOVANJE

1989.-1994. Prehrambeno-biotehnološki fakultet, smjer Biokemijsko inženjerstvo, Sveučilište u Zagrebu:
Uloga proteina Cpf1 na regulaciju ekspresije gena *PHO5* i *PHO8* koji kodiraju kiselu, odnosno
alkalnu fosfatazu kvasca *Saccharomyces cerevisiae* [diplomski rad] 1. 12. 1994. Mentor: prof. dr. sc.
Slobodan Barbarić.
1995.-1997. Poslijediplomski studij Sveučilišta u Zagrebu, Kemija/Biokemija, Prirodoslovno-matematički
fakultet: Utjecaj promjene primarne strukture na aktivnost i inhibiciju acetilkolinesteraze i
butirilkinesteraze [magistarski rad] 16. 12. 1997. Mentor: dr. sc. Vera Simeon.
1998.- 2002. Doktorska disertacija na Sveučilištu u Zagrebu, iz područja prirodnih znanosti, polje kemija,
grana kemija: The role of acetylcholinesterase active site domains in binding organophosphates and
oximes [original disertacije na engleskom jeziku]. Mentori: dr. sc. Vera Simeon i prof. dr. sc. Ivana
Weygand Đurašević.

USAVRŠAVANJE

Department of Pharmacology, University of California at San Diego, SAD: siječanj 1999. – srpanj 2000.
(doktorand), siječanj 2004. – lipanj 2004. (postdoktorand), lipanj 2006. (gostujući znanstvenik)

STIPENDIJE

1991/1992. Sveučilište u Zagrebu: Nagradna stipendija za 50 najboljih studenata
1998. godišnja stipendija za prijedoktorsko usavršavanje od Ministarstvo znanosti i tehnologije RH
2000. Wood-Whelan Research Fellowship, IUBMB, SAD

NAGRADE

Državna nagrada za znanost za 2018. godinu za područje prirodnih znanosti, Kemija, Sabor RH
Panel Excellence Award 2019, NATO, *Science and Technology Organisation*
Nagrada za izniman doprinos razvoju molekularnih znanosti o životu, Hrvatsko društvo za biokemiju i
molekularnu biologiju, 2019.
Godišnja nagrada Instituta za medicinska istraživanja i medicinu rada za 2006., 2010., 2012., 2016. i 2018.
Priznanje za mentorstvo, Nagrada za izvrsnost za 2008. godinu u kategoriji najboljih diplomskih radova,
Rotary International, Rotary Club Varaždin
Godišnja nagrada Hrvatskog društva za biokemiju i molekularnu biologiju mladom znanstveniku za 2004.
Godišnja nagrada Društva sveučilišnih nastavnika i drugih znanstvenika u Zagrebu mladim
znanstvenicima i umjetnicima u 2003. godini za znanstveno ostvarenje iz područja prirodnih
znanosti, biokemije

NASTAVA

Poslijediplomski studij kemije, smjer Biokemija, od šk. god. 2005/2006.
Diplomski studij, Kemija, Prirodoslovno matematički fakultet, šk. god. 2008./2009. i 2009./2010.

MENTORSTVO

• HrvZZ doktorand: „Novi pristup analizi oksima dizajniranih za zaštitu središnjeg živčanog sustava pri trovanju organofosforinim spojevima“, Sveučilišni doktorski studij kemije, Prirodoslovno matematički fakultet, Sveučilište u Zagrebu, 2018.

• : „Kolinesteraze i oksimi kao pseudokatalitička čistila živčanih bojnih otrova“, Sveučilišni doktorski studij kemije, Prirodoslovno matematički fakultet, Sveučilište u Zagrebu, 2015.

• : „Učinkovitost bispiridinijevih oksima u reaktivaciji tabunom inhibiranih kolinesteraza“, Sveučilišni doktorski studij kemije, Prirodoslovno matematički fakultet, Sveučilište u Zagrebu, 2011.

• : „Inhibicija kolinesteraza derivatima katekola i rezorcinola“, Kemijski odsjek, Prirodoslovno matematički fakultet, Sveučilište u Zagrebu, 2010.

4 doktorata u izradi

Ispitivač obrana doktorata: *University of Rouen-Normandie, Francuska, 2018.*

Član Povjerenstva za ocjenu odnosno obranu doktorata, Prirodoslovno matematički fakultet, Sveučilište u Zagrebu; i : 2016.; : 2019.

Voditeljica 9 diplomskih radova; Prirodoslovno matematički fakultet (Biološki odsjek i Kemijski odsjek) i Prehrambeno biotehnološki fakultet, Sveučilište u Zagrebu.

Mentor ERASMUS+razmjena (2012. Slovačka, 2017. Slovenija, 2018. Turska, 2019. Češka)

VODITELJSTVO PROJEKATA (16)

2019-2022 „CNS-active, Orally Bioavailable, Zwitterionic Oxime Antidote to Organophosphates“ (DTRA projekt, partner UCSD)

2019-2021 „Effects of selected pesticides on neuronal acetylcholinesterase expression“ (Croatian-China bilateral grant, partner Research Center for Eco-Environmental Sciences Chinese Academy of Sciences Beijing, China)

2019-2023 Projekt razvoja karijere doktoranda (Hrvatska zaklada za znanost)

2018-2022 „Analysis of Butyrylcholinesterase Interactions with Novel Inhibitors and Reactivators“ (Hrvatska zaklada za znanost)

2014-2018 Projekt razvoja karijere doktoranda (Hrvatska zaklada za znanost)

2014-2018 „Design, Synthesis and Evaluation of New Antidotes in Nerve Agent and Pesticide Poisoning“ (Hrvatska zaklada za znanost)

2015-2016 „Design of Novel Centrally Active Cholinesterase Reactivators“ (Croatian-French programme "Cogito" partnership Hubert Curien; partner University of Rouen, Mont Saint Aignan, France)

2013-2016 "BChE Reactivators for Nerve Agent and Pesticide OP Detoxification in Human Tissue" (NIH grant, partner UCSD)

2010-2012 "Optimization of Nonpyridinium Oximes for BChE Hydrolysis of OPs in Plasma" (NIH grant, partner UCSD)

2009-2010 "Second Generation Centrally Active Oxime Reactivators" (NIH grant, partner UCSD)

2007-2013 "Interactions of Organophosphates, Carbamates and Selected Ligands with Esterases" (MZOS)

2007-2009 "Butyrylcholinesterase and Aldoximes - Bioscavengers for Detoxification of Organophosphates" (NATO Programme Security through Science: Collaborative Grant, partner Department of Toxicology, Faculty of Military Health Sciences, University of Defense, Hradec Kralove, Czech Republic)

2007-2009 "Expression and Activity of Cholinesterases in Neuromuscular Synapses upon Organophosphorus Poisoning" (Bilateral Croatian-Slovenian cooperation programme in the field of science and technology, partner Institute of Pathophysiology, School of Medicine, University of Ljubljana, Ljubljana, Slovenia)

2005-2008 "Antidotes for the treatment of Nerve gas Agents Poisoning" (NATO Programme Security through Science: Reintegration Grant)

2005-2007 "Stereoselectivity of Cholinesterases: Kinetic Studies of Cholinesterase Mechanism Interactions with Pharmacologically Relevant Compounds" (Croatian Slovenian co-operation programme in the field of science and technology, partner: Institute of Biochemistry, School of Medicine, University of Ljubljana, Ljubljana, Slovenia)

2005-2006 "Mechanism of Interaction of Esterases with Organophosphates" (MZOS)

ČLANSTVA U STRUČNIM DRUŠTVIMA, ODBORIMA I UREDNIŠTVU ČASOPISA

- Hrvatsko društvo za biokemiju i molekularnu biologiju: od 1995. članica, od 2005. članica predsjedništva, 2007.-2013. tajnica, 2013.-2017. predsjednica, od 2019. potpredsjednica
- Hrvatsko prirodoslovno društvo: od 2013. članica Malog vijeća, 2015.-2017. potpredsjednica, 2017.-2021. predsjednica
- Hrvatsko toksikološko društvo: članica od 2007., članica predsjedništva 2010.-2013.
- Hrvatsko kemijsko društvo, članica od 2003.
- International Society of Neurochemistry*, članica od 2020.
- Član uredništva časopisa Arhiv za higijenu rada i toksikologiju i *Molecules*
- Gost urednik: *Croatia Chemica Acta* 2008 81(1), *Chemico-Biological Interactions* 2010, vol. 187, *Periodicum Biologorum* 2016 118(4), *Priroda* 2016, br. 1-2, *Molecules* 2020
- International Advisory Board on Cholinesterases*, članica od 2010.
- International Advisory Board on Cholinergic Mechanisms*, članica od 2013.
- NATO RTG „Translating Medical Chemical Defence Research Into Operational Medical Capabilities Against Chemical Warfare Agent Threats”, članica od 2018.
- FEBS Advance Course Committee*, članica 2015.-2018.
- NATO RTG „Medical Chemical Defence against Chemical Warfare Agent Threats”, članica 2015.-2018.
- Scientific Advisory Board – Organisation for the Prohibition of Chemical Weapons (OPCW)*, članica od 2015. vice-chair 2020
- Panel biologija, Hrvatska zaklada za znanost, članica od 2016., član panela za ocjenu „Projekata razvoja karijera mladih istraživača – izobrazba novih doktora znanosti”-Hrvatske zaklade za znanost-2018.
- Matični odbor za područje prirodnih znanosti - polje kemije, član i potpredsjednica za tehnološki razvoj i inovacije, od 2017.

RECEZENTSKA AKTIVNOST

Časopisi: *Journal of Medicinal Chemistry*, *Scientific Reports*, *PlosOne*, *European Journal of Medicinal Chemistry*, *Toxicology*, *Toxicology Letters*, *Archives of Toxicology*, *Chemical Research in Toxicology*, *Chemico-Biological Interactions*, *Mini-Reviews in Medicinal Chemistry*, *Journal of Natural Products*, *Expert Opinion on Drug Discovery*, *E-biomedicine*, *Structural Chemistry*, *Oxidative Medicine and Cellular Longevity*, *Food and Chemical Toxicology*, *Periodicum biologorum*, *Croatia Chemica Acta*, *Kemija u industriji*, *Acta Chimica Slovenica* i dr.

Zaklade: Slovačka zaklada za znanost, Češka zaklada za znanost i HAZU

ORGANIZACIJA ZNANSTVENIH SKUPOVA

- Član *Organising Committee, 45th FEBS Congress*, 4.-9. 7. 2021., Ljubljana, Slovenija
- Član Znanstvenog odbora, *Educational workshop: „Excellent Lab Book for an Excellent Career”*
- Član Znanstvenog odbora, HDBMB2019 „Crossroads in Life Sciences”, 25.-28. 9. 2019., Lovran
- Član *Scientific Committee, FEBS3+ meeting 2.-5. 9. 2018.*, Siofok, Mađarska
- Organizator *International Workshop on Reactivators and Medical Countermeasures against Nerve Agents*, 15.-17. 5. 2018., Zagreb
- Član organizacijskog odbora „New Diagnostic Trends in Early Detection of Oncological and Rare Diseases”, 17. 4. 2018., Zagreb
- Organizator „International OPCW Workshop on Trends in Chemical Production”, 2-5. 10. 2017., Zagreb
- Član *International Advisory Board, XVth International Symposium on Cholinergic Mechanisms*, 16.-20. 10. 2016., Marseille, France
- Član Znanstvenog odbora, 5. hrvatski toksikološki kongres s međunarodnim sudjelovanjem, CROTOX2016, 9.-12. 10. 2016. Poreč
- Predsjednica Znanstvenog odbora, *Congress of the Croatian Society of Biochemistry and Molecular Biology on the Occasion of the 40th Anniversary*, HDBMB2016, 1.-4. 6. 2016., Split
- Član *International Scientific Committee, 41st FEBS Congress*, Ephesus / Kuşadası, Turska (3.-8. 9. 2016. otkazan)
- Član *Conference Organizing & Program Committee i Local Organizing Committee, ISTERH 2015 “Recent Advances in Trace Element Research in Health and Disease”*, 18.-22. 10. 2015, Srebreno/Dubrovnik
- Dopredsjednica Znanstvenog odbora, *FEBS3+ meeting “Molecules of Life”*, 16.-19. 9. 2015., Portorož, Slovenija
- Predsjednica Znanstvenog odbora, *Congress of the Croatian Society of Biochemistry and Molecular Biology “The Interplay of Biomolecules”*, HDBMB2014, 24.-27. 9. 2014. Zadar
- Član Organizacijskog savjetodavnog odbora, *12th International Meeting on Cholinesterases & Sixth International Conference on Paraoxonases*, 27. 9. - 2. 10. 2015., Elche, Španjolska

- Tajnica kongresa i članica Organizacijskog odbora "FEBS3+ Meeting", 13-16. 6. 2012. Opatija
Članica Internacionalnog savjetodavnog odbora "11th International Meeting on Cholinesterases", 4-9. 6. 2012., Kazan, Rusija
Tajnica i član Znanstvenog i Organizacijskog odbora "10. kongresa Hrvatskog društva za biokemiju i molekularnu biologiju: Tajni život biomolekula", HDBMB2010, Opatija, 15.-18. 8. 2010.
Predsjednica Organizacijskog odbora "10th International Meeting on Cholinesterases", 20.-25. 9. 2009. Šibenik
Član Hrvatskog organizacijskog odbora i Međunarodnog znanstveno-stručnog odbora 5. Svjetskog kongresa o kemijskom, biološkom i radiološkom terorizmu, Cavtat, Dubrovnik, 5.-10. 4. 2009.
Član Znanstvenog odbora "Kongresa Hrvatskog društva za biokemiju i molekularnu biologiju", HDBMB2008, Osijek, 16.-20. 9. 2008.
Tajnica i član Znanstvenog i Organizacijskog odbora "Kongresa Hrvatskog društva za biokemiju i molekularnu biologiju povodom 30. obljetnice osnutka", HDBMB2006, Vodice, 3.-7. 10. 2006.
Član Organizacijskog odbora međunarodnog sastanka "Esterases Reacting with Organophosphorus Compounds", Dubrovnik, 15.-18. 4. 1998.

POZVANA PREDAVANJA NA ZNANSTVENIM I STRUČNIM SKUPOVIMA

- The Third World Congress on Chemical, Biological and Radiological Terrorism, Dubrovnik, 2005.
Sinapsa Neuroscience Symposium '05, Ljubljana, Slovenija, 2005.
The IXth International Meeting on Cholinesterases, Suzhou, Kina, 2007.
The Fifth World Congress on Chemical, Biological and Radiological Terrorism – CBMTS Industry VI, Cavtat, 2009.
10th International Meeting on Cholinesterases, Šibenik, 2009.
11th International Meeting on Cholinesterases, Kazan, Rusija, 2012.
The FEBS3+ Meeting "From molecules to life and back", Opatija, Hrvatska, 2012.
The 4th Croatian Congress of Toxicology (CROTOX 2012), Primošten, 2012.
International Conference Biocatalysis-2013: Fundamentals & Applications, Moskva, Rusija, 2013.
FEBS 2013 Congress, St. Petersburg, Rusija, 2013.
24. hrvatski skup kemičara i kemijskih inženjera, Zagreb, 2015.
12th International Meeting on Cholinesterases and the 6th International Conference on Paraoxonases, Elche, Španjolska, 2012.
Fifteenth Regional Meeting of National Authorities of States Parties in Eastern Europe preceded by a Regional Meeting on Education and Outreach, Vilnius, Litva, 2016.
International Workshop on Chemical Warfare Agents: Toxicity, Emergency Response and Medical Countermeasures, Pariz, Francuska, 2016.
XVth International Symposium on Cholinergic Mechanisms, Marseille, Francuska, 2016.
24th Session of the Scientific Advisory Board of the OPCW, den Haag, Nizozemska, 2016.
8th Review Conference of the BWC, Geneva, Švicarska, 2016.
The 21th Conference of State Parties of OPCW, den Haag, Nizozemska, 2016.
NATO Research Task Group on Medical Chemical Defence Against Chemical Warfare Agent Threats, Bukurešt, Rumunjska, 2017.
26th Session of the Scientific Advisory Board OPCW, den Haag, Nizozemska, 2017.
Biological Weapons Convention Meeting of Experts, Ženeva, 2018.
13th International Meeting on Cholinesterases and the 7th International Conference on Paraoxonases, Hradec Králové, Češka, 2018.
33. Latin-American Congress of Chemistry (33-CLAQ) i X Congress of Chemical Sciences, Technology and Innovation (QUIMICUBA 2018), Havana, Kuba, 2018.
International workshop "Medical Nerve Agent Countermeasures", Pariz, Francuska, 2018.
17th Medical Chemical Defense Conference, München, Njemačka, 2019.
CBRNE Research & Innovation Conference 2019, Nantes, Francuska, 2019.
16th International Symposium on Cholinergic Mechanisms, Rehovot, Izrael, 2019.

POZVANA PREDAVANJA NA ZNANSTVENIM INSTITUCIJAMA

- 2015 Skaggs School of Pharmacy and Pharmaceutical Sciences, University of California at San Diego
2016 Institut Ruđer Bošković, Zagreb
2017 St. John's University, College of Pharmacy and Health Sciences, Jamaica, Queens, NY, SAD
2018 Budapest University of Technology and Economics i Institute of Enzymology, RCNS, Hungarian Academy of Sciences, Hungary
2019 Medicinski fakultet, Univerzitet u Sarajevu, Bosna i Hercegovina

Radovi u časopisima u bazama

Current Contents (73)

1. Tena Čadež, Ana Grgičević, Ramiza Ahmetović, Danijela Barić, Nikolina Maček Hrvat, Zrinka Kovarik*, Irena Škorić*, Benzobicyclo[3.2.1]octene derivatives as a new class of cholinesterase inhibitors. *Molecules (Basel, Switzerland)*, 2020, 25(21) (Q2, IF=3,267, 2019)
2. Antonio Zandona, Maja Katalinić*, Goran Šinko, Andreja Radman Kastelic, Ines Primožič*, Zrinka Kovarik. Targeting organophosphorus compounds poisoning by novel quinuclidine-3 oximes: development of butyrylcholinesterase-based bioscavengers. *Arch Toxicol* 94(9)(2020) 3157-3171 (Q1, IF=5,059, 2019)
3. Nikola Maraković, Anamarija Knežević, Igor Rončević, Xavier Brazzolotto, Zrinka Kovarik, Goran Šinko*. Enantioseparation, in vitro testing, and structural characterization of triple-binding reactivators of organophosphate-inhibited cholinesterases. *Biochem J* 477(15) (2020) 2771-2790 (Q2, IF=3,407, 2019)
4. Zrinka Kovarik*, Nikolina Maček Hrvat. Efficient detoxification of nerve agents by oxime-assisted reactivation of acetylcholinesterase mutants. *Neuropharmacology* 171 (2020) 108111 (pregledni rad Q1, IF=4,431, 2019)
5. Tamara Zorbaz, Petra Mišetić, Nicolas Probst, Suzana Žunec, Antonio Zandona, Gordana Mendaš, Vedran Micek, Nikolina Maček Hrvat, Maja Katalinić, Anissa Braiki, Ludovic Jean, Pierre-Yves Renard, Vesna Gabelica Marković, Zrinka Kovarik*. Pharmacokinetic evaluation of brain penetrating morpholine-3-hydroxy-2-pyridine oxime as an antidote for nerve agent poisoning. *ACS Chem Neuroscience* 11(7) (2020) 1072-1084 (Q1, IF=4,486, 2019)
6. Anita Bosak*, Aljoša Bavec, Tilen Konte, Goran Šinko, Zrinka Kovarik, Marko Goličnik*. Interactions of paraoxonase-1 with pharmacologically relevant carbamates. *Molecules* 25(1) (2020) 211 (Q2, IF=3,267, 2019)
7. Ivana Šagud, Nikolina Maček Hrvat, Ana Grgičević, Tena Čadež, Josipa Hodak, Milena Dragojović, Kornelija Lasić, Zrinka Kovarik*, Irena Škorić*. Design, synthesis and cholinesterase inhibitory properties of new oxazole benzylamine derivatives. *Journal of Enzyme Inhibition and Medicinal Chemistry* 35 (2020) 460-467 (Q1, IF=4,673, 2019)
8. Nikolina Maček Hrvat, Jaroslaw Kallisiak, Goran Šinko, Zoran Radić, K. Barry Sharpless, Palmer Taylor, Zrinka Kovarik*. Evaluation of high-affinity phenyltetrahydroisoquinoline aldoximes, linked through anti-triazoles, as reactivators of phosphorylated cholinesterases. *Toxicology Letters* 321 (2020) 83-89 (Q1, IF=3,499, 2018)
9. Palmer Taylor*, Shyong Yan-Jye, Jeremiah Momper, William Hou, Gisela Andrea Camacho-Hernandez, Zoran Radić, Yvonne Rosenberg, Zrinka Kovarik, Rakesh K. Sit, K. Barry Sharpless. Assessment of ionizable, zwitterionic oximes as reactivating antidotal agents for organophosphate exposure. *Chemico-Biological Interactions* 308 (2019) 194-197 (Q1, IF=3,723) (pregledni rad)
10. Anita Bosak*, Dejan M. Opsenica, Goran Šinko, Matija Zlatar, Zrinka Kovarik. Structural aspects of 4-aminoquinolines as reversible inhibitors of human acetylcholinesterase and butyrylcholinesterase. *Chemico-Biological Interactions* 308 (2019) 101-109 (Q1, IF=3,723)
11. Tamara Zorbaz, David Malinak, Kamil Kuca, Kamil Musilek*, Zrinka Kovarik*. Butyrylcholinesterase inhibited by nerve agents is efficiently reactivated with chlorinated pyridinium oximes. *Chemico-Biological Interactions* 307 (2019) 16-20 (Q1, IF=3,723)
12. Zrinka Kovarik, Nikolina Maček Hrvat, Jaroslaw Kallisiak, Maja Katalinić, Rakesh K. Sit, Tamara Zorbaz, Zoran Radić, Valery V. Fokin, K. Barry Sharpless, Palmer Taylor*. Counteracting tabun inhibition by reactivation by pyridinium aldoximes that interact with active center gorge mutants of acetylcholinesterase. *Toxicology and Applied Pharmacology* 372 (2019) 40-46 (Q2, IF=3,347)
13. Christopher M. Timperley*, Jonathan E. Forman, Mohammad Abdollahi, Abdullah Saeed Al-Amri, Augustin Baulig, Djafer Benachour, Veronica Borrett, Florida A. Cariño, Michael Geist, David Gonzalez, William Kane, Zrinka Kovarik, Roberto Martínez-Álvarez, Nicia Maria Fusaro Mourão, Sławomir Neffe, Syed K. Raza, Valentin Rubaylo, Alejandra Graciela Suárez, Koji Takeuchi, Cheng Tang, Ferruccio Trifiro, Francois Mauritz van Straten, Paula S. Vanninen, Slavica Vučinić, Volodymyr Zaitsev, Muhammad Zafar-Uz-Zama, Mongia Said Zina, Stian Holen. Advice on assistance and protection provided by the Scientific Advisory Board of the Organisation for the Prohibition of Chemical Weapons: Part 1. On medical care and treatment of injuries from blister and nerve agents. *Toxicology* (2019) 415 (2019) 56-69 (Q1, IF=4,099) (pregledni rad)

14. Zrinka Kovarik, Jarosław Kalisiak, Nikolina Maček Hrvat, Maja Katalinić, Tamara Zorbaz, Suzana Žunec, Carol Green, Zoran Radčić, Valery V. Fokin, K. Barry Sharpless, Palmer Taylor*. Reversal of tabun toxicity, enabled by a triazole annulated oxime library-reactivators of acetylcholinesterase. *Chemistry - A European Journal* 25 (2019) 4100-4114 (Q1, IF=4,857)
15. Christopher M. Timperley*, Mohammad Abdollahi, Abdullah Saeed Al-Amri, Augustin Baulig, Djafer Benachour, Veronica Borrett, Florida A. Cariño, Michael Geist, David Gonzalez, William Kane, Zrinka Kovarik, Roberto Martínez-Álvarez, Nicia Maria Fusaro Mourão, Slawomir Neffe, Syed K. Raza, Valentin Rubaylo, Alejandra Graciela Suárez, Koji Takeuchi, Cheng Tang, Ferruccio Trifirò, Francois Mauritz van Straten, Paula S. Vanninen, Slavica Vučinić, Volodymyr Zaitsev, Muhammad Zafar-Uz-Zama, Mongia Saïd Zina, Stian Holen, Jonathan E. Forman, Wesam S. Alwan, Vivek Suri. Advice on assistance and protection from the Scientific Advisory Board of the Organisation for the Prohibition of Chemical Weapons: Part 2. On preventing and treating health effects from acute, prolonged, and repeated nerve agent exposure, and the identification of medical countermeasures able to reduce or eliminate the longer term health effects of nerve agents. *Toxicology* 413 (2019)13-23 (Q1, IF=4,099) (pregledni rad)
16. Christopher M. Timperley*, Jonathan E. Forman, Paul Aas, Mohammad Abdollahi, Djafer Benachour, Abdullah Saeed Al-Amri, Augustin Baulig, Djafer Benachour, Renate Becker-Arnold, Veronica Borrett, Florida A. Cariño, Christophe Curty, David Gonzalez, Michael Gelst, William Kane, Zrinka Kovarik, Roberto Martínez-Álvarez, Bob Mikulak, Nicia Maria Fusaro Mourão, Slawomir Neffe, Evandro Nogueira, Ponnadurai Ramasami, Syed K. Raza, Valentin Rubaylo, Ahmed Saeed, Koji Takeuchi, Cheng Tang, Ferruccio Trifirò, Francois Mauritz van Straten, Alejandra Suarez, Farhat Waqar, Paula S. Vanninen, Muhammad Zafar-Uz-Zama, Slavica Vučinić, Volodymyr Zaitsev, Mongia Zina, Stian Holen, Izzati, Fauzla. Advice from the Scientific Advisory Board of the Organisation for the Prohibition of Chemical Weapons on riot control agents in connection to the Chemical Weapons Convention. *RSC Advances* 8 (2018) 41731-41739. (Q2, 68/172, IF=3,049) (pregledni rad)
17. Tamara Zorbaz, David Malinak, Nikola Maraković, Nikolina Maček Hrvat, Antonio Zandona, Michal Novotny, Adam Skarka, Rudolf Andrys, Marketa Benkova, Ondrej Soukup, Maja Katalinić, Kamil Kuca, Zrinka Kovarik*, Kamil Musilek*. Pyridinium oximes with *ortho*-positioned chlorine moiety exhibit improved physico-chemical properties and efficient reactivation of human acetylcholinesterase inhibited by several nerve agents. *Journal of Medicinal Chemistry* 61 (2018) 10753-10766 (Q1, IF=6,054)
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