ZARKO V. BOSKOVIC, PhD

1 CONTACT

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2 EMPLOYMENT

2024 – now	Courtesy Faculty	KU DEPARTMENT OF CHEMISTRY
2020 – now	Affiliate Faculty	KU CENTER FOR COMPUTATIONAL BIOLOGY
2018 – now	Assistant Professor	DEPARTMENT OF MEDICINAL CHEMISTRY, SCHOOL OF PHARMACY, THE UNIVERSITY OF KANSAS
2011– 2017	Postdoctoral Researcher	THE BROAD INSTITUTE OF MIT AND HARVARD
2006 – 2011	Research Assistant	UNIVERSITY OF CALIFORNIA, SANTA BARBARA
2004 – 2006	Researcher	UNIVERSITY OF NIŠ

3 EDUCATION

2011 – 2017	Postdoctoral	THE BROAD INSTITUTE OF MIT AND HARVARD
2006 – 2011	PhD	UNIVERSITY OF CALIFORNIA, SANTA BARBARA
2001 – 2004	BSc	UNIVERSITY OF NIŠ, SERBIA

4 PUBLICATIONS

[1] Mauricio Bahena Garcia, Manvendra Singh, Elizabeth Miller, Sarah Neuenswander, Justin Douglas, and Zarko Boskovic. Twisted Intramolecular Charge-Transfer State Addition to Electron-Poor Olefins. *The Journal of Organic Chemistry*, February 2024. Publisher: American Chemical Society.

[2] Manvendra Singh, Pawan Dhote, Daniel R. Johnson, Samuel Figueroa-Lazú, Christopher G. Elles, and Zarko Boskovic. Photochemical decarbonylation of oxetanone and azetidinone: Spectroscopy, computational models, and synthetic applications. *Angewandte Chemie International Edition*, 62(3):e202215856, 2023.

[3] Manvendra Singh, Bryce Gaskins, Daniel R. Johnson, Christopher G. Elles, and Zarko Boskovic. Synthesis of cycloheptatriene-containing azetidine lactones. *The Journal of Organic Chemistry*, 87(22):15001–15010, 2021.

[4] Srinivas Kolluru, Manvendra Singh, Bryce Gaskins, and Zarko Boskovic. Nickel-catalyzed annulations of ortho-haloarylimines. *ACS Catalysis*, 11(16):10351–10361, 2021.

[5] Zhichao Tang, Junxing Zhao, Zach J Pearson, Zarko V Boskovic, and Jingxin Wang. Rna-targeting splicing modifiers: Drug development and screening assays. *Molecules*, 26(8):2263, 2021.

[6] Manvendra Singh, Nathan Garza, Zachary Pearson, Justin Douglas, and Zarko Boskovic. Broad assessment of bioactivity of a collection of spiroindane pyrrolidines through "cell painting". *Bioorganic & Medicinal Chemistry*, 28(13):115547, 2020.

[7] Zachary Pearson, Manvendra Singh, and Zarko Boskovic. Compound Collections at KU 1947-2017: Cheminformatic Analysis and Computational Protein Target Prediction. *Medicinal Chemistry Research*, 29:1211–1222, 4 2020.

[8] Seung Ho Shin, Ji Su Lee, Jia-Min Zhang, Sungbin Choi, Zarko V Boskovic, Ran Zhao, Mengqiu Song, Rui Wang, Jie Tian, Mee-Hyun Lee, et al. Synthetic lethality by targeting the ruvbl1/2-ttt complex in mtorc1-hyperactive cancer cells. *Science Advances*, 6(31):eaay9131, 2020.

[9] Kwaku Kyei-Baffour, Dexter C Davis, Zarko Boskovic, Nobutaka Kato, and Mingji Dai. Natural product-inspired aryl isonitriles as a new class of antimalarial compounds against drug-resistant parasites. *Bioorganic & Medicinal Chemistry*, 28(19):115678, 2020.

[10] Nnamdi Akporji, Josh Lieberman, Michael Maser, Masahiko Yoshimura, Zarko Boskovic, and Bruce H Lipshutz. Selective deprotection of the diphenylmethylsilyl (dpms) hydroxyl protecting group under environmentally responsible, aqueous conditions. *ChemCatChem*, 11(23):5743–5747, 2019.

[11] Vasanthi S. Viswanathan, Matthew J. Ryan, Harshil D. Dhruv, Shubhroz Gill, Ossia M. Eichhoff, Brinton Seashore-Ludlow, Samuel D. Kaffenberger, John K. Eaton, Kenichi Shimada, Andrew J. Aguirre, Srinivas R. Viswanathan, Shrikanta Chattopadhyay, Pablo Tamayo, Wan Seok Yang, Matthew G. Rees, Sixun Chen, Zarko V. Boskovic, Sarah Javaid, Cherrie Huang, Xiaoyun Wu, Yuen-Yi Tseng, Elisabeth M. Roider, Dong Gao, James M Cleary, Brian M. Wolpin, Jill P. Mesirov, Daniel A. Haber, Jeffrey A. Engelman, Jesse S Boehm, Joanne D. Kotz, Cindy S. Hon, Yu Chen, William C. Hahn, Mitchell P. Levesque, John G. Doench, Michael E. Berens, Alykhan F. Shamji, Paul A. Clemons, Brent R. Stockwell, and Stuart L. Schreiber. Dependency of a therapy-resistant state of cancer cells on a lipid peroxidase pathway. *Nature*, 547(7664):453–457, jul 2017.

[12] Roscoe T. H. Linstadt, Carl. A. Peterson, Carina I. Jette, Zarko V. Boskovic, and Bruce H. Lipshutz. Control of Chemo-, Regio-, and Enantioselectivity in Copper Hydride Reductions of Morita–Baylis–Hillman Adducts. *Organic Letters*, 19(2):328–331, jan 2017.

[13] Zarko V. Boskovic, Melissa M. Kemp, Allyson M. Freedy, Vasanthi S. Viswanathan, Marius S. Pop, Jason H. Fuller, Nicole M. Martinez, Samuel O. Figueroa Lazú, Jiyoung A. Hong, Timothy A. Lewis, Daniel

Calarese, James D. Love, Amedeo Vetere, Steven C. Almo, Stuart L. Schreiber, and Angela N. Koehler. Inhibition of Zinc-Dependent Histone Deacetylases with a Chemically Triggered Electrophile. *ACS Chemical Biology*, 11(7):1844–1851, jul 2016.

[14] Christopher J. Gerry, Bruce K. Hua, Mathias J. Wawer, Jonathan P. Knowles, Shawn D. Nelson Jr., Oscar Verho, Sivaraman Dandapani, Bridget K. Wagner, Paul A. Clemons, Kevin I. Booker-Milburn, Zarko V. Boskovic, and Stuart L. Schreiber. Real-Time Biological Annotation of Synthetic Compounds. *Journal of the American Chemical Society*, 138(28):8920–8927, jul 2016.

[15] S. Haftchenary, S.D. Nelson, L. Furst, S. Dandapani, S.J. Ferrara, Z.V. Bošković, S. Figueroa Lazú, A.M. Guerrero, J.C. Serrano, D.K. Crews, C. Brackeen, J. Mowat, T. Brumby, M. Bauser, S.L. Schreiber, and A.J. Phillips. Efficient Routes to a Diverse Array of Amino Alcohol-Derived Chiral Fragments. *ACS Combinatorial Science*, 18(9), 2016.

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[18] Zarko V. Boskovic, Mahmud M. Hussain, Drew J. Adams, Mingji Dai, and Stuart L. Schreiber. Synthesis of piperlogs and analysis of their effects on cells. *Tetrahedron*, 69(36):7559–7567, sep 2013.

[19] Yuan Yuan, Kate Hartland, Zarko Boskovic, Yikai Wang, Deepika Walpita, Philippe A. Lysy, Cheng Zhong, Damian W. Young, Young-kwon Kim, Nicola J. Tolliday, Etienne M. Sokal, Stuart L. Schreiber, and Bridget K. Wagner. A Small-Molecule Inducer of PDX1 Expression Identified by High-Throughput Screening. *Chemistry & Biology*, 20(12):1513–1522, dec 2013.

[20] Drew J Adams, Zarko V Boskovic, Jimmy R Theriault, Alex J Wang, Andrew M Stern, Bridget K Wagner, Alykhan F Shamji, and Stuart L Schreiber. Discovery of small-molecule enhancers of reactive oxygen species that are nontoxic or cause genotype-selective cell death. *ACS chemical biology*, 8(5):923–9, 2013.

[21] Bruce H. Lipshutz, Zarko Bošković, Christopher S. Crowe, Victoria K. Davis, Hannah C. Whittemore, David A. Vosburg, and Anna G. Wenzel. "Click" and olefin metathesis chemistry in water at room temperature enabled by biodegradable micelles. *Journal of Chemical Education*, 90(11):1514–1517, 2013.

[22] Žarko V Bošković. *A. Advances in Copper Hydride-Catalyzed Reactions B. Bimetallic Heterogeneous Catalysis C. Tandem Olefin Metathesis/Elimination*. PhD thesis, University of California, Santa Barbara, 2011.

[23] Ralph Moser, Zarko V Bosković, Christopher S Crowe, and Bruce H Lipshutz. CuH-catalyzed enantioselective 1,2-reductions of alpha,beta-unsaturated ketones. *Journal of the American Chemical Society*, 132(23):7852–3, 2010.

[24] Bruce H. Lipshutz, Alexander R. Abela, Žarko V. Bošković, Takashi Nishikata, Christophe Duplais, and Arkady Krasovskiy. "Greening up" cross-coupling chemistry. *Topics in Catalysis*, 53(15-18):985–990, 2010.

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[27] Bruce H. Lipshutz, Subir Ghorai, and Žarko V. Bošković. Tandem olefin metathesis-elimination reactions. A new route to doubly unsaturated carbonyl derivatives. *Tetrahedron*, 64(29):6949–6954, 2008.

[28] Bruce H Lipshutz, Danielle M Nihan, Ekaterina Vinogradova, Benjamin R Taft, and Zarko V Bosković. Copper + nickel-in-charcoal (Cu-Ni/C): a bimetallic, heterogeneous catalyst for cross-couplings. *Organic letters*, 10(19):4279–82, 2008.

[29] Benjamin A. Baker, Žarko V. Bošković, and Bruce H. Lipshutz. (BDP)CuH: A "Hot" Stryker's Reagent for Use in Achiral Conjugate Reductions. *Organic Letters*, 10(2):289–292, jan 2008.

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[31] Ivan Gutman, Gordana Stojanović, Žarko Bošković, Niko Radulović, and Polina Rašić. Comparing the Randić-Balaban and the Clar models for partitioning of π-electrons in rings of benzenoid hydrocarbons: the case of phenes and starphenes. *Polycyclic Aromatic Compounds*, 25(4):345–355, 2005.

[32] I. Gutman, B. Furtula, B. Arsić, and Ž. Bošković. On the relation between Zenkevich and Wiener indices of alkanes. *Journal of the Serbian Chemical Society*, 69(4), 2004.

5 FUNDING AND AWARDS

2022	COBRE pilot grant	$ 75,000
2021	COBRE pilot grant	$ 65,000
2021	GMaP	$ 7,500
2021	KU Cancer Center D3ET pilot grant	$ 25,000
2020	NSF XSEDE (computational resources)	in kind
2020	Chemical Biology of Infectious Diseases COBRE pilot grant	$60,000
2020	Center for Molecular Analysis of Disease Pathways COBRE voucher	$2,000
2019	Protein structure–function COBRE small grant	$10,000
2019	NSF eXtreme Science and Engineering Discovery Environment (XSEDE)	$1,157
2019	Research Study Agreement with ZAFGEN, INC.	$84,024
2019	General Research Fund, KU	$15,000
2018	New Faculty General Research Fund, KU	$8,000
2016	BroadNext10 Scientific Frontiers award	$40,000
2011	HOWARD HUGHES MEDICAL INSTITUTE postdoctoral fellowship	
2010	Dean's Fellowship, UNIVERSITY OF CALIFORNIA, SANTA BARBARA	
2009	Sam L. Nguyen Fellowship	$500
2006	Fellowship of the GOVERNMENT OF REPUBLIC OF SERBIA	€15,000
2005	Best Student, FACULTY OF SCIENCES AND MATHEMATICS, UNIVERSITY OF NIŠ	
2005	SERBIAN CHEMICAL SOCIETY Yearly Award	
2004	ANA BJELETIĆ AND IVAN MARKOVIĆ FOUNDATION AWARD	
2004	NENAD KOSTIĆ FUND FOR CHEMICAL SCIENCES Award	

6 SOCIETIES

2018 – now	Associate member	KU Cancer Center
2010 – now	Member	American Chemical Society

7 TEACHING

2019 –	Chemistry of Drug Action I	UNIVERSITY OF KANSAS
2019 –	Medicinal Biochemistry	UNIVERSITY OF KANSAS
2019	Issues in Scientific Integrity	UNIVERSITY OF KANSAS
2007 – 2010	Organic Chemistry Lab	UCSB

8 MENTORING

2023 – now	Victor Fadare	Graduate student	UNIVERSITY OF KANSAS
2023 – now	Elizabeth Miller	Undergraduate student	UNIVERSITY OF KANSAS
2023 – now	Mauricio Bahena Garcia	Masters student	UNIVERSITY OF KANSAS
2022	Pawan Dhote	Postdoctoral scholar	UNIVERSITY OF KANSAS
2022 – now	Alhamza Hamza	PharmD student	UNIVERSITY OF KANSAS
2021 – 2022	Ambrosee Wilkinson	Undergraduate student	UNIVERSITY OF KANSAS
2021	Alyschia Gaffar	PharmD student	UNIVERSITY OF KANSAS
2021	Koki Takemoto	Graduate student	UNIVERSITY OF KANSAS
2020 – 2021	Cybelle Arrey	PharmD student	UNIVERSITY OF KANSAS
2020 – now	Bryce Gaskins	Undergraduate student	UNIVERSITY OF KANSAS
2020 – 2021	Amar Kumar	Graduate student	UNIVERSITY OF KANSAS
2020 – 2021	Srinivas Kolluru	Postdoctoral scholar	UNIVERSITY OF KANSAS
2019 – 2021	Vishvah Shah	Undergraduate student	UNIVERSITY OF KANSAS
2019	Tanner Moore	PharmD student	UNIVERSITY OF KANSAS
2019 – 2021	Zachary Pearson	Undergraduate student	UNIVERSITY OF KANSAS
2019	Matthew McCurry	Graduate student	UNIVERSITY OF KANSAS
2018 – 2023	Manvendra Singh	Graduate student	UNIVERSITY OF KANSAS
2018 – 2020	Nathan Garza	Research associate	UNIVERSITY OF KANSAS
2016	Masahiko Yoshimura	Graduate student	NAGOYA UNIVERSITY
2015 – 2017	Bruce K. Hua	Graduate student	HARVARD
2015 – 2017	Christopher J. Gerry	Graduate student	HARVARD
2014	DeMarcus K. Crews	Undergraduate student	MOREHOUSE COLLEGE
2013 – 2015	Allyson M. Freedy	Undergraduate students	HARVARD
2012	Samuel O. Figueroa Lazu	Undergraduate student	UPR HUMACAO
2011	Roscoe Linstadt	Undergraduate student	UCSB
2010 – 2011	Chris S. Crowe	Undergraduate student	UCSB

9 PRESENTATIONS

February 5, 2024	Reaching New Chemical Space With Excited States	UC Irvine
February 2, 2024	Reaching New Chemical Space With Excited States	UC Riverside
January 31, 2024	Reaching New Chemical Space With Excited States	University of Southern California
January 29, 2024	Reaching New Chemical Space With Excited States	UC Santa Barbara
January 26, 2024	Reaching New Chemical Space With Excited States	San Diego State University
November 16, 2023	ACS Southwest Regional Meeting, Cope Symposium	
October 26, 2023	TBD	Oklahoma State University
September 14, 2023	Choices! Skeletal Photoisomerization as a Key Tool for the Exploration of New Chemical Space	University of Iowa
June 19, 2023	Photochemical Decarbonylations for the Synthesis of Saturated Heterocycles	Heterocyclic Compounds, Gordon Research Conference, Salve Regina University
November 14, 2022	Non-natural Complex Molecules: Their Synthesis and Effects on Cells	University of Toledo
Aug. 21, 2022	Robust qSAR models from the intersection of new chemical space and cell morphology image space	ACS National Meeting, Chicago
Jun. 28, 2022	Poster: Synthesis of complex structures through the application of photochemistry and transition metal catalysis and their use in bioactivity prospecting	Tetrahedron Symposium, Lisbon Portugal
Jun. 20, 2022	Poster: Synthesis of complex structures through the application of photochemistry and transition metal catalysis and their use in bioactivity prospecting	Heterocyclic Compounds, Gordon Research Conference, Salve Regina University
Mar. 24, 2022	“Non-natural” complex molecules and their biological profiles	ACS National Meeting, San Diego
Mar. 9, 2021	Small molecule binders for SipD protein	Chemical Biology of Infectious Disease COBRE

Feb. 24, 2021	Benzoylation of histones as a novel therapeutic approach for the treatment of multiple myeloma	Rapid Reactor Team PIVOT
Feb. 9, 2021	Linear algebra methods in a chemistry and chemical biology laboratory	Center for Computational Biology seminar series
Aug. 27, 2020	Benzoylated histones: a vulnerability in multiple myeloma	Hematologic Malignancies and Cellular Therapeutics Group Meeting
May 27, 2020	COVID-19 panel	University of Kansas
May 18, 2020	Covalent benzoylation of histones as a molecular vulnerability in multiple myeloma	2020 Lymphoma/Myeloma DWG Meeting
Mar. 21, 2020	Benzoylated histones: a vulnerability in multiple myeloma	Drug Discovery, Delivery and Experimental Therapeutics research program (D3ET)
Aug. 16, 2019	Metamorphosis of a postdoc: Not another survivor-biased account of perseverance and beating the odds	KU Postdoctoral Association

10 SERVICE

2022 – now	NMR Advisory Committee	UNIVERSITY OF KANSAS
2020 – now	ExamSoft Committee	UNIVERSITY OF KANSAS
2020–2022	X-ray Crystallographer Search Committee	UNIVERSITY OF KANSAS
2020– now	Safety Coordinator, Department of Medicinal Chemistry	UNIVERSITY OF KANSAS
2019–2021	Admissions Committee, School of Pharmacy	UNIVERSITY OF KANSAS
2018–now	Safety Coordinator, Gray-Little Hall	UNIVERSITY OF KANSAS
2018–2020	Departmental “ambassador” at the Center for Teaching Excellence	UNIVERSITY OF KANSAS
2018	Reviewer for Spring 2019 Undergraduate Research Award (UGRA) competition	UNIVERSITY OF KANSAS

11 JOURNAL REVIEWING ACTIVITY

Journal of the American Chemical Society, Angewandte Chemie International Edition, Journal of Medicinal Chemistry, Chemical Science, Scientific Reports, Tetrahedron Letters, Molecules, ACS Medicinal Chemistry Letters (Editorial Advisory Board Member), Marine Drugs, Bioorganic & Medicinal Chemistry, SLAS Discovery, Journal of Natural Products.

12 GRANT REVIEWING ACTIVITY

American Chemical Society Petroleum Research Foundation, NIH Early Career Reviewer Program, Kansas State University Johnson Cancer Center, NSF SBIR/STTR ad hoc.

March 1, 2024