Curriculum Vitae

Shizue Mito, Ph.D.

Assistant Professor
Department of Medical Education, ISU
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Contact Information

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Education & Training

B.S. in Pharmaceutical Sciences, Osaka University, Japan
M.S. in Pharmaceutical Sciences, Osaka University, Japan
Ph.D. in Pharmaceutical Sciences, Hokkaido University, Japan
Postdoctoral fellow, Kyoto University, Japan (2004-2005)
Postdoctoral fellow, Harvard University, Cambridge, MA, USA (2005-2008)

Work Experience

- Assistant Professor, University of Texas Rio Grande Valley, School of Medicine, Department of Medical Education (2023- present)
- Assistant Professor, University of Texas Rio Grande Valley, Department of Chemistry (2015- 2022)
- Assistant Professor, University of Texas at El Paso, Department of Chemistry (2008-2015)
- Research Scientist, Toray Industry, Inc. Japan, (1995-2001)
- Hospital Pharmacist, Japan (1993-1995)

Professional Memberships:

- American Chemical Society
- The Chemical Society of Japan
- Society of Synthetic Organic Chemistry Japan

Honors & Awards

- The Best poster presentation Award, 2023 UTRGV SOM Research Symposium.
- The Best Mentor Award, the UTEP COURI Symposium Spring 2014.
- University of Texas System, Faculty Science and Technology Acquisition and Retention (STARs) Award Faculty, 2008
- Naito Foundation Scholarship for overseas study, 2005
- Award for the Best Discussion, the 15th Sapporo Symposium, Sapporo, Japan 2003

Research Focus

Dr. Mito's research is in organic and medicinal chemistry to find better drug candidates and efficiently synthesize these compounds. Her research has three parts: 1) methodology development to prepare bioactive compounds. 2) drug modification to find better structures. 3) total synthesis of bioactive natural product and their analogs. Currently, our targets are treatments for various cancers, diabetes, and immune thrombocytopenia. Dr. Mito has established collaborative research with faculty from other colleges/departments to evaluate the bioactivities of her synthesized compounds.

Publications

1) Shizue Mito*, Benxu Cheng, Benjamin A. Garcia, Xin Yee Ooi, Daniela Gonzalez, Tess C. Ruiz, Francisco X. Elisarraras, Andrew Tsin. "SAR study of niclosamide derivatives for neuroprotective function in SH-SY5Y neuroblastoma." *Bioorg. Med. Chem Lett*. **2023**, *96*, 129498. DOI: 10.1016/j.bmcl.2023.129498.

2) Juan Carlos Lopez-Alvarenga, Cordelia Rasa, Jameela Banu, Shizue Mito, Alberto O Chavez, Sara M Reyna. "Commentary on Metabolic Health Disparities Affecting the Rio Grande Valley Mexican American Population: Seeking Answers Using Animal Models" *Ethnicity and Disease*. **2023** January 01; 33(1):55-60. DOI: 10.18865/1669

3) Shizue Mito*, Benxu Cheng, Benjamin A. Garcia, Daniela Gonzalez, Xin Yee Ooi, Tess C. Ruiz, Francisco X. Elisarraras, Andrew Tsin, Sue Anne Chew, Marco A. Arriaga, "SAR Study of Niclosamide Derivatives in the Human Glioblastoma U-87 MG Cells" *Medicinal Chemistry Research*, **2022,** *31*, 1313–1322.. DOI: 10.1007/s00044-022-02907-w

4) Sudhakar Kalaraga, Gabriel Orozco, Shizue Mito*; “The efficient synthesis of D-xylulose and formal synthesis of Syringolide 1” *Tetrahedron Lett.* **2020**, *61*, 152321. DOI:10.1016/j.tetlet.2020.152321

5) Cheng, B., Morales, L. D., Zhang, Y., Mito, S., Tsin, A. “Niclosamide induces protein ubiquitination and inhibits multiple pro-survival signaling pathways in the human glioblastoma U-87 MG cell line.” *PLoS ONE,* **2017,** *12*(9), e0184324. http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0184324 10.1371/journal.pone.0184324

6) Quang H. Luu, Jorge D. Guerra, Cecilio M. Castañeda, Manuel A. Martinez, Jong Saunders, Benjamin A. Garcia, Brenda V. Gonzales, Anushritha Aidunuthula, Shizue Mito*; “Ultrasound assisted one-pot synthesis of benzo-fused indole-4,9-dinones from 1,4-naphthoquinone and □-aminoacetals.” *Tetrahedron Lett.* **2016**, *57*, 2253. DOI: 10.1016/j.tetlet.2016.04.031

7) Quang H. Luu, Shizue Mito*; “Preparation of indolequinones and their applications in organic synthesis” *Tetrahedron*, **2015**, *71*, 895-916. DOI:10.1016/j.tet.2014.11.008

8) Diego A. Pedroza, Fernando De Leon, Armando Varela-Ramirez, Carolina Lema, Renato J. Aguilera and Shizue Mito*; “The Cytotoxic Effect of 2-Acylated-1,4-Naphthohydroquinones on Leukemia/Lymphoma Cells” *Bioorg. Med. Chem.* **2014***, 22,* 842. DOI:10.1016/j.bmc.2013.12.007

9) Fernando De Leon, Sudhakar Kalagara, Ashley A. Navarro, Shizue Mito*; “Synthesis of 6-Acyl-5,8-quinolinediols by Photo-Friedel-Crafts Acylation Using Sunlight.” *Tetrahedron Lett.* **2013**, *54*, 3147. DOI:10.1016/j.tetlet.2013.04.021

10) “Scope and Mechanism of Enantioselective Michael Additions of 1,3-Dicarbonyl Compounds to Nitroalkenes Catalyzed by Nickel(II) Chiral Diamine Complexes.” David A. Evans, Shizue Mito and Daniel Seidel; *J. Am. Chem. Soc.* **2007**, *129*, 11583.

11) “Reactions of Zirconocene–Alkyne Complexes with $Mo(CO)_6$.” Shizue Mito, Lishan Zhou, Chanjuan Xi and Tamotsu Takahashi; *Chem. Lett*. **2006**, *35,* 122.

12) “Double Carbonylation of Zirconocene–Alkyne Complexes.” Shizue Mito and Tamotsu Takahashi; *Chem. Commun.* **2005**, 2495.

13) “CO Insertion Reaction of Zirconacyclopentadienes.” Zhenfeng Xi, Hong-Tao Fan, Shizue Mito and Tamotsu Takahashi; *J. Organomet. Chem.* **2003**, *682*, 108.

14) “One-pot Synthetic Routes to Maltiply Substituted Indene Derivatives by Hydrolysis of Zirconocene-Mediated Intermorecular Coupling Reactions of Aromatic Ketones and Alkynes.” Zhenfeng Xi, Ruiyun Guo, Shizue Mito, Hongliang Yan , Ken-ichiro Kanno, Kiyohiko Nakajima and Tamotsu Takahashi, *J. Org. Chem.* **2003**, *68*, 1252.

15) “Radical Cycloaddition by Ni(II) Complex-Catalyzed Electroreduction. A Method for Preparation of Pyrrolopyridine and Pyrrolopyrrole Derivatives.” Shigeko Ozaki, Shizue Mitoh and Hidenobu Ohmori; *Chem. Pharm. Bull.* **1996**, *44*, 2020.

16) "Indirect Electroreductive Sequential Radical Reaction Catalyzed by a Ni(II) Complex. One-Step Preparation of Functionalized (Methylene)-cyclopentanes." Shigeko Ozaki, Shizue Mitoh, Hidenobu Ohmori; *Chem. Pharm. Bull.* **1995**, *43*, 1435.

17) "Hypervalent Iodine-Introduced Nucleophilic Substitution of *para*-Substituted Phenol Ethers. Generation of Cation Radicals as Reactive Intermediates." Yasuyuki Kita, Hirofumi Tohma, Kenji Hatanaka, Takeshi Takada, Shigekazu Fujita, Shizue Mitoh, Hiromu Sakurai and Shigenori Oka; *J. Am. Chem. Soc.* **1994**, *116*, 3684.

18) "A Novel and Direct Alkyl Azidation of *p*-Alkylanisoles Using Phenyl Iodine(III) Bis (Trifluoroacetate) (PIFA) and Trimethylsiliyl Azide." Yasuyuki Kita, Hirofumi Tohma, Takeshi Takada, Shizue Mitoh, Shigekazu Fujita and Michiyo Gyoten; *Synlett* **1994**, 427.

RELATED ESSAY

1) Shizue Mito "Difficulties Brought Me Good Fortune" *Chemistry & Chemical Industry (Kagaku-to-Kogyo),* **2010**, *63*, 351.
2) Shizue Mito "Evans Group: Paradise for Young Chemists!" *Organometallic News, Japan,* **2006**, 134-135.

Complete List of Published Work in MyBibliography:
https://www.ncbi.nlm.nih.gov/myncbi/shizue.mito.1/bibliography/public/