Rodolfo Tello-Aburto, PhD.
Associate Professor
Department of Chemistry & Biochemistry
New Mexico State University
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EDUCATION

The University of Iowa, Iowa City, IA
PhD in Medicinal and Natural Products Chemistry (2003–2008)
Thesis: "Synthesis of Marine Macrolides: A Formal Synthesis of the Aurisides"
Research advisor: Professor Horacio F. Olivo

Universidad Nacional Autónoma de México, México DF, México
MSc in Organic Chemistry (1998–2002)

Universidad Veracruzana, Xalapa Veracruz, México
BS in Chemistry-Pharmacy-Biology (1991-1996)

PUBLICATIONS

Independent Career (^{u} represents undergraduate participant)

21. Najmeh Rahimi,; Saba Sehrish,; Samuel K. Akompong,; Bayler G. Barnes,; Cory J. Windorff,; Marat R. Talipov; Rodolfo Tello-Aburto. Annulative Endoperoxidation of Tetronates. *Org*. *Biomol. Chem.* **2025**. DOI: 10.1039/D5OB00663E
20. Don Hyder,; Eric Miller,; Stephen Rankin,; Danielle Turner,; Snezna Rogelj,; Rodolfo Tello-Aburto,; Desiree Smiley,; Byden Baker,; Holly Vandeever,; Hunter, Esmiol,; et al. Analysis of floral sources of a local honey used in clinical treatment of topical community acquired methicillin resistant Staphylococcus Aureus. *New Mexico Journal of Science* **2023**, *57*, 50-63.
19. Carlos R. Viera,; Bradley T. Stevens,; Talysa Viera,; Cameron Zielinsky.; Lee A. Uranga,; Snezna Rogelj,; Praveen L. Patidar,; Rodolfo Tello-Aburto. Cystargolide-based amide and ester Pz analogues as proteasome inhibitors and anti-cancer agents. *R. Soc. Open Sci.* **2022**, *9*, 220358-220364.
18. Alexandra E. Golliher,; Antonio J. Tenorio,; Brandon M. Cornalli,; Erika Y. Monroy,; F. Omar Holguin,; William A. Maio. The synthesis and use of γ-chloro-enamides for the subsequent construction of novel enamide-containing small molecules. *Tetrahedron* **2021**, *102*, 132536-132545.
17. Nishanti Ellepola, Talyssa Ogas, Danielle N. Turner, Rubi Gurung, Sabino Maldonado-Torres^{u}, Rodolfo Tello-Aburto, Praveen L Patidar, Menake E. Piyasena, Gayan Rubasinghege. A Toxicological Study on Photo-Degradation Products of Environmental Ibuprofen: Ecological and Human Health Implications. *Ecotoxicol. Environ. Saf.* **2020**, *188*, 109892-109899.
16. Doleshwar Niroula, Liam P. Hallada, Camille LeChapelain, Susantha K. Ganegamage, Devon Dotson^{u}, Snezna Rogelj, Michael Groll and Rodolfo Tello-Aburto. Design, Synthesis and Evaluation of Cystargolide-Based Beta-Lactones as Potent Proteasome Inhibitors. *Eur. J. Med. Chem.* **2018**, *157*, 962-977.

15. Doleshwar Niroula, Liam P. Hallada[u], Snezna Rogelj and Rodolfo Tello-Aburto. A Total Synthesis of (-)-Hortonone C. *Tetrahedron* **2017**, *73*, 359-364.
14. Rodolfo Tello-Aburto, Liam P. Hallada[u], Doleshwar Niroula and Snezna Rogelj. Total Synthesis and Absolute Stereochemistry of the Proteasome Inhibitors Cystargolides A and B. *Org. Biomol. Chem.* **2015**, *13*, 10127-10130.
13. Rodolfo Tello-Aburto, Alyssa N. Lucero[u], and Snezna Rogelj. A Catalytic Approach to the MH-031 Lactone: Application to the Synthesis of Geralcin Analogs. *Tetrahedron Lett*. **2014**, *55*, 6266-6268

Graduate and Mentored

12. Suneet Mehrotra, Brendan M. Duggan, Rodolfo Tello-Aburto, Tara D. Newar, William H. Gerwick, Thomas F. Murray and William A. Maio. Detailed Analysis of (–)-Palmyrolide A and Some Synthetic Derivatives as Voltage-Gated Sodium Channel Antagonists. *J. Nat. Prod.* **2014**, *77*, 2553-2560

11. **Rodolfo Tello-Aburto**, Kyle A. Kalstabakken, and Andrew M. Harned. Ligand and Substrate Effects During Pd-Catalyzed Cyclizations of Alkyne-Tethered Cyclohexadienones. *Org. Biomol. Chem.* **2013**, *11*, 5596–5604

10. Leticia Minor-Villar, **Rodolfo Tello-Aburto**, Horacio F. Olivo, Aydee Fuentes, Moises Romero-Ortega. Desulfurization–Oxygenation of Chiral 1,3-Thiazolidine-2-thiones and 1,3-Oxazolidine-2-thiones Using Propylene Oxide and Microwave Irradiation. *Synlett* **2012**, *23*, 2835–2839.

9. **Rodolfo Tello-Aburto**, Tara D. Newar and William A. Maio. Evolution of a Protecting-Group-Free Total Synthesis: Studies en Route to the Neuroactive Marine Macrolide (–)-Palmyrolide A. *J. Org. Chem.* **2012**, *77*, 6271–6289.

8. **Rodolfo Tello-Aburto**, Emily M. Johnson, Cheyenne K. Valdez and William A. Maio. Asymmetric Total Synthesis and Absolute Stereochemistry of the Neuroactive Marine Macrolide Palmyrolide A. *Org. Lett.* **2012**, *14*, 2150–2153. [Highlighted in *Synfacts* **2012**, *8* (7), 708]

7. Joseph K. Hexum, **Rodolfo Tello-Aburto**, Nicholas B. Struntz, Andrew M. Harned and Daniel A. Harki. Bicyclic Cyclohexenones as Inhibitors of NF-kB Signaling. *ACS Med. Chem. Lett.*, **2012**, *3*, 459–464.

6. **Rodolfo Tello-Aburto,** Kyle A. Kalstabakken, Kelly A. Volp and Andrew M. Harned. Regioselective and Stereoselective Cyclizations of Cyclohexadienones Tethered to Active Methylene Groups. *Org. Biomol. Chem.* **2011**, *9*, 7849–7859.

5. **Rodolfo Tello-Aburto** and Andrew M. Harned. Palladium-Catalyzed Reactions of Cyclohexadienones: Regioselective Cyclizations Triggered by Alkyne Acetoxylation. *Org. Lett.* **2009**, *11*, 3998– 4000.

4. **Rodolfo Tello-Aburto**, Maria Yolanda Rios, Dale C. Swenson and Horacio F. Olivo. Bromohydrin Reactions of Grieco's Bicyclic Lactone. *Tetrahedron Lett.* **2008**, *49*, 6853–6855.

3. **Rodolfo Tello-Aburto** and Horacio F. Olivo.A Formal Synthesis of the Auriside Aglycon. *Org. Lett.* **2008**, *10*, 2191–2194.

2. **Rodolfo Tello-Aburto**, Adrian Ochoa-Teran and Horacio F. Olivo. Model Studies on the Ring Construction of the Auriside Macrolactone. *Tetrahedron Lett*. **2006**, *47*, 5915–5917.

1. Baldomero Esquivel, **Rodolfo Tello** and Ana Adela Sánchez. Unsaturated Diterpenoids with a Novel Carbocyclic Skeleton from *Salvia xalapensis*. *J. Nat. Prod*. **2005**, *68*, 787–790.

PATENTS

Tello-Aburto, R.; Rogelj, S.; Hallada, L.; Niroula, D. Proteasome Inhibitors. Patent number: WO2019213386A1, November 2019.

FUNDING

Completed Funding

- August 2013-July 2016. NMT Startup Funds – Natural Products and Medicinal Chemistry.
- September 2015-September 2018. New Mexico INBRE. Natural Product-Inspired Proteasome Inhibitors as Anticancer Agents.
- September 2018-August 2021. NIH 1R15GM124620-01A1. Structure-Activity Relationship Studies of Peptide Beta-Lactones as Proteasome Inhibitors and Anticancer Agents.

Current Funding

- August 2021- NMSU startup funds.
- Cowboys for Cancer Research foundation.

HONORS AND AWARDS

- Invited to DOW Chemical Co. B.E.S.T. symposium, Midland MI, September 2010
- Center for biocatalysis and bioprocessing fellowship (2006–2008)
- Pharmacy graduate studies excellence award (2004–2005)
- Graduate studies fellowship, CONACyT–México (2000–2001)

EXPERIENCE

New Mexico State University, Las Cruces, NM
(2021-present) **Associate Professor**.
New Mexico Institute of Mining and Technology, Socorro, NM
(2018-2021) **Associate Professor of Chemistry**.
(2013-2018) **Assistant Professor of Chemistry**
New Mexico State University, Las Cruces, NM
(2011-2013) **Postdoctoral Fellow -** Total synthesis of marine natural products
Postdoctoral advisor: Professor William A. Maio
University of Minnesota, Minneapolis, MN
(2008–2011) **Postdoctoral Associate** –Development of synthetic methodology for the catalytic desymetrization of cyclohexadienones
Postdoctoral advisor: Professor Andrew M. Harned
University of Iowa, Iowa City, IA

(2003–2008) **Research Assistant** – Synthesis of natural products based on asymmetric aldol reactions. Doctoral advisor: Professor Horacio F. Olivo

Vertex Pharmaceuticals Inc., San Diego, CA

(2007) **Summer Intern** – Designed and executed synthetic routes in support of the analytical development department

Revista Latinoamericana de Química, México DF, México

(2002–2003) **Assistant Editor –** Provided editorial support, bibliographical searches and organization of peer–reviewing documentation

TEACHING EXPERIENCE

New Mexico State University (2021-present)

Graduate Courses:

Dynamics, Spectroscopy

Undergraduate Courses:

Organic Chemistry I and II.

New Mexico Institute of Mining and Technology (2013-2021)

Graduate Courses:

Advanced Organic Chemistry, Physical Organic Chemistry, Medicinal Chemistry

Undergraduate Courses:

General Chemistry, Organic Chemistry. Intermediate Organic Chemistry.

Universidad Simón Bolivar, México DF, México (2000–2001)

Lecturer – Organic chemistry and pharmacognosy courses, theory and laboratory: Developed syllabus and overall courses structure, administered all grades.

Universidad Nacional Autónoma de México, México DF, México (2001)

Teaching Assistant – with Professor Yolanda Caballero, Organic Chemistry III, Theory and Laboratory: Collaborated in lectures, grading of exams and assignments, met with students upon request.

GRADUATE ADVISING EXPERIENCE

- Doleshwar Niroula – PhD in Chemistry, New Mexico Tech 2018
- Liam Hallada – MSc. In Biology, New Mexico Tech 2019
- Bradley Stevens – MSc in Biology, New Mexico Tech, 2020
- Carlos Viera, MSc in Chemistry, New Mexico Tech, 2021
- Najmeh Rahimi -PhD Chemistry student, NMSU, 2022-present
- Meysam Rezaei, -PhD Chemistry student, NMSU, 2024
- Saba Sehrish, MSc Chemistry student, NMSU 2025-present
- Samuel K. Akompong, PhD Chemistry student, NMSU, 2025-present

SELECTED PRESENTATIONS and INVITED SEMINARS

- Reunion Internacional de Investigaion en Productos Naturales (Natural Products Research International Meeting). AMIPRONAT, May 2016, Xalapa Veracruz Mexico.
- Symposium “Rising Stars in Organic Chemistry”. 73rd ACS Southwest Regional Meeting. October 2017, Lubbock, TX.

SERVICE AND OUTREACH

- Peer-Review for Organic Letters, Tetrahedron Letters, Bioorganic and Medicinal Chemistry, European Journal of Medicinal Chemistry, Synthesis, Royal Society Open Science.
- Research host for NM INBRE NISE Summer Research Program -2018
- Research host for NM-AMP SCORE Summer Research Program -2018.
- Reviewer for NIH SBC-B. October 2020 meeting.
- F31 and F32 NIH Fellowships review panel.