

Samantha (Sam) Yruegas

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APPOINTMENTS

Rice University , James and Deborah T. Godwin Assistant Professor	2022–
Princeton University , Postdoctoral Researcher Research Advisor: Prof. Paul J. Chirik	2019–2022

EDUCATION

Baylor University , Ph.D. Inorganic Chemistry Dissertation: <i>Generating conjugated boron heterocycles from boroles</i> Research Advisor: Prof. Caleb D. Maartin	2014–2019
Texas A&M University , B.A. Chemistry Research Advisor: Prof. Oleg V. Ozerov	2010–2014

AWARDS AND HONORS

Cancer Prevention Research Institute of Texas <i>First-Time Tenure-Track Award</i>	2022
Ford Foundation <i>Postdoctoral Fellowship Program Honorable Mention</i>	2021
Baylor University <i>Outstanding Dissertation Award</i>	2020
American Chemical Society <i>Division of Inorganic Chemistry Young Investigator Award</i>	2020
United Independent School District <i>League of Legends: Distinguished Alumni Award</i>	2019
IUPAC <i>Periodic Table of Younger Chemists: Erbium</i>	2019
Baylor University <i>Research Productivity Award</i>	2017; 2019
Department of Defense <i>SMART Fellowship Semifinalist</i>	2017
Texas A&M University <i>NSF-REU Fellow</i>	2012
Texas A&M University <i>Briscoe-Hugo Endowed Scholarship</i>	2010-2014

GRANT PROPOSALS (IN PROGRESS)

American Chemical Society *PRF Doctoral New Investigator*

PUBLICATIONS

19. DiMucci, I.; Titus, C.; Nordlund, D.; Bour, J.; Chong, E.; Kosobokov, M.; Martin, C.; Nebra, N.; Vivic, D.; Yruegas, S.; MacMillan, S.; Shearer, J.; Lancaster, K. "[Scrutinizing Formally NiIV Centers through the Lenses of Core Spectroscopy, Molecular Orbital Theory, and Valence Bond Theory](#)," *Chem Rxiv* **2022**.
18. Yruegas, S.; Paccagnini, M. Ho, S. C.; Sattler, A.; Chirik, P. J. "[Nickel-Catalyzed Dimerization of Di- and Trisubstituted Olefins](#)," *Organometallics* **2022**, *15*, 2059–2066.
17. Yruegas, S.; Semproni, S. P.; Chirik, P. J. "[\(PNP\)Cobalt-Catalyzed Olefination of Diazoalkanes](#)" *Organometallics* **2022**.

16. Yruegas, S.; Tang, H.; Bornovski, G. Z.; Su, X.; Sung, S.; Hall, M. B.; Nippe, M.; Martin, C. D., "[Nickel-Borolide Complexes and Their Complex Electronic Structure](#)," *Inorg. Chem.* **2021**, *21*, 16160–16167.
15. Su, X.š; Bartholome, T. A.š; Tidwell, J. R., Pujol, A., Yruegas, S.; Martinez, J. J.; Martin, C. D., "[9-Borafluorenes: Synthesis, Properties, and Reactivity](#)," *Chem. Rev.*, **2021**, *121*, 4147-4192.
14. Léonard, N. G.; Yruegas, S.; Ho, S. C.; Sattler, A.; Bezdek, M. J.; Chirik, P. J., "[Synthesis of Cationic, Dimeric \$\alpha\$ -Diimine Nickel Hydride Complexes and Relevance to the Polymerization of Olefins](#)," *Organometallics*, **2020**, *39*, 2630–2635
- 13., Lambert, K. M.; Cox, J. B.; Liu, L.; Jackson, A. C.; Yruegas, S.; Wiberg, K. B.; Wood, J. L., "[Total Synthesis of \(\$\pm\$ \)-Phyllantidine: Development and Mechanistic Evaluation of a Novel Ring Expansion for Installation of Embedded Nitrogen-Oxygen Bonds](#)," *Angew. Chem. Int. Ed.*, **2020**, *59*, 9757-9766.
12. Yruegas, S.; Axtell, J. C.; Kirlikovali, K. O.; Spokoyny, A. M.; Martin, C. D., "[Synthesis of 9-Borafluorene Analogues Featuring a Three-Dimensional 1,1'-Bis\(o-carborane\) Backbone](#)," *Chem. Commun.*, **2019**, *55*, 2892-2895 (Featured on the Front Cover).
11. Laperriere, L. E.; Yruegas, S.; Martin, C. D., "[Investigating the Reactivity of 9-Phenyl-9-Borafluorene with N-H, O-H, P-H, and S-H Bonds](#)," *Tetrahedron*, **2019**, *75*, 937-943 (Special Issue on Frustrated Lewis Acids and Organoboranes).
10. Bluer, K. R.; Laperriere, L. E.; Pujol, A.; Yruegas, S.; Adiraju, V. A. K.; Martin, C. D., "[Coordination and Ring Expansion of 1,2-Dipolar Molecules with 9-Phenyl-9-borafluorene](#)," *Organometallics*, **2018**, *37*, 2917-2927.
9. Yruegas, S.; Barnard, J. H.; Al-Furaiji, K.; Dutton, J. L.; Wilson, D. J. D.; Martin, C. D., "[Boraphosphaalkene Synthesis via Phosphaalkyne Insertion into 9-Borafluorene](#)," *Organometallics*, **2018**, *37*, 1515-1518.
8. Zhu, C.-L.; Wang, C.; Qin, Q.-X.; Yruegas, S.; Martin, C. D.; Xu, H., "[Iron\(II\)-Catalyzed Azidotrifluoromethylation of Olefins and N-Heterocycles for Expedient Vicinal Trifluoromethyl Amine Synthesis](#)," *ACS Catal.*, **2018**, 5032–5037.
7. Yruegas, S.; Martinez, J. J.; Martin, C. D., "[Intermolecular Insertion Reactions of Azides Into 9-Borafluorenes to Generate 9,10-B,N-Phenanthrenes](#)," *Chem. Commun.*, **2018**, *54*, 6808-6811.
6. Yruegas, S.; Wilson, C.; Dutton, J. L.; Martin, C. D., "[Ring Opening of Epoxides Induced by Pentaphenylborole](#)", *Organometallics*, **2017**, *36*, 2581-2587 (Invited for Special Issue Entitled "Tailoring the Optoelectronic Properties of Organometallic Compounds with Main Group Elements").
5. Yruegas, S.; Martin, C. D., "[Expedient Synthesis of 1,2-Thiaborines by means of Sulfur Insertion into Boroles](#)", *Chem. -Eur. J.*, **2016**, *22*, 18358-18361 (Selected as a Hot Paper).
4. Barnard, J. H.; Yruegas, S.; Huang, K.; Martin, C. D., "[Ring expansion reactions of anti-aromatic boroles: a promising synthetic avenue to unsaturated boracycles](#)", *Chem. Commun.*, **2016**, *52*, 9985-9991 (Featured on the Inside Cover).
3. Yruegas, S.; Patterson, D. C.; Martin, C. D., "[Oxygen insertion into boroles as a route to 1,2-oxaborines](#)", *Chem. Commun.*, **2016**, *52*, 6658-6661 (Featured on the Inside Cover).
2. Barnard, J. H.; Yruegas, S.; Couchman, S. A.; Wilson, D. J. D.; Dutton, J. L.; Martin, C. D., "[Reactivity of a Phosphaalkyne with Pentaarylboroles](#)", *Organometallics*, **2016**, *35*, 929–931.
1. Yruegas, S.; Huang, K.; Wilson, D. J. D.; Dutton, J. L.; Martin, C. D., "[Probing the reactivity of pentaphenylborole with N-H, O-H, P-H, and S-H bonds](#)", *Dalton Trans.*, **2016**, *45*, 9902-9911.

 INVITED PRESENTATIONS

6. University of California, Los Angeles, Chemistry Department, webinar	Oct. 2021
5. Rice University, Chemistry Department, Houston, TX	Oct. 2021
4. Texas A&M University, College Station, TX	Sept. 2021
3. Baylor University, Chemistry Department, Waco, TX	Sept. 2021
2. ACS DIC Young Investigator Symposium, webinar	Aug. 2020
1. Baylor University, Gordon Stone Symposium, Waco, TX	May. 2018

 CONTRIBUTED PRESENTATIONS

11. Andlinger Center for Energy and the Environment Annual Meeting, Princeton, NJ,	Nov. 2019
10. Gordon Research Conference on Inorganic Reaction Mechanisms, Galveston, TX	Mar. 2019
9. National Space & Missile Materials Symposium, Madison, WI	Jun. 2018
8. ACS National Meeting & Exposition, New Orleans, LA	Mar. 2018
7. TexSyn III, Dallas, TX	May. 2017
6. Southwest Regional Meeting of the American Chemical Society, Galveston, TX	Nov. 2016
5. Gordon Research Conference on Inorganic Chemistry, Biddleford, ME	Jun. 2016
4. UT Austin Summer Symposium, University of Texas, Austin, TX	Jun. 2015
3. Gulf Coast Undergraduate Research Symposium, Rice University, Houston, TX	Oct. 2012
2. ACS National Meeting & Exposition, Philadelphia, PA	Aug. 2012
1. NSF-REU Symposium, Texas A&M University, College Station, TX	Aug. 2012

 SYNERGISTIC ACTIVITIES AND CONTRIBUTIONS TO DIVERSITY

Professional Activities and Leadership

Mentor in Chemistry Women Mentorship Network (ChemWMN)	2022-
Texas A&M University Chemistry Alumni, CHEM 100 Presenter	2021
ENVISION Research Competition Reviewer	2021
Mission Waco Science Outreach Program with Low Income Youth	2016-2019
Analytical Instrumentation Workshop, Baylor University	2016-2018

University & Department Service

Chemistry Major Advisor, Brown College	2022-
Rice University Tapia Camps, Faculty Presenter	2022-
Gulf Coast Undergraduate Research Symposium, Chemistry Faculty Reviewer	2022-
Gulf Coast Undergraduate Research Symposium, Women in STEM Panel	2022-
Latin American Graduate Student Association Faculty Member	2022-
Pathways to Discovery Program Faculty Member	2022-
Chemistry Graduate Education for Minorities Faculty Member	2022-
Rice University Parking and Transportation Committee	2022-
Rice Chemistry Graduate Admissions Committee	2022-
Rice Chemistry Seminar Committee	2022-
Rice Chemistry Undergraduate Studies Committee	2022-
Qualifying Exam Committees: Alina Chow (2023), Adebola M. Ogundare (2023), Ying Chen (2022), Shih-Chieh Kao (2022)	

Funding Agency Reviewing Activity

National Science Foundation Graduate Research Fellowships Program Panel (NSF-GFRP)

Journal Reviewing Activity

Organometallics

The Journal of Organic Chemistry

TEACHING

Rice University

Advanced Inorganic Chemistry (CHEM 496)

Fall 2022

Advanced Inorganic Chemistry (CHEM 596)

Fall 2022

Baylor University (as a graduate teaching assistant*)

Homogeneous Catalysis (CHEM 5305)

Oct 2018

Advanced Inorganic Chemistry (CHEM 4301)

Aug 2017

General Chemistry Lab* (CHEM 1101/1102)

Aug 2014

Texas A&M University (as an undergraduate teaching assistant*)

General Chemistry for Engineers Lab* (CHEM 117)

2013-2014

RESEARCH MENTORING

Ph.D. Students

Kaitlyn Birkhoff

2022-

Dinora Rodriguez

2022-

Gemma Cisneros-Gonzalez

2022

Undergraduate Students

Christopher Rodriguez IV

2022-

Ian Lin

2022-

Owen Silberg

2022