

MATTHEW P. CONLEY, PH. D.

University of California, Riverside – Department of Chemistry

Pierce Annex – 224

Tel: (951)827-3764

E-mail: matthew(dot)conley(at)ucr(dot)edu

Education

2008 **University of Chicago**, Ph.D. Chemistry
2004 **University of Illinois at Chicago**, B. S., Chemistry

Professional Experience

2022 – Present **Associate Professor**
University of California, Riverside

2015 – 2022 **Assistant Professor**
University of California, Riverside

2011 – 2015 **Postdoctoral Researcher**
Swiss Federal Institute of Technology (ETH) Zürich
Advisor: Dr. Christophe Copéret

2008 – 2011 **Postdoctoral Researcher**
Institut Català d'Investigació Química (ICIQ), Tarragona, Spain
Advisor: Dr. Javier de Mendoza

2004 – 2008 **Graduate Research**
The University of Chicago, Chicago, IL
Advisor: Dr. Richard F. Jordan

2002 – 2004 **Undergraduate Research**
University of Illinois – Chicago, Chicago, IL
Advisor: Dr. Vladimir Gevorgyan

Publications

- 65.) Samudrala, K. K.; Conley, M. P. A Supported Ziegler-Type Organohafnium Site Metabolizes Polypropylene, *J. Am. Chem. Soc.*, *In Press*, DOI: 10.1021/jacs.3c05940.
- 64.) Gao, J.; Zhu, L.; Conley, M. P. Polypropylene Degradation Catalyzed by Tantalum Hydrides Supported on Sulfated Alumina. *ACS Catalysis*, **2023**, *13*, 10765-10769.
- 63.) Liu, S.; Schrock, R. R.; Conley, M. P.; Tsay, C.; Carta, V. An Exploration of the Acid-Catalyzed Interconversion of Mo(NAr)(CR₁R₂)(OR)₂ Complexes and Their Mo(NAr)(Olefin)(OR)₂ Isomers (Ar = 2,6-*i*-Pr₂C₆H₃, OR = OSiPh₃ or OAr). *Organometallics*, **2023**, *42*, 2251–2261.
- 62.) Schrock, R. R.; Riedel, R.; Maji, M.; Conley, M. P.; Carta, V. Syntheses of β,β'-Disubstituted Metallacyclopentanes From Terminal Olefins and Their Conversions to Alkylidenes. *Organometallics*, **2023**, *42*, 2038–2051.
- 61.) Samudrala, K. K.; Conley, M. P. Effects of Surface Acidity on the Structure of Organometallics Supported on Oxide Surfaces. *Chem. Comm.* **2023**, *59*, 4115–2127.
(Invited Perspective, Included in Chemical Communications HOT Articles 2023)
- 60.) Gao, J.; Zhu, L.; Conley, M. P. Cationic Tantalum Hydrides Catalyze Hydrogenolysis and Alkane Metathesis Reactions of Paraffins and Polyethylene. *J. Am. Chem. Soc.*, **2023**, *145*, 4964–4968.
- 59.) Rodriguez, J.; Boudjelel, M.; Schrock, R. R.; Conley, M. P. A Tungsten Oxo Alkylidene Supported on Sulfated Zirconium Oxide for Olefin Metathesis. *Organometallics*, **2022**, *42*, 1286-1290.
(part of the Early Transition Metals in Organometallic Chemistry special issue)

- 58.) Liu, S.; Conley, M. P.; Schrock, R. R. Synthesis of Mo(IV) *para*-Substituted Styrene Complexes and an Exploration of Their Conversion to 1-Phenethylidene Complexes. *Organometallics*, **2022**, *42*, 1087-1093. (part of the Early Transition Metals in Organometallic Chemistry special issue)
- 57.) Rodriguez, J.; Boudjelel, M.; Mueller, L. J.; Schrock, R. R.; Conley, M. P. Ring Contraction of a Tungstacyclopentane Supported on Silica: Direct Conversion of Ethylene to Propylene, *J. Am. Chem. Soc.* **2022**, *144*, 18761–18765.
- 56.) Samudrala, K.; Huynh, W.; Dorn, R. W.; Rossini, A. J.; Conley, M. P. Formation of a Strong Heterogeneous Aluminum Lewis Acid on Silica. *Angew. Chem. Int. Ed.* **2022**, e202205745.
- 55.) Rodriguez, J.; Conley, M. P. A Heterogeneous Iridium Catalyst for the Hydroboration of Pyridines. *Org. Lett.* **2022**, *24*, 4680–4683.
- 54.) Boudjelel, M.; Riedel, R.; Schrock, R. R.; Conley, M. P.; Berges, A. J.; Carta, V. Tungstacyclopentane Ring Contraction Yields Olefin Metathesis Catalysts. *J. Am. Chem. Soc.* **2022**, *144*, 10929–10942.
- 53.) Bekyarova, E; Conley, M. P. The Coordination Chemistry of Oxide and Nanocarbon Materials. *Dalton Trans.* **2022**, *51*, 8557-8570. (Invited Perspective)
- 52.) Culver, D. B.; Corieri, J.; Lief, G.; Conley, M. P. Reactions of Triisobutylaluminum with Unbridged or Bridged Group IV Metallocene Dichlorides. *Organometallics* **2022**, *41*, 7, 892–899.
- 51.) Gao, J.; Dorn, R. W.; Laurent, G.; Perras, F.; Rossini, A. J.; Conley, M. P. A Heterogeneous Palladium Catalyst for the Polymerization of Olefins Prepared by Halide Abstraction Using Surface R₃Si⁺ Species. *Angew. Chem. Int. Ed.* **2022**, e202117279 (chosen by the Editors as a **Hot Paper**)
- 50.) Liu, S; Boudjelel, M.; Schrock, R. R.; Conley, M. P.; Tsay, C. Interconversion of Molybdenum or Tungsten d₂ Styrene Complexes with d₀ 1-Phenethylidene Analogues. *J. Am. Chem. Soc.* **2021**, *143*, 17209-17218.
- 49.) Huynh, W.; Taylor, J. T.; Harman, H. H.; Conley, M. P. Solid-State ¹¹B NMR Studies of Coinage Metal Complexes Containing a Phosphine Substituted Diboraantracene Ligand. *Dalton Trans.* **2021**, *50*, 14855 - 14863.
- 48.) Culver, D. B.; Dorn, R. W.; Venkatesh, A.; Meeprasert, J.; Rossini, A. J.; Pidko, E. A.; Lipton, A. S.; Lief, G. R.; Conley, M. P. Active Sites in A Heterogeneous Organometallic Catalyst for the Polymerization of Ethylene. *ACS Cent. Sci.* **2021**, *7*, 1225-1231.
- 47.) Rodriguez, J.; Conley, M. P. Ethylene Polymerization Activity of (R₃P)Ni(codH)⁺ (cod = 1,5-cyclooctadiene) Sites Supported on Sulfated Zirconium Oxide. *Inorg. Chem.*, **2021**, *60*, 6946–6949. (Invited Forum Article for Heterogeneous Interfaces Through the Lens of Inorganic Chemistry)
- 46.) Huynh, W.; Conley, M. P. Origin of the ²⁹Si NMR Chemical Shift in R₃Si–X and Relationship to Formation of Silylium (R₃Si⁺) Ions. *Dalton Trans.* **2020**, *49*, 16453-16463. (Invited Article for New Talent: Americas Issue)
- 45.) Witzke, R. J.; Chapovetsky, A.; Conley, M. P.; Kaphan, D. M.; Delferro, M.; Non-Traditionnal Supports in Surface Organometallic Chemistry. *ACS Catal.* **2020**, *10*, 11822-11840. (Invited Perspective)

44.) Culver, D. B.; Huynh, W.; Tafazolian, H.; Conley, M. P.; Solid-State ^{45}Sc NMR Studies of $\text{Cp}^*_2\text{Sc-OR}$ ($\text{R} = \text{CMe}_2\text{CF}_3, \text{CMe}(\text{CF}_3)_2, \text{C}(\text{CF}_3)_3, \text{SiPh}_3$) and Relationship to the Structure of Cp^*_2Sc -sites Supported on Partially Dehydroxylated Silica. *Organometallics*, **2020**, *39*, 1112-1122.
(Invited Article for *Organometallic Chemistry at Various Length Scales*.)

43.) Culver, D. B.; Venkatesh, A.; Huynh, W.; Rossini, A. J.; Conley, M. P. $\text{Al}(\text{OR}^{\text{F}})_3$ ($\text{R}^{\text{F}} = \text{C}(\text{CF}_3)_3$) Activated Silica: A Well-Defined Weakly Coordinating Surface Anion. *Chem. Sci.*, **2020**, *11*, 1510-1517

42.) Jones, C.; Asay, M.; Kim, L. J.; Kleinsasser, J.; Saha, A.; Fulton, T.; Berkly, K.; Cascio, D.; Malyutin, A.; Conley, M.; Stoltz, B.; Lavallo, V.; Rodriguez, J.; Nelson, H. Characterization of reactive organometallic species via MicroED. *ACS Cent. Sci* **2019**, *5*, 1507-1513.

41.) Rodriguez, J.; Culver, D. B.; Conley, M. P. Generation of Phosphonium Sites on Sulfated Zirconium Oxide: Relationship to Bronsted Acid Strength of Surface $-\text{OH}$ Sites. *J. Am. Chem. Soc.* **2019**, *141*, 1484-1488.

40.) Jothi, P. R.; Zhang, Y.; Yubuta, K.; Culver, D. B.; Conley, M. P.; Fokwa, B. P. T. Abundant Vanadium Diboride with Graphene-like Boron Layers for Hydrogen Evolution *ACS Appl. Energy Mater.* **2019**, *2*, 176-181.

39.) Gordon, C. P.; Culver, D. B.; Conley, M. P.; Eisenstein, O.; Andersen, R. A.; Copéret, C. σ -Bond Character in Metal-Alkyl Compounds for C-H Activation: How, When, and Why? *J. Am. Chem. Soc.* **2019**, *141*, 648-656.

38.) Culver, D. B.; Conley, M. P. Activation of C-F Bonds by Electrophilic Organosilicon Sites Supported on Sulfated Zirconia. *Angew. Chem. Int. Ed.* **2018**, *130*, 15118-15121.

37.) Huynh, W.; Culver, D. B.; Tafazolian, H.; Conley, M. P. Solid-state ^{45}Sc NMR of $\text{Cp}^*_2\text{Sc-X}$ and $\text{Cp}^*_2\text{ScX}(\text{THF})$. *Dalton Trans.* **2018**, *47*, 13063 - 13071. (Invited)

36.) Culver, D. B.; Huynh, W.; Tafazolian, H.; Ong, T. C.; Conley, M. P. The η -Agostic Structure in $(\text{C}_5\text{Me}_5)_2\text{ScCH}_2\text{CH}_3$: Solid-State NMR Studies of $(\text{C}_5\text{Me}_5)_2\text{Sc-R}$ ($\text{R} = \text{Me}, \text{Ph}, \text{Et}$). *Angew. Chem. Int. Ed.* **2018**, *57*, 9250-9253..

35.) Culver, D. B.; Tafazolian, H.; Conley, M. P. A Bulky Pd(II) α -Diimine Catalyst Supported on Sulfated Zirconia for the Polymerization of Ethylene and Copolymerization of Ethylene and Methyl Acrylate. *Organometallics*, **2018**, *37*, 1001-1006.

34.) Tafazolian, H.; Culver, D. B.; Conley, M. P. A Well-Defined Ni(II) α -Diimine Catalyst Supported on Sulfated Zirconia for Polymerization Catalysis. *Organometallics*, **2017**, *36*, 2385 - 2388.

Publications Prior to Joining UCR

33.) Copéret, C.; Allouche, F.; Chang, K.; Conley, M. P.; Delley, M. F.; Fedorov, A.; Moroz, I.; Mougél, V.; Pucino, M.; Searles, K.; Yamamoto, K.; Zhizhko, P. Bridging the Gap Between Industrial and Well-Defined Supported Catalysts. *Angew. Chem. Int. Ed.* **2017**, *57*, 6398-6440.

32.) Berruyer, P.; Moreno, L.; Conley, M. P.; Silvero, D. L.; Widdifield, C. M.; Siddiqi, G.; Gajan, D.; Lesage, A.; Copéret, C.; Emsley, L. Three-Dimensional Structure Determination of Surface Sites. *J. Am. Chem. Soc.* **2017**, *139*, 849 – 855.

31.) Valla, M.; Wischert, R.; Comas-Vives, A.; Conley, M. P.; Verel, R.; Copéret, C.; Sautet, P. Role of Tri-coordinate Al Sites in CH_3ReO_3 Olefin Metathesis Catalysts. *J. Am. Chem. Soc.* **2016**, *138*, 6774 – 6785.

30.) Conley, M. P.; Lapadula, G.; Sanders, K.; Gajan, D.; Lesage, A.; Rosal, I.; Maron, L.; Lukens, W. W.; Copéret, C.; Andersen, R. A. The Nature of Secondary Interactions at Electrophilic Metal Sites of Molecular and Silica-

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supported Organolutetium Complexes from Solid-State NMR Spectroscopy. *J. Am. Chem. Soc.* **2016**, *138*, 3831 – 3843.

29.) Copéret, C.; Comas-Vives, A.; *Conley, M. P.*; Estes, D.; Nunez-Zarur, F.; Fedorov, A.; Mougél, V.; Nagae, H.; Zhizhko, P.: Surface Organometallic and Coordination Chemistry towards Single-Site Heterogeneous Catalysts: Strategies, Methods, Structures, and Activities. *Chem. Rev.* **2016**, *116*, 323 – 421.

28.) Lapadula, G.; *Conley, M. P.*; Copéret, C.; Andersen, R. A.: Synthesis and Characterization of Rare Earth Siloxide Complexes, $M[\text{OSi}(\text{OtBu})_3]_3(\text{L})_x$ where L is $\text{HOSi}(\text{OtBu})_3$ and $x=0$ or 1. *Organometallics*, **2016**, *34*, 2271 – 2277.

27.) *Conley, M. P.*; Delley, M. F.; Nunez-Zarur, F.; Comas-Vives, A.; Copéret, C.: Heterolytic Activation of C–H Bonds on $\text{Cr}^{\text{III}}\text{–O}$ Surface Sites Is a Key Step in Catalytic Polymerization of Ethylene and Dehydrogenation of Propane. *Inorg. Chem.*, **2015**, *54*, 5065–5078

26.) Lapadula, G.; Trummer, D.; *Conley, M.P.*; Steinmann, M.: Ran, Ying-Fen; Brasselet, S.; Guyot, Y.; Maury, O.; Decurtins, S.; Liu, Shi-Xia; Copéret, C.: One-Photon Near-Infrared Sensitization of Well-Defined Yb(III) Surface Complexes for NIR-to-NIR Single Nanoparticle Imaging. *Chem. Mat.* **2015**, *27*, 2033–2039.

25.) Valla, M.; *Conley, M. P.*; Copéret, C.: $\text{MeReO}_3/\text{Al}_2\text{O}_3$ and Me_4Sn Activated $\text{Re}_2\text{O}_7/\text{Al}_2\text{O}_3$ Alkene Metathesis Catalysts have Similar Active Sites. *Catal. Sci. Tech.*, **2015**, *5*, 1438–1442.

24.) Gajan, D.; Bornet, A.; Vuichoudb, B.; Milanib, J.; Melzic, R.; Veyre, L.; Thieuleux, C.; *Conley, M. P.*; Grüning, W. R.; Schwarzwälder, M.; Lesage, A.; Copéret, C.; Bodenhausen, G.; Emsley, L.; Jannin, S.: Hybrid Polarizing Solids for Pure Hyperpolarized Liquids through Dissolution Dynamic Nuclear Polarization. *Proc. Nat. Acad. Sci. USA*, **2014**, *111*, 14693–14697.

23.) *Conley, M. P.*; Forrest, W. P.; Mougél, V.; Copéret, C.; Schrock, R. R.: A Bulky Aryloxy Ligand Stabilizes a Heterogeneous Metathesis Catalyst. *Angew. Chem. Int. Ed.*, **2014**, *53*, 14221–14224.

22.) Feng, G; *Conley, M. P.*; Jordan, R. F.: Differentiation between Chelate Ring Inversion and Aryl Rotation in a CF_3 -Substituted Phosphine-Sulfonate Palladium Methyl Complex. *Organometallics*, **2014**, *33*, 4486–4496.

21.) Filoneko, G. A.; Cosimi, E.; Lefort, L.; *Conley, M. P.*; Copéret, C.; Lutz, M.; Hensen, E. J. M.; Pidko, E. A.: Lutidine Derived Ru-CNC Hydrogenation Pincer Catalysts with Versatile Coordination Properties. *ACS Catal.* **2014**, *4*, 2667–2671.

20.) Delley, M. F.; Núñez-Zarur, F.; *Conley, M. P.*; Comas-Vives, A.; Siddiqi, G.; Norsic, S.; Monteil, V.; Safonova, O. V.; Copéret, C.: Proton Transfers Are Key Elementary Steps in Ethylene Polymerization on Isolated Chromium(III) Silicates. *Proc. Nat. Acad. Sci. USA*, **2014**, *112*, 11624–11629.

See commentary by K. Theopold, Proc. Nat. Acad. Sci. USA, 2014, 112, 11578-11579.

19.) *Conley, M. P.*; Rossini, A. J.; Comas Vives, A.; Valla, M.; Ouari, O.; Tordo, P.; Lesage, A.; Emsley, L.; Copéret, C.: Evidence for Surface rearrangement involving Q_2 -sites and strained siloxane bridges from ^{119}Sn Surface Enhanced NMR Spectroscopy. *Phys. Chem. Chem. Phys.* **2014**, *16*, 17822–17827.

18.) *Conley, M. P.*; Copéret, C.; Thieuleux, C.: Mesostructured Hybrid Organic Silica Materials: Well-defined and regularly distributed supported Catalysts into the channel pores of a silica matrix. *ACS Catal.* **2014**, *4*, 1458–1469.

17.) Delley, M. F.; *Conley, M. P.*; Copéret, C.: Polymerization on CO-Reduced Phillips Catalyst initiates through the C-H bond activation of ethylene on Cr–O sites. *Catal. Lett.* **2014**, *144*, 805–888.

- 16.) Kermagoret, A.; Kerber, R. N.; Conley, M. P.; Callens, E.; Florian, P.; Massiot, D.; Copéret, C.; Delbecq, F.; Rozanska, X.; Sautet, P.: Chloroalkylaluminum supported on silica: a dinuclear aluminum surface species with bridging μ^2 -Cl-ligand for a highly efficient co-catalyst for the Ni-catalyzed dimerization of ethene. *J. Catal.* **2014**, *313*, 46-54.
- 15.) Conley, M. P.; Copéret, C.: State of the Art and Perspectives in the ‘Molecular Approach’ Towards Well-Defined Heterogeneous Catalysts. *Top. Catal.* **2014**, *57*, 843-851. (*Invited Perspective*)
- 14.) Conley, M. P.; Delley, M. F.; Siddiqui, G.; Lapadula, G.; Norsic, S.; Monteil, V.; Safonova, O. V.; Copéret, C.: Polymerization of Ethylene by Silica-Supported Dinuclear Cr^{III} Sites through an Initiation Step Involving C-H Bond Activation. *Angew. Chem. Int. Ed.* **2014**, *53*, 1872-1876.
- 13.) Lapadula, G.; Bourdolle, A.; Allouche, F.; Conley, M.P.; del Rosal, I.; Maron, L.; Lukens, W. W.; Guyot, Y.; Andraud, C.; Brasselet, S.; Copéret, C.; Maury, O.; Andersen, R. A.: Near-IR Two-photon Microscopy Imaging of Nanoparticles Prepared by Controlled Functionalization of Silica with 4,4'-diethylaminostyryl-2,2'-bipyridine Yb(III) Surface Sites. *Chem. Mat.* **2014**, *26*, 1062-1073.
- 12.) Conley, M. P.; Mougél, V.; Peryshkov, D. V.; Forrest, W. F.; Gajan, D.; Lesage, A.; Emsley, L.; Copéret, C.; Schrock, R. R.: A well-defined silica-supported tungsten oxo alkylidene as a highly active alkene metathesis catalyst. *J. Am. Chem. Soc.* **2013**, *135*, 19068-19070.
- 11.) Filonenko, G. A.; Conley, M. P.; Copéret, C.; Lutz, M.; Hensen, E. J. M.; Pidko, E. A.: The Impact of Metal-ligand Cooperation in Hydrogenation of Carbon Dioxide Catalyzed by a Ruthenium PNP Pincer. *ACS Catal.* **2013**, *3*, 2522-2526.
- 10.) Gajan, D.; Schwarzwälder, M.; Conley, M. P.; Gruening, W. R.; Rossini, A. J.; Zagdoun, A.; Lelli, M.; Yulikov, M.; Jeschke, G.; Sauvée, C.; Ouari, O.; Tordo, P.; Veyre, L.; Lesage, A.; Thieuleux, C.; Emsley, L.; Copéret, C.: Solid-phase DNP Polarizing Matrices from Homogeneously Distributed Radicals in Mesostructured Hybrid Silica Materials. *J. Am. Chem. Soc.* **2013**, *135*, 15459-15466.
- 9.) Conley, M. P.; Drost, R. M.; Baffert, M.; Gajan, D.; Elsevier, C.; Franks, W. T.; Oschkinat, H.; Veyre, L.; Zagdoun, A.; Rossini, A.; Lelli, M.; Lesage, A.; Casano, G.; Ouari, O.; Tordo, P.; Emsley, L.; Copéret, C.; Thieuleux, C.: A Well-Defined Pd Hybrid Material for the Z-Selective Semi-hydrogenation of Alkynes Characterized at the Molecular Level by DNP SENS. *Chem. Eur. J.* **2013**, *19*, 12234-12238.
- 8.) Kermagoret, A.; Kerber, R. N.; Conley, M. P.; Callens, E.; Florian, P.; Massiot, D.; Copéret, C.; Delbecq, F.; Rozanska, X.; Sautet, P.: Triisobutylaluminum: Bulkier and Yet More Reactive Towards Silica Surfaces than Triethyl or Trimethylaluminum. *Dalton Trans.* **2013**, *42*, 12681-12687.
- 7.) Zagdoun, A.; Rossini, A. J.; Conley, M. P.; Grüning, W. R.; Schwarzwälder, M.; Lelli, M.; Franks, W. T.; Oschkinat, H.; Copéret, C.; Emsley, L.; Lesage, A.: Improved Dynamic Nuclear Polarization Surface-Enhanced NMR Spectroscopy through Controlled Incorporation of Deuterated Functional Groups. *Angew. Chem. Int. Ed.* **2013**, *52*, 1222-1225.
- 6.) Conley, M. P.; Copéret, C.: Solid-state NMR: An EYE Opener in Surface Chemistry. *CHIMIA.* **2012**, *66*, 752-758.
- 5.) Conley, M. P.; Valero, J.; de Mendoza, J. Guanidinium Based Receptors for Oxoanions. In *Supramolecular Chemistry: From Molecules to Nanomaterials*; Gale, P. A. Ed; Wiley-VCH: New York, **2012**.
- 4.) Conley, M. P.; Jordan, R. F.: Cis/trans Isomerization of Phosphinesulfonate Palladium(II) Complexes. *Angew. Chem. Int. Ed.* **2011**, *50*, 3744-3746.
- 3.) Conley, M. P.; Burns, C. T.; Jordan, R. F.: Mechanism of Ethylene Oligomerization by a Cationic Palladium(II) Alkyl Complex that Contains a (3,5-Me₂-pyrazolyl)₂CHSi(*p*-tolyl)₃) Ligand. *Organometallics* **2007**, *26*, 6750-6750

6759.

2.) Sun, J.; *Conley, M. P.*; Zhang, L.; Kozmin, S. A.: Au- and Pt-Catalyzed Cycloisomerizations of 1,5-Enynes to Cyclohexadienes with a Broad Alkyne Scope. *J. Am. Chem. Soc.* **2006**, *128*, 9705-9710.

1.) Rubina, M.; *Conley, M. P.*; Gevorgyan, V.: Dramatic Acceleration of the Pd-Catalyzed [4+2] Benzannulation Reaction of Enynes and Diynes in the Presence of Lewis Acids and Bases: Expanded Scope and New Mechanistic Insights. *J. Am. Chem. Soc.* **2006**, *128*, 5818-5827.

Invited Book Chapters Published Since Joining UCR

Conley, M. P., Gao, J.; Huynh, W.; Rodriguez, J.; Samudrala, K. (2021) Organometallic Chemistry on Oxide Surfaces. *Comprehensive Organometallic Chemistry IV*. Parkin, G. A. (Ed.); O'Hare, D. (Ed.); Holland, P. (Ed.).

Rodriguez, J.; Conley, M. P. (2021) Solid-State NMR in Well-Defined Heterogeneous Catalysts. In *Encyclopedia of Inorganic and Bioinorganic Chemistry*, R. A. Scott (Ed.).

Current Funding

Title: Generation of Single Cation Sites Supported on Oxides (sole PI)

Agency: National Science Foundation (CHE-2101582)

Amount: \$475,000

Period: 5/2021 – 4/2024

Title: Well-Defined d^0 Metal-Imide and Metal-Hydride Sites Supported on Weakly Coordinating Oxides (sole PI)

Agency: Department of Energy, Basic Energy Sciences, Catalysis

Amount: \$500,000

Period: 9/2021 – 9/2024

Title: Heterogeneous Catalysts for the Direct Conversion of Ethylene to Propylene. (sole PI)

Agency: Department of Energy, Basic Energy Sciences.

Amount: \$871,692

Period: 09/2022 – 08/2025

Title: Catalysts for Pyrolysis of Polyethylene Waste (sole PI)

Agency: Chevron Phillips LLC

Amount: \$250,000

Period: 9/2022 – 9/2024

Completed Funding

Title: Phosphines Supported on Sulfated Zirconia (sole PI)

Agency: National Science Foundation (CHE-1800561)

Amount: \$426,000

Period: 4/2018 – 4/2021

Title: Study on a polymerization catalyst to ascertain how the active catalyst is formed. (sole PI)

Agency: Chevron Phillips LLC

Amount: \$390,000

Period: 8/2017 – 6/2023

Teaching Experience

2022–2023	CHEM 155: Advanced Inorganic Chemistry: Synthesis and Methods
2019–present	CHEM 150A: Inorganic Chemistry I
2019–present	CHEM 231B: Reactivity and Mechanism in Organometallic Chemistry
2015–2018	CHEM 231A: Structure and Bonding in Inorganic Chemistry (Graduate level)
2015–2018; 2021	CHEM 1B: General Chemistry; second quarter in three quarter sequence

Alumni:

Hosein Tafazolian (Postdoc 2017-2018): Senior Scientist Triton Systems

Damien Culver (Ph. D 2020): Staff Scientist Ames National Lab

Jessica Rodriguez (Ph. D 2022): Chemist Afton Chemicals

Winn Huynh (Ph. D 2022): Pierce College Adjunct Faculty

University and Department Service

2021-present	Member of the Diversity, Equity and Inclusion Committee
2019-present	Director of the Analytical Chemistry Instrumentation Facility
2021	Chair, Search Committee for Academic Coordinator II (X-ray Crystallography)
2019	Chair, Search Committee for Academic Coordinator II (NMR/Optical Facility)
2016-2019	Graduate Admissions Committee Representative, Inorganic Division

Seminars

7/2024	International Conference on Coordination Chemistry, Invited Speaker
5/2024	CRC 1333 University of Stuttgart, Keynote Speaker
4/2024	University of Central Florida
12/2023	Asian Polyolefin Meeting in Nara, Japan
10/2023	UC Riverside, Department Colloquium
9/2023	Department of Energy Principal Investigator's Meeting
6/2023	Telluride – Catalysis in Confined Spaces
4/2023	University of North Carolina
11/2022	ETH Zürich; Max Planck Institute for Chemical Energy Conversion (Mülheim), Delft University
10/2022	University of Oregon
8/2022	ACS National Meeting, Chicago (Invited Speaker for ACS Macro Letters/Biomacromolecules/Macromolecules Young Investigator Award symposium)
7/2022	Organometallic Gordon Research Conference, Invited Speaker
5/2022	North American Catalysis Meeting 2022, NY, NY; TU Braunschweig (virtual)
4/2022	Iowa State University
3/2022	Invited Speaker for the Stauffer Lecture Symposium in honor of Prof. Geoffrey Coates at USC
2/2022	University of Florida
4/2021	Utah State University (virtual)
7/2020	Organometallic Gordon Research Conference*
5/2020	University of Delft;* Free University of Berlin;* University of Braunschweig;* Tübingen University;* University of Stuttgart;* ETH – Zürich;* University of Chicago;* Argonne National Lab;* University of Florida; *Iowa State University*
3/2020	ACS National Meeting, Philadelphia (Inorganic Chemistry Division);* ACS National Meeting, Philadelphia (Catalysis Division);* Invited Speaker for the Stauffer Lecture Symposium in honor of Prof. Geoffrey Coates at USC*
12/2019	University of California, Santa Barbara; University of California, Los Angeles
11/2019	Michigan State University; Texas A&M University
10/2019	University of Southern California
9/2019	University of Illinois at Chicago
3/2018	Baylor University
11/2017	Cal State, San Bernadino

9/2017 East China University of Science and Technology, Shanghai; University of Science and
Technology of China, Hefei; Donghua University, Shanghai
6/2017 Chevron Phillips, LLC. Bartlesville, OK
4/2017 ACS National Meeting, San Francisco
10/2016 University of California, Riverside, MSE
3/2016 ACS National Meeting, San Diego
3/2014 Swiss Federal Institute of Technology, Lausanne (EPFL)
10/2014 Osaka University
* – Postponed due to COVID-19