45th National Organic Chemistry Symposium

University of California, Davis
Davis, California
June 25 - 29, 2017

NOS 2017
June 25-29, 2017
University of
California, Davis

American Chemical Society
Division of Organic Chemistry

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Davis, California USA
June 25 – 29, 2017

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Welcome

On behalf of the Executive Committee of the Division of Organic Chemistry of the American Chemical Society and the Department of Chemistry at the University of California, Davis, we welcome you to the 45th National Organic Chemistry Symposium (NOS). The goal of this biennial event is to present a roster of distinguished speakers that represent the breadth and creative advances of organic chemistry worldwide.

The first National Organic Chemistry Symposium was held December 1925 in Rochester NY under the auspices of the Rochester Section of the Division of Organic Chemistry. Subsequent meetings were held every two years until WWII. The symposia resumed in 1947 in Boston and have been held biennially since. The National Organic Chemistry Symposium is the premier event sponsored by the Division of Organic Chemistry. This is the first NOS to be held in the State of California. In 1959, the Roger Adams Award was established and the Roger Adams Award Address has become a key focus of the symposium. This 45th National Organic Chemistry Symposium consists of 13 invited speakers, the 2017 Roger Adams Awardee – Hisashi Yamamoto, and hundreds of posters. The lectures will be presented during morning and evening sessions at the Robert and Margrit Mondavi Center for the Performing Arts on the campus of the University of California, Davis. The poster sessions will take place in the evenings from approximately 8:00 pm-11pm in the Robert and Margrit Mondavi Center for the Performing Arts, Sunday through Wednesday. The Symposium Banquet on Wednesday evening at the Arboretum is open to all registered attendees and guests.

The University of California, Davis lies in a historically rich area of the United States. The organizers have arranged several tours to these locations as well as a variety of social activities on campus. Some of the local tours and activities include kayaking at Lake Tahoe, wine, beer, and olive oil tastings, and winery and brewery tours, in addition to other local and regional activities. We are also continuing the recent tradition of an Undergraduate Context Session to define the setting of some of the lectures – all are weclome to attend. We have scheduled Career Panels (Predominantly Undergraduate Institutions, Industry & Government) on Wednesday afternoon for those with questions regarding specific careers or seeking career advice.

We thank our Sponsors and our Exhibitors for providing financial support for the Symposium. We also thank the University of California, Davis Conference and Event Services and our volunteers, including our student volunteers, for assisting with the organization of this event. Finally, thank <u>you</u> for attending and being a part of the 45th National Organic Chemistry Symposium.

Kay Brummond
45th NOS Executive Officer
University of Pittsburgh

Dean Tantillo
45th NOS Local Chair
University of California, Davis

Paul Hanson
Division Co-Organizer
University of Kansas

Matt McIntosh
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Annaliese Franz
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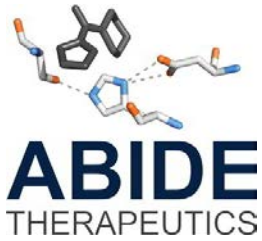
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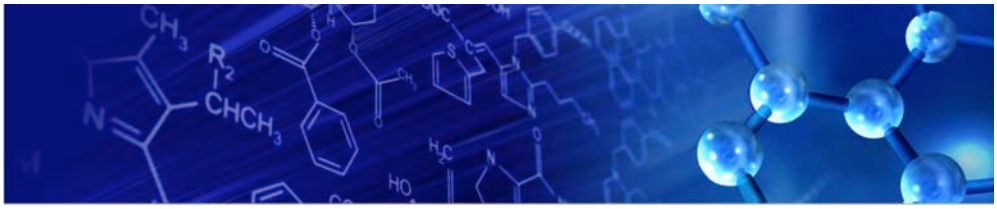

OUR MISSION is to foster and promote the advancement of the field of organic chemistry.

NURTURING YOUNG CHEMISTS

- Student Travel Awards
- Graduate Research Symposium and Workshops
- Graduate Research Fellowships
- Organic Division Undergraduate Awards
- Summer Undergraduate Research Fellowships

FOSTERING PROFESSIONAL DEVELOPMENT

- Sponsored workshops at meetings
- Faculty Travel Awards
- Young Investigator Symposium (non-academic)
- Assistant Professor Symposium

RECOGNIZING EXCELLENCE

- Technical Achievements Award in Organic Chemistry
- Paul G. Gassman Distinguished Service Award
- Edward Leete Award
- ACS Awards Symposia at National Meetings

COMMUNICATING CUTTING EDGE SCIENCE

- ACS National Meeting ORGN programs
- National Organic Chemistry Symposium
- ACS Regional Meeting Symposia
- Reaction Mechanisms Conference
- DOC Video Lectures and Chemist Interviews

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45th National Organic Chemistry Symposium

June 25 – 29, 2017

University of California, Davis

American Chemical Society Division of Organic Chemistry

Speaker and Events Schedule

All NOS Lectures, Registration, Receptions, Posters, Breaks, Mixers and Exhibits Will Be In: The Robert and Margrit Mondavi Center for the Performing Arts on the Campus of the University of California, Davis.

SUNDAY, JUNE 25

Noon	Kayaking at Lake Tahoe	
3:00 PM - 11:00 PM	Registration	
8:00 PM - 11:00 PM	Reception, Poster Session and Exhibitor Booths	

MONDAY, JUNE 26

7:00 - 9:00 AM	Breakfast	Alumni Center
7:30 AM - Noon	Registration	
9:00 AM - 9:30 AM	**Opening Remarks**	
	Kay M. Brummond, University of Pittsburgh, NOS Chair	
	Matt McIntosh, University of Arkansas, NOS Co-Chair	
	Dean Tantillo, University of California, Davis NOS Local Organizer	
	Session Chair: Greg Dudley, West Virginia University	
9:30 AM - 10:30 AM	**Phil S. Baran**, The Scripps Research Institute	
10:30 AM - 11:00 AM	Break	
11:00 AM – Noon	**Sarah E. Reisman**, California Institute of Technology	
Noon - 2:00 PM	Lunch	Alumni Center

Noon	Kayaking at Lake Tahoe	
12:30 PM and 1:00 PM	Wine Tasting and Wood-fired Pizza at Matchbook Winery & Vineyards, https://nationalorganicsymposium.org/activities/	
	Session Chair: Carolyn Anderson, Calvin College	
6:45 PM - 7:45 PM	**Barry Carpenter**, Cardiff University	
8:00 PM - 11:00 PM	Mixer, Poster Session and Exhibitor Booths	

TUESDAY, JUNE 27

7:00 AM - 9:00 AM	Breakfast	Alumni Center
	Session Chair: Angie Angeles, Merck & Co., Inc.	
9:00 AM - 10:00 AM	**Uttam Tambar**, University of Texas, Southwestern	
10:00 AM - 10:30 AM	Break	
10:30 AM - 11:30 AM	**Shana J. Sturla**, ETH Zurich	
11:30 AM - 12:30 PM	**Tehshik P. Yoon**, University of Wisconsin	
12:30 PM - 2:00 PM	Lunch	Alumni Center
12:30 PM - 1:30 PM	Undergraduate Context Session	Conference Center Rm B
	Moderators: **Ronald G. Brisbois** – Macalester College **Jeffrey L. Katz** – Colby College Pizza and Soda will be provided	
4:00 PM - 6:25 PM	Tour of Mondavi Food & Wine Institute and Beer Tasting see https://nationalorganicsymposium.org/activities/	
	Session Chair: **Mary Boyd**, Chair ACS DOC	
6:30 PM - 6:45 PM	**Presentation of the Roger Adams Award**	
6:45 PM - 7:45 PM	**Hisashi Yamamoto, 2017 Roger Adams Award Lecture** Chubu University, Japan and The University of Chicago	
8:00 PM - 11:00 PM	Mixer, Poster Session and Exhibitor Booths	

WEDNESDAY, JUNE 28

7:00 AM - 9:00 AM	Breakfast	Alumni Center
	Session Chair: Kevin Shea, Smith College	
9:00 AM - 10:00 AM	**Marisa C. Kozlowski**, University of Pennsylvania	
10:00 AM - 10:30 AM	Break	
10:30 AM - 11:30 AM	**Margaret M. Faul**, Amgen Inc.	
11:30 AM - 12:30 PM	**Jeffrey S. Moore**, University of Illinois Urbana-Champaign	
12:30 PM - 2:00 PM	Lunch	Alumni Center
1:30 PM - 5:30 PM	Olive Oil Tasting Séka Hills Olive Mill & Tasting Room	
	https://nationalorganicsymposium.org/activities/	
2:30 PM - 3:30 PM	PUI Academic Career Panel	Conference Center Rm B
	Megan Jacobson – College of Southern Idaho (Moderator) **Ian Rosenstein** – Hamilton College **Traci Smith** – Hope College **Maria Graciela Carranza** – Westfield State University **David Vosburg** – Harvey Mudd **Kimberly Brien** – Rhodes College **Kevin Shea** – Smith College	
3:30 PM - 4:30 PM	Careers in Chemistry Panel Industry, Government, and Academia	Conference Center Rm B
	Matt McIntosh – University of Arkansas (Moderator) **Mike DiMaso** – Chemist, Merck Process **Joe Kent** – Patent Attorney, Bayer HealthCare LLC **Bob Lees** – Program Director, NIH **Tien Nguyen** – Science Writer, C&E News **Valerie Schmidt** – Assistant Professor, UCSD	
5:00 PM - 6:30 PM	Banquet	Arboretum
	Session Chair: Jennifer Schomaker, Univ. of Wisconsin	
6:45 PM - 7:45 PM	**Paul A. Wender**, Stanford University	
8:00 PM - 11:00 PM	Mixer, Poster Session and Exhibitor Booths	

THURSDAY, JUNE 29

7:00 AM - 8:30 AM	Breakfast	Alumni Center
	Session Chairs:	**Lisa Marcaurelle**, Warp Drive Bio, Inc. **Paul Hanson**, University of Kansas
8:30 AM - 9:30 AM	**Paul E. Floreancig**, University of Pittsburgh	
9:30 AM - 10:00 AM	Break	
10:00 AM -11:00 AM	**Sheila S. David**, University of California, Davis	
11:00 AM - Noon	**Martin D. Burke**, University of Illinois Urbana-Champaign	
Noon - 12:15 PM	Closing Remarks	
12:30 PM	Kayaking at Lake Tahoe	

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Dr. Angie Angeles – Merck & Co., Inc.
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The NOS Organizers would like to thank the following volunteers:

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The Roger Adams Award in Organic Chemistry

The Roger Adams Award in Organic Chemistry is sponsored jointly by the American Chemical Society, Organic Reactions, Inc., and Organic Syntheses, Inc. The award recognizes the distinguished career of Roger Adams, who played a vital role in each of these three organizations. He was Chairman of the Board of Directors as well as President of the American Chemical Society, and he co-founded Organic Syntheses and Organic Reactions.

The award was established in 1959 and is made biennially to an individual, without regard to nationality, for outstanding contributions to research in organic chemistry. The award consists of a gold medal, a sterling silver replica of the medal, and an honorarium of twenty-five thousands dollars. It is presented at the biennial National Organic Chemistry Symposium of the Division of Organic Chemistry of the American Chemical Society. The awardee is a featured lecturer in the program of the symposium.

The recipient of this year's Roger Adams Award is Professor Hisashi Yamamoto of Chubu University, Japan and The University of Chicago in recognition of outstanding contributions to research in organic chemistry. Professor Yamamoto's Award Address, titled *Substrate Controlled Asymmetric Synthesis* will be delivered on Tuesday evening.

Roger Adams Awardee

Professor Hisashi Yamamoto

Molecular Catalyst Research Center
Chubu University
1200 Matsumoto, Kasugai
Aichi 487-8501 JAPAN
https://www3.chubu.ac.jp/catalyst/member/hisashi_yamamoto/

Department of Chemistry
The University of Chicago
5735 S. Ellis Ave.
Chicago, IL 60637 USA
https://chemistry.uchicago.edu/faculty/hisashi-yamamoto

Presenting Tuesday June 27, 6:30 p.m.

Plenary Lecturers

Professor Phil S. Baran
The Scripps Research Institute
La Jolla, California, USA

Translational Chemistry

Presenting Monday, June 26, 9:30 a.m.

Professor Sarah E. Reisman
California Institute of Technology
Pasadena, California, USA

Necessity is the Mother of Invention: Natural Products and the Chemistry They Inspire

Presenting Monday, June 26, 11:00 a.m.

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Professor Barry Carpenter
Cardiff University
Cardiff, Wales, UK

Beyond the Transition State: Dynamic Barriers to Reaction in the Gas Phase and in Solution

Presenting Monday, June 26, 6:45 p.m.

Professor Uttam K. Tambar
University of Texas Southwestern Medical Center
Dallas, Texas, USA

Stereoselective Functionalization of Unsaturated Hydrocarbons

Presenting Tuesday, June 27, 9:00 a.m.

Plenary Lecturers

Professor Shana J. Sturla
ETH Zürich
Zürich, Switzerland

Sensing DNA Alkylation with Synthetic Nucleotides

Presenting Tuesday, June 27, 10:30 a.m.

Professor Tehshik P. Yoon
University of Wisconsin - Madison
Madison, Wisconsin, USA

Stereocontrol in Photochemical Synthesis

Presenting Tuesday, June 27, 11:30 a.m.

Professor Marisa C. Kozlowski
University of Pennsylvania
Philadelphia, Pennsylvania, USA

Oxygen Driven Fragment Coupling by Activation of C–H, N–H, and O–H Bonds

Presenting Wednesday, June 28, 9:00 a.m.

Dr. Margaret M. Faul
Amgen Inc.
Thousand Oaks, California, USA

Development of Omecamtiv Mecarbil, a Novel Cardiac Myosin Activator

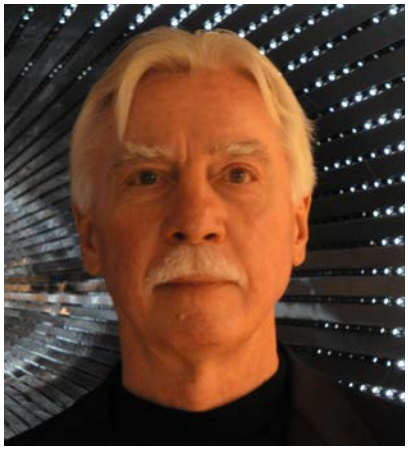
Presenting Wednesday, June 28, 10:30 a.m.

Plenary Lecturers

Professor Jeffrey S. Moore
University of Illinois Urbana-Champaign
Champaign, Illinois, USA

Organic Chemistry at the Interface of Materials and Mechanics

Presenting Wednesday, June 28, 11:30 a.m.



Professor Paul A. Wender
Stanford University
Stanford, California, USA

Therapeutic Function Through Synthesis-Informed Design: First-in-Kind Approaches to HIV/AIDS Eradication, Treating Alzheimer's Disease and Cancer Immunotherapy

Presenting Wednesday, June 28, 6:45 p.m.

Professor Paul E. Floreancig
University of Pittsburgh
Pittsburgh, Pennsylvania, USA

Natural Product Synthesis as an Entry to New Method Development and Biological Studies

Presenting Thursday, June 29, 8:30 a.m.

Professor Sheila S. David
University of California, Davis
Davis, California, USA

DNA Repair, Organic Chemistry and Cancer: It's All About the Base

Presenting Thursday, June 29, 10:00 a.m.

Plenary Lecturers

Professor Martin D. Burke
University of Illinois Urbana-Champaign
Champaign, Illinois, USA

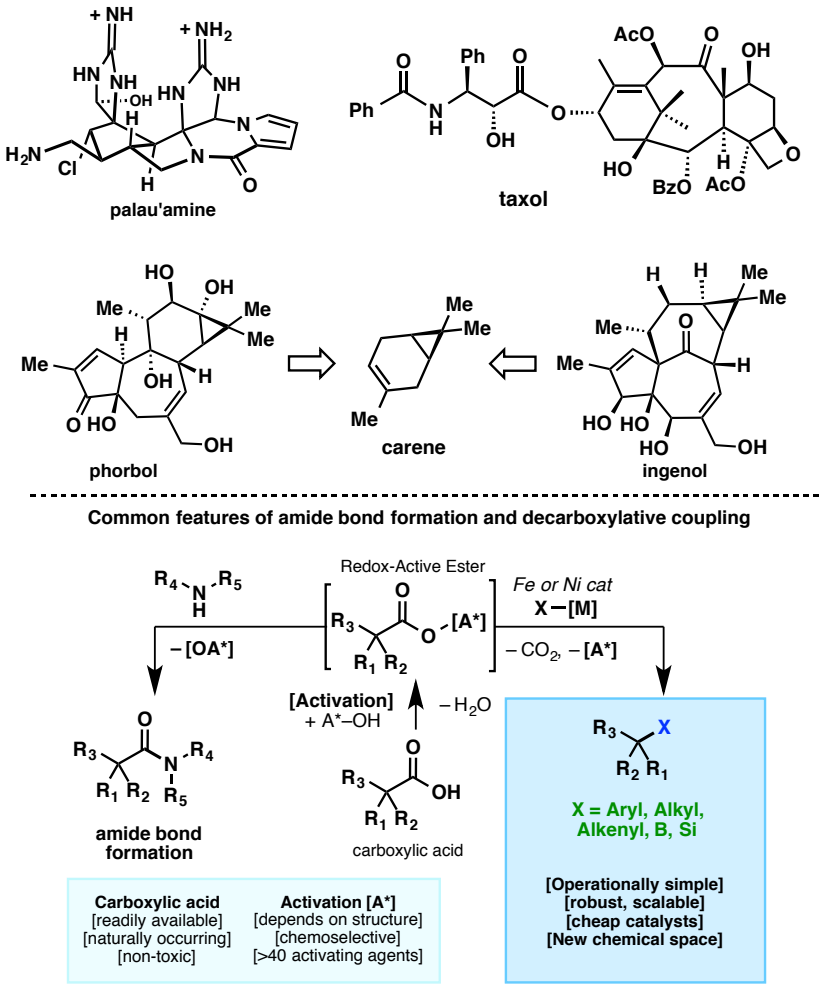
The Natural Productome Project

Presenting Thursday, June 29, 11:00 a.m.

Translational Chemistry

Phil S. Baran
Department of Chemistry, The Scripps Research Institute
10550 North Torrey Pines Road, La Jolla, California 92037
pbaran@scripps.edu
https://www.scripps.edu/research/faculty/baran

There can be no more noble undertaking than the invention of medicines. Chemists that make up the engine of drug discovery are facing incredible pressure to do more with less in a highly restrictive and regulated process that is destined for failure more than 95% of the time. How can academic chemists working on natural products help these heroes of drug discovery – those in the pharmaceutical industry? With selected examples from our lab and others, this talk will focus on that question highlighting interesting findings in fundamental chemistry and new approaches to scalable chemical synthesis.



Necessity is the Mother of Invention: Natural Products and the Chemistry They Inspire

Sarah E. Reisman
California Institute of Technology, Division of Chemistry and Chemical Engineering
1200 E. California Blvd, MC 101-20, Pasadena, California 91125
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The chemical synthesis of natural products provides an exciting platform from which to conduct fundamental research in chemistry and biology. Synthetic targets of interest include the complex diterpenoids such as ryanodine and talatisamine, as well as propellane alkaloid acutumine. The densely-packed arrays of heteroatoms and stereogenic centers that constitute these polycyclic targets challenge the limits of current technology and inspire the development of new synthetic strategies and tactics. This seminar will describe the latest progress in our methodological and target-directed synthesis endeavors.

Beyond the Transition State: Dynamical Barriers to Reaction in the Gas Phase and in Solution.

Barry K. Carpenter
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Cardiff CF10 3AT, Wales, United Kingdom
carpenterb1@cardiff.ac.uk
http://www.cardiff.ac.uk/people/view/38558-carpenter-barry

In all reactions that are under kinetic control, rates and product ratios are determined by barriers to reaction. Generally, these barriers are identified as conventional transition states, associated with saddle points on the potential energy surface (PES) for the reaction. However, the joint application of ultrafast spectroscopy and molecular dynamics simulation[1] has led to the recognition that in many circumstances there can be barriers to reaction that are not located at saddle points on the PES. In this lecture, simulations will be discussed that show three examples of this phenomenon. One is a gas-phase "roaming" reaction,[2] while the others are solution phase reactions. The latter two lead to the recognition that existing models for solvent effects may be inadequate, especially for reactions in which a reacting solute experiences a substantial change in shape. This is not all bad news – for example it is predicted that one might be able to exploit the barriers to effect unusually large solvent-induced enantioselectivity.[3]

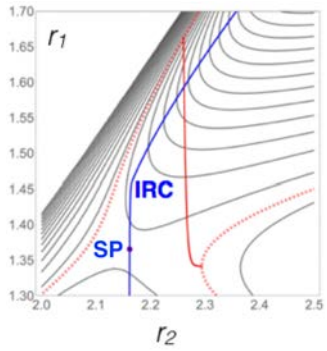

Figure 1. Simulation of a solution phase reaction. The point marked SP is where the conventional transition state would be expected. The solid red line shows where the dynamical barrier is predicted to occur. Its intersection with the intrinsic reaction coordinate (IRC) is obviously very far from the SP.

References.

1. "The Study of Reactive Intermediates in Condensed Phases," Carpenter, B. K.; Harvey, J. N.; Orr-Ewing, A. J. *J. Am. Chem. Soc.* **2016**, *138*, 4695.
2. "Roaming: A Phase-Space Perspective," Mauguière, F. A. L; Collins, P.; Kramer, Z. C.; Carpenter, B. K.; Ezra, G. S.; Farantos, S. C.; Wiggins, S. *Annu. Rev. Phys. Chem.* **2017**, *68*, 23.1.
3. "Prediction of Enhanced Solvent-Induced Enantioselectivity for a Ring Opening with a Bifurcating Reaction Path," Carpenter, B. K.; Harvey, J. N.; Glowacki, D. R. *Phys. Chem. Chem. Phys.* **2015**, *17*, 8372.

Stereoselective Functionalization of Unsaturated Hydrocarbons

Uttam K. Tambar
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The Tambar Group is interested in developing catalytic stereoselective reactions for the functionalization of unsaturated hydrocarbons. We have developed a catalytic enantioselective allylic amination of unactivated olefins via a [2,3]-rearrangement (Figure 1).[1] In this method, a diimido-sulfur reagent serves as the source of nitrogen, and it reacts selectively with terminal olefins through a hetero-ene reaction. The resulting ene adduct undergoes a Pd-catalyzed enantioselective [2,3]-rearrangement to generate chiral amines in high enantiomeric excess. Our approach is conceptually distinct from other enantioselective allylic amination strategies. The synthetic utility of our process is being explored by converting simple and inexpensive terminal olefins into functional materials, such as the pharmaceutical drugs. Based on this chemistry, we have developed a copper-catalyzed enantioselective allylic alkylation of unactivated olefins to generate internal olefins with high regioselectivity and *E*-selectivity (Figure 2).[2] We have also discovered regioselective and diastereoselective aminoarylations[3] and aminothiolations[4] of 1,3-dienes (Figure 3). These results represent a general strategy for functionalizing unsaturated hydrocarbons with aromatic, aliphatic, and vinyl Grignard reagents. As an extension of our approach to the catalytic allylic functionalization of unactivated terminal olefins, we recently pursued the more challenging problem of catalytic asymmetric allylic functionalization of *internal* olefins. We have developed an enantioselective, regioselective, and *E/Z* selective allylic oxidation of unactivated internal olefins via a catalytic asymmetric hetero-ene reaction with an imido-sulfur oxidant (Figure 4).

[1] Bao, H.; Tambar, U. K. *J. Am. Chem. Soc.* **2012**, *134*, 18495-18498.
[2] Bao, H.; Bayeh, L.; Tambar, U. K. *Angew. Chem., Int. Ed.* **2014**, *53*, 1664-1668.
[3] Bao, H.; Bayeh, L.; Tambar, U. K. *Chem. Sci.* **2014**, *5*, 4863-4867.
[4] Sleet, C. S.; Tambar, U. K. *Angew. Chem., Int. Ed.* **2017**, *56*, 5536-5540.

Figure 1. Enantioselective Allylic Amination of Terminal Olefins via a [2,3]-Rearrangement

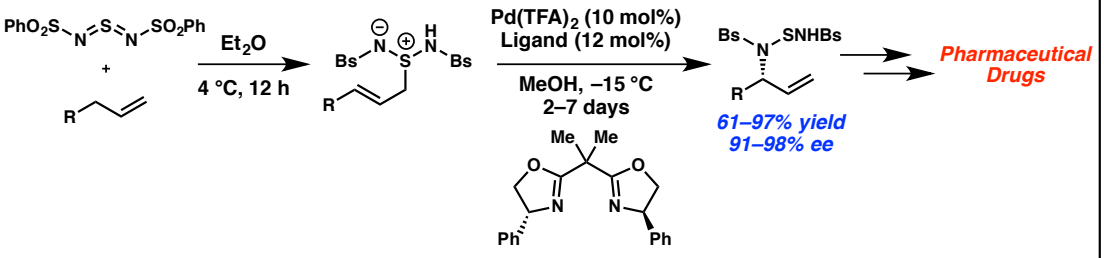
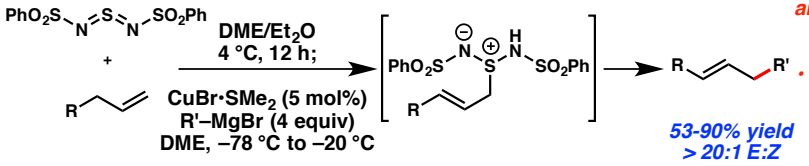


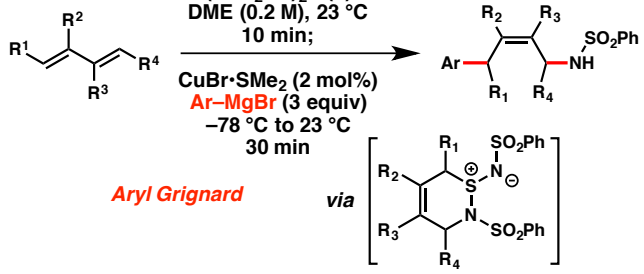
Figure 2. Allylic Alkylation of Terminal Olefins



- *General method for functionalizing olefins with aromatic, aliphatic, and vinyl Grignard reagents*
- *Products formed with high regioselectivity and E-selectivity*

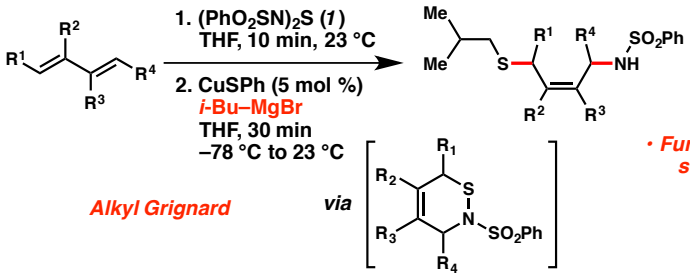
Figure 3. Difunctionalization of 1,3-Dienes

(a) Catalytic Aminoarylation of Dienes



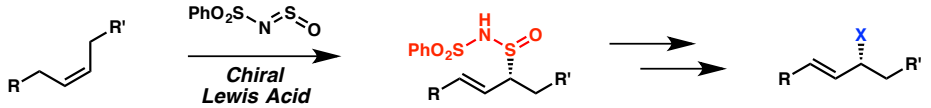
- *Functionalization of dienes with carbon and nitrogen groups*
- *Regioselectivity*
- *Diastereoselectivity*

(b) Catalytic Aminothiolation of Dienes



- *Functionalization of dienes with sulfur and nitrogen groups*
- *Regioselectivity*
- *Diastereoselectivity*

Figure 4. Allylic Oxidation of Unactivated Internal Olefins to a Synthetically Versatile Compound



- *Enantioselective (up to 92% ee)*
- *E/Z selective (100% E)*
- *Regioselective (up to >20 : 1)*

Predictable trends in regioselectivity based on steric and electronic properties

C–N Bond Formation
C–O Bond Formation
C–S Bond Formation
C–C Bond Formation
C–Cl Bond Formation

Sensing DNA Alkylation with Synthetic Nucleotides

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https://www.hest.ethz.ch/en/studies/health-sciences-and-technology/master-hst/majors/tutors/tutors-a-z/shana-sturla.html

The influence of diet and environment on human cancer etiology arises from acquired mutations in critical growth-regulating genes. An interplay of metabolic processes and chemical exposures leads to the generation of potent chemical alkylating agents in cells that damage DNA and form DNA adducts in the genome. However, the great complexity of relationships between the chemistry of DNA alkylation and the biological consequences of carcinogenesis has limited prediction of cancer risk. The talk will concern studies aiming to understand chemical factors that influence steps in the DNA synthesis process using novel synthetic damage-directed nucleoside probes. With the goal of amplifying and detecting damaged DNA in gene sequences for diagnostic purposes, results will be presented demonstrating the selective incorporation of synthetic nucleotides opposite a DNA adduct. These results provide new insight into how base misincorporations may lead to mutations, and chemical tools for locating DNA damage.

Stereocontrol in Photochemical Synthesis

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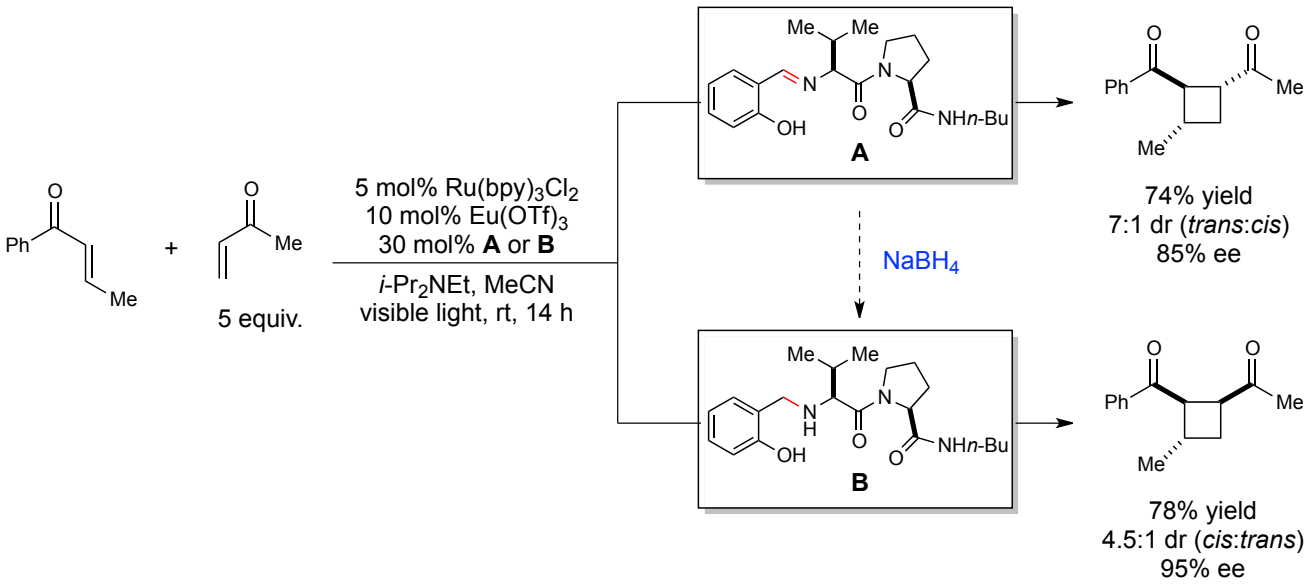
https://www.chem.wisc.edu/users/tyoon

Control over the stereochemistry of photochemical reactions, particularly using enantioselective catalysts, has been a long-standing challenging synthetic problem with few general solutions. It has commonly been argued that the high-energy intermediates involved in photochemical transformations limit the opportunities for effective stereocontrol. We disagree with this assessment, and recently developed a method for highly enantioselective [2+2] photocycloaddition reactions using a combination of chiral Lewis acid and transition metal photocatalysis. This dual catalyst approach offers a robust strategy to control the reactivity of a wide range of reactive intermediates that can easily be photochemically generated. Key to the success of this strategy is the ability to independently tune the chiral environment of the Lewis acid without interfering with the photochemical properties of the light-absorbing chromophore.



2017 ROGER ADAMS AWARD LECTURE

Substrate Controlled Asymmetric Synthesis

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https://chemistry.uchicago.edu/faculty/hisashi-yamamoto

Unlike reagent controlled reactions (mechanism controlled reactions) which played significant role in asymmetric synthesis in the past, substrate controlled reactions are relatively newer approach. Nevertheless, since its discovery the latter has become an indispensible tool in modern asymmetric synthesis. In these reactions, an electron donor polar substituent in the substrate, namely a “directing group”, actively facilitates the transient interplay between the achiral substrate and the chiral catalyst via nonbonding interaction, in such a fashion that the incoming group attacks from a particular enantiotopic face. Thus, the stereochemical outcome of an asymmetric reaction is largely dependent on the nature of the substrate.

Oxygen Driven Fragment Coupling by Activation of C–H, N–H, and O–H Bonds

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Nature uses oxidative couplings to construct carbon-carbon, carbon-oxygen, and carbon-nitrogen bonds with a high degree of efficiency. Surprisingly, few laboratory equivalents are as selective or as efficient as the biological versions. The use of parallel microscale screening to discover selective and efficient catalysts for such processes using oxygen as the terminal oxidant will be discussed. The unexpected outcomes obtained highlight the value of interrogating large numbers of rationally selected variables under the umbrella of general hypothesis. The development of selective catalytic processes for naphthol coupling, phenol coupling, asymmetric phenol coupling, enol coupling, N-arylation, and alkyl C–H activation that utilize oxygen as the terminal oxidant will be discussed. In addition to applications in total synthesis, studies on the mechanisms of these transformations will be described with the goal of understanding the governing principles and how they might be used to discover further new transformations.

Development of Omecamtiv Mecarbil, a Novel Cardiac Myosin Activator

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Omecamtiv mecarbil (AMG 423) is a first-in-class direct activator of cardiac myosin, the motor protein that causes cardiac contraction. By enhancing the ability of the myosin molecule to generate force, the drug increases heartbeat strength and cardiac output. It is being evaluated as a potential treatment for heart failure in both intravenous and oral formulations with the goal of establishing a new continuum of care for patients in both in-hospital and outpatient settings. This presentation will describe the design of a robust synthetic process to prepare omecamtiv mecarbil and highlight the challenges and opportunities at the drug substance/drug product interface. This includes a convergent synthesis of the unsymmetrical urea core of the target from stable precursors, as well as engineering drug substance particle properties to aid drug product performance across formulations. The presentation will also include key elements of the control strategy for potential genotoxic impurities and highlight the use of PAT tools to increase process knowledge and guide chemical development.

Organic Chemistry at the Interface of Materials and Mechanics

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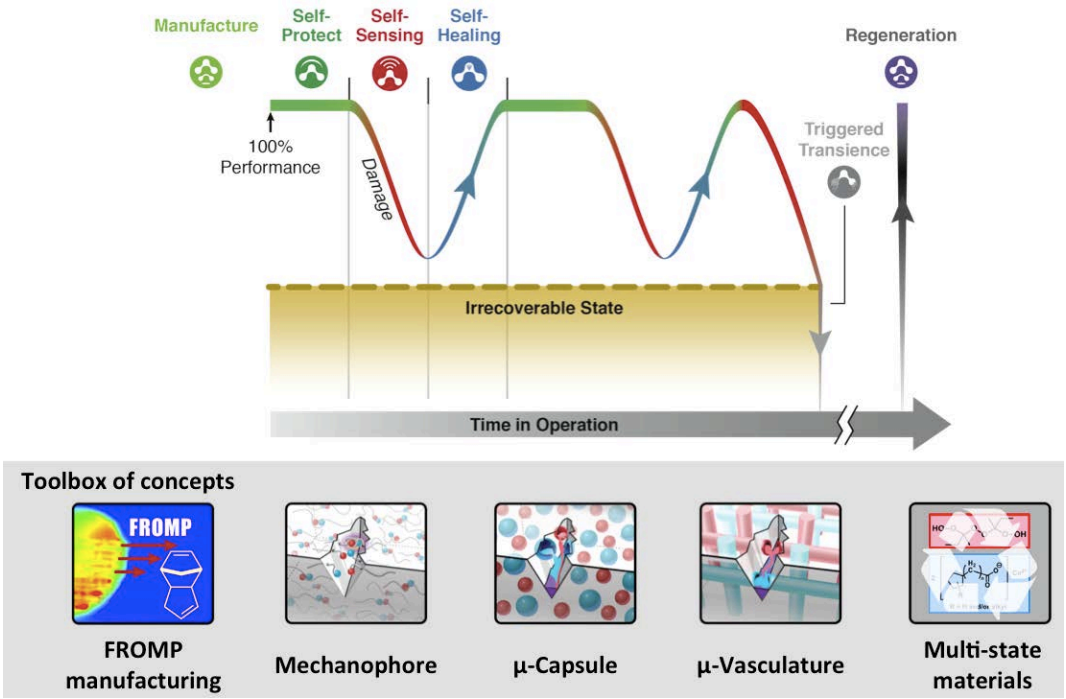
http://sulfur.scs.uiuc.edu

In this talk I will discuss the molecular design of organic structural materials that mimic the ability of living systems to protect, report, heal and even regenerate themselves in response to damage, with the goal of increasing lifetime, safety and sustainability of many manufactured items. I will emphasize recent developments in frontal ring-opening metathesis polymerization (FROMP) to manufacture composites with minimal energy consumption. The talk will also present a workflow for the design, evaluation, and development of new "mechanophores", a term that has come to mean a molecular unit that chemically responds in a selective manner to a mechanical perturbation. Mechanophores are building blocks for the development of mechanoresponsive materials with protection and sensing functions. The impact and challenges of introducing these capabilities in real-world situations will be mentioned.



References:

1. Patrick, J.F.; Robb, M.J.; Sottos, N.R.; Moore, J.S.; White, S.R. Polymers with Autonomous Life-cycle Control, *Nature*, **2016**, *540*, 363-370.
2. Li, J.; Nagamani, C.; Moore, J.S. Polymer Mechanochemistry: From Destructive to Productive, *Acc. Chem. Res.,* **2015**, *48*, 2181-2190.

THERAPEUTIC FUNCTION THROUGH SYNTHESIS-INFORMED DESIGN: FIRST-IN-KIND APPROACHES TO HIV/AIDS ERADICATION, TREATING ALZHEIMER'S DISEASE AND CANCER IMMUNOTHERAPY

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https://chemistry.stanford.edu/people/paul-wender

Our research focuses on the use of synthesis-informed design, often inspired by natural products, to address unsolved medical problems. This lecture will focus on the as yet unachieved goal of eradicating HIV/AIDS, first-in-kind strategies for treating Alzheimer's disease and the use of our own cells (*heal thyself*) to make agents that elicit an immune response to overcome cancer. These function-oriented synthesis (*Accts.* 2015, 752) studies, driven by target design and enabled by step- and time-economical syntheses, will be initially exemplified with a new and remarkably effective mRNA delivery system (CARTs) and its use in studies directed at therapeutic vaccinations, cancer immunotherapy, and CRISPR gene editing (*Proc. Natl. Acad. Sci.* 2017, E448). Our studies on HIV/AIDS eradication will follow, further exemplifying the FOS approach. AIDS is one of the most catastrophic pandemics to confront mankind with approximately 37 million individuals living with AIDS and 35 million who have died thus far of the disease (UNAIDS 2016). In 2016, 2.1 million individuals were newly infected and 1.2 million died of the disease. While antiretroviral therapy (ART) slows disease progression for many HIV infected individuals, it is not curative. ART is chronic, requires strict compliance, is costly, and is implicated in numerous health problems attributed to long-term chemo-exposure. Eradication of the disease would eliminate these problems. While ART reduces the active virus load to undetectable levels, the active virus is resupplied by reservoir cells incorporating genomically encoded, replication competent provirus that persists in infected individuals. Current efforts to eradicate the disease seek to eliminate these reservoir cells, the root cause of renewed infection. Prostratin and bryostatin have emerged as promising clinical candidates for clearing latent HIV reservoirs. They activate reservoir cells through a protein kinase C (PKC) pathway, allowing for their elimination through cytopathic effects or immunotoxin clearance. We now have supply-impacting syntheses of these natural products (*Science* 2008 for prostratin; unpublished for bryostatin), will discuss the latter – a remarkable gram-scale synthesis of this complex target and have used these routes to make superior analogs. This lecture will provide an overview of our efforts directed at this global medical problem, including computer based (*Nature Commun.* 2017) and REDOR solid state NMR studies (*JACS* 2015, 3678) on the structure of PKC and PKC modulatory ligands, the design and synthesis of new PKC modulators, their latency reversing activities (*Nature Chem.* 2012, 705; *PNAS*, 2013, 11698; submitted) and the connection of this research to a novel strategy to treat neurological disorders, with the lead candidate now in Phase IIb clinical trials for the treatment of Alzheimer's disease.

Natural Product Synthesis as an Entry to New Method Development and Biological Studies

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florean@pitt.edu
http://www.chem.pitt.edu/person/paul-floreancig

The rigor of natural product synthesis continues to inspire new method development and to deliver compounds that provide insights into biological activity. This seminar will detail three studies that support this statement. Specifically, the talk will focus on 1) the extension of an approach to allylic alcohol transposition reaction to an efficient synthesis of the spliceosome inhibitor herboxidiene and an analog that provides insight into the biologically relevant conformation, 2) the advancement of unimolecular reactions that proceed through oxidative C–H functionalization to a bimolecular process for spiroacetal synthesis leading to the synthesis of the actin-binding cytotoxin bistramide A, and 3) the path from designing a multicomponent protocol for the synthesis of pederin and psymberin to understanding the structure-activity relationships of these compounds and a move into oxidative cargo release.

DNA Repair, Organic Chemistry and Cancer: It's All About the Base

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One Shields Avenue, Davis, California 95616
ssdavid@ucdavis.edu
http://chemistry.ucdavis.edu/faculty/department_faculty/sheila_david.html

DNA repair processes play an important role in maintaining the chemical integrity of DNA and insuring the accuracy of its informational content. The damaged base 8-oxoguanine (OG) is particularly sinister due to its subtle structural change that evades detection during replication and results in incorrect insertion of adenine to form OG:A mismatches. The MutY glycosylase initiates base excision repair (BER) to prevent harmful mutations by excising adenine from OG:A mismatches. MutY has captured the spotlight due to the correlation between inherited defects in the human MutY homologue (MUTYH) and colorectal cancer, referred to as MUTYH-associated polyposis (MAP).[1] My laboratory provided support for the discovery of MAP by providing functional analysis of the two most common variants in MUTYH revealing a hampered ability to recognize OG. Notably, using modified substrates and modified enzymes in both in vitro and cellular assays we have revealed the key features of OG:A base pairs that allows MUTYH to distinguish them from other similar normal Watson-Crick bps.[2]

We have also synthesized several azaribose transition state (TS) analog containing DNA duplexes that exhibit exceptionally high affinity for MutY and related BER glycosylases. Using these TS-analog containing duplexes, we have determined several crystal structures of MutY and related enzymes that provide intriguing new insight into lesion recognition and base excision.[3] A surprising feature of TS analog structures solved with MutY is the approach of the water nucleophile on the same side as the departing adenine base. NMR analysis of MutY methanolysis products corroborates a mechanism for adenine removal with retention of stereochemistry. Based on these results, we propose a revised mechanism for MutY that involves two nucleophilic displacement steps akin to the mechanisms accepted for "retaining" O-glycosidases. This new-for-MutY yet familiar mechanism may also be operative in related base excision repair glycosylases and provides a critical framework for analysis of MUTYH variants associated with inherited colorectal cancer. In the quest to prepare TS-analogs specific for a given glycosylase we have used "click" chemistry to elaborate the azaribose scaffold and make small "libraries" of TS-mimic containing DNA duplexes. Notably, using this approach we have been able to identify extremely high affinity duplexes that bind more tightly to one glycosylase over another. These results suggest a potentially new therapeutic strategy to target BER glycosylases to compromise DNA repair in cancer cells.

1. (a) David, S. S.; O'Shea, V. L.; Kundu, S. *Nature* **2007**, *447*, 941 (b) Banda, D.M., Nunez, N. N., Burnside, M.A., Bradshaw, K. M., David, S. S., *Free Rad. Biol. Med.*, 107, **2017**, 202-215.
2. (a) Livingston, A. L.; O'Shea, V. L.; Kim, T.; Kool, E. T.; David, S. S. *Nature Chem. Biology* **2008**, *4*, 51. (b) Brinkmeyer, M. K.; Pope, M. A.; David, S. S. *Chemistry & Biology* **2012**, *19*, 276. (c) Manlove, A. H., McKibbin,P. L. Doyle, E. M., Majumdar, C., Hamm, M.L. David, S. S., *ACS, Chemical Biology* (submitted)
3. (a) Woods, R. D.; O'Shea, V. L.; Chu, A.; Cao, S.; Richards, J. L.; Horvath, M. P.; David, S. S. *Nucleic acids research* **2016**, *44*, 801 (b) Mullins, E. A., Shi, R. Parsons, Z.D., Yuen, P.K., David, S. S., Igarashi, Y., Eichman, B. F., *Nature,* 34, 39-51, **2015**.

The Natural Productome Project

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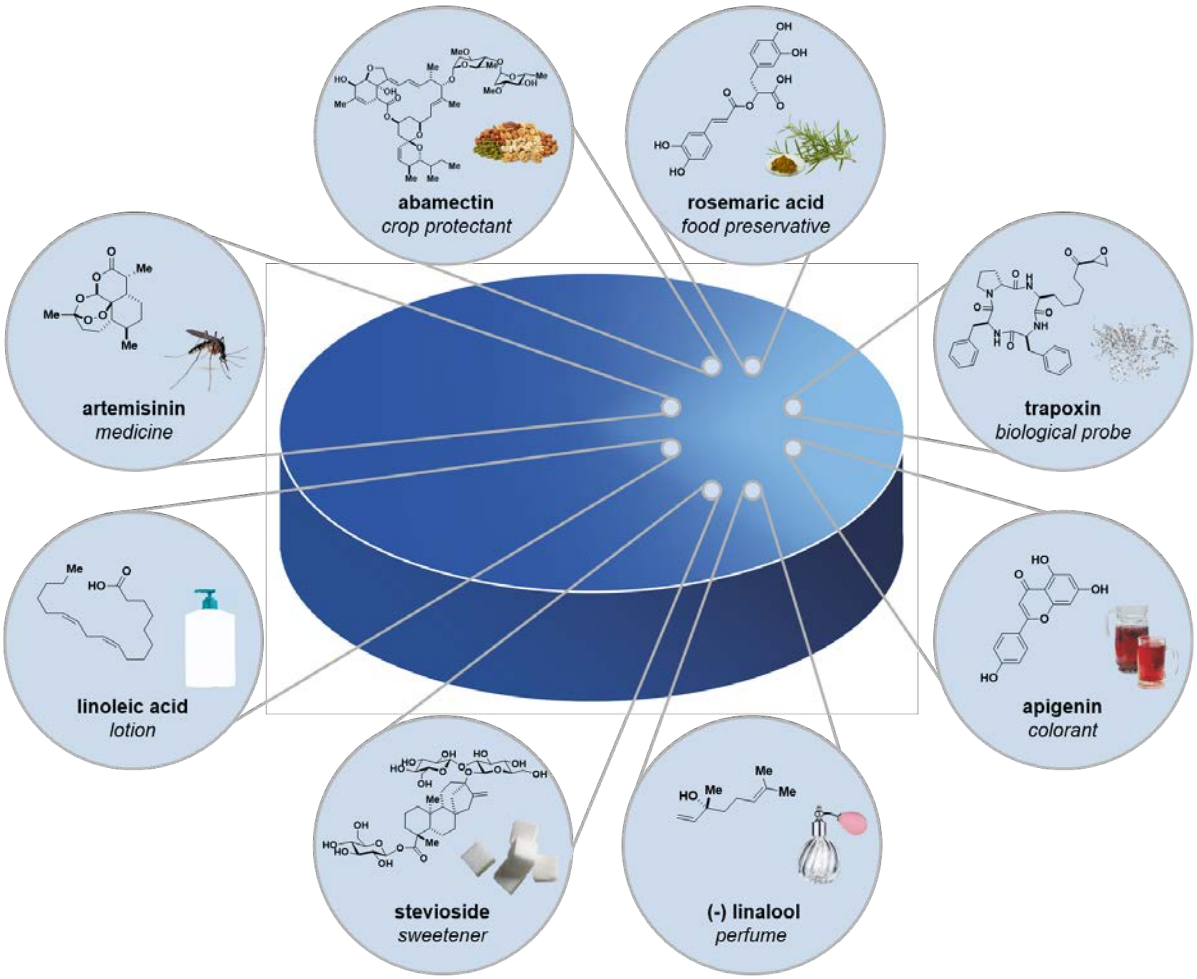
http://www.chemistry.illinois.edu/faculty/Martin_Burke.html

Natural products already have a major positive impact. They represent or inspired more than half of all human medicines, a third of all crop protectants, many of the best food preservatives, and some highly informative biological probes. They also make the world more wonderful to see, smell, taste, and feel by serving as many of the most popular colorants, perfumes, seasonings, and lotions used in everyday life around the globe. Having the capacities to disrupt or promote protein-protein interactions, allosterically modify protein activities, and even autonomously perform protein-like functions, natural products also continue to inspire the medicines of tomorrow. It is thus striking to consider that much of the functional potential that natural products possess remains untapped. This is largely because, despite many important advances over the past two centuries, the process of synthesizing these complex molecules and their derivatives is still highly customized and thus inherently slow and specialist-dependent. In stark contrast, most other naturally occurring molecules, including peptides, oligonucleotides, and (increasingly) oligosaccharides can now be made on-demand by machines. These inspiring advances were each enabled by the development of generalized synthesis platforms in which pre-fabricated building blocks are iteratively assembled using common coupling chemistry. There is substantial structural diversity in natural products, yet several lines of evidence suggest that these compounds are inherently modular and the chemical space they occupy is largely bounded. Thus, an analogous building block-based approach for making most natural products should be attainable. Akin to the Human Genome and Higgs Boson initiatives in biology and physics, this goal represents an exciting collective opportunity for chemists to have a transformative impact on science, medicine, and society by unleashing the tremendous untapped functional potential that natural products possess.


abamectin
crop protectant
rosemaric acid
food preservative
artemisinin
medicine
trapoxin
biological probe
linoleic acid
lotion
apigenin
colorant
stevioside
sweetener
(-) linalool
perfume

ACS – Division of Organic Chemistry Graduate Fellowships

Listed below are the advanced graduate students who were awarded ACS – Division of Organic Chemistry Graduate Fellowships in the past two years. All of these students are presenting a poster at the symposium. Also listed are the names of their institution, faculty research advisor, and the company that sponsored the specific award. The Division of Organic Chemistry is pleased to honor these extraordinary students and to gratefully acknowledge the substantial financial support provided by their generous sponsors.

Fellowship Winners 2015-16

Juliet Anderson
Sponsor: Troyansky Fellowship (Organic Division Endowment)
University of Wisconsin, Madison
Advisor: Jennifer Schomaker

Nicole Camasso
Sponsor: Boerhringer Ingelheim Pharmaceuticals Fellowship
University of Michigan
Advisor: Melanie Sanford

Joshua Hummel
Sponsor: Organic Synthesis Fellowship
Yale University
Advisor: Johnathan Ellman

Zachary Kasun
Sponsor: Nelson J. Leonard Fellowship sponsored by Organic Synthesis
University of Texas at Austin
Advisor: Michael Krische

Matthew Larsen
Sponsor: Organic Synthesis and Organic Reactions Fellowship
University of California, Berkeley
Advisor: John Hartwig

ACS – Division of Organic Chemistry
NOS Travel Awards

The following six applicants are recognized for their achievements with a Division of Organic Chemistry Travel Award to the 2017 NOS Meeting. Also listed are the names of their institution and faculty research advisor

Travel Awardees 2017

Trandon Bender
Sponsor: DOC-NOS Travel Award
University of North Carolina, Chapel Hill
Advisor: Michel R. Gagné

Dennis Hu
Sponsor: DOC-NOS Travel Award
Stanford University
Advisor: Noah Burns

Brandi Hudson
Sponsor: DOC-NOS Travel Award
University of California, Davis
Advisor: Dean J. Tantillo

Adam Levinson

Sponsor: DOC-NOS Travel Award
Sloan Kettering
Advisor: Samuel Danishefsky

Samantha Shockley

Sponsor: DOC-NOS Travel Award
California Institute of Technology
Advisor: Brian Stoltz

John Tellis

Sponsor: DOC-NOS Travel Award
University of Pennsylvania
Advisor: Gary A. Molander

45th National Organic Chemistry Symposium Poster Sessions

University of California, Davis
The Robert and Margrit Mondavi Center for the Performing Arts

For each night's poster sessions, prizes for the two best posters will be awarded. The Poster Awards are sponsored by the following ACS Journals:

Sunday: **ACS Omega - Poster Awards will be presented Monday morning by Dean Tantillo, University of California, Davis**
Monday: **Organic Letters – Poster Awards will be presented Tuesday morning by Sarah Reisman, California Institute of Technology**
Tuesday: **The Journal of Organic Chemistry – Poster Awards will be presented Wednesday morning by Scott Miller, Yale University**
Wednesday: **Organometallics – Poster Awards will be presented Thursday morning by Robert Bergman, University of California, Berkeley**

Sunday, June 25, 2017

Poster #	Poster Title	Authors (*Presenting)	Affiliation(s)
S-1	An Investigation of Substituent Effects on the Electrophilicity of Oxypyridinium Salts	Philip Albiniak*	Ball State University
S-2	Tunable, Selective Silver-Catalyzed Aminations and Oxidative Derivatization of Amines	Juliet M. Alderson*, Jared W. Rigoli, Cale D. Weatherly, Alicia M. Phelps, Ryan J. Scamp, Nicholas S. Dolan, Jennifer M. Schomaker	University of Wisconsin-Madison
S-3	Preparation of Dienoic Acids as Intermediates in Syntheses of Diterpenoids	Rameez Ali*, Keveen Flieth, Thomas W. Bell	University of Nevada, Reno
S-4	Theoretical Study of Cu-Catalyzed C-H Imidation of Benzaldehyde-oximes with N-Fluorobenzenesulfonimide.	Iriux Almodovar*†, Edwin G. Pérez Hernández‡, Carlos E. Puerto Galvis#	†Universidad de Santiago de Chile; ‡Pontificia Universidad Católica de Chile; #Universidad Industrial de Santander
S-5	Synthesis and Evaluation of Peptidomimetic Inhibitors for the Botulinum Neurotoxin	Martin Amezcua*; Ricardo Cruz; Nicholas Salzameda	California State University, Fullerton
S-6	Synthesis of Isoquinoline Alkaloid Derivatives	Abigail K. Frndak, Karine E. Rose, Carolyn E. Anderson*	Calvin College

Poster #	Poster Title	Authors (*Presenting)	Affiliation(s)
S-7	EPR Study of Catalyst Speciation, Off-Cycle Events, and Nonlinear Effects in an Enantioselective Copper(II)-Catalyzed Spiroannulation	Brittany Armstrong*, Richard Sayler, Benjamin Shupe, R. David Britt, Annaliese K. Franz	University of California, Davis
S-8	Enantioselective Total Synthesis of Lupin Alkaloids	Viktor Barat*, Daniel Csokas, Roderick W. Bates	Nanyang Technological University
S-9	Development of a Stereoselective and Scalable Process for the Preparation of a Methylcyclobutanol-Pyridyl Ether	Kallol Basu*, Jeffrey T. Kuethe, Robert Orr, Eric Ashley, Marc Poirer, Lushi Tan	Merck & Co.
S-10	Synthesis of Polycyclic Aromatic Hydrocarbons	Marc R. Becker*, Corinna Schindler	University of Michigan
S-11	Natural Products Isolation of Bioactive Glycolipids in Tea, Camellia Sinensis	Jacquelyn Gervay-Hague, Amy Bellinghiere*	Department of Chemistry University of California, Davis
S-12	Tied Back Bispyridyloximes as Novel Agents for Crop Disease Control	Zoltán Benkő*, Larry Creemer, Joe Eckelbarger, Neeraj Sane, Carla Klittich, George Davis, David Young, Stacy Meyer, Nick Wang	Dow AgroSciences
S-13	Metal-free C-H Sulfonamidation of Pyrroles by Visible Light Photoredox Catalysis	Anna Berger*, Andreas U. Meyer, Burkhard König	University of Regensburg (Germany)
S-14	Advances in Copper-Catalyzed Cross-Coupling	Allison M. Bergmann*, Adam Oldham, Wei You, M. Kevin Brown	Indiana University
S-15	Enantioselective Total Synthesis of Cannogenol and Cannogenol-3-O-alpha-L-rhamnoside	Bijay Bhattarai*, Pavel Nagorny	University of Michigan
S-16	Development of Strain-Releasing Methodologies Employing Cyclopropenones	Gregory R. Boyce*	Florida Gulf Coast University
S-17	A Novel Protocol for Synthesis of (Z)-10,11-dihydrobenzo[e][1,2,3]triazolo [1,5- a]azocine	Ronald Brisbois*, Scott Pedersen, Hoang Anh Phan, Tia Eskridge, Claire Schmit	Macalester College, St. Paul, MN

Poster #	Poster Title	Authors (*Presenting)	Affiliation(s)
S-18	Diastereoselective Synthesis of Unnatural Amino Acids via an Auxiliary-directed Enolate Alkylation	Molly Brown*, Natalie Dwulet, Tina Zolfaghari, Daniel Essayan, Jeff Cannon	Occidental College
S-19	The Synthesis of New Precursors to Pentacyclo[4.3.0.02,4.03,8.05,7]non-4-ene	Elise Brutschea*, Amadna Tallon, Linda Bui, Mark Forman	Saint Joseph's University
S-20	Helical-Chiral Pyridines for Catalytic Transformations	Carlyn Reep, Shiyu Sun, Zhili Peng, Maurice Narcis, Norito Takenaka*	Florida Institute of Technology and University of Miami
S-21	Diastereoselective Tamura Cycloadditions with N-Sulfonyl Ketimines	Noah P. Burlow*, Sara Y. Howard, Jared T. Shaw	University of California, Davis
S-22	Gold(I)-Catalyzed Synthesis of 1H-Isochromenes	Dakota D. Butler*, Sarah N. Cantu, Caitlin R. Lacker, Parker L. Wilson, Michael R. Gesinski	Southwestern University
S-23	Highly Selective 5,5-Dimethyl-1,3,4,5-tetrahydrobenz[cd]indole Synthesis by Acid-Catalyzed Intramolecular Alkene Hydroarylation	Xiao Cai*, Cristian Ramirez, Anagu Tuoheti, Hassan Harb, Hrant P. Hratchian, Benjamin J. Stokes	University of California, Merced
S-24	The Influence of Oxidation State on the Selectivity of Bond-Forming Reactions at High-Valent Ni Complexes	Nicole M. Camasso*, Eric G. Bowes, Melanie S. Sanford	University of Michigan and University of British Columbia
S-25	Quantification of Alpha-gold Positive Charge Stabilization in Gold (I) Carbene Complexes	Robert G. Carden*, Nathan Lam, Ross A. Widenhoefer	Duke University
S-26	The Enantioselecive Synthesis of Pyrrolopyrimidine Scaffolds through Cation-Directed Nucleophilic Aromatic Substitution	Mariel M. Cardenas*, Christopher J. Nalbandian, Sean T. Toenjes, Jeffrey L. Gustafson	San Diego State University
S-27	Synthesis and in vivo Quantitation of 2'-Deoxyadenosine Adducts Resulting from Bioactivation of 4-(Methylnitrosamino)-1-(3-pyridyl)-1-butanone and 4-(Methylnitrosamino)-1-(3-pyridyl)-1-butanol	Erik S. Carlson*, Pramod Upadhyaya, Stephen S. Hecht	University of Minnesota - Twin Cities
S-28	Novel Synthesis of Isoflav-3-enes	Maria G. Carranza*	Westfield State University

Poster #	Poster Title	Authors (*Presenting)	Affiliation(s)
S-29	Phosphonate-Directed Catalytic Asymmetric Hydroboration: Synthesis of Chiral Tertiary Boronic Esters	Suman Chakrabarty*, James M. Takacs	University of Nebraska-Lincoln
S-30	Cobalt-Catalyzed C-O Bond Activation for the Direct Functionalization of Alcohols	Dana Chambers*, Esmat Sodager, Raymond Sullivan, Prof. Dave Martin	University of California, Riverside
S-31	Process Development and Understanding of Cyclization/Deprotection in the Synthesis of MK-3682	Wenyong Chen*, Peter Maligres, Feng Peng, John Limanto, Artis Klapars, Jake Song, Weidong Tong, Guangtao Li, Timothy Nowak, Lin Wang, Meredith Green, Alfred Lee, Robert Dunn	Department of Process Research and Development, Merck
S-32	The Development of New Hybrid Type Squaramide Fused Amino Alcohol Organocatalysts and Its Application to Asymmetric Reactions	Madhu Chennapuram*†, U.V. Subba Reddy†, Chigusa Seki†, Yuko Okuyama‡, Eunsang Kwon#, Koji Kwai†, Michio Tokiwa§, Mitsuhiro Takeshita§, Hiroto Nakano†	†Division of Sustainable and Environmental Engineering, Graduate School of Engineering, Muroran Institute of Technology, Japan. ‡Tohoku Medical and Pharmaceutical University, Japan. #Research and Analytical Center for Giant Molecules, Graduate School of Sciences, Tohoku University, Japan. §Tokiwakai Group, Japan
S-33	Process Optimization of a Late-Stage Ring-Closing Metathesis (RCM) To Access a 16-Membered Macrocycle	Alan H. Cherney*, Jason. S. Tedrow	Amgen
S-34	Synthesis of APEG-Derivative Surfactants for Study of Polybia-MP1 Structure and Dynamics	Joseph Cheung*, Matthew Roberson, Keveen Flieth, Matthew Tucker, Laina Geary	University of Nevada Reno
S-35	Study of the Behavior of (Z/E) 2-Styrylbenzaldehyde O-Benzyloxime in Aza-6π Electrocyclization Reactions	Judy M. Cifuentes*, John E. Diaz, Alix E. Loaiza	Pontificia Universidad Javeriana

Poster #	Poster Title	Authors (*Presenting)	Affiliation(s)
S-36	Tunable Visible and Near Infrared Photoswitches	James R. Hemmer, Saemi O. Poelma, Nicolas Treat, Zachariah A. Page, Neil D. Dolinski, Yvonne J. Diaz, Warren Tomlinson, Kyle D Clark*, Joseph P. Hooper, Craig Hawker, Javier Read de Alaniz	Department of Chemistry and Biochemistry and Materials Department, Materials Research Laboratory, University of California, Santa Barbara. Department of Physics, Naval Postgraduate School
S-37	Cyclopentenone Formation via Remote C–H Insertion of Vinyl Cations	Sarah E. Cleary*, Magenta J. Hensinger, Matthias Brewer	University of Vermont
S-38	Synthesis of Vicinal Dichlorides via Established Triphosgene-Pyridine Protocol	Alexander H. Cleveland*, Rendy Kartika	Louisiana State University
S-39	Buchwald-Hartwig Amination of Soft Lewis Basic Heterocyclic Complexant Scaffolds	Jacob W. Cleveland*, Jesse D. Carrick	Tennessee Technological University
S-40	Simple and Sustainable Approach to the Synthesis of Pyrido-indolones	Lucas A. Zeoly, Lais, V. Acconcia, Rodrigo A. Cormanich, Juan C. Paniagua, Albert A. Moyano, Fernando Coelho*	University of Campinas, Department of Organic Chemistry, Brazil
S-41	Catalytic Asymmetric Conjugate Addition of Indolizines to α,β-Unsaturated Ketones	José Tiago Menezes Correia*, Fernando Coelho, Benjamin List	University State of Campinas, Max Planck Institute für Kohlenforschung
S-42	Aqueous Dearomatization/Diels-Alder Cascade for Teaching Labs	Brett Cory*, Giovanni G. Castro, Michael E. Jung, David A. Vosburg	University of California, Los Angeles and Harvey Mudd College
S-43	Extension of the Daphniphyllum Alkaloid Polycyclization Cascade to Longeracemine's Unprecedented Ring System	Joshua B. Cox*, Keita Komine, John L. Wood	Baylor University
S-44	Organocatalyzed Intramolecular Carbonyl-Ene Reactions	Heidi A. Dahlmann*, Amanda J. McKinney, Maria P. Santos, Lindsey O. Davis	Berry College
S-45	Exploring the Scope of Lewis Acid-catalyzed Triplet Energy Transfer: [2+2] Photocycloaddition and Beyond	Mary Elisabeth Daub*, Hawa Keita, Evan M. Sherbrook, Tehshik P. Yoon	University of Wisconsin - Madison

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S-46	Nucleophilic Dynamic Kinetic Resolution of Biaryl-Naphthoquinones Towards Functionally Diverse Atropisomeric Scaffolds	Sean Maddox, Gregory Dawson*, Nick Roschester, Dr. Jeffrey Gustafson	San Diego State University
S-47	Expanding the Utility of the Nickel-Mediated Decarbonylative Cross-Coupling of Substituted Phthalimides	Kimberly S. DeGlopper*, Megan R. Kwiatkowski, Mason C. Yoder, Trey C. Pankratz, Jeffrey B. Johnson	Hope College
S-48	Continuous Flow α-Arylation of N,N-Dialkylhydrazones Under Visible-Light Photoredox Catalysis	Juan A. Vega, José Manuel Alonso, Gabriela Méndez, Myriam Ciordia, Francisca Delgado*, Andrés A. Trabanco	Neuroscience Medicinal Chemistry, Janssen Research & Development
S-49	Total Syntheses of (+) and (-) Tetrapetalone A	Heemal H. Dhanjee*, Yutaka Kobayashi, Jonas F. Buergler, Travis C. McMahon, Matthew W. Haley, Jennifer M. Howell, Koichi Fujiwara, Lee Mains, John L. Wood	Baylor University
S-50	A Highly Convergent Total Synthesis of Dolabriferol C (One-pot Stereoselective Bis-aldol Reactions)	Naveen Diddi*, Dale E. Ward	University of Saskatchewan
S-51	Phosphorus NMR Probe to Quantify Hydrogen-bonding Ability of Silanols, Boronic Acids, and other Highly Utilized Organocatalysts.	Kayla M. Diemoz*, Annaliese K. Franz	University of California, Davis
S-52	An Atroposelective Dynamic Kinetic Resolution of Di-Aryl Ether Napthoquinones	Andrew Dinh*, Ryan Noorbehest, Jeffrey Gustafson	San Diego State University
S-53	Modular Synthesis and Reactivity Profiling Studies of Diverse C-, S-, and P-based α,β-Unsaturated Macrocycles	Gihan Dissanayake*, Salim Javed, Dimuthu Vithanage, Arghya Ganguly, Paul R. Hanson	Department of Chemistry, University of Kansas
S-54	Silicon 29 NMR Characterization of Per-O-Silylated Sugars	Jacquelyn Gervay-Hague, Andras Domokos*	University of California, Davis
S-55	Competition Studies with Host TETROL and Four Cyclohexanone Guests: A Sleuth's Modus Operandi for Determining the Reasons for the Selectivity Order	Benita Barton, Sasha-Lee Dorfling*, Eric Hosten	Department of Chemistry, Nelson Mandela Metropolitan University, South Africa

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S-56	Rhodium-Catalyzed Intermolecular Conversion of Ketones through C-C Bond Activation	Stanna K. Dorn*, Eric P. Weeda, Chad T. Compagner, Joseph M. Dennis, Jeffrey B. Johnson	Hope College
S-57	Preparation of Novel Hemi-1,2,4-Triazinyl-[2,2']-bypyridines via the Negishi Coupling and Telescoped Condensation Towards Chemoselective Minor Actinide Separations	Ryan P. Downs*, Ai-Lin Chin, Kayla M. Dean, Jesse Carrick	Tennessee Technological University
S-58	Scandium Catalyzed Substitution of Benzylic Alcohols	Julia Duncan*, Lun Li, Laina Geary	University of Nevada, Reno
S-59	Iron-Catalyzed Cross-Coupling Reactions of Arylmagnesiums with Aryl Chlorides and Tosylates	Hung A. Duong*, Han Vinh Huynh, Wenqin Wu, Qiaoqiao Teng, Yi-Yuan Chua	A*STAR's Institute of Chemical and Engineering Sciences, Singapore; National University of Singapore
S-60	N-Heterocyclic Carbenes – Powerful Ligands for Heterogeneous Catalysis	Johannes B. Ernst*†, Christian Schwermann†, Fei Wang‡, Gen-ichi Yokota‡, Mizuki Tada‡, Nikos L. Doltsinis†, Satoshi Muratsugu‡, Frank Glorius†	†University of Münster and ‡Nagoya University
S-61	Potentially Anticancer Peptides Related to Cryptomaldamide	Nicholas A. Falcone*, Robin B. Kinnel	Hamilton College
S-62	Copper-Catalyzed Approach to Beta-Lactams	Gordon Farley*, Michael Beauchamp, Andre K Isaacs	College of the Holy Cross
S-63	Phosphothreonine as a Catalytic Residue in Peptide-Mediated Asymmetric Baeyer-Villiger Oxidations of Prochiral Cyclobutanones	Aaron L. Featherston*, Scott J. Miller	Yale University
S-64	Total Synthesis of Leuconoxine by Radical Translocation	Andrew J. Ferreira*, Christopher M. Beaudry	Oregon State University
S-65	Synthesis of Isocyanoacetates and Its Reaction with Benzaldehyde. New Approach to the Synthesis 1,3-Oxazepines.	Liliana Becerra-Figueroa*, Diego Gamba-Sánchez	Laboratory of Organic Synthesis Bio and Organocatalysis. Universidad de los Andes. Bogotá-Colombia

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S-66	Synthesis of Furanolactone Motifs using Photoredox/Lewis Acid-Catalyzed Ketyl Radical Cyclizations	Jeffrey Cannon, Nicholas Foy, Katherine Forbes*, Max Gruber	Occidental College
S-67	Protective Natural Products from Grass-Endophyte Associations	Jonathan R. Scheerer*, Matt Nelli, Kelsey Miller, A.J. Wright, M. Todd Hovey, Emily Eklund, Margaret Olesen	The College of William & Mary
S-68	Design and Synthesis of Dihydropyrimidine Analogs as BRFT Selective Inhibitors for Male Contraception	Jiewei Jiang*, Alex M. Ayoub, Laura M.L. Hawk, Andrea J. Wisniewski, Neeraj K. Mishra, Ryan J. Herzig, Clifford T. Gee, Peiliang Zhao, Jin-Yi Zhu, Norbert Berndt, Thomas G. Scott, Nana K. Offei-Addo, Jun Qi, James E. Bradner, Ernst Schönbrunn, Timothy R. Ward, William C.K. Pomerantz, Gunda I. Georg	Department of Medicinal Chemistry and Institute for Therapeutics Discovery and Development, University of Minnesota
S-69	Discovery of Selective Inhibitors and Fluorescence Tools for Testis-Specific Bromodomain (BRDT)	Xianghong Guan*, Zhenguan Miao, Carolyn Kingsley, Jon Hawkinson, Gunda I. Georg	University of Minnesota
S-70	Synthesis of Olefins via a One-pot Wittig Reaction and Catalytic Wittig Reaction	Lun Li*, Jared C. Stimac, Laina M. Geary	University of Nevada, Reno

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M-1	Expanding Diversity About the 3,4-Dihydroquinazoline Scaffold: Gaining Access to an Emerging Class of Antimicrobial Compounds	R. Adam Mosey*, Christina Magyar, Tyler Wall, Celina Malcolm, Martha Hutchens	Lake Superior State University
M-2	Synthesis of Highly Functionalized N-Alkylated 2-Pyridones and Indolizines	Carolyn E. Anderson*	Calvin College
M-3	Synthesis and Biological Evaluation of Analogs of Lyngbouilloside and Sch-725674	Arghya Ganguly*, Salim Javed, Gihan Dissanayake, Dimuthu Vithanage, Berl R. Oakley, Paul R. Hanson	University of Kansas

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M-4	A Systematic Investigation of the Structure-Activity Relationships between GBAP and the fsr Quorum Sensing Circuit in *Enterococcus faecalis*	Brooke Gantman*, Dominic McBrayer, Crissey Cameron, Yftah Tal-Gan	University of Nevada, Reno
M-5	Structural Optimization of Atropisomeric Pyrrolopyrimidine Structures	Sean Toenjes, Valeria Garcia*, Jeffrey Gustafson	San Diego State University
M-6	Quantitation of Vapor Diffusions for Crystallization	Charles Garner*, Michael J. Wen	Baylor University
M-7	Toward the Total synthesis of Salinosporamide A	Hadi Gholami*, Aman Kulshrestha, Kumar Dilip Ashtekar, Olivia K. Favor, Babak Borhan	Michigan State University
M-8	Progress Toward the Total Synthesis of Tylohirsuticine	Elizabeth L. Goldstein*, Hirokazu Takada, Brian M. Stoltz	California Institute of Technology
M-9	Synthesis of 2,5-Dihydro-1H-pyrroles via Iron(III)-Catalyzed Carbonyl-Olefin Metathesis.	Emilia J. Groso, Alexander N. Golonka*, Ryan A. Harding, Taylor M. Sodano, Corinna S. Schindler	University of Michigan, Ann Arbor
M-10	Synthesis and Evaluation of Novel Calcium Channel Agonists with Applications in Lambert-Eaton Myasthenic Syndrome	Erika Gotway*, Kaylan Kerrigan, Michael Frasso, Stephen Meriney, Man Wu, Peter Wipf	University of Pittsburgh
M-11	Total Synthesis of Bioactive Phenolic Natural Products	Gennadii Grabovyi*, Justin Mohr	University of Illinois at Chicago
M-12	Rapid Asymmetric Synthesis of ABBV/GLPG 2222, a Cystic Fibrosis Corrector Clinical Candidate	Steve Greszler*, Xenia Searle, Bhadra Shelat, Xueqing Wang, Eric Voight	AbbVie, Inc.
M-13	Amide Bond Modulation: Cyclic Amines and Manipulating Energy Barriers Using DEET Analogs as a Model System	Jacob Guerra*, Brandi Mayson, Prarthana Kumar, Bhvandip Bajwa, V. V. Krishnan, Santanu Maitra	California State University Fresno
M-14	Copper-catalyzed Reductive Ireland-Claisen Rearrangements for the Synthesis of Allenoic Acids	Siyuan Guo*, Kong-Ching Wong, Pauline Chiu	The University of Hong Kong

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M-15	Mechanism of Nakamura's Iron-Catalyzed Asymmetric Cross-Coupling Reaction: The Role of Spin in Controlling Selectivity	Wes Lee, Jun Zhou, Lei Liu, Osvaldo Gutierrez*	University of Maryland College Park
M-16	Functional Group Transformations of pi-Bonded Organic Compounds via Epimetalation Process	Julia Gutsch*, John Gitua	Drake University
M-17	One-Pot Synthesis of α-Carbonyl Bicyclic Furans via a Tandem Diels-Alder/5-Exo-Dig Cyclization/Oxidation Reaction	Khagendra Bahadur Hamal*, Wesley A. Chalifoux	University of Nevada, Reno
M-18	Backbone-Breaking Alkyl Shifts: A Common Theme in Sesquiterpene Biosynthesis?	Christian S. Hamann*, Dean J. Tantillo	Albright College; University of California, Davis
M-19	Structure-Activity Relationship Studies of the Competence Stimulating Peptide (CSP) Signal Utilized by Streptococci Species	Sally Hamry*, Chowdhury Raihan Bikash, Yifang Yang, Bimal Koirala, Lucia Sanchez, Naiya Phillips, Yftah Tal-Gan	University of Nevada, Reno
M-20	Safe, Selective Synthesis of a Trifluoromethyl Pyrimidine	Jianxin Han*, Kelvin Yong, Antonio Ferretti, Nanfei Zou, Richard Heid, John Traverse	Celgene Corporation
M-21	Climbing the Ladder of Complexity: Efforts Towards the Synthesis of Ladderane Natural Products	Erin Hancock*, Nathan Line, Brittany Witherspoon, M. Kevin Brown	Indiana University
M-22	Hiscotropic Rearrangements: Controlling Product Outcomes for a Reaction with a Post-Transition State Bifurcation	Stephanie R. Hare*, Dean J. Tantillo	University of California, Davis
M-23	Base-Controlled Linear or Branched Rh(I)-Catalyzed C-H ortho-Alkylation of Azines without Substrate Preactivation	Gael Tran, Kevin Hesp*, Vincent Mascitti, Jonathan Ellman	Pfizer, Inc and Yale University
M-24	Iridium-Catalyzed Stereoselective Allylic Alkylation Reactions with Crotyl Chloride	J. Caleb Hethcox*, Samantha E. Shockley, Brian M. Stoltz	California Institute of Technology
M-25	Process Development of GS-5734, an Antiviral Nucleotide Analog for the Treatment of Ebola	P. Badalov, K. Brak, A. Chtchemelinine, M. Frick, L Heumann*, B. Hoang, S. Neville, C. Regens, E. Rueden, A. Stevens, A. Waltman, T. Vieira, L. Wolfe; B. Xu, J. Yu	Process Chemistry, Gilead Sciences, Inc., California

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M-26	Isolation of Neurolenin D and Synthesis of Analogs for Treatment of Lymphatic Filariasis	Peyton M. Higgins*, Anisha Tyagi, Cindy Hu, Megan E. Neubig, Catherine McGeough, Carter Kyle, Susan Mishiyev, Steven A. Williams, Kevin M. Shea	Smith College
M-27	Concise Total Synthesis of Dehaloperophoramidine	Kirill Popov, Anita Hoang*, Peter Somfai	Lund University
M-28	Nickel-Catalyzed Asymmetric Reductive Cross-Couplings with Vinyl Bromide Electrophiles	Julie L. Hofstra*, Naoyuki Suzuki, Kelsey E. Poremba, Alan H. Cherney, Sarah E. Reisman	California Institute of Technology
M-29	A Sequential Cycloaddition Strategy for the Total Synthesis of Alsmaphorazine B and Related Alkaloids	Allen Y. Hong*, Christopher D. Vanderwal	University of California, Irvine
M-30	Oxidative Decarboxylative Coupling Reactions: Development and Mechanistic Insights	Andreas Baur, Lijun Chen, Rob A. Crovak, Aaron P. Honeycutt, Lin Ju, Minghao Li, Jessica M. Hoover*	West Virginia University
M-31	Combining Copper-Catalyzed Hydroboration with Palladium-Catalyzed Suzuki Coupling for the One-pot Synthesis of Arylallylamines under Micellar Conditions	Pedro A. Horn*, Roger K. Braun, Victória G. Isoppo, Jessie S. da Costa, Diogo S. Ludtke, Angélica V. Moro	Federal University of Rio Grande do Sul, Brazil
M-32	Advances in Stereoselective Umpolung and Aldol Reactions and Progress Towards the Total Synthesis of Three Veratrum Alkaloids	Matthew A. Horwitz*, Naoya Tanaka, Takuya Yokosaka, Blane P. Zavesky, Jesus I. Martinez-Alvarado, Jessica A. Griswold, Leslie V. Leiva, Dr. Elisabetta Massolo, Prof. Dr. Daisuke Uraguchi, Prof. Dr. Takashi Ooi, Prof. Dr. Jeffrey S. Johnson	University of North Carolina at Chapel Hill
M-33	Enantiospecific Total Synthesis of the Highly Strained (−)-Presilphiperfolan-8-ol via a Pd-Catalyzed Tandem Cyclization	Pengfei Hu*, Scott A. Snyder	Department of Chemistry, The Scripps Research Institute and Department of Chemistry, University of Chicago

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M-34	Function-Oriented Synthesis of Phosphatidylserine Targeting Drug Conjugate via Click Chemistry	Kuan-Hsun Huang*, Chia-Yu Hsu, Tai-Yu Chiu, Yu-Wei Liu, Yun-Yu Chen, Teng-Kuang Yeh, Jiing-Jyh Jan, Yu-Chen Huang, Chen-Lung Huang, Ming-Yu Fang, Tsu-An Hsu, Chiung-Tong Chen, Lun K. Tsou	Institute of Biotechnology and Pharmaceutical Research, National Health Research Institutes
M-35	The Unexpected Degradation Pathways of Daclatasvir, an Imidazole Derivative, under Forced Photo-Oxidative Degradation Condition	Yande Huang*, Scott A. Miller	Bristol-Myers Squibb Company
M-36	Automated Modeling of Alternative Ligand Conformations in Protein Crystal Structures for Structure-Based Design	Brandi M. Hudson*, Gydo van Zundert, Daniel Keedy, Kenneth Borrelli, Tyler Day, James Fraser, Henry van den Bedem	University of California, San Francisco; Schrödinger
M-37	(5,6-Dihydro-1,4-dithiin-2-yl)methanol as a Versatile Allyl-Cation Equivalent in (3+2) Cycloaddition Reactions	Jan Hullaert*, Mien Christiaens, Johan M. Winne	Ghent University
M-38	Pushing the Limit on Regioselective Deprotonation of Trialkylphosphine-Derived Phosphonium Salts Directed by Cyclic Acetal Protecting Groups	David Hurem*, David McLeod, Arkesh Narayanappa, James McNulty	McMaster University
M-39	Ring Expansion of Cyclic Peptide Thioamides	Jing Shang, Carlie L. Charron, Craig A. Hutton*	University of Melbourne
M-40	Formation, Alkylation and Hydrolysis of Chiral Nonracemic N-Amino Cyclic Carbamate Hydrazones: An Effective Approach to the Enantioselective α-Alkylation of Ketones	Uyen Huynh*, Daniel Lim, Sarah E. Wengryniuk, Stacey L. McDonald, Md. Nasir Uddin, Sumit Dey, Don M. Coltart	University of Houston
M-41	Copper-Catalyzed Approach to Beta-Gamma Unsaturated Amides	André K Isaacs*, Aaron Bosse, Christopher DeTroia, Gregory Tsougranis	College of the Holy Cross
M-42	Peripheral Modifications of [Ψ[CH_2NH]Tpg4]Vancomycin with Added Synergistic Mechanisms of Action Provide Durable and Potent Antibiotics	Akinori Okano, Nicholas A. Isley*, Dale L. Boger	The Scripps Research Institute

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M-43	An Intriguing Concentration-dependent Catalyst Order for a Siloxanol-catalyzed Conjugate Addition Reaction	Jake Ravi Jagannathan*, Kayla Diemoz, Annaliese Franz	University of California, Davis
M-44	Rhodium-Catalyzed Enantioselective Reductive Arylation: Convenient Access to 3,3-Disubstituted Oxindoles	Youngjin Jang*, Egor. M. Larin, Mark Lautens	University of Toronto
M-45	A La(OTf)3-catalyzed Multi-component Reaction for the Synthesis of Malonamides and a Quantitative Binding Study of Lewis Acid Catalysts	Julia J. Jennings*, Alayna H. Nguyen, Blanca I. Gomez, Benjamin W. Wigman, Annaliese K. Franz	University of California, Davis
M-46	An Intramolecular para-Phenolic Allylation Free Radical Cyclization Strategy for the Synthesis of Alkaloids and Terpenes with Spiro[4.5]decane Architectures	Nicholas Jentsch*, Matthew Donahue	University of Southern Mississippi
M-47	Stereodivergent Allylic Substitutions with Aryl Acetic Acid Esters by Synergistic Iridium and Lewis Base Catalysis	Xingyu Jiang*, Jason J. Beiger, John F. Hartwig	Univesity of California, Berkeley
M-48	Phenylethynyl Oxacalixarenes	John Johnson*†, Chelsea Soward†, John Hammer†, Bethany Pertzsch†, Kristin Esdale‡, Jeff Katz‡, KC Russell†	†Northern Kentucky University, ‡Colby College,
M-49	Synthesis and Biological Application of Small Molecules to Investigate the Mechanism of Action of the Signal Sequence Specific Small Molecule Cylcotriazadisulfonamide	Dylan E. Jones*, Victor Van Puyenbroeck, Kurt Vermeire, Dominique Schols, Thomas W. Bell	Department of Chemistry, University of Nevada, Reno, Rega Institute for Medical Research, Katholieke Universiteit Leuven, Belgium
M-50	Development of Cu(II) Detection Probes and their Application to Pharmaceutical Compounds	Jiyoung Jung*	Penn State University
M-51	Approach to the Total Synthesis of Gulmirecin A and B	Jessica Jünger*, Rathikrishnan Rengarasu, Martin E. Maier	Eberhard-Karls University of Tübingen
M-52	Total Synthesis of Juglorubin, A Natural Red Dye Containing a Cyclopentadienyl Anion	Shogo Kamo*, Kai Yoshioka, Kouji Kuramochi, Kazunori Tsubaki	Kyoto Prefectural University, Tokyo University of Science

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M-53	Progress Toward the Total Synthesis of Kalihinol A	Alexander S. Karns*, Christopher D. Vanderwal	University of California Irvine
M-54	The Syntheses of (+)-Zincophorin Methyl Ester and Nanographenes: Natural and Unnatural Products through C-C Bond Forming Transfer Hydrogenation	Zachary A. Kasun*, Hiroki Sato, Yasuyuki Mori, Jing Nie, Xin Gao, Radoslaw Lipinski, Michael J. Krische	The University of Texas at Austin
M-55	Toward Solid State Proton Conduction: Evaluation of Carboxylic, Phosphonic and Sulfonic Acid Protogenic Moieties on Tunable Poly(meta-phenylene oxide) Scaffolds	Reuben Hudson, Ramesh Y. Adhikari, Mark T. Tuominen, S. Thayumanavan, Jeffrey L. Katz*	Colby College and University of Massachusetts Amherst
M-56	Expanded Scope of Oxidopyrylium-Alkene [5+2] Cycloaddition Conjugate Addition Cascades	Riley H. Kaufman*, Justin Simanis, C. Marshall Law, Erica L. Woodall, John R. Goodell, T. Andrew Mitchell	Illinois State University
M-57	Synthesis of Cyclopalladated Azobenzenes Coordinated to N-Substituted Imidazolidine-2-thione and Allied Ligands: Molecular Structures, Spectroscopy, Fluorescence and ESI-Mass Studies	Amanpreet Kaur*, Tarlok S. Lobana, Geeta Hundal, Jerry P. Jasinski	Department of Chemistry, Guru Nanak Dev University, India and Department of Chemistry, Keene State College, New Hampshire
M-58	γ-Functionalization of Enones via Silyl Dienol Ethers	Nabeelah I. Kauser*, Xiaohong Chen, Justin T. Mohr	University of Illinois at Chicago
M-59	Synthesis of [2.2.2]-Diazabicyclic Alkaloids	Jonathan Perkins*, Xiye Wang*, Dr. Jonathan Scheerer	The College of William and Mary
M-60	Chemoselective Copper-Catalyzed Ullmann-Type Coupling of Oxazolidinones with Bromoiodoarenes	Sean M. Kelly*, Chong Han, Laura Tung, Francis Gosselin	Genentech, Inc.
M-61	Advances in Regioselective Additions to pi Systems	Hilary A Kerchner*, John Montgomery	University of Michigan
M-62	Pincer-Ligated Ir(III) Complexes for Alkane Dehydrogenation	Kelly E. Kim*, Karen I. Goldberg	University of Washington
M-63	The Total Syntheses of Aromathecin-, Protoberberine- and Tylophora Alkaloids Enabled by an Cp*Co(III)-Catalyzed Intramolecular C–H Activation/Cyclization Reaction	Tobias Knecht*, Andreas Lerchen, Maximilian Koy, Frank Glorius	University of Muenster

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M-64	Isomerization of Olefins Using Pd(II) Catalysts	Andrew L Kocen*, Maurice Brookhart, Olafs Daugulis	University of Houston
M-65	Probing the Equilibrium Isotope Effects in 1,3-Disiloxanediols	Kavoos Kolahdouzan*†, O. Maduka Ogba†, Annaliese K. Franz‡, Daniel J. O'Leary†	†Pomona College and ‡University of California, Davis
M-66	Synthesis of trans-Cinnamyl Ester Derivatives via a Greener Steglich Esterification	Andrew B. Lutjen, Mackenzie A. Quirk, Allycia M. Barbera, Erin M. Kolonko*	Siena College
M-67	Synthesis and Optimization of ClpXP-Inhibitors	Vadim S. Korotkov*, Christian Fetzer, Stephan A. Sieber	Technische Universität München
M-68	N,N-Diarylbenzimidazolium Compounds	Kevin M. Kossick*, Taeboem Oh	California State University, Northridge
M-69	Synthesis and Critical Evaluation of Coumarin and Carbostyril-sensitized Luminescent Lanthanide Complexes	Daniel Kovacs*, Xi Lu, Lívia S. Mészáros, Marjam Ott, Julien Andres, K. Eszter Borbas	Uppsala University
M-70	Cascade Reactions of Nitrones and Allenes – Asymmetic Synthesis of Dihydropyridoindoles and Preparation of Functionalized Indoles	Michelle A. Kroc*, Wiktoria H. Pace, Tyler W. Reidl, Dong-Liang Mo, Laura L. Anderson	University of Illinois at Chicago
M-71	Stereoselective Synthesis of the Allo Bile Acids	Michael R. Krout*, Brandon N. Nelson, Samantha P. Kelly, Brett J. Huckstep	Bucknell University
M-72	Biomimetic Syntheses of (±)-Rubrobramide, (±)-Flavipucine, Isoflavipucine, and (±)-Berkeleyamide D	Kouji Kuramochi*, Shoma Mizutani, Kenta Komori, Chiharu Kai, Yasuha Kusakabe, Kazunori Tsubaki	Tokyo University of Science and Kyoto Prefectural University
M-73	Synthesis of Gyramide-Bound Photoaffinity Reagents and Analogs for DNA Gyrase Inhibition	Ada J. Kwong*, Thiago Santos, Lucas C. Moore, Douglas Weibel, Jared T. Shaw	University of California, Davis and University of Wisconsin-Madison
M-74	Fast Track Process Research: Identification and Development of Highly Improved Routes to GDC-0810	Scott Savage*, Theresa Cravillion, Ngiap-Kie Lim, Andrew McClory, Haiming Zhang, Chong Han, Francis Gosselin	Process Chemistry, Genentech Inc.
M-75	ROMP for Pulmonary Antibiotic Delivery	N. Warner*, M. Zhao, D. Ratner, L. Chery, D. O'Leary	Pomona College and University of Washington

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T-1	Cu^{+} Interrupts the Concerted Cope Rearrangement of Semibullvalene	Croix J. Laconsay*, Dibyendu Mallick, Sason Shaik	The Hebrew University of Jerusalem
T-2	Exploring New Methodologies for the Treatment of Nuclear Waste using Ligands Containing Soft Donors	Andrew R. LaDuca*, Thomas Neils, John E. Bender, Shannon M. Biros	Dept. of Chemistry, Grand Valley State University, Michigan
T-3	Asymmetric Rhodium-Catalyzed Synthesis of Chiral β-Branched Esters	Summer D. Laffoon*, Kami L. Hull	University of Illinois at Urbana-Champaign
T-4	Synthesis and Evaluation of Insecticidal Thioureas and Isothioureas	William T. Lambert*, Miriam E. Goldsmith, Thomas C. Sparks	Dow AgroSciences, Kelly Services
T-6	Development of Ester-Protected Ethambutol Derivatives for Characterization of Mycobacterial Hydrolase Activity	Erik Larsen*, Dominique Stephens, R. Jeremy Johnson	Butler University
T-7	Catalytic Formal [4+2] Reactions of Imines and Cyclic Anhydrides for the Stereoselective Synthesis of Lactams	Stephen W. Laws*, Lucas C. Moore*, Michael J. Di Maso, Nhu N. Nguyen, Dean J. Tantillo, Jared T. Shaw	University of California, Davis
T-8	Mechanistic Evaluation of Diboron(II,II)-Mediated Pd-Catalyzed H Atom Transfer From Water	Thanh-Ngoc Le*, Steven P. Cummings, Jose Alvarenga*, Alberto R. Navarro Brito, Hassan Harb, Hrant P. Hratchian, Benjamin J. Stokes	University of California, Merced
T-9	Synthesis of Cyclotriazadisulfonamide Analogues Towards the Down-modulation of CD4.	Truc D. Le*, Dominique Schols, Kurt Vermeire, Thomas W. Bell	University of Nevada, Reno and the Rega Institute for Medical Research, Katholieke Universiteit Leuven
T-10	Titanium-mediated Synthesis of Cyclobutane Derivatives	Nathan N. Le*, Aimee M. Rodriguez, Jillian M. Bradley, Renee E. Walker, James R. Alleyn, Michael R. Gesinski	Southwestern University
T-11	Total Synthesis of (±)-Waihoensene	Hongsoo Lee*, Hee-Yoon Lee	Korea Advanced Institute of Science and Technology

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T-12	Internal Oxidizing Directing Groups: A Toolkit in C-H Activation for the Efficient Construction of Valuable Target Molecules	Andreas Lerchen*, Tobias Knecht, Suhelen Vásquez-Céspedes, Constantin G. Daniliuc, Frank Glorius	University of Muenster
T-13	Synthetic Studies Toward the Total Synthesis of Phomoidride D	Joyce Leung*, Aaron Bedermann, Naoto Hama, Graham Murphy, Christopher Schneider, Ping Dong, John L. Wood	Baylor University
T-14	Synthesis of Fluorogenic Probes to Detect Esterase Activity in Mycobacterium tuberculosis	Samantha R. Levine*, Katie R. Tallman, Kimberly E. Beatty	Department of Physiology & Pharmacology - Program in Chemical Biology, Department of Biomedical Engineering, OHSU Center for Spatial Systems Biomedicine, Oregon Health & Science University
T-15	Palladium-NOx Mediated Aerobic Intramolecular Aminoacetoxylation of Alkenes	Jiaming Li*, Brian M. Stoltz, Robert H. Grubbs	California Institute of Technology
T-16	Catalytic Alkylation of Quinones via Redox Chain Reaction	Xiao-Long Xu, Zhi Li*	ShanghaiTech University
T-17	Highly Regioselective Hydrochlorination of Alkynes with a Novel Chlorinating Reagent	Shengzong Liang*, Rene Ebule, Bo Xu, Gerald B. Hammond.	University of Louisville
T-18	Synthesis and Membrane Permeability Assessment of Novel Cyclic Peptide-Peptoid Hybrids	Chris Limberakis*†, Markus Boehm†, Rushia Turner‡, Siegfried S. F. Leung#, Guoyon Bai†, Gilles H. Goetz†, David A. Price†, Spiros Liras†, Alan M. Mathiowetz†, Matthew P. Jacobson#, R. Scott Lokey‡	†Pfizer, ‡University of California, Santa Cruz, and #University of California, San Francisco
T-19	Efficient Synthesis of MK-8666 Using Highly Regioselective Michael Addition	Zhuqing Liu*, Alan Hyde, Artis Klapars, John Chung, George Zhou, Zhijian Liu, Nobuyoshi Yasuda, John Limanto, Kevin Campos, Benjamin D. Sherry	Merck Research Laboratories

Poster #	Poster Title	Authors (*Presenting)	Affiliation(s)
T-20	Quinone-catalyzed Oxidative Functionalization of Amines	Xinyun Liu*, Ben Haugeberg, Johnny Phan, Shrikant Londhe, Michael Clift	University of Kansas
T-21	Visible-light Promoted C-S Bonds Formation via Intermolecular Charge-transfer	Bin Liu*, Chern-Hooi Lim, Garret M. Miyakea	Department of Chemistry and Biochemistry, and Materials Science and Engineering Program, University of Colorado Boulder
T-22	Synthesis and Applications of Trifluoromethyl Peroxides	Moriah Locklear*, Patrick Dussault	University of Nebraska Lincoln
T-23	Stereoselective Alkene Carboboration	Kaitlyn M. Logan*, Kevin B. Smith, M. Kevin Brown	Indiana University
T-24	Synthesis of Benzodihydropyranic Structures as 2H-Chromenes Precursors Using an Intramolecular Pummerer Reaction	Alvaro Rodríguez-López*, Diego Gamba-Sánchez	Universidad de los Andes (Colombia)
T-25	Iron-Catalyzed Carbonyl-Olefin Metathesis	Jacob R. Ludwig*, Christopher A. McAtee, Paul S. Riehl, Haley Albright, Emilia J. Groso, Ryan A. Harding, Alexander N. Golonka, Corinna S. Schindler	University of Michigan
T-26	Synthesis of Pyridine-fused Cyclotriazadisulfonamides and Bicyclam Analogs as HIV Entry Inhibitors	Liezel A. Lumangtad*†, Thomas W. Bell†, Dominique Schols‡, Kurt Vermeire‡	†Department of Chemistry, University of Nevada, Reno and ‡Rega Institute for Medical Research, KU Leuven, University of Leuven
T-27	PhI-Catalyzed Î±-Tosyloxylation of Cyclopropyl Methyl Ketone	Wuping Ma*†, Richard Ma‡, Daniel Fang†	†SynChem, Inc. and ‡Lake Forest High School
T-28	A Nucleophilic Dynamic Kinetic Resolution of Aryl-Naphthoquinone Atropisomers	Sean M. Maddox*, Gregory, A. Dawson, Jeffrey L. Gustafson	San Diego State University
T-29	Catalysis Facilitates Fragmentation of Lignin	Gabriel Magallanes*, Irene Bosque-Martinez, Mathilde Rigoulet, Markus D. Kärkäs, Corey R. J. Stephenson	University of Michigan

Poster #	Poster Title	Authors (*Presenting)	Affiliation(s)
T-30	Silyloxyallyl Cation: Synthesis of Functionalized 1,4-Diketones and Substituted Pyrroles	Joshua A. Malone*, Joshua P. Van Houten, Moshood O. Ganiu, Binod Nepal, Rendy G. Kartika	Louisiana State University
T-31	5-Acyl-5-phenyl-1,5-dihydro-4H-pyrazol-4-ones − Highly Selective Acylating Reagents for Polyamines and Aminoglycosides	Kostiantyn O. Marichev*, Michael P. Doyle	University of Texas at San Antonio
T-32	Cu-catalyzed γ-alkylation of Enones and γ-hydroxylation of Vinylogous Esters	Jenny S. Martinez*, Hamza Saifuddin, Justin T. Mohr	University of Illinois at Chicago
T-33	The Asymmetric Synthesis of Thujone via a Cycloisomerization Strategy	Kellie M. Martinez*, Gregory R. Boyce	Florida Gulf Coast University
T-34	Total Synthesis of (+)-Callyspongiolide: An Exercise for Ring Closing Metathesis of Terminal Alkyne	Guillaume Mata*, Alois Fürstner	Max-Planck-Institut für Kohlenforschung, Mülheim an der Ruhr, Germany
T-35	Desymmetrization of Fused Heterocycles Derived from Benzene Oxide to Access Highly Substituted Cyclohexanes	Desiree M. Matias*, Jeffrey S. Johnson	University of North Carolina at Chapel Hill
T-36	A Mechanistic Examination of the Influence of Alkene Substitution on Rates of Biomimetic Platinum-Promoted Polyene Polycyclizations	Christina H. McCulley*, Michael J. Geier, Brandi M. Hudson, Michel R. Gagne, Dean J. Tantillo	University of California, Davis and University of North Carolina at Chapel Hill
T-37	Direct C−H Cyanation of Arenes via Organic Photoredox Catalysis	Joshua B. McManus*, David A. Nicewicz	University of North Carolina at Chapel Hill
T-38	Total Synthesis of Lingzhiol	Lea-Marina Mehl*, Martin E. Maier	University of Tübingen
T-39	NaBArF Catalyzed Michael Addition Reactions and Mechanistic Studies	Kelsey M. Mesa*, Hailey A. Hibbard, Sean O. Wilson, Annaliese K. Franz	University of California, Davis
T-40	Insertion of Aryne into Bis(trifluoromethyl)disulfide	Milad Mesgar*, Olafs Daugulis	University of Houston
T-41	Synthesis and Biological Investigations of the Haterumaimide and Lissoclimide Natural Products	Sharon E. Michalak*, Zef A. Könst, Chris D. Vanderwal	University of California, Irvine

Poster #	Poster Title	Authors (*Presenting)	Affiliation(s)
T-42	Metallacycle-mediated Annulative Cross-coupling for the Synthesis of Angularly-Substituted Stereodefined Decalins	Haruki Mizoguchi*, Glenn C. Micalizio	Department of Chemistry, Dartmouth College
T-43	N_2O as a Promoter of the Pauson-Khand Reaction	Vahid Mohammadrezaei*, David Ricker, Laina M. Geary	University of Nevada, Reno
T-44	Solvent Effects on Rotational Energy Barriers in Cyclic Amine DEET Analogs	Derek Morrelli*, Jacob Guerra, Prarthana Kumar, Bhvandip Bajwa, V. V. Krishnan, Santanu Maitra	California State University, Fresno
T-45	Cyclization Reactions of Alkynamides and Cyanamides	Seann P. Mulcahy*, Michael A. O'Donnell, Satyam Khanal, Sean P. Wrenn, Junho Song, Kathryn E. Queenan, Jonathan G. Varelas	Providence College
T-46	Synthetic Studies Toward Aspergilline A	Mina C. Nakhla*, John L. Wood	Baylor University
T-47	Interrupted Carbonyl-olefin Metathesis Reaction	Daniel J. Nasrallah*, Jacob R. Ludwig, Rebecca B. Watson, Dr. Joseph B. Gianino, Dr. Corinna S. Schindler	University of Michigan
T-48	One-pot Sequential Strategies for the Synthesis of Polyol Fragments: Applications in Natural Product Synthesis	Cornelius N. Ndi*, Paul R. Hanson	University of Kansas
T-49	Cobalt-Catalyzed C-H Functionalization of Carboxylic Acids	Tung Nguyen*, Olafs Daugulis	University of Houston
T-50	Advancements Towards the Aza-Piancatelli Rearrangement	Gesine K. Veits, Gabrielle Hammersley, Meghan F. Nichol*, Helena C. Steffens, Ember L. Doherty, Javier Read de Alaniz	University of California, Santa Barbara
T-51	Total Synthesis of DAB-1	Scott Niman*, Isaac Wang, Alex Rand, Jeffrey Cannon	Occidental College
T-52	Terdockin - Predicting Binding Modes of Cationic Intermediates for Terpene Synthases	Terrence E. O'Brien*, Steven J. Bertolani, Justin B. Siegel, Dean J. Tantillo	University of California, Davis

Poster #	Poster Title	Authors (*Presenting)	Affiliation(s)
T-53	Microwave-assisted Gold(I)-catalyzed Friedel-Crafts-like Arylation of Benzylic Alcohols to Afford 1,1-Diarylmethanes	James V. Oakley*, Tyler Stanley, Stephanie E. Cain, Robert G. Iafe	California State University San Marcos
T-54	Base Catalysis Enables Access to α,α-Difluoroalkyl(thio)ethers	Douglas L. Orsi*, Brandon J. Easley, Jacob P. Sorrentino, Ashley M. Lick, Ryan A. Altman	The University of Kansas, Department of Medicinal Chemistry
T-55	The SAD DKR of Symmetric Allylic Azides	Amy A. Ott*, Charles S. Goshey, Joseph J. Topczewski	University of Minnesota
T-56	Syk Inhibitor Evolution: Rational Design and Serendipitous Discovery of Kinome Selective Chemotypes	Ryan D. Otte*, J. Michael Ellis, Michael Altman, Neville J. Anthony, John W. Butcher, Brandon Cash, Matthew Christopher, Danielle Falcone, Andrew M. Haidle, James Jewell, Matthew Maddess, Kerrie Spencer, Binyuan Sun, Dilrukshi Vitharana, Youwei Yan, Hua Zhou, Hani Houshya, Alan B. Northrup	Merck Research Laboratories
T-57	The Effect of Proximal Functionality on the Allylic Azide Rearrangement	Mary H. Packard*, James H. Cox, Victoria P. Suding, Joseph J. Topczewski	University of Minnesota
T-58	Copper-catalyzed Enaminone Synthesis Using Donor/Acceptor Substituted Diazo Compounds	Arpan Pal*, Syed R. Hussaini	The University of Tulsa
T-59	Synthesis of Peptides Modeling Domains on PLA2R	Zara Parkinson*, Zain Virk, Anoushka Mullasseril, Dr. Kimberly Brien, Dr. Roberto de la Salud Bea, Dr. Shana Stoddard	Rhodes College
T-60	Optimization of Diarylpentadienones as Chemotherapeutics for Prostate Cancer	Manee Patanapongpibul*, Guanglin Chen, XiaoJie Zhang, Qiao-Hong Chen	California State University, Fresno
T-61	Computational Design, Synthesis and Application of Highly Reducing Organic Photocatalysts	Ryan M. Pearson*, Garret M. Miyake	University of Colorado Boulder

Poster #	Poster Title	Authors (*Presenting)	Affiliation(s)
T-62	Syntheses of Stable Isotope-labeled Precursors for Probing Biosynthetic Pathways of the Cruciferous Phytoalexins Nasturlexins	Q. Huy To, M. Soledade C. Pedras*	University of Saskatchewan
T-63	Synthesis of Amidoximes by Copper-catalyzed Coupling of Aldoximes and Nitrogen Radicals	Carlos Bueno, Edwin G. Pérez*	Escuela de Química, Universidad Industrial de Santander, Bucaramanga, Colombia and Department of Organic Chemistry, Pontifical Catholic University, Santiago, Chile.
T-64	Discrimination Between o-Xylene, m-Xylene, p-Xylene and Ethylbenzene by Host Compound (R,R)-(–)-2,3-Dimethoxy-1,1,4,4-tetraphenylbutane-1,4-diol	Benita Barton, Eric C. Hosten, Pieter Pohl*	Nelson Mandela Metropolitan University
T-65	Allylic Azide Resolution by Friedel-Crafts Alkylation	Matthew R. Porter*, Rami M. Shaker, Cristian Calcanas, Joseph J. Topczewski	University of Minnesota
T-66	Scope and Optimization of the Double Knorr Cyclization: On Route to Novel 1,8-Diazaanthraquinones as Potential Antituberculosis Agents	Allan M. Prior*, Dianqing Sun	University of Hawaii at Hilo
T-68	Process Development of ERK Inhibitor GDC-0994	Nicholas Wong*, Xin Linghu, Hans Iding, Vera Jost, Stefan G. Koenig, Haiming Zhang, C. Gregory Sowell, Francis Gosselin	Genentech Inc.
T-69	Development and Mechanistic Insight into a Palladium-Catalyzed Arylfluorination Reaction of Chromenes	Vaneet Saini*, Richard Thornbury, Talita de Fernandes, Celine Santiago, Eric Talbot, Matthew Sigman, F. Dean Toste, Jeff McKenna	Novartis Institute for BioMedical Research; University of California, Berkeley; University of Utah
T-70	Lewis Base Catalyzed Benzylic Bromination via Triphenylphosphine Selenide	Arianna Ayonon*, Christopher Nalbandian, Jeffrey Gustafson	San Diego State University

Wednesday, June 28, 2017

Poster #	Poster Title	Authors (*Presenting)	Affiliation(s)
W-1	Study of the Pummerer Reaction as a Method for Chiral Thiochromanes Synthesis	Yovanny Quevedo-Acosta*, Andrés Garzón-Posse, Diego Gamba-Sánchez	Universidad de los Andes (Colombia), Chemistry Department, Laboratory of Organic Synthesis, Bio and Organocatalysis
W-2	Asymmetric Induction in Hydroacylation by Cooperative Iminium Ion – Transition-Metal Catalysis	Ettore J. Rastelli*, Ngoc T. Truong, Don M. Coltart	University of Houston
W-3	Merging Photocatalysis and Prenylation	Manjula Rathnayake *, Jimmie Weaver	Oklahoma State University
W-4	Tetrazolone Based Anion Binders: Proton Transfer vs H-Bonding	Hanyang Zhou, Erika Nord, Sundeep Rayat*	Ball State University
W-5	Metal-catalyzed Cross-coupling Reactions of Functionalized Organozinc Reagents for the Synthesis of β,β-Disubstituted Enones	Heather R. Rensch*, Michael R. Krout	Bucknell University
W-6	The Synthesis of Novel Unnatural Amino Acids in Order to Synthesize Antibiotic Polypeptides	Barry Rich*, Zain Virk, Kimberly Brien, Roberto de la Salud Bea	Rhodes College
W-7	Synthesis of Indene- and Naphthalene-Derivatives from Enynols via Furan Intermediates	Sibylle Riedel*, Martin E. Maier	University of Tübingen
W-8	Microwave-Mediated Nickel-Catalyzed Conjugate Addition Reactions of Arylboronic Acids	Ian J. Rosenstein*, Allison M. Eckert, Christopher C. Powell, Travis J. Roeder, John R. DeGuardi	Department of Chemistry, Hamilton College
W-9	Selectively Trapping Residual Vancomycin with Peptide Analogs to Prevent Colonic Bacterial Stress	Brittany Russ*, Ryan Mull, Yftah Tal-Gan	Department of Chemistry, University of Nevada, Reno
W-10	A Dispersed REU Program on Theoretically Interesting Molecules (TIM)	KC Russell*[◊], Shannon Biros[†], Peter Iovine[‡], Jeff Katz[¶], Kristine Nolan[§], Ellen Yezirski[∂]	[◊]Northern Kentucky University, [†]Grand Valley State University, [‡]University of San Diego, [¶]Colby College, [§]University of Richmond and [∂]Miami University

Poster #	Poster Title	Authors (*Presenting)	Affiliation(s)
W-11	Azobenzene Modified Enzyme Inhibitors as Photochromic Modulators for Single-molecule Studies	Karin Rustler*, Matthias Mickert, Hans-Heiner Gorris, Burkhard König	University of Regensburg (Germany)
W-12	Synthesis of Novel Quinoline-5,8-Dione Analogues Related to Lavendamycin	Robert E. Sammelson*, Raheleh Ravanfar, Jenny Nguyen, Justin Giessler	Department of Chemistry, Ball State University
W-13	A Combined Experimental and Computational Study of the Cross Metathesis of Allylic Sulfones.	Rishi R. Sapkota*, Jacqueline M. Jarvis, Tanner M. Schaub, Marat Talipov, Jeffrey B. Arterburn	New Mexico State University
W-14	2-Amidoallyl Cation Intermediacy Towards Enantioselective Beta Functionalization of Enamides	Mirza A Saputra*, Binod Nepal, Nitin S. Dange, Rendy Kartika	Louisiana State University
W-15	Catalyst Controlled Alkene Difunctionalization: Regiodivergent Arylboration of 1,3-Dienes	Stephen R. Sardini*, Professor M. Kevin Brown	Indiana University
W-16	Mechanistic Investigation of $(DHQD)_2PHAL$ Catalyzed Enantioselective Chlorination of Olefins	Aritra Sarkar*, Bardia Soltanzadeh, Roozbeh Yousefi, Atefeh Garzan, Dan Steigerwald, Babak Borhan	Michigan State University
W-17	Cu-Catalyzed Three-Component Carboamination of Olefins	Travis L. Buchanan*, Samuel N. Gockel, Kami L. Hull	University of Illinois at Urbana-Champaign
W-18	Diels-Alder/retro-Diels-Alder Sequence for the Synthesis of 2-Pyridones from Diketopiperazines	Nick Angello*, Ryan Perry, Tristan Elmore, Bob Wiley, Prof. Jonathan R. Scheerer	The College of William and Mary
W-19	Development of Novel Photocatalytic and SNAr Reactions for the Facile Access of Functionalized Multifluorinated Arenes	Sameera M. Senaweera*, Jimmie D. Weaver	Department of Chemistry, Oklahoma State University
W-20	A Nitroso-Mediated Methodology for the Synthesis of N–O Heterocycles and Amino Alcohols	Jamie Shaum*, David Fisher, Miranda Sroda, Luis Limon, Javier Read de Alaniz	Department of Chemistry and Biochemistry, University of California, Santa Barbara
W-21	Organic II Course-Based Research Experience: Isolation of Neurolenin D and Synthesis of Analogs	Kevin M. Shea*	Smith College

Poster #	Poster Title	Authors (*Presenting)	Affiliation(s)
W-22	Boron-catalyzed Nucleophilic Activation of Carboxylic Acids	Yohei Shimizu*, Taiki Fujita, Yuya Morita, Tomohiro Yamamoto, Hideoki Nagai, Motomu Kanai	The University of Tokyo
W-23	Enantioselective Iridium-Catalyzed Allylic Alkylation Reactions of Masked Acyl Cyanide Equivalents	Samantha E. Shockley*, J. Caleb Hethcox, Brian M. Stoltz	California Institute of Technology
W-24	Novel Method for the Generation of Precursors to Difluoroenolates and Exploration of Reactivity	Munia F. Sowaileh*, Robert A. Hazlitt, Que-Lynn Tran, David A. Colby	University of Mississippi and St. Jude Hospital
W-25	The Diverse Reactivity of 1-Aza-2-azoniaallene Salts and its Application in the Total Synthesis of (+)-Ibophyllidine	Ramya Srinivasan*, Matthias Brewer	University of Vermont
W-26	Regio- and Diastereoselective Samarium(II)-Mediated Allylic Benzoate Reductions	Trevor Stockdale*, Gregory O'Neil	Western Washington University
W-27	Metal-free Cyclopropanation Of Alkenes Using Iodonium Ylides	Jason Tao*, Carl D. Estrada, Graham K. Murphy	University of Waterloo
W-28	Selective Perfluoro- and Polyfluoroarylation of Oxazolones; Synthesis of Unnatural Polyfluorinated Î±-Amino Acids	Kip A. Teegardin*, Jimmie D. Weaver	Oklahoma State University
W-29	Fluorescence Monitoring of DNA Duplex Formation by a Chemically Modified Cytidine Analogue	Kristine C. Teppang*, Dillon D. Burns, Raymond W. Lee, Dr. Melissa E. Lokensgard, Prof. Byron W. Purse	San Diego State University
W-30	Structural Optimization of Atropisomeric Pyrrolopyrimidine RET Kinase Inhibitors	Sean Toenjes*, Sean Maddox, Valeria Garcia, Jeffrey Gustafson	San Diego State University
W-31	Carbon-Carbon Single Bond Activation Leading to Oxidative Coupling with Michael Acceptors	Kathryn Trentadue*, Jacob H. Jansen*, Katherine M. Reed, Gabriella D. Dyke, Janelle K. Kirsch, Erik J. T. Phipps, Caroline E. Gregerson, Jeffrey B. Johnson	Hope College
W-32	Cysteine Thiyl Radicals as Peptide-Based Catalysts for Enantioselective Cyclization	Jonathan M. Ryss, Amanda K. Turek*, Scott J. Miller	Yale University

Poster #	Poster Title	Authors (*Presenting)	Affiliation(s)
W-33	Transfer Hydrogenation by a Hantzsch Amide	Robert Palkovitz, Anthony C. O'Donnell, Scott A. Van Arman*	Franklin and Marshall College
W-34	Palladium Catalyzed Allylation of N-Heterocyles: An Advancement from Traditional to Allylic C-H Activation!	Sandeep R. Vemula*, Dinesh Kumar, Gregory R. Cook	North Dakota State University
W-35	Design and Synthesis of S-Benzofuran-3(2H)-ones and their Binding Affinity Study on Estrogen and Progestron Receptors Protein	Nishant Verma*, Dr. Naseem Ahmed, Dr. Sumit Kumar	Indian Institute of Technology Roorkee
W-36	Modular Synthesis and Reactivity Profiling of Novel P-Stereogenic Phosphates: One-pot, Sequential Enyne Ring-Closing Metathesis/Diels-Alder Reactions	Salim Javed, Dimuthu Vithanage*, Arghya Ganguly, Gihan Dissanayake, Paul R. Hanson	Department of Chemistry, University of Kansas
W-37	Toward Biomimetic Syntheses of Cryptobeilic and Isocryptobeilic acid D	Eun Bin Go, Lee Joon Kim, Shannon P. Wetzler, Kareesa J. Kron, Geneva E. Miller, David A. Vosburg*	Harvey Mudd College
W-38	Synthesis of derivatives of the tripodal TREN-CMPO ligand to increase Ln and An extraction efficiency	Brandon G. Wackerle*, Michael Hudson*, John E. Bender, Shannon M. Biros	Department of Chemistry, Grand Valley State University, Michigan
W-39	Synthesis of Fluorinated 1,5-Benzodiazepines from 2-Fluoro-alk-3-yn-1-ones	Austin Walsh*†, Ariela W. Kaspi-Kaneti†, Roman Dembinski†,‡	†Oakland University and ‡Centre of Molecular and Macromolecular Studies, Polish Academy of Sciences
W-40	Catalytic sp^3-sp^3 Coupling of Sulfonamides	Scarlett M. Walton*, Othman Abdulla, Adam D. Clayton, Duncan M. Gill, Robert A. Faulkner, Craig R. Rice, Joseph B. Sweeney	University of Huddersfield
W-41	Photooxidation and Cycloaddition Catalyzed by Electron-Rich Aromatic Disulfides	Yuchao Deng, Xiaojing Wei, Hui Wang, Yuhan Sun, Timothy Noel, Xiao Wang*	Harvard Medical School
W-42	CF_2H, a Hydrogen Bond Donor	Fang Wang*, Chanan D. Sessler, Martin Rahm, Sabine Becker, Jacob M. Goldberg, Stephen J. Lippard	Massachusetts Institute of Technology

Poster #	Poster Title	Authors (*Presenting)	Affiliation(s)
W-43	Synthesis of Novel Bioactive Triazacyclododecanes	Alekhya Sama*, Dominique Schols, Kurt Vermeire, Thomas W. Bell	University of Nevada, Reno
W-44	Nickel-catalyzed Functionalization of Silyloxyarenes	Eric M. Wiensch*, David P. Todd, John Montgomery	University of Michigan
W-45	New Perspectives for Lewis Catalyzed [2+2] Cycloadditions Between Alkenes and Allenoates	Johannes M. Wiest*, M. Kevin Brown	Indiana University
W-46	Visible-Light-Accelerated C-H-Sulfinylation of Heteroarenes	Alexander Wimmer*, Andreas Uwe Meyer, Prof. Dr. Burkhard König	University of Regensburg
W-47	Iron-Catalyzed Substitution of Unactivated Alcohols by Sulfonamides	Paul T. Marcyk*, Latisha R. Jeffries, Silas P. Cook	Department of Chemistry, Indiana University Bloomington
W-48	Integrated Process for Biodiesel Production	Michael Wormann*, Martin E. Maier	University of Tübingen, Germany
W-49	Catalytic Enantioselective Synthesis of Cyclobutanes Through [2+2] Cycloaddition of Allenes and Alkenes	Yao Xu*, Michael L. Conner, M. Kevin Brown	Indiana University Bloomington
W-50	Development of Practical Manufacturing Process of Grazoprevir, a Potent NS3/4a Protease Inhibitor for the Treatment of HCV	Feng Xu*, Rich Desmond, Jungchul Kim, Wang Tao, Jake Waldman, Yong-Li Zhong, Hongming Li, Jeonghan Park, Paul Devine	Process Research and Development, Merck & Co., Inc., Rahway, NJ
W-51	Metabolic Profiling of Tea (*Camellia sinensis*) Glycolipids using Mass Spectrometry	Jacquelyn Gervay-Hague, Crystal S. Ye*	Department of Chemistry University of California, Davis
W-52	Palladium-catalyzed C–S Couplings of Unprotected Indazoles at Room Temperature: Mitigating Ring-opening Isomerization by *in situ* Deprotonation	Charles S. Yeung*, Jacob M. Ganley	Merck Research Laboratories
W-53	Catalytic Enantioselective Desymmetrization of Dienes via Chlorocyclization	Yi Yi*, Xingliang Ding, Babak Borhan	Michigan State University

Poster #	Poster Title	Authors (*Presenting)	Affiliation(s)
W-54	2-Propargyloxypyridines as Precursors to Trisubstituted Indolizines	Emily E. Zerull*, Evan O. Romero, Abigail K. Frndak, Carolyn E. Anderson	Calvin College
W-55	Copper Catalyzed One Pot Indole Oxidative Dearomatization and Allylic C-H Oxidation	Jun Zhang*, Babak Borhan	Michigan State University
W-56	DBU-catalyzed Regioselective Aldol Reactions to Synthesize Functionalized Molecules	Dongxin Zhang*, Fujie Tanaka	Okinawa Institute of Science and Technology Graduate University
W-57	Transition Metal Free Dichlorination and Transition Metal Mediated Rearrangement	Meng Zhao*, Yuanlin Deng, Justin Mohr	University of Illinois at Chicago
W-58	Development of a Process for the Friedel-Crafts Acylation, Hydrolysis and Amidation of the Azaindole Core in the HIV Attachment Inhibitor BMS-663068	Bin Zheng*, Steven M. Silverman, Sarah E. Steinhardt, Sergei Kolotuchin, Vidya Iyer, Junying Fan, Dimitri Skliar, Douglas D. McLeod, Michael Bultman, Jonathan C. Tripp, Saravanababu Murugesan, Jason T. Sweeney, Martin D. Eastgate, David A. Conlon	Chemical and Synthetic Development, Bristol-Myers Squibb Company, New Brunswick, NJ
W-59	Iron-Catalyzed Stereoselective Aminofluorination for Unfunctionalized Olefins	Cheng-Liang Zhu*, Deng-Fu Lu, Jeffrey D. Sears, Hao Xu	Georgia State University
W-60	Visible Light Photocatalysis for the Generation and Use of Reactive Azolyl Intermediates for Synthesis	Amandeep Arora*, Jimmie Weaver	Oklahoma State University
W-61	Strain Induced Couplings Mediated by Visible Light	Kamaljeet Singh*, Jimmie Weaver	Oklahoma State University
W-62	Borane-promoted Catalytic Asymmetric Hydrogenation of Tri- and Tetrasubstituted Alkenes	Veronika M. Shoba*, James M. Takacs	University of Nebraska-Lincoln
W-63	X-Ray Spectroscopic Characterization of Organocobalt Intermediates Active in the Pauson-Khand Reaction	J. David Ricker*, Yousoon Lee, Laina M. Geary, Jason Shearer	University of Nevada, Reno

Poster #	Poster Title	Authors (*Presenting)	Affiliation(s)
W-64	Enantioselective Gamma- and Delta-borylation of Carbonyl Derivatives: Synthesis, Mechanistic Insights, and Applications	Gia L. Hoang*, Shao-Di Yang, Sean M. Smith, James M. Takacs	University of Nebraska-Lincoln
W-65	Investigations of Organometallic, Organocatalytic, and Base Mediated Methods for the Hydrolysis of 1,3-Dihydro-disiloxanes	Austin T. Kelly*, Annaliese K. Franz	University of California, Davis
W-66	Regio- and Diastereoselective Samarium(II)-Mediated Allylic Benzoate Reductions	Trevor Stockdale*, Gregory O'Neil	Western Washington University
W-67	Development of the 2nd Generation Commercial Route to an HCV NS5b Inhibitor MK-3682	Tyler Davis*, John Limanto, Artis Klapars, Daniel DiRocco, John Chung, Byron Simmons, Alan Hyde, Susan Zultanski, Peter Maligres, Feng Peng, Wenyong Chen, Jamie Dropinski, Yi Ning, Ji Chen, Jacob Waldman, Jake Song, Ed Sherer, Mikhail Reibarkh, Frank Bernadoni, Mona Larsen, Aaron Moment	Process Research and Development, Merck and Co.
W-68	Nucleobase Analogs as Probes for Substrate Recognition and Repair by DNA Glycosylase MutY	Chandrima Majumdar*, Amelia Manlove, Paige McKibbin, Michelle Hamm, Sheila S. David	University of California, Davis
W-69	Fragment Coupling and Constructing Quaternary Carbon Stereocenters Using Carbon Radicals	Peng Zhao*, Yuriy Sluskyy, Christopher Jamison, Larry Overman	University of California, Irvine
W-70	Photocatalytic Prenylation of Perfluoroarenes	Sonal Priya*, Jimmie Weaver	Oklahoma State University

NOS Activities

WINE TASTING AND WOOD-FIRED PIZZA AT MATCHBOOK WINERY & VINEYARDS

Monday, June 26

Visit a local vineyard and enjoy wine tasting at Matchbook Winery & Tasting Room (**http://www.matchbookwines.com/our-estate/vineyards/**). Matchbook Winery is a family-owned winery tucked away in Northern California's gently rolling Dunnigan Hills. Located just 30 minutes north of Sacramento and Davis, Matchbook is a local Yolo County destination for wine lovers looking to discover quality estate-grown varietals. The 2,160 square-foot tasting room includes a wine bar constructed with repurposed wood from a local barn and a 400 square-foot patio overlooking Matchbook's estate vineyards and the coastal mountain range spanning the western horizon. Surrounded by over 1,200 acres of scenic vineyards, Matchbook Wine Company's tasting room is a fantastic setting! You will also enjoy a wood-fired pizza buffet from Flour Dust Pizza Co. (**http://www.flourdustpizza.com**). MUST be 21 years old for wine tasting. Please indicate if you have any dietary restrictions/preferences and we will do our best to accommodate these.

Time: Buses will leave Davis at 12:30 pm and 1 pm (or 2 pm if sufficient interest, TBA) with several bus options to return (~35 min each way). The event at Matchbook Winery will run from approx 1 pm-4:30 pm (several bus options, last bus leaving the winery at 4:30 pm).

Cost: $35 per person (covers transportation, wine-tasting and wood-fired pizza buffet; non-alcoholic drinks can be selected in place of wine-tasting).

BEER TASTING WITH PROF. CHARLIE BAMFORTH

Tuesday, June 27

Enjoy a beer tasting and learn about the chemistry of beer at the Mondavi Food & Wine Institute on campus (http://robertmondaviinstitute.ucdavis.edu) with world-renowned beer expert, Distinguished Prof. Charlie Bamforth, the Anheuser-Busch endowed professor of malting and brewing science (**http://faculty.bftv.ucdavis.edu/fst/bamforth/whoAml.html**). Anyone who may have seen Charlie before at an ACS event will know that this is a unique and potentially once-in-a-lifetime experience! Bamforth's research interests are malting and brewing, specifically "wholesomeness of beer, including studies on the psychophysics of beer perception, on polyphenols and on the residues from non-starchy polysaccharide digestion that constitute soluble fiber and potential prebioticsin beer. Research in the laboratory also embraces the enzymology of the brewing process, foam stability, preventing oxidation in wort and beer and alternative paradigms for beer production (**http://faculty.bftv.ucdavis.edu/fst/bamforth/research.html**). You will also enjoy light refreshments (i.e. heavy appetizers) along with the beer tasting. MUST be 21 years old to attend this event. Please indicate if you have any dietary restrictions/preferences and we will do our best to accommodate these.

Time: Tours of campus brewery from 4-5:30 pm (sign-up details for tours TBA), refreshments starting at 5 pm, beer-tasting and lecture with Charlie from 5:30-6:25 pm in the Sensory Theatre.

Cost: $45 for students (>21y) and $50 for non-students (covers beer-tasting and heavy appetizers).

OLIVE OIL TASTING

Wednesday, June 28

Tour and olive oil tasting at Séka Hills Olive Mill & Tasting Room (**http://www.sekahills.com/visit/tasting-room/**).

Time: The bus will leave Davis at 1:30 pm and return at 5:30 pm (~45 min each way). The events at Séka Hills will run from 2:30-4:30 pm.

Cost: $35 per person (covers transportation, tour and tasting).

KAYAKING AT LAKE TAHOE

Sunday, Monday and/or Thursday, depending on number of people interested (minimum number required).

Visit Lake Tahoe and go kayaking or stand-up paddle boarding in the crystal clear waters. Family friendly! Location will be at either Baldwin Beach or Pope Beach. No experience necessary! Minors 12 and under MUST be accompanied on the water by a parent/guardian 18 years of age or older. This can be on single kayaks, paddleboards or double kayaks.

Time: Buses/Vans will depart at 12:00 pm (on Sunday and/or Monday) or 12:30 pm (on Thursday) immediately following the morning session and a box lunch will be provided. Lake Tahoe is approx 2h each way, but definitely worth it! Please indicate if you have any dietary restrictions/preferences for the box lunch.

Cost: $80 per person depending on number of people and 1h vs 2h kayak rental (covers transportation, box lunch, and 1-2-hr kayak or paddle board rental). Sign-up may be possible on the day of the event, but lunch will not be provided. Pricing for non-kayakers interested to visit Lake Tahoe (Baldwin Beach or Pope Beach) can also be arranged.

SUDWERK BREWERY TOUR & BEER TASTING

Tour the local Sudwerk Brewery (approx 2 miles from campus) and get a tasting flight complete with all beers on tap at the Dock store. Sudwerk Brewery is a small brewery located in Davis, CA that often features experimental beers made with UC Davis brewing classes. MUST be 21 years old for beer tasting, but the taproom is kid and dog friendly! Enjoy playing (or watching your kids play) giant jenga or giant connect-four outside the brewery while you are tasting your beers.

Time: Taproom hours are Tues-Thurs from 4-8 pm on and Sunday from 2-6 pm. Tours must be arranged in advance, but beer tasting is available anytime the taproom is open (**http://sudwerkbrew.com**).

Cost: $15 per person (in advance for tours + tasting, but tastings can also be arranged directly at the taproom anytime the taproom is open; transportation is not included).

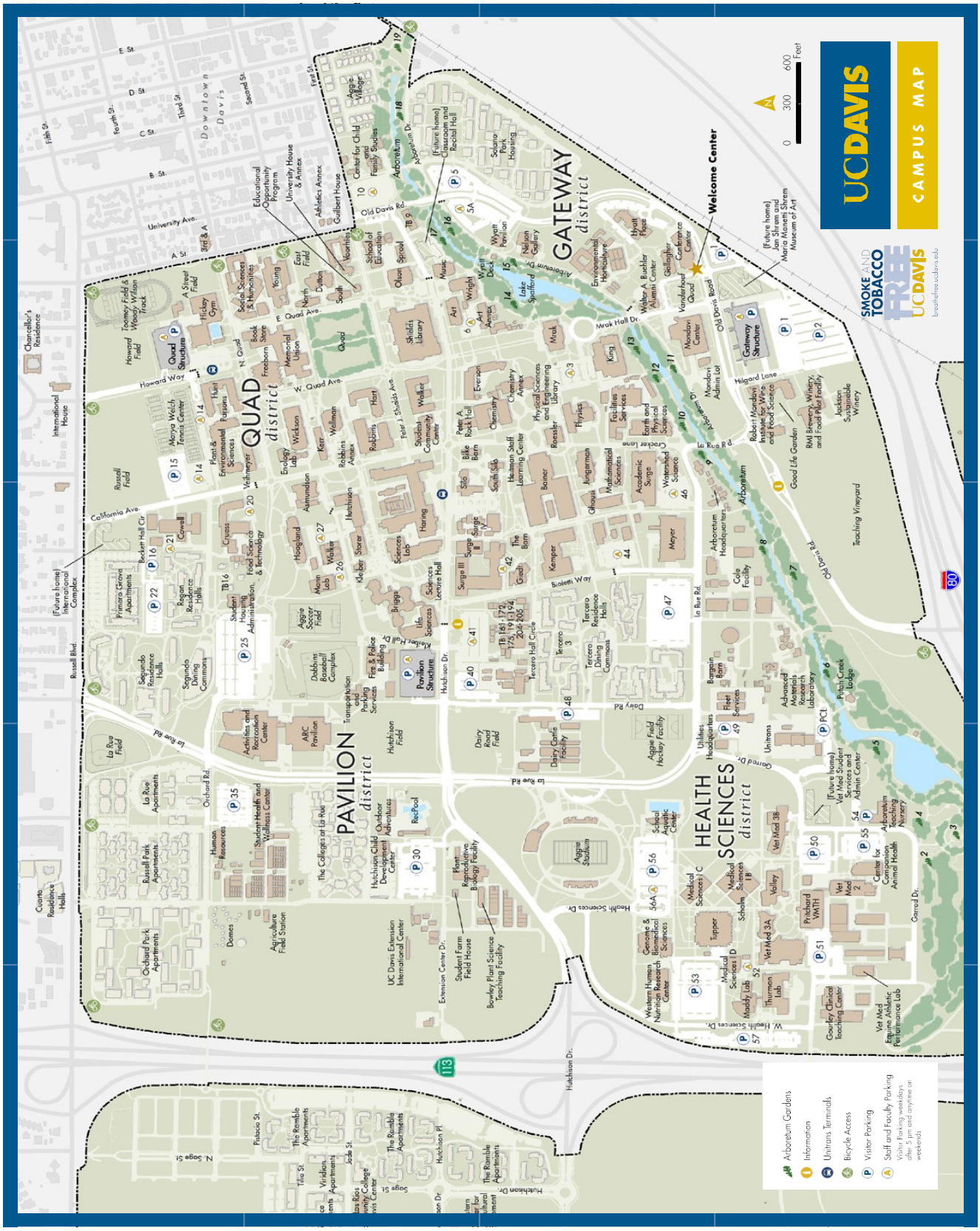
Sign up for Kayaking and Sudwerk Brewery is allowed up to the day of the event, as space allows. For questions about activities and sign-up, contact Prof. Annaliese Franz, **akfranz@ucdavis.edu**.

Other Nearby Activities

No prearrangements necessary, unless a group wants to arrange a tour:

- UCD Arboretum,
  http://arboretum.ucdavis.edu/
- US Bicycling Hall of Fame,
  http://www.usbhof.org/
- Shrem Art Museum (next to the Mondavi Center),
  http://manettishremmuseum.ucdavis.edu/
- Bohart Museum of Entomology,
  http://bohart.ucdavis.edu/
- Davis Farmers Market (Wednesday afternoon/evening),
  http://www.davisfarmersmarket.org/
- Old Town Sacramento (includes California State Railroad Museum),
  http://oldsacramento.com/
- Sudwerk Brewery and Taproom,
  http://sudwerkbrew.com
- Hiking at Hidden Falls (approx 1 hr from Davis, CA),
  https://www.alltrails.com/trail/us/california/hidden-falls-trails,
  http://www.placer.ca.gov/departments/facility/parks/parks-content/parks/hidden-falls

Campus Map of the University of California, Davis



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