



# WILLIAM & MARY

CHARTERED 1693

## DEPARTMENT OF CHEMISTRY

September 9, 2017

### ROBERT J. HINKLE

**OFFICE ADDRESS:** Department of Chemistry  
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### POSITION(S):

**DEPARTMENT:** Chemistry

Chair, July 2017 to present.  
Professor, August 2011 to present.

### EDUCATION

Ph. D. in Organic Chemistry: Univ. of Utah, 1994–Peter J. Stang, Distinguished Professor.  
Thesis Title: *Conjugated Enynes and Dienes: Platinum Model Studies of Proposed Catalytic Intermediates and New Synthetic Methods.*  
A. B.: Bowdoin College, 1986. *Cum Laude, Summa Cum Laude* in Chemistry.

### ACADEMIC POSITIONS

**Visiting Scholar**, Vanderbilt University under invitation of Professor Jeffrey N. Johnston; September 2016 to December 2016.  
**Professor of Chemistry**, College of William and Mary; August 2011 to present.  
**Visiting Scholar**, Indiana University under invitation of Professor P. Andrew Evans; July 2002 to December 2002.  
**Associate Professor of Chemistry**, College of William and Mary; August 2002 to August 2011.  
**Assistant Professor of Chemistry**, College of William and Mary; August 1996 to August 2002.  
**Research Scientist**, University of California, Irvine; 12 January 1996 to 15 July 1996.  
**National Institutes of Health Postdoctoral Fellow**, University of California, Irvine; January 1994 to January 1996. Larry E. Overman as advisor.

### HONORS, PRIZES AND AWARDS

- Cottrell Scholar Class of 1998, Research Corporation, Tucson, AZ.

- Plummeri Award for Faculty Excellence recipient 2015-2017, William & Mary..
- Jennifer and Devin Murphy Faculty Award for outstanding integration of research with teaching, 2014-2016, William & Mary.
- NSF–*Invited Participant* (**ONLY PUI faculty member of 20—19 from R01 Institutions**) In Workshop on Organic Synthesis and Natural Products Chemistry, 2008.
- **Henry Dreyfus Teacher-Scholar Award, \$60,000**, October 2002 to October 2007.
- *Gordon Research Conference (Organic Reactions and Processes) Poster Award*, 2007.
- **NSF Early CAREER Award**, 1999.
- Honorary Member of Eta Sigma Pi Honor Society.
- Honorary Member of Phi Eta Sigma Honor Society.
- Phi Kappa Phi, The University of Utah; April 1993.
- Stauffer Scholarship for Academic Excellence, University of Utah; April 1988, \$250.

## COURSES TAUGHT

Chemistry 150W/275W: Beyond Petroleum as a Fuel	F, '06, '07, '10, '11
Chemistry 206; Organic Chemistry I	S, '04, '05, & 06, '11-'16
Chemistry 209; Organic Chemistry II for Concentrators.	F, '96 - '01, '08, '12, '13
Chemistry 457; Organic Synthesis (Senior Level course)	S, '00-'03, '09, '16
Chemistry 657; Organic Synthesis (Master's Level course).	S, '00-'03, '09, '16
Chemistry 252; Organic Laboratory I.	S, '97-'00, '04, '05, '08-'09, '11-'16
Chemistry 252; Organic Laboratory I ( <b>IN CHARGE</b> ).	S, '01, '02, '05, '06, '07
Chemistry 291; Undergraduate Research	F, '96 to present
Chemistry 353; Organic Laboratory II.	F, '97-'01, '05-'09, '11-'16'
Chemistry 353; Organic Laboratory II( <b>IN CHARGE</b> ).	F, '03-'07, '11, '13
Chemistry 409; Senior Research.	F, '97 to present
Chemistry 495/6; Honors Research.	F, '96 to present
Chemistry 320; Introduction to Research	F, '96 to present

## FELLOWSHIPS AND GRANTS

### *Contributions to Other William & Mary Grant Proposals*

- 1) **Beckman Scholars' Program**: Submitted on behalf of the College of William & Mary, August 2014. Professor Margaret Saha, Development staff and I crafted the submitted document. This institutional grant was **awarded for 2015-2018**.
- 2) **NSF MRI**: "Acquisition-Upgrade of a 400 MHz Nuclear Magnetic Resonance Spectrometer to Facilitate Research and Improve Student Research and Education," Christopher Abelt as lead P.I. of this proposal. Submitted February 2013, **Awarded**.
- 3) **NSF** "Purchase of an NMR Spectrometer," Christopher Abelt as lead P.I. of this proposal. Submitted January 2012, Not funded.
- 4) **Department of Energy** (Manos and Cooke as P.I.s), "Sustainable Algal Production and Environmental Remediation," Appropriation for \$625,000 for August 2010 to July

2011. Hinkle portion was \$30K for analyses of algal degradation products and carbohydrate contents.
- 5) NSF "Purchase of an NMR Spectrometer," Christopher Abelt as lead P.I. of this proposal. Submitted June 2010, Not Funded.
  - 6) **StatoilHydro Proposal:** WILLIAM AND MARY RESEARCH INSTITUTE (WMRI):  
*An Integrated Research Program for Algal Energy and Environmental Remediation. Total Budget = \$2 Million; RJH portion in overall budget is \$40,000 for analyses, equipment as well as PI and undergraduate student salaries **Awarded, 2010.***
  - 7) **StatoilHydro Proposal:** WILLIAM AND MARY RESEARCH INSTITUTE (WMRI):  
*An Integrated Research Program for Algal Energy and Environmental Remediation. Total Budget = \$1 Million; RJH portion in overall budget is \$80,309 for analyses, equipment as well as PI and student salaries. **Awarded, 2009.***
  - 8) NSF "Purchase of an X-ray Diffractometer," Robert D. Pike as lead investigator of this proposal submitted 25 June 2004. **Awarded.**
  - 9) **Howard Hughes Medical Institute** grant (Margaret Saha, P.I.), 1998; **Awarded \$88,353** (of ~ \$1.5 million total) was to develop microscale and computational experiments for the Organic Chemistry laboratories. Joint project with former colleague, Kathleen M. Morgan (chemistry).
  - 10) Pedagogical Grant Proposal, University Fellowship Funds of William and Mary, "Modernization of Organic Chemistry Laboratory." Kathleen Morgan with Robert J. Hinkle and Christopher J. Abelt as collaborators. Each **awarded \$800.00** stipends for development of laboratory exercises.

### ***Individual Grant Proposals While at William & Mary***

- 1) National Science Foundation, "Alkynediols: Reactive Substrates for Cascade Reactions Toward Aromatic Heterocycles," Requesting ~**\$339,457** for period of 01 September 2018 to 31 August 2021. – *Planning submission*, September 2017.
- 2) National Science Foundation, "Stereoselective Additions and Polycyclic Cascades via Oxocarbenium Ions," Requested **\$337,133** for period of 01 September 2017 to 31 August 2020. – Not Funded.
- 3) National Science Foundation, "Carbenium Ion Methodology: Stereoselective Additions and Polycyclization Cascades," Requested **\$383,418** for period of 01 September 2015 to 31 August 2018 – Not Funded.
- 4) Petroleum Research Fund of the ACS, "Alkynyl-Prins Cascade Sequences: Understanding Regio- and Stereoselectivity and Application to Extended Aromatic Compounds," **Requested \$70,000** for period of 01 June 2015 to 31 May 2018 — Not Funded.
- 5) National Science Foundation, "Cyclic Oxocarbenium Ions: Stereoselectivity of Additions and Development of an Alkynyl-Prins Cascade.," Requested **\$379,280** for period of 01 September 2014 to 31 August 2017—Not Funded.
- 6) National Institutes of Health, AREA (R15), "Alkynyl-Prins Cascade to Tricyclic Heterocycles: Studies of the Mechanism and Scope," **Requested \$355,252** for period of 01 May 2014 to 31 April 2017— Not Funded.

- 7) National Institutes of Health, AREA (R15) RENEWAL of Proposal 4 below. "Bi(III)-Initiated Chemistry: Mechanistic Investigations of Catalytic Activity," **Requested \$324,302** for period of 01 May 2011 to 31 April 2014—Not Funded.
- 8) National Science Foundation, "Tuning Oxocarbenium Ion and Acyl Iminium Ion Reactivity and Stereoelectronics," Requested \$340,622 for period of 6/1/2010 to 5/31/2013, **Awarded \$239,000** for 01 September 2010 to 30 August 2013.
- 9) National Institutes of Health, AREA, "Bi(III)-Initiated Chemistry: Mechanistic Investigations of Catalytic Activity," **Awarded \$212,092** for period of 01 May 2007 to 31 April 2011.
- 10) Research Corporation, "Bi(III)-Catalyzed Tandem Addition and Silyl-Prins Cyclization Reaction Mechanisms," Submitted 19 November 2006 for \$33,589 for two years; **RECOMMENDED FOR FUNDING, BUT WITHDRAWN DUE TO NIH AWARD ABOVE (item 9).**
- 11) Henry Dreyfus Teacher-Scholar Award, \$60,000, October 2002 to October 2007.
- 12) Thomas F. and Kate Miller Jeffress Memorial Trust, "Establishing the Role of Catalytic Quantities of Bi(III) Reagents in Organic Transformations," Submitted 01 September 2006—*withdrawn due to remaining funding in previous Jeffress Award.*
- 13) National Science Foundation, "Bi(III)-Initiated Chemistry: Stereoselectivity Studies and Silyl-Prins Reactions," Submitted 15 January 2006 for \$301,192 for a period of three years. **Not Reviewed because of significant overlap with pending NIH award (#9 above).**
- 14) Research Corporation, "Bi(III)-Catalyzed Tandem Addition and Silyl-Prins Cyclization Reactions," Submitted 21 November 2005 for \$35,127 for two years. Not Funded.
- 15) National Institutes of Health, AREA, "Bi(III)-Initiated Chemistry: Stereoselectivity Studies & Silyl-Prins Reactions," Submitted 25 September 2005 for \$150,000 for a three year period. Not Funded.
- 16) Petroleum Research Fund of the American Chemical Society, "Bi(III) Complexes: Inexpensive, Environmentally-Friendly Achiral and Chiral Bi(III) Reagents for Asymmetric Allylation and Mukaiyama Aldol Reactions." Submitted 15 September 2005 for \$50,000 for three year period. Not Funded.
- 17) National Institutes of Health, AREA: Developing Bi(III)-Initiated Oxocarbenium Reactions," Submitted 25 January 2004 for \$150,000. Not funded.
- 18) National Science Foundation, CAREER Award, "Alkenyl(aryl)iodanes: Investigations of Reactivity and New Syntheses." Submitted on 7/22/99 and **Awarded \$294,810** for period of 01 March, 2000 to 29 February, 2004. No-cost Extension approved through 2005.
- 19) Coatings Technology, Ltd, "Understanding the Role of Diffusion and pH on a Color Indicator." Robert J. Hinkle and David E. Kranbuehl as co-investigators. **Awarded \$118,603** for period of September 1999 to August 2003.
- 20) Jeffress Memorial Trust, "Expanding the Scope of Alkenyl(aryl)iodonium Substitutions," Requested \$15,873. *Renewal* submitted 01 March, 1999. **Awarded \$15,000.** Award including initial grant (14 below) totals \$29,952.

- 21) Research Corporation, "Solvolysis of Electron-Deficient Alkenyl(aryl)iodonium Salts via Vinyl Cations," Requested \$32,319. Submitted 14 November 1997. **Awarded \$32,319**, June 1998.
- 22) William and Mary Summer Grant; Summer 1998, "Synthesis and Solvolysis of Electron-deficient Alkenyl(aryl)iodonium Triflates." **Awarded \$5000**. I declined award because of acceptance of proposal **12** above.
- 23) Jeffress Memorial Trust, "Expanding the Scope of Alkenyl(aryl)iodonium Substitutions," Requested \$15,873. Submitted 30 August 1997. **Awarded \$14,952**.
- 24) Research Corporation, "The Synthesis and Solvolysis of Electron-Deficient Alkenyl(aryl)iodonium Salts." Requested \$29,658. Submitted 10/20/96. Not funded.
- 25) Jeffress Memorial Trust, "The Influence of Substituents on Iodonium Ylide Stability and Reactivity," Requested \$18,373. Submitted 2/28/97. Not funded.
- 26) Petroleum Research Fund of the ACS, "Investigations of Titanium Aryloxy Complexes as Carbocyclization Pre-Catalysts." Requested \$20,000. Submitted 12/7/96. **Awarded \$20,000** for period of 01 September 1997 to 31 August 1999. No cost extensions granted through 8/02.
- 27) William and Mary Summer Grant; Summer 1997, "Electrophilic Modification of Coordinated Ligands." **Awarded \$5250**.
- 28) NIH Postdoctoral National Research Service Award recipient; September 1993. **Awarded \$46,200** for stipends and institutional allowance.
- 29) Stauffer–Rozelle Fellowship, University of Utah; September 1987.
- 30) Surdna Foundation Fellowship, Bowdoin College; September 1985 to May 1986.

## RESEARCH

### Provisional Patent Applications Filed.

- 1) Hinkle, Robert J. "Polysubstituted Tetrahydropyran Compositions," Application draft written, but not yet submitted.
- 2) Hinkle, Robert J. "Naphthyl(aryl)iodonium Salt Compositions from Electrophilic Cyclizations," Application draft begun, but not yet submitted.
- 3) Hinkle, Robert J. "Trisubstituted Tetrahydropyran Compositions," Application 61/719,992. Filed 18 October 2012—*Full application abandoned due to insufficient biological activity in Eli Lilly screens.*
- 4) Hinkle, Robert J. and Lewis, Shane E., "Substituted Benzopyran Compositions," Application 61/715,433. Filed 30 October 2012—*Full application abandoned due to insufficient biological activity in Eli Lilly screens.*

### Publications in Refereed Journals (W & M undergraduate names in **bold**).

- 1) Robert J. Hinkle, **Sarah E. Bredenkamp**, Robert D. Pike, **Seong Ik Cheon**, "Electrophilic Cyclization of Phenylalkynediols to Naphthyl(aryl)iodonium Triflates with Chelating Hydroxyls: Preparation and X-ray Analyses," *J. Org. Chem.* **2017**, ASAP article published online 17 August 2017. DOI: 10.1021/acs.joc.7b01619 (<http://pubs.acs.org/doi/pdf/10.1021/acs.joc.7b01619>).

- 2) Robert J. Hinkle, Yuzhou Chen, **Colleen Nofi**, and Shane E. Lewis, "Electronic effects on a one-pot aromatization cascade involving alkynyl-Prins cyclization, Friedel–Crafts alkylation and dehydration to tricyclic benzo[f]isochromenes," *Org. Biomol. Chem.* **2017**. Published online 11 August 2017; DOI: <http://pubs.rsc.org/en/Content/ArticleLanding/2017/OB/C7OB01412K>
- 5) Robert J. Hinkle and Shane E. Lewis, "Atom Economical, One-Pot, Three-Reaction Cascade to Novel Tricyclic 2,4-Dihydro-1*H*-benzo[f]isochromene Derivatives," *Org. Lett.* **2013**, *15*, 4070-4073. ASAP published online 01 August 2013; DOI <http://dx.doi.org/10.1021/ol401600j>
- 6) **Frederick Lambert**, Robert J. Hinkle,\* **Stephen E. Ammann**, Yajing Lian, Jia Liu, Shane E. Lewis, and Robert D. Pike, "Bi(OTf)<sub>3</sub>-, TfOH-, and TMSOTf-Mediated, One-Pot Epoxide Rearrangement, Addition, and Intramolecular Silyl-Modified Sakurai (ISMS) Cascade toward Dihydropyrans: Comparison of Catalysts and Role of Bi(OTf)<sub>3</sub>," *J. Org. Chem.* **2011**, *76*, 9269-9277.
- 7) Robert J. Hinkle,\* Yajing Lian, **Lee C. Speight**, **Heather E. Stevenson**, **Melissa M. Sprachman**, **Lauren A. Katkish**, **M. Christa Mattern**, "Synthesis of 2,6-Disubstituted Dihydropyrans via an Efficient BiBr<sub>3</sub>-initiated Three Component, One-pot Cascade," *Tetrahedron* **2009**, *65*, 6834–6839.
- 8) Yajing Lian, Robert J. Hinkle, "BiBr<sub>3</sub>-Initiated Tandem Addition/Silyl-Prins Reactions to 2,6-Disubstituted Dihydropyrans," *J. Org. Chem.* **2006**, *71*, 7071-7074.
- 9) Robert J. Hinkle, Yajing Lian, **Nichole D. Litvinas**, **Alex T. Jenkins**, **Daniel C. Burnette**, "BiBr<sub>3</sub> Initiated Cyclization-Addition Reactions: Effect of Nucleophile and Total Synthesis of (+)-(S,S)-(cis-6-methyltetrahydropyran-2-yl)acetic Acid and its *trans*-Diastereomer," *Tetrahedron* **2005**, *61*, 11679-11685.
- 10) Evans, P. A.; Cui, J.; Gharpure, S. J.; Hinkle, R. J. "Stereoselective Construction of Cyclic Ethers using a Tandem Two-Component Etherification: Elucidation of the Role of Bismuth Tribromide," *J. Am. Chem. Soc.* **2003**, *125*, 11456-11457.
- 9) Hinkle, R. J. "**Mikowski, A. M.** "Kinetics of Stereoisomeric 2-Methyl-1-butenyl-(aryl)iodonium Triflates," Included in a special issue of *ARKIVOC* **2003**, *vi*, 201-212, published 25 July 2003: <http://www.arkat-usa.org/ark/journal/2003/Varvoglis/AV-745A/745A.pdf>.
- 10) Tykwinski, R. R.<sup>†</sup>; Kamada, K.<sup>‡</sup>; Bykowski, D.<sup>†</sup>; Hegmann, F. A.<sup>†</sup>; Hinkle, R. J. "Nonlinear Optical Properties of Thienyl and Bithienyl Iodonium Salts as Measured by the Z-scan Technique," *J. Opt. A: Pure Appl. Opt.* **2002**, *4*, S202-206.
- 11) Bykowski, D.<sup>†</sup>; McDonald, R.<sup>†</sup>; Hinkle, R. J.; Tykwinski, R. R.<sup>†</sup> "Structural and Electronic Characteristics of Thienyl(aryl)iodonium Triflates," *J. Org. Chem.*, **2002**, *67*, 2798-2804.
- 12) Hinkle, R. J.; McDonald, R.<sup>†</sup>, "(Z)-2-Methyl-1-buten-1-yl(aryl)iodonium Triflates Containing Electron-Withdrawing Groups on the Aryl Moiety." *Acta Cryst. C.* **2002**, *C58*, 0117-0121.
- 13) **McNeil, A. J.**; Hinkle, R. J.; **Rouse, E. A.**; **Thomas, Q. A.**; **Thomas, D. B.** "Vinyl Carbocations: Solution Studies of Alkenyl(aryl)iodonium Triflate Fragmentations," *J. Org. Chem.* **2001**, *66*, 5556-5565.

- 14) Hinkle, R. J.; Leri, A. C.; David, G. A.; Erwin, W. M. "Addition of Benzylzinc Halides to Alkenyl(phenyl)iodonium Triflates: Stereoselective Synthesis of Trisubstituted Alkenes," *Org. Lett.* **2000**, *2*, 1521-1523.
- 15) Hinkle, R. J.; McNeil, A. J.; Thomas, Q. A.; Andrews, M. N. "Vinyl Cations in Solution: Kinetics and Products of Alkenyl(aryl)iodonium Salt Fragmentations," *J. Am. Chem. Soc.*, **1999**, *121*, 7437-7438.
- 16) Hinkle, R. J.; Thomas, D. B. "Facile Fragmentations of Alkenyl(aryl)iodonium Triflates," *J. Org. Chem.* **1997**, *62*, 7534-7535.
- 17) Hinkle, R. J.; Stang, P. J. "Stereospecific Synthesis of Trisubstituted Alkenyl(phenyl)-iodonium Salts from Vinylstannanes" *Synthesis* **1994**, 313.
- 18) Hinkle, R. J.; Poulter, G. T.; Stang, P. J. "Palladium(II) and Copper(I) Co-Catalyzed Coupling of Stereodefined Alkenyl(phenyl)iodonium Salts and Unsaturated Tri-*n*-butylstannanes" *J. Am. Chem. Soc.* **1993**, *115*, 11626.
- 19) Hinkle, R. J.; Stang, P. J.; Arif, A. M. "Vinylplatinum Carbenes and Nitriles, Platinocyclic Complexes and Heck-Type Coupling Products Formed Via Reaction of ( $\sigma$ -2-propenyl)bis(triphenylphosphine)platinum(II) Triflate with Alkynols, Nitriles, and Acrylate Esters. Molecular Structure of [(PPh<sub>3</sub>)<sub>2</sub>PtCH<sub>2</sub>C(O)OCH<sub>3</sub>] [OTf]" *Organometallics* **1993**, *12*, 3510.
- 20) Zhong, Z.; Hinkle, R. J.; Arif, A. M.; Stang, P. J. "Novel Synthesis of ( $\eta^3$ -Allyl)platinum(II) Complexes from Enol Triflates and Simple Olefins and Their Regiospecific Deprotonation" *J. Am. Chem. Soc.* **1991**, *113*, 6196.
- 21) Hinkle, R. J.; Stang, P. J.; Kowalski, M. H. "Vinylphosphonium Salts: Stereoselective Palladium-Catalyzed Vinylation of Triphenylphosphine with Vinyl Triflates" *J. Org. Chem.* **1990**, *55*, 5033.
- 22) Kowalski, M. H.; Hinkle, R. J.; Stang, P. J. "A Simple Highly Stereospecific Preparation of Vinylphosphonium Salts: Palladium-Catalyzed Vinylation of Triphenyl-phosphine via Vinyl Triflates" *J. Org. Chem.* **1989**, *54*, 2783.
- 23) Pike, R. M.; Mayo, D. W.; Butcher, S. S.; Butcher, D. J.; Hinkle, R. J., "Microscale Organic Laboratory IV: A Simple and Rapid Procedure for Carrying Out Wittig Reactions" *J. Chem. Ed.* **1986**, *63*, 917.

†University of Alberta, Edmonton, Alberta, Canada

### Non-Scientific Articles Highlighting Research:

McClain, J., "Bismuth Summer: Undergraduates Receive Funding for Pharmaceutical Research," *Ideation*, 06 September 2006. Accessed 12.10.07:  
<http://www.wm.edu/as/ideation/Fall2006.php?fetchid=7884>

Sakai, J., "Let's Hit the Chemistry Lab," *The Richmond Times Dispatch*, 13 August 2006. Accessed 12/10/07: <http://www.jillsakai.com/Writing/Samples/Richmond/pdfs/o81306-chem.pdf>

## Invited Scholarly Papers and Talks (presenter underlined, undergraduates in bold):

- 1) Robert J. Hinkle, *Limitations of Tandem Cyclization-Additions to Oxocarbenium Ions and Development of a Cascade Sequence to Novel Tricycles*, Old Dominion University, 14 November 2013
- 2) Robert J. Hinkle, *Cyclizations Involving Oxocarbenium Ions: Limitations of Tandem Cyclization-Additions and Development of a Cascade Sequence to Novel Tricycles*, The University of Utah, 03 October 2013
- 3) Robert J. Hinkle, "Non-Toxic Bi(III) Compounds in Multicomponent Methods Toward Cyclic Ethers," The University of Delaware, 27 October 2011
- 4) Robert J. Hinkle, "Non-Toxic Bi(III) Compounds in Multicomponent Methods Toward Cyclic Ethers," Western Michigan University, 25 September 2011.
- 5) Robert J. Hinkle, "Environmentally-Friendly, Bi(III)-Initiated Multicomponent Methods Towards Cyclic Ethers," Colby College, Waterville, ME, 23 April 2010.
- 6) Robert J. Hinkle, "Non-Toxic Bi(III)-Initiated Multicomponent Methods Toward Cyclic Ethers," University of Michigan, Ann Arbor, MI, 06 April 2010.
- 7) Robert J. Hinkle, "Environmentally-Friendly, Bi(III)-Initiated Multicomponent Methods Towards Cyclic Ethers." The University of Richmond, Richmond, VA, 15 January 2010.
- 8) Robert J. Hinkle, *2008 NSF Workshop on Organic Synthesis and Natural Products Chemistry*, June 19-22, 2008. The Minary Center Holderness, NH. **I was the only undergraduate faculty member invited to this prestigious workshop.**
- 9) Robert J. Hinkle, \* Kristie M. Schmidt, Yajing Lian, and **Heather E. Stevenson**, "One-Pot, Three-Component Mukaiyama Aldol/Silyl-Prins Reactions to Dihydropyrans," Gordon Research Conference: Organic Reactions and Processes, Smithfield, RI, 15-20 July 2007, **Invited Oral Presentation based on Poster Award**, Thursday, 20 July 2007.
- 10) Robert J. Hinkle, "Stereoselective Bi(III)-Mediated Two- and Three-Component Addition-Silyl-Prins Reactions to 2,6-Disubstituted Dihydropyrans," Invited speaker for *Maryland Symposium on Research at Undergraduate Institutions*, University of Maryland, College Park, MD, 19 October 2007.
- 11) "Bi(III) Compounds in Sakurai Allylations and Mukaiyama Aldol Reactions: Catalysts or Pre-Catalysts?" Old Dominion University, Norfolk, VA, 11 November 2005.
- 12) "Alkenyl(aryl)iodonium Reactivity and Cyclic Ether Syntheses." Brown University, Providence, RI, 24 October 2004.
- 13) "Alkenyl(aryl)iodonium Reactivity and Tetrahydropyran Syntheses." Bowdoin College, Brunswick, ME, 25 April 2003.
- 14) "Alkenyl(aryl)iodonium Salts: Substitution and Fragmentation Reactions in Solution." The University of Delaware, Wilmington, Delaware, 30 August 2000.
- 15) "Fragmentations and Substitutions of Alkenyl(aryl)iodonium Triflates." The University of Alberta, Edmonton Canada, 11 June 1999.

## REVIEWS OF BOOKS, SOFTWARE, ETC.:

Proposals Reviewed for the following agencies:

Beckman Scholars' Program Advisory Committee -- **Dates and details confidential**



American Chemical Society National Award Selection Panel – **Dates and  
Details confidential**

Jeffress Memorial Trust of Virginia  
Research Corporation, Cottrell Scholars Program  
American Chemical Society (ACS)  
ACS, PRF, Type B  
ACS, PRF-GB  
NSF, RUI  
NSF CHE  
NSF Special emphasis Panel  
NSF Int. Western Europe Program  
NSF Major Research Instrumentation (MRI)  
US Civilian Research and Development Foundation (CRDF)

**Tenure and Promotion Cases Reviewed:**

*Two--details confidential*

**Promotion Cases Reviewed:**

*Two--details confidential*

**Articles reviewed:**

Reviewed at least four manuscripts per year and have reviewed papers for the following journals:

*Organic Letters*  
*Chem. Soc. Reviews.*  
*Advanced Synthesis and Catalysis*  
*Journal of Organic Chemistry*  
*Journal of the American Chemical Society*  
*Organic and Biomolecular Chemistry*  
*Chemistry, A European Journal*  
*European Journal of Organic Chemistry*  
*Synthesis*  
*Arkivok*  
*Tetrahedron*  
*Tetrahedron Letters*  
*J. Phys. Org. Chemistry*  
*Chemical Communications*  
*Beilstein*

## Research Reports for Grants.

- 1) National Science Foundation Final Report, December 2015
- 2) National Science Foundation Annual Report, August 2014
- 3) National Science Foundation Annual Report, July 2013
- 4) DOE Interim Progress Report, October 2012.
- 5) DOE Interim Progress Report, August 2012.
- 6) National Science Foundation Annual Report, July 2012
- 7) DOE Interim Progress Report, May 2012.
- 8) DOE Interim Progress Report, February 2012.
- 9) DOE Interim Reports, September, December, 2011.
- 10) Statoil Final Report, August 2011
- 11) National Science Foundation Annual Report, July 2011
- 12) Statoil Interim Report II, September 2010.
- 13) Statoil Interim Report I, filed March 2010.
- 14) National Institutes of Health, USA, filed June 2011.
- 15) National Institutes of Health, USA, filed May 2010.
- 16) National Institutes of Health, USA, filed June 2009.
- 17) National Institutes of Health, USA, filed June 2008.
- 18) Jeffress Memorial Trust, Final Report, filed March 2008.
- 19) Henry-Dreyfus Teacher-Scholar Award, Final Report, filed 15 December 2007.
- 20) Jeffress Memorial Trust, Interim Report, filed 24 January 2007.
- 21) Jeffress Memorial Trust, Interim Report, filed 22 December 2005.
- 22) National Science Foundation, CAREER Award, Final Report, filed 19 May 2007.
- 23) Henry Dreyfus Teacher-Scholar Award, 2<sup>nd</sup> year report. Submitted 05 December 2004.
- 24) Investigations of Titanium Aryloxy Complexes as Carbocyclization Pre-Catalysts. Petroleum Research Fund (PRF) of the American Chemical Society. Submitted 28 September 2002.
- 25) Research Corporation, "Solvolysis of Electron-Deficient Alkenyl(aryl)iodonium Salts via Vinyl Cations." Submitted June 2002.
- 26) Coatings Technology, Ltd, "Understanding the Role of Diffusion and pH on a Color Indicator." Submitted September 2002.
- 27) Jeffress Memorial Trust, "Expanding the Scope of Alkenyl(aryl)iodonium Substitutions." Submitted June 2002.
- 28) Investigations of Titanium Aryloxy Complexes as Carbocyclization Pre-Catalysts. Petroleum Research Fund (PRF) of the American Chemical Society. Submitted 28 September 2001.
- 29) Coatings Technology, Ltd, "Understanding the Role of Diffusion and pH on a Color Indicator." Submitted March 2002.
- 30) Coatings Technology, Ltd, "Understanding the Role of Diffusion and pH on a Color Indicator." Submitted February 2002.
- 31) Coatings Technology, Ltd, "Understanding the Role of Diffusion and pH on a Color Indicator." Submitted September 2001.

- 32) Research Corporation, "Solvolysis of Electron-Deficient Alkenyl(aryl)iodonium Salts via Vinyl Cations." Submitted 28 June 2002.
- 33) Jeffress Memorial Trust, "Expanding the Scope of Alkenyl(aryl)iodonium Substitutions." Submitted 28 June 2001.
- 34) Coatings Technology, Ltd, "Understanding the Role of Diffusion and pH on a Color Indicator." Submitted May 2001.
- 35) NSF CAREER Award, "Alkenyl(aryl)iodanes: Investigations of Reactivity and New Syntheses," Submitted 01 May 2001.
- 36) Coatings Technology, Ltd, "Understanding the Role of Diffusion and pH on a Color Indicator." Submitted February 2001.
  
- 37) Coatings Technology, Ltd, "Understanding the Role of Diffusion and pH on a Color Indicator." Submitted April 2001.
- 38) Research Corporation, "Solvolysis of Electron-Deficient Alkenyl(aryl)iodonium Salts via Vinyl Cations." Submitted 28 June 2000.
- 39) Jeffress Memorial Trust, "Expanding the Scope of Alkenyl(aryl)iodonium Substitutions." Submitted 28 June 2000.
- 40) Coatings Technology, Ltd, "Understanding the Role of Diffusion and pH on a Color Indicator." Submitted 15 November 1999.
- 41) Coatings Technology, Ltd, "Understanding the Role of Diffusion and pH on a Color Indicator." Submitted 15 December 1999.
- 42) Coatings Technology, Ltd, "Understanding the Role of Diffusion and pH on a Color Indicator." Submitted 15 November 1999.
- 43) Coatings Technology, Ltd, "Understanding the Role of Diffusion and pH on a Color Indicator." Submitted 15 December 1999.
- 44) Investigations of Titanium Aryloxy Complexes as Carbocyclization Pre-Catalysts. Petroleum Research Fund (PRF) of the American Chemical Society. Submitted 28 September 1999.
- 45) Research Corporation, "Solvolysis of Electron-Deficient Alkenyl(aryl)iodonium Salts via Vinyl Cations." Submitted 28 June 1999.
- 46) Investigations of Titanium Aryloxy Complexes as Carbocyclization Pre-Catalysts. Petroleum Research Fund (PRF) of the American Chemical Society. Submitted 29 September 1998.
- 47) "Bis-Heck Cyclization Approach to the Growth Hormone Stimulant Psycholeine." NIH Fellowship progress report and continuation application. Submitted 11 November 1994.

**Posters and presentations to which I contributed (presenter(s) underlined, undergraduate students in bold):**

- 1) Hinkle, Robert J.;\* Chen, Yuzhou; **Nofi, C. P.;** Lewis, S. D., "Electronic effects in domino reactions toward tricyclic 1,4-dihydro-2H-benzo[f]isochromenes: Concerted alkenyl-Prins and Friedel-Crafts reactions" 254<sup>th</sup> National Meeting of the American

- Chemical Society, Washington, DC, United States, August 20-24 (2017), ORGN 102. *Oral Presentation.*
- 2) **Bredenkamp, S. E.**; Hinkle, R. J.;\* Pike, R. D.; **Cheon, S. I.**, "Electrophilic activation and domino reaction of arylated propargylic alcohols toward naphthyl(aryl)iodonium salts," 254<sup>th</sup> National Meeting of the American Chemical Society, Washington, DC, United States, August 20-24 (2017), ORGN 612. *Poster Presentation.*
  - 3) **Robert J. Hinkle\*** **Sarah Bredenkamp, Seong Ik Cheon, Yuzhou Chen, Colleen P. Nofi** and **Shane E. Lewis**," Gordon Conference on Physical Organic Chemistry, Holderness, NH, 25-29 June 2017. *Poster Presentation.*
  - 4) **Cheon, Seong Ik**, Hinkle, Robert J., "Alkynyl Aza-Prins Cyclization," William & Mary Honors Colloquium, February 2017. *Oral Presentation.*
  - 5) **Hinkle, Robert J.** Yuzhou Chen, **Colleen Nofi** and Lewis, Shane E. "Novel Aromatization Cascade Toward Fused Heterocycles," Gordon Conference on Organic Reactions and Processes, Easton, MA, 13-18 July 2016. *Poster Presentation.*
  - 6) **Hinkle, Robert J.** Yuzhou Chen, **Colleen Nofi** and Lewis, Shane E. "Novel Cyclization-Aromatization Cascade to Benzo[f]isochromenes" Gordon Conference on Organic Reactions and Processes, Smithfield, RI, 14-19 July 2015. *Poster Presentation*
  - 7) **Shenouda, Hannah**, Hinkle, Robert J. as advisor, "The Effect of Electron-Withdrawing Substituents on Bismuth-Catalyzed THP Formation," William & Mary Undergraduate Science Research Symposium, April 21, 2015. *Poster Presentation.*
  - 8) **Lichstrahl, Michael**, Hinkle, Robert J. as advisor, "The Stereoselective Synthesis of 1,3-Diols in the Natural Products Polyrhacitide A and B," William & Mary Undergraduate Science Research Symposium, April 21, 2015. *Poster Presentation.*
  - 9) **Cooper, Jahan**, Hinkle, Robert J. as advisor, "Developing Methodologies for the Stereo-Controlled Synthesis of Disubstituted Tetrahydropyrans and Applications Towards the Total Synthesis of Polyrhacitides," William & Mary Undergraduate Science Research Symposium, April 21, 2015. *Poster Presentation.*
  - 10) **Perkins, Zack**, Hinkle, Robert J. as advisor, "Synthesis of Alkylated Ketones For Future Bi Catalyzed Cyclic Ether Construction Through Oxocarbenium Intermediate," William & Mary Undergraduate Science Research Symposium, April 21, 2015. *Poster Presentation.*
  - 11) **Shenouda, Hannah**, Hinkle, Robert J. as advisor, "Investigations of Electron Withdrawing Substituents on the Selectivity of Nucleophilic Attack in Bismuth Catalyzed 2,6-disubstituted THP Formation," William & Mary Summer Research Showcase, October 2, 2014. *Poster Presentation.*
  - 12) **Hinkle, Robert J.** Yuzhou Chen, **Colleen Nofi** and Lewis, Shane E. "Four-Reaction Cascade Toward 2,2,4-Trisubstituted-2,4-Dihydro-1H-Benzo[f]isochromenes: Chiral Enantioselective Synthesis of a Disubstituted Core" Gordon Conference on Organic Reactions and Processes, Smithfield, RI, 13-18 July 2014. *Poster Presentation.*
  - 13) **Cooper, Jahan**, Hinkle, Robert J. as advisor, "Progress Toward the Synthesis of Biologically Active Polyrhacitides," William & Mary Undergraduate Science Research Symposium, February 28, 2014. *Poster Presentation.*
  - 14) **Hinkle, Robert J.** and Lewis, Shane E. "Two-Component, Four-Reaction Cascade Toward 2,2,4-Trisubstituted-2,4-Dihydro-1H-Benzo[f]isochromenes," Gordon

Conference on Organic Reactions and Processes, Smithfield, RI, 14-19 July 2013.  
Poster Presentation.

- 15) **Butler, Mitchell**, Hinkle, Robert J., "Efforts towards the Bi(III)-initiated Synthesis of Piperidines and Azepanes," William & Mary Undergraduate Research Symposium, February 22 2013. Poster Presentation.
- 16) **Merryman, Carline P.**; Hinkle, R. J. "Synthesis and Reactivity of a Cyclic Six-Membered Oxocarbenium Ion Containing an Electron-Withdrawing Beta-Ester," William & Mary Undergraduate Research Symposium, February 22, 2013. Poster Presentation.
- 17) **Willard, Emily G.**; Hinkle, Robert J. "*Synthesis of Fluorine-containing Precursors to Cyclic Six-membered Oxocarbenium Ions and the Effects of Fluorine on Cyclization-addition Reactions*," William & Mary Undergraduate Research Symposium, February 22, 2013. *Poster Presentation*.
- 18) **Liu, Jeffrey**; Hinkle, Robert J., "*Investigation of BiBr<sub>3</sub> Initiated Nucleophilic Additions to Seven-Membered Oxocarbenium Ions*," William & Mary Undergraduate Research Symposium, February 22, 2013. *Poster Presentation*.
- 19) **Salvant, Justin M.**; Hinkle, Robert J. "*Steric Effects of Additions to Cyclic Six-membered Oxocarbenium Ions*," William & Mary Undergraduate Research Symposium, February 22, 2013. *Poster Presentation*.
- 20) **Hinkle, Robert J.**.\* Rahman, Ajara A.; Lewis, Shane E.; **Lambert, R. Frederick**; and **Ammann, Stephen E.** "*Di- and Trisubstituted Tetrahydropyrans and Oxepanes via Cyclic Oxocarbenium Ions*. Gordon Conference on Heterocyclic Compounds, Newport, RI, 24-29 June 2012. *Poster Presentation*.
- 21) **Rahman, Ajara A.**; Hinkle, Robert J.\* "Effects of Nucleophile Strength on Selectivity in BiBr<sub>3</sub> Catalyzed Cyclic Ether Construction via Tandem Two-Component Etherification," Gordon Conference on Heterocyclic Compounds, Newport, RI, 24-29 June 2012. *Poster Presentation*.
- 22) **Hinkle, Robert J.**.\* Rahman, Ajara A.; **Lambert, R. F.**; **Ammann, Stephen E.**; **Willard, Emily G.**; **Merryman, Caroline P.**, "Cyclization-addition reactions toward trisubstituted tetrahydropyrans: Effects of Sterics and Electronics on Cyclization," 64th Southeast Regional Meeting of the American Chemical Society, Raleigh, NC, United States, November 14-17 (2012), Abstract SERM-437. **Oral Presentation**.
- 23) **Willard, Emily G.**; Rahman, Ajara A.; **Nofi, Coleen P.**; **Yeager, Benjamin M.**; Hinkle, Robert J.\* "Synthesis of Fluorine-Containing Precursors to Cyclic Six-Membered Oxocarbenium Ions, and the Effects of Fluorine on Cyclization-Addition reactions," 64th Southeast Regional Meeting of the American Chemical Society, Raleigh, NC, United States, November 14-17 (2012), Abstract SERM-306. *Poster Presentation*.
- 24) **Merryman, Caroline P.** "Synthesis and Reactivity of a Cyclic Six-membered Oxocarbenium ion Containing an Electronwithdrawing  $\beta$ -Ester" Southeast Regional Meeting of the American Chemical Society, Raleigh, NC, United States, November 14-17 (2012), Abstract SERM-305. *Poster Presentation*.
- 25) **Salvant, Justin M.**; **Rahman, Ajara A.**; **Lambert, R. F.**; **Ammann, Stephen E.**; Hinkle, Robert J.,\* "Steric effects of additions to cyclic six-membered oxocarbenium

- ions," 64th Southeast Regional Meeting of the American Chemical Society, Raleigh, NC, United States, November 14-17 (2012), SERM-304. *Poster Presentation.*
- 26) Hinkle, Robert J.;\* Rahman, Ajara A.; **Salvant, Justin M.**; **Willard, Emily G.**, "Effects of electron-donating and withdrawing substituents on the stereochemical outcome of cyclization-addition reactions toward trisubstituted tetrahydropyrans," 244th ACS National Meeting & Exposition, Philadelphia, PA, United States, August 19-23, 2012 (2012), Abstract ORGN-431. *Oral Presentation.*
- 27) **Salvant, Justin M.**; **Willard, Emily G.**; Rahman, Ajara A.; Hinkle, Robert J.,\* "Cyclization-addition reactions toward trisubstituted tetrahydropyrans: Effects of substitution on electrophilic substrate and nucleophile," 244th ACS National Meeting & Exposition, Philadelphia, PA, United States, August 19-23, 2012 (2012), Abstract ORGN-206. *Poster Presentation.*
- 28) Lewis, Shane E.; Hinkle, Robert J.\* "Tandem addition/Prins/Friedel-Crafts/dehydration reactions towards 2,2,4-trisubstituted-2,4-dihydro-1H-benzo[f]isochromenes," 244th ACS National Meeting & Exposition, Philadelphia, PA, United States, August 19-23, 2012 (2012), Abstract ORGN-205. *Poster Presentation.*
- 29) Lu, Xi; Hinkle, Robert J. "Synthesis of Six-Membered Oxocarbenium Rings," William & Mary Undergraduate Symposium, 18 February 2012. *Poster Presentation 42.*
- 30) Robert J. Hinkle,\* R. **Frederick Lambert**, **Stephen E. Ammann**, Yajing Lian, and Jia Liu, "Bi(OTf)<sub>3</sub>-, TfOH-, and TMSOTf-Mediated, One-Pot Epoxide Rearrangement, Addition and Intramolecular Silyl-Modified Sakurai (ISMS) Cascade Toward Dihydropyrans: Comparison of Catalysts and Role of Bi(OTf)<sub>3</sub>," Gordon Research Conference on Organic Reactions and Processes, July 2011. *Poster Presentation*
- 31) **Lambert, R. Frederick**, Hinkle, Robert J. "Bi(OTf)<sub>3</sub>-, TfOH-, and TMSOTf-Mediated, One-Pot Epoxide Rearrangement, Addition and Intramolecular Silyl-Modified Sakurai (ISMS) Cascade Toward Dihydropyrans: Comparison of Catalysts and Role of Bi(OTf)<sub>3</sub>," Beckman Scholars' Symposium, Irvine, California, August 11-14, 2011. *Poster Presentation.*
- 32) Hinkle, Robert J.; **Lambert, R. Frederick**; **Ammann, Stephen E.**; Lewis, Shane E.; Liu, Jia; Lian, Yajing, "Bi(OTf)<sub>3</sub>-Mediated epoxide rearrangement and intramolecular silyl-modified Sakurai reaction (ISMS) to dihydropyrans: Establishing the role of Bi(OTf)<sub>3</sub>," 63rd Southeast Regional Meeting of the American Chemical Society, Richmond, VA, October 26-29, 2011, SERM-204, *Oral Presentation.*
- 33) Lewis, Shane E.; Hinkle, Robert J. "Tandem addition/Prins/Friedel-Crafts/Dehydration reactions toward 2,2,4, trisubstituted-2,4-dihydro-2H-benzo[f]isochromenes," 63rd Southeast Regional Meeting of the American Chemical Society, Richmond, VA, United States, October 26-29, 2011, SERM-98 *Poster Presentation.*
- 34) Rahman, Ajara A.; Hinkle, Robert J.; **Lambert, Robert F.**; **Ammann, Stephen E.**, "Effects of nucleophilic strength on facial selectivity in BiBr<sub>3</sub> catalyzed tandem cyclization/addition reactions," 63rd Southeast Regional Meeting of the American Chemical Society, Richmond, VA, United States, October 26-29, 2011, SERM-80 *Poster Presentation.*
- 35) Hinkle, Robert J., **Lambert, R. Frederick**, **Ammann, Stephen E.**; Lian, Yajing, Liu, Jia, "Bismuth-Initiated Reactions Toward Stereoselective Syntheses of Tetrahydropyrans

- and Dihydropyrans," Presented at the 240th ACS National Meeting, Boston, MA, United States, August 22-26, 2010, Abstract ORGN-461, **Oral Presentation**.
- 36) **Lambert, R. Frederick, Ammann, Stephen E.**; Hinkle, Robert J.; **Speight, Lee C.**; Lian, Yajing, "Bismuth Salt-Initiated Epoxide Rearrangement and Addition Reactions Toward 2,6-Disubstituted Dihydropyrans: What is the Role of Bismuth?" Presented at the 240th ACS National Meeting, Boston, MA, United States, August 22-26, 2010, Abstract ORGN-1037, *Poster Presentation*.
- 37) **Hinkle, Robert J.** "Bi(OTf)<sub>3</sub> Initiated Epoxide Rearrangement and ISMS Reactions Toward Dihydropyrans: Role of Bi(OTf)<sub>3</sub>?" Gordon Research Conference, July 18-24 2010. *Poster Presentation*.
- 38) **Hinkle, Robert J.**; Lian, Yajing; **Speight, Lee C.**; **Liu, Jia**; **Ammann, Stephen**; **Lambert, Frederick**, "*Bi(III)-Mediated Epoxide Rearrangement and Intramolecular Silyl-Modified Sakurai Reaction (ISMS) to Dihydropyrans*," Presented at the 238th ACS National Meeting, Washington, DC, United States, August 16-20, 2009, Abstract ORGN-428. *Poster Presentation*.
- 39) **Speight, Lee C.**; Hinkle, Robert J., Honors Research Symposium, February 2009, **Oral Presentation**.
- 40) **Ammann, Stephen E.**; Hinkle, Robert J.\* "Bi(III)-Initiated Cyclization Reactions to 2,6-Disubstituted 3,6-Dihydropyrans," Undergraduate Research Symposium; February, 2009. *Poster Presentation*.
- 41) **Katkish, Lauren A.**; Hinkle, Robert J.\* "Toward Biologically-Active 2,6-Disubstituted Dihydropyran Ring Systems," Undergraduate Research Symposium; February, 2008. *Poster Presentation*.
- 42) **Speight, Lee C.** Hinkle, Robert J. "Three-Component Bi(III)-Initiated Tandem Reactions," Robert J. Hinkle,\* Undergraduate Research Symposium; February, 2008. **Oral Presentation**.
- 43) **Hinkle, Robert J.**\* Schmidt, Kristie M.; Lian, Yajing; and **Stevenson, Heather E.** "One-Pot, Three-Component Mukaiyama Aldol/Silyl-Prins Reactions to Dihydropyrans," Gordon Research Conference: Organic Reactions and Processes, Smithfield, RI, 15-20 July 2007, **Invited Oral Presentation based on Poster Award**, Thursday, 20 July 2007.
- 44) **Hinkle, Robert J.**\* Schmidt, Kristie M.; Lian, Yajing; and **Stevenson, Heather E.** "One-Pot, Three-Component Mukaiyama Aldol/Silyl-Prins Reactions to Dihydropyrans," Gordon Research Conference: Organic Reactions and Processes, Smithfield, RI, 15-20 July 2007. *Poster Presentation*.
- 45) **Hinkle, Robert J.**\* Schmidt, Kristie M.; Lian, Yajing; and **Stevenson, Heather E.**; **Johnson, H. Danielle**; **Forgues, Christine** "One-Pot, Three-Component Mukaiyama Aldol/Silyl-Prins Reactions to Dihydropyrans," Presented at the 39<sup>th</sup> National Organic Symposium, Durham, NC, June 3-7, 2007. *Poster Presentation B36*.
- 46) **Hinkle, Robert J.**\* Schmidt, Kristie M.; Lian, Yajing; and **Stevenson, Heather E.**; **Johnson, H. Danielle**; "Bi(III)-Initiated Two- and Three-component Addition/silyl-Prins Reactions Toward cis-2,6-Disubstituted Dihydropyrans," Presented at the 58<sup>th</sup> Southeastern Regional Meeting of the American Chemical Society, Augusta, GA, November 01-04, 2006. **Oral Presentation 227**.

- 47) **Brown, Timothy J.**; Hinkle, Robert J.;\* **Sprachman, Melissa M.**; **Mattern, Mamio C.**; Lian, Yajing "Investigations of  $\pi$ -Nucleophiles in the Synthesis of 2-6 Disubstituted Tetrahydropyrans," Presented at the 58<sup>th</sup> Southeastern Regional Meeting of the American Chemical Society, Augusta, GA, November 01-04, 2006. *Poster Presentation 439.*
- 48) **Brown, Timothy J.**; Hinkle, Robert J.;\* **Sprachman, Melissa M.**; **Mattern, Mamio C.**; Lian, Yajing, Investigations of  $\pi$ -nucleophiles in the synthesis of 2,6-disubstituted tetrahydropyrans. Abstracts, 38<sup>th</sup> Middle Atlantic Regional Meeting of the American Chemical Society, Hershey, PA, United States, June 4-7 (2006), *Poster Presentation*—withdrawn due to a death in Timothy Brown's family.
- 49) **Hinkle, R. J.**; Lian, Yajing; **Mattern, Mamio C.**; **Sprachman, Melissa M.** "Bimuth(III)-Initiated Diastereoselective Cyclization-Addition Reactions toward 2,6-Disubstituted Tetrahydropyrans, 230<sup>th</sup> ACS National Meeting, 28 August to 01 September 2005, **Oral Presentation 538.**
- 50) **Lian, Yajing**; Hinkle, Robert J. "Etherification reactions initiated by BiBr<sub>3</sub>: Total Synthesis of (+)-(S,S)-(cis-6-methyltetrahydropyran-2-yl)acetic Acid and its *trans*-Diastereomer," 230<sup>th</sup> ACS National Meeting, 28 August to 01 September 2005, *Poster Presentation 115.*
- 51) **Sprachman, Melissa M.**; **Mattern, Mamio C.** Lian, Yajing; Hinkle, Robert J.\* "Selective Tandem Cyclization-Addition Reactions Using catalytic Quantities of BiBr<sub>3</sub> and  $\pi$ -Nucleophiles," 230<sup>th</sup> ACS National Meeting, 28 August to 01 September 2005, *Poster Presentation 116.*
- 52) **Sprachman, M. M.**; Hinkle, R. J.; "The Use of Bismuth Compounds in the Non-Toxic Syntheses of Natural Products," Arnold and Mabel Beckman Scholars Symposium, Irvine, CA, July 2005. *Poster Presentation.*
- 53) **Hinkle, R. J.**; Lian, Y.; **Litvinas, N. D.**; **Jenkins, A. T.**; **Burnette, D. C.** "BiBr<sub>3</sub> Initiated Cyclization-Addition Reactions: Total Synthesis of (+)-(S,S)-(cis-6-Methyltetrahydropyran-2-yl)acetic Acid, its *trans*-Diastereomer and Effect of Nucleophile on Oxocarbenium Ion Additions, Presented at the National Organic Symposium, Salt Lake City, Utah, June 12-16, 2005. *Poster Presentation B21.*
- 54) **Lian, Y.**; Hinkle, R. J.; **Mikowski, A. M.**; **Brochu, M. C.**; **Knowles, R. R.**, "Isotope Effects and Mechanism(s) of Fragmentation of Alkenyl Iodonium Triflate Salts," Presented at the 56<sup>th</sup> Southeastern Regional Meeting of the American Chemical Society, Durham, NC, November 10-13, 2004. *Poster Presentation 255.*
- 55) **Sprachman, M. M.**; **Litvinas, N. D.**, **Mattern, M. C.**; Hinkle, R. J.; **Jenkins, A. T.**; **Burnette, D. C.**, "Stereoselective Tandem Cyclization-Addition Reactions Using Catalytic BiBr<sub>3</sub>," Presented at the 56<sup>th</sup> Southeastern Regional Meeting of the American Chemical Society, Durham, NC, November 10-13, 2004. *Poster Presentation 800.*
- 56) **Mattern, M. C.**; Hinkle, R. J.; "Selective Tandem Reactions Using Catalytic Bismuth Bromide," 11<sup>th</sup> Annual William & Mary Undergraduate Research Symposium, Sept. 3, 2004. *Poster Presentation.*
- 57) **Hassink, M. D.**; Hinkle, R. J. "Coupling Using Iodonium Salts," 11<sup>th</sup> Annual William & Mary Undergraduate Research Symposium, Sept. 3, 2004. *Poster Presentation*



- 58) **Sprachman, M. M.;** Hinkle, R. J., "The Use of Bismuth Catalysts in Cyclic Ether Synthesis," 11<sup>th</sup> Annual William & Mary Undergraduate Research Symposium, Sept. 3, 2004. *Poster Presentation*.
- 59) **Vortherms, A.;** Hinkle, R. J., "Iodonium Salt Synthesis and Palladium-Catalyzed Tandem Coupling Reactions," 11<sup>th</sup> Annual William & Mary Undergraduate Research Symposium, Sept. 3, 2004. *Poster Presentation*.
- 60) **Gharpure, S. J.;** Hinkle, R. J.; Cui, J.; Evans, P. A. "Bismuth Catalyzed Diastereoselective Etherification Reactions: Application to the Synthesis of Non-Adjacent and Fused Polycyclic Ethers," Presented at the National Organic Symposium, Bloomington, IN June 8-12, 2003. *Poster Presentation C94*.
- 61) **Hinkle, R. J.;** Evans, P. A.; Cui, J.; Delouvrie, B. D., "Diastereoselective Syntheses of Di- and Trisubstituted Cyclic Ethers via Tandem Cyclization-Addition Reactions," Presented at the 225<sup>th</sup> American Chemical Society Meeting, New Orleans, LA, March 23-27, 2003. *Oral Presentation 666*.
- 62) **Litvinas, N. D.** Hinkle, R. J. "Trisubstituted Olefin Synthesis by Reaction of Benzylic Zinc Reagents with  $\beta,\beta$ -Disubstituted Alkenyl(phenyl)iodonium Triflates," Presented at the 225<sup>th</sup> American Chemical Society Meeting, New Orleans, LA, March 23-27, 2003. *Poster Presentation 579*.
- 63) Hinkle, R. J.; **Mikowski, A. M.** "Fragmentation Reactions of Alkenyl(aryl)iodonium Triflates Salts." Presented at the 223<sup>rd</sup> American Chemical Society Meeting, Orlando, FL, April 06-11, 2002. *Poster Presentation 332*.
- 64) **Litvinas, N. D.** Hinkle, R. J. "Trisubstituted Olefin Synthesis by Reaction of Benzylic Zinc Reagents with  $\beta,\beta$ -Disubstituted Alkenyl(phenyl)iodonium Triflates." Verizon Undergraduate Research Symposium at William and Mary, September 2002. *Poster Presentation*.
- 65) **Henry, C. E.;** Hinkle, R. J. "Investigation of Titanium Aryloxy Complexes as Carbocyclization Pre-Catalysts." Verizon Undergraduate Research Symposium at William and Mary, September 2002. *Poster Presentation*.
- 66) **Hill, A.;** Hinkle, R. J. "Addition of Organozinc Reagents to Alkenyl(phenyl)-iodonium Salts: Syntheses of Trisubstituted Olefines." Verizon Undergraduate Research Symposium at William and Mary, September. 2002. *Poster Presentation*.
- 67) **Brochu, M. P.;** Hinkle, R. J. "Deuterium Isotope Effects in Iodonium Salt Fragmentations," Verizon Undergraduate Research Symposium at William and Mary, September. 2001. *Poster Presentation*.
- 68) **Mikowski, A. M.;** Hinkle, R. J. "Fragmentation Reactions of Alkenyl(aryl)iodonium Salts," Verizon Undergraduate Research Symposium at William and Mary, September. 2001. *Poster Presentation*.
- 69) **Litvinas, N. D.;** Hinkle, R. J. "Organozinc Reactions with Alkenyl(aryl)iodonium Triflates," Verizon Undergraduate Research Symposium at William and Mary, September. 2001. *Poster Presentation*.
- 70) **Carra, R. J.;** Hinkle, R. J., "Cyclization Reactions Utilizing Titanium Aryloxy Compounds," Hinkle, R. J. Verizon Undergraduate Research Symposium at William and Mary, September. 2001. *Poster Presentation*.

- 71) **Henry, C. E.**; Hinkle, R. J., "Titanium Aryloxy Pre-catalysts for Intramolecular Cyclizations," Hinkle, R. J. Verizon Undergraduate Research Symposium at William and Mary, September. 2001. *Poster Presentation*.
- 72) **Hinkle, R. J.; Rouse, E. A.; McNeil, A. M.; Thomas, Q. A.; Thomas, D. B.** "Vinyl Cations from Alkenyl(aryl)iodonium Salts: Are Primary Vinyl Cations involved?" Presented at the 221st American Chemical Society Meeting, San Diego, CA, April 01-05, 2001. **Oral Presentation 450.**
- 73) **Pasek, M.**; Hinkle, R. J., "An Investigation of the Reaction of Alkenyl(aryl)iodonium Salts with Zinc Reagents," Verizon Undergraduate Science Research Symposium, 15 September 2000; *Poster Presentation, 54.*
- 74) **Mikowski, A. M.**; Hinkle, R. J., "The Attempted Synthesis of Alkenylbenziodoxole Derivatives," Verizon Undergraduate Science Research Symposium, 15 September 2000; *Poster Presentation, 52.*
- 75) **Rouse, E. A.**; Hinkle, R. J., "Primary Vinyl Cations: The Fragmentation of Alkenyl(aryl)iodonium Triflates," Verizon Undergraduate Science Research Symposium, 15 September 2000; *Poster Presentation, 62.*
- 76) **Hinkle, R. J.; Rouse, E. A.; McNeil, A. J.** "Fragmentation of Alkenyl(aryl)iodonium Triflates via Vinyl Cations," Presented at the 220th American Chemical Society Meeting, Washington, DC, August 19-24, 2000. **Oral Presentation 295.**
- 77) **Hinkle, R. J.; Leri, A. C.; David, G. A.; Erwin, W. M.** "Addition of Benzylzinc Halides to Alkenyl(phenyl)iodonium Triflates: Stereoselective Synthesis of Trisubstituted Alkenes," presented at the 219<sup>th</sup> National American Chemical Society Meeting, San Francisco, CA, March 26-30, 2000; *Poster Presentation, 535.*
- 78) **McNeil, A. J.**; Hinkle, R. J. "Synthesis and Decomposition of  $\beta$ -Disubstituted Alkenyl(aryl)iodonium Triflates." Arnold and Mabel Beckman Scholars Symposium, Irvine, CA, July 1999. *Poster Presentation.*
- 79) Hinkle, R. J.; **David, G. A.**; Erwin, W. M. "Addition of Organozinc Reagents to Alkenyl(phenyl)iodonium Triflates: Synthesis of Trisubstituted Alkenes." Southeast Regional Meeting of the American Chemical Society (SERMACS), Knoxville, TN, 17-20 October 1999, abstract 381. *Poster Presentation.*
- 80) **Leri, A. C.**; Hinkle, R. J. "Cross-couplings Between Alkenyl(aryl)iodonium Salts and Organozinc Reagents." Undergraduate Meeting in Miniature of the Southeast Regional Meeting of the American Chemical Society (SERMACS), Knoxville, TN, 16-17 October 1999, abstract 40. **Poster presenter awarded \$75.00 cash for excellence in the session.**
- 81) **David, G. A.**; Hinkle, R. J. "Reactions of Vinyl Iodonium Triflate Salts and Organozinc Reagents." GTE Undergraduate Science Research Symposium, 10 September 1999. *Poster Presentation.*
- 82) **Leri, A. C.**; Hinkle, R. J. "Cross-couplings Between Alkenyl(aryl)iodonium Triflate Salts and Organozinc Reagents." GTE Undergraduate Science Research Symposium, 10 September 1999. *Poster Presentation.*
- 83) **Andrews, M. N.**; Hinkle, R. J. "Attempted Syntheses of Vinyl Benziodoxoles." GTE Undergraduate Science Research Symposium, 10 September 1999. *Poster Presentation.*

- 84) **McNeil, A. J.; Thomas, O. B.; Andrews, M. N.** (Robert J. Hinkle), 13<sup>th</sup> National Conference on Undergraduate Research, April 8-10, University of Rochester, Rochester, NY. *Poster Presentation*.
- 85) **Hinkle, R. J.; Aubry, O. D.; McNeil, A. J.**; presented at the 216<sup>th</sup> National American Chemical Society Meeting, Boston, MA, August 23-27, 1998; *Poster Presentation, 240*.
- 86) **Hinkle, R. J.; Thomas, D. B.** "Generation of Primary Vinyl Cations from Alkenyl(aryl)iodonium Triflates, presenting at 49<sup>th</sup> ACS Southeast Regional Meeting, Roanoke VA, October 19-22, 1997; *Poster Presentation*.
- 87) **Hinkle, R. J.; Stang, P. J.; Arif, A. M.** "Novel Formation of Platinaoxacyclic Compounds and Heck Coupling Product via Reaction of ( $\sigma$ -2-propenyl)(PPh<sub>3</sub>)<sub>2</sub>Pt(II) Triflate with Acrylate Esters," presented at 205<sup>th</sup> National ACS Meeting, Denver, CO, March/April, 1993; included in special "Sci-Mix" session; *Poster Presentation, 056*
- 88) **Hinkle, R. J.; Zhong, Z.; Stang, P. J.**, " $\sigma$ -Metal Triflates: The Reaction of ( $\sigma$ -vinyl) Platinum(II) Triflates with Acrylates," presented at 16<sup>th</sup> NSF Organometallic Workshop, Snowbird, Utah, May, 1992; *Poster Presentation*.
- 89) **Mayo, D. W.; Butcher, S. S.; Hinkle, R. J.; Bartlett, L. G.; Sewall, C. J.; Hirth, B. H.; Pike, R. M.; †Ryan, J.; †Riley, L.**, "A High Resolution Short Path Microscale Distillation Column: The Hickman-Hinkle Still," presented at Pittsburg Conference, Atlanta, GA, March, 1989; Abstract 967. †Ace<sup>®</sup> Glass Company.
- 90) **Mayo, D. W.; Hinkle, R. J.; Butcher, S. S.; Pike, R. M.; †Ryan, J.**, "A Simple, Highly Efficient Spinning Band Microdistillation Column," presented at Pittsburg Conference, Atlantic City, NJ, February, 1987; Abstract 089. †Ace<sup>®</sup> Glass Company.

## PATENTS

- 1) Coinventor of Hickman-**Hinkle** and similar distillation columns sold by Ace<sup>®</sup> and Corning<sup>®</sup> Glass companies; U. S. Patent 4,770,746 (1987).

## PROFESSIONAL SERVICE (past and present)

- 1) Committee to Evaluate Vice President for Advancement, Matthew Lambert (fall 2015–spring 2016)
- 2) Chair, Nominations & Elections Committee for Arts and Sciences (summer 2014—spring 2015).
- 3) Beckman Scholar's Selection Committee (spring 2015)
- 4) HHMI Selection Committee (spring 2014 & 2016).
- 5) Nominations and Elections Committee (fall 2012—present).
- 6) Chemistry NTE Faculty Search Committee (fall 2013).
- 7) Chair, Athletic Policy Committee (fall 2013–fall 2016).
- 8) Committee to Evaluate Vice President Sam Jones (spring 2013).
- 9) Beckman Scholars' National Advisory Committee.
- 10) Chemistry Faculty Search Committee, Chair (fall 2011).
- 11) Athletic Policy Committee (2011-2012).

- 12) American Chemical Society (ACS) National Award Committee—years, dates, committee confidential.
- 13) Learning Space Study Committee (2010).
- 14) Swem Library Policy Committee (2010--2012).
- 15) Gordon Research Conference Discussion Leader for David W. C. MacMillan and Shu Kobayashi, July 2009.
- 16) HHMI fellowship selection committee, 2008, 2009, 2011.
- 17) Chair of Building and Safety Committee, Chemistry (Fall 2006 to 2009).
- 18) Graduate Program Committee, Chemistry--continuing.
- 19) Instrumentation Committee, Chemistry 2008, 2009.
- 20) *Arkivok* Board of Referees (online peer-reviewed journal, 2002 to 2009).
- 21) Presided over National American Chemical Society (ACS) Meeting Symposium Session, August 31, 2005.
- 22) Chair of Instrumentation Committee, chemistry (fall 2005 to spring 2006).
- 23) NSF Review Panel Participant (2004).
- 24) Chair of Chemistry Seminar Committee (spring 2004-fall 2006).
- 25) Rogers Expansion and Renovation Committee.
- 26) Goldwater Scholarship Committee member and Chemistry Liason (beginning 08/01)
- 27) Faculty Search Committee (Fall, '01), Department of Chemistry.
- 28) College Committee on Academic Space Planning (Aug. 2002 to 2005).
- 29) Appeared before Board of Visitors for chemistry building renovation hearing.
- 30) Provided information and conducted a departmental tour for a State Council of Higher
- 31) Education of Virginia (SCHEV) Capital Spending Representative.
- 32) Provided information and conducted a departmental tour for the Board of Visitors Buildings and Grounds Committee.
- 33) Rogers Hall Renovation and Expansion Pre-Planning Committee.
- 34) Howard Hughes Medical Institute Planning Committee.
- 35) Co-Chair (with Patty Zwollo of Biology) of Howard Hughes Medical Institute
- 36) Seminar Committee.
- 37) Beckman Scholars Grant Participant.
- 38) Chair of Chemistry Library Committee.
- 39) Alpha Lamda Phi Honor Society Advisor.
- 40) Curriculum Committee, Department of Chemistry
- 41) Computer Proficiency Assessment Committee, Department of Chemistry.
- 42) Presented annual student GRE review session ('99-'00).
- 43) Monroe Scholar Luncheon Speaker.
- 44) Departmental Secretary 1/97-8/97.
- 45) Volunteer for Student Open House (April 19, 1997).
- 46) Graduate Committees

#### **M.S. Committees**

Shane E. Lewis (Chair), 2014  
 Yuzhou Chen (Chair), 2014

Stephen Laws, 2013  
Todd Hovey, 2011  
Sara Kampfe (Chair), 2010  
Jia Liu (Chair), 2009  
Matthew Jones, 2008  
Yajing Lian (Chair), 2006  
Elizabeth Miller, 2000

**Ph. D. Committees:**

Zhenrong Guo, July 2005

**Freshmen Student Advising:**

**2017-2018**

Alicia-Pagan, Yarelis	Blakely, Alexander C.
Evans, Madison M.	Hughes, Lauren E.
Lee, Joseph D.	Ricca, Julianne B.
Won, Sung Joon	

**2015-2016**

Dahik, Andrew	Harris, Sophia
Lauer, Kathleen	Laury, Jessica E.
McLaughlin, James	Prillaman, Grace E.
Woods, Evan T.	

**2014-2015**

Bruzzio, Hannah L.	Internicola, Anna
Parcel, Elena C.	Passero, Krisin M.
Prock, Camila	Soave, Hollie
Turk, Zeynep P.	

**2013-2014**

Carstens, Eric A.	Gibbs, Haley V.
Harris, Thomas D.	Kim, Ji Eun
Lee, Vanessa J.	Naisbett, Paul A.
O'Brien, Cathryn K.	Sawyer, Brendan B.
Simonds, Mark H.	

**2012-2013**

Christoph. John M.	Crockett, Heidi M.
Finnell, Evan T.	Murphy, Conor J.
Paisley, Caitlin E.	Sachs, Abraham E.

**2011-2012**

Klein, Scott R.	Leudtke, Micah J.
McDonald, Jessica A.	McClanahan, Alexander M.
McMurray, Evan L.	Qin, Yusheng
Romero, Jaqueline Y.	Ruse, Stacia M.

**2010-2011**

Komatsu, Christopher H.  
Marshall, Lauren P.  
Merryman, Caroline P.  
Powell, Teresa M.

Leon, Sheridan  
McCarron, Matthew A.  
Millery, Kelsey E.  
Styal, Medha K.

**2008-2009**

Liam Anastasia-Murphy  
Samantha Applin  
Anne Armstrong  
Eva Baker

Madison Hannon  
Eileen Nenninger  
Courtney Reed  
Emily Stephens

**2007-2008**

Anne F. Armstrong  
Jeffrey L. DeMars  
Elizabeth M. Terrell

Meredith A. Tighe  
Marshall R. Tuck  
Christopher W. Tyson

**2006-2007**

Adrian Ardon  
Stephanie Bomberger  
Maura Checcio  
Sallie Ford

Dana Harvey  
Brian Vanderlinden  
Jonathan Weiss  
Oshun Wilson

**2005-2006**

Annika Armstrong  
Robert Bridge  
Carolyn Brown  
Justin Coffey  
Lauren Giles

Daniel Leiva  
Michael Marotta  
Mary Murphy  
Mara Rozenkrantz

**2004-2005**

Sarah R. Bennett  
Zachary R. Bradford  
Mark W. Cohee  
Katherine E. Harris  
Carter N. Kirk

Christopher D. Landry  
Catherine S. Martin  
Ashwin Rastogi  
Samuel R. Rhodes

**1998-1999**

Laura Bottalico  
Janet Chapman  
Ross Dodge  
Stephanie Kelley  
Jennifer Lim  
Matthew Rossi

Rekha Durga  
Lauren Connolly  
Joshua Hall  
Amy Lemau  
Andrew Ridenour  
Michael Wagner

**1997-1998**

Bridget Finn  
Gretchen Forbes  
Kathryn Guy

Kimberly Irby  
Michael Laccheo  
Amy Sprinkle

Tyler Henry  
Ronald Houk

Baninder "Bonnie" Taneja  
Skye Watanabe

## **COMMUNITY**

Board of Directors, Colonial Road Runners, 2003-2005

## **HOBBIES**

Mountain Biking, Furniture making, Metalworking, Motorcycling.