

**MATTHIAS BREWER**

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The University of Vermont  
Department of Chemistry  
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**EDUCATION:**

- 1992 – 1996 B.A. in Chemistry (*Cum Laude*); Minors in Math, French  
University of Vermont
- 1997 – 2002 Ph.D. in Organic Chemistry (Adviser: Prof. Daniel H. Rich)  
University of Wisconsin-Madison

**PROFESSIONAL APPOINTMENTS:**

- 07/14 – **Co-Director, Undergraduate Degree Program in Biochemistry – University of Vermont**
- 05/13 – **Neuroscience Graduate Program Faculty Member – University of Vermont**
- 02/14 – 04/14 **Visiting Scholar – University of California–Los Angeles**
- 05/11 – **Associate Professor of Chemistry – University of Vermont**
- 08/05 – 05/11 **Assistant Professor of Chemistry – University of Vermont**
- 10/02 – 05/05 **NIH NRSA Postdoctoral Fellow – University of California – Irvine**  
Adviser: Prof. Larry E. Overman  
Initiated studies toward the total synthesis of the complex antiarrhythmic diterpene alkaloid hetisine. Served as Overman Group lab coordinator.
- 09/97 – 08/02 **Graduate Research Assistant – University of Wisconsin – Madison**  
Adviser: Prof. Daniel H. Rich  
Title of Dissertation: *The Synthesis of Mechanism-Based Inhibitors of Botulinum Neurotoxin Serotypes A and B.*  
Completed the synthesis of three highly functionalized hydroxyethylene peptidomimetics and small molecules as inhibitors of Botulinum neurotoxins A and B zinc-metalloproteases.
- 01/97 – 08/97 **Associate Medicinal Chemist – LeukoSite Inc.**  
Synthesized small molecules aimed at disrupting the protein-protein interaction between leukocyte integrins and cell adhesion molecules as a means of developing novel anti-inflammatory agents.

**PROFESSIONAL MEMBERSHIPS:**

American Chemical Society                      1998 – Current

**AWARDS AND FELLOWSHIPS:**

2009	Thieme Chemistry Journals Award
2008	NSF CAREER Award
2006	Amgen New Faculty Award
2005	Amgen New Faculty Award
2002	NIH National Research Service Award Postdoctoral Research Fellowship
2001	APS Bruce W. Erickson Young Investigator Award (2 <sup>nd</sup> Place)
1996	National Institute of Chemists Award
1995	Merck Index Award
1995	Pfizer Summer Fellow
1994-1996	George W. Kidder Scholarship Recipient; University of Vermont

**RESEARCH GROUP MEMBERS:****Current Group Members:**

Graduate Students: Nezar Al-Bataineh, Geoffrey Giampa, Olivia Hoermann, Ramya Srinivasan, Sarah Cleary, Ram Dhakal, Jian Fang, Susan Stanton

Undergraduate Students: Kevin Nikolaides, Alex Braddock, Ian Kent, Patrick Cooke

High School Student: Kevin-Xiao-Bin Huang

**Former Group Members:**Graduate Students:

Ali Bayir (Ph.D. – 2/15)  
Zhe Zhang (Ph.D. – 7/14)  
Dan Bercovici (Ph.D. – 8/13)  
Jodi M. Ogilvie (née Wyman; Ph.D. – 2/12)  
Muhammad I. Javed (Ph.D. – 4/09)  
Cristian Draghici (Ph.D. – 2/09)

Post-doctoral:

Qiufeng Huang (4/08 – 3/10)  
Nikolay Tsvetkov (7/10 – 12/13)  
Nitín Jabre (5/11 – 2/14)

Undergraduate Students:

Stephanie Jochum (1/06 – 07/07); Benjamin Wilson (10/05 – 12/05) Lauren Kopec (3/06 – 5/06); Chelsea Lowe (3/07 – 5/07); Douglas Chieffe (9/08 – 11/08); Matthew Falco (9/07 – 6/08); Adam Burgess 1/08 – 5/09); Frank Wood (9/08 – 12/09); Jesse Wiener (09/09 – 10/09); Thomas Ford-Hutchinson (1/10 – 5/10), Gordana Vukmirovic(1/10 – 5/10), Bradley Parker (1/10 – 5/10); Michael Chapman (9/10 – 5/11); Spencer Scholz (5/09 – 6/11), Dan Cooney (2/10 – 6/11), Nicholas Staudaher (5/10 – 6/11), Samuel Schneider (5/11 – 8/11) Andrew Spaulding (5/12 – 5/13), Teruki Wantanabe (5/12 – 5/13), Aliya Lapp (6/13 – 8/13), Eva Rouanet (5/13 – 5/14), Christopher Kenseth (9/13 – 5/14), Kevin Nikolaides (1/15 – Present), Alex Braddock (6/15 – Present), Patrick Cooke (6/15 – Present), Ian Kent (7/15 – Present)

**STUDENT DISSERTATIONS AND THESES SUPERVISED**

6. Ali Bayir "Investigation of a Ring Fragmentation Reaction for the Synthesis of Tethered Aldehyde Ynones and Medium Sized Cyclic Ynones and Ynolides", Ph.D., February, 2015, University of Vermont
5. Zhe Zhang "Application of a ring fragmentation/azomethine ylide 1,3-dipolar cycloaddition sequence in the synthesis of demissidine", Ph.D., July, 2014, University of Vermont
4. Daniel A. Bercovici "An Exploration of 1-aza-2-azoniaallene salts as unique heteroallene intermediates in insertion and cycloaddition reactions for the preparation of nitrogen containing heterocycles", Ph.D., August, 2013, University of Vermont
3. Jodi M. Ogilvie "Exploration of the Reactivity of 1-Aza-2-azoniaallene Salts as Precursors to  $\alpha$ -chloroazos, Bicyclic Diazenium Salts and Protonated Azomethine Imines", Ph.D., February 2012, University of Vermont
2. Muhammad I. Javed "Studies on the Reaction of Sulfonium Salts with Hydrazones: Synthetic Methods for the Preparation of Diazo Compounds, Alpha-Chloroazo Compounds and Fused of Bridged Bicyclic Diazenium Salts", Ph.D., April 2009, University of Vermont
1. Cristian Draghici "Discovery of a Novel Ring Fragmentation Reaction; Efficient Preparation of Tethered Aldehyde Ynoates and N-Containing Heterocycles; Radical Addition Approach to Asymmetric Amine Synthesis" Ph.D., Feb. 2009, University of Vermont

**COURSES TAUGHT:**

1. CHEM 241: Advanced Organic Chemistry 1, the University of Vermont, fall 2005. *Three credit hours.*
2. CHEM 242: Advanced Organic Chemistry 2, the University of Vermont, spring 2006. *Three credit hours.*
3. CHEM 241: Advanced Organic Chemistry 1, the University of Vermont, fall 2006. *Three credit hours.*
4. CHEM 146: Advanced Organic Laboratory, the University of Vermont, fall 2006. *Two credit hours.*
5. CHEM 242: Advanced Organic Chemistry 2, the University of Vermont, spring 2007. *Three credit hours.*
6. CHEM 143: Organic Chemistry for Majors 1, the University of Vermont, fall 2007. *Four credit hours.*
7. CHEM 146: Advanced Organic Laboratory, the University of Vermont, fall 2007. *Two credit hours*
8. CHEM 143: Organic Chemistry for Majors 1, the University of Vermont, fall 2008. *Four credit hours.*
9. CHEM 146: Advanced Organic Laboratory, the University of Vermont, fall 2008. *Two credit hours*
10. CHEM 39: Introduction to Research, the University of Vermont, fall 2008. *Two credit hours.*
11. CHEM 488: Research Problem Conception and Solution, the University of Vermont, fall 2008. *One credit hour.*
12. CHEM 146: Advanced Organic Laboratory, the University of Vermont, fall 2009. *Two credit hours*

13. CHEM 39: Introduction to Research, the University of Vermont, fall 2009. *Two credit hours.*
14. CHEM 142: Organic Chemistry 2, the University of Vermont, spring 2010. *Four credit hours.*
15. CHEM 39: Introduction to Research, the University of Vermont, fall 2010. *Two credit hours.*
16. CHEM 146: Advanced Organic Laboratory, the University of Vermont, fall 2010. *Two credit hours*
17. CHEM 142: Organic Chemistry 2, the University of Vermont, spring 2011. *Four credit hours.*
18. CHEM 146: Advanced Organic Laboratory, the University of Vermont, fall 2011. *Two credit hours*
19. CHEM 142: Organic Chemistry 2, the University of Vermont, spring 2012. *Four credit hours.*
20. CHEM 146: Advanced Organic Laboratory, the University of Vermont, fall 2012. *Two credit hours*
21. CHEM 144: Organic Chemistry 2 for Majors, the University of Vermont, spring 2013. *Four credit hours.*
22. CHEM 318: Current Topics in Chemistry, the University of Vermont, fall 2014. *One credit hour*
23. CHEM 142: Organic Chemistry 2, the University of Vermont, spring 2015. *Four credit hours.*

**INTRAMURAL SERVICE ACTIVITIES:**

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|----------------|--|
| 9/05 – 3/06    | Member, Department of Chemistry Faculty Search Committee in Organic Chemistry  |
| 9/05 – 1/08    | Member, Department of Chemistry Safety Committee   |
| 9/05 – 8/12    | Member, Department of Chemistry Graduate Student Admissions Committee  |
| 1/06           | CAS Spring Incoming Student Advising   |
| 9/06 – 12/06   | Member, Search Committee for the Department of History Chair   |
| 9/06 – 3/07    | Member, Department of Chemistry Faculty Search Committee in Organic Chemistry  |
| 9/06 – present | Member, Kidder Scholarship Selection Panel   |
| 4/07 – 8/07    | Member, Laboratory Remodeling Committee (for Prof. Waters' lab space)  |
| 9/07 – 8/13    | Chair, Department of Chemistry Safety Committee  |
| 4/08           | UVM Student Research Conference Poster Competition Judge   |
| 5/08 – present | Department of Chemistry Library Liaison  |
| 9/08 – 9/09    | Member, College of Arts and Sciences Nominations and Elections Committee   |
| 1/09 – present | Member, Department of Chemistry Instrumentation Committee  |
| 9/09 – 5/11    | Chair, College of Arts and Sciences Nominations and Elections Committee  |
| 9/10 – 12/10   | Member, Biology Chair Five Year Review Committee   |
| 8/11 – 12/11   | Member of the Risk Management and Safety Search Committee for Senior Assistant Director for Safety & Health Position |
| 9/11 – 5/12    | Chair, Department of Chemistry Faculty Search Committee in Organic Chemistry   |
| 9/12 – 5/15    | Member, Faculty Senate Curricular Affairs Committee  |
| 5/13           | CAS Commencement Assistant Faculty Marshal   |
| 7/14 – present | CAS Co-Director of the Undergraduate Biochemistry Program  |
| 8/14 – present | Member, Chemistry Dept. Budget Committee   |
| 8/14 – present | Member, Chemistry Dept. Safety Committee   |
| 8/14 – present | Member, CAS Admissions Committee   |
| 9/14 – 5/15    | Member, MMG Chair Search Committee   |

**EXTRAMURAL ACTIVITIES:**Grant Application Review:

- 2008 Member, NSF Division of Chemistry Organic Synthesis Panel
- 2008 External Peer Reviewer for the American Chemical Society Petroleum Research Fund
- 2008 External Peer Reviewer for the American Chemical Society Petroleum Research Fund
- 2008 External Peer Reviewer for the American Chemical Society Petroleum Research Fund
- 2010 External Peer Reviewer for the American Chemical Society Petroleum Research Fund
- 2010 External Peer Reviewer for the American Chemical Society Petroleum Research Fund
- 2010 External Peer Reviewer for the National Science Foundation
- 2010 EPSRC (United Kingdom) International Peer Reviewer
- 2011 External Peer Reviewer for the American Chemical Society Petroleum Research Fund
- 2012 Member, NSF Division of Chemistry Organic Synthesis Panel
- 2013 UVM REACH Grant Review Panel
- 2013 External Peer Reviewer for the American Chemical Society Petroleum Research Fund
- 2013 Ad-hoc Peer Reviewer for NSF CHE- Macromolecular/Supramolecular/Nanochemistry panel
- 2015 Member, NSF Division of Chemistry Organic Synthesis Panel
- 2015 External Peer Reviewer for the American Chemical Society Petroleum Research Fund

Journal Peer Review:

Journal of the American Chemical Society  
Journal of Organic Chemistry  
Angewandte Chemie International Edition  
Organic Letters  
Chemistry a European Journal  
Journal of Chemical Education  
Tetrahedron Letters  
Tetrahedron  
Synthesis  
Beilstein Journal of Organic Chemistry  
Phosphorus, Silicon, Selenium and the Related Elements  
Chemical Communications  
Molecules

**OUTREACH ACTIVITIES**

- 6/15 Performed demonstration at Williston Elementary School for Kindergarten Class
- 6/10 – 8/10 Oversaw the development of an exhibit about Green Chemistry and biodegradable polymers at the ECHO Lake Aquarium and Science Center
- 7/10 & 8/10 Preformed demonstrations for ECHO Lake Aquarium and Science Center *Meet the Scientist* program

**PEER REVIEWED PUBLICATIONS:**

26. Hong, X.; Bercovici, D.; Yang, Z.; Al-Bataineh, N.; Srinivasan, R.; Dhakal, R.; Houk, K.N.; Brewer, M. "Mechanism and Dynamics of Intramolecular C-H Insertion Reactions of 1-Aza-2-azoniaallene Salts" *Journal of the American Chemical Society*, **2015**, *137*, 9100-9107. (DOI: 10.1021/jacs.5b04474) [2014 Journal Impact Factor: 11.444]
25. Collins, N.; Brewer, M. "Development of a Clinically Applicable Protocol for Assessment of Hypoxic Response Through Measurement of the Endogenous Gasotransmitter Hydrogen Sulfide in Human Plasma" *Journal of Neurosurgical Anesthesiology*, **2015**, *27*(3), 257-261 (DOI: 10.1097/ana.000000000000150). [Journal Impact Factor: 2.990]
24. Hong, X.; Liang, Y.; Brewer, M.; Houk, K.N. "How Tethers Control the Chemo- and Regio-Selectivities of Intramolecular Cycloadditions between Aryl-1-Aza-2-Azoniallenes and Alkenes" *Organic Letters* **2014**, *16*(16), 4260-4263. (DOI: 10.1021/ol501958s) [Journal Impact Factor: 6.324]
23. Bayir, A.; Brewer, M. "The fragmentation of bicyclic  $\gamma$ -silyloxy- $\beta$ -hydroxy- $\alpha$ -diazolactones as an approach to ynolides" *The Journal of Organic Chemistry*, **2014**, *79*(13), 6037-6046. (DOI: 10.1021/jo500634d) [Journal Impact Factor: 4.638]
22. Jabre, N.D.; Watanabe, T.; Brewer, M. "Formal and Total Synthesis of ( $\pm$ )-Cycloclavine" *Tetrahedron Letters*, **2014**, *55*(1), 197-199. (DOI: 10.1016/j.tetlet.2013.10.152) [Journal Impact Factor: 2.391]
21. Bercovici, D.A.; Ogilvie, J.M.; Tsvetkov, N.; Brewer, M. "Intramolecular Polar [4<sup>+</sup> + 2]-Cycloadditions of Aryl-1-aza-2-azoniaallene Salts: Unprecedented Reactivity Leading to Polycyclic Protonated Azomethine Imines" *Angewandte Chemie, International Edition*, **2013**, *52*(50), 13338-13341. (DOI: 10.1002/anie.201306553) [Journal Impact Factor: 11.336]
20. Zhang, Z.; Giampa, G.M.; Draghici, C.; Huang, Q.; Brewer, M. "Synthesis of demissidine by a ring fragmentation/1,3-dipolar cycloaddition approach", *Organic Letters*, **2013**, *15*(9), 2100-2103. (DOI: 10.1021/ol4004993) [Journal Impact Factor: 6.324]
19. Jabre, N.D.; Brewer, M.; "Stereo-electronic Effects in the Fragmentation of  $\gamma$ -Silyloxy- $\beta$ -hydroxy- $\alpha$ -diazocarbonyl Compounds", *The Journal of Organic Chemistry* **2012**, *77*(21), 9910-9914. (DOI: 10.1021/jo301944t) [Journal Impact Factor: 4.564]
18. Al Bataineh, N.Q.; Brewer, M. "Iodine(III)-mediated bicyclic diazenium salt formation", *Tetrahedron Letters*, **2012**, *53*, 5411-5413. (DOI: 10.1016/j.tetlet.2012.07.116) [Journal Impact Factor: 2.397]
17. Bercovici, D.A.; Brewer, M. "Stereospecific intramolecular C-H amination of 1-aza-2-azoniaallene salts", *Journal of the American Chemical Society*, **2012**, *134*(24) 9890-9893. (DOI: 10.1021/ja303054c) [Journal Impact Factor: 10.677]

**PEER REVIEWED PUBLICATIONS (Cont.):**

16. Tsvetkov, N.P.; Bayir, A.; Schneider, S.; Brewer, M. "A Ring Fragmentation Approach to Medium-Sized Cyclic 2-Alkynones", *Organic Letters*, **2012**, *14*(1), 264-267. (DOI: 10.1021/ol2030422) [Journal Impact Factor: 6.142]
15. Wyman, J.; Javed, M.I.; Al-Betaineh, N.; Brewer, M. "Synthetic Approaches to Bicyclic Diazenium Salts", *The Journal of Organic Chemistry*, **2010**, *75*(23), 8078-8087. (DOI: 10.1021/jo101706h) [Journal Impact Factor: 4.002]
14. Bayir, A.; Draghici, C.; Brewer, M. "Preparation of Tethered Aldehyde Ynoates and Ynones by Ring Fragmentation of Cyclic gamma-Oxy-beta-hydroxy-alpha-diazo Carbonyls", *The Journal of Organic Chemistry*, **2010**, *75* (2), 296-302. (DOI: 10.1021/jo902405f) [Journal Impact Factor: 4.002]  
**Note:** This manuscript was selected for publication as a Featured Article.
13. Draghici, C.; Huang, Q.; Brewer, M. "An Efficient Synthetic Approach to Polycyclic 2,5-Dihydropyrroles from  $\alpha$ -Silyloxy Ketones", *The Journal of Organic Chemistry*, **2009**, *74* (21), 8410-8413. (DOI: 10.1021/jo901978y) [Journal Impact Factor: 4.219]
12. Javed, M.I.; Wyman, J.M.; Brewer, M. "Synthesis of Fused and Bridged Bicyclic Diazenium Salts by Intramolecular Cycloaddition", *Organic Letters*, **2009**, *11*(10), 2189-2192. (DOI: 10.1021/ol900502s) [Journal Impact Factor: 5.420]
11. Draghici, C.; Brewer, M. "Lewis acid promoted carbon-carbon bond cleavage of  $\delta$ -silyloxy- $\beta$ -hydroxy- $\alpha$ -diazoesters", *Journal of the American Chemical Society*, **2008**, *130*(12), 3766-3767. (DOI: 10.1021/ja801004d) [Journal Impact Factor: 8.091]
10. Wyman, J.M.; Jochum, S.; Brewer, M. "Chlorodimethylsulfonium Chloride-Mediated Formation of Phenyl- $\alpha$ -chloroazoalkanes", *Synthetic Communications*, **2008**, *38*, 3623-3630. (DOI: 10.1080/00397910802179961) [Journal Impact Factor: 0.981]
9. Javed, M.I., Brewer, M. "Diphenyldiazomethane", *Organic Syntheses*, **2008**, *85*, 189-195. (DOI: 10.15227/orgsyn.085.0189)
8. Harriman, G.C.; Brewer, M.; Bennett, R.; Kuhn, C.; Bazin, M.; Larosa, G.; Skerker, P.; Cochran, N.; Gallant, D.; Baxter, D.; Picarella, D.; Jaffee, B.; Luly, J.R.; Briskin, M.J. "Selective Cell Adhesion Inhibitors: Barbituric Acid Based  $\alpha$ 4 $\beta$ 7-MAdCAM Inhibitors" *Bioorg. Med. Chem. Lett.* **2008**, *18*(7), 2509-2512. (DOI: 10.1016/j.bmcl.2007.07.068) [Journal Impact Factor: 2.531]
7. Javed, M.I., Brewer, M. "Diazo Preparation via Dehydrogenation of Hydrazones with "Activated" DMSO" *Organic Letters*, **2007**, *9*, 1789-1792. (DOI: 10.1021/ol070515w) [Journal Impact Factor: 4.802]

6. Brewer, M. Conversion of hydrazones to alkyl chlorides under Swern oxidation conditions" *Tetrahedron Letters*, **2006**, 47, 7731-7733. (DOI: 10.1016/j.tetlet.2006.08.120) [Journal Impact Factor: 2.509]

**PEER REVIEWED PUBLICATIONS (Cont.):**

5. Haug, B.E., Brewer, M., Rich, D.H. "Facile Degradative Lactonization of Gln-Arg and Gln-Phe Hydroxyethylene Dipeptide Derivatives." *Journal of Peptide Research*, **2005**, 65 (1), 77-83. (DOI: 10.1111/j.1399-3011.2004.00208.x)
4. Brewer, M., James, C.A., Rich, D.H. "Synthesis of a Tripeptide Derivative Containing the Gln-Arg Hydroxyethylene Dipeptide Isostere." *Organic Letters*, **2004**, 6 (25), 4779-4782. (DOI: 10.1021/ol047880x) [Journal Impact Factor: 4.195]
3. Oost, T., Sukonpan, C., Brewer, M., Goodnough, M., Tepp, W., Johnson, E.A., Rich, D.H. "Design and Synthesis of Substrate-Based Inhibitors of Botulinum Neurotoxin Type B Metalloprotease" *Biopolymers*, **2003**, 71(6), 602-619. (DOI: 10.1002/bip.10590) [Journal Impact Factor: 2.605]
2. Brewer, M., Oost, T., Sukonpan, C., Pereckas, M., Rich, D.H. "Sequencing Hydroxyethylamine containing peptides via Edman Degradation." *Organic Letters*, **2002**, 4 (20), 3469-3472. (DOI: 10.1021/ol026590i) [Journal Impact Factor: 4.092]
1. Brewer, M., Rich, D.H. "Synthesis of a Tripeptide Derivative Containing the Phe-Arg Hydroxyethylene Dipeptide Isostere." *Organic Letters*, **2001**, 3(6), 945-948. (DOI: 10.1021/ol015612i) [Journal Impact Factor: 4.092]

**CURRENT RESEARCH SUPPORT: (TDC = Total Direct Costs)**

- 5/1/15 – 4/30/16      **UVM REACH Grant**  
*Design, synthesis and evaluation of small molecule receptor antagonists; a cross-college approach to novel PTSD therapeutics*  
**Matthias Brewer**, Victor May and Jianing Li – CO-PI's  
TDC: \$32,067
- 6/1/14 – 5/31/17      **NSF Grant CHE-1362286**  
*Unprecedented Intramolecular Reactions of Heteroallene Salts for the Synthesis of Architecturally Diverse Nitrogen Heterocycles*  
P.I.: **Matthias Brewer**, Ph.D  
TDC: \$272,131
- 4/15/10 – 3/31/16      **NIH R01 Grant 1R01GM092870-01**  
*A fragmentation approach to large rings and polycyclic nitrogen heterocycles*  
P.I.: **Matthias Brewer**, Ph.D.  
TDC: \$922,500



**PRIOR RESEARCH SUPPORT:** (TDC = Amount of Award)

- 9/1/11 – 8/31/14      **NSF Major Research Instrumentation (MRI) Program (CHE-1126265)**  
*MRI: Acquisition of a 500 MHz NMR Spectrometer for Chemistry at the University of Vermont*  
P.I.: Dwight Matthews  
Co-P.I.: **Matthias Brewer**, Giuseppe Petrucci  
TDC: \$535,000
- 3/1/08 – 2/28/13      **NSF CAREER Award grant CHE-0748058**  
*CAREER: Synthetic methodology for the preparation of polycyclic nitrogen or oxygen containing heterocycles*  
P.I.: **Matthias Brewer**, Ph.D.  
TDC: \$332,225
- 1/1/08 – 8/31/10      **ACS PRF Type G Grant (PRF# 47627-G1)**  
*Fundamental studies and synthetic applications of the reactions of hydrazones with “activated” dimethyl sulfoxide*  
P.I.: **Matthias Brewer**, Ph.D.  
TDC: \$50,000
- 11/1/08 – 10/31/10      **UVM Research Opportunities Grant Program**  
*Development of PACAP receptor antagonists for stress-related behavioral, endocrine and metabolic disorders*  
Victor May and **Matthias Brewer**, Co-PI's  
TDC: \$30,000
- 8/01/08-7/31/10      **NSF Chemistry Research Instrumentation and Facilities (CHE-0821501)**  
*Multi-PI Grant Proposal – MRI: Acquisition of an LCMS for the Chemistry Department at the University of Vermont*  
P.I.: D. Matthews; Co-P.I.: J. Petrucci  
Co-Investigators: **Brewer**, Case, Geiger, Hughes, Madalengoitia  
TDC: \$430,735
- 7/1/07 – 6/30/09      **NSF grant CHE-0713862**  
*Investigation of Electron-Deficient Oxygen Sources and Application to Unprecedented Carbon-to-Oxygen Rearrangements*  
P.I.: **Matthias Brewer**, Ph.D.  
TDC: \$64,679
- 7/1/07 – 6/30/08      **UVM CAS Faculty Research Support Award**  
*Acquisition of a Low Temperature ATR Head for in situ IR Spectrometer*  
P.I.: **Matthias Brewer**, Ph.D.  
TDC: \$2,000
- 9/06                      **Amgen New Faculty Award**  
*Unrestricted Funds to Support Research*  
P.I.: **Matthias Brewer**, Ph.D.  
TDC: \$25,000

- 1/1/06 – 5/31/2007    **Vermont Genetics Network Graduate Student Assistantships**  
*Methodology for the Synthesis of Oxygen-Containing Heterocycles*  
P.I.: **Matthias Brewer, Ph.D.**  
TDC: \$45,000
- 11/05                    **Amgen New Faculty Award**  
*Unrestricted Funds to Support Research*  
P.I.: **Matthias Brewer, Ph.D.**  
TDC: \$10,000
- 9/8/05 – 2/15/06    **Vermont EPSCoR Mini-Grant**  
*NMR and Mass Spectrometry Facilities Use*  
P.I.: **Matthias Brewer, Ph.D.**  
TDC: \$3,500
- 9/8/05 – 2/15/06    **Vermont EPSCoR Equipment Grant**  
*Acquisition of a Gas Chromatograph for Organic Methodology Development*  
P.I.: **Matthias Brewer, Ph.D.**  
TDC: \$20,000

**INVITED SEMINARS:**

26. Department of Chemistry, University of Massachusetts-Lowell, Lowell, MA, Oct. 3, 2014
25. Department of Chemistry, University of Southern California, Los Angeles, CA, Apr. 23, 2014
24. Department of Chemistry, California Institute of Technology, Pasadena, CA, Mar. 26, 2014
23. Department of Chemistry, University of California-Riverside, CA, Mar. 14, 2014
22. Department of Chemistry, Clark University, Worcester, MA, Nov. 6, 2013
21. Department of Chemistry, Queens College of The City University of New York, Oct. 21, 2013
20. Overman Symposium; Eli Lilly and Co., Indianapolis, IN, Sep. 12, 2013
19. Department of Chemistry, Juniata College, Huntingdon, PA, Mar. 13, 2012
18. Department of Chemistry, Penn-State University, College Station, PA, Mar. 12, 2012
17. Gordon Research Conference; Heterocyclic Compounds, Newport, RI, June 2011
16. Flohet XII, Florida Heterocyclic and Synthetic Conference, Gainesville, FL, Mar. 7, 2011
15. Department of Chemistry, Colby College, Waterville, ME, Feb. 25, 2011
14. Symposium on Metals in Organic Synthesis, American Chemical Society 37th North East Regional Meeting, Potsdam, NY, June 3, 2010
13. Department of Chemistry, Wayne State University, Detroit, MI, May 12, 2010
12. Department of Chemistry, UCLA, Los Angeles, CA, Feb. 12, 2010
11. Department of Chemistry, University of California-Santa Barbara, CA, Feb. 11, 2010
10. Department of Chemistry, University of California-Irvine, Irvine, CA, Feb. 10, 2010
9. Department of Chemistry, Indiana University, Bloomington, IN Feb. 8, 2010
8. Department of Chemistry, Dartmouth College, Hanover, NH, Jan. 7, 2010
7. Department of Chemistry, Université de Montréal, Montréal, Quebec Canada, Dec. 4, 2009
6. Department of Chemistry, University of Minnesota, Minneapolis, MN, Nov. 17, 2009
5. Department of Chemistry, University of Delaware, Newark, DE, Nov. 4, 2009
4. Department of Chemistry, University of Rochester, Rochester, NY, Oct. 29, 2009
3. Department of Chemistry, University of Massachusetts Dartmouth, North Dartmouth, MA, Mar. 11, 2009
2. 15th Annual American Chemical Society Undergraduate Day, Northeast ACS Section, Department of Chemistry, Simmons College, Boston, MA, Nov. 1, 2008
1. Department of Chemistry, University of New Hampshire, Durham, NH, Dec. 11, 2007.

**CONFERENCE ABSTRACTS:** (presenting author underlined)

35. Brewer, M., Al-Bataineh, N., Bercovici, D., Dhakal, R., Javed, M., Ogilvie, J., Srinivasan, R. "The diverse reactivity of 1-Aza-2-azoniaallene salts leads to a wide range of nitrogen heterocycles" Abstracts of Papers of the 44st National Organic Symposium, College Park, MD, June 2015 [Poster]
34. Brewer, M., Giampa, G. " Efforts Toward a Ring Fragmentation/1,3-Dipolar Cycloaddition Route to Aspidospermine" Abstracts of Papers of the 44st National Organic Symposium, College Park, MD, June 2015 [Poster]
33. Giampa, G., Brewer, M. "Work Toward the Synthesis of Aspidospermine Via a Ring Fragmentation and 1,3-Dipolarcycloaddition Sequence" Abstracts of Papers of the American Chemical Society 249th National Meeting, Denver, CO, March, 2015 [Poster Presentation]
32. Brewer, M.; Zhang, Z., Giampa, G., Draghici, C., Jabre, N., "Application of a ring fragmentation/azomethine ylide 1,3-dipolar cycloaddition sequence in alkaloid natural product synthesis", Abstracts of Papers of the American Chemical Society 246th National Meeting, Indianapolis, IN, September 2013 [Oral Presentation]
31. Zhang, Z., Giampa, G., Brewer, M. "Application of a Lewis acid catalyzed ring fragmentation to the synthesis of demissidine. Abstracts of Papers of the American Chemical Society 244th National Meeting, Philadelphia, PA, August 2012 [Oral Presentation]
30. Bayir, A., Tsvetkov, N., Brewer, M. "Macrocycles through fragmentation of fused bicyclic ring systems", Abstracts of Papers of the American Chemical Society 244th National Meeting, Philadelphia, PA, August 2012 [Poster Presentation]
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