Bruce J. Melancon

Warren Family Center for Drug Discovery & Development
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EDUCATION

Vanderbilt University Medical Center, NIH Postdoctoral Fellow 2008-2010
Field: Chemical Biology and Medicinal Chemistry
Research Advisor: Professor Gary A. Sulikowski

University of Notre Dame, Ph.D., Chemistry 2002-2008
Field: Organic
Research Advisor: Professor Richard E. Taylor
Specialization: Development of new methods for cationic cyclopropanation and explored the substrate scope; applied novel method to cyclopropane-containing medicinal agents.

Louisiana State University and A&M College, Bachelor of Science 1998-2002
Concentration: Chemistry
Research Advisor: Professor Robert M. Strongin

EDITORSHIPS

Editor in Chief**,** *ASSAY & Drug Development Technologies* April 2017-present

AWARDS, AFFILIATIONS AND FELLOWSHIPS

Ruth L. Kirschstein National Research Service Award November 2008-January 2010
George M. Wolf Fellowship, University of Notre Dame August 2006-May 2007
Minna-James-Heineman Scholarship, Leibniz Universität Hannover July 2005
American Chemical Society member 2002-present
Louisiana Tuition Opportunity Program for Students "TOPS"- Honors Award 1998-2002

PROFESSIONAL EXPERIENCE

University of Notre Dame, May 2015-present
Warren Family Center for Drug Discovery & Development
Department of Chemistry & Biochemistry
Director, Chemical Synthesis & Drug Discovery Facility; Research Assistant Professor
Managed facility personnel; developed recharge rate structure for facility projects and activities in CORES; coordinated timelines for delivery of synthetic products to collaborators; interacted with key department faculty to determine how facility services and expertise could best impact projects; negotiated with external investors on collaborations as a Warren Center researcher; applied for internal grant funding through the CTSI Molecular Therapeutics program; prepared manuscripts for publication.

Indiana Clinical & Translational Sciences Institute
Notre DameOffice of Research
Research Navigator; Project Development Team Project Manager
Initiated communications between researchers at CTSI partner institutions; Planned project team meetings for PDT; drafted meeting agendas for Notre Dame executive committee meetings; drafted

award letters for PDT applicants; reviewed proposals for CTR applications; communicated metrics for CTSA-NCATS award to IUPUI office

Vanderbilt University Medical Center, November 2012-May 2015

Vanderbilt Center for Neuroscience Drug Discovery

Department of Pharmacology

Research Instructor

Defined desirable drug-like properties on lead series and chose candidates for further progression through Tier 1 assays; synthesized new series and improved candidate molecules' physiochemical properties to address problems discovered through further DMPK characterization; supervised and trained research associate level chemists in the laboratory (direct reports); envisioned target molecules for direct reports to synthesize; managed schedules and time for associate level chemists in the laboratory; engaged in targeted structure/activity relationship studies on selective small molecule positive allosteric modulators of the muscarinic (G-protein coupled) receptor subtype M_4; implemented new electronic data management system and electronic laboratory notebook; composed manuscripts for publication and grant applications for research funding.

Vanderbilt University Medical Center, January 2010-November 2012

Vanderbilt Center for Neuroscience Drug Discovery

Department of Pharmacology

Drug Discovery Scientist I

Envisioned and executed targeted structure/activity relationship studies on selective small molecule positive allosteric modulators of the muscarinic (G-protein coupled) receptors subtype M_1 through M_5; discovered novel tools and lead compounds to interrogate the M_4 muscarinic receptor which displayed efficacy in vivo (amphetamine-induced hyper-locomotion assay); improved the chemical synthesis of target structural classes to produce libraries of compounds for SAR studies; developed enantioselective synthesis of novel inhibitors of the CaV 3.2 T-type ion channel yielding compounds with excellent potency and selectivity; synthesized photo-affinity labeled compounds with excellent selectivity for phospholipase-D_2 which enabled identification of key residues and interactions necessary in lead series for high specificity in putative binding site.

Vanderbilt University, November 2008-January 2010

Vanderbilt Institute of Chemical Biology

Integrative Training in Therapeutic Discovery

NIH Postdoctoral Fellow

Engaged in targeted structure/activity relationship studies on novel small molecule inhibitors of the Wnt signaling pathway with nanomolar potency; optimized the chemical synthesis of the target structural class to produce libraries of compounds; synthesized methotrexate-labeled probe compounds for the target identification in a yeast three-hybrid screening system; purified and prepared sample compounds for biological evaluation and testing.

Vanderbilt University, April 2008-October 2008

Department of Chemistry

Vanderbilt Institute of Chemical Biology

Postdoctoral Research Associate

Synthesized advanced intermediates for the total synthesis of the marine alkaloid u'penamide; investigated the absolute configuration of u'penamide through total synthesis and structural correlation to natural isolate; synthesized of the ethylidene proline core of actinomycete-derived peptides, lucentamycins A-D; investigated cycloisomerizations of enyne substrates mediated by titanium and zirconium.

University of Notre Dame, January 2003-April 2008

Department of Chemistry & Biochemistry

Graduate Research Assistant

Developed novel cationic cyclopropanation reactions with high enantiospecificity from enantiomerically enriched sulfonate intermediates; performed asymmetric reactions resulting in products with high enantioselectivity; optimized synthetic routes to cyclization precursors including allylsilane homoallylic alcohols and *N*-ene ureas; extrapolated relative rate and mechanistic information from enantiomeric data obtained from cyclization products; designed a biomimetic approach to cyclopropanes to investigate their formation from polyketide synthase gene clusters.

Leibniz Universität Hannover, June 2005-October 2005

Research Supervisor: Professor Markus Kalesse

Graduate Research Assistant

Designed and developed new synthetic route to C13-dimethyl analogue of disorazole Z; performed nine-step fragment synthesis in high yield; synthesized gram quantities of disorazole Z analogue fragments; coupled fragments of varying complexity to form late-stage intermediates.

Louisiana State University, January 2000-May 2002

Undergraduate Research Assistant

Purified colorimetric resorcinarenes using HPLC and flash chromatography; synthesized core polycyclic structures necessary for later functionalization.

PUBLISHED PATENTS & APPLICATIONS

11. Lindsley, Craig W.; Conn, P. Jeffrey; Wood, Michael R.; Poslusney, Michael S.; **Melancon, Bruce J.** "Substituted thieno[2,3-c]pyridazine-6-carboxamide analogs as positive allosteric modulators of the muscarinic acetylcholine receptor M_4," *PCT Int. Appl.* WO 2015027204, 2015.

10. Lindsley, Craig W.; Conn, P. Jeffrey; Wood, Michael R.; Poslusney, Michael S.; Tarr, James C.; **Melancon, Bruce J.** "Substituted thieno[2,3-c]pyridazine-6-carboxamide analogs as positive allosteric modulators of the muscarinic acetylcholine receptor M_4," *PCT Int. Appl.* WO 2015027214, 2015.

9. Lindsley, Craig W.; Conn, P. Jeffrey; Wood, Michael R.; **Melancon Bruce J.**; Poslusney, Michael S. "Preparation of substituted 1-benzylindolin-2-one analogs as positive allosteric modulators of muscarinic M_1 receptors for treating psychiatric and neurological disorders," *US. Pat. Appl. Publ.* US2014019447, 2014.

8. Lindsley, Craig W.; Conn, P. Jeffrey; Wood, Michael R.; **Melancon, Bruce J**.; Cheung, Yiu-Yin. "Substituted (1-sulfonylazetidin-3-yl)(heterocycloalkyl)methanone analogs as antagonists of muscarinic acetylcholine M_1 receptors and their preparation," *US. Pat. Appl. Publ.* US 20130178458, 2013.

7. Lindsley, Craig W.; Conn, P. Jeffrey; Wood, Michael R.; **Melancon, Bruce J**.; Tarr, James C.; Salovich, James M. "Substituted 5-aminothieno[2,3-c]pyridazine-6-carboxamide analogs as positive allosteric modulators of the muscarinic acetylcholine receptor M_4," *PCT Int. Appl.* WO 2013126856, 2013.

6. Lindsley, Craig W.; Conn, P. Jeffrey; Wood, Michael R.; **Melancon, Bruce J.;** Poslusney, Michael S.; Tarr, James C. "Substituted pyrazol-benzyl analogues as positive allosteric modulators of mAChR M_1 receptors," *PCT Int. Appl.* WO 2013106795, 2013.

5. Lindsley, Craig W.; Conn, P. Jeffrey; Wood, Michael R.; **Melancon, Bruce J.;** Poslusney, Michael S. "Preparation of benzylindolinone derivatives for use as muscarinic acetylcholine M_1 receptor modulators," *PCT Int. Appl.* WO 2013103931, 2013.

4. Lindsley, Craig W.; Conn, P. Jeffrey; Wood, Michael R.; Hopkins, Corey R.; **Melancon, Bruce J.;** Poslusney, Michael S. "Preparation of substituted benzylspiroindolin-2-one derivatives as positive allosteric modulators of mAChR M1 receptor," *PCT Int. Appl.* WO 2013071201, 2013.

3. Lindsley, Craig W.; Conn, P. Jeffrey; Wood, Michael R.; Hopkins, Corey R.; **Melancon, Bruce J.;** Poslusney, Michael S.; Engers, Darren W. "Substituted 2-(4-heterocyclylbenzyl)isoindolin-1-one analogs as positive allosteric modulators of the muscarinic acetylcholine receptor M_1," *PCT Int. Appl.* WO 2013063549, 2013.

2. Conn, P. Jeffrey; Lindsley, Craig W.; Wood, Michael R.; Hopkins, Corey R.; Salovich, James M.; **Melancon, Bruce J.** "Preparation of substituted 1H-pyrazolo[3',4',4,5]thieno[2,3-b]pyridin-3-amine analogs as positive allosteric modulators of the muscarinic acetylcholine receptor M_4," *PCT Int. Appl.* WO 2013040534, 2013.

1. Conn, P. Jeffrey; Lindsley, Craig W.; Wood, Michael R.; Gogliotti, Rocco D.; Niswender, Colleen M.; **Melancon, Bruce J**.; LeBois, Evan P. "Alkyl 3-((2-amidoethyl)amino)-8-azabicyclo[3.2.1]octane-8-carboxylate analogs as selective M1 agonists and methods of making and using same," *US. Pat. Appl. Publ.* US 20110172227, 2011.

PUBLICATIONS

32. Tarr, James C.; Wood, Michael R.; Noetzel, Meredith J.; **Melancon, Bruce J.;** Lamsal, Atin; Luscombe, Vincent B.; Rodriguez, Alice L.; Byers, Frank W.; Chang, Sichen; Cho, Hyekyung P.; Engers, Darren W.; Jones, Carrie K.; Niswender, Colleen M.; Wood, Michael W.; Brandon, Nicholas J.; Duggan, Mark E.; Conn, P. Jeffrey; Bridges, Thomas M.; Lindsley, Craig W. "Challenges in the development of an M4 PAM preclinical candidate: The discovery, SAR, and biological characterization of a series of azetidine-derived tertiary amides," *Bioorg. Med. Chem. Lett.* **2017**, *27*(23), 5179.

31. **Melancon, Bruce J.;** Wood, Michael R.; Noetzel, Meredith J.; Nance, Kellie D.; Engelberg, Eileen M.; Han, Changho; Lamsal, Atin; Chang, Sichen; Cho, Hyekyung P.; Byers, Frank W.; Bubser, Michael; Jones, Carrie K.; Niswender, Colleen M.; Wood, Michael W.; Engers, Darren W.; Wu, Dedong; Brandon, Nicholas J.; Duggan, Mark E.; Conn, P. Jeffrey; Bridges, Thomas M.; Lindsley, Craig W. "Optimization of M4 positive allosteric modulators (PAMs): The discovery of VU0476406, a non-human primate in vivo tool compound for translational pharmacology," *Bioorg. Med. Chem. Lett.* **2017**, *27*(11), 2296.

30. Wood, Michael R.; Noetzel, Meredith J.; Poslusney, Michael S.; **Melancon, Bruce J.;** Tarr, James C.; Lamsal, Atin; Chang, Sichen; Luscombe, Vincent B.; Weiner, Rebecca L.; Cho, Hyekyung P.; Bubser, Michael; Jones, Carrie K.; Niswender, Colleen M.; Wood, Michael W.; Engers, Darren W.; Brandon, Nicholas J.; Duggan, Mark E.; Conn, P. Jeffrey; Bridges, Thomas M.; Lindsley, Craig W. "Challenges in the development of an M4 PAM in vivo tool compound: The discovery of VU0467154 and unexpected DMPK profiles of close analogs," *Bioorg. Med. Chem. Lett.* **2017**, *27*(2), 171.

29. Wood, Michael R.; Noetzel, Meredith J.; **Melancon, Bruce J.;** Poslusney, Michael S.; Nance, Kellie D.; Hurtado, Miguel A.; Luscombe, Vincent B.; Weiner, Rebecca L.; Rodriguez, Alice L.; Lamsal, Atin; Chang, Sichen; Bubser, Michael; Blobaum, Anna L.; Engers, Darren W.; Niswender, Colleen M.; Jones, Carrie K.; Brandon, Nicholas J.; Wood, Michael W.; Duggan, Mark E.; Conn, P. Jeffrey; Bridges, Thomas M.; Lindsley, Craig W. "Discovery of VU0467485/AZ13713945:An M4 PAM Evaluated as a Preclinical Candidate for the Treatment of Schizophrenia," *ACS Med. Chem. Lett.* **2017,** *8*(2), 233.

28. **Melancon, Bruce J**. "In the July 2017 Issue of ASSAY," *Assay Drug Dev. Technol.* **2017** *15*(5), 189.

27. **Melancon, Bruce J**. "Moving Forward with ASSAY," *Assay Drug Dev. Technol.* **2017** *15*(4), 133.

26. **Melancon, Bruce J.;** Wood, Michael R.; Noetzel, Meredith J.; Nance, Kellie D.; Engelberg, Eileen M.; Han, Changho; Lamsal, Atin; Chang, Sichen; Cho, Hyekyung P.; Byers, Frank W.; Bubser, Michael; Jones, Carrie K.; Niswender, Colleen M.; Wood, Michael W.; Engers, Darren W.; Wu, Dedong; Brandon, Nicholas J.; Duggan, Mark E.; Jeffrey Conn, P.; Bridges, Thomas M.; Lindsley, Craig W. "Optimization of M4 pos. allosteric modulators (PAMs): The discovery of VU0476406, a non-human primate in vivo tool compound for translational pharmacology," *Bioorg. Med. Chem. Lett.* **2017**, *27*(11), 2296.

25. Wenzler, Marta E.; **Melancon, Bruce J.;** Sulikowski, Gary A. "A concise Diels-Alder strategy leading to congeners of the ABC ring system of the marine alkaloid 'upenamide," *Tetrahedron Lett.* **2016**, *57*(30), 3252.

24. Wood, Michael R.; Noetzel, Meredith J.; Engers, Julie L.; Bollinger, Katrina A.; **Melancon, Bruce J.**; Tarr, James C.; Han, Changho; West, Mary; Gregro, Alison R.; Lamsal, Atin; Chang, Sichen; Ajmera, Sonia; Smith, Emery; Chase, Peter; Hodder, Peter S.; Bubser, Michael; Jones, Carrie K.; Hopkins, Corey R.; Emmitte, Kyle A.; Niswender, Colleen M.; Wood, Michael W.; Duggan, Mark E.; Conn, P. Jeffrey; Bridges, Thomas M.; Lindsley, Craig W. "Discovery and optimization of a novel series of highly CNS penetrant M4 PAMs based on a 5,6-dimethyl-4-(piperidin-1-yl)thieno[2,3-d]pyrimidine core," *Bioorg. Med. Chem. Lett.* **2016**, *26*(13), 3029.

23. Ghoshal, Ayan; Rook, Jerri M.; Dickerson, Janice W.; Jalan-Sakrikar, Nidhi; Lamsal, Atin; Noetzel, Meredith J.; Poslusney, Michael S.; Wood, Michael R.; **Melancon, Bruce J**.; Stauffer, Shaun R.; Xiang, Zhizhu; Daniels, J. Scott; Niswender, Colleen, M.; Jones, Carrie K.; Lindsley, Craig W.; Conn, P. Jeffrey "Potentiation of M_1 Muscarinic Receptor Reverses Plasticity Deficits and Negative and Cognitive Symptoms in a Schizophrenia Mouse Model" *Neuropsychopharmacology* **2016**, *41*(2), 598.

22. Miyake, Yasuyuki; Keusch, Jeremy J.; Wang, Longlong, Saito, Makoto; Hess, Daniel; Wang, Xiaoning, **Melancon, Bruce J.**; Helquist, Paul; Gut, Heinz; Matthias, Patrick "Structural Insights into HDAC6 Tubulin Deacylation and its Selective Inhibition," *Nature Chemical Biology* **2016**, *12*(9), 748.

21. Halambage, Upal D.; Wong, Jason P.; Aiken, Christopher; Melancon, Bruce J.; Lindsley, Craig W. "Microplate-Based Assay for Identifying Small Molecules That Bind a Specific Intersubunit Interface within the Assembled HIV-1 Capsid" *Antimicrob. Agents Chemother.* **2015**, *59*(9), 5190.

20. Byun, Nellie E.; Grannan, Michael; Bubser, Michael; Barry, Robert L.; Thompson, Analisa; Rosanelli, John; Gowrishankar, Raajaram; Kelm, Nathaniel D.; Damon, Stephen; Bridges, Thomas M.; **Melancon, Bruce** J.; Tarr, James C.; Brogan, John T.; Avison, Malcom J.; Deutch, Ariel Y.; Wess, Jürgen; Wood, Michael R.; Lindsley, Craig W.; Gore, John C.; Conn, P. Jeffrey; Jones, Carrie K. "Antipsychotic Drug-Like Effects of the Selective M_4 Muscarinic Acetylcholine Receptor Positive Allosteric Modulator VU0152100" *Neuropsychopharmacology* **2014**, *39*(7), 1578.

19. Jalan-Sakrikar, Nidhi; Field, Julie R.; Klar, Rebecca; Mattmann, Margrith E.; Gregory, Karen J.; Zamorano, Rocio; Engers, Darren W.; Bollinger, Sean R.; Weaver, C. David; Days, Emily L.; Lewis, L. Michelle; Utley, Thomas J.; Hurtado, Miguel; Rigault, Delphine; Acher, Francine; Walker, Adam G.; **Melancon, Bruce J**.; Wood, Michael R.; Lindsley, Craig W.; Conn, P. Jeffrey; Xiang, Zixiu; Hopkins, Corey R.; Niswender, Colleen M. "Identification of Positive Allosteric Modulators VU0155094 (ML397) and VU0422288 (ML396) Reveals New Insights into the Biology of Metabotropic Glutamate Receptor 7" *ACS Chem. Neurosci.* **2014**, *5*(12), 1221.

18. Bubser, Michael; Bridges, Thomas M.; Dencker, Ditte; Gould, Robert, M.; Grannan, Michael; Noetzel, Meredith N.; Lamsal, Atin; Niswender Colleen M.; Daniels, J. Scott; Poslusney, Michael S.; **Melancon, Bruce J.**; Tarr, James C.; Byers, Frank W.; Wess, Jürgen; Duggan, Mark E.; Dunlop, John; Wood, Michael W.; Brandon, Nicholas J.; Wood, Michael R.; Lindsley, Craig W.; Conn, P. Jeffrey;

Jones, Carrie K. "Selective Activation of M_4 Muscarinic Acetylcholine Receptors Reverses MK-801-Induced Behavioral Impairments and Enhances Associative Learning in Rats," *ACS Chem. Neurosci.* **2014**, *5*(10), 920.

17. Wen, Wandong; Young, Summer E.; Duvernay, Matthew T.; Schulte, Michael L.; Nance, Kellie, D.; **Melancon, Bruce J.**; Engers, Julie L.; Locuson II, Charles W.; Wood, Michael R.; Daniels, J. Scott; Wu, Wenjun; Lindsley, Craig W.; Hamm, Heidi E.; Stauffer, Shaun R. "Substituted Indoles as Selective Protease Activated Receptor 4 (PAR-4) Antagonists: Discovery and SAR of ML354," *Bioorg. Med. Chem. Lett.* **2014**, *24*(19), 4708.
16. **Melancon, Bruce J.**; Tarr, James C.; Panarese, Joseph D.; Wood, Michael R.; Lindsley; Craig W. "Allosteric Modulation: A Potential Treatment for Schizophrenia and Alzheimer's Disease" *Drug Discov. Today* **2013**, *18*(23-24), 1185.

15. Le, Uyen; **Melancon, Bruce J.**; Bridges, Thomas M.; Vinson, Paige N.; Utley, Thomas J.; Lamsal, Atin; Rodriguez, Alice L.; Venable, Daryl; Sheffler, Douglas J.; Jones, Carrie K.; Blobaum, Anna L.; Wood, Michael R.; Daniels, J. Scott; Conn, P. Jeffrey; Niswender, Colleen M.; Lindsley, Craig W.; Hopkins, Corey R. "Discovery of a Selective M_4 Positive Allosteric Modulator Based on the 3-amino-thieno[2,3-b]pyridine-2-carboxamide Scaffold: Development of ML253, a Potent and Brain Penetrant Compound That Is Active in a Preclinical Model of Schizophrenia," *Bioorg. Med. Chem. Lett.* **2013**, *23*(1), 346.

14. **Melancon, Bruce J.**; Poslusney, Michael S.; Gentry, Patrick R.; Tarr, James C.; Sheffler, Douglas J.; Mattmann, Margrith E.; Bridges, Thomas M.; Utley, Thomas J.; Daniels, J. Scott; Niswender, Colleen M.; Conn, P. Jeffrey; Lindsley, Craig W.; Wood, Michael R. "Isatin Replacements Applied to the Highly Selective, Muscarinic M_1 PAM ML137: Continued Optimization of an MLPCN Probe Molecule," *Bioorg. Med. Chem. Lett.* **2013**, *23*(2), 412.

13. Poslusney, Michael S.; **Melancon, Bruce J.;** Gentry, Patrick R.; Sheffler, Douglas J.; Bridges, Thomas M.; Utley, Thomas J.; Daniels, J. Scott; Niswender, Colleen M.; Conn, P. Jeffrey; Lindsley, Craig W.; Wood, Michael R. "Spirocyclic Replacements for the Isatin in the Highly Selective, Muscarinic M_1 PAM ML137: The Continued Optimization of an MLPCN Probe Molecule," *Bioorg. Med. Chem. Lett.* **2013**, *23*(6), 1860.

12. **Melancon, Bruce J.**; Hopkins, Corey R.; Wood, Michael R.; Emmitte, Kyle A.; Niswender, Colleen M.; Christopoulos, Arthur; Conn, P. Jeffrey; Lindsley, Craig W. "Allosteric Modulation of Seven Transmembrane Spanning Receptors: Theory, Practice and Opportunity for CNS Drug Discovery" *J. Med. Chem.* **2012**, *55*(4), 1445.

11. **Melancon, Bruce J.**; Gogliotti, Rocco D.; Tarr, James C.; Saleh, Sam A.; Chauder, Brian A.; LeBois, Evan P.; Cho, Hyekyung P.; Utley, Thomas J.; Sheffler, Douglas J.; Morrison, Ryan; Bridges, Thomas M.; Daniels, J. Scott; Niswender, Colleen M.; Conn, P. Jeffrey; Lindsley, Craig W.; Wood, Michael R. "Continued Optimization of the MLPCN Probe ML071 into Highly Potent Agonists of the hM_1 Muscarinic Acetylchloline Receptor" *Bioorg. Med. Chem. Lett.* **2012**, *22*(10), 3467.

10. **Melancon, Bruce J.**; Lamers, Alexander P.; Bridges, Thomas M.; Sulikowski, Gary A.; Utley, Thomas J.; Sheffler, Douglas J.; Noetzel, Meredith J.; Morrison, Ryan D.; Scott Daniels, J.; Niswender, Colleen M.; Jones, Carrie K.; Jeffrey Conn, P.; Lindsley, Craig W.; Wood, Michael R. "Development of a More Highly Selective M1 Antagonist from the Continued Optimization of the MLPCN Probe ML012" *Bioorg. Med. Chem. Lett.* **2012,** *22*(2), 1044.

9. **Melancon, Bruce J.**; Utley, Thomas J.; Sevel, Christian; Mattmann, Margrith E.; Cheung, Yiu-Yin; Bridges, Thomas M.; Morrison, Ryan D.; Sheffler, Douglas J.; Niswender, Colleen M.; Scott Daniels, J.; Jeffrey Conn, P.; Lindsley, Craig W.; Wood, Michael R. "Development of novel M_1 antagonist scaffolds through the continued optimization of the MLPCN probe ML012," *Bioorg. Med. Chem. Lett.* **2012**, *22*(15), 5035.

8. Pyburn, Tasia M.; Bensing, Barbara A.; Xiong, Yan Q.; **Melancon, Bruce J.**; Tomasiak, Thomas M.; Ward, Nicholas J.; Yankovskaya, Victoria; Oliver, Kevin M.; Cecchini, Gary; Sulikowski, Gary A.; Tyska, Matthew J.; Sullam, Paul M.; Iverson, T. M. "A Structural Model for Binding of the Serine-Rich Repeat Adhesin GspB to Host Carbohydrate Receptors" *PLoS Pathog*, **2011**, *7*(7): e1002112.

7. LeBois, Evan P.; Digby, Gregory J.; Sheffler, Douglas J.; **Melancon, Bruce J.**; Tarr, James C.; Cho, Hyekyung P.; Miller, Nicole R.; Morrison, Ryan; Bridges, Thomas M.; Xiang, Zixiu; Daniels, J. Scott; Wood, Michael R.; Conn, P. Jeffrey; Lindsley, Craig W. "Development of a highly selective, orally bioavailable and CNS penetrant M_1 agonist derived from the MLPCN probe ML071" *Bioorg. Med. Chem. Lett.* **2011**, *21*(21), 6451.

6. Xiang, Zixiu; Thompson, Analisa D.; Brogan, John T.; Schulte, Michael L.; **Melancon, Bruce J.**; Mi, Debbie; Lewis, L. Michelle; Zou, Bende; Yang, Liya; Morrison, Ryan; Santomango, Tammy; Byers, Frank; Brewer, Katrina; Aldrich, Jonathan S.; Yu, Haibo; Dawson, Eric S.; Li, Min; McManus, Owen; Jones, Carrie K.; Daniels, J. Scott; Hopkins, Corey R.; Xie, Ximin Simon; Conn, P. Jeffrey; Weaver, C. David; Lindsley, Craig W. "The Discovery and Characterization of ML128: A Novel, Centrally Active T-Type Calcium Channel Inhibitor with Robust Effects in STN Neurons and in a Rodent Model of Parkinson's Disease" *ACS Chem. Neurosci.* **2011**, *2*(12), 730.

5. Bachmann, Brian O.; McNees, Ruth; **Melancon, Bruce J**.; Ghidu, Victor P.; Clark, Rachel; Crews, Brenda C.; DeGuire, Sean M.; Marnett, Lawrence J.; Sulikowski, Gary A. "Light-Induced Isomerization of Apoptolidin A leads to Inversion of C2-C3-Double Bond Geometry" *Org. Lett.* **2010**, *12*(13), 2944.

4. Throne, Curtis A.; Hanson, Alison J.; Schneider, Judsen; Tahinci, Emilios; Orton, Darren; Cselenyi; Christopher S.; Jernigan, Kristin, K.; Meyers, Kelley C.; Hang, Brian I.; Waterson, Alex G.; Kim, Kwangho; **Melancon, Bruce J.;** Ghidu, Victor P.; Sulikowski, Gary A.; LaFleur, Bonnie; Salic, Adrian; Lee, Laura A.; Miller III, David M.; Lee, Ethan "Small-molecule inhibition of Wnt signaling through activation of casein kinase 1α" *Nat. Chem. Biol.* **2010**, *6*, 829.

3. Daniels, R. Nathan; **Melancon, Bruce J.**; Wang, Emily A.; Crews, Brenda C.; Marnett, Lawrence J.; Sulikowski, Gary A. and Lindsley, Craig W. "Progress toward the Total Synthesis of Lucentamycin A: Total Synthesis and Biological Evaluation of 8-*epi*-Lucentamycin A" *J. Org. Chem.* **2009**, *74*(22), 8852.

2. **Melancon, Bruce J.**; Perl, Nicholas R. and Taylor, Richard E. "Competitive Cationic Mechanisms and the Asymmetric Synthesis of Aryl Cyclopropanes," *Org. Lett.* **2007**, *9*(8), 1425.

1. He, Ming; Johnson, Rolanda J.; Escobedo, Jorge O.; Beck, Patricia A.; Kim, Kyu K.; St. Luce, Nadia N.; Davis, Claude J.; Lewis, Patrick T.; Fronczek, Frank R.; **Melancon, Bruce J.**; Mrse, Anthony A.; Treleaven, W. Dale and Strongin, Robert M. "Chromophore Formation in Resorcinarene Solutions and the Visual Detection of Mono- and Oligosaccharides" *J. Am. Chem. Soc.* **2002**, *124*(18), 5000.

PRESENTATIONS

10. **Melancon, Bruce J.** "Development of M_1 Allosteric Modulators for the Treatment of CNS Disorders," Louisiana State University and A&M College, Organic Seminar Series, Baton Rouge, Louisiana, October 2013.

9. **Melancon, Bruce J.;** Poslusney, Michael S.; Gentry, Patrick R.; Utley, Thomas J.; Sheffler; Douglas J.; Wood, Michael R.; Lindsley, Craig W.; Conn, P. Jeffrey "Development of M1 Positive Allosteric Modulators for the Treatment of CNS Disorders and Improving Cognition," Zing Medicinal Chemistry Conference, Napa, California, July 2013.

8. **Melancon, Bruce J.** "Development of M_1 Allosteric Modulators for the Treatment of CNS Disorders," European Federation for Medicinal Chemistry/International Symposium on Medicinal Chemistry (EFMC/ISMC), Berlin, Germany, September 2012.

7. **Melancon, Bruce J.** "Development of allosteric modulators of GPCRs and lipases for the treatment of CNS disorders," 3rd Frontiers in Medicinal Chemistry Meeting, Stockholm, Sweden, June 2011.

6. Wang, Emily, A.; Daniels, R. Nathan; **Melancon, Bruce J.**; Sulikowski, Gary A.; Lindsley, Craig W. "Efforts toward the Ethylideneproline Core of Lucentamycins A-D," 60th Southeast Regional Meeting of the American Chemical Society, Nashville, TN, November 2008.

5. **Melancon, Bruce J.** and Taylor, Richard E. "Cationic 1,2-Disubstituted Cyclopropane Formations and a Biomimetic Model for Cyclopropane Synthesis via Polyketide Synthase," 40th National Organic Symposium, Durham, NC, June 2007.

4. **Melancon, Bruce J.** and Taylor, Richard E. "Cationic Strategies to 1,2-Disubstituted Cyclopropanes with Aryl Substitution," 231st ACS National Meeting, Atlanta, GA, March 2006.

3. **Melancon, Bruce J.** and Taylor, Richard E. "Synthesis of Non-racemic, 1,2-Disubstituted Cyclopropanes with Aromatic Substitution," 39th National Organic Symposium, Salt Lake City, UT, June 2005.

2. Strongin, Robert M.; Escobedo, Jorge O.; He, Ming; Johnson, Rolanda J.; Beck, Patricia A.; Kim, Kyu K.; St. Luce, Nadia N.; **Melancon, Bruce J.** "Formation of chromophores in resorcinarene solutions," 224th ACS National Meeting, Boston, MA, August 2002.

1. Strongin, Robert M.; Johnson, Rolanda J.; Escobedo, Jorge O.; Beck, Patricia A.; Kim, Kyu K.; St. Luce, Nadia N.; **Melancon, Bruce J.** "Formation of chromophores in resorcinarene solutions," 223rd ACS National Meeting, Orlando, FL, April 2002.

DEPARTMENTAL LEADERSHIP AND SERVICE

Vanderbilt Center for Neuroscience Drug Discovery

Dotmatics Electronic Laboratory Notebook (2013-2015)
Worked with VCNDD leadership to gather data, institute an adoption plan and implement a new electronic data management system and electronic laboratory notebook (ELN); provided information on key workflow elements for smooth transition to new ELN system; acted as primary support person for VCNDD personnel and for Dotmatics technical support; corrected on-site computer errors of ELN users inside the VCNDD Medicinal Chemistry group; maintained good working relationship with Dotmatics support for fast assistance with larger technical problems concerning the ELN.

Mentoring and Training (2010-2015)
Supervised and coordinated graduate student research on total synthesis projects for Lindsley lab members; directed medicinal chemistry efforts and designed libraries for synthesis by Resaerch Associate level chemists (direct reports) and graduate students; trained new staff and graduate students on use of Biotage Microwave Synthesizers; acted as point person for coordinating preventative maintenance and repair visits; maintained and performed service and upgrades on instrumentation.

Inventory Management (2010-2015)
Maintained and updated in-house inventory of chemicals for medicinal chemistry projects; coordinated with project managers to bring laboratory up to compliance with regard to VEH&S chemical storage and OSHA regulations; updated ChemCart reagent database to reflect current in-house chemicals on an annual basis.

University of Notre Dame (graduate research assistant)

Faculty Seminar Series (June 2006–August 2006)
Established a new seminar series in which Notre Dame organic faculty present to the department on current results from their laboratories.

Organic Literature Group (January 2006–June 2006)
Initiated and presided over weekly meetings to discuss current literature topics in organic chemistry; organized problem sets and power point presentations on selected literature subjects.

Mentoring and Training (2004-2008)
Trained new group members on proper techniques in the laboratory; supervised first and second year graduate students in their research and lab techniques; ensured that training for group jobs and instrumentation training took place for new group members.

TEACHING EXPERIENCE

University of Notre Dame, August 2002-December 2007

Graduate Teaching Assistant
Supervised, lectured and graded exams for undergraduate chemistry students (2 sections of 20-25 students per year) in organic laboratories; tutored laboratory students; assisted in teaching for sophomore organic lecture; organized and provided recitation sessions to students.

Louisiana State University, January 2001-December 2001

Undergraduate Teaching Assistant
Supervised freshmen chemistry students (2 sections of 12 students) in general chemistry laboratories; gave lectures on safety, lab techniques, and goals for the period; provided tutoring hours for students when needed.