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EXPERIENCE

2007- Chair of Chemistry Department- Bowdoin College
2006 - Professor of Chemistry – Bowdoin College
2004-05 Visiting Scholar - UNC, Chapel Hill Dept of Chemistry
2000-06 Associate Professor of Chemistry - Bowdoin College
1993-2000 Assistant Professor of Chemistry - Bowdoin College
1998-99 Visiting Scientist - Los Alamos National Laboratory (LANL)
1990-93 Postdoctoral Fellow - MIT Dept. of Chemistry
1988-90 Research Assistant - UCLA Dept. of Chemistry
1985-88 Teaching Fellow/Teaching Assistant - UCLA Dept. of Chemistry
1985 Analytical Laboratory Technician - Parke-Davis Division of Warner-Lambert
1983-84 Undergraduate Research Assistant - Hope College Dept. of Chemistry

EDUCATION

1991-93 Massachusetts Institute of Technology, Cambridge, MA
Postdoctoral Fellow
1985-90 University of California, Los Angeles, Los Angeles, CA
Doctor of Philosophy (Organic Chemistry)
1981-85 Hope College, Holland, MI
Bachelor of Science (Chemistry)

GRANTS, HONORS, AND AWARDS

2001-05 DOE/Los Alamos National Lab: "Lanthanides as Catalytic Actinide Models" (PI, \$155K)
2004-05 Bowdoin College Porter Fellowship for Advanced Study (Competitive sabbatical salary supplement)
2004-05 NSF ROA- Supplement to M. Brookhart funding Sabbatical (\$25K)
2001-03 Petroleum Research Fund, Type B "Convergent Synthesis of Highly Substituted, Tethered, Cp Ligands and their Use in Lanthanocene Catalyzed Reactions" (PI, \$30K)
2001-03 NSF MRI: Acquisition of a CCD-Detected X-ray Diffractometer (Co-PI, \$328K Instrument at Colby College)
2001 Pfizer Summer Undergraduate Research Fellowships in Chemistry to Support Kris Bosse (\$5K)
1998 Karofsky Teaching Prize for Junior Faculty (Bowdoin)
1997-99 NSF MRI: Acquisition of a 400 MHz NMR (PI, \$107K)
1997 Council on Undergraduate Research Summer Research Fellowship for Jennifer Krumper (\$5K)
1995-99 NSF Faculty Early CAREER Development Program Grant (PI, \$135K)
1994-96 Research Corporation Cottrell College Science Award (PI, \$36K)
1993-95 Camille and Henry Dreyfus Faculty Start-up Grant for Undergraduate Institutions Awardee (PI, \$10K)

- 1994-2008 Thirteen Surdna Foundation Fellowships to support rising seniors for summer research (Competitive Bowdoin awards requiring joint student faculty proposal: ~\$3K average award)
1986 Du Pont Departmental Teaching Assistant Award (UCLA)
1985 Sigma Xi Summer Research Award (Hope)

COURSES TAUGHT

Organic Chemistry I
Organic Chemistry II
Molecular Structure Determination in Organic Chemistry
Physical Organic Chemistry
Organometallics
Research Methods in Chemistry
Science of Food and Wine

COLLEGE AND DEPARTMENT SERVICE (2000-)

- 2008-09 Committees: Athletic Review, Biochemistry
2005-08 Committees: Judicial Board, Athletic Review.
Faculty Representative to NCAA.
2006-07 Ad Hoc Committees on Summer Research and Enhancing Student Engagement
2006 Search Committee- Dean for Admissions and Financial Aid
2003-04 Committee: Library Advisory.
2003 Coordinated and authored department review self study.
2000-03 Committee: Curriculum and Education Policy. Secretary 2000-02
Chair, New Course Subcommittee 2003. Faculty Representative to
Trustee Committee 2002-03.
2000-2008 Invited and hosted 30 speakers to departmental seminar series.
2001 Science Librarian Search Committee
1999-2004 Coordinated and administered Coles Summer Research program.

SERVICE TO PROFESSIONAL COMMUNITY (2000-)

Manuscript Reviewer for: *Chemical Communications*, *Chemical Reviews*, *Journal of the American Chemical Society*, *Journal of Organic Chemistry*, *Langmuir*, *Organometallics*
Proposal Reviewer for: Research Corporation, National Science Foundation, ACS Petroleum Research Fund, Austrian Science Fund (FWF)
Panelist for NSF MRI-MU
Member LANL Laboratory Directed Research and Development – Exploratory Research Proposal Evaluation Committee
Tenure Reviewer for: Harvey Mudd College, University of South Alabama, Williams College
External Reviewer for Bates College Honors Thesis

PUBLICATIONS (Underlined Name Denotes Bowdoin Student.)

L. A. Colip, A. T. Koppisch, R. D. Broene, J. A. Berger,

- S. M. Baldwin, M. N. Harris, L. J. Peterson, B. P. Warner
E. R. Birnbaum "A rapid method for quantifying heavy atom
derivatives for multiple isomorphous replacement in protein
crystallography", *J Appl. Cryst*, **2009**, *42*,
doi:10.1107/S0021889809000077
- R. L. Christensen, M. G. I. Galinato, E. F. Chu, J. N. Howard,
R. D. Broene, H. A. Frank "Energies of Low-Lying Excited States of
Linear Polyenes" *J. Phys. Chem. A* **2008**, *112*, 12629–12636.
- R. D. Broene "Reductive Coupling of Unactivated Alkenes and
Alkynes" in *Metal Catalyzed Reductive C-C Bond Formation* in "Topics
in Current Chemistry" vol . 279, Michael Krische Editor, Springer
Verlag, Heidelberg, **2007**, 209.
- R. D Broene, M Brookhart, W. M. Lamanna, A. F. Volpe, Jr. "Cobalt
Catalyzed Dimerization of α -Olefins to give Linear α -Olefin
Products" *J. Am. Chem. Soc.* **2005**, *127*, 17194.
- R. L. Christensen, E. A. Barney, R. D. Broene, M. G. Galinato, and
H. A. Frank "Linear Polyenes: Models for the Spectroscopy and
Photophysics of Carotenoids" *Arch. Biochem. Biophys.* **2004**, *430*, 30.
- R.D. Broene, R.T Baker "Disilylation", in *Encyclopedia of Catalysis*,
vol 3. p 79, I. Horvath, Ed. Wiley Interscience, New York **2003**
- R.D. Broene, R.T . Baker "Diboration", in *Encyclopedia of Catalysis*,
vol 3. p 92, I. Horvath, Ed. Wiley Interscience, New York **2003**
- R.D. Broene, R.T. Baker " Distannylation", in *Encyclopedia of
Catalysis*, vol 3. p 103, I. Horvath, Ed. Wiley Interscience, New York
2003.
- C. A. G. Carter, K. D. John, Mann, G., R. L. Martin, T. M. Cameron,
R. T. Baker, K. L. Bishop, R. D. Broene, and S. A Wescott in
"Advances in Group 13 Element Chemistry", eds. P. S. Shapiro and D.
A. Atwood, *ACS Symp. Ser.* **2002**, *822*, 70.
- F.M. de Rege, D.K. Morita, K.C. Ott, W. Tumas, R.D. Broene " Non-
covalent Immobilization of Homogeneous Cationic Chiral
Rhodium-phosphine Catalysts on Silica Surfaces " *J.C.S. Chem.
Commun.* **2000**, 1797.
- F.M. de Rege, D.K. Morita, K.C. Ott, W. Tumas, R.D. Broene
"Immobilized Chiral Rhodium Complexes on Silicas Show
Enhanced Enantioselectivity in Hydrogenation of Enamide Esters"
in *Catalysis of Organic Reactions*, M.E. Ford, Ed., Marcel Dekker,
New York, **2000**, 439.

A.T. Gilbert, B.L. Davis, T.J. Emge, R.D. Broene "Synthesis, Structure, and Catalytic Reactions of 1,2-Bis(Indenyl) Ethane-Derived Lanthanocenes." *Organometallics*, **1999**, *18*, 2125.

B.P. Warner, S.P. Millar, R.D. Broene, S.L. Buchwald "Controlled Acceleration and Inhibition of Bergman Cyclization by Metal Chlorides" *Science*, **1995**, *269*, 814.

R.D. Broene "The Reductive Coupling of Unsaturated Organic Species by Early Transition Metal Complexes" in *Comprehensive Organometallic Chemistry-II*, Pergamon, London, **1995**, Vol. 12, 323.

S.L. Buchwald, R.D. Broene "Synthetic Applications of Zirconocene Complexes of Arynes" in *Comprehensive Organometallic Chemistry-II*, Pergamon, London, **1995**, Vol. 12, 771.

POSTDOCTORAL, GRADUATE AND UNDERGRADUATE PUBLICATIONS

R.D. Broene, S.L. Buchwald "Asymmetric Hydrogenation of Unfunctionalized Trisubstituted Olefins with a Chiral Titanocene Catalyst" *J. Am. Chem. Soc.* **1993**, *115*, 12569.

R.D. Broene, S.L. Buchwald "Zirconocene Complexes of Unsaturated Molecules: New Vehicles for Organic Synthesis" *Science* **1993**, *261*, 1696.

K.D. Deshayes, R.D. Broene, I. Chao, C.B. Knobler, F. Diederich; "Synthesis of Helicopodands" *J. Org. Chem.* **1991**, *56*, 6787.

R.D. Broene, F. Diederich "The Synthesis of Circumanthracene" *Tetrahedron Lett.* **1991**, *32*, 5227.

M.P. Doyle, S.N. Mahapatro, R.D. Broene, J.K. Guy "Oxidation and Reduction of Hemoproteins by Trioxodinitrate(II). The Role of Nitrosyl Hydride and Nitrite" *J. Am. Chem. Soc.* **1988**, *110*, 593.