

## CURRICULUM VITAE

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### ADDRESS

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### EXPERIENCE

Marquette University, Klingler College of Arts and Sciences  
Associate Dean, August 2010-June 2014

Marquette University, Department of Chemistry  
**Professor, 1996-present**  
Associate Professor, 1990-1996  
Assistant Professor, 1983-1990

Wesleyan University, Department of Chemistry  
Visiting Assistant Professor, 1982-1983

Brandeis University, Department of Chemistry  
Postdoctoral Research Associate, 1981-1982

### EDUCATION

Dartmouth College, Hanover, NH Ph.D., Organometallic Chemistry, 1981  
Dissertation: "Investigations of Cobalt Complexes Containing Four-Membered Carbocyclic Rings", Advisor: Prof. Russell P. Hughes

Wesleyan University, Middletown, CT B.A., Chemistry, with Honors, 1977  
Thesis: "The Reduction by Mercury of  $\alpha,\alpha'$ -Dibromocycloalkanones",  
Advisor: Prof. Albert J. Fry

### HONORS

- \* 1995 Recipient of the Rev. John P. Raynor, S.J., Faculty Award for Teaching Excellence from Marquette University
- \* 1990-1991 Alexander von Humboldt Research Fellow, Philipps Universität-Marburg, Germany
- \* 1988 Recipient of the Edward D. Simmons Award for Junior Faculty Excellence from Marquette University
- \* 2009 Senior Award for Teaching Excellence and Developmental Guidance, Marquette University
- \* 2010 Milwaukee Section American Chemical Society Award

## PUBLICATIONS

- 107) S. Chaudhury, S. Li and W. A. Donaldson, "Reactivity of (3-Methylpentadienyl)iron(1+) Cation: Late-stage Introduction of a (3-Methyl-2Z,4-pentadien-1yl) Side Chain", *Mediterranean J. Chem.* **2016**, *5*, 540-547.
- 106) D. W. Lee, C. F. Manful, J. R. Gone, Y. Ma and W. A. Donaldson, "Reactivity of acyclic (pentadienyl)iron(1+) cations with phosphonate stabilized nucleophiles: Application to the synthesis of oxygenated metabolites of carvone", *Tetrahedron* **2016**, *72*, 753-759.
- 105) L. Liu, J. Wondergem and W. A. Donaldson, "Synthetic Studies of Ambruticin: Preparation of the C1-C8 Tetrahydropyran and the C17-C24 Dihydropyran Segments", *Mediterranean J. Chem.* **2015**, *4*, 176-184.
- 104) M. F. El-Mansy, M. Flister, S. Lindeman, K. Kalous, D. S. Sem and W. A. Donaldson, "Generation of Molecular Complexity from Cyclooctatetraene: Preparation of Aminobicyclo[5.1.0]octitols", *Chem. Eur. J.* **2015**, *21*, 10886-10895.
- 103) C. F. Manful and W. A. Donaldson, "Preparation of cyclohexenones from acyclic (pentadienyl)-iron(1+) cations: Synthetic studies directed toward the A-ring of dihydrotachysterols", *Eur. J. Org. Chem.* **2014**, 6787-6795.
- 102) C. McCullough, T. S. Neumann, J. R. Gone, Z. He, C. Herrild, J. Wondergem, R. K. Pandey, W. A. Donaldson and D. S. Sem, "Probing the human estrogen receptor-a binding requirements for phenolic mono- and di-hydroxyl compounds: a combined synthesis, binding and docking study", *Bioorg. Med. Chem.* **2014**, *22*, 303-310.
- 101) M. F. El-Mansy, A. Sar, S. Lindeman and W. A. Donaldson, "Generation of molecular complexity from cyclooctatetraene. Preparation of optically active protected aminocycloheptitols and bicyclo[4.4.1]undecatriene", *Chem. Eur. J.* **2013**, *19*, 2330-2336.
- 100) M. F. El-Mansy, A. Sar, S. Chaudhury, N. J. Wallock and W. A. Donaldson, "Generation of molecular complexity from cyclooctatetraene using dienylirion and olefin metathesis methodology", *Org. Biomol. Chem.* **2012**, *10*, 4844-4846.
- 99) K. Glaeske and W. A. Donaldson, "Recent Applications of the Simple Hydrocarbon Cyclooctatetraene as a Starting Material for Complex Molecule Synthesis", *Mini-Reviews in Organic Chemistry*, **2012**, *9*, 31-43.
- 98) D. W. Lee, R. K. Pandey, S. Lindeman and W. A. Donaldson, "Reactivity of acyclic (pentadienyl)iron(1+) cations: Synthetic studies directed toward the frondosins", *Org. Biomol. Chem.* **2011**, *9*, 7742-7747.
- 97) A. Sar, S. Lindeman and W. A. Donaldson, "Synthesis of Hydroxy- and Polyhydroxy-Substituted 1,3-Diaminocyclohexanes", *Synthesis* **2011**, 924-928.
- 96) R. K. Pandey, S. Lindeman and W. A. Donaldson, "A shortened synthesis of optically pure tricarbonyl(methyl 6-oxo-2,4-hexadienoate)iron leading to improved yield", *ARKIVOC*, **2010**, (iv), 25-31.

- 95) A. Sar, S. Lindeman and W. A. Donaldson, "Denovo synthesis of polyhydroxy aminocyclohexanes", *Org. Biomol. Chem.* **2010**, 3908-3917.
- 94) W. A. Donaldson and S. Chaudhury, "Recent Applications of Acyclic (Diene)iron Complexes and (Dienyl)iron Cations in Organic Synthesis", *Eur. J. Org. Chem.* **2009**, 3831-3843.
- 93) J. R. Gone, N. J. Wallock, S. Lindeman and W. A. Donaldson, "Synthetic studies directed toward guianolides: An organoiron route to the 5,7,5 tricyclic ring system", *Tetrahedron Lett.* **2009**, *50*, 1023-1025.
- 92) P. Kommana, S. W. Chung and W. A. Donaldson, "Synthetic studies directed toward amphidinol 2: Elucidation of the relative configuration of the C1-C10 fragment", *Tetrahedron Lett.* **2008**, *49*, 6209-6211.
- 91) R. K. Pandey, L. Wang, N. J. Wallock, S. Lindeman and W. A. Donaldson, "Reactivity of (2-Alkenyl-3-pentene-1,5-diyl)iron Complexes: Preparation of Functionalized Vinylcyclopropanes and Cycloheptadienes", *J. Org. Chem.* **2008**, *73*, 7236-7245.
- 90) T. A. Siddiquee, J. M. Lukesh, S. Lindeman and W. A. Donaldson, "Synthesis of Cyclopropanes via Organoiron Methodology: Preparation of *rac*-Dysibetaine CPa", *J. Org. Chem.*, **2007**, *72*, 9802-9803.
- 89) S. Chaudhury, S. Lindeman and W. A. Donaldson, "Generation of Molecular Complexity from Cyclooctatetraene: Synthesis of a Protected 2-(3'-Carboxy-2'-benzoylcyclopentyl)glycine", *Tetrahedron Lett.*, **2007**, *48*, 7849-7852.
- 88) S. Chaudhury, S. Li, D. W. Bennett, T. A. Siddiquee, D. T. Haworth and W. A. Donaldson, "Preparation, Characterization and Reactivity of (3-Methylpentadienyl)iron(1+) Cations", *Organometallics*, **2007**, *26*, 5295-5303.
- 87) R. K. Pandey, S. Lindeman and W. A. Donaldson, "Synthesis of Cyclopropanes via Organoiron Methodology: Stereoselective Preparation of Bi(cyclopropyl)s", *Eur. J. Org. Chem.* **2007**, 3829-3831.
- 86) F. Ahmed and W. A. Donaldson, "Chemistry and Biology of Streptogramin A Antibiotics", *Mini-Reviews in Organic Chemistry* **2007**, *4*, 159-181.
- 85) S. S. Templin, N. J. Wallock, D. W. Bennett, T. A. Siddiquee, D. T. Haworth and W. A. Donaldson, "Cycloaddition Reactions of Phthalimide Substituted Cyclic Polyenes with Heteroatom Dienophiles", *J. Heterocyclic Chem.* **2007**, *44*, 719-724.
- 84) N. J. Wallock, D. W. Bennett, T. A. Siddiquee, D. T. Haworth and W. A. Donaldson, "Synthesis of Cyclopropanes via Organoiron Methodology: Preparation and Rearrangement of Divinylcyclopropanes; Studies Directed Toward the Synthesis of Hydroazulenes", *Synthesis*, **2006**, 3639-3646.
- 83) S. Chaudhury, S. Li and W. A. Donaldson, "Synthetic studies directed toward the proposed structure for heteroscyphic acid A", *Chem. Comm.* **2006**, 2069-2070.

- 82) S. Chaudhury and W. A. Donaldson, "Nucleophilic Addition to (3-Methylpentadienyl)iron(1+) Cations: Counterion Control of Regioselectivity; Application to the Enantioselective Synthesis of 4,5-Disubstituted Cyclohexenones", *J. Am. Chem. Soc.* **2006**, *128*, 5984-5985.
- 81) J. M. Lukesh and W. A. Donaldson, "A Short Synthesis of the Common Dihydropyran Segment of the Antifungal Agents Ambruticin and Jerangolid A", *Tetrahedron Lett.* **2005**, *46*, 5529-5531.
- 80) N. J. Wallock and W. A. Donaldson, "Synthesis of Cyclopropanes via Organoiron Methodology: Preparation and Rearrangement of Divinylcyclopropanes", *Org. Lett.* **2005**, *7*, 2047-2049.
- 79) F. Ahmed, Y. Cao and W. A. Donaldson, "Development of Organoiron Methodology for the C8-C16 Dienylamine Segment of the Streptogramin Antibiotics", *Lett. Org. Chem.* **2005**, *2*, 222-225.
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- 74) S. Li and W. A. Donaldson, "Enantioselective Synthesis of the C7-C24 Segment of Macrolactin A", *Synthesis*, **2003**, 2064-2068.
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- 72) Z. He, C. S. Yi, and W. A. Donaldson, "Regio- and Stereoselective Ruthenium Catalyzed Hydrovinylation of 1,3-Dienes: Application to the Generation of a 20S-Steroidal Sidechain", *Org. Lett.* **2003**, *5*, 1567-1569.
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- 70) Y. K. Yun, K. Godula, Y. Cao, and W. A. Donaldson, "Iron mediated Preparation of Vinylcyclopropanes. Scope, Mechanism, and Applications", *J. Org. Chem.* **2003**, *68*, 901-910.
- 69) Y. Cao, A. F. Eweas, and W. A. Donaldson, "Enantioselective Synthesis of the C11-C17 Segment of Soraphen A<sub>1α</sub> via Organoiron Methodology", *Tetrahedron Lett.* **2002**, *43*, 7831-4.

- 68) P. B. Greer and W. A. Donaldson, "Synthetic Studies Directed Toward the Phorboxazoles: Preparation of the C3-C15 Bisoxane Segment and Two Stereoisomers", *Tetrahedron* **2002**, *58*, 6009-18.
- 67) N. J. Wallock, and W. A. Donaldson, "Synthesis of cyclopropanes via organoiron methodology: stereoselective preparation of *cis*-2-(2'-carboxycyclopropyl)glycine", *Tetrahedron Lett.* **2002**, *43*, 4541-3.
- 66) W. A. Donaldson, "Synthesis of cyclopropane containing natural products", *Tetrahedron*, **2001**, *57*, 8589-8627.
- 65) M. A. Hossain, M.-J. Jin, and W. A. Donaldson, "Reactivity of (Pentadienyl)iron(1+) Cations with Weak Carbon Nucleophiles", *J. Organomet. Chem.* **2001**, *630*, 5-10.
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- 63) K. Godula, H. Bärmann, and W. A. Donaldson, "An Efficient and Simple Synthesis of Optically Pure Tricarbonyl(methyl 6-oxo-2,4-hexadienoate)iron", *J. Org. Chem.* **2001**, *66*, 3590-2.
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- 60) W. A. Donaldson, "Stoichiometric Applications of Acyclic  $\pi$ -Organoiron Complexes to Organic Synthesis", *Curr. Org. Chem.*, **2000**, *4*, 851-882.
- 59) V. Prahlad, A. S. El-Ahl, and W. A. Donaldson, "Reaction of Tricarbonyl(dienal)iron Complexes with  $\beta$ -Allyldiisopinocampheylborane", *Tetrahedron: Asymmetry* **2000**, *11*, 3091-3102.
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- 57) H. Bärmann, V. Prahlad, C. Tao, Y. K. Yun, Z. Wang and W. A. Donaldson, "Development of Organoiron Methodology for Preparation of the Polyene Natural Product Macrolactin A", *Tetrahedron*, Symposium-in-Print on Organotransition Metal Complexes in Organic Synthesis, **2000**, *56*, 2289-95.
- 56) A. S. El-Ahl, Y. K. Yun and W. A. Donaldson, "Synthesis and Reactivity of Acyclic (Pentadienyl)iron(1+) Cations: Model Studies for the Preparation of the 8E,10Z,16E,18E-Tetraene Segment of Macrolactin A", *Inorg. Chim. Acta*, (Topical Volume on Metals in Organic Chemistry), **1999**, *296*, 261-6.
- 55) B. Dasgupta and W. A. Donaldson, "Synthetic Studies Directed Toward Streptenol D: Enantio-selective Preparation of the 3,5-Diacetoxy-6E,8E-decadiene Segment", *Tetrahedron Asymmetry*, **1998**, *9*, 3781-8.

- 54) J.T. Wasicak and W.A. Donaldson, "Enantioselective Synthesis of the C3-C9 Segment of Protomycinolide IV", *Tetrahedron Asymmetry*, **1998**, *9*, 133-40.
- 53) B. Dasgupta and W. A. Donaldson, "Chemoselective, Metal-mediated Oxidation of (Dienol)iron Complexes with N-methyl morpholine N-oxide", *Tetrahedron Lett.* **1998**, *39*, 343-6.
- 52) W. A. Donaldson, C. D. Cushnie, S. Guo, M. J. Kramer, and D. W. Bennett, "Synthesis and Characterization of Tricarbonyl(trimethylenemethane)iron Complexes; Crystal Structure of (2-Methylene-6-p-nitrobenzoyloxy-heptan-1,3-diyl)Fe(CO)<sub>3</sub>", *Transition Met. Chem.*, **1997**, *22*, 592-6.
- 51) W.A. Donaldson, L. Shang, C. Tao, Y.K. Yun, M. Ramaswamy, and V.G. Young, Jr., "Reactivity of 1-Substituted (Pentadienyl)iron(1+) Cations: Regioselectivity for Addition of Malonate Nucleophiles; Formation of (Pentenediyl)- and (Diene)iron Complexes", *J. Organometal. Chem.*, **1997**, *539*, 87-98.
- 50) P.T. Bell, B. Dasgupta and W.A. Donaldson, "Remote Diastereoselective Control via Organoiron Methodology: Stereoselective Preparation of 4,6-, 5,7- and 6,8-dien-2-ol (Tricarbonyl)iron Complexes", *J. Organometal. Chem.*, **1997**, *538*, 75-82.
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- 48) P. J. Kleindl and W. A. Donaldson, "Preparation of Organometallic Complexed Sugars: Hetero Diels-Alder Reactivity of Tricarbonyl(formyltrimethylenemethane)iron", *J. Org. Chem.*, **1997**, *62*, 4176-9.
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- 46) J.T. Wasicak, R.A. Craig, R. Henry, B. Dasgupta, H. Li and W.A. Donaldson, "Alkylation of Tricarbonyl(diene)iron Complexes: Model Studies for the Preparation of Protomycinolide IV", *Tetrahedron*, **1997**, *53*, 4185-98.
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- 42) W.A. Donaldson, L. Shang, M. Ramaswamy, C.A. Droste, C. Tao, and D.W. Bennett, "Reactivity of (Pentadienyl)iron(1+) Cations: Nucleophilic Addition by Phosphines is Reversible in Certain Cases", *Organometallics* **1995**, *14*, 5119-26.

- 41) W.A. Donaldson, M.A. Hossain, and C.D. Cushnie, "Iron Mediated C-C Bond Formation. Preparation of (Trimethylenemethane)iron Complexes via Reaction of Weak Carbon Nucleophiles with in situ Generated Cross-conjugated Pentadienyl Cations; Nucleophilic Attack on (Trimethylenemethane)iron Complexes with Carbanions", *J. Org. Chem.* **1995**, *60*, 1611-8.
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- 39) W.A. Donaldson, P.T. Bell, Z. Wang, and D.W. Bennett, "Model Studies toward the Synthesis of Macrolactin A: Organoiron Methodology for Introduction of the C1-C11 and C16-C24 Segments", *Tetrahedron Lett.* **1994**, *35*, 5829-32.
- 38) W.A. Donaldson, L. Shang and R.D. Rogers, "Reactivity of Tricarbonyl(pentadienyl)iron(1+) Cations: Preparation of an Optically Pure Tricarbonyl(diene)iron Complex via Second-order Asymmetric Transformation", *Organometallics* **1994**, *13*, 6-7.
- 37) W.A. Donaldson and M.J. Jin, "Reactivity of Carbon Nucleophiles with Disubstituted Tricarbonyl-(pentadienyl)iron(1+) Cations: Application to the Synthesis of Lasiol and Epi-Lasiol", *Tetrahedron* **1993**, *49*, 8787-94.
- 36) W.A. Donaldson and M.J. Jin, "Synthesis and Reactivity of Tricarbonyl(4-methoxy-1-methyl-pentadienyl)iron(+1) Cation", *Bull. Soc. Chim. Belg.* **1993**, *102*, 297-8.
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- 29) W.A. Donaldson and D.J. Stepuszek, "Reactivity of (3-Chloro-2-methylenecycloalkyl)palladium Chloride Dimers: A Palladium-Mediated Ring Homologation-Functionalization Approach to 4-Aryltropones Related to Colchicine", *J. Org. Chem.* **1992**, *57*, 1309-13.
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- 25) W.A. Donaldson, C. Tao, D.W. Bennett, and D.S. Grubisha, "Model Studies toward the Synthesis of Leukotrienes: Hetero-Diels-Alder Reactivity of Tricarbonyl(diene)iron Complexes", *J. Org. Chem.* **1991**, 56, 4563-66.
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