

I. Basic Information

Michael Findlater

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Academic Appointments

Assistant Professor September 2011 - Present
Texas Tech University, Department of Chemistry and Biochemistry

Education

Postdoctoral Associate, Department of Chemistry, University of North Carolina, Mentor: Dr. Maurice Brookhart, June 2008 – July 2011

Ph.D. in Chemistry. Department of Chemistry, University of Texas at Austin. Advisor: Dr. Alan H. Cowley, September 2003 – May 2008 Dissertation Title: "Main Group Chemistry: From Molecules to Materials"

B.Sc. (Hons) in Chemistry. Department of Chemistry, University of Strathclyde. Advisor: Dr. Mark Spicer. September 1998 – June 2003

Teaching Keywords: Organic, Polymers, Organometallics

Research Keywords: Catalysis, Organometallics, C-H Activation, Sustainability

II. Teaching

Texas Tech University

Spring Semester 2014	CHEM 5310 / 4310 Polymer Chemistry
Fall Semester 2013	CHEM 3305 Organic Chemistry I (Majors section)
Summer Semester 2013	CHEM 3305 Organic Chemistry I
Spring Semester 2013	CHEM 3305 Organic Chemistry I
Fall Semester 2012	CHEM 3305 Organic Chemistry I (Majors section)
Spring Semester 2012	CHEM 5310 / 4310 Polymer Chemistry
Fall Semester 2011	CHEM 3305 Organic Chemistry I (Majors section)

University of North Carolina – Guest Lecturer

CHEM961 Special Topics (NMR)

University of Texas – Graduate Teaching Assistant

CH380 Advanced Inorganic Spectroscopy and Structure
CH341 Advanced Inorganic Synthesis
CH317 Descriptive Inorganic Chemistry

III. Research Publications

Publication List (* = TTU Affiliated; † = undergraduate; ‡ = high school)

36. *A Convenient and Efficient Synthesis of N,N-Diaryl Tertiary Amines

Francis Wekesa, Neha Phadke, Claire Jahier, David B. Cordes and Michael Findlater
Synthesis **2014**, 46, 1046-1051

35. ***Vibrational Frequency Analysis, FT-IR, Laser-Raman, DFT and M06-2X Studies on tert-Butyl N-(thiophen-2-yl)carbamate**
Yusuf Sert, Laci M. Singer, Michael Findlater, Hatice Dogan and C. Cirak
Spectrochimica Acta A **2014**, *128*, 46-53
34. ***Formation of Iridium(III) Allene Complexes Via Isomerization Of Internal Alkynes**
Neha Phadke and Michael Findlater
Organometallics **2014**, *33*, 16-18
33. ***The Synthesis and Characterization of Terpyridine Supported Boron Cations; Evidence for Hypercoordination at Boron**
Gregory P. McGovern, Di Zhu, Adelia J. A. Aquino, Dragoslav Vidovic and Michael Findlater
Inorganic Chemistry **2013**, *52*, 13865-13868
32. ***tert-Butyl N-(thiophen-2-yl)carbamate**
Gene C. Hsu[‡], Laci M. Singer, David B. Cordes and Michael Findlater
Acta Cryst. E, **2013**, E69, o1413
31. ***Thiophene-2-Carbonyl Azide**
Gene C. Hsu[‡], Laci M. Singer, David B. Cordes and Michael Findlater
Acta Cryst. E, **2013**, E69, o1298
30. **Tetrakis(imino)pyracene complexes exhibiting multi-electron redox processes**
Kalyan V. Vasudevan, Michael Findlater, Ignacio Vargas-Baca, Alan H. Cowley
J. Am. Chem. Soc., **2012**, *134*, 176-178
29. **Synthesis of p-Xylene from Ethylene**
Thomas Lyons, Damien Guironnet, Michael Findlater and Maurice Brookhart
J. Am. Chem. Soc., **2012**, *134*, 15708-15711
28. **Dihydrogen Complexes of Iridium and Rhodium**
Michael Findlater, Katherine M. Schultz, Wesley H. Bernskoetter, Alison Cartwright-Sykes, D. Michael Heinekey and Maurice Brookhart
Inorganic Chemistry, **2012**, *51*, 4672-4678
27. **Alkane Dehydrogenation**
Michael Findlater, Alan S. Goldman, and Maurice S. Brookhart
In "Alkane C-H Activation by Single-Site Metal Catalysis" Ed. P. Perez, *Springer*, **2012**.
26. **Comparison of Migratory Aptitudes of Hydride in β -Migratory Insertion Reactions of Pincer Iridium and Rhodium Complexes**
Michael Findlater, Alison Cartwright-Sykes, Peter S. White, Cynthia K. Schauer, and Maurice S. Brookhart
J. Am. Chem. Soc., **2011**, *133*, 12274-12284
25. **Catalytic dehydroaromatization of n-alkanes by pincer-ligated iridium complexes**
Ritu Ahuja, Michael Findlater, Maurice Brookhart, Alan S. Goldman, Benudhar Punji, and Carolyn Supplee
Nature Chemistry, **2011**, *3*, 167-171
24. **Proton-assisted Hydrogenation of a d^8 Ir(I) Complex Yields a *trans* Ir(III) Dihydride**
Michael Findlater, Wesley H. Bernskoetter and Maurice S. Brookhart
J. Am. Chem. Soc., **2010**, *132*(13), 4534-4535

- 23. Synthesis and Structure of Boron Bithiazole Complexes**
Michael Findlater*, Nicholas A. Swisher and Peter S. White
Eur. J. Inorg. Chem., **2010**, 34, 5379-5382 (corresponding author)
- 22. Structural Diversity in Schiff Base Complexes of Ga(III), In(III), Pb(II), and Zn(II): Precursors and model systems for conducting metallopolymers**
Michelle L. Mejia, Joseph H. Rivers, Sarah F. Swingle, Zheng Lu, Xiaoping Yang, Michael Findlater, Gregor Reeske, and Bradley J. Holliday
Main Group Chem., **2010**, 9, 167-191
- 21. The Synthesis and Characterization of $[\text{IMesH}]^+[(\eta^3\text{-C}_5\text{H}_5)\text{V}(\text{N})\text{Cl}_2]^-$: An Example of Cyclopentadienyl Ring-slippage Induced by a Strongly π -basic coligand**
Carl E. Johnson, Everett A. Kysor, Michael Findlater, Jerry P. Jasinski, Andrew S. Metell, Jonathan W. Queen and Colin D. Abernethy
Dalton Trans., **2010**, 3482-3488 (outreach with undergraduate institution) Selected as a "Hot Article".
- 20. Bench-top synthesis and crystal structure determination of a monomeric N-heterocyclic carbene complex of copper(I) chloride**
Anna P. McLean, Elizabeth A. Neuhardt, Joel P. St. John, Michael Findlater and Colin D. Abernethy
Transition Met. Chem., **2010**, 35, 415-418 (outreach with undergraduate institution)
- 19. Pentacarbonyl(trimethylamine)chromium and Pentacarbonyl(trimethylamine)molybdenum**
Michael Findlater, Nicholas J. Hill and Alan H. Cowley
J. Chem. Cryst., **2010**, 40, 64-66
- 18. Dual Emission from Stoichiometrically Mixed Lanthanide Complexes of 3-Phenyl-4-benzoyl-5-isoxazolonate and 2,2'-Bipyridine**
S. Biju, D. B. A. Raj, M. L. P. Reddy, C. K. Jayasankar, Alan H. Cowley and Michael Findlater
J. Mater. Chem., **2009**, 1425-1432
- 17. Synthesis of 3,3'-bridged biscarbenes of the 1,2,4-triazole series and their copper complexes**
A. V. Kiselyov, N. I. Korotkikh, A. H. Cowley, J. A. Moore, Michael Findlater, T. M. Pekhtereva and O. P. Shvaika
ARKIVOC, **2008**, 329-342
- 16. Boron Di- and Trications**
Ignacio Vargas-Baca, Michael Findlater, Adam Powell, Kalyan V. Vasudevan and Alan H. Cowley
Dalton Trans., **2008**, 6421-6426
- 15. 2-Thiopheneacetato-Based One-Dimensional Coordination Polymer of Tb^{3+} : Enhancement of Terbium-Centered Luminescence in the Presence of Bidentate Nitrogen Donor Ligands**
S. Raphael, M. L. P. Reddy, Alan H. Cowley, and Michael Findlater
Eur. J. Inorg. Chem., **2008**, 28, 4387-4394
- 14. One Dimensional Molecular Ladder of Ionic complex of Terbium-4-sebacoylbis(1-phenyl-3-methyl-5-pyrazolonate) and Sodium Dibenzo-18-Crown-6: Synthesis, Crystal Structure and Photophysical Properties**
P.N. Remya, S. Biju, M. L. P. Reddy, Alan H. Cowley and Michael Findlater
Inorganic Chemistry, **2008**, 47(16), 7396-7404
- 13. Synthesis and structure of two new (guanidinate)boron dichlorides and their attempted reduction to boron(I) derivatives**

Michael Findlater, Nicholas J. Hill and Alan H. Cowley
Dalton Trans., **2008**, 4419-4423 (selected for Dalton Discussions 11).

- 12. Synthesis and Reactivity of Tetrakis(imino)pyracene (TIP) Ligands; Bifunctional analogs of the BIAN Ligand Class**
Kalyan V. Vasudevan, Michael Findlater and Alan H. Cowley
Chem. Commun., **2008**, 1918-1919
- 11. Synthesis and Structure of Boron Halides Supported by the C₆F₅ substituted β -diketiminato ligand [HC(CMe)₂(NC₆F₅)₂]**
Dragoslav Vidovic, Michael Findlater, Gregor Reeske and Alan H. Cowley
Dalton Trans., **2008**, 2293
- 10. A Beta-Diketiminato Hydroxyphosphenium Cation: Phosphinous Acid/Secondary Phosphine Oxide Tautomerism Revisited**
Zheng Lu, Michael Findlater and Alan H. Cowley
Chem. Commun., **2008**, 184-186
- 9. Synthesis, Crystal Structure and Photophysical Properties of Homodinuclear Lanthanide Xanthene-9-carboxylates**
R. Shyni, S. Biju, M. L. P. Reddy, Alan H. Cowley and Michael Findlater
Inorg. Chem., **2007**, 46(26), 11025-11030
- 8. Synthesis and Characterisation of an Aluminum Dication**
Dragoslav Vidovic, Michael Findlater, Gregor Reeske and Alan H. Cowley
J. Organomet. Chem., **2007**, 692(26), 5683-5686
- 7. A beta-diketiminato supported boron dication**
Dragoslav Vidovic, Michael Findlater and Alan H. Cowley
J. Am. Chem. Soc., **2007**, 129(27), 8436-8437
- 6. Isolation of a valence isomer of a beta-diketiminato phosphinidene**
Zheng Lu, Michael Findlater and Alan H. Cowley
Chem. Commun., **2007**, 2873-2875
- 5. Diboron complexes of binucleating bis(amidinate) ligands**
Nicholas J. Hill, Zheng Lu, Michael Findlater and Alan H. Cowley
Inorg. Chim. Acta., **2007**, 360(4), 1316-1322
- 4. A single-bonded cationic terminal borylene complex**
Dragoslav Vidovic, Michael Findlater, Gregor Reeske and Alan H. Cowley
Chem. Commun., **2006**, 3786-3787
- 3. Amidinate-substituted boron halides: Synthesis and Structure**
Michael Findlater, Nicholas J. Hill and Alan H. Cowley
Polyhedron, **2006**, 25, 983-988
- 2. Isolation of an intermediate from the insertion of a carbodiimide into a boron-aryl bond**
Nicholas J. Hill, Jennifer A. Moore, Michael Findlater and Alan H. Cowley
Chem. Commun., **2005**, 5462-5464
- 1. Synthetic and structural chemistry of amidinate-substituted boron halides**

Nicholas J. Hill, Michael Findlater and Alan H. Cowley
Dalton Trans., **2005**, 3229-3234

Patents

3. New Routes to *p*-Xylene and Toluene

Maurice Brookhart, Michael Findlater, Damien Guironnet and Thomas Lyons, US Patent Application 61/409328, **Filed 11/02/2010**

2. Reactive Mesogenic Azulenes

Louise Farrand, Michael Findlater *et al.*, United States Patent No. 7,115,755, **2006**

1. Mono-, oligo- and polymers comprising a 2,6-azulene group and their use as charge transport materials

Louise Farrand, Michael Findlater *et al.*, United States Patent No. 7,034,174, **2006**

Professional Presentations (Presenter Underlined)

Base metal catalysis: Activating inert bonds using iron and cobalt (Oral)

Michael Findlater, Ashleigh D Smith, Stefan Schunemann, Anu Saini and Renzo Arias-Ugarte
247th ACS National Meeting, Dallas, TX, United States, 2014.

Catalytic hydrosilylation of carbonyl compounds using Fe- and Co-complexes (Poster)

Ashleigh Smith, Anu Saini and Michael Findlater
247th ACS National Meeting, Dallas, TX, United States, 2014.

Activation of C-H bonds via iridium pincer complexes: New motifs in protected M(I) low-valent catalysts (Oral)

Laci Singer and Michael Findlater
247th ACS National Meeting, Dallas, TX, United States, 2014.

Preparation of *p*-Xylene and Beyond: A Case Study in Organometallic Chemistry (Oral)

Michael Findlater
Invited Seminar, Chevron-Phillips, Houston, TX, 2013.

Synthesis of *p*-Xylene: A Case Study in Organometallic Chemistry (Oral)

Michael Findlater
Invited Seminar, Fort Lewis College, 2013.

Formation of Iridium(III) Allene Complexes Via Isomerization of Internal Alkynes (Poster)

Neha Phadke and Michael Findlater
OMCOS 17, Fort Collins, CO, United States, 2013.

Metal-Mediated Transformations: Amination of C-H Bonds via 1,2-Addition at Group 9 Imides (Poster)

Laci Singer and Michael Findlater
OMCOS 17, Fort Collins, CO, United States, 2013.

Formation of Iridium(III) Allene Complexes Via Isomerization of Internal Alkynes (Poster)

Neha Phadke and Michael Findlater
TEX-SYN 1, Austin, TX, United States, 2013.

Metal-Mediated Transformations: Amination of C-H Bonds via 1,2-Addition at Group 9 Imides (Poster)

Laci Singer and Michael Findlater

245th ACS National Meeting, New Orleans, LA, United States, 2013.

Synthesis and Characterization of Sterically Encumbered Bithiazole Ligands (Poster)

Alfonzo R. Sanchez, Claire Jahier and Michael Findlater

245th ACS National Meeting, New Orleans, LA, United States, 2013.

Bithiazole: The Coordination Chemistry of a Forgotten Ligand (Poster)

Alfonzo R. Sanchez, Elizabeth Reynolds, Claire Jahier, and Michael Findlater

245th ACS National Meeting, New Orleans, LA, United States, 2013.

Synthesis of p-Xylene: A Case Study in Organometallic Chemistry (Oral)

Michael Findlater

Invited Seminar, San Angelo State, 2012.

Textiles and Plastics From Thin Air (Oral)

Michael Findlater

Invited Seminar, The University of New Mexico, 2011.

Synthesis, Characterization, and Reactivity of Electrophilic Metal and non-Metal Complexes (Poster – Academic Employment Initiative)

Michael Findlater, Maurice S. Brookhart, and Alan H. Cowley

240th ACS National Meeting, Boston, MA, United States, 2010.

Chemistry of Pincer Iridium Complexes (Oral)

Michael Findlater, and Maurice S. Brookhart

239th ACS National Meeting, San Francisco, CA, United States, 2010.

Syntheses of Boron Substituted Amidinates and Guanidinates (Oral)

Michael Findlater, Nicholas J. Hill, Alan H. Cowley

232nd ACS National Meeting, San Francisco, CA, United States, 2006.