

Drasko Vidovic

Contact Details

Office: Division of Chemistry and Biological Chemistry
School of Physical and Mathematical Sciences
Nanyang Technological University
21 Nanyang Link
Singapore 637371
Singapore

Education

- 2002-2007 **University of Texas at Austin, USA**
PhD (Inorganic Chemistry).
Research Thesis: "*The Chemistry of β -Diketiminato-Supported Boron, Aluminum, Gallium and Phosphorus Compounds*".
Advisor: Prof Alan H. Cowley
- 1998-2002 **Simon Fraser University, Vancouver, Canada**
B.Sc. (Inorganic Chemistry).
B.Sc. Project Advisors: Prof Jason A. C. Clyburne and Prof Daniel B. Leznoff.

Work History

- 2010-present **Nanyang Technological University, Singapore.**
Assistant Professor.
Research Area: *Organometallics and Main Group Chemistry*.
Courses Taught: Graduate Research Modules CBC729 and CBC730
Forensic Science CM8002.
Green Chemistry CBC933.
- 2007-2010 **University of Oxford, UK**
Postdoctoral Research Fellowship with Prof Simon Aldridge.
Research Area: "*Transition metal boron chemistry*".
- 2008-2010 **St. John's College, University of Oxford, UK**
College Lecturer.
Tutor for 1st, 2nd and 3rd year undergraduate chemistry students at the St. John's College.
- 2002-2007 **University of Texas at Austin, USA**
Teaching Assistant.
Served as a teaching assistant for all levels of lecture and laboratory undergraduate courses.
- 2001-2002 **Simon Fraser University**
Research Assistant.
Synthesis of numerous inorganic and organometallic compounds in Clyburne and Leznoff research groups.
-

Publications

Number of publications: 37

Total number of citations: 410 (as of 12/03/12)

H-index: 13

1. "(Dimethylamino)borylene and Related Complexes of Electron-Rich Metal Fragments: Generation of Nucleophile-Resistant Cations by Spontaneous Halide Ejection". Addy, D. A.; Phillips, N.; Pierce, G. A.; Vidovic, D.; Kramer, T.; Mallick, D.; Jemmis, E. D.; Reid, G.; Aldridge, S. *Organometallics*, **2012**, *31*, 1092.
 2. "Probing the influence of steric bulk on anion binding by triarylboranes: comparative studies of FcB(o-Tol)₂, FcB(o-Xyl)₂ and FcBMes₂". Siewert, I.; Fitzpatrick, P.; Broomsgrove, A. E. J.; Kelly, M.; Vidovic, D.; Aldridge, S. *Dalton Trans.* **2011**, *40*, 10345.
 3. "Extending the Chain: Synthetic, Structural, and Reaction Chemistry of a BN Allenylidene Analogue". Niemeyer, J.; Addy, D. A.; Riddlestone, I.; Kelly, M.; Thompson, A. L.; Vidovic, D.; Aldridge, S. *Angew. Chem. Int. Ed.* **2011**, *50*, 8908. This article has been selected as a 'hot article' by Angewandte Chemie
 4. "Syntheses of homochiral 1,2-ferrocene-functionalized Lewis acids and acid/base pairs". Siewert, I.; Vidovic, D.; Aldridge, S. *J. Organomet. Chem.* **2011**, *696*, 2528.
 5. "Probing the intrinsic structure and dynamics of aminoborane coordination at late transition metal centers: η^1 -binding in [CpRu(PR₃)₂(H₂BNCy₂)]⁺". Vidovic, D.; Addy, D.; Krämer, T.; McGrady, J.; Aldridge, S. *J. Am. Chem. Soc.* **2011**, *133*, 8494.
 6. "Annulations of isoquinoline and β -carboline ring systems: synthesis of 8-oxoprotoberberine derivatives". Husinec, S.; Savic, V.; Simic, M.; Tesevic, V.; Vidovic, D. *Tetrahedron Letters*, **2011**, *52*, 2733.
 7. "Tuning Main Group Redox Chemistry through Steric Loading: Subvalent Group 13 Metal Complexes of Carbazolyl Ligands". Mansaray, H. B.; Kelly, M.; Vidovic, D.; Aldridge, S. *Chem. Eur J.* **2011**, *17*, 5381.
 8. "Coordination chemistry of group 13 monohalides" Vidovic, D.; Aldridge, S. *Chem. Sci.* **2011**, *2*, 601. This work was amongst the **top ten accessed** articles from the online version of *Chemical Science* during the month of Feb 2011.
 9. "Responses to unsaturation in iridium mono(N-heterocyclic carbene) complexes: synthesis and oligomerization of [Llr(H)₂Cl] and [Llr(H)₂]⁺". Tang, C. Y.; Lednik, J.; Vidovic, D.; Thompson, A. L.; Aldridge, S. *Chem. Commun.* **2011**, *47*, 2523.
 10. "Iridium-mediated borylation of benzylic C—H bonds by borohydride" Tang, C. Y.; Smith, W.; Thompson, A. L.; Vidovic, D.; Aldridge, S. *Angew. Chem. Int. Ed.* **2011**, *50*, 1359. This paper was selected as a 'hot article' by Angewandte Chemie
 11. "Isotope-reinforced polyunsaturated fatty acids protect yeast cells from oxidative stress." Hill, S.; Hirano, K.; Shmanai, V.V.; Marbois, B. N.; Vidovic, D.; Bekish, A. V.; Kay, B.; Tse, V.; Fine, J.; Clarke, C. F.; Shchepinov, M. S. *Free. Radic. Biol. Med.* **2011**, *50*, 130. This work was featured in the 29. October 2010 (#2784) issue of the *New Scientist* magazine.
 12. "Synthesis, characterization and structural analysis of new copper(II) complexes incorporating a pyridoxal-semicarbazone ligand". Vidovic, D.; Radulovic, A.; Jevtovic, V. *Polyhedron* **2011**, *30*, 16.
 13. "Contrasting reactivity of anionic boron- and gallium-containing NHC analogues: E-C vs. E-M bond formation (E = B, Ga)". Protchenko, A. V.; Saleh, L. M. A.; Vidovic, D.; Dange, D.; Jones, C.; Mountford, P.; Aldridge, S. *Chem. Commun.* **2010**, *46*, 8546. Featured as the **inside cover** for the issue.
 14. "Anion recognition by highly sterically encumbered 1,2-diborylferrocenes". Morgan, I. R.; Broomsgrove, A. E. J.; Fitzpatrick, P.; Vidovic, D.; Thompson, A. L.; Fallis, I. A.; Aldridge, S. *Organometallics*, **2010**, *29*, 4762.
-

15. "Synthesis, Characterization and X-ray Crystal Structure of the Tri Aqua(3-Hydroxy-5-Hydroxymethyl-2-Methylpyridine-4-Carboxaldehyde-3-Methylisothiosemicarbazone: k^3 , O^3 , N^4 , N^{10}) Ni(II) Nitrate". Jevtovic, V.; Vidovic, D. *J. Chem. Cryst.* **2010**, *40*, 794.
16. "Comparative Structural and Thermodynamic Studies of Fluoride and Cyanide Binding by PhBMes₂ and Related Triarylborane Lewis Acids". Bresner, C.; Haynes, C. J. E.; Addy, D. A.; Broomsgrove, A. E. J.; Fitzpatrick, P.; Vidovic, D.; Thompson, A. L.; Fallis, I. A.; Aldridge, S. *New J. Chem.* **2010**, *34*, 1652.
17. "Generation of Cationic Two-Coordinate Group 13 Ligand Systems by Spontaneous Halide Ejection: Remarkably Nucleophile Resistant (Dimethylamino)borylene Complex". Addy, D. A.; Pierce, G. A.; Vidovic, D.; Malick, D.; Jemmins, E. D.; Goicoechea, J. M.; Aldridge, S. *J. Am. Chem. Soc.* **2010**, *132*, 4586.
18. "Bis[4-(2-carbamoylhydrazin-1-ylidene- $\kappa^2 N^1, O$)-5-hydroxymethyl-2-methylpyridinium-3-olato- $\kappa^3 O^3$]cobalt(II) dinitrate dihydrate". Vidovic, D.; Jevtovic, V. *Acta Cryst.* **2010**, E66, m408.
19. "Synthesis and Structural Characterization of Terminal (Diisopropylamino)borylene Complexes of Group 8 Metals". Vidovic, D.; Pierce, G. A.; Coombs, N. D.; Kays, D. L.; Thompson, A. L.; Stach, A.; Aldridge, S. *Main Group Chem.* **2010**, *9*, 57.
20. "Evaluation of electronics, electrostatics and hydrogen bond co-operativity in the binding of cyanide and fluoride by Lewis acidic ferrocenylboranes". Broomsgrove, A. E. J.; Addy, D. A.; DiPaolo, A.; Morgan, I. R.; Bresner, C.; Chislett, V.; Fallis, I. A.; Thompson, A. L.; Vidovic, D.; Aldridge, S. *Inorg. Chem.* **2010**, *49*, 157.
21. "Facile Syntheses of Dissymmetric Ferrocene-Functionalized Lewis Acids and Acid/Base Pairs". Morgan, I. R.; Di Paolo, A.; Vidovic, D.; Fallis, I. A.; Aldridge, S. *Chem. Commun.* **2009**, 7288.
22. "Coordination and Activation of the BF₃ Molecule". Vidovic, D.; Aldridge, S. *Angew. Chem. Int. Ed.* **2009**, *48*, 3669. **Highlighted in:** *Angew. Chem. Int. Ed.* **2010**, *49*, 3412.
23. "Sterically Encumbered Iridium Bis(N-heterocyclic carbene) Systems: Multiple C-H Activation Processes and Isomeric Normal/Abnormal Carbene Complexes". Tang, C. Y.; Smith, W.; Vidovic, D.; Thompson, A. L.; Chaplin, A. B.; Aldridge, S. *Organometallics*, **2009**, *28*, 3059.
24. "Half-Sandwich Group 8 Borylene Complexes: Synthetic and Structural Studies and Oxygen Atom Abstraction Chemistry". Pierce, G. A.; Vidovic, D.; Kays, D. L.; Coombs, N. D.; Thompson, A. L.; Jemmins, E. D.; De, S.; Aldridge, S. *Organometallics*, **2009**, *28*, 2947.
25. "Reactivity of cationic terminal borylene complexes: novel mechanisms for insertion and metathesis chemistry involving strongly Lewis acidic ligand systems". De, S.; Pierce, G. A.; Vidovic, D.; Kays, D. L.; Coombs, N. D.; Jemmins, E. D.; Aldridge, S. *Organometallics*, **2009**, *28*, 2961.
26. "Transition metal borylene complexes: boron analogues of classical organometallic systems" Vidovic, D.; Pierce, G. A.; Aldridge, S. *Chem. Commun.* **2009**, 1157.
27. "Cationic terminal gallylene complexes by halide abstraction: coordination chemistry of a valence isoelectronic analogue of CO and N₂". Coombs, N. D.; Vidovic, D.; Day, J. K.; Thompson, A. L.; Le Pevelen, D. D.; Stasch, A.; Clegg, W.; Russo, L.; Male, L.; Hursthouse, M. B.; Willock, D. J.; Aldridge, S. *J. Am. Chem. Soc.* **2008**, *130*, 16111.
28. "Synthesis and Structures of Boron Dihalides supported by the C₆F₅-Substituted β -Diketiminato Ligand [HC(CMe)₂(NC₆F₅)₂]⁻". Vidovic, D.; Reeske, G.; Findlater, M.; Cowley, A. H. *Dalton Trans.* **2008**, 2293.
29. "Synthesis and Characterization of a β -Diketiminato-Supported Aluminum Dication" Vidovic, D.; Findlater, M.; Reeske, G.; Cowley, A. H. *J. Organomet. Chem.* **2007**, *692*, 5683.
30. "A β -Diketiminato-Supported Boron Dication". Vidovic, D.; Findlater, M.; Cowley, A. H. *J. Am. Chem. Soc.* **2007**, *129*, 8436. Erratum: *J. Am. Chem. Soc.* **2007**, *129*, 11296.

31. "A single-bonded cationic terminal borylene complex". Vidovic, D.; Findlater, M.; Reeske, G.; Cowley, A. H. *Chem. Commun.* **2006**, 3786.
32. "An N,N'-Chelated Phosphenium Cation Supported by a β -Diketiminato Ligand". Vidovic, D.; Lu, Z.; Reeske, G.; Moore, J. A.; Cowley, A. H. *Chem. Commun.* **2006**, 33, 3501.
33. "Lithium, Aluminum, and Gallium Complexes of the C₆F₅-substituted β -diketiminato ligand [HC(CMe)₂(NC₆F₅)₂]⁻". Vidovic, D.; Jones, J. N.; Moore, J. A.; Cowley, A. H. *Z. Anorg. Allg. Chem.* **2005**, 631.
34. "Synthesis and Characterization of a Coordinated Oxoborane: Lewis Acid Stabilization of a Boron-Oxygen Double Bond". Vidovic, D.; Jones, J. N.; Moore, J. A.; Cowley, A. H. *J. Am. Chem. Soc.* **2005**, *127*, 4566. This work was featured in the March 28th, 2005 (Volume 83, Number 13, Page 35) issue of the **Chemical and Engineering News**.
35. "Amine elimination synthesis of a titanium(IV) N-heterocyclic carbene complex with short intramolecular Cl—C carbene contacts" Shukla, P.; Johnson, J. A.; Vidovic, D.; Cowley, A. H.; Abernethy, C. D. *Chem. Commun.* **2004**, 4, 360.
36. "Unusual iron(III) ate complexes stabilized by Li- π interactions". Mund, G.; Vidovic, D.; Batchelor, R. J.; Bitten, J. F.; Sharma, R. D.; Jones, C. H. W.; Leznoff, D. B. *Chem. Eur J.* **2003**, *9*, 4757.
37. "The coordination chemistry of o,o'-i-Pr₂C₆H₃-bis(imino)acenaphthene to Group 13 trihalides". Jenkins, H. A.; Dumaresque, C. L.; Vidovic, D.; Clyburne, J. A. C. *Can. J. Chem.* **2002**, *80*, 1398.

Conference Papers

1. "Coordination and activation of B-H bonds in amineborane at late transition metal centers". Tang, C.; Vidovic, D.; Addy, D. A.; Aldridge, S. *Southeast regional Meeting of A. S. C. New Orleans, USA, Abstract 2010*.
2. "Novel modes of reactivity for cationic terminal borylene complexes". Vidovic, D.; Pierce, G. A.; Aldridge, S. *A.C.S. Salt Lake City, Abstract 2009*.
3. "Deconvolution of steric, electronic, electrostatic and cooperative hydrogen bonding effects in anion binding by Lewis acidic ferrocenylboranes". Vidovic, D.; Broomsgrove, A. E. J.; Bresner, C.; Morgan, I. R.; Fallis, I. A.; Aldridge, S. *A.C.S. Salt Lake City, Abstract 2009*.
4. "Synthesis and application of novel sterically demanding amido ligands in main group chemistry". Vidovic, D.; Mansaray, H. B.; Aldridge, S. *A.C.S. Salt Lake City, Abstract 2009*.
5. "Studies of the structures and transition metal mediated dehydrogenation of ammonia-borane and related methylamine derivatives". Vidovic, D.; Tang, C. Y.; William, S.; Aldridge, S. *A.C.S. Salt Lake City, Abstract 2009*.
6. "Synthesis and Reactivity of Terminal Borylene Complexes". Vidovic, D.; Pierce, G.; Aldridge, S. *ImeBoron, Spain, Abstract 2008*.
7. "Synthesis and Reactivity of Terminal Borylene Complexes". Vidovic, D.; Pierce, G.; Aldridge, S. *Main Group Conference, Bristol, Abstract 2008*.
8. "Phosphine-Iron and -Ruthenium Terminal Borylene Complexes". Pierce, G.; Vidovic, D.; Aldridge, S. *Anglo-german Conference, Cardiff, Abstract 2008*.
9. "Low Coordinate Boron and Phosphorus Chemistry". Vidovic, D.; Cowley, A. H. *A.C.S. San Francis, Abstract 2006*.

Invited Talks/Lectures

1. "Catalytic and Stoichiometric Deuteration of the bis-allylic positions of polyunsaturated fatty acids". 2nd Ecole Polytechnique-NTU Workshop, 2012.
 2. "Group 13 analogues of classical organometallic ligands". ICES, Singapore, 2011.
-

3. "Mono(σ -B—H) Coordination of Boranes at Unsaturated Ruthenium Centers". *RSC Main Group Chemistry Discussion Meeting, Oxford, 2010*.
4. "Group 13 Chemistry". *School of Physical & Biological Chemistry, Nanyang Technological University, Singapore, 2010*.
5. "Group 13 analogues of the classical organometallic ligands". *42nd IUPAC Congress, Glasgow, 2009*.
6. "Group 13 analogues of the classical organometallic ligands". *University of Belgrade, Faculty of Chemistry, 2009*.
7. "Low Coordinate Boron Chemistry". *Boron Chemist Award Presentation, ImeBoron, Spain, 2008*.
8. Synthesis and Reactivity of Terminal Borylene Complexes". *ImeBoron, Spain, 2008*.
9. "The Chemistry of Boron Aluminum, Gallium and Phosphorus Compounds". *University of Belgrade, Faculty of Chemistry, 2007*.
10. "Terminal Borylene and Group 13 Triflate Chemistry". *University of Texas at Austin, 2007*.

Awards and Recognitions

July 2008	Young Boron Chemist Award (5 th place) ImeBoron Conference, Spain.
January 2008	Postdoctoral Research Fellowship awarded by Engineering and Physical Sciences Research Council, UK
January 2007	Nominated for the Dissertation Award at University of Texas at Austin.
August 2006	Houston Endowment President's Excellence Scholarship, University of Texas at Austin
September 2005	Faraday Teaching Award, University of Texas at Austin.
June 2005	Welch Research Fellowship, University of Texas at Austin.
May 2004	International Scholarship, University of Texas at Austin.
