

UNIVERSITY OF VICTORIA
FACULTY CURRICULUM VITAE

Last Update: **May 2019**

Name: BERG, David J.

Faculty: Science

Department: Chemistry

1. EDUCATION and TRAINING

Degree	Institution	Year obtained
B.Sc. (Honours) Chemistry	University of Victoria	1983
Ph.D. Chemistry	University of California, Berkeley	1987

Title of thesis:

Bis(pentamethylcyclopentadienyl)ytterbium: Reactions with Organic Compounds and Related Molecules

Postdoctoral experience

1987-89	Postdoctoral Fellow	Killam and NSERC, Supervisor: Michael D. Fryzuk (UBC)
1989-90	Postdoctoral Fellow	Supervisor: Chris Orvig (UBC)

2. POSITIONS HELD PRIOR to APPOINTMENT at UVic

Period	Rank	Academic unit
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3. APPOINTMENTS AT UNIVERSITY OF VICTORIA

Period	Rank	Academic unit
1990-96	Assistant Professor	Chemistry
1996-97	Assistant Professor, tenured	Chemistry
1997-	Associate Professor, tenured	Chemistry

4. MAJOR FIELD(S) of SCHOLARLY or PROFESSIONAL INTEREST

Synthetic organolanthanide and early transition metal chemistry; Organometallic compounds in organic synthesis; Coordination chemistry; Lewis acid catalysis; Metal-based imaging and therapeutic agents

5. RESEARCH GRANTS and FELLOWSHIPS

a. Research operating grants

Title	Grant holder(s)	Time Period	Amount awarded per annum to me
Start-up funds	D.J. Berg	1990-91	\$ 25,000
Faculty Research Grant	in all	1990-91	1,043
Start-up funds	instances	1991-92	25,000
President's Research Grant		1991-92	10,000
NSERC Individual Research Grant		1991-92	24,000
Faculty Research Grant		1991-92	1,043
NSERC Individual Research Grant		1992-93	24,000
NSERC Individual Research Grant		1993-94	24,000
Faculty Research Grant		1993-94	1,140
NSERC Individual Research Grant		1994-95	24,000
NSERC Individual Research Grant		1995-96	25,760
Faculty Research Grant		1995-96	1,035
NSERC Individual Research Grant		1996-97	25,760
Faculty Research Grant		1996-97	1,035
Faculty Research Grant		1997-98	1,035
NSERC Individual Research Grant		1997-98	41,000
NSERC Individual Research Grant		1998-99	45,100
Individual Research Grant		1999-00	47,355
Faculty Research Grant		2000-01	1,111
NSERC Individual Research Grant		2001-02	40,000
PRF Type SE Grant		2002	5,700
Individual Research Grant		2002-03	40,000
NSERC Discovery Grant		2003-08	48,000
NSERC Discovery Grant		2008-12	48,000
NSERC Engage Grant with Nordion Inc.		2012	24,480
NSERC Engage Grant with SLI Beauty		2013	24,900
NSERC Engage Plus Grant with SLI Beauty		2014	10,500
NSERC Discovery Grant		2014-2019	34,000
NSERC Engage Grant with Pacific Seaplants		2017	24,960
NSERC Engage Grant with Seastar		2019	24,960
U-REIF Grant (Boron-nitrogen clathrochelates)		2019-2020	80,000

Equipment

NSERC Double Glove Box (sole user)	D.J. Berg	1991-92	\$ 27,808
NMR Spectrometer (maj user)	R.H. Mitchell (+ 7 others)	1994-95	232,080
NSERC NMR Upgrade (maj user)	D.J. Berg	1999-00	46,273
NSERC NMR Spectrometer (maj user)	R.H. Mitchell (+ 6 others)	2001-02	700,000
NSERC X-ray upgrade (maj user)	D.J. Berg (+ 5 others)	2003	86,163
NSERC NMR upgrade (maj user)	L. Rosenberg (+ 5 others)	2004	150,000
Mass Spec Data upgrade (maj user)	T. Fyles (+ 4 others)	2004	60,930
NSERC EPR Upgrade (minor user)	N. Frank (+ 4 others)	2005	75,697
NSERC TGA-DSC (minor user)	M. Moffitt (+ 4 others)	2006	71,333
NSERC NMR Console upgrade (maj user)	L. Rosenberg (+ 9 others)	2007	243,102
NSERC LIFDI Mass Spec Source	S. McIndoe (+ 2 others)	2009	69,815

c. Honours, fellowships and scholarships

1978	Lord Tweedsmuir Scholarship
1978	Lord Tweedsmuir Staff Scholarship
1978	B.C. Government High School Scholarship
1981	Robert S. Evans Memorial Scholarship
1981-82	President's Scholarship
1982	Molson Breweries Scholarship
1981-82	B.W. Pearse Science Scholarship
1982	CIC Victoria Chapter Silver Medal
1982	SAMPE, Seattle Chapter Scholarship
1983	CIC Victoria Chapter Gold Medal
1983-87	NSERC 1967 Postgraduate Scholarship
1987-89	NSERC Postdoctoral Fellowship
1987-89	Killam Postdoctoral Fellowship (Honorary)
2005	University of Victoria Science Award for Teaching Excellence

6. PUBLICATIONS and PRESENTATIONS

a. Articles Published in Refereed Journals

- (1) Burns, C.J., N.M. Rutherford and D.J. Berg, 1987. Structure of μ -Hydrido-bis(hydrido)-bis (penta-methylcyclopentadienyl)bis(trimethylphosphino)diiridium Hexafluorophosphate. *Acta Cryst. C*, **C43**, 229-231.
- (2) Burns, C.J., D.J. Berg and R.A. Andersen, 1987. Preparation and Crystal Structure of the Mixed-valence [Yb(II,III)] Tetranuclear Complex, $(\text{Me}_5\text{C}_5)_6\text{Yb}_4(\mu\text{-F})_4$. *J. Chem. Soc., Chem. Commun.* 272-273.
- (3) Zalkin, A. and D.J. Berg, 1988. Bis[bis(pentamethylcyclopentadienyl)ytterbium (III)] Ditetelluride. *Acta Cryst. C.*, **C44**, 1488-1489.
- (4) Berg, D.J. and R.A. Andersen, 1988. $(\mu\text{-NO})_2[\text{Co}(\eta^5\text{-C}_5\text{H}_5)]_2$ Is Not Paramagnetic." *J. Am. Chem. Soc.*, **110**, 4849.
- (5) Andersen, R.A., D.J. Berg, L. Fernholt, K. Faegri, J.C. Green, A. Haaland, M.F. Lappert, W.P. Leung and K. Rypdal, 1988. Monomeric, Base-Free Mn(II) Dialkyls; Synthesis, Magnetic Properties and Molecular Structure of MnR_2 [R = $\text{CH}_2(\text{SiMe}_3)_2$]. *Acta Chem. Scand.* **A42**, 554-561.
- (6) Berg, D.J., M.H. Chisholm, K. Folting, J.C. Huffman and K.A. Stahl, 1988. Preparation and Characterization of the Heptachlorobis(tetrahydrofuran)ditungstate and Octachloro-(tetrahydrofuran)ditungstate Anions: $[\text{Ph}_4\text{P}][\text{W}_2\text{Cl}_7(\text{THF})_2]$ and $[\text{Ph}_4\text{P}][\text{W}_2\text{Cl}_8(\text{THF})]$. *Inorg. Chem.*, **27**, 2950-2954.
- (7) Berg, D.J., R.A. Andersen and A. Zalkin, 1988. Electron-Transfer Chemistry of $(\text{Me}_5\text{C}_5)_2\text{Yb}$: Cleavage of Diorganoperoxides and Related Chalcogenides To Give $(\text{Me}_5\text{C}_5)_2\text{Yb}(\text{ER})(\text{L})$ (E = O, S, Se or Te; L = Lewis Base). Crystal Structure of $(\text{Me}_5\text{C}_5)_2\text{Yb}(\text{TePh})(\text{NH}_3)$. *Organometallics*, **7**, 1858-1863).
- (8) Berg, D.J., C.J. Burns, R.A. Andersen and A. Zalkin, 1989. Electron-Transfer Reactions of Divalent Ytterbium Metallocenes: Synthesis of the Series $[(\text{Me}_5\text{C}_5)_2\text{Yb}]_2[\mu\text{-E}]$ where E is O, S, Se or Te and the Crystal Structure of $[(\text{Me}_5\text{C}_5)_2\text{Yb}]_2[\mu\text{-Se}]$. *Organometallics*, **8**, (1989) 1865-1870.
- (9) Zalkin, A. and D.J. Berg, 1989. A Pentamethylcyclopentadienyl, Chloro, Oxo, Ether Complex of Yb(III). *Acta Cryst. C*, **C45**, 1630-1631.
- (10) Tilley, T.E., J.M. Boncella, D.J. Berg, C.J. Burns and R.A. Andersen, 1990. Bis[bis(trimethylsilyl)amide]-ytterbium Bis(diethyl Ether). *Inorg. Synth.*, **27**, 146.
- (11) Fryzuk, M.D., T.S. Haddad and D.J. Berg, 1990. Complexes of Groups 3,4, The Lanthanides and The Actinides Containing Neutral Phosphorus Donor Ligands. *Coord. Chem. Rev.*, **99**, 137-212.
- (12) Berg, D.J., S.J. Rettig and C. Orvig, 1991. Heptadentate Ligands for the Lanthanides. The First Structurally Characterized Example of a Lanthanide Heptadentate Ligand Complex: {Tris(3-aza-4-methylhept-4-ene-6-on)amine}ytterbium(III). *J. Am. Chem. Soc.*, **113**, 2528.

- (13) Fryzuk, M.D., T.S. Haddad, D.J. Berg, and S.J. Rettig, 1991. Phosphine Complexes of the Early Transition Metals and Lanthanides. *Pure Appl. Chem.* **63**, 843-850.
- (14) Shao, P., D.J. Berg and G.W. Bushnell, 1994. Lanthanide Complexes of Bulky Siloxide Ligands Incorporating Pendant Amine Donors: Synthesis and Structural Characterization of a Volatile Tris(siloxide) Complex of Yttrium(III) and a Novel Zwitterionic Tetrakis(siloxide) of Ytterbium(III). *Inorg. Chem.*, **33**, 3452-8.
- (15) Lee, L., D.J. Berg and G.W. Bushnell, 1994. Lanthanide and Yttrium Complexes of the Deprotonated 4,13-Diaza-18-crown-6 (DAC): Synthesis and Structural Characterization of Y[DAC][N(SiMe₃)₂] and the Novel Trinuclear Ytterbium(II) Complex {Yb[N(SiMe₃)₂][μ-DAC]}₂Yb. *Inorg. Chem.*, **33**, 5302-8.
- (16) Shao, P., D.J. Berg and G.W. Bushnell, 1994. Synthesis and Fluxional Behavior of Yttrium Complexes Containing the Bulky Arylsiloxide OSi^tBuAr₂ [Ar = *o*-C₆H₄(CH₂NMe₂)] and the X-ray Crystal Structure of Y[OSi^tBuAr₂][N(SiMe₃)₂]. *Inorg. Chem.*, **33**, 6334-9.
- (17) Lee, L., D.J. Berg and G.W. Bushnell, 1995. Synthesis, X-ray Crystal Structure, and Thermal Stability of Y[DAC][CH₂SiMe₃] (DAC = Deprotonated 4,13-Diaza-18-crown-6). *Organometallics*, **14**, 8-10.
- (18) Berg, D.J., C.K. Lee, L. Walker and G.W. Bushnell, 1995. Chelating Triarylgermyl Anions as Ligands in Lanthanide Chemistry: Synthesis of Ln[GeAr₃]₂ [Ar = C₆H₄(2-CH₂NMe₂); Ln = Sm, Yb] and the Crystal Structure of an Unusual μ-(*o*-Tolylene)digermane Byproduct. *J. Organomet. Chem.*, **493**, 47-54.
- (19) Shao, P., D.J. Berg and G.W. Bushnell, 1995. Synthesis and Structural Characterization of Barium Complexes Containing the Bulky Amino-Siloxide Hybrid Ligand ^oOSi^tBu₂(CH₂)₃NMe₂. *Can. J. Chem.*, **73**, 797-803.
- (20) Lee, L., D.J. Berg and G.W. Bushnell, 1995. Reversible Yttrium Alkynide Coupling Supported by DAC (Deprotonated 4,13-Diaza-18-crown-6) Ligation. *Organometallics*, **14**, 5021-5023.
- (21) Clouston, L., C. Spino and D.J. Berg, 1996. Novel Air Stable Yttrium Catalysis for the Hetero Diels-Alder Reaction. *Can. J. Chem.*, **74**, 1762.
- (22) Lee, L., D.J. Berg, F.W. Einstein, and R.J. Batchelor, 1997. Synthesis, X-ray Crystal Structure and Reactivity of Y(MAC)(CH₂SiMe₃)₂ (MAC = Deprotonated aza-18-crown-6). *Organometallics* **16**, 1819-1821.
- (23) Lee, L., D.J. Berg and G.W. Bushnell, 1997. Cationic Zirconium Dialkyl and Alkyl Complexes Supported by DAC (Deprotonated 4,13-diaza-18-crown-6) Ligation. *Organometallics* **16**, 2556-2561.
- (24) Spino, C., L. Clouston, and D.J. Berg, 1997. Lanthanide Catalysts for the Hetero Diels-Alder Reaction: Effect of Ligand Structure and Acidity. *Can. J. Chem.* **75**, 1047-1054.
- (25) Shao, P. R.A.L. Gendron, D.J. Berg, and G.W. Bushnell, 2000. Dibenzylzirconium Complexes of Chelating Aminodiols. Synthesis, Structural Studies, Thermal Stability, and Insertion Chemistry. *Organometallics* **19**, 509-520.
- (26) Shao, P., R.A.L. Gendron, and D.J. Berg, 2000. Synthesis and Structural Characterization of Zirconium Complexes Containing Aminodiolate Ligands and Their Use as Lewis Acid Catalysts. *Can. J. Chem.* **78**, 1-10.
- (27) Berg, D.J. and R.A.L. Gendron, 2000. Synthesis, Solid State Structure and Solution Behaviour of the Lighter Lanthanide Bis(trimethylsilyl) amido Chlorides, [Ln{N(SiMe₃)₂]₂ (THF) (F-Cl)]₂ (Ln=Ce,Nd). *Can. J. Chem.*, **78**, 454-458.
- (28) O'Connor, P. E.; D. J. Morrison, S. Steeves, K. Burrage and D.J. Berg, 2001. Zirconium Complexes of Fluorinated Aryl Diamides. *Organometallics* **20**, 1153-1160.
- (29) Gendron, R. A. L., D.J. Berg, P. Shao, and T. Barclay, 2001. Cyclopentadienyl Yttrium Complexes Bearing Fluorinated Aryloxide Functionality. *Organometallics* **20**, 4279-4286.
- (30) Schultz, J., J.M. Boncella, D.J. Berg, T.D. Tilley and R.A. Andersen, 2002. Coordination of 2,2'-Bipyridyl and 1,10-Phenanthroline to Substituted Ytterbocenes: An Experimental Investigation of Spin Coupling in Lanthanide Complexes. *Organometallics* **21**, 460-472.
- (31) Mitchell, R. H., Z. Brkic, D. J. Berg, and T. Barclay, 2002. Effective Aromaticity of Tricarbonylchromium-benzene, about 25% Enhance over that of Benzene: Structured Evidence from a Complexed Benzannulene. *J. Am. Chem. Soc.*, **124**, 11983-11988.
- (32) O'Connor, P. E., D. J. Berg, and T. Barclay, 2002. Intramolecular Photochemical C-F Bond Activation in Zirconium Complexes Containing Fluorinated Aryl Diamides. *Organometallics*, **21**, 3947-3954.
- (33) Gendron, R.A.L. and D.J. Berg, 2002. Alkoxide-Functionalized Cyclopentadienyl Complexes of Yttrium. Containing a Two-Carbon Tether. *Can. J. Chem.*, **80**, 1285-1292.

6. PUBLICATIONS and PRESENTATIONS

a. Articles Published in Refereed Journals cont'd

- (34) Berg, D. J., J. M Boncella, and R. A. Andersen, 2002. Preparation of Coordination Compounds of Cp*₂Yb with Heterocyclic Nitrogen Bases: Examples of Antiferromagnetic Exchange Coupling across Bridging Ligands. *Organometallics* **21**, 4622-4631.
- (35) Berg, D. J. , and R. A. Andersen, 2003. Reaction of (C₅Me₅)₂Yb(ER)(NH₃) with Me₃Al. Formation of (C₅Me₅)₂Yb(AlMe₄) and [(C₅Me₅)₂Yb(ER)(AlMe₃)₂]₂. *Organometallics* **22**, 627-632.
- (36) Mitchell, R. H., Z. Brkic, V. A. Sauro, and D. J. Berg, 2003. A Photochromic, Electrochromic Thermochromic Ru Complexed Benzannulene - An Organometallic Example of the Dimethyldihydropyrene-metacyclo-phanediene Valence Isomerization. *J. Am. Chem. Soc.* **125**, 7581-7585.
- (37) Mitchell, R. H., W. Fan, D. Y. K. Lau, and D. J. Berg, 2004. An Annulene-Fused Cyclopentadienide. A Photochromic Cyclopentadienodimethyldihydropyrene Where the Fused Cyclopentadienide Group Resembles Benzene in Its Effect on the Dihydropyrene-Metacyclophane Valence Isomerization. *J. Org. Chem.* **69**, 549-554.
- (38) O'Connor, P. E., D. J. Berg, and B. Twamley, 2005. Zirconium Complexes of a Cross-Bridged Cyclam. *Organometallics* **24**, 28-36.
- (39) Berg, D. J., C. Zhou, T. Barclay, X. Fei, S. Feng, K. A. Ogilvie, R. A. Gossage, B. Twamley, and M. Wood, 2005. Lanthanide Complexes of an Oxazoline-Phenoxide Hybrid Chelate. *Can. J. Chem.*, **83**, 449-459.
- (40) Guan, R. F., C. Zhou, S. Y. Feng, D. J. Berg and S. R. Stobart, 2005. Ring-closing Metathesis on Allyl-terminated Carbosilane Dendrimers. *J. Chinese Chem. Soc.*, **52**, 113-118.
- (41) Zhou, C., R. F. Guan, S. Feng, D. J. Berg and S. R. Stobart, 2005. The Preparation of a New Kind of Carbosilane Dendrimer with 4-(naphthalen-1-yl)phenyl Cores – An Application of the Suzuki Coupling Reaction. *J. Chinese Chem. Soc.*, **52**, 947-952.
- (42) Mitchell, R.H., R. Zhang, W. Fan, and D. J. Berg, 2005. Measuring Aromaticity by an Analysis of Ring Current and Coupling Constant Changes in a Cyclopentadienone-Fused Dihydropyrene. *J. Am. Chem. Soc.* **127**, 16251-16254.
- (43) O'Connor, P. E., D. J. Berg, and B. Twamley, 2006. A Mixed Valence Yb(II/III) Salt Containing a Trinuclear Yb(III) Cation Supported by a Cross-Bridged Cyclam. *Inorg. Chim. Acta Special Edition in honour of Professor Brian James (Invited Contribution)* **359**, 2870-2878.
- (44) Walter, M. D., D. J. Berg, and R. A. Andersen, 2006. Coordination Complexes of Decamethylterbocene with 4,4'-Disubstituted bipyridines: An Experimental Study of Spin Coupling in Lanthanide Complexes. *Organometallics* **25**, 3228-3237.
- (45) Berg, D. J., J. Sun and B. Twamley, 2006. The Synthesis, X-ray Structure and Fluxional Behaviour of an Ytterbium(II) Phenalenide Complex. *Chemical Communications*, **2006**, 4019-4021.
- (46) Zhang, R., W. Fan, B. Twamley, D. J. Berg, and R. H. Mitchell, 2007. Synthesis and Structures of Dimethyldihydropyrene Iron Carbonyl Complexes. *Organometallics*, **26**, 1888-1894.
- (47) Walter, M. D., D. J. Berg, and R. A. Andersen, 2007. Coordination of 1,4-Diazabutadiene Ligands to Decamethylterbocene: Additional Examples of Spin Coupling in Ytterbocene Complexes. *Organometallics*, **26**, 2296-2307.
- (48) Fan, W., D. J. Berg, R. H. Mitchell, and T. Barclay, 2007. Divalent Ytterbium and Iron Metallocenes of a Dimethyldihydropyrene-Fused Cyclopentadienyl. *Organometallics*, **26**, 4562-4567.
- (49) Sun, J., D. J. Berg, and B. Twamley, 2008. Yttrium Complexes of a Phenanthrene-Fused Cyclopentadienyl: Synthetic, Structural, and Reactivity Studies. *Organometallics* **27**, 683-690.
- (50) Mitchell, R. H., R. Zhang, D. J. Berg, B. Twamley, R. V. Williams, 2009. Measuring Aromaticity with the Dimethyldihydropyrene Ring Current Probe. Experimental and Computational Studies of the Fulvenes and the Strongly Antiaromatic Cyclopentadienone Reveal Large Mills-Nixon Type Bond Localization Effects. Synthesis of Fulvene-Fused Dihydropyrenes. *J. Am. Chem. Soc.* **131**, 189-199.
- (51) Berg, D. J., T. Barclay, X. Fei, 2010. Trivalent Lanthanide Alkene Complexes: Crystallographic and NMR Evidence for Coordination of Tethered Alkenes in the Solid State and Solution. *J. Organomet. Chem.* **695**, 2703-2712. *Special Issue Dedicated to the Memory of Professor Herbert Schumann (Invited Contribution)*.
- (52) Zou, J., D. J. Berg, B. McDonald, A. Oliver, 2011. Structure and Reactivity of Trivalent Lanthanide Complexes of a Rigid Carbazole-Bis(oxazoline) Ligand. *Organometallics*, **30**, 4958-4967.

- (53) Zhang, P., Z. Brec, D. J. Berg, R. H. Mitchell, 2011. Cobalt Complexes Containing Dimethyldihydropyrene-Substituted Cyclooctadienyl Ligands. *Organometallics*, **30**, 5396-5407.
- (54) Mitchell, R.H., P. Zhang, D.J. Berg and R.V. Williams, 2012. An Experimental Estimate of the Relative Aromaticity of the Cyclooctatetraene Dianion by Fusion to Dimethyldihydropyrene. *Chem. Comm.* **48**, 8144-8146.
- (55) Williams, R.V., W.D. Edwards, P. Zhang, D.J. Berg, R.H. Mitchell, 2012. Experimental Verification of the Homoaromaticity of 1,3,5-Cycloheptatriene and the Evaluation of the Aromaticity of Tropone. *J. Am. Chem. Soc.* **134**, 16742-16752.
- (56) Zhang, P., D.J. Berg, R. H. Mitchell, A. Oliver and B. Patrick, 2012. Platinum Complexes of Alkynyl-Substituted Dimethyldihydropyrenes. *Organometallics* **31**, 8121-8134.
- (57) Allen, K.J., E.C. Nicholls-Allison, K. Johnson, R. Nirwan, D.J. Berg and B. Twamley, 2012. Lanthanide Complexes of the Kläui Metalloligand, CpCo(P=O(OR)₂)₃: An Examination of Ligand Exchange Kinetics between Isotopomers by Electrospray Mass Spectrometry. *Inorg. Chem.* **51**, 12436-12443.
- (58) Sun, J., D.J. Berg and B. Twamley, 2013. Bis(9,10-phenanthrenocyclopentadienyl) Yttrium Complexes: Synthesis and Solution Behaviour. *Can. J. Chem.* **91**, 1281-1287.
- (59) Zou, J., D.J. Berg, A. Oliver and B. Twamley, 2013. Unusual Redox Chemistry of Carbazole-bis(oxazoline) Ytterbium Compounds: Oxidative Coupling of Primary Phosphines by a Carbazole-bis(oxazoline) Ytterbium Dialkyl. *Organometallics* **32**, 6532-6540.
- (60) Kefalidis, C. E., L. Perrin, C.J. Burns, D.J. Berg, L. Maron and R.A. Andersen, 2015. Can a Pentamethylcyclopentadienyl Ligand Act as a Proton-relay in f-Element Chemistry? *Dalton Trans.* **44**, 2575-2587.
- (61) Sun, J., D.J. Berg and B. Twamley, 2017. Super-size Cp! Tetrabenzo[a,c,g,i]fluorenyl Complexes of Yttrium. *Can. J. Chem.* **95**, 363-370. *Special issue dedicated to Professor Reginald Mitchell.*
- (62) Gajecki, L., D.J. Berg, J. Hoenisch and Allen G. Oliver, 2018. Variable Coordination of Carbazolyl-bis(tetrazole) Ligands in Lanthanide Chemistry. *J. Chem. Soc., Dalton Trans.* **47**, 15487-15496.

Articles published in non-refereed or other journals

- (1) Stobart, S.R., D.J. Berg, M.A. Casado, S. Feng, M.A.F. Hernandez-Gruel, J. Roovers, 2001. Carbosilane Denderimers and Monodendrons: Strategies for Modular Synthesis. *Polym. Mater. Prep.*, **84**, 500.
- (2) Zhou, C.J., R.F. Guan, S.Y. Feng, and D.J. Berg, 2005. Ring-closing Metathesis on an Allyl-Terminated Carbosilane Dendrimer. *Chinese Chem. Lett.* **16**, 4-6.
- (3) Guan, R.F., C. Zhou, S.Y. Feng, D.J. Berg, S.R. Stobart, 2005. Ring-closing Metathesis on an Allyl-Terminated Carbosilane Dendrimer. *J. Chinese Chem. Soc.* **52**, 113-118.
- (4) Zhou, C.-J., R.F. Guan, S.Y. Feng, D.J. Berg, S.R. Stobart, 2005. The Preparation of a New Kind of Carbosilane Dendrimer with 4-(naphthalene-1-yl)phenyl Core – an Application of the Suzuki Coupling Reaction. *J. Chinese Chem. Soc.* **52**, 947-952.
- (5) Fei, X.N., B.L. Zhang, B.J. Shi, D.J. Berg, 2006. A Simple Procedure for Allylphenol Derivatives. *Yingyong Huaxue*, **23**, 221-223 (written in Chinese).
- (6) Guan, R.F.; C.J. Zhou, S.Y. Feng, D.J. Berg, S.R. Stobart, 2006. The Application of the Suzuki Coupling Reaction on the Preparation of Carbosilane Dendrimers with 4-(naphthalene-1-yl)phenyl Core. *Chinese Chem. Lett.* **17**, 293-295.
- (7) Fei, X.N., D.J. Berg, 2007. Synthesis of (hydroxyphenyl)oxazine, (aminophenyl)oxazine and (hydroxyphenyl)diazine Derivatives using Ytterbium Triflate as Catalyst. *Huaxue Yanjiu Yu Yingyong*, **19**, 535-538 (written in Chinese).

Articles in preparation

- (63) Gajecki, L., B. Sawycka, D.J. Berg and A.G. Oliver, 2019. Spin-crossover Complexes of Iron containing Carbazole-Bis(tetrazole) Ligands. *In preparation for Inorg. Chem.*
- (64) Huang, J., Gajecki, L., D.J. Berg and A. Oliver, 2019. A Linear Chain of Carbazolyl-bis(tetrazole) Supported Copper(II) Dimers Held Together by Bridging Tribromide Anions. *In preparation for J. Coord. Chem.*

b. Refereed conference proceedings

Article **51** above was submitted as part of a special issue tied to the f-Element Symposium held as part of Pacificchem 2010.

c. Books, Chapters, Monographs

d. Other Publications (Including book reviews and reports)

e. Presentations at conferences or institutions

- 1989 Lanthanide Complexes Incorporating Amido Phosphine Hybrid Ligands: Synthesis and Reactivity. CIC Abstract No. 336, presented at the 72nd Canadian Chemical Conference, Victoria, B.C.
- 1990 Lanthanide Complexes of Polydentate Schiff Base Ligands. CIC Abstract No. 615, presented at the 73rd Canadian Chemical Conference, Halifax, N.S.
- 1991 Lanthanide Complexes Incorporating New Chelating Germyl and Stannyl Anions. CIC Abstract No. 356, presented at the 74th Canadian Chemical Conference, Hamilton, Ontario.
- 1992 New Ligands for the Lanthanides: Group 14 Anions with Pendant Amine and Phosphine Donors. CIC Abstract no. 353, presented at the 75th Canadian Chemical Conference, Edmonton, Alberta.
- 1994 Lanthanide and Alkaline-Earth Complexes of Bulky Siloxide Ligands Containing Pendant Donor Substituents. ACS Abstract No. INOR-68, presented at the 207th American Chemical Society National Meeting, San Diego, California.
- 1994 Bulky Arylsiloxides as Supporting Ligation in Organolanthanide Chemistry. CIC Abstract No. 348, presented at the 77th Canadian Chemical Conference, Winnipeg, Manitoba.
- 1994 The Use of Multidentate Siloxide Ligands in MOCVD Precursor Design. CIC Abstract No. 438, presented at the 77th Canadian Chemical Conference, Winnipeg, Manitoba.
- 1994 Deprotonated 4,13-Diaza-18-crown-6 as an Ancillary Ligand in Lanthanide Chemistry. CIC Abstract No. 539, presented at the 77th Canadian Chemical Conference, Winnipeg, Manitoba.
- 1995 An Investigation of the Lanthanide Catalysed Heter-Diels-Alder Reaction. CIC Abstract No. 343, presented at the 78th Canadian Chemical Conference, Guelph, Ontario.
- 1995 Synthesis and Reactivity of Early Transition Metal and Lanthanide Complexes of Multidentate and Chiral Amino-alkoxide Ligands. CIC Abstract No. 654, presented at the 78th Canadian Chemical Conference, Guelph, Ontario.
- 1995 Deprotonated 4,13-Diaza-18-Crown-6 (DAC) as a Simple and Effective Alternative to C_5Me_5 in Organometallic Chemistry. CIC Abstract No. 655, presented at the 78th Canadian Chemical Conference, Guelph, Ontario.
- 1995 Alternative Ligand Systems in f-Element and Early Transition Metal Organometallic Chemistry. CIC Abstract No. 961, presented at the 78th Annual Canadian Chemical Conference, Guelph, Ontario.
- 1996 Deprotonated Aza-Crown Ligands as Simple and Effective Alternatives to C_5Me_5 in Group 3, 4 and Lanthanide Chemistry. ICCS Abstract no. 5P39, presented at the 31st International Coordination Chemistry Conference, Vancouver, B.C.
- 1996 Ligand Design in f-Element and Group 4 Chemistry. Presented at the University of Washington, December, 1996. **Invited Lecture.**
- 1997 Zirconium Complexes of Chelating Alkoxides. ACS Abstract No. INOR 0245, presented at the 213th American Chemical Society National Meeting, San Francisco, California.
- 1997 Aza-Crowns as Supporting Ligation in f-Element and Early Transition Metal Chemistry. ACS Abstract No. INOR 0864, presented at the 213th American Chemical Society National Meeting, San Francisco, California.
- 1997 Development of a Chiral C3 Symmetric Ligand System for Lanthanide Lewis Acid Catalysis. ACS Abstract No. ORGN 0439, presented at the 213th American Chemical Society National Meeting, San Francisco, California.
- 1997 Design and Synthesis of Tripodal Lanthanide Catalysts for Enantioselective Hetero Diels-Alder Reactions. CSC Abstract No. 459, presented at the 80th Canadian Society of Chemistry National Meeting, Windsor, Ontario.
- 1997 Early Transition Metal and Lanthanide Organometallic Chemistry Supported by Aza-Crown Ether Ligation. CSC Abstract No. 559, presented at the 80th Canadian Society of Chemistry National Meeting, Windsor, Ontario. **Invited Lecture.**

- 1997 Alternative Ligands for Early Metal Olefin Polymerization Catalysts, presented at Bayer, Rubber Division, Sarnia, Ontario, June 1997. **Invited Lecture.**
- 1998 Early Transition Metal and Lanthanide Chemistry: Alternatives to Cyclopentadienyl-Based Ancillary Ligand Systems. Presented at the Centre for British Defense, Porton Down, Salisbury, UK, October, 1998. **Invited Lecture.**
- 1998 Early Transition Metal and Lanthanide Chemistry: Alternatives to Cyclopentadienyl-Based Ancillary Ligand Systems. Presented at the University of Cardiff, Cardiff, UK, October, 1998. **Royal Society of Chemistry Invited Lecture.**
- 1998 Early Transition Metal and Lanthanide Chemistry: Alternatives to Cyclopentadienyl-Based Ancillary Ligand Systems. Presented at the University of Bristol, Bristol, UK, October, 1998. **Invited Lecture.**
- 1998 Early Transition Metal and Lanthanide Chemistry: Alternatives to Cyclopentadienyl-Based Ancillary Ligand Systems. Presented at Trinity College, Dublin, Rep. Of Ireland, October, 1998. **Invited Lecture.**
- 1999 Early Transition Metal and Lanthanide Chemistry: Alternatives to Cyclopentadienyl-Based Ancillary Ligand Systems. Presented at the University of Alberta, Edmonton, Alberta, January, 1999. **Invited Lecture.**
- 2000 Zirconium and Yttrium Complexes of Fluorinated Ligands. CSC Abstract No. 150. Presented at the 83rd Canadian Society of Chemistry National Meeting, Calgary, Alberta.
- 2001 Carbosilane Dendrimers and Monodendrons: Strategies for Modular Synthesis, ACS Abstract No. PMSE 084. Presented at the 221st American Chemical Society National Meeting, San Diego, California.
- 2001 Ligand Design in Yttrium, Lanthanide and Zirconium Chemistry. Presented at the American Chemical Society Northwest Regional Meeting, Seattle, Washington, June 2001. **Invited Lecture.**
- 2002 Organozirconium Chemistry with Fluorinated Ligands. CSC Abstract No. 268. Presented at the 85th Canadian Society for Chemistry National Meeting, Vancouver, B.C.
- 2002 Binuclear Lanthanide Complexes by Design. CSC Abstract No. 1326. Presented at the 85th Canadian Society for Chemistry National Meeting, Vancouver, B.C. **Invited Lecture.**
- 2005 Chiral bis(oxazolonyl)carbazole complexes of Yb(II): Stereochemical control of reactions initiated by electron transfer. ACS Abstract No. 147567. Presented at Pacificchem 2005 Congress, Honolulu, Hawaii. **Invited Lecture.**
- 2005 Lanthanoid complexes of fused-aromatic cyclopentadienyls: the advantages of 'planar'. ACS Abstract No. 147572. Presented at Pacificchem 2005 Congress, Honolulu, Hawaii.
- 2006 Ligand Design in Lanthanide Chemistry: Strategies Based on Large Aromatic Anions and Polydentate Nitrogen Donors. Presented at the University of British Columbia, April 2006. **Invited Lecture.**
- 2006 Ligand Design in Lanthanide Chemistry: Strategies Based on Large Aromatic Anions and Polydentate Nitrogen Donors. Presented at the University of Washington, September 2006. **Invited Lecture.**
- 2008 Erbium, Ytterbium and Yttrium Complexes Supported by Bis(oxazoline)-Carbazoyl Ligands. Presented at the 25th Rare Earth Research Conference, Tuscaloosa, AB, June 2008. **Invited Lecture.**
- 2010 Dangling and Fused: The Effects of Attaching Metal Fragments to Dimethyldihydropyrenes. Presented at the Symposium to Honour Reg Mitchell, Victoria, BC, August 2010. **Invited Lecture.**
- 2010 Lanthanide Complexes of Soft Ligands. Presented at Pacificchem 2010 Congress, Honolulu, Hawaii. **Invited Lecture.**
- 2014 Lanthanide Complexes of the Kläui Metalloligand, CpCo(P=O(OR)₂)₃: An Examination of Ligand Exchange Kinetics between Isotopomers by Electrospray Mass Spectrometry. Presented at the 97th Canadian Society for Chemistry National Meeting, Vancouver, B.C. **Invited Lecture.**

f. Other research activities:

Collaborative Research Partnership with Eon Consulting (Dr. Charles Stone). We have entered into a collaborative arrangement with Eon Consulting to explore the use of a nonadentate diborate cage we developed in the past 4 years, for cancer therapy and imaging. We have filed a provisional composition of matter patent on this class of cage molecule. Eon Consulting is providing financial support through U-REIF for continued basic work on this molecule.

7. SERVICE and PROFESSIONAL ACTIVITIES

a. University and Faculty committees

1996-2015 Member, Elliott Building Safety Committee
1996-2004 Member, Petch Building Safety Committee
1997-2005 Member, Hazardous Materials Committee (Chair during 2004)
1999-2001 Member, Science Faculty Advisory Committee
1999-2006 Member, University Safety Committee (Faculty Association Representative)
2008-2013 Member, Science Graduate Advisory Committee

b. Departmental committees and responsibilities

1990 Member, Elliott Building Users Committee
1991 Member, Co-op Office Space Ad Hoc Committee
1992-96 Chair, Departmental Seminars
1996-2003 Departmental Safety Officer
1997-2009 X-ray Representative
1997 Hiring Committee (for Inorganic faculty position)
1998-2003 Member, Chemistry 499/498 Research Committee
1999-2007 Member, Co-op Steering Committee (Chair 2005-2007)
1999-2002 Member, Curriculum Committee
2000-01 Hiring Committee (for Inorganic faculty position)
2000-2002 Member, Space Committee
2003-2010 Chair, Graduate Studies Committee (Graduate Advisor)
2005 Hiring Committee (for Analytical faculty position)
2011- Member, Chemistry Undergraduate Studies Committee
2011 Member, Co-op Committee
2012-13 Member, Graduate Studies Committee
2012-13 ARPT Committee
2013-16 Awards Committee
2013- Chemistry Undergraduate Honours and Majors Advisor
2018 Articulation
2018- Duties Committee

c. Memberships and service on international, national and provincial professional bodies and societies

1990- Member of Executive, Canadian Chemical Institute, Vancouver Island Section (Chair 2004-2009)
2001-08 Chair, Pacific Northwest Inorganic Lectureship Program
2007- Founding Member, Ex-officio Member of the Board of Directors, Webmaster and Assistant to the Registrar: Association of the Chemical Profession of British Columbia
2013-15 Member: NSERC Industrial R&D Fellowships College of Reviewers

d. Conference organisational committees

1996 Member of Organizing Committee, 31st International Coordination Chemistry Conference, Vancouver B.C., August 18-23, 1996.
1997 Co-organizer of the "f-Element Organometallics" Symposium held during the North American Chemical Congress meeting, Cancun, Mexico, November.
2002 Co-organizer of the f-Element Organometallic and Coordination Chemistry Symposium held during the 85th Chemical Society of Canada National Meeting, Vancouver, B.C.

2010 Co-organizer of the f-Element Chemistry and Applications Symposium held during Pacificchem 2010, December, 2010, Honolulu, Hawaii.

7. SERVICE and PROFESSIONAL ACTIVITIES

f. Grant proposals reviewed

	1993-2014	2015	2016	2017	2018
NSF	13	0	0	0	0
NSERC	19	1	1	1	1
PRF	9	0	0	0	0
Other Agencies	9	0	0	1	0

g. Visiting Scientists hosted

1999-00 Professor Shengyu Feng, Shandong University, P.R. China
2001-02 Professor Xuening Fei, Tanjian University, P.R. China
2002-03 Chuanjian Zhou, Shandong University, P. R. China
2004-2005 Professor Yilin Cao, Red Star Institute, P. R. China

h. Editorships

2001 Editor, BC High School Laboratory Safety Manual
2004-06 Editorial Board, Canadian Journal of Chemistry
2006 Safety Editor, B.C. Science 8 Textbook (McGraw-Hill Ryerson)
2007 Safety Editor, B.C. Science 9 Textbook (McGraw-Hill Ryerson)
2007/8 Safety Editor, B.C. Science 10 Textbook (McGraw-Hill Ryerson)

i. Reviews for journals, book reviews, published commentaries

	1993-2014	2015	2016	2017	2018/9
Inorganic Chemistry	40	0	0	0	1
Organometallics	73	1	0	1	1
Can. J. Chemistry	18	1	1	2	1
J. Amer. Chem. Soc.	7	1	0	0	0
Other journals	33	7	4	3	6

j. Other professional activities

2006 Founding member of the **Association of the Chemical Profession of British Columbia**
2006-14 Webmaster, **Association of the Chemical Profession of British Columbia**

8. OTHER ACTIVITIES

Community Activities:

Executive Member, Peninsula Baseball and Softball Assoc. 2005-16
Player Agent and Coach, Peninsula Baseball and Softball Assoc. 2006-15
Equipment Manager, Peninsula Baseball and Softball Assoc. 2012-15
Coach, Victoria Red Eagles All Star Baseball Team, Provincial Bronze Medallists, 2012
Executive Member, Greater Victoria Baseball Association, 2012-3
Coach, Victoria Eagles AAA-Tier 1, All Star Baseball Team, Provincial Champions, 2013
Manager, Peninsula Minor Hockey Association (various teams) 2008-17
Photographer, Peninsula Minor Hockey Association (various teams) 2009-17
Tournament Organizer, Peninsula Minor Hockey Association 2010, 2012, 2013, 2015
Coach, Victoria Eagles AAA-Tier 1, All Star Baseball Team, 2014-15
Member, Greater Victoria Baseball Association, High Performance Committee, 2015-18
Vice President and Ice Allocator, Peninsula Minor Hockey Association 2013-17
Business Manager, Victoria Eagles Premier Baseball Team 2017-18