

CURRICULUM VITAE

ALLEN W. APBLETT
ASSISTANT PROFESSOR
DEPARTMENT OF CHEMISTRY

EDUCATION The University of New Brunswick, Fredericton, NB, Canada

B.Sc. (Honours) in Chemistry, May 21, 1984

Grade Point Average: 4.0 (out of 4.3)

Graduated in the top 10% of class and made the Dean's List every semester

Thesis Title: Synthesis and Reactions of the Thiazyl Cation

Canadian Institute of Chemistry, Calgary, Alberta, Canada

Courses on Nuclear Magnetic Resonance Spectroscopy (1987)

and Laboratory Automation (1988)

The University of Calgary, Calgary, Alberta, Canada

Ph.D. in Inorganic Chemistry, March 23, 1989

Grade Point Average: 4.0 (out of 4.0)

Thesis Title: Synthesis and Reactions of Sulfur-Nitrogen Triply-
Bonded Species

Harvard University, Cambridge, Massachusetts

Postdoctoral Fellow, March 1989-July 1991

Courses on Theory and Practice of Electron Microscopy (1990)

and Theory and Practice of X-Ray Photo-electron Spectroscopy
(1991)

TEACHING The University of Calgary, Calgary, Alberta, Canada

EXPERIENCE Graduate Teaching Assistant

Chemistry Department

1984-1985 Freshman Chemistry Laboratory

1985-1986 Instrumental Laboratory

Tulane University, Department of Chemistry

New Orleans, Louisiana

July 1, 1991-July, 30, 1997

Oklahoma State, Department of Chemistry

Stillwater, Oklahoma

August 15, 1997-present

EMPLOYMENT Oklahoma State University, Stillwater, Oklahoma

Assistant Professor (August 1997-present)

Chemistry Department

Tulane University, New Orleans, Louisiana

Assistant Professor (July 1991-August 1997)

Chemistry Department

Harvard University, Cambridge, Massachusetts

Postdoctoral Fellow (1989-1991)

Chemistry Department and Materials Research Laboratory

The University of Calgary, Calgary, Alberta, Canada

Graduate Teaching Assistant and Research (1984-1989)

Chemistry Department

International Olympic Committee, Calgary, Alberta, Canada

Analyst (1988 Winter Olympics)

Medical Control Laboratory

University of New Brunswick, Fredericton, NB, Canada

Teaching and Research Assistant (1982-1984)

Chemistry Department

Department of Fisheries and Oceans, St. Andrews, NB, Canada

Research Assistant - chemical analysis (1981)

Chemistry Department

AWARDS •ACS Environmental Division Certificate of Merit (1996)

- Nominated to Project Kaleidoscope Faculty for the 21st Century (1994)
- Mortar Board Award for Academic Excellence (1993)
- Barbara Greenbaum Newcomb Fellowship (1993)
- Lilly Endowment Teaching Fellowship (1992)
- Natural Sciences and Engineering Research Council (NSERC)
Post-Doctoral Fellowship (April 1989-March 1991)
- NSERC Postgraduate Scholarships (1984-1988)
- Alberta Heritage Trust Fund “Ralph Steinhauer Award of Distinction” (1986-1988)
- Izaak Walton Killam Memorial Scholarships (1986-1988)
- Province of Alberta Graduate Fellowship (1984)
- NSERC Undergraduate Summer Employment Scholarships (1982-1983)
- Sir George E. Foster Memorial Scholarships (1980-1984)
- First Place in the Student Paper Competition at the 1984 Canadian Institute of Chemistry (Atlantic Section) Student Conference
- Governor General of Canada’s Award for Highest Academic Standing in the Graduating Class (1980)

PUBLICATIONS

1. J. Passmore, A. Apblett, and J.P. Johnson “Preparation and X-Ray Crystal Structure of $[I5]+[AsF6]-$ and Electronic Structure of the $I5+$ Cation” *Inorg. Chem.* 25 , 422-426 (1986)
2. J. Passmore, A. Apblett, and M. Schriver “Convenient Synthesis of Thiazyl Hexafluoroarsenate(V) $[NS]+[AsF6]-$ and Small Quantities of Thiazyl Fluoride, NSF” *Inorg. Chem.* 25 , 4451-4452 (1986)

3. T. Chivers, A. Apblett, and J. Richardson "Synthesis and X-Ray Crystal Structures of the Arsenic Pentafluoride Adducts of Benzo-2,1,3-thiadiazole and Benzo-1,2,3-thiadiazole" *Can. J. Chem.* 64, 849-853 (1986)
4. T. Chivers and A. Apblett "The in situ Generation of Thiazyl Trichloride: A Synthon for C-N-S Heterocycles" *J.C.S. Chem. Comm* 1889-1890 (1986)
5. H. Vogel, A. Apblett, D. McIntyre and K. Schmidt, "Nitrogen-14 NMR of Dissolved Dinitrogen: Relaxation and Reorientation Behaviour" *J. Magn. Res.* 83, 377 (1989)
6. T. Chivers and A. Apblett "Convenient Synthesis and Ring Contraction via Thermolysis of 1,3-Dichloro-1, 3,2,4,6-dithiatriazines" *J.C.S. Chem. Comm.* 96-97 (1989)
7. T. Chivers and A. Apblett "Cycloaddition Reactions of (NSCl)₃ with Organic Nitriles" *Phosphorous, Sulfur and Silicon.* 41, 439-447 (1989)
8. T. Chivers and A. Apblett "Synthetic and Mechanistic Investigations of the Reactions of Organic Nitriles with Thiazyl Chloride and the Thermolysis of 1,3-Dichloro-1, 3,2,4,6-dithiatriazines" *Inorg. Chem.* 28, 4544-4548 (1989)
9. T. Chivers, A. Apblett, and J. Fait "A Simple Synthesis of [NS]⁺[AlCl₄]⁻ and the Insertion Reaction with Alkyl Selenium Halides: X-Ray Structure of [N₂S₂SeCl]⁺[AlCl₄]⁻" *J.C.S. Chem. Comm.* 1596-1598 (1989)
10. T. Chivers and A. Apblett "Synthetic Applications and Spectroscopic Investigations of the (NSCl)₃-SO₂Cl₂ System" *Can. J. Chem.* 68, 650-654 (1989)
11. T. Chivers, A. Apblett, and J. Fait "Preparation of [NS]⁺[AlCl₄]⁻ and [NS]⁺[SO₃CF₃]⁻ and Reactions of the Thiazyl Cation with Thiadiazoles and Organoselenium Halides: X-Ray Structure of [N₂S₂SeCl]⁺[AlCl₄]⁻" *Inorg. Chem.* 29, 1643-1648 (1990)
12. A. Barron and A. Apblett "Cleavage of Poly(diorganosiloxanes) by Trimethylaluminum" *Organometallics*, 9 2137-2141 (1990).
13. A. Barron, A. Apblett, and M. Power "Aldol Condensation of Ketones Promoted by Sterically Crowded Aryloxide Compounds of Aluminum" *Organometallics*, 9, 2529-2534 (1990).
14. A. Barron, A. Apblett, and L. Cheatham "Chemical Vapour Deposition of Aluminum Silicate Thin Films" *J. Mat. Chem.*, 1, 143-144 (1991).

15. T. Chivers, A. Apblett, A.W. Cordes and R. Vollmerhaus "Synthesis and Structure of the Norbornene Adduct of 1,3,5,2,4,6-Trithiatriazinium Tetrachloroaluminate [C₇H₁₀S₃N₃][AlCl₄]" *Inorg. Chem.* 30 , 1392-1396 (1991).
16. A. Barron and A. Apblett "Design and Synthesis of Polymeric Precursors to Aluminosilicates" *Ceram. Trans.*, Vol. 19, *Advanced Composite Materials; Processing, Microstructures, Bulk and Interfacial Properties, Characterization Methods and Applications*" Michael D. Sacks, Ed.; The American Ceramic Society, Inc.: Westerville, OH; 1991 pp 35-41.
17. A. Barron, A. Apblett, L. Cheatham, and J. Graham "The Molecular Structure of (h⁵-C₅H₄Me)₂Nb(h³-C₃H₅): A Sterically Induced Asymmetrically Bound h³-Allyl" *Polyhedron*, 10 , 1075-1078 (1991).
18. T. Chivers, A. Apblett, J. Fait and R. Vollmerhaus "Negative Hyperconjugation in hexachloro-3-cyclopentenyaminosuphenyl halides: Preparation and X-Ray structure of C₅Cl₆NSBr and Synthesis of C₅Cl₆NS+AsF₆-" *Can. J. Chem.* 69, 1022-1027 (1991).
19. A. Barron and A. Apblett "Synthesis and Characterization of Triethylsiloxy-Substituted Alumoxanes: Their Structural Relationship to the Minerals Boehmite and Diaspore" *Chem. Mater.*, 69 , 167-182 (1992).
20. A. Barron, A. Apblett, M. Power, W. Cleaver, and J. Ziller "Oxidation and Hydrolysis of Tris-Tert-Butylgallium" *Polyhedron*, 11 , 477-486 (1992).
21. A. Barron, A. Apblett, and A. Warren "Tris-Triphenylsiloxy Compounds of Aluminum" *Can. J. Chem.*, 70 , 771-778 (1992).
22. A. Barron, A. Apblett, C. Landry and M. Mason "From Minerals to Materials: A Facile Synthetic Route to Pre-ceramic Polymers for Aluminum Oxide" *Mat. Res. Soc. Symp. Proc.*, Vol. 249, *Synthesis and Processing of Ceramics: Scientific Issues*" W.E. Rhine, T.M. Shaw, and R.J. Gottschall, Eds.; Materials Research Society: Pittsburgh, PA; 1992 pp 75-80.
23. A. Apblett, J. Lei and G. Georgieva *Mat. Res. Soc. Symp. Proc.*, Vol. 271, *Better Ceramics Through Chemistry V*" M.J. Hampden-Smith, W.G. Klemperer, and C.J. Brinker, Eds.; Materials Research Society: Pittsburgh, PA; 1992 pp 77-82.
24. J.H. Rogers, A.W. Apblett, W.M. Cleaver, A.N. Tyler and A.R. Barron "Dimethylaluminium Alkoxides: A Physico-chemical Investigation" *J. Chem. Soc. Dalt. Trans.*, 3179-3187 (1992).
25. A. Apblett, G. Georgieva, and J.T. Mague "Incorporation of Radionuclides into Mineral Phases Via a Thermally Unstable Complexant Ligand" *Mat. Res. Soc. Symp.*

Proc., Scientific Basis for Nuclear Waste Management” C.J. Interrante and R.T. Pabalan Eds.; Materials Research Society: Pittsburgh, PA; 1993 pp 123-128.

26. A. Apblett and A. Barron “Tris-triphenylsiloxy Compounds of Aluminum II: Molecular Structure of $\text{Al}(\text{OSiPh}_3)_3(\text{OEt}_2)$ ” *J. Cryst. Spec. Res.*, 23, 529-532 (1993).

27. C. Landry, J.A. Davis, A. Apblett and A. Barron “Siloxo-Substituted Alumoxanes: Synthesis from Polydialkylsiloxanes and Trimethylaluminum, and Application as Aluminosilicate Precursors” *J. Mater. Chem.*, 3, 597-602 (1993).

28. C.C. Landry, N. Pappé, A.W. Apblett, M.R. Mason, and A.R. Barron, "A New Structural Model for Alumoxane Macromolecules" *Polym. Prepr.*, 34, 248-249 (1993).

29. A. W. Apblett, S.M. Cannon, G.D. Georgieva, J. C. Long, M.I. Raygoza-Maceda, and Larry E. Reinhardt, “Polymeric Precursors for Yttria” *Mat. Res. Soc. Symp. Proc.*, Better Ceramics Through Chemistry VI” A.K. Cheatham C.J. Brinker, M.L. Mecartney and C. Sanchez, Eds.; Materials Research Society: Pittsburgh, PA; 1994 pp 679-683.

30. A. W. Apblett, G. D. Georgieva, and M.I. Raygoza-Maceda, “Rational Design of Molecular Precursors for Barium Titanate”, *Ceram. Trans.*, 43, 73-74 (1994).

31. A.W. Apblett and G.D. Georgieva. “Low Temperature Precursors for Titanium Oxide” *Phosphorus, Sulfur, Silicon, and Related Elements*, 93-94, 479-480 (1994).

32. A.W. Apblett, J.C. Long, E.H. Walker, M.D. Johnston, K.J. Schmidt, and L.N. Yarwood. “Metal Organic Precursors for Yttria” *Phosphorus, Sulfur, Silicon, and Related Elements*, 93-94, 481-482 (1994).

33. C.C. Landry, N. Pappé, M.R. Mason, A.W. Apblett, A.R. Barron “Reaction of Boehmite with Carboxylic acids. New synthetic Route to Alumoxanes. *ACS Symp. Ser.* (1994), 572 (*Inorganic and Organometallic Polymers II*), 149-64.

34. C.C. Landry, Nina Pappé, M.R. Mason, A.W. Apblett, A.N. Tyler, A.N. MacInnes and A.R. Barron, “From Minerals to Materials: Synthesis of Alumoxanes from the Reaction of Boehmite with Carboxylic Acids” *J. Mater. Chem.*, 5, 331-341 (1995).

35. A.W. Apblett, L.A. Cubano, G.D. Georgieva, and J.T. Mague. Synthesis, Thermal Behavior, and Structure of Hexa-aquanickel(II) Chloro(hydrogenethylene-diaminetetraacetato)ferrate(III): A Molecular Precursor for Stoichiometric Nickel Ferrite. *Chem. Mater.*, 8, 650-655 (1996).

36. A.W. Apblett, A. Ahmadi, and E.H. Walker, “Incorporation of Actinides into Leach Resistant Phases Via Ion-Exchange Materials” in *International Symposium on the Environmental Issues and Waste Management Technologies in Ceramic and Nuclear*

Industry II Ceram. Trans. , 72 , V. Jain and D. Peeler, eds. American Ceramic Society, Westerville, OH: 1996. pp 189-195.

37. A.W. Apblett, G.D. Georgieva, J.T. Mague, E.J. Matta, and L.E. Reinhardt, "Low-Temperature Precursors for Ceramic Oxide Catalysts" Ceram. Trans. , 73 , 105-112 (1997).

38. A.W. Apblett and G.D. Georgieva, "Novel Synthetic Routes for SYNROC" in International Symposium on the Environmental Issues and Waste Management Technologies in the Ceramic and Nuclear Industry Ceram. Trans. , 72 , V. Jain and D. Peeler, eds. American Ceramic Society, Westerville, OH: 1996. pp 157-165.

39. A.W. Apblett, G.D. Georgieva, and J.T. Mague "Synthesis and Spectroscopic and Thermal Decomposition Studies of Alkali Metal Salts of 2-Oximinopropionate." Inorg. Chem., 36, 2656-2661, 1997.

40. A.W. Apblett, G.D. Georgieva, and J.T. Mague "Spectroscopic and Thermochemical Investigation of Alkaline Earth Metal Salts of 2-Oximinopropionate." Can. J. Chem., 75, 483-490, 1997.

41. A.W. Apblett, L.D. Byers, and L.E. Reinhardt, "Catalytic Hydrolytic Dechlorination of Chlorocarbons" Ceram. Trans. , in press.

42. A.W. Apblett, G.D. Georgieva, L.E. Reinhardt, and E.H. Walker, "Precursors for Aqueous and Liquid-Based Processing of Ferroelectric Thin Films" in Synthesis and Characterization of Advanced Materials; Serio, M., Gruen, D. M. & Ripudaman, M., Eds., American Chemical Society: Washington, D.C., pp 95-105 (1998)

43. A.W. Apblett, M.L. Breen, and E. H. Walker "Synthesis of Nickel Ferrite Using Liquid Metal Carboxylates" Chem. Mater., 10, 1265-1269, 1998.

44. A.W. Apblett, L.E. Reinhardt, and E. H. Walker "The Application of Liquid Metal Carboxylates to the Preparation of Aluminum-Containing Ceramics" Comments in Inorganic Chemistry., 20, 83-99, 1998. (Invited contribution)

45. M.L. Breen, J.T. Woodward IV, D.K. Schwartz, and and A.W. Apblett, "Investigation of the Early-Stages of Solution Growth of Cadmium Sulfide" Chem. Mater., 10, 710-717, 1998.

46. A.W. Apblett, M. Sun, and L.E. Reinhardt, "Water-Soluble Bimetallic Precursors for Refractory Ceramics" Proceedings of Unified International Technical Conference on Refractories, Vol III, 1511-1518, 1997.

47. A.W. Apblett, L.E. Reinhardt, and E.H. Walker "Liquid Metal Carboxylate Precursors for Yttrium Aluminum Garnet" Proceedings of Unified International Technical Conference on Refractories, Vol III, 1525-1529, 1997.
48. A.W. Apblett, M. L. Breen, L.E. Reinhardt, and E.H. Walker "Precursors for Solution Growth of Alumina Ceramics" Proceedings of Unified International Technical Conference on Refractories, Vol III, 1519-1524, 1997.
49. A.W. Apblett, L.E. Reinhardt, and E.H. Walker "Novel Liquid Precursors for Spinel and Alumina Ceramic Coatings" Proceedings of Unified International Technical Conference on Refractories, Vol III, 1503-1507, 1997.
50. Joel T. Mague, Allen W. Apblett, and Galina Todorova, "Metal Alkoxy-carboxylate Complexes. II. Poly[di-aqua-bis(3-hydroxypropionato)-yttrium(III)] and catena-Poly[pentaaqua(3-hydroxypropionato)yttrium(III)] Bromide Chloride. Acta. Cryst. , C54, 1784-1787, 1998.
51. E. H. Walker, G.D. Georgieva, E.M. Holt, L. E. Reinhardt, and A.W. Apblett, "Novel Processes for Synthesis of Dielectric Ceramics Using Metallo-Organic Precursors" Ceram. Trans. 100, 87-94, 1999.
52. Allen W. Apblett and Edwin H. Walker, Jr., "Innovative Processes for Ceramic Synthesis Using Liquid Metal Carboxylates" Ceram. Trans. 94, 205-213, 1999.
53. Allen W. Apblett and Edwin H. Walker, Jr. "Immobilization of Actinides in Titanate Ceramic Wasteforms" Ceram. Trans. 93, 365-372, 1999.
54. Joel T. Mague, Allen W. Apblett, and Galina Todorova, "Metal Alkoxy-carboxylate Complexes. I. Poly[aqua-bis(methoxyacetato)(nitrate)neodymium(III)]. Acta. Cryst. , C54, 1588-1590, 1998.
55. A.W. Apblett and E.M. Holt "Structure of Potassium Methoxyacetate Tetrahydrate" Acta. Cryst., C55, 539-542, 1999.
56. W. Dong, J. T. Barber, A.W. Apblett, E.H. Walker, Jr. and A.T. Korz , "Biosorption of Thorium by Lemna Gibba (Duckweed)" Submitted to Journal of Chemical Technology and Biotechnology.
57. A.W. Apblett and E.M. Holt "X-ray Structure, Spectroscopic Analysis, and Thermal Chemistry of Copper(II) 2-Oximinopropionate" Polyhedron, Accepted for Publication.
58. Allen W. Apblett, B.P. Kiran, and Katie Oden "Reductive Dechlorination of Chloromethanes Using Tungsten and Molybdenum Hydrogen Bronzes or Sodium

Hypophosphite" Submitted for publication in ACS Book Series "Chlorinated Solvents and DNAPLS; Reactive Permeable barrier and Other Innovations.

NON-REFEREED ARTICLES

1. A. Apblett, S.M. Cannon, G. Georgieva, M.I. Raygoza-Maceda, and Larry E. Reinhardt, "Development of Polymeric Precursors for Ceramic Oxide Fibers" Proceedings of the Second Louisiana Aerospace Symposium, J. Wefel, Ed.; Louisiana Space Consortium: Baton Rouge, LA; 76-81 (1994).
2. A.W. Apblett, L.D. Byers, and L.E. Reinhardt, "Catalytic Hydrolytic Dechlorination of Chlorocarbons" in Preprints of Papers Presented at the 212th ACS National Meeting, Vol. 36 No. 2 American Chemical Society, Division of Environmental Chemistry, Washington D.C: 1996, pp.10-12.
3. A.W. Apblett, J.T. Barber, W. Dong, H.E. Ensley, E.E. Eduok and L.E. Reinhardt, "Biological and Chemical Remediation of RDX and HMX" in Preprints of Papers Presented at the 212th ACS National Meeting, Vol. 36 No. 2 American Chemical Society, Division of Environmental Chemistry, Washington, D.C.: 1996, pp.12-14.
4. A.W. Apblett, L.D. Byers, and L.E. Reinhardt, "Novel processes for Dechlorination of Chlorocarbons" in Extended Abstracts for Emerging Technologies in Hazardous Waste Management VIII American Chemical Society, Division of Industrial and Chemistry, Washington, D.C.: 1996, pp. 724-727.
5. A.W. Apblett, J.T. Barber, W. Dong, H.E. Ensley, E.E. Eduok and L.E. Reinhardt, "Remediation Processes for Military Explosives" in Extended Abstracts for Emerging Technologies in Hazardous Waste Management VIII American Chemical Society, Division of Industrial and Chemistry, Washington, D.C.: 1996, pp. 236-238.
6. A.W. Apblett, Book Review of "Advances in Metal-Organic Chemistry, Vol. 5" in Journal of the American Chemical Society. , in press.
7. A.W. Apblett, L.D. Byers, and L.E. Reinhardt, "Dechlorination of Chlorocarbons by Molybdates and Vanadates" in Preprints of Papers Presented at the 213th ACS National Meeting, Vol. 37 No. 1 American Chemical Society, Division of Environmental Chemistry, Washington D.C: 1997, pp.300-302.
8. Allen W. Apblett, B.P. Kiran, and Katie Oden "Reductive Dechlorination of Chloromethanes Using Tungsten and Molybdenum Hydrogen Bronzes or Sodium Hypophosphite" Preprints of Extended Abstracts, American Chemical Society Division of Environmental Chemistry. 2001, 40(1), 1-6.

BOOK CHAPTERS

1. A.W. Apblett "Inorganic Aluminum Chemistry" in Encyclopedia of Inorganic Chemistry R.B. King and R.L. Wells Eds.; John Wiley & Sons; Chichester, England. pp. 103-116 (1994)
2. A.W. Apblett "Polymers" in Encyclopedia of Physics, McMillan Publishing Company, in press.