

Alayne L. Schroll
Department of Chemistry and Physics
Saint Michael's College
Colchester VT 05439
802-654-2378
aschroll@smcvt.edu

Education

Ph.D., Bio-organic Chemistry, University of Minnesota, **1986**
B.A. (Cum Laude), Chemistry (High Honors), Russell Sage College, **1978**

Professional Experience

Associate Professor, Saint Michael's College, **1993-present**
Coordinator, Biochemistry Program, Saint Michael's College, **1995-2006, 2009-present**
Sabbatical Year, Department of Biochemistry, UVM College of Medicine, **2006-07**
Chairperson, Chemistry and Physics Department, Saint Michael's College, **1999-2006**
Sabbatical Year, Department of Pathology, UVM College of Medicine, **1994-95**
Assistant Professor, Saint Michael's College, **1986-93**
Visiting Assistant Professor, Department of Chemistry, SUNY-Plattsburgh, **1985-86**
Research Associate, General Electric R&D Center, Niskayuna, NY, **1978-80**

Current Research Area

For applications in peptide synthesis: developing new protecting groups for the selenol of selenocysteine, and developing milder and orthogonal deprotection chemistry for thiol and selenol protecting groups

Publications (all peer-reviewed)

Schroll, A.L.; Hondal, R.J. "Further Development of New Deprotection Chemistry for Cysteine and Selenocysteine Side Chain Protecting Groups" *Adv Exp Med Biol* **2009**, ISSN: 0065-2598, *611*, 135-136.

Schroll, A.L.; Heintz, N.H. "Chemical footprinting of structural and functional elements of *dhfr* ori β during the CHOC 400 cell cycle", *Gene* **2004**, *332*, 139-147.

Schroll, A.L.; Eastep, S.J.; Barany, G., "Synthesis and Characterization of Methoxy-(thiocarbonyl)sulfonyl Chloride", *J Org Chem* **1990**, *55*, 1475-1479.

Schroll, A.L.; Barany, G., "A New Protecting Group for the Sulfhydryl Function of Cysteine", *J Org Chem* **1989**, *54*, 244-247.

Schroll, A.L.; Barany, G., "Novel Symmetrical and Mixed Carbamoyl and Amino Polysulfanes by Reactions of (Alkoxydichloromethyl)polysulfanyl Substrates with N-Methylaniline", *J Org Chem* **1986**, *51*, 1866-1881.

MacLaury, M.R.; Schroll, A. L., "Metals as Synergistic Fire Retardants in Polyethylene-Silicone Blends", *J Appl Polym Sci* **1985**, *30*, 461-472.

Schroll, A. L.; MacLaury, M.R. "Use of Polymer-Bound Metals as Fire Retardants in Polyethylene-Silicone Blends", *J Appl Polym Sci* **1984**, *29*, 3883-3899.

Barany, G.; Schroll, A.L.; Mott, A.W.; Halsrud, D.A., "A General Strategy for Elaboration of the Dithiocarbonyl Functionality: Application to the Synthesis of Bis(chlorocarbonyl)disulfane and Related Derivatives of Thiocarbonic Acids", *J Org Chem* **1983**, *48*, 4750-4761.

MacLaury, M.R.; Schroll, A.L., "Kinetic and Chemical Analysis of Polymer Pyrolytic Volatiles by Pyrolysis GC and TGA", *J Fire and Flammability* **1981**, *12*, 203-207.

Baechler, R.D.; San Filippo, L.J.; Schroll, A.L., "Structural Effects Upon Competitive Decomposition Pathways of Thiosulfoxide Intermediates", *Tet Lett* **1981**, *22*, 5247-5250.

Invited Seminar

"Further Development of New Deprotection Chemistry for Cysteine and Selenocysteine Side Chain Protecting Groups" presented as part of Biochemistry Seminar Series, University of Vermont, February 8, **2008**.

Research Posters/Presentations Since Joining SMC Faculty (*SMC student)

Jarvis, P.*; Flemer, S.; Schroll, A.L. "Synthesis, Purification, and Characterization of a New Selenocysteine Derivative" presented as a poster at the 237th American Chemical Society National Meeting, Salt Lake City, March 23, **2009**.

Schroll, A.L. "Advances In 1) the Development of New Deprotection Chemistry for Cysteine and Selenocysteine Side Chain Protecting Groups and 2) the Synthesis of a New Selenocysteine Derivative" presented orally at the Northeast Regional Meeting of the American Chemical Society, Burlington VT, June 30, **2008**.

Schroll, A.L., Hondal, R.J. "Advances in the Development of New Deprotection Chemistry for Cysteine and Selenocysteine Side Chain Protecting Groups" presented as a poster at the Northeast Regional Meeting of the American Chemical Society, Burlington VT, June 30, **2008**.

Jarvis, P.*; Schroll, A.L. "Synthesis, Purification, and Characterization of a New Selenocysteine Derivative" presented as a poster at the Dean's Reception, SMC, April 12, **2008**.

Schroll, A.L., Hondal, R.J. "Further Development of New Deprotection Chemistry for Cysteine and Selenocysteine Side Chain Protecting Groups" presented as a peer-reviewed poster at the 20th American Peptide Society Meeting, Montreal, Canada, June 26-29, **2007**.

Schroll, A.L., Hondal, R.J. "Further Development of New Deprotection Chemistry for Cysteine and Selenocysteine Side Chain Protecting Groups", presented as a poster at the VT EPSCoR Annual Conference, Burlington VT, Mar 28, **2007**.

Schroll, A.L., Hondal, R.J. "Synthesis of New Selenocysteine Derivatives for Peptide Synthesis", presented as a poster at the Vermont Genetics Network Conference, Williston VT, Aug 16, **2006**.

Rotondo, J.*, Schroll, A.L. "Synthesis, Characterization, and Use of New Selenocysteine Derivatives", presented as a poster at the VT EPSCoR Conference, Burlington VT, Aug 15, **2005**.

Schroll, A.L., Heintz, N.H. "Chemical footprinting of structural and functional elements of *dhfr* ori β during the CHO 400 cell cycle", presented as a peer-reviewed poster at the Vermont Cancer Center's 18th Regional Cancer Research Symposium, Burlington VT, Oct 2-3, **2003**.

Schroll, A.L., Heintz, N.H. "Chemical Footprinting of Three DNA Regions within the Dihydrofolate Reductase Gene of CHO 400 Cells", presented as a poster at VT EPSCoR's Partnerships in Science and Technology Symposium, UVM, Dec 5, **1995**.

Schroll, A.L. "Chemical Footprinting of Three DNA Regions within the Dihydrofolate Reductase Gene of CHO 400 Cells", presented orally at SMC, Math/Science Seminar Series, Oct 19, **1995**.

Crockett, C.*; Schroll, A.L. "The Development of New Protecting Groups for the Sulfhydryl Function of Cysteine", presented orally by the student at the VT Academy of Arts and Sciences Symposium on Undergraduate Research, Casleton College VT, Apr **1993**.

Kopach, M.G.*; Schroll, A.L. "Development of a New Protecting Group for the Sulfhydryl Function of Cysteine", presented orally by the student at the VT Academy of Arts and Sciences Symposium on Undergraduate Research, Trinity College, Apr **1989**.

Professional Society Memberships

American Chemical Society
American Peptide Society