
# 37th Ontario-Québec Physical Organic Mini-Symposium

***University at Buffalo, SUNY, Buffalo, NY***

**November 13 - 15, 2009**

## PROGRAM OVERVIEW

| DAY | EVENT | TIME | LOCATION |
|---|---|---|---|
| Friday Evening | Welcome Mixer & Registration | 7.30 - 11.00 pm | *Ramada Hotel and Conference Center, Ellicott Room* |
| Saturday AM | Registration & Coffee | 8:15 am | *Knox, Lower Rotunda* |
| | Opening Remarks | 8.45 am | *Knox 104* |
| | Session I Talks | 9:00 - 10:20 am | |
| | Coffee Break | 10:20 - 10:50 am | *Knox, Lower Rotunda* |
| | Session II Talks | 10:50 am - 12:10 pm | *Knox 104* |
| | Lunch | 12:10 pm | *Bert's, Talbert Hall (see map)* |
| Saturday PM | Poster Session | 1:00 - 3:00 pm | *Knox, Upper Rotunda* |
| | Session III Talks | 3:00 - 4:00 pm | *Knox 104* |
| | Coffee Break | 4:00 - 4:30 pm | *Knox, Lower Rotunda* |
| | Session IV Talks | 4:30 - 5:50 pm | *Knox 104* |
| | Cocktails (Cash Bar) | 6:30 - 7:00 pm | *Byblos Restaurant* |
| | Dinner | 7:00 pm | |
| Sunday AM | Session V Talks | 9:00 - 10:20 am | *Knox 104* |
| | Coffee Break | 10:20 - 10:50 am | *Knox, Lower Rotunda* |
| | Session VI Talks | 10:50 - 11:50 am | *Knox 104* |
| | Closing Remarks | 11:50 am | |

## SATURDAY NOVEMBER 14

8:15 **REGISTRATION AND COFFEE** *Knox Lecture Hall, Lower Rotunda*

8:45 **OPENING REMARKS** *Knox 104*
Luis Colon, *Chair, Department of Chemistry, University at Buffalo*

***Session I*** *Knox 104*
***Chair: Bob Lemieux***

9:00 **O1. Mechanism of Cleavage of Radical Anions of Nitrocyclopropanes**
Frédéric Couture-Martin, Cecilia Cristea, Achille Nassi, Alireza Sardashti, Jean Marc Chapuzet and Jean Lessard, *Université de Sherbrooke*

9:20 **O2. Nitrones as Rapid Dipoles for Strain-Promoted 1,3-Dipolar Cycloadditions with Cyclooctynes**
Craig S. McKay, Joseph Moran and John Paul Pezacki, *Steacie Institute for Molecular Sciences, National Research Council of Canada & University of Ottawa*

9:40 **O3. Chain Amplification in Photoreactions of N-Alkoxypyridinium Salts in the Presence of Bases**
Deepak Shukla, Samir Farid, Wendy Ahearn and Dianne Meyer, *Eastman Kodak Company*

10:00 **O4. Synthesis of Copper Nanoparticles Mediated by Photogenerated Free Radicals**
Natalia L. Pacioni, Katherine L. McGilvray and Juan. C. Scaiano, *University of Ottawa*

10:20 **COFFEE**

***Session II*** *Knox 104*
***Chair: Ken Maly***

10:50 **O5. Improving Photolithographic Resolution Using Photochemical Tricks: Strategies for Two-Photon Acid Generation**
Paul S. Billone, Julie M. Park, James M. Blackwell and J. C. (Tito) Scaiano, *University of Ottawa & Intel Corporation*

11:10 **O6. Photochemically Triggered Assembly of Composite Nanomaterials Through the Photodimerization of Adsorbed Anthracene Derivatives**
Anthony R. Smith and David F. Watson, *University at Buffalo, SUNY*

11:30 **O7. Singlet Oxygen Delivery Through the Porous Cap of a Hollow-Core Fiber Optic Device**
Matibur Zamadar, David Aebisher and Alexander Greer, *City University of New York, Brooklyn College*

11:50 **O8. A Facile Photosynthetic Route for Ruthenium Nanoparticles**
Laetitia René-Boisneuf and J. C. (Tito) Scaiano, *University of Ottawa*

12:10 **LUNCH** *Bert's, Talbert Hall (see map inside back cover)*

1:00 - 3:00 **POSTER SESSION** *Knox Lecture Hall, Upper Rotunda*

The poster session will be split into two sections as follows:
1:00 - 2:00 **Poster Session I (Odd-numbered posters)**
2:00 - 3:00 **Poster Session II (Even-numbered posters)**

***Session III*** *Knox 104*
***Chair: Andrew Murkin***

3:00 **O9. Development of a Novel Class of Inhibitor Against α-Carboxyketose Synthases**
Naresh Balachandran and Paul J. Berti, *McMaster University*

3:20 **O10. Chemistry of Signal Transduction by Cancer Chemopreventive Dithiolethiones**
James C. Fishbein, *University of Maryland, Baltimore County*

3:40 **O11. The Effect of Phosphite Dianion on the Rate and Products of Wildtype and Mutant Forms of Triosephosphate Isomerase from *Trypanosoma brucei brucei***
Merced Malabanan, Tina L. Amyes and John P. Richard, *University at Buffalo, SUNY*

4:00 **COFFEE**

***Session IV*** *Knox 104*
***Chair: Heidi Muchall***

4:30 **O12. The Reactions of Transient Silylenes with Oxiranes and Thiiranes - A Mechanistic Study**
Svetlana Kostina and William Leigh, *McMaster University*

4:50 **O13. Stereomutations and [1,3] Carbon Shifts of Vinylcyclobutane**
John E. Baldwin, David J. Kiemle and Alexey P. Kostikov, *Syracuse University & SUNY College of Environmental Science and Forestry*

5:10 **O14. Reactions within Fluorobenzene/Ammonia Heterocluster Ions: An Experimental and Theoretical Investigation**
Kristin Butterworth and James F. Garvey, *University at Buffalo, SUNY*

5:30 **O15. Computational Equilibrium and Rate Constants for the Aldol Addition**
J. Peter Guthrie, *University of Western Ontario*

6:30 **COCKTAILS & DINNER** ***Byblos Restaurant***

## SUNDAY NOVEMBER 15

***Session V*** *Knox 104*
***Chair: Paul Berti***

9:00 **O16. Hydrolytic Decarboxylation**
Ronald Kluger and Scott O. C. Mundle, *University of Toronto*

9:20 **O17. Internal Return of Carbon Dioxide in Decarboxylation**
Scott Mundle, Steven Rathgeber, Georges Lacrampe-Couloume, Barbara Sherwood Lollar and Ronald Kluger, *University of Toronto*

9:40 **O18. Amidic Hydrolysis: A Competitive Reaction for the Breakdown of Some *N*-(Hydroxymethyl)benzamide Derivatives Under Basic Conditions**
John L. Murphy and Richard W. Nagorski, *Illinois State University*

10:00 **O19. Indirect and Direct Detection of the 4-(Benzothiazol-2-yl)phenylnitrenium Ion from a Putative Metabolite of a Model Anti-Tumor Drug**
Mrinal Chakraborty, Kyoung Joo Jin, Samuel C. Brewer III, Huo-Lei Peng, Matthew S. Platz, and Michael Novak, *Miami University & The Ohio State University*

10:20 **COFFEE**

***Session VI*** *Knox 104*
***Chair: Richard Manderville***

10:50 **O20. Synthesis and Self-Assembly of Novel Polycyclic Aromatic Hydrocarbons**
Philip T. Lynett and Kenneth E. Maly, *Wilfrid Laurier University*

11:10 **O21. Influence of the Alkoxide Precursor on the Synthesis of Metal Oxide Nanocrystals**
Sean W. Depner, Kenneth R. Kort and Sarbajit Banerjee, *University at Buffalo, SUNY*

11:30 **O22. Toward a Design Strategy for "de Vries-Like" Liquid Crystals**
J. C. Roberts, K. Ayub, N. Kapernaum, F. Giesslemann and R. P. Lemieux, *Queen's University*

11:50 **CLOSING REMARKS**

# 37th POMS LIST OF POSTERS

**P1. Unnatural Phospholipids for Lung Surfactant Therapy**
Natasha Best, Jason A. Davy, Zhongyi Wang, Zhengdong Wang, Robert H. Notter and Adrian L. Schwan, *University of Guelph*

**P2. Xanthone Acetic Acid Photochemistry From the Protonated State: The Other Side of the Story**
Jessie A. Blake and J. C. Scaiano, *University of Ottawa*

**P3. New EDOT and DAT Comonomers for Conjugated Materials With Tuneable Photophysical Properties**
Andréanne Bolduc and Will G. Skene, *Université de Montréal*

**P4. Poly(Acrylic Acid) Brushes: Study of Surface Properties**
Olga Borozenko, Béatrice Lego, W.G. Skene and Suzanne Giasson, *Université de Montréal*

**P5. Switchable Dyes in Switchable Solvents**
A. R. Boyd, P. G. Jessop and E. Buncel, *Queen's University*

**P6. Aromatic-Heteroaromatic Electrophiles and Super-Electrophiles**
Erwin Buncel, Julian M. Dust, Regis Goumont and Francois Terrier, *Queen's University*

**P7. Partitioning Behavior of Sulfonamide Antibacterials to Aqueous Micellar Systems**
Patrick J. Cashin, Erwin Buncel, Gary vanLoon and R. Stephen Brown, *Queen's University*

**P8. Structure-Reactivity Studies of Iminoxyl Radicals Formed in the Photooxidation of Benzylketoximes**
H. J. Peter de Lijser, Lalisa Stutts and Kwanruthai Tadpetch, *California State University, Fullerton*

**P9. Development of Cation-Specific Optical Sensors**
Matthew R. Decan, Marta Liras and J. C. Scaiano, *University of Ottawa*

**P10. Conjugated Azomethines**
Stéphane Dufresne and Will Skene, *Université de Montréal*

**P11. Oxidation of Copper Nanoparticles: Kinetic and Mechanistic Investigations**
Vasilisa Filippenko, Natalia L. Pacioni, Nathalie Presseau and Juan C. Scaiano, *University of Ottawa*

**P12. Cucurbituril Complexes Cross the Cell Membrane**
M. González-Béjar, P. Montes-Navajas, J. C. Scaiano and H. García, *University of Ottawa*

**P13. A $^1O_2$ Delivery Device for the Inactivation of Bacteria**
Matibur Zamadar, David Aebisher, Goutam Ghosh, Catherine McEntee and Alexander Greer, *CUNY Brooklyn College*

**P14. Olefin and Fullerene Sulfurations with Thiozone ($S_3$). A Theoretical Study**
Alvaro Castillo and Alexander Greer, *CUNY Brooklyn College*

**P15. Theoretical Investigation of the Bergman Cyclization of Tropylannelated Enediyne Ligands for Dual Function Metal-Containing Drugs**
Edyta M. Greer, Olga Lavinda and Dat Mai, *CUNY Baruch College*

**P16. Efficient, One Step Synthesis of Aryl- and Alkyl-substituted 3*H*-1-Benzazepines from 2-Haloanilines and α,β-Unsaturated Ketones**
Keith Ramig, Edyta M. Greer, David J. Szalda, Rabail Razi, Fahima Mahir, Nataliya Pokeza, Wei Wong, Benjamin Kaplan, Joanne Lam, Ayesha Mannan, Christopher Missak, Dat Mai, Gopal Subramaniam, William F. Berkowitz, Prakash Prasad, Sasan Karimi, Ngai Hin Lo and Linas V. Kudzma, *CUNY Baruch College*

**P17. The Generation of Au Nanoparticles on Solid Supports and the Application of these Composites as Heterogeneous Catalysts**
Geniece Hallett-Tapley, Charles-Oneil Crites, María González-Béjar, Katherine McGilvray and J. C. Scaiano, *University of Ottawa*

**P18. Cross-Conjugated Shape Persistent Macrocycles**
C. Scott Hartley, Amanda E. Ponsot and Katherine M. Digianantonio, *Miami University*

**P19. Lanthanum-Catalyzed Biomimetic Aminoacylation of Ribonucleosides and Nucleotides with Amino-Deprotected Aminoacyl Phosphate Esters**
Sohyoung Her and Ronald Kluger, *University of Toronto*

**P20. A Novel Base Induced Cyclization of Various Substituted Benzyl Alkynyl Sulfones**
M. Selim Hossain and Adrian L. Schwan, *University of Guelph*

**P21. (1+2)- and (1+4)-Cycloadditions of Heavy Carbenes to 1,3-Dienes**
Lawrence A. Huck and William J. Leigh, *McMaster University*

**P22. Kinetics of the Formation and Decay of 4-(Benzothiaozol-2-yl)phenylnitrenium Ion**
Kyoung Joo Jin, Mrinal Chakraborty and Michael Novak, *Miami University*

**P23. Development of Conjugated Copolymers for Carbon Nanotube-Based Solar Cells**
Thomas Kraft, Erwin Buncel and Jean-Michel Nunzi, *Queen's University*

**P24. Toward KIE Measurement by Natural Abundance $^2$H-NMR: Acid- and Enzyme-Catalyzed Hydrolysis of ß-Methyl Glucoside**
N. Lukenda and P. J. Berti, *McMaster University*

**P25. Novel Routes to Well Defined Polymers with Functional Backbones**
Kai Luo and Javid Rzayev, *University at Buffalo, SUNY*

**P26. Photochemical Control Over the Growth of Gold Nanoparticles**
Katherine McGilvray, Rachel Schwartz-Narbonne and J. C. Scaiano, *University of Ottawa*

**P27. Optimizing the Photocurrent Efficiency of Dye-Sensitized Solar Cells through the Controlled Aggregation of Chalcogenorhodmine Dyes on Titania**
Kacie R. Mulhern, Anthony R. Smith, Brandon D. Calitree, Michael K. Gannon, Thomas C. Fitzgibbons, Justin C. Onyeji, Michael R. Detty and David F. Watson, *University at Buffalo, SUNY*

**P28. Mechanistic Insights Into the Copper-Promoted Intramolecular Aminooxygenation of Alkenes**
Monissa C. Paderes, Jerome B. Keister and Sherry R. Chemler, *University at Buffalo, SUNY*

**P29. Photochemical Synthesis of Cu and Cu/Ag Nanoparticles**
Andrea Pardoe, Natalia Pacioni and Tito Scaiano, *University of Ottawa*

**P30. Two-Photon Acid Generation: A Promising Tool for Subwavelength Lithography**
Julie M. Park, Paul S. Billone and J.C. Scaiano, *University of Ottawa*

**P31. Quantitative Aspects of the Theory of Buffer Two-Phase Liquid Systems**
Igor Povar, *Institute of Chemistry, Academy of Sciences of Moldova*

**P32. Reactions of Transient Silylenes with Alkenes**
Margaret Reid and William Leigh, *McMaster University*

**P33. Recognition of Halide Anions in Dilute Solution by Tridentate Halogen Bond Donor**
Mohammed G. Sarwar and Mark S. Taylor, *University of Toronto*

**P34. C8-Heterocyclic-2'-Deoxyguanosine Adducts as Fluorescent Probes**
Katherine M. Schlitt and Richard A. Manderville, *University of Guelph*

**P35. Diastereoselective Alkylations of a Protected Cysteinesulfenate**
Suneel P. Singh, Marcus J. Verdu and Adrian L. Schwan, *University of Guelph*

**P36. The Diastereoselective Synthesis of Sulfoxides by the Reaction of Sulfenates with Amino Acid Derived Enantiopure Electrophiles**
Stefan Charles Soderman and Adrian Schwan, *University of Guelph*

**P37. The Influence of Halogen End-group on the Properties of 2-Phenylpyrimidine Liquid Crystals**
Qingxiang Song, Jeffery C. Robert and Robert P. Lemieux, *Queen's University*

**P38. Quenching of Ketyl Radicals By Silver**
Kevin G. Stamplecoskie, Michel Grenier and Juan C. Scaiano, *University of Ottawa*

**P39. DFT and Photoelectron Spectroscopy of Chloro-Substituted Phenylnitrene Anions**
Daryoush Tahmassebi and Paul G. Wenthold, *Indiana University-Purdue University Fort Wayne*

**P40. Enolization Rates of Cyclic Ketones and the Apparent Insensitivity of the Brønsted Beta-Value to Ring Size**
Dishant Tailor and Richard W. Nagorski, *Illinois State University*

**P41. Asymmetric Ring-closing Metathesis using Chiral $C_1$-symmetric Ru-based Catalysts**
Brice Stenne, Justin Timperio, Travis Dudding and Shawn K. Collins, *Brock University*

**P42. Bis-Tetramers of Hemoglobin as Red Cell Substitutes: Oxygen Binding and Nitrite Reductase Activity**
Adelle Vandersteen, Jonathan Foot, Francine Lui and Ronald Kluger, *University of Toronto*

**P43. Two-photon Acid Generation of 9-Bromophenanthrene**
Tse-Luen Wee, Julie Park, James M. Blackwell, Bristol Robert and J. C. Scaiano, *University of Ottawa*

**P44. A Catechol Oxidative Pathway for Phenolic C8-Deoxyguanosine Adducts**
Aaron Witham and Richard A. Manderville, *University of Guelph*

**P45. Photochemistry of Nitro, Amine, and Amide Substituted Xanthone Acetic Acids and Thioxanthone Acetic Acids**
M. Yorke, J. A. Blake and J. C. Scaiano, *University of Ottawa*