



SEAC Newsletter

Volume 1, No. 2 July, 1984

BOARD OF DIRECTORS

The Charter Members of SEAC have elected the following Board of Directors.

Ralph N. Adams, Univ. of Kansas
Fred C. Anson, California Inst. of Tech.
Allen N. Bard, Univ. of Texas
Stanley Bruckenstein, SUNY at Buffalo
Dennis H. Evans, Univ. of Wisconsin
Larry R. Faulkner, Univ. of Illinois
William R. Heineman, Univ. Cincinnati
Dennis C. Johnson, Iowa State University
Peter T. Kissinger, Purdue Univ. and BAS
Theodore Kuwana, The Ohio State Univ.
Joseph T. Maloy, Seton Hall University
Royce W. Murray, Univ. of North Carolina
Janet Osteryoung, SUNY at Buffalo
Robert A. Osteryoung, SUNY at Buffalo
Stephen G. Weber, Univ. of Pittsburgh

OFFICERS AND COMMITTEE CHAIRS

The following officers and committee chairs were elected by the Board of Directors for the year commencing the first Monday after the 1984 Pittsburgh Conference with the understanding that these individuals would also serve in these capacities prior to that time.

President: Bill Heineman
President-elect: Joe Maloy
Secretary: Janet Osteryoung
Treasurer: Larry Faulkner

Membership Committee: Janet Osteryoung
Nominating Committee: Joe Maloy
Finance Committee: Royce Murray
Activities Committee: Ted Kuwana -
1985 Symposium Chairman
Steve Weber -
Symposium Arrangements

Awards Committee: Dennis Johnson

Newsletter Editor: To be chosen by the
President

The term of office is one year beginning the Monday after the Pittsburgh Conference.

CONGRATULATIONS TO PROFESSOR RALPH N. ADAMS

Professor Ralph Adams, University of Kansas, has just been announced as the second recipient of the CHARLES N. REILLEY AWARD in Electroanalytical chemistry. The award will be presented to Professor Adams during the C. N. Reilley Award Symposium at the Pittsburgh Conference in New Orleans, February 25 - March 1, 1985

CALL FOR PAPERS

2nd Annual CHARLES N. REILLEY AWARD SYMPOSIUM
in
ELECTROANALYTICAL CHEMISTRY

February 25 - March 1, 1985, New Orleans

INVITED SPEAKERS: AWARDEE: Ralph N. Adams, Univ. of Kansas
Bill Heineman, Univ. of Cincinnati
Stan Bruckenstein, SUNY Buffalo
Art Hubbard, UC Santa Barbara
Chairman: Ted Kuwana, The Ohio State Univ.

YOU ARE INVITED TO SUBMIT A CONTRIBUTED PAPER TO THIS SYMPOSIUM

Please send TITLE AND ABSTRACT (200 words) by August 10, 1984 to Co-organizer of this Symposium, Dr. Stephen G. Weber, Department of Chemistry, Univ. of Pittsburgh, Pittsburgh, PA 15260

TRENDS AND ACCOMPLISHMENTS IN ELECTROANALYTICAL CHEMISTRY

The 37th Annual Summer Symposium on Analytical Chemistry, "Trends and Accomplishments in Electroanalytical Chemistry" was held June 11-14 at the National Bureau of Standards in Gaithersburg, Maryland. With well over 150 attendees, this was one of the largest Analytical Chemistry Summer Symposia in many a moon, and attests to both the health of, and interest in, the electroanalytical areas.

SEAC was well represented on the program. SEAC participants included: Rick McCreery, Rick Van Duyne, Dick Durst, Stan Bruckenstein, Dennis Evans, Janet

Osteryoung, Keith Oldham, Bill Heinenman, Don Sawyer, Pete Kissinger, Dick Van Effen, Jim McLean, Buzz Adams, and Dave Curran as speakers or authors; Henry Blount as a presider; and Bob Osteryoung as Program Chairman.

Other speakers included Garry Rechnitz, Willi Simon, Art Janata and Henry Freiser and other presiders included Dick Buck, Bill Koch and, in a reminiscent mood, Dick Nicholson; Harry Hertz was General Chairman.

A large audience—which stayed to the end in spite of Pete Kissinger being the last speaker—appeared to enjoy the program and the social gatherings. Perhaps another Summer Symposia devoted to Electroanalytical Chemistry will be held in the next 14 years or so; the last one was in 1970, and it is clear we have had accomplishments, do have trends, and the science ain't bad either.

Bob Osteryoung

Bulletin Board

SEAC encourages members to submit notices of interest to other members. Ads for postdoctoral positions, industrial opportunities, and other information are welcome for inclusion in the "Bulletin Board" section.

RETICULATED VITREOUS CARBON

The manufacturer of reticulated vitreous carbon (RVC) Energy Research and Generation, Inc. (ERG) seems willing to do small production runs of specialty materials for moderate cost (ca. \$1000). One run would supply many users. If we can pool our interests the cost to each individual would be small. Possibilities include RVC with >100 pores per inch and various reticulated metals. If you would like to participate in this venture, please get in touch with me with some idea of the type of material you might like to purchase before August 1, 1984. I will collate the responses and reply to the group with a specific proposal.

Dr. Janet Osteryoung
SUNY at Buffalo

MEMBERSHIP

As of June 30, 1984, SEAC had 184 Charter Members. This is an excellent turnout. However, many people are as yet unaware of SEAC. Please give a copy of the attached membership application form to anyone you know who is interested in electroanalytical chemistry and, therefore, might like to join our society. Scientists from all disciplines are welcome!

NEED AN AUDIENCE?

Attendance at the contributed and invited electrochemical sessions at the Pittsburgh Conference last March was convincing evidence that this meeting is the place to present ones latest and best results. For those unfamiliar with the Pittsburgh Conference, note that the total attendance is ca. 25,000 and about 1% of that number come to hear the invited papers in electrochemistry. At the contributed sessions the papers by students were uniformly interesting and well-presented and the general quality of papers was excellent. This was reflected in attendance in the range 60 - 150 for the entire contributed program. In short, if you want an audience, this is the place to be. **NOTE THAT ABSTRACTS ARE DUE AUGUST 10!!!**

Dr. Janet G. Osteryoung
SUNY at Buffalo

JOURNAL OF APPLIED ELECTROCHEMISTRY

In January 1984, Dr. A. A. Wragg took over the Editorship of the Journal of Applied Electrochemistry. He will continue to further the aims and scope established by the Journal in recent years. The Journal is international, focusing attention upon and stimulating interest in the interdisciplinary and technological aspects of electrochemistry. It is also the policy of the Journal to provide short articles giving an overview of areas of particular technological importance. Such articles should be prepared only after consultation with the Editor. Papers concerned with technologically important fields such as electromechanical engineering, new battery systems, solar cells, the electrochemistry of molten salts and solids and the electrochemical treatment of effluents are welcome.

Publisher: Methuen, Inc., 735 Third Avenue, New York, NY 10017

POSITION OPEN PRODUCT SUPPORT ELECTROCHEMIST

An immediate opening is available for an M.S. or Ph.D. level electrochemist. This is not a traditional research position, but does involve problem-solving with electroanalytical techniques. The successful candidate will possess better than average writing skills, and will be equally adept at oral presentations. Responsibilities will include support of field sales personnel, participation in trade shows and seminars, preparation of technical documentation, and development of new instrumentation and technology. Equal opportunity employer M/F. Reply with resume to LKK||CSB, BAS, 2701 Kent Ave., W. Lafayette, IN 47906.

26TH ROCKY MOUNTAIN CONFERENCE
SYMPOSIUM ON ELECTROCHEMISTRY
Denver, August 5 - 9, 1984

Chaired by C.A. Koval and C.M. Elliott

'Electrochemical Guide to the Preparation of Metal Pi-Complexes and Pi-Complex Radicals,' W. E. Geiger, G.A. Lane, J. Edwin

'Anion Effects on the Oxidation of Pd(II)(amidate) Complexes,' A.W. Hamburg and C. Ho

'The Electrochemical Behavior of $(Rh_2(1,8\text{-diisocyanomethane})_4)^{2+}$ in Nonaqueous Solutions,' M.R. Rhodes and K.R. Mann

Plenary Lecture sponsored by EGG Princeton Applied Research - 'Electrochemical Applications of Coordination Chemistry,' T.J. Meyer

'Cyclic Voltammetry of Metallocenes at Highly-Doped p-InP Electrodes,' R.L. Austermann

'Coordination Chemistry of Chemical Derivatized Surfaces: The Synthesis and Reactivity of Binuclear Nickel (II)- M^{2+} ($M=Fe, Ru, Mn$) Complexes on a Nickel Electrode Surface,' A.B. Bocarsly, H.D. Humphrey, and S. Sinha

'Electrochemical Studies of Polyphosphine Transition Metal Complexes of Fe, Co, and Ni in Solution and on Electrode Surfaces,' D.L. Dubois and A. Miedaner

'Electrochemical Studies of Bis-Metal Complexes of a Unique Hindered Porphyrin,' J.K. Arnette, C.M. Elliott, R.R. Krebs

'Preparation and Electrochemistry of Linked Photosensitizer|Electron Donor and|or Acceptor Compounds Derived from 2,2'-Bipyridyl Substituted Porphyrins,' C.D. Dodson, C.M. Elliott, R.A. Freitag

'Preparation, Electrochemistry, and Photochemistry of Linked Photosensitizer|Quencher Complexes Derived from Novel Bipyridine Dimer Ligands,' R.A. Freitag, C.M. Elliott, and C.D. Dodson

'Practical Aspects of HPLC|EC Determination of Veterinary Drugs in Tissues and Feeds,' J.A. Hurlbut and W. Shimoda

'Rates of Reduction of Co(III)(Pentaalkylamine) (aqua) Complexes at Platinum and Mercury Electrodes,' M.E. Ketterer and C.A. Koval

'Pulsed Amperometric Detection of Amino Acids and Aminoglycosides at Platinum Detectors in Liquid Chromatography,' J.A. Polta and D.C. Johnson

'Thick-Polymer-Film Modified Electrodes—Potential Applications of Ring-Substituted Bipyridyl Metal Complexes,' J.G. Redepenning and C.M. Elliott

'Heterogeneous Electron Transfer Kinetics of Transition Metal Complexes Using Square Wave Voltammetry,' C.M. Reidsema and C.A. Koval

'An Iron(II) Macrocyclic Complex Which Acts as a Selective Host for Dissolved Carbon Monoxide and Facilitates the Transport of Gaseous CO Through Liquid Membranes,' Z.E. Reyes, C.A. Koval, and R.D. Noble

'Electrochemical and Spectral Studies of an Fe(III) OH Porphyrin,' S.J. Schmittle and C.M. Elliott

'Determination of Inorganic Sulfur Compounds in Caustic Coal Desulfurization Process Streams Using Liquid Chromatography with Polarographic Detectors,' Z. Udden, D.C. Johnson, R. Markuszewski, and P. Chiotti

'Electrochemical Properties of Phenanthroline 5-6 Dione Complexes of Transition Metal Ions,' H.D. Abruna and C. Goss

'Electrochemistry of the $Mo_2(V)Mo_2(III)$ Aquo Ions in Acidic Solution,' M.T. Paffett

'Redox Chemistry of Unusual Ring-Substituted Metalloporphyrins,' C.M. Elliott

Plenary Lecture sponsored by Bioanalytical Systems, Inc., 'LCEC: Improved Performance Using Pre- and Post-Column Reactions and Low Dead Volume Electrode Transducers,' R.E. Shoup, W. Jacobs, and P.T. Kissinger

'New Voltammetric Detection Modes for Flow Injection Systems,' H.D. Dewald and J. Wang

Plenary Lecture sponsored by EOO Instruments - 'Pulsed Anodic Amperometric Detection at Platinum Electrodes for Detection in Liquid Chromatography,' D.C. Johnson, J.A. Polta, D.S. Austin, T.Z. Polta, and J. Johnson

'Optimization of Determination of Surface Concentrations by Chronocoulometry,' J.F. Rusling and M.Y. Brooks

Plenary Lecture sponsored by EOO Instruments - 'Stripping Analysis,' J. Wang

PHILADELPHIA ACS MEETING
SYMPOSIUM ON PHOTOCHEMICAL AND ELECTROCHEMICAL
SURFACE SCIENCE

August 26 - 31, 1984

Organized by J. F. Evans

- 27 Aug
00 'Ordered Ionic Layers Formed on Pt(III) in Solution,' J.L. Stickney, S.D. Rosasco, G.N. Salarta, and A.T. Hubbard
- 45 'Ex Situ Surface Structure Analysis of Metal Electrodeposits,' P.N. Ross
- 30 'The Structure and Kinetics of Water Adsorbed on Clean and Impurity-Dosed Metal Surfaces,' T.E. Madey
- 15 'Dependence of OC and CH Bond Activation on d Band Position: Acetylene on Pt(III) and Fe(100): An Electrochemical Model,' S.P. Mehandru and A.B. Anderson
- 40 'H₂O Adsorption on Ni(100): Formation and Orientation of Dimer Clusters,' C. Nobl, C. Benndorf, and F. Thieme
- 00 'Ion Beam Studies of Metal Surfaces,' N. Winograd
- 45 'Electron- and Photon-Stimulated Desorption at Organic Surfaces,' J.A. Kelber
- 30 'Ejection Mechanisms in the Ion- and Electron-Stimulated Desorption of Covalently-Bound Surface Structures,' T.R. Hayes and J.F. Evans
- 28 Aug
00 'Luminescence Probe Studies of Ion-Containing Polymers,' C.R. Martin, M.N. Szentirmay, and N.E. Preito
- 45 'Photoluminescence and Electroluminescence as Probes of the Electric Field in Semiconductor Electrodes,' W.S. Hobson, P.B. Johnson, and A.B. Ellis
- 30 'Transient Optical Processes at the n-TiO₂ Photoelectrochemical interface,' A.R. Rocarsly, A.P. Norton, and S.L. Bernasek
- 29 Aug
00 'Infrared Reflection - Absorption Spectroscopy as Applied to the Electrode-Electrolyte Interface,' W.G. Golden, K. Kumimatsu, M.R. Philpott, and H. Seki
- 45 'In Situ EMIRS and IRRAS Determinations of Small Molecules on Electrode Surfaces,' J.W. Russel and M. Severson
- 30 'Infrared Spectroscopy at the Solution||Electrode Interface,' S. Pons
- 15 'Vibrational Spectroscopy of Adsorbed CO at Electrode Surfaces,' J. Overend and G.L. Griffin
- 14⁰⁰ 'Raman Studies of Electrochemical Interfaces,' E.B. Yeager, and B. Simic-Glavaski
- 14⁴⁵ 'Surface-Enhanced Raman Spectroscopy of Electrochemically-Characterized Interfaces - Application to Electrode Processes,' M.J. Weaver, S. Farquharson, and M.A. Tahayyoni
- 16³⁰ 'Characterization of the Surface and Interfacial Properties of Ag Electrodes by Surface-Enhanced Raman Scattering,' J.E. Pemberton
- 16¹⁵ 'In Situ Vibrational Spectroscopy of Silver Electrodes (IR and Raman),' J.G. Gordon II, H. Seki, K. Kumimatsu, and W.G. Golden
- 30 Aug
09⁰⁰ 'Anger Lineshape Analysis Applied to the Study of Lithium and Titanium Surface Chemistries,' N.R. Armstrong
- 09⁴⁵ 'Applications of Surface-Specific Mossbauer Spectroscopy,' J.S. Zabinski, T.R. Nolen, and B.J. Tatarchuk
- 10³⁰ 'The Characterization of Carbon Surfaces by Anger Line Shape Analysis,' J.W. Rogers, Jr.
- 11¹⁵ 'Characterization of Iron Oxide Surfaces for the Photocatalyzed Dissociation of Water,' K. Sieber, M. Hendewerk, and G.A. Somorjai
- 14⁰⁰ 'Chemistry and Electrochemistry of Silver Interfaces: Clusters, Complexes and Catalysts,' C.P. Kubiak, M.J. Weaver, R.A. Walton, W.N. Delgass, R.P. Andres, C.G. Takoudis, R.G. Cooks, T.E. Meyers, S.B. Park, J. Wu, M.L. Kullberg, F.R. Lenke, L.D. Detter, and S.J. Pachuta
- 14⁴⁵ 'Diffuse Reflectance Spectroelectrochemistry and X-ray Diffraction as Probes of the Chemically-Derivatized Interface: The Nickel Electrode,' A.B. Bocarsly, B.D. Humphrey, M.H. Schmidt, S. Sinha, and T. Nixon
- 15¹⁰ 'Theory of Cyclic Voltammetry for CO-Adsorption Processes,' T. HepeI
- 15³⁵ 'Electrochemical Reduction of Oxygen at Surface-Prepared Tin Oxide Electrodes,' H. Kim and Q.W. Choi.

CHARLES N. REILLEY MEMORIAL SYMPOSIUM
(Southeast Regional ACS Meeting)
Raleigh, NC, October 25-26, 1984

'Analytical Application of Conducting Polymer Electrodes,' Harry B. Mark, Jr., University of Cincinnati

'Electrochemical Reactions at Zeolite-Modified Electrodes,' Debra R. Rolison, C.G. Murray, T.A. Welsh, and R.J. Nowak, Naval Research Laboratory

'Molecular Structure and Dynamics of Electrode Surfaces,' Richard P. Van Dyrne, J. Haushalter, B.E. Miller, B. Johnson, and K. Carron, Northwestern University

'Twin Electrode Thin-Layer Electrochemistry Revisited,' Royce W. Murray, P.G. Pickup, B. B. Feldman, L. Genge, and C. Chidsey, University of North Carolina

'Biosensors Based on Reversible Reactions At Blocked and Unblocked Electrodes,' Richard P. Buck, University of North Carolina

'Preparation and Solution Chemistry of Aquo Complexes of Platinum (II) and DMSO,' Luther E. Erickson and Eric R. Eidsmoe, Grinnell College,

'Multidentate Ligand Exchange Reactions,' James D. Carr, University of Nebraska

'Metal Complexes of Cyclic Chelating Ligands,' Joseph E. Sarneski, Anthony D. Sabatelli and Elizabeth J. Tierney, Fairfield University

'NMR Studies of Bonding and Structure in Metal Complexes,' Ronald R. Evilia, University of New Orleans

Friday, October 26

'Journeys in Environmental Chemistry,' Bruce McDuffie, SUNY at Binghamton

'Closely Spaced Filar Electrodes,' Larry B. Anderson, Ohio State University

'Metal-Catalyzed Oxidations of Ibuprofen,' Lloyd E. Fox, The Upjohn Company

'Investigations of Benzene Metabolism and Toxicity Using Dual Electrode Liquid Chromatography|| Electrochemistry,' P.T. Kissinger and S.M. Lunte, Purdue University

INTERNATIONAL CONGRESS OF PACIFIC BASIN
SOCIETIES: SYMPOSIUM ON BIOELECTRO-
ANALYTICAL CHEMISTRY
Honolulu, Hawaii
December 16 - 21, 1984

Plenary Lecture - 'In vivo Electrochemical Measurements of Neurotransmitters,' R.M. Wightman

'Ion Sensitive Field Effect Translators for Biomedical Applications,' T. Matsuo and H. Nakajima

'New Electrochemical Detectors for HPLC' W.C. Purdy

'Aspects of Electrochemical and Photoelectrochemical Detection,' S.G. Weber

'Pulse Immunoassay,' I. Karube, H. Matsuoka, and S. Suzuki

'An Immunoaffinity Chromatographic Assay with Amperometric Detection,' G. Sittampalam, R. Nielsen, W.U. de Alwis, and G.S. Wilson

Plenary Lecture - 'LCEC: Improved Performance Using Pre- and Post-Column Reactions and Low Dead Volume Multiple Electrode Transducers,' P.T. Kissinger

'LCEC in the Clinical Laboratory,' S.J. Soldin

'Selective and Sensitive Determination of Reducible Substances by Flow Cell Voltammetry with Twin Working Electrodes,' S. Sakura and H. Imai

'PHLC - Electrochemiluminescence Analysis of Luminol-Labeled Peptides,' M. Sato and H. Karatani

'The Use of Luminol-Labeled Peptides for HPLC with a Chemiluminescent Detector,' H. Karatani and M. Sato

'Electrochemical Immunoassay,' M. Aizawa, Y. Ikariyama, and M. Furuki

'Immunoassay by Chromatography||Electrochemistry,' W.R. Heineman, H.B. Halsall, K.R. Wehmeyer, M.J. Doyle, and D.S. Wright

Plenary Lecture - 'The Redox Chemistry of Dioxygen Species (O_2 , O_2^- and H_2O_2) and their Activation in Biological Systems,' D.T. Sawyer

'Electrochemistry and Spectroelectrochemistry of Five and Six Coordinate o-Bonded Iron Porphyrins,' K.M. Kadish, D. Lancon, and P. Cocolios

'Oxidative Electrochemistry of Stable Ferric Hydroxy Porphyrins: Potential Relevance to High Valent Iron Ferryl-Containing Biomolecules,' C.M. Elliott and S.J. Schmittle

'Sulfur Bridged Iron-Copper Complexes: Models for the Active Site in Cytochrome Oxidase,' C.M. Elliott and K. Akabori

'Oxidation Chemistry of Some Biologically Important Indoles,' M.Z. Wrona, N.T. Nguyen, and G. Dryhurst

'Electrochemical and Peroxidase-Catalyzed Oxidation of Uric Acid,' S.Y. Tyagi and G. Dryhurst

Plenary Lecture - 'Redox Behavior of Tetra-Heme Protein-Cytochrome C₃,' K. Niki

'Electrochemical Behavior and Surface-Enhanced Raman Spectrum of Horse Heart Cytochrome C at a Bis-(4-pyridyl) Disulfide-Modified Gold Electrode,' I. Taniguchi, M. Iseki, H. Yamaguchi, and K. Yasukouchi

'Indirect Coulometric Titrations of Cytochrome C Oxidase with Cytochrome c,' R.C. Long, F.M. Hawkrige, and C.R. Hartzel

'New Spectroelectrochemical Methods for the Study of Biomolecules,' T. Kuwana

'In Situ Analysis of Some Bioactive Substances Adsorbed on a Solid Electrode by an Optical Reflection Method,' K. Takamura and F. Kusu

'Electrocatalytic Oxidation of D-Glucose by Glucose Immobilized Electrodes with Electron Transfer Mediators,' T. Ikada, H. Hamada, K. Miki, and M. Senda

'Anomalous Solubility Change of Organic Substances by Reduction of Oxidation at an Electrode Surface,' H. Imai, H. Yoshida, T. Masujima, S. Sakura, and S. Hirano

1985 ELECTROANALYTICAL SYMPOSIUM

(6th Annual Meeting)

Hyatt Regency Woodfield, Chicago, IL

May 29 - 31, 1985

MICRO AND ARRAY ELECTRODES

- In vivo biosensors for neurochemicals and other substances
- Hydrodynamic experiments

CLINICAL/NEUROCHEMICAL APPLICATIONS OF LCEC

- New sample preparations for plasma catecholamines
- Interpretation of data
- Automation of instrumentation
- New Applications: acetylcholine, amino acids, peptides, electrochemical immunoassays (ECIA)

MICROBORE AND HIGH SPEED LCEC

- Brain dialysis
- Other perfusion experiments
- Cell design

CHEMICALLY MODIFIED ELECTRODES FOR ANALYTICAL PURPOSES

- Enzyme cofactors
- Enrichments of analytes
- Use of membranes to improve selectivity

SPECTROELECTROCHEMISTRY UPDATE

- Technology: lasers, optical fibers, array detectors
- Surface characterizations with Raman and other techniques
- Thin-layer cells

AUTOMATION IN OBTAINING AND INTERPRETING EC DATA

- Digital electrochemistry
- Obtaining kinetic parameters
- Calculating analytical results
- Retrieving data from magnetic media.

In addition to these special sessions, there will be general sessions on pharmaceutical and environmental analysis, poster sessions, and an introductory workshop (29th) on electroanalytical principles and techniques. A wine and cheese reception will be held Thursday evening. The program will be structured to allow time for informal discussions around (and in) the swimming pool or bar (your preference). The Woodfield Mall provides for superb shopping. To submit a tentative title contact Ms. Josie Bewsey, Symposium Coordinator, P.O. Box 2206, W. Lafayette, IN 47906. SEAC members Rick Van Duyn, Rick McCreery, Bill Heineman, C. LeRoy Blank, and Pete Kissinger have already agreed to give talks.

SYMPOSIUM ON SPECTROELECTROCHEMISTRY AND ELECTROANALYSIS

The Electrochemical Society

Toronto, May, 1985

Contributions dealing with all aspects of research in spectroelectrochemistry or electroanalysis are invited. The symposium will include theoretical and experimental work related to the development and application of new techniques or to the improvement and extension of established methods.

Suggestions and inquiries should be made to W. R. Heineman, Department of Chemistry, University of Cincinnati, Cincinnati, OH 45221, or L. R. Faulkner, Department of Chemistry, University of Texas, Austin, TX 78712.