

## JOURNAL OF THE CHEMICAL SOCIETY

## Chemical Communications

Number 20  
1986

## CONTENTS

- 1497 The Thermal Decomposition of Trimethyloxonium Salts and its Relation to the Conversion of Methanol into Hydrocarbons **Paul Rimmelin, Almuth Brenner, Karin Fischer, Jean Sommer**
- 1498 Nickel(II)-promoted Rearrangements of Some N-Substituted Porphyrins **Kevin M. Smith, Ravindra K. Pandey, Kevin M. Snow**
- 1500 Hydrogen Bonded Carbanions directly observed by <sup>1</sup>H N.M.R. and I.R. Spectroscopy **Per Ahlberg, Bo Johnsson, Ian McEwen, Mats Rönnqvist**
- 1501 (S)-9-Fluorenylmethyl-L-cysteine, a Useful HF-stable Derivative for Peptide Synthesis **Mariano Ruiz-Gayo, Fernando Albericio, Enrique Pedroso, Ernest Giralt**
- 1502 Generation of  $\sigma$ -Bonded and Ionic C<sub>5</sub>H<sub>5</sub> Complexes from  $\eta^5$ -Cyclopentadienyl-palladium and -platinum Precursors and their Involvement in Hydrogen–Deuterium Exchange Phenomena **Gordon K. Anderson, Ronald J. Cross**
- 1504 Oxidations of Primary Alcohols with a Copper(II) Complex as a Possible Galactose Oxidase Model **Nobumasa Kitajima, Kaehong Whang, Yoshihiko Moro-oka, Akira Uchida, Yoshio Sasada**
- 1506 A New Rh<sub>6</sub> Geometry in the First Rh<sub>6</sub> Phosphido-bridged Cluster: Synthesis and Structure of Rh<sub>6</sub>( $\mu$ -Bu<sup>t</sup>P)<sub>4</sub>(CO)<sub>6</sub>( $\mu$ -CO)<sub>2</sub>( $\mu$ -H)<sub>2</sub> **Atta M. Arif, Duane E. Heaton, Richard A. Jones**
- 1508 High Resolution N.M.R. Measurements in Inhomogeneous Magnetic Fields: Use of the SECSY Pulse Sequence **Laurance D. Hall, Timothy J. Norwood**
- 1510 Syntheses and Molecular Structures of Molybdenum Complexes containing an  $\eta^3$ -Butadienyl Ligand and its Hydromethoxylated Derivative **Michael G. B. Drew, Brian J. Brisdon, David W. Brown, Colin R. Willis**
- 1513 The One-electron Oxidation of 1,4-Dimethylcyclohexa-1,3-diene **Alwyn G. Davies, Robyn S. Hay-Motherwell, Jeffrey C. Evans, Christopher C. Rowlands**
- 1514 Chirally Selective Hydrolysis of D,L-Amino Acid Esters by Alkaline Protease **Shui-Tein Chen, Kung-Tsung Wang, Chi-Huey Wong**
- 1516 Photochemical Carbon–Phosphorus Bond Cleavage of Nitro-substituted Benzylphosphonic Acids **Yoshiki Okamoto, Narimasa Iwamoto, Setsuo Takamuku**
- 1518 The Migration of the Cr(CO)<sub>3</sub> Unit from the Eight- to the Six-membered Ring in Benzocyclo-octatetraene **Pietro Berno, Alberto Cecon, Francesca Daprà, Alessandro Gambaro, Alfonso Venzo**
- 1519 Novel Osmium-(v) and -(iv) Dioxo Complexes of Macrocyclic Tetradentate Tertiary Amines: Spectroscopic Studies and Reactivity of *trans*-[Os<sup>v</sup>(tmc)(O)<sub>2</sub>]<sup>+</sup> (tmc = 1,4,8,11-tetramethyl-1,4,8,11-tetra-azacyclotetradecane) **Chi-Ming Che, Wing-Kin Cheng**
- 1521 Shape Selectivity in Hydrocarbon Oxidations using Zeolite encapsulated Iron Phthalocyanine Catalysts **Norman Herron, Galen D. Stucky, Chadwick A. Tolman**
- 1523 Enzymatic Differentiation of the Enantiotopic Hydroxymethyl Groups of Glycerol; Synthesis of Chiral Building Blocks **Detlev Breitgoff, Kurt Laumen, Manfred P. Schneider**
- 1524 A Novel Oxygen-to-Carbon Ester Migration catalysed by 4-(N,N-Dimethylamino)pyridine in the Benzofuranone Ring System **T. Howard Black, Steven M. Arrivo, Jeffrey S. Schumm, John M. Knobeloch**
- 1525 A Novel Route for producing Soluble Polyacetylene–Polyisoprene Block Copolymers **S. P. Armes, B. Vincent, J. W. White**
- 1527 [Ni<sub>4</sub>(S<sub>2</sub>)(SCH<sub>2</sub>CH<sub>2</sub>S)<sub>4</sub>]<sup>2-</sup>, the First Polysulphide–Thiolate Complex of a Transition Metal and [Ni<sub>3</sub>(SCH<sub>2</sub>CH<sub>2</sub>S)<sub>4</sub>]<sup>2-</sup>, a Related Linear Trinuclear Nickel Thiolate **Wolfgang Tremel, Bernt Krebs, Gerald Henkel**
- 1529 Anaerobic Operation of an Internal Combustion Engine **Huw O. Pritchard, Peter Q. E. Clothier**
- 1530 Spontaneous Self Assembly of the {M<sub>2</sub>( $\mu$ -O)( $\mu$ -MeCO<sub>2</sub>)<sub>2</sub>}<sup>2+</sup> Core. Synthesis, Structure, and Properties of the Binuclear Vanadium(III) Complex **Karl Wiegardt, Martin Köppen, Bernhard Nuber, Johannes Weiss**
- 1532 Substrate-induced Kinetic Resolution of Racemic Biphosphines *in situ* for Homogeneous Catalysis **Nathaniel W. Alcock, John M. Brown, Peter J. Maddox**
- 1535 An E.S.R. Study of Glyoxal Radical Cations **Lynn Portwood, Christopher J. Rhodes, Martyn C. R. Symons**
- 1536 New Features of Isoxazole Chemistry. The Reaction of Ethyl 4-Nitro-3-phenylisoxazole-5-carboxylate with 2,3-Dimethylbuta-1,3-diene **Rodolfo Nesi, Donatella Giomi, Sandro Papaleo, Laura Quartara**

- 1537 A Binuclear Antiferromagnetically Coupled Hydroxo-bridged Copper(II) Complex which undergoes Two-electron Oxidation to form a Binuclear Copper(III) Derivative and exhibits an Unusually Intense Visible Absorption **Laurence K. Thompson, Sanat K. Mandal, Eric J. Gabe, Jean-Pierre Charland**
- 1539 Palladium-catalysed Reactions of Ketenes with Allyl Acetates or Allyl Carbonates: Novel Syntheses of 1,3-Dienes and Allylated Esters **Take-aki Mitsudo, Mamoru Kadokura, Yoshihisa Watanabe**
- 1541 Structural Comparison of Oxobis(benzene-1,2-dithiolato)molybdenum-(V) and -(IV) Complexes **Stephen Boyde, S. Richard Ellis, C. David Garner, William Clegg**
- 1543 Mono- and Di-nuclear Phosphido and Arsenido Complexes of Gallium; Ga(EBu<sup>t</sup>)<sub>3</sub>, Ga[PH(2,4,6-Bu<sup>t</sup><sub>3</sub>C<sub>6</sub>H<sub>2</sub>)]<sub>3</sub> and [Ga(μ-EBu<sup>t</sup>)<sub>2</sub>R<sub>2</sub>]<sub>2</sub>, (E = P, As; R = Me, Bu<sup>n</sup>) **Atta M. Arif, Brian L. Benac, Alan H. Cowley, Rolf Geerts, Richard A. Jones, Kenneth B. Kidd, John M. Power, Stuart T. Schwab**
- 1545 Enantiomerically Selective Pig Liver Esterase-catalysed Hydrolyses of Racemic Allenic Esters **Sowmianarayanan Ramaswamy, Raymond A. H. F. Hui, J. Bryan Jones**
- 1547 Synthesis, Characterisation, and Reactivity of (η<sup>6</sup>-Indene)(η<sup>5</sup>-indenyl)rhenium: a Precursor to Hetero-bimetallic (μ-η<sup>3</sup>: η<sup>6</sup>-Indenyl) Derivatives **Malcolm L. H. Green, Nigel D. Lowe, Dermot O'Hare**
- 1548 New Mesogens with Six, Four, or Three Paraffinic Chains **Jacques Malthête, Nguyen Huu Tinh, Anne Marie Levelut**
- 1550 The First Separation of an Optically Active 1,3-Diphospha-allene of Axial Dissymmetry **Masaaki Yoshifuji, Koza Toyota, Takashi Niitsu, Naoki Inamoto, Yoshio Okamoto, Ryo Aburatani**
- 1551 *cis*-Substitution in Halogenobenzenetricarbonylchromium Complexes **Françoise Rose-Munch, Eric Rose, Assia Semra**
- 1553 Selective Photoalkylation of 10-Methylacridinium Ion with Tetra-alkylstannanes or Diethylmercury using Visible Irradiation **Shunichi Fukuzumi, Sadaki Kuroda, Toshio Tanaka**
- 1554 Compounds of Tin(IV) Phosphate with Monomers: Intercalation or Surface Modification? **Ian Fotheringham, Cyril O. Giwa, Michael J. Hudson**
- 1555 Leaving Group Selectivity in Reductive Elimination from Organogold(III) Complexes **Sanshiro Komiya, Satoshi Ozaki, Akira Shibue**

## AUTHOR INDEX

- Aburatani, Ryo, 1550  
 Ahlberg, Per, 1500  
 Albericio, Fernando, 1501  
 Alcock, Nathaniel W., 1532  
 Anderson, Gordon K., 1502  
 Arif, Atta M., 1506, 1543  
 Armes, S. P., 1525  
 Arrivo, Steven M., 1524  
 Benac, Brian L., 1543  
 Berno, Pietro, 1518  
 Black, T. Howard, 1524  
 Boyde, Stephen, 1541  
 Breitgoff, Detlev, 1523  
 Brenner, Almuth, 1497  
 Brisdon, Brian J., 1510  
 Brown, David W., 1510  
 Brown, John M., 1532  
 Cecon, Alberto, 1518  
 Charland, Jean-Pierre, 1537  
 Che, Chi-Ming, 1519  
 Cheng, Wing-Kin, 1519  
 Chen, Shui-Tein, 1514  
 Clegg, William, 1541  
 Clothier, Peter Q. E., 1529  
 Cowley, Alan H., 1543  
 Cross, Ronald J., 1502  
 Daprà, Francesca, 1518  
 Davies, Alwyn G., 1513  
 Drew, Michael G. B., 1510  
 Ellis, S. Richard, 1541  
 Evans, Jeffrey C., 1513  
 Fischer, Karin, 1497  
 Fotheringham, Ian, 1554  
 Fukuzumi, Shunichi, 1553  
 Gabe, Eric J., 1537  
 Gambaro, Alessandro, 1518  
 Garner, C. David, 1541  
 Geerts, Rolf, 1543  
 Giomi, Donatella, 1536  
 Giral, Ernest, 1501  
 Giwa, Cyril O., 1554  
 Green, Malcolm L. H., 1547  
 Hall, Laurance D., 1508  
 Hay-Motherwell, Robyn S., 1513  
 Heaton, Duane E., 1506  
 Henkel, Gerald, 1527  
 Herron, Norman, 1521  
 Hudson, Michael J., 1554  
 Hui, Raymond A. H. F., 1545  
 Inamoto, Naoki, 1550  
 Iwamoto, Narimasa, 1516  
 Johnsson, Bo, 1500  
 Jones, J. Bryan, 1545  
 Jones, Richard A., 1506, 1543  
 Kadokura, Mamoru, 1539  
 Kidd, Kenneth B., 1543  
 Kitajima, Nobumasa, 1504  
 Knobeloch, John M., 1524  
 Komiya, Sanshiro, 1555  
 Köppen, Martin, 1530  
 Krebs, Bernt, 1527  
 Kuroda, Sadaki, 1553  
 Laumen, Kurt, 1523  
 Levelut, Anne Marie, 1548  
 Lowe, Nigel D., 1547  
 McEwen, Ian, 1500  
 Maddox, Peter J., 1532  
 Malthête, Jacques, 1548  
 Mandal, Sanat K., 1537  
 Mitsudo, Take-aki, 1539  
 Moro-oka, Yoshihiko, 1504  
 Nesi, Rodolfo, 1536  
 Niitsu, Takashi, 1550  
 Norwood, Timothy J., 1508  
 Nuber, Bernhard, 1530  
 O'Hare, Dermot, 1547  
 Okamoto, Yoshiki, 1516  
 Okamoto, Yoshio, 1550  
 Ozaki, Satoshi, 1555  
 Pandey, Ravindra K., 1498  
 Papaleo, Sandro, 1536  
 Pedroso, Enrique, 1501  
 Portwood, Lynn, 1535  
 Power, John M., 1543  
 Pritchard, Huw O., 1529  
 Quartara, Laura, 1536  
 Ramaswamy, Sowmianarayanan, 1545  
 Rhodes, Christopher J., 1535  
 Rimmelin, Paul, 1497  
 Rönnqvist, Mats, 1500  
 Rose, Eric, 1551  
 Rose-Munch, Françoise, 1551  
 Rowlands, Christopher C., 1513  
 Ruiz-Gayo, Mariano, 1501  
 Sasada, Yoshio, 1504  
 Schneider, Manfred P., 1523  
 Schumm, Jeffrey S., 1524  
 Schwab, Stuart T., 1543  
 Semra, Assia, 1551  
 Shibue, Akira, 1555  
 Smith, Kevin M., 1498  
 Snow, Kevin M., 1498  
 Sommer, Jean, 1497  
 Stucky, Galen D., 1521  
 Symons, Martyn C. R., 1535  
 Takamuku, Setsuo, 1516  
 Tanaka, Toshio, 1553  
 Thompson, Laurence K., 1537  
 Tinh, Nguyen Huu, 1548  
 Tolman, Chadwick A., 1521  
 Toyota, Kozo, 1550  
 Tremel, Wolfgang, 1527  
 Uchida, Akira, 1504  
 Venzo, Alfonso, 1518  
 Vincent, B., 1525  
 Wang, Kung-Tsung, 1514  
 Watanabe, Yoshihisa, 1539  
 Weiss, Johannes, 1530  
 Whang, Kaehong, 1504  
 White, J. W., 1525  
 Wieghardt, Karl, 1530  
 Willis, Colin R., 1510  
 Wong, Chi-Huey, 1514  
 Yoshifuji, Masaaki, 1550

# JOURNAL OF ANALYTICAL ATOMIC SPECTROMETRY (JAAS)

NEW JOURNAL

## An International Journal on the Development and Application of Atomic Spectrometric Techniques

6 issues per annum (approx 150 pages per issue)

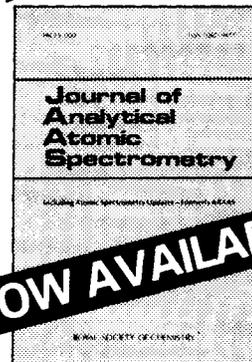
Published bimonthly – First issue February 1986 ISSN 0267-9477

1986 Subscription £165.00 (\$319.00) Rest of World £182.00

RSC Members £33.00

Editor: Mrs Judith Brew

U.S. Associate Editor: Dr J M Harnly (Beltsville, MD, USA)



### Aims and Scope

*Journal of Analytical Atomic Spectrometry (JAAS)* is a new international journal, launched in February 1986, which contains original research papers, short papers, communications and letters concerned with the development and analytical application of atomic spectrometric techniques. JAAS is published bimonthly and includes comprehensive reviews on specific topics, general information and news of interest to analytical atomic spectroscopists, including information on forthcoming conferences and book reviews. Special issues of JAAS will be published, devoted to subjects highlighted by particular symposia. Also included in JAAS are the literature reviews previously covered in *Annual Reports on Analytical Atomic Spectroscopy*.

Published by the Royal Society of Chemistry in London, JAAS has a style and format similar to that of the well-established journal *The Analyst*. JAAS provides an improved publication service to support the growing research efforts in, and applications of, atomic spectrometric techniques.

### Why is JAAS Unique?

A special feature of JAAS is the inclusion of *Annual Reports on Analytical Atomic Spectroscopy (ARAAS)*, previously published by the RSC in book form

The inclusion of the ARAAS reviews (which are called Atomic Spectrometry Updates) makes JAAS significantly different from all other journals in the field. Each bimonthly issue of JAAS contains a major review covering a period of one year. Successive issues of JAAS will review the whole range of topics previously covered by ARAAS to provide a unique appreciation of developments in analytical atomic spectrometry. The reviews will be on: Environmental and Agricultural Materials; Clinical and Food Materials; Instrumentation; Industrial Chemicals and Metals; Atomisation and Excitation; Minerals and Refractories.

JAAS will be invaluable to the practical user of analytical instrumentation and practising chemist. It will serve as a vehicle to assist the transfer of research ideas from the research laboratory into the routine analytical laboratory. Given the pace of developments in analytical atomic spectrometry JAAS will act as a vital communication medium between research scientists. The combination of primary journal material with ARAAS reviews will help to establish JAAS as a unique publication that should become essential reading for workers in the field.

### Ordering and Further Information

Further details on content and submission of papers may be obtained from the Editor, Mrs Judith Brew, The Royal Society of Chemistry, Burlington House, Piccadilly, London W1V 0BN, UK.

RSC Members should send their orders to: The Royal Society of Chemistry, Assistant Membership Officer, 30 Russell Square, London WC1B 5DT.

Non-RSC Members should send their orders to: The Royal Society of Chemistry, Distribution Centre, Blackhorse Road, Letchworth, Herts SG6 1HN, UK.

### JAAS Editorial Board

Professor J M Ottaway (Strathclyde, UK)  
Chairman  
Dr M S Cresser (Aberdeen, UK)  
Dr L C Ebdon (Plymouth, UK)  
D L Miles (Wallingford, UK)  
Dr B L Sharp (Aberdeen, UK)  
Dr M Thompson (London, UK)  
Dr A M Ure (Aberdeen, UK)  
Mrs J Brew (Editor)

### JAAS Advisory Board

Professor F Adams (Antwerp, Belgium)  
Professor R M Barnes (Amherst, MA, USA)  
L Bezür (Budapest, Hungary)  
Professor R F Browner (Atlanta, GA, USA)  
Dr S Caroli (Rome, Italy)  
Dr J B Dawson (Leeds, UK)  
Doz Dr sc K Dittich (Leipzig, GDR)  
Dr W Frech (Umea, Sweden)  
Professor K Fuwa (Tokyo, Japan)  
Professor L de Galan (Delft, The Netherlands)  
Dr A L Gray (Guildford, UK)  
Professor S Greenfield (Loughborough, UK)  
Professor G M Hieftje (Bloomington, IN, USA)  
Professor G Horlick (Edmonton, Canada)  
Dr J J LaBrecque (Caracas, Venezuela)  
Dr J M Mermet (Vernaison, France)  
Professor Ni Zhe-ming (Beijing, China)  
Dr N Omenetto (Ispra, Varese, Italy)  
Professor E Piško (Bratislava, Czechoslovakia)  
Dr R Sturgeon (Ottawa, Canada)  
Sir Alan Walsh (Victoria, Australia)  
Dr B Welz (Überlingen, FRG)  
Professor T S West (Aberdeen, UK)

