

JOURNAL OF THE CHEMICAL SOCIETY

Chemical Communications

Number 14
1989

CONTENTS

- 889 A Very Efficient Alkene Epoxidation by Magnesium Monoperoxyphthalate Catalysed by Manganese Porphyrins **Cecilia Querci, Marco Ricci**
- 890 A Simple Route to α,β -Unsaturated Aldehydes from Prop-2-ynols **Dawei Ma, Xiyan Lu**
- 891 A New Base-stable Linker for Solid-phase Oligonucleotide Synthesis **Tom Brown, Clare E. Pritchard, Gillian Turner, Stephen A. Salisbury**
- 893 Two Monomeric, Octahedral Complexes of Alkaline Earth Metal Salts: Syntheses, Physical Characteristics, and Crystal Structures of $\text{SrI}_2 \cdot 4\text{HMPA}$ and $\text{Sr}(\text{NCS})_2 \cdot 4\text{HMPA}$ [HMPA = $\text{O}:\text{P}(\text{NMe}_2)_3$] **Donald Barr, Alan T. Brooker, Michael J. Doyle, Simon R. Drake, Paul R. Raithby, Ronald Snaith, Dominic S. Wright**
- 895 Electroformylation of Organic Halides in *N,N*-Dimethylformamide: an Efficient Electrosynthesis of Aldehydes **Christophe Saboureau, Michel Troupel, Soline Sibille, Esther d'Incan, Jacques Périchon**
- 896 Imido Analogues of the Tungstate(vi) and Perrhenate(vii) Ions. *X*-Ray Crystal Structures of $\text{Li}_2\text{W}(\text{NBu}^t)_4$ and $\text{Li}(\text{tmed})\text{Re}(\text{NBu}^t)_4$ **Andreas A. Danopoulos, Geoffrey Wilkinson, Bilquis Hussain, Michael B. Hursthouse**
- 898 Synthesis of 14- α -Aminomethyl substituted Lanosterol Derivatives; Inhibitors of Fungal Ergosterol Biosynthesis **Alan B. Cooper, John J. Wright, Ashit K. Ganguly, Jagdish Desai, David Loebenberg, Raulo Parmegiani, David S. Feingold, Inder J. Sud**
- 900 Synthesis of Quinuclidine–Benzyl(ethylcarbamoyl)borane: The First Boron Analogue of a Phenylalanine Derivative **Wyatt J. Mills, Lee J. Todd, John C. Huffman**
- 902 LiBiO_2 : a Model for Bi^{3+} Co-ordination in High Temperature Superconductors **C. Greaves, S. M. A. Katib**
- 903 A Facile Conversion of Alkenes to Alcohols with Benzyltriethylammonium Borohydride–Chlorotrimethylsilane **Sundarababu Baskaran, Varsha Gupta, Nallaperumal Chidambaram, Srinivasan Chandrasekaran**
- 905 The Oxidative Demethylation of Tertiary Amines by Oxo(phosphine)ruthenium(IV) Complexes **Randolph A. Leising, Jeffrey S. Ohman, John H. Acquaye, Kenneth J. Takeuchi**
- 906 Novel Bonding Mode and Reaction of a Phosphonium-betaine Ligand $\text{S}_2\text{C}(\text{H})(\text{PPh}_3)$. Synthesis of the $[\text{Rh}(\text{XB}_{10}\text{H}_{10})\text{-}\{\text{S}_2\text{C}(\text{H})(\text{PPh}_3)\}_2]$ Dimers (X = Se, Te) and *X*-Ray Diffraction Study of the Te-compound **Faridoon, Trevor R. Spalding, George Ferguson, John D. Kennedy, Xavier L. R. Fontaine**
- 908 Half-sandwich Compounds of Zirconium(II): The Synthesis of $[\text{Zr}(\eta^6\text{-C}_7\text{H}_8)(\text{PMe}_3)_2\text{Cl}_2]$ **Malcolm L. H. Green, Philip Mountford, Neil M. Walker**
- 910 A Novel One-electron Reduction System consisting of 1,5-Dihydro-5-deazaflavin and Flavinium. Application to the Reductive Repair of 1,3-Dimethylthymine Bromohydrin as a Model of a Damaged Nucleic Acid **Taisin Akiyama, Reiko Yanada, Osamu Sakurai, Takashi Harayama, Kiyoshi Tanaka, Fumio Yoneda**
- 911 Dialkyl(4,4'-di-*t*-butyl-2,2'-bipyridyl)ruthenium(II): A New Family of Organoruthenium Complexes: Molecular Structure of *cis*- $\text{RuEt}_2(\text{Bu}^t\text{bipy})_2$ **Stephen I. Black, Andrzej C. Skapski, G. Brent Young**
- 913 Different Bonding Modes for 6-(2-Thienyl)-2,2'-bipyridine at Ruthenium(II): the Structural Characterisation of $[\text{Ru}(\text{HL})(\text{HL})\text{Cl}][\text{BF}_4]$ [HL = 6-(2-Thienyl)-2,2'-bipyridine] **Edwin C. Constable, Roland P. G. Henney, Derek A. Tocher**
- 915 Novel Synthesis of Optically Active Morpholines **Dilip R. Wagle, Michael G. Monteleone, Lalitha Krishnan, Maghar S. Manhas, Ajay K. Bose**
- 916 Synthesis of the Esperamicin A₁/Calicheamicin γ -Trisulphide Functionality: Thermal Stability and Reduction **Philip Magnus, Richard T. Lewis, Frank Bennett**
- 919 Silicon-29 Multiple Quantum Filtered N.M.R. Spectroscopic Evidence for the Presence of Only Six Single Site Silicate Anions in a Concentrated Potassium Silicate Solution **Christopher T. G. Knight, R. James Kirkpatrick, Eric Oldfield**

- 921 Carbonyl Ylide Formation from the Rhodium(II) Acetate Catalysed Reaction of Keto α -Diazoacetate Derivatives
Dennis C. Dean, Keith E. Krumpe, Albert Padwa
- 923 Synthesis and Chromophoric Interactions of an 'ortho-Gable-porphyrin,' A Novel Tetraphenylporphyrin Dimer
Heinrich Meier, Yoshiaki Kobuke, Shin-ichi Kugimiya
- 924 3,4-Benzotropone: Generation, Spectroscopic Characterization, and Reactions
Masakazu Ohkita, Takashi Tsuji, Shinya Nishida
- 926 Intercalation of Organic and Inorganic Anions into Layered Double Hydroxides
Kennedy Chibwe, William Jones
- 928 Activation and η^2 -Co-ordination of Arenes: Crystal and Molecular Structure of an (η^2 -Hexafluorobenzene)rhodium Complex
Simon T. Belt, Simon B. Duckett, Madeleine Helliwell, Robin N. Perutz
- 930 Diastereoselective Addition of Lithiated *N,N*-Diethyl-*o*-toluamide to Chiral Isopropylidene Glyceraldehyde Imines. Asymmetric Synthesis of 3-Substituted 3,4-Dihydro-1(2*H*)-isoquinolones
Robin D. Clark, Jahangir, Michel Souchet, John R. Kern
- 932 Cationic Palladium Nitro Complexes as Catalysts for the Oxygen-based Oxidation of Alkenes to Ketones, and for the Oxydehydrogenation of Ketones and Aldehydes to the α,β -Unsaturated Analogues
Timothy T. Wenzel
- 934 A Highly Selective Enzyme-catalysed Esterification of Simple Glucosides
Fredrik Björkling, Sven Erik Godtfredsen, Ole Kirk
- 935 Four- and Five-co-ordinate Lanthanide(III) Aryloxides: X-Ray Structures of the Bis(2,6-di-*t*-butyl-4-methylphenoxy)-ytterbium(III) Complexes [Yb(OAr)₂(L)₂] and [Yb(OAr)₂(L')₃] [Ar = C₆H₂Bu^t-2,6-Me-4, L = tetrahydrofuran (thf) or OEt₂, L' = thf]
Glen B. Deacon, Peter B. Hitchcock, Stephen A. Holmes, Michael F. Lappert, Peter MacKinnon, Russell H. Newnham
- 938 Stereoselection in the Synthesis of *threo*- and *erythro*-3-Amino-2-hydroxy-4-phenyl-butanoic Acid using Chiral Acetal Templates
Rosario Herranz, Julia Castro-Pichel, Soledad Vinuesa, M^a. Teresa García-López
- 939 Electrochemical Behaviour of Nafion Gels loaded with Ferrocene and Copper(I) Diphenylphenanthroline Complexes
P. Audebert, B. Divisia-Blohorn, J. M. Kern, P. Aldebert
- 941 Acid-catalysed Multi-electron Reduction of Nitrobenzene Derivatives by a Dihyronicotinamide Adenine Dinucleotide (NADH) Model Compound, 9,10-Dihydro-10-methylacridine
Shunichi Fukuzumi, Makoto Chiba, Toshio Tanaka
- 943 Novel Luminescent Platinum(II) Complexes. Photophysics and Photochemistry of Pt(5,5'-Me₂bpy)(CN)₂ (5,5'-Me₂bpy = 5,5'-Dimethyl-2,2'-bipyridine)
Chi-Ming Che, Kam-To Wan, Li-Yan He, Chung-Kwong Poon, Vivian Wing-Wah Yam
- 945 Electro-conductive Enzyme Membrane
So-ichi Yabuki, Hiroaki Shinohara, Masuo Aizawa
- 946 Characterisation of the Structure of Inorganic Chloride Salts with Chlorine Solid State N.M.R.
Tina L. Weeding, Wiebren S. Veeman
- 948 A Novel Mixed Octahedral-Tetrahedral Framework: X-Ray Characterization of a Microporous Gallophosphate, Ga₂P₂O₈(OH)H₂O·NH₄·H₂O·0.16 PrOH (GaPO₄-C₇)
Wang Tieli, Yang Guangdi, Feng Shouhua, Shang Changjiang, Xu Ruren
- 949 E.S.R. Evidence for the σ -State of a Diphosphene Radical Cation
Christopher J. Rhodes
- 951 Novel Epitetrathiodioxopiperazines, Emethallicins B and C, as Potent Inhibitors of Compound 48/80-induced Histamine Release, from *Emericella heterothallica*
Nobuo Kawahara, Koohei Nozawa, Shoichi Nakajima, Ken-ichi Kawai, Mikio Yamazaki
- 953 An Efficient Approach to the Basic Skeleton of the *cis*-Triketetrins
Takanori Yasukouchi, Ken Kanematsu
- 954 1,2-Dioxolane *versus* 1,2-Dioxane Formation in the Cyclization of an α,ω -Diene Hydroperoxide under Polar and Free Radical Conditions
A. J. Bloodworth, Richard J. Curtis, Navin Mistry
- 955 Synthesis of 9-(3-Deoxy-3-fluoro- β -D-ribofuranosyl)guanine, a New Potent Antiviral Agent
Frédéric Puech, Gilles Gosselin, Jean-Louis Imbach
- 957 An Examination of the β -Effect in an Addition Reaction with Different Ligands on Silicon
Michael A. Brook, Mahmud A. Hadi, Axel Neuy
- 959 A Common Synthetic Route to the Pericarboxyl and Perimethylene Lignan Lactones Dimethyl Conidendrin and Dimethyl Retrodendrin
Ajay Gupta, Russell Rodrigo
- 960 Aureolic Acid Antibiotics: Synthesis of Model 2-Deoxy- β -glycosides of α -Hydroxytetralone
Subban Ramesh, Richard W. Franck
- 963 β -Substitutions on *meso*-Tetraphenylporphyrin by Direct Electrochemical Oxidation in the Presence of Nucleophiles
L. El Kahf, M. Gross, A. Giraudeau
- 964 Iron *meso*-Tetra(2,6-dichlorophenyl)porphyrin as a very Efficient Catalyst for the Photoreduction of Carbon Tetrachloride by Alcohols
Carlo Bartocci, Andrea Maldotti, Graziano Varani, Vittorio Carassiti, Pierrette Battioni, Daniel Mansuy
- 965 Synthesis and Characterization of *N*-Substituted Poly(ethylenepyrrole): Functionalization of Ethylene-Carbon Monoxide Alternating Copolymers
Jwu-Ting Chen, Yu-Sung Yeh, Ayusman Sen
- 967 A Regio-, (*E*)-Stereo-, and Chemo-selective Synthesis of Unsymmetrical Divinylmethanols starting from *L*- and *D*-Tartrates *via* Organocyanocopper Lewis Acid Mediated 1,3-Chirality Transfer
Toshiro Ibuka, Miwa Tanaka, Yoshinori Yamamoto
- 969 Molecular Imprinting of a Transition State Analogue Leads to a Polymer Exhibiting Esterolytic Activity
David K. Robinson, Klaus Mosbach

970 Formation of a Novel Bicyclic γ -Lactam with Isopenicillin N Synthase **Jack E. Baldwin, Jonathan M. Blackburn, Magoichi Sako, Christopher J. Schofield**

Corrigendum

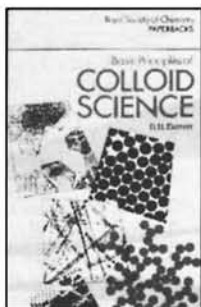
972 Trichodiene is a Precursor to Trichothecenes **L. O. Zamir, M. J. Gauthier, K. A. Devor, Y. Nadeau, F. Sauriol**

AUTHOR INDEX

- Acquaye, John H., 905
 Aizawa, Masuo, 945
 Akiyama, Taisin, 910
 Aldebert, P., 939
 Audebert, P., 939
 Baldwin, Jack E., 970
 Barr, Donald, 893
 Bartocci, Carlo, 964
 Baskaran, Sundarababu, 903
 Battioni, Pierrette, 964
 Belt, Simon T., 928
 Bennett, Frank, 916
 Björkling, Fredrik, 934
 Black, Stephen I., 911
 Blackburn, Jonathan M., 970
 Bloodworth, A. J., 954
 Bose, Ajay K., 915
 Brook, Michael A., 957
 Brooker, Alan T., 893
 Brown, Tom, 891
 Carassiti, Vittorio, 964
 Castro-Pichel, Julia, 938
 Chandrasekaran, Srinivasan, 903
 Changjiang, Shang, 948
 Che, Chi-Ming, 943
 Chen, Jwu-Ting, 965
 Chiba, Makoto, 941
 Chibwe, Kennedy, 926
 Chidambaram, Nallaperumal, 903
 Clark, Robin D., 930
 Constable, Edwin C., 913
 Cooper, Alan B., 898
 Curtis, Richard J., 954
 Danopoulos, Andreas A., 896
 Deacon, Glen B., 935
 Dean, Dennis C., 921
 Desai, Jagdish, 898
 Devor, K. A., 972
 d'Incan, Esther, 895
 Divisia-Blohorn, B., 939
 Doyle, Michael J., 893
 Drake, Simon R., 893
 Duckett, Simon B., 928
 El Kahf, L., 963
 Faridoon, 906
 Feingold, David S., 898
 Ferguson, George, 906
 Fontaine, Xavier L. R., 906
 Franck, Richard W., 960
 Fukuzumi, Shunichi, 941
 Ganguly, Ashit K., 898
 García-López, M^a. Teresa, 938
 Gauthier, M. J., 972
 Giraudeau, A., 963
 Godtfredsen, Sven Erik, 934
 Gosselin, Gilles, 955
 Greaves, C., 902
 Green, Malcolm L. H., 908
 Gross, M., 963
 Guangdi, Yang, 948
 Gupta, Ajay, 959
 Gupta, Varsha, 903
 Hadi, Mahmud A., 957
 Harayama, Takashi, 910
 He, Li-Yan, 943
 Helliwell, Madeleine, 928
 Henney, Roland P. G., 913
 Herranz, Rosario, 938
 Hitchcock, Peter B., 935
 Holmes, Stephen A., 935
 Huffman, John C., 900
 Hursthouse, Michael B., 896
 Hussain, Bilquis, 896
 Ibuka, Toshiro, 967
 Imbach, Jean-Louis, 955, 930
 Jahangir, 930
 Jones, William, 926
 Kanematsu, Ken, 953
 Katib, S. M. A., 902
 Kawahara, Nobuo, 951
 Kawai, Ken-ichi, 951
 Kennedy, John D., 906
 Kern, J. M., 939
 Kern, John R., 930
 Kirk, Ole, 934
 Kirkpatrick, R. James, 919
 Knight, Christopher T. G., 919
 Kobuke, Yoshiaki, 923
 Krishnan, Lalitha, 915
 Krumpe, Keith E., 921
 Kugimiya, Shin-ichi, 923
 Lappert, Michael F., 935
 Leising, Randolph A., 905
 Lewis, Richard T., 916
 Loebenberg, David, 898
 Lu, Xiyan, 890
 Ma, Dawei, 890
 MacKinnon, Peter, 935
 Magnus, Philip, 916
 Maldotti, Andrea, 964
 Manhas, Maghar S., 915
 Mansuy, Daniel, 964
 Meier, Heinrich, 923
 Mills, Wyatt J., 900
 Mistry, Navin, 954
 Monteleone, Michael G., 915
 Mosbach, Klaus, 969
 Mountford, Philip, 908
 Nadeau, Y., 972
 Nakajima, Shoichi, 951
 Neuy, Axel, 957
 Newnham, Russell H., 935
 Nishida, Shinya, 924
 Nozawa, Koohei, 951
 Ohkita, Masakazu, 924
 Ohman, Jeffrey S., 905
 Oldfield, Eric, 919
 Padwa, Albert, 921
 Parmegiani, Raulo, 898
 Périchon, Jacques, 895
 Perutz, Robin N., 928
 Poon, Chung-Kwong, 943
 Pritchard, Clare E., 891
 Puech, Frédéric, 955
 Querci, Cecilia, 889
 Raithby, Paul R., 893
 Ramesh, Subban, 960
 Rhodes, Christopher J., 949
 Ricci, Marco, 889
 Robinson, David K., 969
 Rodrigo, Russell, 959
 Ruren, Xu, 948
 Saboureau, Christophe, 895
 Sako, Magoichi, 970
 Sakurai, Osamu, 910
 Salisbury, Stephen A., 891
 Sauriol, F., 972
 Schofield, Christopher J., 970
 Sen, Ayusman, 965
 Shinohara, Hiroaki, 945
 Shouhua, Feng, 948
 Sibille, Soline, 895
 Skapski, Andrzej C., 911
 Snaith, Ronald, 893
 Souchet, Michel, 930
 Spalding, Trevor R., 906
 Sud, Inder J., 898
 Takeuchi, Kenneth J., 905
 Tanaka, Kiyoshi, 910
 Tanaka, Miwa, 967
 Tanaka, Toshio, 941
 Tieli, Wang, 948
 Tocher, Derek A., 913
 Todd, Lee J., 900
 Troupel, Michel, 895
 Tsuji, Takashi, 924
 Turner, Gillian, 891
 Varani, Graziano, 964
 Veeman, Wiebren S., 946
 Vinuesa, Soledad, 938
 Wagle, Dilip R., 915
 Walker, Neil M., 908
 Wan, Kam-To, 943
 Weeding, Tina L., 946
 Wenzel, Timothy T., 932
 Wilkinson, Geoffrey, 896
 Wright, Dominic S., 893
 Wright, John J., 898
 Yabuki, So-ichi, 945
 Yam, Vivian Wing-Wah, 943
 Yamamoto, Yoshinori, 967
 Yamazaki, Mikio, 951
 Yanada, Reiko, 910
 Yasukouchi, Takanori, 953
 Yeh, Yu-Sung, 965
 Yoneda, Fumio, 910
 Young, G. Brent, 911
 Zamir, L. O., 972

BASIC PRINCIPLES OF COLLOID SCIENCE

By D. H. Everett, F.R.S., *University of Bristol*



This new book provides an introduction to colloid science, based on the application of the principles of physical chemistry. Early chapters assume only an elementary knowledge of physical chemistry and provide the basis for more thorough discussion in later chapters covering specific aspects of colloid science.

The widespread occurrence of colloids is stressed and the more important industrial applications of colloid technology are outlined.

The final chapter deals with the future of colloid science and indicates the directions in which further developments are likely to take place. The book is ideal for undergraduate courses and, supplemented by further reading, for postgraduates too. It will also be useful to industrial research workers who wish to become familiar with the basic concepts and their many important applications to industry.

Brief contents:

What are Colloids?; Why are Colloidal Dispersions Stable?; I Basic Principles; II Interparticle Forces; How are Colloidal Dispersions Prepared?; What is the Role of Surface Chemistry? Surface Tension and Adsorption; Some Important Properties of Colloids: I Kinetic Properties, II Scattering Radiation, III Rheology; How are Colloidal Dispersions Destroyed?: I Aggregation Processes, II Coalescence and Particle Growth; Association Colloids and Self-Assembly Systems; Thin Films, Foams, and Emulsions; Gels; The Industrial Importance of Colloids; The Future of Colloid Science; Appendix I: Preparation of Some Simple Colloidal Systems; Appendix II: Some Simple Experiments with Colloids; Appendix III: Definitions and Measurement of Adsorption; Appendix IV: The Gibbs Adsorption Equation; Appendix V: Influence of Adsorption on Interparticle Forces; Appendix VI: Steric Stabilisation; Appendix VII: Further Reading; Subject Index.

ISBN 0 85186 433 0

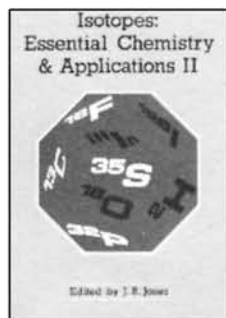
Softcover 258 pages

RSC Paperback (1988)

Price £9.95 (\$19.50)

ISOTOPES: ESSENTIAL CHEMISTRY AND APPLICATIONS II

Edited by J. R. Jones, *University of Surrey*



In the years that have elapsed since the RSC published *Isotopes: Essential Chemistry and Applications* in 1980 there have been many changes and developments which warrant publication of this edition. This book covers the synthesis of a wide range of isotopically labelled compounds, the analytical methods used and many important applications.

Contents:

Organic Synthesis with Short-lived Positron-emitting Radioisotopes; Radioiodination Techniques; The Radiochromatography of Labelled Compounds; Modern Spectrometric Methods for the Analysis of Labelled Compounds; Localization and Quantitation of Radioactivity in Solid Specimens Using Autoradiography; Isotope Shifts in NMR Spectroscopy – Measurement and Applications; The Use of Stable

Isotopes in Medicinal Chemistry; Radiopharmaceuticals; Isotopes in Molecular Biology; Industrial Applications of Radioisotopes.

ISBN 0 85186 746 4

Softcover 272 pp

Special Publication No. 68 (1988)

Price £39.50 (\$79.00)

For further information,
please write to:
Royal Society of Chemistry,
Sales and Promotion department,
Thomas Graham House,
Science Park,
Milton Road,
Cambridge CB4 4WF. U.K.

To Order, please write to:
Royal Society of Chemistry, Distribution
Centre, Blackhorse Road, Letchworth,
Herts SG6 1HN. U.K.
or telephone (0462) 672555 quoting
your credit card details.
We can now accept Access/Visa/
MasterCard/Eurocard.

RSC Members are entitled to a
discount on most RSC publications and
should write to:
The Membership Manager,
Royal Society of Chemistry,
Thomas Graham House,
Science Park, Milton Road,
Cambridge CB4 4WF. U.K.

