

JOURNAL OF THE CHEMICAL SOCIETY

**Chemical Communications**Number 5  
1991**CONTENTS**

- 273 Vanadium(IV) and Mixed-valence Vanadium(IV/V) Oxygen Clusters with Novel Electronic Properties, including the Examples  $[V_{12}As_8O_{40}(HCO_2)]^{n-}$  ( $n = 3$  or 5) Achim Müller, Joachim Döring, Hartmut Böggel
- 275 The Synthesis of Biphenomycin B Ulrich Schmidt, Regina Meyer, Volker Leitenberger, Albrecht Lieberknecht, Helmut Grieser
- 277 A Singular Substituent Effect in the Nickel(0) mediated Cocyclisation of Octa-1,7-dynes with Alkynols. One-step Synthesis of Tetralin Lactones from Acyclic Precursors Parveen Bhatarah, Edward H. Smith
- 278 Synthetic Approaches to the Alkaloids of the Ancistrocladaceae: Control of the Diastereoisomer Excess in the Synthesis of Axially Chiral Biaryl: a Synthesis of (−)-Ancistrocladinine Mark A. Rizzacasa, Melvyn V. Sargent
- 280 Two-photon Chemistry: Facile Synthesis of Naphthalene- and Anthracene-labelled Polystyrene by Photolysis of Aromatic Esters Steven Holdcroft, Ben-Zhong Tang, James E. Guillet
- 282 Selective Inclusion of Ethanol by Triphenylsilanol. Crystal Structure and Thermal Analysis Susan A. Bourne, Luigi R. Nassimbeni, Konstantinos Skobridis, Edwin Weber
- 283 Novel Dinuclear Dihydride Complexes of Ruthenium containing Bridging Carboxylate Ligands Hiroharu Suzuki, Takeaki Kakigano, Minoru Igarashi, Masako Tanaka, Yoshihiko Moro-oka
- 285 Photoinduced Isomerisation of a 5,6-trans-Penem to a cis-Penem Hiromitsu Iwata, Rie Tanaka, Seiichi Imajo, Yoshiaki Oyama, Masaji Ishiguro
- 287 Stereoselective Syntheses of Benzo- and Naphtho-pyrans by Lewis Acid catalysed Isomerisation of Aryldioxolanes Robin G. F. Giles, Ivan R. Green, Lorraine S. Knight, Vanessa R. Lee Son, Rodney W. Rickards, Badra S. Senanayake
- 289 Insertion of a D-Glucosamine Residue into the α-Cyclodextrin Skeleton; A Model Synthesis of 'Chimera Cyclodextrins' Nobuo Sakairi, Lai-Xi Wang, Hiroyoshi Kuzuhara
- 290 Ferrocenyldimethyl-[2.2]-cryptand: Solid State Structure of the External Hydrate and Alkali and Alkaline-earth-dependent Electrochemical Behaviour Julio C. Medina, Timothy T. Goodnow, Simon Bott, Jerry L. Atwood, Angel E. Kaifer, George W. Gokel
- 293 Cyclopeptide Functionalized β-Cyclodextrin. A New Class of Potentially Enzyme Mimicking Compounds with Two Recognition Sites Vincenzo Cucinotta, Franca D'Alessandro, Giuseppe Impellizzeri, Giuseppe Pappalardo, Enrico Rizzarelli, Graziella Vecchio
- 294 Formation of Allenes by Reaction of 1,4-Dibromobut-2-ene with Dialkyl Ketones and Base Živorad Čeković, Radomir Matović
- 295 On the Conformation of the Inversion State in the Thermal E,Z Isomerization of Aromatic Azomethines Hans-Jörg Hofmann, Tsutomu Asano, Renzo Cimiraglia
- 297 Directive and Shielding Effects of the Trimethylsilyl Group. Unprecedented β-Selectivity in the Reaction of α,β-Epoxyalkylsilanes with Hindered α-Sulphonyl Anions Paweł Jankowski, Stanisław Marczak, Marek Masnyk, Jerzy Wicha
- 298 Design and Synthesis of 6α-Substituted 2β,4α-Dihydroxy-1β-phosphoryloxycyclohexanes. Potent Inhibitors of Inositol Monophosphatase Raymond Baker, Carmel Carrick, Paul D. Leeson, Ian C. Lennon, Nigel J. Liverton
- 300 The First Report of the Isolation and Characterisation of an Intermediate formed upon Photolysis of a Ruthenium(II) Diimine Compound, in which One of the Chelating Ligands is Bound in a Monodentate Fashion Barbara E. Buchanan, Helen Hughes, John H. van Diemen, Ronald Hage, Jaap G. Haasnoot, Jan Reedijk, Johannes G. Vos
- 302 2-[Tris(dimethylamino)phosphonio]-1-phosphaethyne Tetraphenylborate, a Phosphonio-substituted Phosphaalkyne Ulrich Fleischer, Hansjörg Grützmacher, Uwe Krüger
- 304 Reactions of Catecholatoborane with Phosphinorhodium Complexes: Molecular Structures of  $[RhHCl(Bcat)PPr_3]_2$  and  $\{[Pr_2PCH_2]_2Rh\{\eta^6\text{-cat}\}Bcat\}$  Stephen A. Westcott, Nicholas J. Taylor, Todd B. Marder, R. Thomas Baker, Nancy J. Jones, Joseph C. Calabrese
- 306 Acyclic Tertiary Amines as Nucleophiles in Substitution Reactions of Aromatic and Heteroaromatic Halides Kiyoshi Matsumoto, Shiro Hashimoto, Shinichi Otani
- 307 Synthesis of the First Heterobimetallic Rhodium–Ruthenium η<sup>2</sup>-Dihydrogen Complexes Martine Cazanoue, Zhongli He, Denis Neibecker, René Mathieu

- 309 An Unusual Heptanuclear  $\text{Co}_4\text{Cu}_3$  Cluster Complex: A Copper(III) Cluster Derivative? **Hameed A. Mirza, Jagadese J. Vitthal, Richard J. Puddephatt**
- 311 Synthesis and Properties of New Optically Active  $\gamma$ -Lactones as Chiral Dopants for Ferroelectric Liquid Crystals **Tetsuo Kusumoto, Akiko Nakayama, Ken-ichi Sato, Kiyoharu Nishide, Tamejiro Hiyama, Sadao Takehara, Tadao Shoji, Masashi Osawa, Takeshi Kuriyama, Kayoko Nakamura, Toru Fujisawa**
- 312 Synthesis of Some Mimics of Nucleoside Triphosphates **Diane M. Coe, Hans Hilpert, Stewart A. Noble, Michael R. Peel, Stanley M. Roberts, Richard Storer**
- 314 Synthesis of Potential Agonists and Antagonists for Central Glutamate Receptors by a Novel 'Ring Switching' Process **Andrew N. Bowler, Paul M. Doyle, Douglas W. Young**
- 316 An Esterase with  $\beta$ -Lactamase Activity **Mark Jones, Michael I. Page**
- 317 Halocarbon Complexes of Platinum(II) **Tania M. Gomes-Carneiro, Richard D. Jackson, Joanne H. Downing, A. Guy Orpen, Paul G. Pringle**
- 320 New Bis(ethylenedithio)tetrathiafulvalene Derivatives with Low Oxidation Potentials **Adrian J. Moore, Martin R. Bryce, David J. Ando, Michael B. Hursthouse**
- 322 Highly-conducting Langmuir-Blodgett Films Based on  $\text{Ni}(\text{dmit})_2$  Anions **Ajaib S. Dhindsa, Jas Pal Badyal, Christopher Pearson, Martin R. Bryce, Michael C. Petty**
- 323 Fluorinated  $\gamma$ -Alumina. Catalytic Fluorination of 1,1,1-Trichloroethane at Ambient Temperature **James Thomson, Geoffrey Webb, John M. Winfield**
- 324 Palladium-catalysed Reaction of Vinylic Halides with Allylic Alcohols: A Highly Chemo-, Regio- and Stereo-controlled Synthesis of Conjugated Dienols **Tuyet Jeffery**
- 326 Synthesis of Optically Pure (*R*)-2-Hydroxy Acids using  $\text{D}$ -Lactate Dehydrogenase **Mahn-Joo Kim, Joon Young Kim**
- 327 The Importance of Electrostatic Effects in Controlling  $\pi$ -Facial Stereoselectivity in Nucleophilic Additions to Carbonyl Compounds: an *ab initio* MO Study of a Prototype Chelation Model **Stephen S. Wong, Michael N. Paddon-Row**
- 330 The First ESR Spin-trapping Evidence for the Formation of Hydroxyl Radical from the Reaction of Copper(II) Complex with Hydrogen Peroxide in Aqueous Solution **Toshihiko Ozawa, Akira Hanaki**
- 332 Asymmetric Induction in Radical Reactions: Enantioselective Syntheses of (*S*)-2-Deuterioglycine and (*R*)-2-Deuterioglycine **David P. G. Hamon, Pasquale Razzino, Ralph A. Massy-Westropp**
- 334 A Comparison of Semiempirical and *Ab Initio* Methods for the Study of Structural Features of Relevance in Carbohydrate Chemistry **Robert J. Woods, Walter A. Szarek, Vedene H. Smith, Jr.**
- 338 Preparation and Use of  $N^{\alpha}$ -Fluorenylmethoxycarbonyl-*O*-dibenzylphosphono-L-tyrosine in Continuous Flow Solid Phase Peptide Synthesis **Eric A. Kitas, John D. Wade, R. B. Johns, John W. Perich, Geoffrey W. Tregear**
- 339 Detection of Chirality by Colour **Tadahiko Nishi, Atsushi Ikeda, Tsutomu Matsuda, Seiji Shinkai**
- 341 High-pressure Synthesis, Structure and Novel Photochemical Reactions of 7,7,8,8-Tetramethyl-7,8-disilabicyclo[2.2.2]octa-2,5-diene **Akira Sekiguchi, Ikutaro Maruki, Keisuke Ebata, Chizuko Kabuto, Hideki Sakurai**
- 344 A Novel Photoalkylation of Electron-deficient Alkenes by Use of Organotin Compounds *via* Photoinduced Electron Transfer **Kazuhiko Mizuno, Kazuhisa Nakanishi, Atsushi Tachibana, Yoshio Otsuji**
- 345 Energy Transfer across a Hydrogen-bonded, Cytosine-derived, Zinc-Free-base Porphyrin Conjugate **Anthony Harriman, Darren J. Magda, Jonathan L. Sessler**

**Corrigendum**

- 348 *O*-Silylation of Acylcobalt Tetracarbonyls: Synthesis of a New Type of Dinuclear  $\mu_2$ -Hydroxycarbene Cobalt Carbonyl Derivatives **Attila Sisak, Angelo Sironi, Massimo Moret, Claudia Zucchi, Franco Ghelfi, Gyula Pályi**

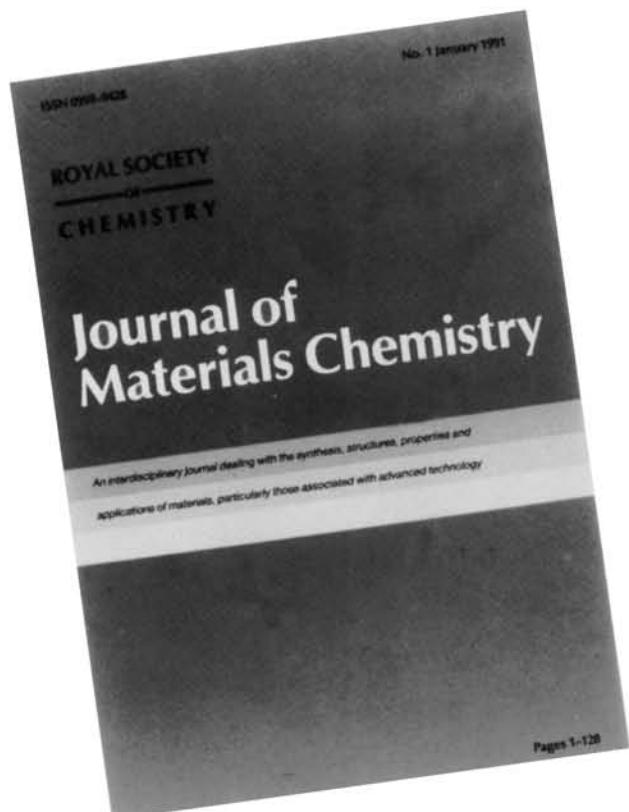
**AUTHOR INDEX**

- Ando, David J., 320  
 Asano, Tsutomu, 295  
 Atwood, Jerry L., 290  
 Badyal, Jas Pal, 322  
 Baker, R. Thomas, 304  
 Baker, Raymond, 298  
 Bhatarah, Parveen, 277  
 Böggel, Hartmut, 273  
 Bott, Simon, 290  
 Bourne, Susan A., 282  
 Bowler, Andrew N., 314  
 Bryce, Martin R., 320, 322  
 Buchanan, Barbara E., 300  
 Calabrese, Joseph C., 304  
 Carrick, Carmel, 298  
 Cazanoue, Martine, 307  
 Čeković, Živorad, 294  
 Cimiraglia, Renzo, 295  
 Coe, Diane M., 312  
 Cucinotta, Vincenzo, 293  
 D'Alessandro, Franca, 293  
 Dhindsa, Ajaib S., 322  
 Döring, Joachim, 273  
 Downing, Joanne H., 317  
 Doyle, Paul M., 314  
 Ebata, Keisuke, 341  
 Fleischer, Ulrich, 302  
 Fujisawa, Toru, 311  
 Ghelfi, Franco, 348  
 Giles, Robin G. F., 287  
 Gokel, George W., 290  
 Gomes-Carneiro, Tania M., 317  
 Goodnow, Timothy T., 290  
 Green, Ivan R., 287  
 Griesser, Helmut, 275  
 Grützmacher, Hans-Jörg, 302  
 Guillet, James E., 280  
 Haasnoot, Jaap G., 300  
 Hage, Ronald, 300  
 Hamon, David P. G., 332  
 Hanaki, Akira, 330  
 Harriman, Anthony, 345  
 Hashimoto, Shiro, 306  
 He, Zhongli, 307  
 Hilpert, Hans, 312  
 Hiyama, Tamejiro, 311  
 Hofmann, Hans-Jörg, 295  
 Holdcroft, Steven, 280  
 Hughes, Helen, 300  
 Hursthouse, Michael B., 320  
 Igarashi, Minoru, 283  
 Ikeda, Atsushi, 339  
 Imajo, Seiichi, 285  
 Impellizzeri, Giuseppe, 293  
 Ishiguro, Masaji, 285  
 Iwata, Hiromitsu, 285  
 Jackson, Richard D., 317  
 Jankowski, Paweł, 297  
 Jeffery, Tuyet, 324  
 Johns, R. B., 338  
 Jones, Mark, 316  
 Jones, Nancy J., 304  
 Kabuto, Chizuko, 341  
 Kaifer, Angel E., 290  
 Kakigano, Takeaki, 283  
 Kim, Joon Young, 326  
 Kim, Mahn-Joo, 326  
 Kitas, Eric A., 338  
 Knight, Lorraine S., 287  
 Krüger, Uwe, 302  
 Kuriyama, Takeshi, 311  
 Kusumoto, Tetsuo, 311  
 Kuzuhara, Hiroyoshi, 289  
 Lee Son, Vanessa R., 287  
 Leeson, Paul D., 298  
 Leitenberger, Volker, 275  
 Lennon, Ian C., 298  
 Lieberknecht, Albrecht, 275  
 Liverton, Nigel J., 298  
 Magda, Darren J., 345  
 Marczak, Stanislaw, 297  
 Marder, Todd B., 304  
 Maruki, Ikutaro, 341  
 Masnyk, Marek, 297  
 Massy-Westropp, Ralph A., 332  
 Mathieu, René, 307  
 Matović, Radomir, 294  
 Matsuda, Tsutomu, 339  
 Matsumoto, Kiyoshi, 306  
 Medina, Julio C., 290  
 Meyer, Regina, 275  
 Mirza, Hameed A., 309  
 Mizuno, Kazuhiko, 344  
 Moore, Adrian J., 320  
 Moret, Massimo, 348  
 Moro-oka, Yoshihiko, 283  
 Müller, Achim, 273  
 Nakamura, Kayoko, 311  
 Nakanishi, Kazuhisa, 344  
 Nakayama, Akiko, 311  
 Nassimbeni, Luigi R., 282  
 Neibecker, Denis, 307  
 Nishi, Tadahiko, 339  
 Nishide, Kiyoharu, 311  
 Noble, Stewart A., 312  
 Orpen, A. Guy, 317  
 Osawa, Masashi, 311  
 Otani, Shinichi, 306  
 Otsuji, Yoshiro, 344  
 Oyama, Yoshiaki, 285  
 Ozawa, Toshihiko, 330  
 Paddon-Row, Michael N., 327  
 Page, Michael I., 316  
 Pályi, Gyula, 348  
 Pappalardo, Giuseppe, 293  
 Pearson, Christopher, 322  
 Peel, Michael R., 312  
 Perich, John W., 338  
 Petty, Michael C., 322  
 Pringle, Paul G., 317  
 Puddephatt, Richard J., 309  
 Razzino, Pasquale, 332  
 Reedijk, Jan, 300  
 Rickards, Rodney W., 287  
 Rizzacasa, Mark A., 278  
 Rizzarelli, Enrico, 293  
 Roberts, Stanley M., 312  
 Sakairi, Nobuo, 289  
 Sakurai, Hideki, 341  
 Sargent, Melvyn V., 278  
 Sato, Ken-ichi, 311  
 Schmidt, Ulrich, 275  
 Sekiguchi, Akira, 341  
 Senanayake, Badra S., 287  
 Scssler, Jonathan L., 345  
 Shinkai, Seiji, 339  
 Shoji, Tadao, 311  
 Sironi, Angelo, 348  
 Sisak, Attila, 348  
 Skobridis, Konstantinos, 282  
 Smith, Edward H., 277  
 Smith, Jr., Vedene H., 334  
 Storer, Richard, 312  
 Suzuki, Hiroharu, 283  
 Szarek, Walter A., 334  
 Tachibana, Atsushi, 344  
 Takehara, Sadao, 311  
 Tanaka, Masako, 283  
 Tanaka, Rie, 285  
 Tang, Ben-Zhong, 280  
 Taylor, Nicholas J., 304  
 Thomson, James, 323  
 Tregear, Geoffrey W., 338  
 van Diemen, John H., 300  
 Vecchio, Graziella, 293  
 Vittal, Jagadese J., 309  
 Vos, Johannes G., 300  
 Wade, John D., 338  
 Wang, Lai-Xi, 289  
 Webb, Geoffrey, 323  
 Weber, Edwin, 282  
 Westcott, Stephen A., 304  
 Wicha, Jerzy, 297  
 Winfield, John M., 323  
 Wong, Stephen S., 327  
 Woods, Robert J., 334  
 Young, Douglas W., 314  
 Zucchi, Claudia, 348

**NEW  
JOURNAL**

# JOURNAL OF MATERIALS CHEMISTRY

An interdisciplinary journal dealing with the synthesis, structures, properties and applications of materials, particularly those associated with advanced technology



- A new international journal to be published in 1991
- Broad subject coverage recognizing the interdisciplinary nature of materials chemistry
- Rapid publication of papers – approximately four months from acceptance
- An International Advisory Editorial Board consisting of some of the world's leading authorities on materials chemistry
- Will contain full-length papers, short communications, occasional review articles, books reviews and details of forthcoming conferences
- Bimonthly publication

**For further information, please contact:**

The Sales and Promotion Department, Royal Society of Chemistry,  
Thomas Graham House, Science Park, Milton Road, Cambridge  
CB4 4WF, United Kingdom.  
Telephone: (0223) 420066. Fax: (0223) 423623. Telex: 818293 ROYAL

ROYAL  
SOCIETY OF  
CHEMISTRY



Information  
Services