

JOURNAL OF THE CHEMICAL SOCIETY

## Chemical Communications

Number 21  
1993

## CONTENTS

- Marcel R. Kling, Grant A. McNaughton-Smith, Richard J. K. Taylor 1593 The Stereoselective Synthesis of Unsaturated Nine-membered Lactones using the Malherbe–Bellus Variant of the Claisen Rearrangement
- Hirokazu Urabe, Hiroshi Inami, Fumie Sato 1595 Regio- and Stereo-controlled Methylation of  $\gamma$ -Silylallyl Phosphates by  $\pi$ -Allylpalladium Methodology
- Robert A. Moss, Weiguo Liu 1597 An Unusually Strict Product Partition of an Excited Diazirine–Carbene System
- George Ósapay, Murray Goodman 1599 New Application of Peptide Cyclization on an Oxime Resin (the PCOR Method): Preparation of Lanthionine Peptides
- Yoshinao Tamaru, Hiroto Harayama, Takashi Bando 1601 Pronounced Electronic Effects of the Allylic Amino Group on the  $\pi$ -Facial Stereoselectivity and Reactivity in Electrophilic Additions to Double Bonds
- Ferenc Joó, Péter Csiba, Attila Bényei 1602 Effect of Water on the Mechanism of Hydrogenations Catalysed by Rhodium Phosphine Complexes
- Michael Wiebcke, Jörg Emmer, Jürgen Felsche 1604 Structural Links between Zeolite-type and Clathrate Hydrate-type Materials: Strands of Small Clusters of Water Molecules Interconnect Oligomeric Silicate  $[\text{Si}_8\text{O}_{18}(\text{OH})_2]^{6-}$  Anions to generate the 3D Host Structure of the Heteronetwork Clathrate  $[\text{DMPI}]_6[\text{Si}_8\text{O}_{18}(\text{OH})_2] \cdot 48.5\text{H}_2\text{O}$  (DMPI = 1,1-Dimethylpiperidinium)
- Dimitar Klissurski, Vicente Rives, Nevena Abadzhijeva, Yordanka Pesheva, Philip Pomonis, T. Sdoukos, Dimitris Petrakis 1606 High Performance of Iron(III) Phosphate for Selective Oxidation of Methanol
- Toru Imori, T. D. Tilley 1607 High Molecular Mass Polystannanes *via* Dehydropolymerization of Di(*n*-butyl)-stannane
- Adam Vernon, Charles J. M. Stirling 1609 Reactivity in *Z*-Phylic Displacements in  $\alpha$ -Halogenosulfones
- Stephane Cron, Virginie Morvan, Claude Lapinte 1611 Coupling of a 17-electron Vinyl Complex with Chiral Recognition: Synthesis of the Pure Diastereoisomers of the Bridging Bis(carbene) Complex  $\{[\text{Fe}(\text{C}_5\text{Me}_5)(\text{CO})(\text{PMe}_3)]_2\{\mu\text{-C}(\text{OMe})[\text{CH}_2]_2\text{-C}(\text{OMe})\}\}[\text{PF}_6]_2$
- Todd M. Smith, Nigel D. Priestley, Andrew R. Knaggs, Tom Nguyen, Heinz G. Floss 1612 3,4-Dimethylindole-2-carboxylate and 4-(1-Hydroxyethyl)quinoline-2-carboxylate activating Enzymes from the Nosiheptide and Thiostrepton Producers, *Streptomyces actuosus* and *Streptomyces laurentii*
- Lennart Ebersson, Michael P. Hartshorn, Jan O. Svensson 1614 Competitive Reactions of Trinitromethanide Ion and Nitrogen Dioxide with Radical Cations
- Manfred Richter, Udo Roost, Ursula Lohse 1616 Molecular Sieving of *n*-Butenes by Microporous Silicoaluminophosphates
- Kazuko Takahashi, Takayasu Nihira, Kensuke Tomitani 1617 2,5-Bis(1,3-dithiol-2-ylidene)-2,5-dihydrothiophene and its Bis(alkylthio) Derivatives: a New Synthetic Approach to Thienoquinonoid-extended Tetrathiafulvalenes and their Conductive Complexes
- Andrej Drozdov, Sergej Troyanov 1619 Synthesis and X-Ray Structure of Hexafluoroacetylacetonatobarium (Diethyl Ether Solvate)  $[\{\text{Ba}_2(\text{hfa})_4 \cdot \text{Et}_2\text{O}\}_\infty]$
- Stephen C. Case-Green, James F. Costello, Stephen G. Davies, Nicholas Heaton, Charles J.R. Hedgcock, Jeremy C. Prime 1621 Kinetic Resolution of the Chiral Iron Acetyl  $[\text{Fe}(\eta^5\text{-C}_5\text{H}_5)(\text{CO})(\text{PPh}_3)\text{COMe}]$
- M. Bourgault, C. Mountassir, H. Le Bozec, I. Ledoux, G. Pucetti, J. Zyss 1623 Synthesis and Second-order Nonlinear Optical Properties of New Bipyridyl Metal Complexes
- Yonghua Gai, Liren Jin, Marc Julia, Jean-Noël Verpeaux 1625 Transition Metal-catalysed Elimination of Unactivated Sulfones
- Thomas Barth, Basil Kanellakopoulos, Claus Krieger, Franz A. Neugebauer 1626 Solid-state Interactions in Radicals: Crystal Structures of  $\alpha$ - and  $\beta$ -10-Phenyl-5(10*H*)-phenaziny]
- Thomás Jelínek, John D. Kennedy, Bohumil Štíbr 1628 The First Cluster Azathiaboranes: Isolation and Characterisation of Eight-vertex *hyp*ho-7,8-NSB<sub>6</sub>H<sub>11</sub> and Ten-vertex *ar*achno-6,9-NSB<sub>8</sub>H<sub>11</sub>
- Mithran Somasundrum, Joe V. Bannister 1629 Mediatorless Electrocatalysis at a Conducting Polymer Electrode: Application to Ascorbate and NADH Measurement

- Kanda Takahiro, Kazuaki Mizoguchi, Tadashi Koike, Toshiaki Murai, Shinzi Kato 1631 The First Example of the Generation of Acylselenenyl Halides from *Se*-Arsanyl Selenoesters: Application to the Synthesis of *Se*- $\beta$ -Oxoalkyl Selenoesters
- George J. P. Britovsek, Wilhelm Keim, Stefan Mecking, Daniel Sainz, Trixie Wagner 1632 Hemilabile P,O-Ligands in Palladium Catalysed C–C Linkages: Codimerization of Ethylene and Styrene and Cooligomerization of Ethylene and Carbon Monoxide
- Hiromichi Fujioka, Makoto Miyazaki, Hidetoshi Kitagawa, Takeshi Yamanaka, Hideaki Yamamoto, Kazuhiro Takuma, Yasuyuki Kita 1634 Organic Synthesis utilizing Beckmann Fragmentation: Highly Stereoselective C–C Bond Formation in the Reaction of 2,3-Isopropylidenedioxycyclohexanone Oxime Esters with Organoaluminium Reagents
- Ganesh Pandey, K. S. Sessa Poleswara Rao, B. B. V. Soma Sekhar 1636 Photosensitized One-electron Reductive Cleavage of a Carbon–Selenium Bond: a Novel Chemoselective Deselenenylation and Phenylselenenyl Group Transfer Radical Chain Reaction
- Isao Kadota, Yasuhisa Matsukawa, Yoshinori Yamamoto 1638 Stereocontrolled Synthesis of the Hemibrevetoxin Ring System *via* an Allylic Tin Method
- James M. Lawson, Michael N. Paddon-Row 1641 A Synthetic Strategy for the Construction of a Novel Series of Rigid Supramolecular Triads
- E. M. Kosower, M. Ben-Soshan, I. Goldberg 1644 Bimanes. *syn*-(Hydro, ethynyl)bimane
- Chunhui Liu, Shougui Li, Kungang Tu, Ruren Xu 1645 Synthesis of Cancrinite in a Butane-1,3-diol Systems
- Marie-Hélène Fillipini, Jean Rodriguez, Maurice Santelli 1647 A New Very Mild K<sub>2</sub>CO<sub>3</sub>-catalysed One-pot Two-carbon Ring Expansion of Cyclopentanones
- Stefan Schenk, Ian Hawkins, Stephen B. Wilkes, Allan E. Underhill, Akiko Kobayashi, Hayo Kobayashi 1648 First X-Ray Structure of a Monoanionic Nickel Complex of 1,2,5-Thiadiazole-3,4-dithiolate
- Mary E. Barr, Paul H. Smith, William E. Antholine, Brock Spencer 1649 Crystallographic, Spectroscopic and Theoretical Studies of an Electron-delocalized Cu(1.5)–Cu(1.5) Complex
- R. Wang, T. E. Keyes, R. Hage, R. H. Schmehl, J. G. Vos 1652 Direct Evidence for Electrochemically Induced, Reversible, Proton Transfer involving a Quinone/Hydroquinone Redox Couple
- Peter Wipf, Sungtaek Lim 1654 Addition of Organochromium Reagents to Aldehydes, Ketones and Enones: a Low-temperature Version of the Nozaki–Hiyama Reaction
- Takeshi Yamamura, Shigeru Sakurai, Hiroki Arai, Hiroshi Miyamae 1656 A Square-planar NiS<sub>4</sub> Unit with an Aliphatic Thiolato–Thioether Donor Set: a Carbon Monoxide Dehydrogenase Model that Binds CO
- Taka-aki Okamura, Norikazu Ueyama, Akira Nakamura, Eric W. Ainscough, Andrew M. Brodie, Joyce M. Waters 1658 The Effect of Strong NH $\cdots$ S Hydrogen Bonds in the Copper(I) Thiolate Complex, (NEt<sub>4</sub>)<sub>2</sub>[Cu(*o*-pabt)<sub>3</sub>] (*o*-pabt = *o*-pivaloylaminobenzenethiolato)
- Naoki Asao, Naofumi Tsukada, Yoshinori Yamamoto 1660 Asymmetric Synthesis of the  $\beta$ -Lactam Framework *via* a Three-component Coupling Reaction
- Andrew J. Atkins, Alexander J. Blake, Martin Schröder 1662 Polynuclear Nickel(II) Complexes of N<sub>4</sub>O<sub>2</sub>- and N<sub>4</sub>S<sub>2</sub>-Compartmental Macrocycles: The Structures of a Ni<sub>4</sub>O<sub>4</sub> Cubane Cluster and the Binuclear Nickel(II) Complex of a Benzenethiolate Macrocycle
- Sandeep S. Dhingra, Robert C. Haushalter 1665 Hydrothermal Synthesis and Crystal Structure of H<sub>3</sub>NCH<sub>2</sub>CH<sub>2</sub>NH<sub>3</sub>[In<sub>2</sub>(HPO<sub>4</sub>)<sub>4</sub>]. A Novel Octahedral–Tetrahedral Framework Indium Phosphate with Occluded Organic Cations
- Josep Ros, Ramón Yáñez, María Rosario Torres, Aurea Perales, René Mathieu 1667 Unexpected P–O Bond Formation in the Reaction of PPh<sub>2</sub>Cl with the Triiron Cluster [PPh<sub>4</sub>][Fe<sub>3</sub>(CO)<sub>9</sub>( $\mu$ -H)( $\mu$ -CMe $\equiv$ CPh)]
- 
- Corrigendum
- Masayuki Nishio, Hiroyuki Matsuzaka, Yasushi Mizobe, Masanobu Hidai 1668 Novel Reactions of Alkynes on a Coordinatively Unsaturated Diruthenium Centre Bridged by Thiolate Ligands. Syntheses and Crystal Structures of Dinuclear Ruthenacyclopentenyl Complexes

## AUTHOR INDEX

- Abadzhieva, Nevena, 1606  
 Ainscough, Eric W., 1658  
 Antholine, William E., 1649  
 Arai, Hiroki, 1656  
 Asao, Naoki, 1660  
 Atkins, Andrew J., 1662  
 Bando, Takashi, 1601  
 Bannister, Joe V., 1629  
 Barr, Mary E., 1649  
 Barth, Thomas, 1626  
 Ben-Soshan, M., 1644  
 Bényei, Attila, 1602  
 Blake, Alexander J., 1662  
 Bourgault, M., 1623  
 Britovsek, George J. P., 1632  
 Brodie, Andrew M., 1658  
 Case-Green, Stephen C., 1621  
 Costello, James F., 1621  
 Cron, Stephane, 1619  
 Csiba, Péter, 1602  
 Davies, Stephen G., 1621  
 Dhingra, Sandeep S., 1665  
 Drozdov, Andrej, 1619  
 Ebersson, Lennart, 1614  
 Emmer, Jörg, 1604  
 Felsche, Jürgen, 1604  
 Filippini, Marie-Hélène, 1647  
 Floss, Heinz G., 1612  
 Fujioka, Hiromichi, 1634  
 Gai, Yonghua, 1625  
 Goldberg, I., 1644  
 Goodman, Murray, 1599  
 Hage, R., 1652  
 Harayama, Hiroto, 1601  
 Hartshorn, Michael P., 1614  
 Haushalter, Robert C., 1665  
 Hawkins, Ian, 1648  
 Heaton, Nicholas, 1621  
 Hedgecock, Charles J.R., 1621  
 Hidai, Masanobu, 1668  
 Imori, Toru, 1607  
 Inami, Hiroshi, 1595  
 Jelínek, Thomás, 1628  
 Jin, Liren, 1625  
 Joó, Ferenc, 1602  
 Julia, Marc, 1625  
 Kadota, Isao, 1638  
 Kanellakopoulos, Basil, 1626  
 Kato, Shinzi, 1631  
 Keim, Wilhelm, 1632  
 Kennedy, John D., 1628  
 Keyes, T. E., 1652  
 Kita, Yasuyuki, 1634  
 Kitagawa, Hidetoshi, 1634  
 Kling, Marcel R., 1593  
 Klissurski, Dimitar, 1606  
 Knaggs, Andrew R., 1612  
 Kobayashi, Akiko, 1648  
 Kobayashi, Hayo, 1648  
 Koike, Tadashi, 1631  
 Kosower, E. M., 1644  
 Krieger, Claus, 1626  
 Lapinte, Claude, 1611  
 Lawson, James M., 1641  
 Le Bozec, H., 1623  
 Ledoux, I., 1623  
 Li, Shougui, 1645  
 Lim, Sungtaek, 1654  
 Liu, Chunhui, 1645  
 Liu, Weiguo, 1597  
 Lohse, Ursula, 1616  
 McNaughton-Smith, Grant A., 1593  
 Mathieu, René, 1667  
 Matsukawa, Yasuhisa, 1638  
 Matsuzaka, Hiroyuki, 1668  
 Mecking, Stefan, 1632  
 Miyamae, Hiroshi, 1656  
 Miyazaki, Makoto, 1634  
 Mizobe, Yasushi, 1668  
 Mizoguchi, Kazuaki, 1631  
 Morvan, Virginie, 1611  
 Moss, Robert A., 1597  
 Mountassir, C., 1623  
 Murai, Toshiaki, 1631  
 Nakamura, Akira, 1658  
 Neugebauer, Franz A., 1626  
 Nguyen, Tom, 1612  
 Nihira, Takayasu, 1617  
 Nishio, Masayuki, 1668  
 Okamura, Taka-aki, 1658  
 Ösapay, George, 1599  
 Paddon-Row, Michael N., 1641  
 Pandey, Ganesh, 1636  
 Perales, Aurea, 1667  
 Pesheva, Yordanka, 1606  
 Petrakis, Dimitris, 1606  
 Pomonis, Philip, 1606  
 Priestley, Nigel D., 1612  
 Prime, Jeremy C., 1621  
 Pucetti, G., 1623  
 Rao, K. S. Sesha Poleswara, 1636  
 Richter, Manfred, 1616  
 Rives, Vicente, 1606  
 Rodriguez, Jean, 1647  
 Roost, Udo, 1616  
 Ros, Josep, 1667  
 Sainz, Daniel, 1632  
 Sakurai, Shigeru, 1656  
 Santelli, Maurice, 1647  
 Sato, Fumie, 1595  
 Schenk, Stefan, 1648  
 Schmehl, R. H., 1652  
 Schröder, Martin, 1662  
 Sdoukos, T., 1606  
 Sekhar, B. B. V. Soma, 1636  
 Smith, Paul H., 1649  
 Smith, Todd M., 1612  
 Somasundrum, Mithran, 1629  
 Spencer, Brock, 1649  
 Štíbr, Bohumil, 1628  
 Stirling, Charles J. M., 1609  
 Svensson, Jan O., 1614  
 Takahashi, Kazuko, 1617  
 Takahiro, Kanda, 1631  
 Takuma, Kazuhiro, 1634  
 Tamaru, Yoshinao, 1601  
 Taylor, Richard J. K., 1593  
 Tilley, T. D., 1607  
 Tomitani, Kensuke, 1617  
 Torres, María Rosario, 1667  
 Troyanov, Sergej, 1619  
 Tsukada, Naofumi, 1660  
 Tu, Kungang, 1645  
 Ueyama, Norikazu, 1658  
 Underhill, Allan E., 1648  
 Urabe, Hirokazu, 1595  
 Vernon, Adam, 1609  
 Verpeaux, Jean-Noël, 1625  
 Vos, J. G., 1652  
 Wagner, Trixie, 1632  
 Wang, R., 1652  
 Waters, Joyce M., 1658  
 Wiebcke, Michael, 1604  
 Wilkes, Stephen B., 1648  
 Wipf, Peter, 1654  
 Xu, Ruren, 1645  
 Yamamoto, Hideaki, 1634  
 Yamamoto, Yoshinori, 1638, 1660  
 Yamamura, Takeshi, 1656  
 Yamanaka, Takeshi, 1634  
 Yáñez, Ramón, 1667  
 Zyss, J., 1623

## Chemical Communications – 1994

From the beginning of 1994, each communication in *Chemical Communications* will start on a fresh right-hand page, and will be limited to two pages in length. The vast majority of communications already fall within this two-page limit. Authors will be asked to shorten communications that are longer than two pages, and should bear in mind our requirements for brevity in drafting their manuscript.

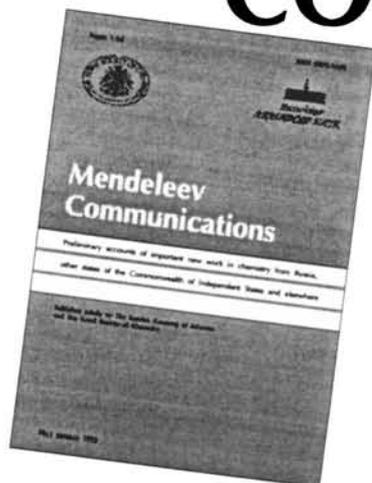
In particular:

- Extensive historical introduction and associated references should not be included; all that is needed is brief information to put the work in context.
- Duplication of results in the text and Tables and/or Figures must be avoided.
- Tables and Figures should be included only if their content is essential; more extensive tabulation of data and illustration of results should be reserved for the full paper.
- Supplementary information on compound characterisation is useful for the referees.

Only in very exceptional circumstances, requiring special justification from the author, will communications be allowed to extend to four printed pages.

NOW SIX  
ISSUES PER YEAR

# MENDELEEV COMMUNICATIONS



**Mendeleev Communications** is a unique publication providing rapid access to the extensive chemical research activities of an important and fascinating world region – the Commonwealth of Independent States. It is not a translation journal; all material is published directly in English and is therefore as up-to-date as possible.

**Mendeleev Communications** is a joint publishing venture between The Royal Society of Chemistry and The Russian Academy of Sciences. It contains preliminary accounts of novel and significant results of wide general appeal or exceptional specialist interest on any branch of chemistry. Most papers are submitted from the CIS but some come from other parts of the world. **Mendeleev Communications** acts as both a means and a stimulus for international dialogue.

## Mendeleev Communications:

- ★ Has proved so successful that it is now published six times per annum
- ★ Is not a translation journal
- ★ Publishes rapidly – within 12 weeks of receipt of papers in the UK
- ★ Will accept high quality papers on all topics of chemistry
- ★ Offers a unique insight into the research activities of the CIS

## Joint Editors-in-Chief:

H M Frey, University of Reading, UK  
O M Nefedov, Vice-President of the Russian Academy of Sciences, Moscow, Russian Federation

**UK Staff Editor:** Andrew Wilkinson, Royal Society of Chemistry, Cambridge, UK

**Moscow Staff Editor:** Irina V Makhova, Russian Academy of Sciences, Moscow, Russian Federation

## 1993 Subscription Details

Published six times per annum plus annual author index

EC £140.00    USA \$280.00    Canada £147.00 (+ GST)    Rest of World £140.00

ISSN 0959-9436    Back issues available on request.

**Mendeleev Communications is essential reading for everyone who is interested in keeping up-to-date with the latest chemical research.**

### To order please contact:

Turpin Distribution Services Ltd, Blackhorse Road, Letchworth, Herts SG6 1HN, UK. Tel: +44 (0) 462 672555. Fax: +44 (0) 462 480947. Telex: 825372 TURPIN G.

### For further information please contact:

Sales and Promotion Department, Royal Society of Chemistry, Thomas Graham House, Science Park, Milton Road, Cambridge CB4 4WF, UK. Tel: +44 (0) 223 420066. Fax: +44 (0) 223 423623. Telex: 818293 ROYAL.

ROYAL  
SOCIETY OF  
CHEMISTRY



Information  
Services