

## JOURNAL OF THE CHEMICAL SOCIETY

## Chemical Communications

Number 10  
1994

## CONTENTS

- Kazuhisa Murata, Hirobumi Ushijima 1157 Dehydrogenation–Aromatisation of Methane on Amorphous-like Carbons
- Robert S. Atkinson, Emma Barker, Christopher J. Price, David R. Russell 1159 The N–N Bond as a Chiral Axis: 3-(Diacylamino)quinazolin-4(3*H*)-ones as Chiral Acylating Agents
- Chisato Mukai, Yu-ichi Sugimoto, Yoshitaka Ikeda, Miyoji Hanaoka 1161 Stereocomplementary Construction of 2-Ethynyl-3-hydroxytetrahydrofuran Derivatives *via endo-mode* Ring Closure of 3,4-Epoxy-6-substitutedhex-5-yn-1-ols
- Winnie W. Y. Lam, Timothy D. H. Bugg 1163 Chemistry of Extradial Aromatic Ring Cleavage: Isolation of a Stable Dienol Ring Fission Intermediate and Stereochemistry of Its Enzymatic Hydrolytic Cleavage
- James M. Tanko, Larry E. Brammer, Jr., 1165 Utilization of 1,1-Dimethyl-4,6-di-*tert*-butylspiro[2,5]octa-3,6-dien-5-one as a Hypersensitive Probe for Single Electron Transfer to Carbonyl Compounds
- Duncan Carmichael, Louis Ricard, François Mathey 1167 Use of the 2,5-bis-(*tert*-butyl)phospholide Anion as an  $\eta^5$ -Ligand: Stabilisation of  $\eta^5$ -phospholyl Complexes of Ruthenium and Rhodium
- Marie Autret, Maryvonne Le Plouzennec, Claude Moinet, Gérard Simonneaux 1169 Intramolecular Fluorescence Quenching in Azobenzene-substituted Porphyrins
- Tianyou Song, Jianing Xu, Yu-e Zhao, Yong Yue, Yihua Xu, Ruren Xu, Ninghai Hu, Gecheng Wei, Hengqing Jia 1171 Synthesis and X-Ray Crystal Structure Characterization of  $Zn_2(HPO_4)_3 \cdot H_3NCH_2CH_2NH_3$
- Christophe Legrand, Yves Castanet, André Mortreux, Francis Petit 1173 Direct Hydroesterification of Ethylene with Methyl Formate with the New System  $RuCl_3-NR_4I-NR_3$ : an Example of Catalytic Activation of the CH Bond of Methyl Formate?
- Nora S. Radu, Peter K. Gantzel, T. Don Tilley 1175 Lanthanide–Tungsten Heterobimetallic Complexes *via*  $\sigma$ -Bond Metathesis
- N. Bhuvaneswari, C. S. Venkatachalam, K. K. Balasubramanian 1177 A New Route to *o*-Allenylphenols
- Teiji Chihara, Koushi Sawamura, Haruo Ogawa, Yasuo Wakatsuki 1179 Gaseous NO as the Source of Nitrosyl Ligand in Carbonyl Clusters. X-Ray Structure of  $[Ru_6C(CO)_{14}(C_3H_5)(NO)]$  and Fluxionality of the  $\mu$ -Allyl Ligand
- Thomas Riemer, Dieter Spielbauer, Michael Hunger, Gamal A. H. Mekhemer, Helmut Knözinger 1181 Superacid Properties of Sulfated Zirconia as Measured by Raman and  $^1H$  MAS NMR Spectroscopy
- Pei-Ying Liu, D. Jean Burnell 1183 Facial Selectivity in Nucleophilic Reactions of Spirocyclic Ketones can be controlled by a Distant, Orthogonal Double Bond
- M. James, J. P. Attfield 1185  $YSr_3Ni_3O_8$ —a New Nickel(II) Oxide with a Defect  $Sr_2CuO_3$  Structure
- Ian J. Burnett, Gráinne Conole, Gerard J. O'Donovan, Michael K. Shepherd 1187 Preparation and X-Ray Crystal Structure Analysis of 1,6-Dinitrocycloheptatriene
- Helge Willner, Matthias Bodenbinder, Changqing Wang, Friedhelm Aubke 1189 Carbonyl Derivatives of Mercury: Synthesis, Vibrational and  $^{13}C$  MAS NMR Spectra
- Masato Suzuki, Katsuhiko Sho, Katsuhide Otani, Tetsuya Haruyama, Takeo Saegusa 1191 Ene Reactions of a Phosphaalkene as Enophile
- José-Luis Chicharro, Pilar Prados, Javier de Mendoza 1193 Synthesis and Self Association of 4,7-Diamino-2,9-dimethyl-5,6,11a-triaza-6,11,11a,12-tetrahydronaphthacene Derivatives as Dibenzoguanidine Receptors for Oxoanion Recognition
- Yew Leong Kuan, Jonathan M. White 1195 Conformational Analysis of *t*-5-Methyl-*t*-2-(trimethylsilyl)cyclohexan-*r*-ol and its derived Esters
- Hiroshi Abe, Shohei Inoue 1197 Lanthanoid Complex as a Novel Carbon Dioxide Carrier for the Carboxylation of Active Methylene Compounds under Mild Conditions
- Frank Davis, Partha Neogi, Charles J. M. Stirling 1199 Stereoselective Adsorption on a Gold–Thiol Monolayer with an Enantiopure Surface
- Sarath D. Perera, Bernard L. Shaw 1201 A General Method of Promoting Agostic Interactions ( $Ru \leftarrow H_a-C$ ) using Azine Phosphines

- Sarath D. Perera, Bernard L. Shaw 1203 A General Method of Promoting Oxidative Addition of C–H Bonds to Iridium(I) Using Azine Phosphines
- Zhaomin Hou, Yasuo Wakatsuki 1205 Isolation and X-Ray Structures of the Hexamethylphosphoramide (hmpa)-coordinated Lanthanide(III) Diiodide Complexes [SmI<sub>2</sub>(hmpa)<sub>4</sub>] and [Yb(hmpa)<sub>4</sub>(thf)<sub>2</sub>]I<sub>2</sub>
- F. Geoffrey N. Cloke, Peter B. Hitchcock, Stephen C. P. Joseph 1207 Facile Formation of a Bridging Cyclooctatriene- $\eta^8$  Ligand; Synthesis and Molecular Structure of [ $\eta^8$ -C<sub>8</sub>H<sub>6</sub>(SiMe<sub>3</sub>)<sub>2</sub>]Zr{CH(SiMe<sub>3</sub>)<sub>2</sub>}{ $\mu$ - $\eta^8$ : $\eta^2$ -C<sub>8</sub>H<sub>4</sub>(SiMe<sub>3</sub>)<sub>2</sub>}Zr-CH(SiMe<sub>3</sub>)<sub>2</sub>}
- Yuri Goldberg, Howard Alper 1209 Polymerisation of Phenylacetylene Catalysed by a Zwitterionic Rhodium(III) Complex under Hydrosilylation Conditions
- Charles E. McKenna, Boris A. Kashemirov, Jing-Yue Ju 1211 (*E/Z*) Stereoisomer Assignment by <sup>13</sup>C NMR in Trifunctional Phosphonate  $\alpha$ -Oximes and  $\alpha$ -Arylhydrazones
- A. Prasanna de Silva, H. Q. Nimal Gunaratne, Glenn E. M. Maguire 1213 'Off-On' Fluorescent Sensors for Physiological levels of Magnesium Ions based on Photoinduced Electron Transfer (PET), which also behave as Photoionic OR Logic Gates
- H. R. Sonawane, A. V. Pol, P. P. Moghe, S. S. Biswas, A. Sudalai 1215 Selective Catalytic Oxidation of Arylamines to Azoxybenzenes with H<sub>2</sub>O<sub>2</sub> over Zeolites
- Rainer Sjöholm, Riitta Rairama, Matthias Ahonen 1217 Zinc Mediated Allylation of Aldehydes and Ketones with Cinnamyl Chloride in Aqueous Medium
- Tatsuya Morozumi, Seiji Shinkai 1219 Induced Circular Dichroism Detection of Chiral Ammonium Guests through Inclusion in Calix[n]arene Cavities
- Norbert De Kimpe, Rob Jolie, Dirk De Smaele 1221 Sonochemical Cleavage of 2-(Bromomethyl)aziridines by a Zinc–Copper Couple
- Andrew P. Laws, Julian R. Stone, Michael I. Page 1223 Large Rate Enhancement for the Hydrolysis of a Four-membered Ring Phosphoramidate
- Yutaka Aoyagi, Wataru Tanaka, Akihiro Ohta 1225 Low-valent Tantalum-mediated Reaction
- Ian D. Jenkins 1227 Oxygen–Carbon  $\beta$ -Bond Effects in Radical Reactions
- H. I. Bloemink, K. Hinds, A. C. Legon, J. C. Thorn 1229 Intermediates in the Gas-phase Reactions of Acetylene and Halogens: the Identification of the Acetylene–BrCl Complex by Rotational Spectroscopy
- R. H. Cunningham, R. A. van Santen, J. van Grondelle, A. V. G. Mangnus, L. J. van IJendoorn 1231 Metal-catalysed Alkylation of Pentene to Hexane
- Manfred Weidenbruch, Edwin Kroke, Heinrich Marsmann, Siegfried Pohl, Wolfgang Saak 1233 Disilene and Silylene Additions to the Double Bonds of Alkenes and 1,3-Dienes: Molecular Structure of a [2 + 2] Cycloaddition Product
- Roger W. Alder, Paul R. Allen, Ezat Khosravi 1235 Preparation of Poly[(1,1-dipropyl)butan-1,4-diyl], (Pr<sub>2</sub>CCH<sub>2</sub>CH<sub>2</sub>CH<sub>2</sub>)<sub>n</sub>, via Regiospecific Ring Opening Polymerisation of 3,3-Dipropylcyclobutene
- T. Balasubramanian, K. K. Balasubramanian 1237 Tandem Transformations of *N*-Alkyl-*N*-allenylmethylanimines to *N*-Alkyl-2-ethenylindoles
- Giancarlo Doddi, Gianfranco Ercolani, Piero La Pegna, Paolo Mencarelli 1239 Remarkable Catalysis by Strontium Ion in S<sub>N</sub>2 and E2 Reactions occurring in Proximity to a Crown Ether Structure
- Jan C. van der Waal, Marcello S. Rigutto, Herman van Bekkum 1241 Synthesis of All-silica Zeolite Beta
- Peter Komadel, David H. Doff, Joseph W. Stucki 1243 Chemical Stability of Aluminium–Iron- and Iron-pillared Montmorillonite: Extraction and Reduction of Iron
- C. Dossi, A. Fusi, S. Recchia, M. Anghileri, R. Psaro 1245 Novel Palladium on Magnesium Oxide Catalysts for Alkane Aromatisation
- Noritaka Chida, Tetsuya Tanikawa, Takahiko Tobe, Seiichiro Ogawa 1247 Synthesis of (+)-Galactostatin and (+)-1-Deoxygalactostatin utilizing L-Quebrachitol as a Chiral Building Block
- Peter G. Edwards, Michael B. Hursthouse, K. M. Abdul Malik, Julian S. Parry 1249 Direct Conversion of Carbon Monoxide to a Coordinated Secondary Alcohol Derivative by a Thorium Phosphido Complex
- Naoya Ono, Yasufumi Kawanaka, Yukio Yoshida, Fumie Sato 1251 Synthesis of a Key Intermediate for Preparation of 4,5-Didehydro Prostaglandins containing an Allenyl Side-chain Group via Two-component Coupling Process. Synthesis of Enprostil
- Brian F. G. Johnson, Caroline M. Martin, Dario Braga, Fabrizia Grepioni, Emilio Parisini 1253 The Synthesis and Characterisation of the Octaruthenium–benzene Cluster [Ru<sub>8</sub>H<sub>4</sub>(CO)<sub>18</sub>( $\eta^6$ -C<sub>6</sub>H<sub>6</sub>)]
- A. V. Rama Rao, Mukund K. Gurjar, Sista V. S. Lalitha 1255 Discovery of a Novel Route to  $\beta$ -Thymidine: a Precursor for anti-AIDS Compounds
- Kyle P. Baldwin, Richard S. Simons, John Rose, Paul Zimmerman, David M. Hercules, Claire A. Tessier, Wiley J. Youngs 1257 Crystal Structure of 1,2:5,6:9,10:13,14:17,18:21,22:25,26:29,30:33,34:37,38-Decabenzocyclo[4.3.1]decane, a 40-membered Macrocyclic Ring and the Synthesis and Characterization of its 80- (C<sub>160</sub>H<sub>80</sub>), 120- (C<sub>240</sub>H<sub>120</sub>), 160- (C<sub>320</sub>H<sub>160</sub>) and 200- (C<sub>400</sub>H<sub>200</sub>) membered Ring Homologues
- Daniel Colombani, Bernard Maillard 1259 Synthesis of  $\alpha,\beta$ -Epoxyesters by Homolytically Induced Decomposition of Derivatives of Ethyl 2-(1-hydroperoxyethyl)propenoate
- Sharon Marx–Tibbon, Itamar Willner 1261 Photostimulated Imprinted Polymers: A Light-regulated Medium for Transport of Amino Acids
- Peter A. Wade, Paul A. Kondracki 1263 Trapping Evidence for 1,2-Dinitrospiropentene
- Kari Rissanen, Jörg Breitenbach, Juhani Huskonen 1265 An Unusual Copper(I) Complex of a New Macrocyclic Ligand

**J. CHEM. SOC., CHEM. COMMUN., 1994**

- |   |             |  |
|---|-------------|--|
| <b>Ronald Grigg, Jasothara Markandu, Trevor Perrior, Zheng Qiong, Tekka Suzuki</b>                            | <b>1267</b> | Electrophile-induced Cyclisation–Fragmentation of Oxime <i>O</i> -Allyl and <i>O</i> -Benzyl Ethers                                  |
| <b>Paul D. Beer, Zheng Chen, Alistair J. Goulden, Alan Grieve, Dusan Heseck, Fridrich Szemes, Trevor Wear</b> | <b>1269</b> | Anion Recognition by Novel Ruthenium(II) Bipyridyl Calix[4]arene Receptor Molecules  |
| <b>Angelo J. Amoroso, John P. Maher, Jon A. McCleverty, Michael D. Ward</b>                                   | <b>1273</b> | Magnetic Spin Exchange Interactions between Several Metal Centres in Paramagnetic Complexes with New Polynucleating Bridging Ligands |
| <b>Fiona J. Carver, Christopher A. Hunter, Richard J. Shannon</b>   | <b>1277</b> | Directed Macrocyclisation Reactions  |

## AUTHOR INDEX

- Abdul Malik, K. M., 1249  
 Abe, Hiroshi, 1197  
 Ahonen, Matthias, 1217  
 Alder, Roger W., 1235  
 Allen, Paul R., 1235  
 Alper, Howard, 1209  
 Amoroso, Angelo J., 1273  
 Anghileri, M., 1245  
 Aoyagi, Yutaka, 1225  
 Atkinson, Robert S., 1159  
 Atfield, J. P., 1185  
 Aubke, Friedhelm, 1189  
 Autret, Marie, 1169  
 Balasubramanian, K. K., 1177, 1237  
 Balasubramanian, T., 1237  
 Baldwin, Kyle P., 1257  
 Barker, Emma, 1159  
 Beer, Paul D., 1269  
 Bhuvanawari, N., 1177  
 Biswas, S. S., 1215  
 Bloemink, H. I., 1229  
 Bodenbinder, Matthias, 1189  
 Braga, Dario, 1253  
 Brammer, Jr., Larry E., 1165  
 Breitenbach, Jörg, 1265  
 Bugg, Timothy D. H., 1163  
 Burnett, Ian J., 1187  
 Carmichael, Duncan, 1167  
 Carver, Fiona J., 1277  
 Castanet, Yves, 1173  
 Chen, Zheng, 1269  
 Chicharro, José-Luis, 1193  
 Chida, Noritaka, 1247  
 Chihara, Teiji, 1179  
 Cloke, F. Geoffrey N., 1207  
 Colombani, Daniel, 1259  
 Conole, Gráinne, 1187  
 Cunningham, R. H., 1231  
 Davis, Frank, 1199  
 De Kimpe, Norbert, 1221  
 de Mendoza, Javier, 1193  
 de Silva, A. Prasanna, 1213  
 Doddi, Giancarlo, 1239  
 Doff, David H., 1243  
 Dossi, C., 1245  
 Edwards, Peter G., 1249  
 Ercolani, Gianfranco, 1239  
 Fusi, A., 1245  
 Gantzel, Peter K., 1175  
 Goldberg, Yuri, 1209  
 Goulden, Alistair J., 1269  
 Grepioni, Fabrizia, 1253  
 Grieve, Alan, 1269  
 Grigg, Ronald, 1267  
 Gunaratne, H. Q. Nimal, 1213  
 Gurjar, Mukund K., 1255  
 Hanaoka, Miyoji, 1161  
 Haruyama, Tetsuya, 1191  
 Hercules, David M., 1257  
 Heseck, Dusan, 1269  
 Hinds, K., 1229  
 Hitchcock, Peter B., 1207  
 Hou, Zhaomin, 1205  
 Hu, Ninghai, 1171  
 Hunger, Michael, 1181  
 Hunter, Christopher A., 1277  
 Hursthouse, Michael B., 1249  
 Huuskonen, Juhani, 1265  
 Ikeda, Yoshitaka, 1161  
 Inoue, Shohei, 1197  
 James, M., 1185  
 Jean Burnell, D., 1183  
 Jenkins, Ian D., 1227  
 Jia, Hengqing, 1171  
 Johnson, Brian F. G., 1253  
 Jolie, Rob, 1221  
 Joseph, Stephen C. P., 1207  
 Ju, Jing-Yue, 1211  
 Kashemirov, Boris A., 1211  
 Kawanaka, Yasufumi, 1251  
 Khosravi, Ezat, 1235  
 Knözinger, Helmut, 1181  
 Komadel, Peter, 1243  
 Kondracki, Paul A., 1263  
 Kroke, Edwin, 1233  
 Kuan, Yew Leong, 1195  
 La Pegna, Piero, 1239  
 Lalitha, Sista V. S., 1255  
 Lam, Winnie W. Y., 1163  
 Laws, Andrew P., 1223  
 Le Plouzennec, Maryvonne, 1169  
 Legon, A. C., 1229  
 Legrand, Christophe, 1173  
 Liu, Pei-Ying, 1183  
 McCleverty, Jon A., 1273  
 McKenna, Charles E., 1211  
 Maguire, Glenn E. M., 1213  
 Maher, John P., 1273  
 Mauillard, Bernard, 1259  
 Mangnus, A. V. G., 1231  
 Markandu, Jasothara, 1267  
 Marsmann, Heinrich, 1233  
 Martin, Caroline M., 1253  
 Marx-Tibbon, Sharon, 1261  
 Mathey, François, 1167  
 Mekhemer, Gamal A. H., 1181  
 Mencarelli, Paolo, 1239  
 Moghe, P. P., 1215  
 Moinet, Claude, 1169  
 Morozumi, Tatsuya, 1219  
 Mortreux, André, 1173  
 Mukai, Chisato, 1161  
 Murata, Kazuhisa, 1157  
 Neogi, Partha, 1199  
 O'Donovan, Gerard J., 1187  
 Ogawa, Haruo, 1179  
 Ogawa, Seiichiro, 1247  
 Ohta, Akihiro, 1225  
 Ono, Naoya, 1251  
 Otani, Katsuhide, 1191  
 Page, Michael I., 1223  
 Parisini, Emilio, 1253  
 Parry, Julian S., 1249  
 Perera, Sarath D., 1201, 1203  
 Perrior, Trevor, 1267  
 Petit, Francis, 1173  
 Pohl, Siegfried, 1233  
 Pol, A. V., 1215  
 Prados, Pilar, 1193  
 Price, Christopher J., 1159  
 Psaro, R., 1245  
 Qiong, Zheng, 1267  
 Radu, Nora S., 1175  
 Rairama, Riitta, 1217  
 Rao, A. V. Rama, 1255  
 Recchia, S., 1245  
 Ricard, Louis, 1167  
 Riemer, Thomas, 1181  
 Rigutto, Marcello S., 1241  
 Rissanen, Kari, 1265  
 Rose, John, 1257  
 Russell, David R., 1159  
 Saak, Wolfgang, 1233  
 Saegusa, Takeo, 1191  
 Sato, Fumie, 1251  
 Sawamura, Koushi, 1179  
 Shannon, Richard J., 1277  
 Shaw, Bernard L., 1201, 1203  
 Shepherd, Michael K., 1187  
 Shinkai, Seiji, 1219  
 Sho, Katsuhiko, 1191  
 Simonneaux, Gérard, 1169  
 Simons, Richard S., 1257  
 Sjöholm, Rainer, 1217  
 Smaele, Dirk De, 1221  
 Sonawane, H. R., 1215  
 Song, Tianyou, 1171  
 Spielbauer, Dieter, 1181  
 Stirling, Charles J. M., 1199  
 Stone, Julian R., 1223  
 Stucki, Joseph W., 1243  
 Sudalai, A., 1215  
 Sugimoto, Yu-ichi, 1161  
 Tanikawa, Masato, 1191  
 Suzuki, Tekka, 1267  
 Szemes, Fridrich, 1269  
 Tanaka, Wataru, 1225  
 Tanikawa, Tetsuya, 1247  
 Tanko, James M., 1165  
 Tessier, Claire A., 1257  
 Thorn, J. C., 1229  
 Tilley, T. Don, 1175  
 Tobe, Takahiko, 1247  
 Ushijima, Hirobumi, 1157  
 van Bekkum, Herman, 1241  
 van der Waal, Jan C., 1241  
 van Grondelle, J., 1231  
 van IJzendoorn, L. J., 1231  
 van Santen, R. A., 1231  
 Venkatchalam, C. S., 1177  
 Wade, Peter A., 1263  
 Wakatsuki, Yasuo, 1179, 1205  
 Wang, Changqing, 1189  
 Ward, Michael D., 1273  
 Wear, Trevor, 1269  
 Wei, Gecheng, 1171  
 Weidenbruch, Manfred, 1233  
 White, Jonathan M., 1195  
 Willner, Helge, 1189  
 Willner, Itamar, 1261  
 Xu, Jianing, 1171  
 Xu, Ruren, 1171  
 Xu, Yihua, 1171  
 Yoshida, Yukio, 1251  
 Youngs, Wiley J., 1257  
 Yue, Yong, 1171  
 Zhao, Yu-e, 1171  
 Zimmerman, Paul, 1257