

JOURNAL OF THE CHEMICAL SOCIETY

Chemical Communications

Number 18
1990

CONTENTS

- 1213 Support-controlled Switching of Sulphur–Nitrogen Nucleophilicity for Inorganic Solid-supported Alkaline Earth Metal Thiocyanate Reagents **Takahide Kimura, Mitsue Fujita, Takashi Ando**
- 1214 Photochemical Reaction of *N,N*-Dialkyl- α,β -unsaturated Thioamides **Masami Sakamoto, Makoto Kimura, Tadanori Shimoto, Tsutomu Fujita, Shoji Watanabe**
- 1216 Lavendomycin: Total Synthesis and Assignment of Configuration **Ulrich Schmidt, Klaus Munding, Rainer Mangold, Albrecht Lieberknecht**
- 1219 A New Ruthenium(vi) Oxidant: Preparation, *X*-Ray Crystal Structure, and Properties of $(\text{Ph}_4\text{P})[\text{RuO}_2(\text{OAc})\text{Cl}_2]$ **William P. Griffith, Jennifer M. Jolliffe, Steven V. Ley, David J. Williams**
- 1221 Electrochemical, Electrochromic, and Conductive Properties of Poly(*N*-alkyldiphenylamine) Polymers **My T. Nguyen, Lê H. Dao**
- 1222 Ring Construction by Zirconium-promoted Reductive Coupling of Nitriles with Alkenes **Miwako Mori, Noriaki Uesaka, Masakatsu Shibasaki**
- 1224 Characterization of a High-loaded Intercalate of *p*-Xylene with a Highly Siliceous Form of ZSM-5 by High Resolution ^{29}Si Solid-state NMR Spectroscopy **C. A. Fyfe, Y. Feng, H. Grondey, G. T. Kokotailo**
- 1226 Synthesis and Protonation of Cyclohexadienyl Manganese Acylmetallates; Alkyl and Aryl Group Transfer from an Acyl to a Dienyl Ligand **Ranbir S. Padda, John B. Sheridan, Karen Chaffee**
- 1228 3β -Carboxysteranes, a Novel Family of Fossil Steroids **Fabienne Dany, Joseph Riolo, Jean-Michel Trendel, Pierre Albrecht**
- 1230 β -Lactams from Allyl- and (Allenylmethyl)-silanes **Ernest W. Colvin, Michael Monteith**
- 1232 Molecular Recognition and Catalysis: Acceleration of Acyl Transfer Reactions by a Hydrogen-Bonding Receptor **Paolo Tecilla, Andrew D. Hamilton**
- 1234 Synthesis of Small *nido*-Ferrapentaboranes; a Novel Borane-capped *nido*-Diferrapentaborane **Peter D. Grebenik, Malcolm L. H. Green, Malcolm A. Kelland, John B. Leach, Philip Mountford**
- 1236 Photo-induced One-electron Reduction of 10-Methylacridinium Ion with Group 14 Dimetallic Compounds using Visible Irradiation **Shunichi Fukuzumi, Toshiaki Kitano, Kunio Mochida**
- 1238 A New Reaction of Aminocarbene Complexes of Chromium upon Alkyne Insertions: Deoxygenation Rearrangement of Ketene Intermediates. Formation and *X*-Ray Structure of a Tetrahydroindolizine Complex **B. Denise, R. Goumont, A. Parlier, H. Rudler, J. C. Daran, J. Vaissermann**
- 1240 An Efficient Stereocontrolled Synthesis of (–)-Detoxinine **Hiroshi Kogen, Hiroshi Kadokawa, Masaaki Kurabayashi**
- 1242 Synthesis and *X*-Ray Crystal Structure of Trimesitylrhodium(III) **Robyn S. Hay-Motherwell, Bilquis Hussain-Bates, Michael B. Hursthouse, Geoffrey Wilkinson**
- 1243 Generation and Reactions of Carbene Bearing Unprotected Hydroxy Groups at α -Position **Hideo Tomioka, Yasuo Nunome**
- 1244 Pseudoferrocenes **K. Craig Sturge, Michael J. Zaworotko**
- 1246 Hydrolysis of Water-insoluble Esters by Octadecyl Immobilized H-ZSM-5 Catalyst in a Water–Toluene System **Haruo Ogawa, Koh Tensai, Kazuo Taya, Teiji Chihara**
- 1247 A New HCN Production from CCl_2F_2 (CFC12) and Ammonia over NiTiO_3 , Ni metal, and Pt/C Catalysts **Yusaku Takita, Tatsumi Ishihara, Masayo Hashida**
- 1248 Size-quantized Semiconductor Particles formed at Monolayer Surfaces **Xiao Kang Zhao, Youxin Yuan, Janos H. Fendler**
- 1253 New Indoaniline-type Near-infrared Colour Former **Yuji Kubo, Hiroshi Yasuoka, Katsuhira Yoshida**

- 1254 Nondissociative Mechanism for Decomposition of Dialkylzirconocenes to produce Alkene–Zirconocene–Phosphine Complexes **Ei-ichi Negishi, Douglas R. Swanson, Tamotsu Takahashi**
- 1256 One- and Two-dimensional ^{31}P NMR Characterization of Pure Phosphato Chelates in Cytidine-5'-di- and -triphosphatoplatinum(II) Complexes **Lori L. Slavin, Rathindra N. Bose**
- 1258 Photochemical Reactions of 1,3-Bis(diazo)indan-2-one in an Argon Matrix at 10 K **Shigeru Murata, Tsuneyoshi Yamamoto, Hideo Tomioka, Hak-ki Lee, Hong-Rak Kim, Akira Yabe**
- 1260 The Mechanism of the Thermal Rearrangement of the Marasmane Sesquiterpene (+)-Isovelleral. Cyclopropane Ring Closure *via* an Intramolecular Ene Reaction **Thomas Hansson, Rolf Bergman, Olov Sterner, Börje Wickberg**
- 1262 Transformation of $\text{Fe}^{\text{III}}\text{TMP}$ *N*-Oxide to a Two-electron Oxidized Equivalent of $\text{Fe}^{\text{III}}\text{TMP}$ Complex (TMP = 5,10,15,20-tetramesitylporphyrin) **Yoshihito Watanabe, Katsuomi Tekehira, Masao Shimizu, Takashi Hayakawa, Hideo Orita, Masahiro Kaise**
- 1264 Convergent Synthesis of Methylenomycin B *via* Selenium-assisted Intramolecular $\text{S}_{\text{N}}2'$ Cyclization **Jacob Mathew**
- 1266 Neutral Ionophores having Extraordinary Ca^{2+} Binding Strengths and $\text{Ca}^{2+}/\text{Na}^{+}$ Selectivities in Aqueous Solution **John E. Trafton, Chensheng Li, Jesus Mallen, Steven R. Miller, Akio Nakano, Otto F. Schall, George W. Gokel**
- 1268 Synthesis of Cordierite by Complexing Agent-assisted Sol–Gel Procedure **Kazuyuki Maeda, Fujio Mizukami, Setsuo Miyashita, Shu-ichi Niwa, Makoto Toba**
- 1270 Efficient Solid-state Reactions of Alcohols: Dehydration, Rearrangement, and Substitution **Fumio Toda, Hideaki Takumi, Masafumi Akehi**
- 1271 A Zwitterionic Anthraquinone Derivative: First Zwitterionic DNA Binding Ligand **Shigeori Takenaka, Toshihiro Ihara, Masaru Hamano, Makoto Takagi**
- 1273 Co-ordinatively Unsaturated Group 15 Elements: The Isolation and Crystal Structure of a Novel Dimeric Dithiarsolidinium Cation **Neil Burford, Bruce W. Royan, J. Marc Whalen, John F. Richardson, Robin D. Rogers**
- 1275 Synthesis of the *CD* and *E* Ring Systems of the Calicheamicin γ_1^{I} Oligosaccharide **K. C. Nicolaou, R. D. Groneberg, N. A. Stylianides, T. Miyazaki**
- 1277 Cycloaddition Reactions of Carbodiimides. The First Example of an Intramolecular Diels–Alder Reaction of C=C-Conjugated Carbodiimides **Pedro Molina, Mateo Alajarín, Angel Vidal**
- 1279 Evidence of Vinylic Intermediates in the Fischer–Tropsch Reaction to give Alkenes and Alkanes **Futai Ma, Glenn J. Sunley, Isabel M. Saez, Peter M. Maitlis**
- 1281 A Regioselective, Stereoselective Synthesis of a Diacylglycerophosphocholine Hydroperoxide by use of Lipxygenase and Lipase **Naomichi Baba, Kenji Yoneda, Shoich Tahara, Junkichi Iwasa, Takao Kaneko, Mitsuyoshi Matsuo**
- 1282 Unusual Dehydrogenation of a Diethylenetriamine Ligand to a Schiff Base Ligand in the Co-ordination Sphere of Platinum(IV) **Frank Schwarz, Helmut Schöllhorn, Ulf Thewalt, Bernhard Lippert**
- 1284 Stereoselective Reduction of α -Alkoxy-carbonylketene Dithioacetals with the Use of $\text{Me}_2\text{Cu}(\text{CN})\text{Li}_2$ **Makoto Hojo, Shigeo Tanimoto**
- 1285 Stereocontrolled Functionalization of Acyclic Molybdenum- η^3 -Allyl Complexes: a New Approach to the Stereoselective Synthesis of 1,3-Diols **Wen-Jung Uong, Shie-Hsiung Lin, Rai-Shung Liu, Gene-Hsian Lee, Shie-Ming Peng**
- 1287 Photochemical Activation of C–H Bonds in Supercritical Fluids: The Dramatic Effect of Dihydrogen on the Activation of Ethane by $[(\eta^5\text{-C}_5\text{Me}_5)\text{Ir}(\text{CO})_2]$ **Margaret Jobling, Steven M. Howdle, Michael A. Healy, Martyn Poliakoff**
- 1290 Rigid Rod Oligoimides Form Oriented Langmuir–Blodgett Films **Vince Cammarata, Chad J. Kolaskie, Larry L. Miller, Barbara J. Stallman**

AUTHOR INDEX

- Akehi, Masafumi, 1270
 Alajarín, Mateo, 1277
 Albrecht, Pierre, 1228
 Ando, Takashi, 1213
 Baba, Naomichi, 1281
 Bergman, Rolf, 1260
 Bosc, Rathindra N., 1256
 Burford, Neil, 1273
 Cammarata, Vince, 1290
 Chaffee, Karen, 1266
 Chihara, Teiji, 1246
 Colvin, Ernest W., 1230
 Dany, Fabienne, 1228
 Dao, Lê H., 1221
 Daran, J. C., 1238
 Denise, B., 1238
 Fendler, Janos H., 1248
 Feng, Y., 1224
 Fujita, Mitsue, 1213
 Fujita, Tsutomu, 1214
 Fukuzumi, Shunichi, 1236
 Fyfe, C. A., 1224
 Gokel, George W., 1266
 Goumont, R., 1238
 Grebenik, Peter D., 1234
 Green, Malcolm L. H., 1234
 Griffith, William P., 1219
 Grondey, H., 1224
 Gronenberg, R. D., 1275
 Hamano, Masaru, 1271
 Hamilton, Andrew D., 1232
 Hansson, Thomas, 1260
 Hashida, Masayo, 1247
 Hayakawa, Takashi, 1262
 Hay-Motherwell, Robyn S., 1242
 Healy, Michael A., 1287
 Hojo, Makoto, 1284
 Howdle, Steven M., 1287
 Hursthouse, Michael B., 1242
 Hussain-Bates, Bilquis, 1242
 Ihara, Toshihiro, 1271
 Ishihara, Tatsumi, 1247
 Iwasa, Junkichi, 1281
 Jobling, Margaret, 1287
 Jolliffe, Jennifer M., 1219
 Kadokawa, Hiroshi, 1240
 Kaise, Masahiro, 1262
 Kaneko, Takao, 1281
 Kelland, Malcolm A., 1234
 Kim, Hong-Rak, 1258
 Kimura, Makoto, 1214
 Kimura, Takahide, 1213
 Kitano, Toshiaki, 1236
 Kogen, Hiroshi, 1240
 Kokotailo, G. T., 1224
 Kolaskie, Chad J., 1290
 Kubo, Yuji, 1253
 Kurabayashi, Masaaki, 1240
 Leach, John B., 1234
 Lee, Gene-Hsian, 1285
 Lee, Hak-ki, 1258
 Ley, Steven V., 1219
 Li, Chensheng, 1266
 Lieberknecht, Albrecht, 1216
 Lin, Shie-Hsiung, 1285
 Lippert, Bernhard, 1282
 Liu, Rai-Shung, 1285
 Ma, Futai, 1279
 Maeda, Kazuyuki, 1268
 Maitlis, Peter M., 1279
 Mallen, Jesus, 1266
 Mangold, Rainer, 1216
 Mathew, Jacob, 1264
 Matsuo, Mitsuyoshi, 1281
 Miller, Larry L., 1290
 Miller, Steven R., 1266
 Miyashita, Setsuo, 1268
 Miyazaki, T., 1275
 Mizukami, Fujio, 1268
 Mochida, Kunio, 1236
 Molina, Pedro, 1277
 Monteith, Michael, 1230
 Mori, Miwako, 1222
 Mountford, Philip, 1234
 Munding, Klaus, 1216
 Murata, Shigeru, 1258
 Nakano, Akio, 1266
 Negishi, Ei-ichi, 1254
 Nguyễn, My T., 1221
 Nicolaou, K. C., 1275
 Niwa, Shu-ichi, 1268
 Nunome, Yasuo, 1243
 Ogawa, Haruo, 1246
 Orita, Hideo, 1262
 Padda, Ranbir S., 1226
 Parlier, A., 1238
 Peng, Shie-Ming, 1285
 Poliakov, Martyn, 1287
 Richardson, John F., 1273
 Riolo, Joseph, 1228
 Rogers, Robin D., 1273
 Royan, Bruce W., 1273
 Rudler, H., 1238
 Saez, Isabel M., 1279
 Sakamoto, Masami, 1214
 Schall, Otto F., 1266
 Schmidt, Ulrich, 1216
 Schöllhorn, Helmut, 1282
 Schwarz, Frank, 1282
 Sheridan, John B., 1226
 Shibasaki, Masakatsu, 1222
 Shimizu, Masao, 1262
 Shimoto, Tadanori, 1214
 Slavin, Lori L., 1256
 Stallman, Barbara J., 1290
 Sterner, Olov, 1260
 Sturge, K. Craig, 1244
 Stylianides, N. A., 1275
 Sunley, Glenn J., 1279
 Swanson, Douglas R., 1254
 Tahara, Shoich, 1281
 Takagi, Makoto, 1271
 Takahashi, Tamotsu, 1254
 Takenaka, Shigeori, 1271
 Takita, Yusaku, 1247
 Takumi, Hideaki, 1270
 Tanimoto, Shigeo, 1284
 Taya, Kazuo, 1246
 Tecilla, Paolo, 1232
 Tekehira, Katsuomi, 1262
 Tensai, Koh, 1246
 Thewalt, Ulf, 1282
 Toba, Makoto, 1268
 Toda, Fumio, 1270
 Tomioka, Hideo, 1243, 1258
 Trafton, John E., 1266
 Trendel, Jean-Michel, 1228
 Uesaka, Noriaki, 1222
 Uong, Wen-Jung, 1285
 Vaissermann, J., 1238
 Vidal, Angel, 1277
 Watanabe, Shoji, 1214
 Watanabe, Yoshihito, 1262
 Whalen, J. Marc, 1273
 Wickberg, Börje, 1260
 Wilkinson, Geoffrey, 1242
 Williams, David J., 1219
 Yabe, Akira, 1258
 Yamamoto, Tsuneyoshi, 1258
 Yasuoka, Hiroshi, 1253
 Yoneda, Kenji, 1281
 Yoshida, Katsuhira, 1253
 Yuan, Youxin, 1248
 Zavorotko, Michael J., 1244
 Zhao, Xiao Kang, 1248



IMPERIAL COLLEGE
University of London

The Sir Edward Frankland B.P. Chair of Inorganic Chemistry

The Senate invites applications for the Sir Edward Frankland B.P. Chair of Inorganic Chemistry tenable at Imperial College of Science, Technology and Medicine.

This new Chair has been established with a research endowment of £1.25 million from British Petroleum which will be augmented by further substantial research funds from Imperial College.

The College is keen to use this opportunity to build on the existing strengths of this major Chemistry Department and is therefore looking for candidates able to sustain a vigorous and creative research programme at the highest international level, in succession to Sir Geoffrey Wilkinson, FRS, Nobel Laureate, the first holder of the Frankland Chair. Applications will be considered from candidates with research interests in any branch of inorganic chemistry.

As head of a strong Inorganic Section (currently comprising Professor D. F. Evans, FRS, 4 Readers, 2 Senior Lecturers and 2 Lecturers, with further appointments planned) the Professor will be expected to give leadership in promoting developments within the section and its interface with industry.

The Department has an excellent student intake and innovative teaching programmes and the Professor will be responsible for the future development of undergraduate and postgraduate teaching in the field.

Further particulars may be obtained from Isabel Gardiner, Personnel Officer, Imperial College, London SW7 2AZ (071-589 5111 ext 3305), to whom completed applications (ten copies) should be submitted by 10 October 1990.

Informal enquiries may be made to Professor Steven Ley, FRS, (071-225 8330, FAX: 071-823 7353).

CA6557

SAFE PRACTICES IN CHEMICAL LABORATORIES

This booklet is the successor to the Society's 'Guide to Safe Practices in Chemical Laboratories'. Like its predecessor the new booklet points out relevant statutory requirements and provides general guidance on which specific in-house procedures can be based.

The new booklet contains a forward by HM Chief Inspector of Factories.

Safe Practices in Chemical Laboratories takes account of recent technical and legislative developments affecting health and safety in chemical laboratories. In particular the Control of Substances Hazardous to Health Regulations 1988 (COSHH) will have profound implications for many laboratories and users are strongly recommended to read the new booklet in conjunction with the Society's publication '*COSHH in Laboratories*'.

Softcover 50pp approx
ISBN 0 85186 309 4 (1989)
Price £10.00

ROYAL
SOCIETY OF
CHEMISTRY

For further information or to order, please contact:

The Sales and Promotion Department
Royal Society of Chemistry,
Thomas Graham House, Science Park,
Milton Road, Cambridge CB4 4WF
United Kingdom



Information
Services

CLASSIFIED ADVERTISING

DISPLAY AND SEMI-DISPLAY

£15.00 per single col. cm.

column width 43mm (10 ems)

Send your advertisements:—

**Classified Advertisements,
Burlington House, Piccadilly,
London W1V 0BN.**