

JOURNAL OF THE CHEMICAL SOCIETY

Chemical Communications

**Number 16
1989**

CONTENTS

- 1081 Non-*ipso* Electrophilic Substitution of Vinylstannanes and Silanes **M. T. Reetz, P. Hois**
- 1082 Enhanced Hyperconjugation and Facile 1,2-Halogen Shifts in Metal Cation Complexes of 2-Halogenoalkyl Radicals: an *Ab initio* Study **Andreas von Onciu, Timothy Clark**
- 1085 Easy Synthesis of a C-Disaccharide **Anna Boschetti, Francesco Nicotra, Luigi Panza, Giovanni Russo, Luca Zucchelli**
- 1086 A Novel Class of Aza-analogues of Sesquifulvalene with a Betaine Character: 1-Alkyl-4-(azolylidene)-1,4-dihydropyridines **Ermitas Alcalde, Immaculada Dinarés, Jordi Frigola, Jordi Rius, Carlos Miravitles**
- 1088 First Regiospecific Synthesis of 6^A,6^C,6^E-Tri-*O*-methylcyclomaltohexaose **Sylvain Cottaz, Hugues Driguez**
- 1090 A New Route to (\pm)-Quadrone **Adrian P. Neary, Philip J. Parsons**
- 1091 Facile Formation of the Radical Trianion of 4,7-Phenanthroline as Studied by E.S.R. Spectroscopy **Hideo Fujita, Hiroaki Ohya-Nishiguchi**
- 1093 A Simple and Enantioselective Synthesis of (+)-Albicanol **Kozo Shishido, Yuji Tokunaga, Naomi Omachi, Kou Hiroya, Keiichiro Fukumoto, Tetsuji Kametani**
- 1094 Electrochemical Carbon-skeleton Rearrangements catalysed by Hydrophobic Vitamin B₁₂ immobilised in a Polymer-coated Electrode **Yukito Murakami, Yoshio Hisaeda, Toshiaki Ozaki, Yoshihisa Matsuda**
- 1096 Water Soluble, Zero-valent, Platinum-, Palladium-, and Nickel-P(CH₂OH)₃ Complexes: Catalysts for the Addition of PH₃ to CH₂O **Karl N. Harrison, Peter A. T. Hoye, A. Guy Orpen, Paul G. Pringle, Martin B. Smith**
- 1098 The Prop-2-yl Cation is Chiral **Paul von Ragué Schleyer, Wölfram Koch, Bowen Liu, Ulrich Fleischer**
- 1099 Organometallic Photochemistry in Supercritical Fluids: the Reaction of H₂ with [(η^5 -C₅H₅)M(CO)₃] (M = Re and Mn) and the Formation of a 'Non-classical' Dihydrogen Complex of Manganese(I) **Steven M. Howdle, Martyn Poliakoff**
- 1102 Preparation, Properties, and Crystal Structure of a 1,2,5-Thiadiazolotetracyanoquinodimethane **Takanori Suzuki, Yoshiro Yamashita, Chizuka Kabuto, Tsutomu Miyashi**
- 1103 Molecular Mechanics: Pentaco-ordinate Phosphorus in MM2. Parameters for the 1–3 Interactions. Evaluation Tests **Germaine Robinet, Michèle Barthelat, Véronique Gasmi, Jean Devillers**
- 1105 Organic Geochemical Evidence for a Series of C₂₅–C₂₈ Sulphur-containing Lipids comprising Regular and Irregular Isoprenoid and Unusual Linearly Extended Phytane Skeletons **Torren M. Peakman, Jaap S. Sinnighe Damsté, Jan W. De Leeuw**
- 1107 Mechanism of the Boron Trifluoride Etherate-catalysed Rearrangement of an Acyclic Trisubstituted Epoxide to a Carbonyl Compound **Yoshinori Fujimoto, Yoko Kanzawa, Yoji Ikuina, Katsumi Kakinuma, Nobuo Ikekawa**
- 1110 Single and Double Carbon–Carbon Bond Formation in an Ethylenlidene Bridged Di-iron Complex. X-Ray Crystal Structure of a 3,3-Dicyanoallenylidene Bridged Di-iron Complex **Michel Etienne, Loïc Toupet**
- 1112 Solid State Dimerisation of β -Nitrostyrene: a Disordered Photoreactive Crystal **Gautam R. Desiraju, V. R. Pedireddi**
- 1113 A Convenient Synthesis of (24S)-1 α -Hydroxyvitamin D₂ **Kato L. Perlman, Heinrich K. Schnoes, Hector F. DeLuca**
- 1115 Direct Evidence for N→B π -Donation into a Polyhedral Borane Cluster **Evert J. Ditzel, Xavier L. R. Fontaine, Norman N. Greenwood, John D. Kennedy, Mark Thornton-Pett**
- 1116 Syntheses Relevant to Vitamin B₁₂ Biosynthesis: the Malate Route to (–)-Ring-B Imide and Synthesis of the 2,7,20-Trimethylisobacteriochlorin **William G. Whittingham, Martin K. Ellis, Philippe Guerry, Graeme B. Henderson, Bernd Müller, David A. Taylor, Finian J. Leeper, Alan R. Battersby**
- 1119 Syntheses Relevant to Vitamin B₁₂ Biosynthesis: the Glutamate Route to (–)-Ring-B Imide and Synthesis of the 2,7,12,20-Tetramethylisobacteriochlorin **Bernd Müller, Andrew N. Collins, Martin K. Ellis, William G. Whittingham, Finian J. Leeper, Alan R. Battersby**

- 1122 ^{17}O N.M.R. Spectroscopy as a Novel Tool for Investigating β -Turns in Model Peptides **Nick Birlirakis, Ioannis P. Gerothanassis, Constantinos Sakarellos, Michel Marraud**
- 1124 Conversion of Pent-4-enyl Glycosides into Glycosyl Bromides **Peter Konradsson, Bert Fraser-Reid**
- 1126 Two Types of Inclusion realised in the Complexation between *p*-Dimethylaminobenzoic Acid and 2,6-Dimethyl- β -cyclodextrin **Nagao Kobayashi**
- 1128 Synthesis and Crystal Structure of $(\text{C}_4\text{H}_8\text{O}\cdot\text{Na}^+)_2[2,3\text{-}(\text{SiMe}_3)_2\text{-}2,3\text{-C}_2\text{B}_4\text{H}_5^-]_2$: the First Ion Cluster of the *nido*-Carborane Cage Systems **Narayan S. Hosmane, Upali Siriwardane, Guomin Zhang, Hong Zhu, John A. Maguire**
- 1130 Evidence for Surface Phosphinidine Intermediates [RP → Mg] in the Heterogeneous Dechlorination of Alkyldichlorophosphanes RPCl_2 by Mg Metal **Hans Bock, Martin Bankmann**
- 1132 A Simple Stereoselective Synthesis of Primary Allylic Amines from 4-Amino-1-azadienes **José Barluenga, Enrique Aguilar, Jesús Jóglar, Bernardo Olano, Santos Fuster**
- 1134 Interannular Contraction upon Oxidation of a Mesionic Bicyclic Imine **Peter J. Dunn, Charles W. Rees, Alexandra M. Z. Slawin, David J. Williams**
- 1137 Dithiatetrazocines and Dithiadiazonium Salts **Mehul Amin, Charles W. Rees**
- 1138 Electroreductive Coupling of Trifluoromethylarenes with Electrophiles: Synthetic Applications **Christophe Sabouret, Michel Troupel, Soline Sibille, Jacques Périchon**
- 1139 N.M.R. Studies of the Motion of the Hydride Proton in Solid $\text{HRu}_{10}\text{C}(\text{CO})_{24}^-$ **Philip J. Bailey, Melinda J. Duer**
- 1141 Cephalosporin C Biosynthesis; Stereochemistry of the Incorporation of D,L,D- α -Aminodipoyl-cysteinyl-(3S)-[2- ^2H ,4- ^{13}C]-valine into β -Lactam Compounds **Jack E. Baldwin, Robert M. Adlington, Nicholas P. Crouch, Nicholas J. Turner, Christopher J. Schofield**
- 1144 Photoreduction of Methylviologen in the Interlayer of $\text{K}_4\text{Nb}_6\text{O}_{17}$ **Teruyuki Nakato, Kazuyuki Kuroda, Chuzo Kato**
- 1145 Reductive Coupling of 6-Dimethylaminofulvenes furnishing 6,6'-Bifulvenyls **Takeshi Kawase, Nobue Nisato, Masaji Oda**
- 1146 The Overgrowth of Cadmium Sulphide on Conducting Polymers **J. Kallitsis, E. Koumanakos, E. Dalas, S. Sakkopoulos, P. G. Koutsoukos**
- 1147 Molecular Selective Associations of Cyclodextrins with Lipid or Cholesterol Multibilayers cast on a Piezoelectric Crystal **Yoshio Okahata, Xuanjing Ye**
- 1149 Mono-oxygenase-like Oxidation of Hydrocarbons using Supported Manganese-Porphyrin Catalysts: Beneficial Effects of a Silica Support for Alkane Hydroxylation **Pierrette Battioni, Jean-Pierre Lallier, Laurent Barloy, Daniel Mansuy**
- 1151 Enantioselective Telomerization of Butadiene with Formaldehyde yielding Divinyltetrahydropyrans **W. Keim, W. Meltzow, A. Koehnes, T. Roethel**
- 1152 Relative Partition Coefficients from Partition Functions: a Theoretical Approach to Drug Transport **Jonathan W. Essex, Christopher A. Reynolds, W. Graham Richards**
- 1154 A Novel Spiro Adduct from Intramolecular *ipso* Substitution in the Photolysis of an α -[*p*-(2-Hydroxyalkoxy)phenyl]vinyl Bromide **Tsugio Kitamura, Ichizo Nakamura, Takashi Kabashima, Shinjiro Kobayashi, Hiroshi Taniguchi**
- 1156 Oxidative Methylation of Toluene with Methane over Alkali-promoted $\text{Y}_2\text{O}_3\text{-CaO}$ Catalysts **Yo Osada, Koichi Enomoto, Takakazu Fukushima, Sadao Ogasawara, Tsutomu Shikada, Takao Ikariya**
- 1157 Organoimido Complexes of Tungsten(IV) containing σ - and π -Bound Acetylenes. The X-Ray Crystal Structure of Diphenylacetylenebis(phenylacetylidyne)phenylimidobis(trimethylphosphine)tungsten(IV), $[\text{W}(\sigma\text{-C}\equiv\text{CPh})_2(\text{NPh})(\eta^2\text{-PhC}\equiv\text{CPh})(\text{PMc}_3)_2]$ **George R. Clark, Alastair J. Nielson, Clifton E. F. Rickard**
- 1159 The Reaction of Bis(dimethylglyoximate)(pyridine)cobalt(I) Anion with $\text{CF}_2=\text{CFX}$ (X = Cl or Br): Evidence for Competitive Reaction Paths **Paul J. Toscano, Elizabeth Barren**
- 1160 A Radical Cyclization Route to Collum's Key Intermediate for (+)-Phyllantocin: Annulated Furanoses via Radical Cyclizations **Bik-Wah Anissa Yeung, J. L. M. Contelles, Bert Fraser-Reid**
- 1162 Functionalised (\pm)-Cephalotaxine Analogues **Martin R. Bryce, John M. Gardiner**
- 1164 Crystal Structure and Molecular Modelling of the Antimicrobial Drug Pentamidine **Philip R. Lowe, Clare E. Sansom, Carl H. Schwalbe, Malcolm F. G. Stevens**
- 1166 Synthesis and Molecular Structure of Di- and Tetra-nuclear Nitrido(oxo) Molybdenum(VI) Compounds containing Trimethylsiloxy and N-base Ligands **Gyu-Shik Kim, Carroll W. DeKock**
- 1168 Hypervalent Organoiodine Reagents in the Transannular Functionalisation of Medium-sized Lactams: Synthesis of 1-Azabicyclo Compounds **R. L. Dorta, C. G. Francisco, E. Suárez**
- 1170 Product Enantioselectivity of the Microsomal and Cytosolic Epoxide Hydrolase catalysed Hydrolysis of *meso* Epoxides **Giuseppe Bellucci, Isabella Capitani, Cinzia Chiappe, Franco Marioni**
- 1171 Synthesis of (\pm)-nor- Δ^9 -*cis*-6a,10a-THC-9-carboxylic acid (THC = Tetrahydrocannabinol) **Marcus A. Tius, Xue-qin Gu**
- 1173 Does Non-planarity obstruct Low-dimensional Conducting Polyarene Cation Radical Salts? **Philippe Michel, Alec Moradpour, Michel Ribault, Pierre Petit, Jean-Jacques Andre**
- 1174 Spatially Controlled Photocycloaddition of a Clay-intercalated Stilbazolium Cation **Katsuhiro Takagi, Hisanao Usami, Haruhiko Fukaya, Yasuhiko Sawaki**
- 1176 A Molecular Mechanics Model of the Metalloporphyrins: the Role of Steric Hindrance in Discrimination in Favour of Dioxygen Relative to Carbon Monoxide in some Haem Models **Robert D. Hancock, Julia S. Weaving, Helder M. Marques**
- 1178 Detection of Stereoselective Interaction of D- and L-Tryptophan with Human Serum Albumin by Selective Relaxation Rate Measurements **Gloria Uccello-Barretta, Enrico Domenici, Carlo Bertucci, Piero Salvadori**

- 1179 Novel Electroactive Langmuir–Blodgett Films based on an Amphiphilic Dibenzotetra-aza[14]annulene Derivative
A. Wegmann, M. Hunziker, B. Tieke
- 1181 Syntheses and Electrochemical Properties of Siloxane Polymers containing Ferrocene and Dimethylferrocene
T. Inagaki, H. S. Lee, T. A. Skotheim, Y. Okamoto
- 1183 Fluorescent PET (Photo-induced Electron Transfer) Sensors for Alkali Metal Ions with Improved Selectivity against Protons and with Predictable Binding Constants
A. Prasana de Silva, K. R. A. Samankumara Sandanayake
- 1185 A Stereoselective Route to Enantiomeric 2-Alkyl-1,2,3,6-tetrahydropyridines
Maryam Mehmandoust, Christian Marazano, Bhupesh C. Das
- 1187 Effect of Axial Azide on the Selective, Low Temperature Metalloporphyrin-catalysed Reactions of Isobutane with Molecular Oxygen
Paul E. Ellis, Jr., James E. Lyons

AUTHOR INDEX

- Adlington, Robert M., 1141
 Aguilar, Enrique, 1132
 Alcalde, Ermitas, 1086
 Amin, Mehul, 1137
 Andre, Jean-Jacques, 1173
 Bailey, Philip J., 1139
 Baldwin, Jack E., 1141
 Bankmann, Martin, 1130
 Barloy, Laurent, 1149
 Barluenga, José, 1132
 Barren, Elizabeth, 1159
 Barthelat, Michèle, 1103
 Battersby, Alan R., 1116,
 1119
 Battioni, Pierrette, 1149
 Bellucci, Giuseppe, 1170
 Bertucci, Carlo, 1178
 Birlirakis, Nick, 1122
 Bock, Hans, 1130
 Boschetti, Anna, 1085
 Bryce, Martin R., 1162
 Capitani, Isabella, 1170
 Chiappe, Cinzia, 1170
 Clark, George R., 1157
 Clark, Timothy, 1082
 Collins, Andrew N., 1119
 Contelles, J. L. M., 1160
 Cottaz, Sylvain, 1088
 Crouch, Nicholas P., 1141
 Dalas, E., 1146
 Das, Bhupesh C., 1185
 De Leeuw, Jan W., 1105
 DeKock, Carroll W., 1166
 DeLuca, Hector F., 1113
 de Silva, A. Prasanna, 1183
 Desiraju, Gautam R., 1112
 Devillers, Jean, 1103
 Dinarés, Immaculada, 1086
 Ditzel, Evert J., 1115
 Domenici, Enrico, 1178
 Dorta, R. L., 1168
 Driguez, Hugues, 1088
 Duer, Melinda J., 1139
 Dunn, Peter J., 1134
 Ellis, Jr., Paul E., 1187
 Ellis, Martin K., 1116, 1119
 Enomoto, Koichi, 1156
 Essex, Jonathan W., 1152
 Etienne, Michel, 1110
 Fleischer, Ulrich, 1098
 Fontaine, Xavier L. R., 1115
 Francisco, C. G., 1168
 Fraser-Reid, Bert, 1124, 1160
 Frigola, Jordi, 1086
- Fujimoto, Yoshinori, 1107
 Fujita, Hideo, 1091
 Fukaya, Haruhiko, 1174
 Fukumoto, Keiichiro, 1093
 Fukushima, Takakazu, 1156
 Fustero, Santos, 1132
 Gardiner, John M., 1162
 Gasmé, Véronique, 1103
 Gerothanassis, Ioannis P.,
 1122
 Greenwood, Norman N., 1115
 Gu, Xue-qin, 1171
 Guerry, Philippe, 1116
 Hancock, Robert D., 1176
 Harrison, Karl N., 1096
 Henderson, Graeme B., 1116
 Hiroya, Kou, 1093
 Hisaeda, Yoshio, 1094
 Hois, P., 1081
 Hosmane, Narayan S., 1128
 Howdle, Steven M., 1099
 Hoye, Peter A. T., 1096
 Hunziker, M., 1179
 Ikariya, Takao, 1156
 Ikekawa, Nobuo, 1107
 Ikuina, Yoji, 1107
 Inagaki, T., 1181
 Joglar, Jesús, 1132
 Kabashima, Takashi, 1154
 Kabuto, Chizuka, 1102
 Kakinuma, Katsumi, 1107
 Kallitsis, J., 1146
 Kametani, Tetsuji, 1093
 Kanzawa, Yoko, 1107
 Kato, Chuzo, 1144
 Kawase, Takeshi, 1145
 Keim, W., 1151
 Kennedy, John D., 1115
 Kim, Gyu-Shik, 1166
 Kitamura, Tsugio, 1154
 Kobayashi, Nagao, 1126
 Kobayashi, Shinjiro, 1154
 Koch, Wölfram, 1098
 Koehnes, A., 1151
 Konradsson, Peter, 1124
 Kouramanakos, E., 1146
 Koutsoukos, P. G., 1146
 Kuroda, Kazuyuki, 1144
 Lallier, Jean-Pierre, 1149
 Lee, H. S., 1181
 Leeper, Finian J., 1116, 1119
 Liu, Bowen, 1098
 Lowe, Philip R., 1164
 Lyons, James E., 1187
- Maguire, John A., 1128
 Mansuy, Daniel, 1149
 Marazano, Christian, 1185
 Marioni, Franco, 1170
 Marques, Helder M., 1176
 Marraud, Michel, 1122
 Matsuda, Yoshihisa, 1094
 Mehmandoust, Maryam, 1185
 Meltzow, W., 1151
 Michel, Philippe, 1173
 Miravittles, Carlos, 1086
 Miyashi, Tsutomu, 1102
 Moradpour, Alec, 1173
 Müller, Bernd, 1116, 1119
 Murakami, Yukito, 1094
 Nakamura, Ichizo, 1154
 Nakato, Teruyuki, 1144
 Neary, Adrian P., 1090
 Nicotra, Francesco, 1085
 Nielson, Alastair J., 1157
 Nisato, Nobue, 1145
 Oda, Masaji, 1145
 Ogasawara, Sadao, 1156
 Ohya-Nishiguchi, Hiroaki,
 1091
 Okahata, Yoshio, 1147
 Okamoto, Y., 1181
 Olano, Bernardo, 1132
 Omachi, Naomi, 1093
 Orpen, A. Guy, 1096
 Osada, Yo, 1156
 Ozaki, Toshiaki, 1094
 Panza, Luigi, 1085
 Parsons, Philip J., 1090
 Peakman, Torren M., 1105
 Pedireddi, V. R., 1112
 Périchon, Jacques, 1138
 Perlman, Kato L., 1113
 Petit, Pierre, 1173
 Poliakoff, Martyn, 1099
 Pringle, Paul G., 1096
 Rees, Charles W., 1134, 1137
 Reetz, M. T., 1081
 Reynolds, Christopher A.,
 1152
 Ribault, Michel, 1173
 Richards, W. Graham, 1152
 Rickard, Clifton E. F., 1157
 Rius, Jordi, 1086
 Robinet, Germaine, 1103
 Roethel, T., 1151
 Russo, Giovanni, 1085
 Saboureau, Christophe, 1138
 Sakarellos, Constantinos, 1122
- Sakkopoulos, S., 1146
 Salvadori, Piero, 1178
 Sandanayake, K. R. A.
 Samankumara, 1183
 Sansom, Clare E., 1164
 Sawaki, Yasuhiko, 1174
 Schleyer, Paul von Ragué,
 1098
 Schnoes, Heinrich K., 1113
 Schofield, Christopher J.,
 1141
 Schwalbe, Carl H., 1164
 Shikada, Tsutomu, 1156
 Shishido, Kozo, 1093
 Sibille, Soline, 1138
 Sinnige Damsté, Jaap S.,
 1105
 Siriwardane, Upali, 1128
 Skotheim, T. A., 1181
 Slawin, Alexandra M. Z.,
 1134
 Smith, Martin B., 1096
 Stevens, Malcolm F. G., 1164
 Suárez, E., 1168
 Suzuki, Takanori, 1102
 Takagi, Katsuhiko, 1174
 Taniguchi, Hiroshi, 1154
 Taylor, David A., 1116
 Thornton-Pett, Mark, 1115
 Tieke, B., 1179
 Tius, Marcus A., 1171
 Tokunaga, Yuji, 1093
 Toscano, Paul J., 1159
 Toupet, Loïc, 1110
 Troupel, Michel, 1138
 Turner, Nicholas J., 1141
 Uccello-Barretta, Gloria, 1178
 Usami, Hisanao, 1174
 von Onciu, Andreas, 1082
 Weaving, Julia S., 1176
 Wegmann, A., 1179
 Whittingham, William G.,
 1116, 1119
 Williams, David J., 1134
 Yamashita, Yoshiro, 1102
 Ye, Xuanjing, 1147
 Yeung, Bik-Wah Anissa, 1160
 Zhang, Guomin, 1128
 Zhu, Hong, 1128
 Zucchelli, Luca, 1085