

JOURNAL OF THE CHEMICAL SOCIETY

Chemical Communications

Number 15
1988

CONTENTS

- 985 A Concise Synthesis of 3-Deoxy-2-*O*-methyl-4,5,7-tri-*O*-benzyl-D-*arabino*-heptulosonic Acid and Related Compounds from 3,4,6-Tri-*O*-benzyl-D-glucal **David Crich, Timothy J. Ritchie**
- 986 A Mononuclear Vanadium(III) Thiolate Complex: Synthesis, Structure, and Properties of $[V\{S-2,4,6-Pri_3C_6H_2\}_3(thf)_2]$ **Clayton R. Randall, William H. Armstrong**
- 988 Synthesis of Mixed Oligomeric Heteroarylenes containing Thiophene and Selenophene Rings; their U.V. Spectra and Oxidation Potentials **R. Shabana, A. Galal, Harry B. Mark, Jr., Hans Zimmer, Salo Gronowitz, A. B. Hörnfeldt**
- 989 Indolo[6,7-*g*]indoles; a New Heteroaromatic System **Yoshinobu Nagawa, Koichi Honda, Hiroshi Nakanishi**
- 990 An Unusual Ring Closure Reaction with Formation of Pyrrolidin-2,5-dione Derivatives **Vladimir I. Minkin, Eugeny P. Ivachnenko, Alexander I. Shif, Lew P. Olekhovitch, Olga E. Kompan, Alexander I. Yanovskii, Yurii T. Struchkov**
- 992 Synthesis and Phosphorus–Sulphur Bond Cleavage of 3'-Thiothymidylyl(3'-5')thymidine **Richard Cosstick, Joseph S. Vyle**
- 993 A New Kind of Chemical Sensor based on a Conducting Polymer Film **Shaojun Dong, Zhisheng Sun, Ziling Lu**
- 996 Synthesis and Molecular Structures of a Rhoda-lactone and its Alkylation Product; Insertion of a Pendant Alkyne into a Rhodium–Hydrogen Bond **Todd B. Marder, Dominic M.-T. Chan, William C. Fultz, David Milstein**
- 998 Unexpected Dehydrogenation of a Cyclohexyl Group at Low Temperature through Protonation of $RuH_3(\eta^5-C_5Me_5)-(PCy_3)$ (Cy = cyclohexyl). X-Ray Structure of $[(\eta^5-C_5Me_5)Ru\{(C_6H_9)P(C_6H_{11})\}_2]BF_4$ **Thérèse Arliguie, Bruno Chaudret, Felix Jalon, Fernando Lahoz**
- 1000 Dichotomy of Mechanism in the Rearrangement of β -(Acyloxy)alkyl Radicals **Athelstan L. J. Beckwith, Peter J. Duggan**
- 1002 Tris(tetraphenylimidodiphosphinato)praseodymium: a Powerful Tool for the Analysis of Fatty Acids by 1H N.M.R. Spectroscopy **C. Alvarez, N. Goasdoue, N. Platzer, I. Rodriguez, H. Rudler**
- 1004 Concise Enantioselective Synthesis of (–)-Gloeosporone from (*S*)-*O*-Benzylglycidol [(*S*)-Benzyloxymethyloxirane] **Seiichi Takano, Youichi Shimazaki, Michiyasu Takahashi, Kunio Ogasawara**
- 1006 A New Class of Low-spin Cobalt(II) Chelates. Molecular Structure and Properties of Bis(1-ethyl-3-phenyltriazine-1-olato)cobalt(II) and Related Complexes **Mikołaj F. Rudolf, Juliusz Wolny, Zbigniew Ciunik, Piotr Chmielewski**
- 1007 Synthesis and Structural Characterisation of the First Neutral Homoleptic Lanthanide Metal(III) Alkyls: $[LnR_3]$ [$Ln = La$ or Sm , $R = CH(SiMe_3)_2$] **Peter B. Hitchcock, Michael F. Lappert, Richard G. Smith, Ruth A. Bartlett, Philip P. Power**
- 1009 Preparation of Fused Aziridines by Intramolecular Cycloaddition **Graham B. Jones, Christopher J. Moody**
- 1011 Nickel-catalysed Coupling of Dithioacetals with Silylmethylmagnesium Chloride. A Simple Synthesis of Allylsilanes **Zhi-Jie Ni, Tien-Yau Luh**
- 1012 A First Example of the Faster Migration of Phenyl over Methyl: Kinetics of the Reaction of Triphenylphosphine with Organo-carbonyl-iodo-rhodium(III) Complexes **Mauro Bassetti, Glenn J. Sunley, Peter M. Maitlis**
- 1013 New Classes of Zerovalent Titanium Carbonyls; First Structural Characterisation of a Seven-co-ordinate Titanium Complex containing only Unidentate Ligands: $Ti(CO)_5(SnPh_3)_2^{2-}$ **Kai Ming Chi, Scott R. Frerichs, John E. Ellis**
- 1015 Molecular Asymmetry of an *N*-Alkylporphyrin with Enantiotopic Faces. Resolution and Spectroscopic Characterizations of Optical Antipodes of *N*-Methyletioporphyrin I **Hideo Kubo, Takuzo Aida, Shohei Inoue, Yoshio Okamoto**
- 1017 Synthesis and Structural Characterisation of an Unusual Tetranuclear Oxomolybdenum(VI) Complex of Dihydroxybenzoquinone, $[Mo_4O_{10}(O_4C_6H_2)_2]^{2-}$, and a Comparison with the Mononuclear Chloranilate Complex $[MoO_2-(HO_4C_6Cl_2)(O_4C_6Cl_2)]^{1-}$ **Shuncheng Liu, Shahid N. Shaikh, Jon Zubieta**
- 1019 Simultaneous Immobilization of Glucose Oxidase and a Mediator in Conducting Polymer Films **Chiaki Iwakura, Yoshio Kajiya, Hiroshi Yoneyama**
- 1020 The Dioxygen Carrier Properties of the Dicobalt–Obistren Cryptate in Aqueous Solution **Ramunas J. Motekaitis, Arthur E. Martell**

- 1022 An Unexpected Complex from the Reaction between 2,3-Dichloro-5,6-dicyanobenzoquinone and Amidopyridines **Paolo Bruni, Giorgio Tosi, Giovanni Valle**
- 1024 Photochemical Reorganisation of 1,7,7-Trimethyl-3-(*E*-2'-arylethenyl)-2-oxabicyclo[4.4.0]deca-3,5-dienes **R. P. Gandhi, R. C. Aryan**
- 1025 A Solubilisable Polymer Support Suitable for Solid Phase Peptide Synthesis and for Injection into Experimental Animals **Peter Goddard, John S. McMurray, Robert C. Sheppard, Piers Emson**
- 1027 Oxidatively Coupled Polyarsenide Clusters: Synthesis and Structures of SnAs_{14}^{4-} and As_{22}^{4-} **Robert C. Haushalter, Bryan W. Eichhorn, Arnold L. Rheingold, Steven J. Geib**
- 1028 A New Route to Functionalised Hydroazulenes. Synthesis of (\pm)-Confertin **Michael Kennedy, M. Anthony McKervey**
- 1030 Reactions of a Glycidyl Radical Equivalent with 2-Functionalised Allyl Stannanes **Jack E. Baldwin, Robert M. Adlington, Christopher Lowe, Ian A. O'Neil, Gillian L. Sanders, Christopher J. Schofield, Joseph B. Sweeney**
- 1031 Synthesis and Structural Characterization of $[\text{Cu}(\text{SC}_6\text{H}_4\text{-}o\text{-SiMe}_3)]_{12}$, an Unusual Example of a 'Paddle-Wheel' Dodecametallic Thiolate Cluster **Eric Block, Michael Gernon, Hyunkyung Kang, Shuncheng Liu, Jon Zubieta**
- 1033 The Chemical Activation of Iron, Ruthenium, and Osmium Carbonyl Cluster Anions using Oxidative Addition **Simon R. Drake, Brian F. G. Johnson, Jack Lewis**
- 1035 Novel Photochromism in 4,4'-Bipyridinium Monolayer Assemblies *via* Excitation of Ion-pair Charge-transfer Complexes **Toshihiko Nagamura, Kenkichi Sakai, Teiichiro Ogawa**
- 1037 Molecular Selective Adsorption on a Multilayer-coated Piezoelectric Crystal **Yoshio Okahata, Hiroshi Ebato, Xuanjing Ye**
- 1039 Water Immobilized on Porous Jarosite: Dielectric and Thermal Analyses **Sumio Ozeki**
- 1040 Preparation of a Conducting Ultrathin Multilayer Film of Poly(*p*-phenylene vinylene) using a Langmuir-Blodgett Technique **Yasunari Nishikata, Masa-aki Kakimoto, Yoshio Imai**
- 1042 Formation of Unstable Photodimers of Anthracene in Regioisomers of Bis(anthracene-9-carbonyl)- γ -cyclodextrins **Akihiko Ueno, Fumio Moriwaki, Akiko Azuma, Tetsuo Osa**
- 1044 Novel, Readily occurring, and Stereoselective Synthesis of Conjugated Trienes using 2-Trialkylstannyl-2,5-dihydrothiophene *S,S*-Dioxides **Hiroaki Takayama, Takayoshi Suzuki**
- 1045 Solid State Structure of Bis(pentamethylcyclopentadienyl)barium, $(\text{Me}_5\text{C}_5)_2\text{Ba}$; the First X-Ray Crystal Structure of an Organobarium Complex **R. Allen Williams, Timothy P. Hanusa, John C. Huffman**
- 1047 [2 + 2] Photocycloaddition of Acetylacetone to Naphthoates: a Diverse Addition Pattern **Yuan L. Chow, Xiao-Yun Liu, Shengzhi Hu**
- 1048 Synthesis and Structural Characterisation of a Novel Palladium Sulphur Dioxide Cluster Compound, $[\text{Pd}_3(\mu^2\text{-SO}_2)_2(\mu^2\text{-SO}_2)_2(\text{PMe}_3)_5]$ **Simon G. Bott, Osayi J. Ezomo, D. Michael P. Mingos**
- 1049 The Synthesis and DNA Footprinting of Acridine-linked Netropsin and Distamycin Bifunctional Mixed Ligands **Anastasis Eliadis, Don R. Phillips, James A. Reiss, Andrew Skorobogaty**
- 1052 A Novel Route to Methyleneamido Ligands by Protonation of Nitriles Ligating an Electron-rich Centre. Synthesis of *trans*- $[\text{ReCl}(\text{NCR})(\text{dppe})_2]$ (R = Alkyl or Aryl, dppe = $\text{Ph}_2\text{PCH}_2\text{CH}_2\text{PPh}_2$) and $[\text{ReCl}(\text{N}=\text{CHC}_6\text{H}_4\text{OMe-4})(\text{dppe})_2]\text{-}[\text{BF}_4]$ **Armando J. L. Pombeiro, David L. Hughes, Raymond L. Richards**
- 1053 Formation of 1,2,4-Trioxepines *via* 9,10-Dicyanoanthracene(DCA)-sensitized Photo-oxidation of Arylvinyloxiranes **Shigeru Futamura, Yoshio Kamiya**
- 1055 Novel Base-catalysed Rearrangements of (-)-Fisetinidol-(+)-catechin Profisetinidins with 2,3-*trans*-3,4-*cis*-Flavan-3-ol Constituent Units **Jan P. Steynberg, Johann F. W. Burger, Desmond A. Young, Edward V. Brandt, Jacobus A. Steenkamp, Daneel Ferreira**
- 1057 Synthesis of the First Closed Cage Ruthenium(II) Complex with Tris(di-imine) Ligand Sphere **Peter Belser, Luisa De Cola, Alex von Zelewsky**
- 1058 Synthesis of Antigenic Carbohydrate Polymers Recognized by Lectins and Antibodies **René Roy, François D. Tropper**

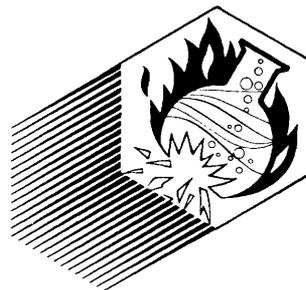
AUTHOR INDEX

- Adlington, Robert M., 1030
 Aida, Takuzo, 1015
 Alvarez, C., 1002
 Arliguie, Thérèse, 998
 Armstrong, William H., 986
 Aryan, R. C., 1024
 Azuma, Akiko, 1042
 Baldwin, Jack E., 1030
 Bartlett, Ruth A., 1007
 Bassetti, Mauro, 1012
 Beckwith, Athelstan L. J., 1000
 Belser, Peter, 1057
 Block, Eric, 1031
 Bott, Simon G., 1048
 Brandt, Edward V., 1055
 Bruni, Paolo, 1022
 Burger, Johann F. W., 1055
 Chan, Dominic M.-T., 996
 Chaudret, Bruno, 998
 Chi, Kai Ming, 1013
 Chmielewski, Piotr, 1006
 Chow, Yuan L., 1047
 Ciunik, Zbigniew, 1006
 Cosstick, Richard, 992
 Crich, David, 985
 De Cola, Luisa, 1057
 Dong, Shaojun, 993
 Drake, Simon R., 1033
 Duggan, Peter J., 1000
 Ebato, Hiroshi, 1037
 Eichhorn, Bryan W., 1027
 Eliadis, Anastasis, 1049
 Ellis, John E., 1013
 Emson, Piers, 1025
 Ezomo, Osayi J., 1048
 Ferreira, Daneel, 1055
 Frerichs, Scott R., 1013
 Fultz, William C., 996
 Futamura, Shigeru, 1053, 993
 Galal, A., 988
 Gandhi, R. P., 1024
 Geib, Steven J., 1027
 Gernon, Michael, 1031
 Goasdoue, N., 1002
 Goddard, Peter, 1025
 Gronowitz, Salo, 988
 Hanusa, Timothy P., 1045
 Haushalter, Robert C., 1027
 Hitchcock, Peter B., 1007
 Honda, Koichi, 989
 Hörnfeldt, A. B., 988
 Hu, Shengzhi, 1047
 Huffman, John C., 1045
 Hughes, David L., 1052
 Imai, Yoshio, 1040
 Inoue, Shohei, 1015
 Ivachnenko, Eugeny P., 990
 Iwakura, Chiaki, 1019
 Jalon, Felix, 998
 Johnson, Brian F. G., 1033
 Jones, Graham B., 1009
 Kajiya, Yoshio, 1019
 Kakimoto, Masa-aki, 1040
 Kamiya, Yoshio, 1053
 Kang, Hyunkyuu, 1031
 Kennedy, Michael, 1028
 Kompan, Olga E., 990
 Kubo, Hideo, 1015
 Lahoz, Fernando, 998
 Lappert, Michael F., 1007
 Lewis, Jack, 1033
 Liu, Shuncheng, 1017, 1031
 Liu, Xiao-Yun, 1047
 Lowe, Christopher, 1030
 Lu, Ziling, 993
 Luh, Tien-Yau, 1011
 McKervey, M. Anthony, 1028
 McMurray, John S., 1025
 Maitlis, Peter M., 1012
 Marder, Todd B., 996
 Mark, Jr., Harry B., 988
 Martell, Arthur E., 1020
 Milstein, David, 996
 Mingos, D. Michael P., 1048
 Minkin, Vladimir I., 990
 Moody, Christopher J., 1009
 Moriwaki, Fumio, 1042
 Motekaitis, Ramunas J., 1020
 Nagamura, Toshihiko, 1035
 Nagawa, Yoshinobu, 989
 Nakanishi, Hiroshi, 989
 Ni, Zhi-Jie, 1011
 Nishikata, Yasunari, 1040
 Ogasawara, Kunio, 1004
 Ogawa, Teiichiro, 1035
 Okahata, Yoshio, 1037
 Okamoto, Yoshio, 1015
 Olekhnovitch, Lew P., 990
 O'Neil, Ian A., 1030
 Osa, Tetsuo, 1042
 Ozeki, Sumio, 1039
 Phillips, Don R., 1049
 Platzner, N., 1002
 Pombeiro, Armando J. L., 1052
 Power, Philip P., 1007
 Randall, Clayton R., 986
 Reiss, James A., 1049
 Rheingold, Arnold L., 1027
 Richards, Raymond L., 1052
 Ritchie, Timothy J., 985
 Rodriguez, I., 1002
 Roy, René, 1058
 Rudler, H., 1002
 Rudolf, Mikołaj F., 1006
 Sakai, Kenkichi, 1035
 Sanders, Gillian L., 1030
 Schofield, Christopher J., 1030
 Shabana, R., 988
 Shaikh, Shahid N., 1017
 Sheppard, Robert C., 1025
 Shif, Alexander I., 990
 Shimazaki, Youichi, 1004
 Skorobogaty, Andrew, 1049
 Smith, Richard G., 1007
 Steenkamp, Jacobus A., 1055
 Steynberg, Jan P., 1055
 Struchkov, Yuri T., 990
 Sun, Zhisheng, 993
 Sunley, Glenn J., 1012
 Suzuki, Takayoshi, 1044
 Sweeney, Joseph B., 1030
 Takahashi, Michiyasu, 1004
 Takano, Seiichi, 1004
 Takayama, Hiroaki, 1044
 Tosi, Giorgio, 1022
 Tropper, François D., 1058
 Ueno, Akihiko, 1042
 Valle, Giovanni, 1022
 von Zelewsky, Alex, 1057
 Vyle, Joseph S., 992
 Williams, R. Allen, 1045
 Wolny, Juliusz, 1006, 1057
 Yanovskii, Alexander I., 990
 Ye, Xuanjing, 1037
 Yoneyama, Hiroshi, 1019
 Young, Desmond A., 1055
 Zimmer, Hans, 988
 Zubieta, Jon, 1017, 1031

Two Essential Bulletins covering Laboratory and Chemical Industry Hazards . . .

Laboratory Hazards Bulletin (LHB) is a current awareness periodical providing invaluable information on safety measures, potential hazards and new legislation, affecting all those working in laboratories. Published monthly, each issue contains between 60-70 references drawn from current scientific and technical literature worldwide. The references include document titles, bibliographic citations and abstracts, plus contact address if necessary. Also included is a Hazards Data Sheet relating to a specific chemical compound.

ISSN 0261 2917 1988 Subscription
UK £90.00 USA \$169.00 Rest of World £104.00



730 **Liquid nitrogen**

Lindsay, W. N. San Jose, CA, USA
Chem. Eng. News 15 Jun 1987, 65 (24), 2.

This letter draws attention to the hazards of liquid nitrogen, with the present excitement about new compounds that become superconductors at liquid nitrogen temperatures. Liquid nitrogen, which boils at -195°C , will, if left exposed to air, condense oxygen, which boils at -183.0°C . The resulting liquid can have strong oxidizing properties, and in the presence of oil or other easily oxidized substances, may react violently. It is advised that Thermos bottles of liquid nitrogen are not left sitting around unused or uncovered.

Chemical Hazards in Industry (CHI) is a current awareness periodical providing comprehensive, up-to-date information on health and safety, hazards, plant safety, legislation, protective equipment and storage, relating to the chemical and allied industries. Each monthly issue contains approximately 300 references drawn from over 200 of the world's most important primary journals. Each reference includes document title, bibliographic details and abstract, plus contact address if necessary. Each issue contains chemical and subject indexes.

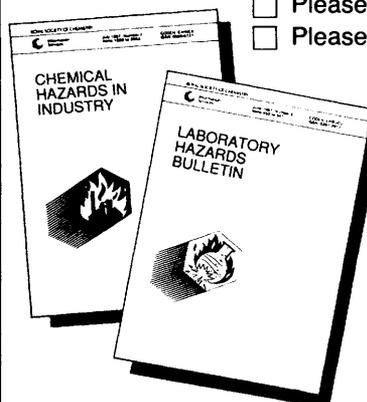
ISSN 0265 5721 1988 Subscription
UK £192.00 USA \$359.00 Rest of World £216.00



2921 Printed circuit board manufactures – fire. *Fire Prev.* June 1987, (200), 38. A report is given of a fire at a printed circuit board manufacturer in Telford, Salop, on 28 Dec 1986. The probable cause was identified as ignition of solvent vapours by a heating element left on during the Xmas holidays.

Don't be without these invaluable publications – write to us for further details and receive a sample issue free! Simply complete and return the slip below.

- Please send me a free sample issue of LHB
 Please send me a free sample issue of CHI



Name

Position

Organisation

Address

.....

Please return to:

Alison Cowley, Royal Society of Chemistry
The University, Nottingham NG7 2RD, United Kingdom

To order please phone (0602) 507411 quoting your credit card details – we now accept Access/Visa/Mastercard/Eurocard. Or write to the address below enclosing a cheque made payable to the Royal Society of Chemistry. We can also issue pro-forma invoices if required.

ROYAL SOCIETY OF CHEMISTRY



Information Services