

# Journal of The Chemical Society

## Chemical Communications

6 APRIL 1977

JCCCAT (7) 193–240 (1977)

### CONTENTS

Page

- 193 Synergism in the Hydrogenation of *p*-Nitrophenol on Platinised  $\text{WO}_3$   
**D. Brynn Hibbert, Nigel Thomas, and Alfred C. C. Tseung**
- 194 Concomitant Photoaquation–Photo-isomerization of *cis*-Dichlorotetra-amminerrhodium(III), *cis*-[Rh( $\text{NH}_3$ )<sub>4</sub>Cl<sub>2</sub>]<sup>+</sup>  
**Dennis Strauss and Peter C. Ford**
- 195 Nucleophilic Substitution of 1-Chloro-3,5-diphenyl-1*H*,3*H*,5*H*-1,3,5,2,4,6-trithiahexaazene 1,3,5-Trioxide (Diphenylsulphanuric Chloride) by Secondary Amines  
**Tom J. Maricich and Mohammed H. Khalli**
- 196 Spontaneous *N*-Aryl (rather than *P*-Aryl) Orthometallation in the System [RuCl<sub>2</sub>(PPh<sub>3</sub>)<sub>3</sub>]<sup>–</sup>  
[=CN(Ar)(CH<sub>2</sub>)<sub>2</sub>NAr]<sub>2</sub> (Ar = C<sub>6</sub>H<sub>4</sub>Me-4); X-Ray Crystal and Molecular Structure of  
[RuCl(PEt<sub>3</sub>)<sub>2</sub>{CN(Ar)(CH<sub>2</sub>)<sub>2</sub>N(C<sub>6</sub>H<sub>3</sub>Me-4)}], a Stereochemically Rigid 5-Co-ordinate Ru<sup>II</sup> Complex, with  
a Short (2·2 Å) Ru . . . H Contact   **Peter B. Hitchcock, Michael F. Lappert, and Peter L. Pye**
- 198 Heterogeneous Metathesis of Unsaturated Fatty Acid Esters  
**Evert Verkuijen, Freek Kapteijn, Johannes C. Mol, and Cornelis Boelhouwer**
- 199 Reduction of a Cobalt(III) Sulphenamide Complex to (*R*)-Cysteine and (*RR*)-Cystine Complexes. X-Ray  
Crystal Structure of the Cystine Dimer   **W. G. Jackson, A. M. Sargeson, and P. A. Tucker**
- 200 Formation of Chlorobisethylenediaminecobalt(III)- $\mu$ -cyano-pentacyanocobalt(III) and the High Apparent  
Nucleophile Efficiency of the Cyanide Ligands of Hexacyanocobaltate(III)  
**Michael G. Burnett and Alexander D. McMaster**
- 201 Synthesis and <sup>17</sup>O Nuclear Magnetic Resonance Spectroscopic Structure Determination of [(PhAs)<sub>4</sub>Mo<sub>12</sub>–  
O<sub>46</sub>]<sup>4–</sup>  
**Mark Filowitz and Walter G. Klemperer**
- 203 Interaction of Arylmetal Compounds of Group 1B with Copper(I) and Silver(I) Trifluoromethanesulpho-  
nate; a Novel Biaryl Synthesis and a Route to Hexanuclear Aryl–CuAg, –AgAu, and –CuAu Clusters  
**Gerard van Koten, Johann T. B. H. Jastrzebski, and Jan G. Noltes**
- 204 Activation and Transfer of Oxygen Atom from Dioxygen–Metal Complexes. Epoxidation of Olefins  
Induced by Electrophiles   **Michael J. Y. Chen and Jay K. Kochi**
- 205 Oxidation of Dihydropyran with MoO<sub>5</sub>–HMPA   **Aryeh A. Frimer**
- 206 Unsymmetrically Tris-bridged [2.2.2]Cyclophanes. Synthesis of [2.2.2](1,2,4)(1,3,5)Cyclophane  
**Masao Nakazaki, Koji Yamamoto, and Yasuhiro Miura**
- 207 Preparation and Properties of 2,4-Bis(cyanomethylene)-1,3-dithietan, a Sulphur Analogue of Tetra-  
cyanooquinodimethane   **Neil F. Haley**
- 208 Oxidative Dimerisation of 4-Hydroxystilbenes *in vitro*: Production of a Grapevine Phytoalexin Mimic  
**Peter Langcake and Robert J. Pryce**
- 210 Automerization in Vinylidene-cyclopentadiene and Phenylcarbene  
**Curt Wentrup, Edeline Wentrup-Byrne, and Paul Müller**
- 211 Biosynthesis of Isococculinidine   **Dewan S. Bhakuni, Awadhesh N. Singh, and Randhir S. Kapil**
- 212 Five-co-ordinate Complexes of Platinum(II)   **Ibrahim Al-Najjar and Michael Green**
- 213 Semi-empirical and *ab initio* Calculations on the Automerization of Methane  
**V. I. Minkin, R. M. Minyaev, and I. I. Zacharov**
- 215 New Route to Aryltin(IV) Halides by Spontaneous Cyclometallation of Benzylideneaminotin(IV) Halides;  
X-Ray Crystal Structure of the *ortho*-Metallated Ketimine, *o*-SnCl<sub>3</sub>–*p*-MeC<sub>6</sub>H<sub>3</sub>C(:NH)–*p*-C<sub>6</sub>H<sub>4</sub>Me  
**Brian Fitzsimmons, David G. Othen, Harrison M. M. Shearer, Kenneth Wade, and Graham Whitehead**

Contents—continued overleaf

**Contents—continued**

Page	
216	Ring-forming Deoxygenation of <i>ortho</i> -Substituted Aroylphosphonic Diesters <b>Gian Paolo Chiusoli, Giuseppe Cometti, and Vittorio Bellotti</b>
217	Helium I Photoelectron Spectrum of Disulphur Dinitride <b>David C. Frost, Michael R. LeGeyt, Norman L. Paddock, and Nicholas P. C. Westwood</b>
218	Stereospecificity of Thymidylate Synthetase <b>Charles Tatum, John Vederas, Erwin Schleicher, Stephen J. Benkovic, and Heinz Floss</b>
220	New Method for Converting Thioamides into Nitriles: Use of Diethyl Azodicarboxylate and Triphenylphosphine <b>Michael D. Dowle</b>
221	Tetrameric Cyano-rhenium Complexes with Sulphur and Selenium Bridges: Preparation and X-Ray Crystal Structures of $(\text{Ph}_3\text{P})_4[\text{Re}_4\text{S}_4(\text{CN})_{12}] \cdot 3\text{H}_2\text{O}$ and $(\text{Ph}_3\text{P})_4[\text{Re}_4\text{Se}_4(\text{CN})_{12}] \cdot 3\text{H}_2\text{O}$ <b>Michael Laing, Patrick M. Kiernan, and William P. Griffith</b>
222	Preparation, X-Ray Crystal Structure Analysis, and Reactions of a Novel, Hydroxo-Bridged, Tetranuclear, $\pi$ -Arene Ruthenium(II) Quadrivalent Cation $[(\eta^6\text{-C}_6\text{H}_6\text{Ru}(\text{OH}))_4](\text{SO}_4)_2 \cdot 12\text{H}_2\text{O}$ <b>Robert O. Gould, C. Lynn Jones, Donald R. Robertson, and T. Anthony Stephenson</b>
224	Gas-Phase Nuclear Magnetic Resonance Spectroscopic Study of the Molecular Structure of Beryllium Borohydride, $\text{Be}(\text{BH}_4)_2$ <b>Donald F. Gaines, Jerry L. Walsh, and David F. Hillenbrand</b>
225	The Strongest Hydrogen-Bond? <i>Ab initio</i> -LCAO-MO-SCF Calculations <b>John Emsley, Otho P. A. Hoyte, and Richard E. Overill</b>
226	$^{15}\text{N}$ Nuclear Magnetic Resonance Spectra of Octaethylporphyrin <b>Keiichi Kawano, Yukihiko Ozaki, Yoshimasa Kyogoku, Hisanobu Ogoshi, Hiroshi Sugimoto, and Zen-ichi Yoshida</b>
227	Evidence for a Selective <i>cis-trans</i> -Isomerization of Butenes over Alumina with Allylic C-H Bond-breaking <b>Michel Guisnet, Jean-Louis Lemberton, and Guy Perot</b>
228	Configurational Selectivity in the Formation of the Trimethoxysulphuranyl Radical <b>John W. Cooper and Brian P. Roberts</b>
230	<i>In vitro</i> and <i>In vivo</i> Rearrangement of Eudesmanes to Eremophilanes. Substantiation of Robinson's Hypothesis <b>Carl A. Miller and A. Reginald Pinder</b>
231	Stereo-ordered Macromolecular Matrices Bearing Ammonium Groups as Catalysts in Alkylation and Carbenation Reactions <b>Emo Chiellini and Roberto Solaro</b>
232	Synthesis and $^{13}\text{C}$ Nuclear Magnetic Resonance Spectrum of 1-(2,3-Diphenylcycloprop-2-enylenemethyl)-2,3-diphenylcyclopropenium Perchlorate <b>Koichi Komatsu, Katsuhisa Masumoto, and Kunio Okamoto</b>
233	Rules for Ring Closure. Stereoelectronic Control in the Endocyclic Alkylation of Ketone Enolates <b>Jack E. Baldwin and Lawrence I. Kruse</b>
235	Raman Spectrum of Carbon Monoxide on a Platinum Electrode Surface <b>Ralph P. Cooney, Martin Fleischmann, and Patrick J. Hendra</b>
237	'Naked' Fluoride-catalysed Michael-Additions <b>Igal Belsky</b>
238	Oxidative Dehydrodimerization of <i>N</i> -Acyl $\alpha$ -Amino-acids: Synthesis of Novel Di- $\alpha\alpha'$ -amino-acid Derivatives <b>Naruyoshi Obata and Koichi Niimura</b>
239	Photoreactions of Hydroxyindanones <b>Neil K. Hamer</b>
240	Corrigenda