

JOURNAL OF THE CHEMICAL SOCIETY

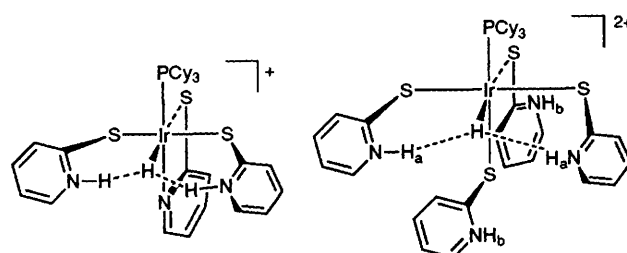
Chemical Communications

Number 19
1994

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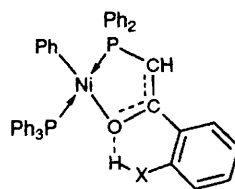
- 2201 A New type of Intramolecular H···H···H Interaction involving N–H···H(Ir)···H–N Atoms. Crystal and Molecular Structure of $[\text{IrH}(\eta^1\text{-SC}_5\text{H}_4\text{NH})_2(\eta^2\text{-SC}_5\text{H}_4\text{N})(\text{PCy}_3)]\text{-BF}_4 \cdot 0.72\text{CH}_2\text{Cl}_2$

Sunghan Park, Ravindranath Ramachandran,
Alan J. Lough, Robert H. Morris



- 2203 Intramolecular O–H···O–Ni and N–H···O–Ni Hydrogen Bonding in Nickel Diphenylphosphinoenolate Phenyl Complexes: Role in Catalytic Ethene Oligomerisation; Crystal Structure of $[\text{NiPh}\{\text{Ph}_2\text{PCH}\cdots\text{C}(\cdots\text{O})(o\text{-C}_6\text{H}_4\text{NPh})\}(\text{PPh}_3)]$

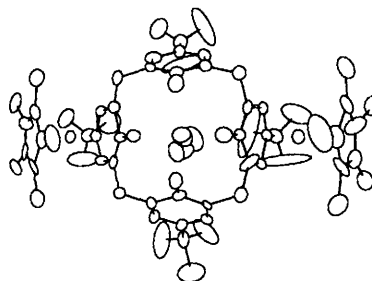
Pierre Braunstein, Yves Chauvin, Sophie Mercier,
Lucien Saussine, André De Cian, Jean Fischer



The intramolecular hydrogen bonding between the enolate oxygen and the H–X function (X = O, NMe, NPh) of these nickel catalysts considerably favours low molecular weight α -olefins in catalytic oligomerisation of ethene.

- 2205 Synthesis of Cationic Organometallic Calixarene Hosts by Direct Metalation of the Outer Face

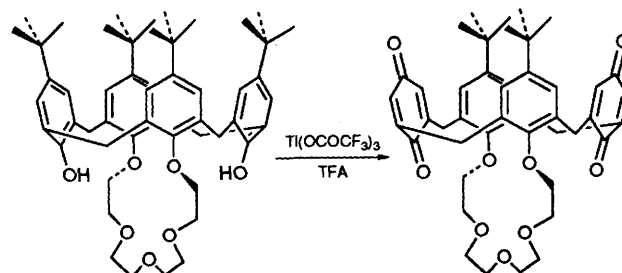
Jonathan W. Steed, Ravindra K. Juneja, Robert S. Burkhalter, Jerry L. Atwood



Complexation of the aromatic rings of various calix[4]arenes to transition metal containing moieties results in significant changes to the solubility, acidity and host–guest properties of the macrocycles.

- 2207 Metal, Ammonium and Alkyl Ammonium Cation Recognition by a Novel Calix[4]arenequinone Crown Ether

Paul D. Beer, Zheng Chen, Michael G. B. Drew,
Philip A. Gale



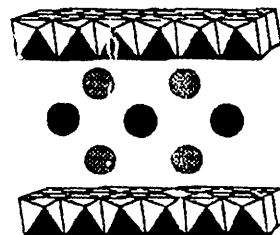
2209 **Catalytic Oxidation of Methane to Methanol initiated in a Gas Mixture of Hydrogen and Oxygen**

Selective oxidation of methane to MeOH at atmospheric pressure is achieved by using a gas mixture of H₂ and O₂ over FePO₄ catalyst at >623 K. Generation of a new active oxygen species is proposed in the presence of H₂.

Ye Wang, Kiyoshi Otsuka

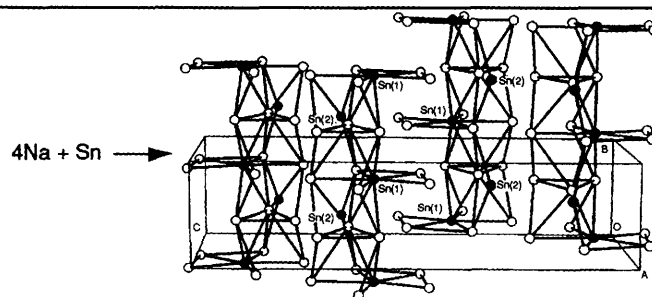
2211 **Growth of Large Buserite Crystals: Precursors for Octahedral Molecular Sieves**

David T. Fortin, Amir Awaluddin, E. J. Neth, William S. Willis, Steven L. Suib, Chi-Lin O'Young



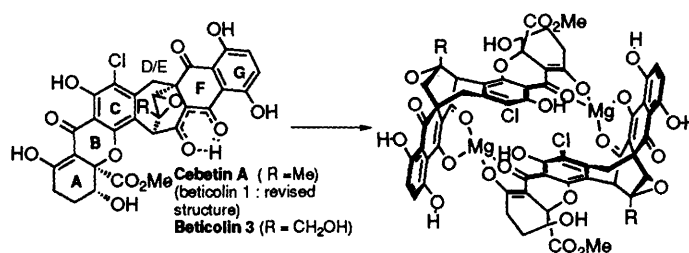
2213 **Synthesis and Reactivity of a New Intermetallic Compound: Na₄Sn**

Frédéric Guérin, Darrin Richeson



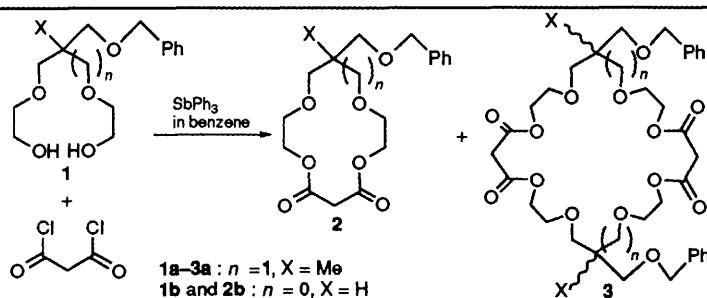
2215 **The Yellow Toxins produced by *Cercospora beticola*. Revised Structures of Beticolin 1 and Beticolin 3**

Paul-Henri Ducrot, Marie-Louise Milat, Jean-Pierre Blein, Jean-Yves Lallemand



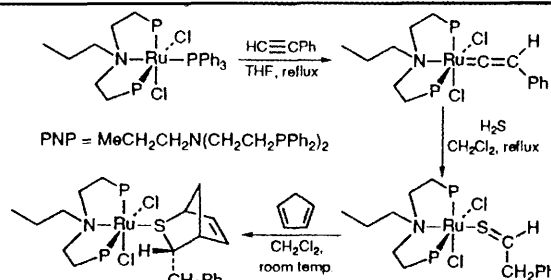
2217 **Syntheses of Armed Crown Ether-Esters using SbPh₃ as a Template**

Yoichi Habata, Fumio Fujishiro, Sadatoshi Akabori



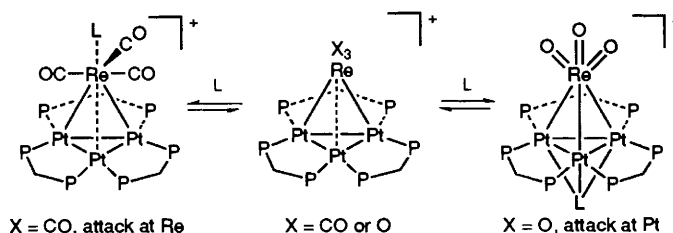
2219 **A Novel Reaction of Coordinated Vinylidenes: Coupling with Hydrogen Sulfide to give a η¹-Thioaldehyde**

Claudio Bianchini, Lionel Glendenning, Maurizio Peruzzini, Antonio Romerosa, Fabrizio Zanobini



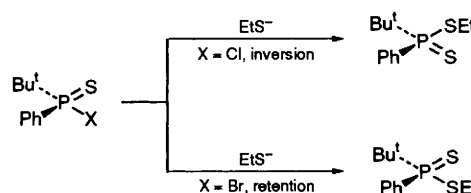
2221 **Models for Bimetallic Catalysts: Selectivity in Ligand Addition as a Function of Rhenium Oxidation State in Pt₃Re Clusters**

Jianliang Xiao, Leijun Hao, Richard J. Puddephatt, Ljubica Manojlović-Muir, Kenneth W. Muir, Ali Ashgar Torabi



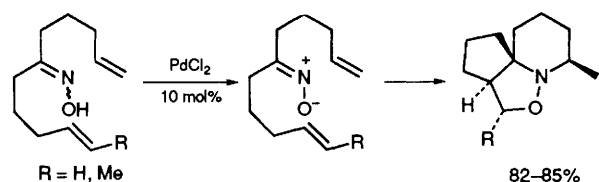
2223 **Unexpected Opposite Stereochemistries and Different Mechanisms of Nucleophilic Substitution Reactions of Homochiral *tert*-Butylphenylthiophosphinoyl Chloride and Bromide**

Jan Omelańczuk, Marian Mikolajczyk



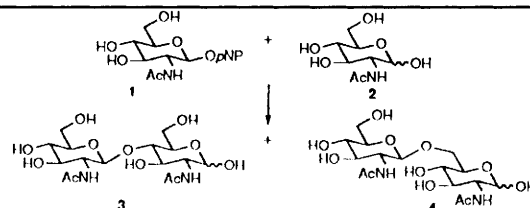
2225 **Palladium(II)-catalysed Cascade Cyclisation–Cycloaddition Reactions of Alkenyl Oximes**

Martyn Frederickson, Ronald Grigg, Jasothara Markandu, James Redpath



2227 **Kinetic Control of Regioselectivity in Glycosidase-catalysed Disaccharide Synthesis: Preparation of 2-Acetamido-4-*O*-(2-acetamido-2-deoxy-β-D-glucopyranosyl)-2-deoxy-D-glucopyranose (*N,N'*-diacetylchitobiose) and 2-Acetamido-6-*O*-(2-acetamido-2-deoxy-β-D-glucopyranosyl)-2-deoxy-D-glucopyranose**

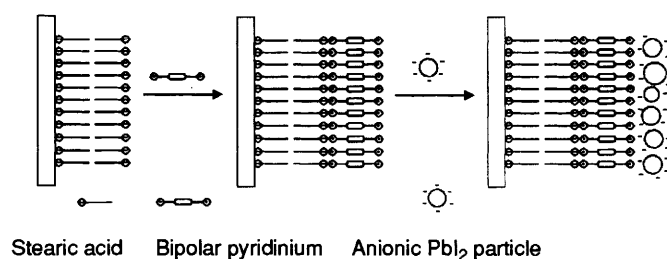
Suddham Singh, John Packwood, David H. G. Crout



The ratio of disaccharides 3 and 4 was time-dependent. The major product in each case was isolated by selective enzymatic hydrolysis of the minor product.

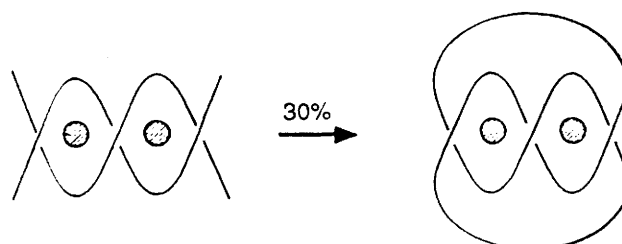
2229 **A Monolayer of PbI₂ Nanoparticles Adsorbed on MD–LB Film**

Mingyuan Gao, Xi Zhang, Bai Yang, Jiacong Shen

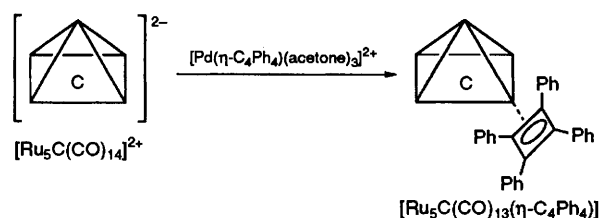


2231 **High-yield Synthesis of a Dicopper(I) Trefoil Knot Containing 1,3-Phenylene Groups as Bridges between the Chelate Units**

Christiane O. Dietrich-Buchecker, Jean-Pierre Sauvage, André De Cian, Jean Fischer

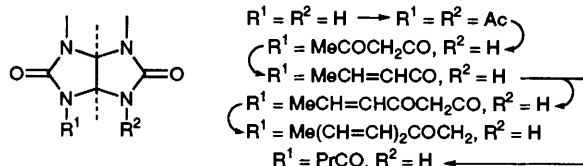


- 2233 **The Preparation and Solid-state Structure of $\text{Ru}_5\text{C}(\text{CO})_{13}(\eta^4\text{-C}_4\text{Ph}_4)$: The First Cluster to Carry a Cyclobutadiene Ring**



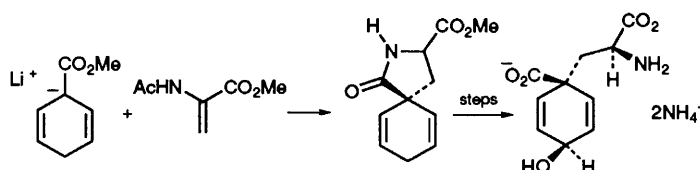
Philip J. Bailey, Alexander J. Blake, Paul J. Dyson, Scott L. Ingham, Brian F. G. Johnson

- 2235 **Repetitive Template-Directed Acyl Transfer to Mimic Steps in the Biosynthesis of Polyketides and Fatty Acids**



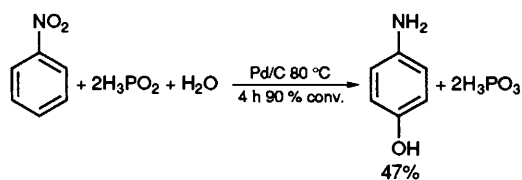
Sengen Sun, Paul Harrison

- 2237 **Concise Synthesis of Arogonate. A Biosynthetic Precursor of Phenylalanine and Tyrosine**



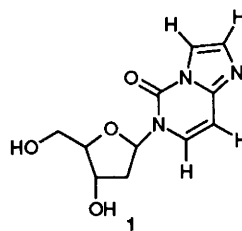
Maxwell J. Crossley, Robert C. Reid

- 2239 **Phosphinic Acid as a Bifunctional Reagent in the Catalytic Bamberger Rearrangement of Nitrobenzene to *para*-Aminophenol**



Ami Zoran, Oleg Khodzhaev, Yoel Sasson

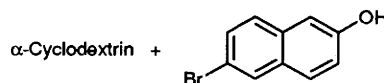
- 2241 **The Stability of Duplex DNA Containing 3, *N*⁴-Etheno-2'-Deoxycytidine (ϵdC). A UV Melting and High Resolution ^1H NMR Study**



The mutagenic lesion 3, *N*⁴-etheno-2'-deoxycytidine (ϵdC) I does not form stable base pairs with A, C, G or T. A DNA duplex containing an ϵC : A pair adopts the B conformation with all bases *anti*.

Neil J. Gibson, John A. Parkinson, Thomas Barlow, William P. Watson, Tom Brown

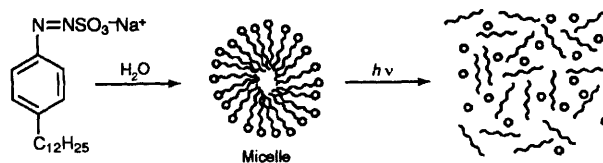
- 2243 **Room-temperature Phosphorescence of 6-Bromo-2-naphthol Included by α -Cyclodextrin in Aqueous Solution**



6-Bromo-2-naphthol within a 2:1 α -cyclodextrin-6-bromo-2-naphthol inclusion complex exhibits room temperature phosphorescence.

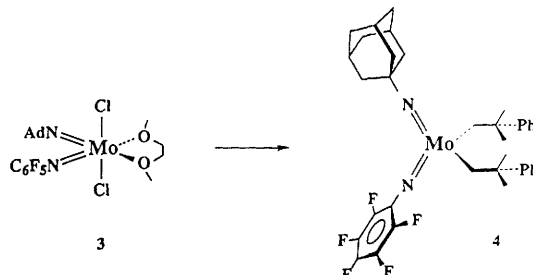
Sanyo Hamai

2245 A Photodestructible Surfactant

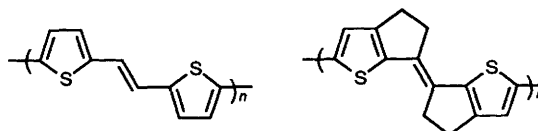


Ian R. Dunkin, Andreas Gittinger, David C. Sherrington, Paul Whittaker

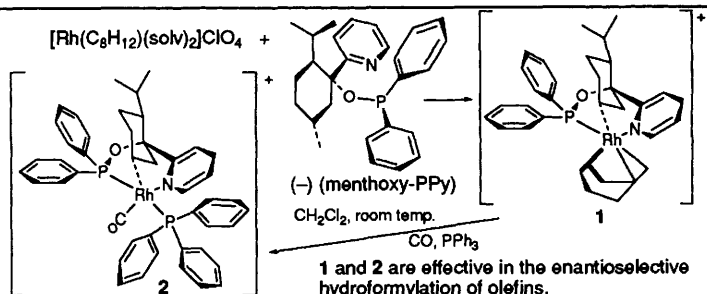
2247 Novel Bis(imido) Complexes of Molybdenum(vI): Precursors to New Alkene Metathesis Catalysts



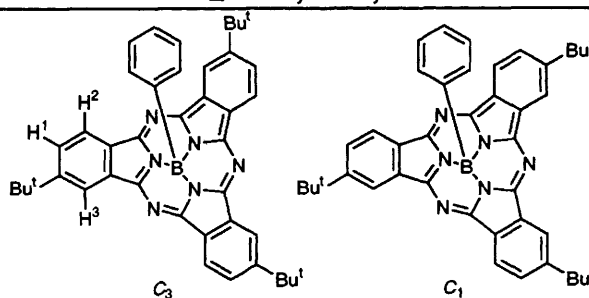
Andrew Bell, William Clegg, Philip W. Dyer, Mark R. J. Elsegood, Vernon C. Gibson, Edward L. Marshall

2249 Control of the Bandgap of Conducting Polymers by Rigidification of the π -Conjugated System

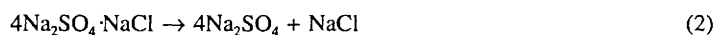
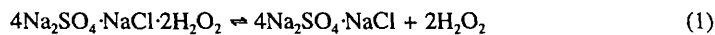
Jean Roncali, Christine Thobie-Gautier, El Hadj Elandaloussi, Pierre Frère

2251 Enantioselective Hydroformylation with the Chiral Bidentate *P,N*-Ligand 2-[1-(1*S*,2*S*,5*R*)-(-)-menthoxydiphenylphosphino]pyridine Cationic Rhodium(I) Complexes

Carmela Grazia Arena, Francesco Nicolò, Dario Drommi, Giuseppe Bruno, Felice Faraone

2253 Synthesis and Separation of Structural Isomers of Tri-*tert*-butylsubphthalocyaninatophenylboron(III)

Michael Hanack, Monika Geyer

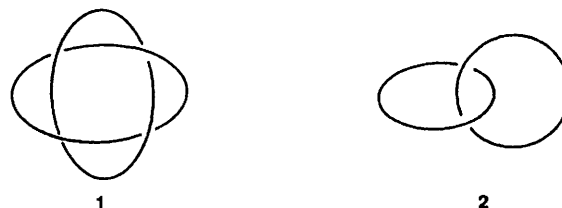
2255 The Reversible Desorption of H_2O_2 from the Inclusion Channel Complex $4\text{Na}_2\text{SO}_4 \cdot \text{NaCl} \cdot 2\text{H}_2\text{O}_2$ 

The loss of H_2O_2 is reversible *via* process (1) in the presence of an $\text{H}_2\text{O}_2/\text{H}_2\text{O}$ atmosphere. In a pure H_2O environment, phase separation occurs with the formation of NaCl and Na_2SO_4 [process (2)].

S. D. Cosgrove, W. Jones

- 2257 **Singly and Doubly Interlocked [2]-Catenanes: Influence of the Degree of Entanglement on Chemical Stability as Estimated by Fast Atom Bombardment (FAB) and Electrospray Ionization (ESI) Mass Spectrometries (MS)**

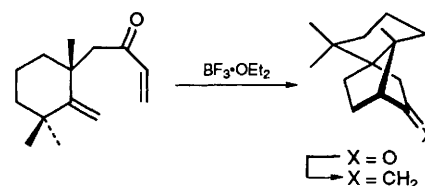
Christiane O. Dietrich-Buchecker, Emmanuelle Leize, Jean-François Nierengarten, Jean-Pierre Sauvage, Alain Van Dorsselaer



ESI-MS is able to differentiate between 1 and 2 by controlling the collision energy.

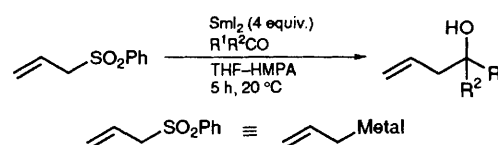
- 2259 **First Total Synthesis of (±)-Myltayl-4(12)-ene and Single-crystal X-ray Structure of *exo*-12-Normyltaylan-4-yl 4-Nitrobenzoate**

Adusumilli Srikrishna, Channabasaveshwar V. Yelamaggad, Kathiresan Krishnan, Munirathinam Nethaji



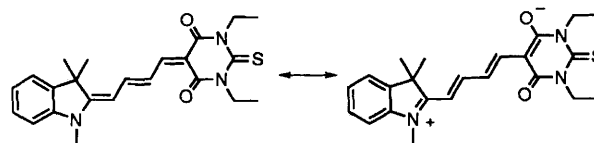
- 2261 **Homoallylic Alcohols from Samarium Diodide-mediated Coupling of Allylic Sulfones with Carbonyl Compounds**

Jonathan Clayden, Marc Julia



- 2263 **The Dependence of the Molecular First Hyperpolarizabilities of Merocyanines on Ground-state Polarization and Length**

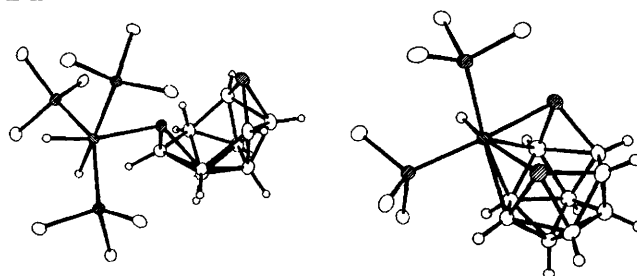
Rafael Ortiz, Seth R. Marder, Lap-Tak Cheng, Bruce G. Tiemann, Silvia Cavagnero, Joseph W. Ziller



The molecular length and the endgroups determine the relative contribution of neutral and charge-separated resonance structures to the ground-state structure of merocyanines and therefore determine the magnitude and sign of their first hyperpolarizabilities.

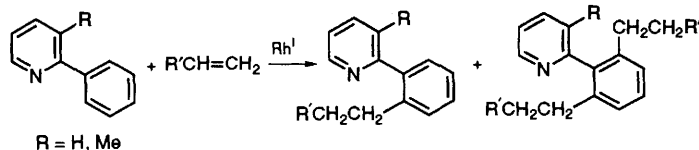
- 2265 **Eleven- and Twelve-vertex Polyhedral Metalladithiaborane Chemistry. Novel Compounds from the *arachno*-[S₂B₉H₁₀]⁻ Anion: [(PPh₃)₃H₂IrS₂B₉H₁₀], [(PPh₃)₂HlrS₂B₉H₉] and [(PPh₃)₂HRhS₂B₈H₈]**

Ramón Macías, Josef Holub, John D. Kennedy, Bohumil Štíbr, Mark Thornton-Pett

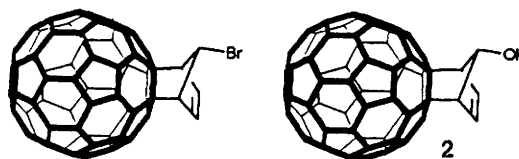


- 2267 **Rhodium-catalysed Regioselective Alkylation of the Phenyl Ring of 2-Phenylpyridines with Olefins**

Yeong-Gweon Lim, Yong Hae Kim, Jung-Bu Kang



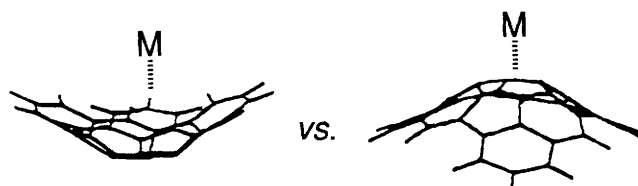
- 2269 **Unusual Functionalization of C_{60} via Hydrozirconation: Reactivity of the C_{60} -Zr^{IV} Complex vs. Alkyl-Zr^{IV} Complexes**



The reaction of the C_{60} hydrozirconation adduct **1** with *N*-bromosuccinimide and *m*-chloroperbenzoic acid leads to the formation of Diels–Alder products with bromo- and hydroxy-cyclopentadiene, respectively.

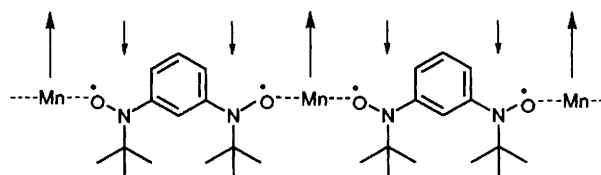
Stephan Ballenweg, Rolf Gleiter, Wolfgang Krätschmer

- 2271 **Convex vs. Concave π -Facial Binding of Metal Cations to a Semibuckminsterfullerene: an *Ab Initio* Study**



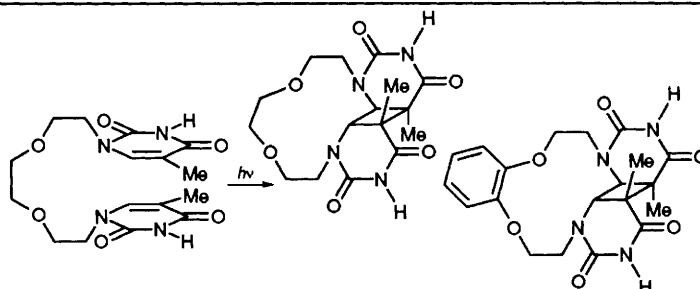
Andrzej Sygula, Peter W. Rabideau

- 2273 **One-dimensional Ferro- and Ferri-magnetic Chains made of an Alternating Array of 1,3-Bis(*N*-*tert*-butyl-*N*-oxyamino)benzene and Mn^{II}(hfac)₂ (Hhfac = hexafluoroacetylacetonate)**



Katsuya Inoue, Hiizu Iwamura

- 2275 **Synthesis and X-Ray Crystal Structure of Novel *trans-syn* Thymine Photodimers: Effect of a Polyoxyethylene Spacer Chain on Photodimer Stereochemistry**



Bargur P. Gangamani, Cheravakkattu G. Suresh, Krishna N. Ganesh

- 2277 **Highly Selective Photo-oxidation Reactions at Nanocrystalline TiO₂ Film Electrodes**

The photocurrent–voltage characteristic of the junction formed between a porous nanocrystalline TiO₂ film and an electrolyte is shown to be governed by the kinetics of the interfacial hole transfer to the oxidizable species in the solution. This leads to unusually large ($\times 10$) differences between the photocurrents observed, under high anodic bias, for the photo-oxidation of small organic molecules (MeOH, HCO₂H) and those for the photogeneration of oxygen.

Axel Wahl, Martine Ulmann, Annick Carroy, Jan Augustynski

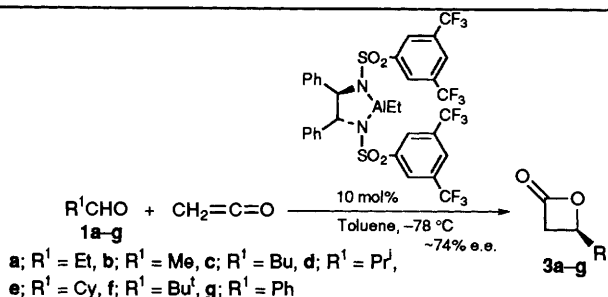
- 2279 **Probing Active Sites in Solid Catalysts for the Liquid-phase Epoxidation of Alkenes**

The first example of how the environment of transition metal ions in a solid catalyst in contact with a liquid phase may be determined under operating conditions using X-ray spectroscopy is reported.

Gopinathan Sankar, Fernando Rey, John Meurig Thomas, G. Neville Greaves, Avelino Corma, Barry R. Dobson, Andrew J. Dent

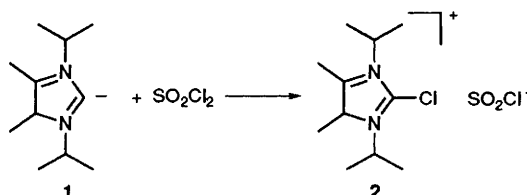
- 2281 **Asymmetric [2 + 2] Cycloaddition of Ketene with Aldehydes catalysed by Chiral Bissulfonamide-Trialkylaluminium Complexes**

Yasufumi Tamai, Hideki Yoshiwara, Masahiro Someya, Jun Fukumoto, Sotaro Miyano



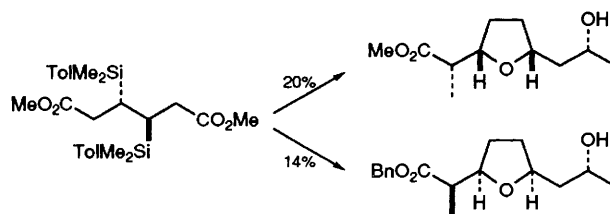
- 2283 **Selective Reduction of Sulfuric Chloride: the Structure of the Chlorosulfite Ion**

Norbert Kuhn, Hans Bohnen, Dieter Bläser, Roland Boese, Andreas H. Maulitz



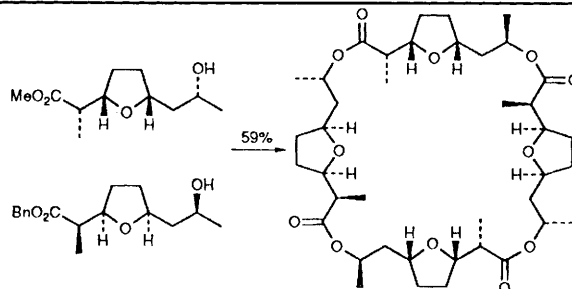
- 2285 **Total Syntheses of (+)- and (-)-Nonactate Esters using Silicon Compounds to Control the Stereochemistry**

Ian Fleming, Sunil K. Ghosh



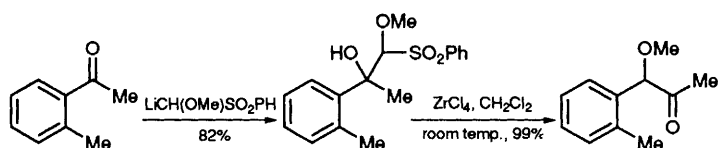
- 2287 **A Total Synthesis of Nonactin**

Ian Fleming, Sunil K. Ghosh



- 2289 **α-Methoxyketone Synthesis via Ketone Homologation: ZrCl₄-Mediated Hydroxy Sulfone Rearrangements**

John G. Montana, Neil Phillipson, Richard J. K. Taylor



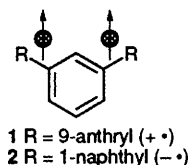
Several other examples are given

- 2291 **Towards Electrochemical Analgesia: Acetylsalicylate delivered from Polypyrrole by Electroreduction**

Sophie Creed, Stephen J. Green, Ivan Pennington, David R. Rosseinsky

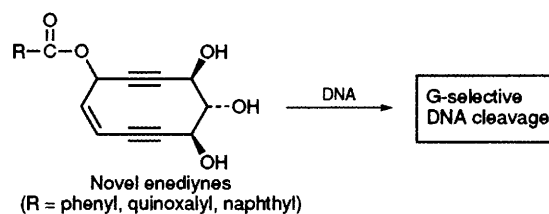
In a study of possible electrochemical control of epidermal patch medication, acetylsalicylate is now shown to be as readily released from polypyrrole as salicylate, by initially incorporating it in polymer of coarser appearance and possibly more open reticulation with hence wider exit channels.

- 2293 **Diradical Diions of *m*-Bis(naphthyl) and (anthryl) Phenylenes as New High-spin Molecules**



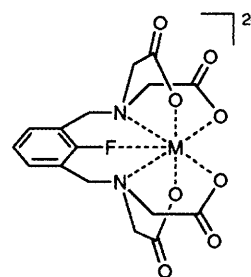
Hideyuki Tukada

- 2295 **Design, Cycloaromatization and Guanine-selective DNA Cleavage of Novel Eneidyne**



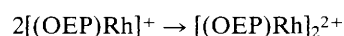
Kazunobu Toshima, Kazumi Ohta, Takaaki Kano, Takatsugu Nakamura, Masaya Nakata, Shuichi Matsumura

- 2297 **¹⁹F NMR Indicator for Protons and Metal Ions with Direct Fluorine–Metal Interactions**



Herbert Plenio, Dirk Burth

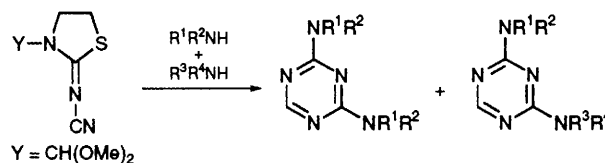
- 2299 **Octaethylporphyrinato Rhodium Cation Dimer, [(OEP)Rh]₂²⁺: Strong Dimer Bonding resulting from Both Rhodium(II)–Rhodium(II) and Interporphyrin Cation Radical Interactions**



Octaethylporphyrinato rhodium cation [(OEP)Rh]⁺ forms a tightly bound dimer, [(OEP)Rh]₂²⁺ (**1**). The diamagnetism and the ¹H NMR shifts of **1** demonstrate the loss of porphyrin ring current shifts observed for conventional aromatic porphyrin species and clearly indicate that **1** is the dimer of a porphyrin cation radical complex of rhodium(II). Relatively strong bonding between the monomer units has contributions from both a Rh^{II}–Rh^{II} (d_{z²}–d_{z²}) single bond and delocalised π–π interactions between porphyrin cation radical units.

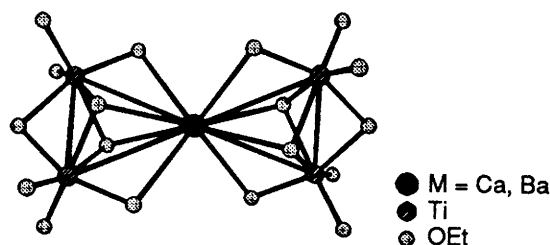
Sin Lee, Mario Mediatì, Bradford Wayland

- 2301 **Anomalous One-pot Transformation of 3-Dimethoxymethyl-2-(*N*-cyanoimino)thiazolidine into 6-Unsubstituted 2,4-Diamino-*s*-triazines by the Reaction with Amines**



Tetsuaki Tanaka, Mayumi Watanabe, Yumi Nakamoto, Kaori Okuno, Kaori Maekawa, Chuzo Iwata

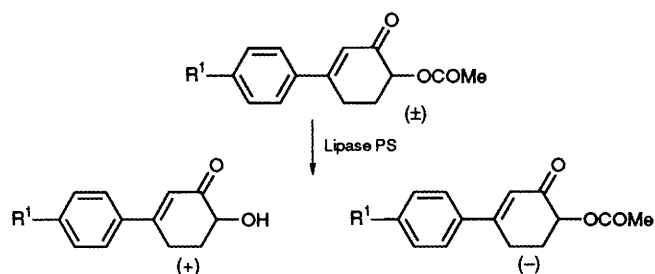
- 2303 **The Synthesis, Crystal and Molecular Structures of Bi-metallic Ethoxides of Barium and Titanium, and Calcium and Titanium: [M{Ti₂(μ₃-OEt)₂(μ-OEt)₃(OEt)₄}₂] (M = Ca, Ba)**



Eugenia P. Turevskaya, Vadim G. Kessler, Nataliya Ya. Turova, Alexandr P. Pisarevsky, Alexandr I. Yanovsky, Yuri T. Struchkov

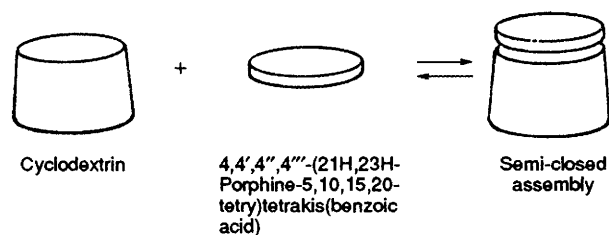
2305 **A Highly Efficient Enzymic Route to Novel Chiral Liquid Crystals based on 3-Aryl-2-cycloalken-1-ones**

Roger Brettle, David A. Dunmur, Louise D. Farrand, Charles M. Marson



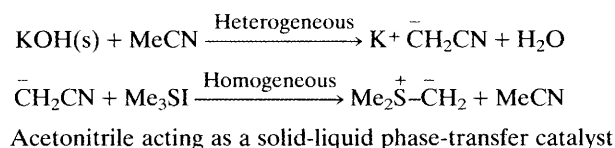
2307 **A Novel Assembly of Cyclodextrins with 4,4',4'',4'''-(21H,23H-Porphine-5,10,15,20-tetrayl)tetrakis(benzoic acid) through Hydrogen Bonds**

Shishan Zhao, John H. T. Luong



2309 **Solvents as Phase-transfer Catalysts in Reactions initiated by Solid Bases**

T. William Bentley, Ray V. H. Jones, Annette H. Larder, Stephen J. Lock



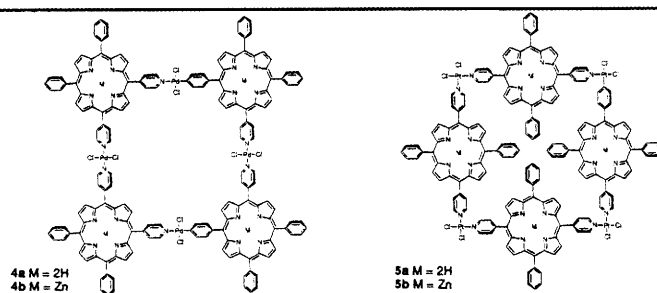
2311 **A New Homogeneous Identification Method for DNA**

Single strands of DNA may be identified by hybridisation to a complementary probe to which is attached chelated Eu^{3+} . Visualisation is effected by a sensitiser localised by intercalation.

John Coates, Peter G. Sammes, Gokhan Yahioğlu, Richard M. West, Andrew J. Garman

2313 **Self-assembly of Square Multiporphyrin Arrays by Metal Ion Coordination**

Charles Michael Drain, Jean-Marie Lehn



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