

JOURNAL OF THE CHEMICAL SOCIETY

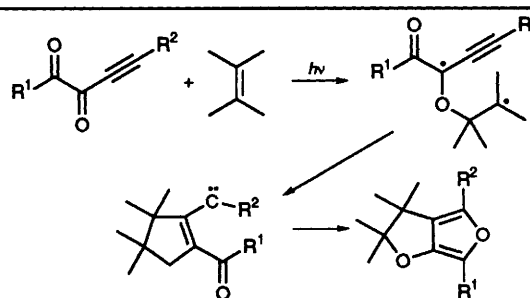
Chemical Communications

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1994

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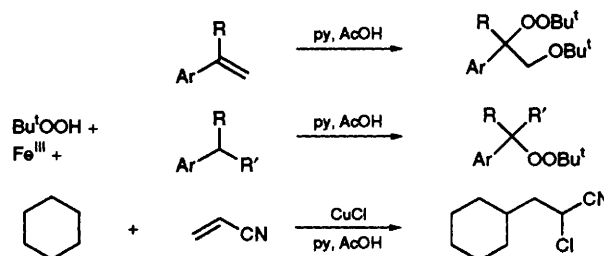
- 1821 Tetrasubstituted Furans from Novel [3 + 2] Photocycloaddition of Conjugated Acetylenic α -Diketones with Alkenes

Ashis K. Mukherjee, William C. Agosta



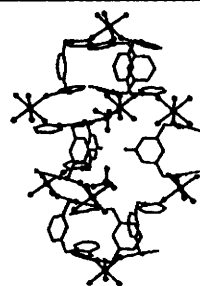
- 1823 New Syntheses of Mixed Peroxides under Gif-Barton Oxidation of Alkylbenzenes, Conjugated Alkenes and Alkanes; a Free-radical Mechanism

Francesco Minisci, Francesca Fontana, Silvia Araneo, Francesco Recupero



- 1825 Formation of a Novel Three-dimensional Network of 48-Membered Rings in the Compound $[\text{Ni}(m\text{-XBP})_3](\text{ClO}_4)_2 \cdot 3\text{H}_2\text{O}$

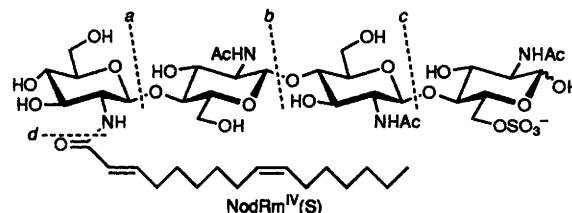
David M. L. Goodgame, Stephan Menzer, Amanda M. Smith, David J. Williams



The complex $[\text{Ni}(m\text{-XBP})_3](\text{ClO}_4)_2 \cdot 3\text{H}_2\text{O}$ forms a three-dimensional network of 48-membered rings, arranged so as to form a series of cross-linked triple helices.

- 1827 Total Synthesis of NodRm^{IV} (S): a Sulfated Lipotetrasaccharide Symbiotic Signal from *Rhizobium meliloti*

Denis Tailler, Jean-Claude Jacquinet, Jean-Marie Beau



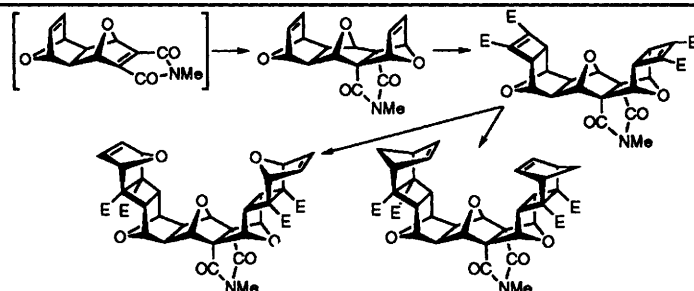
The synthesis has been achieved in the *a*, *b*, *c*, *d* sequence of coupling reactions in an overall yield of 8%.

1829 Use of pH Measurements for the Characterization of MoO₃/Al₂O₃ Catalysts

A new method for estimating the surface coverage of molybdena in MoO₃/Al₂O₃ catalysts based on pH measurements is proposed.

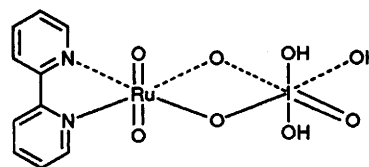
Sergio A. Moya, Mauricio Escudéy

1831 The Synthesis of Internally Functionalised Cavity Molecules using a Cycloaddition Strategy



Ronald N. Warrener, Ljiljana Maksimovic, Douglas N. Butler

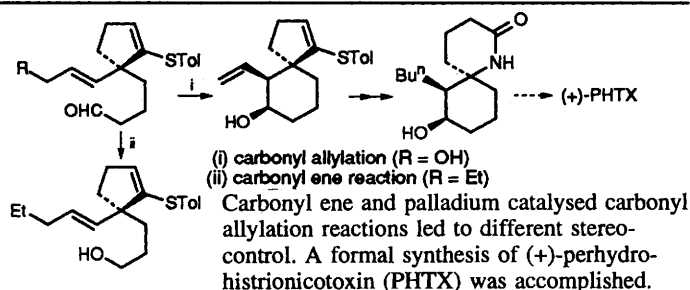
1833 A New Epoxidation Catalyst: the Reactivity and X-Ray Crystal Structure of [RuO₂(bipy){IO₃(OH)₃}]·1.5H₂O (bipy = 2,2'-bipyridine)



Alan J. Bailey, William P. Griffith, Andrew J. P. White, David J. Williams

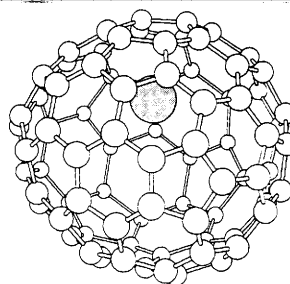
The title compound will epoxidise alkenes and oxidise alcohols in the presence of periodate as cooxidant.

1835 Two Types of Stereocontrol in the Formation of Spiro Skeletons *via* a Carbonyl Ene Reaction and a Palladium-catalysed Carbonyl Allylation: a Formal Synthesis of (+)-Perhydrohistrionicotoxin



Naoyoshi Maezaki, Hidenori Fukuyama, Suguru Yagi, Testuaki Tanaka, Chuzo Iwata

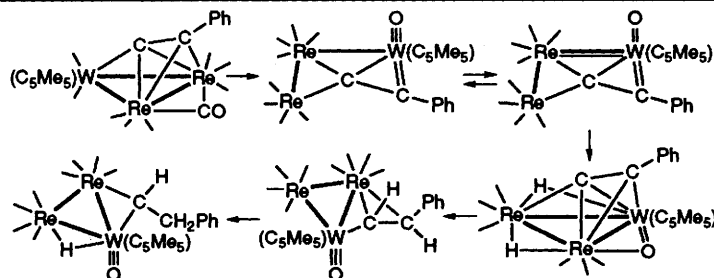
1837 The Ionization Energies and Electron Affinities of Endohedral Metallofullerenes MC₈₂ (M = Sc, Y, La): Density Functional Calculations



The ionization energies and electron affinities of MC₈₂ are predicted and compared (M = Sc, Y, La) with those of C₆₀, C₇₀ and C₈₂. MC₈₂ can be regarded as a sort of superatom.

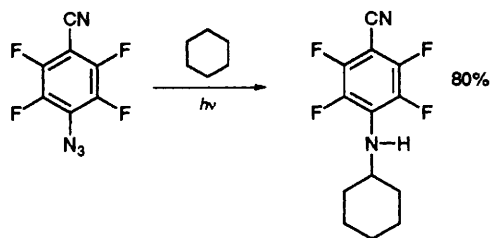
Shigeru Nagase, Kaoru Kobayashi

1839 Heterometallic Carbonyl Cluster Oxide. Formation, Structure and Reactivity of WRe₂ Oxo-acetylide Cluster Compounds



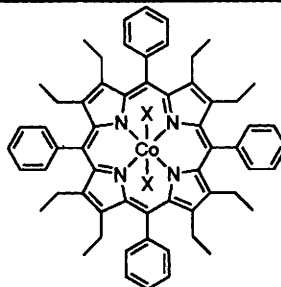
Yun Chi, Poo-Shum Cheng, Hsiao-Ling Wu, Der-Kweng Hwang, Pei-Chiun Su, Shie-Ming Peng, Gene-Hsiang Lee

- 1841 **High Yields of Nitrene Insertion into Unactivated C–H Bonds. First Example of X-Ray Crystallographic and ^{19}F NMR Analysis of the Photochemically Produced C–H Inserted Adduct**



Raghoottama S. Pandurangi, Kattesh V. Katti, Charles L. Barnes, Wynn A. Volkert, Robert R. Kuntz

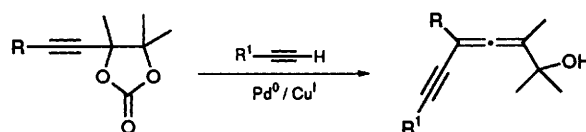
- 1843 **Novel Ligand Orientations in Pyridine and Imidazole Complexes of a Highly Substituted Nonplanar Porphyrin, and Implications for the Design of Porphyrins as Regio- and Stereo-specific Oxidation Catalysts**



Certain pyridine and imidazole axial ligands bound to highly nonplanar cobalt porphyrins are shown to adopt specific orientations, and this suggests that such metalloporphyrins might be useful regio- and stereo-specific oxidation catalysts.

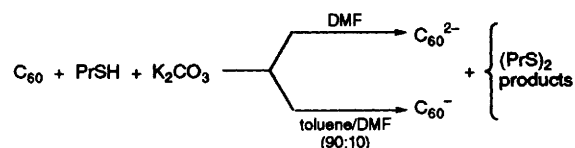
Craig J. Medforth, Cinzia M. Muzzi, Kevin M. Smith, Raymond J. Abraham, J. David Hobbs, John A. Shelnutt

- 1845 **Palladium(0), Copper(I) Catalysed Synthesis of Conjugated Alkynyl λ -Allenols from Alkynyl Cyclic Carbonates and Terminal Alkynes**



Christophe Darcel, Christian Bruneau, Pierre H. Dixneuf

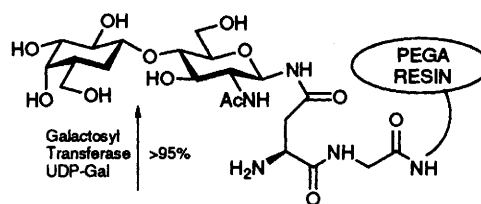
- 1847 **A Facile and Selective Method for the Solution-phase Generation of C_{60}^- and C_{60}^{2-}**



Ramakrishnan Subramanian, Pierre Boulas, M. N. Vijayashree, Francis D'Souza, M. Thomas Jones, Karl M. Kadish

The facile and selective solution-phase chemical generation of C_{60}^- and C_{60}^{2-} in non-aqueous media has been accomplished by the reaction of C_{60} with a given alkyl thiol, e.g. propanethiol (PrSH), in the presence of a base such as K_2CO_3 .

- 1849 **A PEGA Resin for use in the Solid-phase Chemical-Enzymatic Synthesis of Glycopeptides**



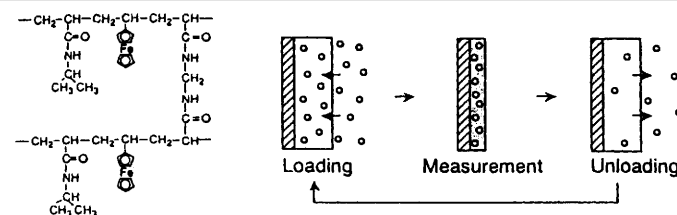
Morten Meldal, France-Isabelle Auzanneau, Ole Hindsgaul, Monica M. Palcic

- 1851 **Tetra(*tert*-butyl)phthalocyanine Copper–Iodine Complex Film with Large Dichroism induced by Shear**

A one-dimensional arrangement of phthalocyanine molecules is achieved by shearing tetra-*tert*-butylphthalocyanine–copper–iodine complex. The sheared complex shows large dichroism at a 'material level.'

Hiromitsu Tanaka, Hisato Takeuchi, Arimitsu Usuki, Akane Okada, Toshio Kurauchi

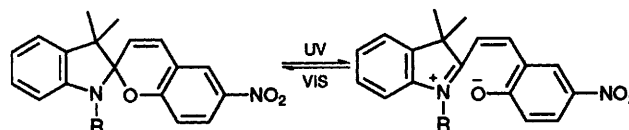
1853 Enzyme-exchangeable Enzyme Electrodes employing a Thermoshrinking Redox Gel



Tetsu Tatsuma, Ken-ichi Saito, Noboru Oyama

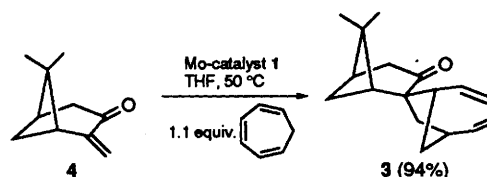
Poly(*N*-isopropylacrylamide-*co*-vinylferrocene) gel works both as an electron mediator between an oxidase and electrode and as an enzyme support, and the enzyme-loaded gel can be unloaded and then reloaded with a fresh enzyme or another kind of enzyme.

1855 Formation of an Organic Thin Film by Photochemical Isomerization of a Surfactant with a Spiropyran Moiety

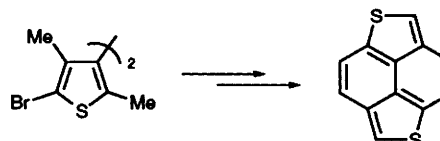


Shunlin Liu, Masamichi Fujihira, Tetsuo Saji

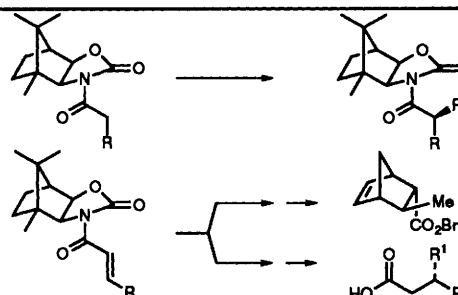
A thin film of copper(II) phthalocyanine has been prepared by photolysis of an aqueous dispersion containing a surfactant **2** with a spiropyran moiety, iron(II) sulfate and dispersed **1**.

1857 Highly Stereoselective, Molybdenum-catalysed [6 + 2]-Cycloadditions of α,β -Unsaturated Ketones to Cyclohepta-1,3,5-triene

Thomas Schmidt, Frank Bienewald, Richard Goddard

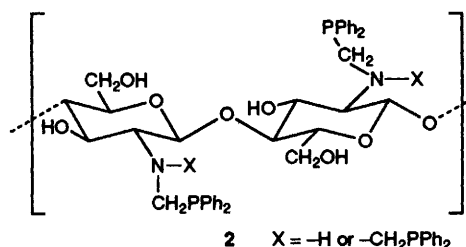
1859 Naphtho[1,8-*bc*:5,4-*b'c'*]dithiophene: A New Heteroarene Isoelectronic with Pyrene

Kazuo Takimiya, Tetsuo Otsubo, Fumio Ogura

1861 *exo,exo*-2-Amino-3-borneol-derived Oxazolidinone as a New Chiral Auxiliary for use in Asymmetric Transformations

Claudio Palomo, Fabienne Berrée, Anthony Linden, José M. Villalordo

1863 Immobilised Phosphines incorporating the Chiral Biopolymers Chitosan and Chitin



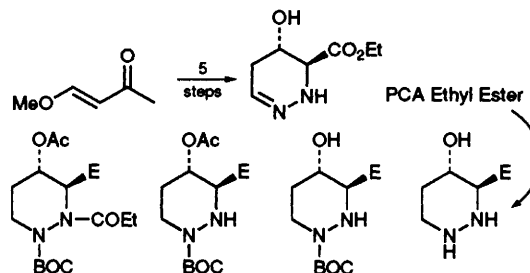
William Henderson, Gregory M. Olsen, Lea S. Bonnington

1865 Adsorption of Cations on TiO₂ Particles. A Method to Determine the Surface Density of OH Groups

The adsorption of cations (Cu²⁺, Cd²⁺ and Zn²⁺) on TiO₂ particles may be successfully described by a modified Langmuir isotherm, from which the surface density of OH groups on TiO₂ is evaluated.

Ling Zang, Chun-Yan Liu, Xin-Min Ren

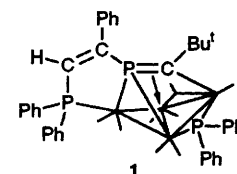
1867 Synthesis and Chemical Properties of PCA, an Unusual Amino Acid in Luzopeptins



Marco A. Ciufolini, Ning Xi

1869 Novel Alkyne and Phosphaalkyne Coupling on an Ir₄ Cluster: Synthesis and Molecular Structure of [Ir₄(μ-CO)(CO)₇{μ₄-η³-Ph₂PC(H)C(Ph)PCBu^t}(μ-PPh₂)]

The cluster compound [Ir₄(μ-H)-(μ-PPh₂)(CO)₉(Ph₂PCCPh)] reacts with the phosphaalkyne Bu^tCP to yield compound **1** containing the novel 2-phosphabutadienylphosphine fragment as a result of the coupling of Bu^tCP with the diphenylphosphinoalkyne ligand and incorporation of the cluster-bound H atom.



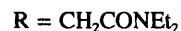
Maria Helena A. Benvenuti, Peter B. Hitchcock, John F. Nixon, Maria D. Vargas

1871 *In situ* Raman Spectroscopic Study of Oxygen Adspecies on a Th-La-O_x Catalyst for Methane Oxidative Coupling Reaction

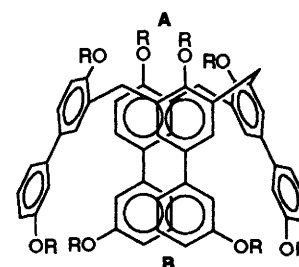
A superoxide adspecies O₂⁻ with a characteristic band at 1140 cm⁻¹ is identified by *in situ* Raman spectroscopy on a functioning Th-La-O_x catalyst for oxidative coupling of methane at 680–860 °C.

Yu-Da Liu, Hong-Bin Zhang, Guo-Dong Lin, Yuan-Yan Liao, K. R. Tsai

1873 A New Calix[4]arene Binding Site. Strong Cooperativity in Cation Binding by a Two Site Receptor



Shows cooperativity between sites **A** and **B** in forming a complex with 2 Na⁺ cations.



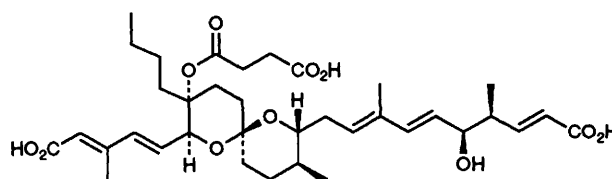
Catherine A. Gleave, Ian O. Sutherland

1875 (4*S*,8*S*)-4,8-Bis(diphenylmethyl)-1,5,7-triazabicyclo[4,4,0]dec-5-ene; a Hindered, Chiral, Bicyclic Guanidine Base with Effective C₂-Symmetry

Molecular mechanics calculations on **5H**⁺ indicate that the NH groups occupy hindered, chiral environments owing to the disposition of the diphenylmethyl substituents. NMR studies show that **5H**⁺ forms complexes with carboxylate anions, differentiating between the enantiomeric forms of (*R,S*)-naproxenate.

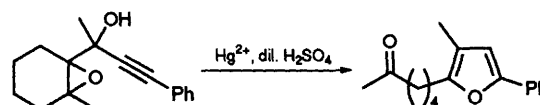
Peter H. Boyle, Anthony P. Davis, Kevin J. Dempsey, Gladys D. Hosken

- 1877 **Absolute Configuration of Reveromycin A, an Inhibitor of the Signal Transduction of Epidermal Growth Factor**



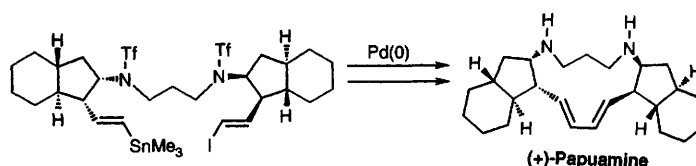
Makoto Ubukata, Hiroyuki Koshino, Hiroyuki Osada, Kiyoshi Isono

- 1879 **Regiocontrolled Synthesis of Furans by a Mercury(II) Catalysed Isomerisation of 1-Alkynyl-2,3-epoxyalcohols**



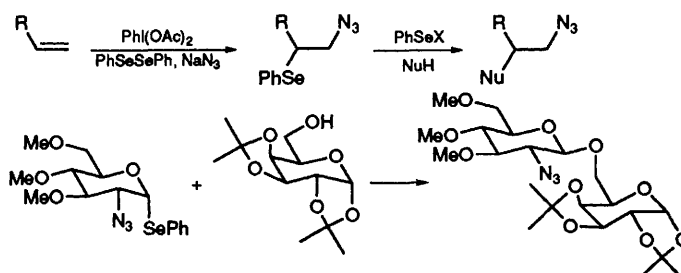
Charles M. Marson, Steven Harper, Roger Wrigglesworth

- 1881 **Total Synthesis of (+)-Papuanine: Determination of the Absolute Stereochemistry of the Natural Product**



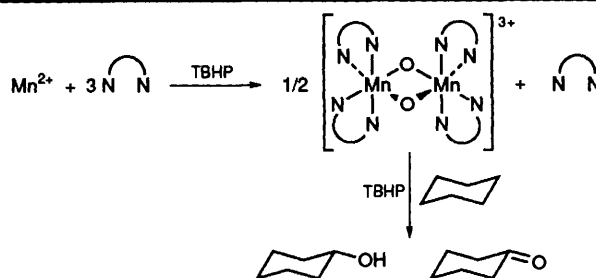
Anthony G. M. Barrett, Mark L. Boys, Terri L. Boehm

- 1883 **Substituted Azides from Selenium-promoted Deselenenylation of Azido Selenides. Glycosylation Reactions of Protected 2-Azido-2-deoxy-1-selenoglycopyranoses**



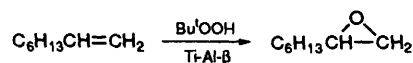
Marco Tingoli, Marcello Tiecco, Lorenzo Testaferri, Andrea Temperini

- 1885 **Manganese(II) based Oxidation of Alkanes: Generation of a High Valent Binuclear Catalyst *in situ***



Stéphane Ménage, Marie-Noëlle Collomb-Dunand-Sauthier, Claude Lambeaux, Marc Fontecave

- 1887 **Titanium-substituted Zeolite Beta(Ti-Al-β)-catalysed Epoxidation of Oct-1-ene with *tert*-Butyl Hydroperoxide (TBHP)**



Takashi Sato, Jihad Dakka, Roger A. Sheldon

Titanium-substituted zeolite beta catalyses the selective epoxidation of oct-1-ene with *tert*-butyl hydroperoxide.

1889 **Dioxygen-induced Decarboxylation and Hydroxylation of [Ni^{III}(Glycyl-Glycyl-L-Histidine)] Occurs *via* Ni^{III}: X-Ray Crystal Structure of [Ni^{II}(Glycyl-Glycyl- α -hydroxy-D,L-Histamine)]·3H₂O**

Wojciech Bal, Milos I. Djuran, Dale W. Margerum, Edward T. Gray, Muhammed A. Mazid, Ricky T. Tom, Evert Nieboer, Peter J. Sadler

The X-ray structure of the square-planar nickel(II) product from dioxygen-induced decarboxylation and hydroxylation of the tripeptide complex [Ni^{III}(Gly-Gly-L-His)]⁻ has been determined. Electrochemical and EPR studies show that the reaction proceeds *via* a nickel(III) intermediate. The mechanism is discussed.

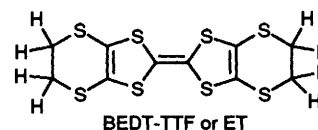
1891 **Synthesis and Spectroscopic Properties of a Novel Class of Copper Particles stabilized by Triphenylphosphine**

Dominique de Caro, Hans Wally, Catherine Amiens, Bruno Chaudret

When (C₅H₅)Cu(Bu^tNC) is treated with CO in the presence of sub-stoichiometric amounts of PPh₃, a mixture of (C₅H₅)Cu(PPh₃), unreacted starting material and copper particles is obtained. These particles can be purified and show a well defined size by TEM (*ca.* 20 Å). Their study by ³¹P{¹H} NMR shows both the absence of Knight shift and phosphine fluxionality. IR spectra show the presence of coordinated Bu^tNC and UV-VIS spectra contain a band at *ca.* 550 nm, which could be attributed to the plasmon absorption, and two new broad bands at *ca.* 400 and 640 nm.

1893 **Rapid Raman Spectroscopic Determination of the Stoichiometry of Microscopic Quantities of BEDT-TTF-based Organic Conductors and Superconductors**

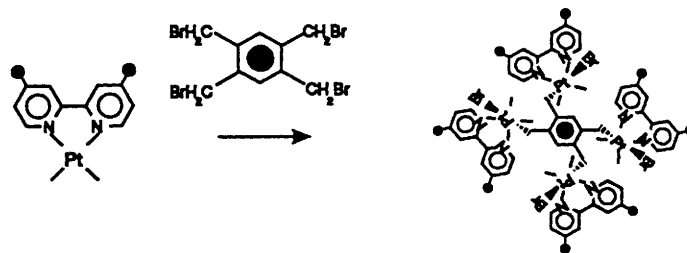
H. Hau Wang, John R. Ferraro, Jack M. Williams, Urs Geiser, John A. Schlueter



There is an approximately linear relationship between the degree of charge transfer and the Raman-active C=C stretching frequency in salts of the electron donor molecule BEDT-TTF, which may be used rapidly to deduce the stoichiometry of newly synthesised salts of this type.

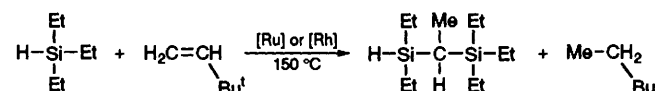
1895 **Large Dendrimeric Organoplatinum Complexes**

Sudhir Achar, Richard J. Puddephatt



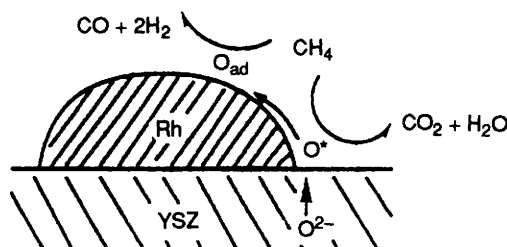
1897 **Transfer Dehydrogenative Coupling of Triethylsilane Catalysed by Ruthenium and Rhodium Complexes. A New Si-C Bond Forming Process**

Peter I. Djurovich, Alfred R. Dolich, Donald H. Berry



1899 **Partial Oxidation of Methane: Continuous Production of Synthesis Gas over Rh/YSZ/Ag under Oxygen Supply**

T. Hayakawa, K. Sato, T. Tsunoda, S. Hamakawa, K. Suzuki, J. Nakamura, K. Takehira, T. Uchijima

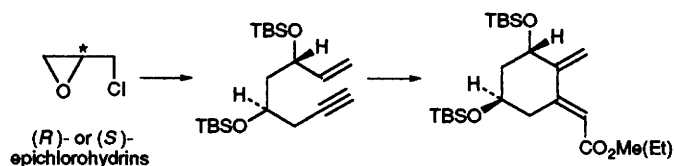


1901 **Diffusion Coefficients of Macrocyclic Complexes using the PGSE NMR Technique: Determination of Association Constants**

Diffusion coefficient measurements using the pulsed gradient spin echo (PGSE) NMR technique are used to determine the association constants of either 18-crown-6 or [2.2.2] cryptand with methylammonium chloride in various solvents. The association constants (K_a) obtained by this method are in good agreement with those obtained by other methods.

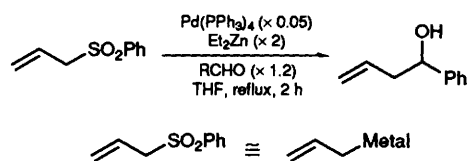
Orna Mayzel, Yoram Cohen

1903 **Enantioconvergent Preparation of the A-Ring Precursors of Calcitriol from Either (*R*)- or (*S*)-Epichlorohydrin**



Kazuki Tazumi, Kunio Ogasawara

1905 **Allylic Sulfones as Allyl Anion Equivalents: Homoallylic Alcohols from Metal Catalysed Reactions of Sulfones with Aldehydes and Ketones**



Jonathan Clayden, Marc Julia

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