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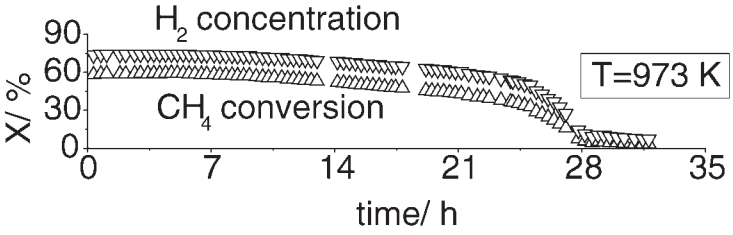
424 **Production of Hydrogen and Nanocarbon from Direct Decomposition of Undiluted Methane on High-nickeled Ni–Cu–Alumina Catalysts**

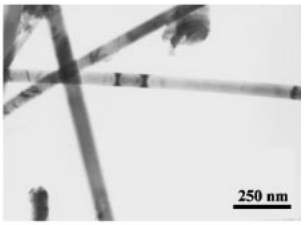
Jiuling Chen, Xiumin Li, Yongdan Li, and Yongning Qin



426 **Rapid Synthesis of SnSe Nanowires via an Ethylenediamine-assisted Polyol Route**

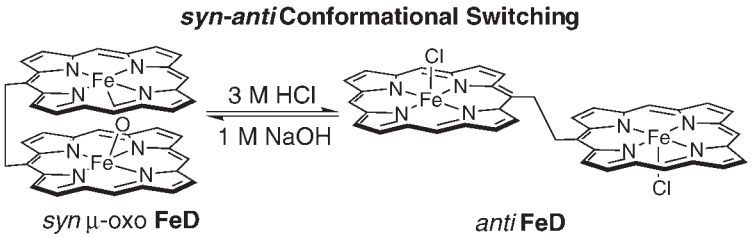
Guozhen Shen, Di Chen, Xuan Jiang, Kaibin Tang, Yankuan Liu, and Yitai Qian

SnSe nanowires with high aspect ratio have been synthesized by a rapid ethylenediamine-assisted polyol (ENAP) route for the first time at low temperature.



428 **An Acid–Base Controlled Molecular Switch. *syn–anti* Conformational Switching in a μ-oxo Bis(Iron Porphyrin)**

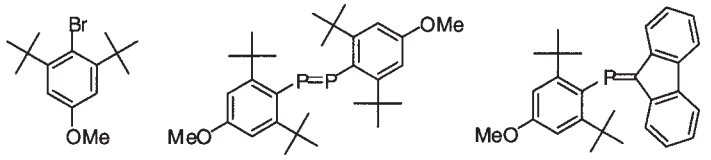
Guy A. Hembury, Victor V. Borovkov, Juha M. Lintuluoto, and Yoshihisa Inoue



430 **Preparation and Properties of Sterically Protected Diphosphene and Fluorenylidenephosphine Bearing the 2,6-Di-*tert*-butyl-4-methoxyphenyl Group**

Kozo Toyota, Subaru Kawasaki, Akitake Nakamura, and Masaaki Yoshifuji

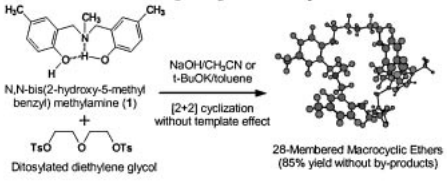
A new bulky bromobenzene, 2-bromo-1,3-di-*tert*-butyl-5-methoxybenzene, was prepared and utilized to preparations of the corresponding diphosphene and fluorenylidenephosphine.



432 **A Simple, Effective, and Selective Synthesis Route without Template Effect (Part II) for [2 + 2] Difunctional 28-Membered Macrocyclic Ethers Based on Benzoxazine Dimers and Its Inclusion Phenomena with Metal Ions**

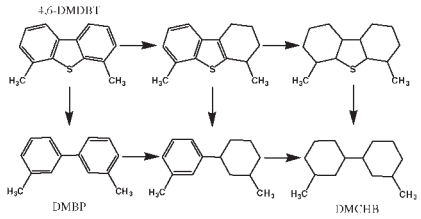
Suwabun Chirachanchai, Suttinun Phongtamrug, and Apirat Laobuthee

The formation of [2+2] macrocyclic ethers is produced from benzoxazine dimers and ditosylated diethylene glycol without template effect. The compound shows the inclusion phenomena with alkaline metals.



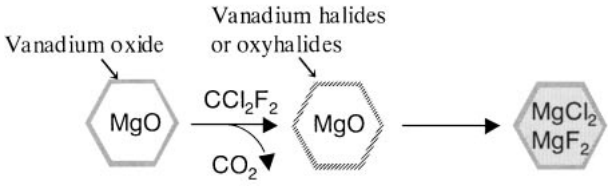
434 **Hydrodesulfurization of 4,6-DMDBT in the High Boiling Fraction of Gas Oil**

HDS of 4,6-DMDBT in a high boiling fraction of practical gas oil was proved to proceed principally through the hydrogenative route.



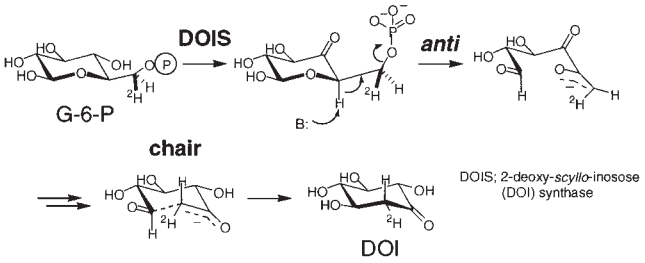
Ki-Hyouk Choi, Yozo Korai, and Isao Mochida

436 **Decomposition of Dichlorodifluoromethane with Simultaneous Halogen Fixation by Transition Metal Oxides Supported on Magnesium Oxide**



Tsukasa Tamai, Koji Inazu, and Ken-ichi Aika

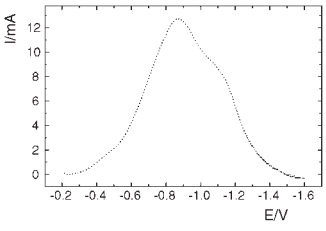
438 **Reaction Stereochemistry of 2-Deoxy-*scyllo*-inosose Synthase, the Key Enzyme in the Biosynthesis of 2-Deoxystreptamine**



Eriko Nango, Fumitaka Kudo, Tadashi Eguchi, and Katsumi Kakinuma

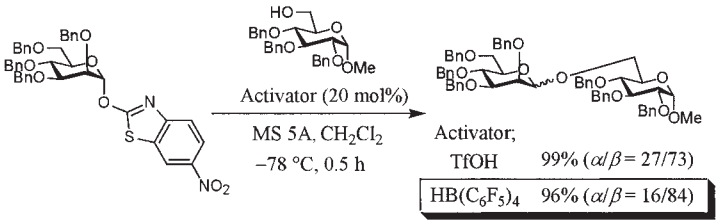
440 **Electroreduction Behavior of Dinitrogen over Ruthenium Cathodic Catalyst**

Over chemically deposited ruthenium loaded on active carbon, dinitrogen was reduced electrochemically at ambient temperature and pressure in aqueous solution with relative high production rate.



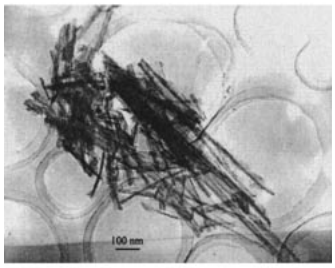
Shu-Yong Zhang, Xiu-Yun Zhang, Zuo-Shan Zhang, Yan Kong, and Shou-Nan Hua

442 **Catalytic and β-Stereoselective Mannosylation of Several Glycosyl Acceptors with Mannosyl 6-Nitro-2-benzothiazoate**



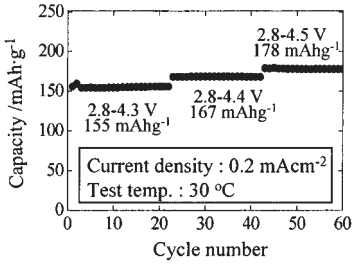
Takashi Hashihayata, Hiroki Mandai, and Teruaki Mukaiyama

444 **Solvothermal Synthesis of γ-LiV_2O_5 Nanorods as Cathode Material for Rechargeable Lithium Batteries**



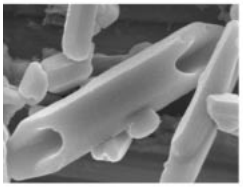
Hai Yan Xu, Hao Wang, Zhi Qiang Song, Yao Wu Wang, Yong Cai Zhang, and Hui Yan

446 **Preparation of Layered $Li[Ni_{1/2}Mn_{1/2}]O_2$ by Ultrasonic Spray Pyrolysis Method**



S. H. Park, S. K. Kang, Y. C. Kang, Y. S. Lee, and Y. K. Sun

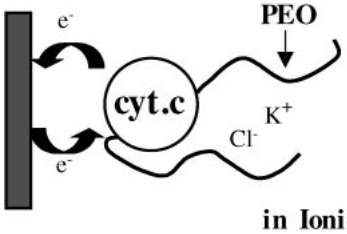
448 **Synthesis of Novel Selenium Tubular Structure**



Tubular selenium has been synthesized successfully by reducing selenious acid with ascorbic acid in the presence of primary amines ($C_nH_{2n+1}NH_2$ with $10 \leq n \leq 16$) at room temperature.

Yuan-tao Chen, Qiao-yu Sun, and Hu-lin Li

450 **Electron Transfer Process of Poly(ethylene oxide)-Modified Cytochrome c in Imidazolium Type Ionic Liquid**

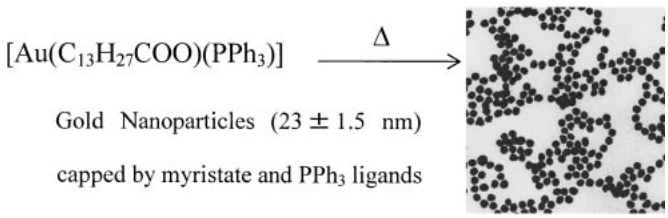


PEO : solubilize cyt.c without denaturation

KCl : accelerate reversible electron transfer reaction

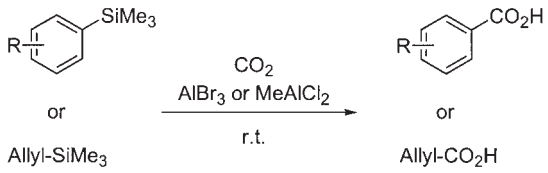
Hiroyuki Ohno, Chiiko Suzuki, Kenta Fukumoto, Masahiro Yoshizawa, and Kyoko Fujita

452 **New Type of Monodispersed Gold Nanoparticles Capped by Myristate and PPh_3 Ligands Prepared by Controlled Thermolysis of $[Au(C_{13}H_{27}COO)(PPh_3)]$**



Mari Yamamoto and Masami Nakamoto

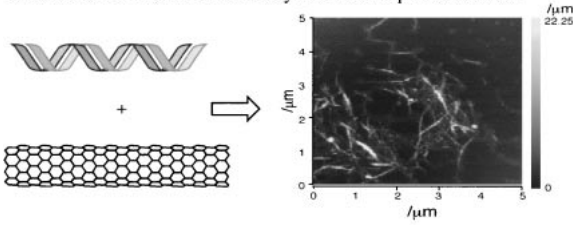
454 **Lewis Acid-Mediated Carboxylation of Aryl- and Allylsilanes with Carbon Dioxide**



Tetsutaro Hattori, Yutaka Suzuki, and Sotaro Miyano

456 **DNA Dissolves Single-walled Carbon Nanotubes in Water**

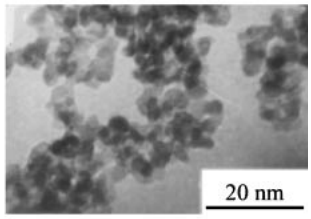
Atomic force microscopy revealed that purified single-walled carbon nanotubes are dissolved individually in a DNA aqueous solution.



Naotoshi Nakashima, Shingo Okuzono, Hiroto Murakami, Tonau Nakai, and Kenichi Yoshikawa

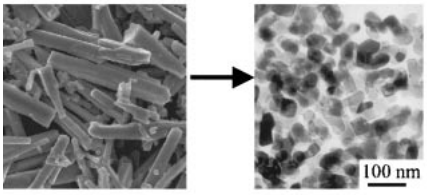
458 **Synthesis of SnO_2 Nanoparticles by the Sol-gel Method From Granulated Tin**

SnO_2 nanoparticles with average crystallite sizes of 3 to 5 nm and monodispersed morphology were synthesized by the sol-gel method starting from granulated tin.



Jianrong Zhang and Lian Gao

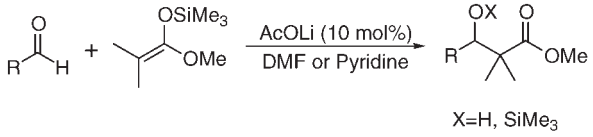
460 **Preparation of Nanocrystalline Titanium Oxide by Decomposition of Molecular Precursor α-$(NH_4)_2TiO(SO_4)_2$**



A nonhydrolytic thermolysis route is presented to prepare hydroxyl-free TiO_2 nanocrystals. They show higher photocatalytic activity than P-25 does in the degradation of phenol.

Qinghong Zhang and Lian Gao

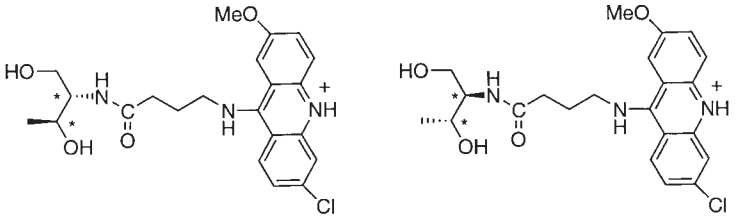
462 **Lithium Acetate-Catalyzed Aldol Reaction between Aldehyde and Trimethylsilyl Enolate**



Takashi Nakagawa, Hidehiko Fujisawa, and Teruaki Mukaiyama

464 **Stereochemically Pure Acridine-modified DNA for Site-selective Activation and Scission of RNA**

Yun Shi, Akinori Kuzuya, and Makoto Komiyama

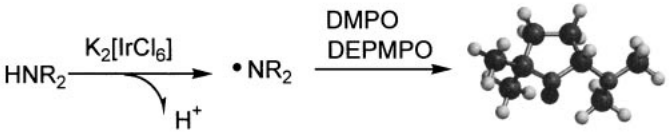


1-D 1-L

466 **Spin Trapping of the Nitrogen-centered Radicals. Characterization of the DMPO/DEPMPO Spin Adducts**

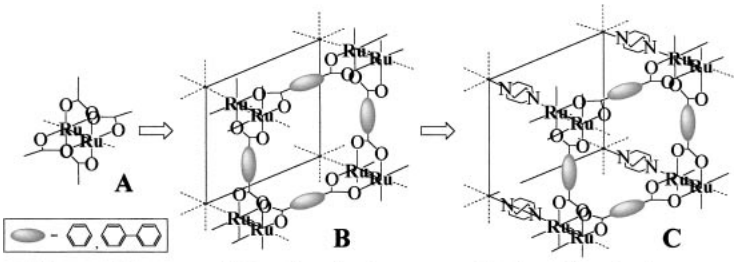
Catharina T. Migita and Kouto Migita

Oxidation of alkylamines produces aminyl radicals, which in turn are trapped by nitrone spin traps to form nitroxide radicals.



468 **Magnetic and Gas-Occlusion Properties and Catalytic Activity of Microporous Materials: Dinuclear Ruthenium(II,II) Dicarboxylates**

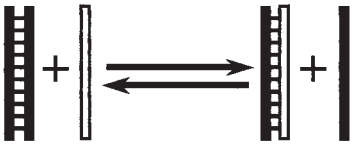
Tetsushi Ohmura, Wasuke Mori, Hiroki Hiraga, Masato Ono, and Yuko Nishimoto



(A) Lantern-like structure, (B) Two-dimensional structure, and (C) Three-dimensional structure.

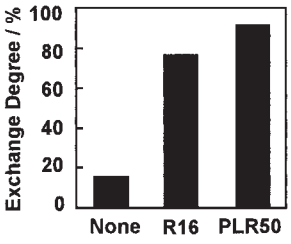
470 **Simple Basic Peptides Activate DNA Strand Exchange**

Kaori Tajima, Won Jong Kim, Yuichi Sato, Toshihiro Akaike, and Atsushi Maruyama



DNA strand exchange reaction

The simple arginine-rich peptides (R16) and poly(L-arginine) (PLR50) accelerated the DNA strand exchange reaction.



472 **Evaluation of Bioavailability of Heavy Metals in Soil by in vitro Screening Test**

Aya Yamada, Yoshiro Ono, Akiko Kida, and Kenji Namiki