

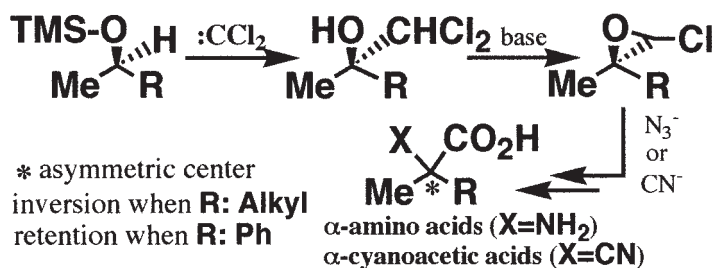
- 2 Morphology Related to Phase Separation for the Mixed Monolayer of Fluorinated Comb Polymer and Hydrogenated Long-Chain Compound

Phase Separation Behavior for the Mixed Monolayer of the Fluorinated Comb Polymer and Hydrogenated Long-Chain Compound



Atsuhiko Fujimori and Hiroo Nakahara

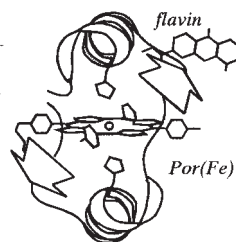
- 4 Stereospecific Construction of Chiral Quaternary Carbon Compounds from Chiral Secondary Alcohol Derivatives



Yukio Masaki, Hideki Arasaki, and Masashi Iwata

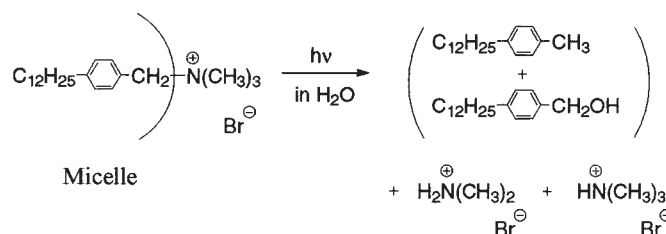
- 6 Aniline-Hydroxylation Activity of a Flavin-linked $\beta\alpha\beta$ -Type Polypeptide Packing an Iron Porphyrin

A $\beta\alpha\beta$ -type polypeptides packing an iron porphyrin loosely and tethering a flavin at its surface showed aniline hydroxylation activity in the presence of O₂.



Kin-ya Tomizaki, Hidekazu Nishino, Toru Arai, Tamaki Kato, and Norikazu Nishino

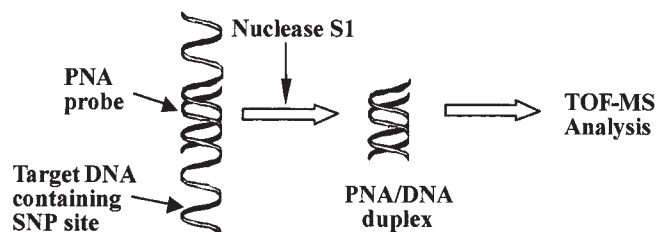
- 8 Photodegradative Surfactants: Photolysis of *p*-Dodecylbenzyltrimethylammonium Bromide in Aqueous Solution



Yoshihiro Itoh, Kenji Yamamoto, and Hirofusa Shirai

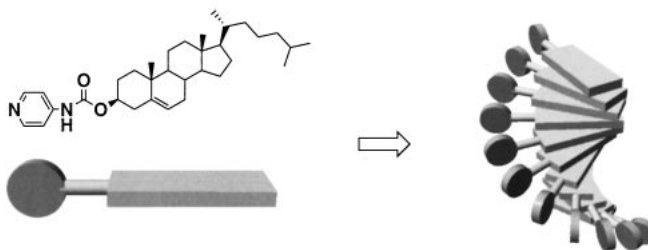
10 **DNA Protection by PNA from Enzymatic Digestion for Mass-spectroscopic Genotyping**

Sheng Ye, Xingguo Liang, Yoji Yamamoto, and Makoto Komiyama



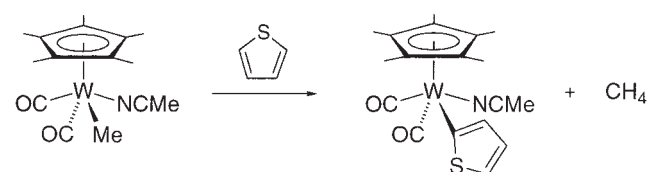
12 **Pyridine-containing Cholesterols as Versatile Gelators of Organic Solvents and the Subtle Influence of Ag(I) on the Gel Stability**

Shin-ichiro Kawano, Norifumi Fujita, Kjeld J. C. van Bommel, and Seiji Shinkai



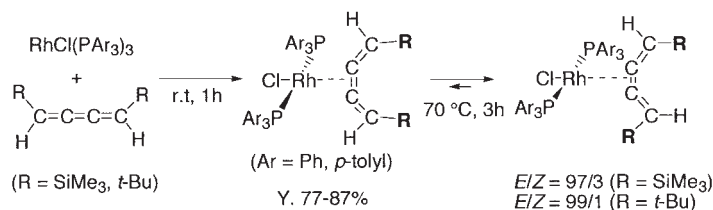
14 **Synthesis of Tungsten Thienyl Complexes via C-H Bond Activation of Thiophenes**

Hiroyuki Sakaba, Takahiro Yumoto, Sanae Watanabe, Chizuko Kabuto, and Kuninobu Kabuto



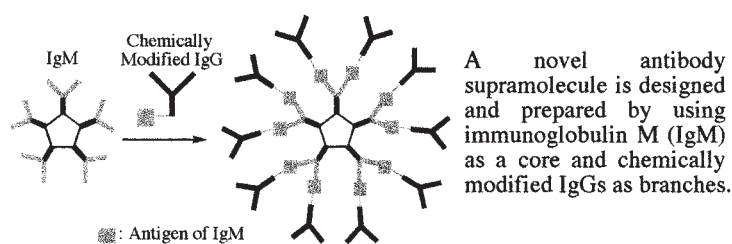
16 **Rhodium Complexes of 1,4-Disubstituted-1,2,3-butatrienes: Their Preparation and Reactivity**

Noriyuki Suzuki, Yoshiyuki Fukuda, Chae Eun Kim, Hidemichi Takahara, Masakazu Iwasaki, Masahiko Saburi, Masayoshi Nishiura, and Yasuo Wakatsuki



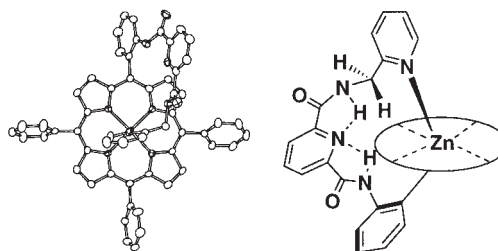
18 **Dendritic Antibody Supramolecules: Combination of IgM and IgG**

Akira Harada, Hiroyasu Yamaguchi, Kaori Tsubouchi, and Eri Horita



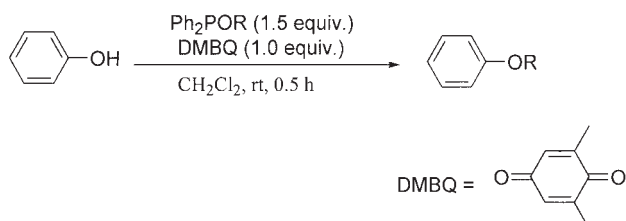
20 **Introduction of Chirality to the Remote, Open Face of a Metalloporphyrin through Coordination to the Metal of a Specially Designed Pendant Arm**

Akihisa Hamazawa, Toshihiro Yano, Takanori Nishioka, Isamu Kinoshita, Kiyoshi Isobe, Shigenobu Yano, L. James Wright, and Terrence J. Collins



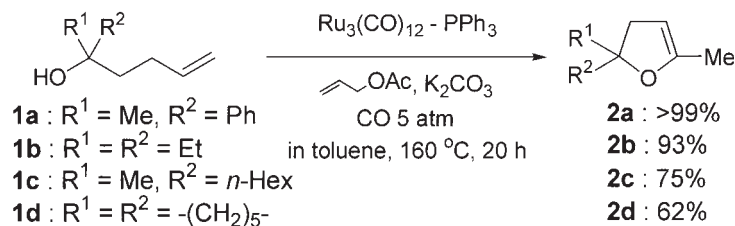
22 **Alkylation of Phenols by Oxidation-Reduction Condensation Using 2,6-Dimethyl-1,4-benzoquinone and Alkoxydiphenylphosphine**

Taichi Shintou, Wataru Kikuchi, and Teruaki Mukaiyama



24 **Ruthenium Complex-catalyzed Oxidative Cyclization of 4-Penten-1-ols**

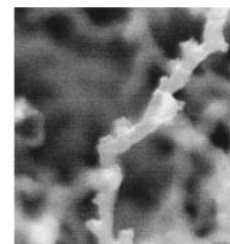
Teruyuki Kondo, Fumiaki Tsunawaki, Ryosuke Sato, Yasuyuki Ura, Kenji Wada, and Take-aki Mitsudo



26 **Supported Ni-Pd Catalysts Active for Methane Decomposition into Hydrogen and Carbon Nanofibers**

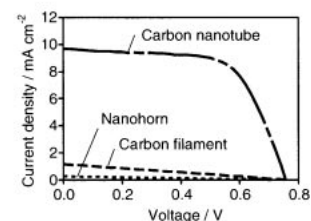
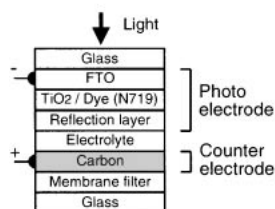
Sakae Takenaka, Yukio Shigeta, and Kiyoshi Otsuka

The supported (Ni-Pd) catalysts showed high activity and long life for methane decomposition to form hydrogen and carbon nanofibers of a unique structure.

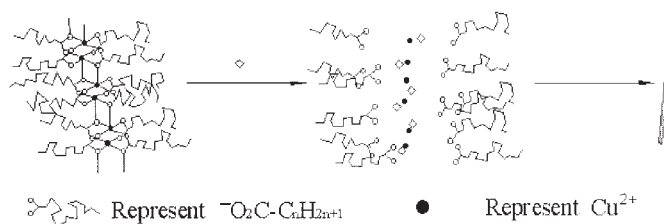


28 **Application of Carbon Nanotubes to Counter Electrodes of Dye-sensitized Solar Cells**

Kazuharu Suzuki, Makoto Yamaguchi, Mikio Kumagai, and Shozo Yanagida



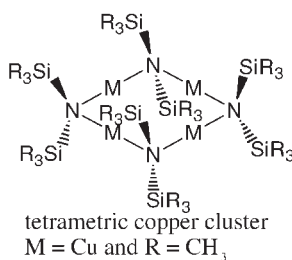
- 30 **A Novel in situ Template-controlled Route to CuS Nanorods via Transition Metal Liquid Crystals**



Jun Lu, Yan Zhao, Nan Chen, and Yi Xie

The reaction process of production of CuS nanorods

- 32 **Electrophosphorescence from Tetrameric Copper (I)-Amide Cluster**

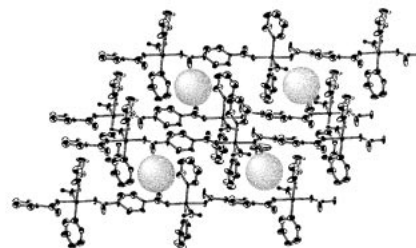


Green electrophosphorescence from a tetrameric copper (I)-amide cluster $[CuN(Si(CH_3)_3)_4]_4$ was successfully observed in the heterostructure device combined with organic carrier transport materials and the copper cluster (peak wavelength = 500 nm, and max. luminance = 400cdm² at 177 mAcm⁻² at 22 V).

Mitsuharu Noto, Yasuyuki Goto, and Masanao Era

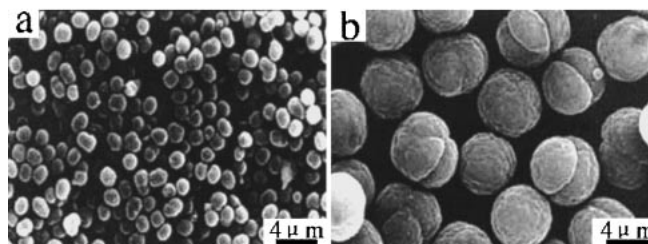
- 34 **Gas-Occlusion Properties of a Novel Compound: Mononuclear Copper(II) Terephthalate-Pyridine**

A porous structure, which is formed by hydrogen bonding and self-assembly of the linear copper(II) terephthalate-pyridine, was determined by X-ray crystallography.



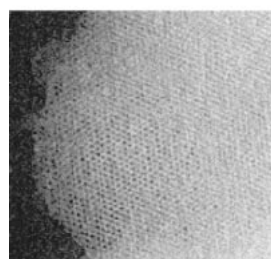
Tetsushi Ohmura, Wasuke Mori, Mari Hasegawa, Tohru Takei, and Akira Yoshizawa

- 36 **Preparation of Polymer Microspheres in TEOS under Static Condition**



Dongjun Wang, Chenbin Gu, Yongguo Zhou, Xinqiu Wang, Zhen Zhen, Fangqiong Tang, and Xinhou Liu

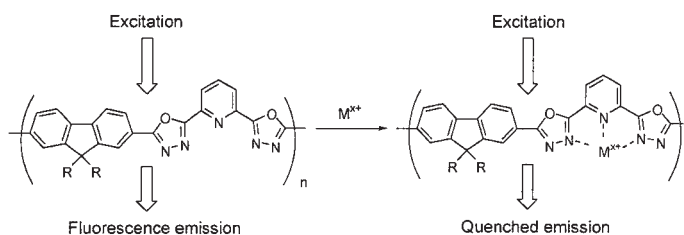
- 38 **A Novel Route towards Iron- and Chromium-containing MCM-41 Materials through Melt-exchange of the Template**



Athanasios B. Bourlinos, Michael A. Karakassides, Dimitrios Gournis, Vasilios Georgakilas, and Aliko Moukarika

- 40 **A New Conjugated Polymer Chemosensor Functionalised with 2,6-Bis(1,3,4-oxadiazole-2-yl)pyridine for Metal Ion Recognition**

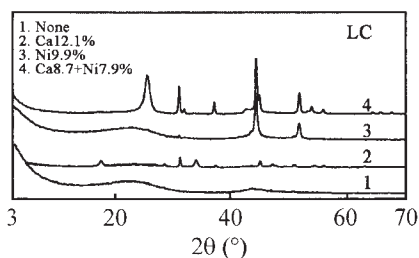
Nam Choul Yang, Jae Kyun Jeong, and Dong Hack Suh



- 42 **Effect of Calcium on the Catalysis of Nickel in the Production of Crystallized Carbon from Lignocresol for Electromagnetic Shielding**

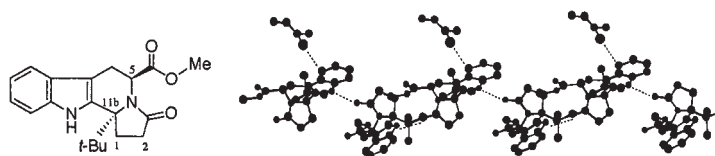
Xiao-Shui Wang, Noriyasu Okazaki, Tsutomu Suzuki, and Masamitsu Funaoka

LC (lignocresol) added with nickel and calcium produced chars with turbostratic structure carbon (T-component) that could afford a practical electromagnetic shielding capacity at 50-800 MHz, although the addition of nickel alone gave amorphous carbon.



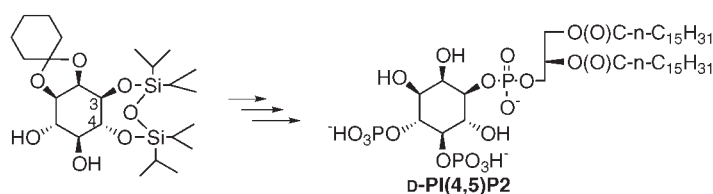
- 44 **A New Chiral Host, (5*S*-*trans*)-11*b*-(1,1-Dimethylethyl)-2,3,5,6,11,11*b*-hexahydro-3-oxo-1*H*-indolizino[8,7-*b*]indole-5-carboxylic Acid Methyl Ester: Complexation by a Helical Network**

Hajime Irikawa, Masanori Morinaga, and Mitsuru Kondo



- 46 **A Short Synthesis of Dipalmitoylphosphatidylinositol 4,5-Bisphosphate via 3-*O*-Selective Phosphorylation of a 3,4-Free Inositol Derivative**

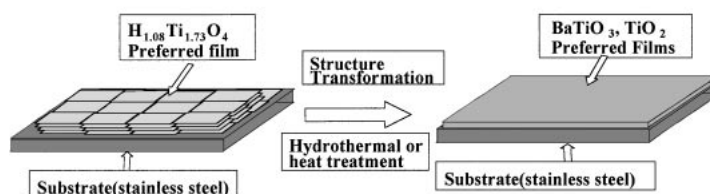
Fushe Han, Minoru Hayashi, and Yutaka Watanabe



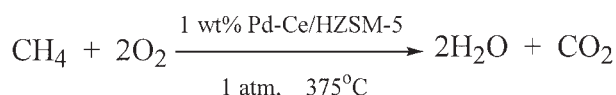
The D-PI(4,5)P2 synthesis involves 3-*O*-selective phosphorylation using the phosphite-pyridinium tribromide method and simultaneous removal of the ketal function under hydrogenolysis in an aprotic solvent, AcOEt.

- 48 **Topotactic Preparation of Preferentially Oriented BaTiO₃ and TiO₂ Thin Films on Polycrystalline Substrate**

Qi Feng, Koji Kajiyoshi, and Kazumichi Yanagisawa



- 50 **Low-temperature Complete Combustion of Methane over CeO₂-Promoted Pd/HZSM-5 Catalyst with Enhanced Activity and Stability**



CH₄ Conversion = 100%;

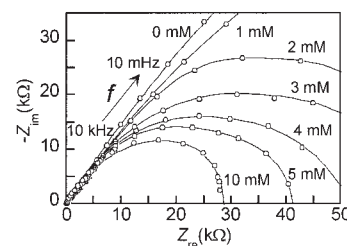
Feed composition: CH₄ (2%), O₂ (8%) and N₂ (90%);

Gas Hourly Space Velocity = 48000 h⁻¹.

Chun-Kai Shi, Le-Fu Yang, and Jun-Xiu Cai

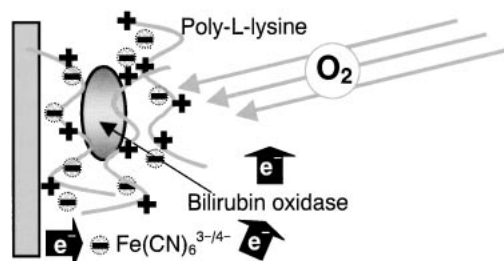
- 52 **Novel Utilization of Impedance Measurement for Electrochemical Biosensing Aiming at Elimination of Influence by Interference Materials**

Electrochemical oxidation of glucose using the glucose oxidase and an electron mediator gives semicircle Nyquist plots, from which glucose concentration can be determined without influence by interference materials.



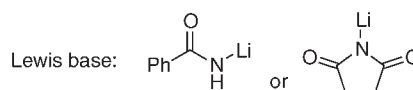
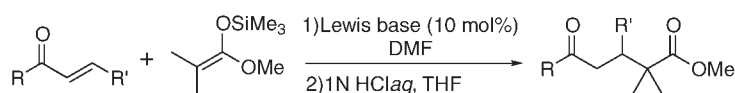
Susumu Kuwabata, Hidefumi Hasegawa, and Kenji Kano

- 54 **Bilirubin Oxidase and [Fe(CN)₆]^{3-/4-} Modified Electrode Allowing Diffusion-controlled Reduction of O₂ to Water at pH 7.0**



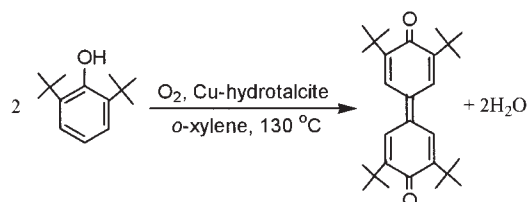
Takaaki Nakagawa, Seiya Tsujimura, Kenji Kano, and Tokuji Ikeda

- 56 **Lewis Base Catalyzed Michael Reaction between Ketene Silyl Acetals and α,β -Unsaturated Carbonyl Compounds**



Teruaki Mukaiyama, Takashi Nakagawa, and Hidehiko Fujisawa

- 58 **Clean Synthesis of 3,3',5,5'-Tetra-*tert*-butyl-4,4'-diphenylquinone from the Oxidative Coupling of 2,6-Di-*tert*-butylphenol Catalyzed by Alkali-promoted Cu-Mg-Al Hydrotalcites in the Presence of Molecular Oxygen**

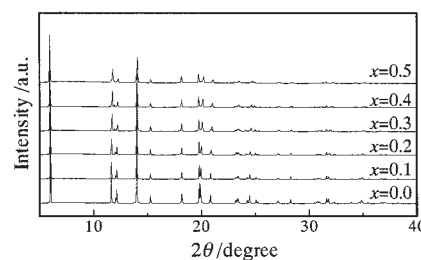


Keisuke Iwai, Takayoshi Yamauchi, Keiji Hashimoto, Tomoo Mizugaki, Kohki Ebitani, and Kiyotomi Kaneda

60 **Structural Change of $\text{Li}_{1-x}\text{Ni}_{0.5}\text{Mn}_{0.5}\text{O}_2$ Cathode Materials for Lithium-ion Batteries by Synchrotron Radiation**

Yoshinori Arachi, Hironori Kobayashi, Shuichi Emura, Yoshiyuki Nakata, Minoru Tanaka, and Takeshi Asai

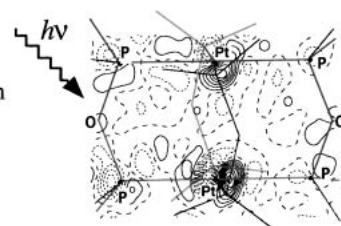
The structural change and charging process for a layered $\text{Li}_{1-x}\text{Ni}_{0.5}\text{Mn}_{0.5}\text{O}_2$ were determined by X-ray diffraction and XAFS measurement.



62 **Photoexcited Crystallography of Diplatinum Complex by Multiple-exposure IP Method**

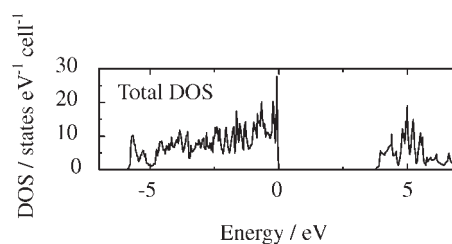
Yoshiki Ozawa, Madoka Terashima, Minoru Mitsumi, Koshiro Toriumi, Nobuhiro Yasuda, Hidehiro Uekusa, and Yuji Ohashi

The Pt-Pt bond shrinkage of the $[\text{Pt}_2(\text{pop})_4]^{4+}$ complex has been directly observed by X-ray crystal structure analysis using synchrotron radiation.



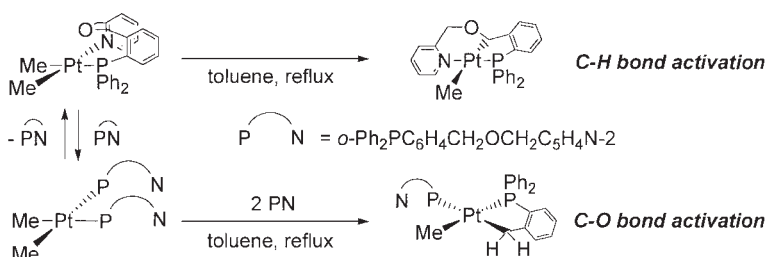
64 **Electronic Structure of InTaO_4 with Monoclinic Structure**

Shigenori Matsushima, Hiroyuki Nakamura, Masao Arai, and Kenkichi Kobayashi



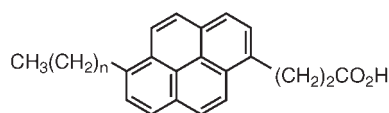
66 **Intramolecular C-H and C-O Bond Activation of Dimethylplatinum(II) Complexes Having the PN Ligand**

Yasutaka Kataoka, Tatsuya Nakamura, and Kazuhide Tani



68 **Electron Transport across Vesicle Bilayers Sensitized by Pyrenes: Design and Syntheses of Unsymmetrically Substituted Bifunctional Pyrenes Acting as Excellent Sensitizers**

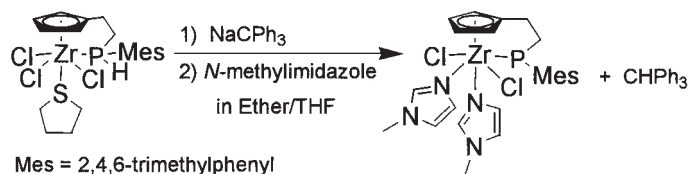
Asako Yoshida, Akitomo Harada, Tadashi Mizushima, and Shigeru Murata



Excellent sensitizers for electron transport across vesicle bilayers

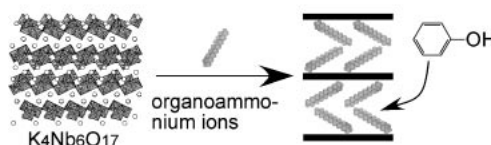
5a; n = 7, 5b; n = 11

- 70 **Formation of Novel Phosphide Dichloride Zr Complex from Trichloride Zr Complex with a Secondary Phosphine-pendant Cyclopentadienyl Ligand: Structure of $[\{\eta^5\text{-C}_5\text{H}_4(\text{CH}_2)_2\text{PMes-}\kappa\text{P}\}\text{ZrCl}_2(\text{N-methylimidazole})_2]$ (Mes = 2,4,6-Trimethylphenyl)**



Takeshi Ishiyama, Tsutomu Mizuta, Katsuhiko Miyoshi, and Hiroshi Nakazawa

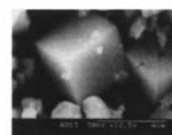
- 72 **Adsorption of Phenols in Water by Organically Modified Layered Niobate $\text{K}_4\text{Nb}_6\text{O}_{17}$**



Teruyuki Nakato, Hiroyuki Miyashita, and Shigetaka Yakabe

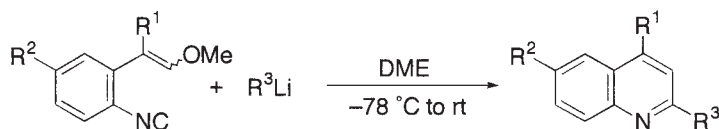
- 74 **An Effective Preparation Route to A Giant Magnetoresistance Material: Hydrothermal Synthesis and Characterization of $\text{La}_{0.5}\text{Sr}_{0.5}\text{MnO}_3$**

Giant magnetoresistance material $\text{La}_{0.5}\text{Sr}_{0.5}\text{MnO}_3$ has been synthesized under mild hydrothermal condition of 240°C. The morphology of the $\text{La}_{0.5}\text{Sr}_{0.5}\text{MnO}_3$ is cubic single crystal, and the size up to 5 μm .



Dan Wang, Ranbo Yu, Shouhua Feng, Wenjun Zheng, Ruren Xu, Yasuyuki Matsumura, and Mikio Takano

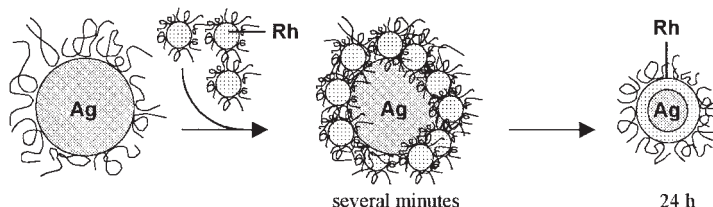
- 76 **Synthesis of 2,4-Disubstituted Quinolines by Reactions of *o*-Isocyano- β -methoxystyrene Derivatives with Organolithiums**



$\text{R}^1 = \text{Ph, Me}; \text{R}^2 = \text{H, Cl}; \text{R}^3 = \text{alkyl, aryl, heteroaryl}$ 55–91%

Kazuhiro Kobayashi, Keiichi Yoneda, Masaaki Mano, Osamu Morikawa, and Hisatoshi Konishi

- 78 **Ag/Rh Bimetallic Nanoparticles Formed by Self-assembly from Ag and Rh Monometallic Nanoparticles in Solution**



Physical mixture of polymer-protected Ag and Rh nanoparticles spontaneously generates the bimetallic nanoparticles with Ag-core/Rh-shell structure.

Kazutaka Hirakawa and Naoki Toshima

- 80 **Direct Observation of the DNA Multimolecule Condensation with Fluorescence Microscopy**

λ -DNA formed 40 μm Rod-Like superhelical structure with diameter of 7 μm in the presence of 20 $\text{mmol} \cdot \text{l}^{-1}$ spermine. Such big compacted DNA structure is firstly observed. This result is a good complementary to DNA condensation structure reported by other methods.

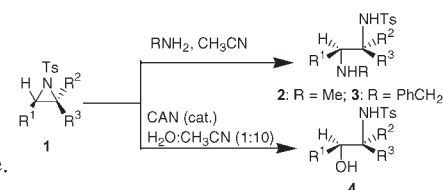


DNA condensation

Lian-Sheng Ling, Xiao-Hong Fang, Chen Wang, Li-Jun Wan, Chun-Li Bai, and Dong-Min Chen

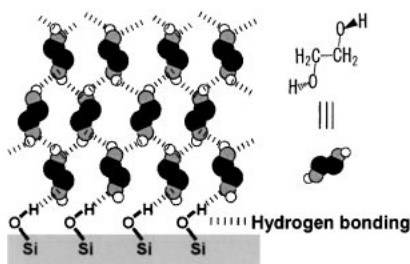
- 82 **Efficient Ring Opening Reactions of *N*-Tosyl Aziridines with Amines and Water in Presence of Catalytic Amount of Cerium(IV) Ammonium Nitrate**

While *N*-tosyl aziridines were opened very efficiently with amines giving diamines, openings with water required a catalytic amount of cerium(IV) ammonium nitrate.



Tushar K. Chakraborty, Animesh Ghosh, and T. Venugopal Raju

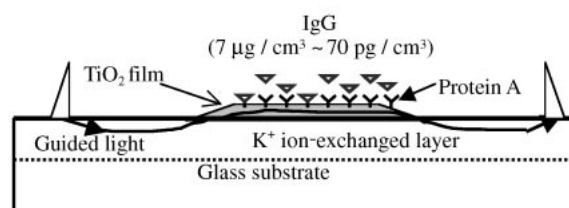
- 84 **Hydrogen-bonded Macrocluster Formation of Ethylene Glycol on Silica Surfaces in Ethylene Glycol-Cyclohexane Binary Liquids**



A plausible model of ethylene glycol macroclusters on glass surfaces in cyclohexane.

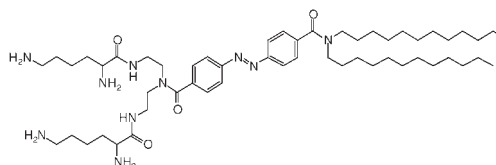
Kazue Kurihara, Yasuhiro Nakagawa, and Masashi Mizukami

- 86 **Development of a Composite Optical Waveguide Sensor for Immunoglobulin G**

Protein A - TiO₂ film / K⁺ ion-exchanged glass COWG immunosensor.

Abliz Yimit, Xiuzhu Huang, Yitai Xu, Takashi Amemiya, and Kiminori Itoh

- 88 **Photo-enhancement of Transfection Efficiency with a Novel Azobenzene-based Cationic Lipid**

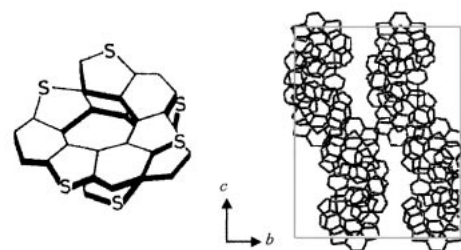


Takeshi Nagasaki, Katsutoshi Wada, and Seizo Tamagaki

90 **Helical Assembly Formed by Chiral [11]Thia-heterohelicene Molecules in Crystals. Architecture with Triple Helix**

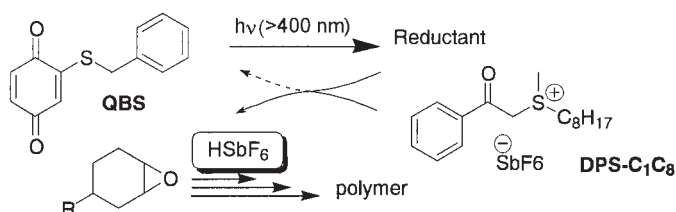
Hiroko Nakagawa, Jun Yoshino, Koh-ichi Yamada, and Motoo Shiro

The crystal structure of a (*P*)[11]thiaheterohelicene demonstrates huge helical assemblies along the *c* axis, in which three crystallographically independent molecules form a smaller right-handed helix.



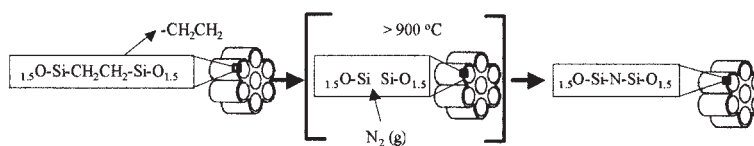
92 **Visible Light-induced Cationic Polymerization of Epoxides Sensitized by Benzoquinonylsulfanyl Derivatives**

Kanji Suyama, Weihong Qu, Masamitsu Shirai, and Masahiro Tsunooka



94 **Synthesis of Mesoporous Silicon Oxynitrides via Direct Nitridation with Nitrogen**

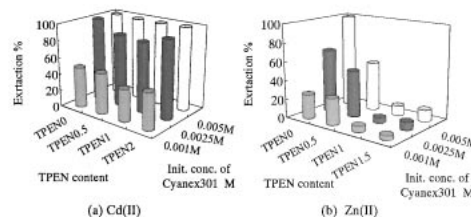
Mahendra P. Kapoor and Shinji Inagaki



96 **Extraction of Cd(II) and Zn(II) with Dialkylthiophosphinic Acid and Hexadentate Nitrogen-donor Ligand**

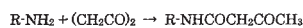
Kenji Takeshita, Kunio Watanabe, Yoshio Nakano, and Masayuki Watanabe

The extraction percent of Cd is little changed and that of Zn is decreased remarkably by adding TPEN. TPEN acts as a strong masking agent only for Zn.

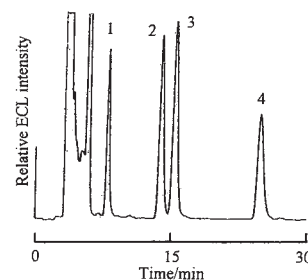


98 **Ru(bpy)₃³⁺ Electrochemiluminescence Detection of Aliphatic and Aromatic Amines with Diketene**

Kazuo Uchikura

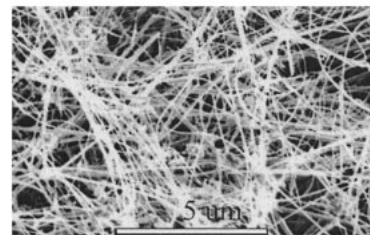


Chromatogram of the derivatives of aliphatic amines. Peaks (10 nmol each on column): 1=cyclohexylamine; 2=4-heptanamine; 3=hexylamine; 4=heptylamine



100 **Synthesis of SnO₂ Nanoribbons by Direct Oxidation of Tin Powders**

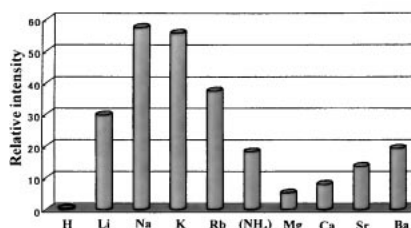
A new method has been successfully developed to synthesize SnO₂ nanoribbons in a large scale by direct oxidation of tin powders.



Xianghua Kong, Dapeng Yu, and Yadong Li

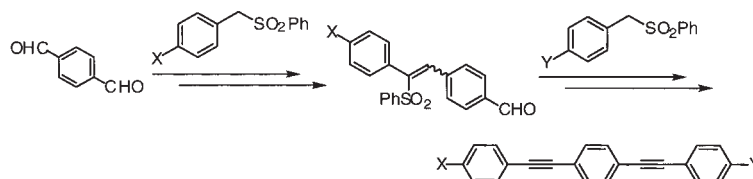
102 **Solid Surface Enhancement Effects on Chemiluminescence: Influence of Cationic Species in Solid Media**

Tetsutaro Yoshinaga, Shigekazu Akimoto, Shin-ichi Takemura, Hiroshi Hiratsuka, Miki Hasegawa, Michio Kobayashi, and Toshihiko Hoshi



Influence of cationic species on solid surface chemiluminescence has been shown. Alkaline metal ions in salicylates as media solids have shown an interesting tendency with sodium salt as the highest enhancer

104 **Double Elimination Protocol for Access to Unsymmetrical Di(phenylethynyl)benzenes**

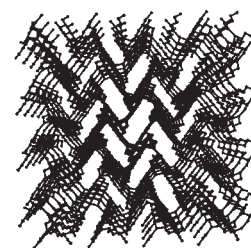


Akihiro Orita, Fangguo Ye, Atsushi Doumoto, and Junzo Otera

106 **Unique Three-dimensionally Expanded Nanoporous Structure Constructed with a Cu(I) and *cis,cis*-1,3,5-Triaminocyclohexane Having a 3-Fold Axial Symmetry**

Hidekazu Arai, Yamato Saito, Yasuhiro Funahashi, Koichiro Jitsukawa, and Hideki Masuda

The coordination polymer with nanopore was synthesized using [Cu^I(MeCN)₄]SbF₆ and *cis,cis*-1,3,5-triaminocyclohexane.



108 **Thermostable Synthetic Hemoproteins: Thermophilic Xylanases Hybridized with Dioxygen-Carrying *meso*-Tetrakis(*o*-pivalamidophenyl)porphinatoiron(II) Derivative**

Teruyuki Komatsu, Seiji Ishihara, Eishun Tsuchida, Hiroyuki Nishide, Chihiro Morokuma, and Satoshi Nakamura

