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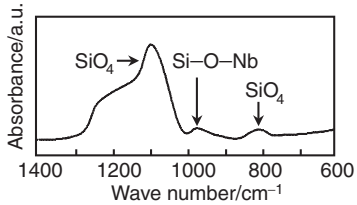
CMLTAG
ISSN 0366-7022

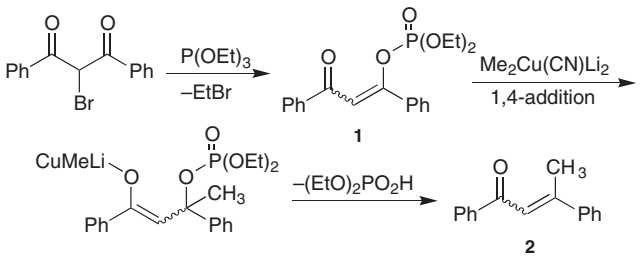
992 **Synthesis and Catalytic Activity of Niobium-Containing Hexagonal Mesoporous Silica**



Nb-HMS which synthesized using dodecylamine as a template shows high activity for the epoxidation of propylene with H_2O_2 and TBHP as oxidants.

Yanyong Liu, Kazuhisa Murata, and Megumu Inaba

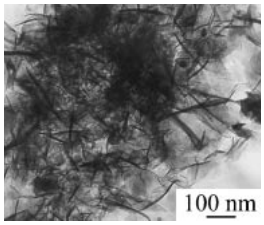
994 **Alkylation of α-Halo Diketones via Enol Phosphate Intermediate**



Jim Yoshitaka Onishi, Tomofumi Takuwa, and Teruaki Mukaiyama

996 **Synthesis of Nickel Sulfide via Hydrothermal Microemulsion Process: Nanosheet to Nanoneedle**

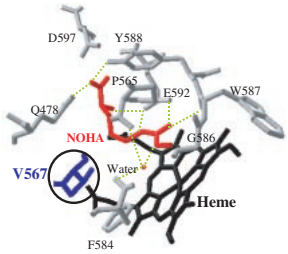
Monolayer-dispersed 2D nickel sulfide nanosheets were synthesized *via* a simple microemulsion-assissted hydrothermal process. The 2D nanosheets can roll up into 1D nanoneedles. The obtained nanosheets are likely to be useful in catalytic applications.



Deliang Chen, Lian Gao, and Peng Zhang

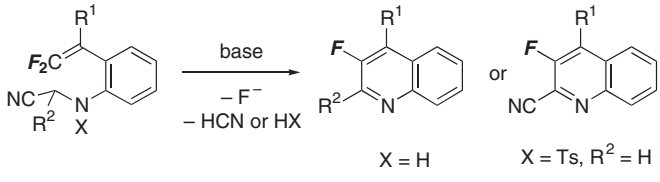
998 **Critical Role of Val567 in Substrate Recognition by Neuronal Nitric Oxide Synthase for NO Formation Activity**

Leu and Phe mutations at conserved Val567 located within the substrate binding site of neuronal nitric oxide synthase markedly lowered activity on the physiological substrates, L-Arg and N^G-hydroxy-L-Arg, and other potential alkyl- and arylguanidine substrates, suggesting that the residue at this position is important for substrate recognition by the enzyme.

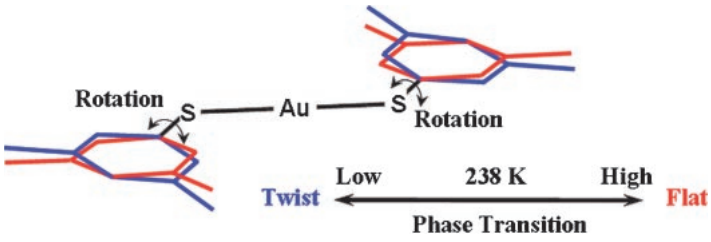


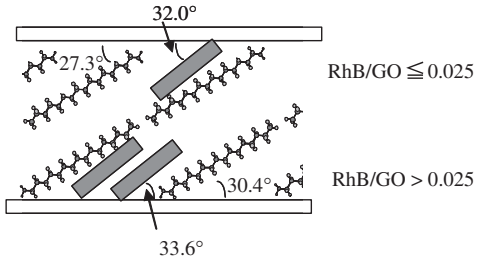
Hiroto Takahashi, Yuko Sato, Magoli Moreau, Marie-Agnes Sari, Jean-Luc Boucher, Daniel Mansuy, Ikuko Sagami, and Toru Shimizu

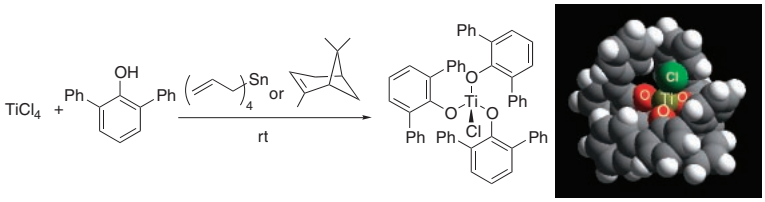
1000 **A Facile Synthesis of 2,4-Disubstituted 3-Fluoroquinolines via Intramolecular Cyclization of *o*-Cyanomethylamino-β,β-difluorostyrenes**

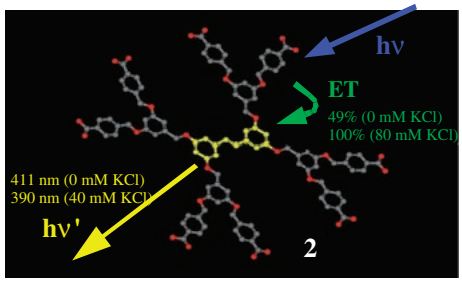


Yukinori Wada, Takashi Mori, and Junji Ichikawa

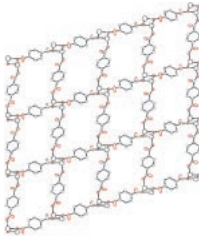


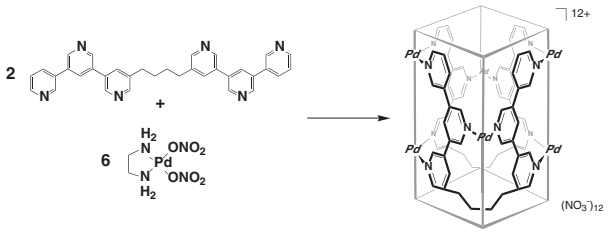




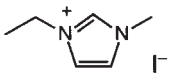


The modifying group of substituted phenyldicarboxylate plays a key role in the assembly of 2D novel framework and potential material exhibits nice fluorescent property.

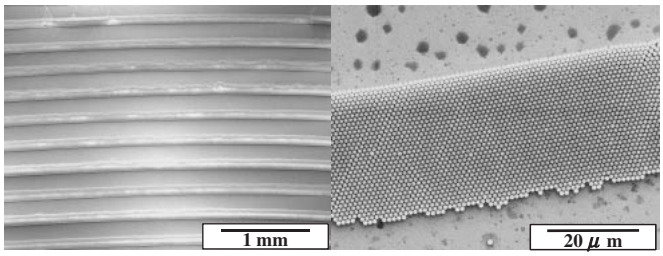


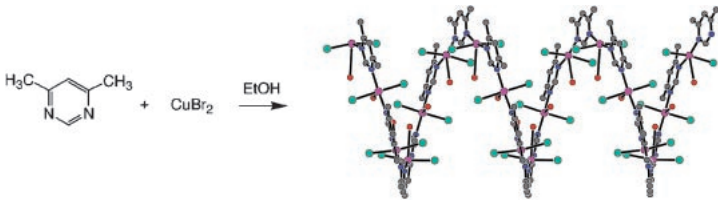


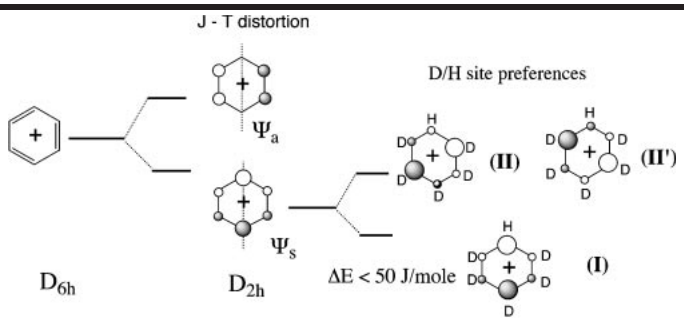
A novel electrolyte containing an imidazolium iodide produced an 8.0% solar energy-to-electricity conversion efficiency with a dye-sensitized solar cell based on a Ru(II) terpyridyl complex photosensitizer



I^- 1-Ethyl-3-methylimidazolium iodide



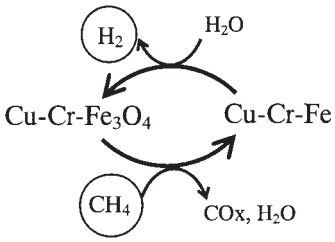




1022 **Methane to Hydrogen by Means of Redox of Modified Iron Oxides**

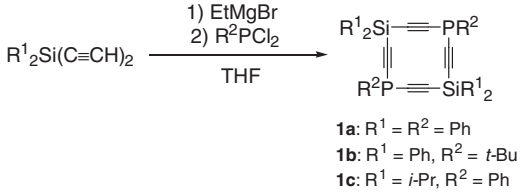
Sakae Takenaka, Van Tho Dinh Son, Chisa Yamada, and Kiyoshi Otsuka

CH_4 can be converted to pure H_2 by means of repeated reduction of modified iron oxides (Cu-Cr-FeOx) with CH_4 and subsequent oxidation of the reduced oxides with H_2O.



1024 **Synthesis and Structures of Cyclic Ethynylphosphine Ligands**

Rie Shiozawa and Kenkichi Sakamoto

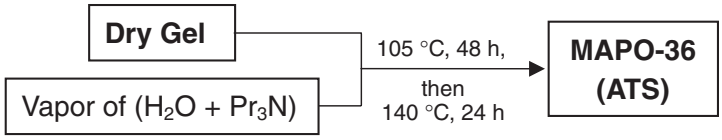


1a: $R^1 = R^2 = Ph$
1b: $R^1 = Ph$, $R^2 = t\text{-Bu}$
1c: $R^1 = i\text{-Pr}$, $R^2 = Ph$

1026 **A Convenient Synthesis of MAPO-36 (ATS) by Dry-gel Conversion (DGC) Technique**

Shyamal Kumar Saha, Yoshihiro Kubota, and Yoshihiro Sugi

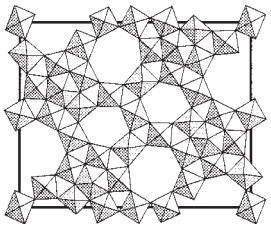
Magnesioaluminophosphate MAPO-36 (ATS topology) was conveniently synthesized by dry-gel conversion (DGC) technique. Phase selection was very sensitive to the heating protocol. ATS obtained by DGC consisted of very small crystallites (<1 μm).



1028 **Hydrothermal Synthesis of A New Mo–V–O Complex Metal Oxide and Its Catalytic Activity for The Oxidation of Propane**

Tomokazu Katou, Damien Vitry, and Wataru Ueda

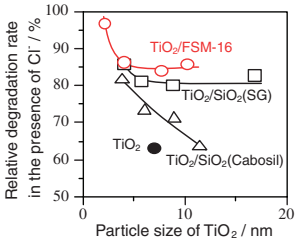
Structural model of the orthorhombic phase of a new Mo-V-O catalyst was hydrothermally synthesized. Mo and V are located in the octahedral positions. This catalyst showed high activity for propane oxidation.

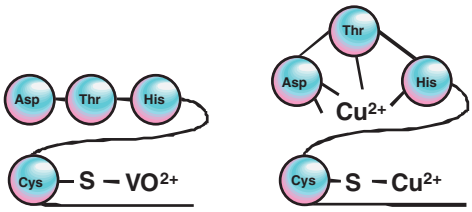


1030 **Support Effect of Silica on Photocatalytic Degradation of Dibutyl Phthalate by TiO_2 Nanoparticles in Water Containing Chloride Anion**

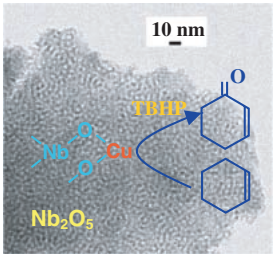
Hisao Yoshida, Jun-ichi Nishimoto, Yoshinori Miyashita, Chihiro Ooka, Shin-ichi Komai, Atsushi Satsuma, and Tadashi Hattori

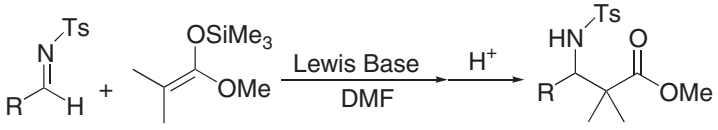
Employing silica as a support of TiO_2 reduced the inhibition effect of chloride anion on photocatalytic activity for degradation of dibutyl phthalate in water. This support effect varied with the kind of silica material.

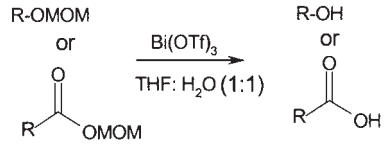




Possible reactions of BSA with VO^{2+} and Cu^{2+}.

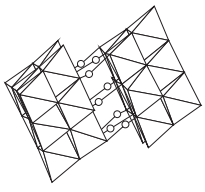


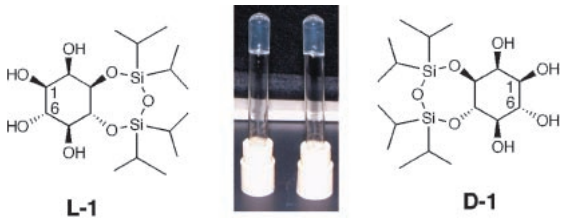


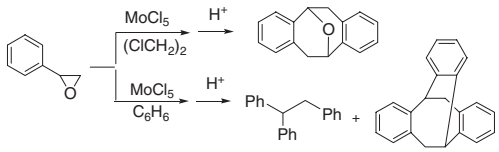


R=aliphatic, aromatic

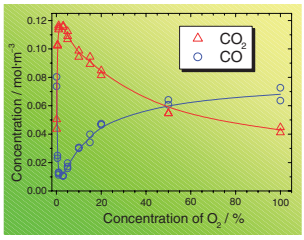
The first reduced tridecavanadate with a condensed structure has been isolated from the hydrolysis products of $[V_{17}O_{42}]^{4-}$. The cluster is dimerized through eight hydrogen bonds.



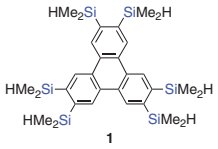




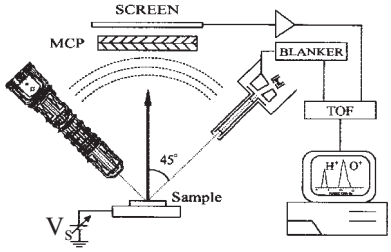
During direct-photodegradation treatment using a low-pressure mercury lamp of volatile organic chlorinated compounds, with which soil and groundwater have been polluted, a principal issue is how efficiently slightly-degradable by-products such as carbon-monoxide, phosgene, dichloroacetyl chloride, and ozone can be degraded. Oxygen in the treatment atmosphere is considered to influence photodegradation of the by-products chemically and physically. We curried out the photodegradation treatment of trichloroethylene at various oxygen concentrations, and found that oxidation of carbon-monoxide was highly accelerated, degradation rates of dichloroacetyl chloride and phosgene increased, and production of ozone reduced with decreasing the oxygen concentration to ca. 3.0 vol %.



2,3,6,7,10,11-Hexakis(dimethylsilyl)triphenylene (**1**) was synthesized by the silylation of 2,3,6,7,10,11-hexabromotriphenylene with chlorodimethylsilane and magnesium. The absorption and emission spectra of **1** revealed that the silyl substituents modify optical properties of triphenylene.

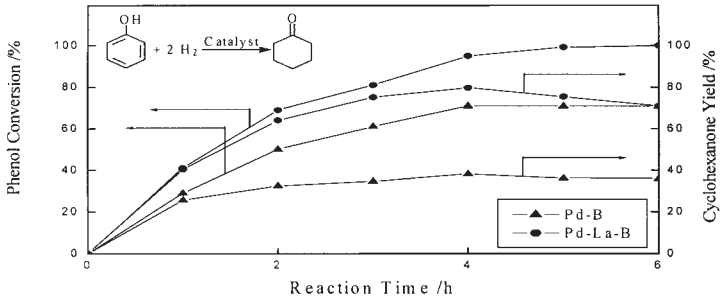


Schematic diagram of TOF-ESD microscopy system, "protoscope" . A pencil-type electron gun for FE-SEM and conventional LEED gun for LEED, AES, and ESDIAD are combined with an ion detector consisting of microchannel plates (MCPs) and a phosphor screen.



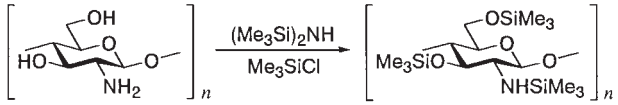
1072 **Liquid Phase Hydrogenation of Phenol to Cyclohexenone Over A Pd–La–B Amorphous Catalyst**

Li Zhuang, Hexing Li, Weilin Dai, and Minghua Qiao



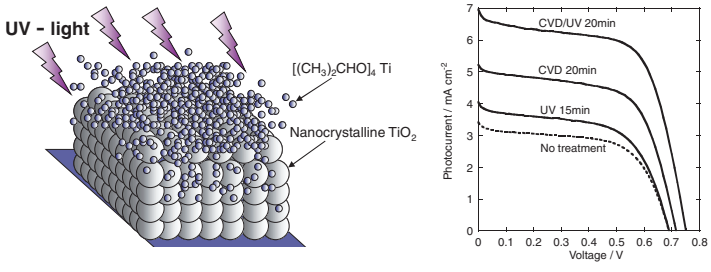
1074 **Trimethylsilylated Chitosan: A Convenient Precursor for Chemical Modifications**

Trimethylsilylated chitosan has been prepared and proved to be a convenient precursor for chemical modifications.



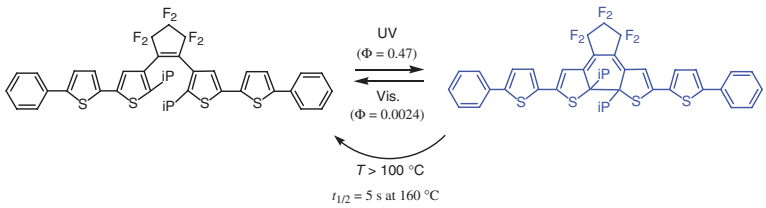
Keisuke Kurita, Masaaki Hirakawa, Kaori Aida, Jin Yang, and Yasuhiro Nishiyama

1076 **UV Light-assisted Chemical Vapor Deposition of TiO_2 for Efficiency Development at Dye-sensitized Mesoporous Layers on Plastic Film Electrodes**



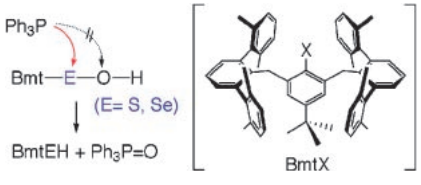
Takurou N. Murakami, Yujiro Kijitori, Norimichi Kawashima, and Tsutomu Miyasaka

1078 **Synthesis and Photochromism of Diarylethenes with Isopropyl Groups at the Reactive Carbons and Long π-Conjugated Heteroaryl Groups**

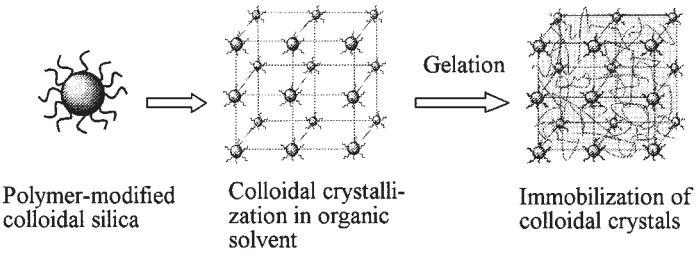


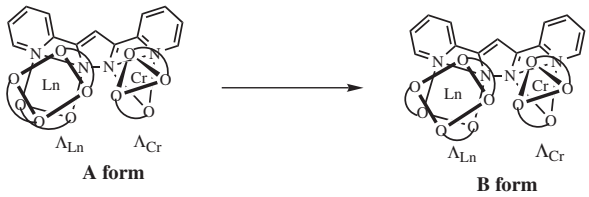
Seiya Kobatake and Masahiro Irie

1080 **Reaction of Stable Sulfenic and Selenenic Acids Containing a Bowl-type Steric Protection Group with a Phosphine. Elucidation of the Mechanism of Reduction of Sulfenic and Selenenic Acids**



Kei Goto, Keiichi Shimada, Michiko Nagahama, Renji Okazaki, and Takayuki Kawashima





Structural transformation from A to B with decreasing the Ln ion radius.

Poly[*N*-(4-ethynylbenzyl)glycine sodium salt] exhibits an induced circular dichroism in the UV–vis region upon complexation with free amino acids in water due to a predominantly one-handed helix formation and the Cotton effect intensity is amplified in the presence of a Cu(II) ion.