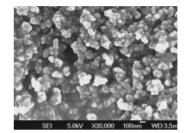
Chemistry Letters

http://www.csj.jp/journals/chem-lett/

Vol.32 No.12 December, 2003 CMLTAG ISSN 0366-7022

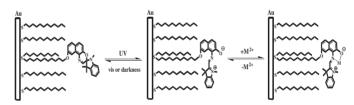
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1092 Synthesis of Mesoporous Silica Nanoparticles from a Low-concentration C_nTMAX– Sodium Silicate Components



Hong-Ping Lin and Chih-Pin Tsai

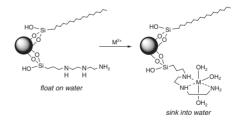
1094 Self-assembled Monolayers of Spironaphthoxazine-Thioether for UV-controlled Complexation



Huan Chen, Yapeng Li, Fengwei Huo, Zhiqiang Wang, and Xi Zhang

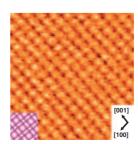
Self-assembled monolayer containing spironaphthoxazine-thioether (SNOTE) can detect metal ions based on the complexation property of the open ring form of spironaphthoxazine upon UV irradiation.

1096 Selective Recovery of Metal Ions Based on Selective Sinking of Zeolite Modified with Octadecyl and Diethylenetriamine Groups



Go Nishimura, Yasuhiro Shiraishi, and Takayuki Hirai

1098 The First Observation of an Atomic Scale Noncontact AFM Image of MoO₃(010)



Shushi Suzuki, Yusuke Ohminami, Tetsuya Tsutsumi, M. M. Shoaib, Masaru Ichikawa, and Kiyotaka Asakura 1100 Efficient Method for the Preparation of Primary, Inverted Secondary and Tertiary Alkyl Carboxylates from Alcohols and Carboxylic Acids by a New Type of Oxidation–Reduction Condensation Using Simple 1,4-Benzoquinone

OH
$$R_{1} \stackrel{OH}{\longrightarrow} R_{2} \stackrel{1.n-\text{BuLi}}{\longrightarrow} 2.\text{Ph}_{2}\text{PCl} \stackrel{Ph}{\longrightarrow} R_{1} \stackrel{Ph}{\longrightarrow} R_{2} \stackrel{R}{\longrightarrow} 0 \stackrel{RCOOH}{\longrightarrow} R_{1} \stackrel{R_{2}}{\longrightarrow} R_{3} \stackrel{RCOOH}{\longrightarrow} R_{1} \stackrel{R_{2}}{\longrightarrow} R_{3} \stackrel{RCOOH}{\longrightarrow} R_{1} \stackrel{R_{2}}{\longrightarrow} R_{3} \stackrel{RCOOH}{\longrightarrow} R_{1} \stackrel{R_{2}}{\longrightarrow} R_{2} \stackrel{RCOOH}{\longrightarrow} R_{2}$$

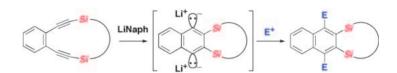
Taichi Shintou and Teruaki Mukaiyama

1102 Hydrogen Bond between Water and the Phenyl Ring in the Structure of a Dipeptide H-Phe-Leu-NH₂ at 90 K and the Structure-based Energy Estimations

Water NH₃⁺
H-Bond Phenyl ring

Mitsunobu Doi, Akiko Asano, and Daisuke Yamamoto

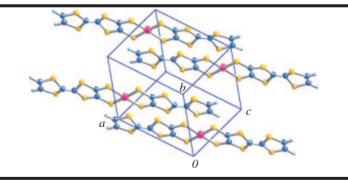
1104 Endo-Endo Mode Intramolecular Reductive Cyclization of Cyclic 1,2-Bis(silylethynyl)benzenes



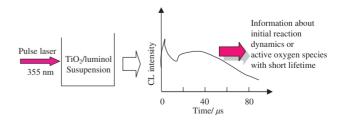
Shigehiro Yamaguchi, Masataka Miyasato, and Kohei Tamao

1106 Structures of a Single-component Palladium Complex with Extended TTF-type Dithiolate Ligands, Bis(tetrathiafulvalenedithiolato)palladium Determined by Powder X-ray Diffraction

> Wakako Suzuki, Emiko Fujiwara, Akiko Kobayashi, Yuichi Fujishiro, Eiji Nishibori, Masaki Takata, Makoto Sakata, Yoshinori Okano, and Hayao Kobayashi



1108 Time-resolved Chemiluminescence Study of Photocatalytic Reaction of TiO₂



Xing-Zheng Wu and Keiko Akiyama

1110 Organic–Inorganic Cooperative Molecular Recognition in Nanostructure of Alkylgrafted MCM-41

Kei Inumaru, Yuta Inoue, Shintaro Kakii, Tomoyasu Nakano, and Shoji Yamanaka

1112 Investigation of a New Pathway Forming Naphthalene by the Recombination Reaction of Cyclopentadienyl Radicals

$$\begin{array}{c}
H \\
\downarrow \\
H
\end{array}$$

Yoshinori Murakami, Taweesak Saejung, Chikako Ohashi, and Nobuyuki Fujii

1114 Preparation of Gold Nanoplates by a Microwave-polyol Method

Triangular, square, and hexagonal gold nanoplates with diameters of 30–90 nm were rapidly produced by a microwave-polyol method.



Masaharu Tsuji, Masayuki Hashimoto, Yuki Nishizawa, and Takeshi Tsuji

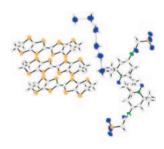
1116 A Novel Bisthienylethene as Acidichromic and Photochromic Yellow Dye



Qianfu Luo, Xiaochuan Li, Shuping Jing, Weihong Zhu, and He Tian

1118 New BEDT-TTF-based Organic Conductor Including an Organic Anion Derived from the TEMPO Radical, α-(BEDT-TTF)₃(TEMPO-NHCOCH₂SO₃)₂·6H₂O

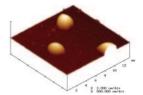
The title BEDT-TTF salt is a new organic magnetic conductor that includes the TEMPO radical as a part of the anion. It is a semiconductor ($\rho_{\rm RT}=5.1$ $\Omega\text{-cm}$) and one-dimensional ferromagnetic material (J=+0.42 K).



Hiroki Akutsu, Jun-ichi Yamada, and Shin'ichi Nakatsuji

1120 Synthesis and Formation of Supramolecular Spherical Aggregates from Poly(benzyl ether) Dendrimers Having 21-Oxoporphyrin Core

The formation of spherical shaped micro-meter size self-assembly of poly(benzyl ether) dendrimers containing N_3O porphyrin core is reported.



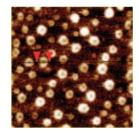
D. Kumaresan and M. Ravikanth

1122 Inclusion Complex Formation and Hydrolysis of Lactones by Cyclodextrins



Yoshinori Takashima, Yoshinori Kawaguchi, Shinya Nakagawa, and Akira Harada

1124 Photoinduced Dithiolation of Fullerene[60] with Dendrimer Disulfide



Yutaka Takaguchi, Yoshiaki Katayose, Yasushi Yanagimoto, Jiro Motoyoshiya, Hiromu Aoyama, Takatsugu Wakahara, Yutaka Maeda, and Takeshi Akasaka

1126 Synthesis and Characterization of Ni(OH)₂ Single-crystal Nanorods

A template-free hydrothermal method to $Ni(OH)_2$ single-crystal nanorods were successfully established based on the 2-D layered structures of $Ni(OH)_2$. The obtained $Ni(OH)_2$ nanorods were 40–90 nm in diameters and 1–3 μm in lengths. It is expected that the current method may be developed to a general method to 1-D nanorods or nanotubes of hydroxides $M(OH)_2$ (M = Co, Fe, Cd, Mg, Ca) with Cdl $_2$ type.

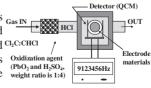


Jiahe Liang and Yadong Li

1128 Sensitivity Improvement in the Detection of Trichloroethylene by Applying Oxidizing Agents to the Quartz Crystal Microbalance Method

> Kazutoshi Noda, Ryuuichi Naganawa, Yasumasa Kanekiyo, and Hiroaki Tao

A new QCM method uses oxidizing agents such as PbO₂ and H₂SO₄, by which TCE is converted Cl₂C:CHC into HCl, which in turn reacts directly with a copper electrode weight ratio is 1:4 placed on the quartz crystal surface.



1130 Soft Carbon-coated Hard Carbon Beads as a Lithium-ion Battery Anode Material

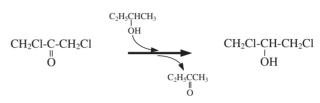
Natural Graphite

TVD-Carbon Coated NSF Carbon Beads

Oischarge Capacity (mAh/g)

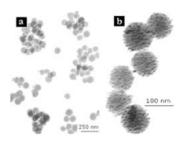
Masaki Yoshio, Hongyu Wang, Kenji Fukuda, Takeshi Abe, and Zempachi Ogumi

Selective Reduction of α-Chloroketone to α-Chloroalcohol Using Hydrogen Transfer from Alcohol over Metal Oxide Catalysts



Kunihiro Gotoh, Jun Kubo, Wataru Ueda, Tohru Mori, and Yutaka Morikawa The reaction is promoted by MgO, SiO₂·Al₂O₃, Al₂O₃, and ZrO₂.

1134 Fabrication of Silica/Polystyrene Nanocomposite Microspheres by γ-Ray Irradiation

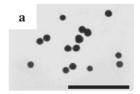


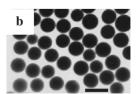
Dazhen Wu, Xuewu Ge, Songnan Chu, and Zhicheng Zhang

1136 Isolation of a Novel Singly Oxo-bridged Lowspin Fe(II) Dimeric Complex: Synthesis, Crystal Structure, and Spectroscopic Study

Manas Kumar Saha, Dilip Kumar Dey, Chirantan Roy Choudhury, Subrata Kumar Dey, Samiran Mitra, and Christian W. Lehmann Redox reaction between $[(phen)_4Fe_2(Cl)_2(\mu\text{-}O)]Cl_2\cdot 4.5H_2O$ (phen=1,10-phenanthroline) and Mn(OH) $_2\cdot xH_2O$ in water methanol solution at refluxing temperature under inert atmosphere gives one novel low-spin iron(II)—oxo complex $[(phen)_4Fe_2(Cl)_2(\mu\text{-}O)]\cdot 4H_2O$ (1).

1138 Preparation of Uniform Nanospheres with a Hydrophilic Core and a Hydrophobic Corona by the Macromonomer Method





Ming-Qing Chen, Tatsuo Kaneko, Ming Zhang, Xiao-Ya Liu, Kang Wu, and Mitsuru Akashi TEM images of Uniform Nanospheres Comprised of Hydrophilic Core and Hydrophobic Corona. (a) not cross-linked (b) cross-linked (Bar: 500 nm)

1140 Microwave-polyol Preparation of Singlecrystalline Gold Nanorods and Nanowires

Ying-Jie Zhu and Xian-Luo Hu

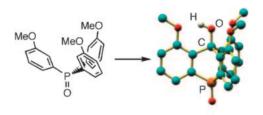
1142 A Convenient, Efficient, and Environmentally Benign Method for Preparing Nitroanilines

An efficient method for the catalytic monoreduction of aromatic dinitro compounds to nitroanilines is reported. In the presence of selenium as a catalyst, the dinitroaromatic compounds are selectively reduced by CO/H₂O to the corresponding nitroanilines under atmospheric pressure. The reduction occurs with high selectivity regardless of the substitution groups on the aromatic ring without affecting other reducible functionalities.

$$O_2N$$
 $NO_2 + 3CO + H_2O \xrightarrow{Cat.Se/NaAc} O_2N$
 $NO_2 + 3CO + H_2O \xrightarrow{O_2O/DMF} O_2N$

Xiao-zhi Liu and Shi-wei Lu

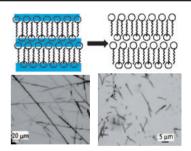
1144 A Novel and Convenient Synthetic Route to a 9-Phosphatriptycene and Systematic Comparisons of 9-Phosphatriptycene Derivatives



Junji Kobayashi, Tomohiro Agou, and Takayuki Kawashima

1146 Effective Shortening in Length of Glycolipid Nanotubes with High Axial Ratios

We reported a simple and general approach to shorten the high-axial-ratio lipid nanotubes (LNTs) using a mechanical stirring system, which depends on the hydrogen bond network feature.



Bo Yang, Shoko Kamiya, Hiroharu Yui, Mitsutoshi Masuda, and Toshimi Shimizu

1148 Sliding Mode Transition of Water Droplet on the Silicon Surface Coated with Octadecyltrichlorosilane

Sliding behavior of a water droplet on the silicon wafer coated with octadecyltrichlorosilane



Akira Nakajima, Shunsuke Suzuki, Yoshikazu Kameshima, Naoya Yoshida, Toshiya Watanabe, and Kiyoshi Okada

1150 A Novel Active Site Structure of Hydrodesulfurization Catalysts

A novel Co dinuclear structure of the CoMoS phase is proposed for HDS catalysts.

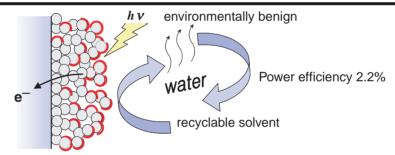
Yasuaki Okamoto, Takao Kawabata, Takeshi Kubota, and Ichiro Hiromitsu

1152 Facile Chemical Modification Poly(L-histidine) for a New pH-Sensitive **Polypeptide**

Shoichiro Asayama, Hiroyoshi Kawakami, and Shoji Nagaoka

1154 Water-based Dye-sensitized Solar Cells: Interfacial Activation of TiO2 Mesopores in Contact with Aqueous Electrolyte for **Efficiency Development**

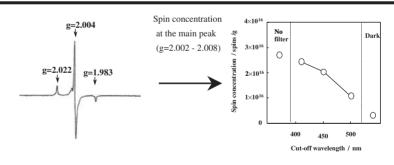
> Takurou N. Murakami, Haruhisa Saito, Sadao Uegusa, Norimichi Kawashima, and Tsutomu Miyasaka



hydrophilic mesopores

1156 Photocatalytic Decomposition of Acetaldehyde under Visible Light Irradiation over La³⁺ and N Co-doped TiO₂

> Yoshiaki Sakatani, Jun Nunoshige, Hiroyuki Ando, Kensen Okusako, Hironobu Koike, Tsuyoshi Takata, Junko N. Kondo, Michikazu Hara, and Kazunari Domen



1158 "Syn-Effect" in the Desilylation Reaction of y-Silylated Allylic and Vinylic Sulfones

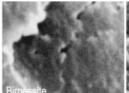
TMS
$$\alpha$$
 Ts TMS α Ts DBU, H₂O α Ts CH₃CN, 0-25 °C R

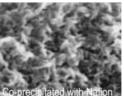
The relative degree of "syn-effect" depending on the γ -substituents R; $CH_3O->CH_3->CH_3CH_2->PhCH_2->PhS->(CH_3)_2CH->Ph->(CH_3)_3C-$

Samar Kumar Guha, Yutaka Ukaji, and Katsuhiko Inomata

1160 Improved Cycleability of Li-Birnessite by Coprecipitation with Nafion

Li-birnessite manganese oxide coprecipitated with Nafion showed improved rechargeability as a cathode material.





Xiaojing Yang, Weiping Tang, Zong-huai Liu, Kazuya Ikeda, and Kenta Ooi

1162 Highly Regioselective Deoxyhalogenation at the C-6 Positions of N-Phthaloylchitosan with N-Halosuccinimide-Triphenylphosphine System

(HO O) NPhth n N-halosuccinimide triphenylphosphine

(HO XX O)

Phth = phthaloyl

X = Cl

X = Br (0.98), OH (0.02) X = I (0.90), OH (0.10)

Taku Satoh and Nobuo Sakairi

1164 Promoting Effect of Cyclic Ethers in the Layered Silicate Synthesis

Akiko Kawai, Takuji Ikeda, Yoshimichi Kiyozumi, and Fujio Mizukami

-99.4

-73.3

-111.3

(c) SiO₂ + TMA + dioxane

-89.3

-71.5

-71.5

-71.5

(h) SiO₂ + dioxane

SiO₂ + TMA

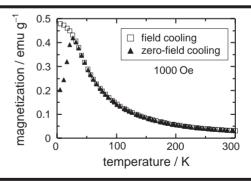
-60 -80 -100 -120 -140

Chemical shift / ppm

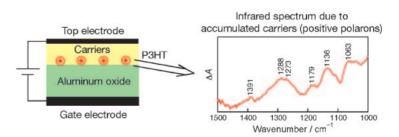
Results of ²⁹Si-NMR

1166 Preparation of Iron Oxide Nanoparticles via Successive Reduction-Oxidation in Reverse Micelles

Takuya Nakanishi, Hironori Iida, and Tetsuya Osaka



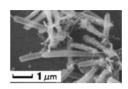
1168 Infrared Absorption Induced by Field Effect from a Metal-Insulator-Semiconductor Diode Fabricated with Regioregular Poly(3hexylthiophene)



Hiroki Takao and Yukio Furukawa

1170 Self-assembling Lipid Microtubules Based on Cyclobolaphile That Mimics Archaeal Membrane Lipid

Cyclobolaphile 1 that contains a macrocyclic ring having diacetylenic alkyl chains in a hydrophobic segment and phosphatidylcholine as a hydrophilic head group self-assembles into elastic hollow tubules.



$$\begin{array}{c} -O(CH_{2})_{8}X(CH_{2})_{8}O \\ -IIO(CH_{2})_{8}X(CH_{2})_{8}O \\ -OPC \\ PCO \\ \end{array}$$

$$X = -C \vdots C \cdot C \vdots C - \\ O \\ + \\ PC = -P - O(CH_{2})_{2}NMe_{3}$$

Kazuhiro Miyawaki, Rie Goto, and Motonari Shibakami

1172 Molecular Recognition by a Cu(II)-2,2'bipyridine Complex Involving Coordination and Hydrogen Bonding

> Takahiko Kojima, Hironori Kitaguchi, Yoshimitsu Tachi, Yoshinori Naruta, and Yoshihisa Matsuda

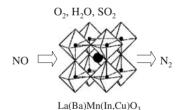
1174 Synergistic Effect of the Two Azobenzenes in the Promoter on the Photo-regulation of Transcription Reaction with SP6 RNA Polymerase

OFF ON

Mingzhe Liu, Daisuke Tamaru, Hiroyuki Asanuma, and Makoto Komiyama

Direct Decomposition of NO on Cu-Doped La(Ba)Mn(In)O₃ Perovskite Oxide under Coexistence of O₂, H₂O, and SO₂

Tatsumi Ishihara, Kazuhiro Anami, Keiko Takiishi, Hiroshi Yamada, Hiroyasu Nishiguchi, and Yusaku Takita NO direct decomposition into N_2 and O_2 proceeds on the perovskite oxide of $La_{0.7}Ba_{0.3}Mn_{0.6}In_{0.2}Cu_{0.2}O_3$ under coexistence of O_2 , H_2O , and SO_2 at high temperature of 1123K.



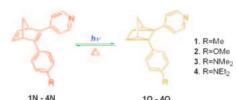
1178 Very High Cyclization Quantum Yields of Diarylethene Having Two N-Methylpyridinium Ions

Kenji Matsuda, Yoshihiro Shinkai, Tadatsugu Yamaguchi, Kazuko Nomiyama, Munetoshi Isayama, and Masahiro Irie

Very High cyclization quantum yield

1180 New Donor-Acceptor 2-Aryl-3-(4-pyridyl)-2,5-norbornadienes as Thermally Reversible Photochromic Systems

New donor-acceptor 2,3-diarylnorbornadienes (1N-4N) showing high quantum yields for the blue light induced valence isomerization from the norbornadienes into quadricyclanes are described.

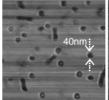


Arumugasamy Elangovan, Chieh-Ju Wang, and Tong-Ing Ho

1182 Morphological Studies on Well-defined Polyethylene-b-poly(ethylene-co-propylene) by

AFM analyses suggested that a new diblock copolymer, polyethylene-b-polyethylene-co-propylene) (PE-b-EPR), in which the PE lamella is covered with the amorphous EPR segment, can exist on a mica surface without aggregation and possesses a propensity to assemble to one another to form a needle-like structure.

(e) $R_1 = R_2 = R_3 = R_4 = R_5 = H$





Shoko S. Ono, Tomoaki Matsugi, Osamu Matsuoka, Shin-ichi Kojoh, Terunori Fujita, Norio Kashiwa, and Sadaaki Yamamoto

1184 EPR Study of Photoinduced Electron Transfer between Adsorbent and Adsorbed Species in Photo-SCR with NH₃

Kentaro Teramura, Tsunehiro Tanaka, and Takuzo Funabiki

NH₂ radical in TiO₂

1186 A Rapid and Efficient Microwave-Assisted Synthesis of Substituted 3-Phenylpropionic Acids from Benzaldehydes in Minutes

$$\begin{array}{c} R_1 \\ R_2 \\ R_3 \\ R_4 \\ \end{array} \\ \begin{array}{c} R_1 \\ R_5 \\ \end{array} \\ \begin{array}{c} COOH \\ PdCl_2 \\ piperidine \\ Pincrowave \\ 2 \text{ to 3 min.} \\ \end{array} \\ \begin{array}{c} R_1 \\ PdCl_2 \\ NaOHJHCOOH \\ microwave \\ 3 \text{ to 4 min} \\ \end{array} \\ R_3 \\ \end{array} \\ \begin{array}{c} R_2 \\ R_5 \\ \end{array} \\ \begin{array}{c} R_1 \\ PdCl_2 \\ NaOHJHCOOH \\ microwave \\ 3 \text{ to 4 min} \\ \end{array} \\ \begin{array}{c} R_2 \\ R_3 \\ \end{array} \\ \begin{array}{c} R_3 \\ R_5 \\ \end{array} \\ \begin{array}{c} R_1 \\ R_2 \\ R_3 \\ \end{array} \\ \begin{array}{c} R_1 \\ R_2 \\ R_3 \\ \end{array} \\ \begin{array}{c} R_2 \\ R_3 \\ \end{array} \\ \begin{array}{c} R_1 \\ R_2 \\ R_3 \\ \end{array} \\ \begin{array}{c} R_1 \\ R_3 \\ \end{array} \\ \begin{array}{c} R_2 \\ R_3 \\ \end{array} \\ \begin{array}{c} R_1 \\ R_3 \\ \end{array} \\ \begin{array}{c} R_2 \\ R_3 \\ \end{array} \\ \begin{array}{c} R_1 \\ R_3 \\ \end{array} \\ \begin{array}{c} R_2 \\ R_3 \\ \end{array} \\ \begin{array}{c} R_1 \\ R_3 \\ \end{array} \\ \begin{array}{c} R_2 \\ R_3 \\ \end{array} \\ \begin{array}{c} R_3 \\ R_4 \\ \end{array} \\ \begin{array}{c} R_1 \\ R_3 \\ \end{array} \\ \begin{array}{c} R_2 \\ R_3 \\ \end{array} \\ \begin{array}{c} R_1 \\ R_3 \\ \end{array} \\ \begin{array}{c} R_1 \\ R_3 \\ \end{array} \\ \begin{array}{c} R_2 \\ R_3 \\ \end{array} \\ \begin{array}{c} R_1 \\ R_3 \\ \end{array} \\ \begin{array}{c} R_1 \\ R_3 \\ \end{array} \\ \begin{array}{c} R_2 \\ R_3 \\ \end{array} \\ \begin{array}{c} R_1 \\ R_3 \\ \end{array} \\ \begin{array}{c} R_1 \\ R_3 \\ \end{array} \\ \begin{array}{c} R_2 \\ R_3 \\ \end{array} \\ \begin{array}{c} R_1 \\ R_2 \\ \end{array} \\ \begin{array}{c} R_1 \\ R_3 \\ \end{array} \\ \begin{array}{c} R_1 \\ R_2 \\ \end{array} \\ \begin{array}{c} R_1 \\ R_3 \\ \end{array} \\ \begin{array}{c} R_1 \\ R_2 \\ \end{array} \\ \begin{array}{c} R_1 \\ R_3 \\ \end{array} \\ \begin{array}{c} R_1 \\ R_2 \\ \end{array} \\ \begin{array}{c} R_1 \\ R_3 \\ \end{array} \\ \begin{array}{c} R_1 \\ R_2 \\ \end{array} \\ \begin{array}{c} R_1 \\ R_3 \\ \end{array} \\ \begin{array}{c} R_1 \\ R_2 \\ \end{array} \\ \begin{array}{c} R_1 \\ R_3 \\ \end{array}$$

(f) R₂=OH; R₁=R₃=R₄= R₅= H

Anuj Sharma, Bhupendra P. Joshi, and Arun K. Sinha

1188 A Convenient Low-temperature Route to Nanocrystalline Boron Phosphide

$$PCl_3 + NaBH_4 \xrightarrow{600 \text{ °C}} BP + NaCl + 2HCl + H_2$$

Nanocrystalline BP with the cubic cell has been successfully prepared by the convenient reaction of PCl $_3$ with NaBH $_4$ at 600 °C.

Luyang Chen, Yunle Gu, Liang Shi, Jianhua Ma, Zeheng Yang, and Yitai Qian

1190 Combined Multiple Claisen Rearrangement and Ring-closing Metathesis as a Route to Naphthalene, Anthracene, and Anthracycline Ring Systems

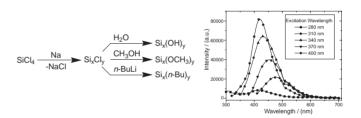
A new route involving tandem double Claisen rearrangement and ringclosing metathesis has been developed for the synthesis of naphthlane, anthracene and anthracycline ring systems.

Shital K. Chattopadhyay, Benoy K. Pal, and Susama Maity

1192 A Convenient Method for the Synthesis of α-Imidostyrenes from Styrenes and Imides via Diphenylstyrylsulfonium Salts

Hiroyuki Yamanaka and Teruaki Mukaiyama

1194 Effects of Surface Passivation on Silicon Nanoparticle Photoluminescence



David E. Harwell, John C. Croney, Wenjie Qin, John T. Thornton, Jason H. Day, Evan K. Hajime, and David M. Jameson