Task-specific ionic liquids are a unique subclass of ionic liquids which possess a potential spectrum of utility extending far beyond that likely for more conventional IL. By virtue of their covalently tethered functional groups, these unique salts can act not only as solvents but as catalysts and reagents in an array of synthetic, separations, and electrochemical applications.
1080 CO₂ Sensing Properties of La-loaded SnO₂ Thin Films Prepared by Sputtering

The excellent detection sensitivity to CO₂ in air was achieved by use of La₂O₃-loaded SnO₂ sensors prepared using sputtering method.

Hiroshi Sakama, Shinji Saeki, Atsushi Ono, Noriya Ichikawa, Atsushi Tanokura, Hiroshi Uetsuka, and Hiroshi Onishi

1082 Unprecedented Sequential Deprotonation of Ruthenium–Aqua Framework Affording Ruthenium–Oxo–Dithiolene Complex

Introduction of dithiolene ligand into ruthenium–aqua–terpyridyl systems remarkably enhances acidity of the coordinated aqua ligand to dissociate two protons without any oxidants and changes its neutral oxo form only by pH gradient.

Hideki Sugimoto, Kazunobu Sato, Takeji Takui, and Koji Tanaka

1084 Conversion of 3-O-Substituted 1,2-Dibromoalkanes into 2-Bromo-1-alkenes by the Selective Elimination: Its Application to Total Synthesis of 12-Oxygenated Tremetones

Synthesis of 2-bromo-1-alkenes has been accomplished in good yields from 3-aryloxy or 3-acyloxy-1,2-dibromoalkanes by regioselective elimination reactions. The natural tremetone derivatives were successfully synthesized by utilizing the elimination reaction.

Tadaaki Ohgiya and Shigeru Nishiyama

1086 Heptakis(2,3-di-O-carboxymethyl)-β-cyclodextrin as a pH-sensitive Host

Koji Kano, Yasuhiro Horiki, Takahiro Mabuchi, and Hiroaki Kitagishi

1088 Template-free Growth of Vertically Aligned CdS Nanowire Array Exhibiting Good Field Emission Property

A novel template-free solvothermal route was successfully designed to fabricate single crystal vertically aligned CdS nanowire array, which showed good field emission property.

Qun Tang, Xihong Chen, Ting Li, Aiwu Zhao, Yitai Qian, Dapeng Yu, and Weichao Yu
1090 Excitation Wavelength Dependence of Solva-
tion Dynamics in a Water Pool of a Reversed 
Micelle

Taku Satoh, Hiroaki Okuno, Keisuke 
Tominaga, and Kankan Bhattacharyya

1092 A Novel Photosensitizer of Palladium(II) 
Phthalocyanine Tetrasulfonate for Chloro-
phenol Oxidation under Visible Light Irradi-
ation

Meiqin Hu, Yiming Xu, and Zhigang Xiong

1094 Solution Properties of a Novel Polysaccha-
ride Derivative

Takeshi Ihara,Tohru Nishioka, Hiroshi 
Kamitani, and Tomohito Kitsuki

1096 Novel Silver(I) and Copper(II) Complexes of 
Tetrakis(2-pyridyl)methane

Kouzou Matsumoto, Masaki Kannami, and 
Masaji Oda

1098 Bis(tetrathiafulvaleno)octadehydro[20]an-
nullene with Multi-functionality

Masahiko Iyoda, Hideo Enozawa, and 
Yoshihiro Miyake
1100 Molecular Design and Crystal Structures of Chiral Macrotricyclic Cage Amines

With a single asymmetric carbon, chiral (R)- and (S)-macrotricyclic cage amines (MCAs) have been synthesized. Each of their homochiral crystals consists of each single conformer characterized by asymmetric framework.

Haruki Yoshida, Mitsunori Izumi, Naohito Ito, Kazuhiro Ichikawa, and Motoo Shiro

1102 Bicontinuous Microemulsion-aided Synthesis of Mesoporous TiO₂

Isamu Moriguchi, Yasuko Katsuki, Hirotoshi Yamada, Tetsuichi Kudo, and Taisei Nishimi

Bicontinuous microemulsion / TiO₂-gel composite

1104 Preparation of H₂Ti₄O₉ with High Specific Surface Area

H₂Ti₄O₉ nanocrystals precipitated by milling K₂Ti₄O₉ for 2 h and exfoliating in 1 M HCl followed by adjusting solution pH at 4 has nanosheets of lateral dimensions about 50 nm.

Jinshu Wang, Shu Yin, and Tsugio Sato

1106 Synthesis of Magnetic Composite Particles of γ-Fe₂O₃@SiO₂ and the Control of the Structural Color of the Colloidal Crystal by Magnetic Fields

Color photographs of a composite magnetic colloidal crystal. Red spheres are ion-exchange resin beads. Structural color is seen in the middle of photographs and it changes from violet (the left photograph) to green (the right one) when magnetic fields are applied.

Kazutoshi Kitajima, Toma Fujita, Norihiro Sogoshi, and Seiichiro Nakabayashi

1108 N-doped TiO₂ Nanotube with Visible Light Activity

Nitrogen-doped TiO₂ nanotubes (anatase) were synthesized by a wet process. These nanotubes exhibited photocatalytic oxidation activity under visible light illumination.

Hiromasa Tokudome and Masahiro Miyauuchi
1110  \( \beta \)-Hydride Elimination from \( \alpha \)-Positioned Methyl Group of Bicyclic Zirconacyclopentanes Assisted by Aldehyde


1112 Ion-exchangeable Layered Aminophenylsilica Prepared with Anionic Surfactant Templates

Ken Yao, Yusuke Imai, LiYi Shi, Eiichi Abe, Yoshibo Adachi, Keiko Nishikubo, and Hiroshi Tateyama

1114 CdS Nanowire-encapsulated, CdS Nanocrystals-enrobed Carbon Nanotubes Composites, and Their UV–vis Properties

Linqin Jiang and Lian Gao

1116 The Effect of Layered Sodium–Magadiite on the Photochromic Reversibility of Diaryl-ethene Immobilized on Its Surfaces

Itsuki Shindachi, Hiroshi Hanaki, Ryo Sasai, Tetsuya Shichi, Tatsuto Yui, and Katsuhiko Takagi

1118 An Isothiouromium-derived Organized Monolayer at the Air–Water Interface: Design of Film-based Anion Sensor Systems for \( H_2PO_4^- \)

Yoshihiro Misawa, Yuji Kubo, Sumio Tokita, Hirokazu Ohkuma, and Hiroo Nakahara
Formation of Interconnected Macropores in Sm\textsuperscript{2+}-doped Silicate Glasses through Phase Separation: Fabrication of Photosensitive and Dielectrically Disordered Materials

Koji Fujita, Shunsuke Murai, Yoshihiro Ohashi, Kazuki Nakanishi, and Kazuyuki Hirao

1122 A Novel Synthetic Route to Layered Double Hydroxides Using Hexamethylenetetramine

Nobuo Iyi, Taki Matsumoto, Yoshiro Kaneko, and Kenji Kitamura

1124 TICT Induced Fluorescence Color Change Actualized in an Organogel System

Yuya Iwashita, Kazunori Sugiyasu, Masato Ikeda, Norifumi Fujita, and Seiji Shinkai

1126 Hydrothermal Synthesis of [Al]-SSZ-24 from [Al]-Beta Zeolite ([Al]-BEA) as Precursors

Hiroyoshi Maekawa, Yoshihiro Kubota, and Yoshihiro Sugi

1128 An Efficient Template Pathway to Synthesis of Ordered Metal Oxide Nanotube Arrays Using Metal Acetylacetonates as Single-Source Molecular Precursors

Xiao-Ping Shen, Hong-Jiang Liu, Li Pan, Kang-Min Chen, Jian-Ming Hong, and Zheng Xu
Cluster Core Expansion through Incorporation of Transition-metal Fragments or an Alkyne Molecule into an Incomplete Cubane-type \( \text{Fe}_2\text{RuS}_4 \) Cluster

Masaaki Okazaki, Atsushi Sakuma, Hiromi Tobita, and Hiroshi Ogino

An Easy Route for the Synthesis of Ordered Three-Dimensional Large-Pore Mesoporous Organosilicas with \( \text{Im}-3m \) Symmetry

Zhendong Zhang, Bozhi Tian, Xiaoxia Yan, Shaodian Shen, Xiaoying Liu, Dehong Chen, Guangshan Zhu, Dongyuan Zhao, and Shilun Qiu

An Examination of the Gelation of Methacrylate Type Crosslinking Agents for the Preparation of Polymer Monolith with 3D Ordered Network Structures

Hiroshi Aoki, Takuya Kubo, Yoshiyuki Watabe, Nobuo Tanaka, Tomohisa Norisuye, Ken Hosoya, and Kuniaki Shimbo

Preparation of Nanoparticles of \( \text{LiCoO}_2 \) Using Laser Ablation in Liquids

Takeshi Tsuji, Toshihiko Kakita, Taro Hamagami, Tetsuya Kawamura, Junichi Yamaki, and Masaharu Tsuji

Synthesis of Mesostructured Materials from \( \text{K}_2\text{NbO}_3\text{F} \) as Starting Material

Masataka Ogasawara, Sumio Kato, Hiroshi Tsukidate, Takahiro Akaogi, Yoshio Moriya, and Shinichi Nakata
1140 Simple Metal Oxides as Efficient Heterogeneous Catalysts for Epoxidation of Alkenes by Molecular Oxygen

Jun Liang, Qinghu Tang, Guanyu Meng, Hongli Wu, Qinghong Zhang, and Ye Wang

1142 Photooxygenation of Olefins, Phenol, and Sulfide Using Fullerodendrimer as Catalyst

Yutaka Takaguchi, Yasushi Yanagimoto, Shohoko Fujima, and Sadao Tsuboi

1144 Rapid Separation of Palladium(II) from Platinum(IV) in Hydrochloric Acid Solution with Thiodiglycolamide

Hirokazu Narita, Mikiya Tanaka, Kazuko Morisaku, and Tsutomu Abe

1146 A Mild, Efficient, and Inexpensive Protocol for the Selective Deprotection of TBDMS Ethers Using KHSO₄

Pandurangan Arumugam, Ganesan Karthikeyan, and Paramasivan T. Perumal

1148 Pt-Catalyzed Regio- and Stereoselective Thienylthiolation of Alkynes

Takayoshi Hirai, Hitoshi Kuniyasu, and Nobuaki Kambe
A Mild Reduction Route to PTFE Degradation at Low Temperature

Polytetrafluoroethylene (PTFE) has been degraded into non-crystalline carbon spheres by a benign method at low temperature.

Significant Effect of Molecular Structure on Surface Relief Grating Formation for Novel Azobenzene-Based Photochromic Amorphous Molecular Materials

Dendrimer-Encapsulated Oligothiophenes

Efficient Catalyst for Low Temperature Solid-Phase Imidization of Poly(amic acid)

Bio-template Synthesis of Uniform CdSe Nanoparticles Using Cage-shaped Protein, Apoferritin
Glucose Reduction Route Synthesis of Uniform Silver Nanowires in Large-scale

Silver nanowires with average diameters of ~100 nm and lengths up to 800 μm were hydrothermally prepared in large scale by reducing silver nitrate with glucose in the presence of poly(vinyl alcohol) (PVA) at 160 °C.

Zhenghua Wang, Xiangying Chen, Jianwei Liu, Meng Zhang, and Yitai Qian

Selective Synthesis of Wurtzite CdSe Nanorods and Zinc Blend CdSe Nanoparticles through Solvothermal Routes

By simply changing the reactants’ composition, highly crystallized wurtzite CdSe nanorods and zinc blend CdSe nanoparticles were selectively fabricated through a convenient solvothermal route.

Yong Liu, Yao Xu, Jun-Ping Li, Bin Zhang, Dong Wu, and Yu-Han Sun

Degradation Pathways of Acetochlor by γ-Radiolysis

Six radiolytic products of acetochlor under oxidative conditions and four under reductive conditions were separated and identified by a GC-MS system. Based on this, degradation pathways of acetochlor by γ-irradiation were proposed.

Shao-Yang Liu, You-Peng Chen, and Han-Qing Yu

Effects of Rhodium Addition to Mo/HZSM-5 Catalyst for Methane Dehydroaromatization

Rhodium added Mo/HZSM-5 catalyst exhibited highly stable and active performances in the methane dehydroaromatization reaction with hydrogen addition due to the effective suppression of the coke deposition on the catalyst.

Ryoichi Kojima, Satoshi Kikuchi, and Masaru Ichikawa

A Novel l-Proline Catalyzed Biginelli Reaction: One-Pot Synthesis of 3,4-Dihydropyrimidin-2(1H)-ones under Solvent-Free Conditions

J. S. Yadav, S. Praveen Kumar, G. Kondaji, R. Srinivasa Rao, and K. Nagaiah
Characterization and Field-Effect Transistor Performance of Heterocyclic Oligomers Containing a Thiazolothiazole Unit

Shinji Ando, Jun-ichi Nishida, Eiichi Fujiwara, Hirokazu Tada, Youji Inoue, Shizuo Tokito, and Yoshiro Yamashita

Low-voltage Organic Field-effect Transistors with a Gate Insulator of Ta_2O_5 Formed by Sputtering

Heisuke Sakai, Yukio Furukawa, Eiichi Fujiwara, and Hirokazu Tada

Synthesis, Structure, and Electron-Donating Ability of 2,2′:6′,2″-Dioxatriphenylamine and Its Sulfur Analogue

Masato Kuratsu, Masatoshi Kozaki, and Keiji Okada

DFT Method Estimation of Standard Redox Potential of Metals

Hisayoshi Kobayashi, Toshiko Miura, Yoshiki Shimodaira, and Akihiko Kudo

Peak Formation Due to Chemiluminescence Reaction through the Collapse of Laminar Flow Liquid–Liquid Interface in a Microreactor

Kazuhiko Tsukagoshi, Keiichi Ikegami, Riichiro Nakajima, Kenichi Yamashita, and Hedeaki Maeda
1180 Tetrakis(trimethylsilylbutadiynyl)ethene, \( C_{18}(\text{SiMe}_3)_4 \): An Extended Two-Dimensional \( \pi \)-Conjugated System Consisting of Eighteen Carbon Atoms

Takehiro Ozawa and Munetaka Akita

1182 Fluorescent Property of Bulk- and Nanocrystals of Cyanide-bridged Eu(III)Co(III) Heteronuclear Coordination Polymer

Nobuyuki Kondo, Arisa Yokoyama, Masato Kurihara, Masatomi Sakamoto, Mami Yamada, Mikio Miyake, Tetsu Ohsuna, Hiromichi Aono, and Yoshihiko Sadaoka

1184 Biselides A and B, Novel Macrolides from the Okinawan Ascidian Didemnidae sp.

Toshiaki Teruya, Hiroki Shimogawa, Kiyotake Suenaga, and Hideo Kigoshi

1186 A Novel Open-framework Cerium Sulfate Hydrate: Synthesis and Characterization

Ranbo Yu, Dan Wang, Yunfa Chen, Xianran Xing, Shintaro Ishiwata, Takashi Saito, and Mikio Takano

1188 Cellulose Derivative-based Beads as Chiral Stationary Phase for HPLC

Tomoyuki Ikai, Reiko Muraki, Chiyo Yamamoto, Masami Kamigaito, and Yoshio Okamoto
1190 Novel Donor–π–Acceptor Compounds Containing 1,3-Dithiol-2-yldene and Tetracyanobutadiene Units

Yosuke Morioka, Naoto Yoshizawa, Jun-ichi Nishida, and Yoshiro Yamashita

1192 Preparation of Nitriles from Primary Alcohols by a New Type of Oxidation-reduction Condensation Using 2,6-Dimethyl-1,4-benzoquinone and Diethyl Cyanophosphonate

Teruaki Mukaiyama, Kouta Masutani, and Yoshiaki Hagiwara

1194 Novel Way to Synthesize CuO Nanocrystals with Various Morphologies

Rui Yang and Lian Gao

1196 Photochemical Polar Addition of 1,1-Diphenylethene Using Photosensitive Surfactant in Stable Oil-in-Water Emulsion

Yasuharu Yoshimi, Michiya Higuchi, Tatsuya Itou, and Minoru Hatanaka

1198 Electrodepositing Redox Polymer on Sandwich Complex for the Improvement of Sensitivity in Sandwich Enzyme-linked Immunoassay

Qiang Gao, Bin Qi, Yufang Sha, and Xiurong Yang
Preparation of a Nanocrystalline TiO$_2$ Photocatalyst Using a Dry-process with Acetylene Black

Weiping Tang, Zaihua Chen, and Shunsaku Katoh

Artificial Assembly of Myoglobin and Flavodoxin Reductase Using Designed Coiled-coil Peptides

Seiji Sakamoto, Atsushi Itoh, and Kazuaki Kudo

Biomimetic Hydrolysis of p-Nitrophenyl Alkanoates with Functionalized Mesoporous Silicas

Hierarchically ordered nanoporous structure mimics an enzyme function as a chemical nanofactory ensemble. Biomimetic catalysis for p-nitrophenyl alkanoates as a function of alkanoate chain lengths was demonstrated with multifunctionalized nanoporous ceramic catalyst.

Jeong Ho Chang, Kyung Ja Kim, Young-Kook Shin, and Jun Liu

4-Difluoromethylated Quinoline Synthesis via Intramolecular $S_N$2 Reaction of $\alpha$-Trifluoromethylstyrenes Bearing Imine Moieties

Takashi Mori and Junji Ichikawa

Novel Palladium Catalyst Supported on GaAs(001) Passivated by Ammonium Sulfide

A highly reactive palladium catalyst for the Heck reaction supported on a sulfur-terminated GaAs(001) plate was developed. Sulfur termination using (NH$_4$)$_2$S$_x$ at 60 °C and Pd absorption in acetonitrile at 100 °C is essential for the preparation of an active and stable catalyst. The catalyst could be reused in this reaction up to ten times.

Ikuko Takamiya, Shiro Tsukamoto, Masahiko Shimoda, Naoki Miyashita, Mitsuhiro Arisawa, Yasuhiro Arakawa, and Atsushi Nishida
1210 High Stability in Organic Solvent of Heme Proteins Immobilized in the Interlayers of Magadiite Nanoparticles

The first report of higher stability for heme proteins, Mb and Hb, immobilized in the interlayers of magadiite nanoparticles than that of free Mb and Hb in organic solvents.

Shuge Peng, Qiuming Gao, and Jianlin Shi

1212 The First Enantiomerically Pure Synthesis of (S)- and (R)-Naftopidil Utilizing Hydrolytic Kinetic Resolution of (±)-(α-Naphthyl) Glycidyl Ether

Enantiomerically pure (S)-naphthyl glycidyl ether and (R)-1-naphthyl glycerol were prepared utilizing HKR; opening of the pure terminal epoxide with 1-(2-methoxyphenyl) piperazine gave the enantiomerically pure (S)- and (R)-Naftopidil.

Kiran Kumar Kothakonda and D. Subhas Bose

1214 A Novel BEDT-TTF-based Organic Conducting Salt with a Ferrocene-containing Dianion, α-(BEDT-TTF)$_4$(Fe(Cp–CONHCH$_2$SO$_3$)$_2$)-4H$_2$O

Keigo Furuta, Hiroki Akutsu, Jun-ichi Yamada, and Shin’ichi Nakatsuji

1216 Photophysical and Photocatalytic Properties of Molybdates and Tungstates with a Scheelite Structure

Hideki Kato, Naoko Matsudo, and Akihiko Kudo

1218 Synthesis of Novel Organic–Inorganic Hybrid Cages via Cobalt-catalyzed Cyclotrimerization of Dimethylethynylsilyl Groups on a Silsesquioxane

Kenji Wada, Takuro Yamasaki, Teruyuki Kondo, and Take-aki Mitsudo
1220 Hydrogen Adsorption/Desorption Property of Activated Carbon Loaded with Platinum

Two peaks in the D$_2$ desorption profile of Pt−ACF indicated that two kinds of sites for adsorption or bonding of spillover deuterium exist on the carbon surface.

Hideyuki Takagi, Hiroaki Hatori, and Yoshio Yamada

1222 A Novel Enantioselective Reaction. Palladium-catalyzed Enantiodistinctive Reaction of Bicyclic Allylic Compounds

Hisashi Daimon, Ryohei Ogawa, Shuichi Itagaki, and Isao Shimizu

1224 Wittig Type Methylation of Ketones with Bis(iodozincio)methane and Ionic Liquid

Hideaki Yoshino, Masami Kobata, Yuhei Yamamoto, Koichiro Oshima, and Seijiro Matsubara