Highlight Review

Collective Interactions of Molecules with an Interfacial Solid

Katsumi Kaneko,* Tsutomu Itoh, and Toshihiko Fujimori
doi:10.1246/cl.2012.466

Molecules in nanoscale pores of the interfacial solid such as single wall carbon nanotube of which all component carbon atoms are exposed to the interfaces with gas phase show collective behavior, depending on the nanostructure. Confinement of molecules in nanoscale pores leads to stabilization of low-temperature phase and superhigh-pressure effect. Water molecules are adapted to hydrophobic nanopore spaces through cluster formation. The quantum fluctuation of H₂ and D₂ gives rise to a marked quantum molecular sieving effect. The Cu-based porous coordination polymer crystals can aspirate CO₂ repeatedly without the collapse of the crystal lattice.

Letter

Ni–Cu/ZnO-catalyzed Hydrogenolysis of Cellulose for the Production of 1,2-Alkanediols in Hot Compressed Water

Xicheng Wang, Feng Wu, Shengxi Yao, Yijun Jiang, Jing Guan, and Xindong Mu*
doi:10.1246/cl.2012.476
Electronic Supporting Information
479 Chemical Etching Route to Prepare Nanometer-size Spherical Titania–Octadecylamine Hybrid Particles

Kota Shiba and Makoto Ogawa*
doi:10.1246/cl.2012.479
Electronic Supporting Information

Precise particle size control of monodispersed spherical titania–octadecylamine hybrid nanoparticles was achieved by the dissolution into methanol at various temperatures.

482 Tetracyanoanthraquinodimethanes Having Biaryl Substituents: Synthesis, Crystal Structures, and Physical Properties

Hiroshi Chiba, Jun-ichi Nishida, and Yoshio Yamashita*
doi:10.1246/cl.2012.482
Electronic Supporting Information

485 Organogelators Derived from [3.3]Meta-cyclophane Skeleton with a Urea Unit

Akihiko Tsuge,* Ryuichiro Matsushita, Katsuhiko Sakura, Tetsujii Moriguchi, and Koji Araki
Electronic Supporting Information

Organogelators based on the metacyclophane structure

488 CaO-catalyzed Aerobic Oxidation of α-Hydroxy Ketones: Application to One-pot Synthesis of Quinoxaline Derivatives

Takayoshi Hara, Yukihiro Takami, Nobuyuki Ichikuni, and Shogo Shimazu*
doi:10.1246/cl.2012.488
Electronic Supporting Information

491 Synthesis and Spectroscopic and Electrochemical Study on the Intercalation Compound of KTiNbO₅ with Cationic Metalloporphyrin

Juanjuan Ma, Feng Shao, Lin Liu, Dongen Zhang, Junyan Gong, and Zhiwei Tong*
doi:10.1246/cl.2012.491

Cationic iron porphyrin has been successfully inserted into the interlayer spacing of layered titanoniobate through a guest-exchange method. The as-prepared nanocomposite displayed a good electrochemical activity.
From ZnO Microrods to ZnS Microspheres by a Hydrothermal Treatment: The Case of Thiourea

Yidong Zhang* and Qingyu Li

doi:10.1246/cl.2012.493

Wide Spectral Tuning of Gel-immobilized Colloidal Crystals Preserving High Uniformity

Seiji Yamamoto, Tsutomu Sawada, and Toshimitsu Kanai*

doi:10.1246/cl.2012.495

Pd-complex-bound Amino Acid-based Supramolecular Gel Catalyst for Intramolecular Addition–Cyclization of Alkynoic Acids in Water

Kazuki Ogata, Daisuke Sasano, Tomoya Yokoi, Katsuhiko Isozaki, Hirofumi Seike, Hikaru Takaya,* and Masaharu Nakamura*

doi:10.1246/cl.2012.498

Electronic Supporting Information

Thermodynamics of Lipoplex Formation: Relationship between the Lipid Alkyl Tail Length and Thermodynamic Functions

Shota Fujii, Tomoki Nishimura, and Kazuo Sakurai*


Electronic Supporting Information

Design and Synthesis of a Chemiluminescent Solvatochromic Dye

Yutaka Yamagishi, Sang-Hyun Son, Maiko Yuasa, and Koji Yamada*

doi:10.1246/cl.2012.504

Electronic Supporting Information
507 Versatile Modification for Highly Dispersive and Functionalized Mesoporous Silica Nanoparticles

Koichi Ukigaya, Yuya Oaki, and Hiroaki Imai*
doi:10.1246/cl.2012.507
Electronic Supporting Information

510 Carbon Black Paste Combined with Conductivity-enhanced CuSCN for Improved Performance in Quasi-solid-state Dye-sensitized Solar Cells

E. V. A. Premalal,* Nilupullee Dematage, and Akinori Konno*
doi:10.1246/cl.2012.510

513 NMR Spectroscopic Evidence of Lewis Acid–Lewis Base Complex Formation of Perfluoroborane with Uranyl β-Diketonato Complexes

Naomi Miyamoto, Takehiko Tsukahara, and Yasuhiisa Ikeda*
doi:10.1246/cl.2012.513
Electronic Supporting Information

516 Synthesis of π-Conjugated Two Generation Dendrimer Composed of p-Phenylenevinylene Dendron and Triphenylamine Surface Group

Masanobu Mizusaki,* Yuichiro Yamada, Satoru Obara, and Kentaro Tada
doi:10.1246/cl.2012.516
Electronic Supporting Information

518 A Fluorescence Turn-on Sensor for Cyanide Anion Based on Exciplex Signaling Mechanism

Xianshu Zhou, Hengquan Yang, Junsheng Hao, Caixia Yin, Dansheng Liu,* and Wei Guo*
doi:10.1246/cl.2012.518
Electronic Supporting Information
521 Li-insertion/extraction Properties of Si Thick-film Anodes in Ionic Liquid Electrolytes Based on Bis(fluorosulfonyl)amide and Bis(trifluoromethanesulfon)amide Anions

Electronic Supporting Information

523 Control of Cellular Inflammation by Layer-by-layer Nanofilms through Different Driving Forces

Electronic Supporting Information

525 Crystal Structures and Dielectric Properties of 2-imidazoline Derivatives Having Inter-molecular Hydrogen-bonded Networks

Masakazu Morimoto, Naoya Takashio, and Masahiro Ine doi:10.1246/cl.2012.525
Electronic Supporting Information

528 Polarity-dependent Photophysical Properties of Hemicyanine Dyes and Their Application in 2-Photon Microscopy Biological Imaging

Electronic Supporting Information

531 Enhanced Mechanical Strength of Nickel–Copper-coated Carbon Fiber/Magnesium Alloy Composites Fabricated Using Powder Metallurgy

Yuki Inoue, Jae-Ho Kim, Susumu Yonezawa, and Masayuki Takashima doi:10.1246/cl.2012.531
533  Electrochemical Response of β-Galactosidase- and Glucose Oxidase-containing Microcapsule-immobilized Electrode

Isao Shianda,* Masayuki Itagaki, and Kaori Asano
doi:10.1246/cl.2012.533

535  A Facile Synthesis of New 4-Amino-2-iminothiazoles from Unsymmetrical Thioureas

Yellayosula Lakshmi Narasimha Murthy,* Rama Mohana Rao Saviri, Parimi Atchuta Ramaiyah, and Saranapu Nareesh
Electronic Supporting Information

538  A Study on Ion Selectivity by Sulfur Compound Self-assembled Monolayer

Haitao Xi,* Yiqun Sun, Ying Chen, and Xiaojiang Sun
doi:10.1246/cl.2012.538

541  Nonadditive Substituent Effects on Expanding Prestrained C–C Bond in Crystal: X-ray Analyses on Unsymmetrically Substituted Tetraarylpyracenes Prepared by a Flow Microreactor Method

Takanori Suzuki,* Yasuto Uchimura, Yusuke Ishigaki, Takashi Takeda, Ryo Katoono, Hidetoshi Kawai, Kenshu Fujiwara, Aiichiro Nagaki, and Jun-ichi Yoshida
doi:10.1246/cl.2012.541
Electronic Supporting Information

544  Visible Light Responsive TiO2 Photocatalyst Prepared by Anodization of Ti–6Al–4V Alloy

Yoshiteru Mizukoshi* and Naoya Masahashi
doi:10.1246/cl.2012.544
Electronic Supporting Information
Room-temperature Fast Synthesis of Composition-adjustable Pt-Pd Alloy Sub-10-nm Nanoparticle Networks with Improved Electrocatalytic Activities

Shuangxia Hou, You Xu, Yang Liu, Rui Xu, and Bin Zhang
doi:10.1246/cl.2012.546
Electronic Supporting Information

The Effects of Charges at the N- and C-Termini of Short Peptides on Their Secondary and Self-assembled Structures

Kin-ya Tomizaki, Tomoyo Ikawa, Soo-Ang Ahn, Seiji Yamazoe, and Takahito Imai
doi:10.1246/cl.2012.549

One-step Fabrication of Polystyrene–TiO2 Nanosandwich Film by Phase Separation

Naoki Mizutani, Sergiy Korposh, Roman Selyanchyn, Do-Hyeon Yang, Chang-Soo Lee, Seung-Woo Lee, and Toyoki Kunitake
doi:10.1246/cl.2012.552
Electronic Supporting Information

Preparation of α-Zirconium Phosphate from Fluorozirconate and Phosphoric Acid by Liquid-phase Deposition

Seiichi Tahara, Yoshie Takakura, and Yoshiyuki Sugahara
doi:10.1246/cl.2012.555

Electroless Deposition of Metal Micropatterns Using Ink-jetted ZnO Thin Films as Templates

Hiroki Kono, Munetoshi Sakai, Xintong Zhang, Hajime Yoshiki, Kazuya Nakata, Taketoshi Murakami, Hideki Sakai, Masahiko Abe, and Akira Fujishima
doi:10.1246/cl.2012.558
Electronic Supporting Information