**Cover (far left)**

The surface structure of zeolite A imaged by atomic force microscopy. Such studies enhance our understanding of crystal growth mechanisms in open-pore inorganic framework materials (pp. 907–916).

Inside cover (left)

Crystallisation of calcium carbonate in the presence of a polycarboxylate leads to the formation of 'nanobobbles' (bottom) which develop into 'microtrumpets' (top) composed of nanocrystalline calcite. These 'microtrumpets' (close-up on the right) are reminiscent of coccolithophores like *Discosphaera tubifera* (centre) (pp. 918–919).



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contents

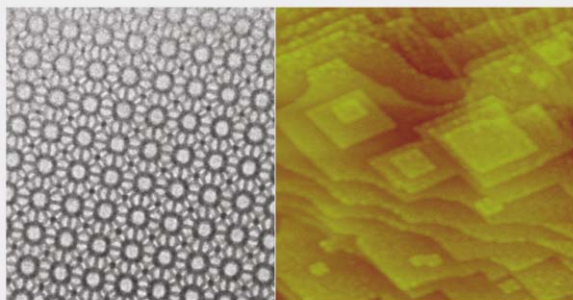
FEATURE ARTICLE

907

Modern microscopy methods for the structural study of porous materials

Michael W. Anderson,* Tetsu Ohsuna, Yasuhiro Sakamoto, Zheng Liu, A. Carlsson and Osamu Terasaki*

Modern microscopy methods for the study of structure and crystal growth in porous inorganic framework materials are discussed. Included are electron crystallography, electron tomography, ultra-high resolution scanning electron microscopy and atomic force microscopy.



COMMUNICATIONS

918

Biomimetic assembly of calcite microtrumpets: crystal tectonics in action

Saratchandra Babu Mukkamala and Annie K. Powell*

'Microtrumpets' composed of nanocrystalline calcite are obtained as a result of the influence of the polycarboxylate 1,3-diamino-2-hydroxypropane-*N,N,N',N'*-tetraacetate on the crystallisation of calcium carbonate from aqueous media.

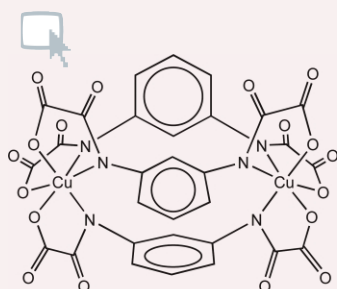


920

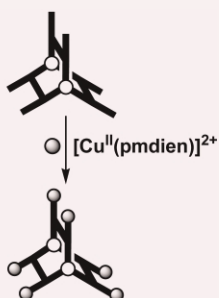
Self-assembly and magnetic properties of a double-propeller octanuclear copper(II) complex with a meso-helicate-type metallacryptand core

Emilio Pardo, Kevin Bernot, Miguel Julve, Francesc Lloret,* Joan Cano, Rafael Ruiz-García, Jorge Pasán, Catalina Ruiz-Pérez, Xavier Ottenwaelder and Yves Journaux*

A new binuclear metallacryptand of the *meso*-helicate type self-assembles from three *m*-phenylene-bis(oxamate) ligands and two Cu^{II} ions and then serves as a growing center for the generation of a unique octacopper(II) cage.



$[\text{Cu}^{\text{II}}_2(\text{mpba})_3]^{8-}$



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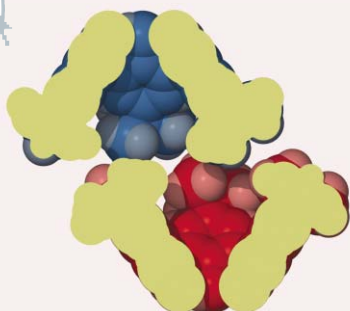
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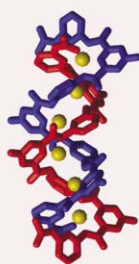
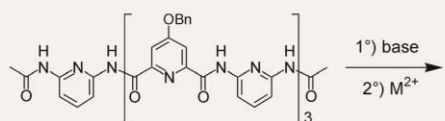


Polymorphism of pure *p*-tert-butylcalix[4]arene: subtle thermally-induced modifications

Jerry L. Atwood,* Leonard J. Barbour,* Gareth O. Lloyd and Praveen K. Thallapally

The solid state structure of a polymorph of the well-known host compound *p*-tert-butylcalix[4]arene, determined at 130 °C, is described.

924



Solid state characterization of oligopyridine dicarboxamide helicates

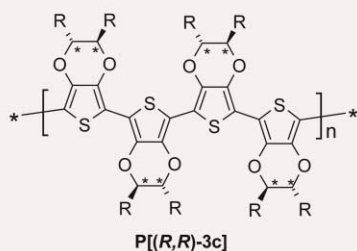
Victor Maurizot, Gerald Linti and Ivan Huc*

Metal complexation induces a spring like extension! Upon coordination of Cu(II) ions, the double helices formed by oligopyridine dicarboxamides convert into a new family of double stranded helicates with a much larger pitch.

926



oxidation

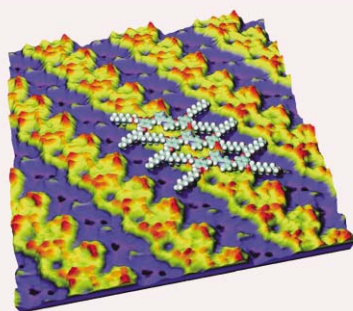


Synthesis of the first enantiomerically pure and chiral, disubstituted 3,4-ethylenedioxythiophenes (EDOTs) and corresponding stereo- and regioregular PEDOTs

Dolores Caras-Quintero and Peter Bäuerle*

Novel disubstituted EDOT monomers were synthesized in good yields from 3,4-dimethoxythiophene and (chiral) glycols by transesterification. The stereochemistry of the monomers affects the electronic properties of the corresponding chiral PEDOT derivatives.

928



Monitoring conformational diversity in self-organised monolayers with scanning tunnelling microscopy at near atomic resolution

Edwin C. Constable,* Bianca A. Hermann,* Catherine E. Housecroft, Leo Merz and Lukas J. Scherer

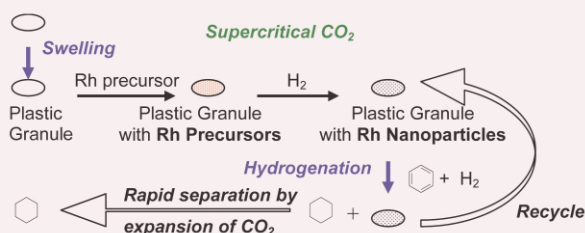
The evaporation of solutions of a dendrimer-functionalised 2,2'-bipyridine on a graphite surface gives highly ordered monolayers; near atomic resolution STM imaging has allowed a detailed conformational analysis to be made.

930

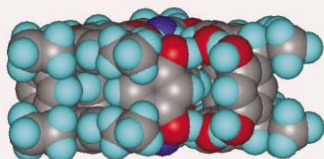
Swelled plastics in supercritical CO₂ as media for stabilization of metal nanoparticles and for catalytic hydrogenation

Hiroyuki Ohde, Mariko Ohde and Chien M. Wai

Plastic stabilized Pd and Rh nanoparticles are effective catalysts for hydrogenation of arenes in supercritical CO₂. The nanoparticle catalysts can be used repeatedly without losing the catalytic activity and are stable over an extended period of time.



932



Symmetry induced supramolecular assembly of a resorcinarene trimeric molecular box

Bao-Qing Ma and Philip Coppens*

The symmetry mismatching of CECR node and tpt spacer lead to the reorganization of CECR with a water molecule, producing a trimeric motif, which has C_3 symmetry.

934

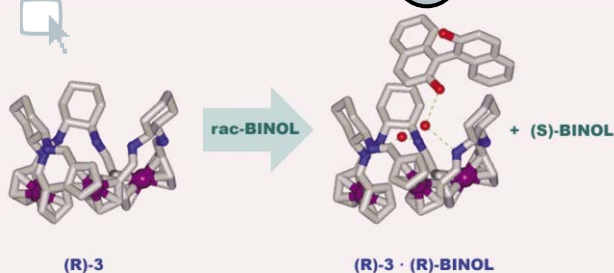


Applying the Yb^{3+} ion as a simple and sensitive probe to detect phosphate-containing derivatives in aqueous solution

Caixia Yin, Fei Gao,* Fangjun Huo and Pin Yang*

A colorimetric assay method for phosphate-containing derivatives in aqueous solution is described, in which a sensor prepared by mixing $YbCl_3$ and PV in a 2:1 molar ratio can be adopted to detect ATP. The photograph shows that a color change from yellow ($\lambda_{max} = 444$ nm) to blue ($\lambda_{max} = 623$ nm) occurs when titrated with Yb^{3+} (top); upon the addition of ATP (bottom), the color changes back.

936



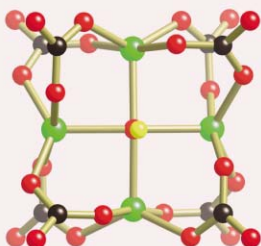
Chiral Resolution

A chiral molecular bowl containing three ferrocenes: synthesis and its efficiency in an optical resolution of 1,1'-bi-2-naphthol

Bog Ki Hong, In Su Lee, Dong Mok Shin and Young Keun Chung*

A novel bowl-shaped Schiff base macrocycle (*R*)-3 with a chiral concave cavity exhibits a remarkable ability as a host material for the enantioselective enclathration of (*R*)-1,1'-bi-2-naphthol.

938

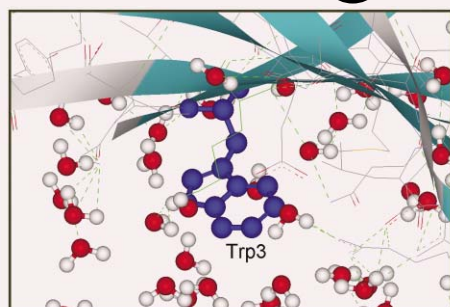


$[Co(NH_3)_6]_3[Cu_4(OH)(CO_3)_8] \cdot 2H_2O$ – a new carbonato-copper(II) anion stabilized by extensive hydrogen bonding

Brendan F. Abrahams, Marissa G. Haywood and Richard Robson*

The new highly charged anion $[Cu_4(OH)(CO_3)_8]^{9-}$ with a square arrangement of the copper centres and with an unusual μ_4 hydroxo ligand is formed in the presence of the hydrogen bonding template $Co(NH_3)_6^{3+}$.

940



Fluorescence studies of protein thermostability in ionic liquids

Sheila N. Baker, T. Mark McCleskey, Siddharth Pandey and Gary A. Baker*

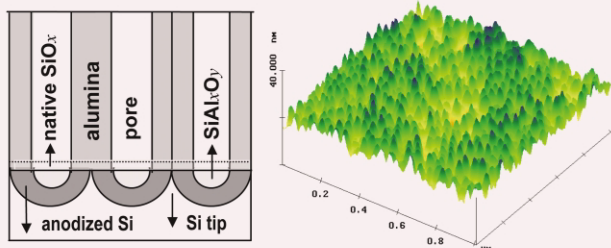
Using the single tryptophan residue in the sweet protein monellin as a spectroscopic handle, we show the extreme thermodynamic stabilization offered by an ionic liquid; $T_{un} \sim 105$ °C in $[C_4mpy][Tf_2N]$ compared to 40 °C in bulk water.

942

Electrochemical lithography: fabrication of nanoscale Si tips by porous anodization of Al/Si wafer

L. Pu,* Y. Shi, J. M. Zhu, X. M. Bao, R. Zhang and Y. D. Zheng

Porous anodization of Al/Si wafer in sulfuric acid results in the formation of Si nanotips on the surface of Si substrate with ultrahigh packing density of about $4 \times 10^{10} \text{ cm}^{-2}$ for 40 V dc anodization.

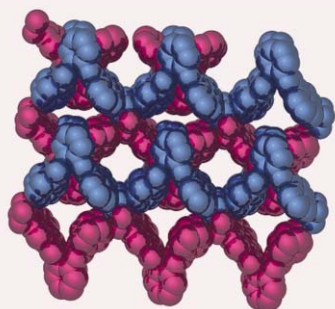


944

Engineering silver(I) coordination networks through hydrogen bonding

Tara J. Burchell, Dana J. Eisler and Richard J. Puddephatt*

The hierarchical construction of silver(I) coordination networks containing polymers of macrocycles or double-stranded polymers is achieved by combined use of bipyridine ligands, anions and hydrogen bonding between amide groups.

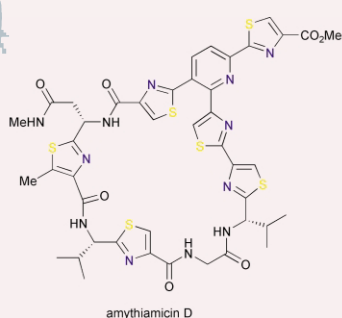


946

Total synthesis of the thiopeptide amythiamin D

Rachael A. Hughes, Stewart P. Thompson, Lilian Alcaraz and Christopher J. Moody*

The first total synthesis of the thiopeptide antibiotic amythiamin D is described, in which a key step is a biosynthesis inspired aza-Diels–Alder reaction to establish the pyridine core of the molecule.

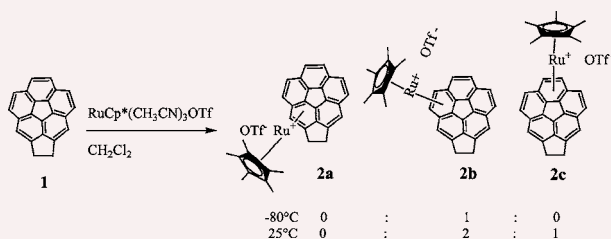


950

Ring selectivity and migratory aptitude of Cp*Ru+ complexation to acecorannulene

T. Jon Seiders, Kim K. Baldridge, Joseph M. O'Connor and Jay S. Siegel*

Synthesis and spectral characterization of acecorannulene CpRu⁺ complexes, in combination with *ab initio* quantum chemical computations, leads to the hypothesis that η^6 -metal binding prefers the *exo* face in the region of least curvature.

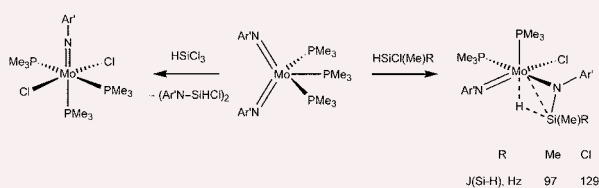


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Unexpected features of stretched Si–H...Mo β -agostic interactions

Stanislav K. Ignatov, Nicholas H. Rees, Stuart R. Dubberley, Alexei G. Razuvaev, Philip Mountford* and Georgii I. Nikonov*

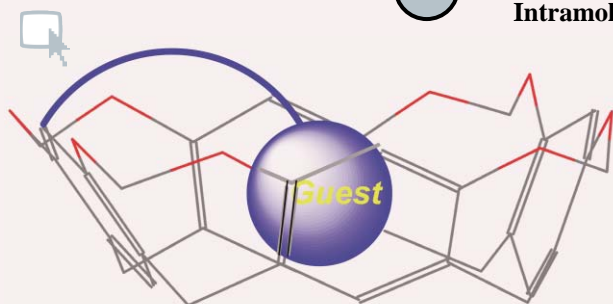
Reactions of chlorosilanes HSiRR'Cl (RR' = Cl₂, ClMe, Me₂) with the imido complex (Ar'N)₂Mo(PMe₃)₃ result in Si–N bond formation, giving either the silanimine dimer (Ar'N–SiHCl)₂ and (Ar'N)MoCl₂(PMe₃)₃ or the agostic complexes (Ar'N)(Ar'NSiRR'–H)MoCl(PMe₃)₂ (RR' = ClMe, Me₂) which show unexpected NMR and X-ray trends.



954

Intramolecular inclusion in novel octaester cavitands

Eric Efrain Dueno and Kirpal S. Bisht*

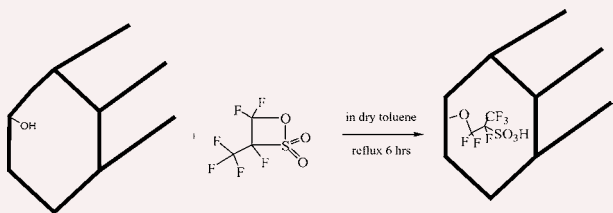


Novel octaester cavitands show temperature dependent intramolecular inclusion of ester moieties within the cavitand cavity.

956

Single-step preparation and catalytic activity of mesoporous MCM-41 and SBA-15 silicas functionalized with perfluoroalkylsulfonic acid groups analogous to Nafion®

Mercedes Alvaro, Avelino Corma,* Debasish Das, Vicente Fornés and Hermenegildo García*

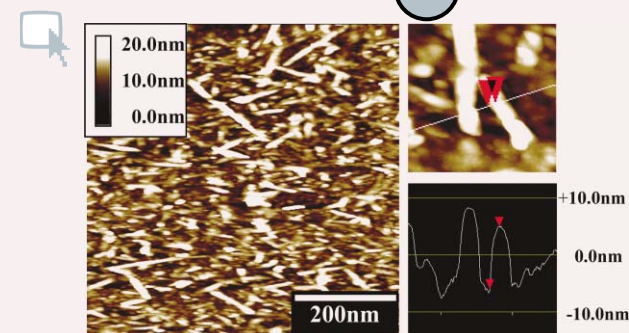


Reaction of a cyclic perfluorinated sultone with the silanol groups of MCM-41 and SBA-15 provides, in a single step, a highly active esterification catalyst.

958

Titanate nanotube thin films via alternate layer deposition

Hiromasa Tokudome and Masahiro Miyauchi*

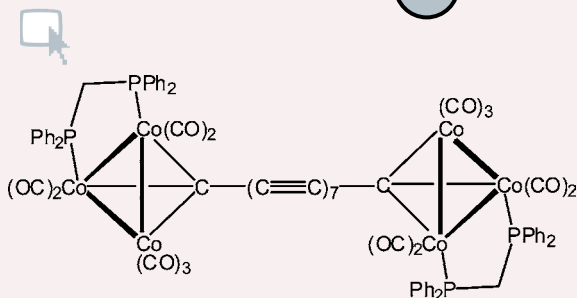


Layer-by-layer growth of titanate nanotubes (TNTs) on glass substrates was achieved by alternate layer deposition with polycations. Even a single layer thin film of TNT shows high photoinduced hydrophilicity.

960

A novel methodology for the synthesis of complexes containing long carbon chains linking metal centres: molecular structures of {Ru(dppe)Cp*}₂(μ-C₁₄) and {Co₃(μ-dppm)(CO)₇}(μ₃:μ₃-C₁₆)

Alla B. Antonova, Michael I. Bruce, Benjamin G. Ellis, Maryka Gaudio, Paul A. Humphrey, Martyn Jevric, Giovanni Melino, Brian K. Nicholson, Gary J. Perkins, Brian W. Skelton, Bronwin Stapleton, Allan H. White and Natasha N. Zaitseva



A reaction sequence leading to a wide range of new complexes containing odd- or even-numbered carbon chains with up to 16 carbon atoms has been designed and demonstrated.

962

Elucidation of the mechanism of chiral selectivity in diastereomeric salt formation using organic solvent nanofiltration

Nazlee F. Ghazali, Darrell A. Patterson and Andrew G. Livingston*

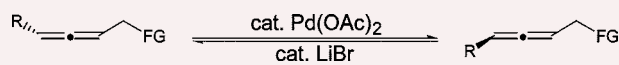


Organic solvent nanofiltration was used to demonstrate that diastereomeric resolution of α-phenylethylamine using D-tartaric acid or di-*p*-toluoyl-D-tartaric acid occurs only upon crystallisation: chiral interactions in solution were negligible.

964

Mild and efficient palladium(II)-catalyzed racemization of allenes

Attila Horváth and Jan-E. Bäckvall*

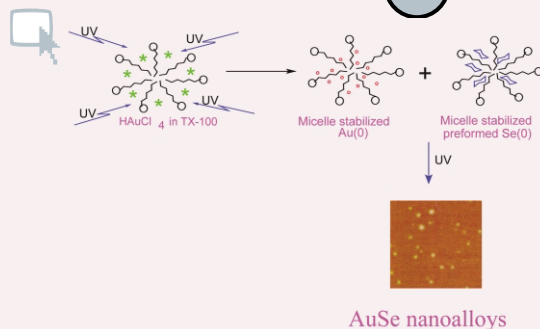


Allenes undergo racemization in the presence of catalytic amounts of $\text{Pd(OAc)}_2/\text{LiBr}$ under mild conditions; the reaction is tolerant of various functional groups and is believed to proceed *via* a sequence of bromopalladation and debromopalladation.

966

Solution phase evolution of AuSe nanoalloys in Triton X-100 under UV-photoactivation

Sudip Nath, Sujit Kumar Ghosh and Tarasankar Pal*

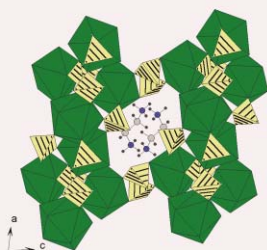


A solution phase UV-irradiation technique has been exploited to produce an AuSe nanoalloy through fusion of preformed Au (photoproduced) and Se (chemically prepared) in a micellar (TX-100) medium.

968

The first organically templated open-framework metal selenate with a three-dimensional architecture

J. N. Behera, A. A. Ayi and C. N. R. Rao*

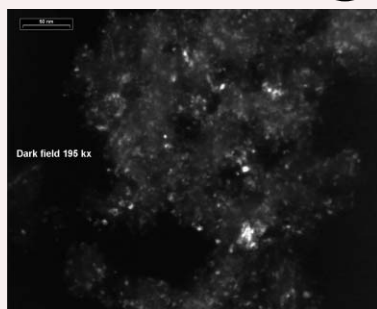


A three-dimensional amine-templated lanthanum selenate with channels, synthesized hydrothermally, is shown to consist of La_2Se_4 building units.

970

First example of high loaded polymer-stabilized nanoclusters immobilized on hydrotalcite: effects in alkyne hydrogenation

Jules C. A. A. Roelofs* and Peter H. Berben

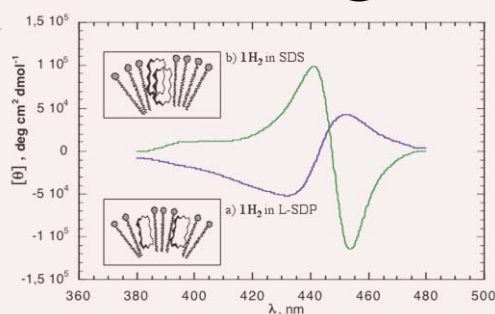


For the first time synthesized poly(*N*-vinyl-2-pyrrolidone)-stabilized Pd-nanoclusters exclusively supported on the hydrotalcite lateral surface showed a remarkable catalytic performance in the selective hydrogenation of 3-hexyn-1-ol, which can be ascribed to both the influence of the protecting polymer PVP as well as the nature of the support.

972

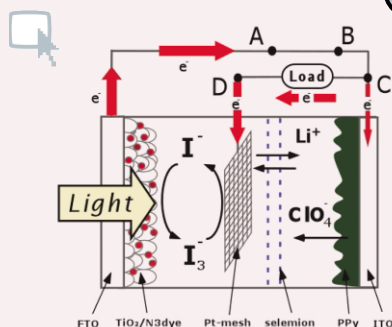
Interaction of a chirally functionalised porphyrin derivative with chiral micellar aggregates

Donato Monti,* Veronica Cantonetti, Mariano Venanzi, Francesca Ceccacci, Cecilia Bombelli and Giovanna Mancini



The presence of a chiral appended functionality drives the selective recognition of an amphiphilic porphyrin derivative within a chiral biomembrane model.

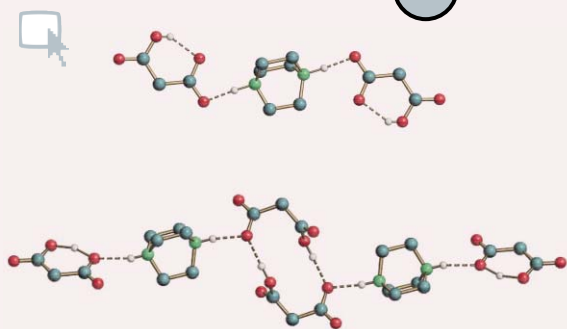
974

**Energy-storable dye-sensitized solar cell with a polypyrrole electrode**

Hiroki Nagai and Hiroshi Segawa*

A three-electrode-type solar-rechargeable battery, energy-storable dye-sensitized solar cell (ES-DSSC), has been constructed by the hybridization of a typical Grätzel cell and a conducting polymer charge-storage electrode; efficient photo-charging can be accomplished by visible-light irradiation.

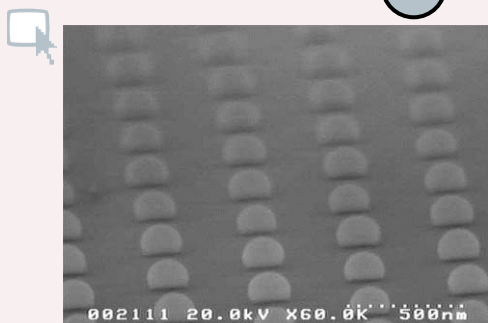
976

**Solid-state versus solution preparation of two crystal forms of [HN(CH₂CH₂)₃NH][OOC(CH₂)COOH]₂. Polymorphs or hydrogen bond isomers?**

Dario Braga* and Lucia Maini*

Solid state co-grinding and solvent crystallization of malonic acid and [N(CH₂CH₂)₃N] in 1:2 molar ratio yield two different polymorphs differing also in the intra- versus inter-molecular hydrogen bonds.

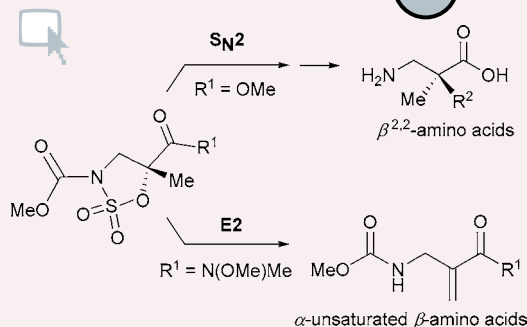
978

**Selective deposition of polystyrene nanoparticles in a nanoetchpit array on a silicon substrate**

Manabu Tanaka, Takumi Hosaka, Takashi Tanii, Iwao Ohdomari and Hiroyuki Nishide*

Nanometer-sized polystyrene particles were selectively deposited by interfacial tension in nanometer-sized etchpit arrays made on a silicon substrate. The forces which work the particle into the etchpit during the deposition process are also discussed.

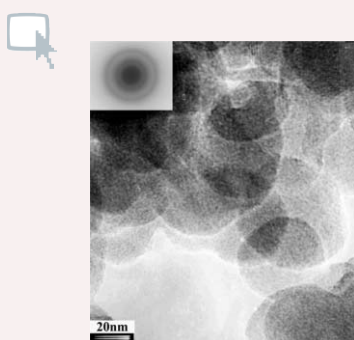
980

**S_N2 vs. E2 on quaternary centres: an application to the synthesis of enantiopure β^{2,2}-amino acids**

Alberto Avenoza,* Jesús H. Busto, Francisco Corzana, Gonzalo Jiménez-Osés and Jesús M. Peregrina*

S_N2 and E2 competing reactions in cyclic sulfamidates can be modulated by the change of an amide group to an ester group attached to the quaternary carbon activated for the nucleophilic attack, allowing an easy approach to enantiopure α,α-disubstituted β-amino acids.

982

**Unique structure and photoluminescence of Au/CdTe nanostructure materials**

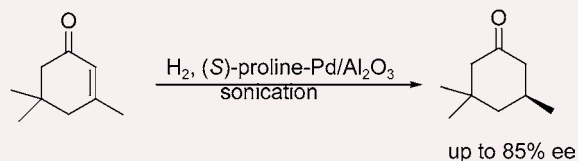
Jun Li, Di Li, Xia Hong, Lin Wang, Kui Zhao, Jinghong Li,* Yubai Bai* and Tiejun Li

Unique nanostructure materials with highly ordered spherical aggregates were obtained by self-organization of single CdTe nanocrystals using gold nanoparticles as seeds, and a red shift of the photoluminescence peak was observed.

984

Sonochemical asymmetric hydrogenation of isophorone on proline modified Pd/Al₂O₃ catalysts

Shilpa C. Mhadgut, Imre Bucsi, Marianna Török and Béla Török*

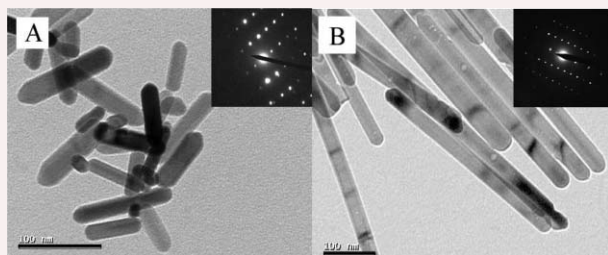


The sonochemical asymmetric hydrogenation of isophorone by proline-modified Pd/Al₂O₃ catalysts is described; presonication of a commercial Pd/Al₂O₃-proline catalytic system resulted in highly enhanced enantioselectivities (up to 85% ee).

986

Hydrothermal synthesis of one-dimensional ZnO nanostructures with different aspect ratios

Bin Cheng and Edward T. Samulski*

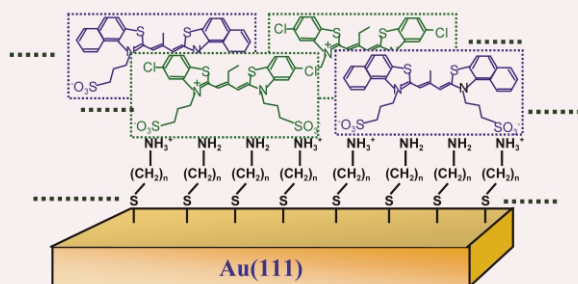


Different aspect ratios of one-dimensional, single-crystalline ZnO nanostructures were controllably synthesized by a hydrothermal route and the structures were further characterized by XRD, TEM, ED and HRTEM.

988

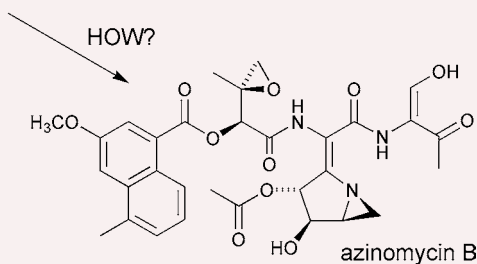
High efficiency photocurrent generation by two-dimensional mixed J-aggregates of cyanine dyes

Mitsuo Kawasaki* and Satoshi Aoyama



Mixed 2D J-aggregates of structurally and spectrally analogous cyanine dyes organized on a self-assembled aminoalkanethiolate monolayer on Au(111) produced a high-efficiency cathodic photocurrent and significant photovoltaic effect in reversible Fe²⁺/Fe³⁺ redox solution.

990

*Streptomyces sahachiroi***The first biosynthetic studies of the azinomycins: acetate incorporation into azinomycin B**

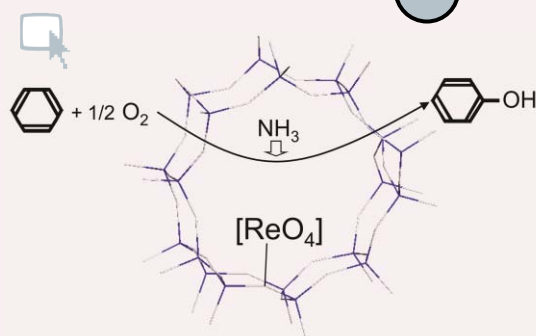
Christophe Corre and Philip A. S. Lowden*

¹³C-Labelled acetate efficiently labels the antitumour natural product azinomycin B.

992

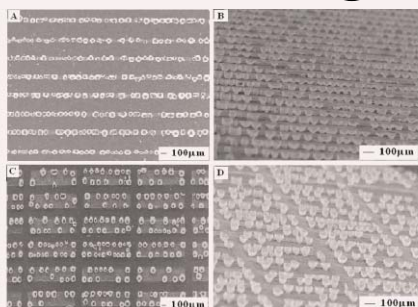
Selective oxidation of benzene to phenol with molecular oxygen on rhenium/zeolite catalysts

Toshiaki Kusakari, Takehiko Sasaki and Yasuhiro Iwasawa*



We have found that the H-ZSM-5-supported [ReO₄] monomer catalyst prepared by CH₃ReO₃ CVD is active for phenol synthesis by the selective oxidation of benzene with molecular oxygen in the presence of NH₃.

994

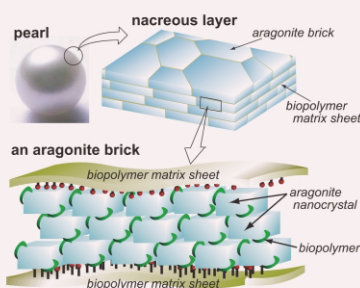


Linear arrangements of polypyrrole microcontainers

Jinying Yuan, Liangti Qu, Deqiang Zhang and Gaoquan Shi*

Linear arranged polypyrrole microcontainers have been assembled into one or two lines on patterned silicon micro-electrodes with line widths of 50 and 200 μm, respectively.

996



Highly oriented aragonite nanocrystal–biopolymer composites in an aragonite brick of the nacreous layer of *Pinctada fucata*

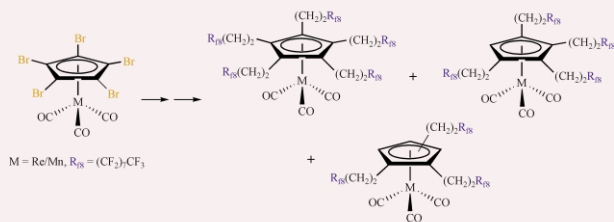
Kazuyuki Takahashi, Hitoshi Yamamoto, Akira Onoda, Mototsugu Doi, Takashi Inaba, Masahiko Chiba, Atsuko Kobayashi, Takahisa Taguchi, Taka-aki Okamura and Norikazu Ueyama*

The aragonite brick of the nacreous layer of *Pinctada fucata* assembles with highly oriented aragonite nanocrystals, which are regulated by biopolymers.

998

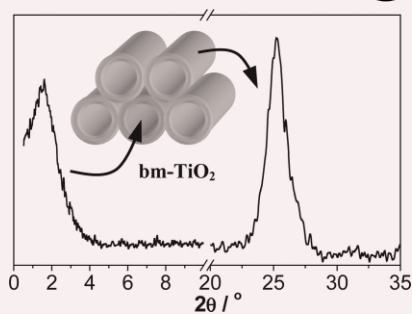
Convenient syntheses of “heavy fluororous” cyclopentadienes and cyclopentadienyl complexes with three to five ponytails

Long V. Dinh and J. A. Gladysz*



Reactions of $(\eta^5\text{-C}_5\text{H}_{5-x}\text{Br}_x)\text{M}(\text{CO})_3$ ($\text{M} = \text{Re}, \text{Mn}; x = 1, 3, 4, 5$) and $\text{IZn}(\text{CH}_2)_2\text{R}_{98}$ in the presence of Cl_2PdL_2 catalysts give the title complexes $(\eta^5\text{-C}_5\text{H}_{5-x}((\text{CH}_2)_2\text{R}_{98})_x)\text{M}(\text{CO})_3$, accompanied for $x = 5$ by hydride-transfer byproducts. The ligands can be photochemically detached from manganese.

1000

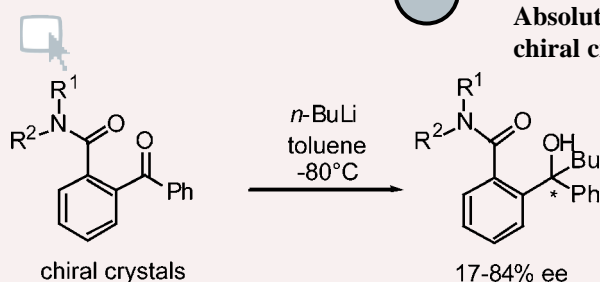


Preparation of bimodal micro–mesoporous TiO_2 with tailored crystalline properties

David P. Serrano,* Guillermo Calleja, Raúl Sanz and Patricia Pizarro

A mild acid treatment has been applied after a neutral templating synthesis route, leading to bimodal micro–mesoporous titania with high surface area and crystalline properties together with photocatalytic activity.

1002



Absolute asymmetric synthesis by nucleophilic carbonyl addition using chiral crystals of achiral amides

Masami Sakamoto,* Shuichiro Kobaru, Takashi Mino and Tsutomu Fujita

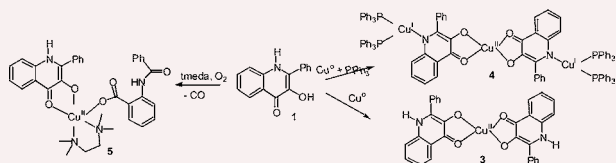
Reaction of the chiral crystals of the achiral amides with *n*-butyllithium in toluene at $-80\text{ }^\circ\text{C}$ gave optically active alcohols in 17–84% ee.

1004

Facile copper-mediated activation of the N–H bond and the oxidative cleavage of the C2–C3 bond in 1*H*-2-phenyl-3-hydroxy-4-oxoquinoline

Miklós Czaun, Gábor Speier* and László Párkányi

1*H*-2-Phenyl-3-hydroxy-4-oxoquinoline reacts with metallic copper to various copper complexes with O,O- and N-coordination due to O–H, N–H and C–C bond activation.

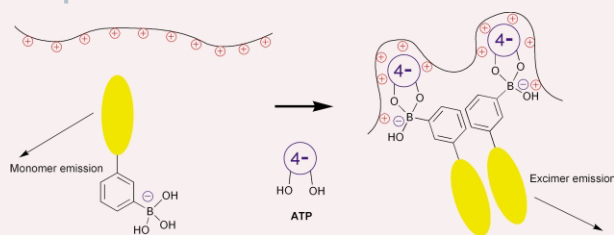


1006

Fluorescence detection of ATP based on the ATP-mediated aggregation of pyrene-appended boronic acid on a polycation

Yasumasa Kanekiyo, Ryuichi Naganawa and Hiroaki Tao*

A novel fluorescent sensing system for ATP has been created utilizing the ATP-mediated aggregation process of pyrene-appended boronic acid on a polycation.

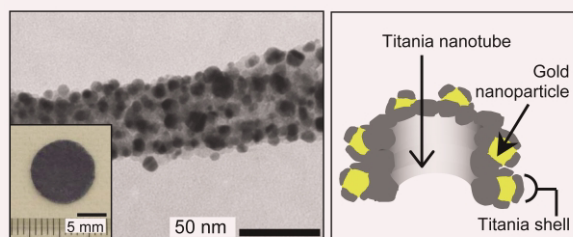


1008

A facile route to a highly stabilized hierarchical hybrid of titania nanotube and gold nanoparticle

Jianguo Huang, Toyoki Kunitake* and Shin-ya Onoue

A hierarchical hybrid of gold nanoparticles and titania nanotubes with high metal loading was prepared by a one-pot approach using a natural cellulosic substance as template. Gold nanoparticles were uniformly anchored onto titania nanotubes, and particle fusion at high temperature was suppressed by surface coating with an ultrathin titania layer.



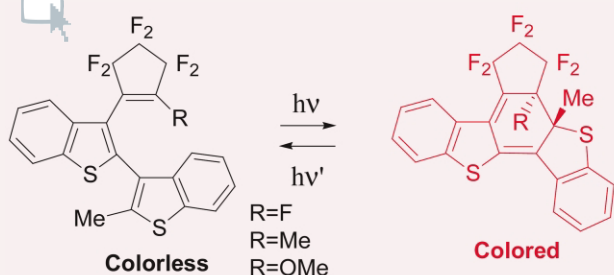
Hierarchical gold nanoparticle/titania nanotube hybrid

1010

Photochromism of a novel 6π conjugate system having a bis(2,3'-benzothienyl) unit

Tadatsugu Yamaguchi,* Yuji Fujita and Masahiro Irie

A novel photochromic molecule having a bis(2,3'-benzothienyl) unit has been synthesized. The derivative underwent a thermally irreversible photochromic reaction upon alternate irradiation with UV and visible light.

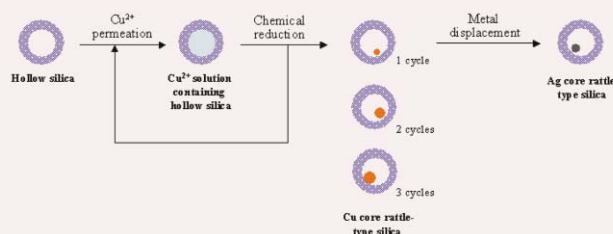


1012

New synthetic route for preparing rattle-type silica particles with metal cores

Hoe Jin Hah, Jae In Um, Seung Hoon Han and Sang Man Koo*

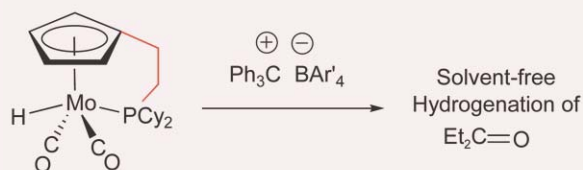
Using the pre-shell/post-core method that synthesizes metal cores in silica capsules, rattle-type metal/silica particles were prepared. The size of metal cores increases with the cycle of experimental procedure. A metal displacement reaction makes metal exchange inside capsules possible.



1014

Solvent-free ketone hydrogenations catalyzed by molybdenum complexes

Barbara F. M. Kimmich, Paul J. Fagan, Elisabeth Hauptman and R. Morris Bullock*

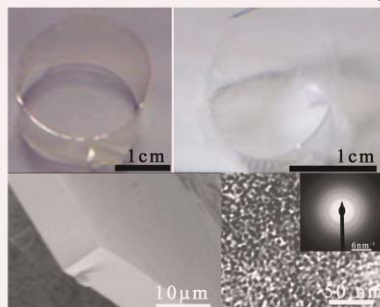


Hydride abstraction from $\text{HMo}(\text{CO})_2[\eta^5\text{-C}_5\text{H}_4(\text{CH}_2)_2\text{PCy}_2]$ using $\text{Ph}_3\text{C}^+\text{BAR}_4^-$ gives a homogeneous catalyst for the solvent-free hydrogenation of $\text{Et}_2\text{C}=\text{O}$; this catalyst functions at low catalyst loadings (<0.4 mol%) and produces hundreds of turnovers.

1016

Free-standing mesoporous titania films with anatase nanocrystallites synthesized at 80 °C

Todd A. Ostomel and Galen D. Stucky

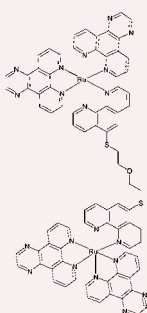


A direct synthetic method to free-standing 10 μm thick mesoporous titania films containing anatase nanocrystallites is presented and their structural evolution as a function of calcination temperature evaluated.

1018

Symmetrical dinuclear complexes with high DNA affinity based on $[\text{Ru}(\text{dpq})_2(\text{phen})]^{2+}$

Janice Aldrich-Wright,* Craig Brodie, Edith C. Glazer, Nathan W. Luedtke, Lev Elson-Schwab and Yitzhak Tor

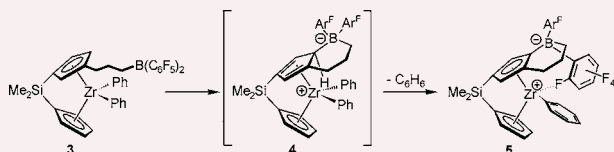


Symmetrical homometallic dinuclear complexes with a flexible 2-mercaptoethyl ether linker have been synthesised. The DNA dissociation constants have been determined and are in the nM range.

1020

Formation of a bifunctional zirconocene complex that favours intramolecular $-\text{B}(\text{C}_6\text{F}_5)_2$ addition to a Cp ring over σ -ligand abstraction

Michael Hill, Gerald Kehr, Gerhard Erker,* Olga Kataeva and Roland Fröhlich

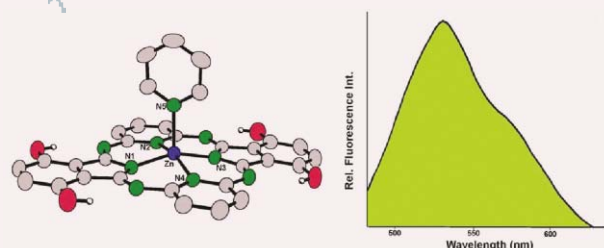


The electrophilic $-\text{B}(\text{C}_6\text{F}_5)_2$ group of the bifunctional diphenyl-zirconocene complex **3** favours intramolecular addition to an adjacent Cp ring (to ultimately yield **5**) over the ubiquitous σ -ligand abstraction reaction from the zirconium center.

1022

Synthesis of a quinone-functionalized macrocyclic ligand and the intense fluorescence of its zinc complex

Michael Ruf, William S. Durfee and Cortlandt G. Pierpont*



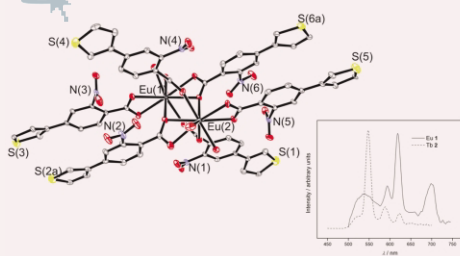
The macrocyclic ligand 1,4,14,17-tetrahydroxyhemiporphyrizine has been synthesised and its zinc complex found to exhibit intense fluorescence. Ligands that produce intensely fluorescent complexes upon metal ion coordination are useful for sensing applications.

1024

Luminescent Ln³⁺ nitrobenzoato complexes: first examples of sensitization of green and red emission

Ana de Bettencourt Dias* and Subha Viswanathan

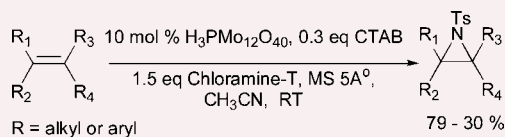
The first examples of luminescent lanthanide complexes containing an *o*-nitrobenzoic acid-based ligand have been isolated and structurally characterised. Preliminary photophysical characterisations are also presented.



1026

Heteropoly acid as a novel nitrene transfer agent: a facile and practical aziridination of olefins with Chloramine-T

G. D. Kishore Kumar and Sundarababu Baskaran*

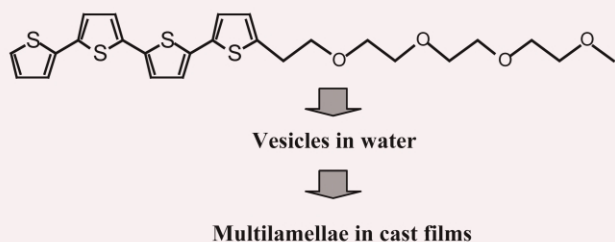


Environmentally benign HPA is found to be an efficient catalyst for aziridination of olefins in the presence of inexpensive Chloramine-T as a nitrogen source.

1028

Supramolecular assembly of a quaterthiophene surfactant

Lu Jiang, Robert C. Hughes and Darryl Y. Sasaki*

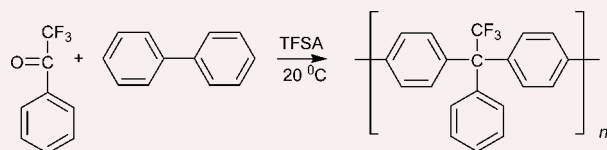


A quaterthiophene surfactant functionalised with a triethylene glycol headgroup self-organises into a vesicular structure in water and exhibits semiconductive behaviour in ordered multilamellae as a cast film.

1030

Remarkable enhancement of reactivity of carbonyl compounds for polymerizations with non-activated aromatic hydrocarbons

Mikhail Zolotukhin,* Serguei Fomine, Roberto Salcedo and Leonard Khalilov



Enhancement of the reactivity of carbonyl compounds for acid-catalyzed polymerizations with non-activated aromatic hydrocarbons is achieved by the presence of electron withdrawing substituents, adjacent or relatively close to a carbocation center.

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