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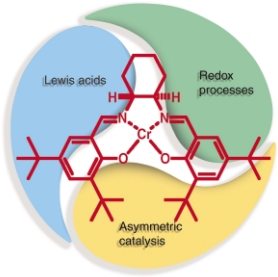

Cover
[Cr(Salen)] as a flexible chiral ligand.

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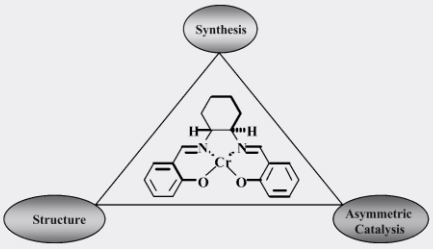
FEATURE ARTICLE



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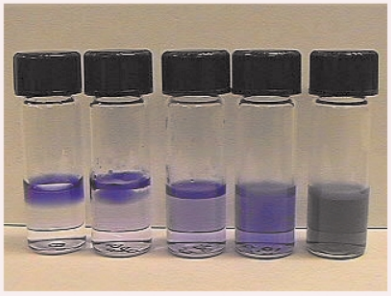
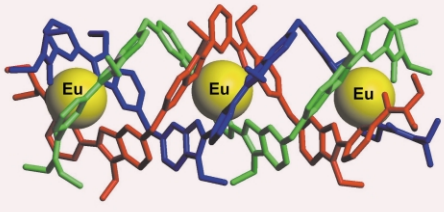
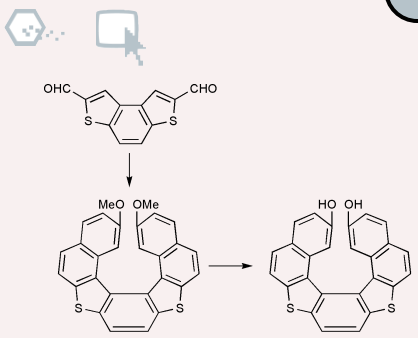






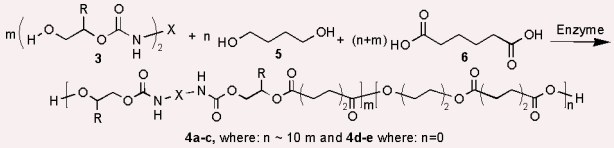
Synthesis, crystal structure and properties of thiaheterohelicenes containing phenolic hydroxy functions

Yoshinori Kitahara and Kazuhiko Tanaka*

A convenient method for preparation of dimethoxythiahelicene and dihydroxythiahelicene is described; these helical molecules showed self-assembling properties such as enantiomorphic crystal growth and clathrate formation.

Synthesis of novel polyurethane polyesters using the enzyme *Candida antarctica* lipase B

Richard W. McCabe* and Alan Taylor

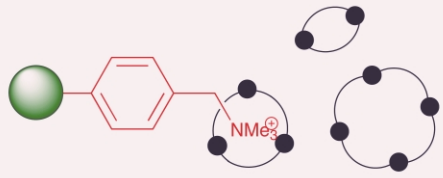


A novel enzymatic route has been used to synthesise standard and unusual polyester polyurethanes without employing the usual highly toxic diisocyanate intermediates.

Cu^{2+}-Induced formation of cage-like compounds containing pyrazole macrocycles

Francisco Escartí, Carlos Miranda, Laurent Lamarque, Julio Latorre, Enrique García-España,* M. Kumar, Vicente J. Arán and Pilar Navarro*

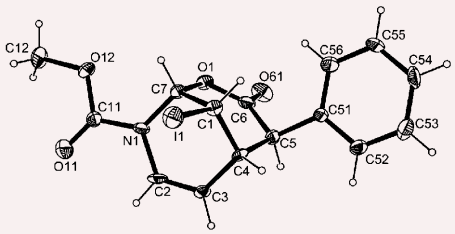
The crystal structure of the complex $[Cu_4(H_{-2}L)_2(H_2O)_2(ClO_4)_2](ClO_4)_2{\cdot}2H_2O$, where L is a new macrocyclic pyrazole ligand containing 1,5-diaminopentane spacers, represents a novel way of obtaining metal ion-induced inorganic–organic cages.



Simultaneous selection, amplification and isolation of a pseudo-peptide receptor by an immobilised *N*-methyl ammonium ion template

Sarah L. Roberts, Ricardo L. E. Furlan, Graham R. L. Cousins and Jeremy K. M. Sanders*

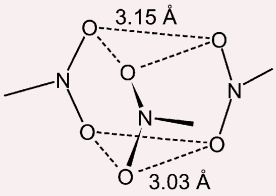
The demonstration that an immobilised template can simultaneously select, amplify and purify a receptor is a key step forward in the development of dynamic combinatorial chemistry.



One pot synthesis of nitrogen-containing polycyclic δ-lactones by double nucleophilic addition of bis(trimethylsilyl)ketene acetals to pyridines

Henri Rudler,* Bernard Denise, Andrée Parlier and Jean-Claude Daran

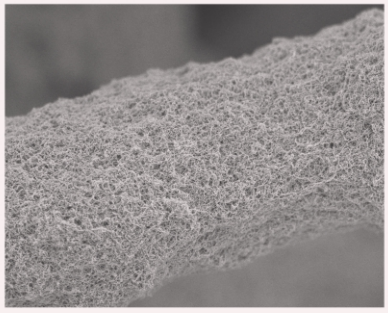
Pyridine and bis(TMS)ketene acetals react successively with methylchloroformate and iodine (or peracids) to give, *via* functionalized dihydropyridines, bicyclic nitrogen-containing lactones which have been characterized by X-ray crystallography.



2,4,6-Tris(4-nitrophenoxy)-1,3,5-triazine: a hexagonal host framework stabilised by the NO_2-trimer supramolecular synthon

Ram K. R. Jetti, Praveen K. Thallapally, Ashwini Nangia,* Chi-Keung Lam and Thomas C. W. Mak*

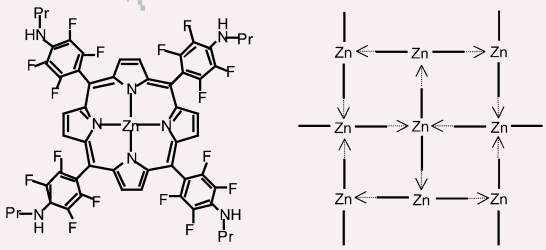
The title molecule forms a honeycomb network of molecular and nitro-trimer synthons with guest species included in the hexagonal voids.



New carbon nanofiber/graphite felt composite for use as a catalyst support for hydrazine catalytic decomposition

R. Vieira, C. Pham-Huu,* N. Keller and M. J. Ledoux

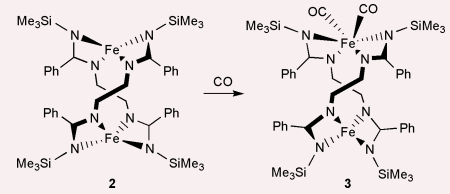
A new carbon composite support made of web-like entangled carbon nanofibers coating graphite felt is successfully used for iridium dispersion and hydrazine catalytic decomposition.



Supramolecular self-assembly of a fluorinated Zn porphyrin. Molecular structure of a two-dimensional network of amine-functionalized, hexacoordinated Zn porphyrins

Kathleen M. Barkigia, Pierrette Battioni, Vanessa Riou, Daniel Mansuy and Jack Fajer*

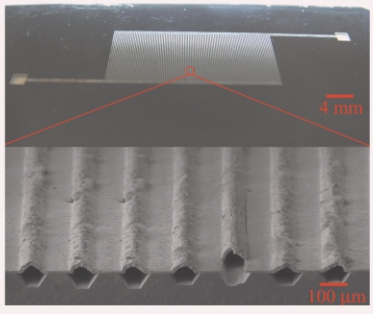
[5,10,15,20-Tetrakis(4-*n*-propylamino-2,3,5,6-tetrafluorophenyl)porphyrinato]zinc(II) self-assembles into a two-dimensional supramolecular array in which each porphyrin is linked to four orthogonally-oriented chromophores.



Binuclear iron(II) complex from a linked-bis(amidinate) ligand: synthesis and its reaction with carbon monoxide

Hiroyuki Kawaguchi* and Tsukasa Matsuo

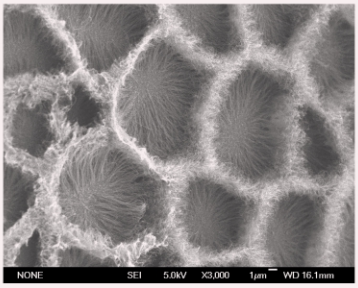
The binuclear iron(II) complex **2** supported by a cyclohexane-linked bis(amidinate) ligand reacts with CO to yield the bis-carbonyl complex **3**, in which one metal center can influence the other's ability to bind CO.

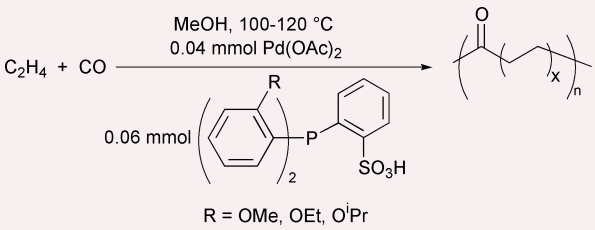


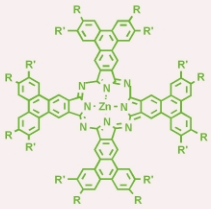
Zeolite microtunnels and microchunnels

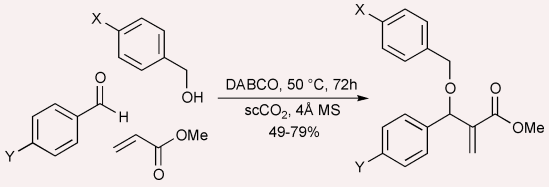
Joseph Lik Hang Chau and King Lun Yeung*

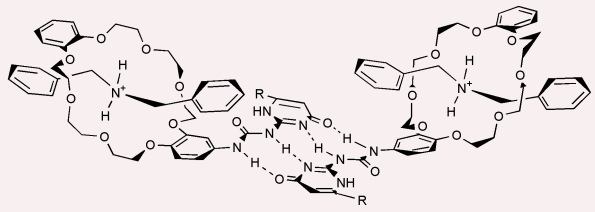
Using a new fabrication strategy, novel, self-enclosed zeolite microtunnel and microchunnel architectures is presented.











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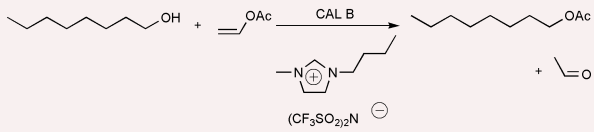
Biocatalysis in ionic liquids: batchwise and continuous flow processes using supercritical carbon dioxide as the mobile phase

Manfred T. Reetz,* Wolfgang Wiesenhöfer, Giancarlo Franciò and Walter Leitner*

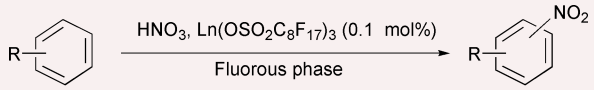


Using supercritical CO_2 as the mobile phase, the products of enzyme-catalyzed reactions in ionic liquids are easily extracted in batchwise or continuous flow operations.

994

Electrophilic aromatic nitration using perfluorinated rare earth metal salts in fluorous phase

Min Shi* and Shi-Cong Cui

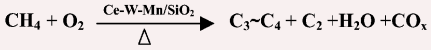


By using perfluorodecalin ($C_{10}F_{18}$, *cis*- and *trans*-mixture) as a fluorous solvent and perfluorinated rare earth metal salt [$Yb(OSO_2C_8F_{17})_3$] as a catalyst, the electrophilic aromatic nitration can be repeated for many times only by nitric acid.

996

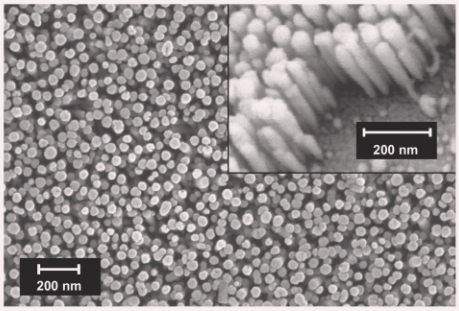
CeO_2-Promoted W-Mn/SiO_2 catalysts for conversion of methane to C_3–C_4 hydrocarbons at elevated pressure

Lingjun Chou, Yingchun Cai, Bing zhang, Jianzhong Niu, Shengfu Ji and Shuben Li*



A CH_4 conversion of 47.2% and C_3–C_4 selectivity of 47.3% was observed at 983 K, 1.0×10^5 ml g^{-1} h^{-1} GHSV and 0.6 MPa in a micro-stainless-steel reactor.

998

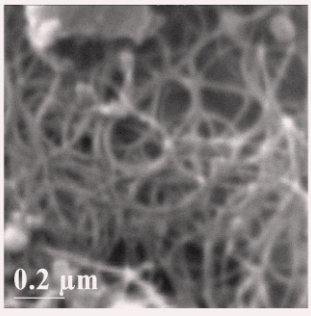


Morphology controlled growth of arrays of GaN nanopillars and randomly distributed GaN nanowires on sapphire using $(N_3)_2Ga[(CH_2)_3NMe_2]$ as a single molecule precursor

Andreas Wohlfart, Anjana Devi, Eva Maile and Roland A. Fischer*

Controlled growth of oriented GaN nanopillars and randomly distributed nanowires is accomplished by MOCVD using $(N_3)_2Ga[(CH_2)_3NMe_2]$ as a single molecule precursor.

1000

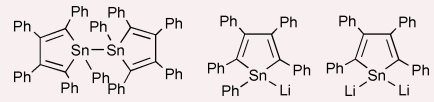


Microwave single walled carbon nanotubes purification

M. T. Martínez,* M. A. Callejas, A. M. Benito, W. K. Maser, M. Cochet, J. M. Andrés, J. Schreiber, O. Chauvet and J. L. G. Fierro

A new microwave purification procedure for single walled carbon nanotubes (SWNTs) is reported. This method leads to a high percentage of metal removal and to a significant reduction of the purification process time.

1002

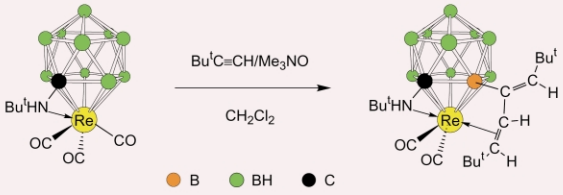


Formation of the first monoanion and dianion of stannole

Masaichi Saito,* Ryuta Haga and Michikazu Yoshioka

The first syntheses of mono- and dianions of stannole were accomplished by transmetallation or reduction of the novel bi(1,1-stannole)

1004

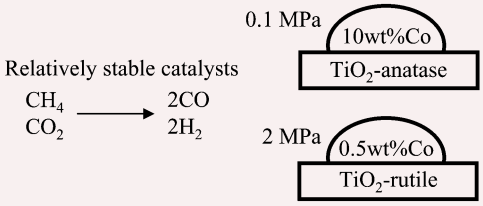


Alkyne coupling in rhenacarbaborane chemistry. Structure of [1,2-μ-NHBu^t-2,2-(CO)$_2$-3,2-σ:η^2-{C(=CHBu^t)–CH=CHBu^t}- *closo*-2,1-ReCB$_{10}$H$_9$]

Shaowu Du, Jason A. Kautz, Thomas D. McGrath and F. Gordon A. Stone*

Two alkynes couple at a carbaborane-bound rhenium centre, ultimately giving a butadienyl moiety that is bound to both cage-boron and rhenium vertices.

1006

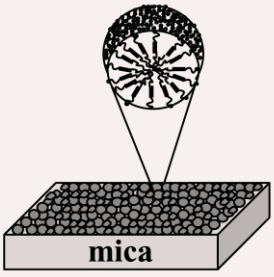


Influence of the phase composition of titania on catalytic behavior of Co/TiO$_2$ for the dry reforming of methane

Katsutoshi Nagaoka, Kazuhiro Takanabe and Ken-ichi Aika*

The phase transfer of TiO$_2$ from anatase to rutile for a 10wt% Co/TiO$_2$ catalyst during the reduction causes serious disappearance of activity at 0.1 MPa during CH$_4$/CO$_2$ reforming, whereas the transfer for 0.5wt% Co/TiO$_2$ brings about relatively stable activity at 2 MPa.

1008

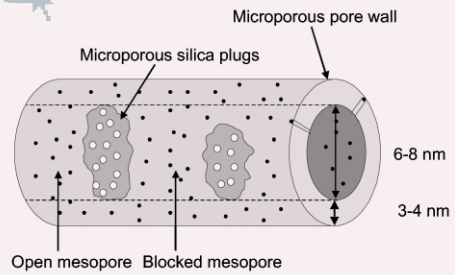


Confined supramolecular nanostructures of mesogen-bearing amphiphiles

Bo Zou, Mingfeng Wang, Dengli Qiu, Xi Zhang,* Lifeng Chi* and Harald Fuchs

Stable surface nanostructures with different morphology have been successfully constructed by modifying the chemical structure of synthetic amphiphiles.

1010



Plugged hexagonal templated silica: a unique micro- and mesoporous composite material with internal silica nanocapsules

P. Van Der Voort,* P. I. Ravikovitch, K. P. De Jong, A. V. Neimark, A. H. Janssen, M. Benjelloun, E. Van Bavel, P. Cool, B. M. Weckhuysen and E. F. Vansant

Plugged hexagonal templated silica (PHTS) consists of large cylindrical pores with microporous perforations in the walls and contains microporous silica nanocapsules inside its cylindrical pores. These extremely stable mesoporous materials will find applications as specific adsorbents and catalyst supports.

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