

Cover

Ceramic colloids for use as barcoded solid supports in combinatorial library synthesis.

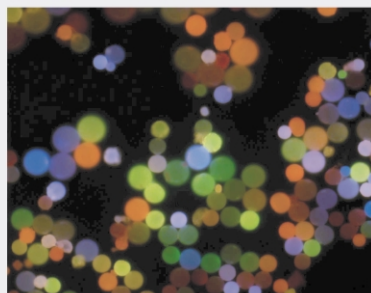


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contents

FEATURE ARTICLE

1435



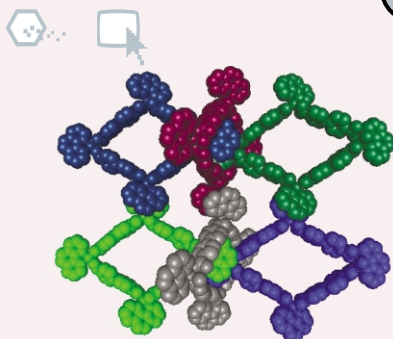
Optical barcoding of colloidal suspensions: applications in genomics, proteomics and drug discovery

Bronwyn J. Battersby, Gwendolyn A. Lawrie, Angus P. R. Johnston and Matt Trau

Innovative methods for optical barcoding of colloidal supports, which have the potential to transform the manner in which genomics, proteomics and drug discovery research is currently performed, are described.

COMMUNICATIONS

1442



Interlocking of molecular rhombi into a 2D polyrotaxane network via π - π interactions. Crystal structure of $[\text{Cu}_2(\text{bpa})_2(\text{phen})_2(\text{H}_2\text{O})]_2 \cdot 2\text{H}_2\text{O}$ (bpa²⁻ = biphenyl-4,4'-dicarboxylate, phen = 1,10-phenanthroline)

Gao-Feng Liu, Bao-Hui Ye, Yong-Hua Ling and Xiao-Ming Chen*

Interlocking of the lateral phen ligands of the rhombi via π - π interactions into the cavities of adjacent rhombi generates novel laminated polyrotaxanes that are further assembled into a 3D network via similar interactions.

1444

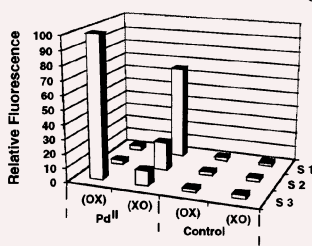


Selective hydrolysis of peptides promoted by metal ions: a positional scanning approach

Tjaša Bantan-Polak and Kathryn B. Grant*

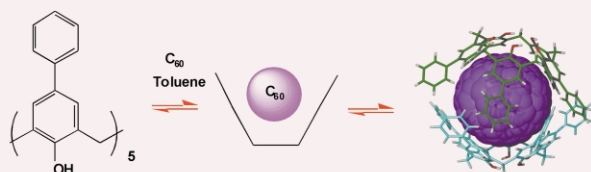
Rapid, microplate-based fluorogenic screening of a positional scanning combinatorial library accurately predicts the sequence specificity of Pd^{II}-assisted peptide hydrolysis (10 mM K₂[PdCl₄], 68 mM TFA pH 1.7, 45 °C, 5 h).

	Sub-library 1 (OX)	Sub-library 2 (XO)
S 1	AcGG	AcGG
	AcGL	AcLG
	AcGM	AcMG
S 2	AcLG	AcGL
	AcLL	AcLL
	AcLM	AcML
S 3	AcMG	AcGM
	AcML	AcLM
	AcMM	AcMM



Δ AcMG > AcLG > AcMM

1446

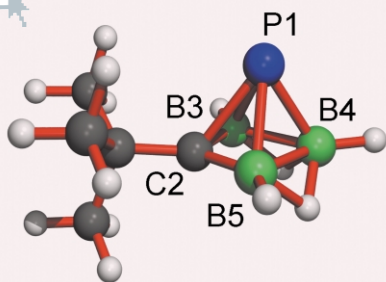


Inter-digitation approach to encapsulation of C_{60} : [$C_{60} \subset (p$ -phenylcalix[5]arene) $_2$]

Mohamed Makha, Michaele J. Hardie and Colin L. Raston*

p-Phenylcalix[5]arene in toluene selectively forms a 2:1 complex with C_{60} which has a hemisphere of inter-digitation of the two calixarenes.

1448



A new *nido*-5-vertex cluster, phosphacarba-*nido*-pentaborane, 2-^tBu-1,2-PCB₃H₅

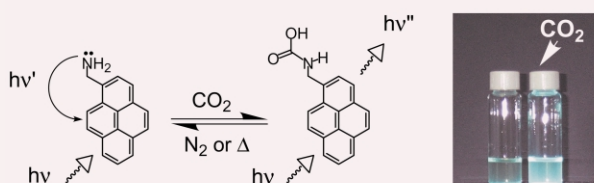
Peter N. Condick, Mark A. Fox, Robert Greatrex,* Cameron Jones and Daniel L. Ormsby

The gas-phase reaction of the phosphalkyne $P\equiv C^tBu$ with tetraborane(10), B_4H_{10} , yields the *nido* five-vertex phosphacarbaborane cluster compound 2-^tBu-1,2-PCB₃H₅ **2** with an unusual ^{31}P NMR peak shift of -500.5 ppm

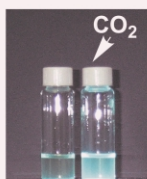
1450

Reversible covalent chemistry of CO_2

Erin M. Hampe and Dmitry M. Rudkevich*



CO_2 reversibly reacts with fluorescent amines in polar aprotic solvent to form carbamic acids and significantly enhance the fluorescence. This opens routes towards switchable light-emitting supramolecular devices upon CO_2 fixation.

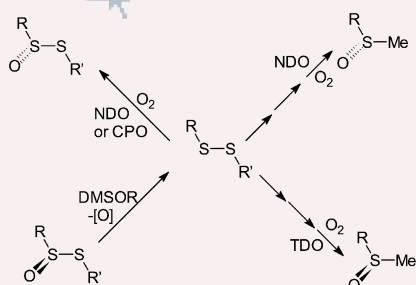


1452

Enzyme-catalysed oxygenation and deoxygenation routes to chiral thiosulfonates

Derek R. Boyd,* Narain D. Sharma, Martina A. Kennedy, Steven D. Shepherd, John F. Malone, André Alves-Areias, Robert Holt, Stig G. Allenmark, Malin A. Lemurell (*née* Andersson), Howard Dalton and Heather Luckarift

Dioxygenase- and chloroperoxidase-catalysed oxidation of 1,2-disulfides and dimethyl sulfoxide reductase-catalysed deoxygenation has been used to yield chiral thiosulfonates and other novel bioproducts.

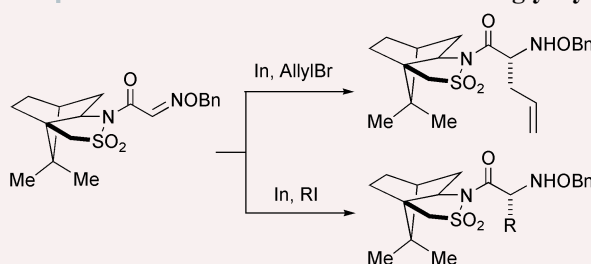


1454

Asymmetric synthesis of α -amino acids: indium-mediated reactions of glyoxylic oxime ether in aqueous media

Hideto Miyabe, Azusa Nishimura, Masafumi Ueda and Takeaki Naito*

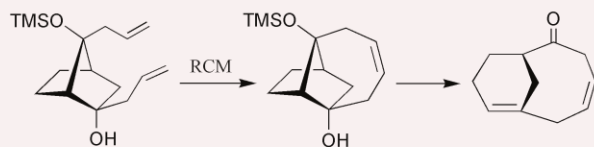
The indium-mediated allylation and alkylation reactions of the Oppolzer camphorsultam derivative of glyoxylic oxime ether proceeded with excellent diastereoselectivity in aqueous media.



1456

A general, norbornyl based approach to anti-Bredt alkenes *via* sequential RCM-fragmentation strategy

Goverdhan Mehta* and R. Senthil Kumaran

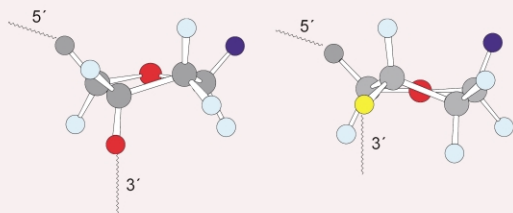


A norbornyl system based general approach to bicyclic, bridged anti-Bredt alkenes is delineated.

1458



Dominant sugar pucker with 3' O Dominant sugar pucker with 3' S

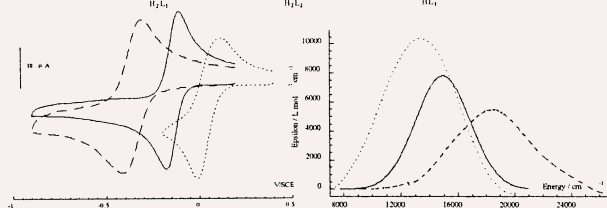
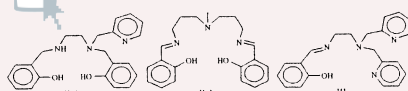


Probing the effect of a 3'-S-phosphorothiolate link on the conformation of a DNA:RNA hybrid; implications for antisense drug design

Andrew P. G. Beevers, Kevin J. Fettes, Ian A. O'Neil, Stanley M. Roberts, John R. P. Arnold, Richard Cosstick and Julie Fisher*

The sulfur induces a conformational shift in the (attached) sugar pucker, and increases the thermal stability of the duplex compared to the non-modified system.

1460

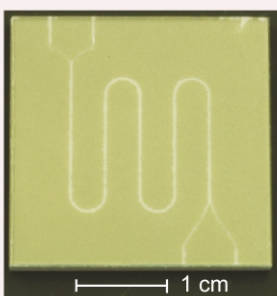


Tuning the optical properties of Prussian blue-like complexes

Guillaume Rogez,* Arnaud Marvilliers, Papa Sarr, Simon Parsons, Simon J. Teat, Louis Ricard and Talal Mallah*

Judicious choice of the organic ligand of mononuclear Fe^{III} complexes allows to finely tune the energy of the intervalence band in mixed-valence Prussian blue complexes.

1462



Preparation of titania particles utilizing the insoluble phase interface in a microchannel reactor

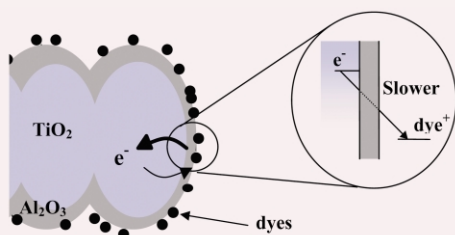
Hongzhi Wang, Hiroyuki Nakamura,* Masato Uehara, Masaya Miyazaki and Hideaki Maeda*

A stable interface between two insoluble currents in a microchannel reactor has been obtained and nanoparticles have been produced continuously on this interface in the microchannel reactor.

1464

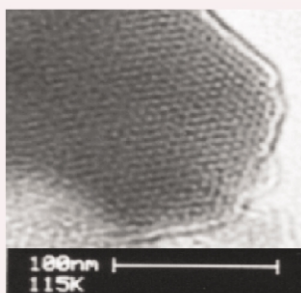
Slow charge recombination in dye-sensitised solar cells (DSSC) using Al₂O₃ coated nanoporous TiO₂ films

Emilio Palomares, John N. Clifford, Saif A. Haque, Thierry Lutz and James R. Durrant*



The conformal growth of an overlayer of Al₂O₃ on a nanocrystalline TiO₂ film is shown to result in a 4-fold retardation of interfacial charge recombination, and a 30% improvement in photovoltaic device efficiency.

1466

**Synthesis, characterization and catalytic properties of trivalent iron substituted hexagonal mesoporous aluminophosphates**

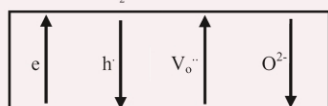
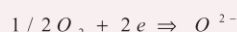
S. K. Mohapatra, B. Sahoo, W. Keune and P. Selvam*

Remarkable stability of Fe³⁺ in the framework of mesoporous aluminophosphate molecular sieves was observed. The catalyst showed excellent activity and recyclability for the oxidation of cyclohexane.

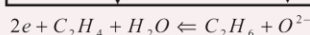
1468



Air side



Membrane



Reaction side

High selectivity of oxidative dehydrogenation of ethane to ethylene in an oxygen permeable membrane reactor

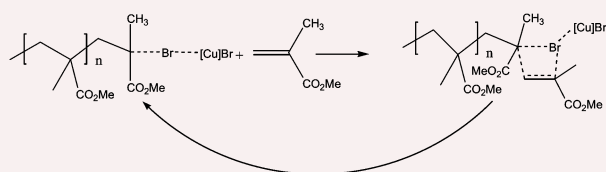
Haihui Wang, You Cong and Weishen Yang*

Ethylene selectivity for oxidation dehydrogenation of ethane can be greatly increased in an oxygen-permeable membrane reactor

1470

**¹³C Kinetic isotope effects in the copper(I)-mediated living radical polymerization of methyl methacrylate**

Simon Harrisson, Jonathan P. Rourke* and David M. Haddleton*

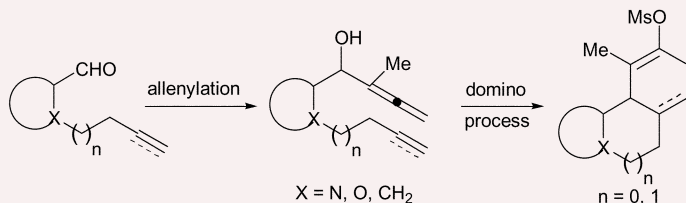


Carbon-13 kinetic isotope effects (KIEs) have been determined for free-radical and copper-mediated living radical polymerizations of methyl methacrylate at 60 °C. Differences show that copper-mediated living radical polymerization does not propagate *via* a simple free radical process.

1472

New domino transposition/intramolecular Diels–Alder reaction in monocyclic allenols: a general strategy for tricyclic compounds

Benito Alcaide,* Pedro Almendros,* Cristina Aragoncillo and María C. Redondo

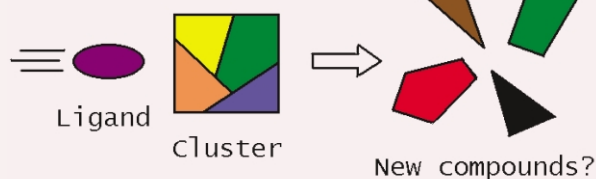


A novel and direct synthetic strategy to prepare fused tricycles has been developed from monocyclic allenols, masked functionalized dienes, which underwent a domino allenol transposition/intramolecular Diels–Alder reaction.

1474

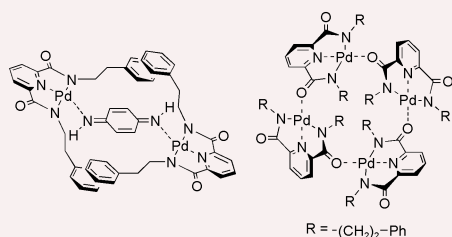
**Benzthiolate bridged binuclear group 12 metal complexes with TTF fused dithiolate ligand, a new synthetic approach using cluster-cracking reaction**

Guo-Qing Bian, Jie Dai,* Qin-Yu Zhu, Wei Yang, Ze-Min Yan, Megumu Munakata and Masahiko Maekawa



Two novel binuclear complexes (Me₄N)₂[M₂(SPh)₂(S₂TTF(SMe)₂)₂] (M = Cd and Zn) have been synthesized by a new cluster-cracking reaction from the precursor (Me₄N)₂[M₄(SPh)₁₀] and sulfur-rich dithiolate ligands.

1476

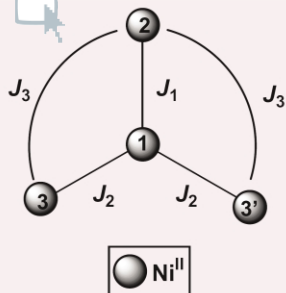


Architectural formation of a conjugated bimetallic Pd(II) complex *via* oxidative complexation and a tetracyclic Pd(II) complex *via* self-assembling complexation

Toshiyuki Moriuchi, Masayuki Kamikawa, Seiji Bandoh and Toshikazu Hirao*

A conjugated homobimetallic palladium(II) complex was obtained in a one-pot reaction by the *in-situ* oxidative complexation of 1,4-phenylenediamine with a palladium(II) complex bearing the tridentate ligand, which undergoes controlled formation of the macrocyclic tetramer in the absence of an additional ligand.

1478

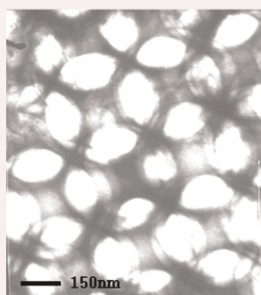


First tetrameric Ni^{II} cluster with planar triangular topology exhibiting ferromagnetic pathways

Miao Du, Xian-He Bu,* Ya-Mei Guo, Lei Zhang, Dai-Zheng Liao and Joan Ribas

The crystal structure and magnetic coupling of the first tetranuclear Ni^{II} complex exhibiting planar triangular geometry with a carboxylic-functionalized diazamesocyclic ligand is reported.

1480



Fabrication of macroporous SiC from templated preceramic polymers

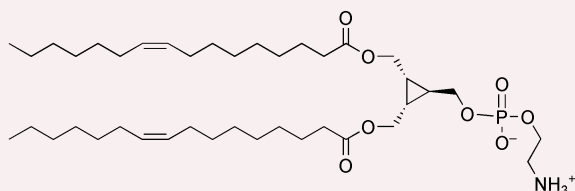
In-Kyung Sung, Suk-Bon Yoon, Jong-Sung Yu* and Dong-Pyo Kim*

Macroporous SiC with a highly ordered pore array was prepared for the first time using low molecular weight SiC preceramic polymers such as polymethylsilane or polycarbosilane by utilizing sacrificial colloidal silica crystalline arrays, as a template which were subsequently etched off after pyrolysis in an argon atmosphere.

1482

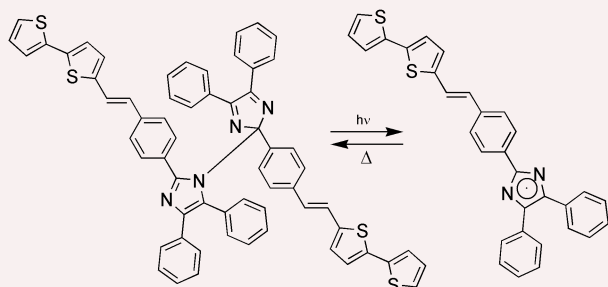
Highly impermeable vesicles composed of conformationally restricted phosphatidylethanolamine

Lauri Vares, Atanas V. Koulov and Bradley D. Smith*



Subtle restrictions on the structure and flexibility of the interfacial region of a phospholipid can significantly improve the mechanical strength of the assembled bilayer membrane.

1484

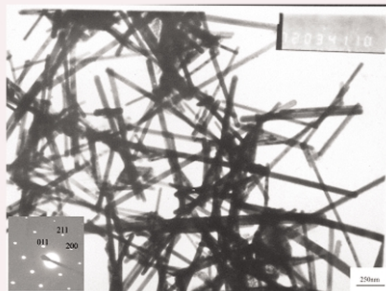


Electronic structure of light-induced lophyl radical derived from a novel hexaarylbiimidazole with π -conjugated chromophore

Azusa Kikuchi, Tomokazu Iyoda and Jiro Abe*

A light induced lophyl radical derived from a novel photochromic hexaarylbiimidazole with a bithienyl group was found to be stabilized due to the delocalization of an unpaired electron, and to strongly absorb near-infrared light.

1486

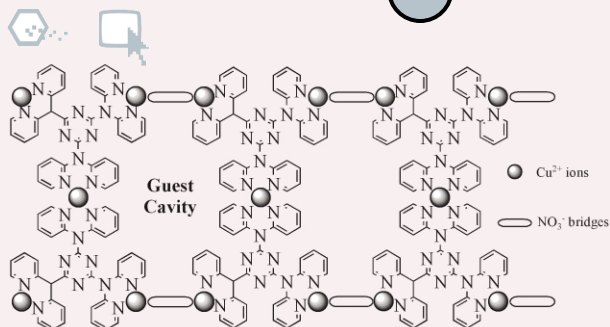


Fabrication of Co_3O_4 nanorods by calcination of precursor powders prepared in a novel inverse microemulsion

Yingkai Liu, Guanghou Wang,* Congkang Xu and Wenzhong Wang

Co_3O_4 nanorods were prepared by improving traditional molten salt synthesis; the length and diameters of the Co_3O_4 nanorods were about 10 μm and 40–100 nm, respectively; the mechanism of formation of the Co_3O_4 nanorods is discussed.

1488

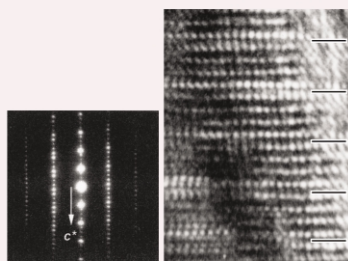


An unprecedented 1D ladder coordination polymer based on a pentanuclear copper(II) 2,4,6-tris(dipyridin-2-ylamino)-1,3,5-triazine building block

Patrick Gamez,* Paul de Hoog, Olivier Roubeau, Martin Lutz, Willem L. Driessen, Anthony L. Spek and Jan Reedijk*

A unique self-assembled 1D ladder coordination polymer has been obtained using a new class of ligands. The inorganic–organic material contains large guest cavities occupied by solvent molecules.

1490

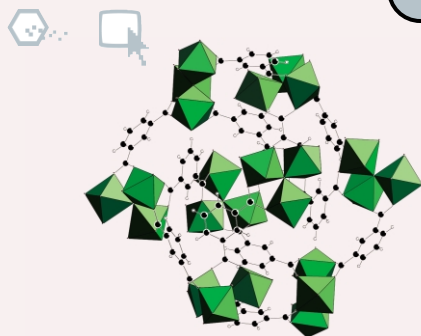


New phases of sp^2 -bonded boron nitride: the 12R and 24R polytypes

F. F. Xu,* Y. Bando and M. Hasegawa

sp^2 -Bonded graphite-like BN is shown to exhibit long-range ordering by forming 12R and 24R polytypes. The new phases consist of differently packed four-layer subunits of sequence A'ABC.

1492

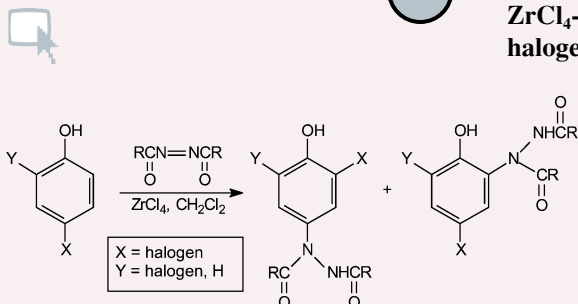


$[\text{V}^{\text{III}}(\text{H}_2\text{O})]_3\text{O}(\text{O}_2\text{CC}_6\text{H}_4\text{CO}_2)_3 \cdot (\text{Cl}, 9\text{H}_2\text{O})$ (MIL-59): a rare example of vanadocarboxylate with a magnetically frustrated three-dimensional hybrid framework

K. Barthelet, D. Riou* and G. Férey

$[\text{V}^{\text{III}}(\text{H}_2\text{O})]_3\text{O}(\text{O}_2\text{CC}_6\text{H}_4\text{CO}_2)_3 \cdot (\text{Cl}, 9\text{H}_2\text{O})$ (denoted MIL-59) presents a three-dimensional framework built up from octahedral vanadium trimers joined *via* the isophthalate anionic linkers to delimit cages where water molecules and chlorine anions are occluded. The frustrated magnetic behaviour of MIL-59 is discussed.

1494



ZrCl_4 -promoted halogen migration during an electrophilic amination of halogenated phenols

Sergeja Bombek, Roman Lenaršič, Marijan Kočevar, Laurent Saint-Jalmes, Jean-Roger Desmurs and Slovenko Polanc*

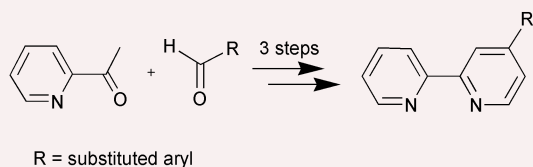
The amination of halophenols with diisopropyl diazenedicarboxylate in the presence of ZrCl_4 was accompanied by the migration of a halogen atom; the fluorine, chlorine, bromine, or iodine atom can migrate under mild reaction conditions.

1496

Synthesis of mono-substituted 2,2'-bipyridines

Joseph G. Cordaro, James K. McCusker* and Robert G. Bergman*

An efficient three-step synthesis of mono-substituted 2,2'-bipyridines is described.

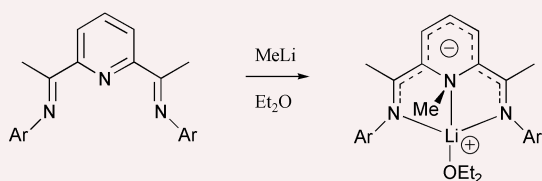


1498

Nucleophilic attack at pyridine nitrogen and its use to access a novel mono-anionic ligand for iron-based ethylene polymerisation catalysts

Guy K. B. Clentsmith, Vernon C. Gibson,* Peter B. Hitchcock, Brian S. Kimberley and Charles W. Rees

Addition of MeLi to sterically hindered bis(imino)pyridines results in an unprecedented nucleophilic attack at pyridine nitrogen to afford novel mono-anionic [N,N,N] ligands; their treatment with FeCl₃, followed by MAO activation, affords highly active ethylene polymerisation catalysts.

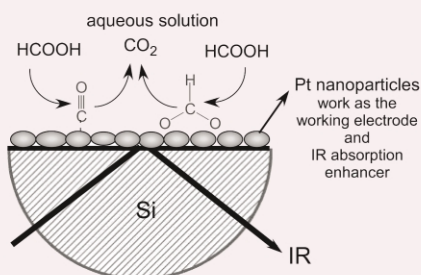


1500

Surface-enhanced IR absorption on platinum nanoparticles: an application to real-time monitoring of electrocatalytic reactions

Atsushi Miki, Shen Ye and Masatoshi Osawa*

Mechanistic study of electrooxidation of formic acid on Pt nanoparticles by time-resolved surface-enhanced IR absorption spectroscopy.

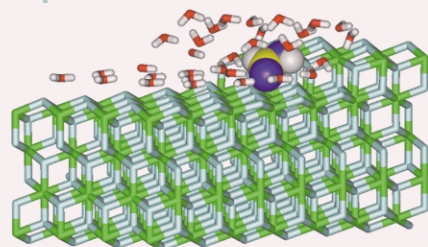


1502

Co-adsorption of surfactants and water at inorganic solid surfaces

Timothy G. Cooper and Nora H. de Leeuw*

Computer simulations of surfactant adsorption behaviour at regular and defective calcite and fluorite surfaces show that inclusion of solvent in the calculations is crucial to reproduce correct flotation behaviour.

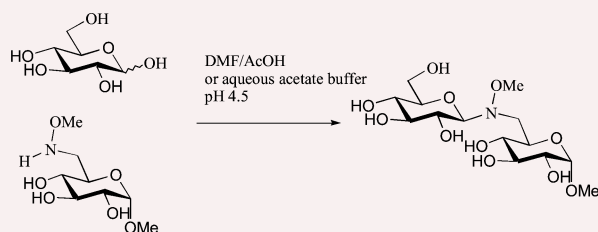


1504

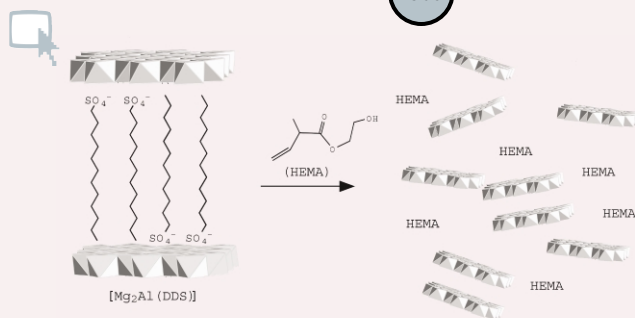
Solution and solid-phase chemoselective synthesis of (1-6)-amino(methoxy) di- and trisaccharide analogues

Francesco Peri,* Alexander Deutman, Barbara La Ferla and Francesco Nicotra*

Disaccharide and trisaccharide mimics containing the amino(methoxy) interglycosidic linkage were obtained by chemoselective condensation of unprotected aldoses in an aqueous environment both in solution and in solid phase.



1506

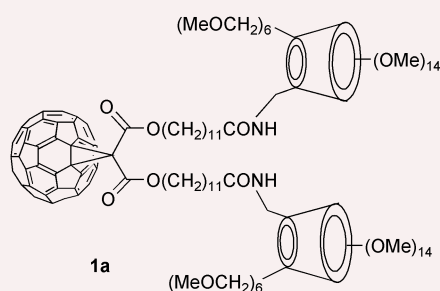


Delamination of layered double hydroxides in polar monomers: new LDH-acrylate nanocomposites

Shane O'Leary, Dermot O'Hare* and Gordon Seeley

The layered double hydroxide $\text{Mg}_2\text{Al}(\text{OH})_6(\text{C}_{12}\text{H}_{25}\text{SO}_4)$ was delaminated to give high levels of inclusion in acrylate monomers, polymerisation gave polyacrylates with the inorganic component still in the delaminated form.

1508



A highly water-soluble 2:1 β -cyclodextrin–fullerene conjugate

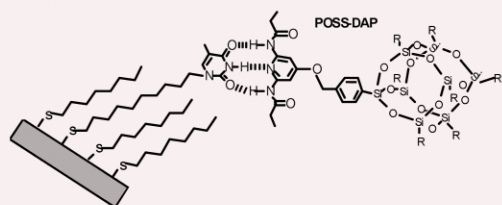
Salvatore Filippone, Frank Heimann and André Rassat*

A new 2:1 (permethylated- β -cyclodextrin)–fullerene conjugate **1a** has been synthesised and fully characterised. It is highly soluble in cold water at neutral pH, with formation of aggregates and a negative solubility coefficient. Its partition coefficient between octanol and water ($\text{Log } P = 1.58$) is in the suitable range for biological studies.

1510

Surface modification *via* 'lock and key' specific self-assembly of polyhedral oligomeric silsequioxane (POSS) derivatives to modified gold surfaces

Eunhee Jeung, Joseph B. Carroll and Vincent M. Rotello*

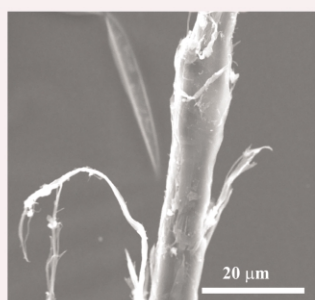


Diaminopyridine (DAP) functionalized POSS derivatives self-assemble on thymine functionalized monolayers on gold surfaces affording hybrid inorganic/organic surfaces.

1512

Structural and morphological characterization of synthetic chrysotile single crystals

G. Falini, E. Foresti, G. Lesci and N. Roveri*

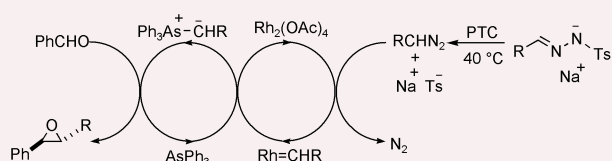


Stoichiometric chrysotile single crystals have been synthesized as a unique phase by hydrothermal reaction under controlled conditions. The synthesized monocrystals show a cylinder-in-cylinder morphology and can be used as a reference sample with definite chemical composition to investigate the factors responsible of the chrysotile cytotoxicities and carcinogenicities.

1514

Synthesis of epoxides from aldehydes and tosylhydrazone salts catalysed by triphenylarsine: complete *trans* selectivity for all combinations of coupling partners

Varinder K. Aggarwal,* Mamta Patel and John Studley



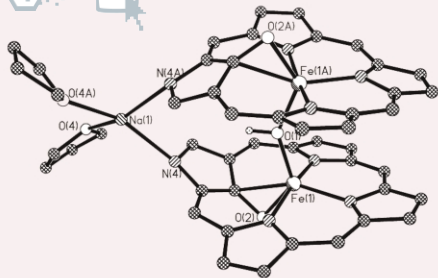
Triphenylarsine catalyses the formation of epoxides from carbonyl compounds and tosylhydrazone salts. This convergent synthesis gives complete *trans* selectivity for all aldehyde and tosylhydrazone salt coupling partners.

1516

Dimeric iron n-confused porphyrin complexes

Chen-Hsiung Hung,* Wan-Chin Chen, Gene-Hsiang Lee and Shie-Ming Peng

The oxygenation reaction of the iron N-confused porphyrin dimer, $[\text{Fe}(\text{NCTPP})_2]_2$, gives a hydroxo bridged iron dimer with a novel oxygenated NCTPP ring.

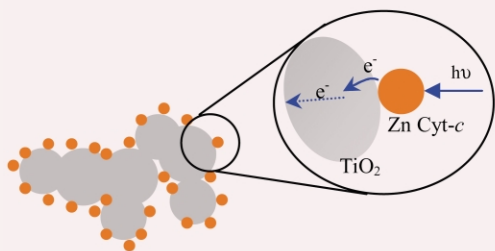


1518

Photoelectrochemical study of Zn cytochrome-c immobilised on a nanoporous metal oxide electrode

Emmanuel Topoglidis, Colin J. Campbell, Emilio Palomares and James R. Durrant*

Transient optical spectroscopies and photocurrent action spectra are used to demonstrate photoinduced charge separation between zinc-substituted cytochrome *c* and a nanocrystalline TiO_2 electrode.

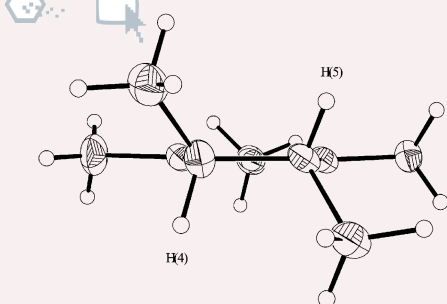


1520

The crystal structure of the ‘pentamethylcyclopentadienyl cation’ is that of the pentamethylcyclopentenyl cation

Jamie N. Jones, Alan H. Cowley* and Charles L. B. Macdonald

The recently reported X-ray crystal structure of the $[\text{B}(\text{C}_6\text{F}_5)_4]^-$ salt of the ‘pentamethylcyclopentadienyl cation’ is actually that of pentamethylcyclopentenyl tetrakis(pentafluorophenyl)borate.

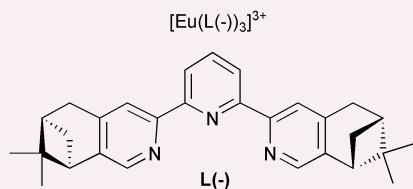


1522

First diastereoselective formation of lanthanide triple helical complexes with a terdentate chiral C_2 symmetric ligand

Gilles Muller, Jean-Claude G. Bünzli, James P. Riehl, Dominique Suhr, Alex von Zelewsky and Hansruedi Mürner*

Racemic triple helical lanthanide complexes are well known. Previously reported enantiopure lanthanide complexes are based on four chiral arms fixed on a DOTA framework. Spontaneous formation of only one stereoisomer based on the interactions between three independent enantiopure ligands is new for lanthanide coordination compounds.

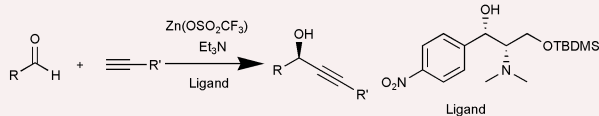


1524

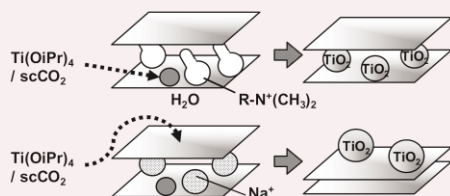
Highly enantioselective alkynylation of aldehydes catalyzed by a readily available chiral amino alcohol-based ligand

Biao Jiang,* Zili Chen and Wennan Xiong

A new inexpensive chiral amino alcohol-based ligand, (1*S*,2*S*)-2-*N,N*-dimethylamino-1-(*p*-nitrophenyl)-3-(*t*-butyldimethylsilyloxy)propane-1-ol, was developed for the asymmetric alkynylation of aliphatic and aromatic aldehydes, to prepare the corresponding propargylic alcohols in high yields with up to 99% ee.



1526

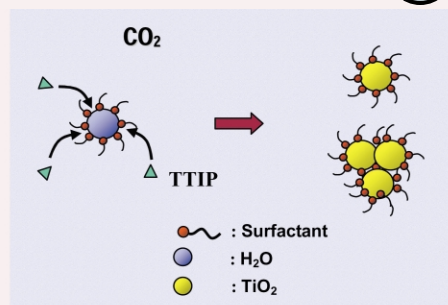


TiO₂-montmorillonite composites *via* supercritical intercalation

Satoshi Yoda,* Yuichiro Sakurai, Akira Endo, Tatsuhiko Miyata, Katsuto Otake, Hiroshi Yanagishita and Toshio Tsuchiya

The key to successful supercritical intercalation of Ti(OiPr)₄ into montmorillonite is the control of interlayer properties.

1528

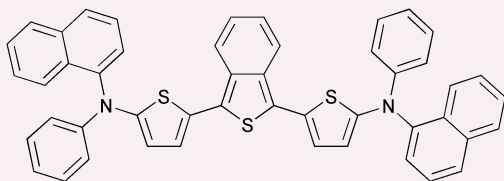


Formation of TiO₂ nanoparticles in water-in-CO₂ microemulsions

Kwon Taek Lim,* Ha Soo Hwang, Man Sig Lee, Gun Dae Lee, Seong-Soo Hong and Keith P. Johnston

Titanium dioxide nanoparticles can be produced by the controlled hydrolysis of titanium tetraisopropoxide (TTIP) in water-in-CO₂ (w/c) microemulsions stabilized with the surfactants.

1530

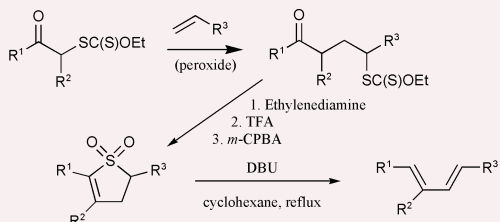


Synthesis of novel 1,3-bis(5-diarylaminothiophen-2-yl)isothianaphthenes

Roman Kisselev and Mukundan Thelakkat*

Novel 1,3-bis(5-diarylaminothiophen-2-yl)isothianaphthenes which combine the efficient hole-transport property of the triarylamines and the low band gap nature of the isothianaphthene unit into one molecule are potential solar cell materials.

1532



A convergent, flexible synthesis of 1,3-dienes

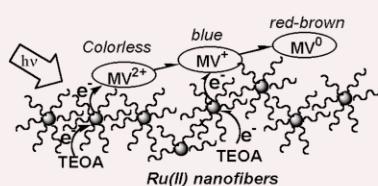
Marie Lusinchi, Trevor V. Stanbury and Samir Z. Zard*

1,3-Dienes were prepared from 1,4-ketoxanthates, obtained by the radical addition reaction of an *S*-(2-oxoalkyl) xanthate to a terminal olefin, through the DBU induced thermal elimination of sulfur dioxide from the derived 2-sulfolenes.

1534

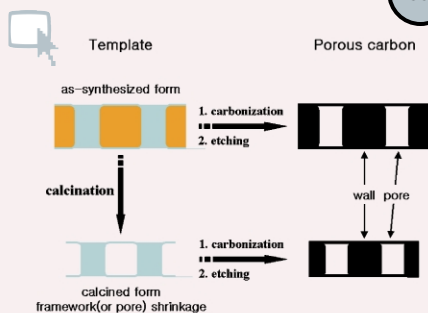
Photosensitized production of doubly reduced methylviologen followed by highly efficient methylviologen radical formation using self-assembling ruthenium(II) complexes

Masahiro Suzuki, Natalie D. Morris and Thomas E. Mallouk*



Supramolecular fibers of Ru(II) complexes act as efficient photosensitizers, photochemically generating methylviologen radical (MV^{•+}) and then converting it quantitatively to doubly reduced methylviologen, (MV⁰), in the presence of triethanolamine.

1536



A direct template synthesis of nanoporous carbons with high mechanical stability using as-synthesized MCM-48 hosts

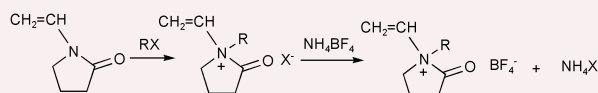
Suk Bon Yoon, Jeong Yeon Kim and Jong-Sung Yu*

A simple and efficient synthetic method for highly ordered nanoporous carbons with high mechanical stability has been performed through a direct template carbonization using as-synthesized mesoporous hosts.

1538

Ionic liquids based on *N*-vinyl- γ -butyrolactam: potential liquid electrolytes and green solvents

D. Demberehnyamba, Bae Kun Shin and Huen Lee

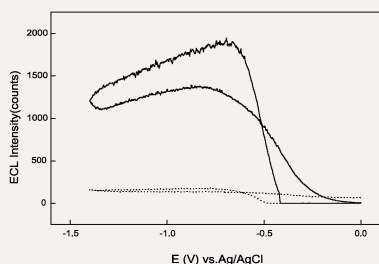


The first examples of a new family of room temperature IL's, based on *N*-alkyl-2-pyrrolidinium (*N*-alkyl- γ -butyrolactam) cation containing linear alkyl chains have been synthesized and investigated for intended use as potential liquid electrolytes and green solvents.

1540

Novel tris(2,2'-bipyridine)ruthenium(II) cathodic electrochemiluminescence in aqueous solution at a glassy carbon electrode

Weidong Cao, Guobao Xu, Zheling Zhang and Shaojun Dong*

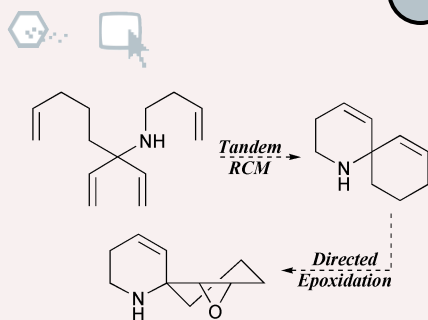


A novel approach of generating cathodic electrochemiluminescence of $\text{Ru}(\text{bpy})_3^{2+}$ at -0.4 V triggered by reactive oxygen species is reported for detecting alkylamines and some organic acids.

1542

A new approach to functionalised spiropiperidines through tandem RCM and nitrogen-directed reactions

Andrew S. Edwards, Robert A. J. Wybrow, Craig Johnstone, Harry Adams and Joseph P. A. Harrity*

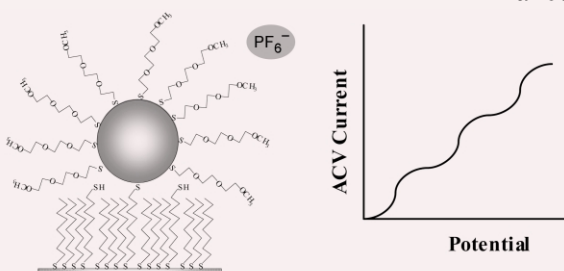


The synthesis of a functionalised spiropiperidine *via* a tandem ring closing metathesis strategy is described, furthermore, the regio- and stereoselective functionalisation of this compound has been achieved through a novel nitrogen-directed epoxidation reaction.

1544

Ion-induced discrete charging of immobilized water-soluble gold nanoclusters

Sulay D. Jhaveri, Daniel A. Lowy, Edward E. Foos, Arthur W. Snow,* Mario G. Ancona* and Leonard M. Tender*

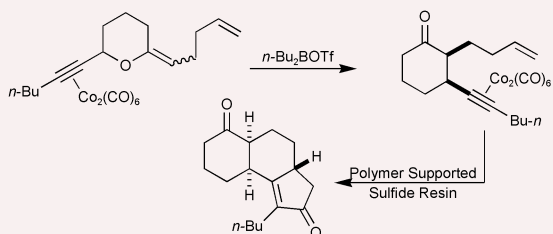


Immobilised water-soluble gold nanoclusters display discrete, ion-induced charging with fast electron transfer kinetics.

1546

Tandem cobalt mediated rearrangement and Pauson–Khand reaction for the synthesis of functionalised polycyclic systems

David R. Carbery, Neil D. Miller and Joseph P. A. Harrity*

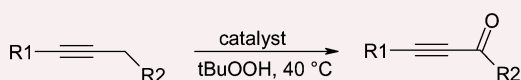


The cobalt mediated rearrangement of enol ether complex **2** furnishes cyclic ketone **6**, which undergoes an intramolecular Pauson–Khand reaction allowing access to functionalised polycyclic systems.

1548

Preparation of α,β -acetylenic ketones by catalytic heterogeneous oxidation of alkynes

Céline Pérollier and Alexander B. Sorokin*

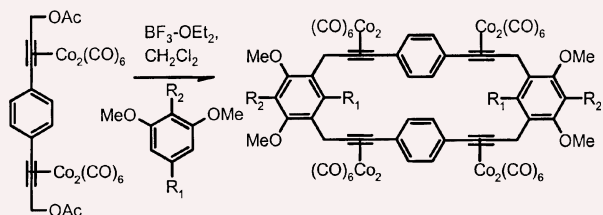


Covalent grafting of iron phthalocyanines onto silica affords active heterogeneous catalysts for selective oxidation of alkynes and propargylic alcohols to α,β -acetylenic ketones, highly valuable precursors in the preparation of fine chemicals.

1550

Synthesis of cyclophanetetrayne complexes from bis(propargyldicobalt) dication equivalents

Romelo Gibe and James R. Green*

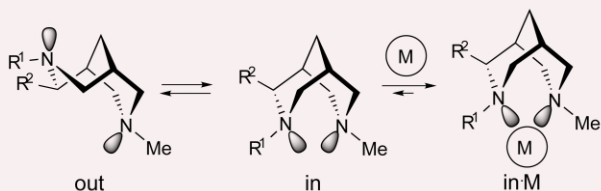


Cyclophanetetrayne complexes may be made by one- or two step procedures *via* tandem Nicholas reactions. The use of two diyne-tetracobalt complexes affords a mixed cyclophanetetrayne complex, and in addition gives a retro-Nicholas reaction product.

1552

Utility of calculated ^{13}C NMR chemical shifts in differentiating conformational isomers: a study of metal-complexed and uncomplexed bispidines

Manoranjan Panda, Puay-Wah Phuan and Marisa C. Kozlowski*



Calculated ^{13}C NMR chemical shifts have been used to assign the conformational forms of complexed and uncomplexed bispidine derivatives.

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Dalton Discussion 6

Dalton Division

ORGANOMETALLIC CHEMISTRY AND CATALYSIS

University of York, UK
9 - 11 September 2003

Chairman: Professor Robin N Perutz *University of York, UK*

The Discussion will bring together experts in a rapidly progressing area that makes significant contributions to chemical development.

Main themes will include:

- The Links to Enzymes and Biological Chemistry
- New Chemistry of C-H and C-F activation
- Asymmetric Catalysis and Polymerisation
- Organometallic Materials and Reactivity
- Mechanism and Method

Call for Papers

Offers of papers related to the four themes for presentation/discussion or for poster presentation, are now invited. Please send a brief abstract (1 A4 page maximum) as soon as possible, and no later than **9 December 2002** (discussion papers) and **10 June 2003** (posters) to: Christine Hall, RSC, Burlington House, Piccadilly, London W1J 0BA UK
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