ISSN 1359-7345 • CHCOFS (15)1677-1778 (2004)

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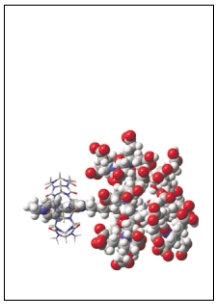

Cover
The cover illustrates the complex between cucurbit[7]uril and a viologen-containing dendrimer (pp. 1677–1683).

Chemical biology articles published in this journal also appear in the *Chemical Biology Virtual Journal:* **www.rsc.org/chembiol**

contents

Chemical Communications
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Chemical Communications (print: ISSN 1359-7345; electronic: ISSN 1364-548X) is published 24 times a year by the Royal Society of Chemistry, Thomas Graham House, Science Park, Milton Road, Cambridge, UK CB4 0WF. All orders accompanied by payment should be sent directly to Turpin Distribution Services Ltd, Blackhorse Road, Letchworth, Herts, UK SG6 1HN. 2004 Annual (print + electronic) subscription price: £1045; US$1725. 2004 Annual (electronic) subscription price: £940; US$1552. Customers in Canada will be subject to a surcharge to cover GST. Customers in the EU subscribing to the electronic version only will be charged VAT. If you take an institutional subscription to any RSC journal you are entitled to free, site-wide web access to that journal. You can arrange access via Internet Protocol (IP) address at www.rsc.org/ip. Customers should make payments by cheque in sterling payable on a UK clearing bank or in US dollars payable on a US clearing bank. Periodicals postage paid at Rahway, NJ, USA and at additional mailing offices. Airfreight and mailing in the USA by Mercury Airfreight International Ltd., 365 Blair Road, Avenel, NJ 07001, USA. US Postmaster: send address changes to *Chemical Communications*, c/o Mercury Airfreight International Ltd., 365 Blair Road, Avenel, NJ 07001. All despatches outside the UK by Consolidated Airfreight.
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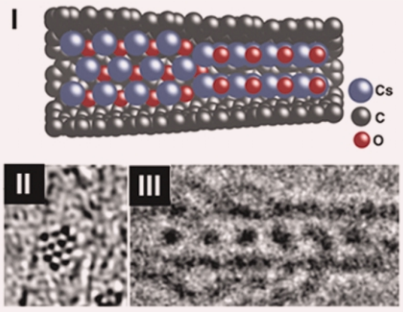
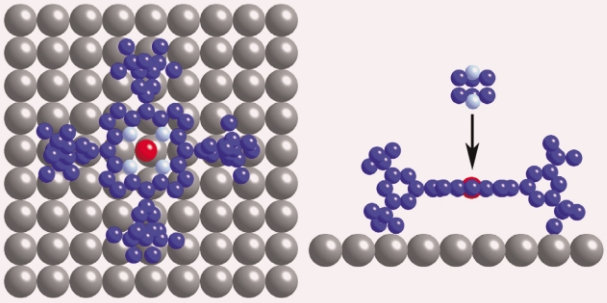


Single-walled carbon nanotubes filled with *M* OH (*M* = K, Cs) and then washed and refilled with clusters and molecules

Narun Thamavaranukup, Henning A. Höppe, Luisa Ruiz-Gonzalez, Pedro M. F. J. Costa, Jeremy Sloan,* Angus Kirkland* and Malcolm L. H. Green*

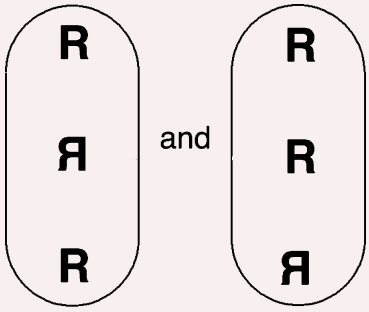
Treatment of and then washing out single walled carbon nanotubes with CsOH (I) makes possible their facile filling with clusters (II) and molecules (III).



First observation of capping/uncapping by a ligand of a Zn porphyrin adsorbed on Ag(100)

Federico J. Williams, Owain P. H. Vaughan, Kerry J. Knox, Nick Bampos and Richard M. Lambert*

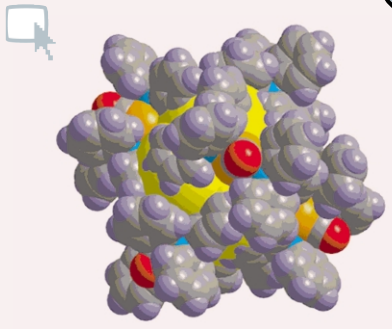
STM results provide the first observation of capping/uncapping by a ligand, 1,4-diazabicyclo[2.2.2]octane (DABCO), of Zn tetra[3,5-di-*t*-butylphenyl]porphyrin (Zn-TBPP) adsorbed on Ag(100).



Constellational diastereomers in encapsulation complexes

Masamichi Yamanaka and Julius Rebek, Jr.*

A cylindrical host binds three small molecule guests. Restricted motion of the guests lead to isomeric arrangements; with chiral guests these arrangements are supramolecular diastereomers.



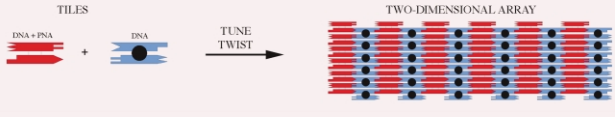
$[Re_6Te_8(CN)_6][\{Ir(CO)(PPh_3)_2\}_6](OTf)_2$: a new Re_6 cluster-supported iridium(I) compound

Youngmee Kim, Sehye Kim, Sung-Jin Kim,* Myung Ki Lee, Mieock Kim, Hyungeui Lee and Chong Shik Chin*

A new hexanuclear rhenium cluster encapsulated by six iridium complexes, $[Re_6Te_8(CN)_6][\{Ir(CO)(PPh_3)_2\}_6](OTf)_2$, which is effective in catalyzing the hydrogenation of *p*-$CH_3C_6H_4C{\equiv}CH$ to *p*-$CH_3C_6H_4CH{=}CH_2$ has been prepared.

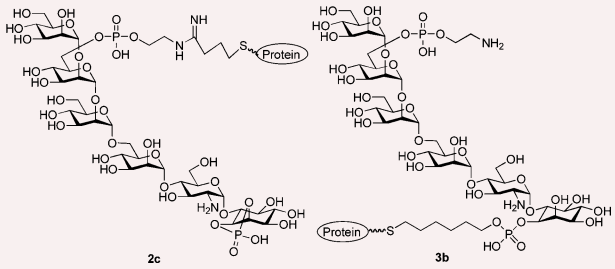
Two dimensional PNA/DNA arrays: estimating the helicity of unusual nucleic acid polymers

Philip S. Lukeman, Alexander C. Mittal and Nadrian C. Seeman*



The generality of nucleic acid based structural nanotechnology is demonstrated by incorporating non-natural nucleic acids into a DNA double crossover (DX) tile; visualizing two-dimensional arrays of these tiles by Atomic Force Microscopy (AFM) enables us to measure the helical repeat of any heteroduplex sequence capable of forming the outer arms of a DX molecule.

1706

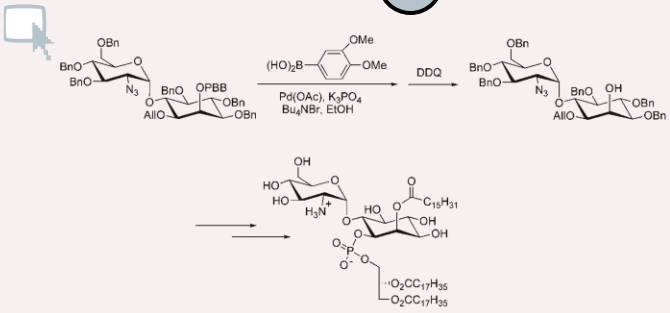


A convergent, versatile route to two synthetic conjugate anti-toxin malaria vaccines

Peter H. Seeberger,* Regina L. Soucy, Yong-Uk Kwon, Daniel A. Snyder and Takuya Kanemitsu

Two molecules that serve to protect against a major menace of mankind—malaria—were synthesized *via* an efficient, scalable route.

1708



A Suzuki–Miyaura coupling mediated deprotection as key to the synthesis of a fully lipidated malarial GPI disaccharide

Xinyu Liu and Peter H. Seeberger*

Ligandless palladium-catalyzed Suzuki–Miyaura coupling converted an inert *p*-bromobenzyl ether to a DDQ-labile *p*-(3,4-dimethoxyphenyl) benzyl ether in the presence of azide functionality and this strategy serves as a key step for the convergent synthesis of a fully lipidated malarial GPI disaccharide.

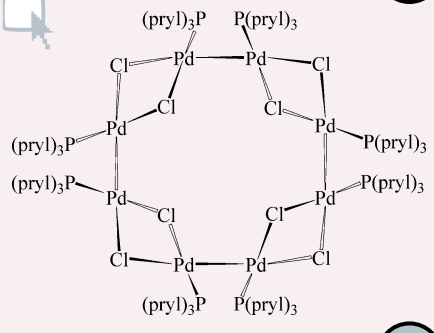
1710

Mesoporous silica-supported zirconocene catalysts for highly isotactic polypropylene

Catherine J. Miller and Dermot O'Hare*

New modified bis(indenyl)zirconocene catalysts have been grafted onto a range of mesoporous silicas. They are polymerisation catalysts for ethylene and propylene, producing polymers with very high molecular weights, low polydispersities and, in the case of polypropylene, higher levels of isotacticity than obtainable with analogous homogeneous systems.

1712

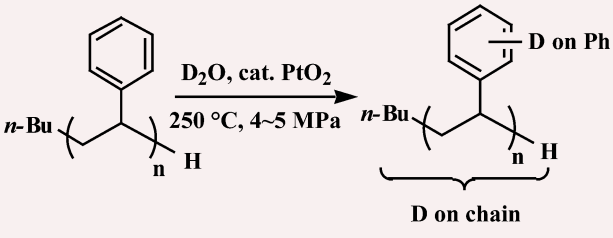


Unprecedented eight-palladium(I) crown-cycle with metal–metal unsupported bonds

Inma Angurell, Isabel Martínez-Ruiz, Oriol Rossell, Miquel Seco,* Pilar Gómez-Sal and Avelino Martín

Strong π-acceptor tri(*N*-pyrrolyl)phosphine stabilizes a high nuclear Pd(I) cycle with unbridged Pd(I)–Pd(I).

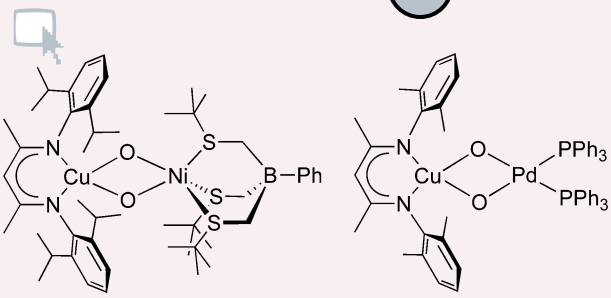
1714



H–D exchange reaction on benzene ring of polystyrene in hydrothermal deuterium oxide with platinum(IV) oxide catalyst

Mitsuru Yamamoto, Yutaka Yokota, Koichiro Oshima and Seijiro Matsubara*

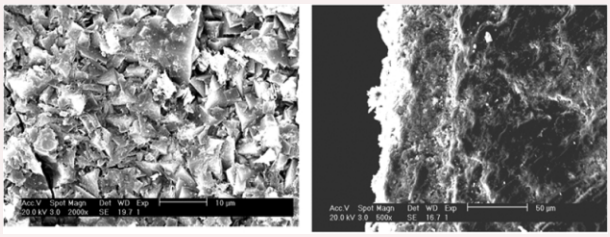
Polystyrene samples are labelled with deuterium oxide and catalytic amount of platinum(IV) oxide under hydrothermal conditions.



Mixed metal bis(μ-oxo) complexes with $[CuM(\mu\text{-}O)_2]^{n+}$ (M = Ni(III) or Pd(II)) cores

Nermeen W. Aboelella, John T. York, Anne M. Reynolds, Koyu Fujita, Christopher R. Kinsinger, Christopher J. Cramer,* Charles G. Riordan* and William B. Tolman*

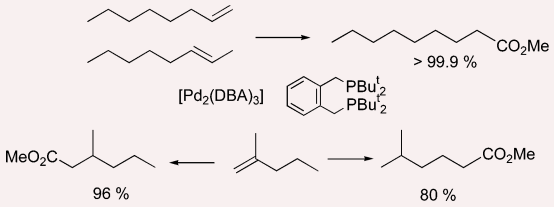
Two heterodinuclear bis(μ-oxo) complexes have been prepared by combining mononuclear peroxo species with reduced metal precursors at −80 °C and characterized by spectroscopy and, for the CuPd system, DFT calculations.



Novel synthesis of FAU-type zeolite membrane with high performance

Zhilin Cheng,* Enqing Gao and Huilin Wan

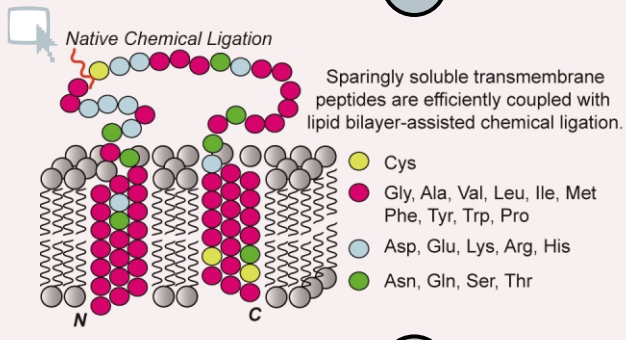
FAU-type zeolite membranes were successfully synthesized by vapor phase transformation methods with or without prior seeding on the substrate: the integrity of the seeded membrane is greater than that of the unseeded membrane.



Highly selective formation of linear esters from terminal and internal alkenes catalysed by palladium complexes of bis-(di-*tert*-butylphosphinomethyl)benzene

Cristina Jimenez Rodriguez, Douglas F. Foster, Graham R. Eastham and David. J. Cole-Hamilton*

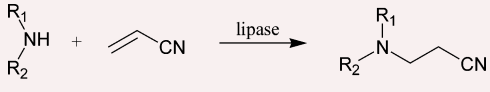
Terminal and internal alkenes are converted to linear methyl esters with almost quantitative selectivity by reaction with methanol and carbon monoxide in the presence of palladium complexes of bis-(di-*tert*-butylphosphinomethyl)benzene under very mild conditions.



Facile synthesis of membrane-embedded peptides utilizing lipid bilayer-assisted chemical ligation

Akira Otaka,* Satoshi Ueda, Kenji Tomita, Yoshiaki Yano, Hirokazu Tamamura, Katsumi Matsuzaki and Nobutaka Fujii

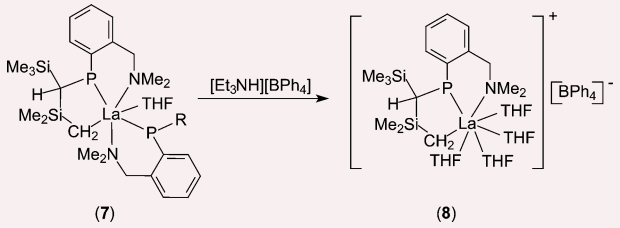
Lipid bilayer-assisted chemical ligation between thiolester and N-terminal cysteine peptides has been developed with successful application to the synthesis of membrane protein segments possessing both two transmembrane and one extracellular regions.

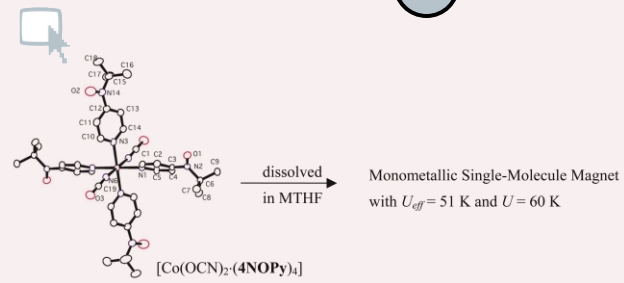


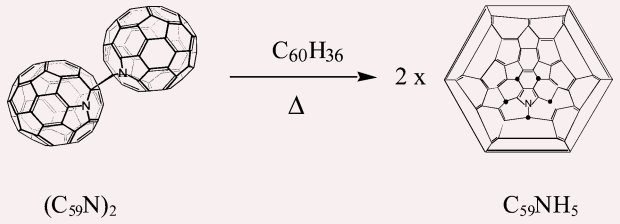
Lipase catalysed Michael addition of secondary amines to acrylonitrile

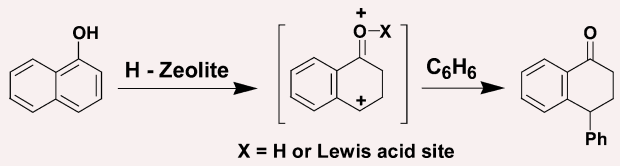
Oliver Torre, Ignacio Alfonso and Vicente Gotor*

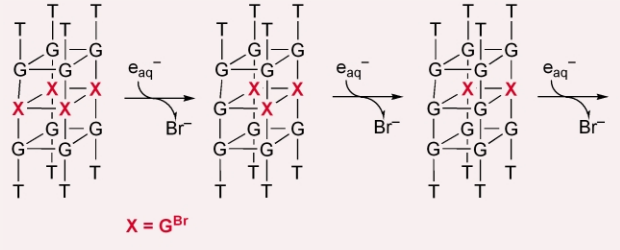
Lipase B from *Candida antarctica* shows an aminolyase activity in the catalysis of Michael addition of secondary amines to acrylonitrile.











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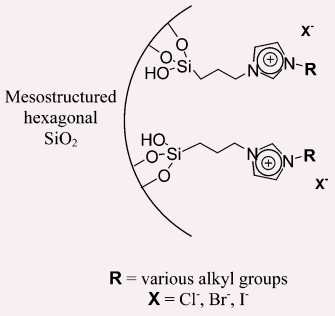
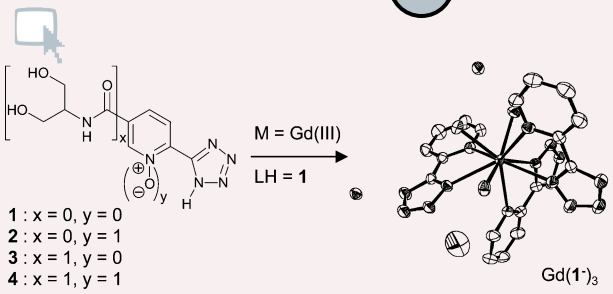


Supported ionic liquids: ordered mesoporous silicas containing covalently linked ionic species

Benogt Gadenne, Peter Hesemann and Joël J. E. Moreau*

Ordered mesoporous silicas with hexagonal or lamellar architectures incorporating covalently bound ionic species were synthesized *via* a template directed hydrolysis–polycondensation of TEOS with triethoxysilylated imidazole $[(EtO)_3Si(CH_2)_3–Im]$ or alkylimidazolium halides $[(EtO)_3Si(CH_2)_3–Im^+–R\ Hal^-]$.

1770

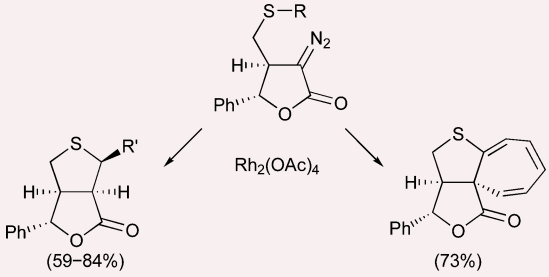


Novel coordinating motifs for lanthanide(III) ions based on 5-(2-pyridyl)tetrazole and 5-(2-pyridyl-1-oxide)tetrazole. Potential new contrast agents

Antonio Facchetti,* Alessandro Abbotto, Luca Beverina, Silvia Bradamante, Palma Mariani, Charlotte L. Stern, Tobin J. Marks, Alberto Vacca and Giorgio A. Pagani*

Water-soluble Gd(III) complexes of pyridine- and (pyridine-1-oxide)tetrazole ligands **1–4** have been synthesized and have great potential as high-relaxivity MRI contrast agents.

1772

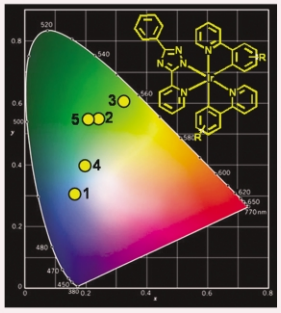


Intramolecular C–H insertions adjacent to sulfur for the diastereoselective synthesis of thienofuranones

Paul S. Skerry, Nigel A. Swain, David C. Harrowven,* Donald Smyth, Gordon Bruton and Richard C. D. Brown*

A new approach to the diastereoselective synthesis of thienofuranones is described in which an intramolecular 1,5-carbenoid C–H insertion adjacent to sulfur features as a key step.

1774

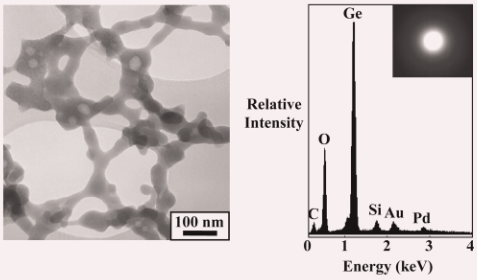


Tuning iridium(III) phenylpyridine complexes in the "almost blue" region

Paolo Coppo, Edward A. Plummer and Luisa De Cola*

A facile way to prepare hetero-leptic iridium(III) phenylpyridine complexes and rationally tune the light emission in the "almost blue" region of the spectrum is discussed.

1776



Identification of peptides that promote the rapid precipitation of germania nanoparticle networks *via* use of a peptide display library

Matthew B. Dickerson, Rajesh R. Naik, Morley O. Stone, Ye Cai and Kenneth H. Sandhage

The rapid room-temperature precipitation of amorphous germania nanoparticles, that may be used in a host of optical or chemical applications, has been achieved through the activity of specific peptides isolated from a phage display library.

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