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ISSN 1359-7345 CODEN CHCOFS (35) 4369–4488 (2005)

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Alan Spivey describes a facile method for the preparation of the first solid-supported *N*-methylthiourea reagent and its application to the hydrogenolysis of bicyclic endoperoxides. See pp. 4426 - 4428.

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See Alessio Lodola, Marco Mor, Johannes C. Hermann, Giorgio Tarzia, Daniele Piomelli and Adrian J. Mulholland, page 4399. The cover shows a representation of oleamide hydrolysis by fatty acid amide hydrolase. Image reproduced by permission of Adrian J. Mulholland *et al.* from *Chem. Commun.*, 2005, 4399.

CHEMICAL TECHNOLOGY

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Chemical Technology

September 2005/Volume 2/Issue 9

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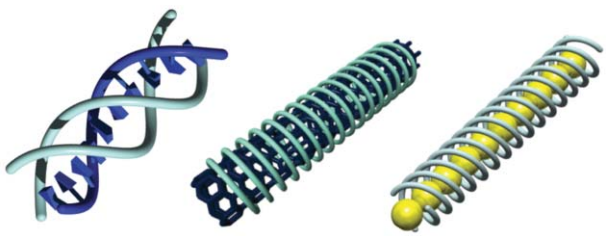
FEATURE ARTICLE

4383

β-1,3-Glucan polysaccharides as novel one-dimensional hosts for DNA/RNA, conjugated polymers and nanoparticles

Kazuo Sakurai, Kazuya Uezu, Munenori Numata, Teruaki Hasegawa, Chun Li, Kenji Kaneko and Seiji Shinkai*

β-1,3-Glucans can form stable complexes with various guests including polynucleotides, conjugate polymers, diacetylene monomers, Au nanoparticles, ***etc.*** This unique property is quite useful to develop various advanced materials, such as non-toxic carriers and linear Au-nanoarrays.



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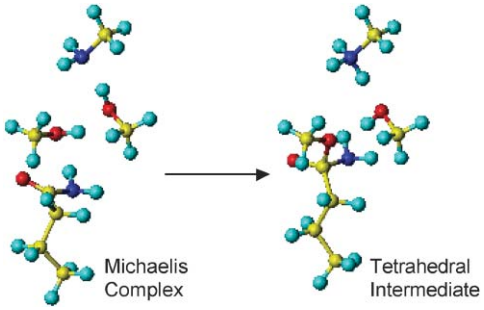

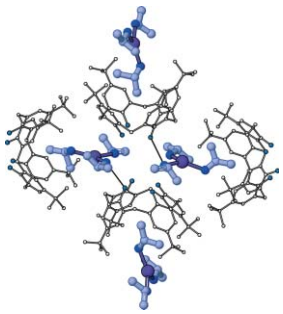

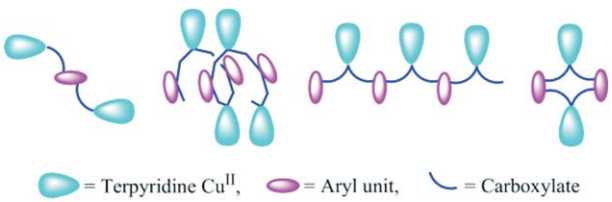

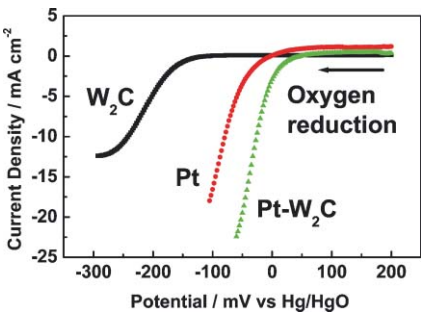

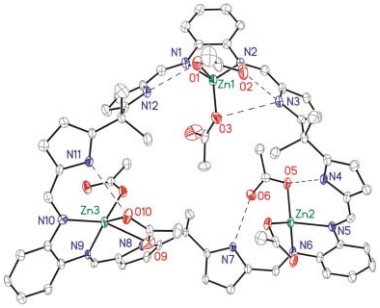

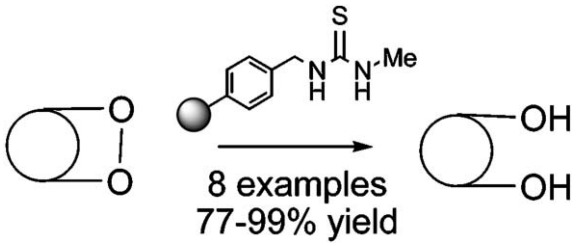

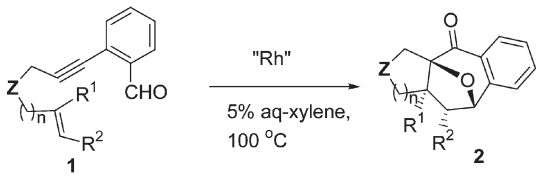

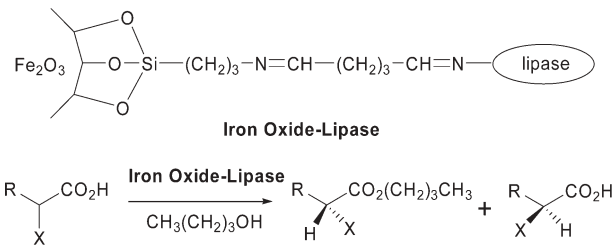

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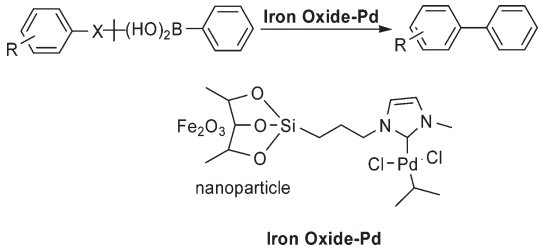
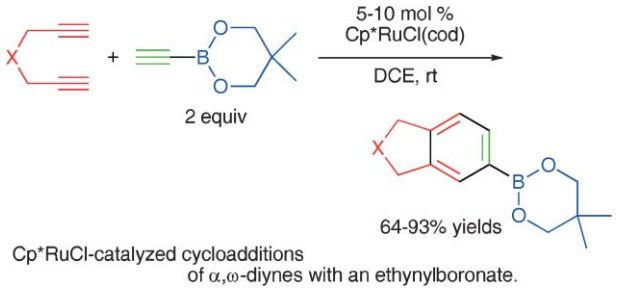


Recycling of homogeneous Pd catalysts using superparamagnetic nanoparticles as novel soluble supports for Suzuki, Heck, and Sonogashira cross-coupling reactions

Philip D. Stevens, Guifeng Li, Jinda Fan, Max Yen and Yong Gao*

Recycling of homogeneous catalysts could be achieved by using magnetic nanoparticles and solid-phase beads, but nanoparticle-supported catalysis proceeded much faster than its counterpart on resins.

4438

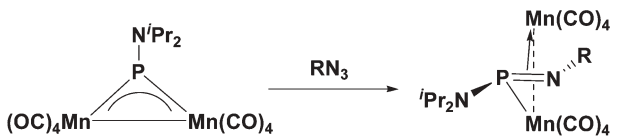


Synthesis of bi- and tricyclic arylboronates *via* Cp*RuCl-catalyzed cycloaddition of α,ω-diynes with ethynylboronate

Yoshihiko Yamamoto,* Kozo Hattori, Jun-ichi Ishii, Hisao Nishiyama and Kenji Itoh

Polycyclic arylboronates were synthesized *via* Cp*RuCl-catalyzed cycloaddition of α,ω-diynes with 2-ethynyl-5,5-dimethyl-1,3,2-dioxaborinane.

4441

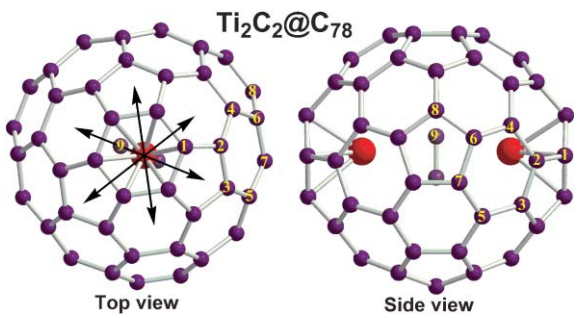


Reactivity of electrophilic μ-phosphinidene complexes with heterocumulenes: formation of the first σ-π-aminophosphaimine complexes $[Mn_2(CO)_8\{\mu\text{-}\eta^1,\eta^2\text{-}P(N^iPr_2)=NR\}]$ and diazoalkane insertions into metal–phosphorus bonds

Todd W. Graham, Konstantin A. Udachin and Arthur J. Carty*

Phosphinidene complexes $[Mn_2(CO)_8(\mu\text{-}PN^iPr_2)]$ and $[Co_2(CO)_4(\mu\text{-dppm})(\mu\text{-}PNR_2)]$ react with RN_3 and CR_2N_2 to form complexes with $\mu\text{-}\eta^1,\eta^2$-phosphaimine, $\mu\text{-}\eta^1,\eta^2$-phosphaalkene and $\mu\text{-}\eta^1,\eta^2$-phosphadiphenylmethylazaimine ligands.

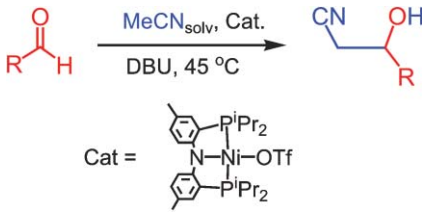
4444

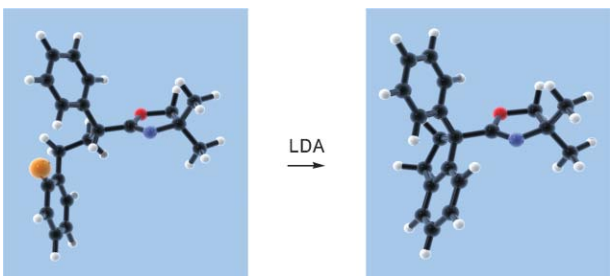


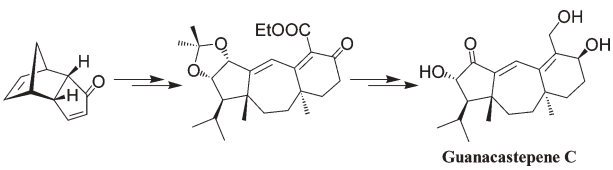
Ti_2C_{80} is more likely a titanium carbide endohedral metallofullerene $(Ti_2C_2)@C_{78}$

Kai Tan and Xin Lu*

The dimetallofullerene Ti_2C_{80} does not take the form of $Ti_2@C_{80}$, but is a titanium carbide endohedral metallofullerene, $Ti_2C_2@C_{78}$, that has a $C_{78}^{6-}(D_{3h})$ cage which follows faithfully the stable closed-shell electronic rule.







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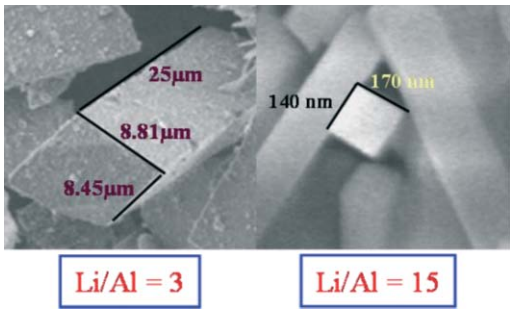
Surfactant-free hydrothermal synthesis of lithium aluminate microbricks and nanorods from aluminium oxide nanoparticles

Upendra. A. Joshi, Soo Hyun Chung and Jae Sung Lee*

β-$LiAlO_2$ microbricks and rectangular nanorods have been successfully synthesized from Al_2O_3 nanoparticles by a simple hydrothermal process without any surfactant or template, by simply changing the Li/Al molar ratio.



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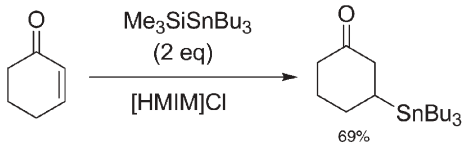
Silylstannations of α,β-unsaturated carbonyl compounds *via* the generation of Bu_3Sn^- in ionic liquids

Steven Dickson, Darrell Dean and Robert. D. Singer*

The tributylstannyl anion, Bu_3Sn^-, can be generated in imidazolium based ionic liquids from $Me_3SiSnBu_3$ and reacted with α,β-unsaturated carbonyl compounds to afford 3-tributylstannylated products in good yields.



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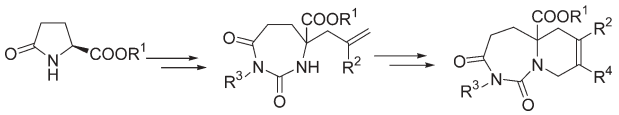
Synthesis of 1,3-dioxo-hexahydropyrido[1,2-*c*][1,3]diazepine carboxylates, a new bicyclic skeleton formed by ring expansion–RCM methodology

Nicolai Dieltiens, Diederica D. Claeys, Bart Allaert, Francis Verpoort and Christian V. Stevens*

The development of the new hexahydropyridodiazepine skeleton by a sequential ring expansion and ring closing metathesis generates an interesting scaffold for further elaboration for agrochemical and pharmaceutical applications.



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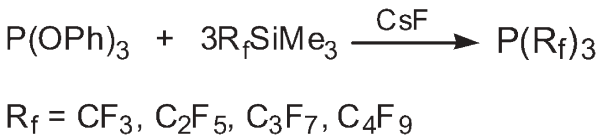
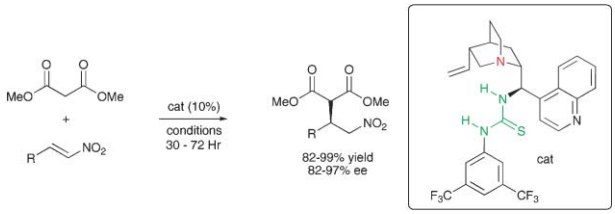
The synthesis of tris(perfluoroalkyl)phosphines

Makeba B. Murphy-Jolly, Lesley C. Lewis and Andrew J. M. Caffyn*

Tris(perfluoroalkyl)phosphines can be synthesised by the nucleophile mediated reaction of perfluoroalkyltrimethylsilanes with $P(OPh)_3$; the method can be extended to diphosphines. These phosphines are of interest as tunable alternatives to the carbon monoxide ligand.

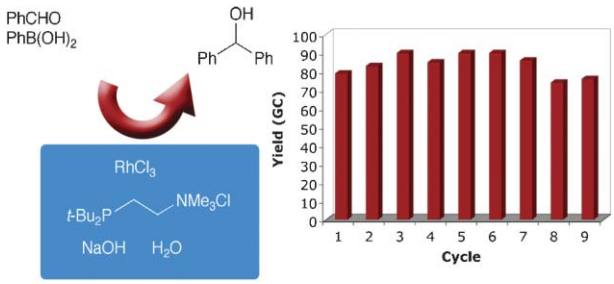




Enantioselective organocatalytic Michael addition of malonate esters to nitro olefins using bifunctional cinchonine derivatives

Jinxing Ye, Darren J. Dixon* and Peter S. Hynes

A novel asymmetric Lewis base–Brønsted acid bifunctional organic catalyst promotes high reactivity and enantioselectivity in the Michael addition of malonate esters to nitro olefins.



***t*-Bu-Amphos–$RhCl_3 \cdot 3H_2O$: a highly recyclable catalyst system for the cross-coupling of aldehydes and aryl- and alkenylboronic acids in aqueous solvents**

Rongcai Huang and Kevin H. Shaughnessy*

The combination of *t*-Bu-Amphos and $RhCl_3 \cdot 3H_2O$ gave the first highly recyclable catalyst for the coupling of aryl- and vinylboronic acids with aldehydes in aqueous solvents.

AUTHOR INDEX

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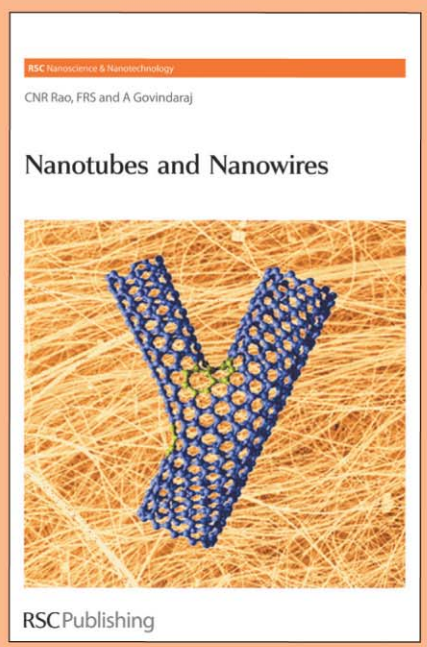

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