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ISSN 1359–7345 CODEN CHCOFS (35) 4081–4220 (2008)

Cover
See Azusa Takai *et al.*, pp. 4171–4173.
Mesoporous Pt nanotubes were realized by the volume control of lyotropic liquid crystals infiltrated inside the channels of porous anodic alumina membranes under a reduced pressure. Image reproduced by permission of Azusa Takai, Yusuke Yamauchi and Kazuyuki Kuroda from *Chem. Commun.*, 2008, 4171.

Inside cover
See Sarit S. Agasti *et al.*, pp. 4123–4125.
Water-soluble flavin dendrons have been synthesised and the role dendron generation has on modulating the physical properties and reactivity of the flavin unit have been explored. Image reproduced by permission of Sarit S. Agasti, Stuart T. Caldwell, Graeme Cooke, Brian J. Jordan, Andrew Kennedy, Nadiya Kryvokhyzha, Gouher Rabani, Subinoy Rana, Amitav Sanyal and Vincent M. Rotello from *Chem. Commun.*, 2008, 4123.

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Chemical Science

September 2008/Volume 5/Issue 9

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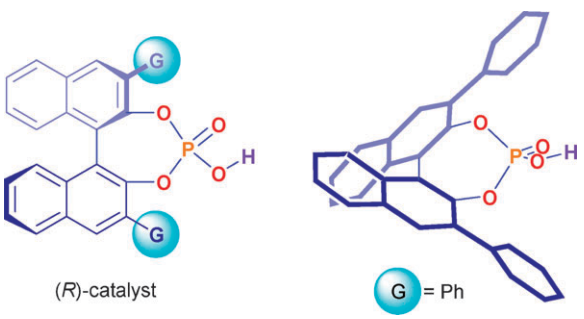
FEATURE ARTICLE

Binaphthol-derived phosphoric acid as a versatile catalyst for enantioselective carbon–carbon bond forming reactions

Masahiro Terada*

Binaphthol-derived monophosphoric acids have been designed as novel chiral Brønsted-acid catalysts. The chiral phosphoric acids thus developed functioned as efficient enantioselective catalysts for a variety of carbon–carbon bond forming reactions affording enantioenriched products in excellent selectivites.



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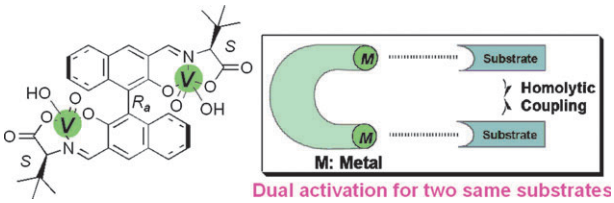

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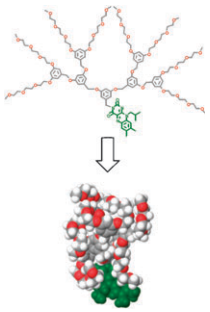

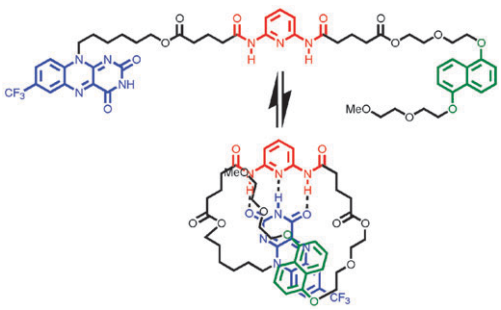

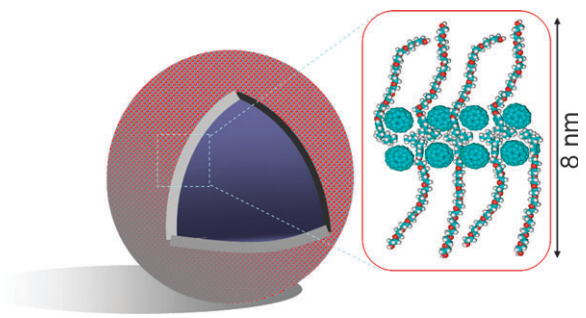

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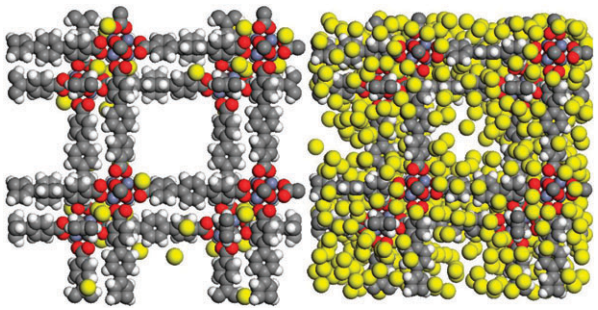

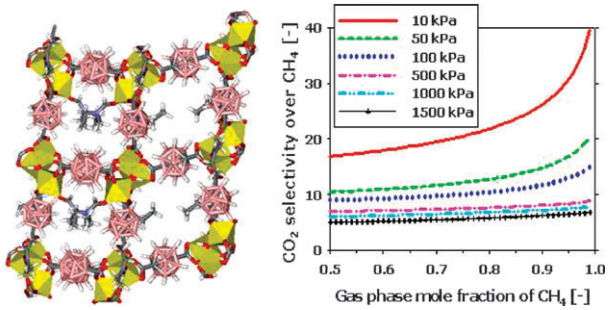

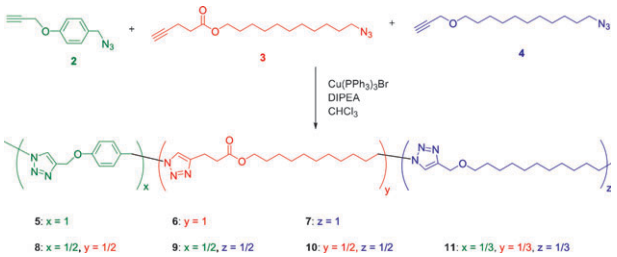

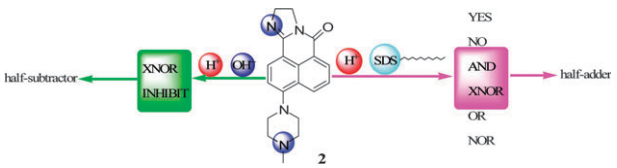

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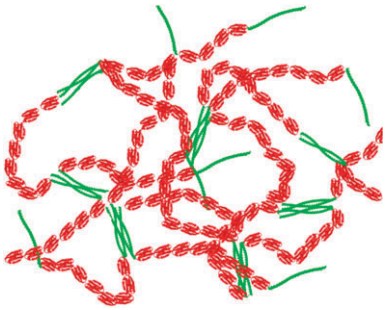
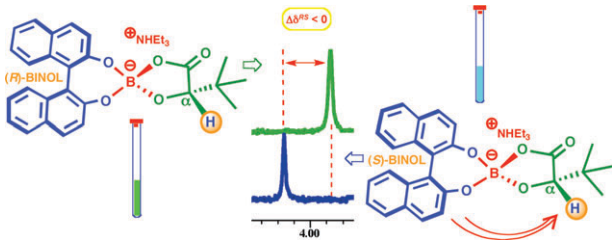


Engineering tandem modular protein based reversible hydrogels

Yi Cao and Hongbin Li*

The authors report the engineering of the first tandem modular protein based hydrogel that exhibits unique properties combining low erosion rate, fast and reversible sol–gel transition and antibody binding ability.

4147

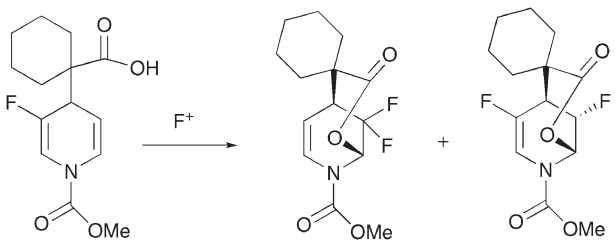


In tube determination of the absolute configuration of α- and β-hydroxy acids by NMR *via* chiral BINOL borates

Félix Freire, Emilio Quiñoá and Ricardo Riguera*

A NMR methodology through the formation of chiral BINOL borates in the NMR tube—that reunites the advantages of CDAs and CSAs—allows the assignment of the absolute configuration of α- and β-hydroxy acids.

4150



Lactonizations of carboxylic acid-substituted 3-fluorodihydropyridines with electrophiles: peculiar behaviour of F^+

Henri Rudler,* Andrée Parlier, Louis Hamon, Patrick Herson and Jean-Claude Daran

In contrast to other electrophiles, fluorine seems to like fluorine.

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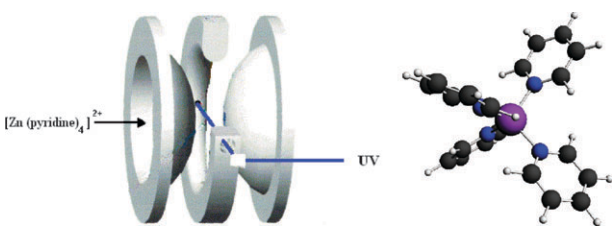
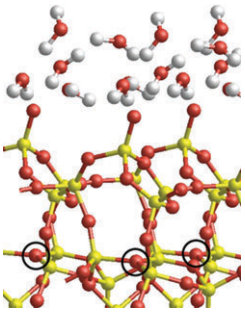
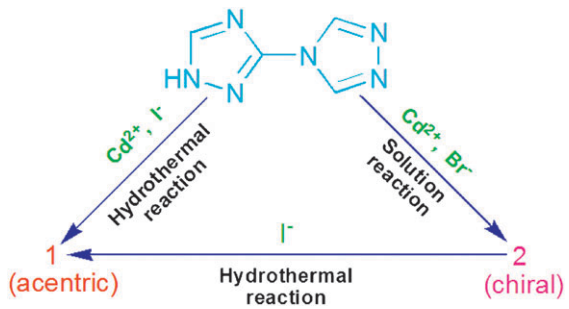


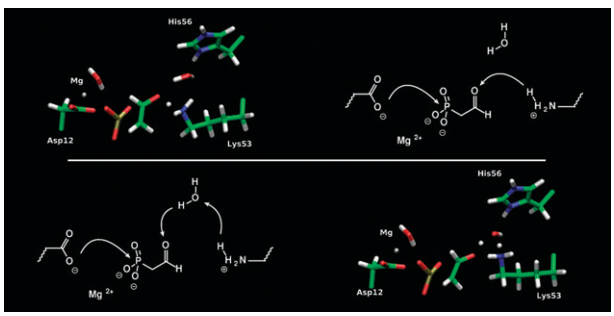
State-resolved UV photofragmentation spectrum of the metal dication complex $[Zn(pyridine)_4]^{2+}$

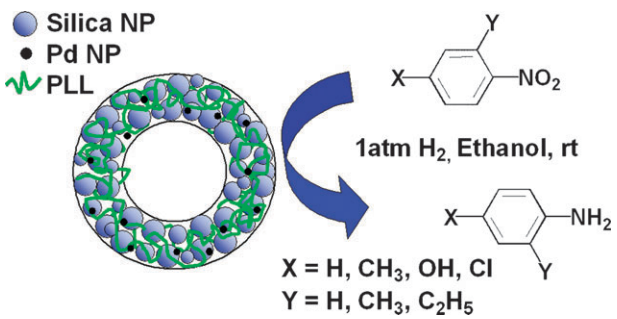
Guohua Wu, Caroline Norris, Hamish Stewart, Hazel Cox* and Anthony J. Stace*

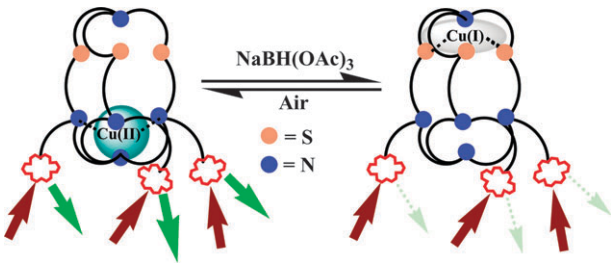
A combined theoretical and experimental study of electronic transitions in the complex $[Zn(pyridine)_4]^{2+}$ provides the first example of a state-resolved electronic spectrum to be recorded for a dication complex in the gas phase.

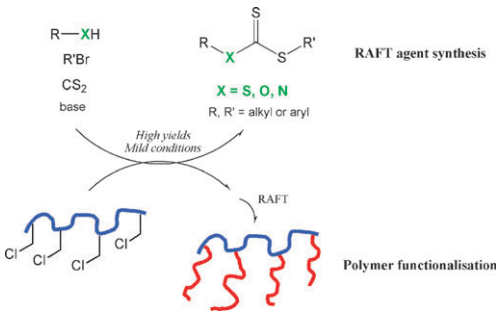


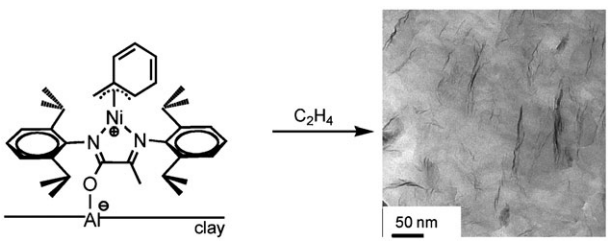


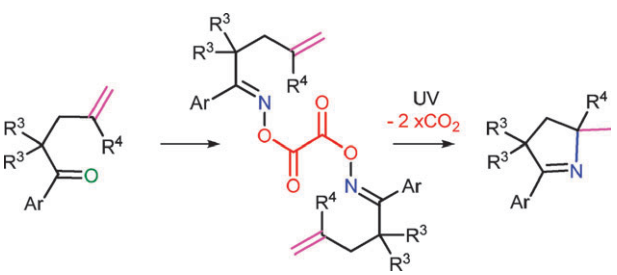










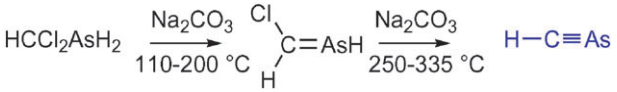


4204

Methylidynearsine (HC≡As): synthesis and direct characterization by UV-photoelectron spectroscopy and mass spectrometry

Jean-Claude Guillemin,* Anna Chrostowska,* Alain Dargelos, Thi Xuan Mai Nguyen, Alain Graciaa and Pierre Guenot

Methylidynearsine, the simplest arsaalkyne, has been synthesized and characterized in the gas phase by UV photoelectron spectroscopy and mass spectrometry.



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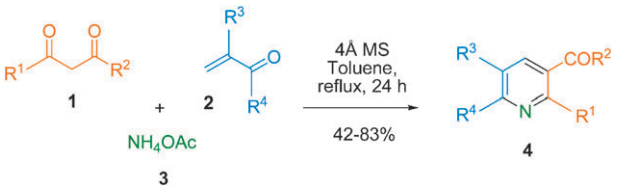
Metal-free Michael addition initiated multicomponent oxidative cyclodehydration route to polysubstituted pyridines from 1,3-dicarbonyls

Frédéric Liéby-Muller, Christophe Allais, Thierry Constantieux* and Jean Rodriguez*

A simple metal-free, step-economic and selective access to mono- and polycyclic pyridines is reported, *via* a 4 Å molecular sieves promoted domino three-component reaction from readily available 1,3-dicarbonyl systems.

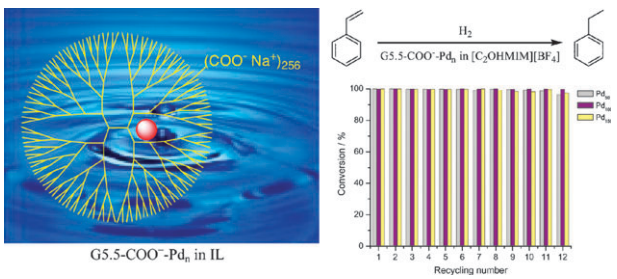


4210

Enhanced stability of charged dendrimer-encapsulated Pd nanoparticles in ionic liquids

Guangnan Ou, Li Xu, Biyan He and Youzhu Yuan*

Highly stable dendrimer-encapsulated Pd nanoparticles in ionic liquids were prepared for the first time by using charged PAMAM dendrimers as templates, which could maintain hydrogenation efficiency for up to at least 12 recycles.

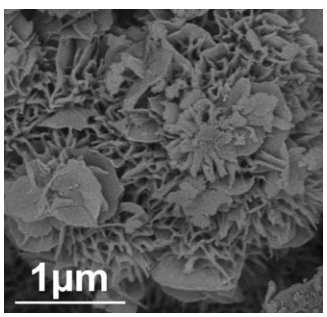


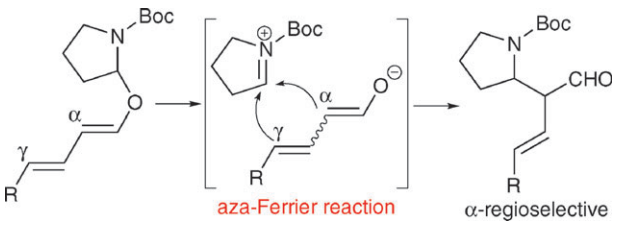
4213

Facile approach to prepare loose-packed NiO nano-flakes materials for supercapacitors

Jun-Wei Lang, Ling-Bin Kong,* Wei-Jin Wu, Yong-Chun Luo and Long Kang

The nickel oxide nano-flakes materials prepared by a facile approach have high specific capacitance and excellent cycle life for supercapacitors.





Brønsted acid catalyzed regioselective aza-Ferrier reaction: a novel synthetic method for α-(*N*-Boc-2-pyrrolidinyl) aldehydes

Eiji Tayama,* Seijun Otoyama and Wataru Isaka

The Brønsted acid catalyzed aza-Ferrier reaction of *N*-Boc-2-(1,3-dienyloxy)pyrrolidines affords the corresponding α-(*N*-Boc-2-pyrrolidinyl) aldehydes in excellent yields with high α-regioselectivities.

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