

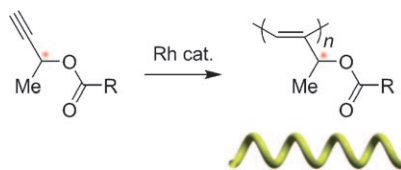
Helical Polymers

Y. Suzuki, M. Shiotsuki, F. Sanda,*
T. Masuda*

Synthesis and Helical Structure of Poly(1-methylpropargyl ester)s with Various Side Chains

Chem. Asian J.

DOI: 10.1002/asia.200800131



Something's screwy: Optically active poly(1-methylpropargyl ester)s with various substituents can be obtained by polymerization with a rhodium catalyst. The polymers have a *cis*-stereoregular main chain and form a predominantly one-handed helical structure. As a result, they exhibit high rigidity and chiral amplification.

DNA Structures

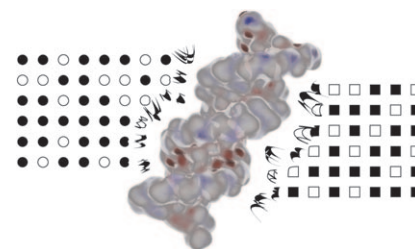
B. D. Heuberger, C. Switzer*

An Alternative Nucleobase Code: Characterization of Purine–Purine DNA Double Helices Bearing Guanine–Isoguanine and Diaminopurine 7-Deaza-Xanthine Base Pairs

ChemBioChem

DOI: 10.1002/cbic.200800450

DNA's alter ego: Synthetic purine–purine DNA double helices are shown to have stability comparable to canonical DNA.



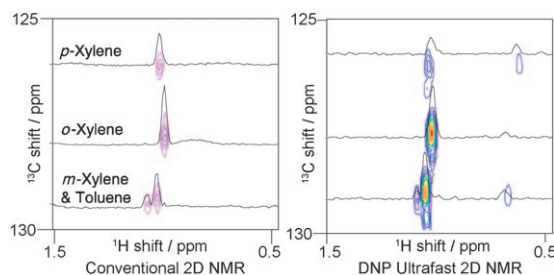
NMR Spectroscopy

M. Mishkovsky, L. Frydman*

Progress in Hyperpolarized Ultrafast 2D NMR Spectroscopy

ChemPhysChem

DOI: 10.1002/cphc.200800461



Sensitive multidimensional NMR: The combination of ex situ dynamic nuclear polarization (DNP) and single-scan 2D NMR methodologies opens new vistas in the collection of multidimensional

data with high sensitivity. Experimental results show the benefits expected for optimized spectroscopic acquisitions implemented on small- and medium-sized organic molecules (see figure).

Nanoparticle Synthesis

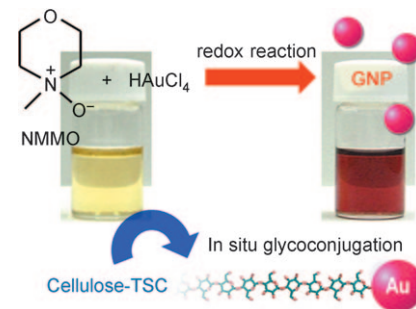
S. Yokota, T. Kitaoka,* M. Opietnik,
T. Rosenau, H. Wariishi

Synthesis of Gold Nanoparticles for In Situ Conjugation with Structural Carbohydrates

Angew. Chem. Int. Ed.

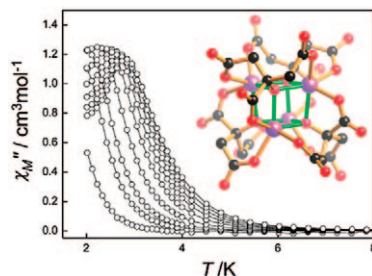
DOI: 10.1002/anie.200803922

Sugaring the pill: Gold nanoparticles (GNPs) were successfully synthesized from tetrachloroauric acid through a novel redox reaction in an aqueous *N*-methylmorpholine-*N*-oxide (NMMO) solution, which is a well-known solvent for structural carbohydrates such as cellulose (see picture, TSC = thiosemicarbazone). This unique approach allowed facile, simultaneous GNP synthesis and in situ glycosurface modification in one pot.



Magnetisation Reversal in Co Cluster

Variable-frequency ac-susceptibility studies on our recently reported cubane-containing clusters $[\text{C}(\text{NH}_2)_3]_8\text{-}[\text{Co}_4(\text{cit})_4]\cdot 8\text{H}_2\text{O}$, cit = citrate, and $[\text{Co}_8\text{-}(\text{C}_4\text{O}_7)_4(\text{H}_2\text{O})_{12}]\cdot 24\text{H}_2\text{O}$ reveal slow relaxation and single-molecule magnetic behaviour, with blocking temperatures of below 4 K.

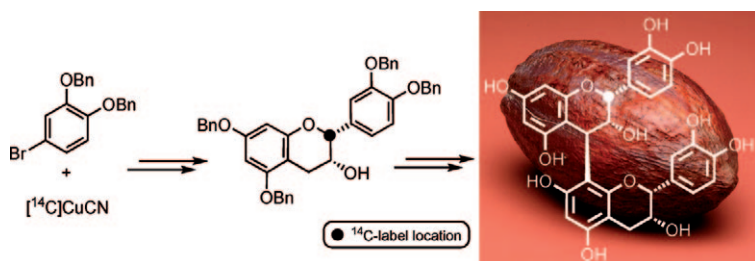


B. Moubaraki, K. S. Murray,* T. A. Hudson, R. Robson

Tetranuclear and Octanuclear Cobalt(II) Citrate Cluster Single Molecule Magnets

Eur. J. Inorg. Chem.
DOI: 10.1002/ejic.200800611

Radiolabeled Polyphenols



F. Viton, C. Landreau, D. Rustidge, F. Robert, G. Williamson, D. Barron*

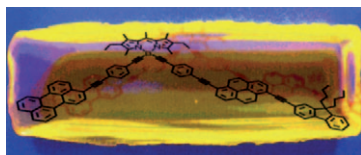
First Total Synthesis of ¹⁴C-Labeled Procyanidin B2 – A Milestone Toward Understanding Cocoa Polyphenol Metabolism

Eur. J. Org. Chem.
DOI: 10.1002/ejoc.200800886

Health benefits of foods consumed for pure pleasure received much recognition in the recent years. Cocoa and dark chocolate are particularly rich in procyanidins. We developed the first asymmetric total synthesis of [jy]ntprocyanidin B2

and applied it to the preparation of a regioselectively radiolabeled ¹⁴C-analogue, which will be used to strengthen our knowledge on the metabolism of procyanidins.

Energy Transfer



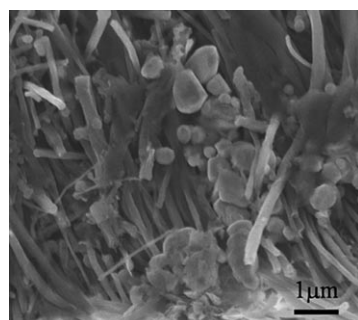
Piecing together a multicomponent molecular array (see graphic) that absorbs incident photons over a wide spectral range and concentrates the emission into a narrow band, thereby producing a highly efficacious solar concentrator.

A. Harriman,* L. Mallon, R. Ziessel*

Energy Flow in a Purpose-Built Cascade Molecule Bearing Three Distinct Chromophores Attached to the Terminal Acceptor

Chem. Eur. J.
DOI: 10.1002/chem.200801384

Lithium-Ion Batteries



Carbon—the new black: The advantages of using carbon nanotubes together with acetylene blacks as cathode fillers include not only enhancement of the electrical and the thermal properties of the electrode but also enhancement of the density of the electrode and a decrease in the electrolyte absorption time. The use of carbon nanotubes as multifunctional fillers in both cathode and anode materials for lithium-ion secondary batteries may increase.

C. Sotowa, G. Origgi, M. Takeuchi, Y. Nishimura, K. Takeuchi, I. Y. Jang, Y. J. Kim, T. Hayashi, Y. A. Kim,* M. Endo, M. S. Dresselhaus

The Reinforcing Effect of Combined Carbon Nanotubes and Acetylene Blacks on the Positive Electrode of Lithium-Ion Batteries

ChemSusChem
DOI: 10.1002/cssc.200800170