

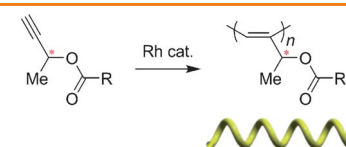


Helical Polymers

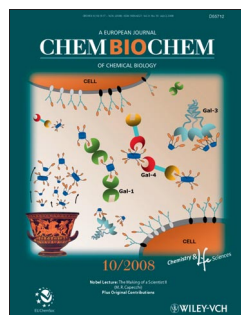
Y. Suzuki, M. Shiotsuki, F. Sanda,* T. Masuda*

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

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.



Chem. Asian J.
DOI: 10.1002/asia.200800131

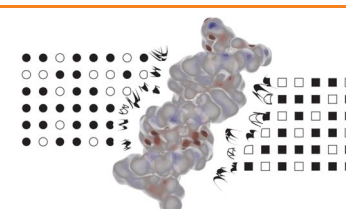


DNA Structures

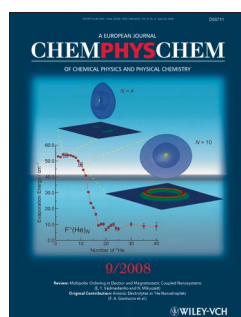
B. D. Heuberger, C. Switzer*

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

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



ChemBioChem
DOI: 10.1002/cbic.200800450

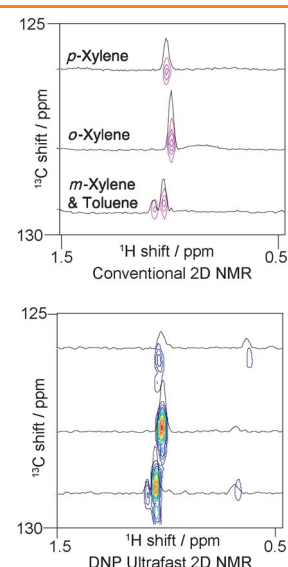


NMR Spectroscopy

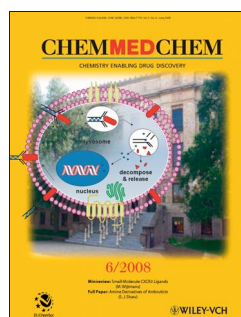
M. Mishkovsky, L. Frydman*

Progress in Hyperpolarized Ultrafast 2D NMR Spectroscopy

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).



ChemPhysChem
DOI: 10.1002/cphc.200800461

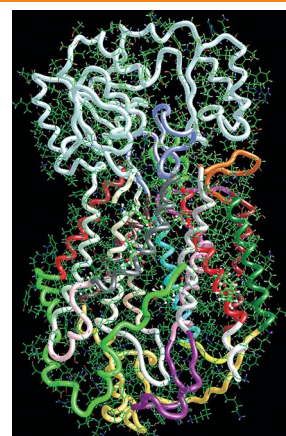


Pharmacophore Mapping

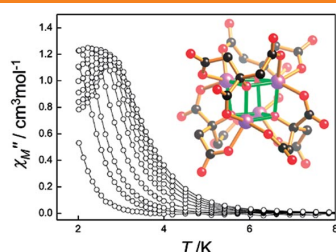
A. Pedretti, L. De Luca, C. Marconi, G. Negrisoni, G. Aldini, G. Vistoli*

Modeling of the Intestinal Peptide Transporter hPepT1 and Analysis of Its Transport Capacities by Docking and Pharmacophore Mapping

The intestinal hPepT1 transporter is involved in the active absorption of dietary peptides and peptidomimetic drugs. The aim of this study was to generate a model for hPepT1 by fragments. The model was validated by docking analyses and pharmacophore mapping using a set of 50 known ligands. The results suggest that the model can be used to predict the transport of peptide-like molecules.



ChemMedChem
DOI: 10.1002/cmdc.200800184



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

Magnetisation Reversal in Co Cluster

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

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

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



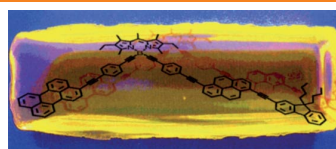
Angew. Chem. Int. Ed.
DOI: 10.1002/anie.200803922

Nanoparticle Synthesis

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

Synthesis of Gold Nanoparticles for In Situ Conjugation with Structural Carbohydrates

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.



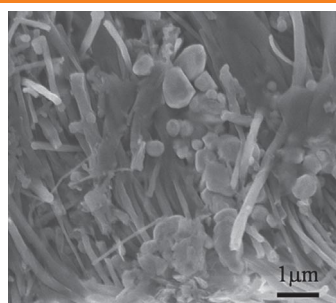
Chem. Eur. J.
DOI: 10.1002/chem.200801384

Energy Transfer

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

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

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.



ChemSusChem
DOI: 10.1002/cssc.200800170

Lithium-Ion Batteries

C. Sotowa, G. Origi, 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

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.

