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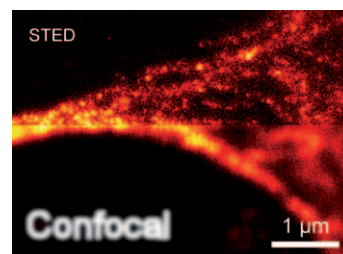


Nanoscopy

G. Y. Mitronova, V. N. Belov,* M. L. Bossi, C. A. Wurm, L. Meyer, R. Medda, G. Moneron, S. Bretschneider, C. Eggeling,* S. Jakobs, S. W. Hell*

New Fluorinated Rhodamines for Optical Microscopy and Nanoscopy

Marker molecules: The newly synthesized fluorinated rhodamines are cell-permeable and perform excellently in optical microscopy applications, such as single-molecule detection and stimulated emission depletion (STED) nanoscopy (see picture).



Chem. Eur. J.
DOI: [10.1002/chem.200903272](https://doi.org/10.1002/chem.200903272)

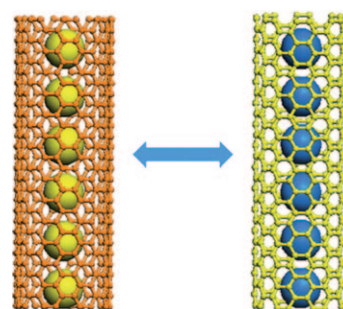


Nanostructures

Z. Wang, Z. Shi,* Z. Gu

Chemistry in the Nanospace of Carbon Nanotubes

Size matters: Carbon nanotubes can be filled with guest molecules, and the structure of the encapsulated molecules is dependent on the inner size of the carbon nanotubes. This Focus Review concentrates on the novel phases and transformation of the encapsulated molecules and the effects of encapsulation on the carbon nanotubes.



Chem. Asian J.
DOI: [10.1002/asia.200900557](https://doi.org/10.1002/asia.200900557)

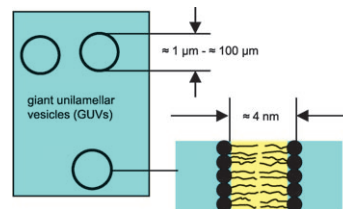


Vesicles

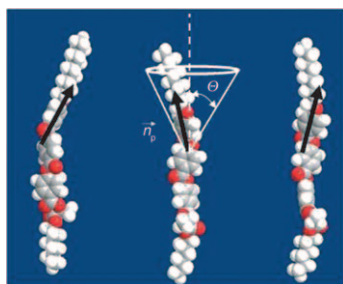
P. Walde,* K. Cosentino, H. Engel, P. Stano

Giant Vesicles: Preparations and Applications

They might be giants: As giant vesicle membranes resemble the enclosed lipid matrix of the plasma membrane of a biological cell, there is currently a large interest in preparing cell-sized giant unilamellar vesicles. Here we summarize the known methods for preparing giant unilamellar vesicles and point out the advantages and disadvantages of each method.



ChemBioChem
DOI: [10.1002/cbic.201000010](https://doi.org/10.1002/cbic.201000010)



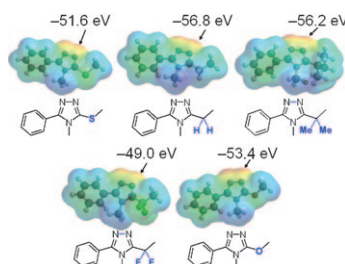
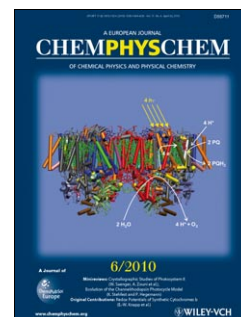
ChemPhysChem
DOI: 10.1002/cphc.201000116

Liquid Crystals

A. Marchetti, V. Domenici,* V. Novotna, M. Lelli, M. Cifelli,
A. Lesage, C. A. Veracini

Direct Measure of the Tilt Angle in de Vries-Type Liquid Crystals through NMR Spectroscopy

Around the bend: Deuterium NMR measurements at different magnetic fields confirms the occurrence of a tilt of the aromatic core of a de Vries liquid crystal smectogen in its SmA phase (see picture).



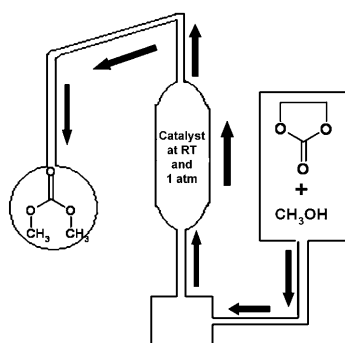
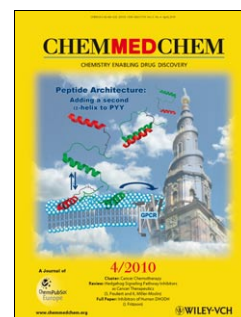
ChemMedChem
DOI: 10.1002/cmdc.201000026

Drug Discovery

G. Bonanomi, S. Braggio, A. M. Capelli, A. Checchia, R. Di Fabio,
C. Marchioro, L. Tarsi, G. Tedesco, S. Terreni, A. Worby,
C. Heibredner, F. Micheli*

Triazolyl Azabicyclo[3.1.0]hexanes: a Class of Potent and Selective Dopamine D₃ Receptor Antagonists

A detailed exploration of the role of the sulfur atom in the thiotriazole compound class was carried out. Appropriate modifications of the scaffold led to the discovery of a subset of derivatives endowed with high potency and selectivity; selected derivatives also showed excellent pharmacokinetic profiles in preclinical animal studies.



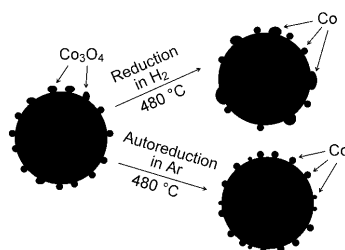
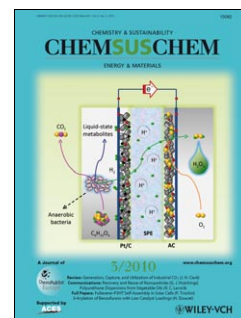
ChemSusChem
DOI: 10.1002/cssc.201000038

Heterogeneous Catalysis

M. Sankar,* S. Satav, P. Manikandan*

Transesterification of Cyclic Carbonates to Dimethyl Carbonate Using Solid Oxide Catalyst at Ambient Conditions: Environmentally Benign Synthesis

Continuous synthesis at ambient conditions: Dimethyl carbonate (DMC) is an important methylating and carbonylating agent. Transesterification of cyclic carbonates using methanol for the synthesis of DMC is environmentally benign. CaO–ZnO catalysts, prepared by a wet impregnation method, are effective catalysts for the transesterification of ethylene carbonate using methanol in batch and in continuous reactors. Yields of ca. 84% DMC can be achieved at ambient conditions.



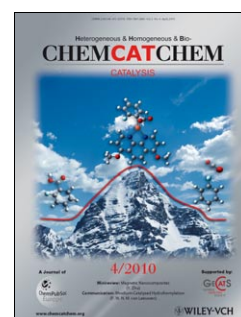
ChemCatChem
DOI: 10.1002/cctc.200900309

Fischer–Tropsch Synthesis

H. Xiong, M. Moyo, M. K. Rayner, L. L. Jewell, D. G. Billing,
N. J. Coville*

Autoreduction and Catalytic Performance of a Cobalt Fischer–Tropsch Synthesis Catalyst Supported on Nitrogen-Doped Carbon Spheres

Cobalt oxide supported on N-CSs (ca. 700 nm), prepared by deposition precipitation and autoreduced by the carbon supports, gives good performance as a catalyst for Fischer–Tropsch synthesis, better than that achieved by similar catalysts reduced with hydrogen. This effect is related to the trapping of the cobalt in cavities on the eroded carbon surface.



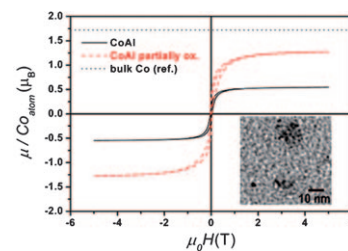


Nano-Alloy Engineering

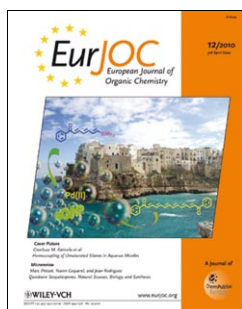
M. Cokoja, H. Parala, A. Birkner, R. A. Fischer, O. Margeat, D. Ciuculescu, C. Amiens,* B. Chaudret, A. Falqui, P. Lecante

Organometallic Synthesis of β -CoAl Nanoparticles and β -CoAl/Al Nanoparticles and Their Behaviour upon Air Exposure

β -CoAl nanoparticles have been prepared by a soft organometallic route. The alloy character of the bimetallic nanoparticles was demonstrated by wide-angle X-ray scattering and X-ray absorption techniques. Upon air exposure, the magnetisation of these nanoparticles first increases suggesting the formation of a $\text{Co}/\text{Al}_2\text{O}_3$ nanocomposite, then collapses upon full oxidation of the material. Core/shell CoAl/Al nanoparticles, of increased air stability, were also prepared by a seed-mediated growth process.



Eur. J. Inorg. Chem.
DOI: 10.1002/ejic.200901228

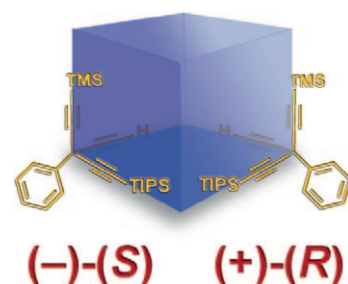


Chiral Methanes

B. Buschhaus, V. Convertino, P. Rivera-Fuentes, J. L. Alonso-Gómez, A. G. Petrovic, F. Diederich*

Optically Active Trialkynyl(phenyl)methane: Synthesis and Determination of Its Absolute Configuration by Vibrational Circular Dichroism (VCD) and Optical Rotatory Dispersion (ORD)

The synthesis and optical resolution of an asymmetrically silyl-protected trialkynyl(phenyl)methane was accomplished. The absolute configuration was unambiguously determined by using VCD spectroscopy and optical rotatory dispersion, in combination with quantum chemical calculations. This building block will be used for the construction of a phenylated expanded cubane.



Eur. J. Org. Chem.
DOI: 10.1002/ejoc.201000076

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