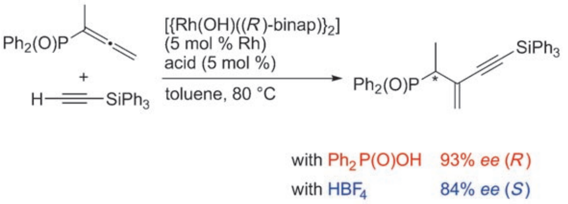
Asymmetric Catalysis

T. Nishimura Xun-Xiang Guo, T. Hayashi**

Rhodium-Catalyzed Asymmetric Addition of Terminal Alkynes to Diarylphosphinylallenes

Chem. Asian J.
DOI: **10.1002/asia.200800042**



Just add acid: The asymmetric addition of terminal alkynes to allenes to form enynes is presented for the first time. The presence of an acid was found to be essential in the reaction giving *exo*-enynes in high yields with high regio- and enantioselectivity. The stereochemical outcome is shown to be determined by the protonolysis of the π-allylrhodium(I) intermediate involved in the catalytic cycle.

Peptides

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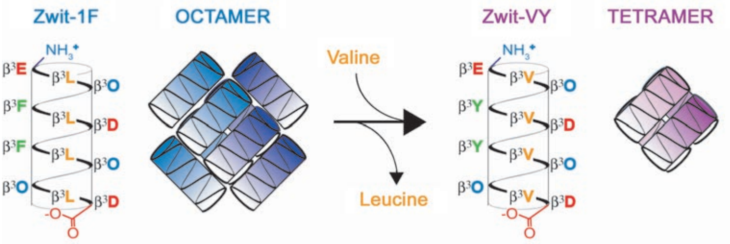
Tetrameric β^3-Peptide Bundles

ChemBioChem
DOI: **10.1002/cbic.200800039**



A question of identity: There is significant interest in the design of discrete, nonproteinaceous quaternary structures. We recently described a series of β^3-peptides that assemble into stable octameric bundles. Here we show that bundle stoichiometry is controlled by the bundle core side-chain identity, whereby mutation of leucine to valine supports formation of discrete and stable tetrameric bundles.

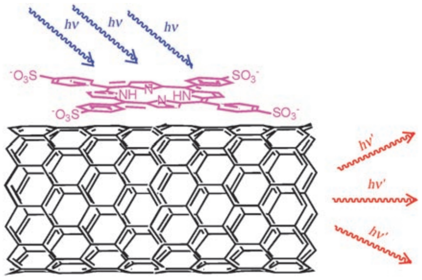
Carbon Nanotubes

G. Magadur, J.-S. Lauret, V. Alain-Rizzo, C. Voisin, Ph. Roussignol, E. Deleporte, J. A. Delaire*

Excitation Transfer in Functionalized Carbon Nanotubes

ChemPhysChem
DOI: **10.1002/cphc.200800104**

Energy flow: Efficient excitation transfer from porphyrins to nanotubes occurs when the porphyrin molecules, which act as antenna, are flattened (π-stacked, see figure) on the nanotube wall. The photoluminescence of the nanotubes is enhanced when the excitation energy is tuned in resonance with the absorption band of the porphyrins.

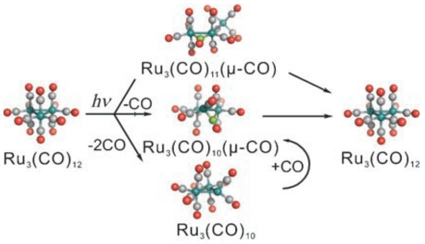


Ultrafast X-ray Scattering

Q. Kong, J. H. Lee, A. Plech, M. Wulff, H. Ihee, M. H. J. Koch*

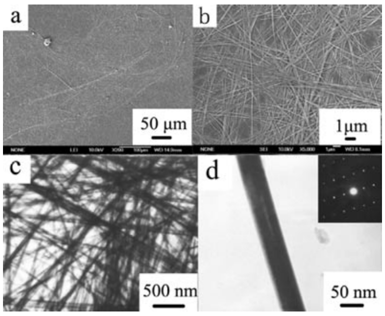
Ultrafast X-Ray Solution Scattering Reveals an Unknown Reaction Intermediate in the Photolysis of [Ru$_3$(CO)$_{12}$]

Angew. Chem. Int. Ed.
DOI: **10.1002/anie.200801153**



A matter of technique: Time-resolved X-ray scattering was used to probe the photolysis of [Ru$_3$(CO)$_{12}$] in cyclohexane, and a new intermediate was identified besides the two μ-CO intermediates known from ultrafast IR spectroscopy (see scheme). The major and hitherto-undetected intermediate contains only terminal CO and thus escaped detection by IR spectroscopy based on absorption bands of bridging CO.

1D V_2O_5 Nanostructures



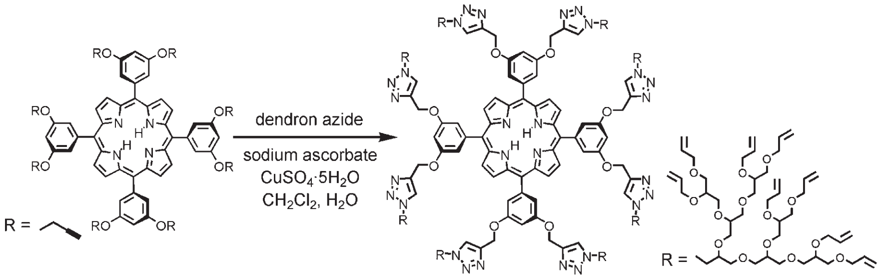
Ultralong orthorhombic V_2O_5 nanowires were synthesized by a facile hydrothermal oxidation route. Further research proves that there are certain criteria for the selection of suitable oxidizers. The optimal oxidizer should not only be thermodynamically favorable, but also kinetically favorable.

F. Zhou, X. M. Zhao, Y. Q. Liu, C. G. Yuan, L. Li*

Synthesis of Millimeter-Range Orthorhombic V_2O_5 Nanowires and Impact of Thermodynamic and Kinetic Properties of the Oxidant on the Synthetic Process

Eur. J. Inorg. Chem.
DOI: **10.1002/ejic.200800148**

Dendrimers



Clicking polyglycerol dendrons to a porphyrin core gives dendrimers with molecular weights of approximately 8000 and 16000 and with 64 and 128 allyl ether groups on their periphery, respectively.

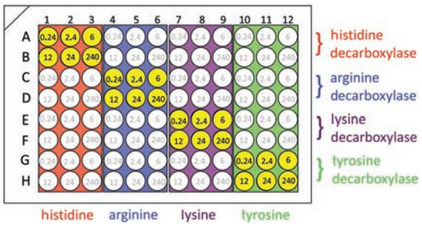
*S. L. Elmer, S. Man, S. C. Zimmerman**

Synthesis of Polyglycerol, Porphyrin-Cored Dendrimers Using Click Chemistry

Eur. J. Org. Chem.
DOI: **10.1002/ejoc.200800401**

Amino Acids

Beautifully unselective: The unselective recognition of macrocycles can be teamed up with the specificity of enzymatic reactions for the sensing of several amino acids in both cuvette and microtiter plate format (see scheme) and for the determination of extreme enantiomeric excess values up to 99.98 %. The enantiospecific enzymatic decarboxylation of L-amino acids affords more highly positively charged amine products which displace a fluorescent indicator dye from the cation receptor cucurbit[7]uril.



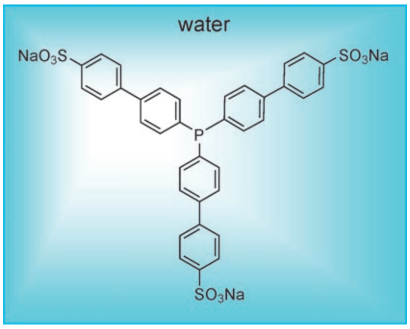
*D. M. Bailey, A. Hennig, V. D. Uzunova, W. M. Nau**

Supramolecular Tandem Enzyme Assays for Multiparameter Sensor Arrays and Enantiomeric Excess Determination of Amino Acids

Chem. Eur. J.
DOI: **10.1002/chem.200800463**

Sustainable Chemistry

Like a fish in water: A true water-soluble analogue of PPh_3 has been prepared starting from biphenyl bromide (see structure). The cone angle and the basicity of the trisulfonated trisbiphenylphosphane are similar to those of PPh_3 and result in a similar coordination mode in palladium and rhodium complexes. The water-soluble phosphane proved efficient as a ligand in aqueous hydroformylation and Tsuji–Trost reactions.



*M. Ferreira, H. Bricout, F. Hapiot, A. Sayede, S. Tilloy, E. Monflier**

A Property-Matched Water-Soluble Analogue of the Benchmark Ligand PPh_3

ChemSusChem
DOI: **10.1002/cssc.200800097**