

A Journal of the Gesellschaft Deutscher Chemiker

D 3461

Angewandte Chemie

50 YEARS International Edition



www.angewandte.org

2011–50/50



Problem Solvers and Thinkers

Editorial by R. A. van Santen

Oligosaccharide Synthesis

Review by C.-H. Wong et al.

Fluorine Conformational Effects

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Quantum Molecular Magnetism

Essay by A. Dei and D. Gatteschi

ACIEFS 50 (50) 11805–12110 (2011) · ISSN 1433–7851 · Vol. 50 · No. 50

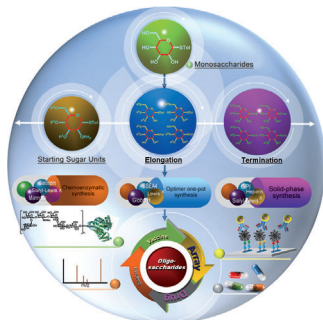


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Cover Picture

Konrad Tiefenbacher, Dariush Ajami, and Julius Rebek, Jr.*

The self-assembly of banana- and S-shaped structures consisting of nine and eleven subunits, respectively, is reported in the Communication by J. Rebek, Jr. and co-workers on page 12003 ff. Characterization of the bent structures by NMR spectroscopic methods and shape-selective encapsulation experiments showed that the banana-shaped molecular capsule could encapsulate a complementary shaped guest that is not encapsulated in the known cylindrical capsules.

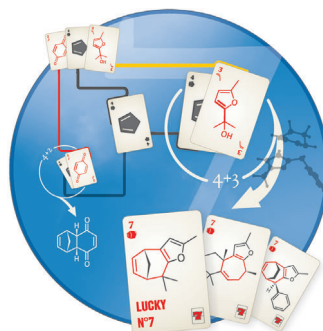
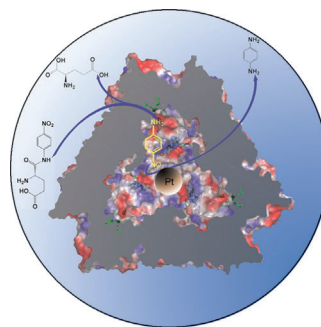


Automated Oligosaccharide Synthesis

C.-H. Wong et al. describe in their Review on page 11872 ff. methods for the automated synthesis of carbohydrates. Of particular interest is the design of carbohydrate microarrays and their application to the development of vaccines based on carbohydrates.

Nanoparticle Hybrids

Inorganic nanomaterials coated with proteins often show improved physical properties. In their Communication on page 11924 ff., K. K. Kim et al. combine the enzymatic activity of a protein shell with the catalytic activity of platinum nanoparticles for multistep organic synthesis.



Synthetic Methods

The (4+3) cycloaddition of simple furfuryl alcohols and dienes is described by J. M. Winne et al. in their Communication on page 11990 ff. This novel Lewis acid promoted process gives access to various polycyclic compounds containing seven-membered rings.