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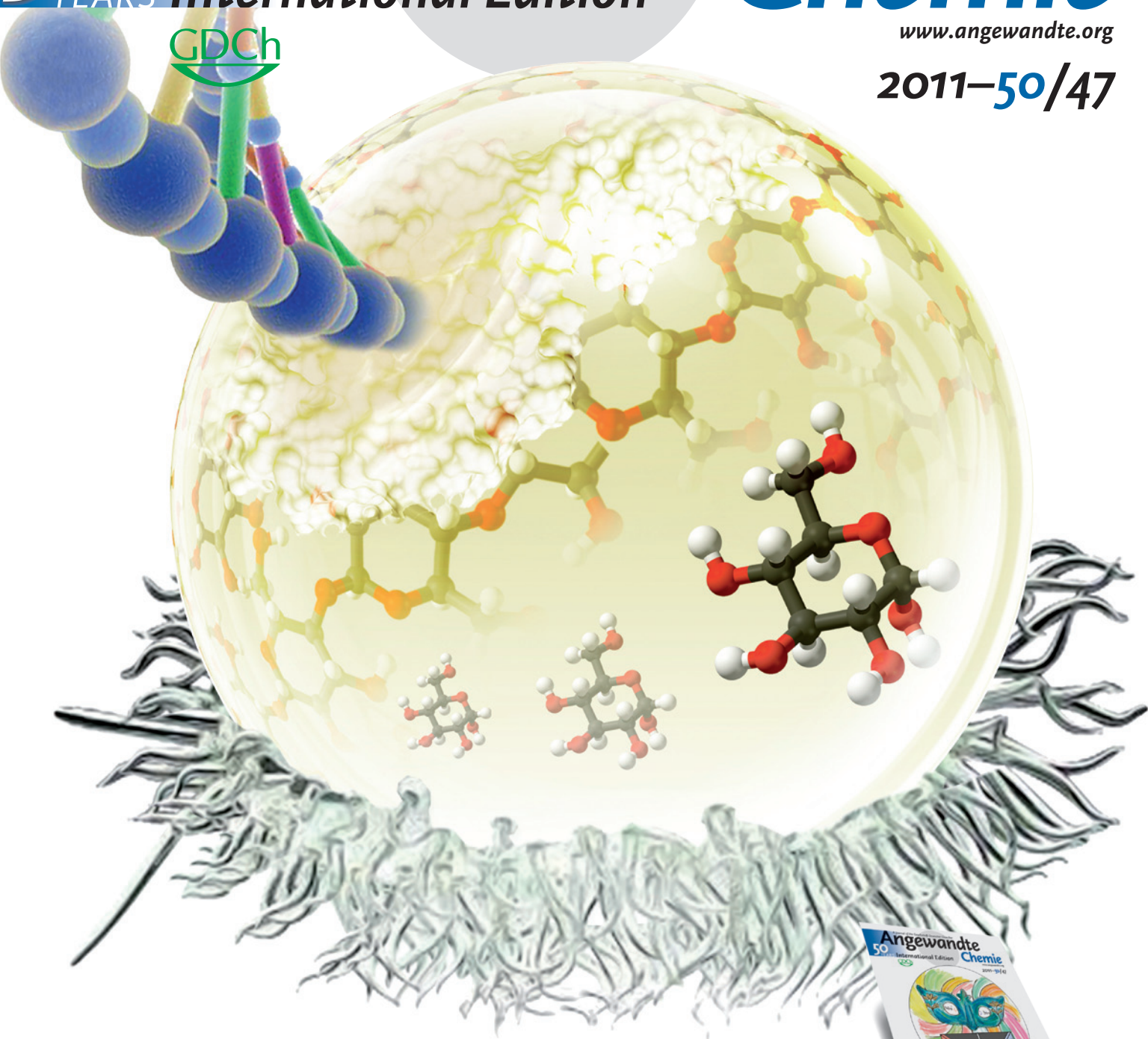
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Aerobic Oxidations

Review by S. S. Stahl et al.

Inorganic Synthesis in Ionic Liquids

Minireview by C. Feldmann et al.

Highlights: Asymmetric Dichlorination • Tishchenko Reaction

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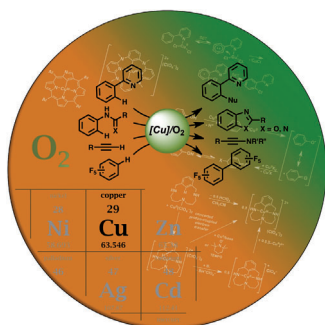
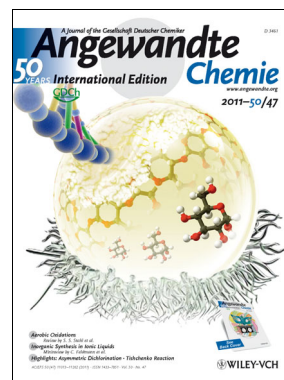
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Cover Picture

Tae-Wan Kim, Harshal A. Chokhawala, Matthias Hess, Craig M. Dana, Zachary Baer, Alexander Sczyrba, Edward M. Rubin, Harvey W. Blanch,* and Douglas S. Clark*

Glycoside hydrolase screening is possible by coupling enzyme expression with enzyme activity in one pot. In their Communication on page 11 215 ff., H. W. Blanch, D. S. Clark et al. describe a high-throughput in vitro glycoside hydrolase screening method, in which the cell-free expression of glycoside hydrolases is powered by monosaccharides. The method enables screening of the activity of cellulases or xylanases on insoluble substrates directly from the DNA that encodes these enzymes.

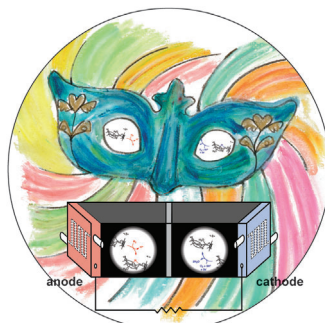
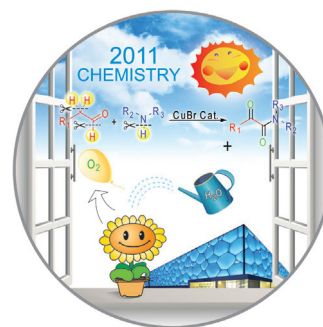


Copper-Catalyzed Aerobic Oxidations

The selective oxidation of C–H bonds and the use of O₂ as an oxidant represent two prominent challenges in organic chemistry. S. S. Stahl and co-workers summarize in their Review on page 11 062 ff. how many of these reactions can be rendered catalytic in copper.

α -Ketoamides

A novel copper-catalyzed aerobic oxidative coupling of aryl acetaldehydes with anilines is described by N. Jiao et al. in their Communication on page 11 088 ff. The reaction involves the cleavage of two C_{sp³}–H bonds as well as one C_{sp²}–H and one N–H bond.



Fuel Cells

In their Communication on page 11 202 ff., S. Ogo and co-workers describe a complete fuel cell based on a molecular [NiFe]hydrogenase mimic. The complex catalyzes the oxidation of H₂ to protons and functions in both solid and solution phases.