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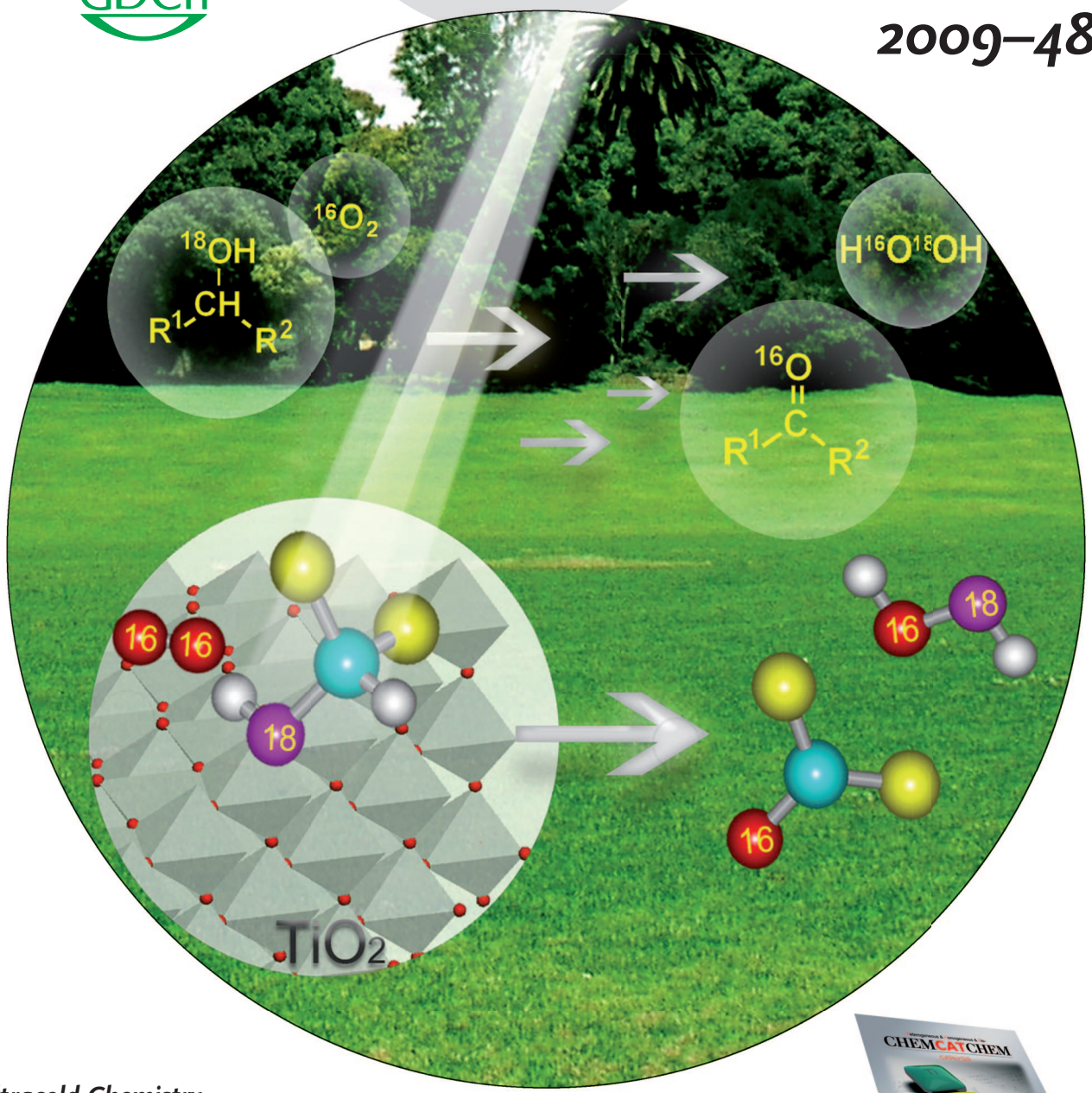

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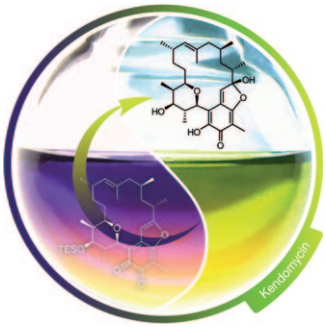
Cover Picture

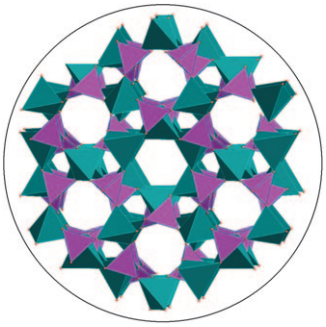
Miao Zhang, Qi Wang, Chuncheng Chen, Ling Zang, Wanhong Ma,* and Jincai Zhao*

An Oxygen-Atom Transfer in the photocatalytic aerobic oxidation of alcohols by TiO_2 is identified through the oxygen isotopic labeling studies shown in the cover picture and described by J. Zhao and co-workers in their Communication on page 6081 ff. They found that the oxygen atom in the substrate alcohol is completely replaced by an oxygen atom from dioxygen during the photocatalytic transformation. The reaction occurs over pure anatase TiO_2 in organic solvents such as benzotrifluoride.

Cold Molecules
Molecules that have been cooled to near absolute zero offer numerous possibilities for high-resolution spectroscopy and the study of exotic phenomena, such as quantum tunneling. M. Schnell and G. Meijer present the current state of research in the field of ultracold molecules in their Review on page 6010 ff.



Natural Product Synthesis
J. Mulzer and co-workers describe two new ways to synthesize the antibiotic kendomycin in their Communication on page 6032 ff. One route utilizes a ring-closing metathesis to form the macrocycle, and the other uses a photo-Fries rearrangement.



Asymmetric Crystallization
In their Communication on page 6049 ff., X. Bu and co-wokers report how the asymmetric crystallization of an inorganic zeolite-type material has been achieved by using a nucleotide as the chirality-induction agent. The functional groups of this agent match the bonding features in the chiral crystals.