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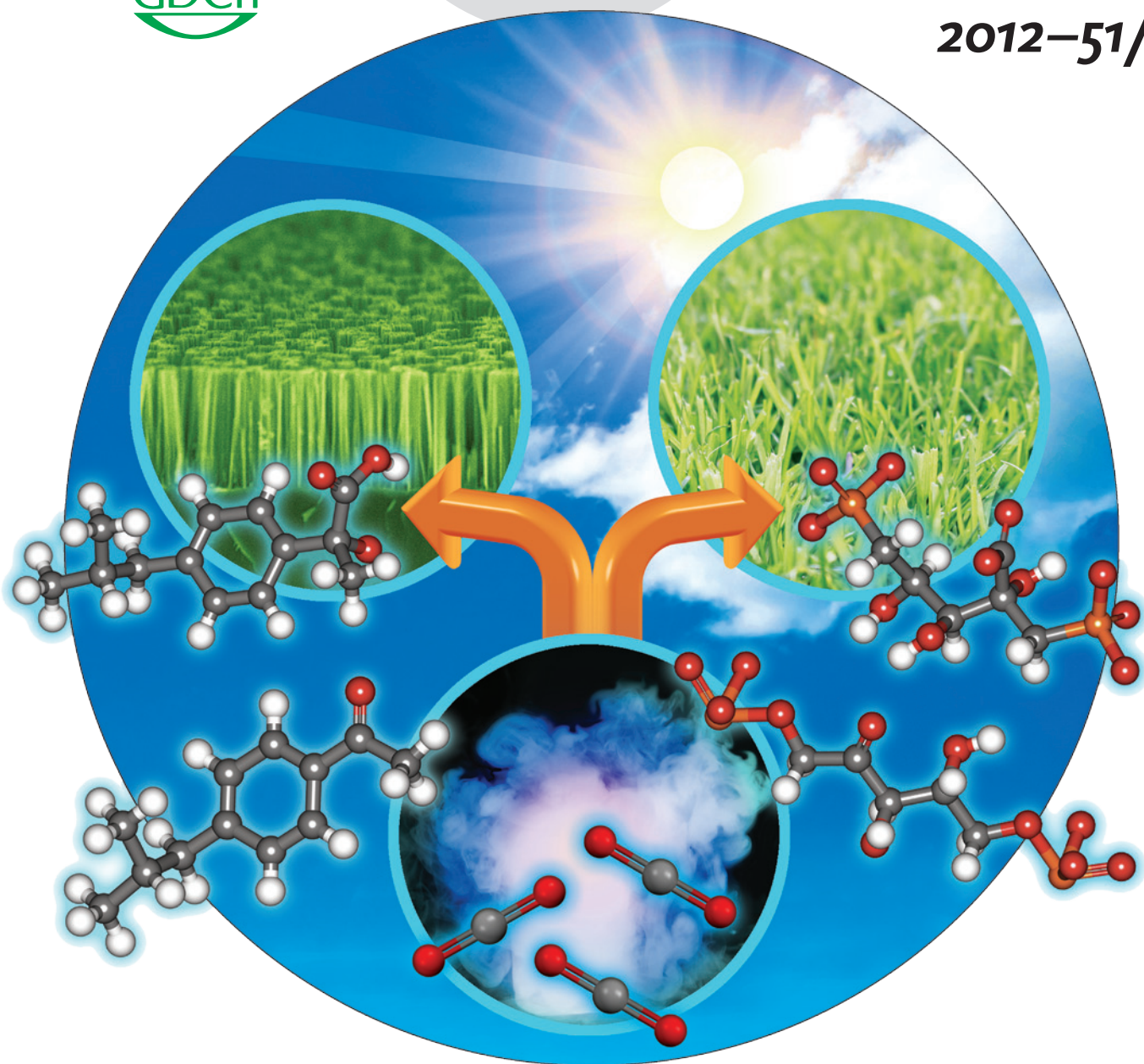
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Biomimetic Materials Synthesis

Review by N. A. J. M. Sommerdijk and F. Nudelman

Self-Assembled Multivalency

Minireview by D. K. Smith and A. Barnard

Highlights: P_1 -Centered Cations • Carbon Nanostructures

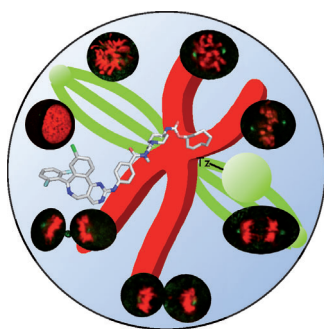
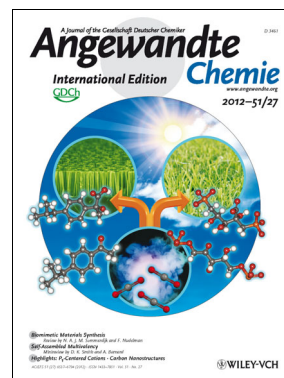
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Cover Picture

Rui Liu, Guangbi Yuan, Candice L. Joe, Thomas E. Lightburn, Kian L. Tan,* and Dunwei Wang*

Photofixation of CO_2 to produce synthetically valuable molecules can be achieved on a photoelectrode based on silicon nanowires. In their Communication on page 6709 ff., K. L. Tan, D. Wang et al. develop a strategy that uses aromatic ketones to receive the photogenerated electrons. The resulting radicals then react with carbon dioxide to afford α -hydroxy acids, which are precursors for the drugs ibuprofen and naproxen. In close resemblance to natural photosynthesis, their strategy gains reaction specificity by avoiding the direct reduction of CO_2 .

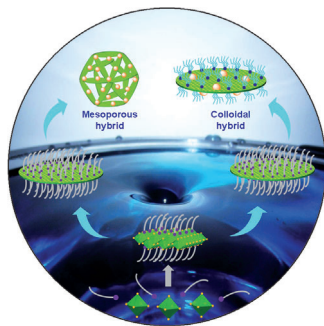
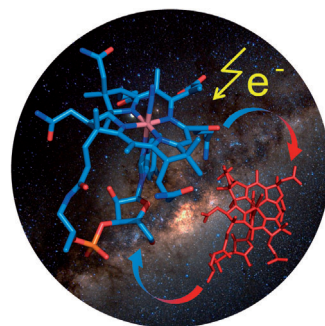


Cell Imaging

Aurora kinase A (AKA) plays a key role in mitosis. In their Communication on page 6598 ff., R. Weissleder and co-workers show how AKA can be imaged in live cells using a fluorescent reporter and an AKA inhibitor.

Vitamin B_{12}

A new facet in the chemistry of vitamin B_{12} has been discovered by B. Kräutler et al. On page 6780 ff., they report the efficient reductive ring closure of a secocorrinoid to reconstitute the macrocycle of vitamin B_{12} .



Hybrid Materials

In their Communication on page 6608 ff., F. Kleitz, T.-O. Do, and co-workers present the synthesis of uniform titanate nanodisks that can be used as building blocks for a variety of hybrid nanostructures.