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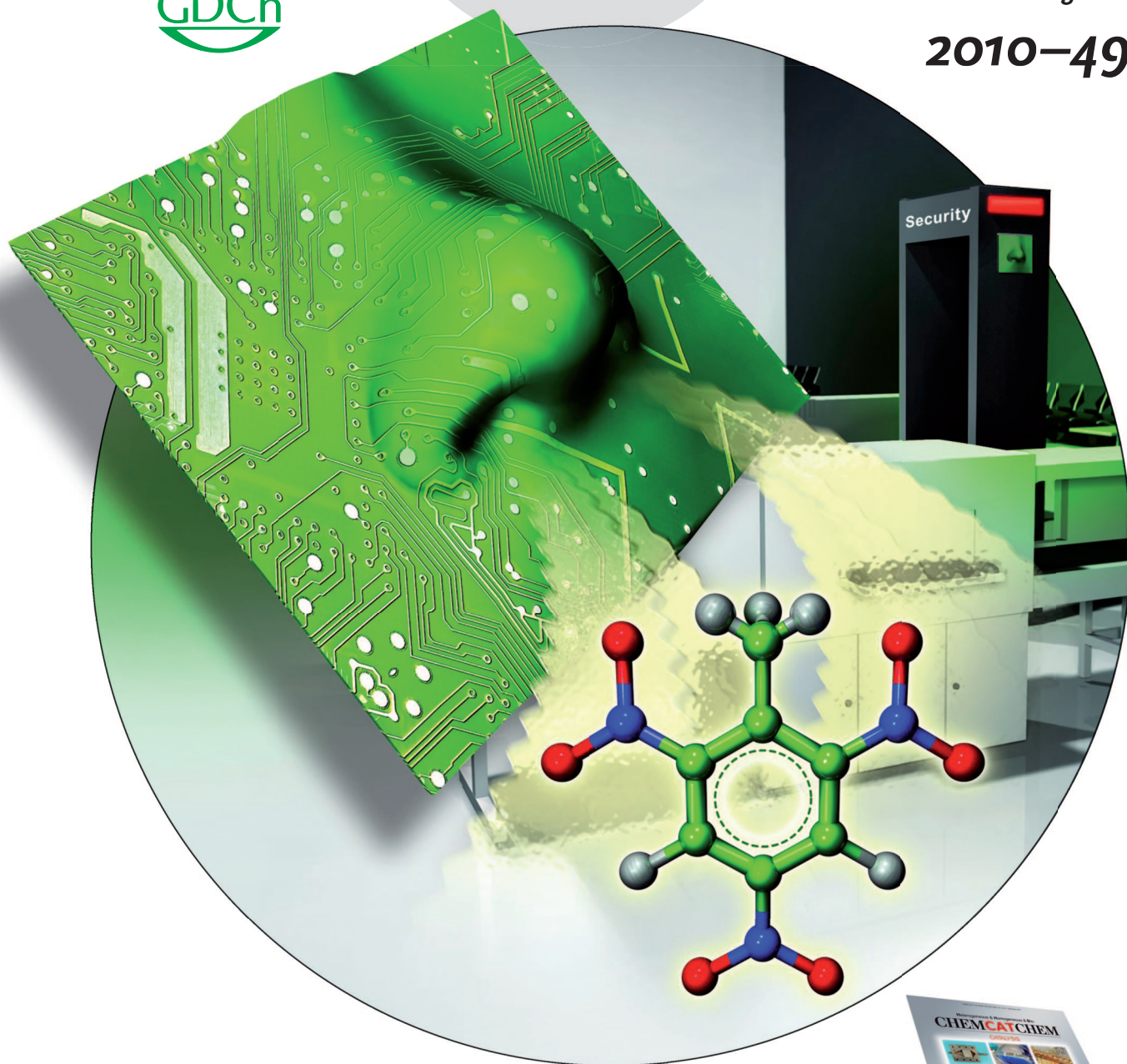
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Carbon Nanodots

S. N. Baker and G. A. Baker

Supramolecular Gels

J. A. Foster and J. W. Steed

Methane Oxidation

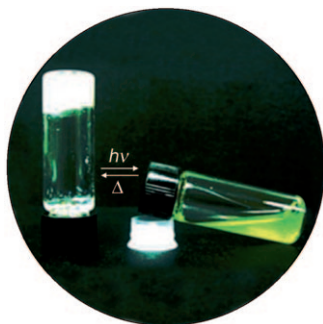
R. K. Thauer • K. D. Karlin et al.



Cover Picture

Yoni Engel, Roey Elnathan, Alexander Pevzner, Guy Davidi, Eli Flaxer, and Fernando Patolsky*

TNT and other explosives can be detected in air by using silicon nanowire arrays modified with electron-rich aminosilane monolayers. As F. Patolsky and co-workers report in their Communication on page 6830 ff., these devices, in which the electron-deficient explosive molecules are bound to the monolayer through charge-transfer interactions, offer rapid label-free detection of explosives down to a detection limit of 0.1 femtomolar (1×10^{-6} ppt). Artwork by Tremani.

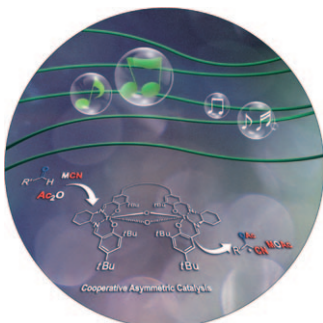
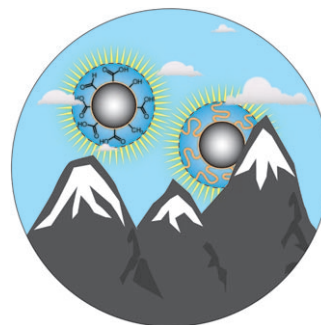


Cavitand Gelators

In their Minireview on p. 6718 ff, J. W. Steed and J. A. Foster describe how the broad principle of supramolecular chemistry and an understanding of gel structure can be utilized intelligently in the design of responsive cavity-containing gelators.

Carbon Quantum Dots

Just like the fullerenes, carbon nanotubes, and graphenes, the latest form of nanocarbon, the carbon nanodot, is inspiring intensive research efforts. The current status of this field is summarized by S. N. Baker and G. A. Baker in their Review on page 6726 ff.



Bimetallic Catalysts

A catalyst containing two salen/Ti=O units allows the enantioselective cyanation of aldehydes. In their Communication on page 6746 ff., K. Ding and co-workers demonstrate the utility of this catalyst to afford enantioenriched natural or nonnatural cyanohydrin derivatives.