

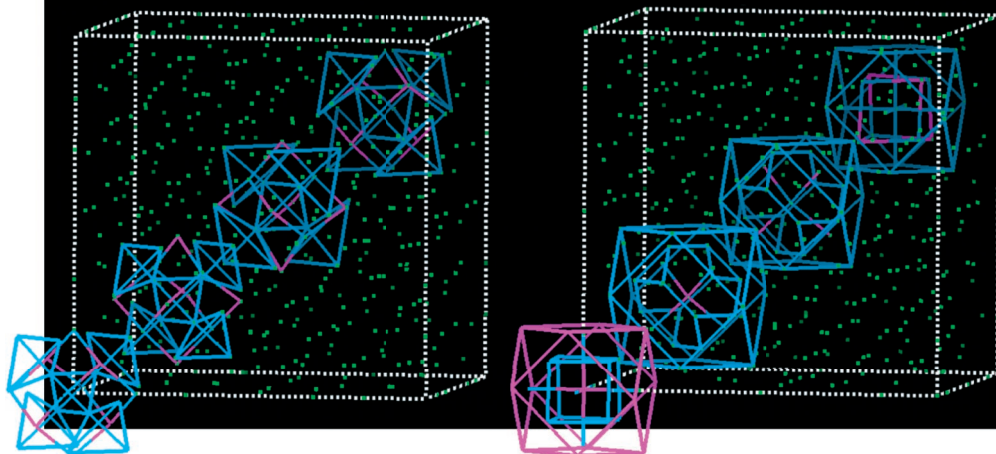
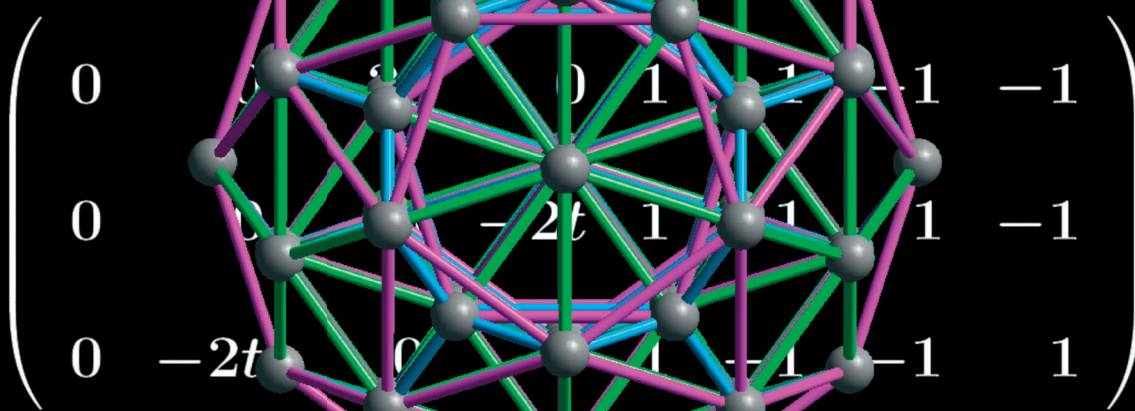
# CHEMISTRY

## A EUROPEAN JOURNAL

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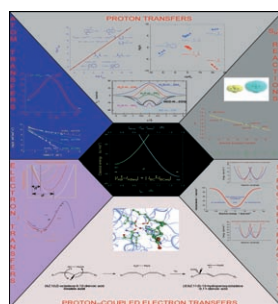
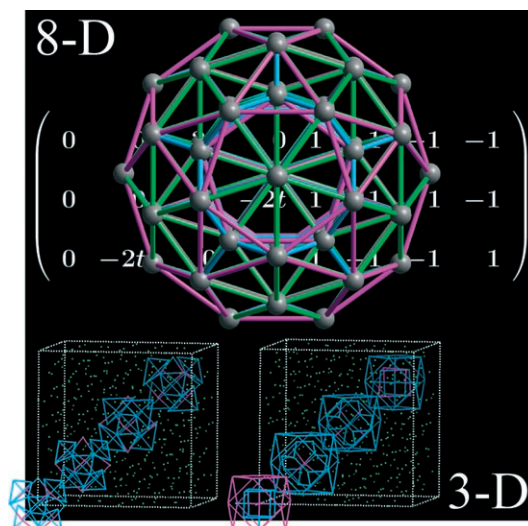
**Concept**  
Understanding Chemical Reactivity:  
The Case for Atom, Proton and Methyl Transfers  
L. G. Arnaut and S. J. Formosinho

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# Crystals in hyperspace!

...The mysterious quality of many large unit-cell inorganic crystal structures reminds us that chemists do not yet have a unified understanding of what drives certain structures to exist over others. S. Lee et al. show, in their Full Paper on page 6627 ff., that several common intermetallic structure types and their more complex superstructures are rational projections of a single higher dimensional crystal lattice.

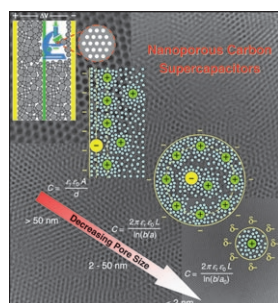
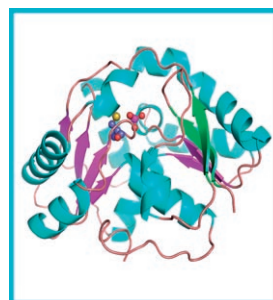


## Chemical Reactivity

In their Concept article on page 6578 ff., L. G. Arnaut and S. J. Formosinho discuss a quantification of the concept of “chemical reactivity”, emphasizing the role of molecular and electronic factors in chemistry.

## Aryl Malonate Decarboxylase

In their Communication on page 6609 ff., J. Micklefield, D. Leys et al. describe the first high-resolution X-ray crystal structure of a cofactor-independent aryl malonate decarboxylase, which reveals the mechanism of this unusual enzyme. Notably, a dioxyanion hole, a hitherto unidentified structural motif, is postulated to be critical in the stabilization of a putative enediolate intermediate formed during decarboxylation.



## Carbon Supercapacitors

Supercapacitors are emerging as a novel type of energy-storage device with the potential to replace batteries in applications that require high power densities. In their Full Paper on 6614 ff., Huang et al. propose a heuristic theoretical model for nanoporous carbon supercapacitors that takes pore curvature into account as a replacement for the commonly used electric double-layer capacitor model.

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