CHEMISTRY

A EUROPEAN JOURNAL

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EUChemSoc

Concepts

Extrahelical-Damaged Base Recognition by DNA Glycosylase Enzymes
J. T. Stivers

Decrypting the TEM Images for Deciphering
the Microstructural Code of Complex Oxides
M. Hervieu et al.

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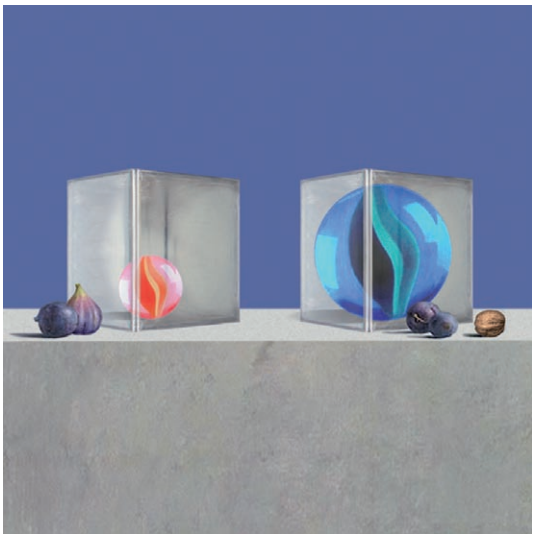
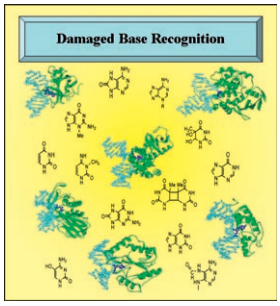
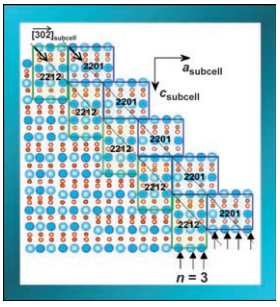
… when considering if a group 14 atom (A = silicon or carbon) can form stable, hypervalent $[Cl–AH_3–Cl]^-$ structures or not. In their Full Paper on page 819 ff., F. M. Bickelhaupt et al. present the ball-in-a-box model that shows how silicon fits perfectly into the box formed by the substituents, whereas carbon is too small and "drops to the bottom".

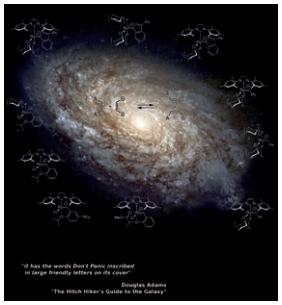




DNA Repair Enzymes
In his Concepts article on p. 786 ff., J. T. Stivers describes the structural and mechanistic approaches to provide insight into the molecular recognition and enzymatic repair of damaged bases concealed in the DNA double helix.



Solid-State Structures
In their Concepts article on page 794 ff., M. Hervieu et al. describe a strategy in which they research "signatures" of the different structural levels existing in the complex materials, at different length scales by means of transmission electron microscopy. The challenge is to achieve an accurate interpretation of these signals with a combination of any of the required solid-state techniques.



Metathesis Catalysts
In their Full Paper on page 806 ff., K. Grela et al. describe a comparative study on selected modern ruthenium catalysts and demonstrate the difficulty in anticipating the activity of pre-catalysts with respect to a specific substrate. They point out that, unfortunately, different catalysts prove to be optimal for different applications and no single catalyst outperforms all others in all cases.