CHEMISTRY
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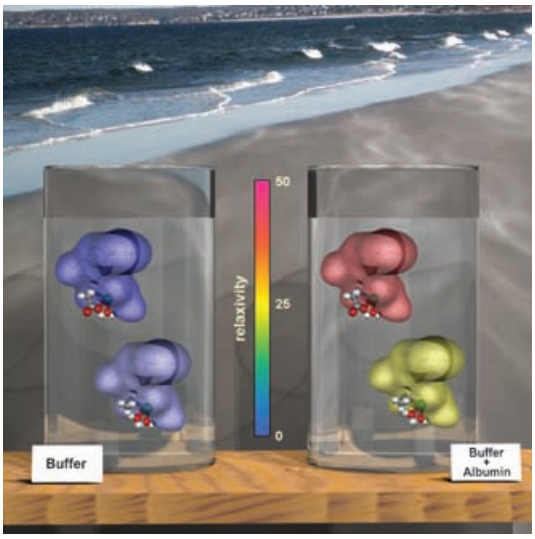
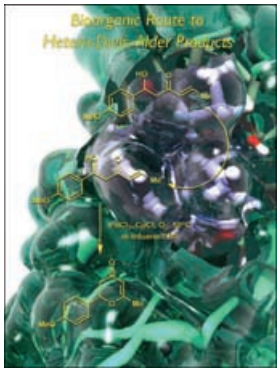
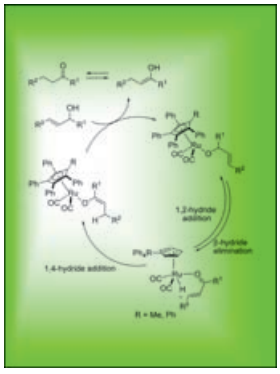
… act by relaxing water protons. When an acetate group on the MRI angiography contrast agent MS-325 is replaced with a methyl group, it opens up a coordination site for a second water ligand. The additional water is expected to improve the relaxivity of the new complex, and this is observed in buffer solution. However, in the presence of the plasma protein serum albumin the relaxivity is only about half that of MS-325, making the new compound less attractive for blood vessel imaging. On page 5866 ff., P. Caravan et al. describe the synthesis of this novel gadolinium complex and report mechanistic studies indicating that slow water exchange limits relaxivity. The artwork was created by Vincent Jacques.





Biocatalysis
In their Concept on page 5806 ff., V. Gouverneur and M. Reiter describe a novel biocatalytic approach to hetero-Diels–Alder (HDA) adducts derived from carbonyl dienophiles, which has a stepwise aldol Michael mechanism instead of a concerted pathway. In this approach, the two key steps are an antibody-mediated kinetic resolution of β-hydroxyenones and a subsequent ring-closure process.

Amino Acid Based Dendrons
In their Full Paper on p. 5817ff., H.-F. Chow and J. Zhang describe the synthesis of a library of α-amino acid based layer-block dendrons. The gelation ability of these compounds is found to be highly dependent on the amino acid, its layer-block sequence within the dendritic architecture, and the nature of the focal-point functionality.



Isomerization of Allylic Alcohols
In the Full Paper on page 5832 ff., J.-E. Bäckvall, B. Martín-Matute et al. describe the investigation of ruthenium-catalyzed isomerization of allylic alcohols to the corresponding saturated ketones. Mechanistic studies were also undertaken.

