CHEMISTRY
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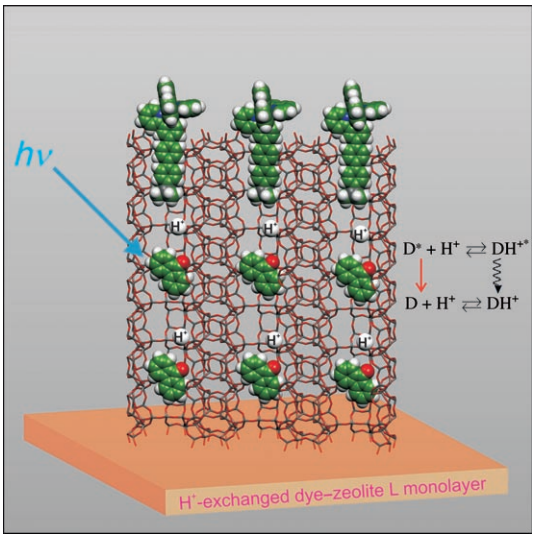
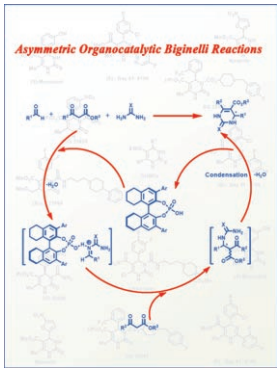
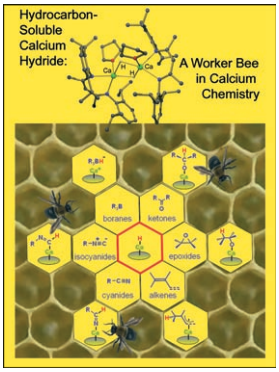
… inside the channels of zeolite L have been studied. In their Full Paper on page 8939 ff., G. Calzaferri and R. Q. Albuquerque described how the systems investigated have been divided into closed, semi-open and open types, depending on the ability to exchange molecules or ions between the channels and the environment. The diagram shows protonation of a dye (OxH^+) in the ground state and in the electronically excited state. The influence of the proton activity on the luminescence of encapsulated dyes has been is discussed in this paper, with special attention being given to luminescence quenching by excited-state protonation.

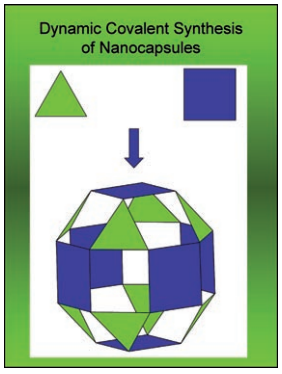




Multicomponent Reactions
In their Concepts article on page 8920 ff., L.-Z. Gong et al. describe the asymmetric organocatalytic Bigninelli reaction as a tool to prepare optically active 3,4-dihydropyrimin-2-(1*H*)-ones in a straightforward and efficient fashion.

Calcium Hydride Complexes
In their Full Paper on page 8928 ff., S. Harder and J. Spielmann describe the reactions of hydrocarbon-soluble calcium hydride complex [{CaH(dipp-nacnac)(thf)}$_2$] (**1**; dipp-nacnac = CH{(CMe)(2,6-*i*Pr$_2$C$_6$H$_3$N)}$_2$) with a variety of unsaturated bonds (alkenes, ketones, cyanides, isocyanides), epoxides and Lewis acids. This is in striking contrast to the reactivity of homoleptic CaH_2 that is essentially inert to these functional groups.





Nanocapsules
In their Full Paper on page 8953 ff., R. Warmuth et al. describe the dynamic covalent synthesis of nanocapsules. The use of two two-dimensional building blocks yields a pure nanocapsule in a high yield. It is predicted that this design principle will be widely applicable to allow the preparation of other nanospheres from different square and triangular building blocks.