CHEMISTRY
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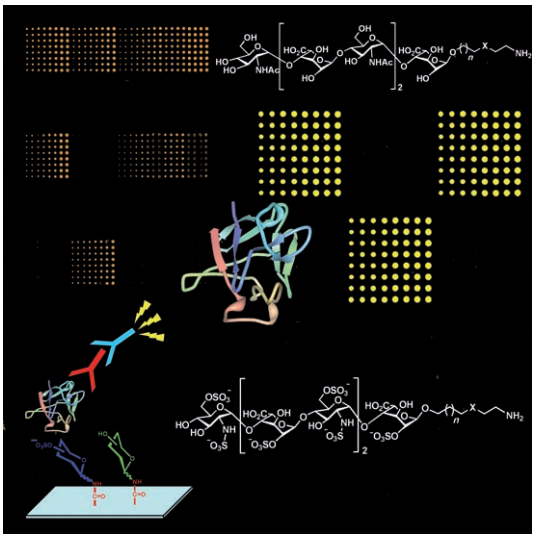
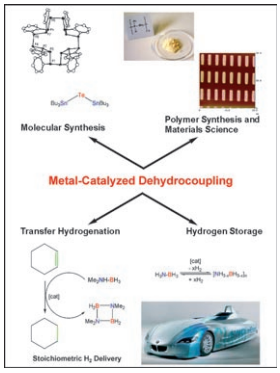
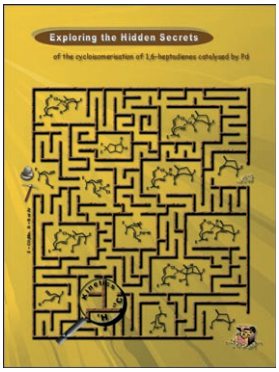
… were employed to characterize the binding profiles of three heparin-binding growth factors (FGF-1, FGF-2, and FGF-4). The results, presented in the Full Paper by P. H. Seeberger et al. on page 8664 ff., demonstrate the potential of synthetic heparin-oligosaccharide microarrays to elucidate the role of defined heparin sequences in biological processes, creating an opportunity for the discovery of novel therapeutic interventions for a variety of disease states. (The protein in the cover picture was taken from the RSCB Protein Databank (1FGA.pdb).)

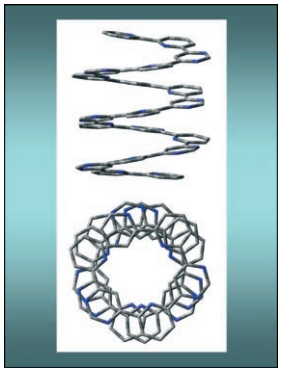




Bond-Forming Processes
Although the use of metal-mediated dehydrocoupling as a route to the formation of bonds between main-group elements is still in its relative infancy, many significant advances have been made, as discussed in the Concept article by I. Manners et al. on page 8634 ff.



Highly Regioselective Cycloisomerization
In their Full Paper on p. 8650 ff., G. C. Lloyd-Jones et al. describe how they were able to elucidate the mechanism of the highly regioselective cycloisomerization of 1,6-heptadiene, which is catalyzed by Pd. Isotopic labeling and linear free-energy relationships proved pivotal in the investigation.



Nonlinear Optics
In their Full Paper on page 8687 ff., B. Champagne et al. discuss the potential of helical structures for the organization of chromophores in such a way that they exhibit large and specific second-order nonlinear optical responses.