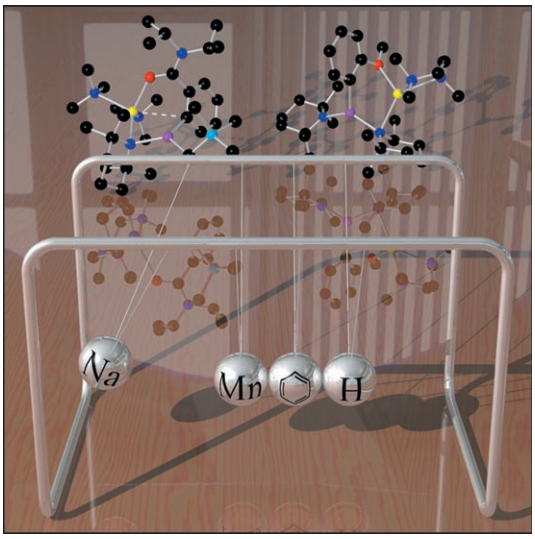
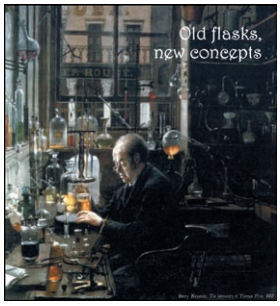
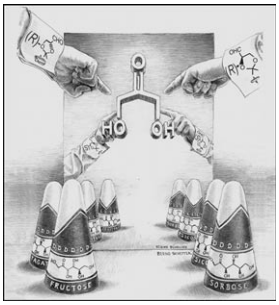
CHEMISTRY
A EUROPEAN JOURNAL

… demonstrates the concept of alkali-metal-mediated manganation. On its own as part of a conventional organomanganese compound Mn^{II} cannot usually directly metalate arene molecules. However, pushed by sodium in the form of a sodium manganate reagent, Mn^{II} can form direct Mn–C(arene) bonds selectively knocking off a hydrogen atom and forming a sodium–manganese–arene complex. In their Full Paper on page 65 ff., R. E. Mulvey et al. discuss the first examples of direct manganation of functionalised arenes.

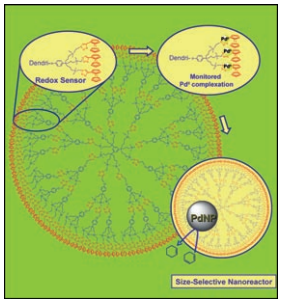




Molecular Devices
In their Concept article on page 26 ff., V. Balzani et al. describe how the marriage of the synthetic talent of chemists with an engineering mentality and a clever use of chemical, photonic, and electronic inputs to stimulate molecular and supramolecular species have led to the construction of a variety of molecular devices and machines capable of processing energy and signals.



Organocatalysis
In their Concept article on page 40 ff., R. Mahrwald and M. Markert discuss the current aspects of total syntheses of carbohydrates by organocatalyzed aldol additions of dihydroxyacetone.



Dendrimers
A full account of the synthesis and characterization of a variety of novel click dendrimers is provided in the Full Paper on page 50 ff. by D. Astruc et al. The engineering and precise redox sensing of Pd^{II} leads to the production of various dendrimer-encapsulated Pd nanoparticles with a pre-organized number of Pd atoms. These molecules are shown to be highly efficient, stable, and size-selective hydrogenation catalysts.

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