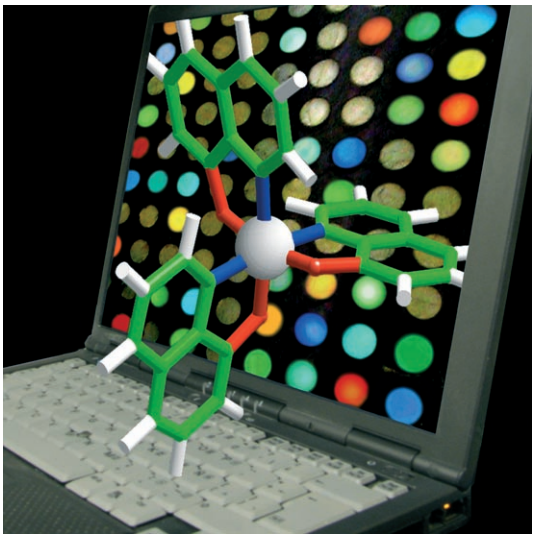
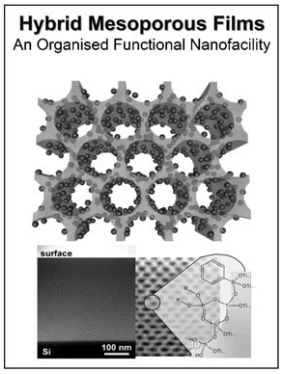
Organic light-emitting diodes (OLEDs)…

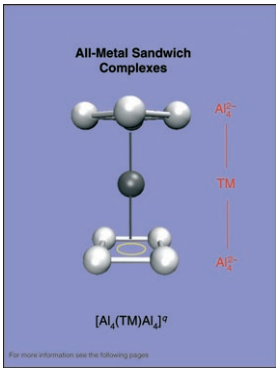
… represent a new technology for a future generation of flat-panel displays. Over the years, significant efforts have been invested towards developing light emitters for the primary colors red, green, and blue to display the RGB signal. In the Full Paper on page 4523 ff., P. Anzenbacher, Jr., et al. demonstrate how effective modification of one of the most prominent OLED materials, tris(quinolinolate) aluminum(III) (Alq_3), results in tuning of its HOMO/LUMO energy levels, which is essential for using Alq_3 derivatives as host materials for various dopants and for tuning the color of the light emitted by the devices.

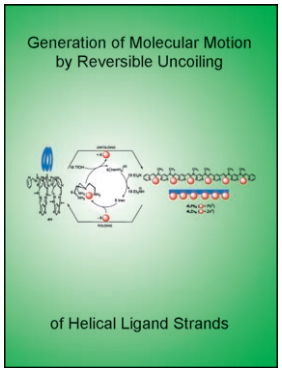




Hybrid Materials
In their Concept article on page 4478 ff., G. J. A. A. Soler-Illia and P. Innocenzi describe the chemical concepts that lie beneath the complex phenomena involved in the production of mesoporous hybrid thin films (MHTFs), particularly in oxide-derived materials. The synthesis methods and characterisation techniques specifically needed to understand structure, orientation and composition of MHTFs are also described.

Aromatic Aluminum
In their Full Paper on page 4495 ff., J. M. Mercero, J. M. Uglade et al. describe the characterization of the structures and the properties of a series of $[Al_4MAl_4]^{q-}$ sandwich complexes ($q=2$, 1, 0 and M = Ti, V, Cr, Zr, Nb, Ta, Mo, Hf, Ta, and W). The aromatic all-metal aluminum square ring is of special interest as it has properties that are usually associated with organic molecules.





Rack- and Grid-Type Metallosupramolecular Structures
The interaction of metal ions with helical ligand strands generates polymetallic supramolecular architectures of rack and grid types by uncoiling of the ligand. The interconversion between the helical free ligand and the linearly extended ligand in the complexes produces reversible ion-induced, nanomechanical molecular motions of large amplitude. Details of this work by J.-M. Lehn et al. are discussed in the Full Paper on page 4503 ff.