2009-48/32 LiHMDS CHEMSUS CHEM

Nobel Lectures: HIV and PapillomavirusesF. Barré-Sinoussi, L. Montagnier, and H. zur Hausen

Alkaline Earth Metal Catalysis

U. Kazmaier

Electronic Structure

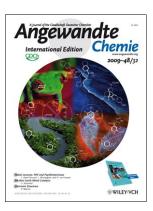
P. Macchi

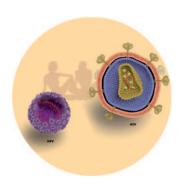
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Cover Picture

Wei Zhu, Marisa Mena, Eric Jnoff, Na Sun, Patrick Pasau, and Léon Ghosez*

Multicomponent reactions open up a versatile and efficient route to mono- and polycyclic piperidine derivatives, which are common substructures in biologically active natural products. In their Communication on page 5880 ff., L. Ghosez et al. show that the substitution pattern and the configuration of the piperidine rings can be tailor-made, thereby offering opportunities for creating structural, functional, and configurational diversity in the synthesis of alkaloids.



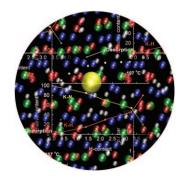


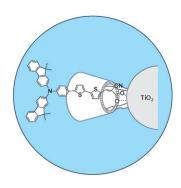
Virology

The role that viral infections play in the formation of cancer and the discovery of the human immunodeficiency virus were the subjects of the Nobel Prize in Medicine in 2008. The award recipients report first-hand in the Nobel Lectures on page 5799 ff.

Hydrogen Storage

In their Communication on page 5828 ff., P. Chen et al. show how treating Mg(NH₂)₂/2 LiH with potassium results in a rapid acceleration of hydrogen desorption from this system, allowing reversible hydrogen release and uptake to be achieved at only 107 °C.





Solar Cells

A solar cell with the dye JK-2 encapsulated in a cyclodextrin and a polymer gel as electrolyte resulted in the highest overall conversion efficiency to date for an organic dye-sensitized solar cell, as J. Ko et al. report in their Communication on page 5938 ff.