

2011-50/31

Nobel Lectures: Graphene
A. K. Geim and K. S. Novoselov

Highlights: Synthetic Biology · Stereoselective Polymerization

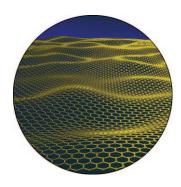


Cover Picture

Dingyong Zhong, Filipa Lourosa Sousa, Achim Müller,* Lifeng Chi,* and Harald Fuchs*

A nanosized metal oxide wheel of the molybdenum blue type of polyoxometalates, the discovery of which was considered as a step to new length scales, has been studied by STM. In their Communication on page 7018 ff., A. Müller, L. Chi, H. Fuchs, and co-workers report that the Mo₁₅₄ cluster has a unique compartmentalized electronic structure, in which each compartment contains two delocalized electrons. This discovery allows a better understanding of these species.



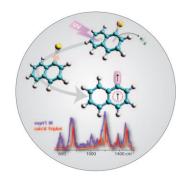


Nobel Lectures

The 2010 Nobel Prize in Physics went to the graphene researchers A. K. Geim and K. S. Novoselov. In their Nobel Lectures on page 6966 ff. and page 6986 ff., the two winners outline the fascinating properties characteristic of this two-dimensional material.

Triplet Naphthyl Cation

IR spectroscopy of the naphthyl carbocation reveals a triplet ground state, in which a π electron is moved to the empty σ orbital, as reported by J. Oomens and H. A. Galue in their Communication on page 7004 ff. The singlet and triplet states are practically isoenergetic.





Halogen Bonds

When the C–Br bond in benzhydryl bromide is activated by a halogen-bond donor it undergoes substitution with acetonitrile, as is described by S. M. Huber and coworkers in their Communication on page 7187 ff.