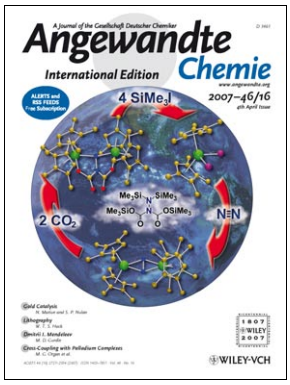
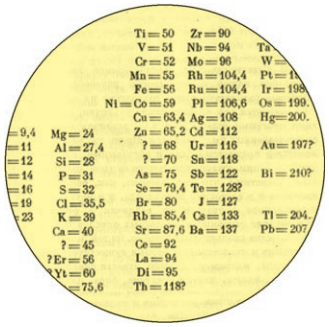
Cover Picture



Wesley H. Bernskoetter, Emil Lobkovsky, and Paul J. Chirik*

Two typically inert molecules, dinitrogen and carbon dioxide, are activated and combined, with the formation of carbon–nitrogen bonds, using a bis(cyclopentadienyl) hafnium compound. The resulting silyl-protected carboxy-hydrazine (central structure) is liberated from the complex upon treatment with the electrophile Me_3SiI, as illustrated in the cover picture. For more information on this reaction, see the Communication by P. J. Chirik and co-workers on page 2858 ff.

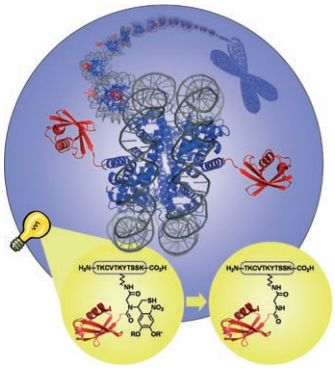


A Great Scientist

On the occasion of the 100th anniversary of the death of Dmitrii Ivanovich Mendeleev, M. D. Gordin examines the many facets of the life of the Russian chemist best known for formulating the Periodic Table, in the Essay on page 2758 ff.

Cross-Coupling

In their Review on page 2768 ff., M. G. Organ and co-workers describe the use of N-heterocyclic carbenes as ligands in palladium-catalyzed cross-coupling reactions. Comparison with established phosphane ligands yields unexpected results.



Peptide Ubiquitylation

In their Communication on page 2814 ff., T. W. Muir and co-workers report a readily adaptable and scalable semisynthetic approach for the site-specific modification of target peptide sequences with ubiquitin and other ubiquitin-like proteins.