

A Journal of the Gesellschaft Deutscher Chemiker

D 3461

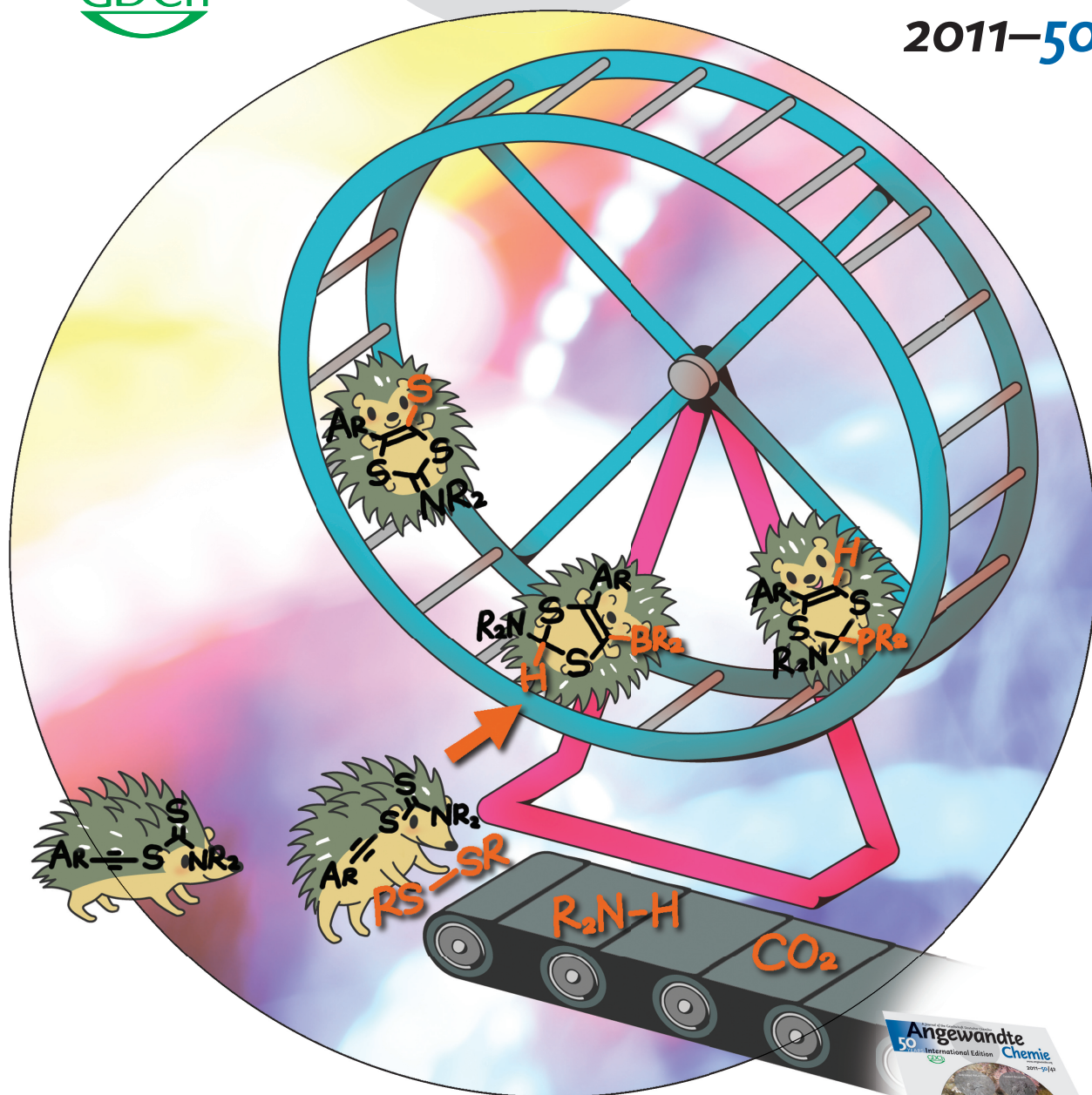
Angewandte Chemie

50 YEARS International Edition



www.angewandte.org

2011–50/42



Metalation of Arenes and Heteroarenes

Review by P. Knochel et al.

Observation of Transcription Processes

Highlight by J. Michaelis and B. Treutlein

Vitamin B₁₂ Radical Chemistry

Highlight by B. Kräutler and B. Puffer

ACIEFS 50 (42) 9759–9992 (2011) · ISSN 1433–7851 · Vol. 50 · No. 42



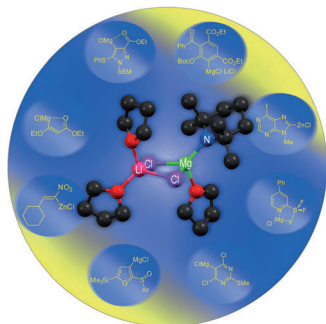
See
Back Cover

WILEY-VCH

Cover Picture

Gaël Ung, Guido D. Frey, Wolfgang W. Schoeller, and Guy Bertrand*

A **hedgehog molecule** activates a variety of bonds. In their Communication on page 9923 ff., G. Bertrand et al. report that an ethynyl dithiocarbamate molecule, $\text{Ar}-\text{C}\equiv\text{C}-\text{S}-\text{C}(\text{S})\text{NR}_2$ (hedgehog on the bottom left), is able to cleave a broad range of enthalpically strong σ bonds. The bond activation process involves either the existence of an equilibrium with the nonobservable cyclic mesoionic carbene isomer or the cooperation of the nucleophilic carbon–carbon triple bond and the electrophilic CS carbon atom, both leading to cyclic products (hedgehogs in the wheel).

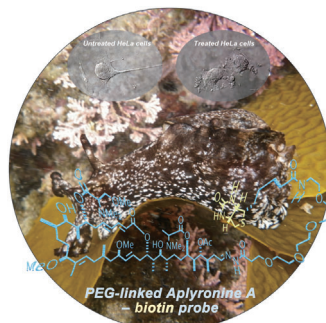
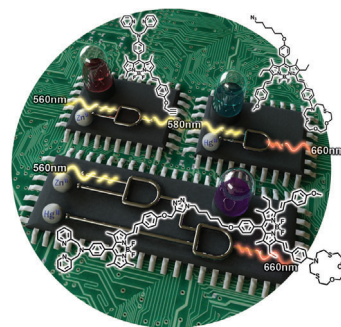


C–H Functionalization

Deprotonation of (hetero)aromatic compounds can be achieved with LiCl-solubilized metal amide bases. The resulting metalated intermediates can be functionalized by reactions with electrophiles, as reported by P. Knochel et al. in their Review on page 9794 ff.

Chemical Logic Gates

Two independently working AND molecular logic gates can be connected by click chemistry to form an integrated logic gate, as described by E. U. Akkaya et al. in their Communication on page 9826 ff. Such gates respond exactly as predicted from the integration scheme.



Natural Products

In their Communication on page 9871 ff., H. Kigoshi et al. report the synthesis of an aplyronine A derivative that shows potent cytotoxicity and causes actin disassembly in tumor cells.