

ORGANOMETALLICS

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Editor's Page

Our cover molecule is one of the metal-complexed carbocyclic 4π systems by Rolf Gleiter and Daniel B. Werz featured in the review in this issue of *Organometallics*: $[3_4](1.2.3.4)$ cyclobutadienophane complexed with two (η^5 -cyclopentadienyl)cobalt units. This novel organocobalt superphane complex, described by Gleiter, Karcher, Ziegler, and Nuber in *Tetrahedron Lett.* **1987**, 28, 195, was prepared by reaction of cyclodeca-1,6-diyne with cyclopentadienylcobalt dicarbonyl (or the CpCo 1,5-cyclooctadiene complex) and isolated as orange-yellow crystals in 12% yield. The review covers in the main results from Professor Gleiter's laboratory at the University of Heidelberg but also includes some related work of others, on novel transition-metal complexes of 4π cyclobutadienes and cyclopentadienones.

Professor Gleiter's original training was in the area of organic chemistry (Ph.D. with F. Effenberger at the University of Stuttgart), but he gained broad experience in theoretical chemistry as well during postdoctoral stays at Princeton University with Paul v. R. Schleyer, at Cornell University with Roald Hoffmann, and during his Habilitation at the University of Basel in the laboratory of Edgar Heilbronner. There he also gained experience in the application of physical techniques such as photoelectron spectroscopy and cyclic voltammetry. As a result, his independent research in organic and organometallic chemistry, first as Professor of Theoretical Organic Chemistry at the Technische Hochschule Darmstadt and, since 1979, as Professor of Organic Chemistry at the University of Heidelberg, has been a model of breadth and thoroughness. His research in the area covered by this review is characterized by brilliant synthetic work, innovative elaboration of chemical reactivity of the cyclobutadiene- and cyclopentadienone-metal complexes (their use in the generation of the free 4π ligands; substitution, isomerization, and ring enlargement reactions), mechanistic studies, and physicochemical investigations relating to questions of structure and bonding, bringing to bear a full arsenal of techniques, including photoelectron, NMR, IR, Raman, and UV/vis spectroscopy, X-ray crystallography, and molecular orbital calculations. This very broad approach was used very effectively in developing the fascinating, very original chemistry that is the subject of this review. This account of a very innovative research program will be of great interest to organic as well as organometallic chemists.

The cover molecule figure was kindly provided by Professor Arnold L. Rheingold.

Dietmar Seyferth

Editor

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