ORGANOMETALLICS

Volume 24, Number 8, April 11, 2005



# *Editor's Page*

Getting benzene to act like a 1,3-diene without losing the third double bond is quite a trick, but it is one that W. Dean Harman, the author, with J. M. Keane, of the review in this issue on "A New Generation of $\pi$-Based Dearomatization Agents", has mastered very nicely. The cover picture shows what needs to be done: one of the three double bonds of the Kekulé structure has to be confined in a metal clamp, leaving the other two free to engage in typical diene reactivity. As the formulas on the cover show, the "metal clamp" is a transition-metal complex fragment with a vacant coordination site to which a single benzene double bond can bind in an $\eta^2$, not in the more common $\eta^6$, manner. Professor Harman's entire research career has been devoted to such challenging chemistry, and some very important and very useful results have been forthcoming from his laboratories at the University of Virginia. Professor Harman's research in this area began in the mid-1980s when he was a graduate student at Stanford University working with Henry Taube. It was the discovery that aromatic molecules such as benzene and pyrrole can bind in an $\eta^2$ manner to the in situ generated Os(II) species $[(H_3N)_5Os]^{2+}$, as shown on the cover, that provided the important initial breakthrough. The utility of $[(H_3N)_5Os]^{2+}$ in activating aromatic molecules toward cycloaddition and electrophilic addition was pursued vigorously, with great success, by Professor Harman and, later, by his students when he joined the University of Virginia in 1989. These results have been the subject of several reviews. During the course of the continuing studies by Professor Harman and his students, other $\pi$-base transition-metal fragments were sought and some very useful ones were found, including those containing rhenium, molybdenum, and tungsten shown on the cover. It is this search and the valuable new synthetic chemistry that was developed using the resulting new "second generation" dearomatization agents that are the subjects of the review in this issue. This is outstanding, cutting-edge chemistry. The well-conceived experimental work that led to these complexes will be of great interest to the organometallic chemist, and the new applications to organic synthesis, I trust, will attract the organic chemists; thus, the review by Keane and Harman will be of great interest to all of our readers.

The cover figure was kindly provided by Professor Harman.

**Dietmar Seyferth**
*Editor*

OM0500826

10.1021/om0500826 CCC: $30.25 
Publication on Web 03/17/2005