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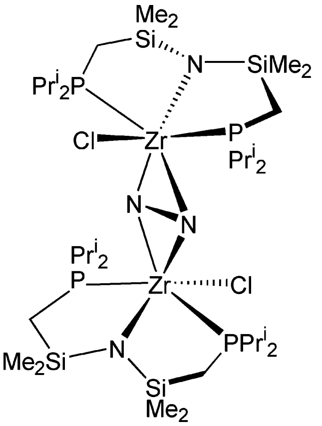
Editor's Page

The colorful molecule on the cover of this issue of *Organometallics* is the dinuclear dinitrogen zirconium complex **1**, which was reported by Michael D. Fryzuk, T. S. Haddad, and S. J. Rettig in 1990 (*J. Am. Chem. Soc.* **1990**, *112*, 8185). This complex, isolated as dark blue crystals and structurally characterized by X-ray crystallography, was prepared by sodium amalgam reduction of $Cl_3Zr[N(SiMe_2CH_2PPr^i_2)_2]$ under a nitrogen atmosphere. The notable feature of complex **1** is the planar, side-on-bound bridging N_2 ligand. At the time of its preparation it was only the second dinuclear complex containing an N_2 ligand of this type to be reported. The observed N–N bond distance of 1.548(7) Å is still the record for the longest N–N bond of any dinitrogen metal complex! In the meantime, many other side-on-bound N_2 complexes have been isolated.

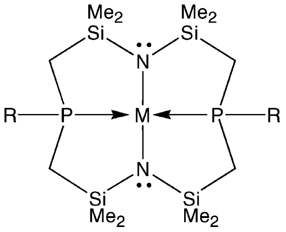


1

One of the most active researchers in this new and interesting dinitrogen complex chemistry is Michael D. Fryzuk of the University of British Columbia, the author, with Erin A. MacLachlan, of the review on such complexes in this issue of *Organometallics*. Professor Fryzuk, a native Canadian, studied chemistry at the University of Toronto, obtaining his B.Sc. degree in 1974 and a Ph.D. in 1978. His graduate research, carried out under the guidance of Brice Bosnich, involved asymmetric hydrogenation using rhodium chiraphos and prophos catalysts. He gained further experience in organometallic chemistry research during a year of postdoctoral study at the California Institute of Technology with John Bercaw. Subsequently he joined the chemistry faculty of the University of British Columbia. His early research involved, inter alia, studies of hydride-rich transition-metal complexes and of the use of allylrhodium complexes as precatalysts for hydrogenation and hydroformylation.

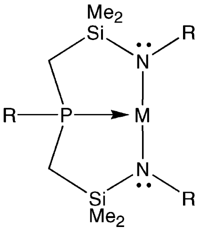
In recent years, Professor Fryzuk's research activities have been devoted to two main areas: studies, begun earlier in his career, of the coordination chemistry of multidentate mixed donor ligands and investigations directed toward the activation and functionalization of molecular nitrogen. Of interest to the reader will be a 2004 *Chemical Reviews* article on dinitrogen coordination chemistry, for which he is a coauthor.

Complex **1** and other side-on-bound dinitrogen complexes that Professor Fryzuk and co-workers have prepared in recent years combine these two areas. The tridentate $N(SiMe_2CH_2PPr^i_2)_2$ ligand, with its hard amide and two soft phosphine donor sites, has been used with great advantage in their development of new molecular nitrogen complexes. Not only their syntheses but also their reactivities have received extensive study. Also important in Professor Fryzuk's most interesting and productive research program have been the tetradentate ligand in **2** and the NPN tridentate ligand in **3**.



2

P_2N_2



3

NPN

Some readers may question the publication of a review on dinitrogen complexes in *Organometallics*. However, as our Notice to Authors states, we do consider "manuscripts dealing with metal-containing compounds which do not contain metal–carbon bonds...if there is a close relationship between the subject matter and the principles and practice of organometallic chemistry." And we close our statement of scope by saying "In considering submissions that deal with subject matter that is peripheral to mainstream organometallic chemistry, our primary concern will be that the manuscript be of interest to our readers." The very interesting review by Erin MacLachlan and Professor Fryzuk most certainly meets this criterion!

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

Dietmar Seyferth
Editor

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