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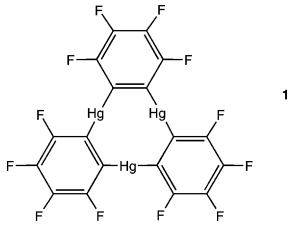
Editor's Page

An Introduction to the Review by Taylor, Burress, and Gabbaï in This Issue of *Organometallics*

The lovely, symmetrical molecule shown on the cover of this issue of *Organometallics* introduces the review by Thomas J. Taylor, Charlotte N. Burress, and Professor François Gabbaï of Texas A&M University on Lewis acidic behavior of fluorinated organomercurials. This complex contains a molecule of benzene sandwiched between two molecules of the *ortho*-perfluorophenylenemercury trimer, **1**, and is an unexpected and dramatic example of the Lewis acidic properties of highly fluorinated organomercury compounds. In the cover molecule,



1

as Gabbaï and co-workers tell us, "a secondary π-interaction between the benzene molecule and the mercury centers" is operative such that "each of the six C−C bonds of the benzene molecule interacts with one of the six mercury centers of the two juxtaposed molecules of **1**". This and related unusual complexes of **1** with other aromatic hydrocarbon molecules as well as with N-heterocyclic molecules and even with nickelocene and diverse alkynes are discussed in this review.

The organic chemistry of mercury, once a thriving field of research, has fallen on hard times in recent years due to fears about the toxicity of organomercurials, be it really bad (as with the dialkylmercury compounds) or only slight. Some interesting niche areas of organomercury chemistry still are being pursued. The chemistry of fluorinated organomercurials is one such area and Professor Gabbaï and his students, as shown in this review, have done an excellent, thorough job of investigating the Lewis acid properties of highly fluorinated organomercurials, not only with innovative studies of their interactions with aromatic hydrocarbons and related organic π-bases but also with their studies of Lewis acid−base interactions of simpler fluorinated mercury compounds. The examples in the short section at the end of the review on the interaction of fluorinated organomercurials with neutral inorganic and organometallic complexes suggest that this interesting area of organomercury chemistry is by no means mined out.

The organomercury chemistry described in the present review is part of Professor Gabbaï's broader research program devoted more generally to the chemistry of both organometallic and organic polyfunctional Lewis acids, whose ultimate goal is the harnessing and utilization of the cooperative effects occurring in the resulting Lewis acid/base systems for the discovery of unusual structures, bonding modes, supramolecules, and reactivities, including anion recognition.

Professor Gabbaï was born in France and carried out his early chemistry studies at the University of Bordeaux I. He came to the United States in 1990 for graduate study at the University of Texas at Austin. His very productive research in the areas of group 13 (mainly gallium) and phosphorus chemistry, carried out under the guidance of Professor Alan H. Cowley, led to the award of his Ph.D. degree in 1994. Subsequently, he returned to Europe to carry out postdoctoral research in organogold chemistry with Professor Hubert Schmidbaur at the Technical University of Munich. Professor Gabbaï stayed on at the TU Munich for his Habilitation, which he completed in 1998. It was during this period of independent research that he began his studies of organometallic Lewis acids and organomercury chemistry. In 1998 he came to the United States again to take up an appointment as assistant professor of chemistry at Texas A&M University at College Station, Texas. Promotions to associate professor (2003) and full professor (2006) followed in due course. In the ca. 10 years he has been active in research on organometallic Lewis acids (mostly group 13 and mercury compounds), he has published an outstanding, large body of very interesting results, many of which are summarized in the present review.

The coauthors of this review both obtained their Ph.D. degrees at Texas A&M under the guidance of Professor Gabbaï. Dr. Taylor (B.S., Chicago, 1999) is presently carrying out postdoctoral research with Professor Ian Manners at the University of Bristol. Dr. Burress (B.S., Tulane, 2002) is presently employed as a Senior Scientist/Chemist at Halliburton Energy Services.

We are grateful to Professor Arnold L. Rheingold for the cover figure.

Dietmar Seyferth
Editor

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