## ORGANOMETALLICS

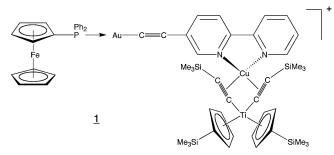
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## Editor's Page

The present issue of *Organometallics* contains a review by Heinrich Lang, Rico Packheiser, and Bernhard Walfort of the Technische Universität Chemnitz on the use of organometallic  $\pi$ -tweezer and N,C,N pincer molecules and ferrocenes as molecular "Tinkertoys" (a name first used in connection with chemical synthesis applications by Josef Michl) in the construction of multiheterometallic transition-metal complexes. Professor Lang and his students have worked with good success during the past 10 years in this interesting area of synthetic organometallic chemistry.

The molecule on the cover of this issue is the result of such "Tinkertoy" construction. The reader will need the line drawing 1 (93a in the review) of this molecule (as yet unpublished), which I will not even try to name, to understand what it is. The counterion of this cationic



species is  $PF_6^-$ . This looks like fun chemistry. It involves clever application of the entire armamentarium of organometallic chemistry and, when X-ray crystallographic structure determination, which now is fairly routine, is applicable, there is no problem in determining what multimetal compound has been prepared.

Professor Lang was an organometallic chemist from the start, studying chemistry at the University of Konstanz, where he carried out his Diplom and doctoral research under the guidance of Professor Gottfried Huttner, obtaining his Ph.D. in 1985. A two-year stay as a postdoctoral research associate in my research group at MIT followed. His research at MIT was devoted to the synthesis and pyrolysis of polycarbosilane precursors for silicon carbide. It was at MIT that he prepared, for entirely different purposes, his first  $\pi$ -tweezer molecule, ( $\eta^5$ -C<sub>5</sub>H<sub>5</sub>)<sub>2</sub>Ti(C=CSiMe<sub>3</sub>)<sub>2</sub>, which he has used to such good advantage in his later independent research. After his Habilitation at the University of Heidelberg in 1992, he continued research there as a Heisenberg Fellow. In 1996 he was appointed Professor of Chemistry at the TU Chemnitz. His research there has been devoted mainly to the synthesis and study of multimetal organometallic compounds of the type described in the present review, but he has also published results of research on organosilicon preceramic polymers and organosilicon-based dendrimers and on the synthesis of copper- and silver-containing precursors for CVD and spin-on processes.

The present review brings many fascinating multimetal organometallic complexes of various types and structures. Some of these complexes prepared by Professor Lang and his students, as he tells us, are potentially useful in applications in various aspects of materials science, so these "Tinkertoy" syntheses are by no means only a game. The largest such complex described in Professor Lang's review is one containing nine metal atoms. As he says in his concluding remarks, "A challenge is the preparation of even larger transition-metal complexes...", and we may look forward to increasingly larger, double-digit metal complexes in the future.

**Dietmar Seyferth** 

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