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Editor's Page

Peter Legzdins, the senior author of the Review in this issue of *Organometallics*, has been a faculty member at the University of British Columbia since 1969. Over the years, he has become a world leader in the area of nitric oxide and its transition-metal complexes, making outstanding contributions to many aspects of this field. Particular emphasis has been on the chemistry of complexes containing the Cp′W(NO) and Cp′Mo(NO) units, where Cp′ includes η^5-C_5H_5 and substituted cyclopentadienyl ligands, notably η^5-C_5Me_5.

Of particular interest has been the development by Professor Legzdins and his students of the dialkyl complexes Cp′W(NO)R_2 and Cp′Mo(NO)R_2, where the alkyl substituents in the main are rather bulky ones that are not capable of facile decomposition via β-H elimination (Me_3CCH_2, Me_3SiCH_2, $PhMe_2CCH_2$. etc.). As Professor Legzdins notes in his introduction, the long-term goal of his research program is "the development of organometallic nitrosyl complexes as specific reactants or selective catalysts for chemical transformations of practical significance." He describes his approach as "First, methods of synthesizing new complexes are developed. Then the newly prepared compounds are isolated and characterized fully... Finally, their characteristic chemical properties are established and those that are unique to them are productively exploited." Professor Legzdins' review follows this sequence very nicely and provides a clear account of his subject.

The dialkyl derivatives of the Cp′W(NO) and Cp′Mo(NO) units are of special interest and importance because, as Professor Legzdins notes, they are "rare examples of electronically and coordinatively unsaturated transition-metal alkyls that can be isolated under ambient conditions." The first members of this class were reported in 1985, and Professor Legzdins and his students have been developing their rich chemistry ever since. Our cover molecule is (η^5-C_5Me_5)W(NO)-(CH_2CMe_3)$_2$, a representative member of this family of dialkyl complexes. Notable features of this figure are the agostic interactions C−H···W, indicated by showing the α-hydrogen atoms of the neopentyl groups and the metal orbital involved. Beside the molecule is the relevant molecular orbital diagram for this family of complexes that shows these metal-centered LUMOs which are also prime sites of reactivity. The reactions of these complexes are quite varied. Of special interest are the formation of hydride complexes by their reactions with H_2 and the course of their reactions that lead to intermolecular C−H bond activation processes. Even though new aspects of this chemistry continue to be discovered by Professor Legzdins and his co-workers, it is very interesting and useful to have this up-to-date summary in this well-organized and well-written review by Ian J. Blackmore, Xing Jin, and Professor Legzdins.

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Editor

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