Mesitylene Osmium(II) Complexes Containing the Functional Phosphane *t*BuP(CH_2CO_2Me)$_2$ and Anionic Species Derived Thereof as Bi- and Tridentate Ligands

Gerhard Henig, Helmut Werner*

Institut für Anorganische Chemie der Universität Würzburg,
Am Hubland, D-97074 Würzburg, Germany

Dedicated to Professor Rudolf Hoppe on the occasion of his 75th birthday

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The dichloroosmium(II) compound [(mes)$OsCl_2$(L)] (**2**) with L = *t*BuP(CH_2CO_2Me)$_2$ reacts with one or two equivalents of $AgPF_6$ to give the mono- or dicationic complexes **3** and **4** containing the phosphanediyldiester as a bi- or tridentate chelating ligand. Complex **4** undergoes, in the presence of water, partial hydrolysis to give the difluorophosphatoosmium(II) derivative **5** in quantitative yield. Treatment of **4** with two equivalents of KO*t*Bu affords by deprotonation at both CH_2 groups of L the neutral complex **6**, in which one $PCHCO_2Me$ unit of the dianionic ligand [*t*BuP($CHCO_2Me$)$_2$]$^{2-}$ forms a five-membered and the other $PCHCO_2Me$ unit a three-membered ring with the metal. The reaction of **6** with water leads selectively to the formation of the chelate complex **7** containing the phosphanediylbis(carboxylate) [*t*BuP(CH_2CO_2)$_2$]$^{2-}$ as a tripodal ligand.

* Reprint requests to Prof. Dr. H. Werner; E-mail: helmut.werner@mail.uni-wuerzburg.de