Substitutionsreaktionen an Alkinkomplexen des Nb(III) und Mo(II) mit dem Liganden Bis(benzylthio)acetylen

Substitution Reactions of Nb(III) and Mo(II) Bis(benzylthio)acetylene Complexes

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Substitution reactions of the bis(benzylthio)acetylene complexes [Tp′Nb(BnSC$_2$SBn)Cl$_2$] and [Tp′Mo(BnSC$_2$SBn)(CO)$_2$](PF$_6$) (Tp′ = hydro-tris(3,5-dimethyl)pyrazolylborate, Bn = benzyl) have been investigated. The coordination of the alkyne ligand turned out to be very stable, while one chloride ion in [Tp′Nb(BnSC$_2$SBn)Cl$_2$], and either one or both of the CO ligands in [Tp′Mo(BnSC$_2$SBn)(CO)$_2$](PF$_6$) can be substituted. The dissociative mechanism of the reactions with [Tp′Mo(BnSC$_2$SBn)(CO)$_2$](PF$_6$) and [Tp′Mo(BnSC$_2$SBn)(CO)Cl] leads to the primary and exclusive reaction with the solvent. In the course of these studies the structures of [Tp′Nb(BnSC$_2$SBn)Cl$_2$], [Tp′Mo(BnSC$_2$SBn)(CO)(MeCN)](PF$_6$), [Tp′Mo(BnSC$_2$SBn)(CO)Cl] and [Tp′Mo(BnSC$_2$SBn)Cl$_2$][Tp′Mo(BnSC$_2$SBn)ClF] have been determined by X-ray diffraction. Comparison of the closely related compounds allows conclusions how the number of *d* electrons and the character of the co-ligands influence the alkyne bonding.

Key words: Dithioalkynes, Alkyne Complexes, Substitution Reactions, Crystal Structure