Synthesis of palladium benzyl complexes from the reaction of $PdCl_2[P(OPh)_3]_2$ with benzyl bromide and triethylamine: important intermediates in catalytic carbonylation.

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Streszczenie

The palladium complex $PdCl_2(P(OPh)_3)_2$ is reduced to $Pd(P(OPh)_3)_4$ by tertiary amines (NEt_3, NPr_3, NBu_3) in the presence of water. The formation of aldehydes and corresponding secondary amines in this reaction has confirmed the role of amines as reducing agents. The new palladium benzyl complexes, *cis*-$[PdBr_2(CH_2Ph)(P(OPh)_3)][PhCH_2NEt_3]$ (**1**) and $[PdBr(CH_2Ph)(P(O\text{-}o\text{-}MeC_6H_4)_3)]_2$ (**2a**), were obtained in one-step syntheses from $PdCl_2(P(OPh)_3)_2$ or $PdCl_2[P(O\text{-}o\text{-}MeC_6H_4)_3)]_2$, NEt_3, and benzyl bromide and X-ray characterized. The air oxidation of complex **1** led to $[PdBr_3(P(OPh)_3)][PhCH_2NEt_3]$ (**4**) with the abstraction of benzaldehyde.

Słowa kluczowe

Aldehydes, Amines, Palladium, Pharmaceuticals, Transfer reactions

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