

Palladium chemistry related to benzyl bromide carbonylation: mechanistic studies.

Autorzy

Anna M. Trzeciak

Józef J. Ziółkowski

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Streszczenie

Palladium(II) complexes of the general formula $\text{PdCl}_2(\text{PR}_3)_2$ with $\text{PR}_3 = \{ \text{P(OPh)}_3\}$, $\text{P(O-4-MeC}_6\text{H}_4)_3$, $\text{P(O-2-MeC}_6\text{H}_4)_3$, and $\text{PPh}_2(\text{OBu})$ were reduced by NEt_3 in chloroform or benzene to Pd(0) complexes $\text{Pd(PR}_3)_4$ and $\text{Pd(PR}_3)_x(\text{NEt}_3)_{4-x}$. The same reaction performed in the presence of air gave CH_3CHO or $\text{CH}_3\text{CH}_2\text{CHO}$ when NPr_3 was used instead of NEt_3 . $\text{Pd(P(OPh)}_3)_4$ reacted with benzyl bromide affording the oxidative addition product *cis*- $\text{PdBr(CH}_2\text{Ph)(P(OPh)}_3)_2$. The reaction of $\text{PdCl}_2(\text{P(OPh)}_3)_2$ with benzyl bromide was observed only in the presence of NEt_3 , and a dimeric complex of $[\text{PdBr(CH}_2\text{Ph)(P(OPh)}_3)]_2$ was identified as the reaction product. Both benzyl complexes reacted fast with CO (1 atm) to form acyl complexes exhibiting $\nu(\text{CO})$ bands at 1709 and 1650 cm^{-1} .

Adres publiczny

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Strona internetowa wydawcy

<http://link.springer.com>