

## Palladium chemistry related to benzyl bromide carbonylation: mechanistic studies.

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### Streszczenie

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

### Adres publiczny

<https://doi.org/10.1007/s007060070007>

### Strona internetowa wydawcy

<http://link.springer.com>