

Monomeric triphenylphosphite palladacycles with N-imidazole ligands as catalysts of Suzuki-Miyaura and Sonogashira reactions.

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Rok wydania

2011

Czasopismo

Journal of Organometallic
Chemistry

Numer woluminu

696

Strony

3601-3607

DOI

10.1016/j.jorganchem.2011.08.011 <https://doi.org/10.1016/j.jorganchem.2011.08.011>

Kolekcja

Naukowa

Język

Angielski

Typ publikacji

Artykuł

Streszczenie

Three monomeric triphenylphosphite palladacycles of the formula $[\text{PdCl}(\text{P-C})(\text{im})]$, where $\text{P-C} = \text{P}(\text{OC}_6\text{H}_4)(\text{OC}_6\text{H}_5)_2$, $\text{im} = 1\text{-methylimidazole}$, **2**, $1,2\text{-dimethylimidazole}$, **3**, and 1-butylimidazole , **4**, were obtained in reaction of $[\text{PdCl}(\text{P-C})_2]$, **1**, with the respective imidazoles. These complexes exhibited high catalytic activity in the Suzuki–Miyaura reaction in ethane-1,2-diol and in the Sonogashira reaction in ionic liquids, $[\text{bmim}]\text{BF}_4$ and $[\text{bmim}]\text{PF}_6$. While the application of two imidazoles per palladium caused improvement of the reaction yield, an inhibiting effect was found in both reactions when 1-methylimidazole or 1-butylimidazole was used in 20-fold excess relative to palladium.

Słowa kluczowe

Palladacycles, Imidazole ligands, Suzuki–Miyaura reaction, Sonogashira reaction, ionic liquids

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