

Spent automotive three-way catalysts towards C–C bond forming reactions.

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Rok wydania

2012

Czasopismo

Applied Catalysis A-General

Numer woluminu

421-422

Strony

148-153

DOI

10.1016/j.apcata.2012.02.012

Kolekcja

Naukowa

Język

Angielski

Typ publikacji

Artykuł

Streszczenie

Spent automotive three-way catalysts, containing Rh, Pd and Pt nanoparticles supported on oxide-based ceramic materials, catalyze the Heck cross-coupling of iodobenzene with butyl acrylate and unsaturated alcohols at 140 °C. Under Suzuki reaction conditions, biphenyl was formed with high yield when the same catalysts were applied. Successful hydroformylation of 1-hexene was performed in the presence of PPh₃. The catalytic activity of spent automotive three-way catalysts was compared with that of airborne matter collected in the city of Wrocław.

Słowa kluczowe

Automotive three-way catalysts, Heck reaction, Suzuki reaction, Hydroformylation, Platinum group metals, Metal nanoparticles

Adres publiczny

<https://doi.org/10.1016/j.apcata.2012.02.012>

Strona internetowa wydawcy

<http://www.elsevier.com>