

PdCl₂(PPh₃)₂-heteropolyacids-catalyzed regioselective hydrocarboxylation of styrene.

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Abstract

The hydrocarboxylation of styrene has been carried out in the presence of PdCl₂(PPh₃)₂ as catalyst and the heteropolyacids of general formula H_{3+n}PMo_{12-n}V_nO₄₀ (HPA-n, n=1-4) as co-catalyst in THF as solvent. The heteropolyacid H₅PMo₁₀V₂O₄₀ and HCl enhanced the catalytic reaction at 80 °C leading to excellent selectivity of branched aldehyde (>99%). The presence of HCl is essential for the achievement of the total conversion. No addnl. PPh₃ is needed with PdCl₂(PPh₃)₂ as catalyst.