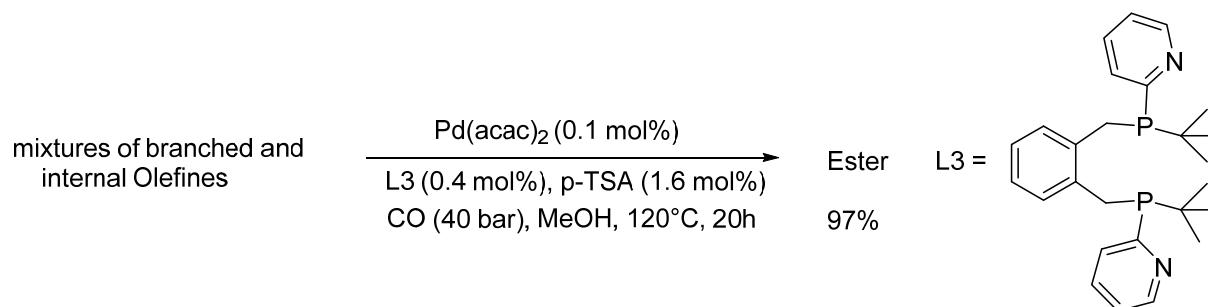


A High Active Catalyst System for the Hydromethoxycarbonylation of Olefins

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Abstract

It is a big business for the industry to refine olefins by carbonylation reactions. Beside the hydroformylation also the homogeneous catalyzed hydroalkoxycarbonylation plays an important role in synthesizing bulk products. For example in the lucite alpha process tons of methacrylate are synthesized by the hydromethoxycarbonylation of ethene. In this connection we'd like to present an improved catalyst system for the hydroalkoxycarbonylation, which is giving higher activity than the state of art ligand 1,2-bis((di-tert-butylphosphino)methyl)-benzene and even olefin mixtures containing internal olefins can be completely converted to esters. Our bidentate ligand system L3 bears at the P-atom a bulky and an amphoteric unit, which lead to a P-chiral molecule with two diastereomers. We can show that the two diastereomers have different activity and are in equilibrium each other at elevated temperature.



K. Dong et al., *Nature Communications* **2017**, 8, 14117.

K. Dong, et al., *Angew. Chem. Int. Ed.* **2017**, 56, 5267–5271.