

Enantioselektive Katalyse, XVIII [1]

Der Einfluß nicht koordinierter Stereozentren auf die enantioselektive Hydrierung

Enantioselective Catalysis, XVIII [1]

The Influence of Non-Coordinated Stereocenters on the Enantioselective Hydrogenation

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Enantioselective Hydrogenation, Chiral Phosphane Oxides, *Z*- α -Acetamidocinnamic Acid, Ketones, Rhodium Catalyst

3,4-Bis{[2-(methyl-phenyl-oxophosphanyl)-ethyl]phenyl-phosphanyl}pyrrolidines have been synthesized by Michael Addition from the corresponding methyl-phenyl-vinyl-phosphane oxides and 3,4-bis(phenylphosphino)pyrrolidines. For purification of the ligands palladium complexes were used and with the enantiomerically pure ligands Rh complexes have been prepared. The catalyst has 6 stereogenic centers. In the hydrogenation of *Z*- α -acetamidocinnamic acid all six stereogenic centers have an influence on the enantioselectivity. The influence is strongest from the C stereocenters of the pyrrolidine ring. Less important are the stereogenic centers on the coordinated P atoms. The influence of the stereocenters on the non-coordinated P=O groups is the least, but it is not negligible. The *ee* values obtained with the ligands containing P=O groups are much lower than those obtained with ligands which are substituted only with aryl groups. Ketones are hydrogenated with only low *ee*'s.

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