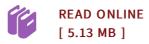




Mass Spectrometric Screening of Chiral Catalysts by Monitoring the Back Reaction: Palladium-Catalysed Allylic Substitution

By Constanze Müller

Cuvillier Verlag Jun 2008, 2008. Taschenbuch. Condition: Neu. Neuware - The principle of microscopic reversibility serves as the basis of a novel screening method for the evaluation of chiral catalysts within asymmetric allylic substitution reactions. Monitoring the back reaction of quasienantiomeric products by electrospray ionisation mass spectrometry (ESI-MS) reveals the intrinsic enantioselectivity of palladium catalysts in the nucleophilic addition step and thus in the overall substitution process. As only the intrinsic selectivity is measured in the screening the effects of unselective background reaction, catalytically active impurities and ligand dissociation do not alter the results, in contrast to product analysis. The method was successfully applied to both linear diaryl and carbocyclic substrates. Furthermore, a protocol for the simultaneous screening of catalyst mixtures was developed, offering new possibilities for high-throughput catalyst analysis. 288 pp. Englisch.



Reviews

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