

ASYMMETRIC ORGANOCATALYTIC [2,3]-WITTIG REARRANGEMENT OF CYCLOHEXANONE DERIVATIVES

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There is a continuous need for methods to create new carbon-carbon bonds in an enantioselective manner. [2,3]-Wittig rearrangement is a perfect tool for that, especially due to its 100% atom efficiency (Fig. 1). We have previously reported an asymmetric [2,3]-Wittig rearrangement of oxindole, malonate and cyclopentanone derivatives [1, 2, 3].

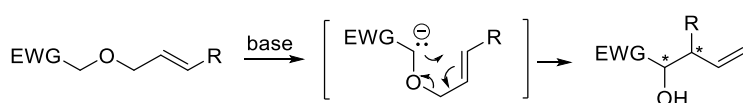


Fig. 1 [2,3]-Wittig rearrangement.

In this approach, we examine the asymmetric [2,3]-Wittig rearrangement of cyclohexanone derivatives. The enantioselective [2,3]-Wittig rearrangement of cinnamyloxycyclohexanone derivatives, catalyzed by a commercially available primary amine, provided α -hydroxy ketones in high diastereo- and enantioselectivity (Fig. 2).

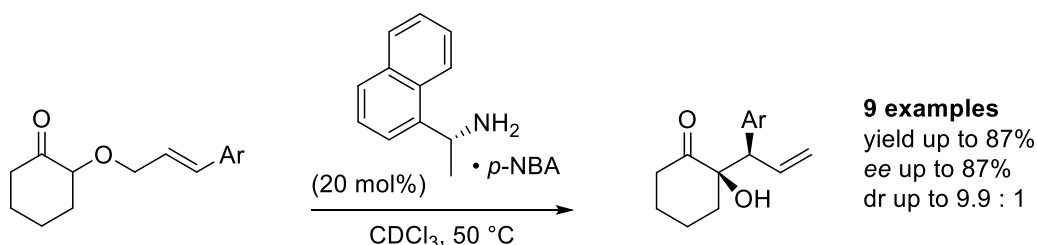


Fig. 2 Asymmetric [2,3]-Wittig rearrangement of cyclohexanone derivatives.

References

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