Microbial hydroxylation of chiral bicyclic enones by *Chaetomium* sp.1 and *Didymosphaeria igniaria* cultures.

Autorzy

Tomasz Janeczko

Jadwiga Dmochowska-Gładysz

Agata Białońska

Zbigniew Ciunik

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Streszczenie

The biotransformations of (*R*)-(−)-methyloctalone and (*S*)-(+)-methyloctalone were investigated using *Chaetomium* sp.1 KCH 6651 and *Didymosphaeria igniaria* KCH 6670 as biocatalysts, yielding mostly 6β- and 7β-hydroxy derivatives. During the incubation of (*R*)-methyloctalone with the *Chaetomium* sp.1 culture, three products were obtained: the *trans*-7β-hydroxy derivative in 50% yield, *trans*-6β-hydroxy derivative in 30% yield and *cis*-8α-hydroxy derivative in 6% yield. The (*S*)-enone was hydroxylated mainly in the 6α-position (with 60% yield). 6β- and 7β-hydroxy derivatives are new compounds, not previously described in the literature. The biotransformation of the two enantiomers of methyloctalone with *D. igniaria* also afforded monohydroxy derivatives. In both cases the main product of transformation was the allylic hydroxy derivative (27–35% yield). *D. igniaria* transformed the (*R*)-methyloctalone more rapidly whereas *Chaetomium* sp. 1 preferred the (*S*)-methyloctalone.

Słowa kluczowe

biotransformations, bicyclic enones, Chaetomium sp, Didymosphaeria igniaria, Hydroxylation, enantiomeric resolution

Adres publiczny

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