Title (en)

METHOD FOR THE STEREOSELECTIVE SYNTHESIS OF CHIRAL EPOXIDES BY ADH REDUCTION OF KETONES SUBSTITUTED WITH ALPHA STARTING GROUPS AND CYCLISATION

Title (de)

VERFAHREN ZUR STEREOSELEKTIVEN SYNTHESE VON CHIRALEN EPOXIDEN DURCH ADH-REDUKTION VON ALPHA-ABGANGSGRUPPEN-SUBSTITUIERTEN KETONEN UND CYCLISIERUNG

Title (fr)

PROCÉDÉ DE SYNTHÈSE STÉRÉOSÉLECTIVE D'ÉPOXYDES CHIRAUX PAR RÉDUCTION ADH DE CÉTONES SUBSTITUÉES AVEC DES GROUPES PARTANTS ALPHA, ET CYCLISATION

Publication

EP 2086952 A2 20090812 (DE)

Application

EP 07846734 A 20071122

Priority

- EP 2007010125 W 20071122
- DE 102006056526 A 20061130

Abstract (en)

[origin: WO2008064817A2] The invention relates to a method for producing chiral epoxides by reducing ketones substituted with a-starting groups with cell-free (R)- or (S)-selective alcohol dehydrogenases in the presence of a cofactor, and optionally a suitable system for the regeneration of the oxidised cofactor to form the chiral alcohols, and subsequent base-induced cyclisation to form the chiral epoxides (EQUATION 1) wherein LG can represent F, Cl, Br, I, OSO₂Ar, OSO₂R₄ or OP(O)OR₄R₅ and R₁, R₂ and R₃ independently represent hydrogen, a branched or unbranched, optionally substituted C₁-C₂₀ alkyl radical, an optionally substituted C₃-C₁₀cycloalkyl or alkenyl radical or an optionally substituted carbocyclic or heterocyclic aryl radical or a radical from the group consisting of CO₂R₄, CONR₄R₅, COSR₄, CS₂R₄, C(NH)NR₄R₅, CN, CHal₃, OAr, SAr, OR₄, SR₄, CHO, OH, NR₄R₅, Cl, F, Br, I or SiR₄R₅R₆, where<SUB/>R₄, R₅ and R₆ independently represent hydrogen, a branched or unbranched, optionally substituted C₁-C₂₀ alkyl radical, an optionally substituted C₃-C₁₀cycloalkyl or alkenyl radical or a substituted carbocylic or heterocyclic aryl radical, the intermediately formed chiral alcohol II not being isolated.

IPC 8 full level

C07D 303/08 (2006.01)

CPC (source: EP)

C07D 303/08 (2013.01)

Citation (search report)

See references of WO 2008064817A2

Designated contracting state (EPC)

AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IS IT LI LT LU LV MC MT NL PL PT RO SE SI SK TR

DOCDB simple family (publication)

DE 102006056526 A1 20080605; EP 2086952 A2 20090812; WO 2008064817 A2 20080605; WO 2008064817 A3 20080717

DOCDB simple family (application)

DE 102006056526 A 20061130; EP 07846734 A 20071122; EP 2007010125 W 20071122