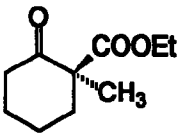
Bernhard Westermann, Hildegard Große Scharmann, Ina Kortmann

Tetrahedron: Asymmetry **1993**, *4*, 2119



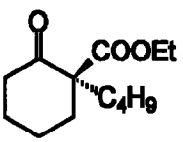
$C_{10}H_{16}O_3$

(S)-(+)-Ethyl-1-methyl-2-oxocyclohexanecarboxylate

$[\alpha]_D^{20}$ + 66.1 (c = 1.6, $CHCl_3$)
ee > 99 % (GC, Lipodex E)
source of chirality: enzymatic hydrolysis
Absolute configuration: 1S
assigned according to lit:
K. Tomioka, K. Ando, Y. Takemasa, K. Koga,
J. Amer. Chem. Soc. **1984**, *106*, 2718 - 2719.

Bernhard Westermann, Hildegard Große Scharmann, Ina Kortmann

Tetrahedron: Asymmetry **1993**, *4*, 2119



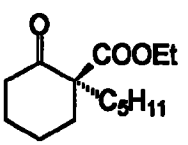
$C_{13}H_{22}O_3$

(S)-(+)-Ethyl-1-*n*-butyl-2-oxocyclohexanecarboxylate

$[\alpha]_D^{20}$ + 97.5 (c = 1.3, $CHCl_3$)
ee > 99 % (GC, Lipodex E)
source of chirality: enzymatic hydrolysis
Absolute configuration: 1S
assigned according to lit:
K Tomioka, K. Ando, Y. Takemasa, K. Koga,
J. Amer. Chem. Soc. **1984**, *106*, 2718 - 2719.

Bernhard Westermann, Hildegard Große Scharmann, Ina Kortmann

Tetrahedron: Asymmetry **1993**, *4*, 2119



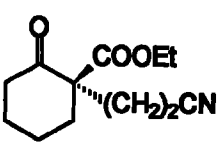
$C_{14}H_{24}O_3$

(S)-(+)-Ethyl-1-*n*-pentyl-2-oxocyclohexanecarboxylate

$[\alpha]_D^{20}$ + 98.5 (c = 1.2, $CHCl_3$)
ee > 98 % (GC, Lipodex E)
source of chirality: enzymatic hydrolysis
Absolute configuration: 1S
assigned according to lit:
K. Tomioka, K. Ando, Y. Takemasa, K. Koga,
J. Amer. Chem. Soc. **1984**, *106*, 2718 - 2719.

Bernhard Westermann, Hildegard Große Scharmann, Ina Kortmann

Tetrahedron: Asymmetry **1993**, *4*, 2119



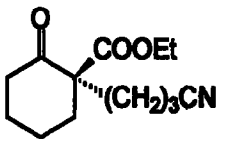
$C_{13}H_{17}NO_3$

(R)-(+)-Ethyl-1-(2-cyano)-ethyl-2-oxocyclohexane-carboxylate

$[\alpha]_D^{20}$ + 121.6 (c = 1.5, $CHCl_3$)
ee > 99 % (GC, Lipodex E)
source of chirality: enzymatic hydrolysis
Absolute configuration: 1R
assigned according to lit:
A. Guingant, H. Hammami,
Tetrahedron Asymmetry, **1993**, *4*, 25 - 26.

Bernhard Westermann, Hildegard Große Scharmann, Ina Kortmann

Tetrahedron: Asymmetry 1993, *4*, 2119



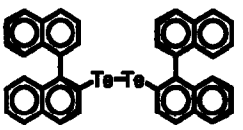
$C_{14}H_{19}NO_3$

(R)-(+)-Ethyl-1-(3-cyano)-*n*-propyl-2-oxocyclohexane-carboxylate

$[\alpha]_D^{20}$ + 121.6 (c = 1.8, $CHCl_3$)
ee > 99 % (GC, Lipodex E)
source of chirality: enzymatic hydrolysis
Absolute configuration: 1R
assigned according to lit:
A. Guingant, H. Hammami,
Tetrahedron Asymmetry, 1993, *4*, 25 - 26

M. Irie, Y. Doi, M. Ohsuka, Y. Aso, T. Otsubo and F. Ogura

Tetrahedron: Asymmetry 1993, *4*, 2127



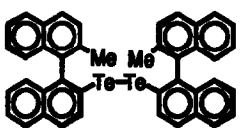
$C_{40}H_{26}Te_2$

Bis[1-(1'-naphthyl)-2-naphthyl] ditelluride

E.e.=100% [by nmr]
$[\alpha]_D^{25}$=+104.2 (c 0.45 in $CHCl_3$)
Source of chirality: *(S)*-2,2'-dibromo-1,1'-binaphthyl
Absolute configuration: *R,R* [from method of synthesis]

M. Irie, Y. Doi, M. Ohsuka, Y. Aso, T. Otsubo and F. Ogura

Tetrahedron: Asymmetry 1993, *4*, 2127



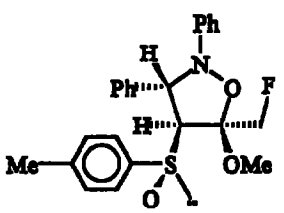
$C_{42}H_{30}Te_2$

Bis[1-(2'-methyl-1'-naphthyl)-2-naphthyl] ditelluride

E.e.=100% [by nmr]
$[\alpha]_D^{25}$=+48.9 (c 0.47 in $CHCl_3$)
Source of chirality: *(S)*-2,2'-dibromo-1,1'-binaphthyl
Absolute configuration: *R,R* [from method of synthesis]

P. Bravo, L. Bruché, A. Farina, G. Fronza, S.V. Meille, A. Merli

Tetrahedron: Asymmetry 1993, *4*, 2131



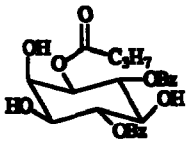
$C_{24}H_{24}FNO_3S$

2,3-Diphenyl-5-fluoromethyl-5-methoxy-4-[(4-methylphenyl)sulphinyl]isoxazolidine

D.e.> 95% (^1H- and ^{19}F-NMR)
$[\alpha]_D^{20}$ +207 (*c* 1.0, $CHCl_3$); m.p. 143-145 °C
^{19}F-NMR ($CDCl_3$): δ 231.3 (t, *J* 49.8 Hz)
Source of chirality: R_S-(*Z*)-1-[(4-methylphenyl)sulphinyl]-3-fluoro-2-methoxy-1-propene
Absolute configuration: 3S,4S,5R,R_S (determined by X-ray analysis)

P. Andersch and M. P. Schneider

Tetrahedron: Asymmetry 1993, *4*, 2135



$C_{24}H_{26}O_9$

1D-1-*O*-butyryl-4,6-*O*-dibenzoyl-*myo*-inositol

E.e. = > 95% [by ^{1}H-NMR of the Mosher ester from 7]

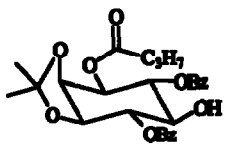
$[\alpha]_D^{20}$ = –15.0 (c = 2.0, AcOEt)

Source of chirality: enzymatic, irreversible acyltransfer

Absolute configuration 1R, 2*R*, 3*S*, 4*R*, 5*S*, 6*R*

P. Andersch and M. P. Schneider

Tetrahedron: Asymmetry 1993, *4*, 2135



$C_{27}H_{30}O_9$

1D-1-*O*-butyryl-2,3-*O*-isopropylidene-4,6-*O*-dibenzoyl-*myo*-inositol

E.e. = > 95% [by ^{1}H-NMR of the Mosher ester from 7]

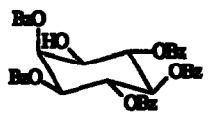
$[\alpha]_D^{20}$ = –20.0 (c = 1.5, AcOEt)

Source of chirality: enzymatic, irreversible acyltransfer

Absolute configuration 1R, 2*R*, 3*S*, 4*S*, 5*S*, 6*R*

P. Andersch and M. P. Schneider

Tetrahedron: Asymmetry 1993, *4*, 2135



$C_{41}H_{32}O_{11}$

1L-1,2,4,5,6-*O*-pentabenzoyl-*myo*-inositol

E.e. = > 95% [by ^{1}H-NMR of the Mosher ester from 7]

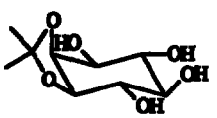
$[\alpha]_D^{20}$ = +60.0 (c = 1.5, $CHCl_3$)

Source of chirality: enzymatic, irreversible acyltransfer

Absolute configuration 1*S*, 2*S*, 3*S*, 4*S*, 5*R*, 6*S*

P. Andersch and M. P. Schneider

Tetrahedron: Asymmetry 1993, *4*, 2135



$C_9H_{16}O_6$

1L-1,2-*O*-isopropylidene-*myo*-inositol

E.e. = > 95% [by ^{1}H-NMR of the Mosher ester from 7]

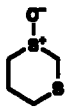
$[\alpha]_D^{20}$ = +44.6 (c = 2.0 , MeOH)

Source of chirality: enzymatic, irreversible acyltransfer

Absolute configuration 1*R*, 2*S*, 3*S*, 4*R*, 5*R*, 6*S*

Tetrahedron: Asymmetry 1993, *4*, 2139

P. C. B. Page,* M. T. Gareh and R. A. Porter



$C_4H_8OS_2$

(S)-(–)-1,3-Dithiane 1-oxide

ee ≥ 98% (by 400 MHz NMR with Pirkle reagent)

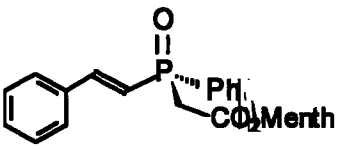
$[\alpha]_D^{20} = -210$ (c = 0.97, CH_2Cl_2)

Source of chirality: tartrate in the catalytic system

Absolute configuration: S

K. Michal Pietrusiewicz*, Maciej Kuznikowski and Marek Koprowski

Tetrahedron: Asymmetry 1993, *4*, 2143



$C_{26}H_{35}O_3P$

trans-1-(*L*-menthoxycarbonylmethyl)phenylphosphinyl-2-phenylethene

E.e. = 100%

$[\alpha]_D$ = +19.7 (c 2.7, $CHCl_3$)

Source of chirality: enantiopure synthetic precursor

Absolute configuration: S_P

Menth = *L*-menthol

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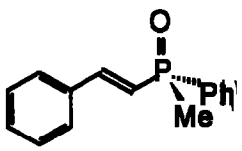
Tetrahedron: Asymmetry 1993, *4*, 2143



$C_{15}H_{15}OP$

trans-1-methylphenylphosphinyl-2-phenylethene

E.e. = 100%

$[\alpha]_D$ = +19.9 (c 2.3, $CHCl_3$)

Source of chirality: enantiopure synthetic precursor

Absolute configuration: S_P

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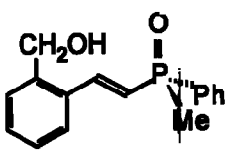
Tetrahedron: Asymmetry 1993, *4*, 2143



$C_{16}H_{17}O_2P$

trans-1-methylphenylphosphinyl-2-*o*-hydroxymethylphenylethene

E.e. = 100%

$[\alpha]_D$ = -7.8 (c 1.8, $CHCl_3$)

Source of chirality: enantiopure synthetic precursor

Absolute configuration: S_P

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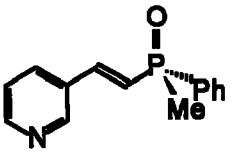
Tetrahedron: Asymmetry **1993**, *4*, 2143

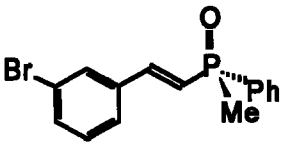


E.e. = 100%
$[\alpha]_D$ = +6.5 (c 3.9, $CHCl_3$)
Source of chirality: enantiopure synthetic precursor
Absolute configuration: S_P

$C_{14}H_{14}NOP$
trans-1-methylphenylphosphinyl-2-*m*-bromophenylethene

K. Michal Pietrusiewicz*, Maciej Kuznikowski and Marek Koprowski

Tetrahedron: Asymmetry **1993**, *4*, 2143

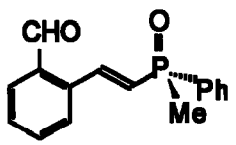


E.e. = 100%
$[\alpha]_D$ = +33.1 (c 5.6, $CHCl_3$)
Source of chirality: enantiopure synthetic precursor
Absolute configuration: S_P

$C_{15}H_{14}BrOP$
trans-1-methylphenylphosphinyl-2-*m*-bromophenylethene

K. Michal Pietrusiewicz*, Maciej Kuznikowski and Marek Koprowski

Tetrahedron: Asymmetry **1993**, *4*, 2143

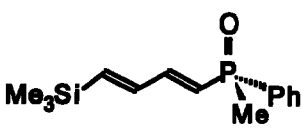


E.e. = 100%
$[\alpha]_D$ = +21.1 (c 0.9, $CHCl_3$)
Source of chirality: enantiopure synthetic precursor
Absolute configuration: S_P

$C_{16}H_{15}O_2P$
trans-1-methylphenylphosphinyl-2-*o*-formylphenylethene

K. Michal Pietrusiewicz*, Maciej Kuznikowski and Marek Koprowski

Tetrahedron: Asymmetry **1993**, *4*, 2143



E.e. = 100%
$[\alpha]_D$ = -54.5 (c 2.6, $CHCl_3$)
Source of chirality: enantiopure synthetic precursor
Absolute configuration: S_P

$C_{14}H_{21}OPSi$
trans,trans-1-methylphenylphosphinyl-4-trimethylsilylbutadiene

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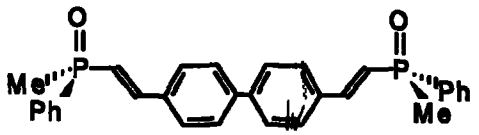
Tetrahedron: Asymmetry 1993, *4*, 2143

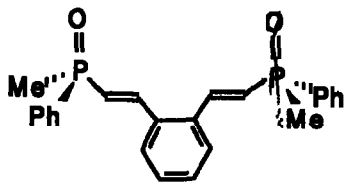


E.e. = 100%
$[\alpha]_D$ = +117 (c 2.4, $CHCl_3$)
Source of chirality: enantiopure synthetic precursor
Absolute configuration: S_P, S_P

$C_{30}H_{28}O_2P_2$
trans,trans-4,4'-bis(2-methylphenylphosphinylethenyl)biphenyl

K. Michal Pietrusiewicz*, Maciej Kuznikowski and Marek Koprowski

Tetrahedron: Asymmetry 1993, *4*, 2143

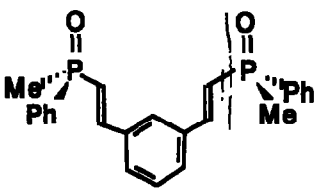


E.e. = 100%
$[\alpha]_D$ = -12 (c 1.0, $CHCl_3$)
Source of chirality: enantiopure synthetic precursor
Absolute configuration: S_P,S_P

$C_{24}H_{24}O_2P_2$
trans,trans-1,2-bis(2-methylphenylphosphinylethenyl)benzene

K. Michal Pietrusiewicz*, Maciej Kuznikowski and Marek Koprowski

Tetrahedron: Asymmetry 1993, *4*, 2143

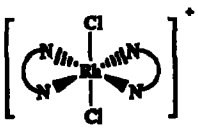


E.e. = 100%
$[\alpha]_D$ = +53.8 (c 2.3, $CHCl_3$)
Source of chirality: enantiopure synthetic precursor
Absolute configuration: S_P, S_P

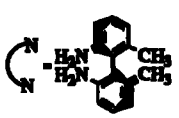
$C_{24}H_{24}O_2P_2$
trans,trans-1,3-bis(2-methylphenylphosphinylethenyl)benzene

Drorit Lew and Ibrahim Amer

Tetrahedron: Asymmetry 1993, *4*, 2147



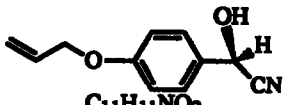
$Cl^-.CH_3CN$ $[\alpha]^{20}_D$ -1162 (c 0.0039, DMSO)
Source of chirality:(S)-6,6'-dimethyl-2,2'-diaminobiphenyl



$[(C_{14}H_{16}N_2)_2RhCl_2]^+Cl^-.CH_3CN$
trans-dichlorobis[(S)-6,6'-dimethyl-2,2'-diaminobiphenyl]rhodium(III) chloride-1-acetonitrile

Tetrahedron: Asymmetry **1993, *4*, 2149**

R.F.C. Brown, W.R. Jackson and T.D. McCarthy,



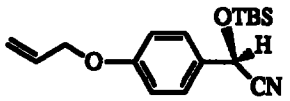
$C_{11}H_{11}NO_2$

(R)-2-hydroxy-2-[4-(2-propenyloxy)phenyl] acetonitrile

E.e.= >98%
$[\alpha]_D$= +45.3 (c=1.1, $CHCl_3$)
Source of Chirality: asymmetric addition of HCN to *para*-allyloxybenzaldehyde
Absolute configuration: R
(from related additions of HCN to aldehydes and from conversion to (R)-denopamine)

Tetrahedron: Asymmetry **1993, *4*, 2149**

R.F.C. Brown, W.R. Jackson and T.D. McCarthy.



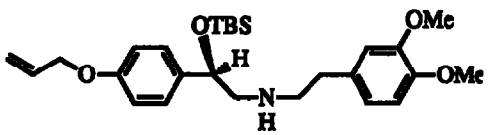
$C_{17}H_{25}NO_2Si$

(R)-2-[(1,1-dimethylethyl)dimethylsilyloxy]-2-[4-(2-propenyloxy)phenyl]acetonitrile

E.e.= >98%
$[\alpha]_D$= +15.2 (c=1.0, $CHCl_3$)
Source of Chirality: Silylation of (R)-2-hydroxy-2-[4-(2-propenyloxy)phenyl]acetonitrile
Absolute configuration: R

Tetrahedron: Asymmetry **1993, *4*, 2149**

R.F.C. Brown, W.R. Jackson and T.D. McCarthy.



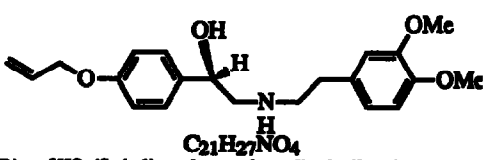
$C_{27}H_{41}NO_4Si$

(R)-α-[[[2-(3,4-dimethoxyphenyl)ethyl]amino] methyl]-α-[(1,1-dimethylethyl)dimethylsilyloxy]-4-(2-propenyloxy)benzenemethane

E.e.= >98%
$[\alpha]_D$= -60.0 (c=1.0, $CHCl_3$)
Source of Chirality: Synthesis from (R)-2-hydroxy-2-[4-(2-propenyloxy)phenyl]acetonitrile
Absolute configuration: R

Tetrahedron: Asymmetry **1993, *4*, 2149**

R.F.C. Brown, W.R. Jackson and T.D. McCarthy,



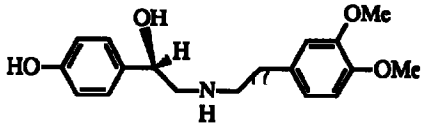
$C_{21}H_{27}NO_4$

(R)-α-[[[2-(3,4-dimethoxyphenyl)ethyl]amino] methyl]-4-(2-propenyloxy)benzenemethanol

E.e.= >98%
$[\alpha]_D$= -39.3 (c=1.1, $CHCl_3$)
Source of Chirality: Synthesis from (R)-2-hydroxy-2-[4-(2-propenyloxy)phenyl]acetonitrile
Absolute configuration: R

Tetrahedron: Asymmetry 1993, *4*, 2149

R.F.C. Brown, W.R. Jackson and T.D. McCarthy,



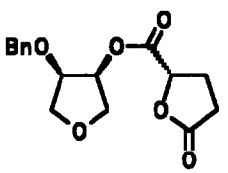
$C_{18}H_{23}NO_4$

(R)-α-[[[2-(3,4-dimethoxyphenyl)ethyl]amino]methyl]-4-hydroxybenzenemethanol

E.e.= >98%
$[\alpha]_D$= -28.8 (c=1.3, MeOH)
Source of Chirality: Synthesis from (R)-2-hydroxy-2-[4-(2-propenyloxy)phenyl]acetonitrile
Absolute configuration: R (from optical rotation)

Hans-Josef Altenbach and Eckardt Wolf

Tetrahedron: Asymmetry 1993, *4*, 2155



$C_{16}H_{18}O_6$

(3*S*,4*R*)-4-Benzyloxy-tetrahydrofuran-3-yl (2*S*)-5-oxo-tetrahydrofuran-2-carboxylate

D.e. > 99 % [by GLC, column: SE 52]
$[\alpha]_D^{20}$ = -8.8 (c = 2.50, $CHCl_3$)

Source of chirality: enantiomerically pure (2*S*)-5-oxo-tetrahydrofuran-2-carboxylic acid chloride (from L-glutamic acid)

Absolute configuration: (3*S*,4*R*) ,(2*S*) by X-Ray analysis

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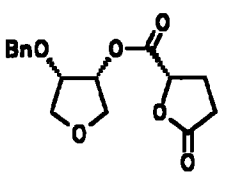
Hans-Josef Altenbach and Eckardt Wolf

Tetrahedron: Asymmetry 1993, *4*, 2155



$C_{16}H_{18}O_6$

(3*R*,4*S*)-4-Benzyloxy-tetrahydrofuran-3-yl (2*S*)-5-oxo-tetrahydrofuran-2-carboxylate

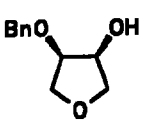
D.e. = 93 % [by GLC, column: SE 52]
$[\alpha]_D^{20}$ = -14.5 (c = 2.65, $CHCl_3$)

Source of chirality: enantiomerically pure (2*S*)-5-oxo-tetrahydrofuran-2-carboxylic acid chloride (from L-glutamic acid)

Absolute configuration: (3*R*,4*S*), (2*S*)

Hans-Josef Altenbach und Eckardt Wolf

Tetrahedron: Asymmetry 1993, *4*, 2155



$C_{11}H_{14}O_3$

(3*S*,4*R*)-4-Benzyloxy-tetrahydrofuran-3-ol

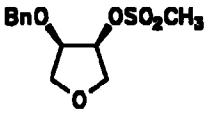
E.e. > 99 %
$[\alpha]_D^{20}$ = +27.52 (c = 1.14, MeOH)

Source of chirality: hydrolysis of a diastereomerically pure (3*S*,4*R*)-4-benzyloxy-tetrahydrofuran-3-yl (2*S*)-5-oxo-tetrahydrofuran-2-carboxylate

Absolute configuration: (3*S*,4*R*)

Hans-Josef Altenbach and Eckardt Wolf

Tetrahedron: Asymmetry 1993, *4*, 2155



$C_{12}H_{16}O_5S$

(3*S*,4*R*)-4-Benzyloxy-tetrahydrofuran-3-yl methanesulfonate

E.e. > 99 %

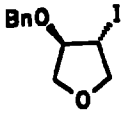
$[\alpha]_D^{20}$ = +34.4 (c = 2.30, CH_2Cl_2)

Source of chirality: esterification of the enantiomerically pure precursor: (3*S*,4*R*)-4-benzyloxy-tetrahydrofuran-3-ol

Absolute configuration: (3*S*,4*R*)

Hans-Josef Altenbach and Eckardt Wolf

Tetrahedron: Asymmetry 1993, *4*, 2155



$C_{11}H_{13}IO_2$

(3*R*,4*R*)-3-Benzyloxy-4-iodo-tetrahydrofuran

E.e. > 99 %

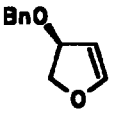
$[\alpha]_D^{20}$ = -128.0 (c = 2.55, CH_2Cl_2)

Source of chirality: nucleophilic substitution by iodide from the enantiomerically pure precursor: (3*S*,4*R*)-4-benzyloxy-tetrahydrofuran-3-yl methanesulfonate

Absolute configuration: (3*R*,4*R*)

Hans-Josef Altenbach and Eckardt Wolf

Tetrahedron: Asymmetry 1993, *4*, 2155



$C_{11}H_{12}O_2$

(*S*)-3-Benzyloxy-2,3-dihydrofuran

E.e. > 99 %

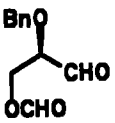
$[\alpha]_D^{20}$ = +268.8 (c = 2.06, benzene)

Source of chirality: elimination of hydrogen iodide from an enantiomerically pure precursor: (3*R*,4*R*)-3-benzyloxy-4-iodo-tetrahydrofuran.

Absolute configuration: (*S*)

Hans-Josef Altenbach and Eckardt Wolf

Tetrahedron: Asymmetry 1993, *4*, 2155



$C_{11}H_{12}O_4$

(*R*)-2-*O*-Benzyl-3-*O*-formyl-glycerinaldehyde

E.e. > 99 %

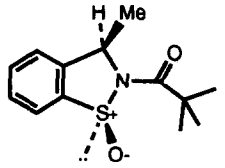
$[\alpha]_D^{20}$ = +37.9 (c = 2.05, CH_2Cl_2)

Source of chirality: ozonolysis of the enantiomerically pure precursor: (3*S*)-3-benzyloxy-2,3-dihydrofuran

Absolute configuration: (*R*)

David R. J. Hose, Tony Raynham and Martin Wills*

Tetrahedron: Asymmetry **1993,** *4*, 2159



$C_{13}H_{17}NO_2S$

$S_{(S)}R$-(+)-2,3-dihydro-3-methyl-2-pivaloyl-1,2-benzisothiazole-1-oxide

E.e.=100%

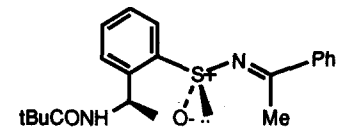
$[\alpha]_D^{20}$= +9.0 (c=0.8, ethanol)

Source of chirality: enantiomerically pure α-methyl benzylamine.

Absolute configuration:$S_{(S)}R$

David R. J. Hose, Tony Raynham and Martin Wills*

Tetrahedron: Asymmetry **1993,** *4*, 2159



$C_{21}H_{26}N_2O_2S$

$R_{(S)}R$-(-)-(N-methylbenzylidene)-2-(1-pival-amidoethyl)benzenesulphinamide.

E.e.=100%

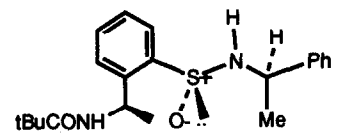
$[\alpha]_D^{20}$= -36.0 (c=0.63, chloroform)

Source of chirality: stereospecific ring opening of an enantiomerically pure cyclic sulphinamide.

Absolute configuration:$R_{(S)}R$

David R. J. Hose, Tony Raynham and Martin Wills*

Tetrahedron: Asymmetry **1993,** *4*, 2159



$C_{21}H_{28}N_2O_2S$

$R_{(S)}RR$-(-)-N-(α-methylbenzyl)-2-(1-pivalamidoethyl)benzenesulphinamide.

E.e.=100%

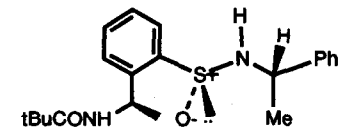
$[\alpha]_D^{20}$= -90.6 (c=0.51, chloroform)

Source of chirality: i) reaction of R-(+)-α-methyl benzylamine with an enantiomerically pure cyclic chiral sulphinamide, ii) reduction of an enantiomerically pure benzylidene sulphinamine.

Absolute configuration:$R_{(S)}$,R,αR

David R. J. Hose, Tony Raynham and Martin Wills*

Tetrahedron: Asymmetry **1993,** *4*, 2159



$C_{21}H_{28}N_2O_2S$

$R_{(S)}RS$-(-)-N-(α-methylbenzyl)-2-(1-pivalamidoethyl)benzenesulphinamide.

E.e.=100%

$[\alpha]_D^{20}$= -95.5 (c=0.50, chloroform)

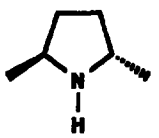
Source of chirality: i) reaction of S-(-)-α-methyl benzylamine with an enantiomerically pure cyclic chiral sulphinamide, ii) reduction of an enantiomerically pure benzylidene sulphinamine.

Absolute configuration:$R_{(S)}$,R,αS

ASYMMETRIC SYNTHESIS OF TRANS-2,5-DIMETHYLPYRROLIDINE

M.E. Zwaagstra, A. Meetsma, B.L. Feringa,
University of Groningen, Nijenborgh 4, 9747 AG Groningen, The Netherlands

Tetrahedron: Asymmetry **1993**, *4*, 2163



(2S,5S)-Dimethylpyrrolidine

E.e. ≥ 97% (by ^{31}P-NMR)
$[\alpha]_D^{20}$ = -5.52 (c 1.05, CH_2Cl_2)
Source of chirality: (S)-α-methylbenzylamine
Absolute configuration: 2S,5S (assigned by X-ray analysis)

ASYMMETRIC SYNTHESIS OF TRANS-2,5-DIMETHYLPYRROLIDINE

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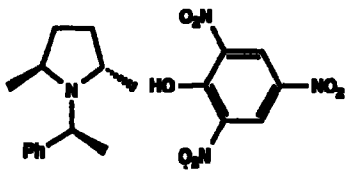
Tetrahedron: Asymmetry **1993**, *4*, 2163



(S)-2'-Phenyl-N-ethyl-(2S,5S)-dimethylpyrrolidine picrate

D.e. ≥ 99.7% (by GC analysis of the free amine)
$[\alpha]_D^{20}$ = -5.61 (c 3.2, acetone)
Source of chirality: Incorporation of (S)-α-methylbenzylamine and separation of the diastereomeric salts by crystallization
Absolute configuration: 2'S,2S,5S (assigned by X-ray analysis)

ASYMMETRIC SYNTHESIS OF TRANS-2,5-DIMETHYLPYRROLIDINE

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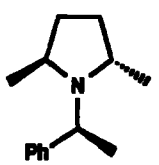
University of Groningen, Nijenborgh 4, 9747 AG Groningen, The Netherlands

Tetrahedron: Asymmetry **1993**, *4*, 2163

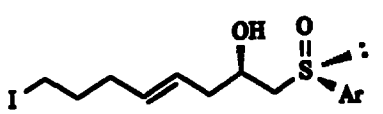


(S)-2'-Phenyl-N-ethyl-(2S,5S)-dimethylpyrrolidine

D.e. ≥ 99.7% (by GC analysis)
$[\alpha]_D^{20}$ = -8.74 (c 1.5, $CHCl_3$)
Source of chirality: Incorporation of (S)-α-methylbenzylamine and separation of the diastereomeric salts with picric acid by crystallization
Absolute configuration: 2'S,2S,5S (assigned by X-ray analysis of the corresponding picrate)

Guy Solladié*, José Kovenski, Françoise Colobert

Tetrahedron: Asymmetry **1993**, *4*, 2173

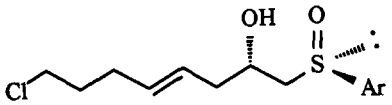


8-chloro-1-(p-tolylsulfinyl)-4-octene-2-ol

$[\alpha]_D$ = +178 (c=1.7, acetone)
e.e > 95%
Liquid
Absolute configuration: 2(S), 4(E), S(R)
Source of chirality: (+)-[2(S),S(R)]-2-(p-tolylsulfinyl)methyl oxirane

Guy Solladié*, José Kovenski, Françoise Colobert

Tetrahedron: Asymmetry **1993**, *4*, 2173

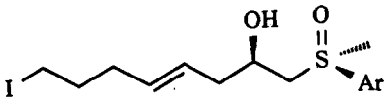


8-iodo-1-(p-tolylsulfinyl)-4-octene-2-ol

$[\alpha]_D$ = +131 (c=1.9, acetone)
e.e > 95%
Liquid
Absolute configuration: 2(S), 4(E), S(R)
Source of chirality: (+)-[2(S),S(R)]-
2-(p-tolylsulfinyl)methyl oxirane

Guy Solladié*, José Kovenski, Françoise Colobert

Tetrahedron: Asymmetry **1993**, *4*, 2173

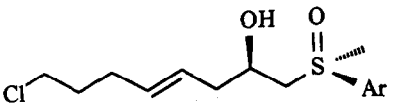


8-chloro-1-(p-tolylsulfinyl)-4-octene-2-ol

$[\alpha]_D$ = +89.7 (c=2, acetone)
e.e > 95%
Liquid
Absolute configuration: 2(R), 4(E), S(R)
Source of chirality: (+)-[2(R),S(R)]-
2-(p-tolylsulfinyl)methyl oxirane

Guy Solladié*, José Kovenski, Françoise Colobert

Tetrahedron: Asymmetry **1993**, *4*, 2173

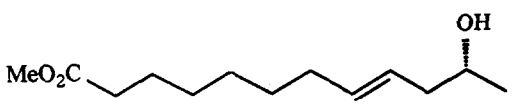


8-iodo-1-(p-tolylsulfinyl)-4-octene-2-ol

$[\alpha]_D$ = +110.9 (c=2, acetone)
e.e > 95%
Liquid
Absolute configuration: 2(R), 4(E), S(R)
Source of chirality: (+)-[2(R),S(R)]-
2-(p-tolylsulfinyl)methyl oxirane

Guy Solladié*, José Kovenski, Françoise Colobert

Tetrahedron: Asymmetry **1993**, *4*, 2173

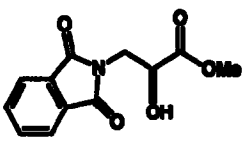


Methyl [8(E),11(R)]-11-hydroxy-8-dodecenoate

$[\alpha]_D$ = -11 (c=0.9, $CHCl_3$)
e.e > 95%
Liquid
Absolute configuration: 8(E),11(R)
Source of chirality: (+)-[2(S),S(R)]-
2-(p-tolylsulfinyl)methyl oxirane

K. Nozaki, N. Sato, and H. Takaya

Tetrahedron: Asymmetry 1993, *4*, 2179

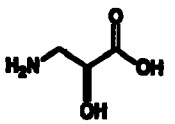


$C_{12}H_{11}NO_5$
N-Phthaloyl-L-isoserine Methyl Ester

E.e = 100% [by ^1H NMR analysis of (*R*)-(+)-MTPA ester of the product]
$[\alpha]_D^{20}$ = -5.90 (*c* 1.02, $CHCl_3$)
Source of chirality: Asymmetric hydrogenation catalyzed by
[RuCl((*R*)-binap)(benzene)]Cl
Absolute configuration: S
(assigned by deprotection to L-isoserine)

K. Nozaki, N. Sato, and H. Takaya

Tetrahedron: Asymmetry 1993, *4*, 2179

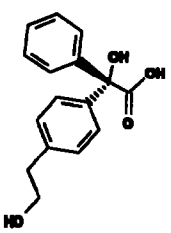


$C_3H_7NO_3$
L-Isoserine

E.e = 100%
$[\alpha]_D^{25}$ = -31.7 (*c* 0.98, H_2O)
Source of chirality: Asymmetric hydrogenation catalyzed by
[RuCl((*R*)-binap)(benzene)]Cl
Absolute configuration: S
(assigned by lit. value ($[\alpha]_D^{20}$ = -31.7 (*c* 1.0, H_2O))

D.O. Kiesewetter

Tetrahedron: Asymmetry 1993, *4*, 2183

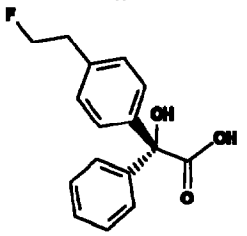


$C_{16}H_{15}O_4$
(S)-[(4-(2-Hydroxyethyl)]benzilic Acid

E.e. >90% [chiral HPLC Chiralpak WH]
Source of Chirality: asymm. synth. (Grignard with chiral auxiliary)
Absolute Configuration S
(assigned by correlation to known (R)-Quinuclidinyl-(R)-Iodobenzilate)

D.O. Kiesewetter

Tetrahedron: Asymmetry 1993, *4*, 2183

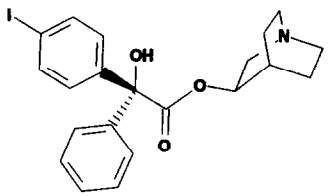


$C_{16}H_{15}FO_3$
(R)-[4-(2-Fluoroethyl)]benzilic Acid

E.e >90% [HPLC of 8-phenylmenthyl ester]
Source of Chirality: asymm. synth. (Grignard with chiral auxiliary)
Absolute Configuration R
(assigned by correlation to known (R)-Quinuclidinyl-(R)-Iodobenzilate)

D.O. Kiesewetter

Tetrahedron: Asymmetry **1993,** *4*, 2183



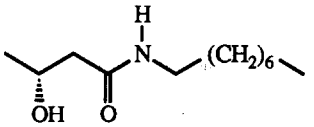
$C_{21}H_{22}INO_3$

(R)-Quinuclidinyl-(R)-iodobenzilate

E.e >90% [HPLC of quinuclidinyl ester]]
Source of Chirality: asymm. synth. (Grignard with chiral auxiliary)
Absolute Configuration R,R
(assigned by correlation to authentic (R)-Quinuclidinyl-(R)-Iodobenzilate)

M. J. García, F. Rebolledo and V. Gotor

Tetrahedron: Asymmetry **1993,** *4*, 2199



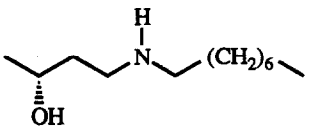
$C_{12}H_{25}NO_2$

(*R*)-3-Hydroxy-*N*-octylbutyramide

E.e. 92% [by comparison with the sample obtained from optically pure ethyl (*S*)-3-hydroxybutyrate]
$[\alpha]_D^{22}$= -20.8 (c 0.97, $CHCl_3$)
Source of chirality: Enzymatic aminolysis
Absolute configuration: R

M. J. García, F. Rebolledo and V. Gotor

Tetrahedron: Asymmetry **1993,** *4*, 2199



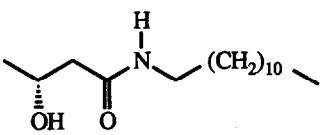
$C_{12}H_{27}NO$

(*R*)-4-Octylamino-2-butanol

E.e. 92%
$[\alpha]_D^{22}$= +9.6 (c 1.00, $CHCl_3$)
Source of chirality: (*R*)-3-Hydroxy-*N*-octylbutyramide, 92% e.e.
Absolute configuration: R

M. J. García, F. Rebolledo and V. Gotor

Tetrahedron: Asymmetry **1993,** *4*, 2199



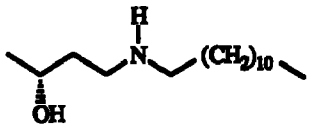
$C_{16}H_{33}NO_2$

(*R*)-*N*-Dodecyl-3-hydroxybutyramide

E.e. 94% [by comparison with the sample obtained from optically pure ethyl (*S*)-3-hydroxybutyrate]
$[\alpha]_D^{22}$= -16.0 (c 0.99, $CHCl_3$)
Source of chirality: Enzymatic aminolysis
Absolute configuration: R

M. J. García, F. Rebolledo and V. Gotor

Tetrahedron: Asymmetry 1993, *4*, 2199



$C_{16}H_{35}NO$

(*R*)-4-Dodecylamino-2-butanol

E.e. 94%

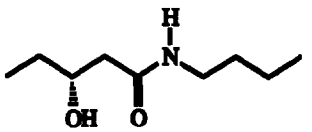
$[\alpha]_D^{22}$= +15.2 (c 0.71, $CHCl_3$)

Source of chirality: (*R*)-*N*-Dodecyl-3-hydroxybutyramide, 94% e.e.

Absolute configuration: R

M. J. García, F. Rebolledo and V. Gotor

Tetrahedron: Asymmetry 1993, *4*, 2199



$C_9H_{19}NO_2$

(*R*)-*N*-Butyl-3-hydroxyvaleramide

E.e. 75% [by ^{1}H-NMR of the MTPA ester derivative]

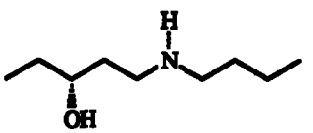
$[\alpha]_D^{22}$= -20.0 (c 0.92, $CHCl_3$)

Source of chirality: Enzymatic aminolysis

Absolute configuration: R

M. J. García, F. Rebolledo and V. Gotor

Tetrahedron: Asymmetry 1993, *4*, 2199



$C_9H_{21}NO$

(*R*)-1-Butylamino-3-pentanol

E.e. 75%

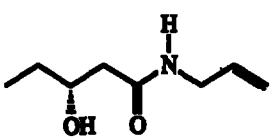
$[\alpha]_D^{22}$= +17.0 (c 1.06, $CHCl_3$)

Source of chirality: (*R*)-*N*-Butyl-3-hydroxyvaleramide, 75% e.e.

Absolute configuration: R

M. J. García, F. Rebolledo and V. Gotor

Tetrahedron: Asymmetry 1993, *4*, 2199



$C_8H_{15}NO_2$

(*R*)-*N*-Allyl-3-hydroxyvaleramide

E.e. 94% [by ^{1}H-NMR of the MTPA ester derivative]

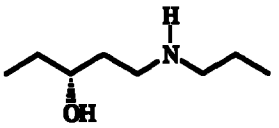
$[\alpha]_D^{22}$= -30.4 (c 1.10, $CHCl_3$)

Source of chirality: Enzymatic aminolysis

Absolute configuration: R

M. J. García, F. Rebolledo and V. Gotor

Tetrahedron: Asymmetry 1993, *4*, 2199



$C_8H_{19}NO$

(*R*)-1-Propylamino-3-pentanol

E.e. 94%

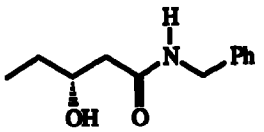
$[\alpha]_D^{22}$= +13.4 (c 1.25, $CHCl_3$)

Source of chirality: (*R*)-*N*-Allyl-3-hydroxyvaleramide, 94% e.e.

Absolute configuration: R

M. J. García, F. Rebolledo and V. Gotor

Tetrahedron: Asymmetry 1993, *4*, 2199



$C_{12}H_{17}NO_2$

(*R*)-*N*-Benzyl-3-hydroxyvaleramide

E.e. 82% [by ^{1}H-NMR of the MTPA ester derivative]

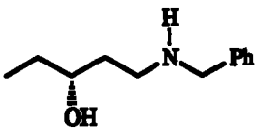
$[\alpha]_D^{22}$= -21.1 (c 1.04, $CHCl_3$)

Source of chirality: Enzymatic aminolysis

Absolute configuration: R

M. J. García, F. Rebolledo and V. Gotor

Tetrahedron: Asymmetry 1993, *4*, 2199



$C_{12}H_{19}NO$

(*R*)-1-Benzylamino-3-pentanol

E.e. 82%

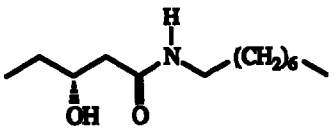
$[\alpha]_D^{22}$= +20.8 (c 0.97, $CHCl_3$)

Source of chirality: (*R*)-*N*-Benzyl-3-hydroxyvaleramide, 82% e.e.

Absolute configuration: R

M. J. García, F. Rebolledo and V. Gotor

Tetrahedron: Asymmetry 1993, *4*, 2199



$C_{13}H_{27}NO_2$

(*R*)-3-Hydroxy-*N*-octylvaleramide

E.e. >99% [by comparison with the sample obtained from optically pure ethyl (*S*)-3-hydroxyvalerate]

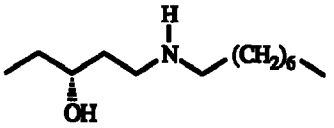
$[\alpha]_D^{22}$= -24.3 (c 1.05, $CHCl_3$)

Source of chirality: Enzymatic aminolysis

Absolute configuration: R

M. J. García, F. Rebolledo and V. Gotor

Tetrahedron: Asymmetry 1993, *4*, 2199



$C_{13}H_{29}NO$

(*R*)-1-Octylamino-3-pentanol

E.e. >99%

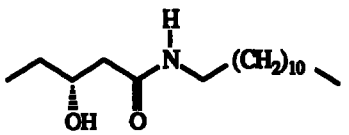
$[\alpha]_D^{22}$= +18.8 (c 1.03, $CHCl_3$)

Source of chirality: (*R*)-3-Hydroxy-*N*-octylvaleramide, >99% e.e.

Absolute configuration: R

M. J. García, F. Rebolledo and V. Gotor

Tetrahedron: Asymmetry 1993, *4*, 2199



$C_{17}H_{35}NO_2$

(*R*)-*N*-Dodecyl-3-hydroxyvaleramide

E.e. 81% [by comparison with the sample obtained from optically pure ethyl (*S*)-3-hydroxyvalerate]

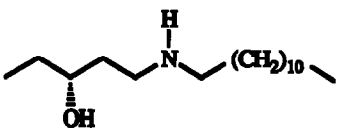
$[\alpha]_D^{22}$= -16.2 (c 0.99, $CHCl_3$)

Source of chirality: Enzymatic aminolysis

Absolute configuration: R

M. J. García, F. Rebolledo and V. Gotor

Tetrahedron: Asymmetry 1993, *4*, 2199



$C_{17}H_{37}NO$

(*R*)-1-Dodecylamino-3-pentanol

E.e. 81%

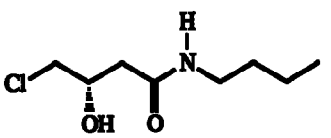
$[\alpha]_D^{22}$= +9.1 (c 1.00, $CHCl_3$)

Source of chirality: (*R*)-*N*-Dodecyl-3-hydroxyvaleramide, 81% e.e.

Absolute configuration: R

M. J. García, F. Rebolledo and V. Gotor

Tetrahedron: Asymmetry 1993, *4*, 2199



$C_8H_{16}ClNO_2$

(*S*)-*N*-Butyl-4-chloro-3-hydroxybutyramide

E.e. 92% [by ^{1}H-NMR of the MTPA ester derivative]

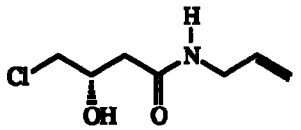
$[\alpha]_D^{22}$= -24.7 (c 1.01, $CHCl_3$)

Source of chirality: Enzymatic aminolysis

Absolute configuration: S

M. J. García, F. Rebolledo and V. Gotor

Tetrahedron: Asymmetry 1993, *4*, 2199



$C_7H_{12}ClNO_2$

(*S*)-*N*-Allyl-4-chloro-3-hydroxybutyramide

E.e. 90% [by ^{1}H-NMR of the MTPA ester derivative]

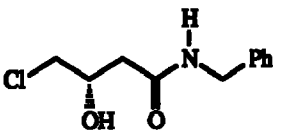
$[\alpha]_D^{22}$= -24.3 (c 1.02, $CHCl_3$)

Source of chirality: Enzymatic aminolysis

Absolute configuration: S

M. J. García, F. Rebolledo and V. Gotor

Tetrahedron: Asymmetry 1993, *4*, 2199



$C_{11}H_{14}ClNO_2$

(*S*)-*N*-Benzyl-4-chloro-3-hydroxybutyramide

E.e. 98% [by ^{1}H-NMR of the MTPA ester derivative]

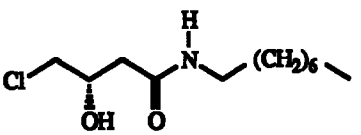
$[\alpha]_D^{22}$= -22.8 (c 0.97, $CHCl_3$)

Source of chirality: Enzymatic aminolysis

Absolute configuration: S

M. J. García, F. Rebolledo and V. Gotor

Tetrahedron: Asymmetry 1993, *4*, 2199



$C_{12}H_{24}ClNO_2$

(*S*)-4-Chloro-3-hydroxy-*N*-octylbutyramide

E.e. 83% [by comparison with the sample obtained from optically pure ethyl (*R*)-4-chloro-3-hydroxybutyrate]

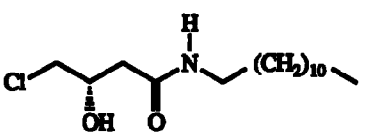
$[\alpha]_D^{22}$= -17.0 (c 1.00, $CHCl_3$)

Source of chirality: Enzymatic aminolysis

Absolute configuration: S

M. J. García, F. Rebolledo and V. Gotor

Tetrahedron: Asymmetry 1993, *4*, 2199



$C_{16}H_{32}ClNO_2$

(*S*)-*N*-Dodecyl-4-chloro-3-hydroxybutyramide

E.e. >99% [by comparison with the sample obtained from optically pure ethyl (*R*)-4-chloro-3-hydroxybutyrate]

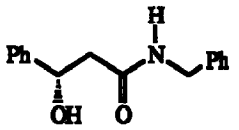
$[\alpha]_D^{22}$= -14.0 (c 1.03, $CHCl_3$)

Source of chirality: Enzymatic aminolysis

Absolute configuration: S

M. J. García, F. Rebolledo and V. Gotor

Tetrahedron: Asymmetry 1993, *4*, 2199



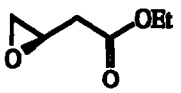
$C_{16}H_{17}NO_2$

(*S*)-*N*-Benzyl-3-hydroxy-3-phenylpropanamide

E.e. 66% [by ^{1}H-NMR of the MTPA ester derivative]
$[\alpha]_D^{22}$= -34.7 (c 0.49, $CHCl_3$)
Source of chirality: Enzymatic aminolysis
Absolute configuration: S

M. J. García, F. Rebolledo and V. Gotor

Tetrahedron: Asymmetry 1993, *4*, 2199



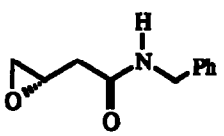
$C_6H_{10}O_3$

Ethyl (*R*)-3,4-epoxybutyrate

E.e. 32% [by comparison with the sample obtained from optically pure ethyl (*R*)-4-chloro-3-hydroxybutyrate]
$[\alpha]_D^{22}$= +14.0 (c 0.82, $CHCl_3$)
Source of chirality: Enzymatic aminolysis
Absolute configuration: R

M. J. García, F. Rebolledo and V. Gotor

Tetrahedron: Asymmetry 1993, *4*, 2199



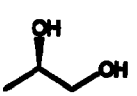
$C_{11}H_{13}NO_2$

(*S*)-*N*-Benzyl-3,4-epoxybutyramide

E.e. 85% [by comparison with the sample obtained from optically pure (*S*)-*N*-benzyl-4-chloro-3-hydroxybutyramide]
$[\alpha]_D^{22}$= -43.0 (c 0.54, $CHCl_3$)
Source of chirality: Enzymatic aminolysis
Absolute configuration: S

Tetrahedron: Asymmetry 1993, *4*, 2211

László Poppe, Lajos Novák, Mária Kajtár-Peredy, Csaba Szántay



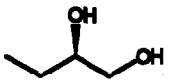
$C_3H_8O_2$

(*R*)-1,2-Propanediol

E.e.= 52% (optical rotation)
$[\alpha]_D^{25}$= -9.09 (neat)
Absolute configuration: 2*R*
Source of chirality: enzymatic hydrolysis

Tetrahedron: Asymmetry 1993, *4*, 2211

László Poppe, Lajos Novák, Mária Kajtár-Peredy, Csaba Szántay

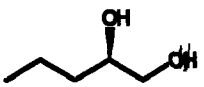


$C_4H_{10}O_2$
(*R*)-1,2-Butanediol

E.e.= 91% (optical rotation)
$[\alpha]_D^{22}$= +11.8 (c 2.5, ethanol)
Absolute configuration: 2*R*
Source of chirality: enzymatic hydrolysis

Tetrahedron: Asymmetry 1993, *4*, 2211

László Poppe, Lajos Novák, Mária Kajtár-Peredy, Csaba Szántay

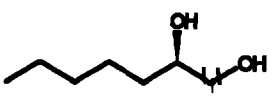


$C_5H_{12}O_2$
(*R*)-1,2-Pentanediol

E.e.= >98% (^{1}H-NMR with Eu(hfc)$_3$)
$[\alpha]_D^{22}$= +17.4 (c 12, ethanol)
Absolute configuration: 2*R*
Source of chirality: enzymatic hydrolysis

Tetrahedron: Asymmetry 1993, *4*, 2211

László Poppe, Lajos Novák, Mária Kajtár-Peredy, Csaba Szántay

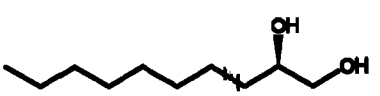


$C_7H_{16}O_2$
(*R*)-1,2-Heptanediol

E.e.= 80% (optical rotation)
$[\alpha]_D^{23}$= +13.4 (c 12, ethanol)
Absolute configuration: 2*R*
Source of chirality: enzymatic hydrolysis

Tetrahedron: Asymmetry 1993, *4*, 2211

László Poppe, Lajos Novák, Mária Kajtár-Peredy, Csaba Szántay

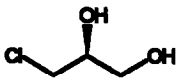


$C_{10}H_{22}O_2$
(*R*)-1,2-Decanediol

E.e.= 92% (optical rotation)
$[\alpha]_D^{23}$= +11.0 (c 1, ethanol)
Absolute configuration: 2*R*
Source of chirality: enzymatic hydrolysis

Tetrahedron: Asymmetry 1993, *4*, 2211

László Poppe, Lajos Novák, Mária Kajtár-Peredy, Csaba Szántay

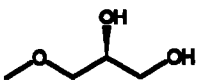


$C_3H_7ClO_2$
(*S*)-3-Chloro-1,2-propanediol

E.e.= 95% (^{1}H-NMR with Eu(hfc)$_3$)
$[\alpha]_D^{22}$= +7.0° (c 5, water)
Absolute configuration: 2*S*
Source of chirality: enzymatic hydrolysis

Tetrahedron: Asymmetry 1993, *4*, 2211

László Poppe, Lajos Novák, Mária Kajtár-Peredy, Csaba Szántay

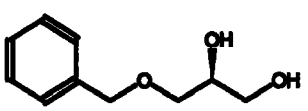


$C_4H_{10}O_3$
(*S*)-3-Methoxy-1,2-propanediol

E.e.= 92% (^{1}H-NMR with Eu(hfc)$_3$)
$[\alpha]_D^{21}$= +5.4 (c 2, ethanol)
Absolute configuration: 2*S*
Source of chirality: enzymatic hydrolysis

Tetrahedron: Asymmetry 1993, *4*, 2211

László Poppe, Lajos Novák, Mária Kajtár-Peredy, Csaba Szántay

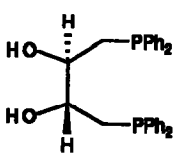


$C_{10}H_{14}O_3$
(*S*)-3-Benzyloxy-1,2-propanediol

E.e.= 61% (optical rotation)
$[\alpha]_D^{21}$= -3.3 (c 10, benzene)
Absolute configuration: 2*S*
Source of chirality: enzymatic hydrolysis

Tetrahedron: Asymmetry 1993, *4*, 2219

A. Börner, J. Ward, K. Kortus and H. B. Kagan

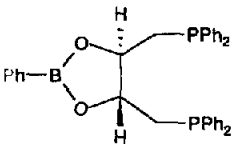


$C_{28}H_{28}O_2P_2$
(-)-(R,R)-2,3-dihydroxy-1,4-bis(diphenylphosphino)-butane

mp = 92-94°C; $[\alpha]_D^{25}$ = -35.8 (c 1, $CHCl_3$)
[lit.: mp = 99-100°C; $[\alpha]_D^{25}$ = -34.2 (c 0.76, $CHCl_3$)]
100 % ee
Absolute configuration: R,R
Source of chirality: from hydrolysis of (R,R)-DIOP

A. Börner, J. Ward, K. Kortus and H. B. Kagan

Tetrahedron: Asymmetry **1993**, *4*, 2219



$C_{34}H_{31}BO_2P_2$

(-)-(R,R)-2,3-O-phenylboron-dihydroxy-1,4-bis(diphenylphosphino)-butane

mp = 121-122°C

$[\alpha]_D^{25}$ = 3.8 (c 1, $CHCl_3$)

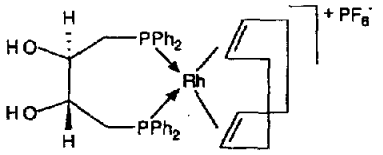
100 % ee

Absolute configuration: R,R

Source of chirality: from the reaction of (-)-(R,R)-2,3-dihydroxy-1,4-bis(diphenylphosphino)-butane with $PhBCl_2$

A. Börner, J. Ward, K. Kortus and H. B. Kagan

Tetrahedron: Asymmetry **1993**, *4*, 2219



$C_{36}H_{40}O_2P_3F_6Rh$

mp = 210-213°C

$[\alpha]_D^{25}$ = -7.7 (c 0.5, $CHCl_3$)

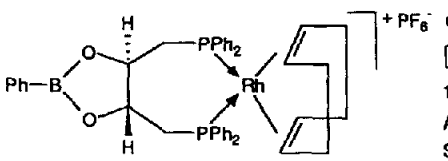
100 % ee

Absolute configuration: R,R

Source of chirality: from the reaction of (-)-(R,R)-2,3-dihydroxy-1,4-bis(diphenylphosphino)-butane with $(RhClCOD)_2$

A. Börner, J. Ward, K. Kortus and H. B. Kagan

Tetrahedron: Asymmetry **1993**, *4*, 2219



$C_{42}H_{43}O_2P_3F_6Rh$

mp = 165-170°C

$[\alpha]_D^{25}$ = -4.8 (c 0.35, $CHCl_3$)

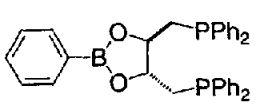
100 % ee

Absolute configuration: R,R

Source of chirality: from the reaction of (-)-(R,R)-2,3-phenylboron-dihydroxy-1,4-bis(diphenylphosphino)-butane with $(RhClCOD)_2$

L. B. Fields, Eric N. Jacobsen

Tetrahedron: Asymmetry **1993**, *4*, 2229



$C_{34}H_{31}BO_2P_2$

(4*R*)-*trans*-2-Phenyl)-4,5-bis(diphenylphosphinomethyl)-1,3,2-dioxaborolane

α_D = +4.0 (*c* 1.16, $CHCl_3$)

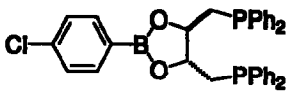
Source of chirality: natural tartaric acid

Absolute configuration: R, R

(stereospecific synthesis from tartaric acid)

L. B. Fields, Eric N. Jacobsen

Tetrahedron: Asymmetry 1993, *4*, 2229



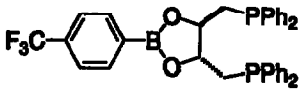
α_D = +6.1 (*c* 1.20, $CHCl_3$)
Source of chirality: natural tartaric acid
Absolute configuration: R, R
(stereospecific synthesis from tartaric acid)

$C_{34}H_{30}BClO_2P_2$

(4*R*)-*trans*-2-(4-Chlorophenyl)-4,5-bis(diphenylphosphinomethyl)-1,3,2-dioxaborolane

L. B. Fields, Eric N. Jacobsen

Tetrahedron: Asymmetry 1993, *4*, 2229



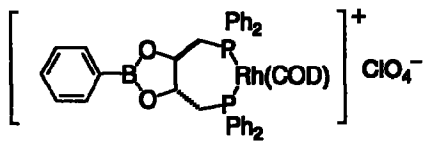
α_D = +5.3 (*c* 1.23, $CHCl_3$)
Source of chirality: natural tartaric acid
Absolute configuration: R, R
(stereospecific synthesis from tartaric acid)

$C_{35}H_{30}BF_3O_2P_2$

(4*R*)-*trans*-2-(4-(Trifluoromethyl)phenyl)-4,5-bis(diphenylphosphinomethyl)-1,3,2-dioxaborolane

L. B. Fields, Eric N. Jacobsen

Tetrahedron: Asymmetry 1993, *4*, 2229



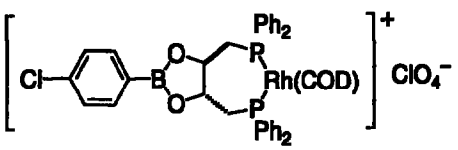
Source of chirality: natural tartaric acid

Absolute configuration: R, R
(stereospecific synthesis from tartaric acid)

$C_{42}H_{43}BClO_6P_2Rh$
η2,η2-(1,5-Cyclooctadiene)-*P*,*P*-[(4*R*)-*trans*-2-phenyl-4,5-bis(diphenylphosphinomethyl)-1,3,2-dioxaborolane]rhodium(I) perchlorate

L. B. Fields, Eric N. Jacobsen

Tetrahedron: Asymmetry 1993, *4*, 2229



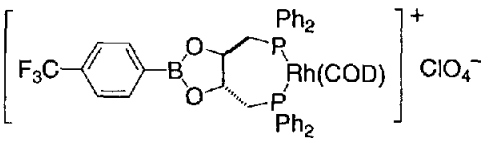
Source of chirality: natural tartaric acid

Absolute configuration: R, R
(stereospecific synthesis from tartaric acid)

$C_{42}H_{42}BCl_2O_6P_2Rh$
η2,η2-(1,5-Cyclooctadiene)-*P*,*P*-[(4*R*)-*trans*-2-(4-chlorophenyl)-4,5-bis(diphenylphosphinomethyl)-1,3,2-dioxaborolane]rhodium(I) perchlorate

L. B. Fields, Eric N. Jacobsen

Tetrahedron: Asymmetry **1993,** *4*, 2229



α_D +1.8 (*c* 1.10, CH_2Cl_2)

Source of chirality: natural tartaric acid

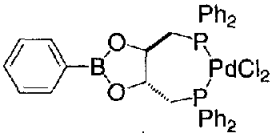
Absolute configuration: R, R
(stereospecific synthesis from tartaric acid)

$C_{43}H_{42}BClF_3O_6P_2Rh$

η2,η2-(1,5-Cyclooctadiene)-*P*,*P*'-[(4*R*)-*trans*-2-(4-(trifluoromethyl)phenyl)-4,5-bis(diphenylphosphinomethyl)-1,3,2-dioxaborolane]rhodium(I) perchlorate

L. B. Fields, Eric N. Jacobsen

Tetrahedron: Asymmetry **1993,** *4*, 2229



Source of chirality: natural tartaric acid

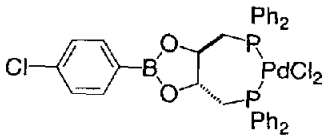
Absolute configuration: R, R
(stereospecific synthesis from tartaric acid)

$C_{34}H_{31}BCl_2O_2P_2Pd$

P,*P*'-[(4*R*)-*trans*-2-Phenyl)-4,5-bis(diphenylphosphinomethyl)-1,3,2-dioxaborolane]dichloropalladium(II)

L. B. Fields, Eric N. Jacobsen

Tetrahedron: Asymmetry **1993,** *4*, 2229



Source of chirality: natural tartaric acid

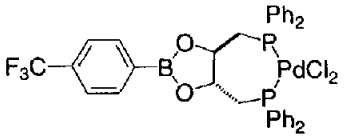
Absolute configuration: R, R
(stereospecific synthesis from tartaric acid)

$C_{34}H_{30}BCl_3O_2P_2Pd$

P,*P*'-[(4*R*)-*trans*-2-(4-chlorophenyl)-4,5-bis(diphenylphosphinomethyl)-1,3,2-dioxaborolane]dichloropalladium(II)

L. B. Fields, Eric N. Jacobsen

Tetrahedron: Asymmetry **1993,** *4*, 2229



Source of chirality: natural tartaric acid

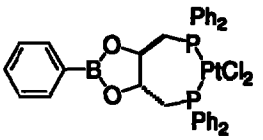
Absolute configuration: R, R
(stereospecific synthesis from tartaric acid)

$C_{35}H_{30}BCl_2F_3O_2P_2Pd$

P,*P*'-[(4*R*)-*trans*-2-(4-(Trifluoromethy)phenyl)-4,5-bis(diphenylphosphinomethyl)-1,3,2-dioxaborolane]dichloropalladium(II)

L. B. Fields, Eric N. Jacobsen

Tetrahedron: Asymmetry 1993, *4*, 2229



Source of chirality: natural tartaric acid

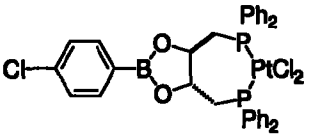
Absolute configuration: R, R
(stereospecific synthesis from tartaric acid)

$C_{34}H_{31}BCl_2O_2P_2Pt$

P,P-[(4*R*)-*trans*-2-(4-chlorophenyl)-4,5-bis(diphenylphosphinomethyl)-1,3,2-dioxaborolane]dichloroplatinum(II)

L. B. Fields, Eric N. Jacobsen

Tetrahedron: Asymmetry 1993, *4*, 2229



Source of chirality: natural tartaric acid

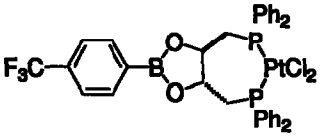
Absolute configuration: R, R
(stereospecific synthesis from tartaric acid)

$C_{34}H_{30}BCl_3O_2P_2Pt$

P,P-[(4*R*)-*trans*-2-(4-Chlorophenyl)-4,5-bis(diphenylphosphinomethyl)-1,3,2-dioxaborolane]dichloroplatinum(II)

L. B. Fields, Eric N. Jacobsen

Tetrahedron: Asymmetry 1993, *4*, 2229



Source of chirality: natural tartaric acid

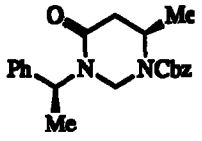
Absolute configuration: R, R
(stereospecific synthesis from tartaric acid)

$C_{35}H_{30}BCl_2F_3O_2P_2Pt$

P,P-[(4*R*)-*trans*-2-(4-(Trifluoromethy)phenyl)-4,5-bis(diphenylphosphinomethyl)-1,3,2-dioxaborolane]dichloroplatinum(II)

Rosa Amoroso, Giuliana Cardillo, Giovanna Mobbili and Claudia Tomasini

Tetrahedron: Asymmetry 1993, *4*, 2241



E.e. = >99% (derived from *S*-phenylethylamine)

$[\alpha]_D$ -71.6 (c 0.7, $CHCl_3$)

Source of chirality: *S*-phenylethylamine

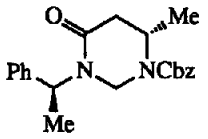
absolute configuration: 1'S,6R

$C_{21}H_{24}N_2O_3$

1-benzyloxycarbonyl-3-(1'-phenyleth-1'-yl)-6-methylperihydropyrimidin-4-one

Rosa Amoroso, Giuliana Cardillo, Giovanna Mobbili and Claudia Tomasini

Tetrahedron: Asymmetry **1993,** *4*, 2241



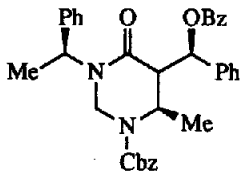
E.e. = >99% (derived from *S*-phenylethylamine)
$[\alpha]_D$ -34.2 (c 1.4, $CHCl_3$)
Source of chirality: *S*-phenylethylamine
absolute configuration: 1'S,6S

$C_{21}H_{24}N_2O_3$

1-benzyloxycarbonyl-3-(1'-phenyleth-1'-yl)-6-methylperihydropyrimidin-4-one

Rosa Amoroso, Giuliana Cardillo, Giovanna Mobbili and Claudia Tomasini

Tetrahedron: Asymmetry **1993,** *4*, 2241



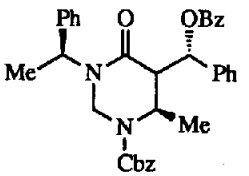
E.e. = >99% (derived from *S*-phenylethylamine)
$[\alpha]_D$ -4.3 (c 1, $CHCl_3$)
Source of chirality: *S*-phenylethylamine
absolute configuration: 1'S,5S,5'R,6R

$C_{35}H_{34}N_2O_5$

1-benzyloxycarbonyl-3-(1'-phenyleth-1'-yl)-5-(1'-hydroxybenz-1'-yl)-6-methylperihydropyrimidin-4-one benzoate

Rosa Amoroso, Giuliana Cardillo, Giovanna Mobbili and Claudia Tomasini

Tetrahedron: Asymmetry **1993,** *4*, 2241



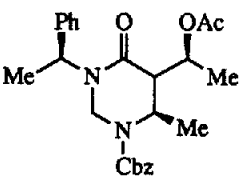
E.e. = >99% (derived from *S*-phenylethylamine)
$[\alpha]_D$ +24.2 (c 1, $CHCl_3$)
Source of chirality: *S*-phenylethylamine
absolute configuration: 1'S,5S,5'S,6R

$C_{35}H_{34}N_2O_5$

1-benzyloxycarbonyl-3-(1'-phenyleth-1'-yl)-5-(1'-hydroxybenz-1'-yl)-6-methylperihydropyrimidin-4-one benzoate

Rosa Amoroso, Giuliana Cardillo, Giovanna Mobbili and Claudia Tomasini

Tetrahedron: Asymmetry **1993,** *4*, 2241



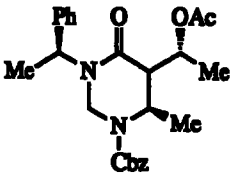
E.e. = >99% (derived from *S*-phenylethylamine)
$[\alpha]_D$ -40.7 (c 0.3, $CHCl_3$)
Source of chirality: *S*-phenylethylamine
absolute configuration: 1'S,5S,5'S,6R

$C_{25}H_{30}N_2O_5$

1-benzyloxycarbonyl-3-(1'-phenyleth-1'-yl)-5-(1'-hydroxyeth-1'-yl)-6-methylperihydropyrimidin-4-one acetate

Rosa Amoroso, Giuliana Cardillo, Giovanna Mobbili and Claudia Tomasini

Tetrahedron: Asymmetry 1993, *4*, 2241



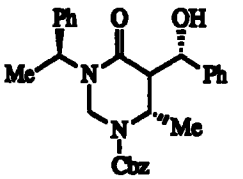
E.e. = >99% (derived from *S*-phenylethylamine)
$[\alpha]_D$ -13.4 (c 0.6, $CHCl_3$)
Source of chirality: *S*-phenylethylamine
absolute configuration: 1'S,5S,5'R,6R

$C_{25}H_{30}N_2O_5$

1-benzyloxycarbonyl-3-(1'-phenyleth-1'-yl)-5-(1'-hydroxyeth-1'-yl)-6-methylperihydropyrimidin-4-one acetate

Rosa Amoroso, Giuliana Cardillo, Giovanna Mobbili and Claudia Tomasini

Tetrahedron: Asymmetry 1993, *4*, 2241



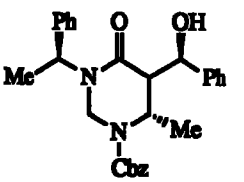
E.e. = >99% (derived from *S*-phenylethylamine)
$[\alpha]_D$ -14.6 (c 0.8, $CHCl_3$)
Source of chirality: *S*-phenylethylamine
absolute configuration: 1'S,5R,5'S,6S

$C_{28}H_{30}N_2O_4$

1-benzyloxycarbonyl-3-(1'-phenyleth-1'-yl)-5-(1'-hydroxybenz-1'-yl)-6-methylperihydropyrimidin-4-one

Rosa Amoroso, Giuliana Cardillo, Giovanna Mobbili and Claudia Tomasini

Tetrahedron: Asymmetry 1993, *4*, 2241



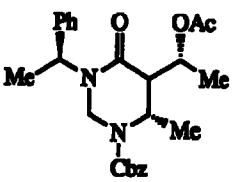
E.e. = >99% (derived from *S*-phenylethylamine)
$[\alpha]_D$ -2.3 (c 1, $CHCl_3$)
Source of chirality: *S*-phenylethylamine
absolute configuration: 1'S,5R,5'R,6S

$C_{28}H_{30}N_2O_4$

1-benzyloxycarbonyl-3-(1'-phenyleth-1'-yl)-5-(1'-hydroxybenz-1'-yl)-6-methylperihydropyrimidin-4-one

Rosa Amoroso, Giuliana Cardillo, Giovanna Mobbili and Claudia Tomasini

Tetrahedron: Asymmetry 1993, *4*, 2241



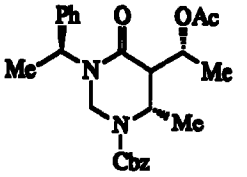
E.e. = >99% (derived from *S*-phenylethylamine)
$[\alpha]_D$ -23.5 (c 0.2, $CHCl_3$)
Source of chirality: *S*-phenylethylamine
absolute configuration: 1'S,5R,5'R,6S

$C_{25}H_{30}N_2O_5$

1-benzyloxycarbonyl-3-(1'-phenyleth-1'-yl)-5-(1'-hydroxyeth-1'-yl)-6-methylperihydropyrimidin-4-one acetate

Rosa Amoroso, Giuliana Cardillo, Giovanna Mobbili and Claudia Tomasini

Tetrahedron: Asymmetry 1993, *4*, 2241



$C_{25}H_{30}N_2O_5$

E.e. = >99% (derived from *S*-phenylethylamine)
$[\alpha]_D$ -52.2 (c 0.5, $CHCl_3$)
Source of chirality: *S*-phenylethylamine
absolute configuration: 1'S,5R,5'S,6S

1-benzyloxycarbonyl-3-(1'-phenyleth-1'-yl)-5-(1'-hydroxyeth-1'-yl)-6-methylperihydropyrimidin-4-one acetate

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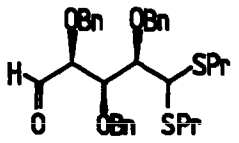
I. Kovács, Z. Tóth, P. Herczegh, F. Sztaricskai

Tetrahedron: Asymmetry 1993, *4*, 2261



$C_{32}H_{40}O_4S_2$

$[\alpha]_D^{22}$ = -17.0 (c 1.4,$CHCl_3$)
Source of chirality: D-glucose
Absolute configuration: 2R,3S,4S

2,3,4-Tri-*O*-benzyl-D-*xylo*-pentodialdose 1,1-di(*n*-propyl)dithioacetal

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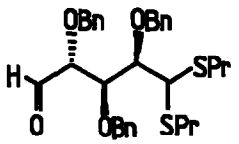
I. Kovács, Z. Tóth, P. Herczegh, F. Sztaricskai

Tetrahedron: Asymmetry 1993, *4*, 2261



$C_{32}H_{40}O_4S_2$

$[\alpha]_D^{22}$ = -1.0 (c 1.1,$CHCl_3$)
Source of chirality: D-galactose
Absolute configuration: 2R,3S,4R

2,3,4-Tri-*O*-benzyl-L-*arabino*-pentodialdose 1,1-di(*n*-propyl)dithioacetal

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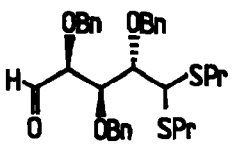
I. Kovács, Z. Tóth, P. Herczegh, F. Sztaricskai

Tetrahedron: Asymmetry 1993, *4*, 2261



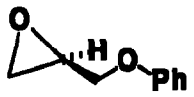
$C_{32}H_{40}O_4S_2$

$[\alpha]_D^{22}$ = -45.2 (c 1.0,$CHCl_3$)
Source of chirality: D-mannose
Absolute configuration: 2S,3S,4S

2,3,4-Tri-*O*-benzyl-D-*lyxo*-pentodialdose 1,1-di(*n*-propyl)dithioacetal

V. Waagen, I. Hollingsæter, V. Partali, O. Thorstad and T. Anthonsen

Tetrahedron: Asymmetry **1993**, *4*, 2265



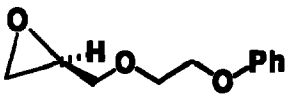
$C_9H_{10}O_2$

$[\alpha]_D^{20} = -12.4$ (c 2.49 EtOH)
Prepared from *(S)*-glycidol

(R)-Phenyl glycidyl ether

V. Waagen, I. Hollingsæter, V. Partali, O. Thorstad and T. Anthonsen

Tetrahedron: Asymmetry **1993**, *4*, 2265



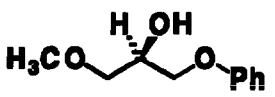
$C_{11}H_{14}O_3$

$[\alpha]_D^{20} = -11.0$ (c 2.14 EtOH)
Prepared from *(S)*-epichlorohydrin

(R)-Phenoxyethyl glycidyl ether

V. Waagen, I. Hollingsæter, V. Partali, O. Thorstad and T. Anthonsen

Tetrahedron: Asymmetry **1993**, *4*, 2265



$C_{10}H_{14}O_3$

$[\alpha]_D^{20} = +2.6$ (c 0.76 EtOH)
Prepared from *(R)*-phenyl glycidyl ether and by enzymatic hydrolysis of the racemic butanoate,
$E = 55$

(R)-1-Phenyl-3-methoxy-1,2-propanediol

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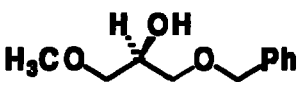

$C_{11}H_{16}O_3$

$[\alpha]_D^{20} = +4.2$ (c 1.67 MeOH)
Prepared from *(R)*-phenylmethyl glycidyl ether and by enzymatic hydrolysis of the racemic butanoate
$E = 20$

(R)-1-Phenylmethyl-3-methoxy-1,2-propanediol

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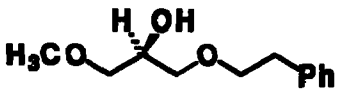


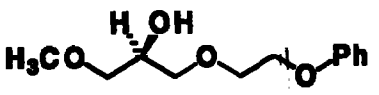
$C_{12}H_{18}O_3$

$[\alpha]_D^{20} = +5.6$ (c 1.07 MeOH)
Prepared from (*R*)-phenylethyl glycidyl ether and by enzymatic hydrolysis of the racemic butanoate
$E > 100$

(*R*)-1-Phenylethyl-3-methoxy-1,2-propanediol

V. Waagen, I. Hollingsæter, V. Partali, O. Thorstad and T. Anthonsen

Tetrahedron: Asymmetry 1993, *4*, 2265



$C_{12}H_{18}O_4$

$[\alpha]_D^{20} = +1.5$ (c 2.01 EtOH)
Prepared from (*R*)-phenoxyethyl glycidyl ether and by enzymatic hydrolysis of the racemic butanoate
$E > 55$

(*R*)-1-Phenoxyethyl-3-methoxy-1,2-propanediol