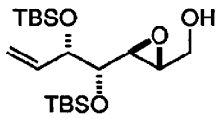
S. Saito, H. Itoh, Y. Ono, K. Nishioka, T. Moriwake

Tetrahedron: Asymmetry **1993,** *4*, 5

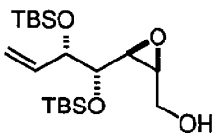


$C_{19}H_{40}O_4Si_2$
3,4-*O*-bis(*t*-Butyldimethylsilyl)-5,6-epoxy-1-heptene-3,4,7-triol

D.e = 80% (+ syn-epoxide) (^{1}H NMR)
$[\alpha]^{21}_D$ –63.1 (c 8.5, $CHCl_3$)
Source of chirality: L-tartaric acid (3,4) and asymmetric epoxidation (5,6)
Absolute configuration: 3*S*,4*S*,5*S*,6*R*; 5,6 assigned by chemical correlation

S. Saito, H. Itoh, Y. Ono, K. Nishioka, T. Moriwake

Tetrahedron: Asymmetry **1993,** *4*, 5

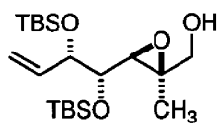


$C_{19}H_{40}O_4Si_2$
3,4-*O*-bis(*t*-Butyldimethylsilyl)-5,6-epoxy-1-heptene-3,4,7-triol

D.e = 94% (+ syn-epoxide) (^{1}H NMR)
$[\alpha]^{21}_D$ –56.9 (c 4.30, $CHCl_3$)
Source of chirality: L-tartaric acid (3,4) and asymmetric epoxidation (5,6)
Absolute configuration: 3*S*,4*S*,5*S*,6*S*; 5,6 assigned by chemical correlation

S. Saito, H. Itoh, Y. Ono, K. Nishioka, T. Moriwake

Tetrahedron: Asymmetry **1993,** *4*, 5

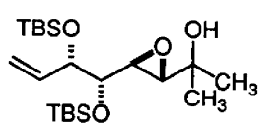


$C_{20}H_{42}O_4Si_2$
3,4-*O*-bis(*t*-Butyldimethylsilyl)-5,6-epoxy-6-methyl-1-heptene-3,4,7-triol

D.e > 99% (^{1}H NMR)
$[\alpha]^{21}_D$ –18.0 (c 4.80 , $CHCl_3$)
Source of chirality: L-tartaric acid (3,4) and asymmetric epoxidation (5,6)
Absolute configuration: 3*S*,4*S*,5*S*,6*R*; 5,6 estimated based on a mechanism proposed

S. Saito, H. Itoh, Y. Ono, K. Nishioka, T. Moriwake

Tetrahedron: Asymmetry **1993,** *4*, 5

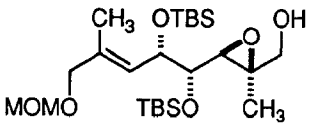


$C_{21}H_{44}O_4Si_2$
3,4-*O*-bis(*t*-Butyldimethylsilyl)-5,6-epoxy-7-methyl-1-octene-3,4,7-triol

D.e = 81% (+syn-epoxide) (^{1}H NMR)
$[\alpha]^{26}_D$ –69.8 (c 1.00, $CHCl_3$)
Source of chirality: L-tartaric acid (3,4) and asymmetric epoxidation (5,6)
Absolute configuration: 3*S*,4*S*,5*S*,6*R*; 5,6 estimated based on a mechanism proposed

S. Saito, H. Itoh, Y. Ono, K. Nishioka, T. Moriwake

Tetrahedron: Asymmetry **1993,** *4*, 5



$C_{24}H_{50}O_6Si_2$

1-*O*-(Methoxymethyl)-4,5-*O*-bis(*t*-butyldimethylsilyl)-6,7-epoxy-2,7-dimethyl-2*E*-octene-1,4,5,8-tetraol

D.e >99% (^{1}H NMR)

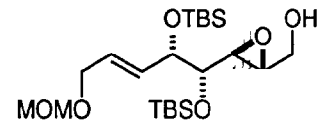
$[\alpha]^{26}_D$ +6.07 (c 2.77, $CHCl_3$)

Source of chirality: L-tartaric acid (4,5) and asymmetric epoxidation (6,7)

Absolute configuration: 4*S*,5*S*,6*S*,7*R*; 6,7 estimated based on a mechanism proposed.

S. Saito, H. Itoh, Y. Ono, K. Nishioka, T. Moriwake

Tetrahedron: Asymmetry **1993,** *4*, 5



$C_{22}H_{46}O_6Si_2$

1-*O*-(Methoxymethyl)-4,5-*O*-bis(*t*-butyldimethylsilyl)-6,7-epoxy-2*E*-octene-1,4,5,8-tetraol

D.e >99% (^{1}H NMR)

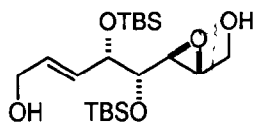
$[\alpha]^{21}_D$ –74.8 (c 2.27, $CHCl_3$)

Source of chirality: L-tartaric acid (4,5) and asymmetric epoxidation (6,7)

Absolute configuration: 4*S*,5*S*,6*S*,7*R*; 6,7 assigned by chemical correlation

S. Saito, H. Itoh, Y. Ono, K. Nishioka, T. Moriwake

Tetrahedron: Asymmetry **1993,** *4*, 5



$C_{20}H_{42}O_5Si_2$

4,5-*O*-bis(*t*-butyldimethylsilyl)-6,7-epoxy-2*E*-octene-1,4,5,8-tetraol

D.e > 99% (^{1}H NMR)

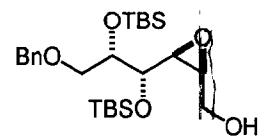
$[\alpha]^{25}_D$ –71.1 (c 1.50, $CHCl_3$)

Source of chirality: L-tartaric acid (4,5) and asymmetric epoxidation (6,7)

Absolute configuration: 4*S*,5*S*,6*S*,7*R*; 6,7 assigned by chemical correlation

S. Saito, H. Itoh, Y. Ono, K. Nishioka, T. Moriwake

Tetrahedron: Asymmetry **1993,** *4*, 5



$C_{25}H_{46}O_5Si_2$

1-O-Benzyl-2,3-*O*-bis(*t*-butyldimethylsilyl)-4,5-epoxyhexane-1,2,3,6-tetraol

D.e = 88% (+ syn-epoxide) (^{1}H NMR)

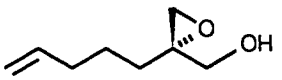
$[\alpha]^{26}_D$ –20.6 (c 3.90, $CHCl_3$)

Source of chirality: L-tartaric acid (2,3) and asymmetric epoxidation (4,5)

Absolute configuration: 2*S*,3*S*,4*S*,5*S*; 4,5 assigned by chemical correlation

P. Ferraboschi, S. Casati, P. Grisenti, E. Santaniello

Tetrahedron: Asymmetry **1993,** *4*, 9

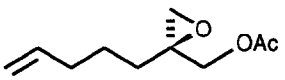


$C_8H_{14}O_2$
(S)-2,3-epoxy-2-(4-pentenyl)-propanol

E.e. = 98%
(by ^{1}H-NMR of (R)-MTPA ester)
$[\alpha]_D$ -15.9 (c 2.5 $CHCl_3$)
Source of chirality: *Pseudomonas fluorescens* lipase
Absolute configuration: (S)

P. Ferraboschi, S. Casati, P. Grisenti, E. Santaniello

Tetrahedron: Asymmetry **1993,** *4*, 9

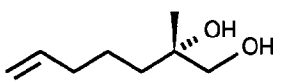


$C_{10}H_{16}O_3$
(S)-2,3-epoxy-2-(4-pentenyl)-propanol acetate

E.e. > 98%
$[\alpha]_D$ +9.32 (c 2.5 $CHCl_3$)
Source of chirality: *Pseudomonas fluorescens* lipase
Absolute configuration: (S)

P. Ferraboschi, S. Casati, P. Grisenti, E. Santaniello

Tetrahedron: Asymmetry **1993,** *4*, 9

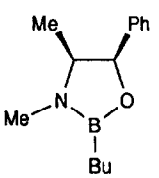


$C_8H_{16}O_2$
(S)-1,2-dihydroxy-2-methyl-6-heptene

E.e. > 98%
$[\alpha]_D$ -2.6 (c 1.4 $CHCl_3$)
Source of chirality: $LiAlH_4$ reduction of optically pure (S)-epoxyalcohol
Absolute configuration: (S)

R. Berenguer, J. Garcia, M. Gonzàlez and J. Vilarrasa

Tetrahedron: Asymmetry **1993,** *4*, 13



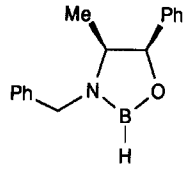
$C_{14}H_{22}BNO$

***B*-Butyl-*N*,4-dimethyl-5-phenyl-1,3,2-oxazaborolidine**

E.e.>99% (determined by ^{1}H-NMR)
$[\alpha]_D^{21}$= -120 (c= 2.51, toluene). ^{11}B-NMR($CDCl_3$) δ= 34
Source of chirality: (-)-Ephedrine
Absolute configuration: 4*S*,5*R*

R. Berenguer, J. Garcia, M. Gonzàlez and J. Vilarrasa

Tetrahedron: Asymmetry **1993**, *4*, 13



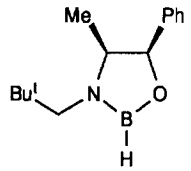
E.e.>99% (determined by ^{1}H-NMR)
$[\alpha]_D^{25}$= -6.3 (c= 1.80, benzene). ^{11}B-NMR($CDCl_3$) δ= 33
Source of chirality: (-)-Norephedrine
Absolute configuration: 4*S*,5*R*

$C_{16}H_{18}BNO$

N-Benzyl-4-methyl-5-phenyl-1,3,2-oxazaborolidine

R. Berenguer, J. Garcia, M. Gonzàlez and J. Vilarrasa

Tetrahedron: Asymmetry **1993**, *4*, 13



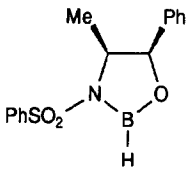
E.e.>99% (determined by ^{1}H-NMR)
$[\alpha]_D^{25}$= -79.6 (c= 1.41, benzene). ^{11}B-NMR($CDCl_3$) δ= 30
Source of chirality: (-)-Norephedrine
Absolute configuration: 4*S*,5*R*

$C_{14}H_{22}BNO$

N-(2,2-dimethylpropyl)-4-methyl-5-phenyl-1,3,2-oxazaborolidine

R. Berenguer, J. Garcia, M. Gonzàlez and J. Vilarrasa

Tetrahedron: Asymmetry **1993**, *4*, 13



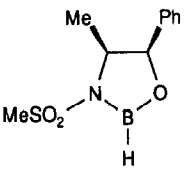
E.e.>99% (determined by ^{1}H-NMR)
$[\alpha]_D^{25}$= -15.2 (c= 1.99, benzene). ^{11}B-NMR($CDCl_3$) δ= 30
Source of chirality: (-)-Norephedrine
Absolute configuration: 4*S*,5*R*

$C_{15}H_{16}BNO_3S$

N-Benzenesulfonyl-4-methyl-5-phenyl-1,3,2-oxazaborolidine

R. Berenguer, J. Garcia, M. Gonzàlez and J. Vilarrasa

Tetrahedron: Asymmetry **1993**, *4*, 13



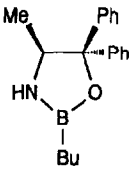
E.e.>99% (determined by ^{1}H-NMR)
$[\alpha]_D^{25}$= -49.0 (c= 1.82, benzene). ^{11}B-NMR($CDCl_3$) δ= 30
Source of chirality: (-)-Norephedrine
Absolute configuration: 4*S*,5*R*

$C_{10}H_{14}BNO_3S$

N-Methanesulfonyl-4-methyl-5-phenyl-1,3,2-oxazaborolidine

R. Berenguer, J. Garcia, M. Gonzàlez and J. Vilarrasa

Tetrahedron: Asymmetry **1993**, *4*, 13



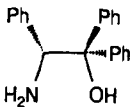
E.e.>99% (determined by ^{1}H-NMR)
$[\alpha]_D^{25}$= –165 (c= 1.14, hexane). ^{11}B-NMR($CDCl_3$) δ= 31
Source of chirality: L-(+)-Alanine
Absolute configuration: *S*

$C_{19}H_{24}BNO$

***B*-Butyl-4-methyl-5,5-diphenyl-1,3,2-oxazaborolidine**

R. Berenguer, J. Garcia, M. Gonzàlez and J. Vilarrasa

Tetrahedron: Asymmetry **1993**, *4*, 13



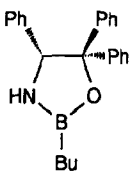
E.e.>99% (determined by ^{1}H-NMR)
$[\alpha]_D^{22}$= +235 (c= 0.995, $CHCl_3$)
Source of chirality: D-(–)-Phenylglycine
Absolute configuration: *R*

$C_{20}H_{19}NO$

2-Amino-1,1,2-triphenylethanol

R. Berenguer, J. Garcia, M. Gonzàlez and J. Vilarrasa

Tetrahedron: Asymmetry **1993**, *4*, 13



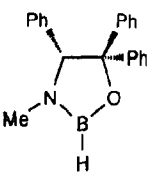
E.e.>99% (determined by ^{1}H-NMR)
$[\alpha]_D^{25}$= +214 (c= 1.40, benzene). ^{11}B-NMR($CDCl_3$) δ= 35
Source of chirality: D-(–)-Phenylglycine
Absolute configuration: *R*

$C_{24}H_{26}BNO$

***B*-Butyl-4,5,5-triphenyl-1,3,2-oxazaborolidine**

R. Berenguer, J. Garcia, M. Gonzàlez and J. Vilarrasa

Tetrahedron: Asymmetry **1993**, *4*, 13



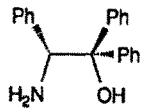
E.e.>99% (determined by ^{1}H-NMR)
$[\alpha]_D^{25}$= +190 (c= 3.56, benzene). ^{11}B-NMR($CDCl_3$) δ= 30
Source of chirality: D-(–)-Phenylglycine
Absolute configuration: *R*

$C_{21}H_{20}BNO$

***N*-Methyl-4,5,5-triphenyl-1,3,2-oxazaborolidine**

R. Berenguer, J. Garcia, M. González and J. Vilarrasa

Tetrahedron: Asymmetry **1993**, *4*, 13



$C_{20}H_{19}NO$

2-Amino-1,1,2-triphenylethanol

E.e.>99% (determined by ^{1}H-NMR)

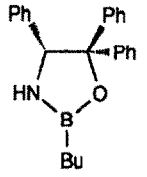
$[\alpha]_D^{22}$= +235 (c= 0.995, $CHCl_3$)

Source of chirality: D-(–)-Phenylglycine

Absolute configuration: *R*

R. Berenguer, J. Garcia, M. González and J. Vilarrasa

Tetrahedron: Asymmetry **1993**, *4*, 13



$C_{24}H_{26}BNO$

***B*-Butyl-4,5,5-triphenyl-1,3,2-oxazaborolidine**

E.e.>99% (determined by ^{1}H-NMR)

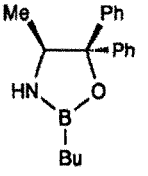
$[\alpha]_D^{25}$= +242 (c= 1.60, hexane). ^{11}B-NMR($CDCl_3$) δ= 35

Source of chirality: D-(–)-Phenylglycine

Absolute configuration: *R*

R. Berenguer, J. Garcia, M. González and J. Vilarrasa

Tetrahedron: Asymmetry **1993**, *4*, 13



$C_{19}H_{24}BNO$

***B*-Butyl-4-methyl-5,5-diphenyl-1,3,2-oxazaborolidine**

E.e.>99% (determined by ^{1}H-NMR)

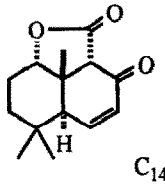
$[\alpha]_D^{25}$= –165 (c= 1.14, hexane). ^{11}B-NMR($CDCl_3$) δ= 31

Source of chirality: L-(+)-Alanine

Absolute configuration: *S*

M.D.Preite, J. Zinczuk, M.I.Colombo, J.A.Bacigaluppo, M.González Sierra and E.A.Rúveda

Tetrahedron: Asymmetry **1993**, *4*, 17



$C_{14}H_{18}O_3$

2aβ,3,5aα,6,7,8,8aβ,8b-Octahydro-6,6,8bβ-trimethyl-3-oxo-2H-naphtho[1,8-bc]furan-2-ona

E.e.> 95% by ^{1}H NMR in the presence of tris(3-[heptafluoro propyl-hydroxymethylene]-*d*-camphorato)

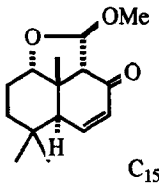
$[\alpha]_D$ = +4.36 (c = 0.78, $CHCl_3$)

Source of chirality: sulfoximine assisted resolution

Absolute configuration 1*S*,5*S*,9*S*,10*S* (determined by high field NMR application of the Mosher method)

M.D.Preite, J. Zinczuk, M.I.Colombo, J.A.Bacigaluppo, M.González Sierra and E.A.Rúveda

Tetrahedron: Asymmetry **1993**, *4*, 17



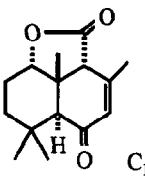
$C_{15}H_{22}O_3$

2aβ,3,5aα,6,7,8,8aβ,8b-Octahydro-2β-methoxy-6,6,8bβ-trimethyl-3-oxo-2H-naphtho[1,8-bc]furan

E.e.> 95% by ^{1}H NMR in the presence of tris(3-[heptafluoro propyl-hydroxymethylene]-*d*-camphorato)
$[\alpha]_D$ = -141.3 (c = 0.47, $CHCl_3$)
Source of chirality: sulfoximine assisted resolution
Absolute configuration 1*S*,5*S*,9*R*,10*S*,11*R* (determined by high field NMR application of the Mosher method)

M.D.Preite, J. Zinczuk, M.I.Colombo, J.A.Bacigaluppo, M.González Sierra and E.A.Rúveda

Tetrahedron: Asymmetry **1993**, *4*, 17



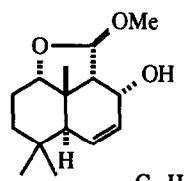
$C_{15}H_{20}O_3$

2aβ,5,5aα,6,7,8,8aβ,8b-Octahydro-3,6,6,8bβ-tetramethyl-5-oxo-2H-naphtho[1,8-bc]furan-2-ona

E.e.> 95% by ^{1}H NMR in the presence of tris(3-[heptafluoro propyl-hydroxymethylene]-*d*-camphorato)
$[\alpha]_D$ = -42.7 (c = 0.37, $CHCl_3$)
Source of chirality: sulfoximine assisted resolution
Absolute configuration 1*S*,5*S*,9*R*,10*S* (determined by high field NMR application of the Mosher method)

M.D.Preite, J. Zinczuk, M.I.Colombo, J.A.Bacigaluppo, M.González Sierra and E.A.Rúveda

Tetrahedron: Asymmetry **1993**, *4*, 17



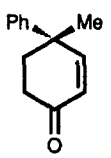
$C_{15}H_{24}O_3$

2aβ,3,5aα,6,7,8,8aβ,8b-Octahydro-3α-hydroxy-2β-methoxy-6,6,8bβ-trimethyl-2H-naphtho[1,8-bc]furan

E.e.> 95% by ^{1}H NMR analysis of the MTPA (Mosher) ester
$[\alpha]_D$ = -170 (c = 2.38, acetone)
Source of chirality: sulfoximine assisted resolution
Absolute configuration 1*S*,5*S*,8*R*,9*S*,10*S*,11*R* determined by high field NMR application of the Mosher method)

Toshio Honda,* Nobuaki Kimura and Masayoshi Tsubuki

Tetrahedron: Asymmetry **1993**, *4*, 21



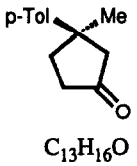
$C_{13}H_{14}O$

4-Methyl-4-phenylcyclohex-2-en-1-one

E.e. = 71% (determined by HPLC analysis using the chiral column CHIRALCEL OJ)
$[\alpha]_D$ = -76.5 (c = 1.1, EtOH)
Source of chirality: asymmetric deprotonation
Absolute configuration *S*

Toshio Honda,* Nobuaki Kimura and Masayoshi Tsubuki

Tetrahedron: Asymmetry **1993,** *4*, 21



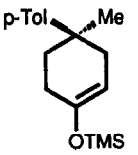
E.e. = 77% (determined by comparison of its optical rotation with that reported)
$[\alpha]_D$ = +10.3 (c = 0.8, $CHCl_3$); mp 42-43°C
Source of chirality: asymmetric deprotonation
Absolute configuration *R*

$C_{13}H_{16}O$

3-Methyl-3-(*p*-tolyl)cyclopentanone

Toshio Honda,* Nobuaki Kimura and Masayoshi Tsubuki

Tetrahedron: Asymmetry **1993,** *4*, 21



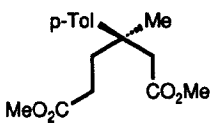
E.e. = 70% (determined by HPLC analysis using the chiral column CHIRALCEL OJ)
$[\alpha]_D$ = -57.1 (c = 1.0, EtOH)
Source of chirality: asymmetric deprotonation
Absolute configuration *R*

$C_{17}H_{26}OSi$

4-Methyl-1-trimethylsiloxy-4-(*p*-tolyl)cyclohex-1-ene

Toshio Honda,* Nobuaki Kimura and Masayoshi Tsubuki

Tetrahedron: Asymmetry **1993,** *4*, 21



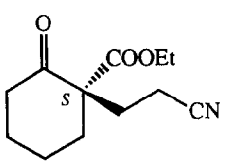
E.e. = 76% (determined by HPLC analysis using the chiral column CHIRALCEL OJ)
$[\alpha]_D$ = -20.0 (c = 1.3, $CHCl_3$)
Source of chirality: asymmetric deprotonation
Absolute configuration *R*

$C_{16}H_{22}O_4$

Dimethyl 3-methyl-3-(*p*-tolyl)adipate

A.Guingant, H.Hammami

Tetrahedron: Asymmetry **1993,** *4*, 25



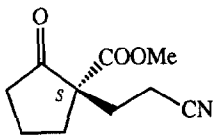
E.e. = 89% (by GPC on a chiral column)
$[\alpha]_D^{25}$ = - 106 (c = 1.8, EtOH)
Source of chirality: asymm.Michael addition
Absolute configuration: S (assigned by chemical correlation)

$C_{12}H_{17}NO_3$

(S)-2-oxo-1-(2-cyanoethyl)-cyclohexane carboxylic acid, ethyl ester

A.Guingant, H.Hammami

Tetrahedron: Asymmetry **1993,** *4*, 25



$C_{10}H_{13}NO_3$

E.e. = 87% (by GPC on a chiral column)

$[\alpha]_D^{25} = +23$ (c = 2.6, EtOH)

Source of chirality: asymm. Michael addition

Absolute configuration: S (assigned by analogy to the six membered ring analogue)

(S)-2-oxo-1-(2-cyanoethyl)-cyclopentane carboxylic acid, methyl ester

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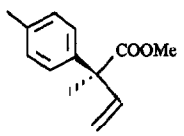
A. Fadel, J.-L. Canet and J. Salaün

Tetrahedron: Asymmetry **1993,** *4*, 27



$C_{13}H_{16}O_2$

E.e.> 98% [by ^{1}H nmr, in presence of chiral shift reagent]

$[\alpha]_D = -4.5$ (c1, $CHCl_3$)

Source of chirality : enzymatic hydrolysis with (PLE) of precursor

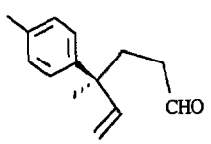
Absolute configuration : *S*

(assigned by natural product syntheses)

Methyl 2-methyl-2-(4-methylphenyl)but-3-enoate

A. Fadel, J.-L. Canet and J. Salaün

Tetrahedron: Asymmetry **1993,** *4*, 27



$C_{14}H_{18}O$

E.e.> 98% [by ^{1}H nmr, in presence of chiral shift reagent]

$[\alpha]_D = +13.2$ (c1, $CHCl_3$)

Source of chirality : enzymatic hydrolysis with (PLE) of precursor

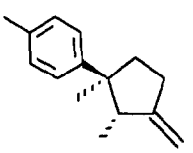
Absolute configuration : *S*

(assigned by natural product syntheses)

Methyl 4-methyl-4-(4-methylphenyl)hex-5-en-1-al

A. Fadel, J.-L. Canet and J. Salaün

Tetrahedron: Asymmetry **1993,** *4*, 27



$C_{15}H_{20}$

(+)-Epilaurene

E.e.> 98% [by ^{2}H nmr, in cholesteric liquid crystal]

$[\alpha]_D = +7.4$ (c1, $CHCl_3$)

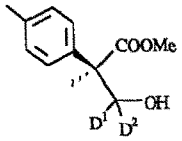
Source of chirality : enzymatic hydrolysis with (PLE) of precursor

Absolute configuration : 2*S*, 3*S*

(assigned by comparison with natural product)

2,3-Dimethyl-1-methylidene-3-(4-methylphenyl)cyclopentane

J.-L. Canet A. Fadel, J. Salaün, I. Canet-Fresse and J. Courtieu | *Tetrahedron: Asymmetry* **1993**, *4*, 31



$C_{12}H_{14}D_2O_3$

E.e.> 98% [by ^2H nmr, in cholesteric liquid crystal]

$[\alpha]_D = +60$ (c1, $CHCl_3$)

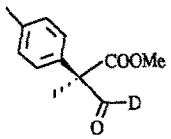
Source of chirality : enzymatic hydrolysis with (PLE) of precursor

Absolute configuration : *R*

(assigned by natural product syntheses)

Methyl 3,3-dideutero-3-hydroxy-2-methyl-2-(4-methylphenyl)propanoate

J.-L. Canet A. Fadel, J. Salaün, I. Canet-Fresse and J. Courtieu | *Tetrahedron: Asymmetry* **1993**, *4*, 31



$C_{12}H_{13}DO_3$

E.e.> 98% [by ^2H nmr, in cholesteric liquid crystal]

$[\alpha]_D = +191$ (c1, $CHCl_3$)

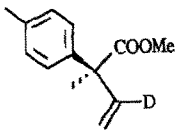
Source of chirality : enzymatic hydrolysis with (PLE) of precursor

Absolute configuration : *R*

(assigned by natural product syntheses)

Methyl 3-Deutero-2-methyl-2-(4-methylphenyl)-3-oxopropanoate

J.-L. Canet A. Fadel, J. Salaün, I. Canet-Fresse and J. Courtieu | *Tetrahedron: Asymmetry* **1993**, *4*, 31



$C_{13}H_{15}DO_2$

E.e.> 98% [by ^2H nmr, in cholesteric liquid crystal]

$[\alpha]_D = -4.5$ (c1, $CHCl_3$)

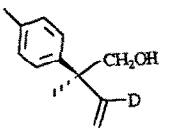
Source of chirality : enzymatic hydrolysis with (PLE) of precursor

Absolute configuration : *S*

(assigned by natural product syntheses)

Methyl 3-deutero-2-methyl-2-(4-methylphenyl)but-3-enoate

J.-L. Canet A. Fadel, J. Salaün, I. Canet-Fresse and J. Courtieu | *Tetrahedron: Asymmetry* **1993**, *4*, 31



$C_{12}H_{15}DO$

E.e.> 98% [by ^2H nmr, in cholesteric liquid crystal]

$[\alpha]_D = +13.8$ (c1, $CHCl_3$)

Source of chirality : enzymatic hydrolysis with (PLE) of precursor

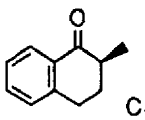
Absolute configuration : *S*

(assigned by natural product syntheses)

3-Deutero-2-methyl-2-(4-methylphenyl)but-3-en-1-ol

Tetrahedron: Asymmetry **1993,** *4*, 35

T. Yasukata and K. Koga



$C_{11}H_{12}O$

(*S*)-3,4-Dihydro-2-methyl-1(2*H*)-naphthalenone

E.e. = 91% (by HPLC analysis using a chiral column)

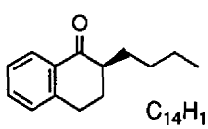
$[\alpha]^{22}_{D}$ -46.7 (c 3.26 dioxane)

Source of chirality: Enantioselective protonation

Absolute configuration: *S*

Tetrahedron: Asymmetry **1993,** *4*, 35

T. Yasukata and K. Koga



$C_{14}H_{18}O$

(*S*)-2-Butyl-3,4-dihydro-1(2*H*)-naphthalenone

E.e. = 90% (by HPLC analysis using a chiral column)

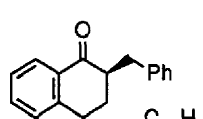
$[\alpha]^{25}_{D}$ -19.2 (c 3.52 MeOH)

Source of chirality: Enantioselective protonation

Absolute configuration: *S*

Tetrahedron: Asymmetry **1993,** *4*, 35

T. Yasukata and K. Koga



$C_{17}H_{16}O$

(*R*)-3,4-Dihydro-2-phenylmethyl-1(2*H*)-naphthalenone

E.e. = 83% (by HPLC analysis using a chiral column)

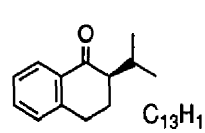
$[\alpha]^{25}_{D}$ +14.4 (c 2.32 MeOH)

Source of chirality: Enantioselective protonation

Absolute configuration: *R*

Tetrahedron: Asymmetry **1993,** *4*, 35

T. Yasukata and K. Koga



$C_{13}H_{16}O$

(*R*)-3,4-Dihydro-2-(1-methylethyl)-1(2*H*)-naphthalenone

E.e. = 67% (by HPLC analysis using a chiral column)

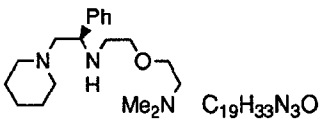
$[\alpha]^{25}_{D}$ -10.3 (c 3.56 dioxane)

Source of chirality: Enantioselective protonation

Absolute configuration: *R*

Tetrahedron: Asymmetry **1993,** *4*, 35

T. Yasukata and K. Koga



Me_2N $C_{19}H_{33}N_3O$

(*R*)-*N*-(2-(2-Dimethylaminoethoxy)ethyl)-1-phenyl-2-piperidinoethylamine

E.e. = 100%

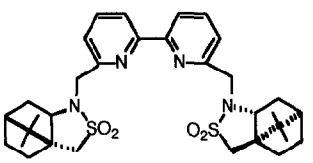
$[\alpha]^{25}_D$ -64.9 (c 2.15 benzene)

Source of chirality: Prepared from (*R*)-phenylglycine

Absolute configuration: *R*

C.Kandzia, E.Steckhan, F.Knoch

Tetrahedron: Asymmetry **1993,** *4*, 39



$[\alpha]_D^{16}$ = -44.7 (c 0.90, $CHCl_3$); mp 93 °C

Absolute configuration: 1S, 5R, 7R

Source of chirality: (+)-camphor

$C_{32}H_{42}N_4O_4S_2$

6,6′-Bis[(10,10-dimethy-4-aza-3,3-dioxo-3,3-thiatricyclo[5.2.1.0.^{1,5}] decan-4-yl)-methyl]-2,2′-bipyridine

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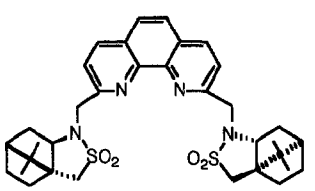
C.Kandzia, E.Steckhan, F.Knoch

Tetrahedron: Asymmetry **1993,** *4*, 39



$[\alpha]_D^{21}$ = -133 (c 1.0, $CHCl_3$); mp 148 °C

Absolute configuration: 1S, 5R, 7R

Source of chirality: (+)-camphor

$C_{34}H_{42}N_4O_4S_2$

2,9-Bis[(10,10-dimethyl-4-aza-3,3-dioxo-3,3-thiatricyclo[5.2.1.0.^{1,5}] decan-4-yl)-methyl]-1,10-phenanthroline

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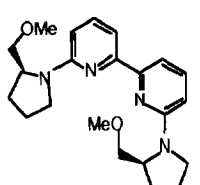
C.Kandzia, E.Steckhan, F.Knoch

Tetrahedron: Asymmetry **1993,** *4*, 39



$[\alpha]_D^{18}$ = -182.7 (c 0.33, $CHCl_3$); mp 96 °C

Absolute configuration: 2S

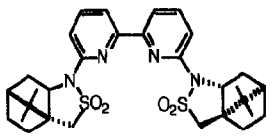
Source of chirality: L-proline

$C_{22}H_{30}N_4O_2$

6,6′-Bis(2-methoxymethylpyrrolidin-1-yl)-2,2′-bipyridine

C.Kandzia, E.Steckhan, F.Knoch

Tetrahedron: Asymmetry **1993,** *4*, 39



$[\alpha]_D^{20}$ = -252 (c 0.41, $CHCl_3$); mp >300 °C

Absolute configuration: 1S, 5R, 7R

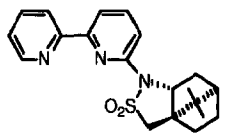
Source of chirality: (+)-camphor

$C_{30}H_{42}N_4O_4S_2$

6,6′-Bis(10,10-dimethy-4-aza-3,3-dioxo-3,3-thiatricyclo[5.2.1.0.^{1,5}] decan-4-yl)-2,2′-bipyridine

C.Kandzia, E.Steckhan, F.Knoch

Tetrahedron: Asymmetry **1993,** *4*, 39



$[\alpha]_D^{20}$ = -107.5 (c 0.97, $CHCl_3$); mp 59 °C

Absolute configuration: 1S, 5R, 7R

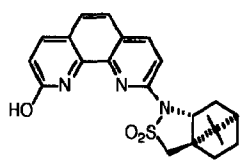
Source of chirality: (+)-camphor

$C_{20}H_{23}N_3O_2S$

6-(10,10-Dimethy-4-aza-3,3-dioxo-3,3-thiatricyclo[5.2.1.0.^{1,5}] decan-4-yl)-2,2′-bipyridine

C.Kandzia, E.Steckhan, F.Knoch

Tetrahedron: Asymmetry **1993,** *4*, 39



$[\alpha]_D^{22}$ = -109 (c 0.41, $CHCl_3$); mp 258 °C

Absolute configuration: 1S, 5R, 7R

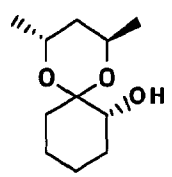
Source of chirality: (+)-camphor

$C_{22}H_{23}N_3O_3S$

2-Hydroxy-9-(10,10-dimethy-4-aza-3,3-dioxo-3,3-thiatricyclo[5.2.1.0.^{1,5}] decan-4-yl)-1,10-phenanthroline

T. Sugimura, N. Nishiyama, A. Tai, and T. Hakushi

Tetrahedron: Asymmetry **1993,** *4*, 43



D.e.= >99 % (by GLC analysis)

$[\alpha]_D^{20}$= -22.8 (c 1.1, methanol)

Source of chirality: (2*R*,4*R*)-pentanediol

Absolute configuration 2R,4R,7R

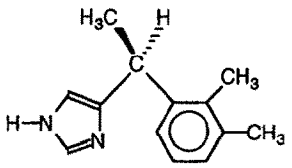
(assigned by chemical correlation)

$C_{11}H_{20}O_3$

7-Hydroxy-2,4-dimethyl-1,5-dioxaspiro[5.5]undecane

J.H. Kivikoski, K.T. Rissanen and S.S.L. Parhi

Tetrahedron: Asymmetry **1993**, *4*, 45



$C_{13}H_{16}N_2$

(+)-(S)-4-[1-(2,3-Dimethylphenyl)ethyl]-1*H*-imidazole

E.e. = 99.6% determined by HPLC

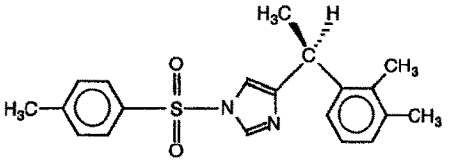
$[\alpha]_D^{20}$ = +73.1 (c, 1.0 in MeOH)

Source of chirality: Anomalous dispersion of X-rays

Absolute configuration S

J.H. Kivikoski, K.T. Rissanen and S.S.L. Parhi

Tetrahedron: Asymmetry **1993**, *4*, 45



$C_{20}H_{22}N_2O_2S$

(+)-(S)-4-[1-(2,3-Dimethylphenyl)ethyl]-1-tosyl-1*H*-imidazole

E.e. ~100% determined by HPLC

$[\alpha]_D^{20}$ = +98.8 (c, 1.0 MeOH)

Source of chirality: Anomalous dispersion of X-rays

Absolute configuration S

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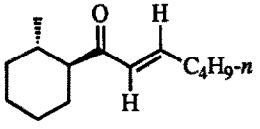
Tetrahedron: Asymmetry **1993**, *4*, 59



$C_{14}H_{24}O$

(*E*)-*trans*-2-Methylcyclohexyl hex-1-enyl ketone

E.e.= ≥99% [by capillary GC using SPB-5]

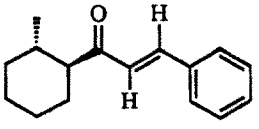
$[\alpha]_D^{23}$ = +44.0 (c 1.83, MeOH)

Source of chirality: (*R*)-(+)-α-pinene

Absolute configuration 1S, 2S

H. C. Brown*, V. K. Mahindroo

Tetrahedron: Asymmetry **1993**, *4*, 59



$C_{16}H_{20}O$

(*E*)-*trans*-2-Methylcyclohexyl 2-phenyleth-1-enyl ketone

E.e.= ≥99% [by capillary GC using SPB-5]

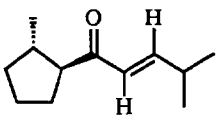
$[\alpha]_D^{23}$ = +55.7 (c 1.69, MeOH)

Source of chirality: (*R*)-(+)-α-pinene

Absolute configuration 1S, 2S

Tetrahedron: Asymmetry **1993,** *4*, 59

H. C. Brown*, V. K. Mahindroo



$C_{12}H_{20}O$

E.e.= ≥99% [by capillary GC using SPB-5]

α_D^{23}= +53.3 (neat, l 1.0)

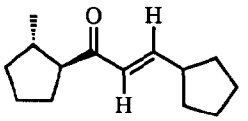
Source of chirality: (*R*)-(+)-α-pinene

Absolute configuration 1S, 2S

(*E*)-*trans*-2-Methylcyclopentyl 3-methylbut-1-enyl ketone

Tetrahedron: Asymmetry **1993,** *4*, 59

H. C. Brown*, V. K. Mahindroo



$C_{14}H_{22}O$

E.e.= ≥99% [by capillary GC using SPB-5]

$[\alpha]_D^{23}$= +56.4 (c 1.95, MeOH)

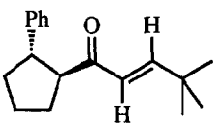
Source of chirality: (*R*)-(+)-α-pinene

Absolute configuration 1S, 2S

(*E*)-*trans*-2-Methylcyclopentyl 2-cyclopentyleth-1-enyl ketone

Tetrahedron: Asymmetry **1993,** *4*, 59

H. C. Brown*, V. K. Mahindroo



$C_{18}H_{24}O$

E.e.= ≥99% [by capillary GC using SPB-5]

$[\alpha]_D^{23}$= +117.9 (c 8.82, MeOH)

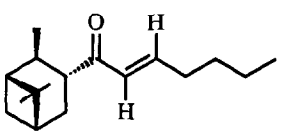
Source of chirality: (*R*)-(+)-α-pinene

Absolute configuration 1S, 2S

(*E*)-*trans*-2-Phenylcyclopentyl 3,3-dimethylbut-1-enyl ketone

Tetrahedron: Asymmetry **1993,** *4*, 59

H. C. Brown*, V. K. Mahindroo



$C_{17}H_{28}O$

E.e.= ≥99% [by capillary GC using SPB-5]

$[\alpha]_D^{23}$= –30.4 (c 1.66, MeOH)

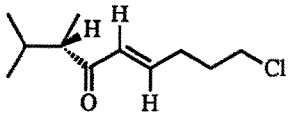
Source of chirality: (*R*)-(+)-α-pinene

Absolute configuration 1R, 2R,3R,5S

(*E*)-Isopinocampheyl hex-1-enyl ketone

Tetrahedron: Asymmetry **1993,** *4*, 59

H. C. Brown*, V. K. Mahindroo



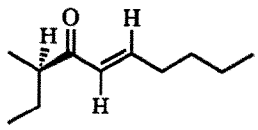
$C_{11}H_{19}ClO$

(*E*)-9-Chloro-2,3-dimethylnon-5-en-4-one

E.e.= ≥99% [by capillary GC using SPB-5]
$[\alpha]_D^{23}$= +50.3 (10.0, MeOH)
Source of chirality: (*R*)-(+)-α-pinene
Absolute configuration 3S

Tetrahedron: Asymmetry **1993,** *4*, 59

H. C. Brown*, V. K. Mahindroo



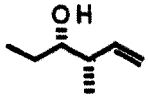
$C_{11}H_{20}O$

(*E*)-3-Methyldec-5-en-4-one

E.e.= ≥99% [by capillary GC using SPB-5]
$[\alpha]_D^{23}$= –26.9 (c 3.78, MeOH)
Source of chirality: (*R*)-(+)-α-pinene
Absolute configuration 3R

Tetrahedron: Asymmetry **1993,** *4*, 69

R.B. Bates and S. Gangwar

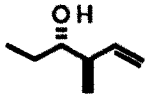


$C_7H_{14}O$
4-Methyl-5-hexen-3-ol

E.e. prob.=90-92% (by analogy with Brown & Bhat)
D.e.=94% (by NMR)
$[\alpha]_D^{25}$=-28.8 (c0.35,$CHCl_3$)
Source of chirality: asymm. synth.
Configurations 3S,4S
(assigned by analogy with Brown & Bhat)

Tetrahedron: Asymmetry **1993,** *4*, 69

R.B. Bates and S. Gangwar

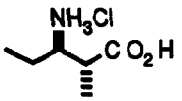


$C_7H_{14}O$
4-Methyl-5-hexen-3-ol

E.e. prob.=90-92% (by analogy with Brown & Bhat)
D.e.=92% (by NMR)
$[\alpha]_D^{25}$=+8.8 (c0.2,$CHCl_3$)
Source of chirality: asymm. synth.
Configurations 3S,4R
(assigned by analogy with Brown & Bhat)

R.B. Bates and S. Gangwar

Tetrahedron: Asymmetry **1993,** *4*, 69



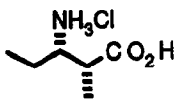
Mp=246-248 °C dec
E.e.=100% (after recryst.)
D.e.=100% (after recryst.)
$[\alpha]_D^{25}$=-6.7 (c0.12,H_2O)
Source of chirality: asymm. synth., recryst.

$C_6H_{14}NO_2Cl$ Configurations 2R,3R

3-Amino-2-methylpentanoic acid hydrochloride (assigned by method of synth.)

R.B. Bates and S. Gangwar

Tetrahedron: Asymmetry **1993,** *4*, 69



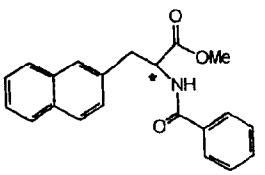
Mp=274-278 °C dec
E.e.=100% (after recryst.)
D.e.=100% (after recryst.)
$[\alpha]_D^{25}$=-5.5 (c0.06,H_2O)
Source of chirality: asymm. synth., recryst.

$C_6H_{14}NO_2Cl$ Configurations 2R,3S

3-Amino-2-methylpentanoic acid hydrochloride (assigned by method of synth.)

S. Taudien, K. Schinkowski and H.W. Krause

Tetrahedron: Asymmetry **1993,** *4*, 73

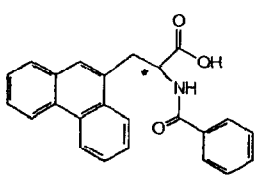


E.e. = (R) 87 %
(S) 87 % by HPLC
$[\alpha]_D^{20}$ (R) +44,2 (1;MeOH)
(S) -40,6 (1;MeOH)
Source of chirality: enantioselective hydrogenation
Absolute configuration (R) or (S): assigned by catalyst configuration

$C_{20}H_{19}NO_3$
(R)- or (S)- N-benzoyl-3-(2-naphtyl)-alaninemethylester

S. Taudien, K. Schinkowski and H.W. Krause

Tetrahedron: Asymmetry **1993,** *4*, 73



E.e. = (R) 72 % by HPLC

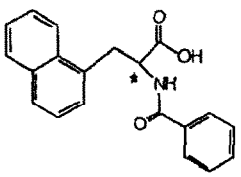
$[\alpha]_D^{20}$ (R) +56.3 (1;MeOH)

Source of chirality: enantioselective hydrogenation
Absolute configuration (R) or (S): assigned by catalyst configuration

$C_{23}H_{19}NO_3$
(R)- or (S)- N-benzoyl-3-(9-phenanthryl)-alanine

S. Taudien, K. Schinkowski and H.W. Krause

Tetrahedron: Asymmetry **1993,** *4*, 73

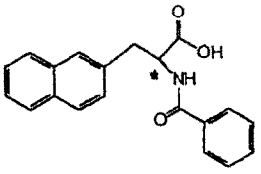


E.e. = (R) 98 %
(S) 91 % by HPLC
$[\alpha]_D^{20}$ (R) +140,6 (1;MeOH)
(S) -144,2 (1;MeOH)
Source of chirality: enantioselective hydrogenation
Absolute configuration (R) or (S): assigned by catalyst configuration

$C_{19}H_{17}NO_3$
(R)- or (S)- N-benzoyl-3-(1-naphtyl)-alanine

S. Taudien, K. Schinkowski and H.W. Krause

Tetrahedron: Asymmetry **1993,** *4*, 73

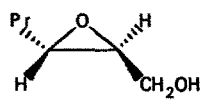


E.e. = (R) 97 %
(S) 97 % by HPLC
$[\alpha]_D^{20}$ (R) +32,0 (1;MeOH)
(S) -28,4 (1;MeOH)
Source of chirality: enantioselective hydrogenation
Absolute configuration (R) or (S): assigned by catalyst configuration

$C_{19}H_{17}NO_3$
(R)- or (S)- N-benzoyl-3-(2-naphtyl)-alanine

Tetrahedron: Asymmetry **1993,** *4*, 85

E. Vänttinen and L.T. Kanerva

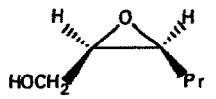


E.e. = 16 % by CLC of the Mosher ester
$[\alpha]_D^{25}$=-6.9 (c 2.1, $CHCl_3$)
Source of chirality: PPL catalysed resolution
Absolute configuration: *2S,3S*

$C_6H_{12}O_2$
trans-2,3-Epoxyhexanol

Tetrahedron: Asymmetry **1993,** *4*, 85

E. Vänttinen and L.T. Kanerva

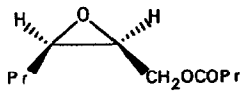


E.e. = 90 % by chiral GLC
$[\alpha]_D^{25}$=+4.3 (c 3.4, $CHCl_3$)
Source of chirality: PPL catalysed resolution
Absolute configuration: *2R,3S*

$C_6H_{12}O_2$
cis-2,3-Epoxyhexanol

Tetrahedron: Asymmetry **1993,** *4*, 85

E. Vänttinen and L.T. Kanerva

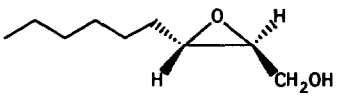


$C_{10}H_{18}O_3$
cis-2,3-Epoxyhexyl butyrate

E.e. = 77 % by chiral GLC as the alcohol
$[\alpha]_D^{25}$=-9.6 (c 2.8, $CHCl_3$)
Source of chirality: PPL
catalysed resolution
Absolute configuration: *2S,3R*

Tetrahedron: Asymmetry **1993,** *4*, 85

E. Vänttinen and L.T. Kanerva

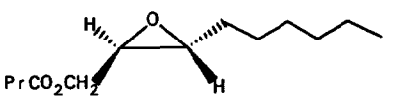


$C_9H_{18}O_2$
trans-2,3-Epoxynonanol

E.e. = 65 % by chiral GLC
$[\alpha]_D^{25}$=-17.6 (c 2.8, $CHCl_3$)
Source of chirality: PPL
catalysed resolution
Absolute configuration: *2S,3S*

Tetrahedron: Asymmetry **1993,** *4*, 85

E. Vänttinen and L.T. Kanerva

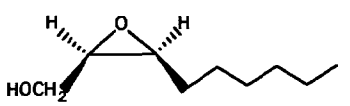


$C_{13}H_{24}O_3$
trans-2,3-Epoxynonyl butyrate

E.e. = 35 % by chiral GLC of the alcohol
$[\alpha]_D^{25}$=+14.0 (c 2.8, $CHCl_3$)
Source of chirality: PPL
catalysed resolution
Absolute configuration: *2R,3R*

Tetrahedron: Asymmetry **1993,** *4*, 85

E. Vänttinen and L.T. Kanerva

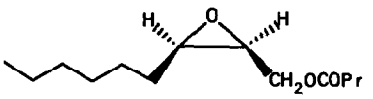


$C_9H_{18}O_2$
cis-2,3-Epoxynonanol

E.e. = 90 % by chiral GLC
$[\alpha]_D^{25}$=+2.5 (c 2.2, $CHCl_3$)
Source of chirality: PPL
catalysed resolution
Absolute configuration: *2R,3S*

Tetrahedron: Asymmetry **1993**, *4*, 85

E. Vänttinen and L.T. Kanerva

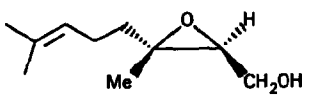


E.e. = 82 % by chiral GLC
$[\alpha]_D^{25}$=-6.6 (c 3.4, $CHCl_3$)
Source of chirality: PPL catalysed resolution
Absolute configuration: *2S,3R*

$C_{13}H_{24}O_3$
cis-2,3-Epoxynonyl butyrate

Tetrahedron: Asymmetry **1993**, *4*, 85

E. Vänttinen and L.T. Kanerva

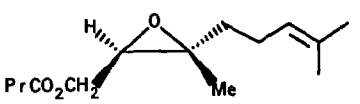


E.e. = 59 % by ^1H NMR of the acetate in the presence of Eu(hfc)$_3$
$[\alpha]_D^{25}$=-3.2 (c 1.7, $CHCl_3$)
Source of chirality: PPL catalysed resolution
Absolute configuration: *2S,3S*

$C_{10}H_{19}O_2$
trans-2,3-Epoxy-3,7-dimethyl-6-octen-1-ol

Tetrahedron: Asymmetry **1993**, *4*, 85

E. Vänttinen and L.T. Kanerva

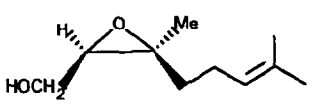


E.e. = 37 % by ^1H NMR of the acetate in the presence of Eu(hfc)$_3$
$[\alpha]_D^{25}$=+14.2 (c 3.5, $CHCl_3$)
Source of chirality: PPL catalysed resolution
Absolute configuration: *2R,3R*

$C_{14}H_{25}O_3$
trans-2,3-Epoxy-3,7-dimethyl-6-octen-1-yl butyrate

Tetrahedron: Asymmetry **1993**, *4*, 85

E. Vänttinen and L.T. Kanerva

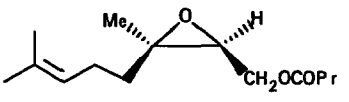


E.e. = >95 % by chiral GLC
$[\alpha]_D^{25}$=+19.7 (c 2.4, $CHCl_3$)
Source of chirality: PPL catalysed resolution
Absolute configuration: *2R,3S*

$C_{10}H_{19}O_2$
cis-2,3-Epoxy-3,7-dimethyl-6-octen-1-ol

Tetrahedron: Asymmetry **1993**, *4*, 85

E. Vänttinen and L.T. Kanerva

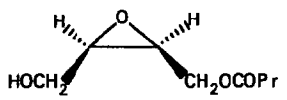


E.e. = 88 % by chiral GLC of the alcohol
$[\alpha]_D^{25}$=-21.4 (c 2.4, $CHCl_3$)
Source of chirality: PPL
catalysed resolution
Absolute configuration: *2S,3R*

$C_{14}H_{25}O_3$
cis-2,3-Epoxy-3,7-dimethyl-6-octen-1-yl butyrate

Tetrahedron: Asymmetry **1993**, *4*, 85

E. Vänttinen and L.T. Kanerva

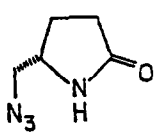


E.e. = 93 % (by chiral GLC)
$[\alpha]_D^{25}$=-14 (c 0.8, CH_2Cl_2)
Source of chirality: PPL
catalysed resolution
Absolute configuration: *2S,3R*

$C_8H_{14}O_4$
cis-4-Hydroxy-2,3-epoxybutyl butyrate

Tetrahedron: Asymmetry **1993**, *4*, 91

Janina Altman and Dov Ben-Ishai



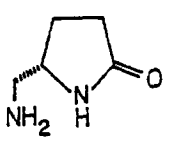
$[\alpha]_D^{25}$ + 73.7 (c 5, EtOH)
mp 63-64°C

Source of chirality: (S)-pyroglutamic acid (Merck - Schuchardt)
Absolute configuration: 5S

$C_5H_{10}N_4O$
(S)-5-(Azidomethyl)-2-Pyrrolidone

Tetrahedron: Asymmetry **1993**, *4*, 91

Janina Altman and Dov Ben-Ishai



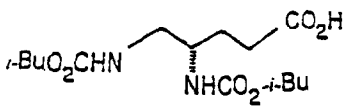
$[\alpha]_D^{25}$ + 35.2 (c 2, EtOH)
oil

Source of chirality: (S)-pyroglutamic acid (Merck - Schuchardt)
Absolute configuration: 5S

$C_5H_{12}N_2O$
(S)-5-(Aminomethyl)-2-pyrrolidone

Janina Altman and Dov Ben Ishai

Tetrahedron: Asymmetry **1993,** *4*, 91



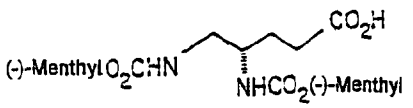
$[\alpha]_D^{25}$ - 10.2 (c 2, EtOH)
mp 98-100°C

Source of chirality: (S)-pyroglutamic acid (Merck - Schuchardt)
Absolute configuration: 4S

$C_{15}H_{28}N_2O_6$
(S)-N^4,N^5-Di-*i*-butoxycarbonyl-4,5-diaminovaleric acid

Janina Altman and Dov Ben-Ishai

Tetrahedron: Asymmetry **1993,** *4*, 91



$[\alpha]_D^{25}$ - 90.0 (c 1, EtOH)
mp 171°C

Source of chirality: (S)-pyroglutamic acid (Merck - Schuchardt)
Absolute configuration: 4*S* - 1'*R*, 3'*R*, 4'*S*

$C_{27}H_{48}N_2O_6$
(S)-N^4,N^5-Di-1'*R*, 3'*R*, 4'*S*-menthyloxy-carbonyl-4,5-diaminovaleric

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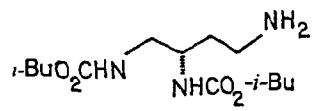
Janina Altman and Dov Ben Ishai

Tetrahedron: Asymmetry **1993,** *4*, 91



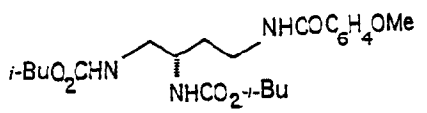
$[\alpha]_D^{25}$ - 4.2 (c 1, EtOH)
mp 149-150°C

Source of chirality: (S)-pyroglutamic acid (Merck - Schuchardt)
Absolute configuration: 2*S*

$C_{14}H_{29}N_3O_4$
(*S*)-N^1,N^2- Di-*i*- butoxycarbonyl 1,2,4-triaminobutane

Janina Altman and Dov Ben-Ishai

Tetrahedron: Asymmetry **1993,** *4*, 91



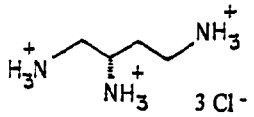
$[\alpha]_D^{25}$ - 37.2 (c 3.6, EtOH)
mp 105-107°C

Source of chirality: (*S*)-pyroglutamic acid (Merck - Schuchard)
Absolute configuration: 2*S*

$C_{22}H_{35}N_3O_6$
(*S*)- N^1,N^2-Di-*i*-butyloxycarbonyl-N^4-anisoyl-1,2,4-triaminobutane

Janina Altman and Dov Ben-Ishai

Tetrahedron: Asymmetry **1993,** *4*, 91



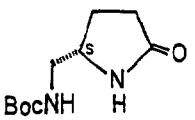
$C_4H_{16}Cl_3N_3$
(*S*)-1,2,4-Triaminobutane trihydrochloride

$[\alpha]_D^{25}$ - 2.3 (c 2, H_2O)
mp 222-224°C

Source of chirality: (*S*)-pyroglutamic acid (Merck - Schuchardt)
Absolute configuration: 2*S*

Janina Altman and Dov Ben-Ishai

Tetrahedron: Asymmetry **1993,** *4*, 91



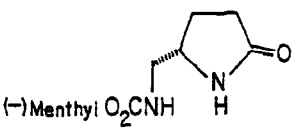
$C_{10}H_{18}N_2O_3$
(*S*)-5-(*t*-Butoxycarbonylamino)-2-pyrrolidone

$[\alpha]_D^{25}$ + 13.6 (c 3.8 EtOH)
oil

Source of chirality: (*S*)-pyroglutamic acid (Merck - Schuchardt)
Absolute configuration: 5*S*

Janina Altman and Dov Ben-Ishai

Tetrahedron: Asymmetry **1993,** *4*, 91



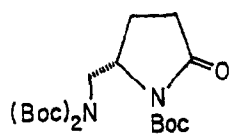
$C_{16}H_{27}N_2O_3$
(*S*)-5-(1*R*, 3*R*, 4*S*-Menthyloxycarbonyl amino)-2- pyrrolidone

$[\alpha]_D^{25}$ - 59.3 (c 2, EtOH)
mp 135°C

Source of chirality: (*S*)-pyroglutamic acid (Merck - Schuchardt)
Absolute configuration: 5*S*

Janina Altman and Dov Ben-Ishai

Tetrahedron: Asymmetry **1993,** *4*, 91



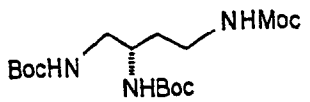
$C_{20}H_{34}N_2O_7$
(*S*)-5-[(Di-*t*-butoxycarbonyl)aminomethyl]-1-*t*-butoxycarbonyl-2-pyrrplidone

$[\alpha]_D^{25}$ - 47.5 (c 2.5, EtOAc)
mp 98-99°C

Source of chirality: (*S*)-pyroglutamic acid (Merck -Schuchardt)
Absolute configuration: 5*S*

Janina Altman and Dov Ben-Ishai

Tetrahedron: Asymmetry **1993,** *4*, 91



$[\alpha]_D^{25}$ -30.3 (c 2, EtOH)
mp 136°C

Source of chirality: (*S*)-pyroglutamic acid (Merck - Schuchard)
Absolute configuration: 2*S*

$C_{16}H_{31}N_3O_6$
(*S*)-N^1,N^2-Di-*t*-butoxycarbonyl-N^4-methoxycarbonyl-1,2,4-triaminobutane

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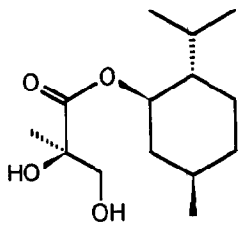
J B. Rodriguez, S.P. Markey & H. Ziffer

Tetrahedron: Asymmetry **1993,** *4*, 101



$[\alpha]_D$= -61.5 (c 2.0, ethanol)

Source of chirality : (-)-menthol

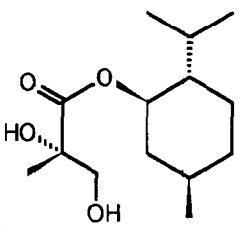
Absolute configuration 2**R**, 1'**R**, 2'**S**, 5'**R**

$C_{14}H_{26}O_4$

Menthyl-2,3-dihydroxy-2-methylpropanoate

J B. Rodriguez, S.P. Markey & H. Ziffer

Tetrahedron: Asymmetry **1993,** *4*, 101



$[\alpha]_D$= -59.1 (c 2.0, ethanol)

Source of chirality : (-)-menthol

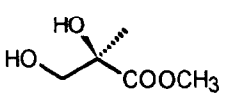
Absolute configuration 2**S**, 1'**R**, 2'**S**, 5'**R**

$C_{14}H_{26}O_4$

Menthyl-2,3-dihydroxy-2-methylpropanoate

J.B Rodriguez, S.P. Markey & H. Ziffer

Tetrahedron: Asymmetry **1993,** *4*, 101



E.e. = 100%

$[\alpha]_D$= -2.9 (c 3.0, ethanol)

$C_5H_{10}O_4$

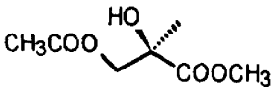
Source of chirality : (-)-menthol

Methyl-2,3-dihydroxy-2-methyl-propanoate

Absolute configuration **R**

J.B. Rodriguez, S.P. Markey & H. Ziffer

Tetrahedron: Asymmetry **1993,** *4*, 101



$[\alpha]_D$= -9.4 (c 3.0, ethanol)

Source of chirality : (-)-menthol

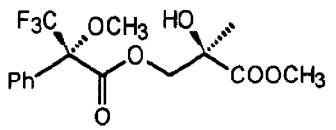
Absolute configuration **R**

$C_7H_{12}O_5$

Methyl-3-*O*-acetyl-2,3-dihydroxy-2-methyl-propanoate

J.B. Rodriguez, S.P. Markey & H. Ziffer

Tetrahedron: Asymmetry **1993,** *4*, 101



$[\alpha]_D$= -30.9 (c 2.0, ethanol)

Source of chirality : (-)-menthol

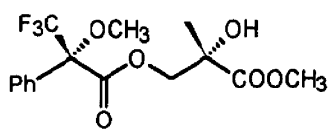
Absolute configuration 2**R**, 2'**S**

$C_{15}H_{17}O_6F_3$

Methyl-3-*O*-(α-methoxy-α-trifluoromethylphenylacetyl)-2,3-dihydroxy-2-methylpropanoate

J.B. Rodriguez, S.P. Markey & H. Ziffer

Tetrahedron: Asymmetry **1993,** *4*, 101



$[\alpha]_D$= -35.0 (c 2.0, ethanol)

Source of chirality : (-)-menthol

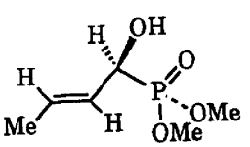
Absolute configuration 2**S**, 2'**S**

$C_{15}H_{17}O_6F_3$

Methyl-3-*O*-(α-methoxy-α-trifluoromethylphenylacetyl)-2,3-dihydroxy-2-methylpropanoate

Tetrahedron: Asymmetry **1993,** *4*, 109

Y.-F. Li and F. Hammerschmidt



$C_6H_{13}O_4P$

Dimethyl [(E)-1-hydroxy-2-butenyl]phosphonate

E. e. = 82% (by ^{1}H-NMR of the MTPA-Ester)

$[\alpha]_D$ = -9.52 (c = 0.95, Me_2CO)

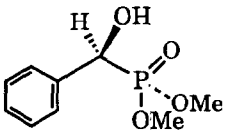
Source of chirality: resolution by lipase F-AP15

Absolute configuration: S

[assigned by ^{1}H-NMR of the (R)-MTPA-Ester and Horeau's method, see lit. 14]

Y.-F. Li and F. Hammerschmidt

Tetrahedron: Asymmetry **1993**, *4*, 109



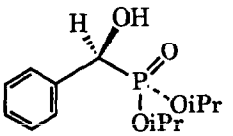
$C_9H_{13}O_4P$

Dimethyl (1-hydroxyphenylmethyl)phosphonate

E. e. = >99% (by ^{1}H-NMR of the MTPA-Ester)
$[\alpha]_D$ = -45.96 (c = 1.00, Me_2CO)
Source of chirality: resolution by lipase F-AP 15
Absolute configuration: S
[assigned by comparison of optical rotation with literature data[13]]

Y.-F. Li and F. Hammerschmidt

Tetrahedron: Asymmetry **1993**, *4*, 109



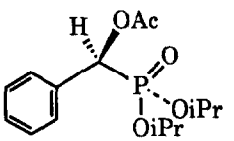
$C_{13}H_{21}O_4P$

Diisopropyl (1-hydroxyphenylmethyl)phosphonate

E. e. = >99% (by ^{1}H-NMR of the MTPA-Ester)
$[\alpha]_D$ = -28.18 (c = 1.29, Me_2CO)
Source of chirality: resolution by lipase F-AP 15
Absolute configuration: S
[assigned by conversion to a compound of known configuration]

Y.-F. Li and F. Hammerschmidt

Tetrahedron: Asymmetry **1993**, *4*, 109



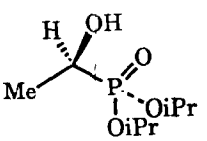
$C_{15}H_{23}O_5P$

Diisopropyl [1-(acetyloxy)phenylmethyl]phosphonate

$[\alpha]_D$ = -37.51 (c = 1.03, Me_2CO)
Source of chirality: acetylation of optically pure (S)-(-)-diisopropyl α-hydroxy-phenylmethylphosphonate
Absolute configuration: S
[assigned by chemical correlation]

Y.-F. Li and F. Hammerschmidt

Tetrahedron: Asymmetry **1993**, *4*, 109



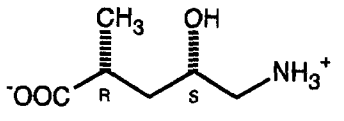
$C_8H_{19}O_4P$

Diisopropyl (1-hydroxyethyl)phosphonate

E. e. = 89% (by ^{1}H-NMR of the MTPA-Ester)
$[\alpha]_D$ = +5.92 (c = 1.07, Me_2CO)
Source of chirality: resolution by lipase AP 6
Absolute configuration: S
[assigned by ^{1}H-NMR of the (R)-MTPA-Ester and Horeau´s method, see lit. 14]

C. Herdeis and K. Lütsch

Tetrahedron: Asymmetry **1993,** *4*, 121



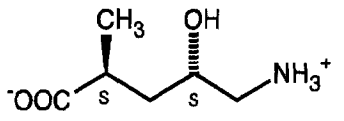
$C_6H_{13}O_3N$

2R,4S-5-Amino-4-hydroxy-2-methyl-pentanoic acid

E.e. = >97% derived from (S)-glutamic acid
$[\alpha]_D^{20}$ = -13.5 (c = 0.3, H_2O)
Source of chirality: (S)-glutamic acid
Absolute configuration: 2R,4S

C. Herdeis and K. Lütsch

Tetrahedron: Asymmetry **1993,** *4*, 121



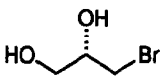
$C_6H_{13}O_3N$

2S,4S-5-Amino-4-hydroxy-2-methyl-pentanoic acid

E.e. = >97% derived from (S)-glutamic acid
$[\alpha]_D^{20}$ = +19.4 (c = 0.3, H_2O)
Source of chirality: (S)-glutamic acid
Absolute configuration: 2S,4S

Hartmuth C. Kolb, Youssef L. Bennani and K. Barry Sharpless*

Tetrahedron: Asymmetry **1993,** *4*, 133



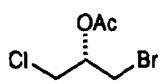
$C_3H_7BrO_2$

(*S*)-(+)-3-Bromo-1,2-propanediol

E.e.= 72 % [by HPLC of bis-(α-methoxy-α-trifluoromethyl-phenylacetate) derivative]
$[\alpha]_D^{22}$ +3.8 (c 1.75, $CHCl_3$)
Source of chirality: asymmetric dihydroxylation of allyl bromide
absolute configuration: S
(assigned by comparison of the optical rotation of later products with known compounds)

Hartmuth C. Kolb, Youssef L. Bennani and K. Barry Sharpless*

Tetrahedron: Asymmetry **1993,** *4*, 133



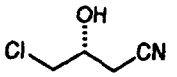
$C_5H_8BrClO_2$

(*S*)-(–)-1-Bromo-3-chloro-2-propyl acetate

E.e.= 72 % [by HPLC of bis-(α-methoxy-α-trifluoromethyl-phenylacetate) derivative of a precursor]
$[\alpha]_D^{23}$ –2.2 (c 3.23, $CHCl_3$)
Source of chirality: asymmetric synthesis
absolute configuration: S
(assigned by comparison of the optical rotation of later products with known compounds)

Hartmuth C. Kolb, Youssef L. Bennani and K. Barry Sharpless*

Tetrahedron: Asymmetry **1993,** *4*, 133



C_4H_6ClNO

(*R*)-(+)-4-Chloro-3-hydroxy-butyronitrile

E.e.= 72 % [by HPLC of bis-(α-methoxy-α-trifluoromethyl-phenylacetate) derivative of a precursor]

$[\alpha]_D^{23}$ +6.9 (c 3.0, $CHCl_3$)

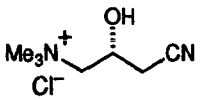
Source of chirality: asymmetric synthesis

absolute configuration: R

(assigned by comparison of the optical rotation of later products with known compounds)

Hartmuth C. Kolb, Youssef L. Bennani and K. Barry Sharpless*

Tetrahedron: Asymmetry **1993,** *4*, 133



$C_7H_{15}ClN_2O$

(*R*)-(–)-(3-Cyano-2-hydroxypropyl)-trimethylammonium chloride

E.e.> 95 % [by comparison of optical rotations]

$[\alpha]_D^{22}$ –25.7 (c 2.1, H_2O)

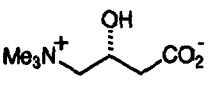
Source of chirality: asymmetric synthesis

absolute configuration: R

(assigned by comparison of opt. rotations)

Hartmuth C. Kolb, Youssef L. Bennani and K. Barry Sharpless*

Tetrahedron: Asymmetry **1993,** *4*, 133



$C_7H_{15}NO_3$

(*R*)-(–)-Carnitine

E.e.> 95 % [by comparison of optical rotations]

$[\alpha]_D^{22}$ –30.0 (c 1.16, H_2O)

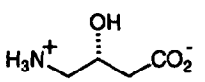
Source of chirality: asymmetric synthesis

absolute configuration: R

(assigned by comparison of optical rotations)

Hartmuth C. Kolb, Youssef L. Bennani and K. Barry Sharpless*

Tetrahedron: Asymmetry **1993,** *4*, 133



$C_4H_9NO_3$

(*R*)-(–)-γ-Amino-β-hydroxy-butyric acid (GABOB)

E.e.= 90 % [by comparison of optical rotations]

$[\alpha]_D^{22}$ –18.6 (c 1.52, H_2O)

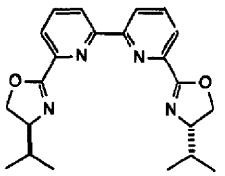
Source of chirality: asymmetric synthesis

absolute configuration: R

(assigned by comparison of optical rotations)

Hisao Nishiyama,* Shinobu Yamaguchi, Soon-Bong Park
and Kenji Itoh

Tetrahedron: Asymmetry **1993**, *4*, 143



Bipymox-(S,S)-ip

$C_{22}H_{26}N_4O_2$
6,6'-Bis[4-(*S*)-isopropyloxazolin-2-yl]-2,2'-bipyridine
E.e. = 100 %
$[\alpha]_D^{23}$ = -90.6 (c 1.04, CH_2Cl_2)

Source of chirality : natural
Absolute configuration: 4S,4'S
(derived from L-valine)