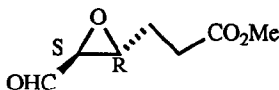


STEREOCHEMISTRY ABSTRACTS

F.D. Bellamy, M. Bondoux, B. Boubia, P. Dodey, C. Mioskowski

Tetrahedron: Asymmetry 1992, 3, 355



C₇H₁₀O₄

Oxirane propanoic acid, 3-formyl methyl ester

$[\alpha]_D^{23} = -82.8$ (c = 1.15, CHCl₃)

Source of chirality = Sharpless' epoxidation

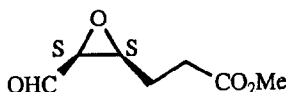
E.e >95 % [by ¹H- and ¹³C NMR of imidazolines

obtained by reacting the aldehyde with a chiral diamine]

Absolute configuration 4R,5S

F.D. Bellamy, M. Bondoux, B. Boubia, P. Dodey, C. Mioskowski

Tetrahedron: Asymmetry 1992, 3, 355



C₇H₁₀O₄

Oxirane propanoic acid, 3-formyl methyl ester

$[\alpha]_D^{25} = -118.9$ (c = 0.98, CHCl₃)

Source of chirality = (2S, 3R)-(-)-3-(Benzyloxymethyl) oxirane-2-methanol 4-nitrobenzoic acid ester (Fluka)

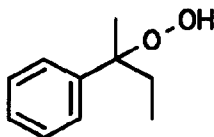
E.e >95 % [by ¹H- and ¹³C NMR of imidazolines

obtained by reacting the aldehyde with a chiral diamine]

Absolute configuration 4S,5S

E.Höft, H.-J. Hamann, A. Kunath and L. Rüffer

Tetrahedron: Asymmetry 1992, 3, 507



C₁₀H₁₄O₂

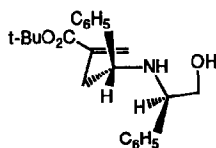
(+)- or (-)-1-Methyl-1-phenylpropyl hydroperoxide

e.e. nearly 20 % [by HPLC on Chiralcel OD]

Source of chirality: Kinetic resolution by Sharpless epoxidation

Y.A. Dembélé, C. Belaud and J. Villiéras

Tetrahedron: Asymmetry 1992, 3, 511.



C₂₃H₂₉NO₃, M= 367.5

Tert-butyl 4-N-[(2-hydroxy-1-(R)-phenyl)ethylamino]-2-methylene-4-(R)-phenyl-butyrate.

E.e. ≥95% (¹H N.M.R.)

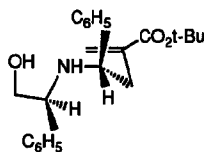
$[\alpha]_D^{24} = -237.8$ (c 4.00, CHCl₃)

Source of chirality : commercial available (R)-(-)-2-phenylglycinol

Absolute configuration 4R, 6R

Y.A. Dembélé, C. Belaud and J. Villiéras

Tetrahedron: Asymmetry **1992**, 3, 511



E.e. $\geq 95\%$ (^1H N.M.R.)

$[\alpha]_{\text{D}}^{24} = +240.1$ (c 3.80, CHCl_3)

Source of chirality : commercial available (S)-(+)-2-phenylglycinol

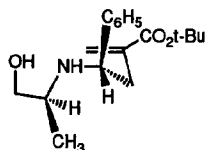
Absolute configuration 4S, 6S

$\text{C}_{23}\text{H}_{29}\text{NO}_3$, M= 367.5

Tert-butyl 4-N-[(2-hydroxy-1-(S)-phenyl)ethylamino]-2-methylene-4-(S)-phenyl-butyrates.

Y.A. Dembélé, C. Belaud and J. Villiéras

Tetrahedron: Asymmetry **1992**, 3, 511



E.e. $\geq 95\%$ (^1H N.M.R.)

$[\alpha]_{\text{D}}^{24} = +160.2$ (c 4.2, CHCl_3)

Source of chirality : commercial available (S)-(+)-2-amino-1-propanol.

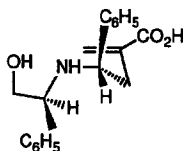
Absolute configuration 4S, 6S

$\text{C}_{18}\text{H}_{27}\text{NO}_3$, M= 305.4

Tert-butyl 4-N-[(2-hydroxy-1-(S)-methyl)ethylamino]-2-methylene-4-(S)-phenyl-butyrates.

Y.A. Dembélé, C. Belaud and J. Villiéras

Tetrahedron: Asymmetry **1992**, 3, 511



E.e. $\geq 95\%$ (^1H N.M.R.)

$[\alpha]_{\text{D}}^{26} = +238$ (c 4.5, CHCl_3)

Source of chirality : commercial available (S)-(+)-2-phenylglycinol

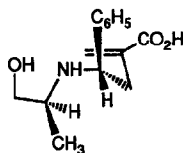
Absolute configuration 4S, 6S

$\text{C}_{19}\text{H}_{21}\text{NO}_3$, M= 311.4

4-N-[(2-hydroxy-1-(S)-phenyl)ethylamino]-2-methylene-4-(S)-phenyl-butyric acid.

Y.A. Dembélé, C. Belaud and J. Villiéras

Tetrahedron: Asymmetry **1992**, 3, 511



E.e. $\geq 95\%$ (^1H N.M.R.)

$[\alpha]_{\text{D}}^{26} = +161$ (c 4.5, CHCl_3)

Source of chirality : commercial available (S)-(+)-2-amino-1-propanol.

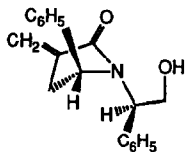
Absolute configuration 4S, 6S

$\text{C}_{14}\text{H}_{19}\text{NO}_3$, M= 249.3

4-N-[(2-hydroxy-1-(S)-methyl)ethylamino]-2-methylene-4-(S)-phenyl-butyric acid.

Y.A. Dembélé, C. Belaud and J. Villiéras

Tetrahedron: Asymmetry **1992**, *3*, 511



$C_{19}H_{19}NO_2$, $M = 293.4$

[3-methylene-5-(R)-phenylpyrrolidinone-1-yl]-(R)-2-phenylethanol.

E.e. $\geq 95\%$ (1H N.M.R.)

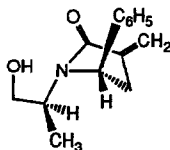
$[\alpha]_D^{26} = -28$ (c 2, $CHCl_3$)

Source of chirality : commercial available (R)-(-)-2-phenylglycinol.

Absolute configuration 5R, 6R.

Y.A. Dembélé, C. Belaud and J. Villiéras

Tetrahedron: Asymmetry **1992**, *3*, 511



$C_{14}H_{17}NO_2$, $M = 231.3$

[3-methylene-5-(S)-phenylpyrrolidinone-1-yl]-(S)-2-propanol.

E.e. $\geq 95\%$ (1H N.M.R.)

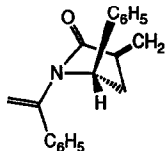
$[\alpha]_D^{26} = +8$ (c 1.5, $CHCl_3$)

Source of chirality : commercial available (S)-(+)-2-amino-1-propanol.

Absolute configuration 5S, 6S.

Y.A. Dembélé, C. Belaud and J. Villiéras

Tetrahedron: Asymmetry **1992**, *3*, 511



$C_{19}H_{17}NO$, $M = 275.3$

[3-methylene-5-(S)-phenylpyrrolidinone-1-yl]-2-phenylethylene.

E.e. $\geq 95\%$ (1H N.M.R.)

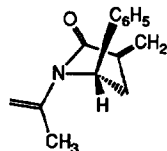
$[\alpha]_D^{26} = +19$ (c 1.32, $CHCl_3$)

Source of chirality : commercial available (S)-(+)-2-phenylglycinol.

Absolute configuration 5S.

Y.A. Dembélé, C. Belaud and J. Villiéras

Tetrahedron: Asymmetry **1992**, *3*, 511



$C_{14}H_{15}NO$, $M = 213.3$

[3-methylene-5-(S)-phenylpyrrolidinone-1-yl]-2-propene.

E.e. $\geq 95\%$ (1H N.M.R.)

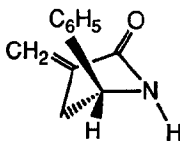
$[\alpha]_D^{25} = +20$ (c 1.62, $CHCl_3$)

Source of chirality : commercial available (S)-(+)-2-aminopropanol.

Absolute configuration 5S.

Y.A. Dembélé, C. Belaud and J. Villieras

Tetrahedron: Asymmetry 1992, 3, 511



$C_{11}H_{11}NO$, $M = 173.2$

3-methylene-5-(R)-phenylpyrrolidinone.

E.e. $\geq 95\%$ (1H N.M.R.)

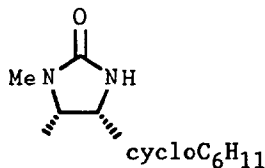
$[\alpha]_D^{26} = -17$ ($c = 1.35$, $CHCl_3$)

Source of chirality : commercial available (R)-(-)-2-phenylglycinol.

Absolute configuration 5R.

S. E. Drewes, D. G. S. Malissar, G. H. P. Roos

Tetrahedron: Asymmetry 1992, 3, 515



$C_{11}H_{20}N_2O$

1,5-Dimethyl-4-cyclohexyl-3-imidazolidin-2-one

Source of chirality: 1R,2S-(-)-ephedrine

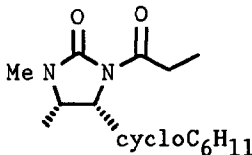
Absolute configuration - 4R,5S

$[\alpha]_D^{26} -1$ ($c = 0.6$; $CHCl_3$)

M. p. $162^\circ C$

S. E. Drewes, D. G. S. Malissar, G. H. P. Roos

Tetrahedron: Asymmetry 1992, 3, 515



$C_{14}H_{24}N_2O_2$

1,5-Dimethyl-4-cyclohexyl-3-propanoylimidazolidin-2-one

Source of chirality: 1R,2S-(-)-ephedrine

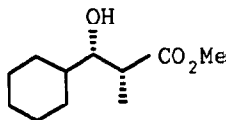
Absolute configuration - 4R,5S

$[\alpha]_D^{26} -14.2$ ($c = 0.16$; $CHCl_3$)

M. p. $99-100^\circ C$

S. E. Drewes, D. G. S. Malissar, G. H. P. Roos

Tetrahedron: Asymmetry 1992, 3, 515



$C_{11}H_{20}O_3$

Methyl 3-cyclohexyl-3-hydroxy-2-methylpropionate

E. e. 100%

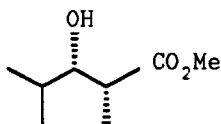
Source of chirality: asymm. synth. (aldol)

Absolute configuration - 2R,3S

$[\alpha]_D^{25} -6.17$ ($c = 1.1$; CH_2Cl_2)

S. E. Drewes, D. G. S. Malissar, G. H. P. Roos

Tetrahedron: Asymmetry 1992, 3, 515



$C_8H_{18}O_3$

Methyl 2,4-dimethyl-3-hydroxypentanoate

E. e. 100%

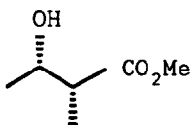
Source of chirality: asymm. synth. (aldol)

Absolute configuration - 2R,3S

$[\alpha]_D^{25} +7.6$ (c = 1.2; $CHCl_3$)

S. E. Drewes, D. G. S. Malissar, G. H. P. Roos

Tetrahedron: Asymmetry 1992, 3, 515



$C_6H_{12}O_3$

Methyl 3-hydroxy-2-methylbutanoate

E. e. 100%

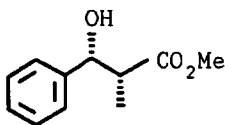
Source of chirality: asymm. synth. (aldol)

Absolute configuration - 2R,3S

$[\alpha]_D^{25} -13.4$ (c = 0.51; CH_3OH)

S. E. Drewes, D. G. S. Malissar, G. H. P. Roos

Tetrahedron: Asymmetry 1992, 3, 515



$C_{11}H_{14}O_3$

Methyl 3-hydroxy-2-methyl-3-phenylpropionate

E. e. 100%

Source of chirality: asymm. synth. (aldol)

Absolute configuration - 2R,3R

$[\alpha]_D^{25} +23.2$ (c = 1.5; $CHCl_3$)

Koichi Tanaka, Osamu Kakinoki, and Fumio Toda*

Tetrahedron: Asymmetry 1992, 3, 517



C_7H_8O

Bicyclo[3.2.0]-2-hepten-6-one

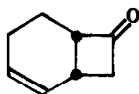
E. e. = 100% [by H.P.L.C. analysis]

$[\alpha]_D -35.1$ (c 0.69, MeOH)

Source of chirality: optical resolution
by complexation with optically active
host compound

Absolute configuration: 1R, 5S

Koichi Tanaka, Osamu Kakinoki, and Fumio Toda*



Bicyclo[4.2.0]-2-octen-7-one

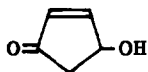
E.e.=100% [by H.P.L.C. analysis]

$[\alpha]_D -155$ (c 0.30, MeOH)

Source of chirality: optical resolution
by complexation with optically active
host compound

Absolute configuration: unknown

Koichi Tanaka, Osamu Kakinoki, and Fumio Toda*



4-Hydroxycyclo-2-pentenone

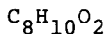
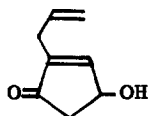
E.e.=100% [by H.P.L.C. analysis]

$[\alpha]_D -92.3$ (c 0.63, MeOH)

Source of chirality: optical resolution
by complexation with optically active
host compound

Absolute configuration: S

Koichi Tanaka, Osamu Kakinoki, and Fumio Toda*



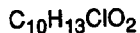
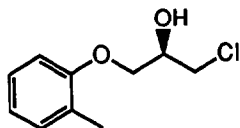
2-Allyl-4-hydroxycyclo-2-pentenone Absolute configuration: unknown

E.e.=100% [by H.P.L.C. analysis]

$[\alpha]_D +35.3$ (c 0.60, MeOH)

Source of chirality: optical resolution
by complexation with optically active
host compound

U. Ader and M. P. Schneider



1-Chloro-3-(2-methylphenoxy)-2-propanol

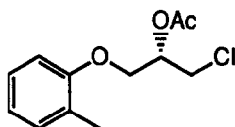
E.e. = 98.6% [by HPLC using Chiralcel OD]
 $[\alpha]^{20}_D = -6.8$ (c = 3.0, $CHCl_3$)

Source of chirality: enzymatic transesterification

Absolute configuration 2R
(assigned by reaction mechanismus and HPLC)

U. Ader and M. P. Schneider

Tetrahedron: Asymmetry 1992, 3, 521



$C_{12}H_{15}ClO_3$

2-Acetoxy-1-chloro-3-(2-methylphenoxy)-propan

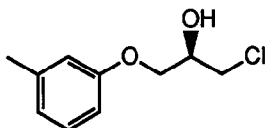
E.e. = 86.6% [by HPLC using Chiralpak OT(+)]
[α] $^{20}_D$ = +28.3 (c = 1.0, $CHCl_3$)

Source of chirality: enzymatic transesterification

Absolute configuration 2S
(assigned by reaction mechanismus and HPLC)

U. Ader and M. P. Schneider

Tetrahedron: Asymmetry 1992, 3, 521



$C_{10}H_{13}ClO_2$

1-Chloro-3-(3-methylphenoxy)-2-propanol

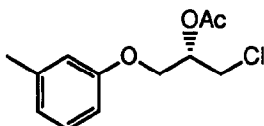
E.e. = 96.3% [by HPLC using Chiralcel OD]
[α] $^{20}_D$ = -1.3 (c = 3.0, $CHCl_3$)

Source of chirality: enzymatic transesterification

Absolute configuration 2R
(assigned to Toliprolol)

U. Ader and M. P. Schneider

Tetrahedron: Asymmetry 1992, 3, 521



$C_{12}H_{15}ClO_3$

2-Acetoxy-1-chloro-3-(3-methylphenoxy)-propan

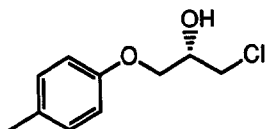
E.e. = 96% [by HPLC using Chiralpak OT(+)]
[α] $^{20}_D$ = +33.0 (c = 1, $CHCl_3$)

Source of chirality: enzymatic transesterification

Absolute configuration 2S
(assigned to Toliprolol)

U. Ader and M. P. Schneider

Tetrahedron: Asymmetry 1992, 3, 521



$C_{10}H_{13}ClO_2$

1-Chloro-3-(4-methylphenoxy)-2-propanol

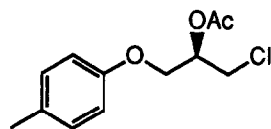
E.e. = 90.5% [by HPLC using Chiralcel OD]
[α] $^{20}_D$ = +0.6 (c = 3.1, $CHCl_3$)

Source of chirality: enzymatic hydrolysis

Absolute configuration 2S
(assigned by reaction mechanismus and HPLC)

U. Ader and M. P. Schneider

Tetrahedron: Asymmetry 1992, 3, 521



$C_{12}H_{15}ClO_3$

2-Acetoxy-1-chloro-3-(4-methylphenoxy)-propan

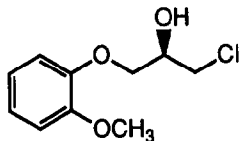
E.e. = 96.2% [by HPLC using Chiralpak OT(+)]
 $[\alpha]^{20;D} = -34.6$ (c = 1.0, $CHCl_3$)

Source of chirality: enzymatic hydrolysis

Absolute configuration 2*R*
(assigned by reaction mechanismus and HPLC)

U. Ader and M. P. Schneider

Tetrahedron: Asymmetry 1992, 3, 521



$C_{10}H_{13}ClO_3$

1-Chloro-3-(2-methoxyphenoxy)-2-propanol

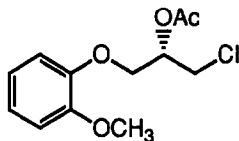
E.e. = 83.6% [by HPLC using Chiralcel OD]
 $[\alpha]^{20;D} = +11.7$ (c = 3.0, CH_3Cl)

Source of chirality: enzymatic transesterification

Absolute configuration 2*R*
(assigned to Moprolol)

U. Ader and M. P. Schneider

Tetrahedron: Asymmetry 1992, 3, 521



$C_{12}H_{15}ClO_4$

2-Acetoxy-1-chloro-3-(2-methoxyphenoxy)-
propan

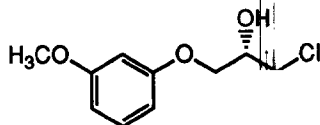
E.e. = 83.1% [by HPLC using Chiralcel OB]
 $[\alpha]^{20;D} = +18.6$ (c = 1, CH_3Cl)

Source of chirality: enzymatic transesterification

Absolute configuration 2*S*
(assigned to Moprolol)

U. Ader and M. P. Schneider

Tetrahedron: Asymmetry 1992, 3, 521



$C_{10}H_{13}ClO_3$

1-Chloro-3-(3-methoxyphenoxy)-2-propanol

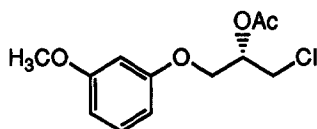
E.e. = $\geq 99\%$ [by HPLC using Chiralcel OD]
 $[\alpha]^{20;D} = +1.4$ (c = 3.1, CH_3Cl)

Source of chirality: enzymatic hydrolysis

Absolute configuration 2*S*
(assigned by reaction mechanismus and HPLC)

U. Ader and M. P. Schneider

Tetrahedron: Asymmetry 1992, 3, 521



$C_{12}H_{15}ClO_4$

2-Acetoxy-1-chloro-3-(3-methoxyphenoxy)-
propan

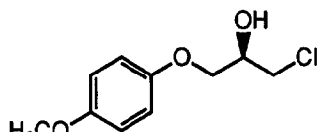
E.e. = 98.6% [by HPLC using Chiralcel OB]
 $[\alpha]^{20}_D = +26.9$ (c = 1, CH_3Cl)

Source of chirality: enzymatic transesterification

Absolute configuration 2S
(assigned by reaction mechanism and HPLC)

U. Ader and M. P. Schneider

Tetrahedron: Asymmetry 1992, 3, 521



$C_{10}H_{13}ClO_3$

1-Chloro-3-(4-methoxyphenoxy)-2-propanol

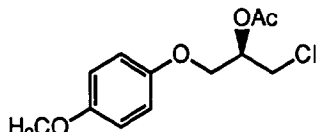
E.e. = 94% [by HPLC using Chiralcel OD]
 $[\alpha]^{20}_D = +0.1$ (c = 3.0, CH_3Cl)

Source of chirality: enzymatic transesterification

Absolute configuration 2R
(assigned by reaction mechanism and HPLC)

U. Ader and M. P. Schneider

Tetrahedron: Asymmetry 1992, 3, 521



$C_{12}H_{15}ClO_4$

2-Acetoxy-1-chloro-3-(4-methoxyphenoxy)-
propan

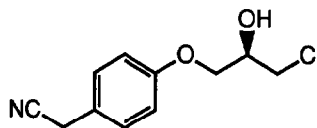
E.e. = 99% [by HPLC using Chiralcel OB]
 $[\alpha]^{20}_D = -31.6$ (c = 1.0, CH_3Cl)

Source of chirality: enzymatic hydrolysis

Absolute configuration 2R
(assigned by reaction mechanism and HPLC)

U. Ader and M. P. Schneider

Tetrahedron: Asymmetry 1992, 3, 521



$C_{11}H_{12}ClNO_2$

1-Chloro-3-(4-cyanomethylphenoxy)-2-propanol

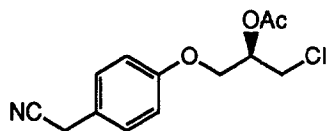
E.e. = 97% [by HPLC using Chiralcel OD]
 $[\alpha]^{20}_D = -0.03$ (c = 3.1, $CHCl_3$)

Source of chirality: enzymatic transesterification

Absolute configuration 2R
(assigned to Atenolol)

U. Ader and M. P. Schneider

Tetrahedron: Asymmetry 1992, 3, 521



$C_{13}H_{14}ClNO_3$

2-Acetoxy-1-chloro-3-(4-cyanomethylphenoxy)-
propan

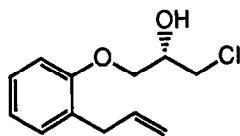
E.e. = $\geq 99.5\%$ [by HPLC using Chiralcel OB]
 $[\alpha]^{20}_D = -32$ (c = 1.0, $CHCl_3$)

Source of chirality: enzymatic hydrolysis

Absolute configuration 2R
(assigned to Atenolol)

U. Ader and M. P. Schneider

Tetrahedron: Asymmetry 1992, 3, 521



$C_{12}H_{15}ClO_2$

1-Chloro-3-[2-(2-propenyl)-phenoxy]-2-propanol

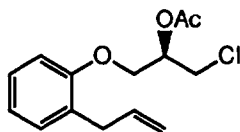
E.e. = 95% [by HPLC using Chiralcel OD]
 $[\alpha]^{20}_D = +0.2$ (c = 3.1, $CHCl_3$)

Source of chirality: enzymatic hydrolysis

Absolute configuration 2S
(assigned to Alprenolol)

U. Ader and M. P. Schneider

Tetrahedron: Asymmetry 1992, 3, 521



$C_{14}H_{17}ClO_3$

2-Acetoxy-1-chloro-3-[2-(2-propenyl)-phenoxy]-
propan

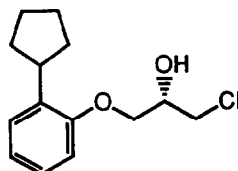
E.e. = 97.3% [by HPLC using Chiralpak OT(+)]
 $[\alpha]^{20}_D = -31.9$ (c = 1.0, $CHCl_3$)

Source of chirality: enzymatic hydrolysis

Absolute configuration 2R
(assigned to Alprenolol)

U. Ader and M. P. Schneider

Tetrahedron: Asymmetry 1992, 3, 521



$C_{14}H_{19}ClO_2$

1-Chloro-3-(2-cyclopentylphenoxy)-2-propanol

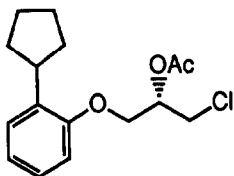
E.e. = 98.8% [by HPLC using Chiralcel OD]
 $[\alpha]^{20}_D = +5.9$ (c = 3.0, $CHCl_3$)

Source of chirality: enzymatic hydrolysis

Absolute configuration 2S
(assigned to Penbutenol)

U. Ader and M. P. Schneider

Tetrahedron: Asymmetry 1992, 3, 521



$C_{16}H_{21}ClO_3$
2-Acetoxy-1-chloro-3-(2-cyclopentylphenoxy)-
propanol

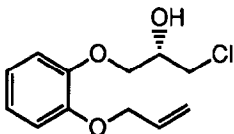
E.e. = 97.2% [by HPLC using Chiralcel OB]
 $[\alpha]^{20}_D = +25.6$ (c = 1.0, $CHCl_3$)

Source of chirality: enzymatic transesterification

Absolute configuration 2S
(assigned to Penbutenol)

U. Ader and M. P. Schneider

Tetrahedron: Asymmetry 1992, 3, 521



$C_{12}H_{15}ClO_3$
1-Chloro-3-[2-(2-propenyloxy)phenoxy]-2-
propanol

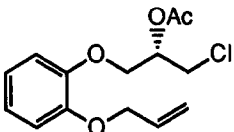
E.e. = 92.6% [by HPLC using Chiralcel OD]
 $[\alpha]^{20}_D = -10.7$ (c = 3.1, CH_3Cl)

Source of chirality: enzymatic hydrolysis

Absolute configuration 2S
(assigned to Oxprenolol)

U. Ader and M. P. Schneider

Tetrahedron: Asymmetry 1992, 3, 521



$C_{14}H_{17}ClO_4$
2-Acetoxy-1-chloro-3-[2-(2-propenyloxy)-
phenoxy]propanol

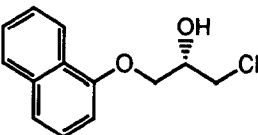
E.e. = 93.7% [by HPLC using Chiralcel OB]
 $[\alpha]^{20}_D = +18.3$ (c = 1.0, CH_3Cl)

Source of chirality: enzymatic transesterification

Absolute configuration 2S
(assigned to Oxprenolol)

U. Ader and M. P. Schneider

Tetrahedron: Asymmetry 1992, 3, 521



$C_{13}H_{13}ClO_2$
1-Chloro-3-naphthalenyloxy-2-propanol

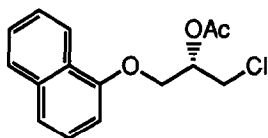
E.e. = 96% [by 1H -NMR using MTPA-ester]
 $[\alpha]^{20}_D = +8.6$ (c = 3.1, $CHCl_3$)

Source of chirality: enzymatic hydrolysis

Absolute configuration 2S
(assigned to Propranolol)

U. Ader and M. P. Schneider

Tetrahedron: Asymmetry 1992, 3, 521



$C_{15}H_{15}ClO_3$

2-Acetoxy-1-chloro-3-phenoxypropan

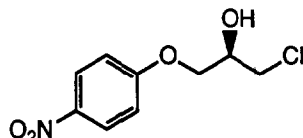
E.e. = 92% [by 1H -NMR using MTPA-ester]
 $[\alpha]^{20}_D = +29$ (c = 1.0, $CHCl_3$)

Source of chirality: enzymatic transesterification

Absolute configuration 2S
(assigned to Propranolol)

U. Ader and M. P. Schneider

Tetrahedron: Asymmetry 1992, 3, 521



$C_9H_{10}ClNO_4$

1-Chloro-3-(4-nitrophenoxy)-2-propanol

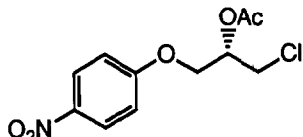
E.e. = 87% [by 1H -NMR using MTPA-ester]
 $[\alpha]^{20}_D = +0.4$ (c = 3.1, $CHCl_3$)

Source of chirality: enzymatic transesterification

Absolute configuration 2R
(assigned to Practolol)

U. Ader and M. P. Schneider

Tetrahedron: Asymmetry 1992, 3, 521



$C_{11}H_{12}ClNO_5$

2-Acetoxy-1-chloro-3-(4-nitrophenoxy)-propan

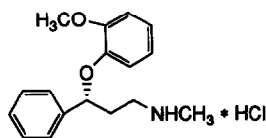
E.e. = 92% [by 1H -NMR using MTPA-ester]
 $[\alpha]^{20}_D = +36.9$ (c = 1.0, $CHCl_3$)

Source of chirality: enzymatic transesterification

Absolute configuration 2S
(assigned to Practolol)

U. Goergens and M. P. Schneider

Tetrahedron: Asymmetry 1992, 3, 525



$C_{17}H_{22}ClNO_2$

N-methyl-3-(2-methoxyphenoxy)-3-propylamine, hydrochloride

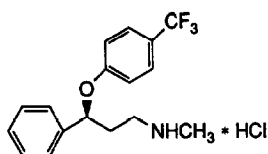
E.e. = >95% [by comparison to lit. value]
 $[\alpha]^{20}_D = +51.2$ (c = 1.66, MeOH)

Source of chirality: enzymatic hydrolysis
of a precursor

Absolute configuration R

U. Goergens and M. P. Schneider

Tetrahedron: Asymmetry 1992, 3, 525



$C_{13}H_{19}ClF_3NO$

N-methyl-3-(4-trifluoromethoxy)-3-propylamine, hydrochloride

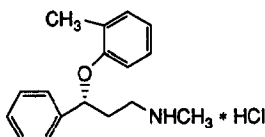
E.e. = >95 % [by comparison to lit. value]
 $[\alpha]_D^{20} = +13.9$ (c = 1.01, $CHCl_3$)

Source of chirality: enzymatic hydrolysis of a precursor

Absolute configuration *S*

U. Goergens and M. P. Schneider

Tetrahedron: Asymmetry 1992, 3, 525



$C_{17}H_{22}ClNO$

N-methyl-3-(2-methylphenoxy)-3-propylamine, hydrochloride

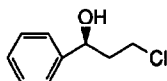
E.e. = >95 % [by comparison to lit. value]
 $[\alpha]_D^{20} = -41.8$ (c = 1.78, MeOH)

Source of chirality: enzymatic hydrolysis of a precursor

Absolute configuration *R*

U. Goergens and M. P. Schneider

Tetrahedron: Asymmetry 1992, 3, 525



$C_9H_{11}ClO$

3-Chloro-1-phenyl-1-propanol

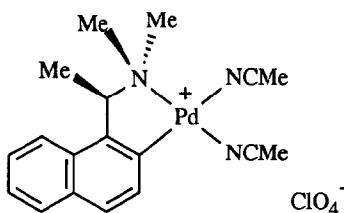
E.e. = >99 % [by HPLC using Chiralcel OD]
 $[\alpha]_D^{20} = -24.1$ (c = 1.12, $CHCl_3$)

Source of chirality: enzymatic resolution

Absolute configuration *S*
(assigned on the basis of α_D)

S. Y. M. Chooi, P.H. Leung, C.C. Lim, K.F. Mok, G.H. Quek, K.Y. Sim, M.K. Tan

Tetrahedron: Asymmetry 1992, 3, 529

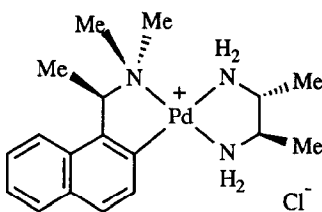


$C_{18}H_{22}ClN_3O_4Pd$

E.e. = >99% (by nmr)
 $[\alpha]_D^{22} = -104.4$ (c 1.0, CH_2Cl_2)
Source of chirality: asymm. synth.
Absolute configuration: *R*

S. Y. M. Chooi, P.H. Leung, C.C. Lim, K.F. Mok, G.H. Quek,
K.Y. Sim, M.K. Tan

Tetrahedron: Asymmetry 1992, 3, 529



E.e. = > 99% (by nmr)

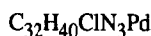
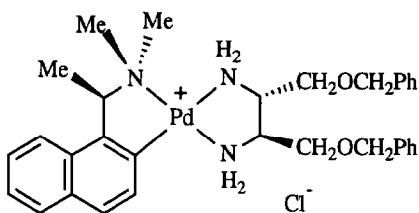
$[\alpha]_D^{22} = -53.4$ (c 1.0, H_2O)

Source of chirality: asymm. synth.

Absolute configuration: *R, R, R*

S. Y. M. Chooi, P.H. Leung, C.C. Lim, K.F. Mok, G.H. Quek,
K.Y. Sim, M.K. Tan

Tetrahedron: Asymmetry 1992, 3, 529



E.e. = > 99% (by nmr)

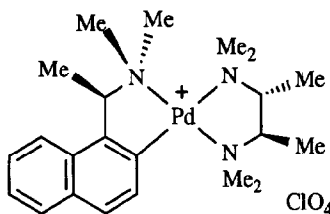
$[\alpha]_D^{22} = -41.5$ (c 1.0, CH_2Cl_2)

Source of chirality: asymm. synth.

Absolute configuration: *R, R, R*

S. Y. M. Chooi, P.H. Leung, C.C. Lim, K.F. Mok, G.H. Quek,
K.Y. Sim, M.K. Tan

Tetrahedron: Asymmetry 1992, 3, 529



E.e. = > 99% (by nmr)

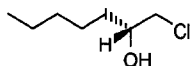
$[\alpha]_D^{22} = -87.0$ (c 1.0, CH_2Cl_2)

Source of chirality: asymm. synth.

Absolute configuration: *R, R, R*

Tetrahedron: Asymmetry 1992, 3, 533

Seiichi Takano,* Masaki Setoh, and Kunio Ogasawara



$C_7H_{15}ClO$
1-Chloro-2-hydroxyheptane

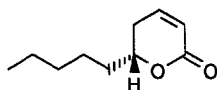
Absolute configuration *2R*

$[\alpha]_D^{30} -1.47$ (c 1.0, $CHCl_3$)

Source of chirality: (*R*)-epichlorohydrin

E.e. => 95% (by 1H -NMR of derivative)

Seiichi Takano,* Masaki Setoh, and Kunio Ogasawara



$C_{10}H_{16}O_2$
2-Decen-5-olide
(Massoiolactone)

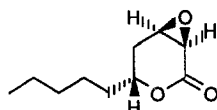
Absolute configuration *5R*

$[\alpha]_D^{29} -107.5$ (*c* 1.1, $CHCl_3$)

Source of chirality: (*R*)-epichlorohydrin

E.e. \Rightarrow 95% (comparison to the reported value)

Seiichi Takano,* Masaki Setoh, and Kunio Ogasawara



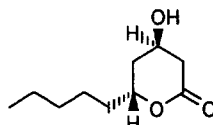
$C_{10}H_{16}O_3$
2,3-Epoxydecan-5-olide

Absolute configuration *2R,3R,5R*

$[\alpha]_D^{25} +81.3$ (*c* 1.0, $CHCl_3$)

E.e. \Rightarrow 95% (by precursor)

Seiichi Takano,* Masaki Setoh, and Kunio Ogasawara



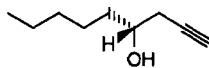
$C_{10}H_{18}O_3$
3-Hydroxydecan-5-olide

*p*Absolute configuration *3R,5R*

$[\alpha]_D^{28} +38.4$ (*c* 1.6, $CHCl_3$)

E.e. \Rightarrow 95% [comparison to the reported value (corrected)]

Seiichi Takano,* Masaki Setoh, and Kunio Ogasawara



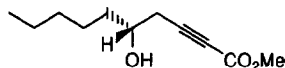
$C_9H_{16}O$
4-Hydroxy-1-nonyne

Absolute configuration *4R*

$[\alpha]_D^{28} +22.2$ (*c* 1.0, $CHCl_3$)

Source of chirality: (*R*)-epichlorohydrin

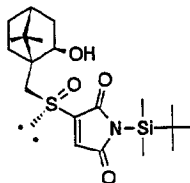
Seiichi Takano,* Masaki Setoh, and Kunio Ogasawara



$C_{11}H_{18}O_3$
Methyl 5-Hydroxy-2-decynoate

Absolute configuration *5R*
 $[\alpha]_D^{29} +11.95$ (*c* 1.8, $CHCl_3$)
Source of chirality: (*R*)-epichlorohydrin

Y. Arai, T. Kontani and T. Koizumi

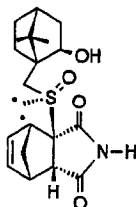


$C_{20}H_{33}NO_4SSi$

N-tert-Butyldimethylsilyl-3-[(2-hydroxy-7,7-dimethylbicyclo[2.2.1]heptan-1-yl)methylsulfanyl]maleimide

D.e. >99% [by 1H NMR analysis]
 $[\alpha]_D^{25} = +40.4$ (*c* 2.08, $CHCl_3$)
mp 107-109 °C
Source of chirality: asymm. oxid.
Absolute configuration 1'S, 2'R, 4'R, R_S

Y. Arai, T. Kontani and T. Koizumi

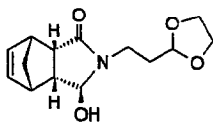


$C_{19}H_{25}NO_4S$

2-*exo*-[[2-Hydroxy-7,7-dimethylbicyclo[2.2.1]heptan-1-yl)methylsulfanyl]bicyclo[2.2.1]hept-5-ene-2,3-dicarboxamide

D.e. >99% [by HPLC analysis]
 $[\alpha]_D^{26} = +2.4$ (*c* 2.13, $CHCl_3$)
 $[\alpha]_D^{26} = +11.7$ (*c* 1.73, acetone)
mp 230-232 °C
Source of chirality: asymm. synth.
Absolute configuration 1R, 2R, 3S, 4S, 1'S, 2'R, 4'R, R_S
(assigned by conversion into the known compound)

Y. Arai, T. Kontani and T. Koizumi



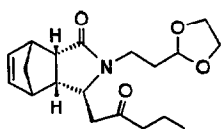
$C_{14}H_{19}NO_9$

4-(1,1-Ethylenedioxy-3-propyl)-5-hydroxy-4-azatricyclo[5.2.1.0^{2,6}]dec-8-en-3-one

D.e. >99% [by 1H NMR analysis]
 $[\alpha]_D^{25} = +84.6$ (*c* 2.0, $CHCl_3$)
mp 116-118 °C
Source of chirality: asymm. synth.
Absolute configuration: 1R, 2S, 5S, 6S, 7S

Y. Arai, T. Kontani and T. Koizumi

Tetrahedron: Asymmetry 1992, 3, 535



D.e. >99% [by ^1H NMR analysis]

$[\alpha]_{\text{D}}^{25} = +86.9$ (c 1.98, CHCl_3)

Source of chirality: asymm. synth.

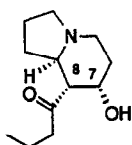
Absolute configuration: 1R, 2S, 5S, 6R, 7S

$\text{C}_{19}\text{H}_{27}\text{NO}_4$

1-(4-(1,1-Ethylenedioxy-3-propyl)-3-oxo-4-azatricyclo[5.2.1.0^{2,6}]dec-8-en-5-yl)-pentan-2-one

Y. Arai, T. Kontani and T. Koizumi

Tetrahedron: Asymmetry 1992, 3, 535



E.e. >92% [by ^{19}F NMR analysis of (+)-MTPA ester]

$[\alpha]_{\text{D}}^{26} = +36.9$ (c 0.58, CHCl_3)

Source of chirality: asymm. synth.

Absolute configuration: 7S, 8R, 8aR

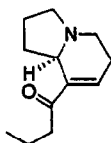
(assigned by comparison with $[\alpha]_{\text{D}}$ of the literature)

$\text{C}_{12}\text{H}_{21}\text{NO}_2$

Elaeokanine C

Y. Arai, T. Kontani and T. Koizumi

Tetrahedron: Asymmetry 1992, 3, 535



E.e. >92% [by ^{19}F NMR analysis of a precursor]

$[\alpha]_{\text{D}}^{26} = +63.0$ (c 0.93, CHCl_3)

Source of chirality: asymm. synth.

Absolute configuration: R

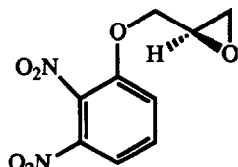
(assigned by comparison with $[\alpha]_{\text{D}}$ of the literature)

$\text{C}_{12}\text{H}_{19}\text{NO}$

Elaeokanine A

F. Aigbirhio, V.W. Pike, E. Francotte, S.L. Waters, B. Banfield, K.A. Jaeggi and A. Drake

Tetrahedron: Asymmetry 1992, 3, 539



S-[1-(2,3-dinitrophenoxy)]-2',3'-epoxypropane

E.e. = 94 % by chiral HPLC.

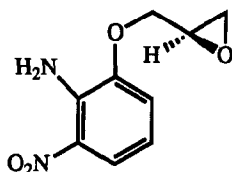
$[\alpha]_{\text{D}} = +8.1 \pm 2$ (Methanol)

g_{220}^{210} (from CD) = $+4.2 \times 10^{-5}$ (Methanol)

Source of chirality: asymmetric synthesis.
Absolute configuration: S, assigned by mechanistic considerations.

F. Aigbirhio, V.W. Pike, E. Francotte, S.L. Waters, B. Banfield,
K.A. Jaeggi and A. Drake

Tetrahedron: Asymmetry 1992, 3, 539



S-[1-(2-Amino-3-nitrophenoxy)]-2,3'-
epoxypropane

E.e. = 95.3 % by chiral HPLC.

$[\alpha]_D = +17 \pm 0.1$ (Methanol)

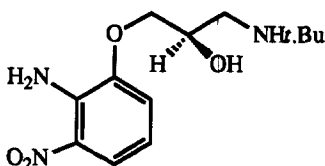
g_{234}^{235} (from CD) = $+4.2 \times 10^{-5}$ (Methanol)

Source of chirality: asymmetric synthesis.

Absolute configuration: *S*, assigned by
mechanistic considerations.

F. Aigbirhio, V.W. Pike, E. Francotte, S.L. Waters, B. Banfield,
K.A. Jaeggi and A. Drake

Tetrahedron: Asymmetry 1992, 3, 539



S-[1-(2-amino-3-nitrophenoxy)]-3'-
(*N*-*t*-butylamino)propan-2'-ol

E.e. = > 99.4% by chiral HPLC.

$[\alpha]_D = +32 \pm 4$ (Methanol)

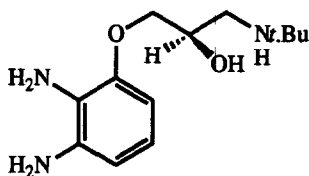
g_{238}^{239} (from CD) = $+4.3 \times 10^{-5}$ (Methanol)

Source of chirality: asymmetric synthesis.

Absolute configuration: *S*, assigned by
mechanistic considerations.

F. Aigbirhio, V.W. Pike, E. Francotte, S.L. Waters, B. Banfield,
K.A. Jaeggi and A. Drake

Tetrahedron: Asymmetry 1992, 3, 539



S-[1-(2,3-Diaminophenoxy)]-3'-(*N*-*t*-
butylamino)propan-2'-ol

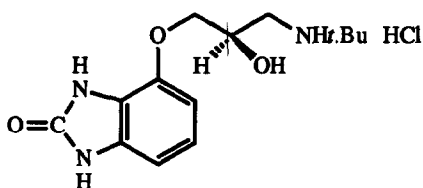
E.e. = > 98.4% by chiral HPLC on derivative
 g_{240}^{241} (from CD) = $+10 \times 10^{-5}$ (Methanol)

Source of chirality: asymmetric synthesis.

Absolute configuration: *S*, assigned by
mechanistic considerations.

F. Aigbirhio, V.W. Pike, E. Francotte, S.L. Waters, B. Banfield,
K.A. Jaeggi and A. Drake

Tetrahedron: Asymmetry 1992, 3, 539



S-(3'-*t*-butylamino-2'-hydroxypropoxy)-
benzimidazol-2-one hydrochloride

E.e. = > 98.4% by chiral HPLC

$[\alpha]_D = -8.0 \pm 2$ (Methanol)

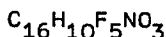
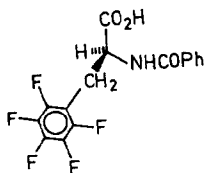
g_{271}^{272} (from CD) = $+1.95 \times 10^{-5}$ (Methanol)

Source of chirality: asymmetric synthesis.

Absolute configuration: *S*, assigned by
mechanistic considerations.

H.-W. Krause, H.-J. Kreuzfeld, Ch. Döbler
and S. Taudien

Tetrahedron: Asymmetry 1992, 3, 555



(S)-8-(2.3.4.5.6)-Pentafluoro-N-benzoylphenylalanine

E.e. = 89% (by GLC)

$[\alpha]_D^{20} = -56.1$ (c 1.0, MeOH)

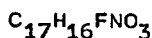
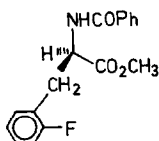
Source of chirality: enantioselective
hydrogenation of a precursor.

Absolute configuration: S

(assigned by catalyst configuration)

H.-W. Krause, H.-J. Kreuzfeld, Ch. Döbler
and S. Taudien

Tetrahedron: Asymmetry 1992, 3, 555



(R)-2-Fluoro-N-benzoylphenylalanine methylester

E.e. = 89% (by GLC)

$[\alpha]_D^{20} = +64.6$ (c 1.0, MeOH)

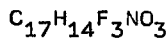
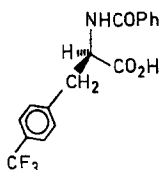
Source of chirality: enantioselective
hydrogenation of a precursor.

Absolute configuration: R

(assigned by catalyst configuration)

H.-W. Krause, H.-J. Kreuzfeld, Ch. Döbler
and S. Taudien

Tetrahedron: Asymmetry 1992, 3, 555



(R)-4-Trifluoromethyl-N-benzoylphenylalanine

E.e. = 92% (by GLC)

$[\alpha]_D^{20} = +41.8$ (c 1.0, MeOH)

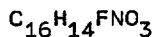
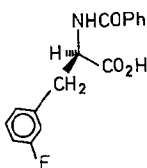
Source of chirality: enantioselective
hydrogenation of a precursor.

Absolute configuration: R

(assigned by catalyst configuration)

H.-W. Krause, H.-J. Kreuzfeld, Ch. Döbler
and S. Taudien

Tetrahedron: Asymmetry 1992, 3, 555



(R)-3-Fluoro-N-benzoylphenylalanine

E.e. = 99% (by GLC)

$[\alpha]_D^{20} = +43.0$ (c 1.0, MeOH)

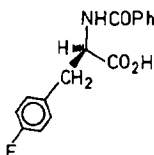
Source of chirality: enantioselective
hydrogenation of a precursor.

Absolute configuration: R

(assigned by catalyst configuration)

H.-W. Krause, H.-J. Kreuzfeld, Ch. Döbler
and S. Taudien

Tetrahedron: Asymmetry 1992, 3, 555

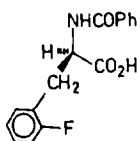


$C_{16}H_{14}FNO_3$
(R)-4-Fluoro-N-benzoylphenylalanine

E.e. = 99% (by GLC)
 $[\alpha]_D^{20} = +38.1$ (c 1.0, MeOH)
Source of chirality: enantioselective
hydrogenation of a precursor.
Absolute configuration: R
(assigned by catalyst configuration)

H.-W. Krause, H.-J. Kreuzfeld, Ch. Döbler
and S. Taudien

Tetrahedron: Asymmetry 1992, 3, 555

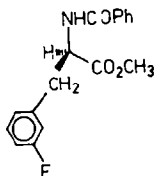


$C_{16}H_{14}FNO_3$
(R)-2-Fluoro-N-benzoylphenylalanine

E.e. = 99% (by GLC)
 $[\alpha]_D^{20} = +61.1$ (c 1.0, MeOH)
Source of chirality: enantioselective
hydrogenation of a precursor.
Absolute configuration: R
(assigned by catalyst configuration)

H.-W. Krause, H.-J. Kreuzfeld, Ch. Döbler
and S. Taudien

Tetrahedron: Asymmetry 1992, 3, 555

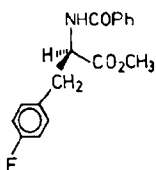


$C_{17}H_{16}FNO_3$
(R)-3-Fluoro-N-benzoylphenylalanine methyl ester

E.e. = 99% (by GLC)
 $[\alpha]_D^{20} = +56.5$ (c 1.0, MeOH)
Source of chirality: enantioselective
hydrogenation of a precursor.
Absolute configuration: R
(assigned by catalyst configuration)

H.-W. Krause, H.-J. Kreuzfeld, Ch. Döbler
and S. Taudien

Tetrahedron: Asymmetry 1992, 3, 555

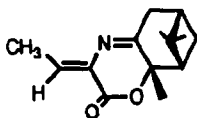


$C_{17}H_{16}FNO_3$
(R)-4-Fluoro-N-benzoylphenylalanine methyl ester

E.e. = 88% (by GLC)
 $[\alpha]_D^{20} = +50.1$ (c 1.0, MeOH)
Source of chirality: enantioselective
hydrogenation of a precursor.
Absolute configuration: R
(assigned by catalyst configuration)

C. Catiuela, M. D. Diaz-de-Villegas, J. A. Galvez

Tetrahedron: Asymmetry 1992, 3, 567



e.e. >95% by NMR

$[\alpha]_D^{20} + 609.8$ (c = 1.08, CHCl₃)

Source of chirality : α -pinene

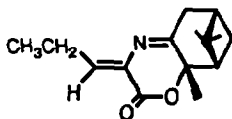
Absolute configuration : 5aS, 6aS, 6bS

C₁₄H₁₉NO₂

Z-3-methylmethylene-4,4a-didehydropinan[2,3-b]morpholin-2-one

C. Catiuela, M. D. Diaz-de-Villegas, J. A. Galvez

Tetrahedron: Asymmetry 1992, 3, 567



e.e. >95% by NMR

$[\alpha]_D^{20} + 475.3$ (c = 1.02, CHCl₃)

Source of chirality : α -pinene

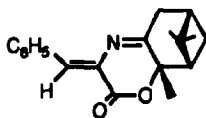
Absolute configuration : 5aS, 6aS, 6bS

C₁₅H₂₁NO₂

Z-3-ethylmethylene-4,4a-didehydropinan[2,3-b]morpholin-2-one

C. Catiuela, M. D. Diaz-de-Villegas, J. A. Galvez

Tetrahedron: Asymmetry 1992, 3, 567



e.e. >95% by NMR

$[\alpha]_D^{20} + 1428.8$ (c = 0.89, CHCl₃)

Source of chirality : α -pinene

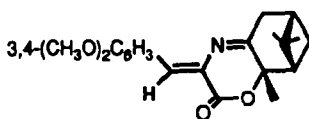
Absolute configuration : 5aS, 6aS, 6bS

C₁₉H₂₁NO₂

Z-3-phenylmethylene-4,4a-didehydropinan[2,3-b]morpholin-2-one

C. Catiuela, M. D. Diaz-de-Villegas, J. A. Galvez

Tetrahedron: Asymmetry 1992, 3, 567



e.e. >95% by NMR

$[\alpha]_D^{20} + 1428.8$ (c = 0.89, CHCl₃)

Source of chirality : α -pinene

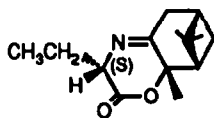
Absolute configuration : 5aS, 6aS, 6bS

C₂₁H₂₅NO₂

Z-3-(3,4-dimethoxyphenylmethylene)-4,4a-didehydropinan[2,3-b]morpholin-2-one

C. Cativiela, M. D. Diaz-de-Villegas, J. A. Galvez

Tetrahedron: Asymmetry 1992, 3, 567



e.e.>95% by NMR

$[\alpha]_D^{20}$ - 220.4 (c = 1.04, CHCl₃)

Source of chirality : α -pinene and diastereoselective hydrogenation

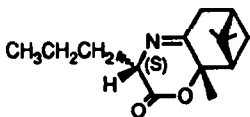
Absolute configuration : 3S, 5aS, 6aS, 6bS

C₁₄H₂₁NO₂

3-ethyl-4,4a-didehydropinan[2,3-b]morpholin-2-one

C. Cativiela, M. D. Diaz-de-Villegas, J. A. Galvez

Tetrahedron: Asymmetry 1992, 3, 567



e.e.>95% by NMR

$[\alpha]_D^{20}$ - 176.8 (c = 1.07, CHCl₃)

Source of chirality : α -pinene and diastereoselective hydrogenation

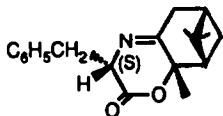
Absolute configuration : 3S, 5aS, 6aS, 6bS

C₁₅H₂₃NO₂

3-propyl-4,4a-didehydropinan[2,3-b]morpholin-2-one

C. Cativiela, M. D. Diaz-de-Villegas, J. A. Galvez

Tetrahedron: Asymmetry 1992, 3, 567



e.e.>95% by NMR

$[\alpha]_D^{20}$ - 154.8 (c = 0.98, CHCl₃)

Source of chirality : α -pinene and diastereoselective hydrogenation

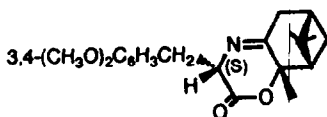
Absolute configuration : 3S, 5aS, 6aS, 6bS

C₁₉H₂₃NO₂

3-benzylpinan-4,4a-didehydropinan[2,3-b]morpholin-2-one

C. Cativiela, M. D. Diaz-de-Villegas, J. A. Galvez

Tetrahedron: Asymmetry 1992, 3, 567



e.e.>95% by NMR

$[\alpha]_D^{20}$ - 134 (c = 1.02, CHCl₃)

Source of chirality : α -pinene and diastereoselective hydrogenation

Absolute configuration : 3S, 5aS, 6aS, 6bS

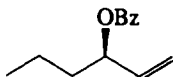
C₂₁H₂₇NO₄

3-(3,4-dimethoxyphenylmethyl)-4,4a-didehydropinan[2,3-b]morpholin-2-one

Tetrahedron: Asymmetry 1992, 3, 573

Martín, V.S., Ode, J.M., Palazón, J.M., Soler, M.A.

$[\alpha]_{25}^D -34.8$ (c 5.1, CHCl₃)



C₁₃H₁₆O₂

3-Benzoyloxy-1-hexene

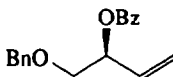
Source of chirality: Asymmetric Epoxidation

Absolute configuration: R

Tetrahedron: Asymmetry 1992, 3, 573

Martín, V.S., Ode, J.M., Palazón, J.M., Soler, M.A.

$[\alpha]_{25}^D -12.5$ (c=1.5, CHCl₃)



C₁₈H₁₈O₃

4-Benzyloxy-3-benzoyloxy-1-butene

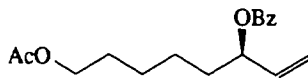
Source of chirality: Asymmetric Epoxidation

Absolute configuration: S

Tetrahedron: Asymmetry 1992, 3, 573

Martín, V.S., Ode, J.M., Palazón, J.M., Soler, M.A.

$[\alpha]_{25}^D -17.4$ (c 0.2, CHCl₃)



C₁₇H₂₂O₄

8-Acetyloxy-3-benzoyloxy-1-octene

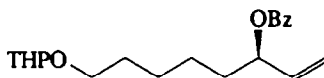
Source of chirality: Asymmetric Epoxidation

Absolute configuration: R

Tetrahedron: Asymmetry 1992, 3, 573

Martín, V.S., Ode, J.M., Palazón, J.M., Soler, M.A.

$[\alpha]_{25}^D -17.3$ (c 1.0, CHCl₃)



C₂₀H₂₈O₄

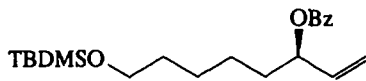
8-Tetrahydropyran-3-benzoyloxy-1-octene

Source of chirality: Asymmetric Epoxidation

Absolute configuration: R

Martín, V.S., Ode, J.M., Palazón, J.M., Soler, M.A.

$[\alpha]_{25}^D -14.0$ (c 1.2, CHCl₃)



C₂₁H₃₄O₃

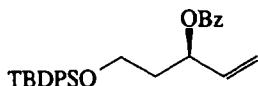
8-*tert*-Butyldimethylsilyloxy-3-benzoyloxy-1-octene

Source of chirality: Asymmetric Epoxidation

Absolute configuration: R

Martín, V.S., Ode, J.M., Palazón, J.M., Soler, M.A.

$[\alpha]_{25}^D -7.3$ (c 1.5, CHCl₃)



C₂₈H₃₄O₃

5-*tert*-Butyldiphenylsilyloxy-3-benzoyloxy-1-pentene

Source of chirality: Asymmetric Epoxidation

Absolute configuration: R