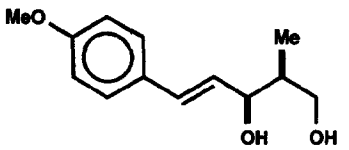
H. Akita, I. Umezawa, M. Nozawa, S. Nagumo

Tetrahedron: Asymmetry **1993**, *4*, 757



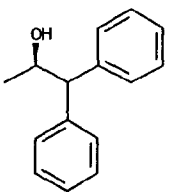
$C_{13}H_{18}O_3$

3-Hydroxy-5-(4'-methoxyphenyl)-2-methyl-(4E)-penten-1-ol

E.e. = >99% [by chiral HPLC]
$[\alpha]_D^{26}$ +17.4 (c=1.00, $CHCl_3$)
Source of chirality: immobilized lipase catalysed resolution
Absolute configuration 2S, 3S

L.R. Randrianasolo-Rakotozafy, R. Azerad, F. Dumas, D. Potin and J. d'Angelo

Tetrahedron: Asymmetry **1993**, *4*, 761



$C_{15}H_{16}O$
1,1-diphenyl-2-propanol

E.e. = 96.5 % [by GC analysis of the corresponding (S)-O-acetyllactyl ester]

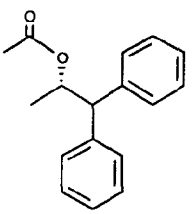
$[\alpha]_D^{25}$= + 44 (c = 0.55, MeOH)

Source of chirality: enzymatic hydrolysis of the acetate

Absolute configuration: (*R*)- (assigned by optical rotation)

L.R. Randrianasolo-Rakotozafy, R. Azerad, F. Dumas, D. Potin and J. d'Angelo

Tetrahedron: Asymmetry **1993**, *4*, 761



$C_{17}H_{18}O_2$
2-acetoxy-1,1-diphenylpropane

E.e. = 98 % [by GC analysis after saponification and derivatization to the corresponding (S)-O-acetyllactyl ester]

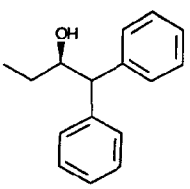
$[\alpha]_D^{25}$= - 50.7 (c = 3.25, MeOH)

Source of chirality: enzymatic hydrolysis

Absolute configuration: (*S*)- (assigned by optical rotation after saponification)

L.R. Randrianasolo-Rakotozafy, R. Azerad, F. Dumas, D. Potin and J. d'Angelo

Tetrahedron: Asymmetry **1993**, *4*, 761



$C_{16}H_{18}O$
1,1-diphenyl-2-butanol

E.e. = 94 % [by GC analysis of the corresponding (S)-O-acetyllactyl ester]

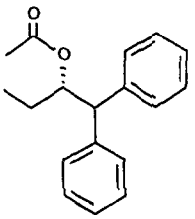
$[\alpha]_D^{25}$= + 35.4 (c = 3.2, MeOH)

Source of chirality: enzymatic hydrolysis of the acetate

Absolute configuration: (*R*)- (assigned by optical rotation)

L.R. Randrianasolo-Rakotozafy, R. Azerad, F. Dumas, D. Potin and J. d'Angelo

Tetrahedron: Asymmetry **1993**, *4*, 761



$C_{18}H_{20}O_2$
2-acetoxy-1,1-diphenylbutane

E.e. = 84 % [by GC analysis after saponification and derivatization to the corresponding (S)-O-acetyllactyl ester]

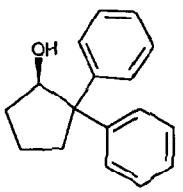
$[\alpha]_D^{25}$= - 9.5 (c = 3.25, MeOH)

Source of chirality: enzymatic hydrolysis

Absolute configuration: (*S*)- (assigned by optical rotation after saponification)

L.R. Randrianasolo-Rakotozafy, R. Azerad, F. Dumas, D. Potin and J. d'Angelo

Tetrahedron: Asymmetry **1993**, *4*, 761



$C_{17}H_{18}O$
2,2-diphenylcyclopentanol

E.e. = 96.5% [by GC analysis of the corresponding (S)-O-acetyllactyl ester]

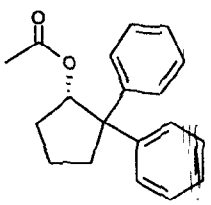
$[\alpha]_D^{25}$= - 109.4 (c = 1.1, EtOH)

Source of chirality: enzymatic hydrolysis of the acetate

Absolute configuration: (*R*)- (assigned by optical rotation)

L.R. Randrianasolo-Rakotozafy, R. Azerad, F. Dumas, D. Potin and J. d'Angelo

Tetrahedron: Asymmetry **1993**, *4*, 761



$C_{19}H_{20}O_2$
1-acetoxy-2,2-diphenylcyclopentane

E.e. = 92 % [by GC analysis after saponification and derivatization to the corresponding (S)-O-acetyllactyl ester]

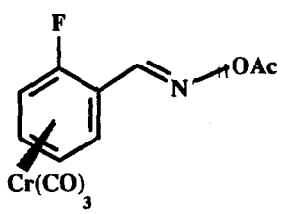
$[\alpha]_D^{25}$= + 121.8 (c = 0.62, EtOH)

Source of chirality: enzymatic hydrolysis

Absolute configuration: (*S*)- (assigned by optical rotation after saponification)

C. Baldoli , S. Maiorana , G. Carrea , S. Riva

Tetrahedron: Asymmetry **1993**, *4*, 767



$C_{12}H_8CrFNO_5$

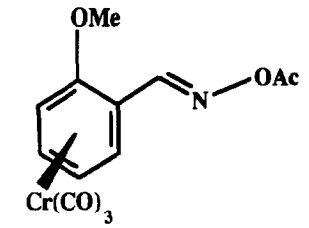
E.e. = 72 % by chiral HPLC with a Chiralcel OB column

Source of chirality : *Humicola lanuginosa* lipase

Absolute configuration : 1S

C. Baldoli , S. Maiorana , G. Carrea , S. Riva

Tetrahedron: Asymmetry **1993,** *4*, 767



$C_{13}H_{11}CrNO_6$

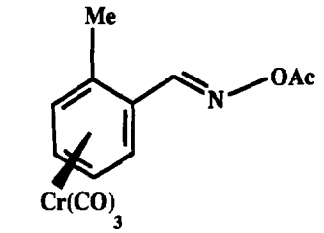
E.e. = 76 % by chiral HPLC with a Chiralcel OD column

Source of chirality : *Pseudomonas cepacia* lipase

Absolute configuration : 1S

C. Baldoli , S. Maiorana , G. Carrea , S. Riva

Tetrahedron: Asymmetry **1993,** *4*, 767



$C_{13}H_{11}CrNO_5$

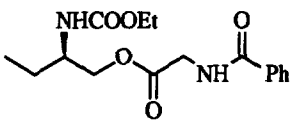
E.e. = 98 % by chiral HPLC with a Chiralcel OJ column

Source of chirality : *Pseudomonas cepacia* lipase

Absolute configuration : 1S

H. S. Bevinakatti and R. V. Newadkar

Tetrahedron: Asymmetry **1993,** *4*, 773



$C_{16}H_{22}N_2O_5$

2-[(N-Ethoxycarbonyl)amino]butyl hippurate

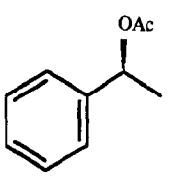
$[\alpha]^{25}_D = +21.5$ (6, EtOH)

Source of chirality: (*R*)-2-amino-1-butanol

Absolute configuration: R

D.Bianchi, E.Battistel, A.Bosetti, P.Cesti, Z.Fekète

Tetrahedron: Asymmetry **1993,** *4*, 777



$C_{10}H_{12}O_2$ (S)-1-phenyl ethanol acetate

E.e = 99 % by chiral HPLC of the alcohol

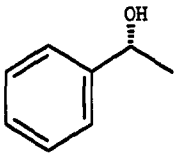
$[\alpha]_D^{25}$ = -106.0 (c=1, ether)

Source of chirality : Native/modified Lipase PS catalyzed resolution

Absolute configuration: (S)

D.Bianchi, E.Battistel, A.Bosetti, P.Cesti, Z.Fekète

Tetrahedron: Asymmetry **1993**, *4*, 777



$C_8H_{10}O$ (R)-1-phenyl ethanol

E.e = 99 % by chiral HPLC

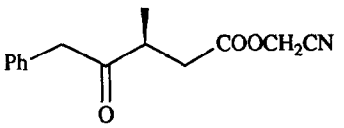
$[\alpha]_D^{25}$ = + 41.0 (neat)

Source of chirality : Native/modified Lipase PS catalyzed resolution

Absolute configuration: (R)

L. Blanco,* G. Rousseau,* J.-P. Barnier, E. Guibé-Jampel

Tetrahedron: Asymmetry **1993**, *4*, 783



$C_{14}H_{15}O_3N$

Cyanomethyl 3-methyl-4-oxo-5-phenylpentanoate

E.e.> 95% [by nmr with $Eu(hfc)_3$]

$[\alpha]_D^{20}$ = +12.9 (c 1.6, THF)

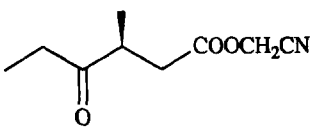
Source of chirality: enzymatic resolution

Absolute configuration 3R

(assigned by chemical correlation)

L. Blanco,* G. Rousseau,* J.-P. Barnier, E. Guibé-Jampel

Tetrahedron: Asymmetry **1993**, *4*, 783



$C_9H_{13}O_3N$

Cyanomethyl 3-methyl-4-oxohexanoate

E.e.=93% [by nmr with $Eu(hfc)_3$]

$[\alpha]_D^{20}$ = +21.8 (c = 1.85, THF)

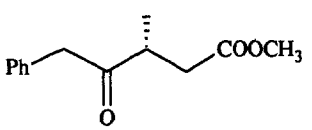
Source of chirality: enzymatic resolution

Absolute configuration 3R

(assigned by chemical correlation)

L. Blanco,* G. Rousseau,* J.-P. Barnier, E. Guibé-Jampel

Tetrahedron: Asymmetry **1993**, *4*, 783



$C_{13}H_{16}O_3$

Methyl 3-methyl-4-oxo-5-phenylpentanoate

E.e.= 85% [by nmr with $Eu(hfc)_3$]

$[\alpha]_D^{20}$ = -10.9 (c 3.0, THF)

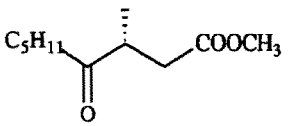
Source of chirality: enzymatic resolution

Absolute configuration 3S

(assigned by chemical correlation)

L. Blanco,* G. Rousseau,* J.-P. Barnier, E. Guibé-Jampel

Tetrahedron: Asymmetry **1993**, *4*, 783



$C_{11}H_{20}O_3$

Methyl 3-methyl-4-oxononanoate

E.e.=85% [by nmr with $Eu(hfc)_3$]

$[\alpha]_D^{20}$ = -30.1 (c 2.9, THF)

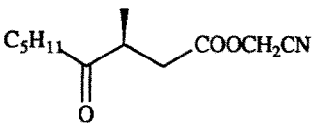
Source of chirality: enzymatic resolution

Absolute configuration 3S

(assigned by chemical correlation)

L. Blanco,* G. Rousseau,* J.-P. Barnier, E. Guibé-Jampel

Tetrahedron: Asymmetry **1993**, *4*, 783



$C_{12}H_{19}O_3N$

Cyanomethyl 3-methyl-4-oxononanoate

E.e.=92% [by nmr with $Eu(hfc)_3$]

$[\alpha]_D^{20}$ = +22.6 (c 3.7, THF)

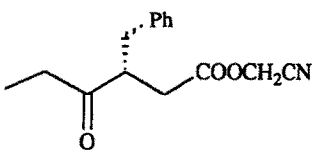
Source of chirality: enzymatic resolution

Absolute configuration 3R

(assigned by chemical correlation)

L. Blanco,* G. Rousseau,* J.-P. Barnier, E. Guibé-Jampel

Tetrahedron: Asymmetry **1993**, *4*, 783



$C_{15}H_{17}O_3N$

Cyanomethyl 3-benzyl-4-oxo-5-hexanoate

E.e.> 98% [by nmr with $Eu(hfc)_3$]

$[\alpha]_D^{20}$ = -72.8 (c 6.5, THF)

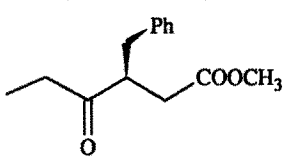
Source of chirality: enzymatic resolution

Absolute configuration 3S

(assigned by chemical correlation)

L. Blanco,* G. Rousseau,* J.-P. Barnier, E. Guibé-Jampel

Tetrahedron: Asymmetry **1993**, *4*, 783



$C_{14}H_{18}O_3$

Methyl 3-benzyl-4-oxo-5-hexanoate

E.e.= 81% [by nmr with $Eu(hfc)_3$]

$[\alpha]_D^{20}$ = +86.6 (c 1.4, THF)

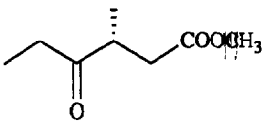
Source of chirality: enzymatic resolution

Absolute configuration 3R

(assigned by chemical correlation)

L. Blanco,* G. Rousseau,* J.-P. Barnier, E. Guibé-Jampel

Tetrahedron: Asymmetry **1993,** *4,* 783



$C_8H_{14}O_3$

Methyl 3-methyl-4-oxohexanoate

E.e.=81% [by nmr with $Eu(hfc)_3$]

$[\alpha]_D^{20}$= -34.8 (c 1.6, THF)

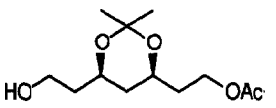
Source of chirality: enzymatic resolution

Absolute configuration 3S

(assigned by chemical correlation)

Carlo Bonini*, Rocco Racioppi , Licia Viggiani,, Giuliana Righi, Leucio Rossi

Tetrahedron: Asymmetry **1993,** *4,* 793



(3S,5R)-7-hydroxy-3,5-O-isopropylidene-1-acetoxy heptane

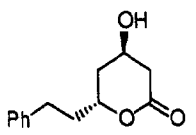
E.e.= >98% by ^{1}H-NMR with $Eu(hfc)_3$

$[\alpha]_D$= -12.8 (c= 2.8, $CHCl_3$)

source of chirality: enzymatic hydrolysis of meso diacetate

Carlo Bonini*, Rocco Racioppi , Licia Viggiani, Giuliana Righi, Leucio Rossi

Tetrahedron: Asymmetry **1993,** *4,* 793



(3R,5R)-3-hydroxy-1-phenylheptan-5-olide

E.e.= > 98%

$[\alpha]_D$= +48 (c= 2.2, $CHCl_3$)

source of chirality: (3S,5R)-7-hydroxy-3,5-O-isopropylidene-1-acetoxy heptane

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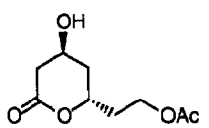
Carlo Bonini*, Rocco Racioppi , Licia Viggiani,, Giuliana Righi, Leucio Rossi

Tetrahedron: Asymmetry **1993,** *4,* 793



(3S,5S)-3-hydroxy-1-acetoxyheptan-5-olide

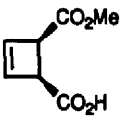
E.e. >98%

$[\alpha]_D$= -16 (c= 0.75, $CHCl_3$)

source of chirality: (3S,5R)-7-hydroxy-3,5-O-isopropylidene-1-acetoxy heptane

I. Harvey and D.H.G. Crout

Tetrahedron: Asymmetry **1993**, *4*, 807

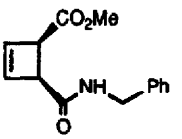


Methyl hydrogen (1R, 2S)-(+)-3-cyclobutene-1,2-dicarboxylate

E.e = 86% (by nmr as the salt with (S)-(-)-α-methylbenzylamine
$[\alpha]_D^{20}$ = 6.9° (c 2.5 in $CHCl_3$)
Source of chirality: kinetic resolution using porcine liver esterase
Absolute configuration 1R, 2S
(from comparison of sign of optical rotation with literature value)

I. Harvey and D.H.G. Crout

Tetrahedron: Asymmetry **1993**, *4*, 807

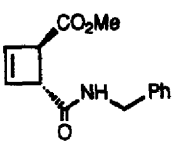


Methyl (1R, 2S)-(+)-2-benzylcarbamoyl-3-cyclobutene carboxylate

E.e = 100% (assumed from crystallisation to constant optical rotation of material of 86% ee).
$[\alpha]_D^{20}$ = 11.7° (c 1.05 in $CHCl_3$)
Source of chirality: kinetic resolution using porcine liver esterase
Absolute configuration 1R, 2S
(from method of synthesis)

I. Harvey and D.H.G. Crout

Tetrahedron: Asymmetry **1993**, *4*, 807

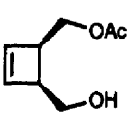


Methyl (1R, 2R)-(+)-2-benzylcarbamoyl-3-cyclobutene carboxylate

E.e = 100% (assumed from crystallisation to constant optical rotation of material of 86% ee).
$[\alpha]_D^{20}$ = -255° (c 1.0 in $CHCl_3$)
Source of chirality: kinetic resolution using porcine liver esterase
Absolute configuration 1R, 2R
(from method of synthesis)

I. Harvey and D.H.G. Crout

Tetrahedron: Asymmetry **1993**, *4*, 807

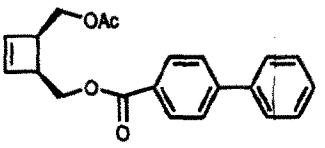


((1R,4S)-4-Hydroxymethyl-2-cyclobutenyl)methyl ethanoate

E.e = >97% (by nmr with (S)-(+)-2,2,2-trifluoro-1-(9-anthryl)ethanol).
$[\alpha]_D^{20}$ = 6.2° (c 2.0 in $CHCl_3$)
Source of chirality: kinetic resolution using *Pseudomonas* sp. lipase
Absolute configuration 1R, 4S
(from method of synthesis)

I. Harvey and D.H.G. Crout

Tetrahedron: Asymmetry **1993**, *4*, 807

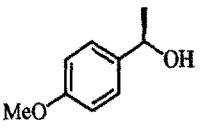


((1R,4S)-4-(4-Phenylphenyl)methanoyloxymethyl-2-cyclobutenyl)-methyl ethanoate

E.e = 100% (assumed from crystallisation to constant optical rotation of material of >97% ee).
$[\alpha]_D^{20}$ = -11.1° (c 1.0 in $CHCl_3$)
Source of chirality: kinetic resolution using *Pseudomonas* sp. lipase
Absolute configuration 1R, 4S
(from method of synthesis)

S.M. Brown, S.G. Davies and J.A.A. de Sousa

Tetrahedron: Asymmetry **1993**, *4*, 813



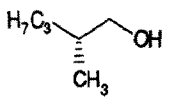
$C_9H_{12}O_2$

1-(4-methoxyphenyl)ethanol

e.e. >95% by Mosher's ester and $Eu(hfc)_3$
$[\alpha]_D^{22}$ = +58.6 (c 1.0, $CHCl_3$)
Source of chirality: Lipase mediated double kinetic resolution
Absolute configuration: *R* (*cf* JACS 1989, **111**, 3426).

S. Barth and F. Effenberger*

Tetrahedron: Asymmetry **1993**, *4*, 823



$C_6H_{14}O$

2-Methyl-1-pentanol

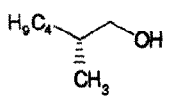
E.e. = 98% [by gas chromatography on β-cyclodextrin phase]
$[\alpha]_D^{20}$ = +12.10 (neat)

Source of chirality: Lipase-catalyzed kinetic resolution

Absolute configuration 2R
(assigned by comparison of known optical rotation value)

S. Barth and F. Effenberger*

Tetrahedron: Asymmetry **1993**, *4*, 823



$C_7H_{16}O$

2-Methyl-1-hexanol

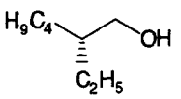
E.e. = 99% [by gas chromatography on β-cyclodextrin phase]
$[\alpha]_D^{20}$ = +14.22 (c=6.96, diethyl ether)

Source of chirality: Lipase-catalyzed kinetic resolution

Absolute configuration 2R
(assigned by comparison of known optical rotation value)

S. Barth and F. Effenberger*

Tetrahedron: Asymmetry **1993,** *4*, 823



$C_8H_{18}O$

2-Ethyl-1-hexanol

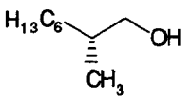
E.e. = 97.5% [by gas chromatography on β-cyclodextrin phase]
$[\alpha]_D^{20}$ = -3.70 (neat)

Source of chirality: Lipase-catalyzed kinetic resolution

Absolute configuration 2R
(assigned by comparison of known optical rotation value)

S. Barth and F. Effenberger*

Tetrahedron: Asymmetry **1993,** *4*, 823



$C_9H_{20}O$

2-Methyl-1-octanol

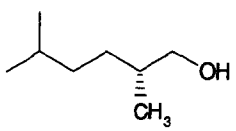
E.e. = 96.2% [by gas chromatography on β-cyclodextrin phase]
$[\alpha]_D^{20}$ = +11.17 (c=4.7, CH_2Cl_2)

Source of chirality: Lipase-catalyzed kinetic resolution

Absolute configuration 2R
(assigned by comparison of known optical rotation value)

S. Barth and F. Effenberger*

Tetrahedron: Asymmetry **1993,** *4*, 823



$C_8H_{18}O$

2,5-Dimethyl-1-hexanol

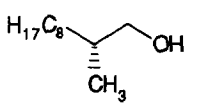
E.e. = 97.9% [by gas chromatography on β-cyclodextrin phase]
$[\alpha]_D^{20}$ = +12.39 (c=2.30, $CHCl_3$)

Source of chirality: Lipase-catalyzed kinetic resolution

Absolute configuration 2R
(assigned by comparison of known optical rotation value)

S. Barth and F. Effenberger*

Tetrahedron: Asymmetry **1993,** *4*, 823



$C_{11}H_{24}O$

2-Methyl-1-decanol

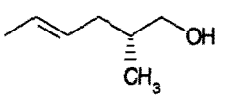
E.e. = 98.1% [by gas chromatography on β-cyclodextrin phase]
$[\alpha]_D^{20}$ = +9.86 (c=4.29, CH_2Cl_2)

Source of chirality: Lipase-catalyzed kinetic resolution

Absolute configuration 2R
(assigned by comparison of known optical rotation value)

Tetrahedron: Asymmetry **1993**, *4*, 823

S. Barth and F. Effenberger*



$C_7H_{14}O$

2-Methyl-4-hexen-1-ol

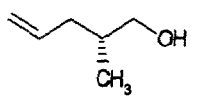
E.e. = 96.1% [by gas chromatography on β-cyclodextrin phase]
$[\alpha]_D^{20}$ = +2.67 (c=6.32, CH_2Cl_2)

Source of chirality: Lipase-catalyzed kinetic resolution

Absolute configuration 2R
(assigned by comparison of known optical rotation value)

Tetrahedron: Asymmetry **1993**, *4*, 823

S. Barth and F. Effenberger*



$C_6H_{12}O$

2-Methyl-4-penten-1-ol

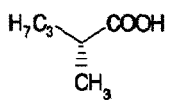
E.e. = 97.3% [by gas chromatography on β-cyclodextrin phase]
$[\alpha]_D^{20}$ = +2.64 (neat)

Source of chirality: Lipase-catalyzed kinetic resolution

Absolute configuration 2R
(assigned by comparison of known optical rotation value)

Tetrahedron: Asymmetry **1993**, *4*, 823

S. Barth and F. Effenberger*



$C_6H_{12}O_2$

2-Methylpentanoic acid

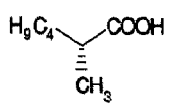
E.e. = 94.8% [by gas chromatography on β-cyclodextrin phase]
$[\alpha]_D^{20}$ = -16.55 (c=4.20, $CHCl_3$)

Source of chirality: Oxidation of the optically pure alcohol (94.6%ee)

Absolute configuration 2R
(assigned by comparison of known optical rotation value)

Tetrahedron: Asymmetry **1993**, *4*, 823

S. Barth and F. Effenberger*



$C_7H_{14}O_2$

2-Methylhexanoic acid

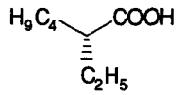
E.e. = 96.4% [by gas chromatography on β-cyclodextrin phase]
$[\alpha]_D^{20}$ = -18.05 (c=5.12, $CHCl_3$)

Source of chirality: Oxidation of the optically pure alcohol (96.7%ee)

Absolute configuration 2R
(assigned by comparison of known optical rotation value)

Tetrahedron: Asymmetry **1993,** *4*, 823

S. Barth and F. Effenberger*



$C_8H_{16}O_2$

2-Ethylhexanoic acid

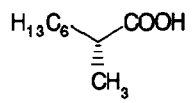
E.e. = 92.4% [by gas chromatography on β-cyclodextrin phase]
$[\alpha]_D^{20}$ = -7.43 (c=3.62, $CHCl_3$)

Source of chirality: Oxidation of the optically pure alcohol (93.5%ee)

Absolute configuration 2R
(assigned by comparison of known optical rotation value)

Tetrahedron: Asymmetry **1993,** *4*, 823

S. Barth and F. Effenberger*



$C_9H_{18}O_2$

2-Methyloctanoic acid

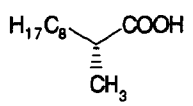
E.e. = 93.7% [by gas chromatography on β-cyclodextrin phase]
$[\alpha]_D^{20}$ = -15.60 (c=4.14, $CHCl_3$)

Source of chirality: Oxidation of the optically pure alcohol (94.1%ee)

Absolute configuration 2R
(assigned by comparison of known optical rotation value)

Tetrahedron: Asymmetry **1993,** *4*, 823

S. Barth and F. Effenberger*



$C_{11}H_{22}O_2$

2-Methyldecanoic acid

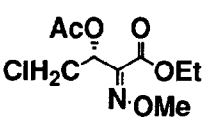
E.e. = 96.5% [by gas chromatography on β-cyclodextrin phase]
$[\alpha]_D^{20}$ = -15.91 (c=3.22, $CHCl_3$)

Source of chirality: Oxidation of the optically pure alcohol (97.5%ee)

Absolute configuration 2R
(assigned by comparison of known optical rotation value)

Tetrahedron: Asymmetry **1993,** *4*, 835

Makoto Shimizu, Tetsuya Yokota, Kouichi Fujimori,
and Tamotsu Fujisawa*



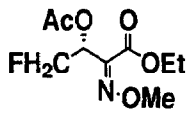
$C_9H_{14}O_5Cl$

Ethyl (*R*)-3-Acetoxy-4-chloro-2-methoxyiminobutyrate

ee = 96% [determined by ^1H NMR and GLC analysis of the corresponding MTPA ester]
$[\alpha]_D^{23}$ -59.8 (c 0.98, MeOH)
Source of chirality: Optical resolution by lipase
Absolute configuration: *R* (assigned after coverting into the known ethyl (2*R*,3*R*)-2-amino-4-fluoro-3-hydroxybutyrate)

Tetrahedron: Asymmetry **1993,** *4*, 835

Makoto Shimizu, Tetsuya Yokota, Kouichi Fujimori,
and Tamotsu Fujisawa*



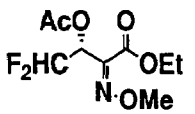
$C_9H_{14}O_5F$

ee = >98% [determined by ^1H NMR and GLC analysis of the corresponding MTPA ester]
$[\alpha]_D^{23}$ -62.8 (c 1.24, MeOH)
Source of chirality: Optical resolution by lipase
Absolute configuration: *R* (assigned after coverting into the known ethyl (2*R*,3*R*)-2-amino-4-fluoro-3-hydroxybutyrate)

Ethyl (*R*)-3-Acetoxy-4-fluoro-2-methoxyiminobutyrate

Tetrahedron: Asymmetry **1993,** *4*, 835

Makoto Shimizu, Tetsuya Yokota, Kouichi Fujimori,
and Tamotsu Fujisawa*



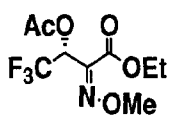
$C_9H_{13}O_5F_2$

ee = >98% [determined by ^1H NMR and GLC analysis of the corresponding MTPA ester]
$[\alpha]_D^{23}$ -25.5 (c 0.22, MeOH)
Source of chirality: Optical resolution by lipase
Absolute configuration: *R* (assigned after coverting into the known ethyl (2*R*,3*R*)-2-amino-4,4-difluoro-3-hydroxybutyrate)

Ethyl (*R*)-3-Acetoxy-4,4-difluoro-2-methoxyiminobutyrate

Tetrahedron: Asymmetry **1993,** *4*, 835

Makoto Shimizu, Tetsuya Yokota, Kouichi Fujimori,
and Tamotsu Fujisawa*



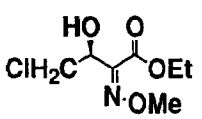
$C_9H_{12}O_5F_3$

ee = 90% [determined by ^1H NMR and GLC analysis of the corresponding MTPA ester]
$[\alpha]_D^{23}$ +9.20 (c 0.94, MeOH)
Source of chirality: Optical resolution by lipase
Absolute configuration: *R* (assigned after coverting into the known ethyl (2*R*,3*R*)-2-amino-4,4,4-trifluoro-3-hydroxybutyrate)

Ethyl (*R*)-3-Acetoxy-4,4,4-trifluoro-2-methoxyiminobutyrate

Tetrahedron: Asymmetry **1993,** *4*, 835

Makoto Shimizu, Tetsuya Yokota, Kouichi Fujimori,
and Tamotsu Fujisawa*



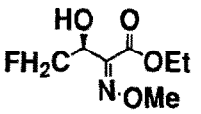
$C_9H_{14}O_4Cl$

ee = >98% [determined by ^1H NMR and GLC analysis of the corresponding MTPA ester]
$[\alpha]_D^{23}$ +17.3 (c 0.82, MeOH)
Source of chirality: Optical resolution by lipase
Absolute configuration: *S* (assigned after coverting into the known ethyl (2*S*,3*S*)-2-amino-4-fluoro-3-hydroxybutyrate)

Ethyl (*S*)-4-Chloro-3-hydroxy-2-methoxyiminobutyrate

Tetrahedron: Asymmetry **1993,** *4*, 835

Makoto Shimizu, Tetsuya Yokota, Kouichi Fujimori,
and Tamotsu Fujisawa*



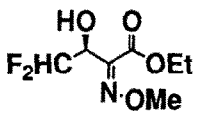
$C_9H_{14}O_4F$

ee = >98% [determined by ^1H NMR and GLC analysis of the corresponding MTPA ester]
$[\alpha]_D^{23}$ +19.4 (c 1.04, MeOH)
Source of chirality: Optical resolution by lipase
Absolute configuration: *S*(assigned after coverting into the known ethyl (2*S*,3*S*)-2-amino-4-fluoro-3-hydroxybutyrate)

Ethyl (*S*)-4-Fluoro-3-hydroxy-2-methoxyiminobutyrate

Tetrahedron: Asymmetry **1993,** *4*, 835

Makoto Shimizu, Tetsuya Yokota, Kouichi Fujimori,
and Tamotsu Fujisawa*



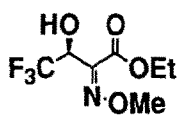
$C_7H_{11}O_4F_2$

ee = >98% [determined by ^1H NMR and GLC analysis of the corresponding MTPA ester]
$[\alpha]_D^{23}$ +8.89 (c 0.40, MeOH)
Source of chirality: Optical resolution by lipase
Absolute configuration: *S* (assigned after coverting into the known ethyl (2*S*,3*S*)-2-amino-4,4-difluoro-3-hydroxybutyrate)

Ethyl (*S*)-4,4-Difluoro-3-hydroxy-2-methoxyiminobutyrate

Tetrahedron: Asymmetry **1993,** *4*, 835

Makoto Shimizu, Tetsuya Yokota, Kouichi Fujimori,
and Tamotsu Fujisawa*



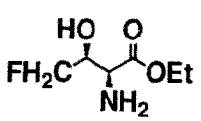
$C_7H_{10}O_4F_3$

ee = 82% [determined by ^1H NMR and GLC analysis of the corresponding MTPA ester]
$[\alpha]_D^{23}$ -64.0 (c 0.72, MeOH)
Source of chirality: Optical resolution by lipase
Absolute configuration: *S* (assigned after coverting into the known ethyl (2*S*,3*S*)-2-amino-4,4,4-trifluoro-3-hydroxybutyrate)

Ethyl (*S*)-4,4,4-Trifluoro-3-hydroxy-2-methoxyiminobutyrate

Tetrahedron: Asymmetry **1993,** *4*, 835

Makoto Shimizu, Tetsuya Yokota, Kouichi Fujimori,
and Tamotsu Fujisawa*



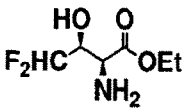
$C_6H_{12}O_3F$

ee = >98% [determined by ^1H NMR and GLC analysis of the corresponding bis-MTPA derivative]
$[\alpha]_D^{23}$ -5.83 (c 0.24, MeOH)
Source of chirality: Optical resolution by lipase
Absolute configuration: (2*S*,3*S*) (assigned after coverting into the known (2*S*,3*S*)-4-fluorothreonine)

Ethyl (2*S*,3*S*)-2-Amino-4-fluoro-3-hydroxybutyrate

Tetrahedron: Asymmetry **1993**, *4*, 835

Makoto Shimizu, Tetsuya Yokota, Kouichi Fujimori,
and Tamotsu Fujisawa*



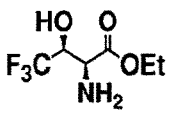
$C_6H_{11}O_3F_2$

ee = >98% [determined by ^1H NMR and GLC analysis of the corresponding bis-MTPA derivative]
$[\alpha]_D^{23}$ -15.0 (c 0.08, MeOH)
Source of chirality: Optical resolution by lipase
Absolute configuration: (2*S*,3*S*) (assigned after coverting into the known (2*S*,3*S*)-4,4-difluorothreonine)

Ethyl (2*S*,3*S*)-2-Amino-4,4-difluoro-3-hydroxybutyrate

Tetrahedron: Asymmetry **1993**, *4*, 835

Makoto Shimizu, Tetsuya Yokota, Kouichi Fujimori,
and Tamotsu Fujisawa*



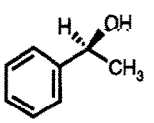
$C_6H_{10}O_3F_3$

ee = 84% [determined by ^1H NMR and GLC analysis of the corresponding bis-MTPA derivative]
$[\alpha]_D^{23}$ -8.30 (c 0.24, MeOH)
Source of chirality: Optical resolution by lipase
Absolute configuration: (2*S*,3*S*) (assigned after coverting into the known (2*S*,3*S*)-4,4,4-difluorothreonine)

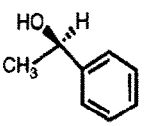
Ethyl (2*S*,3*S*)-2-Amino-4,4,4-trifluoro-3-hydroxybutyrate

Tetrahedron: Asymmetry **1993**, *4*, 839

A. L. Gutman,* D. Brenner, and A. Boltanski



S-(-)-sec-phenethyl alcohol
ee>99.6%

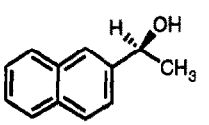


R-(+)-sec-phenethyl alcohol
ee=98%

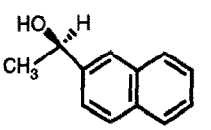
Source of chirality:
enzymatic resolution
ee determined by chiral HPLC

Tetrahedron: Asymmetry **1993**, *4*, 839

A. L. Gutman,* D. Brenner, and A. Boltanski



S-(-)-1-(2-naphthyl)ethanol
ee=99.8%

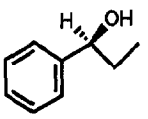


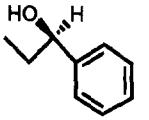
R-(+)-1-(2-naphthyl)ethanol
ee=95%

Source of chirality:
enzymatic resolution
ee determined by chiral HPLC

A. L. Gutman,* D. Brenner, and A. Boltanski

Tetrahedron: Asymmetry **1993**, *4*, 839





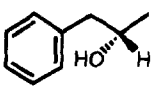
Source of chirality:
enzymatic resolution
ee determined by chiral HPLC

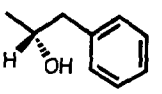
S-(-)-1-phenyl-1-propanol ee=97%

R-(+)-1-phenyl-1-propanol ee=94%

A. L. Gutman,* D. Brenner, and A. Boltanski

Tetrahedron: Asymmetry **1993**, *4*, 839





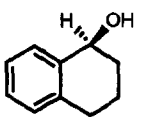
Source of chirality:
enzymatic resolution
ee determined by chiral HPLC

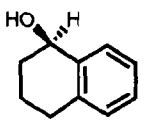
S-(+)-1-phenyl-2-propanol ee=99.6%

R-(-)-1-phenyl-2-propanol ee=99%

A. L. Gutman,* D. Brenner, and A. Boltanski

Tetrahedron: Asymmetry **1993**, *4*, 839





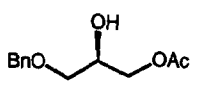
Source of chirality:
enzymatic resolution
ee determined by chiral HPLC

S-(+)-1,2,3,4-tetrahydro-1-naphthol ee=98.6%

R-(-)-1,2,3,4-tetrahydro-1-naphthol ee=94.3%

B. Herradón, S. Cueto, A. Morcuende and S. Valverde

Tetrahedron: Asymmetry **1993**, *4*, 845



E.e. >95% [by ^{1}H-NMR in the presence of Eu(hfc)$_3$]

$[\alpha]_D^{25}$= -4.1 ($CHCl_3$, c= 1.04)

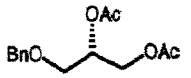
$C_{12}H_{16}O_4$

Source of chirality: lipase catalyzed transesterification.

(R)-1-O-Acetyl-3-O-benzylpropane-1,2,3-triol

B. Herradón, S. Cueto, A. Morcuende and S. Valverde

Tetrahedron: Asymmetry **1993**, *4*, 845



E.e. >95% [by ^{1}H-NMR in the presence of Eu(tfc)$_3$]

$[\alpha]_D^{25}$= +14.0 ($CHCl_3$, c= 0.5)

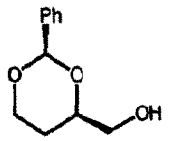
$C_{14}H_{18}O_5$

Source of chirality: lipase catalyzed transesterification.

(*S*)-1,2-Di-O-acetyl-3-O-benzylpropane-1,2,3-triol

B. Herradón, S. Cueto, A. Morcuende and S. Valverde

Tetrahedron: Asymmetry **1993**, *4*, 845



E.e. > 98% [by ^{1}H-NMR in the presence of Eu(hfc)$_3$]

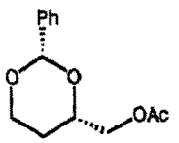
$[\alpha]_D^{25}$= -10.0 ($CHCl_3$, c= 1.18)

Source of chirality: lipase catalyzed transesterification.

$C_{11}H_{14}O_3$
(R,R)-4-Hydroxymethyl-2-phenyl-1,3-dioxane

B. Herradón, S. Cueto, A. Morcuende and S. Valverde

Tetrahedron: Asymmetry **1993**, *4*, 845



E.e. > 98% [by ^{1}H-NMR in the presence of Eu(hfc)$_3$]

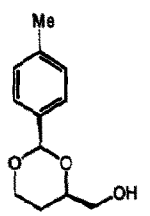
$[\alpha]_D^{25}$= +27.1 ($CHCl_3$, c= 1.2)

Source of chirality: lipase catalyzed transesterification.

$C_{13}H_{16}O_4$
(S,S)-4-Acetoxymethyl-2-phenyl-1,3-dioxane

B. Herradón, S. Cueto, A. Morcuende and S. Valverde

Tetrahedron: Asymmetry **1993**, *4*, 845



E.e. > 98% [by ^{1}H-NMR in the presence of Eu(hfc)$_3$]

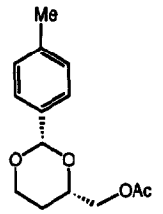
$[\alpha]_D^{25}$= -8.0 ($CHCl_3$, c= 0.96)

Source of chirality: lipase catalyzed transesterification.

$C_{12}H_{16}O_3$
(R,R)-4-Hydroxymethyl-2-(4-methylphenyl)-1,3-dioxane

B. Herradón, S. Cueto, A. Morcuende and S. Valverde

Tetrahedron: Asymmetry **1993**, *4*, 845



E.e.= 84% [by ^{1}H-NMR in the presence of Eu(hfc)$_3$]

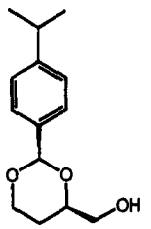
$[\alpha]_D^{25}$= +25.2 ($CHCl_3$, c= 1.05)

Source of chirality: lipase catalyzed transesterification.

$C_{14}H_{18}O_4$
(S,S)-4-Acetoxymethyl-2-(4-methylphenyl)-1,3-dioxane

B. Herradón, S. Cueto, A. Morcuende and S. Valverde

Tetrahedron: Asymmetry **1993**, *4*, 845



E.e. > 94% [by ^{1}H-NMR in the presence of Eu(hfc)$_3$]

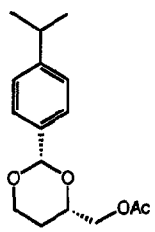
$[\alpha]_D^{25}$= -11.1 ($CHCl_3$, c= 1.5)

Source of chirality: lipase catalyzed transesterification.

$C_{14}H_{20}O_3$
(R,R)-4-Hydroxymethyl-2-(4-isopropylphenyl)-1,3-dioxane

B. Herradón, S. Cueto, A. Morcuende and S. Valverde

Tetrahedron: Asymmetry **1993**, *4*, 845



E.e.= 82% [by ^{1}H-NMR in the presence of Eu(hfc)$_3$]

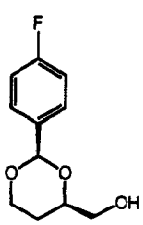
$[\alpha]_D^{25}$= +20.9 ($CHCl_3$, c= 0.6)

Source of chirality: lipase catalyzed transesterification.

$C_{16}H_{22}O_4$
(S,S)-4-Acetoxymethyl-2-(4-isopropylphenyl)-1,3-dioxane

B. Herradón, S. Cueto, A. Morcuende and S. Valverde

Tetrahedron: Asymmetry **1993**, *4*, 845



E.e.= 90% [by ^{1}H-NMR in the presence of Eu(hfc)$_3$]

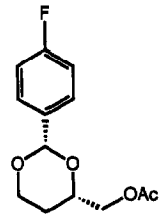
$[\alpha]_D^{25}$= -10.9 ($CHCl_3$, c= 0.7)

Source of chirality: lipase catalyzed transesterification.

$C_{11}H_{13}FO_3$
(R,R)-2-(4-Fluorophenyl)-4-hydroxymethyl-1,3-dioxane

B. Herradón, S. Cueto, A. Morcuende and S. Valverde

Tetrahedron: Asymmetry **1993**, *4*, 845



E.e.= 87% [by ^{1}H-NMR in the presence of Eu(hfc)$_3$]

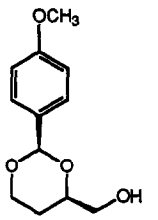
$[\alpha]_D^{25}$= +24.1 ($CHCl_3$, c= 1.65)

Source of chirality: lipase catalyzed transesterification.

$C_{13}H_{15}FO_4$
(S,S)-4-Acetoxymethyl-2-(4-fluorophenyl)-1,3-dioxane

B. Herradón, S. Cueto, A. Morcuende and S. Valverde

Tetrahedron: Asymmetry **1993**, *4*, 845



E.e.> 98% [by ^{1}H-NMR in the presence of Eu(hfc)$_3$]

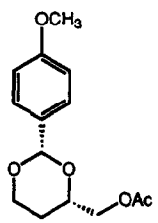
$[\alpha]_D^{25}$= -10.3 ($CHCl_3$, c= 1.45)

Source of chirality: lipase catalyzed transesterification.

$C_{12}H_{16}O_4$
(R,R)-4-Hydroxymethyl-2-(4-methoxyphenyl)-1,3-dioxane

B. Herradón, S. Cueto, A. Morcuende and S. Valverde

Tetrahedron: Asymmetry **1993**, *4*, 845



E.e.= 90% [by ^{1}H-NMR in the presence of Eu(hfc)$_3$]

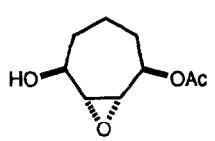
$[\alpha]_D^{25}$= +25.1 ($CHCl_3$, c= 0.77)

Source of chirality: lipase catalyzed transesterification.

$C_{14}H_{18}O_5$
(S,S)-4-Acetoxymethyl-2-(4-methoxyphenyl)-1,3-dioxane

S. J. Bis, D. T. Whitaker, and C. R. Johnson

Tetrahedron: Asymmetry **1993**, *4*, 875



$[\alpha]_D^{25}$ = +35.6 (*c* 1.50, $CHCl_3$)

E.e. = >98% [optical rotation comparison to enantiomer; chemical correlation]

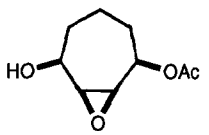
Source of chirality: Enzymatic asymmetrization of *meso*-diacetate

Absolute configuration: 1*S*, 2*R*, 3*S*, 4*R*

$C_9H_{14}O_4$
4-Acetoxy-2,3-epoxycycloheptan-1-ol

S. J. Bis, D. T. Whitaker, and C. R. Johnson

Tetrahedron: Asymmetry **1993,** *4*, 875

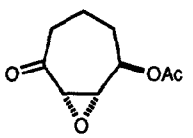


$C_9H_{14}O_4$
4-Acetoxy-2,3-epoxycycloheptan-1-ol

$[\alpha]_D^{25}$ = -12.6 (*c* 1.05, $CHCl_3$)
E.e. = 84% [by ^{19}F NMR of (*R*)-MTPA ester]
Source of chirality: Enzymatic asymmetrization of *meso*-diol
Absolute configuration: 1*S*, 2*S*, 3*R*, 4*R*

S. J. Bis, D. T. Whitaker, and C. R. Johnson

Tetrahedron: Asymmetry **1993,** *4*, 875

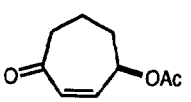


$C_9H_{12}O_4$
4-Acetoxy-2,3-epoxycycloheptan-1-one

$[\alpha]_D^{25}$ = +26.2 (*c* 0.69, $CHCl_3$)
E.e. = >98% [derived from enantiomerically pure alcohol]
Source of chirality: Enzymatic asymmetrization of *meso*-diacetate
Absolute configuration: 2*S*, 3*S*, 4*R*

S. J. Bis, D. T. Whitaker, and C. R. Johnson

Tetrahedron: Asymmetry **1993,** *4*, 875

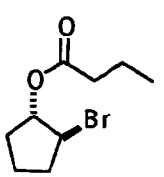


$C_9H_{12}O_3$
4-Acetoxycyclohept-2-ene-1-one

$[\alpha]_D^{25}$ = +106.9 (*c* 1.00, $CHCl_3$)
E.e. = >98% [derived from enantiomerically pure alcohol, chemical correlation]
Source of chirality: Enzymatic asymmetrization of *meso*-diacetate
Absolute configuration: 4*R*

A.K. Gupta and R. J. Kazlauskas

Tetrahedron: Asymmetry **1993,** *4*, 879



$C_{10}H_{16}BrO_2$
trans-2-Bromo-1-(butanoyloxy)-cyclopentane

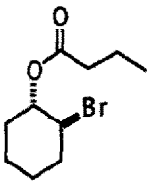
E.e. >98% [by ^1H-NMR in the presence of $Eu(hfc)_3$]
$[\alpha]_D$ = +75.6 (*c* 10.7, CH_2Cl_2)

Source of chirality: enzyme-catalyzed resolution

Absolute configuration: 1S,2S
(assigned by conversion to (S)-2-cyclopenten-1-ol)

A.K. Gupta and R. J. Kazlauskas

Tetrahedron: Asymmetry **1993**, *4*, 879



$C_{10}H_{16}BrO_2$
trans-2-Bromo-1-(butanoyloxy)-cyclohexane

E.e. >98% [by ^{1}H-NMR in the presence of Eu(hfc)$_3$]
$[\alpha]_D$ = +45.3 (*c* 10.1, CH_2Cl_2), lit.*$[\alpha]_D$ = +43.6 (*c* 2, CH_2Cl_2)

Source of chirality: enzyme-catalyzed resolution

Absolute configuration: 1S,2S

*Hönig, H.; Seufer-Wasserthal, P. *Synthesis*, **1990**, *12*, 1137-1140.

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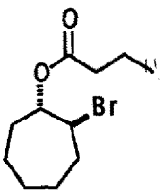
Tetrahedron: Asymmetry **1993**, *4*, 879



$C_{10}H_{16}BrO_2$
trans-2-Bromo-1-(butanoyloxy)-cycloheptane

E.e. >98% [by ^{1}H-NMR in the presence of Eu(hfc)$_3$]
$[\alpha]_D$ = +45.3 (*c* 10.9, CH_2Cl_2)

Source of chirality: enzyme-catalyzed resolution

Absolute configuration: 1S,2S
(assigned by conversion to (S)-2-cyclohepten-1-ol)

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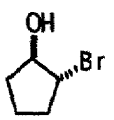
Tetrahedron: Asymmetry **1993**, *4*, 879



C_5H_9BrO
trans-2-Bromo-1-cyclopentanol

E.e. = 84% [by ^{1}H-NMR of the acetate ester in the presence of Eu(hfc)$_3$]
$[\alpha]_D$ = -32.1 (*c* 12.2, CH_2Cl_2)

Source of chirality: enzyme-catalyzed resolution

Absolute configuration: 1R,2R
(assigned by chemical correlation to 2-cyclopenten-1-ol)

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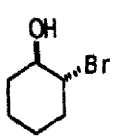
Tetrahedron: Asymmetry **1993**, *4*, 879



$C_6H_{11}BrO$
trans-2-Bromo-1-cyclohexanol

E.e. >98% [by ^{1}H-NMR of the acetate ester in the presence of Eu(hfc)$_3$]
$[\alpha]_D$ = -27.5 (*c* 11.2, CH_2Cl_2), lit.*$[\alpha]_D$ = -33.2 (*c* 2, CH_2Cl_2)

Source of chirality: enzyme-catalyzed resolution

Absolute configuration: 1R,2R

*Hönig, H.; Seufer-Wasserthal, P. *Synthesis*, **1990**, *12*, 1137-1140.

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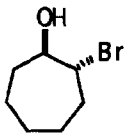
Tetrahedron: Asymmetry **1993**, *4*, 879



$C_7H_{13}BrO$
trans-2-Bromo-1-cycloheptanol

E.e. = 99% [by ^{1}H-NMR of the acetate ester in the presence of Eu(hfc)$_3$]
$[\alpha]_D$ = -4.6 (*c* 10.8, CH_2Cl_2)

Source of chirality: enzyme-catalyzed resolution

Absolute configuration: 1R,2R
(assigned by chemical correlation to 2-cyclohepten-1-ol)

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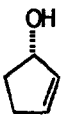
Tetrahedron: Asymmetry **1993**, *4*, 879



$C_5H_{10}O$
2-Cyclopenten-1-ol

E.e. = 65%ee [by ^{1}H-NMR of the Mosher ester]
$[\alpha]_D$ = -91 (*c* 3.9, CCl_4), lit.*$[\alpha]_D$ = -106 (*c* 1.1, $CHCl_3$, 82% ee)

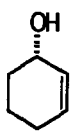
Source of chirality: enzyme-catalyzed resolution

Absolute configuration: S

*Sato, T.; Gotoh, Y.; Wakabayashi, Y.; Fujisawa, T. *Tetrahedron Lett.* **1983**, *24*, 4123-4126.

A.K. Gupta and R. J. Kazlauskas

Tetrahedron: Asymmetry **1993**, *4*, 879



$C_6H_{12}O$
2-Cyclohexen-1-ol

E.e. >99% [by ^{1}H-NMR of the Mosher ester]
$[\alpha]_D$ = -125 (*c* 6.4, $CHCl_3$), lit.*$[\alpha]_D$ = -97 (*c* 1.4, $CHCl_3$)

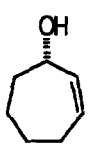
Source of chirality: enzyme-catalyzed resolution

Absolute configuration: S

*Sabol, J. S.; Cregge, R. J. *Tetrahedron Lett.* **1989**, *30*, 3377-3380.

A.K. Gupta and R. J. Kazlauskas

Tetrahedron: Asymmetry **1993**, *4*, 879



$C_7H_{14}O$
2-Cyclohepten-1-ol

E.e. >98% [by ^{1}H-NMR of the Mosher ester]
$[\alpha]_D$ = -24.9 (*c* 7.8, CH_3OH), lit.*$[\alpha]_D$ = -7.5 (*c* 2, CH_3OH, <20% ee)

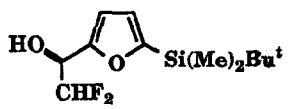
Source of chirality: enzyme-catalyzed resolution

Absolute configuration: S

*Kasai, M.; Ziffer, H. *J. Org. Chem.* **1983**, *48*, 712-715.

K. Murata and T. Kitazume

Tetrahedron: Asymmetry **1993**, *4*, 889



E.e = >98% [by ^{19}F NMR with (+)-MTPA ester]

$[\alpha]_D^{24}$ +11.63 (c = 1.01, MeOH)

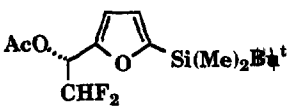
Source of chirality: kinetic resolution
Absolute configuration S (assigned by comparison with R enantiomer)

$C_{12}H_{20}F_2O_2Si$

2-[(1R)-1-Hydroxy-2,2-difluoroethyl]-5-*tert*- butyldimethylsilyl furan

K. Murata and T. Kitazume

Tetrahedron: Asymmetry **1993**, *4*, 889



E.e = >98% [by ^{19}F NMR with (+)-MTPA ester]

$[\alpha]_D^{13}$ -113.0 (c = 1.21, MeOH)

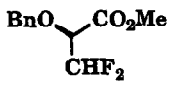
Source of chirality: kinetic resolution
Absolute configuration R (assigned by chem correlation with (R)-(-)-1-phenyl 2,2-difluoroethanol)

$C_{14}H_{22}F_2O_3Si$

2-[(1S)-1-Acetoxy-2,2-difluoroethyl]-5-*tert*- butyldimethylsilyl furan

K. Murata and T. Kitazume

Tetrahedron: Asymmetry **1993**, *4*, 889



E.e = >95% [by ^{19}F NMR with (+)-MTPA ester]

$[\alpha]_D^{19}$ +61.07 (c = 1.45, MeOH)

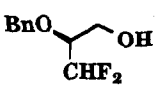
Source of chirality: synthesis
Absolute configuration S (assigned by comparison with R enantiomer)

$C_{11}H_{12}F_2O_3$

(S)-(+)-Methyl benzyloxy-3,3-difluorolactate

K. Murata and T. Kitazume

Tetrahedron: Asymmetry **1993**, *4*, 889



E.e = >95% [by ^{19}F NMR with (+)-MTPA ester]

$[\alpha]_D^{19}$ -17.45 (c = 0.850, MeOH)

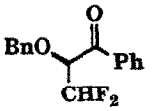
Absolute configuration S

$C_{10}H_{12}F_2O_2$

(S)-(-)-2-Benzyloxy-3,3-difluoro-1-propanol

Tetrahedron: Asymmetry **1993**, *4*, 889

K. Murata and T. Kitazume



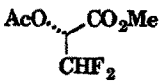
$C_{16}H_{14}F_2O_2$

E.e = >95% [by ^{19}F NMR with (+)-MTPA ester]
$[\alpha]_D^{13}$ +58.78 (c = 0.874, $CHCl_3$)
Absolute configuration S

(S)-(+)-(2-Benzyloxy-3,3-difluoro)ethyl phenyl ketone

Tetrahedron: Asymmetry **1993**, *4*, 889

K. Murata and T. Kitazume



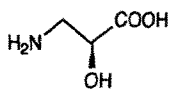
$C_6H_8F_2O_4$

E.e = >98% [by ^{19}F NMR with (+)-MTPA ester]
$[\alpha]_D^{13}$ -31.78 (c = 1.10, MeOH)
Source of chirality: synthesis
Absolute configuration R (assigned by chem correlation with (R)-(-)-1-phenyl 2,2-difluoroethanol)

(R)-(-)-Methyl acetoxy-3,3-difluorolactate

Tetrahedron: Asymmetry **1993**, *4*, 893

Y. Lu, C. Miet, N. Kunesch, and J.E. Poisson

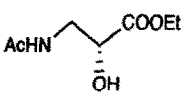


$C_3H_7NO_3$
Isoserine

E.e.> 99 % [by comparison of optical rotations]
$[\alpha]_D$ -32.7 (c = 0.5, H_2O)
m.p. 191-193°C
Source of chirality : Enzymatic kinetic resolution
Absolute configuration : S

Tetrahedron: Asymmetry **1993**, *4*, 893

Y. Lu, C. Miet, N. Kunesch, and J.E. Poisson

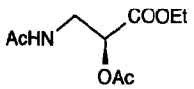


$C_7H_{13}NO_4$
Ethyl *N*-Acetyl-3-amino-2-hydroxypropionate

$[\alpha]_D$ -18.7 (c = 3, $CHCl_3$)
Source of chirality : Enzymatic kinetic resolution
Absolute configuration : R

Tetrahedron: Asymmetry **1993, *4***, 893

Y. Lu, C. Miet, N. Kunesch, and J.E. Poisson

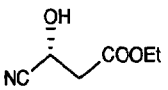


$C_9H_{15}NO_5$
Ethyl *O,N*-Acetyl-3-amino-2-hydroxypropionate

$[\alpha]_D$ +8.5 (c = 3, $CHCl_3$)
Source of chirality : Enzymatic kinetic resolution
Absolute configuration : S

Tetrahedron: Asymmetry **1993, *4***, 893

Y. Lu, C. Miet, N. Kunesch, and J.E. Poisson



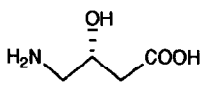
$C_6H_9NO_3$

Ethyl 3-Cyano-3-hydroxypropionate

$[\alpha]_D$ +6.7 (c = 2, $CHCl_3$)
Source of chirality : Enzymatic kinetic resolution
Absolute configuration : R

Tetrahedron: Asymmetry **1993, *4***, 893

Y. Lu, C. Miet, N. Kunesch, and J.E. Poisson

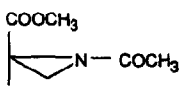


$C_4H_9NO_3$
γ-Amino-β-hydroxybutanoic Acid

E.e.> 99 % [by comparison of optical rotations]
$[\alpha]_D$ -20.9 (c = 1.7, H_2O)
m.p. 213-215°C
Source of chirality : Enzymatic kinetic resolution
Absolute configuration : R

M. Bucciarelli, A. Forni, I. Moretti*, F. Prati and G. Torre

Tetrahedron: Asymmetry **1993, *4***, 903



$C_6H_9NO_3$

N-Acetyl-2-methoxycarbonylaziridine

E.e. = 63% [by ^1H nmr with $Eu(hfc)_3$]

$[\alpha]_D^{20}$ = – 46.1 (c 1, $CHCl_3$)

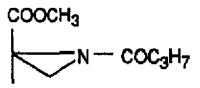
Source of chirality: enzymatic hydrolysis

Absolute configuration: 2S

(assigned by comparison with literature)

M. Bucciarelli, A. Forni, I. Moretti*, F. Prati and G. Torre

Tetrahedron: Asymmetry **1993**, *4*, 903



$C_8H_{13}NO_3$

N-Butyryl-2-methoxycarbonylaziridine

E.e. = 90% [by ^{1}H nmr with Eu(hfc)$_3$]

$[\alpha]_D^{20} = -74.3$ (c 1, $CHCl_3$)

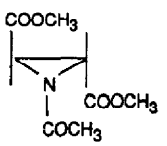
Source of chirality: enzymatic hydrolysis

Absolute configuration: 2S

(assigned by chemical correlation)

M. Bucciarelli, A. Forni, I. Moretti*, F. Prati and G. Torre

Tetrahedron: Asymmetry **1993**, *4*, 903



$C_8H_{11}NO_5$

N-Acetyl-2,3-bismethoxycarbonylaziridine

E.e. ≥ 95% [by ^{1}H nmr with Eu(hfc)$_3$]

$[\alpha]_D^{20} = -56.4$ (c 1, $CHCl_3$)

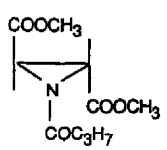
Source of chirality: enzymatic hydrolysis

Absolute configuration: 2R,3R

(assigned by chemical correlation)

M. Bucciarelli, A. Forni, I. Moretti*, F. Prati and G. Torre

Tetrahedron: Asymmetry **1993**, *4*, 903



$C_{10}H_{15}NO_5$

N-Butyryl-2,3-bismethoxycarbonylaziridine

E.e. ≥ 95% [by ^{1}H nmr with Eu(hfc)$_3$]

$[\alpha]_D^{20} = -34.8$ (c 1, $CHCl_3$)

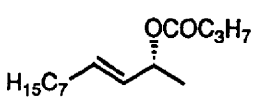
Source of chirality: enzymatic hydrolysis

Absolute configuration: 2R,3R

(assigned by chemical correlation)

Tetrahedron: Asymmetry **1993**, *4*, 907

B. Morgan, A.C. Oehlschlager



$C_{15}H_{28}O$

3-Undecen-2-yl Butyrate

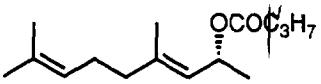
E.e. = 91.8% (by GC with acetyl-(*S*)-lactyl chloride)

Source of Chirality: Enzymatic resolution with PPL

Absolute Configuration: 2R (by GC comparison of acetyl-(*S*)-lactate esters)

Tetrahedron: Asymmetry **1993**, *4*, 907

B. Morgan, A.C. Oehlschlager



$C_{15}H_{26}O_2$

(3*E*)-4,8-Dimethyl-3,6-nonadien-2-yl Butyrate

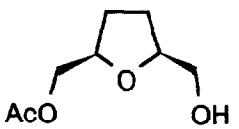
E.e. = 95.5% (by GC with acetyl-(*S*)-lactyl chloride)

Source of Chirality: Enzymatic resolution with PPL

Absolute Configuration: 2R (by GC comparison of acetyl-(*S*)-lactate esters)

K. Naemura, R. Fukuda, N. Takahashi, M. Konishi, Y. Hirose, and Y. Tobe

Tetrahedron: Asymmetry **1993**, *4*, 911



$C_8H_{14}O_4$

(-)-(2R,5S)-2-(acetoxymethyl)-5-(hydroxymethyl)tetrahydrofuran

e.e. 71% [determined by ^{1}H NMR using chiral shift reagent; Eu (hfc)$_3$]

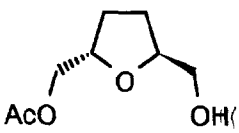
$[\alpha]_D^{24}$ -6.17 (c, 1.10, $CHCl_3$)

Source of Chirality : Enzymatic asymm. hydrolysis and asymm. acylation

Absolute configuration : 2R,5S

K. Naemura, R. Fukuda, N. Takahashi, M. Konishi, Y. Hirose, and Y. Tobe

Tetrahedron: Asymmetry **1993**, *4*, 911



$C_8H_{14}O_4$

(+)-(2S,5S)-2-(acetoxymethyl)-5-(hydroxymethyl)tetrahydrofuran

e.e. 58%

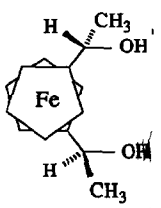
$[\alpha]_D^{24}$ +22.8 (c, 1.05, $CHCl_3$)

Source of Chirality : Enzymatic enantioselective hydrolysis and enantioselective acylation

Absolute configuration : 2S,5S

D. Lambusta, G. Nicolosi, A. Patti and M. Piattelli

Tetrahedron: Asymmetry **1993**, *4*, 919



$C_{14}H_{18}FeO_2$

(*S*)-1,1'-bis(α-hydroxyethyl)ferrocene

E.e.=100% [by nmr with Eu(hfc)$_3$]

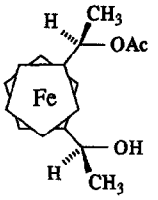
$[\alpha]_D$ = +42.0 (c 0.5, C_6H_6)

Source of chirality: Lipase-mediated esterification

Absolute configuration: *S,S*

D. Lambusta, G. Nicolosi, A. Patti and M. Piattelli

Tetrahedron: Asymmetry **1993**, *4*, 919



E.e.=90% [by nmr with $Eu(hfc)_3$]

$[\alpha]_D$ = +2.0 (c 1, $CHCl_3$)

Source of chirality: Lipase-mediated esterification

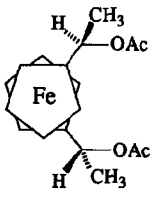
Absolute configuration: *R,S*

$C_{16}H_{20}FeO_3$

(*R*)-1-(α-acetoxyethyl)-(*S*)-1'-(α-hydroxyethyl)ferrocene

D. Lambusta, G. Nicolosi, A. Patti and M. Piattelli

Tetrahedron: Asymmetry **1993**, *4*, 919



E.e.=100% [by nmr with $Eu(hfc)_3$]

$[\alpha]_D$ = -48.5 (c 1, $CHCl_3$)

Source of chirality: Lipase mediated esterification

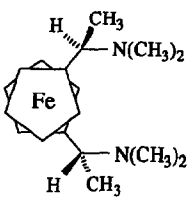
Absolute configuration: *R,R*

$C_{18}H_{22}FeO_4$

(*R*)-1,1'-bis(α-acetoxyethyl)ferrocene

D. Lambusta, G. Nicolosi, A. Patti and M. Piattelli

Tetrahedron: Asymmetry **1993**, *4*, 919



E.e.=100% (by nmr with Pirkle's alcohol)

$[\alpha]_D$ = +26.8 (c 1.1, $CHCl_3$)

Source of chirality: (*R*)-1,1'-bis(α-acetoxyethyl)ferrocene

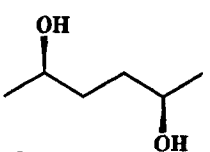
Absolute configuration: *R,R*

$C_{18}H_{28}N_2Fe$

(*R*)-1,1'-bis[(α-*N*,*N*-dimethylamino)ethyl]ferrocene

A. Mattson, N. Örhner, K. Hult, and T. Norin

Tetrahedron: Asymmetry **1993**, *4*, 925



E.e. > 99% (by chiral GC)

D.e. = 98% (by chiral GC)

Source of chirality: resolution by lipase from *Candida antarctica*

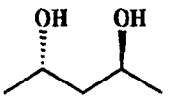
Absolute configuration: 2R,5R

$C_6H_{14}O_2$

2,5-Hexanediol

A. Mattson, N. Örhner, K. Hult, and T. Norin

Tetrahedron: Asymmetry **1993,** *4*, 925



$C_5H_{12}O_2$

2,4-Pentanediol

E.e. > 99% (by chiral GC)

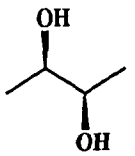
D.e. = 94% (by chiral GC)

Source of chirality: resolution by lipase from *Candida antarctica*

Absolute configuration: 2S,4S

A. Mattson, N. Örhner, K. Hult, and T. Norin

Tetrahedron: Asymmetry **1993,** *4*, 925



$C_4H_{10}O_2$

2,3-Butanediol

E.e. = 89% (by chiral GC)

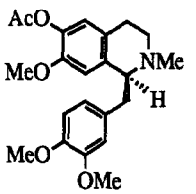
D.e. = 61% (by chiral GC)

Source of chirality: resolution by lipase from *Candida antarctica*

Absolute configuration: 2R,3R

O. Hoshino, R. Tanahashi, M. Okada, H. Akita, T. Oishi

Tetrahedron: Asymmetry **1993,** *4*, 933



Absolute configuration 1S

E.e. = 96 % on enzymatic resolution

(estimated by 500 MHz ^{1}H-NMR analysis of Mosher's ester)

$[\alpha]_D$ + 34.5 (c = 0.49, $CHCl_3$)

$C_{22}H_{27}NO_5$

(S)-(+)-6-Acetoxy-1,2,3,4-tetrahydro-7-methoxy-1-(3,4-dimethoxyphenylmethyl)-2-methylisoquinoline

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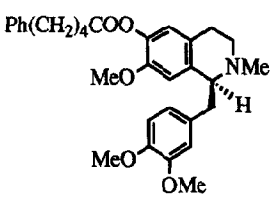
O. Hoshino, R. Tanahashi, M. Okada, H. Akita, T. Oishi

Tetrahedron: Asymmetry **1993,** *4*, 933



Absolute configuration 1S

E.e. = 93 % on enzymatic resolution

(estimated by HPLC analysis using chiralcel OC column)

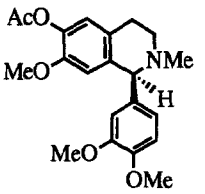
$[\alpha]_D$ + 25.7 (c = 0.35, $CHCl_3$)

$C_{31}H_{37}NO_5$

(S)-(+)-1,2,3,4-Tetrahydro-7-methoxy-1-(3,4-dimethoxyphenylmethyl)-2-methyl-6-(5-phenylvaleroxy)-isoquinoline

O. Hoshino, R. Tanahashi, M. Okada, H. Akita, T. Oishi

Tetrahedron: Asymmetry **1993**, *4*, 933



Absolute configuration 1S

E.e. = 90 % on enzymatic resolution

(estimated by HPLC analysis of phenol using chiralcel OJ column)

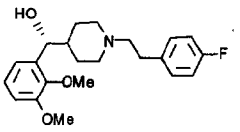
$[\alpha]_D$ + 7.5 (c = 1.47, $CHCl_3$)

$C_{21}H_{25}NO_5$

(S)-(+)-6-Acetoxy-1,2,3,4-tetrahydro-7-methoxy-1-(3,4-dimethoxyphenyl)-2-methylisoquinoline

Chi-Hsin R. King and A.L. Margolin

Tetrahedron: Asymmetry **1993**, *4*, 943



E.e. 96% (Chiralcel OD)

$[\alpha]_D^{20}$ +14.0 (c 0.49, $CHCl_3$)

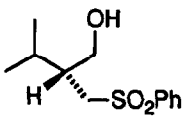
Source of chirality. lipase-catalyzed resolution

$C_{22}H_{28}FNO_3$

(*R*)-(+)-4-[1-hydroxy-1-(2,3-dimethoxyphenyl)methyl]-*N*-2-(4-fluorophenylethyl)piperidine

R. Guevel and L. A. Paquette

Tetrahedron: Asymmetry **1993**, *4*, 947



E.e. = 95%

$[\alpha]_D^{20}$ = -16.3 (*c* 1.2, $CHCl_3$)

Source of chirality: lipase P30 hydrolysis of the chloroacetate

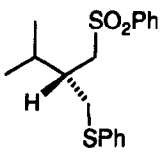
Absolute configuration: *S*

$C_{12}H_{13}O_3S$

3-Methyl-2-[(phenylsulfonyl)methyl]-1-butanol

R. Guevel and L. A. Paquette

Tetrahedron: Asymmetry **1993**, *4*, 947



E.e. = 95%

$[\alpha]_D^{20}$ = -10.1 (*c* 1.16, $CHCl_3$)

Source of chirality: prepared from enantiomerically enriched alcohol

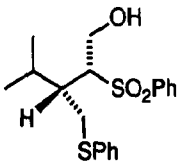
Absolute configuration: *S*

$C_{18}H_{22}O_2S_2$

3-Methyl-2-[(phenylsulfonyl)methyl]butyl Phenyl Sulfide

R. Guevel and L. A. Paquette

Tetrahedron: Asymmetry **1993**, *4*, 947



$C_{19}H_{24}O_3S_2$

E.e. = 95%

$[\alpha]_D^{20}$ = -140 (*c* 1.28, $CHCl_3$)

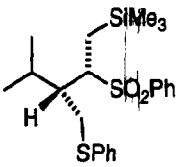
Source of chirality: prepared by alkylation of the enantiomerically enriched sulfone

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

4-Methyl-2-(phenylsulfonyl)-3-[(phenylthio)methyl]-1-pentanol

R. Guevel and L. A. Paquette

Tetrahedron: Asymmetry **1993**, *4*, 947



$C_{22}H_{32}O_2S_2Si$

E.e. = 95%

$[\alpha]_D^{20}$ = -77 (*c* 1.34, $CHCl_3$)

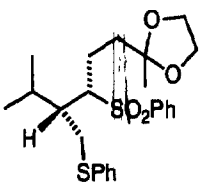
Source of chirality: prepared by alkylation of the enantiomerically enriched sulfone

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

Trimethyl[4-methyl-2-(phenylsulfonyl)-3-[(phenylthio)methyl]pentyl]silane

R. Guevel and L. A. Paquette

Tetrahedron: Asymmetry **1993**, *4*, 947



$C_{24}H_{32}O_4S_2$

E.e. = 95%

$[\alpha]_D^{20}$ = -83 (*c* 1.26, $CHCl_3$)

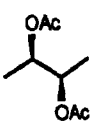
Source of chirality: prepared by alkylation of the enantiomerically enriched sulfone

Absolute configuration: 3*S*,4*S*

2-Methyl-2-[5-methyl-3-(phenylsulfonyl)-4-[(phenylthio)methyl]hexyl]-1,3-dioxolane

Kirpal S. Bisht, Virinder S. Parmar and David H.G. Crout

Tetrahedron: Asymmetry **1993**, *4*, 957



(2*R*, 3*R*)-Butanediol diacetate

E.e = >98% [by chiral g.l.c. on a 3-acetyl-2,6-di-*O*-butyl-β-cyclodextrin column]

$[\alpha]_D^{20}$ 14.6 (c, 2.1, $CHCl_3$)

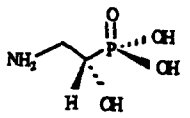
Source of chirality: enzyme-catalysed acylation

Absolute configuration 2R, 3R

(Assigned by comparison of sign of rotation with compound prepared from authentic 2R, 3R-butane-2,3-diol)

A. Heisler, C. Rabiller*, R. Douillard, N. Goalou, G. Hägele and F. Levayer

Tetrahedron: Asymmetry **1993**, *4*, 959



2-amino-1-hydroxyethanephosphonic acid

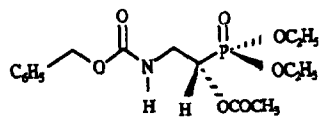
E. e.= 100 % [determined by optical rotation]
$[\alpha]_D^{22}$= +32.5 (c=1, H_2O).

Literature:$[\alpha]_D^{22}$=+31.8 (c=0.525,H_2O) for the S configuration.

Source of chirality : Pseudomonas Lipase catalysed resolution.
Absolute configuration : S, assigned by comparison with $[\alpha]_D^{22}$ literature data.

A. Heisler, C. Rabiller*, R. Douillard, N. Goalou, G. Hägele and F. Levayer

Tetrahedron: Asymmetry **1993**, *4*, 959



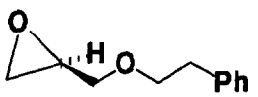
Diethyl 1-acetoxy-2-benzyloxycarbonylamino ethanephosphonate.

E. e.= 100 % [determined by optical rotation]
$[\alpha]_D^{22}$=+12.5 (c=1, $CHCl_3$).

Source of chirality : Pseudomonas Lipase catalysed resolution.
Absolute configuration : S, assigned by comparison of the $[\alpha]_D^{22}$ value (+32,5, c=1, H_2O) of the deprotected aminophosphonic acid with literature data.: +31,8 (c=0,525, H_2O) for the S configuration.

V. Partali, V. Waagen, T. Alvik and T. Anthonsen

Tetrahedron: Asymmetry **1993**, *4*, 961



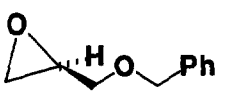
$C_{10}H_{12}O_2$

(R)-2-Phenylethyl glycidyl ether

$[\alpha]_D^{20}$ = - 16.7 (c 1.44, Benzene)
$[\alpha]_D^{20}$ = - 10.5 (c 1.71, EtOH)
Prepared from *(S)*-epichlorohydrin and from *(S)*-1-[2-phenylethyl]-3-chloro -1,2-propanediol

V. Partali, V. Waagen, T. Alvik and T. Anthonsen

Tetrahedron: Asymmetry **1993**, *4*, 961



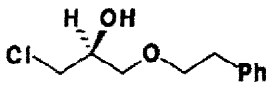
$C_{10}H_{12}O_2$

(R)-Phenylmethyl glycidyl ether

$[\alpha]_D^{20}$ = - 6.2 (c 1.58, Benzene)
Prepared from *(S)*-epichlorohydrin and from *(S)*-1-phenylmethyl-3-chloro -1,2-propanediol

V. Partali, V. Waagen, T. Alvik and T. Anthonsen

Tetrahedron: Asymmetry **1993**, *4*, 961



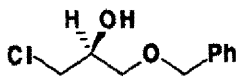
$C_{12}H_{15}O_2Cl$

$[\alpha]_D^{20}$ = + 6.5 (c 1.29, EtOH)
Prepared from *(S)*-epichlorohydrin, ee > 99%
Enzymatic racemate resolution of
2-butanoate, *E* = 25 (Amano SAM II)

(S)-1-[2-Phenylethyl]-3-chloro-1,2-propanediol

V. Partali, V. Waagen, T. Alvik and T. Anthonsen

Tetrahedron: Asymmetry **1993**, *4*, 961



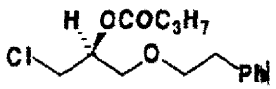
$C_{10}H_{13}O_2Cl$

$[\alpha]_D^{20}$ = + 4.5 (c 2.15, EtOH)
Prepared from *(S)*-epichlorohydrin, ee > 99%
Enzymatic racemate resolution of
2-butanoate, *E* = 15 (PPL)

(S)-1-Phenylmethyl-3-chloro-1,2-propanediol

V. Partali, V. Waagen, T. Alvik and T. Anthonsen

Tetrahedron: Asymmetry **1993**, *4*, 961



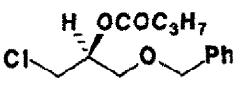
$C_{15}H_{21}O_3Cl$

$[\alpha]_D^{20}$ = + 7.1 (c 2.25, EtOH)
Prepared from *(S)*-epichlorohydrin, ee > 99%
R-Enantiomer from enzymatic
racemate resolution, *E* = 25 (Amano SAM II)

(S)-2-Butanoyl-1-[2-phenylethyl]-3-chloro-1,2-propanediol

V. Partali, V. Waagen, T. Alvik and T. Anthonsen

Tetrahedron: Asymmetry **1993**, *4*, 961



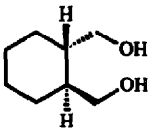
$C_{14}H_{19}O_3Cl$

$[\alpha]_D^{20}$ = + 10.3 (c 2.03, EtOH)
Prepared from *(S)*-epichlorohydrin, ee > 99%
R-enantiomer from enzymatic racemate
resolution, *E* = 15 (PPL)

(S)-2-Butanoyl-1-phenylmethyl-3-chloro-1,2-propanediol

Tetrahedron: Asymmetry **1993**, *4*, 969

S. M. Roberts, V. G. R. Steukers and P. C. Taylor



E.e. = 83% (by chiral GC)

$[\alpha]_D^{25}$ = -9.48 (c = 1.16, $CHCl_3$)

Source of chirality: lipase resolution

Absolute configuration: 1S, 2S

SS - *trans* - cyclohexane -1,2 - dimethanol

Tetrahedron: Asymmetry **1993**, *4*, 973

Z.-F.Xie, H. Suemune, and K. Sakai

$C_6H_{12}O_3$

(R)-3-Acetoxy-2-methyl-1-propanol

E.e. = >99 % [by ^{1}H-NMR of the MTPA ester derivative]

$[\alpha]_D^{25}$ = +7.11 (c = 0.9, $CHCl_3$)

Source of chirality: Enzymatic hydrolysis

Absolute configuration: R

assigned by chemical correlation

Tetrahedron: Asymmetry **1993**, *4*, 973

Z.-F.Xie, H. Suemune, and K. Sakai

C_5H_8NBr

(*S*)-4-Bromo-3-methylbutanenitrile

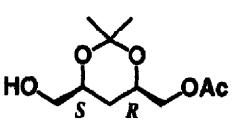
E.e. = >99%

$[\alpha]_D^{21}$ = -20.1 (c = 1.6, $CHCl_3$)

Absolute configuration: S

Tetrahedron: Asymmetry **1993**, *4*, 973

Z.-F.Xie, H. Suemune, and K. Sakai



$C_{10}H_{18}O_5$

(4*R*,6*S*)-4-Acetoxymethyl-6-hydroxymethyl-2,2-dimethyl-1,3-dioxane

E.e. = 96 % [by ^{1}H-NMR of the MTPA ester derivative]

$[\alpha]_D^{25}$ = -4.6 (c = 1.0, $CHCl_3$)

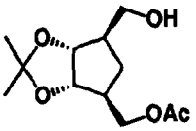
Source of chirality: Enzymatic hydrolysis

Absolute configuration: 4R,6S

assigned by chemical correlation

Tetrahedron: Asymmetry **1993**, *4*, 981

M. Tanaka, M. Yoshioka, and K. Sakai



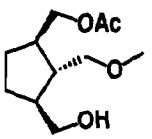
E.e. = >99 % [by ^{1}H-NMR of the MTPA ester derivative]
$[\alpha]_D^{22}$ = - 9.17 (c = 1.15, $CHCl_3$)
Source of chirality: Enzymatic hydrolysis

$C_{12}H_{20}O_5$

(1*R*, 2*R*, 3*S*, 4*S*)-2,3-Isopropylidenedioxy-cyclopentane-1,4-dimethanol monoacetate

Tetrahedron: Asymmetry **1993**, *4*, 981

M. Tanaka, M. Yoshioka, and K. Sakai



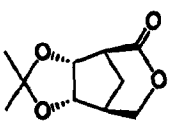
E.e. = >99 % [by ^{1}H-NMR of the MTPA ester derivative]
$[\alpha]_D^{25}$ = - 60.60 (c = 0.94, $CHCl_3$)
Source of chirality: Enzymatic hydrolysis

$C_{11}H_{20}O_4$

2-Methoxymethylcyclopentane-1,3-dimethanol monoacetate

Tetrahedron: Asymmetry **1993**, *4*, 981

M. Tanaka, M. Yoshioka, and K. Sakai



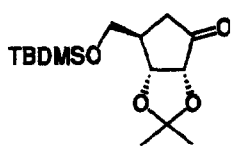
E.e. = >99 %
$[\alpha]_D^{25}$ = - 41.0 (c = 0.97, $CHCl_3$)
Source of chirality: Enzymatic hydrolysis

$C_{10}H_{14}O_4$

(1*S*, 5*S*, 6*S*, 7*R*)-6,7-Isopropylidenedioxy-3-oxabicylo[3.2.1]octan-2-one

Tetrahedron: Asymmetry **1993**, *4*, 981

M. Tanaka, M. Yoshioka, and K. Sakai



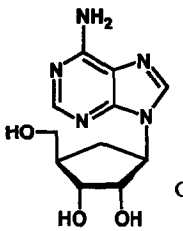
E.e. = >99 %
$[\alpha]_D^{22}$ = - 133.1 (c = 1.00, $CHCl_3$)
Source of chirality: Enzymatic hydrolysis

$C_{15}H_{28}O_4Si$

(2*S*, 3*R*, 4*R*)-4-*t*-Butyldimethyl siloxymethyl-2,3-isopropylidene dioxycyclopentanone

M. Tanaka, M. Yoshioka, and K. Sakai

Tetrahedron: Asymmetry **1993**, *4*, 981



$C_{11}H_{15}O_3N_5$

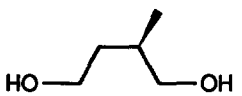
(-)-Aristeromycin

E.e. = >99 %
$[\alpha]_D^{25}$ = - 52.1 (c = 0.275, $CHCl_3$)
Source of chirality: Enzymatic hydrolysis

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

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

Tetrahedron: Asymmetry **1993**, *4*, 997

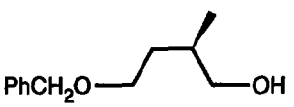


$C_5H_{12}O_2$
(R)-2-methyl-1,4-butanediol

E.e. = 70%
(by $[\alpha]_D$)
$[\alpha]_D$ +9 (c 1 CH_3OH)
Source of chirality: *Pseudomonas fluorescens* lipase
Absolute configuration: (R)

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

Tetrahedron: Asymmetry **1993**, *4*, 997

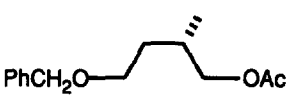


$C_{12}H_{18}O_2$
(R)-2-methyl-1,4-butanediol,4-benzyl ether

E.e. = 98%
(by ^{1}H-NMR of (R)-MTPA ester)
$[\alpha]_D$ +9.8 (c 4 C_2H_5OH)
Source of chirality: *Pseudomonas fluorescens* lipase
Absolute configuration: (R)

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

Tetrahedron: Asymmetry **1993**, *4*, 997

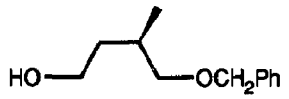


$C_{14}H_{20}O_3$
(S)-2-methyl-1,4-butanediol,4-benzyl ether,1-acetate

E.e. = 85%
$[\alpha]_D$ +2.4 (c 1 CH_3OH)
Source of chirality: *Pseudomonas fluorescens* lipase
Absolute configuration: (S)

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

Tetrahedron: Asymmetry **1993**, *4*, 997

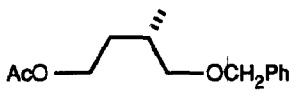


E.e. = 40%
(by ^{1}H-NMR of (R)-MTPA ester)
$[\alpha]_D$ -0.9 (c 1 CH_3OH)
Source of chirality: *Pseudomonas fluorescens* lipase
Absolute configuration: (R)

$C_{12}H_{18}O_2$
(R)-2-methyl-1,4-butanediol,1-benzyl ether

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

Tetrahedron: Asymmetry **1993**, *4*, 997

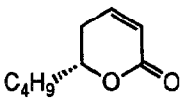


E.e. = 52%
$[\alpha]_D$ -1.3 (c 1 CH_3OH)
Source of chirality: *Pseudomonas fluorescens* lipase
Absolute configuration: (S)

$C_{14}H_{20}O_3$
(S)-2-methyl-1,4-butanediol,1-benzyl ether,4-acetate

B. Haase and M. P. Schneider

Tetrahedron: Asymmetry **1993**, *4*, 1017



$C_9H_{14}O_2$
6-Butyl-5,6-dihydro-2*H*-pyran-2-one

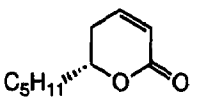
E.e. = > 99% [by GC using Lipodex E]
$[\alpha]_D^{20}$ = −128.8 (c = 1.0, $CHCl_3$)

Source of chirality: enzymatic hydrolysis

Absolute configuration 6*R*

B. Haase and M. P. Schneider

Tetrahedron: Asymmetry **1993**, *4*, 1017



$C_{10}H_{16}O_2$
6-Pentyl-5,6-dihydro-2*H*-pyran-2-one

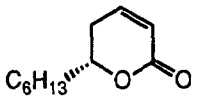
E.e. = > 99% [by GC using Lipodex E]
$[\alpha]_D^{20}$ = −114.5 (c = 1.0, $CHCl_3$)

Source of chirality: enzymatic hydrolysis

Absolute configuration 6*R*

Tetrahedron: Asymmetry **1993,** *4*, 1017

B. Haase and M. P. Schneider



$C_{11}H_{18}O_2$

6-Hexyl-5,6-dihydro-2*H*-pyran-2-one

E.e. = 98% [by GC using Lipodex E]

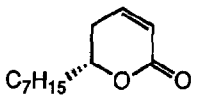
$[\alpha]_D^{20} = -125.4$ (c = 1.0, $CHCl_3$)

Source of chirality: enzymatic hydrolysis

Absolute configuration 6*R*

Tetrahedron: Asymmetry **1993,** *4*, 1017

B. Haase and M. P. Schneider



$C_{12}H_{20}O_2$

6-Heptyl-5,6-dihydro-2*H*-pyran-2-one

E.e. = 96% [by GC using Lipodex E]

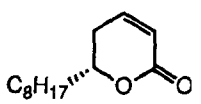
$[\alpha]_D^{20} = -78.0$ (c = 1.0, $CHCl_3$)

Source of chirality: enzymatic hydrolysis

Absolute configuration 6*R*

Tetrahedron: Asymmetry **1993,** *4*, 1017

B. Haase and M. P. Schneider



$C_{13}H_{22}O_2$

6-Octyl-5,6-dihydro-2*H*-pyran-2-one

E.e. = >99% [by GC using Lipodex E]

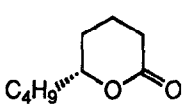
$[\alpha]_D^{20} = -86.6$ (c = 1.0, $CHCl_3$)

Source of chirality: enzymatic hydrolysis

Absolute configuration 6*R*

Tetrahedron: Asymmetry **1993,** *4*, 1017

B. Haase and M. P. Schneider



$C_9H_{16}O_2$

6-Butyl-oxan-2-one

E.e. = > 99% [by GC using Lipodex E]

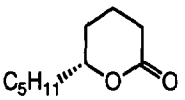
$[\alpha]_D^{20} = +50.6$ (c = 1.0, $CHCl_3$)

Source of chirality: enzymatic hydrolysis

Absolute configuration 6*R*

Tetrahedron: Asymmetry **1993**, *4*, 1017

B. Haase and M. P. Schneider



$C_{10}H_{18}O_2$

6-Pentyl-oxan-2-one

E.e. = > 99% [by GC using Lipodex E]

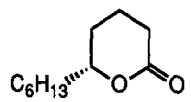
$[\alpha]_D^{20}$ = +47.2 (c = 1.0, $CHCl_3$)

Source of chirality: enzymatic hydrolysis

Absolute configuration 6*R*

Tetrahedron: Asymmetry **1993**, *4*, 1017

B. Haase and M. P. Schneider



$C_{11}H_{20}O_2$

6-Hexyl-oxan-2-one

E.e. = 98% [by GC using Lipodex E]

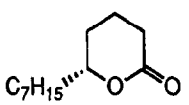
$[\alpha]_D^{20}$ = +43.7 (c = 1.0, $CHCl_3$)

Source of chirality: enzymatic hydrolysis

Absolute configuration 6*R*

Tetrahedron: Asymmetry **1993**, *4*, 1017

B. Haase and M. P. Schneider



$C_{12}H_{22}O_2$

6-Heptyl-oxan-2-one

E.e. = 96% [by GC using Lipodex E]

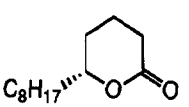
$[\alpha]_D^{20}$ = +35.3 (c = 1.0, $CHCl_3$)

Source of chirality: enzymatic hydrolysis

Absolute configuration 6*R*

Tetrahedron: Asymmetry **1993**, *4*, 1017

B. Haase and M. P. Schneider



$C_{13}H_{24}O_2$

6-Octyl-oxan-2-one

E.e. = >99% [by GC using Lipodex E]

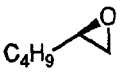
$[\alpha]_D^{20}$ = +38.4 (c = 1.0, $CHCl_3$)

Source of chirality: enzymatic hydrolysis

Absolute configuration 6*R*

Tetrahedron: Asymmetry **1993,** *4*, 1017

B. Haase and M. P. Schneider



$C_6H_{12}O$

1,2-Epoxyhexene

E.e. = 98% [by HPLC as BGIT derivative]

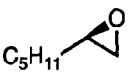
$[\alpha]_D^{20}$ = +9.1 (c = 1.0, $CHCl_3$)

Source of chirality: enzymatic hydrolysis

Absolute configuration 2*R*

Tetrahedron: Asymmetry **1993,** *4*, 1017

B. Haase and M. P. Schneider



$C_7H_{14}O$

1,2-Epoxypentene

E.e. = >98% [by HPLC as BGIT derivative]

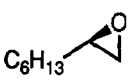
$[\alpha]_D^{20}$ = +9.8 (c = 1.0, $CHCl_3$)

Source of chirality: enzymatic hydrolysis

Absolute configuration 2*R*

Tetrahedron: Asymmetry **1993,** *4*, 1017

B. Haase and M. P. Schneider



$C_8H_{16}O$

1,2-Epoxyoctene

E.e. = 95% [by HPLC as BGIT derivative]

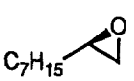
$[\alpha]_D^{20}$ = +9.8 (c = 1.0, $CHCl_3$)

Source of chirality: enzymatic hydrolysis

Absolute configuration 2*R*

Tetrahedron: Asymmetry **1993,** *4*, 1017

B. Haase and M. P. Schneider



$C_9H_{18}O$

1,2-Epoxynonene

E.e. = 96% [by HPLC as BGIT derivative]

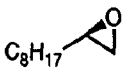
$[\alpha]_D^{20}$ = +8.1 (c = 1.0, $CHCl_3$)

Source of chirality: enzymatic hydrolysis

Absolute configuration 2*R*

Tetrahedron: Asymmetry **1993,** *4*, 1017

B. Haase and M. P. Schneider



$C_{10}H_{20}O$

1,2-Epoxydecene

E.e. = 98% [by HPLC as BGIT derivative]

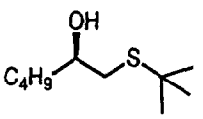
$[\alpha]_D^{20}$ = +7.4 (c = 1.0, $CHCl_3$)

Source of chirality: enzymatic hydrolysis

Absolute configuration 2*R*

Tetrahedron: Asymmetry **1993,** *4*, 1017

B. Haase and M. P. Schneider



$C_{10}H_{22}OS$

t-Butyl-(2-hydroxyhexyl)-sulfide

E.e. = > 99% [by GC using Cyclodex β I/P]

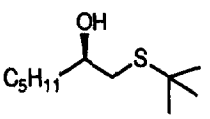
$[\alpha]_D^{20}$ = -29.6, (c = 1.0, $CHCl_3$)

Source of chirality: enzymatic hydrolysis

Absolute configuration *R*

Tetrahedron: Asymmetry **1993,** *4*, 1017

B. Haase and M. P. Schneider



$C_{11}H_{24}OS$

t-Butyl-(2-hydroxyheptyl)-sulfide

E.e. = > 99% [by GC using Cyclodex β I/P]

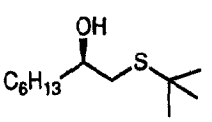
$[\alpha]_D^{20}$ = -25.0, (c = 1.0, $CHCl_3$)

Source of chirality: enzymatic hydrolysis

Absolute configuration *R*

Tetrahedron: Asymmetry **1993,** *4*, 1017

B. Haase and M. P. Schneider



$C_{12}H_{26}OS$

t-Butyl-(2-hydroxyoctyl)-sulfide

E.e. = 98% [by GC using Cyclodex β I/P]

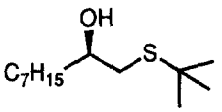
$[\alpha]_D^{20}$ = -21.5, (c = 1.0, $CHCl_3$)

Source of chirality: enzymatic hydrolysis

Absolute configuration *R*

Tetrahedron: Asymmetry **1993**, *4*, 1017

B. Haase and M. P. Schneider



$C_{13}H_{28}OS$

t-Butyl-(2-hydroxynonyl)-sulfide

E.e. = 96% [by GC using Cyclodex β I/P]

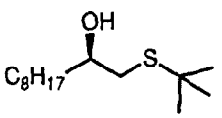
$[\alpha]_D^{20}$ = -20.0, (c = 1.0, $CHCl_3$)

Source of chirality: enzymatic hydrolysis

Absolute configuration *R*

Tetrahedron: Asymmetry **1993**, *4*, 1017

B. Haase and M. P. Schneider



$C_{14}H_{30}OS$

t-Butyl-(2-hydroxydecyl)-sulfide

E.e. = >99% [by GC using Cyclodex β I/P]

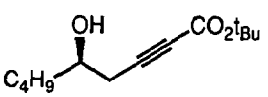
$[\alpha]_D^{20}$ = -19.0, (c = 1.0, $CHCl_3$)

Source of chirality: enzymatic hydrolysis

Absolute configuration *R*

Tetrahedron: Asymmetry **1993**, *4*, 1017

B. Haase and M. P. Schneider



$C_{13}H_{22}O_3$

t-Butyl-5-hydroxy-2-nonionate

E.e. = > 99% [by precursor]

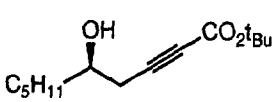
$[\alpha]_D^{20}$ = –6.8 (c = 1.0, $CHCl_3$)

Source of chirality: enzymatic hydrolysis

Absolute configuration 5*R*

Tetrahedron: Asymmetry **1993**, *4*, 1017

B. Haase and M. P. Schneider



$C_{14}H_{24}O_3$

t-Butyl-5-hydroxy-2-decinoate

E.e. = > 99% [by precursor]

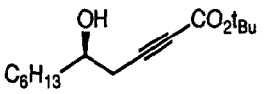
$[\alpha]_D^{20}$ = –6.5 (c = 1.0, $CHCl_3$)

Source of chirality: enzymatic hydrolysis

Absolute configuration 5*R*

Tetrahedron: Asymmetry **1993,** *4*, 1017

B. Haase and M. P. Schneider



$C_{15}H_{26}O_3$

t-Butyl-5-hydroxy-2-undecinoate

E.e. = 98% [by precursor]

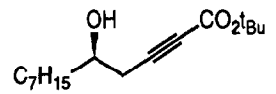
$[\alpha]_D^{20} = -3.2$ (c = 1.0, $CHCl_3$)

Source of chirality: enzymatic hydrolysis

Absolute configuration 5*R*

Tetrahedron: Asymmetry **1993,** *4*, 1017

B. Haase and M. P. Schneider



$C_{16}H_{28}O_3$

t-Butyl-5-hydroxy-2-dodecinoate

E.e. = 96% [by precursor]

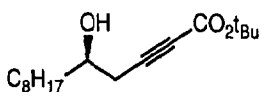
$[\alpha]_D^{20} = -5.2$ (c = 1.0, $CHCl_3$)

Source of chirality: enzymatic hydrolysis

Absolute configuration 5*R*

Tetrahedron: Asymmetry **1993,** *4*, 1017

B. Haase and M. P. Schneider



$C_{16}H_{28}O_3$

t-Butyl-5-hydroxy-2-tridecinoate

E.e. = >99% [by precursor]

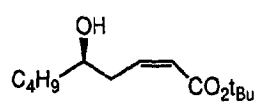
$[\alpha]_D^{20} = -5.0$ (c = 1.0, $CHCl_3$)

Source of chirality: enzymatic hydrolysis

Absolute configuration 5*R*

Tetrahedron: Asymmetry **1993,** *4*, 1017

B. Haase and M. P. Schneider



$C_{13}H_{24}O_3$

t-Butyl-5-hydroxy-2-noneonate

E.e. = > 99% [by precursor]

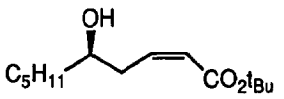
$[\alpha]_D^{20} = +11.1$ (c = 1.0, $CHCl_3$)

Source of chirality: enzymatic hydrolysis

Absolute configuration 5*R*

Tetrahedron: Asymmetry **1993,** *4*, 1017

B. Haase and M. P. Schneider



$C_{14}H_{26}O_3$

t-Butyl-5-hydroxy-2-decenoate

E.e. = > 99% [by precursor]

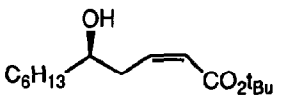
$[\alpha]_D^{20}$ = +9.2 (c = 1.0, $CHCl_3$)

Source of chirality: enzymatic hydrolysis

Absolute configuration 5*R*

Tetrahedron: Asymmetry **1993,** *4*, 1017

B. Haase and M. P. Schneider



$C_{15}H_{28}O_3$

t-Butyl-5-hydroxy-2-undecenoate

E.e. = 98% [by precursor]

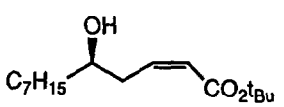
$[\alpha]_D^{20}$ = +8.9 (c = 1.0, $CHCl_3$)

Source of chirality: enzymatic hydrolysis

Absolute configuration 5*R*

Tetrahedron: Asymmetry **1993,** *4*, 1017

B. Haase and M. P. Schneider



$C_{16}H_{30}O_3$

t-Butyl-5-hydroxy-2-dodecenoate

E.e. = 96% [by precursor]

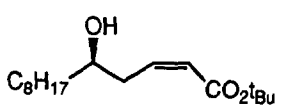
$[\alpha]_D^{20}$ = +6.0 (c = 1.0, $CHCl_3$)

Source of chirality: enzymatic hydrolysis

Absolute configuration 5*R*

Tetrahedron: Asymmetry **1993,** *4*, 1017

B. Haase and M. P. Schneider



$C_{17}H_{32}O_3$

t-Butyl-5-hydroxy-2-tridecenoate

E.e. = >99% [by precursor]

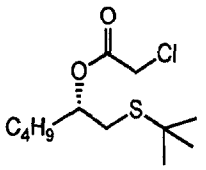
$[\alpha]_D^{20}$ = +7.1 (c = 1.0, $CHCl_3$)

Source of chirality: enzymatic hydrolysis

Absolute configuration 5*R*

B. Haase and M. P. Schneider

Tetrahedron: Asymmetry **1993,** *4*, 1017



$C_{12}H_{23}O_2ClS$

t-Butyl-(2-(chloracetyl)-hexyl)-sulfide

E.e. = > 99% [as *t*-Butyl-(2-hydroxyhexyl)-sulfide]

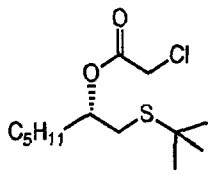
$[\alpha]_D^{20}$ = -38.7, (c = 1.0, $CHCl_3$)

Source of chirality: enzymatic hydrolysis

Absolute configuration *S*

B. Haase and M. P. Schneider

Tetrahedron: Asymmetry **1993,** *4*, 1017



$C_{13}H_{25}O_2ClS$

t-Butyl-(2-(chloracetyl)-heptyl)-sulfide

E.e. = > 99% [as *t*-Butyl-(2-hydroxyheptyl)-sulfide]

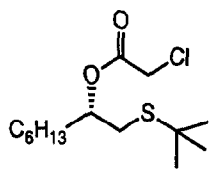
$[\alpha]_D^{20}$ = -35.2, (c = 1.0, $CHCl_3$)

Source of chirality: enzymatic hydrolysis

Absolute configuration *S*

B. Haase and M. P. Schneider

Tetrahedron: Asymmetry **1993,** *4*, 1017



$C_{14}H_{27}O_2ClS$

t-Butyl-(2-(chloracetyl)-octyl)-sulfide

E.e. = 98% [as *t*-Butyl-(2-hydroxyoctyl)-sulfide]

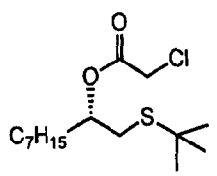
$[\alpha]_D^{20}$ = -34.9, (c = 1.0, $CHCl_3$)

Source of chirality: enzymatic hydrolysis

Absolute configuration *S*

B. Haase and M. P. Schneider

Tetrahedron: Asymmetry **1993,** *4*, 1017



$C_{15}H_{29}O_2ClS$

t-Butyl-(2-(chloracetyl)-nonyl)-sulfide

E.e. = >99% [as *t*-Butyl-(2-hydroxynonyl)-sulfide]

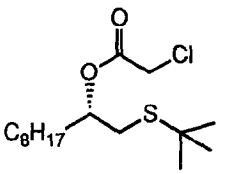
$[\alpha]_D^{20}$ = -30.1, (c = 1.0, $CHCl_3$)

Source of chirality: enzymatic hydrolysis

Absolute configuration *S*

B. Haase and M. P. Schneider

Tetrahedron: Asymmetry **1993**, *4*, 1017



$C_{16}H_{30}O_2ClS$

t-Butyl-(2-(chloracetyl)-decyl)-sulfide

E.e. = >99% [as *t*-Butyl-(2-hydroxydecyl)-sulfide]

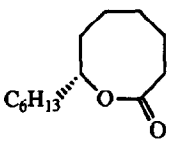
$[\alpha]_D^{20}$ = -28.0, (c = 1.0, $CHCl_3$)

Source of chirality: enzymatic hydrolysis

Absolute configuration *S*

M. Lobell and M. P. Schneider

Tetrahedron: Asymmetry **1993**, *4*, 1027



$C_{13}H_{24}O_2$

7-Tridecanolide

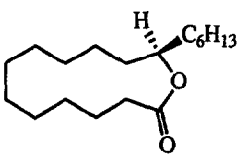
$[\alpha]_D^{20}$ = –2.4 (c = 0.5, $CHCl_3$)

Source of chirality: enzymatic, irreversible acyltransfer

Absolute configuration *R*

M. Lobell and M. P. Schneider

Tetrahedron: Asymmetry **1993**, *4*, 1027



$C_{18}H_{34}O_2$

12-Octadecanolide

E.e.: > 99 % (specific rotation)

$[\alpha]_D^{20}$ = –5.5 (c = 1, $CHCl_3$)

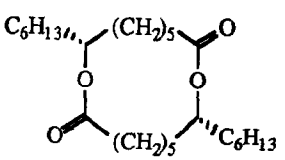
Source of chirality: enzymatic, irreversible acyltransfer

Absolute configuration *R*

(assigned to Lit.[3])

M. Lobell and M. P. Schneider

Tetrahedron: Asymmetry **1993**, *4*, 1027



$C_{26}H_{48}O_4$

7-Tridecanediolide

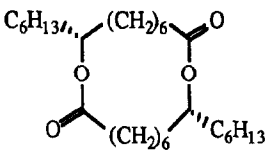
$[\alpha]_D^{20}$ = –6.2 (c = 0.5, $CHCl_3$)

Source of chirality: enzymatic, irreversible acyltransfer

Absolute configuration *R,R*

M. Lobell and M. P. Schneider

Tetrahedron: Asymmetry **1993**, *4*, 1027



$C_{28}H_{52}O_4$

8-Tetradecanediolide

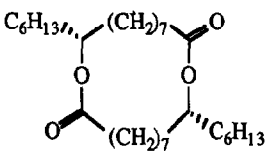
$[\alpha]_D^{20} = -3.8$ (c = 1, $CHCl_3$)

Source of chirality: enzymatic, irreversible acyltransfer

Absolute configuration *R,R*

M. Lobell and M. P. Schneider

Tetrahedron: Asymmetry **1993**, *4*, 1027



$C_{30}H_{56}O_4$

9-Pentadecanediolide

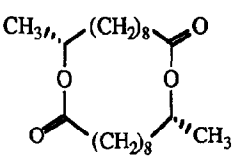
$[\alpha]_D^{20} = -7.9$ (c = 0.9, $CHCl_3$)

Source of chirality: enzymatic, irreversible acyltransfer

Absolute configuration *R,R*

M. Lobell and M. P. Schneider

Tetrahedron: Asymmetry **1993**, *4*, 1027



$C_{30}H_{56}O_4$

10-Undecanediolide

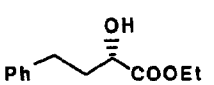
$[\alpha]_D^{20} = -4.7$ (c = 1.7, $CHCl_3$)

Source of chirality: enzymatic, irreversible acyltransfer

Absolute configuration *R,R*

E. Baldaro, P. D'Arrigo, G. Pedrocchi-Fantoni, C.M. Rosell, S. Servi
A. Tagliani and M. Terreni

Tetrahedron: Asymmetry **1993**, *4*, 1031



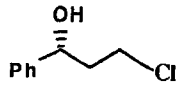
$C_{12}H_{16}O_3$

2-Hydroxy-4-phenyl-ethylbutanoate

E.e. 94% by comparison on HPLC on chiral column
Source of chirality: resolution with immobilized Pen-G acylase
Absolute configuration: *S*

Tetrahedron: Asymmetry **1993,** *4*, 1031

E. Baldaro, P. D'Arrigo, G. Pedrocchi-Fantoni, C.M. Rosell, S. Servi
A. Tagliani and M. Terreni



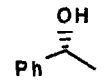
E.e. >98% by comparison on GC on chiral column
Source of chirality: resolution with immobilized Pen-G acylase
Absolute configuration: ***R***

$C_9H_{11}ClO$

1-Phenyl-3-chloro-propanol

Tetrahedron: Asymmetry **1993,** *4*, 1031

E. Baldaro, P. D'Arrigo, G. Pedrocchi-Fantoni, C.M. Rosell, S. Servi
A. Tagliani and M. Terreni



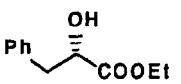
E.e. 40% by comparison on HPLC on chiral column
Source of chirality: resolution with immobilized Pen-G acylase
Absolute configuration: ***R***

$C_8H_{10}O$

2-Phenyl-ethanol

Tetrahedron: Asymmetry **1993,** *4*, 1031

E. Baldaro, P. D'Arrigo, G. Pedrocchi-Fantoni, C.M. Rosell, S. Servi
A. Tagliani and M. Terreni



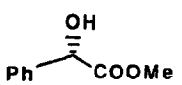
E.e. 92% by comparison on GC on chiral column
Source of chirality: resolution with immobilized Pen-G acylase
Absolute configuration: *S*

$C_{11}H_{14}O_3$

2-Hydroxy-3-phenyl-ethylpropanoate

Tetrahedron: Asymmetry **1993,** *4*, 1031

E. Baldaro, P. D'Arrigo, G. Pedrocchi-Fantoni, C.M. Rosell, S. Servi
A. Tagliani and M. Terreni



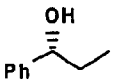
E.e. 90% by comparison on HPLC on chiral column
Source of chirality: resolution with immobilized Pen-G acylase
Absolute configuration: *S*

$C_9H_{10}O_3$

Methyl mandelic acid ester

Tetrahedron: Asymmetry **1993,** *4*, 1031

E. Baldaro, P. D'Arrigo, G. Pedrocchi-Fantoni, C.M. Rosell, S. Servi
A. Tagliani and M. Terreni



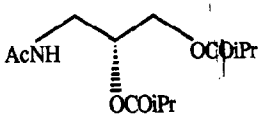
$C_9H_{12}O$

1-Phenyl-propanol

E.e. 94% by comparison on GC on chiral column
Source of chirality: resolution with immobilized Pen-G acylase
Absolute configuration: ***R***

M.-A. Mbappé and S. Sicsic

Tetrahedron: Asymmetry **1993,** *4*, 1035



$C_{13}H_{23}NO_5$

3-(acetylamino)-1,2-propanediol diisobutyrate

ee=88%

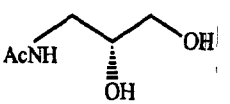
Liquid chromatography of dioxolanes

Source of chirality: resolution (enzym.)

Absolute configuration: R
(optical rotation of deacylated derivative)

M.-A. Mbappé and S. Sicsic

Tetrahedron: Asymmetry **1993,** *4*, 1035



$C_5H_{11}NO_3$

3-(acetylamino)-1,2-propanediol

ee=67%

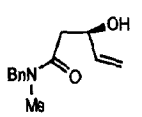
Liquid chromatography of dioxolanes

Source of chirality: resolution (enzym.)

Absolute configuration: R

H. Takahata, Y. Uchida, Y. Ohkawa, and T. Momose

Tetrahedron: Asymmetry **1993,** *4*, 1041



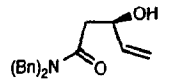
$C_{13}H_{17}NO_2$

N-benzyl-*N*-methyl-3-hydroxy-4-pentenamide

E.e.= > 99% (by HPLC with chiral column)
$[\alpha]_D^{24}$= +24.27 (c 1.425, $CHCl_3$)
Source of chirality: enzymatic kinetic resolution
Absolute configuration 3R
(assigned by conversion to the known compound)

Tetrahedron: Asymmetry **1993,** *4*, 1041

H. Takahata, Y. Uchida, Y. Ohkawa, and T. Momose



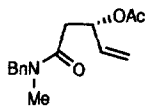
$C_{19}H_{21}NO_2$

E.e.= > 99% (by HPLC with chiral column)
$[\alpha]_D^{25}$= +10.73 (c 1.05, $CHCl_3$)
Source of chirality: enzymatic kinetic resolution
Absolute configuration 3R
(assigned by conversion to the known compound)

N,N-dibenzyl-3-hydroxy-4-pentenamide

Tetrahedron: Asymmetry **1993,** *4*, 1041

H. Takahata, Y. Uchida, Y. Ohkawa, and T. Momose



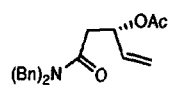
$C_{15}H_{19}NO_3$

E.e.= 98% (by HPLC with chiral column)
$[\alpha]_D^{24}$= +19.77 (c 1.825, $CHCl_3$)
Source of chirality: enzymatic transesterification
Absolute configuration 3S
(assigned by conversion to the known compound)

N-benzyl-*N*-methyl-3-acetoxy-4-pentenamide

Tetrahedron: Asymmetry **1993,** *4*, 1041

H. Takahata, Y. Uchida, Y. Ohkawa, and T. Momose



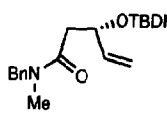
$C_{19}H_{21}NO_2$

E.e.= > 99% (by HPLC with chiral column)
$[\alpha]_D^{25}$= +24.74(c 0.88, $CHCl_3$)
Source of chirality: enzymatic transesterification
Absolute configuration 3S
(assigned by conversion to the known compound)

N,N-dibenzyl-3-acetoxy-4-pentenamide

Tetrahedron: Asymmetry **1993,** *4*, 1041

H. Takahata, Y. Uchida, Y. Ohkawa, and T. Momose



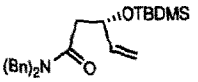
$C_{19}H_{31}NO_2Si$

E.e.= 97% (by HPLC with chiral column)
$[\alpha]_D^{25}$= -6.36 (c 2.92, $CHCl_3$)
Source of chirality: prepared from homochiral alcohol
Absolute configuration 3S

N-benzyl-*N*-methyl-3-*tert*-butyldimethylsilyloxy-4-pentenamide

Tetrahedron: Asymmetry **1993,** *4*, 1041

H. Takahata, Y. Uchida, Y. Ohkawa, and T. Momose



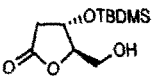
E.e.= 97% (by HPLC with chiral column)
$[\alpha]_D^{25}$= -5.67 (c 3.835, $CHCl_3$)
Source of chirality:prepared from homochiral alcohol
Absolute configuration 3S

$C_{25}H_{35}NO_2Si$

N,N-dibenzyl-3-*tert*-butyldimethylsilyloxy-4-pentenamide

Tetrahedron: Asymmetry **1993,** *4*, 1041

H. Takahata, Y. Uchida, Y. Ohkawa, and T. Momose



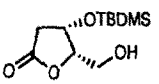
E.e.= 99% (by HPLC with chiral column)
$[\alpha]_D^{25}$= +37.33 (c 3.405, $CHCl_3$)
Source of chirality: prepared from homochiral amide
Absolute configuration 3S, 4R

$C_{11}H_{22}O_4Si$

3-*O*-*tert*-butyldimethylsilyl-2-deoxy-D-ribono-1,4-lactone

Tetrahedron: Asymmetry **1993,** *4*, 1041

H. Takahata, Y. Uchida, Y. Ohkawa, and T. Momose



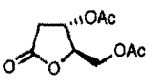
E.e.= 99% (by HPLC with chiral column)
$[\alpha]_D^{25}$= -8.73 (c 1.805, $CHCl_3$)
Source of chirality: enzymatic transesterification
Absolute configuration 3S,4S

$C_{11}H_{22}O_4Si$

3-*O*-*tert*-butyldimethylsilyl-2-deoxy-L-xylo-1,4-lactone

Tetrahedron: Asymmetry **1993,** *4*, 1041

H. Takahata, Y. Uchida, Y. Ohkawa, and T. Momose



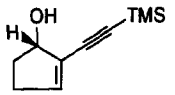
E.e.= 99% (by HPLC with chiral column)
$[\alpha]_D^{25}$= -5.31 (c, 1.25, EtOH)
Source of chirality: prepared from homochiral lactone
Absolute configuration 3S, 4R

$C_9H_{12}O_6$

di-*O*-acetyl-2-deoxy-D-ribono-1,4-lactone

Tetrahedron: Asymmetry **1993,** *4*, 1043

Seiichi Takano,* Mahito Suzuki, and Kunio Ogasawara

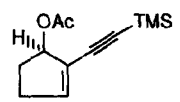


$C_{10}H_{16}OSi$

Absolute configuration *S*
mp 43.0 °C
$[\alpha]_D^{30}$ −19.8 (*c* 0.59, $CHCl_3$)
source of chirality: enzymatic transesterification
E. e.=≥99% by chiral HPLC

Tetrahedron: Asymmetry **1993,** *4*, 1043

Seiichi Takano,* Mahito Suzuki, and Kunio Ogasawara

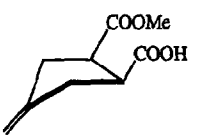


$C_{12}H_{18}O_2Si$

Absolute configuration *S*
$[\alpha]_D^{29}$ −53.6 (*c* 1.08, $CHCl_3$)
source of chirality: enzymatic transesterification
E. e.=≥99% by chiral HPLC

Tetrahedron: Asymmetry **1993,** *4*, 1047

Peter Renold and Christoph Tamm



E. e.= 63% [GC, derivative with (1*S*)-Phenylethyl amine]

Source of chirality: enzymatic hydrolysis

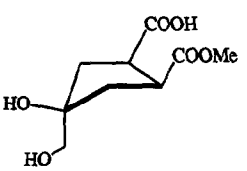
Absolute configuration: 1*S*, 2*R*

$C_9H_{12}O_4$

2-(Methoxycarbonyl)-4-methylen-cyclopentane-1-carboxylic acid

Tetrahedron: Asymmetry **1993,** *4*, 1047

Peter Renold and Christoph Tamm



E. e.= 73% [GC, derivative with (1*S*)-Phenylethyl amine]

Source of chirality: enzymatic hydrolysis

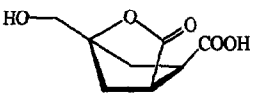
Absolute configuration: 1*R*, 2*S*, 4*S*

$C_9H_{14}O_6$

2-(Methoxycarbonyl)-4-hydroxy-4-hydroxymethyl-cyclopentane-1-carboxylic acid

Tetrahedron: Asymmetry **1993**, *4*, 1047

Peter Renold and Christoph Tamm



E. e.= 60% [GC on chiral column of the esters]

Source of chirality: enzymatic hydrolysis

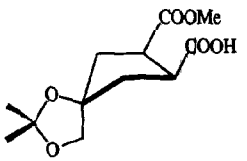
Absolute configuration: 1*R*, 4*S*, 5*R*

$C_8H_{10}O_5$

1-Hydroxymethyl-3-oxo-2-oxaspiro[3.1.1]heptane-5-carboxylic acid

Tetrahedron: Asymmetry **1993**, *4*, 1047

Peter Renold and Christoph Tamm



E. e.= 64% [GC, derivative with (1*S*)-Phenylethyl amine]

Source of chirality: enzymatic hydrolysis

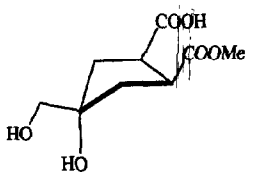
Absolute configuration: 5*R*, 7*S*, 8*R*

$C_{12}H_{18}O_6$

8-(Methoxycarbonyl)-2,2-dimethyl-1,3-dioxaspiro[4.4]nonane-7-carboxylic acid

Tetrahedron: Asymmetry **1993**, *4*, 1047

Peter Renold and Christoph Tamm



E. e.= 44% [GC, derivative with (1*S*)-Phenylethyl amine]

Source of chirality: enzymatic hydrolysis

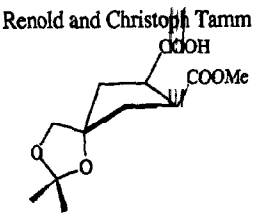
Absolute configuration: 1*R*, 2*S*, 4*R*

$C_9H_{14}O_6$

2-(Methoxycarbonyl)-4-hydroxy-4-hydroxymethyl-cyclopentane-1-carboxylic acid

Tetrahedron: Asymmetry **1993**, *4*, 1047

Peter Renold and Christoph Tamm



E. e.= 6% [GC, derivative with (1*S*)-Phenylethyl amine]

Source of chirality: enzymatic hydrolysis

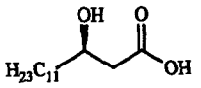
Absolute configuration: 5*S*, 7*R*, 8*S*

$C_{12}H_{18}O_6$

8-(Methoxycarbonyl)-2,2-dimethyl-1,3-dioxaspiro[4.4]nonane-7-carboxylic acid

Tetrahedron: Asymmetry **1993,** *4*, 1051

T. Sugai, H. Ritzén and C.-H. Wong

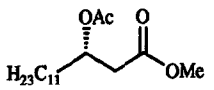


$C_{14}H_{28}O_3$
3-(*R*)-hydroxytetradecanoic acid

E.e. = 98% (by nmr with MTPA-ester)
$[\alpha]^{25}_D$ = 15.1 (*c* 1.1, $CHCl_3$)
M.p. = 72.0-72.5°C
Source of chirality: Enzymatic resolution

Tetrahedron: Asymmetry **1993,** *4*, 1051

T. Sugai, H. Ritzén and C.-H. Wong

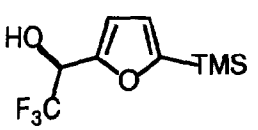


$C_{17}H_{32}O_4$
3-(*S*)-acetoxytetradecanoic acid

E.e. = 70% (by nmr with MTPA-ester of the hydroxyester)
$[\alpha]^{25}_D$ = -1.3 (*c* 3.1, $CHCl_3$)
Source of chirality: Enzymatic resolution

Tetrahedron: Asymmetry **1993,** *4*, 1059

T. Yamazaki, K. Mizutani, and T. Kitazume

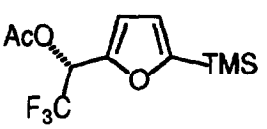


$C_9H_{13}F_3O_2Si$
(1'*S*)-2-[1'-(2',2',2'-Trifluoro-1'-hydroxyethyl)]-5-trimethylsilylfuran

E.e. = 98% [by ^1H NMR analysis of its MTPA ester]
$[\alpha]_D^{27}$ +7.45 (*c* 1.10, MeOH)
Absolute configuration : *S* [chemical correlation into the reported optically active trifluorinated lactate]
Source of Chirality : Enzymatic optical resolution

Tetrahedron: Asymmetry **1993,** *4*, 1059

T. Yamazaki, K. Mizutani, and T. Kitazume

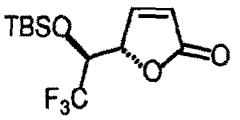


$C_{11}H_{15}F_3O_3Si$
(1'*R*)-2-[1'-(1'-Acetoxy-2',2',2'-trifluoroethyl)]-5-trimethylsilylfuran

E.e. = 94% [by ^1H NMR analysis of the MTPA ester after hydrolysis]
$[\alpha]_D^{29}$ -102.68 (*c* 1.28, MeOH)
Absolute configuration : *R*
Source of Chirality : Enzymatic optical resolution

Tetrahedron: Asymmetry **1993,** *4*, 1059

T. Yamazaki, K. Mizutani, and T. Kitazume

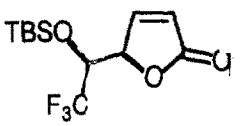


E.e. = 98%
$[\alpha]_D^{27}$ -102.42 (*c* 1.00, MeOH)
Absolute configuration : 1'*S*,4*S* [chemical correlation into the reported tris TBS ether after hydrogenation and reduction]
Relative configuration : *anti*

$C_{12}H_{19}F_3O_3Si$
(1'*S*,4*S*)-4-[1'-(1'-*t*-Butyldimethylsiloxy-2',2',2'-trifluoroethyl)]-2-buten-4-olide

Tetrahedron: Asymmetry **1993,** *4*, 1059

T. Yamazaki, K. Mizutani, and T. Kitazume

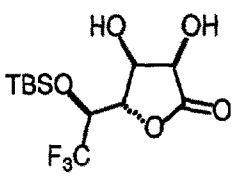


E.e. = 98%
$[\alpha]_D^{27}$ +87.86 (*c* 0.66, MeOH)
Absolute configuration : 1'*S*,4*R* [chemical correlation into the reported tris TBS ether after hydrogenation and reduction]
Relative configuration : *syn*

$C_{12}H_{19}F_3O_3Si$
(1'*S*,4*R*)-4-[1'-(1'-*t*-Butyldimethylsiloxy-2',2',2'-trifluoroethyl)]-2-buten-4-olide

T. Yamazaki, K. Mizutani, and T. Kitazume

Tetrahedron: Asymmetry **1993,** *4*, 1059

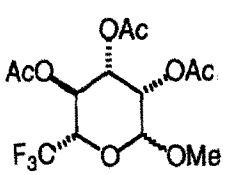


E.e. = 98%
$[\alpha]_D^{25}$ +31.20 (*c* 0.67, $CHCl_3$)
Absolute configuration : 1'*S*,3*R*,4*S*,5*S* [from mechanistic consideration]

$C_{12}H_{21}F_3O_5Si$
(1'*S*,3*R*,4*S*,5*S*)-5-[1'-(1'-*t*-Butyldimethylsiloxy-2',2',2'-trifluoroethyl)]-3,4-dihydroxydi-hydro-2(3*H*)-furanone

T. Yamazaki, K. Mizutani, and T. Kitazume

Tetrahedron: Asymmetry **1993,** *4*, 1059

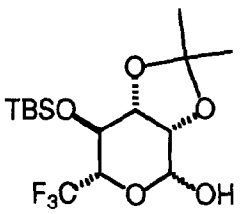


E.e. = 98%
$[\alpha]_D^{20}$ +52.69 (*c* 0.82, $CHCl_3$)
Absolute configuration : 2*S*,3*S*,4*R*,5*S* [from mechanistic consideration]

$C_{13}H_{17}F_3O_8$
Methyl 2,3,4-*O*-triacetyl-6-deoxy-6,6,6-trifluoro-D-*manno*-hexopyranoside

T. Yamazaki, K. Mizutani, and T. Kitazume

Tetrahedron: Asymmetry **1993**, *4*, 1059



$C_{13}H_{17}F_3O_8$

E.e. = 98%

$[\alpha]_D^{17}$ +13.50 (*c* 0.83, $CHCl_3$)

Absolute configuration : 2*S*,3*S*,4*R*,5*S* [from mechanistic consideration]

4-*O*-*t*-Butyldimethylsilyl-6-deoxy-6,6,6-trifluoro-2,3-*O*-isopropylidene-D-*allo*-hexopyranose

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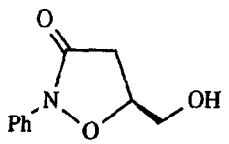
G.Carrea, M.De Amici, C.De Micheli, P.Liverani, M.Carnielli, S.Riva.

Tetrahedron: Asymmetry **1993**, *4*, 1063



$C_{10}H_{11}NO_3$

(S)-2-Phenyl-5-hydroxymethyl-isoxazolidin-3-one

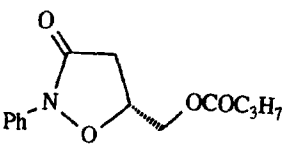
$[\alpha]_{20}^{D}$+12.33(c1.01, MeOH)

E.e.=91%

HPLC Chiralcel OB

G.Carrea, M.De Amici, C.De Micheli, P.Liverani, M.Carnielli, S.Riva.

Tetrahedron: Asymmetry **1993**, *4*, 1063



$C_{14}H_{17}NO_4$

(R)-2-Phenyl-5-hydroxymethyl-isoxazolidin-3-one butyrate

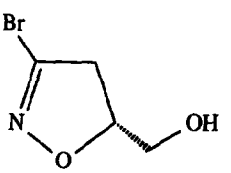
$[\alpha]_{20}^{D}$-19.19(c0.964, MeOH)

E.e.=98%

HPLC Chiralcel OB

G.Carrea, M.De Amici, C.De Micheli, P.Liverani, M.Carnielli, S.Riva.

Tetrahedron: Asymmetry **1993**, *4*, 1063



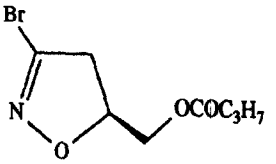
$C_4H_6BrNO_2$

(R)-3-Bromo-5-hydroxymethyl-Δ^2-isoxazoline

$[\alpha]_{20}^{D}$-130.25(c1.01, $CHCl_3$)

E.e.=94% HPLC Chiralcel OB

G.Carrea, M.De Amici, C.De Micheli, P.Liverani, M.Carnielli, S.Riva. *Tetrahedron: Asymmetry* **1993**, *4*, 1063

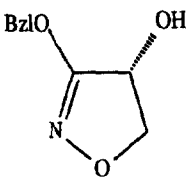


$C_8H_{12}BrNO_3$

(S)-3-Bromo-5-hydroxymethyl-Δ^2-isoxazoline butyrate
$[\alpha]_{20}^{D}$+98.79(c0.992, $CHCl_3$)
E.e. >99%

HPLC Chiralcel OB

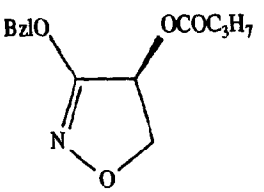
M.De Amici, C.De Micheli, F.Cateni, G.Carrea, G.Ottolina. *Tetrahedron: Asymmetry* **1993**, *4*, 1073



$C_{10}H_{11}NO_3$

(R)-3-Benzyloxy-4-hydroxy-Δ^2-isoxazoline
$[\alpha]_{20}^{D}$+72.46(c1.1, $CHCl_3$)
E.e. >99% HPLC Chiralcel OJ

M.De Amici, C.De Micheli, F.Cateni, G.Carrea, G.Ottolina. *Tetrahedron: Asymmetry* **1993**, *4*, 1073



$C_{14}H_{17}NO_4$

(S)-3-Benzyloxy-4-hydroxy-Δ^2-isoxazoline butyrate
$[\alpha]_{20}^{D}$-32.65(c1.07, $CHCl_3$)
E.e. >99%

HPLC Chiralcel OJ

M.De Amici, C.De Micheli, F.Cateni, G.Carrea, G.Ottolina *Tetrahedron: Asymmetry* **1993**, *4*, 1073

$C_{10}H_{10}N_4O_2$

(R)-3-Benzyloxy-4-azido-Δ^2-isoxazoline
E.e. =99%by HPLC (Chiralcel OJ)
$[\alpha]_{20}^{D}$+194.20(c1.0, $CHCl_3$)

Source of chirality: enzymatic resolution
Absolute configurations: chemical correlation with chiral acetyl cycloserines.