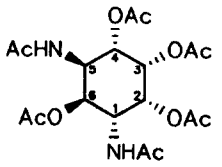
H Braun, W. Burger, G. Kresze, F. P. Schmidtchen, J. L Vaerman, H. G. Viehe

Tetrahedron: Asymmetry **1990**, *1*, 403



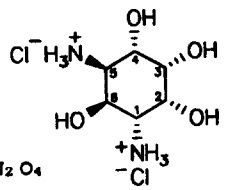
$C_{18}H_{26}N_2O_{10}$

1,5-diamino-1,5-dideoxy-allo-inositole-hexaacetate

E.e. >99% [by HPLC analysis of Mosher acid amides of a synthetic precursor]
$[\alpha]_D^{25}$ = -20 (c 0.5, $CHCl_3$)
Source of chirality: natural and asym. synthesis (Hetero-Diels-Alder reaction)
Absolute configuration: 1R,2R,3S,4S,5R,6S (assignments are based on nmr ^1H coupling constants and chem. degradation of a synthetic intermediate)

H. Braun, W. Burger, G. Kresze, F. P. Schmidtchen, J. L. Vaerman, H. G. Viehe

Tetrahedron: Asymmetry **1990**, *1*, 403



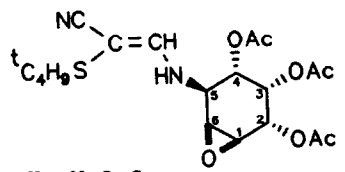
$C_6H_{16}Cl_2N_2O_4$

1,5-diamino-1,5-dideoxy-allo-inositole-dihydrochloride

E.e. >99% [by HPLC analysis of Mosher acid amides of a synthetic precursor]
$[\alpha]_D^{25}$ = -72 (c 0.5, H_2O)
Source of chirality: natural and asym. synthesis (Hetero-Diels-Alder reaction)
Absolute configuration: 1R,2R,3S,4S,5R,6S (assignments are based on nmr ^1H coupling constants and chem. degradation of a synthetic intermediate)

H Braun, W. Burger, G. Kresze, F. P. Schmidtchen, J L Vaerman, H. G. Viehe

Tetrahedron: Asymmetry **1990**, *1*, 403

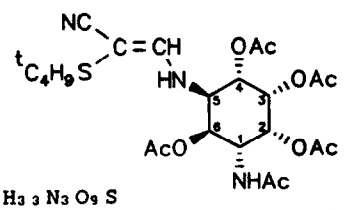


$C_{19}H_{26}N_2O_7S$
2,3,4, triacetoxy-5-(Z-2'-cyano-2'-tert.butylmercaptoethenyl)amino-7-oxabicyclo[4.1.0]-heptane

E.e. >99% [by HPLC analysis of Mosher acid amides of a synthetic precursor]
$[\alpha]_D^{25}$ = -165 (c 0.5, $CHCl_3$)
Source of chirality: natural and asym. synthesis (Hetero-Diels-Alder reaction)
Absolute configuration: 1S,2R,3S,4S,5R,6S (assigned from nmr coupling constant data and chem. degradation of a synthetic intermediate)

H. Braun, W. Burger, G. Kresze, F. P. Schmidtchen, J. L Vaerman, H G Viehe

Tetrahedron: Asymmetry **1990**, *1*, 403

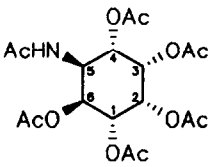


$C_{23}H_{33}N_3O_9S$
2,3,4,6-tetraacetoxy-1-acetylamino-5-(Z-2'-cyano-2'-tert.butylmercapto-ethenyl)aminocyclohexane

E.e. >99% [by HPLC analysis of Mosher acid amides of a synthetic precursor]
$[\alpha]_D^{25}$ = -51 (c 0.5, $CHCl_3$)
Source of chirality: natural and asym. synthesis (Hetero-Diels-Alder reaction)
Absolute configuration: 1R,2R,3S,4S,5R,6S (assigned from nmr coupling constants and chem. degradation of a synthetic intermediate)

H Braun, W. Burger, G Kresze, F. P. Schmidtchen, J L Vaerman, H. G Viehe

Tetrahedron: Asymmetry **1990,** *1*, 403



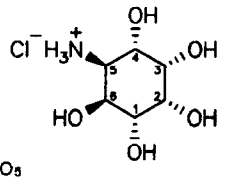
$C_{18}H_{25}NO_{11}$

5-amino-5-deoxy-allo-inositole-hexaacetate

E e. >99% [by HPLC analysis of Mosher acid amides of a synthetic precursor]
$[\alpha]_D^{25}$ = -5 (c 0.5, $CHCl_3$)
Source of chirality: natural and asym. synthesis (Hetero-Diels-Alder reaction)
Absolute configuration: 1R,2R,3S,4S,5R,6S (assigned from nmr coupling constants and chem. degradation of a synthetic intermediate)

H Braun, W Burger, G Kresze, F. P Schmidtchen, J L Vaerman, H. G Viehe

Tetrahedron: Asymmetry **1990,** *1*, 403



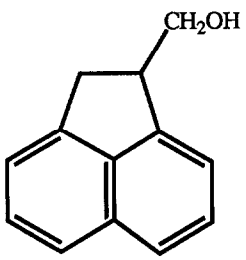
$C_6H_{14}ClNO_5$

5-amino-5-deoxy-allo-inositole-hydrochloride

E.e. >99% [by HPLC analysis of Mosher acid amides of a synthetic precursor]
$[\alpha]_D^{25}$ = -23 (c 0.5, $CHCl_3$)
Source of chirality: natural and asym. synthesis (Hetero-Diels-Alder reaction)
Absolute configuration.1R,2R,3S,4S,5R,6S (assigned from nmr coupling constants and chem. degradation of a synthetic intermediate)

G.Consiglio, S.C.A.Nefkens

Tetrahedron: Asymmetry **1990,** *1*, 417



$C_{13}H_{12}O$

1-hydroxymethylacenaphthene

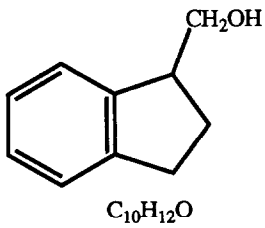
E.e = 48% (by NMR in the presence of $Eu(dcm)_3$)

$[\alpha]_{436}^{25}$ = - 11.2 (c= 3.3, CH_3OH)

Source of chirality: enantioselective hydroformylation of acenaphthylene

G.Consiglio, S.C.A.Nefkens

Tetrahedron: Asymmetry **1990,** *1*, 417



$C_{10}H_{12}O$

1-hydroxymethylindane

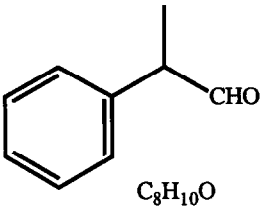
E.e = 45% (by NMR in the presence of $Eu(dcm)_3$)

$[\alpha]_{436}^{25}$ = - 14.0 (c= 3.3, CH_3OH)

Source of chirality: enantioselective hydroformylation of indene

G.Consiglio, S.C.A.Nefkens

Tetrahedron: Asymmetry **1990**, *1*, 417



$C_8H_{10}O$

(+)(*S*)-2-phenylpropanal

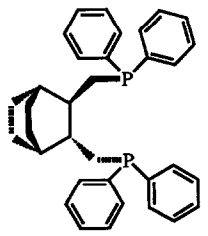
E.e = 85% (by optical rotation)

$[\alpha]_D^{25}$ = + 202 (neat)

Source of chirality: enantioselective hydroformylation of styrene

G.Consiglio, S.C.A.Nefkens

Tetrahedron: Asymmetry **1990**, *1*, 417



$C_{34}H_{36}P_2$

(*R*,*R*)-[(bicyclo[2.2.2]octane-2,3-diyl)-bis(methylene)]bis[diphenylphosphine]

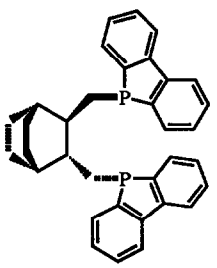
E.e = 100 % (by NMR on the methylester of the starting product bicyclo[2.2.2]-oct-5-ene-2,3-*trans*-dicarboxylic-acid, in the presence of $Eu(dcm)_3$)

$[\alpha]_{365}^{20}$ = - 103.0 (c= 0.6, $CHCl_3$)

Source of chirality: Resolution of bicyclo[2.2.2]-oct-5-ene-2,3-*trans*-dicarboxylic-acid with brucine

G.Consiglio, S.C.A.Nefkens

Tetrahedron: Asymmetry **1990**, *1*, 417



$C_{34}H_{32}P_2$

(*R*,*R*)-[(bicyclo[2.2.2]octane-2,3-diyl)bis-(methylene)]bis[5H-benzo[b]phosphinindole]

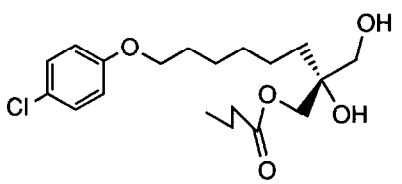
E.e = 100 % (by NMR on the methylester of the starting product bicyclo[2.2.2]-oct-5-ene-2,3-*trans*-dicarboxylic-acid, in the presence of $Eu(dcm)_3$)

$[\alpha]_{365}^{20}$ = + 79.5 (c= 0.6, $CHCl_3$)

Source of chirality: Resolution of bicyclo[2.2.2]-oct-5-ene-2,3-*trans*-dicarboxylic-acid with brucine

K. Prasad, H. Estermann, C-P. Chen, O. Repic and G. E. Hardtmann

Tetrahedron: Asymmetry **1990**, *1*, 421



(*R*)-1,2,3-Propanetriol, 2-[6-(4-chlorophenoxy)hexyl]-1-butanoate

ee 93% (by HPLC of the Mosher's esters).

$[\alpha]_D^{25}$ -4.9 (*c* 1, Toluene).

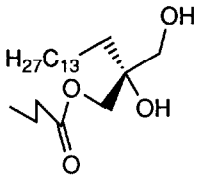
Source of chirality: Enzymatic Hydrolysis of the corresponding prochiral dibutyrate.

Absolute configuration: *R*

(assigned by chemical correlation).

Tetrahedron: Asymmetry **1990,** *1*, 421

K. Prasad, H. Estermann, C-P. Chen, O. Repic and G. E. Hardtmann

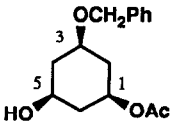


ee 87% (by HPLC of the Mosher's esters).
$[\alpha]_D^{25}$ -6.1 (*c* 1, Toluene).
Source of chirality: Enzymatic Hydrolysis of the corresponding prochiral dibutyrate.
Absolute configuration: *R*
(assigned by chemical correlation).

(*R*)-1,2,3-Propanetriol, 2-tetradecyl-1-butanoate

Tetrahedron: Asymmetry **1990,** *1*, 425

H. Suemune, M. Takahashi, S. Maeda, Z.-F. Xie, and K. Sakai

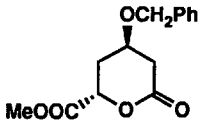


E.e.=87% by NMR of (+)-MTPA ester
$[\alpha]_D^{21}$ -4.88 (c=1.85, $CHCl_3$)
Source of chirality: enzymatic hydrolysis
Absolute configuration: 1S,3R,5S
(assigned by CD of derivative)

$C_{15}H_{20}O_4$
1-Acetoxy-3-benzyloxy-5-hydroxycyclohexane

Tetrahedron: Asymmetry **1990,** *1*, 425

H. Suemune, M. Takahashi, S. Maeda, Z.-F. Xie, and K. Sakai

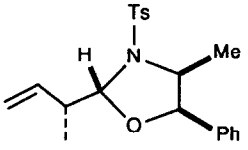


$[\alpha]_D^{20}$ -11.5 (c=0.46, $CHCl_3$)
Source of chirality: (1S,3R,5S)-1-Acetoxy-3-benzyloxy-5-hydroxycyclohexane
Absolute configuration: 4R,6S

$C_{14}H_{16}O_5$
4-Benzyloxy-6-methoxycarbonyl-1-oxo-2-cyclohexanone

Tetrahedron: Asymmetry **1990,** *1*, 429

A.Pasquarello, G.Poli, D.Potenza, and C.Scolastico



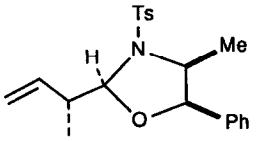
E.e. > 98% by nmr
$[\alpha]_D^{20}$ -19.3 (c 1.4 chloroform)
Source of chirality: L-norephedrine
Absolute configuration: 2R,4S,5R,1'R
(assigned by nmr)

$C_{21}H_{25}NO_3S$

4-methyl-3-p-methylphenylsulphonyl-2-[1'-methyl-2'-propenyl]-5-phenyl-1,3-oxazolidine

A.Pasquarello, G.Poli, D.Potenza, and C.Scolastico

Tetrahedron: Asymmetry **1990**, *1*, 429



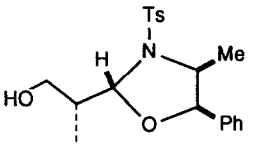
$C_{21}H_{25}NO_3S$

E.e. > 98% by nmr
$[\alpha]_D^{20}$ -17.7 (c 1.4 chloroform)
Source of chirality: L-norephedrine
Absolute configuration: 2S,4S,5R,1'R
(assigned by nmr)

4-methyl-3-p-methylphenylsulphonyl-2-[1'-methyl-2'-propenyl]-5-phenyl-1,3-oxazolidine

A.Pasquarello, G.Poli, D.Potenza, and C.Scolastico

Tetrahedron: Asymmetry **1990**, *1*, 429



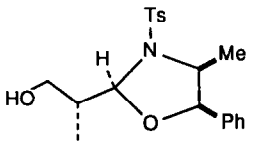
$C_{20}H_{25}NO_4S$

E.e. > 98% by nmr
$[\alpha]_D^{20}$ -36.5 (c 1 chloroform)
Source of chirality: L-norephedrine
Absolute configuration: 2R,4S,5R,1'R
(assigned by nmr)

4-methyl-2-[1'-methyl-hydroxyethyl-]-3-p-methylphenylsulphonyl-5-phenyl-1,3-oxazolidine

A.Pasquarello, G.Poli, D.Potenza, and C.Scolastico

Tetrahedron: Asymmetry **1990**, *1*, 429



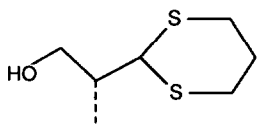
$C_{20}H_{25}NO_4S$

E.e. > 98% by nmr
$[\alpha]_D^{20}$ +2.5 (c 1.5 chloroform)
Source of chirality: L-norephedrine
Absolute configuration: 2S,4S,5R,1'R
(assigned by nmr)

4-methyl-2-[1'-methyl-hydroxyethyl-]-3-p-methylphenylsulphonyl-5-phenyl-1,3-oxazolidine

A.Pasquarello, G.Poli, D.Potenza, and C.Scolastico

Tetrahedron: Asymmetry **1990**, *1*, 429



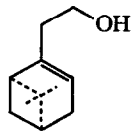
$C_7H_{14}OS_2$

E.e. > 98% by nmr of the Mosher ester derivative
$[\alpha]_D^{20}$ -4.8 (c 1.0 chloroform)
Source of chirality: asymmetric synthesis
Absolute configuration: R
(assigned by synthesis)

2-(1-methyl-2-hydroxyethyl)-1,3-dithiane

P. V. Ramachandran, H. C. Brown, S. Swaminathan

Tetrahedron: Asymmetry **1990,** *1*, 433



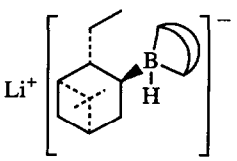
$C_{11}H_{18}O$

6,6-Dimethylbicyclo[3.1.1]hept-2-en-2-ethanol
(Nopol)

E.e = ≥99% by rotation
$[\alpha]_D^{23} = -40.1$ (*c* 7.5 ethanol)
absolute configuration 1(*R*), 5(*S*)
source of chirality: synthesis from β-pinene

P. V. Ramachandran, H. C. Brown, S. Swaminathan

Tetrahedron: Asymmetry **1990,** *1*, 433

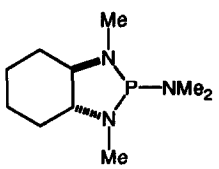


^{11}B NMR: δ –6.2 (d, *J* = 80 Hz)
Absolute cofiguration 1(*S*), 2(*R*), 3(*S*), 5(*S*)
Source of chirality: synthesis from β-pinene

Lithium *B*-iso-2-ethylapopinocampheyl-9-borabicyclo[3.3.1]nonyl hydride
(Eapine-Hydride)

A. Alexakis, S. Mutti, J.F. Normant and P. Mangeney

Tetrahedron: Asymmetry **1990,** *1*, 437



$C_{10}H_{22}N_3P$

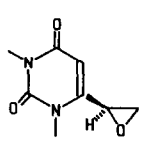
2-dimethylamino-2,3,3a,4,5,6,7,7a-octahydro-
1,3-dimethyl-1*H*-1,3,2-benzodiazaphosphole

E e. = 100 %
$[\alpha]_D^{25} = -100$ 4 (c 2.7 , C_6H_6)
source of chirality (-) - (1R,2R)-diaminocyclohexane
(commercially available)

Absolute configuration : 3aR, 7aR

M.Botta, R.Saladino, A.Gambacorta, R.Nicoletti

Tetrahedron: Asymmetry **1990,** *1*, 441



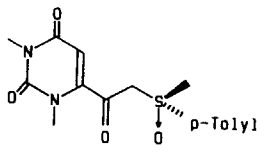
$C_8H_{10}N_2O_3$

1,3-Dimethyl-6-oxiranylpyrimidin-2,4-dione

E.e=98,05% [by nmr with tris-3-(heptafluorpropyl-hydroxymethylen)-d-camphorato europium (III) ; HPLC, chiralcel OD]
$[\alpha]_D$=51.6 ($CHCl_3$,C=1)
Source of chirality: synthesis from a β-ketosulfoxide
Absolute configuration: S
(supposed on the basis of analogy with general method).

M.Botta, R.Saladino, A.Gambacorta, R.Nicoletti

Tetrahedron: Asymmetry **1990**, *1*, 441



$C_{15}H_{16}N_2O_4S$

1,3-Dimethyl-6-[(p-tolyl)sulfinyl acetyl]uracil

E.e= 100%

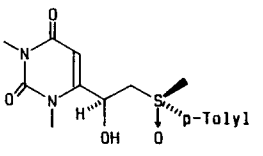
$[\alpha]_D$=66 ($CHCl_3$,C=1.5)

Source of chirality: synthesis from optically pure (+)R methyl p-tolyl sulfoxide

Absolute configuration: R

M.Botta, R.Saladino, A.Gambacorta, R.Nicoletti

Tetrahedron: Asymmetry **1990**, *1*, 441



$C_{15}H_{18}N_2O_4S$

1,3-Dimethyl-6- 1-hydroxy-2-[(p-tolyl) sulfinyl] ethyl uracil

E.e=>98% [by nmr]

$[\alpha]_D$=113.9 ($CHCl_3$,C=1)

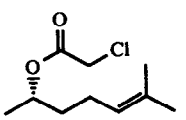
Source of chirality: asymmetric reduction of the β-ketosulfoxide

Absolute configuration: R_SS

(supposed on the basis of analogy with general method).

S. Liang and L. A. Paquette

Tetrahedron: Asymmetry **1990**, *1*, 445



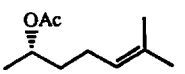
$C_{10}H_{17}ClO_2$

(*S*)-(+)-Sulcatol Chloroacetate

$[\alpha]_D^{23}$ +13.43 (*c* 0.03, C_2H_5OH)
E.e. = 100% [by saponification to (*S*)-(+)-sulcatol]
Source of chirality: microbial lipase hydrolysis
Absolute configuration: *S*

S. Liang and L. A. Paquette

Tetrahedron: Asymmetry **1990**, *1*, 445



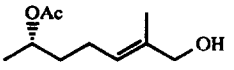
$C_{10}H_{18}O_2$

(*S*)-(+)-Sulcatol Acetate

$[\alpha]_D^{23}$ +7.70 (*c* 0.03, C_2H_5OH)
E.e. = 100% [by acetylation of optically pure (*S*)-(+)-sulcatol]
Source of chirality: microbial lipase hydrolysis
Absolute configuration: *S*

S. Liang and L. A. Paquette

Tetrahedron: Asymmetry **1990**, *1*, 445



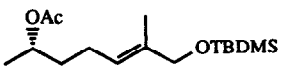
$C_{10}H_{18}O_3$

(*S*)-(+)-6-Acetoxy-2-methyl-(*E*)-2-hepten-1-ol

$[\alpha]_D^{23}$ +4.97 (*c* 0.03, C_2H_5OH)
E.e. = 100% [by SeO_2/t-BuOOH oxidation of sulcatol acetate]
Source of chirality: microbial lipase hydrolysis
Absolute configuration: 6*S*

S. Liang and L. A. Paquette

Tetrahedron: Asymmetry **1990**, *1*, 445



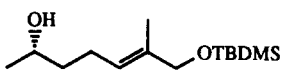
$C_{16}H_{32}O_3Si$

(*S*)-(+)-6-Acetoxy-1-(*tert*-butyldimethylsilyloxy)2-methyl-(*E*)-2-heptene

$[\alpha]_D^{23}$ +3.42 (*c* 0.03, C_2H_5OH)
E.e. = 100% [by silylation of the alcohol]
Source of chirality: microbial lipase hydrolysis
Absolute configuration: 6*S*

S. Liang and L. A. Paquette

Tetrahedron: Asymmetry **1990**, *1*, 445



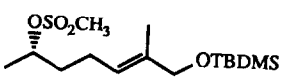
$C_{14}H_{30}O_2Si$

(*S*)-(+)-1-(*tert*-Butyldimethyl-silyloxy)-2-methyl-(*E*)-2-hepten-6-ol

$[\alpha]_D^{23}$ +8.16 (*c* 0.03, C_2H_5OH)
E.e. = 100% [by saponification of the acetate]
Source of chirality: microbial lipase hydrolysis
Absolute configuration: 6*S*

S. Liang and L. A. Paquette

Tetrahedron: Asymmetry **1990**, *1*, 445



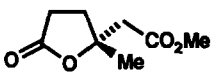
$C_{15}H_{32}O_4SSi$

(*S*)-(+)-1-(*tert*-Butyldimethyl-silyloxy)-6-(methanesulfonyloxy)-2-methyl-(*E*)-2-heptene

$[\alpha]_D^{23}$ +8.46 (*c* 0.03, C_2H_5OH)
E.e. = 100% [by mesylation of the alcohol]
Source of chirality: microbial lipase hydrolysis
Absolute configuration: 6*S*

M. Gill and A.F. Smrdel

Tetrahedron: Asymmetry **1990**, *1*, 453



$C_8H_{12}O_4$

Ee = 93% [by n.m.r. with $Eu(hfc)_3$]
$[\alpha]_D$ = 10.3 (c 2.39, $CHCl_3$)
Source of chirality: asymmetric synthesis (Sharpless epoxidation)
Absolute configuration: R

Methyl (tetrahydro-2-methyl-5-oxo-2-furanacetate