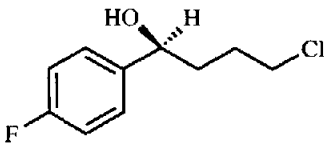
P. V. Ramachandran*, Baoqing Gong and Herbert C. Brown

Tetrahedron: Asymmetry **1993,** *4*, 2399



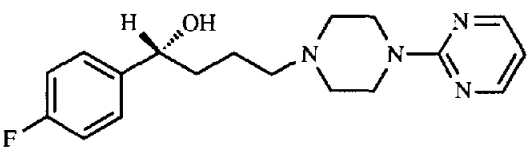
$C_{10}H_{12}ClFO$

α-(3-chloropropyl)-4-fluorobenzenemethanol

E. e. = 98% [by capillary GC analysis]
$[\alpha]_D^{22} = -40.2$ (*c* 1.3, $CHCl_3$)
Source of chirality: asymmetric reduction
Absolute configuration: S

P. V. Ramachandran*, Baoqing Gong and Herbert C. Brown

Tetrahedron: Asymmetry **1993,** *4*, 2399



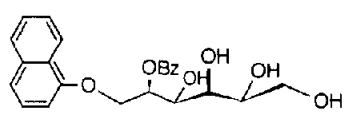
$C_{18}H_{23}FN_4O$

α-(4-fluorophenyl)-4-(2-pyrimidinyl)-1-piperazinebutanol

E. e. = 98% [from precursor]
$[\alpha]_D^{21} = +52.8$ (*c* 1.1, $CHCl_3$)
Source of chirality: asymmetric synthesis
Absolute configuration: R

Ronald A. Veloo and Gerrit-Jan Koomen

Tetrahedron: Asymmetry **1993,** *4*, 2401



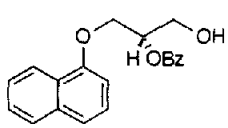
$C_{23}H_{24}O_7$

(2R,3S,4R,5S)-1-(1-naphthyloxy)-2-benzoyloxy-3,4,5,6-tetrahydroxyhexane

$[\alpha]_D^{20} = -23.4$ (c 0.97, $CHCl_3$)
Source of chirality: Synthesis from Sorbitol.
Absolute configuration: 2R,3S,4R,5S

Ronald A. Veloo and Gerrit-Jan Koomen

Tetrahedron: Asymmetry **1993,** *4*, 2401



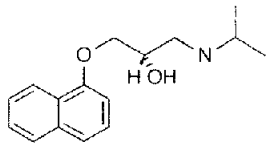
$C_{20}H_{18}O_4$

(S)-(-)-1-O-(1-naphthyl)-2-O-benzoylglycerol

$[\alpha]_D^{20} = -43.7$ (c 0.97, $CHCl_3$)
Source of chirality: Synthesis from Sorbitol.
Absolute configuration: 2S

Ronald A. Veloo and Gerrit-Jan Koomen

Tetrahedron: Asymmetry **1993,** *4*, 2401



$C_{16}H_{21}NO_2$

(S)-(-)-1-isopropylamino-3-(1-naphthyloxy)-2-propanol

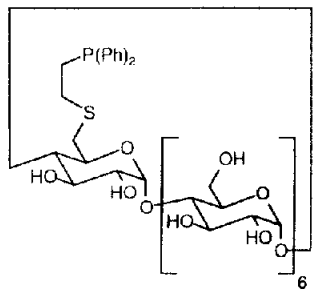
$[\alpha]_D^{20}$ = -9.98 (c 0.97, EtOH)

Source of chirality: Synthesis from Sorbitol.

Absolute configuration: 2S

M.T. Reetz and J. Rudolph

Tetrahedron: Asymmetry **1993,** *4*, 2405



E.e. = 100%

$[\alpha]_D^{22}$ = +12.0 (c = 2.5, DMF)

Source of chirality: natural β-cyclodextrin

mp = 302 - 310°C (decomposition)

$C_{56}H_{83}O_{34}PS$

Mono[6-deoxy-6-(2'-diphenylphosphinoethyl)thio]-β-cyclodextrin

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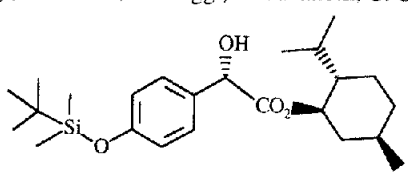
F. Bigi, G. Sartori, R. Maggi, E. Cantarelli, G. Galaverna

Tetrahedron: Asymmetry **1993,** *4*, 2411



$[\alpha]_D^{22}$ = -2.6 (c = 0.5, EtOH)

Source of chirality: diastereoselective alkylation with (-)-menthylglyoxylate

Absolute configuration: S (assigned by NMR and chemical correlation with (+)-4-hydroxymandelic acid)

$C_{24}H_{40}O_4Si$

(2S)-2-Hydroxy-2-(4-*tert*-butyldimethylsylyloxyphenyl)-acetic acid (-)-menthylester

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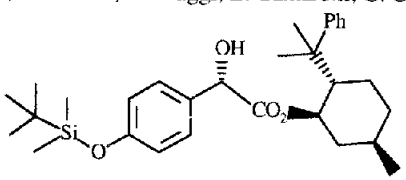
F. Bigi, G. Sartori, R. Maggi, E. Cantarelli, G. Galaverna

Tetrahedron: Asymmetry **1993,** *4*, 2411



$[\alpha]_D^{23}$ = +28.1 (c = 0.5, EtOH)

Source of chirality: diastereoselective alkylation with (-)-8-phenylmenthylglyoxylate

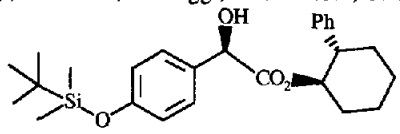
Absolute configuration: S (assigned by chemical correlation with (+)-4-hydroxymandelic acid)

$C_{30}H_{44}O_4Si$

(2S)-2-Hydroxy-2-(4-*tert*-butyldimethylsylyloxyphenyl)-acetic acid (-)-8-phenylmenthylester

Tetrahedron: Asymmetry **1993**, *4*, 2411

F. Bigi, G. Sartori, R. Maggi, E. Cantarelli, G. Galaverna



$[\alpha]_D^{22}$ = -57.1 (c = 0.3, EtOH)

Source of chirality: diastereoselective alkylation with (-)-*trans*-2-phenylcyclohexylglyoxylate

Absolute configuration: R (assigned by chemical correlation with (-)-4-hydroxymandelic acid)

$C_{26}H_{36}O_4Si$

(2R)-2-Hydroxy-2-(4-*tert*-butyldimethylsylyloxyphenyl)-acetic acid (-)-*trans*-2-phenylcyclohexylester

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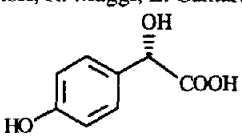
Tetrahedron: Asymmetry **1993**, *4*, 2411

F. Bigi, G. Sartori, R. Maggi, E. Cantarelli, G. Galaverna



$[\alpha]_D^{22}$ = +123.6 (c = 0.2, EtOH)

Source of chirality: deprotection of chiral (-)-menthylester

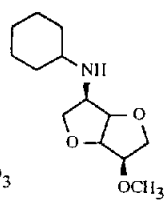
Absolute configuration: S

$C_8H_8O_4$

(2S)-2-Hydroxy-2-(4-hydroxyphenyl)-acetic acid

Tetrahedron: Asymmetry **1993**, *4*, 2415

R. Tamion, F. Marsais, P. Ribereau and G. Queguiner



$[\alpha]_D^{20}$ = + 144.1 (*c* 0.879, $CHCl_3$)

Source of chirality: asymm. Synth.

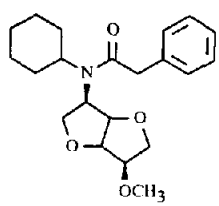
Absolute configuration: 1R,4R,5R,8R

$C_{13}H_{23}NO_3$

4-Cyclohexylamino-8-methoxy-2,6-dioxabicyclo[3.3.0]octane

Tetrahedron: Asymmetry **1993**, *4*, 2415

R. Tamion, F. Marsais, P. Ribereau and G. Queguiner



$[\alpha]_D^{20}$ = + 155.8 (c 0.900, $CHCl_3$)

Source of chirality: asymm. Synth.

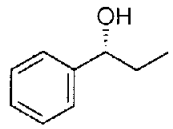
Absolute configuration: 1R,4R,5R,8R

$C_{21}H_{29}NO_4$

(4-Cyclohexylamino-8-methoxy-2,6-dioxabicyclo[3.3.0]octane)-phenylacetamide

Y. Uozumi, K. Kitayama, and T. Hayashi,*

Tetrahedron: Asymmetry **1993,** *4*, 2419



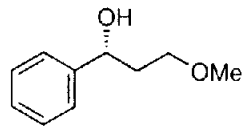
$C_9H_{12}O$
1-Phenylpropanol

E.e. = 82% [by HPLC analysis of its 3,5-dinitrophenylcarbamate on Sumichiral OA-4000 or 4100]
$[\alpha]_D^{20}$ +35.2 (*c* 1.34, chloroform)

Source of chirality: Enantioselective hydrosilylation
Absolute configuration: *R*
(assigned by optical rotation value)

Y. Uozumi, K. Kitayama, and T. Hayashi,*

Tetrahedron: Asymmetry **1993,** *4*, 2419



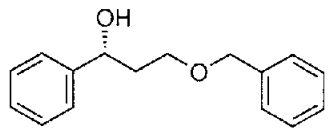
$C_{10}H_{14}O_2$
1-Phenyl-3-methoxypropanol

E.e. = 80% [by HPLC analysis of its 3,5-dinitrophenylcarbamate on Sumichiral OA-4000 or 4100]
$[\alpha]_D^{20}$ +30.1 (*c* 0.74, cyclopentane)

Source of chirality: Enantioselective hydrosilylation
Absolute configuration: *R*
(assigned by optical rotation value)

Y. Uozumi, K. Kitayama, and T. Hayashi,*

Tetrahedron: Asymmetry **1993,** *4*, 2419



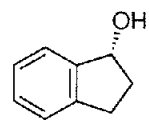
$C_{16}H_{18}O_2$
1-Phenyl-3-benzyloxypropanol

E.e. = 80% [by HPLC analysis of its 3,5-dinitrophenylcarbamate on Sumichiral OA-4000 or 4100]
$[\alpha]_D^{20}$ +20.0 (*c* 0.47, chloroform)

Source of chirality: Enantioselective hydrosilylation
Absolute configuration: *R*
(assigned by NMR studies on the MTPA ester)

Y. Uozumi, K. Kitayama, and T. Hayashi,*

Tetrahedron: Asymmetry **1993,** *4*, 2419



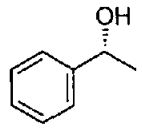
$C_9H_{10}O$
1-Hydroxyindane

E.e. = 85% [by HPLC analysis of its 3,5-dinitrophenylcarbamate on Sumichiral OA-4000 or 4100]
$[\alpha]_D^{22}$ −29.2 (*c* 1.02, chloroform)

Source of chirality: Enantioselective hydrosilylation
Absolute configuration: *R*
(assigned by optical rotation value)

Y. Uozumi, K. Kitayama, and T. Hayashi,*

Tetrahedron: Asymmetry **1993,** *4*, 2419



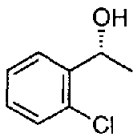
$C_8H_{10}O$
1-Phenylethanol

E.e. = 71% [by HPLC analysis of its 3,5-dinitrophenylcarbamate on Sumichiral OA-4000 or 4100]
$[\alpha]_D^{22}$ +35.8 (*c* 0.96, dichloromethane)

Source of chirality: Enantioselective hydrosilylation
Absolute configuration: *R*
(assigned by optical rotation value)

Y. Uozumi, K. Kitayama, and T. Hayashi,*

Tetrahedron: Asymmetry **1993,** *4*, 2419



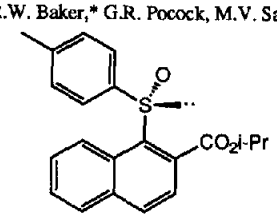
C_8H_9ClO
1-(2-Chlorophenyl)ethanol

E.e. = 81% [by HPLC analysis of its 3,5-dinitrophenylcarbamate on Sumichiral OA-4000 or 4100]
$[\alpha]_D^{20}$ +48.4 (*c* 0.27, chloroform)

Source of chirality: Enantioselective hydrosilylation
Absolute configuration: *R*
(assigned by optical rotation value)

R.W. Baker,* G.R. Pocock, M.V. Sargent* and E. Twiss (née Stanojevic)

Tetrahedron: Asymmetry **1993,** *4*, 2423

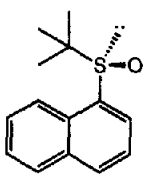


$C_{21}H_{20}O_3S$
Isopropyl (*S*)-1-*p*-tolylsulfinyl-2-naphthalenecarboxylate

E.e = >99.5% (by HPLC on DNB-[D]-PHGLY Pirkle column)
$[\alpha]_D$ -94 (*c* 1.05, toluene)
Source of chirality: (1*R*)-menthyl (*S*)-*p*-toluenesulfinate
Absolute configuration: *S*

R.W. Baker,* G.R. Pocock, M.V. Sargent* and E. Twiss (née Stanojevic)

Tetrahedron: Asymmetry **1993,** *4*, 2423

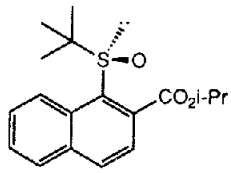


$C_{14}H_{16}OS$
(*R*)-1-t-Butylsulfinylnaphthalene

E.e. = >99% (by HPLC on DNB-[D]-PHGLY Pirkle column)
$[\alpha]_D$ +333 (*c* 1.10, toluene)
Source of chirality: (1*R*)-menthyl (*S*)-1-naphthalenesulfinate
Absolute configuration: *R*

R.W. Baker,* G.R. Pocock, M.V. Sargent* and E. Twiss (née Stanojevic)

Tetrahedron: Asymmetry **1993**, *4*, 2423



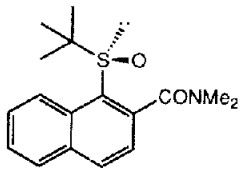
$C_{18}H_{22}O_3S$

Isopropyl (*R*)-1-t-butylsulfinyl-2-naphthalenecarboxylate

E.e = 99.5% (by HPLC on DNB-[D]-PHGLY Pirkle column)
$[\alpha]_D$ +129 (*c* 1.30, toluene)
Source of chirality: (1*R*)-menthyl (*S*)-1-naphthalenesulfinate
Absolute configuration: *R*

R.W. Baker,* G.R. Pocock, M.V. Sargent* and E. Twiss (née Stanojevic)

Tetrahedron: Asymmetry **1993**, *4*, 2423



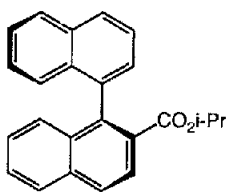
$C_{17}H_{21}NO_2S$

(*R*)-*N*,*N*-Dimethyl-1-t-butylsulfinyl-2-naphthalenecarboxamide

E.e = ≥95% (inferred from subsequent transformation)
$[\alpha]_D$ +109 (*c* 0.375, toluene)
Source of chirality: (1*R*)-menthyl (*S*)-1-naphthalenesulfinate
Absolute configuration: *R*

R.W. Baker,* G.R. Pocock, M.V. Sargent* and E. Twiss (née Stanojevic)

Tetrahedron: Asymmetry **1993**, *4*, 2423



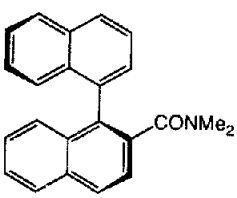
$C_{24}H_{20}O_2$

Isopropyl (*R*)-1,1'-binaphthyl-2-carboxylate

E.e. = 95% (by 300MHz ^{1}H NMR with Eu(hfc)$_3$)
$[\alpha]_D$ +12.8 (*c* 1.72, toluene)
Source of chirality: (1*R*)-menthyl (*S*)-1-naphthalenesulfinate
Absolute configuration: *R*

R.W. Baker,* G.R. Pocock, M.V. Sargent* and E. Twiss (née Stanojevic)

Tetrahedron: Asymmetry **1993**, *4*, 2423



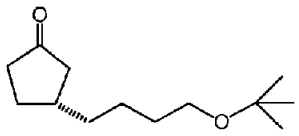
$C_{23}H_{19}NO$

(*R*)-*N*,*N*-Dimethyl-1,1'-binaphthyl-2-carboxamide

E.e. = 94.8% (by HPLC on DNB-[D]-PHGLY Pirkle column)
$[\alpha]_D$ +86 (*c* 0.925, toluene)
Source of chirality: (1*R*)-menthyl (*S*)-1-naphthalenesulfinate
Absolute configuration: *R*

A. Alexakis, J. Frutos and P. Mangeney

Tetrahedron: Asymmetry **1993,** *4*, 2427



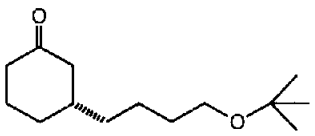
E.e. = 71 % (by NMR with (R,R)-1,2-diphenyl ethylene diamine)
$[\alpha]_D^{25}$ = +8.26 (c = 0.024 , Et_2O)
$[\alpha]_{578}$ = +8.12
$[\alpha]_{546}$ = +9.84

Source of chirality : (1R,2S)-(-)-N-isopropyl norephedrine
Absolute configuration : R

$C_{13}H_{24}O_2$
3-(4'-terbutoxy-1'-butyl)-cyclopentan-1-one

A. Alexakis, J. Frutos and P. Mangeney

Tetrahedron: Asymmetry **1993,** *4*, 2427



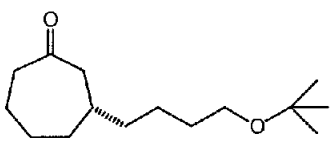
E.e. = 80 % (by NMR with (R,R)-1,2-diphenyl ethylene diamine)
$[\alpha]_D^{25}$ = - 4 (c = 0.018 , Et_2O)
$[\alpha]_{578}$ = - 3.3
$[\alpha]_{546}$ = - 4
$[\alpha]_{436}$ = - 5.5
$[\alpha]_{365}$ = - 9.5

Source of chirality : (1R,2S)-(-)-N-isopropyl norephedrine
Absolute configuration : R

$C_{14}H_{26}O_2$
3-(4'-terbutoxy-1'-butyl)-cyclohexan-1-one

A. Alexakis, J. Frutos and P. Mangeney

Tetrahedron: Asymmetry **1993,** *4*, 2427



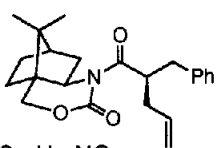
E.e. = 76 % (by NMR with (R,R)-1,2-diphenyl ethylene diamine)
$[\alpha]_D^{25}$ = +17.7 (c = 0.024 , Et_2O)
$[\alpha]_{578}$ = +17.4
$[\alpha]_{546}$ = +21.1
$[\alpha]_{436}$ = +59.6

Source of chirality : (1R,2S)-(-)-N-isopropyl norephedrine
Absolute configuration : S

$C_{15}H_{28}O_2$
3-(4'-terbutoxy-1'-butyl)-cycloheptan-1-one

K. H. Ahn, A. Lim, S. Lee

Tetrahedron: Asymmetry **1993,** *4*, 2435

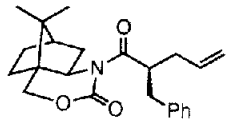


Mp = 111-112 °C
D.e.>99% [by capillary GC]
$[\alpha]_D^{24}$ = -279 (c 1.1, $CHCl_3$)
Source of chirality: (+)-10-camphorsulfonic acid (1,6,8) and asymm alkylation (2')
Absolute configuration: 1S, 6R, 8R, 2'R

$C_{23}H_{29}NO_3$
N-(2-phenylmethyl-4-pentenoyl)-11,11-dimethyl-5-aza-3-oxatricyclo[6.2.1.$0^{1,6}$]undecan-4-one

K. H. Ahn, A. Lim, S. Lee

Tetrahedron: Asymmetry **1993,** *4*, 2435



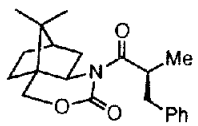
$C_{23}H_{29}NO_3$

N-(2-phenylmethyl-4-pentenoyl)-11,11-dimethyl-5-aza-3-oxatricyclo[6.2.1.0^{1,6}]undecan-4-one

D.e.>99% [by capillary GC]
$[\alpha]_D^{24}$ = -156 (c 1.1, $CHCl_3$)
Source of chirality: (+)-10-camphorsulfonic acid (1,6,8) and asymm alkylation (2')
Absolute configuration: 1S, 6R, 8R, 2'S

K. H. Ahn, A. Lim, S. Lee

Tetrahedron: Asymmetry **1993,** *4*, 2435



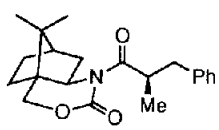
$C_{21}H_{27}NO_3$

N-(2-methyl-3-phenylpropionyl)-11,11-dimethyl-5-aza-3-oxatricyclo[6.2.1.0^{1,6}]undecan-4-one

Mp = 90-91 °C
D.e.>99% [by capillary GC]
$[\alpha]_D^{24}$ = -149 (c 1.1, $CHCl_3$)
Source of chirality: (+)-10-camphorsulfonic acid (1,6,8) and asymm alkylation (2')
Absolute configuration: 1S, 6R, 8R, 2'S

K. H. Ahn, A. Lim, S. Lee

Tetrahedron: Asymmetry **1993,** *4*, 2435



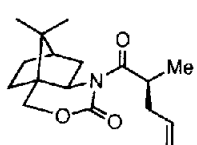
$C_{21}H_{27}NO_3$

N-(2-methyl-3-phenylpropionyl)-11,11-dimethyl-5-aza-3-oxatricyclo[6.2.1.0^{1,6}]undecan-4-one

Mp = 91-92 °C
D.e.>99% [by capillary GC]
$[\alpha]_D^{24}$ = -294 (c 1.2, $CHCl_3$)
Source of chirality: (+)-10-camphorsulfonic acid (1,6,8) and asymm alkylation (2')
Absolute configuration: 1S, 6R, 8R, 2'R

K. H. Ahn, A. Lim, S. Lee

Tetrahedron: Asymmetry **1993,** *4*, 2435



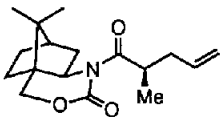
$C_{17}H_{25}NO_3$

N-(2-methyl-4-pentenoyl)-11,11-dimethyl-5-aza-3-oxatricyclo[6.2.1.0^{1,6}]undecan-4-one

Mp = 79-80 °C
D.e.>99% [by capillary GC]
$[\alpha]_D^{24}$ = -220 (c 2.2, $CHCl_3$)
Source of chirality: (+)-10-camphorsulfonic acid (1,6,8) and asymm alkylation (2')
Absolute configuration: 1S, 6R, 8R, 2'S

K. H. Ahn, A. Lim, S. Lee

Tetrahedron: Asymmetry **1993,** *4*, 2435



$C_{17}H_{25}NO_3$

N-(2-methyl-4-pentenoyl)-11,11-dimethyl-5-aza-3-oxatricyclo[6.2.1.0^{1,6}]undecan-4-one

Mp = 86-87 °C

D.e.>99% [by capillary GC]

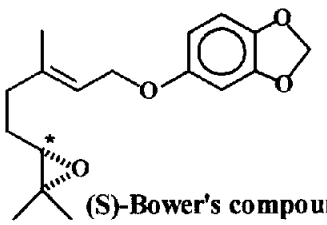
$[\alpha]_D^{24}$ = -248 (c 0.6, $CHCl_3$)

Source of chirality: (+)-10-camphorsulfonic acid (1,6,8) and asymm alkylation (2')

Absolute configuration: 1S, 6R, 8R, 2'R

A. Archelas, J.-P. Delbecque, R. Furstoss

Tetrahedron: Asymmetry **1993,** *4*, 2445



(S)-Bower's compound

E.e.= 96% (by HPLC of its (-)-camphanyl derivative after acid hydrolysis)

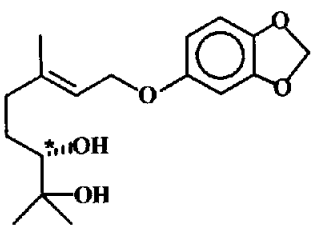
$[\alpha]_D^{20}$ = -1.9 (c 1.43, MeOH)

Source of chirality : Microbial hydrolysis of the racemate

Absolute configuration (6S) (assigned *via* chemical correlation)

A. Archelas, J.-P. Delbecque, R. Furstoss

Tetrahedron: Asymmetry **1993,** *4*, 2445



E.e. = 70% (by HPLC of its (-)-camphanyl derivative)

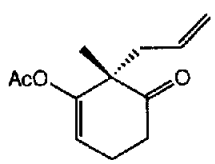
$[\alpha]_D^{20}$ = -13 (c 1.78, MeOH)

Source of chirality : Microbial hydrolysis

Absolute configuration (6S) (assigned *via* chemical correlation)

Pierre Duhamel*, Philippe Renouf, Dominique Cahard, Albert Yebga and Jean-Marie Poirier

Tetrahedron: Asymmetry **1993,** *4*, 2447



$C_{12}H_{16}O_3$

3-acetoxy-2-methyl-2-(prop-2-enyl) cyclohexene-3-one

E.e. > 98 % By ^1H NMR with $Eu(hfc)_3$

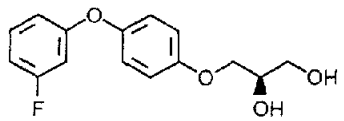
$[\alpha]_{436}^{25}$ = 21 (c = 1, CH_2Cl_2)

Source of chirality : Asymmetric synthesis

Absolute configuration : 2S
(assignment *via* chemical correlation)

Hans-Peter Buser, Felix Spindler

Tetrahedron: Asymmetry **1993,** *4*, 2451



$C_{15}H_{15}FO_4$

3-[4-(3-Fluorophenoxy)-phenoxy]-1,2-propanediol

$[\alpha]_D^{25}$= - 6.2 (c=0.93, EtOH)

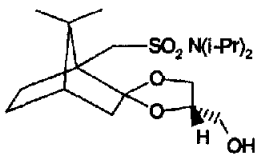
E.e. = 95 - 98% (by HPLC)

Source of chirality: enantioselective hydrogenation (route A) and (-)-camphor-10-sulfonic acid (route B)

Absolute configuration: 2*R* (assigned by catalyst configuration)

Hans-Peter Buser, Felix Spindler

Tetrahedron: Asymmetry **1993,** *4*, 2451



$C_{19}H_{35}NO_5S$

N,N-Diisopropyl-spiro[bornane-2,2'-(4'-hydroxymethyl)-[1,3]-dioxolane]-10-sulfonamide

$[\alpha]_D^{25}$= + 13.4 (c=2.05, $CHCl_3$)

100% diastereomeric purity

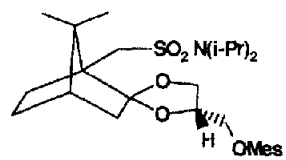
Source of chirality: (-)-camphor-10-sulfonic acid

Absolute configuration: 4'S, abs. configuration at 2' not determined

mp 107-108°C

Hans-Peter Buser, Felix Spindler

Tetrahedron: Asymmetry **1993,** *4*, 2451



$C_{20}H_{37}NO_7S_2$

N,N-Diisopropyl-spiro[bornane-2,2'-(4'-mesyloxymethyl)-[1,3]-dioxolane]-10-sulfonamide

$[\alpha]_D^{25}$= + 12.7 (c=2.16, $CHCl_3$)

100% diastereomeric purity

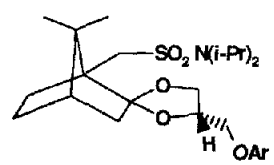
Source of chirality: (-)-camphor-10-sulfonic acid

Absolute configuration: 4'R, abs. configuration at 2' not determined

mp 116-117°C

Hans-Peter Buser, Felix Spindler

Tetrahedron: Asymmetry **1993,** *4*, 2451



$C_{31}H_{42}FNO_6S$

N,N-Diisopropyl-spiro[bornane-2,2'-(4'-(4-(3-fluorophenoxy)-phenoxy)-methyl)-[1,3]-dioxolane]-10-sulfonamide

$[\alpha]_D^{25}$= + 7.78 (c=1.92, $CHCl_3$)

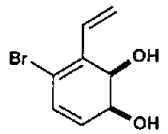
100% diastereomeric purity

Source of chirality: (-)-camphor-10-sulfonic acid

Absolute configuration: 4'S, abs. configuration at 2' not determined

Kurt Königsberger and Tomas Hudlicky*

Tetrahedron: Asymmetry **1993,** *4*, 2469



E.e. > 92%

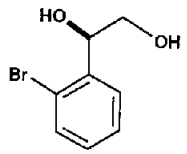
Source of chirality: Enzymatic dihydroxylation

Absolute configuration 1*S*,2*R*

$C_8H_9BrO_2$
4-Bromo-3-ethenylcyclohexa-3,5-diene-1,2-diol

Kurt Königsberger and Tomas Hudlicky*

Tetrahedron: Asymmetry **1993,** *4*, 2469



E.e. = 91%

$[\alpha]_D^{20}$ -7.5 (c 0.99, $CHCl_3$)

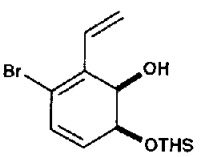
Source of chirality: Enzymatic dihydroxylation

Absolute configuration 1*R*

$C_8H_9BrO_2$
1-(2-Bromophenyl)ethan-1,2-diol

Kurt Königsberger and Tomas Hudlicky*

Tetrahedron: Asymmetry **1993,** *4*, 2469



E.e. > 92%

$[\alpha]_D^{20}$ +109 (c 3.87, $CHCl_3$)

$[\alpha]_{5461}^{20}$ +127 (c 1.32, $CHCl_3$)

Source of chirality: Enzymatic dihydroxylation / synthesis

Absolute configuration 1*R*,6*S*

$C_{16}H_{27}BrO_2Si$
3-Bromo-6-{dimethyl-(2,3-dimethylbut-2-yl)siloxy}-2-ethenylcyclohexa-2,4-dienol

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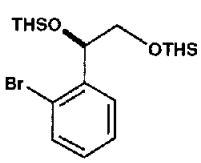
Kurt Königsberger and Tomas Hudlicky*

Tetrahedron: Asymmetry **1993,** *4*, 2469



E.e. = 91%

$[\alpha]_D^{20}$ -29.4 (c 1.17, $CHCl_3$)

$[\alpha]_{5461}^{20}$ -35.3 (c 1.17, $CHCl_3$)

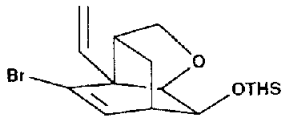
Source of chirality: Enzymatic dihydroxylation / synthesis

Absolute configuration 1*R*

$C_{24}H_{45}BrO_2Si_2$
1,2-Bis{dimethyl-(2,3-dimethylbut-2-yl)siloxy}-1-(2-bromophenyl)ethan

Kurt Königsberger and Tomas Hudlicky*

Tetrahedron: Asymmetry **1993,** *4*, 2469

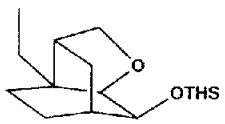


E.e. >92%
$[\alpha]_D^{20}$ -50.9 (c 1.69, $CHCl_3$)
Source of chirality: Enzymatic dihydroxylation / synthesis
Absolute configuration 1*R*,4*R*,6*S*,9*S*,10*S*

$C_{19}H_{31}BrO_2Si$
8-Bromo-9-ethenyl-10-{dimethyl-(2,3-dimethylbut-2-yl)siloxy}-2-oxatricyclo[4.3.1.$0^{4,9}$]dec-7-ene

Kurt Königsberger and Tomas Hudlicky*

Tetrahedron: Asymmetry **1993,** *4*, 2469

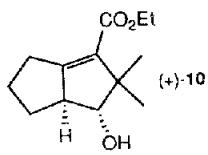


E.e. >92%
$[\alpha]_D^{20}$ -29.5 (c 0.741, $CHCl_3$)
Source of chirality: Enzymatic dihydroxylation / synthesis
Absolute configuration 1*R*,4*R*,6*R*,9*S*,10*S*

$C_{19}H_{36}O_2Si$
9-Ethyl-10-{dimethyl-(2,3-dimethylbut-2-yl)siloxy}-2-oxatricyclo[4.3.1.$0^{4,9}$]decane

M. Franck-Neumann, M. Miesch, A. Cotté, L. Gross, B. Metz

Tetrahedron: Asymmetry **1993,** *4*, 2475

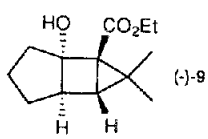


Ethyl 6-hydroxy
7,7-dimethyl bicyclo
[3.3.0]-oct-8-ene-8 carboxylate

E.e. = > 95 %
$[\alpha]_D$ = +114 (c = 0.8, CH_2Cl_2)
Source of chirality : stereospecific solvolysis of (-)-**9**.
Absolution configuration : 5R,6S

M. Franck-Neumann, M. Miesch, A. Cotté, L. Gross, B. Metz

Tetrahedron: Asymmetry **1993,** *4*, 2475

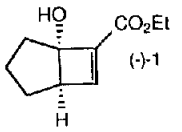


Ethyl 1-(hydroxy)-7,7
dimethyl tricyclo-[3.3.0.$0^{6,8}$]
octane-8-carboxylate

E.e. = > 95 %
$[\alpha]_D$ = -29 (c = 0.9, CH_2Cl_2)
Source of chirality : stereospecific cyclopropanation of (-)-**1**.
Absolution configuration : 1S,5R,6S,8R

M. Franck-Neumann, M. Miesch, A. Cotté, L. Gross, B. Metz

Tetrahedron: Asymmetry **1993**, *4*, 2475

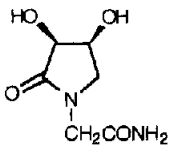


Ethyl 1-hydroxybicyclo-[3.2.0]-hept-6-ene-7-carboxylate

E.e. = > 95 %
$[\alpha]_D$ = -115 (c = 0.8, CH_2Cl_2)
Source of chirality : resolution with chiral lactols of known absolute configuration.
Absolute configuration : 1S,5R
(assigned by rel. X-Ray of synthetic intermediate).

J.F. Almeida, M. Grande, J.R. Morán, J. Anaya, M.L. Mussons and M.C. Caballero

Tetrahedron: Asymmetry **1993**, *4*, 2483



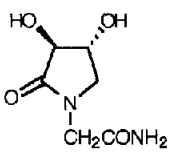
$C_6H_{10}N_2O_4$
(3*S*,4*S*) 3,4-dihydroxy-2-oxopyrrolidine-*N*-acetamide

$[\alpha]_D^{20}$ –10.3 (c 1, MeOH)
mp 146-148°C

Source of chirality: *L*-tartaric acid
Absolute configuration: 3*S*,4*S*

J.F. Almeida, M. Grande, J.R. Morán, J. Anaya, M.L. Mussons and M.C. Caballero

Tetrahedron: Asymmetry **1993**, *4*, 2483



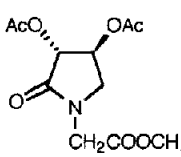
$C_6H_{10}N_2O_4$
(3*S*,4*R*) 3,4-dihydroxy-2-oxopyrrolidine-*N*-acetamide

$[\alpha]_D^{20}$ –70.1 (c 1, MeOH)
mp 148-149°C

Source of chirality: *L*-tartaric acid
Absolute configuration: 3*S*,4*R*

J.F. Almeida, M. Grande, J.R. Morán, J. Anaya, M.L. Mussons and M.C. Caballero

Tetrahedron: Asymmetry **1993**, *4*, 2483



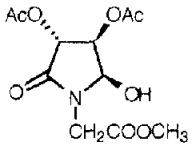
$C_{11}H_{15}NO_7$
(3*R*,4*R*) 3,4-diacetoxy-*N*-methoxycarbonylmethyl-2-pyrrolidinone

$[\alpha]_D^{20}$ +78.6 (c 1, MeOH)
Oil

Source of chirality: *L*-tartaric acid
Absolute configuration: 3*R*,4*R*

J.F. Almeida, M. Grande, J.R. Morán, J. Anaya, M.L. Mussons and M.C. Caballero

Tetrahedron: Asymmetry **1993,** *4*, 2483



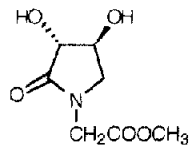
$[\alpha]_D^{20}$ +11.2 (c 1, MeOH)
mp 68–72°C

Source of chirality: *L*-tartaric acid
Absolute configuration: 3*R*,4*R*,5*R*

$C_{11}H_{15}NO_8$
(3*R*,4*R*,5*R*) 3,4-diacetoxy-5-hydroxy-*N*-methoxycarbonylmethyl-2-pyrrolidinone

J.F. Almeida, M. Grande, J.R. Morán, J. Anaya, M.L. Mussons and M.C. Caballero

Tetrahedron: Asymmetry **1993,** *4*, 2483



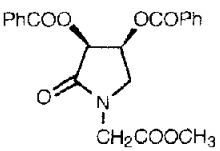
$[\alpha]_D^{20}$ +57.9 (c 1, MeOH)
mp 139–142°C

Source of chirality: *L*-tartaric acid
Absolute configuration: 3*R*,4*S*

$C_7H_{11}NO_5$
(3*R*,4*S*) 3,4-dihydroxy-*N*-methoxycarbonylmethyl-2-pyrrolidinone

J.F. Almeida, M. Grande, J.R. Morán, J. Anaya, M.L. Mussons and M.C. Caballero

Tetrahedron: Asymmetry **1993,** *4*, 2483

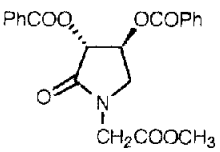


$[\alpha]_D^{20}$ +40.2 (c 1, MeOH)
$\Delta\varepsilon_{237}$ +16.7 (6.5 10^{-4}M, EtOH)
mp 99–100°C
Source of chirality: L-tartaric acid
Absolute configuration: 3*S*,4*S*

$C_{21}H_{19}NO_7$
(3*S*,4*S*) 3,4-dibenzoyloxy-*N*-methoxycarbonylmethyl-2-pyrrolidinone

J.F. Almeida, M. Grande, J.R. Morán, J. Anaya, M.L. Mussons and M.C. Caballero

Tetrahedron: Asymmetry **1993,** *4*, 2483

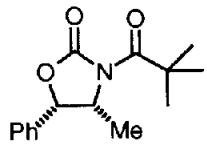


$[\alpha]_D^{20}$ +134.6 (c 1, MeOH)
$\Delta\varepsilon_{237}$ +28.7 (6.5 10^{-4}M, EtOH)
mp 96–98°C
Source of chirality: L-tartaric acid
Absolute configuration: 3*R*,4*S*

$C_{21}H_{19}NO_7$
(3*R*,4*S*) 3,4-dibenzoyloxy-*N*-methoxycarbonylmethyl-2-pyrrolidinone

S.G. Davies and G.J.-M. Doisneau

Tetrahedron: Asymmetry **1993**, *4*, 2513



E.e. = homochiral

$[\alpha]_D^{21}$ = +34.1 (c 1.75, $CHCl_3$)

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

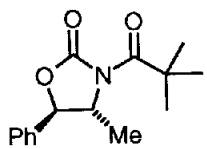
Absolute configuration: 4*R*,5*S*

$C_{15}H_{19}NO_3$

cis-1-(2',2'-dimethyl-1'oxopropyl)-4-methyl-5-phenyl-2-oxazolidinone

S.G. Davies and G.J.-M. Doisneau

Tetrahedron: Asymmetry **1993**, *4*, 2513



E.e. = homochiral

$[\alpha]_D^{21}$ = +28.8 (c 3.5, $CHCl_3$)

Source of chirality: (1*R*,2*R*)-norpseudoephedrine

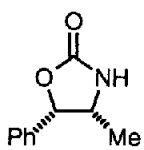
Absolute configuration: 4*R*,5*R*

$C_{15}H_{19}NO_3$

trans-1-(2',2'-dimethyl-1'oxopropyl)-4-methyl-5-phenyl-2-oxazolidinone

S.G. Davies and G.J.-M. Doisneau

Tetrahedron: Asymmetry **1993**, *4*, 2513



E.e. = homochiral

$[\alpha]_D^{21}$ = +161.7 (c 2.2, $CHCl_3$)

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

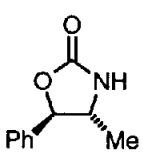
Absolute configuration: 4*R*,5*S*

$C_{10}H_{11}NO_2$

cis-4-methyl-5-phenyl-2-oxazolidinone

S.G. Davies and G.J.-M. Doisneau

Tetrahedron: Asymmetry **1993**, *4*, 2513



E.e. = homochiral

$[\alpha]_D^{21}$ = -29.5 (c 2.3, $CHCl_3$)

Source of chirality: (1*R*,2*R*)-norpseudoephedrine

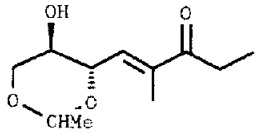
Absolute configuration: 4*R*,5*R*

$C_{10}H_{11}NO_2$

trans-4-methyl-5-phenyl-2-oxazolidinone

I. Izquierdo, M. Rodríguez, M.-T. Plaza and I. Vallejo

Tetrahedron: Asymmetry **1993,** *4*, 2535



$C_{11}H_{18}O_4$

1,2,4,5-Tetradeoxy-6,8-O-ethylidene--4-C-methyl-oct-4-ene-3-ulose

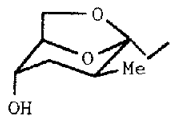
$[\alpha]^{25}_D$ = -55 (c 0.8, Cl_3CH)

Source of chirality: natural

Absolute configuration: E,6S,7R (Assigned by NMR spectroscopy)

I. Izquierdo, M. Rodríguez, M.-T. Plaza and I. Vallejo

Tetrahedron: Asymmetry **1993,** *4*, 2535



$C_9H_{16}O_3$

5-Ethyl-2-hydroxi-4-methyl-6,8--dioxabicyclo[3.2.1]octane

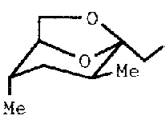
$[\alpha]^{26}_D$ = -94.2 (c 1, Cl_3CH)

Source of chirality: natural and stereoselective synthesis

Absolute configuration: 1R,2S,4S,5R (Assigned by NMR spectroscopy)

I. Izquierdo, M. Rodríguez, M.-T. PLaza and I. Vallejo

Tetrahedron: Asymmetry **1993,** *4*, 2535



$C_{10}H_{18}O_2$

5-Ethyl-2,4-dimethyl-6,8-dioxa-bicyclo[3.2.1]octane

$[\alpha]^{25}_D$ = -74 (c 0.25, *n*-pentane)

Source of chirality: natural and stereoselective synthesis

Absolute configuration: 1S,2S,4S,5R (Assigned by NMR spectroscopy)