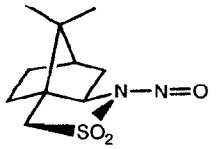
V.Gouverneur , G.Dive and L.Ghosez

Tetrahedron: Asymmetry **1991**, *2*, 1173



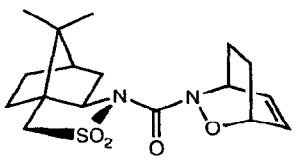
E.e>98%
$[\alpha]_D^{25}$=-116 (c=0.48 , CH_3OH)
Source of chirality :D-bornane-10,2-sultam
Absolute configuration:7S

$C_{10}H_{16}N_2SO_3$

4-(N-nitroso)-7S-10,10-diméthyl-5-thia-4-aza-tricyclo-(5,2,1,$0^{3,7}$))-decane-5,5-dioxyde

V.Gouverneur , G.Dive and L.Ghosez

Tetrahedron: Asymmetry **1991**, *2*, 1173



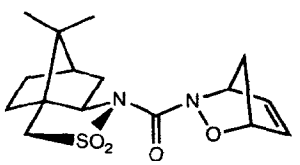
E.e>98%
$[\alpha]_D^{25}$=-57.9 (c=1.06 , $CHCl_3$)
Source of chirality : diastereoselective Diels-Alder cycloaddition
to a chiral acylnitroso dienophile derived from D-bornane-10,2-sultam
Absolute configuration:7S' ,1S ,4R (determined by
independent synthesis from precursor of known configuration)

$C_{17}H_{24}N_2SO_4$

4'-(1R,4S-2-oxa-3-aza-bicyclo-(2,2,2)-oct-5-ene-3-carbonyl)-(7S')-10',10'-diméthyl-
5'-thia-4'-aza-tricyclo-(5,2,1,$0^{3,7}$)-decane-5',5'-dioxyde

V.Gouverneur , G.Dive and L.Ghosez

Tetrahedron: Asymmetry **1991**, *2*, 1173



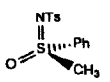
E.e>98%
$[\alpha]_D^{25}$=-89.4 (c=1.06 , $CHCl_3$)
Source of chirality : diastereoselective Diels-Alder cycloaddition
to a chiral acylnitroso dienophile derived from D-bornane-10,2-sultam
Absolute configuration:7S' ,1S ,4R (determined by
analogy with cycloadduct derived from cyclohexadiene)

$C_{16}H_{22}N_2SO_3$

4'-(1R,4S-2-oxa-3-aza-bicyclo-(2,2,1)-hept-5-ene-3-carbonyl)-(7S')-10',10'-diméthyl-
5'-thia-4'-aza-tricyclo-(5,2,1,$0^{3,7}$)-decane-5',5'-dioxyde

D. Craig, N. J. Geach

Tetrahedron: Asymmetry **1991**, *2*, 1177



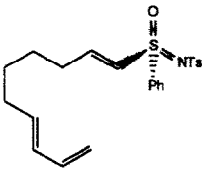
E.e. = 100% [by optical rotation]
$[\alpha]_D^{22}$ +131 (c 1, acetone)
Source of chirality: resolution using (+)-10-camphorsulphonic acid
Absolute configuration: S_S

$C_{14}H_{15}NO_3S_2$

(+)-*S*-methyl-*S*-phenyl-*N*-(*p*-tolylsulphonyl)sulphoximine

D. Craig, N. J. Geach

Tetrahedron: Asymmetry **1991,** 2, 1177



E.e. = 100% [by optical rotation of precursor]
$[\alpha]_D^{22}$ +41.3 (c 1.26, acetone)

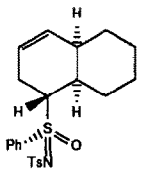
Absolute configuration: S_S

$C_{23}H_{27}NO_3S_2$

(+)-*S*-[(1*E*,7*E*)-1,7,9-decatrienyl]-*S*-phenyl-*N*-(*p*-tolylsulphonyl)sulphoximine

D. Craig, N. J. Geach

Tetrahedron: Asymmetry **1991,** 2, 1177



E.e. = 100% [by optical rotation of precursor]
$[\alpha]_D^{22}$ +138 (c 0.56, CH_2Cl_2)

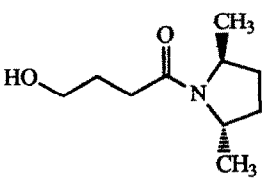
Absolute configuration: S_S, 4R, 5R, 10R

$C_{23}H_{27}NO_3S_2$

(+)-*S*-(Bicyclo[4.4.0]-1-decen-4-yl)-*S*-phenyl-*N*-(*p*-tolylsulphonyl)sulphoximine

L-Y. Chen and L. Ghosez

Tetrahedron: Asymmetry **1991,** 2, 1181



e.e > 99%

$[\alpha]_D^{20}$ = +40.9 (c = 1, $CHCl_3$)

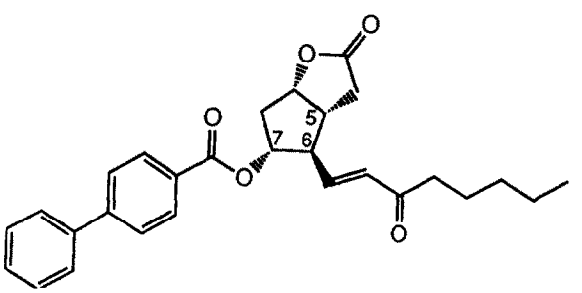
Source of chirality : (2S, 5S) - dimethylpyrrolidine
Absolute configuration 2S, 5S

$C_{10}H_{19}NO_2$

N - (4 - hydroxybuten - 1 - oyl) - (2S, 5S) - dimethylpyrrolidine

L-Y. Chen and L. Ghosez

Tetrahedron: Asymmetry **1991,** 2, 1181



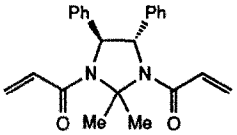
$[\alpha]_D^{23}$ = -144 (c= 0.53, $CHCl_3$)

ee > 99% by comparison to lit. value

Corey, E.J.; Albonico, S.M., Koelliker,U.; Schaaf, T.K.; Varma, R.K. *J. Am. Chem. Soc.* 1971, 93, 1491.

Shuji Kanemasa, Kenjiro Onimura, Eiji Wada, and Junji Tanaka

Tetrahedron: Asymmetry **1991**, *2*, 1185

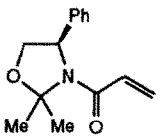


$C_{23}H_{24}N_2O_2$
2,2-Dimethyl-1,3-bis(1-oxo-2-propenyl)-4,5-diphenylimidazolidine

E.e. = 100% [by HPLC on Daicel Chiralcel OD (hexane/2-propanol 3:1 v/v)]
$[\alpha]_D^{24}$ = –119.5 (*c* 1.05, $CHCl_3$)
Source of chirality: (1*S*,2*S*)-1,2-diphenyl-1,2-ethanediamine
Absolute configuration 4S,5S
(derived from the known diamine)

Shuji Kanemasa, Kenjiro Onimura, Eiji Wada, and Junji Tanaka

Tetrahedron: Asymmetry **1991**, *2*, 1185

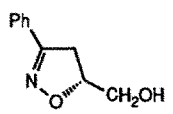


$C_{14}H_{17}NO_2$
2,2-Dimethyl-3-(1-oxo-2-propenyl)-4-phenyloxazolidine

E.e. = 100% [by HPLC on Daicel Chiralcel OD (hexane/2-propanol 3:1 v/v)]
$[\alpha]_D^{25}$ = –85.4 (*c* 1.01, $CHCl_3$)
Source of chirality: commercially available (*R*)-2-amino-2-phenylethanol
Absolute configuration 4R
(derived from the known compound)

Shuji Kanemasa, Kenjiro Onimura, Eiji Wada, and Junji Tanaka

Tetrahedron: Asymmetry **1991**, *2*, 1185

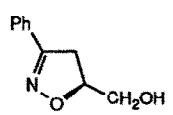


$C_{10}H_{11}NO_2$
5-Hydroxymethyl-3-phenyl-2-isoxazoline

E.e. = 100% [by HPLC on Daicel Chiralcel OB (hexane/2-propanol 3:1 v/v)]
$[\alpha]_D^{25}$ = –172.8 (*c* 0.63, $CHCl_3$)
Source of chirality: (4*R*)-2,2-dimethyl-4-phenyl-oxazolidine
Absolute configuration 5R
(assigned on the basis of α_D)

Shuji Kanemasa, Kenjiro Onimura, Eiji Wada, and Junji Tanaka

Tetrahedron: Asymmetry **1991**, *2*, 1185

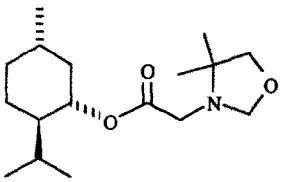


$C_{10}H_{11}NO_2$
5-Hydroxymethyl-3-phenyl-2-isoxazoline

E.e. = 96% [by HPLC on Daicel Chiralcel OB (hexane/2-propanol 3:1 v/v)]
$[\alpha]_D^{25}$ = 169.1 (*c* 0.41, $CHCl_3$)
Source of chirality: (4*S*,5*S*)-2,2-dimethyl-4,5-diphenyl-imidazolidine
Absolute configuration 5S
(assigned on the basis of α_D)

P. Deprez, J. Royer, H.-P. Husson

Tetrahedron: Asymmetry **1991,** *2*, 1189

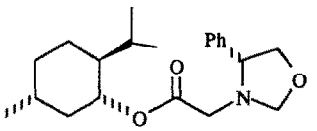


Source of chirality (+)-menthol ≥99%
$[\alpha]_D^{20}$ +57 (c 0.9, $CHCl_3$)

3-oxazolidineacetic acid, 4-dimethyl (+)-menthyl ester.

P. Deprez, J. Royer, H.-P. Husson

Tetrahedron: Asymmetry **1991,** *2*, 1189

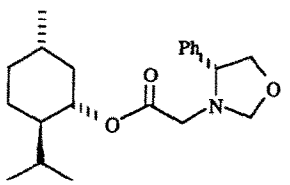


Source of chirality (-)-menthol >99%
and *R*-(-)-phenylglycinol >98%
$[\alpha]_D^{20}$ -144 (c 1.2, $CHCl_3$)

(4*R*)-3-oxazolidineacetic acid, 4-phenyl (-)-menthyl ester.

P. Deprez, J. Royer, H.-P. Husson

Tetrahedron: Asymmetry **1991,** *2*, 1189

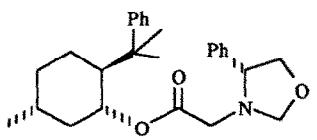


Source of chirality (+)-menthol >99% and
R-(-)-phenylglycinol >98%
$[\alpha]_D^{20}$ -41 (c 5.4, $CHCl_3$)

(4*R*)-3-oxazolidineacetic acid, 4-phenyl (+)-menthyl ester.

P. Deprez, J. Royer, H.-P. Husson

Tetrahedron: Asymmetry **1991,** *2*, 1189

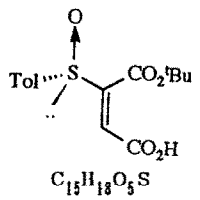


Source of chirality : (-)-8-phenyl-menthol
and *R*-(-)-phenylglycinol ≥98%
$[\alpha]_D^{20}$ -59 (c 3.7, $CHCl_3$)

(4*R*)-3-oxazolidineacetic acid, 4-phenyl (-)-8-phenylmenthyl ester.

I. Alonso, M. B. Cid, J. C. Carretero, J. L. García Ruano and M. A. Hoyos

Tetrahedron: Asymmetry **1991**, *2*, 1193



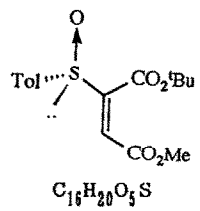
$C_{15}H_{18}O_5S$

E.e≥98% [by ^{1}H-NMR of its methyl ester; shift reagent Yb(hfc)$_3$]
$[\alpha]_D^{20}$=+181 (c=0.76, $CHCl_3$)
Source of chirality: (R)-*t*-butyl *p*-toluenesulfinyl acetate.
Absolute configuration: S

(E)-3-*t*-butoxycarbonyl-3-*p*-tolylsulfinylpropenoic acid

I. Alonso, M. B. Cid, J. C. Carretero, J. L. García Ruano and M. A. Hoyos

Tetrahedron: Asymmetry **1991**, *2*, 1193



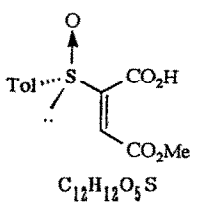
$C_{16}H_{20}O_5S$

E.e≥98% [by ^{1}H-NMR; shift reagent Yb(hfc)$_3$]
$[\alpha]_D^{20}$=+179 (c=1, $CHCl_3$)
Source of chirality: (R)-*t*-butyl *p*-toluenesulfinyl acetate.
Absolute configuration: S

(E)-3-*t*-butoxycabonyl-3-*p*-tolylsulfinylpropenoic acid methyl ester

I. Alonso, M. B. Cid, J. C. Carretero, J. L. García Ruano and M. A. Hoyos

Tetrahedron: Asymmetry **1991**, *2*, 1193



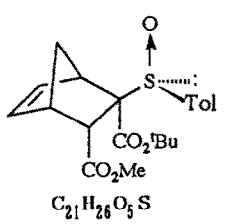
$C_{12}H_{12}O_5S$

E.e≥98% [by ^{1}H-NMR of its *t*-butyl ester; shift reagent Yb(hfc)$_3$]
$[\alpha]_D^{20}$=+178.3 (c=0.5, $CHCl_3$)
Source of chirality: (R)-*t*-butyl *p*-toluenesulfinyl acetate.
Absolute configuration: S

(E)-3-methoxycarbonyl-2-*p*-tolylsulfinylpropenoic acid

I. Alonso, M. B. Cid, J. C. Carretero, J. L. García Ruano and M. A. Hoyos

Tetrahedron: Asymmetry **1991**, *2*, 1193



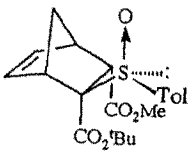
$C_{21}H_{26}O_5S$

E.e≥98%. d.e=90% (by ^{1}H-NMR)
$[\alpha]_D^{20}$=-27.6 (c=0.88, $CHCl_3$)
Source of chirality: asymmetric synthesis (Diels-Alder)
Absolute configuration: R_1,R_2,S_3,S_4,S_8 (assigned by chemical correlation)

2-*t*-butoxycarbonyl-3-methoxycarbonyl-2-*p*-tolylsulfinylbicycle[2.2.1]hept-5-ene

I. Alonso, M. B. Cid, J. C. Carretero, J. L. García Ruano and M. A. Hoyos

Tetrahedron: Asymmetry **1991**, *2*, 1193



$C_{21}H_{26}O_5S$

E.e≥98%. d.e=87% (by ^{1}H-NMR)
$[\alpha]_D^{20}$=+68.2 (c=1.96, $CHCl_3$)
Source of chirality: asymmetric synthesis (Diels-Alder)
Absolute configuration: S_1,S_2,R_3,R_4,S_5 (assigned by chemical correlation and by X-ray analysis of a derivative)

2-*t*-butoxycarbonyl-3-methoxycarbonyl-2-*p*-tolylsulfinylbicycle[2.2.1]hept-5-ene

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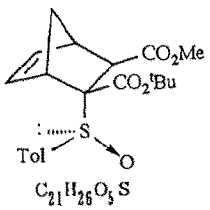
I. Alonso, M. B. Cid, J. C. Carretero, J. L. García Ruano and M. A. Hoyos

Tetrahedron: Asymmetry **1991**, *2*, 1193



$C_{21}H_{26}O_5S$

E.e≥98%. d.e=98% (by ^{1}H-NMR)
$[\alpha]_D^{20}$=-7.9 (c=0.95, $CHCl_3$)
Source of chirality: asymmetric synthesis (Diels-Alder)
Absolute configuration: S_1,R_2,S_3,R_4,S_5 (assigned by chemical correlation)

2-*t*-butoxycarbonyl-3-methoxycarbonyl-2-*p*-tolylsulfinylbicycle[2.2.1]hept-5-ene

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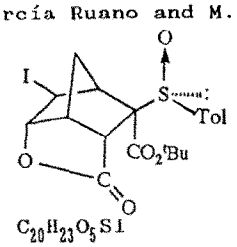
I. Alonso, M. B. Cid, J. C. Carretero, J. L. García Ruano and M. A. Hoyos

Tetrahedron: Asymmetry **1991**, *2*, 1193



$C_{20}H_{23}O_5SI$

E.e≥98% (by ^{1}H-NMR of a precusor)
$[\alpha]_D^{20}$=-63.1 (c=2.18, $CHCl_3$)
Source of chirality: asymmetric synthesis
Absolute configuration: $S_1,S_2,S_3,S_6,R_7,S_9,S_8$ (assigned by chemical correlation of a precursor)

t-Butyl 2-iodo-4-oxa-5-oxo-9-*p*-tolylsulfinyltricycle[4.2.1.$0^{3,7}$]nonane-9-carboxylate

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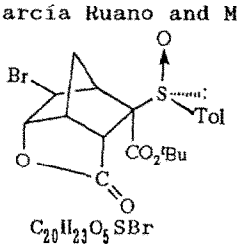
I. Alonso, M. B. Cid, J. C. Carretero, J. L. García Ruano and M. A. Hoyos

Tetrahedron: Asymmetry **1991**, *2*, 1193



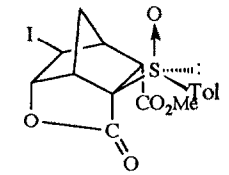
$C_{20}H_{23}O_5SBr$

E.e≥98% (by ^{1}H- RMN of a precursor)
$[\alpha]_D^{20}$=-50.9 (c=1.25, $CHCl_3$)
Source of chirality: asymmetric synthesis
Absolute configuration: $S_1,S_2,S_3,S_6,R_7,S_9,S_8$ (assigned by chemical correlation of a precursor)

t-Butyl 2-bromo-4-oxa-5-oxo-9-*p*-tolylsulfinyltricycle[4.2.1.$0^{3,7}$]nonane-9-carboxylate

I. Alonso, M. B. Cid, J. C. Carretero, J. L. García Ruano and M. A. Hoyos

Tetrahedron: Asymmetry **1991**, *2*, 1193



$C_{17}H_{17}O_5SI$

E.e≥98% (by ^{1}H-RMN of a precursor)
$[\alpha]_D^{20}$=+152.6 (c=1.49, $CHCl_3$)
Source of chirality: asymmetric synthesis
Absolute configuration: $S_1, S_2, S_3, S_6, S_7, R_9, S_s$ (assigned by chemical correlation of a precursor and by comparation with the ^{1}H-NMR of the corresponding bromolactone)

Methyl 2-iodo-4-oxa-5-oxo-6-*p*-tolylsulfinyltricycle[4.2.1.0^{3,7}]nonane-9-carboxylate

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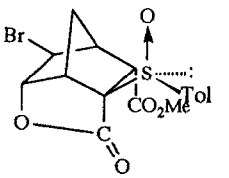
I. Alonso, M. B. Cid, J. C. Carretero, J. L. García Ruano and M. A. Hoyos

Tetrahedron: Asymmetry **1991**, *2*, 1193



$C_{17}H_{17}O_5SBr$

E.e≥98% (by ^{1}H-RMN of a precursor)
$[\alpha]_D^{20}$=+194.9 (c=0.85, $CHCl_3$)
Source of chirality: asymmetric synthesis
Absolute configuration: $S_1, S_2, S_3, S_6, S_7, R_9, S_s$ (determined by X-ray crystallography)

Methyl 2-bromo-4-oxa-5-oxo-6-*p*-tolylsulfinyltricycle[4.2.1.0^{3,7}]nonane-9-carboxylate

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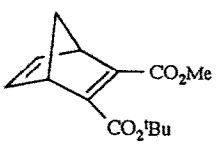
I. Alonso, M. B. Cid, J. C. Carretero, J. L. García Ruano and M. A. Hoyos

Tetrahedron: Asymmetry **1991**, *2*, 1193



$C_{14}H_{18}O_4$

E.e=87% [by ^{1}H-NMR with Yb(hfc)$_3$]
$[\alpha]_D^{20}$=+3.0 (c=1.16, $CHCl_3$)
Source of chirality: asymmetric synthesis
Absolute configuration: 1S,4R (assigned by chemical correlation with a known compound)

2-*t*-butoxycarbonyl-3-methoxycarbonylbicycle[2.2.1]hepta-2,5-diene

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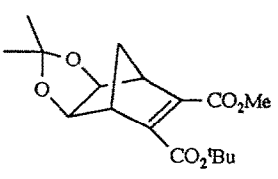
I. Alonso, M. B. Cid, J. C. Carretero, J. L. García Ruano and M. A. Hoyos

Tetrahedron: Asymmetry **1991**, *2*, 1193



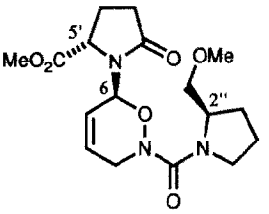
$C_{13}H_{16}O_6$

E.e=77% (by ^{1}H-NMR of a precursor and by comparation with reported [α] value)
$[\alpha]_D^{20}$=+22 (c=1.09, $CHCl_3$) ($[\alpha]_{lit}$=+29.5, c=1.2, $CHCl_3$, e.e=100%)
Source of chirality: asymmetric synthesis
Absolute configuration: 3aR,4R,7S,7aS

3a,4,7,7a-tetrahydro-2,2-dimethyl-6-(methoxycarbonyl)-4,7-methano-1,3-benzodioxole-5-carboxylic acid

A. Defoin, J. Pires, I. Tissot, T. Tschamber, D. Bur, M. Zehnder, J. Streith

Tetrahedron: Asymmetry **1991,** *2*, 1209



E.e. = 100%

$[\alpha]_D^{20} = -18$ (*c* 1.05, $CHCl_3$)

Source of chirality : natural and asymm. synth. (*Diels-Alder*)

Absolute configuration : 6(S), 5'(S), 2"(R)
(assigned from the reaction mechanism)

$C_{17}H_{25}N_3O_6$

(6S)-6-[(S)-5-Methoxycarbonyl-2-oxo-pyrrolidin-1-yl]-2-[(R)-2-(methoxymethyl)-pyrrolidin-1-carbonyl]-3,6-dihydro-2*H*-1,2-oxazine

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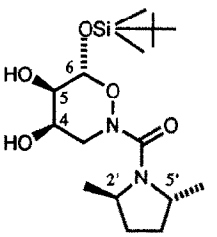
A. Defoin, J. Pires, I. Tissot, T. Tschamber, D. Bur, M. Zehnder, J. Streith

Tetrahedron: Asymmetry **1991,** *2*, 1209



E.e. = 100%

$[\alpha]_D^{25} = -63$ (*c* 1.0, $CHCl_3$)

Source of chirality : natural and asymm. synth (*Diels-Alder*)

Absolute configuration : 4(R), 5(R), 6(S), 2'(R), 5'(R)
(determined by X-Ray)

$C_{17}H_{34}N_2O_5Si$

[4R,5R,6S]-6-(*t*-Butyldimethylsilyloxy)-2-[(2R,5R)-2,5-dimethylpyrolidine-1-carbamoyl]-tetrahydro-2*H*-1,2-oxazine-4,5-diol

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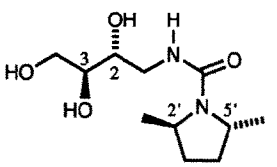
A. Defoin, J. Pires, I. Tissot, T. Tschamber, D. Bur, M. Zehnder, J. Streith

Tetrahedron: Asymmetry **1991,** *2*, 1209



E.e. = 100%

$[\alpha]_D^{25} = -36.4$ (*c* 1.0, MeOH)

Source of chirality : natural and asymm. synth. (*Diels-Alder*)

Absolute configuration : 2(S), 3(R), 2'(R), 5'(R)
(assigned by rel. X-Ray of synth. intermed.)

$C_{11}H_{22}N_2O_4$

[2S,3R]-4-[(2R,5R)-2,5-Dimethylpyrrolidine-1-carbonyl]-aminobutane-1,2,3-triol

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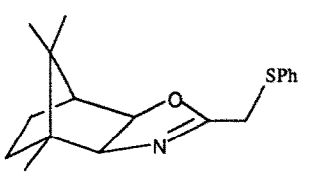
Y. Langlois, A. Pouilhès

Tetrahedron: Asymmetry **1991,** *2*, 1223



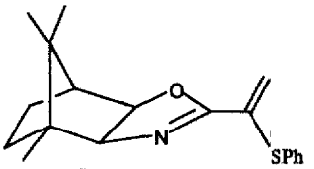
$[\alpha]_D$ = -86 (c 1.44, $CHCl_3$)
Absolute configuration : 3aS,4R,7S,7aR
Source of chiraliy : (1R)-(+)-camphor ee : 99%

$C_{18}H_{23}NOS$

2-phenylthiomethyl-3a,4,5,6,7,7a-hexahydro-4,8,8-trimethyl-4,7-methanobenzoxazole

Y. Langlois, A. Pouilhès

Tetrahedron: Asymmetry **1991,** *2*, 1223



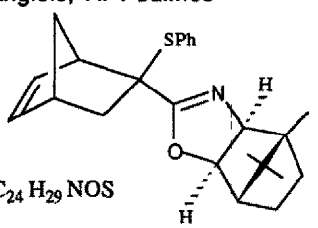
$C_{19}H_{23}NOS$

$[\alpha]_D$ = -71 (c 1.27, $CHCl_3$)
Absolute configuration : 3aS,4R,7S,7aR
Source of chiraliy : (1R)-(+)-camphor ee : 99%

2-(1-phenylthio)-ethenyl-3a,4,5,6,7,7a-hexahydro-4,8,8-trimethyl-4,7-methanobenzoxazole

Y. Langlois, A. Pouilhès

Tetrahedron: Asymmetry **1991,** *2*, 1223



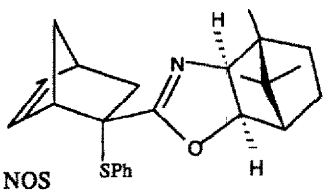
$C_{24}H_{29}NOS$

$[\alpha]_D$ = +54 (c 1.73, $CHCl_3$) ee > 95% ^1H NMR
Absolute configuration : 3aS,4R,7S,7aR,1'R,2'S,4'R
Source of chiraliy : (1R)-(+)-camphor ee : 99%

3a,4,5,6,7,7a-hexahydro-4,7-methano-2-(2'-phenylthio bicyclo[2.2.1] hept-5'-ene-2'yl)-4,8,8-trimethylbenzoxazole

Y. Langlois, A. Pouilhès

Tetrahedron: Asymmetry **1991,** *2*, 1223



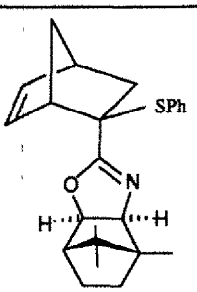
$C_{24}H_{29}NOS$

$[\alpha]_D$ = -55 (c 0.27, $CHCl_3$) ee > 98% ^1H NMR
Absolute configuration : 3aS,4R,7S,7aR,1'S,2'S,4'S
Source of chiraliy : (1R)-(+)-camphor ee : 99%

3a,4,5,6,7,7a-hexahydro-4,7-methano-2-(2'-phenylthio bicyclo[2.2.1] hept-5'-ene-2'yl)-4,8,8-trimethylbenzoxazole

Y. Langlois, A. Pouilhès

Tetrahedron: Asymmetry **1991,** *2*, 1223



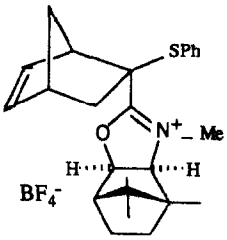
$C_{24}H_{29}NOS$

$[\alpha]_D$ = -120 (c 0.91, $CHCl_3$) ee > 98% ^1H NMR
Absolute configuration : 3aS,4R,7S,7aR,1'S,2'R,4'S
Source of chiraliy : (1R)-(+)-camphor ee : 99%

3a,4,5,6,7,7a-hexahydro-4,7-methano-2-(2'-phenylthio bicyclo[2.2.1] hept-5'-ene-2'yl)-4,8,8-trimethylbenzoxazole

Y. Langlois, A. Pouilhès

Tetrahedron: Asymmetry **1991**, 2, 1223



$C_{25}H_{32}BF_4NOS$

$[\alpha]_D$ = +83 (c 1.03, $CHCl_3$)
Absolute configuration : 3aS,4R,7S,7aR,1'R,2'S,4'R
Source of chiraliy : (1R)-(+)-camphor ee : 99%

3a,4,5,6,7,7a-hexahydro-4,7-methano-2-(2'-phenylthio bicyclo[2.2.1] hept-5'-ene-2'yl)-3,4,8,8-tetramethylbenzoxazolium tetrafluoroborate

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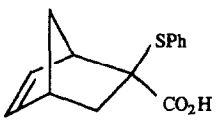
Y. Langlois, A. Pouilhès

Tetrahedron: Asymmetry **1991**, 2, 1223



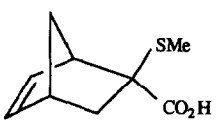
$C_{14}H_{14}O_2S$

$[\alpha]_D$ = +21 (c 0.67, $CHCl_3$)
Absolute configuration : 1R,2R,4R

2-(phenylthio)-bicyclo[2.2.1]hept-5-ene-2-carboxyclic acid

Y. Langlois, A. Pouilhès

Tetrahedron: Asymmetry **1991**, 2, 1223



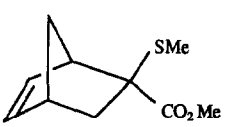
$C_9H_{12}O_2S$

$[\alpha]_D$ = +85 (c 0.97, $CHCl_3$) ee : 95% (méthyl ester)
Absolute configuration : 1R,2R,4R

2-(methylthio)-bicyclo[2.2.1]hept-5-ene-2-carboxyclic acid

Y. Langlois, A. Pouilhès

Tetrahedron: Asymmetry **1991**, 2, 1223



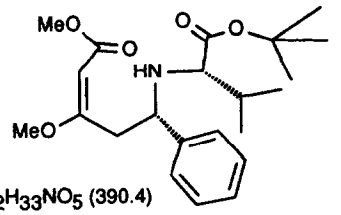
$C_{10}H_{14}O_2S$

$[\alpha]_D$ = +62 (c 0.91, $CHCl_3$) ee : 95% (GC-MS)
Absolute configuration : 1R,2R,4R

2-(methylthio)-bicyclo[2.2.1]hept-5-ene-2-carboxyclic acid, methyl ester

H. Waldmann, M. Braun and M. Dräger

Tetrahedron: Asymmetry **1991**, *2*, 1231



$C_{22}H_{33}NO_5$ (390.4)

$[\alpha]_D^{25} = -83.2$ (c = 1, CH_2Cl_2)

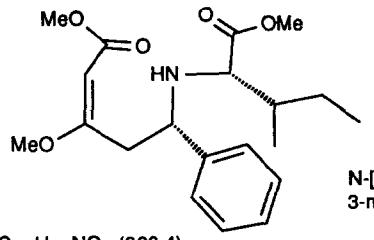
Source of chirality : L - valine

Absolute configuration (5S)

N-[(S)-1-tert-Butyloxycarbonyl-2-methylpropyl]-(5S)-5-amino-3-methoxy-5-phenyl-pent-2-enoic acid methyl ester

H. Waldmann, M. Braun and M. Dräger

Tetrahedron: Asymmetry **1991**, *2*, 1231



$C_{20}H_{29}NO_5$ (360.4)

$[\alpha]_D^{25} = -61.2^{\circ}$ (c = 1.1, CH_2Cl_2)

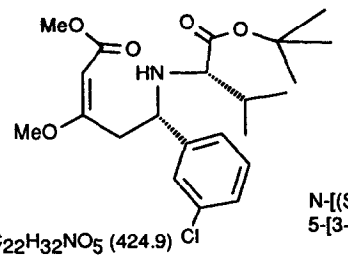
Source of chirality : L - isoleucine

Absolute configuration (5S)

N-[(1S,2S)-1-Methoxycarbonyl-2-methylbutyl]-(5S)-5-amino 3-methoxy-5-phenyl-pent-2-enoic acid methyl ester

H. Waldmann, M. Braun and M. Dräger

Tetrahedron: Asymmetry **1991**, *2*, 1231



$C_{22}H_{32}NO_5$ (424.9)

$[\alpha]_D^{25} = -82.2$ (c = 1, CH_2Cl_2)

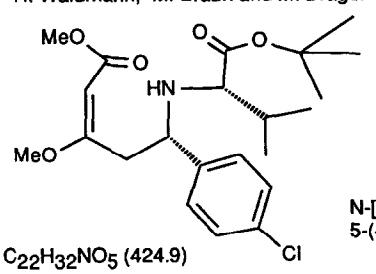
Source of chirality : L - valine

Absolute configuration (5S)

N-[(S)-1-tert-Butyloxycarbonyl-2-methylpropyl]-5(S)-5-amino-5-[3-chlorophenyl]-3-methoxy-pent-2-enoic acid methyl ester

H. Waldmann, M. Braun and M. Dräger

Tetrahedron: Asymmetry **1991**, *2*, 1231



$C_{22}H_{32}NO_5$ (424.9)

$[\alpha]_D^{25} = -95.5$ (c = 1, CH_2Cl_2)

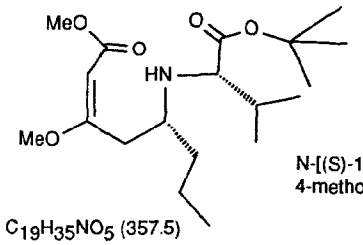
Source of chirality : L - valine

Absolute configuration (5S)

N-[(S)-1-tert-Butyloxycarbonyl-2-methylpropyl]-(5S)-5-amino-5-(4-chlorophenyl)-3-methoxy-pent-2-enoic acid methyl ester

H. Waldmann, M. Braun and M. Dräger

Tetrahedron: Asymmetry **1991**, *2*, 1231



$[\alpha]_D^{25} = -83.2$ (c = 1, CH_2Cl_2)

Source of chirality : L - valine

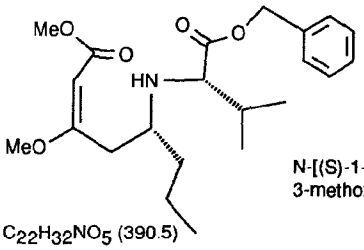
Absolute configuration (5R)

N-[(S)-1-tert-Butyloxycarbonyl-2methylpropyl]-(5R)-5-amino-4-methoxy-oct-2-enoic acid methyl ester

$C_{19}H_{35}NO_5$ (357.5)

H. Waldmann, M. Braun and M. Dräger

Tetrahedron: Asymmetry **1991**, *2*, 1231



$[\alpha]_D = -74.7$ (c = 1, CH_2Cl_2)

Source of chirality : L - valine

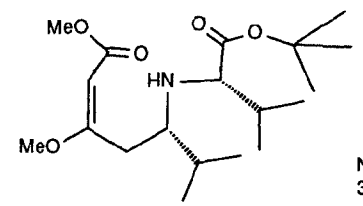
Absolute configuration (5R)

N-[(S)-1-Benzyl-oxycarbonyl-2methylpropyl]-(5R)-5-amino-3-methoxy-oct-2-enoic acid methyl ester

$C_{22}H_{32}NO_5$ (390.5)

H. Waldmann, M. Braun and M. Dräger

Tetrahedron: Asymmetry **1991**, *2*, 1231



$[\alpha]_D^{25} = -53.4$ (c = 1, CH_2Cl_2)

Source of chirality : L - valine

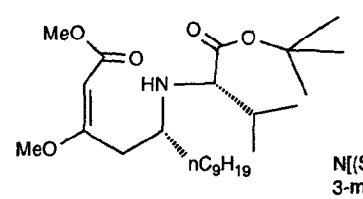
Absolute configuration (5R)

N-[(S)-1-tert-Butyloxycarbonyl-2-methylpropyl]-(5R)-5-amino 3-methoxy-6-methyl-hept-2-enoic acid methyl ester

$C_{19}H_{34}NO_5$ (356.5)

H. Waldmann, M. Braun and M. Dräger

Tetrahedron: Asymmetry **1991**, *2*, 1231



$[\alpha]_D^{25} = -37.2$ (c = 1, CH_2Cl_2)

Source of chirality : L - valine

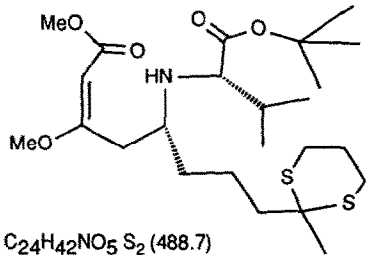
Absolute configuration (5R)

N[(S)-1-tert-Butyloxycarbonyl-2-methylpropyl]-(5R)-2-amino 3-methoxy-tetradec-2-enoic acid methyl ester

$C_{25}H_{47}NO_5$ (441.6)

H. Waldmann, M. Braun and M. Dräger

Tetrahedron: Asymmetry **1991,** *2*, 1231



$C_{24}H_{42}NO_5S_2$ (488.7)

$[\alpha]_D^{25} = -23.2$ (c = 1, CH_2Cl_2)

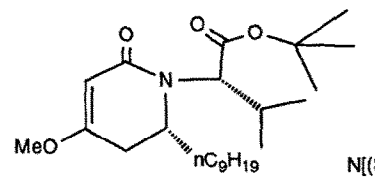
Source of chirality : L - valine

Absolute configuration (5R)

N-[(S)-1-tert-Butyloxycarbonyl-2-methylpropyl]-(5R)-5-amino-3-methoxy-8-(2-methyl-1,3-dithian-2-yl)-oct-2-enoic acid methyl ester

H. Waldmann, M. Braun and M. Dräger

Tetrahedron: Asymmetry **1991,** *2*, 1231



$C_{24}H_{41}NO_4$ (423 5)

$[\alpha]_D^{25} = -40.3$ (c = 1, CH_2Cl_2)

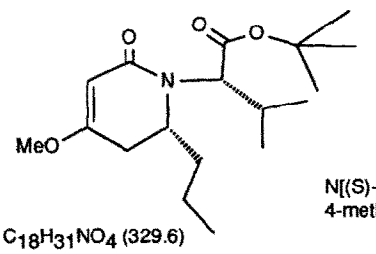
Source of chirality : L - valine

Absolute configuration (6R)

N[(S)-1-tert-Butyloxycarbonyl-2-methylpropyl]-(6R)-4-methoxy-6-n-nonyl-3,4-didehydro-piperidin-2-one

H. Waldmann, M. Braun and M. Dräger

Tetrahedron: Asymmetry **1991,** *2*, 1231



$C_{18}H_{31}NO_4$ (329.6)

$[\alpha]_D^{25} = -53.6$ (c = 1, CH_2Cl_2)

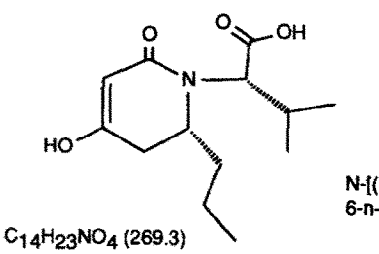
Source of chirality : L - valine

Absolute configuration (6R)

N[(S)-1-tert-butyloxycarbonyl-2-methylpropyl]-(6R)-4-methoxy-6-n-propyl-3,4-didehydro-piperidin-2-one

H. Waldmann, M. Braun and M. Dräger

Tetrahedron: Asymmetry **1991,** *2*, 1231



$C_{14}H_{23}NO_4$ (269.3)

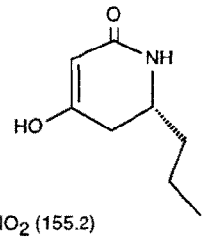
Source of chirality : L - valine

Absolute configuration (5R)

N-[(S)-1-Carboxy-2-methylpropyl]-(6R)-4-hydroxy-6-n-propyl-3,4-didehydro-piperidin-2-one

H. Waldmann, M. Braun and M. Dräger

Tetrahedron: Asymmetry **1991,** *2*, 1231



$[\alpha]_D^{25} = -25.4$ (c = 1, CH_2Cl_2)

Source of chirality : L - valine

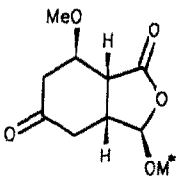
Absolute configuration (6R)

(6R)-4-Hydroxy-6-n-propyl-3,4-didehydro-piperidin-2-one

$C_8H_{13}NO_2$ (155.2)

J.C. de Jong, F. van Bolhuis, B.L. Feringa*

Tetrahedron: Asymmetry **1991,** *2*, 1247



E.e. > 99%

$[\alpha]_D$ -124.5 (c 1.08, CH_2Cl_2)

Source of chirality: *l*-menthol

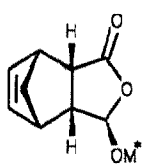
Absolute configuration 3R

$C_{19}H_{30}O_5$

(OM* = *l*-menthyloxy)

J.C. de Jong, F. van Bolhuis, B.L. Feringa*

Tetrahedron: Asymmetry **1991,** *2*, 1247



E.e. > 99%

$[\alpha]_D$ -130.9 (c 1.0, CH_2Cl_2)

Source of chirality: *l*-menthol

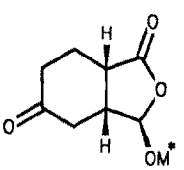
Absolute configuration 3R

$C_{19}H_{28}O_3$

(OM* = *l*-menthyloxy)

J.C. de Jong, F. van Bolhuis, B.L. Feringa*

Tetrahedron: Asymmetry **1991,** *2*, 1247



E.e. > 99%

Source of chirality: *l*-menthol

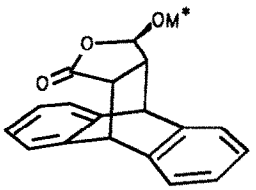
Absolute configuration 3R

$C_{18}H_{28}O_4$

(OM* = *l*-menthyloxy)

J.C. de Jong, F. van Bolhuis, B.L. Feringa*

Tetrahedron: Asymmetry **1991**, *2*, 1247



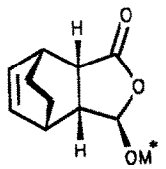
$C_{28}H_{32}O_3$

E.e. > 99%
$[\alpha]_D$ -65.4 (c 1.0, CH_2Cl_2)
Source of chirality: *l*-menthol
Absolute configuration 3R

(OM* = *l*-menthyloxy)

J.C. de Jong, F. van Bolhuis, B.L. Feringa*

Tetrahedron: Asymmetry **1991**, *2*, 1247



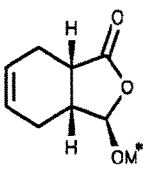
$C_{20}H_{30}O_3$

E.e. > 99%
$[\alpha]_D$ -131.8 (c 1.0, *n*-hexane)
Source of chirality: *l*-menthol
Absolute configuration 3R

(OM* = *l*-menthyloxy)

J.C. de Jong, F. van Bolhuis, B.L. Feringa*

Tetrahedron: Asymmetry **1991**, *2*, 1247



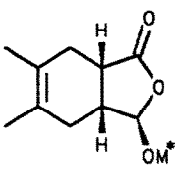
$C_{18}H_{28}O_3$

E.e. > 99%
$[\alpha]_D$ -205.7 (c 1.0, CH_2Cl_2)
Source of chirality: *l*-menthol
Absolute configuration 3R

(OM* = *l*-menthyloxy)

J.C. de Jong, F. van Bolhuis, B.L. Feringa*

Tetrahedron: Asymmetry **1991**, *2*, 1247



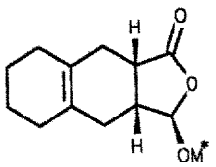
$C_{20}H_{32}O_3$

E.e. > 99%
$[\alpha]_D$ -214.1 (c 1.0, *n*-hexane)
Source of chirality: *l*-menthol
Absolute configuration 3R

(OM* = *l*-menthyloxy)

J.C. de Jong, F. van Bolhuis, B.L. Feringa*

Tetrahedron: Asymmetry **1991**, *2*, 1247



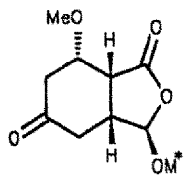
E.e. > 99%
$[\alpha]_D$ -218.0 (c 0.99, Et_2O)
Source of chirality: *l*-menthol
Absolute configuration 3R

$C_{22}H_{34}O_3$

(OM* = *l*-menthyloxy)

J.C. de Jong, F. van Bolhuis, B.L. Feringa*

Tetrahedron: Asymmetry **1991**, *2*, 1247



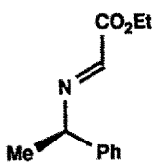
E.e. > 99%
$[\alpha]_D$ -199.9 (c 1.00, CH_2Cl_2)
Source of chirality: *l*-menthol
Absolute configuration 3R

$C_{19}H_{30}O_5$

(OM* = *l*-menthyloxy)

Tetrahedron: Asymmetry **1991**, *2*, 1263

P.D. Bailey, G.R. Brown, F. Korber, A. Reed and R.D. Wilson

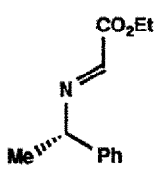


E.e. > 97% (from chiral HPLC of Diels-Alder adducts)
$[\alpha]_D^{24}$ +45 (c = 1.00, $CHCl_3$)
Source of chirality : (R)-1-phenylethylamine
Absolute configuration : (R)

$C_{12}H_{15}NO_2$ Ethyl [(R)-1-phenylethyl]iminoethanoate

Tetrahedron: Asymmetry **1991**, *2*, 1263

P.D. Bailey, G.R. Brown, F. Korber, A. Reed and R.D. Wilson

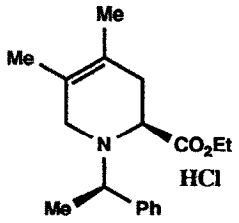


E.e. > 99% (from chiral HPLC of Diels-Alder adducts)
$[\alpha]_D^{24}$ -45 (c = 1.00, $CHCl_3$)
Source of chirality : (S)-1-phenylethylamine
Absolute configuration : (S)

$C_{12}H_{15}NO_2$ Ethyl [(S)-1-phenylethyl]iminoethanoate

P.D. Bailey, G.R. Brown, F. Korber, A. Reed and R.D. Wilson

Tetrahedron: Asymmetry **1991,** *2*, 1263

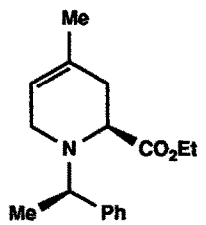


E.e. > 97% (inferred from chiral HPLC of other Diels-Alder adducts)
$[\alpha]_D^{20}$ -7.5 (c = 1.00, MeOH)
Source of chirality : (R)-1-phenylethylamine
Absolute configuration : 1'R, 6S (relative stereochemistry determined by single crystal X-ray diffraction)

$C_{18}H_{25}NO_2.HCl$ (6S)-1-[(R)-1-Phenylethyl]-6-ethoxycarbonyl-3,4-dimethyl-3,4-didehydropiperidine

P.D. Bailey, G.R. Brown, F. Korber, A. Reed and R.D. Wilson

Tetrahedron: Asymmetry **1991,** *2*, 1263

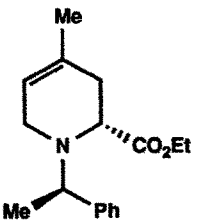


E.e. > 92% (from chiral HPLC)
$[\alpha]_D^{25}$ +7.5 (c = 1.00, $CHCl_3$)
Source of chirality : (R)-1-phenylethylamine
Absolute configuration : 1'R, 6S (stereochemistry at 6-position assigned after transformation to known compounds)

$C_{17}H_{23}NO_2$ (6S)-1-[(R)-1-Phenylethyl]-6-ethoxycarbonyl-4-methyl-3,4-didehydropiperidine

P.D. Bailey, G.R. Brown, F. Korber, A. Reed and R.D. Wilson

Tetrahedron: Asymmetry **1991,** *2*, 1263

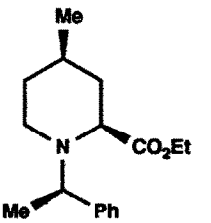


E.e. > 97% (from chiral HPLC)
$[\alpha]_D^{22}$ -65 (c = 2.00, $CHCl_3$)
Source of chirality : (R)-1-phenylethylamine
Absolute configuration : 1'R, 6R (stereochemistry at 6-position inferred from comparison with the 1'R, 6S isomer)

$C_{17}H_{23}NO_2$ (6R)-1-[(R)-1-Phenylethyl]-6-ethoxycarbonyl-4-methyl-3,4-didehydropiperidine

P.D. Bailey, G.R. Brown, F. Korber, A. Reed and R.D. Wilson

Tetrahedron: Asymmetry **1991,** *2*, 1263

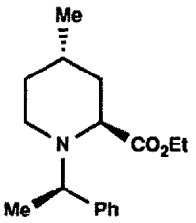


E.e. > 97% (inferred from e.e. of didehydro precursor)
$[\alpha]_D^{24}$ -17.5 (c = 1.00, $CHCl_3$)
Source of chirality : (R)-1-phenylethylamine
Absolute configuration : 1'R, 2S, 4R (2S, 4R stereochemistry assigned after transformation to known compound)

$C_{17}H_{25}NO_2$ Ethyl (2S,4R)-1-[(R)-1-phenylethyl]-4-methylpipecolate

P.D. Bailey, G.R. Brown, F. Korber, A. Reed and R.D. Wilson

Tetrahedron: Asymmetry **1991,** *2*, 1263



E.e. > 97% (inferred from e.e. of didehydro precursor)
$[\alpha]_D^{24}$ +32.5 (c = 1.00, $CHCl_3$)
Source of chirality : (R)-1-phenylethylamine
Absolute configuration : 1'R, 2S, 4S (2S, 4S stereochemistry assigned after transformation to known compound)

$C_{17}H_{25}NO_2$ Ethyl (2S,4S)-1-[(R)-1-phenylethyl]-4-methylpipecolate

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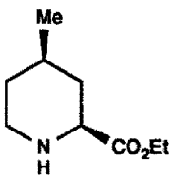
P.D. Bailey, G.R. Brown, F. Korber, A. Reed and R.D. Wilson

Tetrahedron: Asymmetry **1991,** *2*, 1263

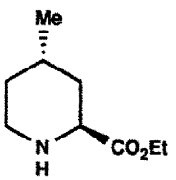


E.e. > 97% (inferred from e.e. of precursor)
$[\alpha]_D^{22}$ -10.5 (c = 2.00, EtOH)
{Lit. $[\alpha]_D^{22}$ -12.5 (c = 5, EtOH)}
Source of chirality : (R)-1-phenylethylamine [as (R)-1-phenylethyl auxiliary]
Absolute configuration : 2S, 4R (stereochemistry inferred by comparison with literature compound)

$C_9H_{17}NO_2$ Ethyl (2S,4R)-4-methylpipecolate

P.D. Bailey, G.R. Brown, F. Korber, A. Reed and R.D. Wilson

Tetrahedron: Asymmetry **1991,** *2*, 1263

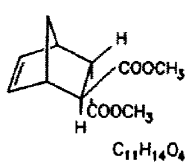


E.e. > 97% (inferred from e.e. of precursor)
$[\alpha]_D^{22}$ +22 (c = 2.00, EtOH)
{Lit. $[\alpha]_D^{22}$ +24.1 (c = 5, EtOH)}
Source of chirality : (R)-1-phenylethylamine [as (R)-1-phenylethyl auxiliary]
Absolute configuration : 2S, 4S (stereochemistry inferred by comparison with literature compound)

$C_9H_{17}NO_2$ Ethyl (2S,4S)-4-methylpipecolate

G. W. Kabalka, R. M. Pagni, S. Bains,
G. Hondrogiannis, M. Plesco, R. Kurt,D. Cox, and J. Green.

Tetrahedron: Asymmetry **1991,** *2*, 1283



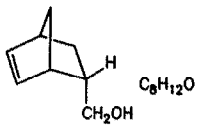
$C_{11}H_{14}O_4$

E.e. = 27.8% (by ^1H nmr using chiral shift reagent)
Absolute Configuration: 2S, 3S
Source of Chirality: Asymmetric
Diels-Alder reaction with (-)-dimethyl fumarate on alumina

Dimethyl Bicyclo(2.2.1)hept-5-en-2-*exo*-3-*endo*-dicarboxylate

G. W. Kabalka, R. M. Pagni, S. Bains,
G. Hondrogiannis,M. Plesco, R. Kurt, D. Cox, and J. Green.

Tetrahedron: Asymmetry **1991,** *2,* 1283

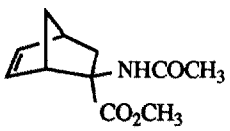


E.e. = 33.7% (by optical rotation)
Absolute Configuration: 2S
Source of Chirality: Asymmetric
Diels-Alder reaction with (-)-menthyl acrylate on alumina

2-*Endo*-hydroxylmethylbicyclo(2.2.1)hept-5-ene

C. Cativiela, M. P. López, J. A. Mayoral.

Tetrahedron: Asymmetry **1991,** *2,* 1295



Absolute configuration: 1S,2R,4S
(assigned by comparing with the corresponding hydrogenated amino acid)
^{1}H-NMR [Eu(tfc)$_3$ /S molar relationship = 0.85, $CDCl_3$) :
$NHCOCH_3$: 5.50 ppm ; CO_2CH_3 : 4.93 ppm

$C_{11}H_{15}NO_3$

Methyl (1S, 2R, 4S)-2-acetamidobicyclo[2.2.1]hept-5-ene-2-carboxylate

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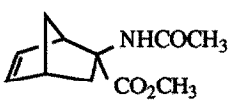
C. Cativiela, M. P. López, J. A. Mayoral.

Tetrahedron: Asymmetry **1991,** *2,* 1295



Absolute configuration: 1R,2S,4R
(assigned by comparing with the corresponding hydrogenated amino acid)
^{1}H-NMR [Eu(tfc)$_3$ /S molar relationship = 0.85, $CDCl_3$) :
$NHCOCH_3$: 5.29 ppm ; CO_2CH_3 : 5.07 ppm
$[\alpha]_D^{24}$ (c = 12.75 x 10^{-1}, MeOH) ; +72.5 ± 0.5

$C_{11}H_{15}NO_3$

Methyl (1R, 2S, 4R)-2-acetamidobicyclo[2.2.1]hept-5-ene-2-carboxylate

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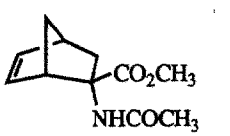
C. Cativiela, M. P. López, J. A. Mayoral.

Tetrahedron: Asymmetry **1991,** *2,* 1295



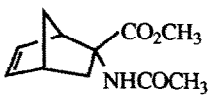
Absolute configuration: 1S,2S,4S
(assigned by comparing with the corresponding hydrogenated amino acid)
^{1}H-NMR [Eu(tfc)$_3$ /S molar relationship = 0.85, $CDCl_3$) :
$NHCOCH_3$: 5.05 ppm ; CO_2CH_3 : 4.75 ppm
$[\alpha]_D^{24}$ (c = 17.9 x 10^{-1}, MeOH) ; - 97.3 ± 0.5

$C_{11}H_{15}NO_3$

Methyl (1S, 2S, 4S)-2-acetamidobicyclo[2.2.1]hept-5-ene-2-carboxylate

C. Cativiela, M. P. López, J. A. Mayoral.

Tetrahedron: Asymmetry **1991,** *2*, 1295



Absolute configuration: 1R,2R,4R
(assigned by comparing with the corresponding hydrogenated amino acid)
^{1}H-NMR [$Eu(tfc)_3$ /S molar relationship = 0.85, $CDCl_3$) :
$NHCOCH_3$: 5.30 ppm ; CO_2CH_3 : 4.80 ppm

$C_{11}H_{15}NO_3$

Methyl (1R, 2R, 4R)-2-acetamidobicyclo[2.2.1]hept-5-ene-2-carboxylate

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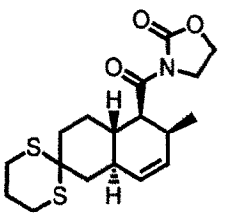
K. Narasaka, M. Saitou, and N. Iwasawa

Tetrahedron: Asymmetry **1991,** *2*, 1305



$C_{18}H_{25}NO_3S_2$

E.e.=>95%
$[\alpha]_D^{21}$=+95(c 1.07,CH_2Cl_2)
mp 90-92 °C
Source of chirality: asymmetric intramolecular Diels-Alder reaction

Absolute configuration 1S,2S,4aR,8aS
3-[1,2,4a,5,6,7,8,8a-Octahydro-2-methyl-6,6-(trimethylenedithio)-1-naphthalenecarbonyl]-1,3-oxazolidin-2-one

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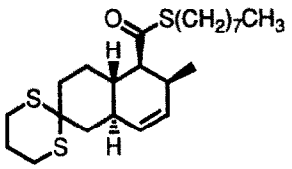
K. Narasaka, M. Saitou, and N. Iwasawa

Tetrahedron: Asymmetry **1991,** *2*, 1305



$C_{23}H_{38}OS_3$

E.e.=>95%
$[\alpha]_D^{24}$=+89(c 0.93,CH_2Cl_2)
Source of chirality: asymmetric intramolecular Diels-Alder reaction

Absolute configuration 1S,2S,4aR,8aS
S-Octyl 1,2,4a,5,6,7,8,8a-octahydro-2-methyl-6,6-(trimethylenedithio)-1-naphthalenecarbothioate

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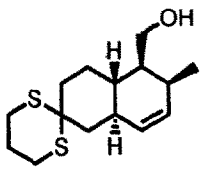
K. Narasaka, M. Saitou, and N. Iwasawa

Tetrahedron: Asymmetry **1991,** *2*, 1305



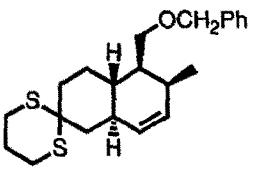
$C_{15}H_{24}OS_2$

E.e.=>95% [by ^{1}H NMR analysis of MTPA ester]
$[\alpha]_D^{26}$=+63(c 1.03,CH_2Cl_2)
mp 100-101 °C
Source of chirality: asymmetric intramolecular Diels-Alder reaction

Absolute configuration 1S,2S,4aR,8aS
1,2,4a,5,6,7,8,8a-Octahydro-2-methyl-6,6-(trimethylenedithio)-1-naphthalenemethanol

K. Narasaka, M. Saitou, and N. Iwasawa

Tetrahedron: Asymmetry **1991,** *2*, 1305



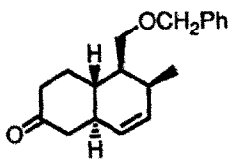
$C_{22}H_{30}OS_2$

E.e.=>95%
$[\alpha]_D^{24}$=+59(c 0.98,CH_2Cl_2)
Source of chirality: asymmetric intramolecular Diels-Alder reaction

Absolute configuration 4aS,5S,6S,8aR
5-Benzyloxymethyl-1,2,3,4,4a,5,6,8a-octahydro-6-methyl-2,2-(trimethylenedithio)naphthalene

K. Narasaka, M. Saitou, and N. Iwasawa

Tetrahedron: Asymmetry **1991,** *2*, 1305



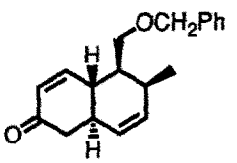
$C_{19}H_{24}O_2$

E.e.=>95%
$[\alpha]_D^{25}$=+101(c 0.73,CH_2Cl_2)
mp 74-75 °C
Source of chirality: asymmetric intramolecular Diels-Alder reaction

Absolute configuration 4aS,5S,6S,8aR
5-Benzyloxymethyl-1,2,3,4,4a,5,6,8a-octahydro-6-methylnaphthalen-2-one

K. Narasaka, M. Saitou, and N. Iwasawa

Tetrahedron: Asymmetry **1991,** *2*, 1305



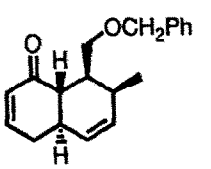
$C_{19}H_{22}O_2$

E.e.=>95%
$[\alpha]_D^{27}$=+121(c 1.05,CH_2Cl_2)
Source of chirality: asymmetric intramolecular Diels-Alder reaction

Absolute configuration 4aS,5S,6S,8aR
5-Benzyloxymethyl-1,2,4a,5,6,8a-hexahydro-6-methylnaphthalen-2-one

K. Narasaka, M. Saitou, and N. Iwasawa

Tetrahedron: Asymmetry **1991,** *2*, 1305



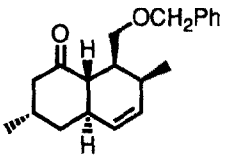
$C_{19}H_{22}O_2$

E.e.=>95%
$[\alpha]_D^{25}$=+285(c 1.33,CH_2Cl_2)
Source of chirality: asymmetric intramolecular Diels-Alder reaction

Absolute configuration 1S,2S,4aR,8aS
1-Benzyloxymethyl-1,2,4a,5,8,8a-hexahydro-2-methylnaphthalen-8-one

K. Narasaka, M. Saitou, and N. Iwasawa

Tetrahedron: Asymmetry **1991,** *2*, 1305



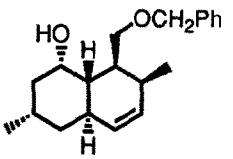
$C_{20}H_{26}O_2$

E.e.=>95%
$[\alpha]_D^{28}$=+188(c 0.73,CH_2Cl_2)
Source of chirality: asymmetric intramolecular Diels-Alder reaction

Absolute configuration 2S,4aS,5S,6S,8aR
5-Benzyloxymethyl-1,2,3,4,4a,5,6,8a-octahydro-2,6-dimethylnaphthalen-4-one

K. Narasaka, M. Saitou, and N. Iwasawa

Tetrahedron: Asymmetry **1991,** *2*, 1305



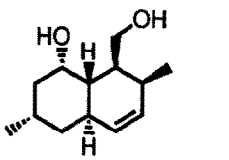
$C_{20}H_{28}O_2$

E.e.=>95%
$[\alpha]_D^{25}$=+76(c 0.57,CH_2Cl_2)
Source of chirality: asymmetric intramolecular Diels-Alder reaction

Absolute configuration 2S,4S,4aS,5S,6S,8aR
5-Benzyloxymethyl-1,2,3,4,4a,5,6,8a-octahydro-2,6-dimethyl-4-naphthol

K. Narasaka, M. Saitou, and N. Iwasawa

Tetrahedron: Asymmetry **1991,** *2*, 1305

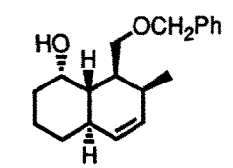


$C_{13}H_{22}O_2$

E.e.=>95%
$[\alpha]_D^{30}$=+149(c 1.16,$CHCl_3$), [lit. $[\alpha]_D$=+152(c 0.98,$CHCl_3$)]
mp 118-120 °C
Source of chirality: asymmetric intramolecular Diels-Alder reaction
Absolute configuration 1S,2S,4aR,6S,8S,8aS
(assigned by comparison with literature data)
1,2,4a,5,6,7,8,8a-Octahydro-8-hydroxy-2,6-dimethyl-1-naphthalenemethanol

K. Narasaka, M. Saitou, and N. Iwasawa

Tetrahedron: Asymmetry **1991,** *2*, 1305



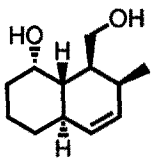
$C_{19}H_{26}O_2$

E.e.=>95%
$[\alpha]_D^{25}$=+71(c 1.67,CH_2Cl_2)
Source of chirality: asymmetric intramolecular Diels-Alder reaction

Absolute configuration 4S,4aS,5S,6S,8aR
5-Benzyloxymethyl-1,2,3,4,4a,5,6,8a-octahydro-6-methyl-4-naphthol

K. Narasaka, M. Saitou, and N. Iwasawa

Tetrahedron: Asymmetry **1991,** *2*, 1305



$C_{12}H_{20}O_2$

E.e.=>95%
$[\alpha]_D^{25}$=+120(c 1.00,CH_2Cl_2)
mp 110-112 °C
Source of chirality: asymmetric intramolecular Diels-Alder reaction

Absolute configuration 1S,2S,4aR,8S,8aS
1,2,4a,5,6,7,8,8a-Octahydro-8-hydroxy-2-methyl-1-naphthalenemethanol

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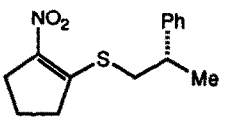
K. Fuji, K. Tanaka, K. Abe, A. Itoh, M. Node, T. Taga, Y. Miwa, and M. Shiro

Tetrahedron: Asymmetry **1991,** *2*, 1319



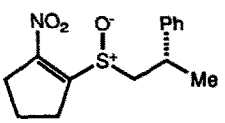
$C_{14}H_{17}NO_2S$

(2*S*)-1-(2-phenylpropylthio)-2-nitrocyclopentene

E.e. 100%
$[\alpha]_D^{20}$ -121.3 (*c* 1.00, $CHCl_3$)
Source of chirality: (*S*)-Phenylpropionic acid
Absolute configuration: *S*
Use: Chiral dienophile for asymmetric Diels -Alder reaction

K. Fuji, K. Tanaka, K. Abe, A. Itoh, M. Node, T. Taga, Y. Miwa, and M. Shiro

Tetrahedron: Asymmetry **1991,** *2*, 1319



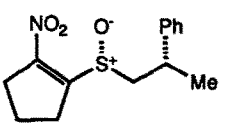
$C_{14}H_{17}NO_3S$

(S*S*,2*S*)-1-(2-phenylpropylsulfinyl)-2-nitrocyclopentene

E.e. 100%
$[\alpha]_D^{20}$ -72.9 (*c* 1.68, $CHCl_3$)
Source of chirality: (*S*)-Phenylpropionic acid
Absolute configuration: S*S*, 2*S* (assigned by X-ray)
Use: Chiral dienophile for asymmetric Diels -Alder reaction

K. Fuji, K. Tanaka, K. Abe, A. Itoh, M. Node, T. Taga, Y. Miwa, and M. Shiro

Tetrahedron: Asymmetry **1991,** *2*, 1319



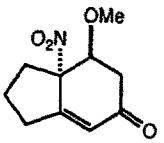
$C_{14}H_{17}NO_3S$

(S*R*,2*S*)-1-(2-phenylpropylsulfinyl)-2-nitrocyclopentene

E.e. 100%
$[\alpha]_D^{20}$ +388.3 (*c* 0.84, $CHCl_3$)
Source of chirality: (*S*)-Phenylpropionic acid
Absolute configuration: S*R*, 2*S* (assigned by X-ray of the related compound)
Use: Chiral dienophile for asymmetric Diels -Alder reaction

K. Fuji, K. Tanaka, K. Abe, A. Itoh, M. Node, T. Taga, Y. Miwa, and M. Shiro

Tetrahedron: Asymmetry **1991**, *2*, 1319



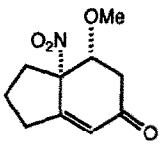
$C_{10}H_{13}NO_4$

E.e. >95% [^{1}H-NMR with Eu(hfc)$_3$]
$[\alpha]_D^{22}$ +87.1 (*c* 1.00, $CHCl_3$)
Source of chirality: Asymmetric Diels-Alder reaction with chiral sulfoxide
Absolute configuration: 1*S*, 2*S* (assigned by X-ray of the derivatized compound)

(1*S*,2*S*)-Bicyclo[4.3.0]-2-methoxy-1-nitro-5-nonene-4-one

K. Fuji, K. Tanaka, K. Abe, A. Itoh, M. Node, T. Taga, Y. Miwa, and M. Shiro

Tetrahedron: Asymmetry **1991**, *2*, 1319



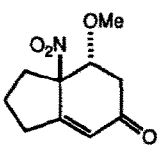
$C_{10}H_{13}NO_4$

E.e. >95% [^{1}H-NMR with Eu(hfc)$_3$]
$[\alpha]_D^{22}$ +302.5 (*c* 1.62, $CHCl_3$)
Source of chirality: Asymmetric Diels-Alder reaction with chiral sulfoxide
Absolute configuration: 1*S*, 2*R* (assigned by X-ray of the derivatized compound)

(1*S*,2*R*)-Bicyclo[4.3.0]-2-methoxy-1-nitro-5-nonene-4-one

K. Fuji, K. Tanaka, K. Abe, A. Itoh, M. Node, T. Taga, Y. Miwa, and M. Shiro

Tetrahedron: Asymmetry **1991**, *2*, 1319



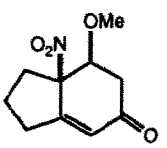
$C_{10}H_{13}NO_4$

E.e. 88% [^{1}H-NMR with Eu(hfc)$_3$]
$[\alpha]_D^{22}$ -79.0 (*c* 0.48, $CHCl_3$)
Source of chirality: Asymmetric Diels-Alder reaction with chiral sulfoxide
Absolute configuration: 1*R*, 2*R* (assigned by X-ray of the derivatized compound)

(1*R*,2*R*)-Bicyclo[4.3.0]-2-methoxy-1-nitro-5-nonene-4-one

K. Fuji, K. Tanaka, K. Abe, A. Itoh, M. Node, T. Taga, Y. Miwa, and M. Shiro

Tetrahedron: Asymmetry **1991**, *2*, 1319



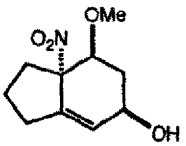
$C_{10}H_{13}NO_4$

E.e. 91% [^{1}H-NMR with Eu(hfc)$_3$]
$[\alpha]_D^{22}$ -288.1 (*c* 0.21, $CHCl_3$)
Source of chirality: Asymmetric Diels-Alder reaction with chiral sulfoxide
Absolute configuration: 1*R*, 2*S* (assigned by X-ray of the derivatized compound)

(1*R*,2*S*)-Bicyclo[4.3.0]-2-methoxy-1-nitro-5-nonene-4-one

K. Fuji, K. Tanaka, K. Abe, A. Itoh, M. Node, T. Taga, Y. Miwa, and M. Shiro

Tetrahedron: Asymmetry **1991,** *2*, 1319



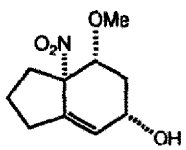
$C_{10}H_{15}NO_4$

E.e. >95%
$[\alpha]_D^{22}$ +192.1 (*c* 1.00, $CHCl_3$)
Source of chirality: Asymmetric Diels-Alder reaction with chiral sulfoxide
Absolute configuration: 1*S*, 2*S*, 4*R* (assigned by X-ray of the derivatized compound)

(1*S*,2*S*,4*R*)-Bicyclo[4.3.0]-2-methoxy-1-nitro-5-nonene-4-ol

K. Fuji, K. Tanaka, K. Abe, A. Itoh, M. Node, T. Taga, Y. Miwa, and M. Shiro

Tetrahedron: Asymmetry **1991,** *2*, 1319



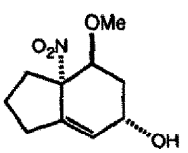
$C_{10}H_{15}NO_4$

E.e. >95%
$[\alpha]_D^{22}$ +98.5 (*c* 1.13, $CHCl_3$)
Source of chirality: Asymmetric Diels-Alder reaction with chiral sulfoxide
Absolute configuration: 1*S*, 2*R*, 4*S* (assigned by X-ray of the derivatized compound)

(1*S*,2*R*,4*S*)-Bicyclo[4.3.0]-2-methoxy-1-nitro-5-nonene-4-ol

K. Fuji, K. Tanaka, K. Abe, A. Itoh, M. Node, T. Taga, Y. Miwa, and M. Shiro

Tetrahedron: Asymmetry **1991,** *2*, 1319



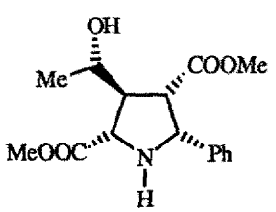
$C_{10}H_{15}NO_4$

E.e. >95%
$[\alpha]_D^{22}$ +113.2 (*c* 0.57, $CHCl_3$)
Source of chirality: Asymmetric Diels-Alder reaction with chiral sulfoxide
Absolute configuration: 1*S*, 2*S*, 4*S* (assigned by X-ray of the related compound)

(1*S*,2*S*,4*S*)-Bicyclo[4.3.0]-2-methoxy-1-nitro-5-nonene-4-ol

R. Annunziata, M. Cinquini, F. Cozzi, L. Raimondi, T. Pilati

Tetrahedron: Asymmetry **1991,** *2*, 1329

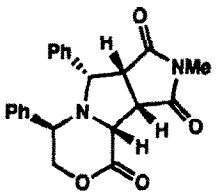


[2(S)-3(S)-3'(S)-4(S)-5(R)]
2,4-Dicarbomethoxy-3-(1-Hydroxyethyl)-5-phenylpirrolidine

p.f. 130-132°C $[\alpha]_D^{22}$ = +44.47 (c 1.7, $CHCl_3$).
Absolute configuration determined via X-ray analysis.

A. S. Anslow, L. M. Harwood, H. Phillips, D. Watkin and L. Wong

Tetrahedron: Asymmetry **1991,** *2*, 1343



$C_{22}H_{20}N_2O_4$ $[\alpha]^D_{20} = -20.4$ (c 0.25, $CHCl_3$)

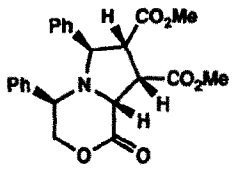
Source of chirality (*R*)–2–phenylglycinol

Absolute configuration : 2(*R*), 6(*R*), 7(*S*), 8(*R*), 9(*S*)

N–methyl 2(*R*),6(*R*),7(*S*),8(*R*),9(*S*) 2,9–diphenyl–1–aza–4–oxa[4.3.0^{1,6}]bicyclononan–5–one–7,8–dicarboximide

A. S. Anslow, L. M. Harwood, H. Phillips, D. Watkin and L. Wong

Tetrahedron: Asymmetry **1991,** *2*, 1343



$C_{23}H_{23}NO_6$ $[\alpha]^D_{20} = -57.1$ (c 0.60, $CHCl_3$)

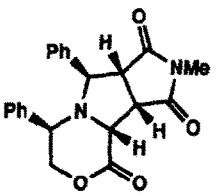
Source of chirality (*R*)–2–phenylglycinol

Absolute configuration : 2(*R*), 6(*R*), 7(*S*), 8(*R*), 9(*R*)

2(*R*),6(*R*),7(*S*),8(*R*),9(*R*) dimethyl 2,9–diphenyl–1–aza–4–oxa[4.3.0^{1,6}]bicyclononan–5–one–7,8–dicarboxylate

A. S. Anslow, L. M. Harwood, H. Phillips, D. Watkin and L. Wong

Tetrahedron: Asymmetry **1991,** *2*, 1343



$C_{22}H_{20}N_2O_4$ $[\alpha]^D_{20} = +38.9$ (c 1.10, $CHCl_3$)

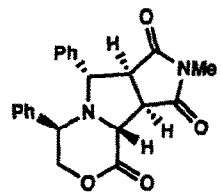
Source of chirality (*R*)–2–phenylglycinol

Absolute configuration : 2(*R*), 6(*R*), 7(*S*), 8(*R*), 9(*R*)

N–methyl 2(*R*),6(*R*),7(*S*),8(*R*),9(*R*) 2,9–diphenyl–1–aza–4–oxa[4.3.0^{1,6}]bicyclononan–5–one–7,8–dicarboximide

A. S. Anslow, L. M. Harwood, H. Phillips, D. Watkin and L. Wong

Tetrahedron: Asymmetry **1991,** *2*, 1343



$C_{22}H_{20}N_2O_4$ $[\alpha]^D_{20} = -101.0$ (c 0.60, $CHCl_3$)

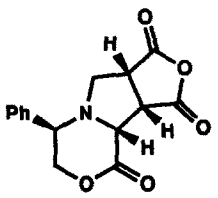
Source of chirality (*R*)–2–phenylglycinol

Absolute configuration : 2(*R*), 6(*R*), 7(*R*), 8(*S*), 9(*S*)

N–methyl 2(*R*),6(*R*),7(*R*),8(*S*),9(*S*) 2,9–diphenyl–1–aza–4–oxa[4.3.0^{1,6}]bicyclononan–5–one–7,8–dicarboximide

A. S. Anslow, L. M. Harwood, H. Phillips, D. Watkin and L. Wong

Tetrahedron: Asymmetry **1991**, *2*, 1343



$C_{15}H_{13}NO_5$ $[\alpha]^D_{20}$ = +66.1 (c 0.58, $CHCl_3$)

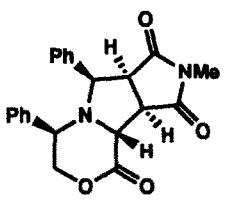
Source of chirality (*R*)–2–phenylglycinol

Absolute configuration : 2(*R*), 6(*R*), 7(*S*), 8(*R*)

2(*R*),6(*R*),7(*S*),8(*R*) 2–phenyl–1–aza–4–oxa[4.3.0^{1,6}]bicyclononan–5–one–7,8–dicarboxylic anhydride

A. S. Anslow, L. M. Harwood, H. Phillips, D. Watkin and L. Wong

Tetrahedron: Asymmetry **1991**, *2*, 1343



$C_{22}H_{20}N_2O_4$ $[\alpha]^D_{20}$ = +88.5 (c 0.60, $CHCl_3$)

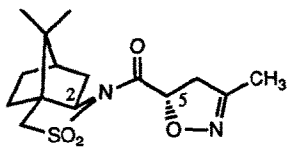
Source of chirality (*R*)–2–phenylglycinol

Absolute configuration : 2(*R*), 6(*R*), 7(*R*), 8(*S*), 9(*R*)

N–methyl 2(*R*),6(*R*),7(*R*),8(*S*),9(*R*) 2,9–diphenyl–1–aza–4–oxa[4.3.0^{1,6}]bicyclononan–5–one–7,8–dicarboximide

Byeang Hyean Kim* and Ju Young Lee

Tetrahedron: Asymmetry **1991**, *2*, 1359



$[\alpha]_D^{26}$ = -56.2 (c 1.0, $CHCl_3$)

Source of chirality: natural and diastereoselective cycloaddition

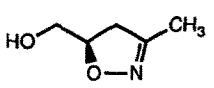
Absolute configuration 2R, 5S

$C_{15}H_{22}N_2O_4S$

N-[(4,5-Dihydro-3-methyl-5-isoxazolyl)carbonyl]bornane-10,2-sultam

Byeang Hyean Kim* and Ju Young Lee

Tetrahedron: Asymmetry **1991**, *2*, 1359



E.e. >98% (by ^1H &^{19}F NMR of Mosher's ester and optical rotation)

$[\alpha]_D^{27}$ = -170.3 (c 1.1, $CHCl_3$)

Source of chirality: diastereoselective cycloaddition

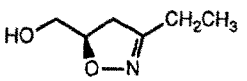
Absolute configuration 5R

$C_5H_9N_1O_2$

5-Hydroxymethyl-3-methyl-2-isoxazoline

Byeang Hyean Kim* and Ju Young Lee

Tetrahedron: Asymmetry **1991,** *2*, 1359



$[\alpha]_D^{27}$ = -159.7 (c 1.05, $CHCl_3$)

Source of chirality: diastereoselective cycloaddition

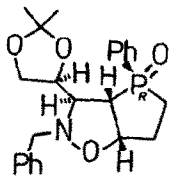
Absolute configuration 5R

$C_6H_{11}N_1O_2$

5-Hydroxymethyl-3-ethyl-2-isoxazoline

Andrea Goti, Stefano Cicchi, Alberto Brandi, and K. M. Pietrusiewicz

Tetrahedron: Asymmetry **1991,** *2*, 1371



$[\alpha]_D^{25}$ = +85.9 (c 0 18, $CHCl_3$)

Source of chirality: 1,2:5.6-Di-O-isopropylidene-D-mannitol and asymmetric 1,3-dipolar cycloaddition

Absolute configuration: 3*S*,3a*S*,4*R*,6a*S*,4'*S*

^{31}P NMR: δ 57.22 ppm.

$C_{23}H_{28}NO_4P$

2-Benzyl-3-(2,2-dimethyl-1,3-dioxolan-4-yl)-4-phenyl-hexahydro-4*H*-phospholo[2,3-*d*]isoxazole 4-oxide

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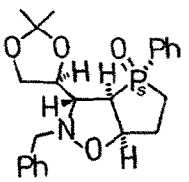
Andrea Goti, Stefano Cicchi, Alberto Brandi, and K. M. Pietrusiewicz

Tetrahedron: Asymmetry **1991,** *2*, 1371



$[\alpha]_D^{25}$ = -83.5 (c 0.28, $CHCl_3$)

Source of chirality: 1,2:5.6-Di-O-isopropylidene-D-mannitol and asymmetric 1,3-dipolar cycloaddition

Absolute configuration: 3*R*,3a*R*,4*S*,6a*R*,4'*S*

^{31}P NMR: δ 57.70 ppm.

$C_{23}H_{28}NO_4P$

2-Benzyl-3-(2,2-dimethyl-1,3-dioxolan-4-yl)-4-phenyl-hexahydro-4*H*-phospholo[2,3-*d*]isoxazole 4-oxide

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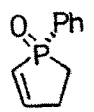
Andrea Goti, Stefano Cicchi, Alberto Brandi, and K. M. Pietrusiewicz

Tetrahedron: Asymmetry **1991,** *2*, 1371



$[\alpha]_D^{25}$ = +91.2 (c 0.33, $CHCl_3$)

Source of chirality: kinetic resolution

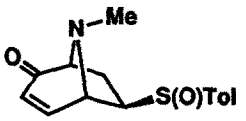
Absolute configuration: S_P

$C_{10}H_{11}OP$

2,3-Dihydro-1-phenyl-1*H*-phosphole 1-oxide

T. Takahashi, A. Fujii, J. Sugita, T. Hagi, K. Kitano, Y. Arai, T. Koizumi and M. Shiro

Tetrahedron: Asymmetry **1991**, *2*, 1379



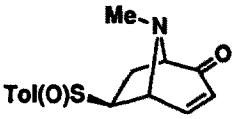
$[\alpha]_D^{23}$ = -184.7 (c 0.86, $CHCl_3$)
mp 121-122 °C
Source of chirality: asymm. synth. (1,3-dipolar cycloaddition)
Absolute configuration 1S, 5S, 6R, R_s
(assigned by conversion to the known compound)

$C_{15}H_{17}NO_2S$

N-Methyl-6-(*p*-tolylsulphinyl)-8-azabicyclo[3.2.1]oct-3-en-2-one

T. Takahashi, A. Fujii, J. Sugita, T. Hagi, K. Kitano, Y. Arai, T. Koizumi and M. Shiro

Tetrahedron: Asymmetry **1991**, *2*, 1379



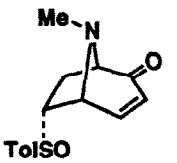
$[\alpha]_D^{23}$ = +386.9 (c 0.65, $CHCl_3$)
mp 132-134 °C
Source of chirality: asymm. synth. (1,3-dipolar cycloaddition)
Absolute configuration 1R, 5R, 6S, R_s
(assigned by mechanistic considerations)

$C_{15}H_{17}NO_2S$

N-Methyl-6-(*p*-tolylsulphinyl)-8-azabicyclo[3.2.1]oct-3-en-2-one

T. Takahashi, A. Fujii, J. Sugita, T. Hagi, K. Kitano, Y. Arai, T. Koizumi and M. Shiro

Tetrahedron: Asymmetry **1991**, *2*, 1379



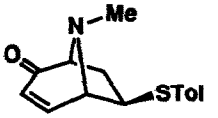
$[\alpha]_D^{23}$ = +183.5 (c 1.04, $CHCl_3$)
Source of chirality: asymm. synth. (1,3-dipolar cycloaddition)
Absolute configuration 1R, 5R, 6R, R_s
(assigned by mechanistic considerations)

$C_{15}H_{17}NO_2S$

N-Methyl-6-(*p*-tolylsulphinyl)-8-azabicyclo[3.2.1]oct-3-en-2-one

T. Takahashi, A. Fujii, J. Sugita, T. Hagi, K. Kitano, Y. Arai, T. Koizumi and M. Shiro

Tetrahedron: Asymmetry **1991**, *2*, 1379



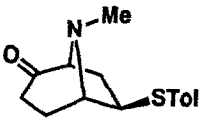
$[\alpha]_D^{23}$ = -249.7 (c 0.71, $CHCl_3$)
mp 59-60 °C
Source of chirality: asymm. synth. (1,3-dipolar cycloaddition)
Absolute configuration 1S, 5S, 6R
(assigned by conversion to the known compound)

$C_{15}H_{17}NOS$

N-Methyl-6-(*p*-tolylsulphenyl)-8-azabicyclo[3.2.1]oct-3-en-2-one

T. Takahashi, A. Fujii, J. Sugita, T. Hagi, K. Kitano, Y. Arai, T. Koizumi and M. Shiro

Tetrahedron: Asymmetry **1991,** *2*, 1379



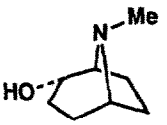
$[\alpha]_D^{23}$ = +47.0 (c 0.74, $CHCl_3$)
mp 114-115 °C
Source of chirality: asymm. synth. (1,3-dipolar cycloaddition)
Absolute configuration 1S, 5S, 6R
(assigned by conversion to the known compound)

$C_{15}H_{19}NOS$

N-Methyl-6-(*p*-tolylsulphenyl)-8-azabicyclo[3.2.1]octan-2-one

T. Takahashi, A. Fujii, J. Sugita, T. Hagi, K. Kitano, Y. Arai, T. Koizumi and M. Shiro

Tetrahedron: Asymmetry **1991,** *2*, 1379



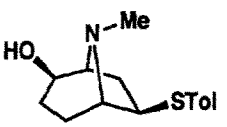
$[\alpha]_D^{23}$ = -15.5 (c 0.79, H_2O)
mp < 30 °C
Source of chirality: asymm. synth. (1,3-dipolar cycloaddition)
Absolute configuration 1S, 2S, 5R
(assigned by $[\alpha]_D$ of the literature)

$C_8H_{15}NO$

N-Methyl-8-azabicyclo[3.2.1]octan-2-ol [(1*S*)-(-)-2α-tropanol]

T. Takahashi, A. Fujii, J. Sugita, T. Hagi, K. Kitano, Y. Arai, T. Koizumi and M. Shiro

Tetrahedron: Asymmetry **1991,** *2*, 1379



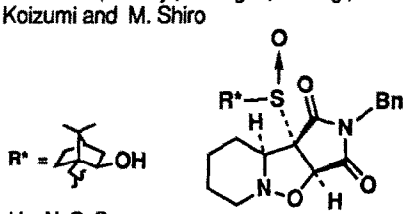
E.e. > 96% [by ^1H NMR with Eu(hfc)$_3$]
$[\alpha]_D^{23}$ = +85.7 (c 0.77, $CHCl_3$)
mp 33-34 °C
Source of chirality: asymm. synth. (1,3-dipolar cycloaddition)
Absolute configuration 1S, 2R, 5S, 6R

$C_{15}H_{21}NOS$

N-Methyl-6-(*p*-tolylsulphenyl)-8-azabicyclo[3.2.1]octan-2-ol

T. Takahashi, A. Fujii, J. Sugita, T. Hagi, K. Kitano, Y. Arai, T. Koizumi and M. Shiro

Tetrahedron: Asymmetry **1991,** *2*, 1379



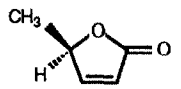
$[\alpha]_D^{26}$ = +36.6 (c 1.00, $CHCl_3$)
mp 198-200 °C
Source of chirality: asymm. synth. (1,3-dipolar cycloaddition)
Absolute configuration 1S, 8S, 9S, 1'S, 2'R, 4'R, R_s
(assigned by X-ray)

$C_{26}H_{34}N_2O_5S$

11-Benzyl-9-({2-hydroxy-7,7-dimethylbicyclo[2.2.1]heptan-1-yl}methysulphinyl)-6,11-diaza-7-oxatricyclo[4.3.1]-dodecan-10,12-dione

Ramón Alibés, José L. Bourdelande, Josep Font.

Tetrahedron: Asymmetry **1991**, *2*, 1391



$C_5H_6O_2$

5-methyl-2(5*H*)-furanone

E.e.> 99% (by ^1H NMR with $Eu(hfc)_3$)

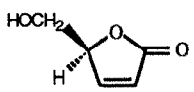
$[\alpha]_D^{20}$ = -95.89 (c 0.73, $CHCl_3$)

Source of chirality: *D*-ribonolactone

Absolute configuration: 5S

Ramón Alibés, José L. Bourdelande, Josep Font.

Tetrahedron: Asymmetry **1991**, *2*, 1391



$C_5H_6O_3$

5-hydroxymethyl-2(5*H*)-furanone

E.e.> 99% (by ^1H NMR with $Eu(hfc)_3$)

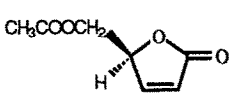
$[\alpha]_D^{25}$ = -151.87 (c 2.37, H_2O)

Source of chirality: *D*-mannitol

Absolute configuration: 5S

Ramón Alibés, José L. Bourdelande, Josep Font.

Tetrahedron: Asymmetry **1991**, *2*, 1391



$C_7H_8O_4$

5-acetyloxymethyl-2(5*H*)-furanone

E.e.> 99% (by ^1H NMR with $Eu(hfc)_3$)

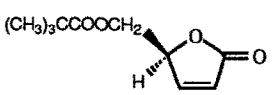
$[\alpha]_D^{20}$ = -123.6 (c 3.68, $CHCl_3$)

Source of chirality: *D*-mannitol

Absolute configuration: 5S

Ramón Alibés, José L. Bourdelande, Josep Font.

Tetrahedron: Asymmetry **1991**, *2*, 1391



$C_{10}H_{14}O_4$

5-pivaloyloxymethyl-2(5*H*)-furanone

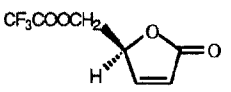
$[\alpha]_D^{25}$ = -140 (c 1.26, $CHCl_3$)

Source of chirality: *D*-mannitol

Absolute configuration: 5S

Ramón Alibés, José L. Bourdelande, Josep Font.

Tetrahedron: Asymmetry **1991**, *2*, 1391

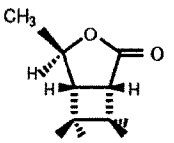


$[\alpha]_D^{25}$ = -96.8 (c 2.1, $CHCl_3$)
Source of chirality: *D*-mannitol
Absolute configuration: 5S

$C_7H_5F_3O_4$
5-trifluoroacetyloxymethyl-2(5*H*)-furanone

Ramón Alibés, José L. Bourdelande, Josep Font.

Tetrahedron: Asymmetry **1991**, *2*, 1391

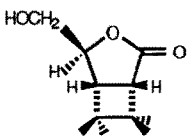


D.e.= 46% (by GLC, ^1H NMR and physical isolation)
$[\alpha]_D^{25}$ = -81.3 (c 2.1, $CHCl_3$)
Source of chirality: *D*-ribonolactone
Absolute configuration: 1S,4R,5R

$C_{11}H_{18}O_2$
4-methyl-6,6,7,7-tetramethyl-3-oxabyciclo[3.2.0]heptan-2-one

Ramón Alibés, José L. Bourdelande, Josep Font.

Tetrahedron: Asymmetry **1991**, *2*, 1391

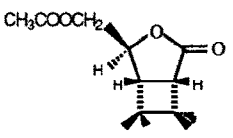


D.e.= 48% (by GLC, ^1H NMR and physical isolation)
$[\alpha]_D^{25}$ = -71.75 (c 1.24, $CHCl_3$)
Source of chirality: *D*-mannitol
Absolute configuration: 1S,4S,5R

$C_{11}H_{18}O_3$
4-hydroxymethyl-6,6,7,7-tetramethyl-3-oxabyciclo[3.2.0]heptan-2-one

Ramón Alibés, José L. Bourdelande, Josep Font.

Tetrahedron: Asymmetry **1991**, *2*, 1391

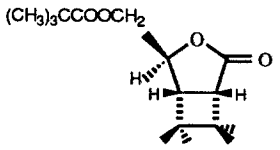


D.e.= 56% (by GLC, ^1H NMR and physical isolation)
$[\alpha]_D^{25}$ = -37.1 (c 0.66, $CHCl_3$)
Source of chirality: *D*-mannitol
Absolute configuration: 1S,4S,5R

$C_{13}H_{20}O_4$
4-acetyloxymethyl-6,6,7,7-tetramethyl-3-oxabyciclo[3.2.0]heptan-2-one

Ramón Alibés, José L. Bourdelande, Josep Font.

Tetrahedron: Asymmetry **1991,** *2*, 1391



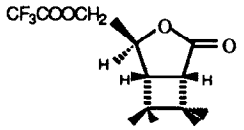
D.e.= 64% (by GLC, ^{1}H NMR and physical isolation)
$[\alpha]_D^{25}$ = -42.75 (c 1.2, $CHCl_3$)
Source of chirality: *D*-mannitol
Absolute configuration: 1S,4S,5R

$C_{16}H_{26}O_4$

4-pivaloyloxymethyl-6,6,7,7-tetramethyl-3-oxabyciclo[3.2.0]heptan-2-one

Ramón Alibés, José L. Bourdelande, Josep Font.

Tetrahedron: Asymmetry **1991,** *2*, 1391



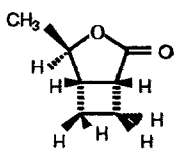
D.e.= 60% (by GLC, ^{1}H NMR)
Source of chirality: *D*-mannitol
Absolute configuration: 1S,4S,5R

$C_{13}F_3H_{17}O_4$

4-trifluoroacetyloxymethyl-6,6,7,7-tetramethyl-3-oxabyciclo[3.2.0]heptan-2-one

Ramón Alibés, José L. Bourdelande, Josep Font.

Tetrahedron: Asymmetry **1991,** *2*, 1391



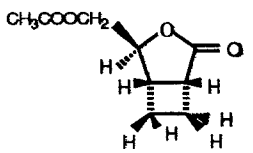
D.e.= 18% (by GLC, ^{1}H NMR)
Source of chirality: *D*-mannitol
Absolute configuration: 1R,4R,5S

$C_7H_{10}O_2$

4-methyl-3-oxabyciclo[3.2.0]heptan-2-one

Ramón Alibés, José L. Bourdelande, Josep Font.

Tetrahedron: Asymmetry **1991,** *2*, 1391



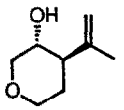
D.e.= 48% (by GLC, ^{1}H NMR and physical isolation)
$[\alpha]_D^{25}$ = -43.9 (c 1.3, $CHCl_3$)
Source of chirality: *D*-mannitol
Absolute configuration: 1R,4S,5S

$C_9H_{12}O_4$

4-acetyloxymethyl-3-oxabyciclo[3.2.0]heptan-2-one

K. Mikami, E. Sawa, M. Terada

Tetrahedron: Asymmetry **1991,** *2*, 1403



$C_8H_{14}O_2$

trans-3-Hydroxy-4-(1'-methyl)ethenyloxane

E.e. = 84% (by NMR analysis after conversion to the MTPA ester)

$[\alpha]_D^{26}$ = +11.7 (c 3.1, $CHCl_3$)

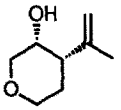
Source of chirality: Asymmetric Synthesis (ene reaction)

Absolute configuration: 3*R*, 4*R*

(assigned by modified Mosher's method)

K. Mikami, E. Sawa, M. Terada

Tetrahedron: Asymmetry **1991,** *2*, 1403



$C_8H_{14}O_2$

cis-3-Hydroxy-4-(1'-methyl)ethenyloxane

E.e. = 74% (by NMR analysis after conversion to the MTPA ester)

$[\alpha]_D^{25}$ = +24.7 (c 1.9, $CHCl_3$) (*cis*/*trans* 45 (74% ee) : 55 (84% ee) mixture)

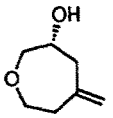
Source of chirality: Asymmetric Synthesis (ene reaction)

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

(assigned by modified Mosher's method)

K. Mikami, E. Sawa, M. Terada

Tetrahedron: Asymmetry **1991,** *2*, 1403



$C_7H_{12}O_2$

3-Hydroxy-5-methylenoxepane

E.e. = 92% (by NMR analysis after conversion to the MTPA ester)

$[\alpha]_D^{26}$ = +20.0 (c 1.36, $CHCl_3$)

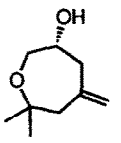
Source of chirality: Asymmetric Synthesis (ene reaction)

Absolute configuration: *R*

(assigned by modified Mosher's method)

K. Mikami, E. Sawa, M. Terada

Tetrahedron: Asymmetry **1991,** *2*, 1403



$C_9H_{16}O_2$

6-Hydroxy-2,2-dimethyl-5-methylenoxepane

E.e. = 82% (by NMR analysis after conversion to the MTPA ester)

$[\alpha]_D^{26}$ = +13.1 (c 1.2, $CHCl_3$)

Source of chirality: Asymmetric Synthesis (ene reaction)

Absolute configuration: *R*

(assigned by modified Mosher's method)

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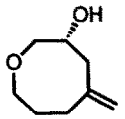
Tetrahedron: Asymmetry **1991,** *2*, 1403



$C_8H_{14}O_2$

3-Hydroxy-5-methylenoxocane

E.e. = 67% (by NMR analysis after conversion to the MTPA ester)

$[\alpha]_D^{25}$ = +1.58 (c 1.0, $CHCl_3$)

Source of chirality: Asymmetric Synthesis (ene reaction)

Absolute configuration: *R*

(assigned by modified Mosher's method)

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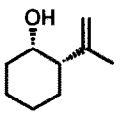
Tetrahedron: Asymmetry **1991,** *2*, 1403



$C_9H_{14}O_2$

cis-2-(1'-Methyl)ethenylcyclohexanol

E.e. = 64% (by NMR analysis after conversion to the MTPA ester)

$[\alpha]_D^{25}$ = +8.34 (c 0.40, $CHCl_3$)

Source of chirality: Asymmetric Synthesis (ene reaction)

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

(assigned by modified Mosher's method)

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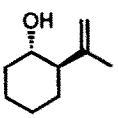
Tetrahedron: Asymmetry **1991,** *2*, 1403



$C_9H_{14}O_2$

trans-2-(1'-Methyl)ethenylcyclohexanol

E.e. = 55% (by NMR analysis after conversion to the MTPA ester)

$[\alpha]_D^{25}$ = +4.69 (c 0.90, $CHCl_3$)

Source of chirality: Asymmetric Synthesis (ene reaction)

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

(assigned by modified Mosher's method)