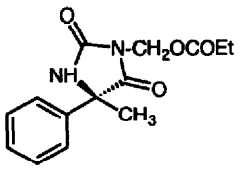
E.Mizuguchi, K.Achiwa, H.Wakamatsu, Y.Terao

Tetrahedron: Asymmetry **1994,** *5,* 1407

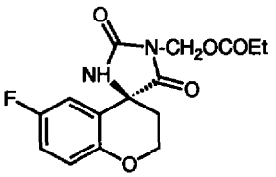


E.e.= >99% [by HPLC using Daicel Chiralcel OJ]
$[\alpha]_D^{24}$ +61.5 (c 0.46 EtOH)
Source of chirality : lipase-catalyzed hydrolysis
Absolute configulation : *S*

$C_{14}H_{16}N_2O_4$
(S)-5-methyl-5-phenyl-3-(propionyloxymethyl) hydantoin

E.Mizuguchi, K.Achiwa, H.Wakamatsu, Y.Terao

Tetrahedron: Asymmetry **1994,** *5,* 1407

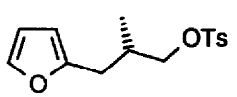


E.e.= 76% [by HPLC using Daicel Chiralcel OJ]
$[\alpha]_D^{24}$ +35.8 (c 0.5 EtOH)
Source of chirality : lipase-catalyzed hydrolysis
Absolute configulation : *S*

$C_{15}H_{15}N_2O_5F$
(S)-2,3-dihydro-6-fluorospiro[4*H*-1-benzopyran-4,4'-imidazolidine]
-N'_1-propionyloxymethyl-2',5'-dione

Simon Woo and Brian A. Keay

Tetrahedron: Asymmetry **1994,** *5,* 1411

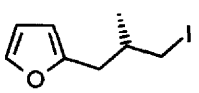


E.e.= >99% (comparison of the optical rotation with a literature value)
$[\alpha]_D^{23}$ = +6.99 (c 0.1027, $CHCl_3$)
Source of chirality: Baker's yeast reduction of (E)-3-(2-furyl)-2-methyl-2-propenal
Absolute configuration: (2*S*) from comparison with the rotation sign from the literature.

(2*S*)-3-(2-furyl)-2-methyl-*O*-(4-methylphenylsulfonyl)-1-propanol

Simon Woo and Brian A. Keay

Tetrahedron: Asymmetry **1994,** *5,* 1411

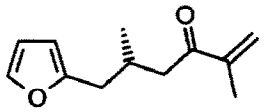


E.e.= >99% (derived from an enantiomerically enriched precursor)
$[\alpha]_D^{23}$ = +30.3 (c 0.109, $CHCl_3$)
Source of chirality: Baker's yeast reduction of (E)-3-(2-furyl)-2-methyl-2-propenal
Absolute configuration: (2*S*) from (2*S*)-3-(2-furyl)-2-methyl-*O*-(4-methylphenylsulfonyl)-1-propanol.

(2*S*)-3-(2-furyl)-1-iodo-2-methylpropane

Simon Woo and Brian A. Keay

Tetrahedron: Asymmetry **1994,** *5,* 1411

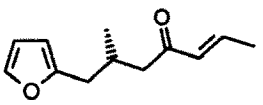


E.e.= >99% (derived from an enantiomerically enriched precursor)
$[\alpha]_D^{23}$ = +8.9 (c 0.104, $CHCl_3$)
Source of chirality: Baker's yeast reduction of (E)-3-(2-furyl)-2-methyl-2-propenal
Absolute configuration: (5*S*) from (2*S*)-3-(2-furyl)-2-methyl-*O*-(4-methylphenylsulfonyl)-1-propanol.

(5*S*)-6-(2-furyl)-2,5-dimethyl-1-hexen-3-one

Simon Woo and Brian A. Keay

Tetrahedron: Asymmetry **1994,** *5,* 1411

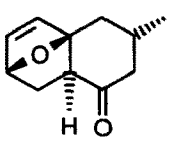


E.e.= >99% (derived from an enantiomerically enriched precursor)
$[\alpha]_{435}^{23}$ = −14.1 (c 0.106, $CHCl_3$)
Source of chirality: Baker's yeast reduction of (E)-3-(2-furyl)-2-methyl-2-propenal
Absolute configuration: (6*S*) from (2*S*)-3-(2-furyl)-2-methyl-*O*-(4-methylphenylsulfonyl)-1-propanol

(2*E*,6*S*)-7-(2-furyl)-6-methyl-2-hepten-4-one

Simon Woo and Brian A. Keay

Tetrahedron: Asymmetry **1994,** *5,* 1411

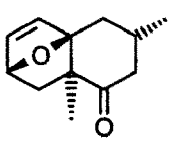


E.e.= >99% (derived from an enantiomerically enriched precursor)
$[\alpha]_D^{23}$ = +25.9 (c 0.0418, $CHCl_3$)
Source of chirality: Baker's yeast reduction of (E)-3-(2-furyl)-2-methyl-2-propenal
Absolute configuration: (3*S*) from (2*S*)-3-(2-furyl)-1-iodo-2-methylpropane; (1*R*,6*S*,8*R*) from known regio- and stereoselectivity of IMDAF reactions relative to (3*S*).

(1*R*,3*S*,6*S*,8*R*)-3-methyl-11-oxatricyclo[6.2.1.$0^{1,6}$]undec-9-en-5-one

Simon Woo and Brian A. Keay

Tetrahedron: Asymmetry **1994,** *5,* 1411

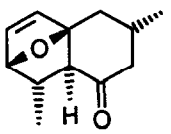


E.e.= >99% (derived from an enantiomerically enriched precursor)
$[\alpha]_D^{23}$ = −15.3 (c 0.0693, $CHCl_3$)
Source of chirality: Baker's yeast reduction of (E)-3-(2-furyl)-2-methyl-2-propenal
Absolute configuration: (3*S*) from (5*S*)-6-(2-furyl)-2,5-dimethyl-1-hexen-3-one; (1*R*,6*S*,8*R*) from known regio- and stereoselectivity of IMDAF reactions relative to (3*S*).

(1*R*,3*S*,6*S*,8*R*)-3,6-dimethyl-11-oxatricyclo[6.2.1.$0^{1,6}$]undec-9-en-5-one

Simon Woo and Brian A. Keay

Tetrahedron: Asymmetry **1994,** *5,* 1411

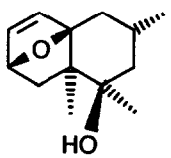


E.e.= >99% (derived from an enantiomerically enriched precursor)
$[\alpha]_D^{23}$ = −33.8 (c 0.0387, $CHCl_3$)
Source of chirality: Baker's yeast reduction of (E)-3-(2-furyl)-2-methyl-2-propenal
Absolute configuration: (3*S*) from (2*E*,6*S*)-7-(2-furyl)-6-methyl-2-hepten-4-one; (1*R*,6*S*,7*S*,8*S*) from known regio- and stereoselectivity of IMDAF reactions relative to (3*S*).

(1*R*,3*S*,6*S*,7*S*,8*S*)-3,7-dimethyl-11-oxatricyclo[6.2.1.0^{1,6}]undec-9-en-5-one

Simon Woo and Brian A. Keay

Tetrahedron: Asymmetry **1994,** *5,* 1411

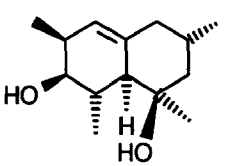


E.e.= >99% (chiral Cydex-B column, GC)
$[\alpha]_D^{23}$ = −3.2 (c 0.0315, $CHCl_3$)
Source of chirality: Baker's yeast reduction of (E)-3-(2-furyl)-2-methyl-2-propenal
Absolute configuration: (3*R*) from (5*S*)-6-(2-furyl)-2,5-dimethyl-1-hexen-3-one; (5*R*) from known stereoselective addition of MeLi to the ketone of (1*R*,3*S*,6*S*,8*R*)-3,6-dimethyl-11-oxatricyclo[6.2.1.0^{1,6}]undec-9-en-5-one; (1*R*,6*R*,8*R*) from known regio- and stereoselectivity of IMDAF reactions relative to(3*R*).

(1*R*,3*R*,5*R*,6*R*,8*R*)-3,5,6-trimethyl-11-oxatricyclo[6.2.1.0^{1,6}]undec-9-en-5-ol

Simon Woo and Brian A. Keay

Tetrahedron: Asymmetry **1994,** *5,* 1411

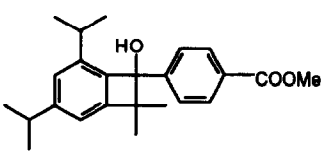


E.e.= >99% (derived from an enantiomerically enriched precursor)
$[\alpha]_D^{22.5}$ = +40.7 (c 0.0308, $CHCl_3$)
Source of chirality: Baker's yeast reduction of (E)-3-(2-furyl)-2-methyl-2-propenal
Absolute configuration: (4*S*) from (2*E*,6*S*)-7-(2-furyl)-6-methyl-2-hepten-4-one; (2*R*) and (8*S*,9*S*) from a known stereoselective addition of MeLi to the ketone and from S_N2' opening of the oxygen bridge, respectively, of (1*R*,3*S*,6*S*,7*S*,8*S*)-3,7-dimethyl-11-oxatricyclo-[6.2.1.0^{1,6}]undec-9-en-5-one; (1*S*,10*S*) from known regio- and stereoselectivity of IMDAF reactions relative to (4*S*).

(1*S*,2*R*,4*S*,8*S*,9*S*,10*S*)-2,4,8,10-tetramethylbicyclo[4.4.0]dec-6-en-2,9-diol

H. Koshima, A. Maeda, N. Masuda, T. Matsuura, K. Hirotsu, K. Okada, H. Mizutani, Y. Ito, T.Y. Fu, J.R. Scheffer and J. Trotter

Tetrahedron: Asymmetry **1994,** *5,* 1415

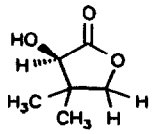


E.e. = 66% (by HPLC with Chiralcel OD column)
$[\alpha]_D^{20}$ = +61 (c 0.2, $CHCl_3$)
Source of chirality: (R)-1-phenylethylamine

$C_{24}H_{30}O_3$
Methyl 4-[7-hydroxyl-8,8-dimethyl-3,5-bis(1-methylethyl)bicyclo[4.2.0]octa-1,3,5-trien-7-yl]benzoate

R. Eck and H. Simon

Tetrahedron: Asymmetry **1994**, *5*, 1419



$C_6H_{10}O_3$

(R)-Pantoyl lactone
[(3R)-dihydro-3-hydroxy-4,4-dimethyl-2(3*H*)-furanone]

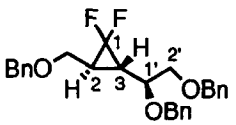
E.e. = > 97 % [by HPLC of the (R)-pantoate on a Chiral-1® column]
$[\alpha]_D^{22}$= –49.1 (c = 2.0, H_2O)

Source of chirality: stereoselective microbial reduction

Absolute configuration: R
(assigned by optical rotation and correlation to available (R)-pantoyl lactone)

T. Taguchi, A. Shibuya, H. Sasaki, J. Endo, T. Morikawa and M. Shiro

Tetrahedron: Asymmetry **1994**, *5*, 1423



$C_{27}H_{28}F_2O_3$
1,1-Difluoro-2-benzyloxymethyl-3-(1', 2'-dibenzyloxyethyl)cyclopropane

E.e. > 98% (Determined by HPLC analysis using chiral column CHIRALCEL OD)

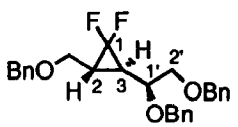
$[\alpha]_D^{28}$= - 8.78 (c=1.00, $CHCl_3$)

Source of chirality: (*R*)-2,3-*O*-isopropylideneglyceraldehyde

Absolute configuration: 2*S*, 3*S*, 1'*S*

T. Taguchi, A. Shibuya, H. Sasaki, J. Endo, T. Morikawa and M. Shiro

Tetrahedron: Asymmetry **1994**, *5*, 1423



$C_{27}H_{28}F_2O_3$
1,1-Difluoro-2-benzyloxymethyl-3-(1', 2'-dibenzyloxyethyl)cyclopropane

E.e. > 98% (Determined by HPLC analysis using chiral column CHIRALCEL OD)

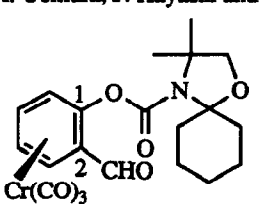
$[\alpha]_D^{27}$= + 23.13 (c=0.99, $CHCl_3$)

Source of chirality: (*R*)-2,3-*O*-isopropylideneglyceraldehyde

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

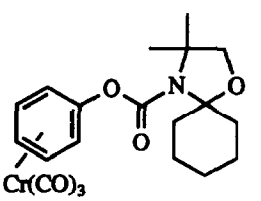
M. Uemura, Y. Hayashi and Y. Hayashi

Tetrahedron: Asymmetry **1994**, *5*, 1427



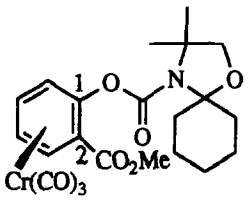
$C_{21}H_{23}O_7NCr$

E.e. = 72 % (HPLC with Chiralcel OJ-H)
$[\alpha]_D^{20}$ +303.4 (*c* 0.84, chloroform)
Absolute Configuration: (1*R*,2*S*)
mp 100 °C
Source of chirality: prepared from

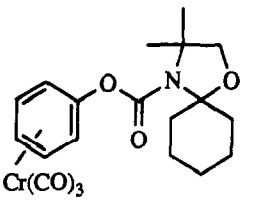


M. Uemura, Y. Hayashi and Y. Hayashi

Tetrahedron: Asymmetry **1994,** *5,* 1427



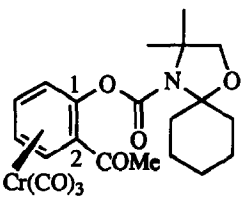
E.e. = 68 % (HPLC with Chiralpak AD)
$[\alpha]_D^{24}$ +41.6 (*c* 0.85, chloroform)
Absolute Configuration: (1*R*,2*S*)
mp 136 °C
Source of chirality: prepared from



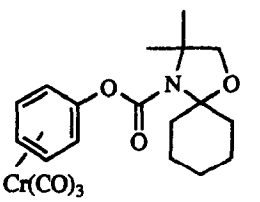
$C_{22}H_{25}O_8NCr$

M. Uemura,Y. Hayashi and Y. Hayashi

Tetrahedron: Asymmetry **1994,** *5,* 1427



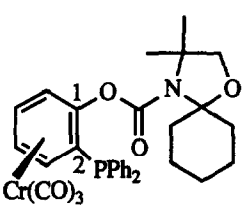
E.e. = 82 % (HPLC with Chiralcel OD)
$[\alpha]_D^{20}$ +72.6 (*c* 1.35, chloroform)
Absolute Configuration: (1*R*,2*S*)
mp 51 °C
Source of chirality: prepared from



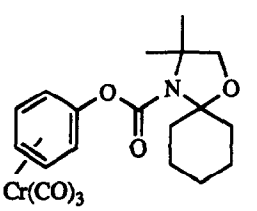
$C_{22}H_{25}O_7NCr$

M. Uemura, Y. Hayashi and Y. Hayashi

Tetrahedron: Asymmetry **1994,** *5,* 1427



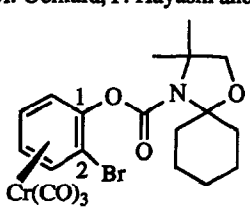
E.e. = 75 % (HPLC with Chiralpak AD)
$[\alpha]_D^{23}$ +74.9 (*c* 1.34, chloroform)
Absolute Configuration: (1*R*,2*S*)
mp 191 °C
Source of chirality: prepared from



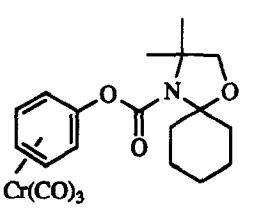
$C_{32}H_{32}O_6NPCr$

M. Uemura,Y. Hayashi and Y. Hayashi

Tetrahedron: Asymmetry **1994,** *5,* 1427



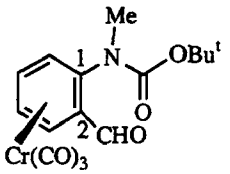
E.e. = 65 % (HPLC with Chiralcel OD)
$[\alpha]_D^{22}$ +4.1 (*c* 2.83, chloroform)
Absolute Configuration: (1*R*,2*S*)
mp 102 °C
Source of chirality: prepared from



$C_{20}H_{22}O_6NBrCr$

M. Uemura, Y. Hayashi and Y. Hayashi

Tetrahedron: Asymmetry **1994,** *5,* 1427



$C_{16}H_{17}O_6NCr$

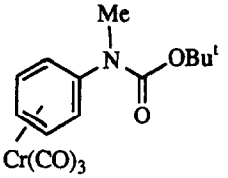
E.e. = 61 % (HPLC with Chiralcel OJ-H)

$[\alpha]_D^{25}$ +342.3 (*c* 0.22, chloroform)

Absolute Configuration: (1*R*,2*S*)

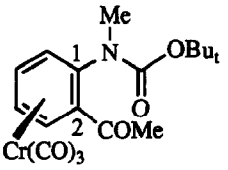
mp 65 °C

Source of chirality: prepared from



M. Uemura,Y. Hayashi and Y. Hayashi

Tetrahedron: Asymmetry **1994,** *5,* 1427



$C_{16}H_{19}O_3NCr$

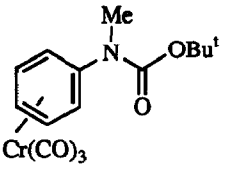
E.e. = 65 % (HPLC with Chiralcel OD)

$[\alpha]_D^{21}$ +128.4 (*c* 0.90, chloroform)

Absolute Configuration: (1*R*,2*S*)

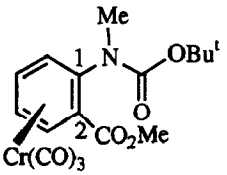
mp 70 °C

Source of chirality: prepared from



M. Uemura, Y. Hayashi and Y. Hayashi

Tetrahedron: Asymmetry **1994,** *5,* 1427



$C_{17}H_{19}O_7NCr$

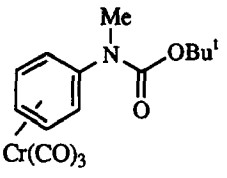
E.e. = 59 % (HPLC with Chiralpak AD)

$[\alpha]_D^{25}$ +72.4 (*c* 0.49, chloroform)

Absolute Configuration: (1*R*,2*S*)

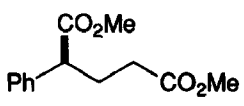
mp 87 °C

Source of chirality: prepared from



Takuya Kumamoto, Shin Aoki, Makoto Nakajima, and Kenji Koga

Tetrahedron: Asymmetry **1994,** *5,* 1431



$C_{13}H_{16}O_4$

(*S*)-Dimethyl 2-phenyl-1,5-pentandioate

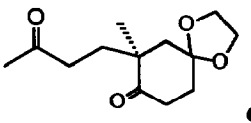
Ee = 84% (by HPLC analysis using a chiral column)

$[\alpha]_D^{25}$ +74.4 (*c* 3.1, EtOH)

Source of chirality: Enantioselective Michael Reaction

Absolute configulation: (*S*)

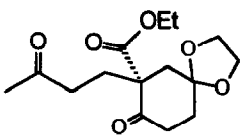
L.C. Sequeira, P.R.R. Costa, A. Neves and P. Esteves | *Tetrahedron: Asymmetry* **1994,** *5,* 1433



$C_{13}H_{20}O_4$ $[\alpha]_D = +4.6$ (c = 2.8; CCl_4) (88% ee - by ^1H NMR using $[Eu(hfc)_3]$) Source of chirality: (S)-(-)-1-phenylethylamine Absolute configuration: S

(S)-(+)-2-methyl-2-(3-oxobutyl)-1,4-cyclohexanedione monoethylene ketal

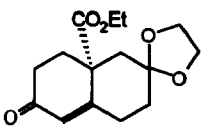
L.C. Sequeira, P.R.R. Costa, A. Neves and P. Esteves | *Tetrahedron: Asymmetry* **1994,** *5,* 1433



$C_{15}H_{22}O_6$ $[\alpha]_D = -36$ (c = 3; CCl_4) (76% ee , by $[Eu(hfc)_3]$) Source of chirality: (S)-(-)-1-phenylethylamine Absolute configuration: R

(R)-(-)-2-carbethoxy-2-(3-oxobutyl)-1,4-cyclohexanedione monoethylene ketal

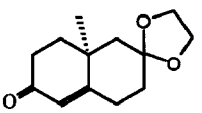
L.C. Sequeira, P.R.R. Costa, A. Neves and P. Esteves | *Tetrahedron: Asymmetry* **1994,** *5,* 1433



$C_{15}H_{20}O_5$ $[\alpha]_D = -108$ (c = 0.5; CCl_4) Source of chirality: (S)-(-)-phenylethylamine Absolute configuration: R

(R)-(-)-6,6-(ethylenedioxy)-10-carbethoxy-$\Delta^{1\,(9)}$ - octal-2-one

L.C. Sequeira, P.R.R. Costa, A. Neves and P. Esteves | *Tetrahedron: Asymmetry* **1994,** *5,* 1433

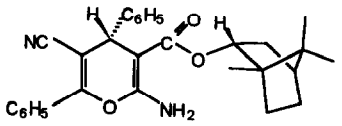


$C_{13}H_{18}O_3$ $[\alpha]_D = -171$ (c = 0.9; CCl_4) Source of chirality: (S)-(-)-1-phenylethylamine Absolute configuration: S

(S)-(-)-6,6-(ethylenedioxy)-10-methyl-$\Delta^{1\,(9)}$ - octal-2-one

N. Martín, A. Martínez-Grau, C. Seoane, J.L. Marco, A. Albert, F.H. Cano.

Tetrahedron: Asymmetry **1994,** *5,* 1435



$C_{29}H_{30}N_2O_3$

d.e. > 99% (by NMR)
$[\alpha]_D^{25}$ + 107.8 (*c* 1.02, CH_2Cl_2)
Source of chirality: (1*S*)-endo-(-)-borneol
Absolute configuration: 4*S*,1′*S*,2′*R*,4′*S*

2-Amino-3-[(-)-(1′*S*,2′*R*,4′*S*)-bornyloxycarbonyl]-5-cyano-4,6-diphenyl-4*H*(*S*)-pyran

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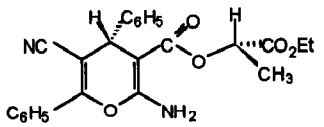
N. Martín, A. Martínez-Grau, C. Seoane, J.L. Marco, A. Albert, F.H. Cano.

Tetrahedron: Asymmetry **1994,** *5,* 1435



$C_{24}H_{22}N_2O_5$

d.e. > 99% (by NMR)
$[\alpha]_D^{25}$ + 96.1 (*c* 0.93, CH_2Cl_2)
Source of chirality: ethyl (*S*)-(-)-lactate
Absolute configuration: 4*S*,1′*S*

2-Amino-5-cyano-3-[1′(*S*)-ethoxycarbonylethoxycarbonyl]-4,6-diphenyl-4*H*(*S*)-pyran

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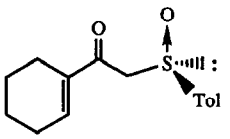
M.C. Carreño, M.B. Cid, F. Colobert, J.L. García Ruano and G.Solladié

Tetrahedron: Asymmetry **1994,** *5,* 1439



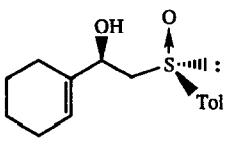
$C_{15}H_{18}O_2S$

$[\alpha]_D^{20}$ = + 186 (c =1, $CHCl_3$)
Source of chirality: asymmetric synthesis from (*R*)-methyl-*p*-tolylsulfoxide
Absolute configuration: (S)*R*

(+)-(S)*R*-1-cyclohexenyl-2-(*p*-tolylsulfinyl)ethanone

M.C. Carreño, M.B. Cid, F. Colobert, J.L. García Ruano and G.Solladié

Tetrahedron: Asymmetry **1994,** *5,* 1439



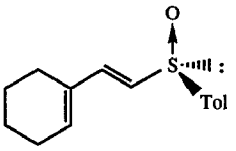
$C_{15}H_{20}O_2S$

$[\alpha]_D^{20}$ = + 145 (c =1, $CHCl_3$)
Source of chirality: asymmetric reduction
Absolute configuration: (S)*R*,*R*

(+)-[S(*R*),*R*]-1-cyclohexenyl-2-(*p*-tolylsulfinyl)ethanol

M.C. Carreño, M.B. Cid, F. Colobert,
J.L. García Ruano and G.Solladié

Tetrahedron: Asymmetry **1994,** *5,* 1439



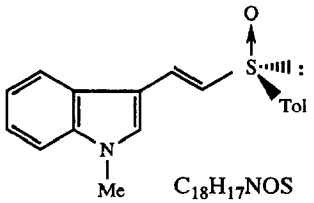
$C_{15}H_{18}OS$

$[\alpha]_D^{20} = +84$ (c =1, $CHCl_3$)
Source of chirality: asymmetric synthesis from
(*R*)-methyl-*p*-tolylsulfoxide
Absolute configuration: (S)*R*

(+)-(S)*R*-(1*E*)-2-Cyclohexenyl-1-vinyl-*p*-tolylsulfoxide

M.C. Carreño, M.B. Cid, F. Colobert,
J.L. García Ruano and G.Solladié

Tetrahedron: Asymmetry **1994,** *5,* 1439



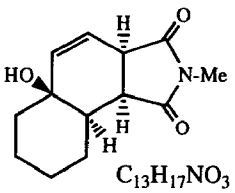
$C_{18}H_{17}NOS$

$[\alpha]_D^{20} = +30$ (c =1, $CHCl_3$)
Source of chirality: asymmetric synthesis from
(*R*)-methyl-*p*-tolylsulfoxide
Absolute configuration: (S)*R*

(+)-(S)*R*-methyl-3-[(*E*)-2-(*p*-tolylsulfinyl)-vinyl]-1H-indole

M.C. Carreño, M.B. Cid, F. Colobert,
J.L. García Ruano and G.Solladié

Tetrahedron: Asymmetry **1994,** *5,* 1439



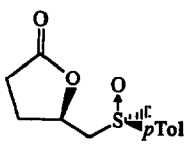
$C_{13}H_{17}NO_3$

$[\alpha]_D^{20} = -7.6$ (c =1, $CHCl_3$)
Source of chirality: asymmetric Diels-Alder reaction
/[2,3] sigmatropic rearrangement
Absolute configuration: 3a*R*, 5a*S*, 9a*R*, 9b*S*.

(3a*R*, 5a*S*, 9a*R*, 9b*S*)-5a-Hydroxy-2-methyl-3a,5a,6,7,8,9a,9b-octahydro-benzo [e]isoindole-1,3-dione

José L. García Ruano, Araceli Fuerte and M. Carmen Maestro

Tetrahedron: Asymmetry **1994,** *5,* 1443



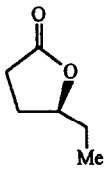
$C_{12}H_{14}O_3S$

mp= 124 °C
$[\alpha]_D^{20} = +82.3$ (c= 1, $CHCl_3$)
Source the chirality: (-)-menthol
Absolute configuration: 5*R*,*Rs*

(5*R*,*Rs*)-5-*p*-tolylsulfinylmethyl tetrahydrofuran-2-one

José L. García Ruano, Araceli Fuerte and M. Carmen Maestro

Tetrahedron: Asymmetry **1994,** *5,* 1443



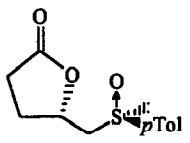
$C_6H_{10}O_2$

(*S*)-γ-caprolactone

ee= 93%
$[\alpha]_D^{20}$= -49.6 (c= 1.1, MeOH)
Source the chirality: (-)-menthol
Absolute configuration: *S* (assigned by comparison of optical rotations)

José L. García Ruano, Araceli Fuerte and M. Carmen Maestro

Tetrahedron: Asymmetry **1994,** *5,* 1443



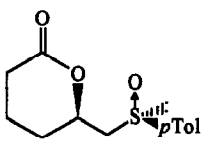
$C_{12}H_{14}O_3S$

(5*S*,*Rs*)-5-*p*-tolylsulfinylmethyl tetrahydrofuran-2-one

mp= 126 °C
$[\alpha]_D^{20}$= + 219 (c= 1.07, $CHCl_3$)
Source the chirality: (-)-menthol
Absolute configuration: 5*S*,*Rs*

José L. García Ruano, Araceli Fuerte and M. Carmen Maestro

Tetrahedron: Asymmetry **1994,** *5,* 1443



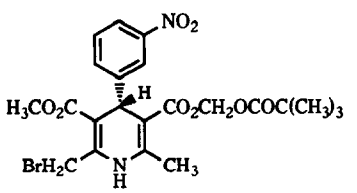
$C_{13}H_{16}O_3S$

(6*R*,*Rs*)-6-*p*-tolylsulfinylmethyl tetrahidropyran-2-one

$[\alpha]_D^{20}$= + 90.6 (c= 1, $CHCl_3$)
Source the chirality: (-)-menthol
Absolute configuration: 6*R*,*Rs*

Hirosato Ebiike and Kazuo Achiwa

Tetrahedron: Asymmetry **1994,** *5,* 1447



$C_{22}H_{25}BrN_2O_8$

Methyl Pivaloyloxymethyl 2-Bromomethyl-1,4-dihydro-6-methyl-4-(3-nitrophenyl)-3,5-pyridinedicarboxylate

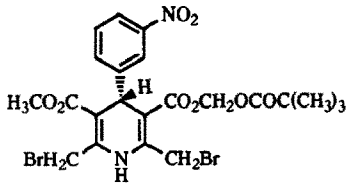
E.e.=100% (after conversion to (*R*)-Nilvadipine)
$[\alpha]_D$=+40.0 (*c* 2.5, acetone)

Sourse of chirality: lipase-catalyzed asymm. synth. (hydrolysis)

Absolute configuration 4R
(assigned by chemical correlation)

Hirosato Ebiike and Kazuo Achiwa

Tetrahedron: Asymmetry **1994,** *5,* 1447



E.e.=100%
$[\alpha]_D$=+1.0 (*c* 3.2, acetone)

Sourse of chirality: lipase-catalyzed asymm. synth. (hydrolysis)

Absolute configuration 4S
(assigned by X-Ray of the related compound)

$C_{22}H_{24}Br_2N_2O_8$

Methyl Pivaloyloxymethyl 2,6-Dibromomethyl-1,4-dihydro-4-(3-nitrophenyl)-3,5-pyridinedicarboxylate

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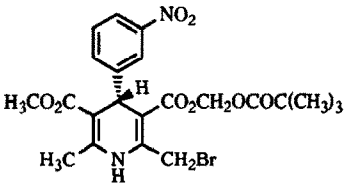
Hirosato Ebiike and Kazuo Achiwa

Tetrahedron: Asymmetry **1994,** *5,* 1447



E.e.=100%
$[\alpha]_D$=-21.7 (*c* 0.54, acetone)

Sourse of chirality: lipase-catalyzed asymm. synth. (hydrolysis)

Absolute configuration 4S
(assigned by chemical correlation)

$C_{22}H_{25}BrN_2O_8$

Methyl Pivaloyloxymethyl 6-Bromomethyl-1,4-dihydro-2-methyl-4-(3-nitrophenyl)-3,5-pyridinedicarboxylate

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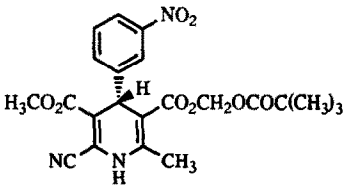
Hirosato Ebiike and Kazuo Achiwa

Tetrahedron: Asymmetry **1994,** *5,* 1447



E.e.=100% (after conversion to (*R*)-Nilvadipine)
$[\alpha]_D$=+179 (*c* 0.74, acetone)

Sourse of chirality: lipase-catalyzed asymm. synth. (hydrolysis)

Absolute configuration 4R
(assigned by chemical correlation)

$C_{22}H_{23}N_3O_8$

Methyl Pivaloyloxymethyl 2-Cyano-1,4-dihydro-6-methyl-4-(3-nitrophenyl)-3,5-pyridinedicarboxylate

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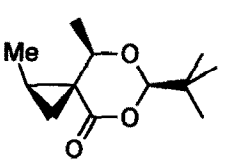
A. Bartels and J. Liebscher

Tetrahedron: Asymmetry **1994,** *5,* 1451

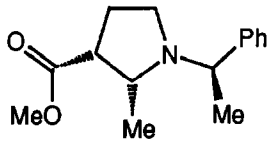


d.r. > 95:5 [by nmr]
$[\alpha]_D^{20}$ = +56.6 (c 2.25, $CHCl_3$)
Source of chirality: natural and asymm. synth. (cycloaddition)
Absolute configuration 1R, 3R, 6R, 8R

$C_{12}H_{20}O_3$
6-tert-Butyl-1,8-dimethyl-5,7-dioxa-spiro[2.5]octane-4-one

Giuseppe Bartoli, Cristina Cimarelli and Gianni Palmieri *

Tetrahedron: Asymmetry **1994**, *5*, 1455



Homochiral d.e. = > 98% (by 300 MHz ^{1}H NMR)

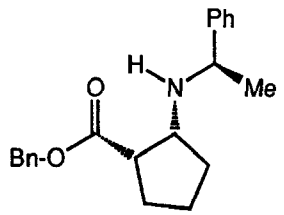
$[\alpha]_D^{20}$= +27 (*c* 3.0, EtOH)

source of chirality: (*R*)-1-phenylethylamine
Absolute Configuration: 2S, 3R, αR

$C_{15}H_{21}NO_2$
1-(*N*-α-methylbenzyl)amino-3-carbomethoxy-2-methylpyrrolidine

Giuseppe Bartoli, Cristina Cimarelli and Gianni Palmieri *

Tetrahedron: Asymmetry **1994**, *5*, 1455



Homochiral d.e. = > 98% (by 300 MHz ^{1}H NMR)

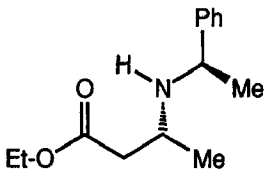
$[\alpha]_D^{20}$= +73 (*c* 2.0, EtOH)

source of chirality: (*R*)-1-phenylethylamine
Absolute Configuration: 1S, 2R, αR

$C_{21}H_{25}NO_2$
2-(*N*-α-methylbenzyl)amino-1-carbobenzyloxycyclopentane

Giuseppe Bartoli, Cristina Cimarelli and Gianni Palmieri *

Tetrahedron: Asymmetry **1994**, *5*, 1455



Homochiral d.e. = > 98% (by 300 MHz ^{1}H NMR)

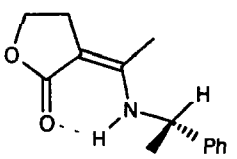
$[\alpha]_D^{20}$= + 45 (*c* 2.0, PhH)

source of chirality: (*R*)-1-phenylethylamine
Absolute Configuration: 3R, αR

$C_{14}H_{21}NO_2$
Ethyl 3-(*N*-α-methylbenzyl)aminobutanoate

Anasse Felk, Gilbert Revial, Bernard Viossat, Pascale Lemoine, and Michel Pfau

Tetrahedron: Asymmetry **1994**, *5*, 1459



E.e. = 100 %

$[\alpha]_D^{20}$ + 507 (*c* 2.25, EtOH)

Source of chirality: (*S*)-1-phenylethylamine

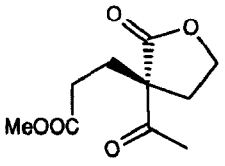
Absolute configuration *S*

R enantiomer also obtained from (*R*)-1-phenylethylamine

$C_{14}H_{17}NO_2$
(*S*)-3-[1-[(1-phenylethyl)amino]ethylidene]dihydrofuran-2(3*H*)-one

Anasse Felk, Gilbert Revial, Bernard Viossat, Pascale Lemoine, and Michel Pfau

Tetrahedron: Asymmetry **1994,** *5,* 1459



$C_{10}H_{14}O_5$

Methyl *(R)*-3-acetyl-2-oxo-tetrahydrofuran-3-propanoate

E.e. = 78 %

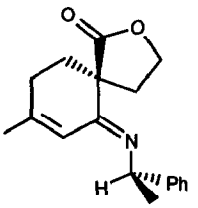
$[\alpha]_D^{20}$ + 38 (*c* 3.4, EtOH)

Source of chirality: (*S*)-1-phenylethylamine

Absolute configuration *R*

Anasse Felk, Gilbert Revial, Bernard Viossat, Pascale Lemoine, and Michel Pfau

Tetrahedron: Asymmetry **1994,** *5,* 1459



$C_{18}H_{21}NO_2$

(1'*R*,5*S*)-8-methyl-6-[(1'-phenylethyl)imino]-2-oxaspiro[4.5]dec-7-en-1-one

E.e. = 100 %

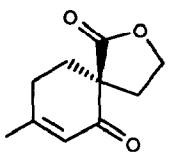
$[\alpha]_D^{20}$ + 208 (*c* 1.07, EtOH)

Source of chirality: (*R*)-1-phenylethylamine

Absolute configuration 1'*R*,5*S*

Anasse Felk, Gilbert Revial, Bernard Viossat, Pascale Lemoine, and Michel Pfau

Tetrahedron: Asymmetry **1994,** *5,* 1459



$C_{10}H_{12}O_3$

(S)-8-methyl-2-oxaspiro[4.5]dec-7-ene-1,6-dione

E.e. = 100 %

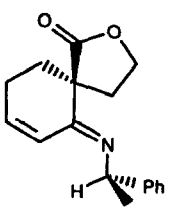
$[\alpha]_D^{20}$ + 149 (*c* 1.36, EtOH)

Source of chirality: (*R*)-1-phenylethylamine

Absolute configuration *S*

Anasse Felk, Gilbert Revial, Bernard Viossat, Pascale Lemoine, and Michel Pfau

Tetrahedron: Asymmetry **1994,** *5,* 1459



$C_{17}H_{19}NO_2$

(1'*R*,5*S*)-6-[(1'-phenylethyl)imino]-2-oxaspiro[4.5]dec-7-en-1-one

E.e. = 100 %

$[\alpha]_D^{20}$ + 148 (*c* 1.26, EtOH)

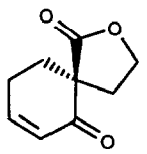
Source of chirality: (*R*)-1-phenylethylamine

Absolute configuration 1'*R*,5*S*

(assigned by single crystal X-ray analysis)

Anasse Felk, Gilbert Revial, Bernard Viossat, Pascale Lemoine, and Michel Pfau

Tetrahedron: Asymmetry **1994,** *5,* 1459



$C_9H_{10}O_3$

(S)-2-oxaspiro[4.5]dec-7-ene-1,6-dione

E.e. = 100 %

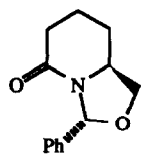
$[\alpha]_D^{20}$ + 72 (*c* 2.76, EtOH)

Source of chirality: (*R*)-1-phenylethylamine

Absolute configuration *S*

Stephen A. Hermitage and Mark G. Moloney

Tetrahedron: Asymmetry **1994,** *5,* 1463



$C_{13}H_{15}NO_2$

e.e. > 90%

d.e. > 98% (from ^1H n.m.r.)

$[\alpha]_D^{22}$ = +129.2 (c=1.0, $CHCl_3$)

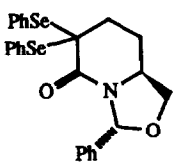
Source of Chirality: (S)-lysine

Absolute Configuration: (2R,5S)

(2R,5S)-(+)-1-aza-3-oxa-9-oxo-2-phenylbicyclo[4.3.0]nonane

Stephen A. Hermitage and Mark G. Moloney

Tetrahedron: Asymmetry **1994,** *5,* 1463



$C_{25}H_{23}NO_2Se_2$

e.e. > 90%

d.e. > 98% (from ^1H n.m.r.)

$[\alpha]_D^{25}$ = +109.4 (c=1.0, $CHCl_3$)

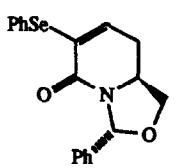
Source of Chirality: (S)-lysine

Absolute Configuration: (2R,5S)

(2R,5S)-(+)-1-aza-3-oxa-9-oxo-2-phenyl-8,8-bis(phenylselenenyl)bicyclo[4.3.0]nonane

Stephen A. Hermitage and Mark G. Moloney

Tetrahedron: Asymmetry **1994,** *5,* 1463



$C_{19}H_{17}NO_2Se$

e.e. > 90%

d.e. > 98% (from ^1H n.m.r.)

$[\alpha]_D^{20}$ = -49.8 (c=1.0, $CHCl_3$)

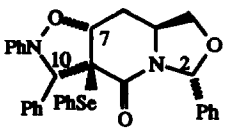
Source of Chirality: (S)-lysine

Absolute Configuration: (2R,5S)

(2R,5S)-(-)-1-aza-3-oxa-9-oxo-2-phenyl-8-phenylselenenylbicyclo[4.3.0]non-7-ene

Stephen A. Hermitage and Mark G. Moloney

Tetrahedron: Asymmetry **1994,** *5,* 1463



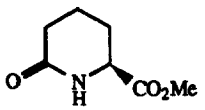
e.e. > 90%
d.e. > 98% (from ^1H n.m.r.)
$[\alpha]_D^{20}$ = +33.0 (c=0.9, $CHCl_3$)
Source of Chirality: (S)-lysine
Absolute Configuration: (2R,5S, 7R, 11S)

$C_{32}H_{28}N_2O_3Se$

(2R,5S)-(+)-1,9-diaza-3,8-dioxa-12-oxo-2,10-diphenyl-9-(*N*-phenyl)-11-phenylselenenyltricyclo[7.3.0^{1,5}.0^{7,11}]dodecane

Stephen A. Hermitage and Mark G. Moloney

Tetrahedron: Asymmetry **1994,** *5,* 1463



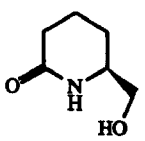
e.e. > 90%
$[\alpha]_D^{25}$ = -12.8 (c=1.0, $CHCl_3$)
Source of Chirality: (S)-lysine
Absolute Configuration: S

$C_7H_{11}NO_3$

(S)-(-)-2-Methoxycarbonyl-6-piperidinone

Stephen A. Hermitage and Mark G. Moloney

Tetrahedron: Asymmetry **1994,** *5,* 1463



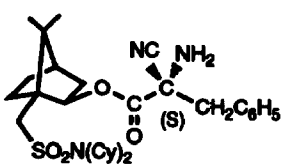
e.e. = 90% (from (R)-MTPA ester)
$[\alpha]_D^{22}$ = +17.2 (c=1.0, $CHCl_3$)
Source of Chirality: (S)-lysine
Absolute Configuration: S

$C_6H_{11}NO_2$

(S)-(+)-2-Hydroxymethyl-6-piperidinone

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

Tetrahedron: Asymmetry **1994,** *5,* 1465

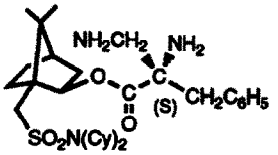


d.e.>95% by NMR
$[\alpha]_D^{20}$ - 44.6 (c = 1, $CHCl_3$)
Source of chirality : natural and diastereoselective amination
Absolute configuration : 2S

$C_{32}H_{47}N_3O_4S$
(2S)-(1S,2R,4R)-10-dicyclohexylsulfamoylisobornyl-2-amino-2-cyano-3-phenylpropanoate

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

Tetrahedron: Asymmetry **1994,** *5,* 1465



d.e.>95% by NMR
$[\alpha]_D^{20}$ - 47 (c = 0.80, $CHCl_3$)
Source of chirality : natural and diastereoselective amination
Absolute configuration : 2S

$C_{32}H_{51}N_3O_4S$
(2S)-(1S,2R,4R)-10-dicyclohexylsulfamoylisobornyl-2-benzyl-2,3-diaminopropanoate

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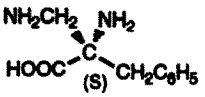
C. Cativiela, M. D. Diaz-de-Villegas, J. A. Galvez

Tetrahedron: Asymmetry **1994,** *5,* 1465

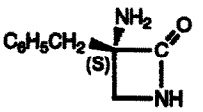


d.e.>95% by NMR
$[\alpha]_D^{20}$ - 8.2 (c = 0.80, H_2O)
Source of chirality : natural and diastereoselective amination
Absolute configuration : 2S

$C_{10}H_{14}N_2O_2$
(2S)-2-benzyl-2,3-diaminopropanoic acid

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

Tetrahedron: Asymmetry **1994,** *5,* 1465

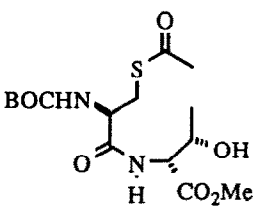


e.e.>95%
$[\alpha]_D^{20}$ - 142 (c = 0.50, $CHCl_3$)
Source of chirality : natural and diastereoselective amination
Absolute configuration : 3S

$C_{10}H_{12}N_2O$
(3S)-3-amino-3-benzyl-2-azetidinone

F. Corelli, A. Crescenza, D. Dei, M. Taddei and M. Botta

Tetrahedron: Asymmetry **1994,** *5,* 1469



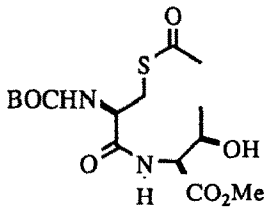
$[\alpha]_D^{20}$ = +25.0 (c 1.0 $CHCl_3$)

$C_{15}H_{26}N_2O_7S$

N-[(S-Acetyl-N-*tert*-butoxycarbonyl)-*L*-cysteinyl]-*D*-threonine methyl ester

F. Corelli, A. Crescenza, D. Dei, M. Taddei and M. Botta

Tetrahedron: Asymmetry **1994**, *5*, 1469



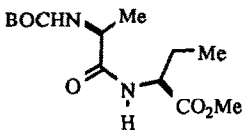
$[\alpha]_D^{20}$ = -10.0 (c 1.0 $CHCl_3$)

$C_{15}H_{26}N_2O_7S$

N-[(S-Acetyl-N-*tert*-butoxycarbonyl)-*L*-cysteinyl]-*L*-threonine methyl ester

F. Corelli, A. Crescenza, D. Dei, M. Taddei and M. Botta

Tetrahedron: Asymmetry **1994**, *5*, 1469



$[\alpha]_D^{20}$ = -25.5 (c 0.49 $CHCl_3$)

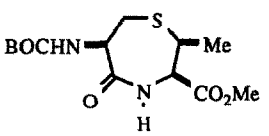
Absolute configuration 2S,2'S

$C_{13}H_{24}N_2O_5$

2-[(2'-*tert*-Butoxycarbonylamino)propionylamino]butyric acid methyl ester

F. Corelli, A. Crescenza, D. Dei, M. Taddei and M. Botta

Tetrahedron: Asymmetry **1994**, *5*, 1469



$[\alpha]_D^{20}$ = -15.2 (c 1.38 $CHCl_3$)

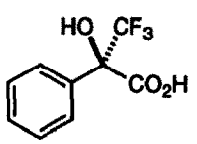
Absolute configuration 2S,3R,6R
(assigned by proton NMR and chemical degradation studies).

$C_{13}H_{22}N_2O_5S$

6-*tert*-Butoxycarbonylamino-3-methoxycarbonyl-2-methyl-5-oxoperhydro-1,4-thiazepine

Youssef L. Bennani, Koen P.M. Vanhessche and K. Barry Sharpless*

Tetrahedron: Asymmetry **1994**, *5*, 1473



E.e. = 91% recrystallized to 99% enantiomeric purity (by HPLC)

$[\alpha]_D^{25}$ = +29.8 (*c* 0.81, CH_3OH)

Source of chirality: Asymmetric dihydroxylation

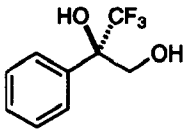
Absolute Configuration: R

$C_9H_7F_3O_3$

(*R*)-(+)-2-hydroxy-2-trifluoromethyl-2-phenylacetic acid

Youssef L. Bennani, Koen P.M. Vanhessche and K. Barry Sharpless*

Tetrahedron: Asymmetry **1994,** *5,* 1473



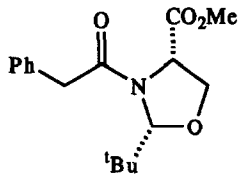
E.e. = 91% (by HPLC of cyclic carbonate)
$[\alpha]_D^{25}$ = -14.8 (*c* 2.05, CH_3OH)
Source of chirality: Asymmetric dihydroxylation
Absolute Configuration: R

$C_9H_9F_3O_2$

(*R*)-(-)-1,1,1-trifluoro-2-phenyl-2,3-propanediol

M. D. Andrews, A. Brewster, and M.G. Moloney

Tetrahedron: Asymmetry **1994,** *5,* 1477

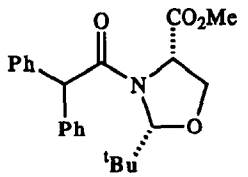


$[\alpha]_D$ = -2.28 (c = 1.93, $CHCl_3$)
Source of chirality: (*S*)-serine
Absolute configuration: 2*R*, 4*S*

$C_{17}H_{23}NO_4$
(2R,4S)-2-(*tert*-butyl)-3-(2'-phenylethanoyl)-4-methoxycarbonyloxazolidine

M. D. Andrews, A. Brewster, and M.G. Moloney

Tetrahedron: Asymmetry **1994,** *5,* 1477

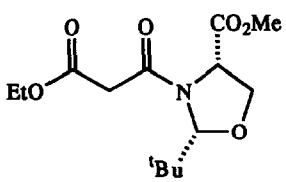


$[\alpha]_D$ = +178 (c = 2.00, $CHCl_3$)
Source of chirality: (*S*)-serine
Absolute configuration: 2*R*, 4*S*

$C_{23}H_{27}NO_4$
(2R,4S)-2-(*tert*-butyl)-3-(2',2'-diphenylethanoyl)-4-methoxycarbonyloxazolidine

M. D. Andrews, A. Brewster, and M.G. Moloney

Tetrahedron: Asymmetry **1994,** *5,* 1477

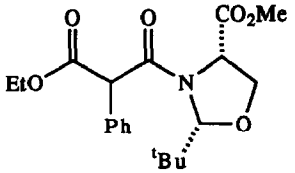


$[\alpha]_D$ = -59.4 (c = 3.06, $CHCl_3$)
Source of chirality: (S)-serine
Absolute configuration: 2*R*, 4*S*

$C_{14}H_{23}NO_6$
(2R,4S)-2-(*tert*-butyl)-3-(2'-ethoxycarbonylethanoyl)-4-methoxycarbonyloxazolidine

M. D. Andrews, A. Brewster, and M.G. Moloney

Tetrahedron: Asymmetry **1994**, *5*, 1477

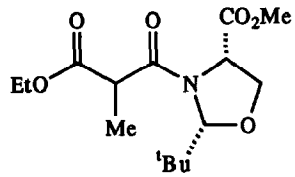


$[\alpha]_D$ = +48.8 (c = 1.93, $CHCl_3$)
Source of chirality: (S)-serine
Absolute configuration: 2*R*, 4*S*

$C_{20}H_{27}NO_6$
(2R,4S)-2-(*tert*-butyl)-3-(2'-ethoxycarbonyl-2'-phenylethanoyl)-4-methoxycarbonyloxazolidine

M. D. Andrews, A. Brewster, and M.G. Moloney

Tetrahedron: Asymmetry **1994**, *5*, 1477

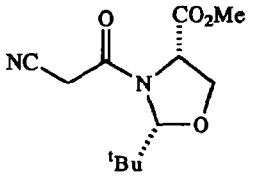


$[\alpha]_D$ = -63.3 (c = 2.18, $CHCl_3$)
Source of chirality: (*S*)-serine
Absolute configuration: 2*R*, 4*S*

$C_{15}H_{25}NO_6$
(2*R*,4*S*)-2-(*tert*-butyl)-3-(2'-ethoxycarbonyl-2'-methylethanoyl)-4-methoxycarbonyloxazolidine

M. D. Andrews, A. Brewster, and M.G. Moloney

Tetrahedron: Asymmetry **1994**, *5*, 1477

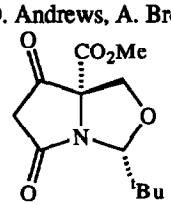


$[\alpha]_D$ = -35.8 (c = 1.11, $CHCl_3$)
Source of chirality: (*S*)-serine
Absolute configuration: 2*R*, 4*S*

$C_{12}H_{18}N_2O_4$
(2*R*,4*S*)-2-(*tert*-butyl)-3-(2'-cyanoethanoyl)-4-methoxycarbonyloxazolidine

M. D. Andrews, A. Brewster, and M.G. Moloney

Tetrahedron: Asymmetry **1994**, *5*, 1477

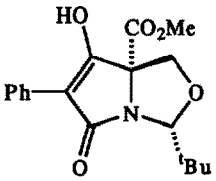


$[\alpha]_D$ = +100 (c = 2.02, $CHCl_3$)
Source of chirality: (*S*)-serine
Absolute configuration: 2*R*, 5*R*

$C_{12}H_{17}NO_5$
(2*R*,5*R*)-2-(*tert*-butyl)-5-methoxycarbonyl-6,8-dioxo-1-aza-3-oxabicyclo-[3,3,0]-octane

M. D. Andrews, A. Brewster, and M.G. Moloney

Tetrahedron: Asymmetry **1994,** *5,* 1477

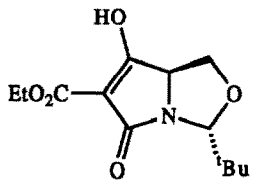


$[\alpha]_D = +140$ (c = 1.17, $CHCl_3$)
Source of chirality: (*S*)-serine
Absolute configuration: 2*R*, 5*R*

$C_{18}H_{21}NO_5$
(2*R*,5*R*)-2-(*tert*-butyl)-6-hydroxy-5-methoxycarbonyl-8-oxo-7-phenyl-1-aza-3-oxabicyclo-[3,3,0]-oct-6-ene

M. D. Andrews, A. Brewster, and M.G. Moloney

Tetrahedron: Asymmetry **1994,** *5,* 1477

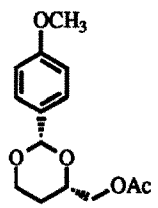


$[\alpha]_D = +39.6$ (c = 1.10, $CHCl_3$)
Source of chirality: (*S*)-serine
Absolute configuration: 2*R*, 5*R*

$C_{13}H_{19}NO_5$
(2*R*,5*R*)-2-(*tert*-butyl)-7-ethoxycarbonyl-6-hydroxy-8-oxo-1-aza-3-oxabicyclo-[3,3,0]-oct-6-ene

B. Herradón and S. Valverde

Tetrahedron: Asymmetry **1994,** *5,* 1479



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

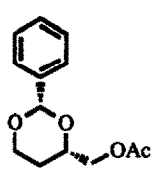
$[\alpha]_D = +26.6$ ($CHCl_3$, c = 0.80)

Source of chirality: lipase catalyzed transesterification.

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

B. Herradón and S. Valverde

Tetrahedron: Asymmetry **1994,** *5,* 1479



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

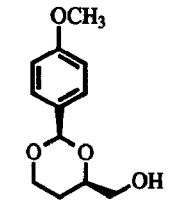
$[\alpha]_D = +27.1$ ($CHCl_3$, c = 1.20)

Source of chirality: lipase catalyzed transesterification.

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

B. Herradón and S. Valverde

Tetrahedron: Asymmetry **1994**, *5*, 1479



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

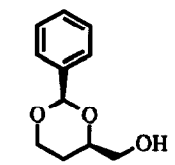
$[\alpha]_D$ = -10.3 ($CHCl_3$, c = 1.45)

Source of chirality: lipase catalyzed transesterification.

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

B. Herradón and S. Valverde

Tetrahedron: Asymmetry **1994**, *5*, 1479



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

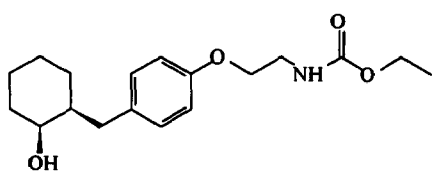
$[\alpha]_D$ = -10.0 ($CHCl_3$, c = 1.18)

Source of chirality: lipase catalyzed transesterification.

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

M. Rejzek*, Z. Wimmer*, M. Zarevúcka, D. Šaman, M. Pavlík, M. Říčánková

Tetrahedron: Asymmetry **1994**, *5*, 1501

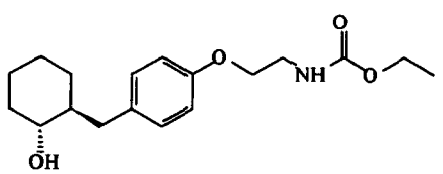


E.e.= 95% (by ^{1}H NMR of MTPA ester)
$[\alpha]^{24}_D$= 12.12 (c 0.46, $CHCl_3$)
CD: $\Delta\varepsilon_{276.5}$ -0.08 (0.1 cm, CH_3OH)
Source of chirality: chemoenzymatic synthesis
Absolute configuration 1*S*,2*S*
(assigned by evaluation of the NMR spectra of the diastereoisomeric MTPA esters derived from the compound identified here)

$C_{18}H_{27}O_4N$
cis-Ethyl N-{2-[4-(2-hydroxy-1-cyclohexylmethyl)-phenoxy]ethyl}carbamate

M. Rejzek*, Z. Wimmer*, M. Zarevúcka, D. Šaman, M. Pavlík, M. Říčánková

Tetrahedron: Asymmetry **1994**, *5*, 1501

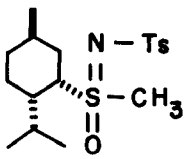


E.e.= 95% (by ^{1}H NMR of MTPA ester)
$[\alpha]^{24}_D$= -16.51 (c 0.67, $CHCl_3$)
CD: $\Delta\varepsilon_{280.0}$ -0.07 (0.1 cm, CH_3OH)
Source of chirality: chemoenzymatic synthesis
Absolute configuration 1*S*,2*R*
(assigned by evaluation of the NMR spectra of the diastereoisomeric MTPA esters derived from the compound identified here)

$C_{18}H_{27}O_4N$
cis-Ethyl N-{2-[4-(2-hydroxy-1-cyclohexylmethyl)-phenoxy]ethyl}carbamate

S.S. Taj and R. Soman

Tetrahedron: Asymmetry **1994,** *5,* 1513



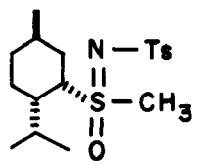
M.P. : 115-16°
$[\alpha]_D^{25}$ - 60.9 (c, 2.54, $CHCl_3$)
Absolute configuration at S undetermined,
d.e. 100% (^1H NMR)
Source of chirality : Synthesis from (-)-menthol

$C_{18}H_{29}NO_3S_2$

(1R,3S,4S) - (-)-S-Methyl-S-neomenthyl-N-tosyl Sulfoximine

S.S. Taj and R. Soman

Tetrahedron: Asymmetry **1994,** *5,* 1513



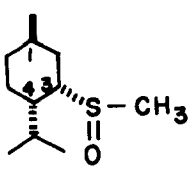
M.P. : 74-75°
$[\alpha]_D^{25}$ + 101.9 (c, 3.88, $CHCl_3$)
Absolute configuration at S undetermined,
d.e. 100% (^1H NMR)
Source of chirality : Synthesis from (-)-menthol

$C_{18}H_{29}NO_3S_2$

(1R,3S,4S) - (+)-S-Methyl-S-neomenthyl-N-tosyl Sulfoximine

S.S. Taj and R. Soman

Tetrahedron: Asymmetry **1994,** *5,* 1513



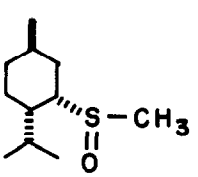
M.P. : 125-26°
$[\alpha]_D^{25}$ + 140.06 (c, 1.48, $CHCl_3$)
Absolute configuration at S undetermined,
d.e. 100% (chiral GC)
Source of chirality : Synthesis from (-)-menthol

$C_{11}H_{22}OS$

(1R,3S,4S) - (+)-S-Methyl-S-neomenthyl Sulfoxide

S.S. Taj and R. Soman

Tetrahedron: Asymmetry **1994,** *5,* 1513



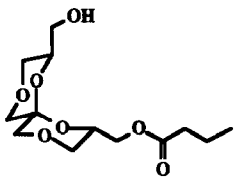
M.P. : below 15°C
$[\alpha]_D^{25}$ + 23.75 (c, 2.1, $CHCl_3$)
Absolute configuration at S undetermined,
d.e. > 98% (chiral GC)
Source of chirality : Synthesis from (-)-Menthol

$C_{11}H_{22}OS$

(1R,3S,4S) - (+)-S-Methyl-S-neomenthyl Sulfoxide

M. Lemaire, G. Jeminet, J.G. Gourcy, G. Dauphin

Tetrahedron: Asymmetry **1994,** *5,* 1519



$C_{13}H_{22}O_7$

E.e = 75 % (by NMR with $Eu(hfc)_3$)

$[\alpha]_J^{25}$ + 5 (c = 0.024, $CHCl_3$)

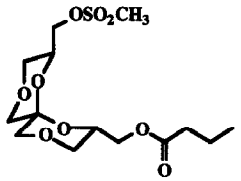
Source of chirality: enzymatic hydrolysis.

Absolute configuration: **2S,6S,8R**

E,E-(2S,6S,8R)-(+)-2-Butyryloxymethyl-8-hydroxymethyl-1,4,7,10-tetraoxaspiro[5.5]undecane

M. Lemaire, G. Jeminet, J.G. Gourcy, G. Dauphin

Tetrahedron: Asymmetry **1994,** *5,* 1519



$C_{14}H_{24}O_9S$

E.e ≥ 98 % (by NMR with $Eu(hfc)_3$)

$[\alpha]_J^{25}$ - 3 (c = 0.017, $CHCl_3$)

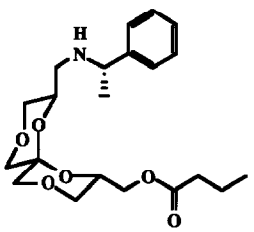
Source of chirality: asym. synth.

Absolute configuration: **2S,6S,8S**

E,E-(2S,6S,8S)-(-)-8-Butyryloxymethyl-2-mesyloxy-1,4,7,10-tetraoxaspiro[5.5]undecane

M. Lemaire, G. Jeminet, J.G. Gourcy, G. Dauphin

Tetrahedron: Asymmetry **1994,** *5,* 1519



$C_{21}H_{31}NO_6$

d.e. = 90 % (by NMR); e.e ≥ 98 % (by NMR)

$[\alpha]_J^{25}$ - 17 (c = 0.020, $CHCl_3$); $[\alpha]_J^{25}$ - 15 (c = 0.017, $CHCl_3$)

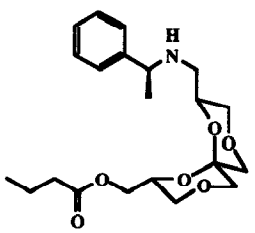
Source of chirality: separation of diastereoisomers; asym. synth.

Absolute configuration: **2S,6S,8R,13'S**

E,E-(2S,6S,8R,13'S)-(-)-2-Butyryloxymethyl-8-N-(α-methylbenzyl)aminomethyl-1,4,7,10-tetraoxaspiro[5.5]undecane

M. Lemaire, G. Jeminet, J.G. Gourcy, G. Dauphin

Tetrahedron: Asymmetry **1994,** *5,* 1519



$C_{21}H_{31}NO_6$

d.e. = 96 % (by NMR)

$[\alpha]_J^{25}$ - 37 (c = 0.011, $CHCl_3$)

Source of chirality: separation of diastereoisomers.

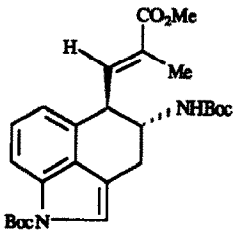
Absolute configuration: **2R,6R,8S,13'S**

E,E-(2R,6R,8S,13'S)-(-)-2-Butyryloxymethyl-8-N-(α-methylbenzyl)aminomethyl-1,4,7,10-tetraoxaspiro[5.5]undecane

Nathalie KARDOS and Jean Pierre GENET

Tetrahedron: Asymmetry **1994**, *5*, 1525

$C_{26}H_{34}N_2O_6$



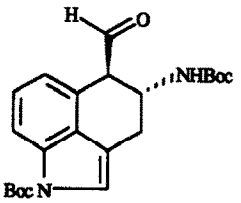
$(\alpha)^{20}_D = -98$ (C = 1, CH_2Cl_2)
Absolute configuration (4R,5R)

Methyl-(E)-3-[(4R,5R)-1-ter-butoxycarbonyl-4-(N-ter-butoxycarbonylamino)-1,3,4,5-tetrahydrobenz[c,d]indol-5-yl-2-methylpropenoate

Nathalie KARDOS and Jean Pierre GENET

Tetrahedron: Asymmetry **1994**, *5*, 1525

$C_{22}H_{28}N_2O_5$



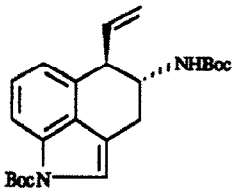
$(\alpha)^{20}_D = -59$ (C = 1, CH_2Cl_2)
Absolute configuration (4R,5R)

(4R,5R)-1-ter-butoxycarbonyl-4-(N-ter-butoxycarbonylamino)-5-formyl-1,3,4,5-tetrahydrobenz[c,d]indole

Nathalie KARDOS and Jean Pierre GENET

Tetrahedron: Asymmetry **1994**, *5*, 1525

$C_{23}H_{30}N_2O_4$



$(\alpha)^{20}_D = -71$ (C = 1, CH_2Cl_2)
Absolute configuration (4R,5R)

(4R,5R)-1-tert-butoxycarbonyl-4-(N-ter-butoxycarbonylamino)-5-vinyl-1,3,4,5-tetrahydrobenz[c,d]indole

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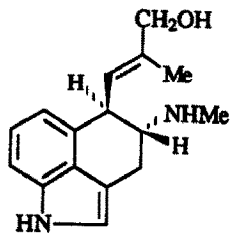
Tetrahedron: Asymmetry **1994**, *5*, 1525

$C_{16}H_{20}N_2O$



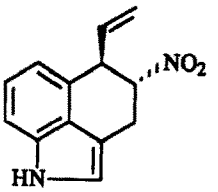
$(\alpha)^{20}_D = -213$ (C = 0.4 pyridine)

Chanoclavine

Nathalie KARDOS and Jean Pierre GENET

Tetrahedron: Asymmetry **1994**, *5*, 1525

$C_{13}H_{12}N_2O_2$

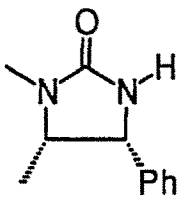


ee > 95%
$(\alpha)^{20}_D$ = -77 (C = 1, CH_2Cl_2)
Source of chirality (S)BINAP
absolute configuration (4R, 5R)

(4R,5R)-4-nitro-5-vinyl-1,3,4,5-tetrahydrobenz[c,d]indole

B. Cardillo, R. Galeazzi, G.Mobbili, M. Orena, M. Rossetti

Tetrahedron: Asymmetry **1994**, *5*, 1535



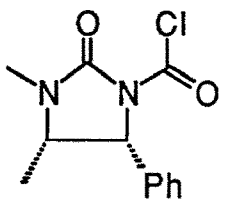
$C_{11}H_{14}N_2O$

E.e. > 99%
$[\alpha]_D$ = -44.2 (c 1, CH_3OH)
Source of chirality: (-)-ephedrine
Absolute configuration: 4R,5S

(4R,5S) 1,5-Dimethyl-4-phenylimidazolidin-2-one

B. Cardillo, R. Galeazzi, G. Mobbili, M. Orena, M. Rossetti

Tetrahedron: Asymmetry **1994**, *5*, 1535



$C_{12}H_{13}N_2O_2Cl$

E.e. > 99%
$[\alpha]_D$ = +11.6 (c 1, $CHCl_3$)
Source of chirality: (-)-ephedrine
Absolute configuration: 4S,5R

(4S,5R) 1-Chlorocarbonyl-3,4-dimethyl-5-phenylimidazolidin-2-one

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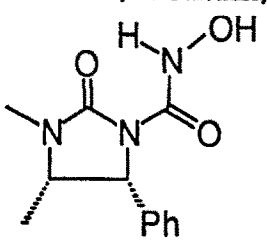
B. Cardillo, R. Galeazzi, G.Mobbili, M. Orena, M. Rossetti

Tetrahedron: Asymmetry **1994**, *5*, 1535



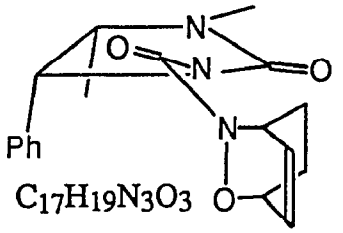
$C_{12}H_{15}N_3O_3$

E.e. > 99%
$[\alpha]_D$ = +20.1 (c 1, CH_3OH)
Source of chirality: (-)-ephedrine
Absolute configuration: 4S,5R

(4S,5R) 3,4-Dimethyl-5-phenylimidazolidin-2-one-1-carbohydroxamic acid

B. Cardillo, R. Galeazzi, G. Mobbili, M. Orena, M. Rossetti

Tetrahedron: Asymmetry **1994,** *5,* 1535

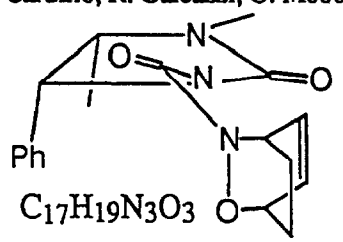


D.e. = 98% (by ^{1}H and ^{13}C NMR spectroscopy)
$[\alpha]_D$ = -118.1 (c 1, $CHCl_3$)
Source of chirality: asymmetric synthesis
Absolute configuration: 1R,4S (assigned on comparison with optical rotation of the cleavage product)

(1R,4S) 3-[(4S,5R)-3,4-Dimethyl-5-phenylimidazolidin-2-one-1-carbonyl]-3-aza-2-oxabicyclo[2.2.2]oct-4-ene

B. Cardillo, R. Galeazzi, G. Mobbili, M. Orena, M. Rossetti

Tetrahedron: Asymmetry **1994,** *5,* 1535

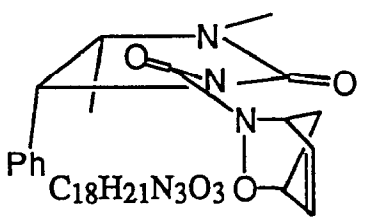


D.e. = 98% (by ^{1}H and ^{13}C NMR spectroscopy)
$[\alpha]_D$ = -64.2 (c 0.2, $CHCl_3$)
Source of chirality: asymmetric synthesis
Absolute configuration: 1S,4R

(1S,4R) 3-[(4S,5R)-3,4-Dimethyl-5-phenylimidazolidin-2-one-1-carbonyl]-3-aza-2-oxabicyclo[2.2.2]oct-4-ene

B. Cardillo, R. Galeazzi, G. Mobbili, M. Orena, M. Rossetti

Tetrahedron: Asymmetry **1994,** *5,* 1535

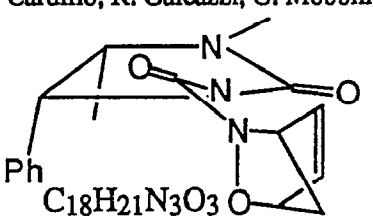


D.e. = 98% (by ^{1}H and ^{13}C NMR)
$[\alpha]_D$ = -89.1 (c 1, $CHCl_3$)
Source of chirality: asymmetric synthesis
Absolute configuration: 1R, 4S

(1R,4S) 3-[(4S,5R)-3,4-Dimethyl-5-phenylimidazolidin-2-one-1-carbonyl]-3-aza-2-oxabicyclo[2.2.1]hept-4-ene

B. Cardillo, R. Galeazzi, G. Mobbili, M. Orena, M. Rossetti

Tetrahedron: Asymmetry **1994,** *5,* 1535

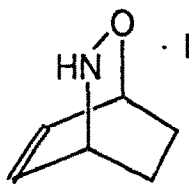


D.e. = 98% (by ^{1}H and ^{13}C NMR)
$[\alpha]_D$ = -70.6 (c 0.3, $CHCl_3$)
Source of chirality: asymmetric synthesis
Absolute configuration: 1S, 4R

(1S,4R) 3-[(4S,5R)-3,4-Dimethyl-5-phenylimidazolidin-2-one-1-carbonyl]-3-aza-2-oxabicyclo[2.2.1]hept-4-ene

B. Cardillo, R. Galeazzi, G. Mobbili, M. Orena, M. Rossetti

Tetrahedron: Asymmetry **1994,** *5,* 1535



E.e. = 98% (on comparison with known value of optical rotation)
$[\alpha]_D$ = -24.7 (c 1, $CHCl_3$)
Source of chirality: asymmetric synthesis
Absolute configuration: 1R,4S

$C_6H_{10}NOCl$ (1R,4S) 3-Aza-2-oxabicyclo[2.2.2.]oct-4-ene hydrochloride

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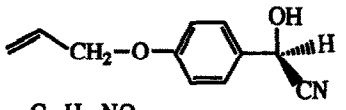
Hyun J. Kim and W. Roy Jackson*

Tetrahedron: Asymmetry **1994,** *5,* 1541



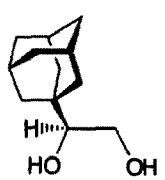
$C_{11}H_{11}NO_2$

(R)-2-Hydroxy-2-[4-(2-propenyloxy)phenyl]-acetonitrile

E.e ≥ 98% [by ^1H n.m.r. of (R) -(+)- cyhalothrin ester and (R) -(+) MTPA ester]
$[\alpha]_D^{22}$ = +45.3 (*c* 1.0, $CHCl_3$)
m.p. 57.5 - 59°C
Source of chirality : asymm. addition of HCN to aldehyde by cyclo-[(S)-Phe-(S)-His]
Absolute configuration R

K. Naemura, T. Mizo-oku, K. Kamada, K. Hirose, Y. Tobe, M. Sawada, and Y. Takai

Tetrahedron: Asymmetry **1994,** *5,* 1549

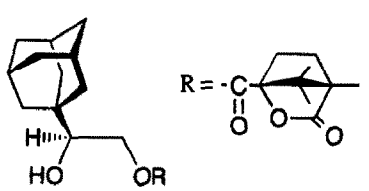


E.e. >99% (by ^1H-nmr of camphanic acid ester)
$[\alpha]_D$ +19.2 (c 1.00, EtOH)
Source of chilarity: resolution with (-)-camphanic acid as the resolving agent
Absolute configuration: (*S*)
(assigned by ^1H-nmr of corresponding Mosher's (*R*)- and (*S*)-esters and Prelog rule)

$C_{12}H_{20}O_2$
(*S*)-1-(1-Adamantyl)ethane-1,2-diol

K. Naemura, T. Mizo-oku, K. Kamada, K. Hirose, Y. Tobe, M Sawada, and Y. Takai

Tetrahedron: Asymmetry **1994,** *5,* 1549

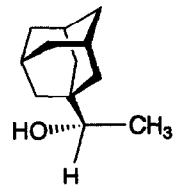


E.e. >99% (by ^1H-nmr)
$[\alpha]_D$ +37.1 (c 0.85, acetone)
Source of chilarity: (-)-camphanic acid
Absolute configuration: (2*S*)

$C_{32}H_{44}O_8$
(2*S*)-2-(1-Adamantyl)-2-hydroxyethylcamphanate

K. Naemura, T. Mizo-oku, K. Kamada, K. Hirose, Y. Tobe, M. Sawada, and Y. Takai

Tetrahedron: Asymmetry **1994,** *5,* 1549

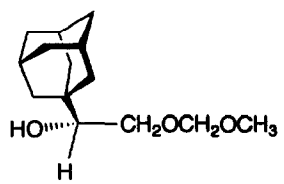


E.e. 91% (e.e. determined on the corresponding phenylcarbamate by HPLC (Opti-pak XC; Waters))
$[\alpha]_D$ -1.21 (c 0.98, $CHCl_3$)
Source of chilarity: enzymatic asymmetrization
Absolute configuration: (*S*)

$C_{12}H_{20}O$
(*S*)-1-(1-Adamantyl)ethanol

K. Naemura, T Mizo-oku, K. Kamada, K. Hirose, Y. Tobe, M. Sawada, and Y. Takai

Tetrahedron: Asymmetry **1994,** *5,* 1549

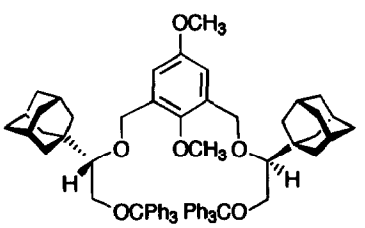


E.e. >99% (by ^{1}H-nmr of (2*S*)-2-(1-adamantyl)-2-hydroxyethylcamphanate)
$[\alpha]_D$ +15.7 (c 1.25, $CHCl_3$)
Source of chilarity: resolution with (-)-camphanic acid
Absolute configuration: (*S*)

$C_{14}H_{24}O_3$
(*S*)-1-(1-Adamantyl)-2-methoxymethoxyethanol

K. Naemura, T. Mizo-oku, K. Kamada, K. Hirose, Y. Tobe, M. Sawada, and Y. Takai

Tetrahedron: Asymmetry **1994,** *5,* 1549

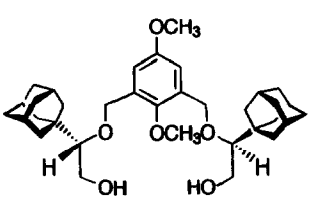


E.e. >99% (by ^{1}H-nmr of (2*S*)-2-(1-adamantyl)-2-hydroxyethylcamphanate)
$[\alpha]_D$ -12.5 (c 0.50, $CHCl_3$)
Source of chilarity: resolution with (-)-camphanic acid as the resolving agent
Absolute configuration: (1'*S*)

$C_{72}H_{78}O_6$
1,3-Bis[(1'*S*)-1'-(1-Adamantyl)-2'-(triphenylmethoxymethyl]-2,5-dimethoxybenzene

K. Naemura, T. Mizo-oku, K. Kamada, K. Hirose, Y. Tobe, M. Sawada, and Y. Takai

Tetrahedron: Asymmetry **1994,** *5,* 1549

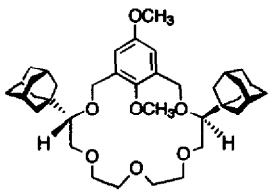


E.e >99% (by ^{1}H-nmr of (2S)-2-(1-adamantyl)-2-hydroxyethylcamphanate)
$[\alpha]_D$ +1.48 (c 0.52, $CHCl_3$)
Source of chilarity: resolution with (-)-camphanic acid as the resolving agent
Absolute configuration: (1'*S*)

$C_{72}H_{78}O_6$
1,3-Bis[(1'*S*)-1'-(1-Adamantyl)-2'-hydroxyethoxymethyl]-2,5-dimethoxybenzene

K Naemura, T Mizo-oku, K Kamada, K Hirose, Y. Tobe, M Sawada, and Y Takai

Tetrahedron: Asymmetry **1994,** *5,* 1549



E e >99% (by ^{1}H-nmr of (2*S*)-2-(1-adamantyl)-2-hydroxycamphanate)
$[\alpha]_D$ +28.6 (c 0 99, $CHCl_3$)
Source of chilarity resolution with (-)-camphanic acid as the resolving agent
Absolute configuration. (6*S*,16*S*)

$C_{38}H_{56}O_7$
(6S,16S)-6,16-Bis(1-adamantyl)-2,20-dimethoxy-5,8,11,14,17-pentaoxabicyclo[15 3 1]nonadacane-1,19,21-triene

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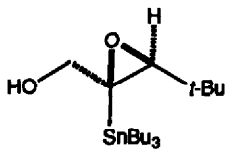
Toshiro Konoike, Tetsuyoshi Hayashi and Yoshitaka Araki

Tetrahedron: Asymmetry **1994,** *5,* 1559

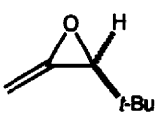


E.e. = 97% (by NMR with MTPA esters)
$[\alpha]^{23.5}_D$ = +10.7 (*c* = 4.5, $CHCl_3$)
Source of chirality: Sharpless asymmetric epoxidation using L-(+)-diethyl tartrate (assigned by a general rule of Sharpless epoxidation)

(2*S*,3*R*)-(3-*tert*-butyl-2-tributylstannyl-oxiran-2-yl)methanol
$C_{19}H_{40}O_2Sn$

Toshiro Konoike, Tetsuyoshi Hayashi and Yoshitaka Araki

Tetrahedron: Asymmetry **1994,** *5,* 1559

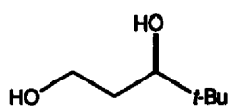


E.e. = 97% (by NMR with MTPA esters of the precursor)
$[\alpha]^{11}_D$ = -12 (*c* = 0.7, $CDCl_3$)
Source of chirality: Sharpless asymmetric epoxidation using L-(+)-diethyl tartrate (assigned by a general rule of Sharpless epoxidation)

(*S*)-2-*tert*-butyl-3-methylene-oxirane
$C_7H_{12}O$

Toshiro Konoike, Tetsuyoshi Hayashi and Yoshitaka Araki

Tetrahedron: Asymmetry **1994,** *5,* 1559

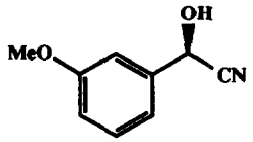


E.e. = 97% (by NMR with MTPA esters)
$[\alpha]^{24}_D$ = +18.0 (*c* = 0.4, $CHCl_3$)
Source of chirality: Sharpless asymmetric epoxidation using L-(+)-diethyl tartrate (assigned by a general rule of Sharpless epoxidation)

(*R*)-4,4-dimethyl-pentan-1,3-diol
$C_7H_{16}O_2$

Tetrahedron: Asymmetry **1994,** *5,* 1567

Imanol Tellitu, M. Dolores Badía, Esther Domínguez, Francisco Javier García

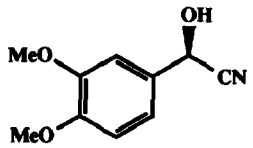


E.e.= 100% [by NMR with $Eu(hfc)_3$]
$[\alpha]_D^{20}$= +38 (c,1.0, $CHCl_3$)
Source of chirality: Oxynitrilase catalyzed synthesis
Absolute configuration: R

$C_9H_9NO_2$
(R)-(+)-2-hydroxy-2-(3-methoxyphenyl)acetonitrile

Tetrahedron: Asymmetry **1994,** *5,* 1567

Imanol Tellitu, M. Dolores Badía, Esther Domínguez, Francisco Javier García

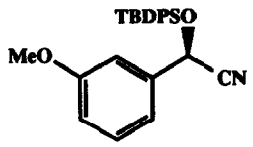


E.e.= 100% [by NMR with $Eu(hfc)_3$]
$[\alpha]_D^{20}$= +46 (c,1.0, $CHCl_3$)
Source of chirality: Enzymatic resolution
Absolute configuration: R

$C_{10}H_{11}NO_3$
(R)-(+)-2-(3,4-dimethoxyphenyl)-2-hydroxyacetonitrile

Tetrahedron: Asymmetry **1994,** *5,* 1567

Imanol Tellitu, M. Dolores Badía, Esther Domínguez, Francisco Javier García

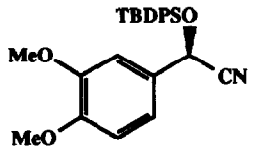


E.e.= 100%
$[\alpha]_D^{20}$= -20 (c,1.0, $CHCl_3$)
Source of chirality: Asymmetric synthesis from
(R)-(+)-2-hydroxy-2-(3-methoxyphenyl)acetonitrile
Absolute configuration: R

$C_{25}H_{27}NO_2Si$
(R)-(-)-2-(tert-butyldiphenylsilyloxy)-2-(3-methoxyphenyl)acetonitrile

Tetrahedron: Asymmetry **1994,** *5,* 1567

Imanol Tellitu, M. Dolores Badía, Esther Domínguez, Francisco Javier García

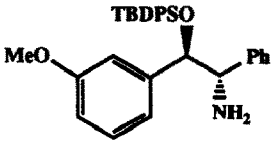


E.e.= 100%
$[\alpha]_D^{20}$= -35 (c,1.0, $CHCl_3$)
Source of chirality: Asymmetric synthesis from
(R)-(+)-2-(3,4-dimethoxyphenyl)-2-hydroxyacetonitrile
Absolute configuration: R

$C_{26}H_{29}NO_3Si$
(R)-(-)-2-(tert-butyldiphenylsilyloxy)-2-(3,4-dimethoxyphenyl)acetonitrile

Tetrahedron: Asymmetry **1994**, *5*, 1567

Imanol Tellitu, M. Dolores Badía, Esther Domínguez, Francisco Javier García

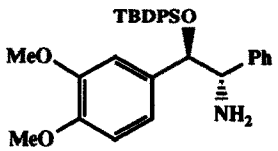


E.e.> 98% [by NMR of Mosher's derivative]
$[\alpha]_D^{20}$= -29 (c,1.0, $CHCl_3$)
Source of chirality: Asymmetric synthesis from
(R)-(+)-2-hydroxy-2-(3-methoxyphenyl)acetonitrile
Absolute configuration: 1S,2R

$C_{31}H_{35}NO_2Si$
(1S,2R)-(-)-2-(tert-butyldiphenylsilyloxy)-2-(3-methoxyphenyl)-1-ethylamine

Tetrahedron: Asymmetry **1994**, *5*, 1567

Imanol Tellitu, M. Dolores Badía, Esther Domínguez, Francisco Javier García

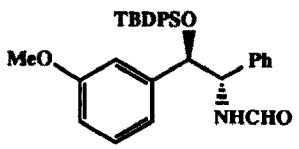


E.e.> 98% [by NMR of Mosher's derivative]
$[\alpha]_D^{20}$= -42 (c,1.0, $CHCl_3$)
Source of chirality: Asymmetric synthesis from
(R)-(+)-2-(3,4-dimethoxyphenyl)-2-hydroxyacetonitrile
Absolute configuration: 1S,2R

$C_{32}H_{37}NO_3Si$
(1S,2R)-(-)-2-(tert-butyldiphenylsilyloxy)-2-(3,4-dimethoxyphenyl)-1-ethylamine

Tetrahedron: Asymmetry **1994**, *5*, 1567

Imanol Tellitu, M. Dolores Badía, Esther Domínguez, Francisco Javier García

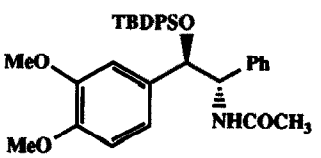


E.e.> 98%
$[\alpha]_D^{20}$= -40 (c,1.0, $CHCl_3$)
Source of chirality: Asymmetric synthesis from
(R)-(+)-2-hydroxy-2-(3-methoxyphenyl)acetonitrile
Absolute configuration: 1'S,2'R

$C_{32}H_{35}NO_3Si$
(1'S,2'R)-(-)-N-[2-(tert-butyldiphenylsilyloxy)-2-(3-methoxyphenyl)-1-phenylethyl]formamide

Tetrahedron: Asymmetry **1994**, *5*, 1567

Imanol Tellitu, M. Dolores Badía, Esther Domínguez, Francisco Javier García

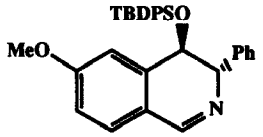


E.e.> 98%
$[\alpha]_D^{20}$= -64 (c,1.0, $CHCl_3$)
Source of chirality: Asymmetric synthesis from
(R)-(+)-2-(3,4-dimethoxyphenyl)-2-hydroxyacetonitrile
Absolute configuration: 1'S,2'R

$C_{34}H_{39}NO_4Si$
(1'S,2'R)-(-)-N-[2-(tert-butyldiphenylsilyloxy)-2-(3,4-dimethoxyphenyl)-1-phenylethyl]acetamide

Tetrahedron: Asymmetry **1994,** *5,* 1567

Imanol Tellitu, M. Dolores Badía, Esther Domínguez, Francisco Javier García

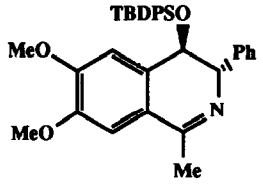


E.e.> 98% [by NMR of Mosher's derivative]
$[\alpha]_D^{20}$= -330 (c,1.0, $CHCl_3$)
Source of chirality: Asymmetric synthesis from
(R)-(+)-2-hydroxy-2-(3-methoxyphenyl)acetonitrile
Absolute configuration: 3S,4R

$C_{32}H_{33}NO_2Si$
(3S,4R)-(-)-4-(tert-butyldiphenylsilyloxy)-6-methoxy-3-phenyl-3,4-dihydroisoquinoline

Tetrahedron: Asymmetry **1994,** *5,* 1567

Imanol Tellitu, M. Dolores Badía, Esther Domínguez, Francisco Javier García

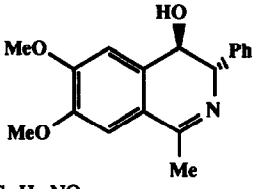


E.e.> 98%
$[\alpha]_D^{20}$= -290 (c,1.0, $CHCl_3$)
Source of chirality: Asymmetric synthesis from
(R)-(+)-2-(3,4-dimethoxyphenyl)-2-hydroxyacetonitrile
Absolute configuration: 3S,4R

$C_{34}H_{37}NO_3Si$
(3S,4R)-(-)-4-(tert-butyldiphenylsilyloxy)-6,7-dimethoxy-1-methyl-3-phenyl-3,4-dihydroisoquinoline

Tetrahedron: Asymmetry **1994,** *5,* 1567

Imanol Tellitu, M. Dolores Badía, Esther Domínguez, Francisco Javier García

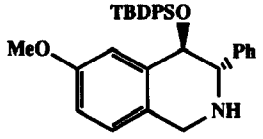


E.e.> 98%
$[\alpha]_D^{20}$= +49 (c,1.0, $CHCl_3$)
Source of chirality: Asymmetric synthesis from
(R)-(+)-2-(3,4-dimethoxyphenyl)-2-hydroxyacetonitrile
Absolute configuration: 3S,4R

$C_{18}H_{19}NO_3$
(3S,4R)-(+)-6,7-dimethoxy-4-hydroxy-1-methyl-3-phenyl-3,4-dihydroisoquinoline

Tetrahedron: Asymmetry **1994,** *5,* 1567

Imanol Tellitu, M. Dolores Badía, Esther Domínguez, Francisco Javier García

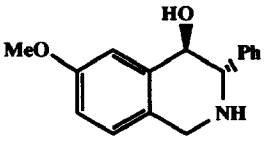


E.e.> 98%
$[\alpha]_D^{20}$= -97 (c,1.0, $CHCl_3$)
Source of chirality: Asymmetric synthesis from
(R)-(+)-2-hydroxy-2-(3-methoxyphenyl)acetonitrile
Absolute configuration: 3S,4R

$C_{32}H_{35}NO_2Si$
(3S,4R)-(-)-4-(tert-butyldiphenylsilyloxy)-6-methoxy-3-phenyl-1,2,3,4-tetrahydroisoquinoline

Tetrahedron: Asymmetry **1994**, *5*, 1567

Imanol Tellitu, M. Dolores Badía, Esther Domínguez, Francisco Javier García

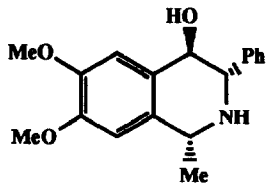


E.e.> 98%
$[\alpha]_D^{20}$= +101 (c,1.0,THF)
Source of chirality: Asymmetric synthesis from
(R)-(+)-2-hydroxy-2-(3-methoxyphenyl)acetonitrile
Absolute configuration: 3S,4R

$C_{16}H_{17}NO_2$
(3S,4R)-(+)-4-hydroxy-6-methoxy-3-phenyl-1,2,3,4-tetrahydroisoquinoline

Tetrahedron: Asymmetry **1994**, *5*, 1567

Imanol Tellitu, M. Dolores Badía, Esther Domínguez, Francisco Javier García

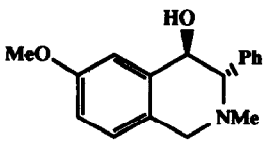


E.e.> 98%
$[\alpha]_D^{20}$= +106 (c,1.0, $CHCl_3$)
Source of chirality: Asymmetric synthesis from
(R)-(+)-2-(3,4-dimethoxyphenyl)-2-hydroxyacetonitrile
Absolute configuration: 3S,4R

$C_{18}H_{21}NO_3$
(1R,3S,4R)-(+)-6,7-dimethoxy-4-hydroxy-1-methyl-3-phenyl-1,2,3,4-tetrahydroisoquinoline

Tetrahedron: Asymmetry **1994**, *5*, 1567

Imanol Tellitu, M. Dolores Badía, Esther Domínguez, Francisco Javier García

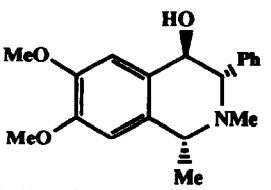


E.e.> 98% [by NMR of Mosher's derivative]
$[\alpha]_D^{20}$= +59 (c,1.0, $CHCl_3$)
Source of chirality: Asymmetric synthesis from
(R)-(+)-2-hydroxy-2-(3-methoxyphenyl)acetonitrile
Absolute configuration: 3S,4R

$C_{17}H_{19}NO_2$
(3S,4R)-(+)-4-hydroxy-6-methoxy-N-methyl-3-phenyl-1,2,3,4-tetrahydroisoquinoline

Tetrahedron: Asymmetry **1994**, *5*, 1567

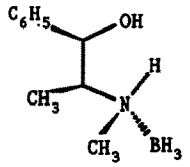
Imanol Tellitu, M. Dolores Badía, Esther Domínguez, Francisco Javier García



E.e.> 98% [by NMR of Mosher's derivative]
$[\alpha]_D^{20}$= +60 (c,1.0, $CHCl_3$)
Source of chirality: Asymmetric synthesis from
(R)-(+)-2-(3,4-dimethoxyphenyl)-2-hydroxyacetonitrile
Absolute configuration: 1R, 3S,4R

$C_{19}H_{23}NO_3$
(1R,3S,4R)-(+)-6,7-dimethoxy-1,N-dimethyl-4-hydroxy-3-phenyl-1,2,3,4-tetrahydroisoquinoline

H. Tlahuext, F. Santiesteban, E. Garcia-Báez, R. Contreras | *Tetrahedron: Asymmetry* **1994,** *5,* 1579

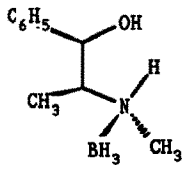


$C_{10}H_{18}BNO$

(1R,2S,3R)-(-)-Ephedrine-N-borane

$[\alpha]_D^{23}$ = -38 (c 2.25, $CHCl_3$)
Calculated from $[\alpha]_D$ of several mixtures of N-epimers ratio (50/50), determined by NMR.
Source of chirality. (-)-Ephedrine.
Absolute configuration 1R,2S,3R
(Assigned by NMR)

H. Tlahuext, F. Santiesteban, E. Garcia-Báez, R. Contreras | *Tetrahedron: Asymmetry* **1994,** *5,* 1579

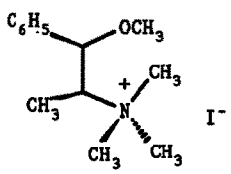


$C_{10}H_{18}BNO$

(1R,2S,3S)-(-)-Ephedrine-N-borane

$[\alpha]_D^{23}$ = -18 (c 3.65, $CHCl_3$)
Calculated from $[\alpha]_D$ of several mixtures of N-epimers ratio (84/16), determined by NMR.
Source of chirality. (-)-Ephedrine.
Absolute configuration 1R,2S,3S
(Assigned by NMR)

H. Tlahuext, F. Santiesteban, E. Garcia-Báez, R. Contreras | *Tetrahedron: Asymmetry* **1994,** *5,* 1579

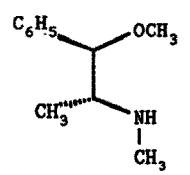


$C_{12}H_{22}BINO$

(1R,2S)-(-)-O-N,N-Trimethyl-ephedrinium iodide

$[\alpha]_D^{23}$ = -60.9 (c 1.3, $CHCl_3$)
100 % pure.
Source of chirality. (-)-Norephedrine.
Absolute configuration 1R,2S

H. Tlahuext, F. Santiesteban, E. Garcia-Báez, R. Contreras | *Tetrahedron: Asymmetry* **1994,** *5,* 1579



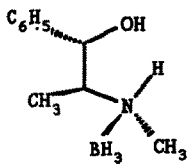
$C_{11}H_{17}NO$

(1R,2R)-(-)-1-Methoxy-pseudoephedrine

$[\alpha]_D^{23}$ = -104.5 (c 1.70, THF)
100 % pure.
Source of chirality. (-)-Norpseudoephedrine.
Absolute configuration 1R,2R

H. Tlahuext, F. Santiesteban, E. Garcia-Báez, R. Contreras

Tetrahedron: Asymmetry **1994**, *5*, 1579



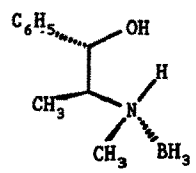
$C_{10}H_{18}BNO$

(1S,2S,3S)-(+)-Pseudoephedrine-N-borane

$[\alpha]_D^{23}$ = +80 (c 1.35, $CHCl_3$)
Calculated from $[\alpha]_D$ of several mixtures of N-epimers ratio (88/12), determined by NMR.
Source of chirality. (+)-Pseudoephedrine.
Absolute configuration 1S,2S,3S
(Assigned by NMR)

H. Tlahuext, F. Santiesteban, E. Garcia-Báez, R. Contreras

Tetrahedron: Asymmetry **1994**, *5*, 1579



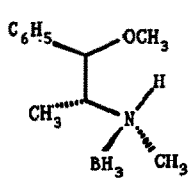
$C_{10}H_{18}BNO$

(1S,2S,3R)-(+)-Pseudoephedrine-N-borane

$[\alpha]_D^{23}$ = +68 (c 1.88, $CHCl_3$)
Calculated from $[\alpha]_D$ of several mixtures of N-epimers ratio (93/7), determined by NMR.
Source of chirality. (+)-Pseudoephedrine.
Absolute configuration 1S,2S,3R
(Assigned by NMR)

H. Tlahuext, F. Santiesteban, E. Garcia-Báez, R. Contreras

Tetrahedron: Asymmetry **1994**, *5*, 1579



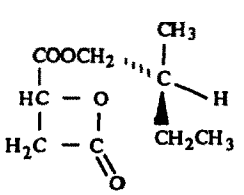
$C_{11}H_{20}BNO$

(1R,2R,3S)-(-)-O-Methyl-pseudoephedrine-N-borane

$[\alpha]_D^{23}$ = -100 (c 0.92, $CHCl_3$)
100 % pure.
Source of chirality. (-)-Norpseudoephedrine.
Absolute configuration 1R,2R,3S
(Assigned by NMR)

S. Cammas, K. Boutault, F. Huet and Ph. Guérin*

Tetrahedron: Asymmetry **1994**, *5*, 1589



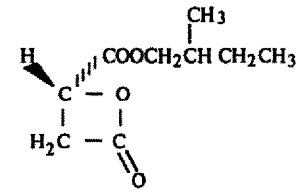
$C_9H_{14}O_4$

(1b) 4-[(2'-methyl)butyloxycarbonyl]-2-oxetanone

$[\alpha]_D^{20}$ = + 3.95 (c = 2.0Dioxane)
Source of chirality : -(RS)-Malic acid ; S-(-)-2-Methyl-1-butanol
Absolute configuration : 4RS, 7S

S. Cammas, K. Boutault, F. Huet and Ph. Guérin*

Tetrahedron: Asymmetry **1994**, *5*, 1589



$C_9H_{14}O_4$

(1c) 4-[(2'-methyl)butyloxycarbony]-2-oxetanone

E.e. = 86 % [by nmr with Eu(hfc)]

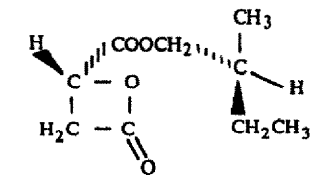
$[\alpha]_D^{20}$ = -0.75 (c = 2.0 Dioxane)

Source of chirality : -(S)-Malic acid ; -(RS)-2-Methyl-1-butanol

Absolute configuration : 4R, 7RS

S. Cammas, K. Boutault, F. Huet and Ph. Guérin*

Tetrahedron: Asymmetry **1994**, *5*, 1589



$C_9H_{14}O_4$

(1d) 4-[(2'-methyl)butyloxycarbony]-2-oxetanone

E.e. = 86 % [by nmr with Eu(hfc)]

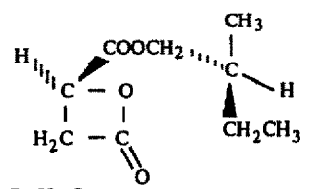
$[\alpha]_D^{20}$ = + 3.50 (c = 2.0Dioxane)

Source of chirality : L-(S)-Malic acid ; S-(-)-2-Methyl-1-butanol

Absolute configuration : 4R, 7S

S. Cammas, K. Boutault, F. Huet and Ph. Guérin*

Tetrahedron: Asymmetry **1994**, *5*, 1589



$C_9H_{14}O_4$

(1e) 4-[(2'-methyl)butyloxycarbony]-2-oxetanone

E.e. = 76 % [by nmr with Eu(hfc)]

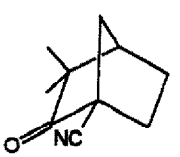
$[\alpha]_D^{20}$ = + 4.25 (c = 2.0Dioxane)

Source of chirality : D-(R)-Malic acid; S-(-)-2-Methyl-1-butanol

Absolute configuration : 4S, 7S

A. García Martínez, E. Teso Vilar, A. García Fraile, S. de la Moya Cerero, J. M. González-Fleitas de Diego, L. R. Subramanian.

Tetrahedron: Asymmetry **1994**, *5*, 1599



$[\alpha]_D^{20}$ = +58.4 (c 0.96, MeOH)

Source of chirality: natural (+)-(1*R*)-1,7,7-trimethyl-2-norbornanone [(1*R*)-camphor]

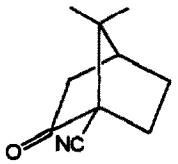
Absolute configuration: 1S,4R

$C_{11}H_{13}NO$

3,3-Dimethyl-2-oxo-1-norbornanecarbonitrile

A. García Martínez, E. Teso Vilar, A. García Fraile, S. de la Moya Cerero, J. M. González-Fleitas de Diego, L. R. Subramanian.

Tetrahedron: Asymmetry **1994**, *5*, 1599

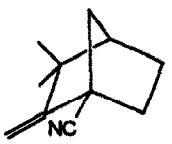


$[\alpha]_D^{20}$= -29.4 (c 0.67, MeOH)
Source of chirality: natural (-)-(1*R*)-1,3,3-trimethyl-2-norbornanone [(1*R*)-fenchone]
Absolute configuration: 1S,4S

$C_{11}H_{13}NO$
7,7-Dimethyl-2-oxo-1-norbornanecarbonitrile

A. García Martínez, E. Teso Vilar, A. García Fraile, S. de la Moya Cerero, J. M. González-Fleitas de Diego, L. R. Subramanian.

Tetrahedron: Asymmetry **1994**, *5*, 1599

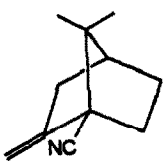


$[\alpha]_D^{20}$= +34.8 (c 3.92, MeOH)
Source of chirality: natural (+)-(1*R*)-1,7,7-trimethyl-2-norbornanone [(1*R*)-camphor]
Absolute configuration: 1R,4R

$C_{11}H_{15}N$
3,3-Dimethyl-2-methylene-1-norbornanecarbonitrile

A. García Martínez, E. Teso Vilar, A. García Fraile, S. de la Moya Cerero, J. M. González-Fleitas de Diego, L. R. Subramanian.

Tetrahedron: Asymmetry **1994**, *5*, 1599

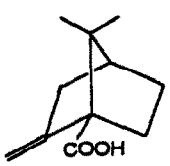


$[\alpha]_D^{20}$= +4.2 (c 0.85, MeOH)
Source of chirality: natural (-)-(1*R*)-1,3,3-trimethyl-2-norbornanone [(1*R*)-fenchone]
Absolute configuration: 1S,4S

$C_{11}H_{15}N$
7,7-Dimethyl-2-methylene-1-norbornanecarbonitrile

A. García Martínez, E. Teso Vilar, A. García Fraile, S. de la Moya Cerero, J. M. González-Fleitas de Diego, L. R. Subramanian.

Tetrahedron: Asymmetry **1994**, *5*, 1599

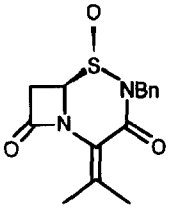


$[\alpha]_D^{20}$= +15.0 (c 0.52, MeOH)
Source of chirality: natural (-)-(1*R*)-1,3,3-trimethyl-2-norbornanone [(1*R*)-fenchone]
Absolute configuration: 1S,4S

$C_{11}H_{16}O_2$
7,7-Dimethyl-2-methylene-1-norbornanecarboxylic acid

Jure J. Herak, Mladen Vinković, Zorica Mandić, Irena Lukić, Mirjana Tomić, Miće Kovačević

Tetrahedron: Asymmetry **1994,** *5,* 1605



$C_{15}H_{16}N_2O_3S$

E. e. =100 %

$[\alpha]_D^{20}$ = +179 (c 1, CH_2Cl_2)

Source of chirality: (*R*) penicillanic acid

Absolute configuration: 5*R*,6*R*
(assigned by X-ray analysis)

4-Benzyl-2-isopropylidene-5-oxo-5-thia-1,4-diazabicyclo[4.2.0]octane-3,8-dione

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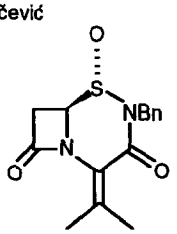
Jure J. Herak, Mladen Vinković, Zorica Mandić, Irena Lukić, Mirjana Tomić, Miće Kovačević

Tetrahedron: Asymmetry **1994,** *5,* 1605



$C_{15}H_{16}N_2O_3S$

E. e. =100 %

$[\alpha]_D^{20}$ = +118 (c 0.4, CH_2Cl_2)

Source of chirality: (*R*) penicillanic acid

Absolute configuration: 5*S*,6*R*
(assigned by X-ray analysis of related compound)

4-Benzyl-2-isopropylidene-5-oxo-5-thia-1,4-diazabicyclo[4.2.0]octane-3,8-dione

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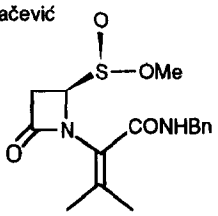
Jure J. Herak, Mladen Vinković, Zorica Mandić, Irena Lukić, Mirjana Tomić, Miće Kovačević

Tetrahedron: Asymmetry **1994,** *5,* 1605



$C_{16}H_{20}N_2O_4S$

E. e. =100 %

$[\alpha]_D^{20}$ = +1.8 (c 1, CH_2Cl_2)

Source of chirality: (*R*) penicillanic acid and asymm. sinth.

Absolute configuration: 5*R*,S_S
(assigned by ^{1}H NMR studies and by correlation with related compound)

Methyl 1-(1-benzylcarbamoyl-2-methylpropenyl)-4-oxoazetidine-2-sulfinate

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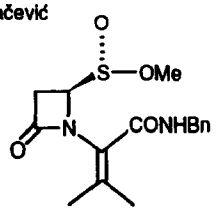
Jure J. Herak, Mladen Vinković, Zorica Mandić, Irena Lukić, Mirjana Tomić, Miće Kovačević

Tetrahedron: Asymmetry **1994,** *5,* 1605



$C_{16}H_{20}N_2O_4S$

E. e. =100 %

$[\alpha]_D^{20}$ = -11.9 (c 1, CH_2Cl_2)

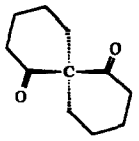
Source of chirality: (*R*) penicillanic acid and asymm. sinth.

Absolute configuration: 5*R*,R_S
(assigned by ^{1}H NMR studies and by correlation with related compound)

Methyl 1-(1-benzylcarbamoyl-2-methylpropenyl)-4-oxoazetidine-2-sulfinate

R. Brünner and H. Gerlach

Tetrahedron: Asymmetry **1994,** *5,* 1613

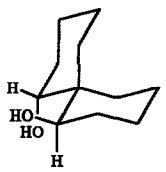


E.e. > 98 % (derived from enantiomerically pure precursor)
$[\alpha]_D^{20} = -236$ (c = 0.36, cyclohexane)
Source of chirality: (1*R*,6*S*,7*R*)-(–)-spiro[5.5]undecane-1,7-diol as precursor
Absolute configuration: *S* [assigned by chemical correlation with (1*R*,6*S*,7*R*)-(–)-spiro[5.5]undecane-1,7-diol]

$C_{11}H_{18}O_2$
(*S*)-(–)-Spiro[5.5]undecane-1,7-dione

R. Brünner and H. Gerlach

Tetrahedron: Asymmetry **1994,** *5,* 1613

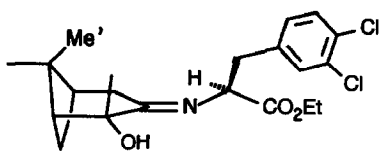


E.e. > 98 % [by ^{13}C NMR of its (–)-bis(1*S*,4*R*)-camphanoate]
$[\alpha]_D^{20} = -36$ (c = 1.15, EtOH)
Source of chirality: resolution of racemate via diastereomeric bis(1*S*,4*R*)-camphanoates
Absolute configuration: 1*R*,6*S*,7*R* [assigned by X-ray crystal structure determination of its (–)-bis(1*S*,4*R*)-camphanoate and by CD of its (–)-bis(4-bromobenzoate)]

$C_{11}H_{20}O_2$
(1*R*,6*S*,7*R*)-(–)-Spiro[5.5]undecane-1,7-diol

Solladié-Cavallo A., Schwarz J., Burger V.

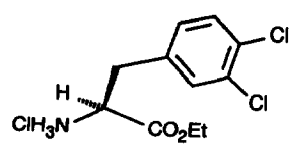
Tetrahedron: Asymmetry **1994,** *5,* 1621



99% (R,R,R,S) by 200 MHz NMR
$[\alpha]_D = -67$ (c = 3.83, $CHCl_3$)
Diastereoselective alkylation of the corresponding imino-glycinate
δ (Me') = 0.35 ppm ($CDCl_3$)

Solladié-Cavallo A., Schwarz J., Burger V.

Tetrahedron: Asymmetry **1994,** *5,* 1621

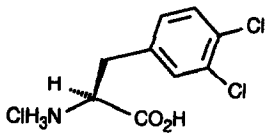


Obtained from diastereoselective alkylation of a chiral iminoglycinate
99% (S) from hydrolysis of the corresponding imino-ester
$[\alpha]_D = +27$ (c = 0.51, H_2O/EtOH, 2/1)
m.p. 160-164° (dec.)

Ethyl (S)-3,4-dichloro-phenylalaninate hydrochloride

Solladié-Cavallo A., Schwarz J., Burger V.

Tetrahedron: Asymmetry **1994,** *5,* 1621



(S)-3,4-Dichloro-phenylalanine hydrochloride

Obtained from diastereoselective alkylation of a chiral iminoglycinate
98.3% (S) from chiral ligand-exchange HPLC
$[\alpha]_D$ = + 8 (c = 2.08, MeOH)
m.p. 254-257° (dec.)