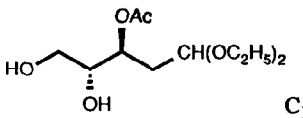
Y.E. Raifeld, A.A. Nikitenko and B.M. Arshava

*Tetrahedron: Asymmetry* **1991,** *2*, 1083




$C_{11}H_{22}O_6$

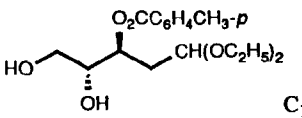
1,1-Diethoxy-3-acetoxypentane-4,5-diol

Source of chirality: Natural and asymmetric epoxidation

Absolute configuration - 3S,4R
(assigned by NMR and conversion to known product)

Y.E. Raifeld, A.A. Nikitenko and B.M. Arshava

*Tetrahedron: Asymmetry* **1991,** *2*, 1083




$C_{17}H_{23}O_6$

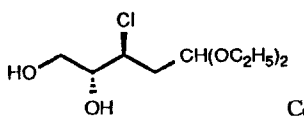
1,1-Diethoxy-3-(toluyloxy)pentane-4,5-diol

Source of chirality: Natural and asymmetric epoxidation

Absolute configuration - 3S,4R
(assigned by NMR and conversion to known product)

Y.E. Raifeld, A.A. Nikitenko and B.M. Arshava

*Tetrahedron: Asymmetry* **1991,** *2*, 1083




$C_9H_{19}ClO_4$

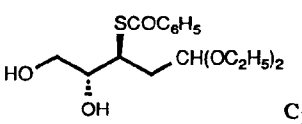
1,1-Diethoxy-3-chloropentane-4,5-diol

Source of chirality: Natural and asymmetric epoxidation

Absolute configuration - 3S,4R
(assigned by NMR and conversion to known product)

Y.E. Raifeld, A.A. Nikitenko and B.M. Arshava

*Tetrahedron: Asymmetry* **1991,** *2*, 1083




$C_{16}H_{24}O_5S$

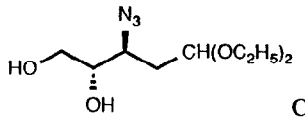
1,1-Diethoxy-3-(benzoylthio)pentane-4,5-diol

Source of chirality: Natural and asymmetric epoxidation

Absolute configuration - 3S,4R
(assigned by NMR and conversion to known product)

Y.E. Raifeld, A.A. Nikitenko and B.M. Arshava

*Tetrahedron: Asymmetry* **1991,** *2*, 1083




$C_9H_{19}N_3O_4$

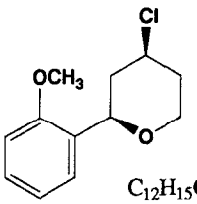
1,1-Diethoxy-3-azidopentane-4,5-diol

Source of chirality: Natural and asymmetric epoxidation

Absolute configuration - 3S,4R (assigned by NMR and conversion to known product)

S.G. Davies, T.J. Donohoe and M.A. Lister

*Tetrahedron: Asymmetry* **1991,** *2*, 1085




$C_{12}H_{15}ClO_2$

*cis*-2-*o*-anisyl-4-chloro-tetrahydropyran

E.e. >98% Homochiral by nmr with (+)-2,2,2-trifluoro-1-(9-anthryl)ethanol

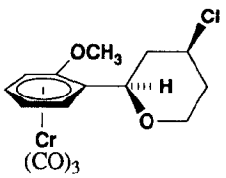
$[\alpha]_D^{22}$ +93.7 (c = 0.34, $CHCl_3$)

Source of chirality: asymmetric synthesis

Absolute configuration 2R, 4S.

S.G. Davies, T.J. Donohoe and M.A. Lister

*Tetrahedron: Asymmetry* **1991,** *2*, 1085




$C_{15}H_{15}ClCrO_5$

[*cis*-2-*o*-anisyl-4-chloro-tetrahydropyran]chromium tricarbonyl

E.e. >98%

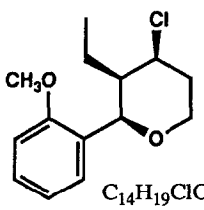
$[\alpha]_D^{22}$ +197.5 (c = 0.08, $CHCl_3$)

Source of chirality: asymmetric synthesis

Absolute configuration R, 2R, 4S.

S.G. Davies, T.J. Donohoe and M.A. Lister

*Tetrahedron: Asymmetry* **1991,** *2*, 1089




$C_{14}H_{19}ClO_2$

*r*-2-*o*-anisyl-*c*-3-ethyl-*c*-4-chloro-tetrahydropyran

E.e. >98% Homochiral by nmr with (+)-2,2,2-trifluoro-1-(9-anthryl)ethanol

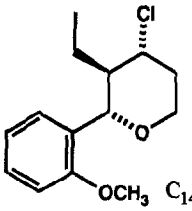
$[\alpha]_D^{22}$ +107.3 (c = 0.06, $CHCl_3$)

Source of chirality: asymmetric synthesis

Absolute configuration 2R, 3R, 4S.

S.G. Davies, T.J. Donohoe and M.A. Lister

*Tetrahedron: Asymmetry* **1991,** *2*, 1089




$C_{14}H_{19}ClO_2$

*r*-2-*o*-anisyl-*t*-3-ethyl-*c*-4-chloro-tetrahydropyran

E.e. >98% Homochiral by nmr with (+)-2,2,2-trifluoro-1-(9-anthryl)ethanol

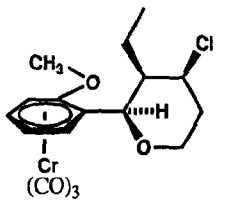
$[\alpha]_D^{22}$ -87.0 (c = 0.12, $CHCl_3$)

Source of chirality: asymmetric synthesis

Absolute configuration 2S, 3R, 4R

S.G. Davies, T.J. Donohoe and M.A. Lister

*Tetrahedron: Asymmetry* **1991,** *2*, 1089




$C_{17}H_{19}ClCrO_5$

[*r*-2-*o*-anisyl-*c*-3-ethyl-*c*-4-chloro-tetrahydropyran]chromium tricarbonyl

E.e. >98%

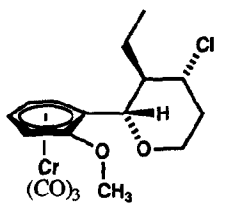
$[\alpha]_D^{22}$ +186 (c = 0.007, $CHCl_3$)

Source of chirality: asymmetric synthesis

Absolute configuration R, 2R, 3R, 4S.

S.G. Davies, T.J. Donohoe and M.A. Lister

*Tetrahedron: Asymmetry* **1991,** *2*, 1089




$C_{17}H_{19}ClCrO_5$

[*r*-2-*o*-anisyl-*t*-3-ethyl-*c*-4-chloro-tetrahydropyran]chromium tricarbonyl

E.e. >98%

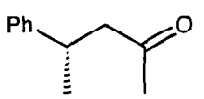
$[\alpha]_D^{22}$ -93.3 (c = 0.21, $CHCl_3$)

Source of chirality: asymmetric synthesis

Absolute configuration S, 2S, 3R, 4R

F. Lambert, D. M. Knotter, M. D. Janssen, M. van Klaveren, J. Boersma and G. van Koten*

*Tetrahedron: Asymmetry* **1991,** *2*, 1097




$C_{11}H_{14}O$

*(S)*-4-phenyl-pentan-2-one

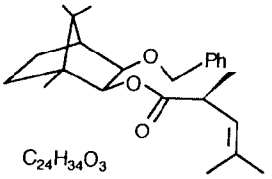
E.e.= 57% [by $^{13}C$ NMR of the acetal from the reaction of the 1,4-addition product with (2R,3R)-(-)-2,3-butane-diol].

Source of Chirality: 2-[1-(*R*)-(dimethylamino)ethyl]-phenylthiolato-anion (supplied as the copper(I) salt).

Absolute configuration: (*S*)-4-phenyl-pentan-2-one.

*Tetrahedron: Asymmetry* **1991**, *2*, 1101

D. Awandi, F. Henin, J. Muzart and J.P. Pete




D.e. = 72% (by NMR)

$[\alpha]_D^{20}$ = +10 (c 0.43, $CH_2Cl_2$)

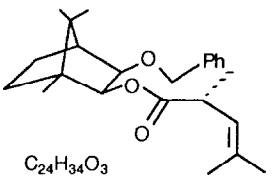
Source of chirality : (+) ephedrine and 2'(S)-*exo*-[3'(R)-*exo*-benzyloxybornyl]-2,4-dimethyl-2-pentenoate

Absolute configuration : 2R, assigned by synthesis

2'(S)-*exo*-[3'(R)-*exo*-benzyloxybornyl]-2(R)-4-dimethyl-3-pentenoate.

*Tetrahedron: Asymmetry* **1991**, *2*, 1101

D. Awandi, F. Henin, J. Muzart and J.P. Pete




D.e. = 82% (by NMR)

$[\alpha]_D^{20}$ = -56 (c 0.75, $CH_2Cl_2$)

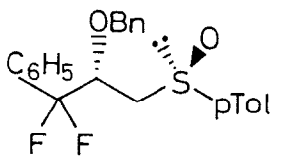
Source of chirality: 2'(S)-*exo*-[3'(R)-*exo*-benzyloxybornyl]-2,4-dimethyl-2-pentenoate

Absolute configuration : 2R, assigned by synthesis

2'(S)-*exo*-[3'(R)-*exo*-benzyloxybornyl]-2(R)-4-dimethyl-3-pentenoate.

Bravo P., Pregnolato M., Resnati G.

*Tetrahedron: Asymmetry* **1991**, *2*, 1105




$[\alpha]_D^{20}$ +184 (c 0.85, $CHCl_3$)

Source of chirality: (-)-(R)-Menthyl (S)-toluene-4-sulfinate

Absolute configuration: 2S,$R_S$

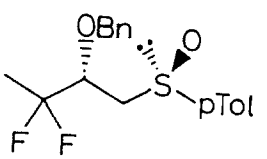
$^{19}F$ NMR ($\delta$, ppm): -102.4, -110.6

$C_{23}H_{22}F_2O_2S$

(2S)-2-Benzyloxy-3,3-difluoro-3-phenyl-1-(R)-[(4-methylphenyl)sulphinyl]propane

Bravo P., Pregnolato M., Resnati G.

*Tetrahedron: Asymmetry* **1991**, *2*, 1105




$[\alpha]_D^{20}$ + 158 (c 1.1, $CHCl_3$)

Source of chirality: (-)-(R)-Menthyl (S)-toluene-4-sulfinate

Absolute configuration: 2S,$R_S$

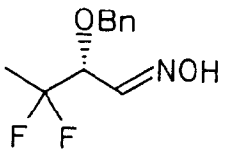
$^{19}F$ NMR ($\delta$, ppm): -96.8, -100.7

$C_{18}H_{19}F_2O_2S$

(2S)-2-Benzyloxy-3,3-difluoro-1-[(4-methylphenyl)sulfinyl)]butane

Bravo P., Pregnolato M., Resnati G.

*Tetrahedron: Asymmetry* **1991**, *2*, 1105

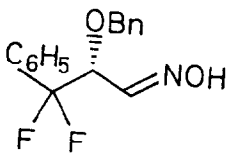



$[\alpha]_D^{20}$ -57 (c 0.53, $CHCl_3$)
Source of chirality: (-)-(R)-Menthyl (S)-toluene-4-sulfinate
Absolute configuration: R
$^{19}F$ NMR (δ, ppm): -98.7, -103.1

$C_{11}H_{13}F_2NO_2$
(R)-2-Benzyloxy-3,3-difluorobutanal oxime

Bravo P., Pregnolato M., Resnati G.

*Tetrahedron: Asymmetry* **1991**, *2*, 1105

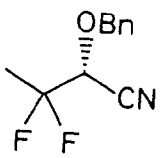



$[\alpha]_D^{20}$ -25.1 (c 1.0, $CHCl_3$)
Source of chirality: (-)-(R)-Menthyl (S)-toluene-4-sulfinate
Absolute configuration: R
$^{19}F$ NMR (δ, ppm): -102.0, -111.4

$C_{16}H_{15}F_2NO_2$
(R)-2-Benzyloxy-3,3-difluoro-3-phenylpropanal oxime

Bravo P., Pregnolato M., Resnati G.

*Tetrahedron: Asymmetry* **1991**, *2*, 1105

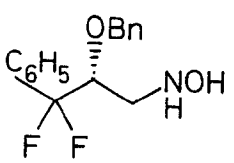



$[\alpha]_D^{20}$ -141 (c 2.07, $CHCl_3$)
Source of chirality: (-)-(R)-Menthyl (S)-toluene-4-sulfinate
Absolute configuration: R
$^{19}F$ NMR (δ, ppm): -99.28, -99.32

$C_{11}H_{11}F_2NO$
(R)-2-Benzyloxy-3,3-difluorobutyronitrile

Bravo P., Pregnolato M., Resnati G.

*Tetrahedron: Asymmetry* **1991**, *2*, 1105

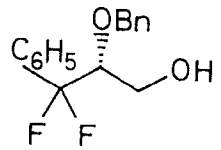



$[\alpha]_D^{20}$ +71 (c 1.0, $CHCl_3$)
Source of chirality: (-)-(R)-Menthyl (S)-toluene-4-sulfinate
Absolute configuration: R
$^{19}F$ NMR (δ, ppm): -103.8, -108.8

$C_{16}H_{17}F_2NO_2$
(R)-N-1-[(2-Benzyloxy-3,3-difluoro-3-phenyl)propyl]hydroxylamine

Bravo P., Pregnolato M., Resnati G.

*Tetrahedron: Asymmetry* **1991,** *2*, 1105




$[\alpha]_D^{20}$ +41.4 (c 0.8, $CHCl_3$)
Source of chirality: (-)-(R)-Menthyl
(S)-toluene-4-sulfinate
Absolute configuration: R
$^{19}F$ NMR (δ, ppm): -103.4, 108.0

$C_{16}H_{16}F_2O_2$

(R)-2-Benzyloxy-3,3-difluoro-3-phenyl-1-propanol

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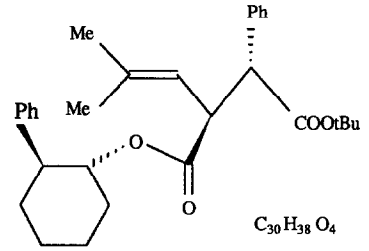
A.F. Sevin, J. Seyden-Penne, K. Boubekeur

*Tetrahedron: Asymmetry* **1991,** *2*, 1107




ee ≥ 95% ($^1$H NMR with Eu chiral shift reagent)
$[\alpha]_D$ = -188.5 (c : 0.75, $CHCl_3$)
Source of chirality : asymmetric synthesis
Absolute configuration : 2R,3S,1'R,2'S
(assigned by rel X-ray of racemate)

t.Butyl 2-phenyl-3-[2'-phenylcyclohexylcarbonyl]-5-methylhex-4-enoate

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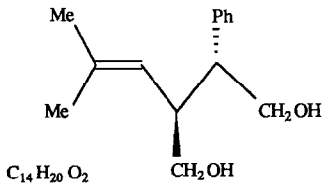
A.F. Sevin, J. Seyden-Penne, K. Boubekeur

*Tetrahedron: Asymmetry* **1991,** *2*, 1107




ee ≥ 95%
$[\alpha]_D$ = +42.3 (c : 0.85, $CHCl_3$)
Source of chirality : LAH reduction of chiral diester
Absolute configuration : 2R,3S (chemical filiation)

2-phenyl-2-hydroxymethyl-5-methylhex-4-en-1-ol

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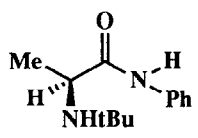
F. D'Angeli *, P. Marchetti, G. Cavicchioni, V. Bertolasi, F. Maran

*Tetrahedron: Asymmetry* **1991,** *2*, 1111




E.e. = 98% [by $^1$H NMR using $Eu(tfc)_3$]
$[\alpha]_D^{20}$ = -50 (c 1,$CHCl_3$)

Source of chirality: L-Alanine

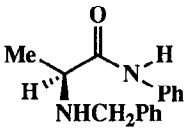
Absolute configuration S

$C_{13}H_{20}N_2O$

2-tButylamino-N-phenylpropanamide

F. D'Angeli *, P. Marchetti, G. Cavicchioni, V. Bertolasi, F. Maran

*Tetrahedron: Asymmetry* **1991**, *2*, 1111



E.e. under investigation

$[\alpha]_D^{20}$ = -9 (c 1,$CHCl_3$)

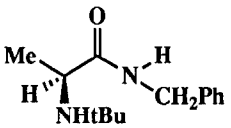
Source of chirality: L-Alanine

Absolute configuration S

$C_{16}H_{18}N_2O$ 2-Benzylamino-N-phenylpropanamide

F. D'Angeli *, P. Marchetti, G. Cavicchioni, V. Bertolasi, F. Maran

*Tetrahedron: Asymmetry* **1991**, *2*, 1111



E.e. under investigation

$[\alpha]_D^{20}$ = -9.4 (c 1,$CHCl_3$)

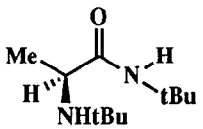
Source of chirality: L-Alanine

Absolute configuration S

$C_{14}H_{22}N_2O$ N-Benzyl-2-tButylaminopropanamide

F. D'Angeli *, P. Marchetti, G. Cavicchioni, V. Bertolasi, F. Maran

*Tetrahedron: Asymmetry* **1991**, *2*, 1111



E.e. under investigation

$[\alpha]_D^{20}$ = -26.5 (c 1,$CHCl_3$); -26 (c 1,EtOH)

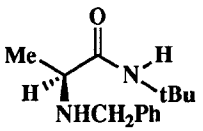
Source of chirality: L-Alanine

Absolute configuration S

$C_{11}H_{24}N_2O$ 2-tButylamino-N-tbutylpropanamide

F. D'Angeli *, P. Marchetti, G. Cavicchioni, V. Bertolasi, F. Maran

*Tetrahedron: Asymmetry* **1991**, *2*, 1111



E.e. under investigation

$[\alpha]_D^{20}$ = -3.8 (c 1,$CHCl_3$); +7 (c 1,EtOH)

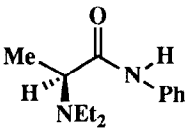
Source of chirality: L-Alanine

Absolute configuration S

$C_{14}H_{22}N_2O$ 2-Benzylamino-N-tbutylpropanamide

F. D'Angeli *, P. Marchetti, G. Cavicchioni, V. Bertolasi, F. Maran

*Tetrahedron: Asymmetry* **1991,** *2*, 1111



E.e. under investigation

$[\alpha]_D^{20}$ = +59 (c 1,$CHCl_3$); +27 (c 1,EtOH)

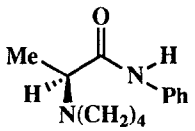
Source of chirality: L-Alanine

Absolute configuration S

$C_{11}H_{15}N_2O$ 2-Diethylamino-N-phenylpropanamide

F. D'Angeli *, P. Marchetti, G. Cavicchioni, V. Bertolasi, F. Maran

*Tetrahedron: Asymmetry* **1991,** *2*, 1111



E.e. under investigation

$[\alpha]_D^{20}$ = +0.8 (c 1,$CHCl_3$); +31 (c 1,EtOH)

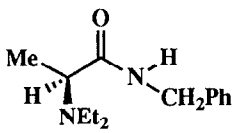
Source of chirality: L-Alanine

Absolute configuration S

$C_{13}H_{18}N_2O$ N-Phenyl-2-pyrrolidinopropanamide

F. D'Angeli *, P. Marchetti, G. Cavicchioni, V. Bertolasi, F. Maran

*Tetrahedron: Asymmetry* **1991,** *2*, 1111



E.e. under investigation

$[\alpha]_D^{20}$ = +37.5 (c 1,$CHCl_3$)

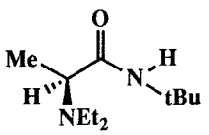
Source of chirality: L-Alanine

Absolute configuration S

$C_{14}H_{23}N_2O$ N-Benzyl-2-diethylaminopropanamide

F. D'Angeli *, P. Marchetti, G. Cavicchioni, V. Bertolasi, F. Maran

*Tetrahedron: Asymmetry* **1991,** *2*, 1111



E.e. under investigation

$[\alpha]_D^{20}$ = +62.7 (c 1,$CHCl_3$)

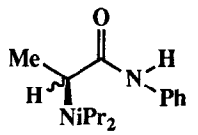
Source of chirality: L-Alanine

Absolute configuration S

$C_{11}H_{24}N_2O$ N-tButyl-2-diethylaminopropanamide

F. D'Angeli *, P. Marchetti, G. Cavicchioni, V. Bertolasi, F. Maran

*Tetrahedron: Asymmetry* **1991**, *2*, 1111



E.e. under investigation

$[\alpha]_D^{20}$ = +48.4 (c 1,$CHCl_3$)

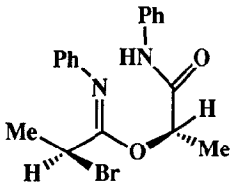
Source of chirality: L-Alanine

Absolute configuration S

$C_{15}H_{24}N_2O$ 2-Diisopropilamino-N-phenylpropanamide

F. D'Angeli *, P. Marchetti, G. Cavicchioni, V. Bertolasi, F. Maran

*Tetrahedron: Asymmetry* **1991**, *2*, 1111



E.e. under investigation

$[\alpha]_D^{20}$ = + 213 (c 1.2,$CHCl_3$); + 170 (c 1.3,EtOH)

Absolute configuration 2S,5S (assigned by X-ray)

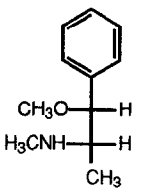
Source of chirality: L-Alanine

Absolute configuration 2S,5S (assigned by X-ray)

$C_{18}H_{19}BrN_2O_2$ 5-Bromo-2-methyl-N-phenyl-4-phenylimino-3-oxahexanamide

J. Näslund and C. J. Welch

*Tetrahedron: Asymmetry* **1991**, *2*, 1123



E.e. = 100 %

$[\alpha]_D^{25}$ = -75.4 (C 1.2, $CHCl_3$)

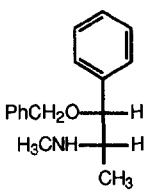
Source of chirality 1R,2S-(-)-ephedrine

Absolute configuration 1R,2S

$C_{11}H_{17}NO$
O-methyl ephedrine

J. Näslund and C. J. Welch

*Tetrahedron: Asymmetry* **1991**, *2*, 1123



E.e. = 100 %

$[\alpha]_D^{25}$ = -43.0 (C 1.0, $CHCl_3$)

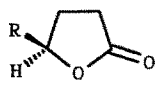
Source of chirality 1R,2S-(-)-ephedrine

Absolute configuration 1R,2S

$C_{17}H_{21}NO$
O-benzyl ephedrine

M. Huffer, P. Schreier

*Tetrahedron: Asymmetry* **1991,** *2*, 1157



ee=55-81% (by chromatographic resolution on HPLC column ChiraSpher)

Source of chirality: lipase-catalyzed transesterification of 4-hydroxyesters

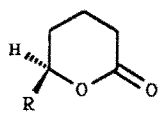
Absolute configuration 4S (assigned by polarimetrically detection)

R=methyl-heptyl

S-γ-1,4-olide

M. Huffer, P. Schreier

*Tetrahedron: Asymmetry* **1991,** *2*, 1157



ee=10-18% (by chromatographic resolution on HPLC column ChiraSpher)

Source of chirality: lipase-catalyzed transesterification of 5-hydroxyesters

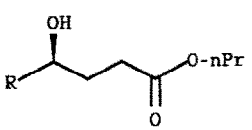
Absolute configuration 5S (assigned by polarimetrically detection)

R=methyl-octyl

S-δ-1,5-olide

M. Huffer, P. Schreier

*Tetrahedron: Asymmetry* **1991,** *2*, 1157



ee=75-100% (by gaschromatographic resolution of diastereomers)

Source of chirality: lipase-catalyzed transesterification of 4-hydroxyesters

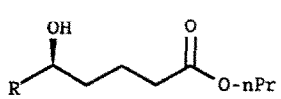
Absolute configuration 4R (assigned by polarimetrically detection)

R=methyl-heptyl

R-4-hydroxyalkanoic-n-propylester

M. Huffer, P. Schreier

*Tetrahedron: Asymmetry* **1991,** *2*, 1157



ee=10-15% (by gaschromatographic resolution of diastereomers)

Source of chirality: lipase-catalyzed transesterification of 5-hydroxyesters

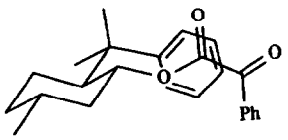
Absolute configuration 5R (assigned by polarimetrically detection)

R=methyl-octyl

R-5-hydroxyalkanoic-n-propylester

A. Solladié-Cavallo and M. Bencheqroun

*Tetrahedron: Asymmetry* **1991,** *2*, 1165




E.e. = about 100%

$[\alpha]_D$= +0.8 ; $[\alpha]_{500}$= -1.2 ; $[\alpha]_{450}$= -9.1 ; $[\alpha]_{425}$= -27.1 (C,3;$CCl_4$)

m.p. 89°-90°C

Source of chirality: (-)-8-phenylmenthol from natural *R*-(+)-Pulegone, $[\alpha]_D$= +23 (neat)

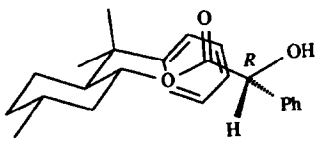
Absolute configuration: *1R,2S,5R* (100% *1R,2S* by 200MHz NMR)

$C_{24}H_{28}O_3$

8-Phenylmenthyl phenylglyoxylate

A. Solladié-Cavallo and M. Bencheqroun

*Tetrahedron: Asymmetry* **1991,** *2*, 1165




D.e.= 97/3% (200MHz NMR)

$[\alpha]_D$= -57.6 (C,5.7; $CCl_4$)

m.p. 83°-84°

Source of chirality: 8-phenylmenthyl phenylglyoxylate from natural *R*-(+)-Pulegone, $[\alpha]_D$= +23 (neat)

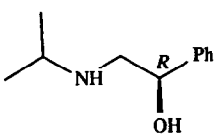
Absolute configuration: 97% *1R,2S,5R,R* / 3% *1R,2S,5R,S*

$C_{24}H_{30}O_3$

8-Phenylmenthyl mandelate

A. Solladié-Cavallo and M. Bencheqroun

*Tetrahedron: Asymmetry* **1991,** *2*, 1165




E.e. = 94%

$[\alpha]_D$ = -58.7 (C,5.96; EtOH)

m.p. 84°-85°

Source of chirality: 8-phenylmenthyl phenylglyoxylate from natural *R*-(+)-Pulegone, $[\alpha]_D$= +23 (neat)

Absolute configuration: *R*

$C_{11}H_{17}NO$

2-([N-isopropyl]amino)-1-hydroxy-1phenyl ethane