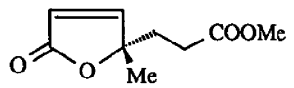
D. Desmaele, J. d'Angelo and C. Bois.

Tetrahedron: Asymmetry **1990,** *1*, 759



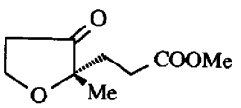
$C_9H_{12}O_4$

methyl 3-(5-methyl)-(5H)-furan-2-onyl)propanoate

ee 90 % (by ^1H NMR)
$[\alpha]^{20}_D = +50.7$ (c 4.5, EtOH)
source of chirality : asymm. Michael
absolute configuration : 5 S

D. Desmaele, J. d'Angelo and C. Bois.

Tetrahedron: Asymmetry **1990,** *1*, 759



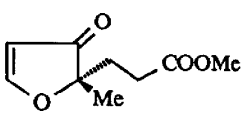
$C_9H_{14}O_4$

methyl 3-(2-methyldihydrofuran-3-onyl)propanoate

ee 91 % (by ^1H NMR)
$[\alpha]^{20}_D = -46.8$ (c 15, EtOH)
source of chirality : asymm. Michael
absolute configuration : 2 S

D. Desmaele, J. d'Angelo and C. Bois.

Tetrahedron: Asymmetry **1990,** *1*, 759



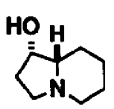
$C_9H_{12}O_4$

methyl 3-(2-methyl-(2H)-furan-3-onyl)propanoate

ee 90 % (by ^1H NMR)
$[\alpha]^{20}_D = -90$ (c 7, EtOH)
source of chirality : asymm. Michael
absolute configuration : 2 S

H. Takahata, Y. Banba, and T. Momose

Tetrahedron: Asymmetry **1990,** *1*, 763



$C_8H_{15}NO$

(1*S*,8a*S*)-1-hydroxyindolizidine

E.e.= 92% [by nmr with MTPA ester of a precursor]

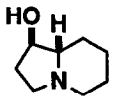
$[\alpha]_D^{25} = +30.7$ (c 2.335, EtOH)

Source of chirality: Sharpless kinetic resolution

Absolute configuration: 1*S*,8a*S*

H. Takahata, Y. Banba, and T. Momose

Tetrahedron: Asymmetry **1990,** *1*, 763



$C_8H_{15}NO$

(1*R*,8a*S*)-1-hydroxyindolizidine

E.e.= 92% [by nmr with MTPA ester of a precursor]

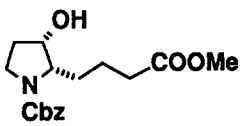
$[\alpha]_D^{25}$ = - 49.7 (c 0.50, EtOH)

Source of chirality: Sharpless kinetic resolution

Absolute configuration: 1*R*,8a*S*

H. Takahata, Y. Banba, and T. Momose

Tetrahedron: Asymmetry **1990,** *1*, 763



$C_{17}H_{23}NO_5$

(2*S*,3*S*)-*N*-benzyloxycarbony-3-hydroxy-2-methoxycarbonypropylpyrrolidine

E.e.= 92% [by nmr with MTPA ester of a precursor]

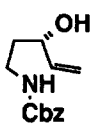
$[\alpha]_D^{25}$ = +55.2 (c 3.10, $CHCl_3$)

Source of chirality: Sharpless kinetic resolution

Absolute configuration: (2*S*,3*S*)

H. Takahata, Y. Banba, and T. Momose

Tetrahedron: Asymmetry **1990,** *1*, 763



$C_{13}H_{17}NO_3$

(*S*)-*N*-benzyloxycarbonyl-3-hydroxy-4-pentenylamine

E.e.= 92% [by nmr with MTPA ester]

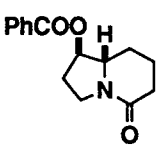
$[\alpha]_D^{25}$ = +3.08 (c 1.65, $CHCl_3$)

Source of chirality: Sharpless kinetic resolution

Absolute configuration: *S*

H. Takahata, Y. Banba, and T. Momose

Tetrahedron: Asymmetry **1990,** *1*, 763



$C_{15}H_{17}NO_3$

(1*R*,8a*S*)-1-benzoyloxyindolizidin-5-one

E.e.= 92% [by nmr with MTPA ester of a precursor]

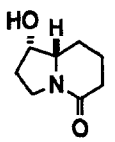
$[\alpha]_D^{25}$= - 48.8 (c 1.11, $CHCl_3$)

Source of chirality: Sharpless kinetic resolution

Absolute configuration: (1*R*,8a*S*)

H. Takahata, Y. Banba, and T. Momose

Tetrahedron: Asymmetry **1990**, *1*, 763



E.e.= 92% [by nmr with MTPA ester of a precursor]

$[\alpha]_D^{25}$= - 18.95 (c 1.975, $CHCl_3$)

Source of chirality: Sharpless kinetic resolution

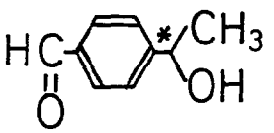
Absolute configuration: (1*S*,8a*S*)

$C_8H_{13}NO_2$

(1*S*,8a*S*)-1-hydroxyindolizidin-5-one

K. Soai, H. Hori, and M. Kawahara

Tetrahedron: Asymmetry **1990**, *1*, 769



E.e. = 88% (by HPLC using a chiral column)

$[\alpha]_D^{24}$ +50.2 (c 3.11, $CHCl_3$)

Source of chirality: asymm. synth. (alkylation)

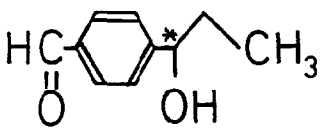
Absolute configuration R (tentatively assigned)

$C_9H_{10}O_2$

4-(1-Hydroxyethyl)benzaldehyde

K. Soai, H. Hori, and M. Kawahara

Tetrahedron: Asymmetry **1990**, *1*, 769



E.e. = 94% (by HPLC using a chiral column)

$[\alpha]_D^{26}$ +37.0 (c 1.18, $CHCl_3$)

Source of chirality: asymm. synth. (alkylation)

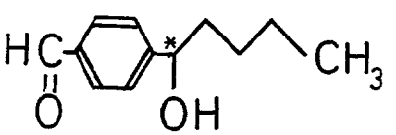
Absolute configuration R (tentatively assigned)

$C_{10}H_{12}O_2$

4-(1-Hydroxypropyl)benzaldehyde

K. Soai, H. Hori, and M. Kawahara

Tetrahedron: Asymmetry **1990**, *1*, 769



E.e. = 91% (by HPLC using a chiral column)

$[\alpha]_D^{26}$ +29.7 (c 2.76, $CHCl_3$)

Source of chirality: asymm. synth. (alkylation)

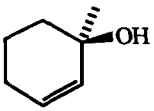
Absolute configuration R (tentatively assigned)

$C_{12}H_{16}O_2$

4-(1-Hydroxypentyl)benzaldehyde

D.P.G. Hamon, R.A. Massy-Westropp and J.L. Newton

Tetrahedron: Asymmetry **1990**, *1*, 771



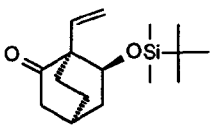
$C_7H_{12}O$

1-Methyl-2-cyclohexene-1-ol

E.e. = > 95% (by rotation)
$[\alpha]^{20}$ = + 79.8 (C = 2.58 in ether)
Source of chirality: Asymmetric synthesis (Sharpless epoxidation).
Absolute configuration: R.

Kitahara, T.; Miyake, M.; Kido, M. and Mori, K.

Tetrahedron: Asymmetry **1990**, *1*, 775



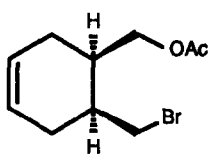
$C_{16}H_{28}O_2Si$

E.e. = 99.4% (by HPLC analysis of MTPA ester of the intermediate)
$[\alpha]_D^{21}$ +42.0 (c=1.02, hexane)
Source of chirality: asymmetric reduction with baker's yeast
Absolute configuration: 1*S*,4*S*,6*S*
(assigned by relative X-ray of (*S*)-MTPA ester of the intermediate)

6-*t*-Butyldimethylsilyloxy-1-vinylbicyclo[2.2.2]octan-2-one

B. Danieli, G. Lesma, M. Mauro, G. Palmisano, and D. Passarella

Tetrahedron: Asymmetry **1990**, *1*, 793



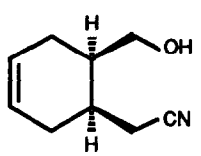
$C_{10}H_{15}BrO_2$

(-)-1-Bromomethyl-2-methanol-4-cyclohexene acetate

ee = >99% (by ^{19}F NMR of MTPA ester of a precursor)
$[\alpha]_D^{25}$ -6.6 (c = 5.0, $CHCl_3$)
Source of chirality: Enzymatic hydrolysis
Absolute configuration: 1S, 2R

B. Danieli, G. Lesma, M. Mauro, G. Palmisano, and D. Passarella

Tetrahedron: Asymmetry **1990**, *1*, 793

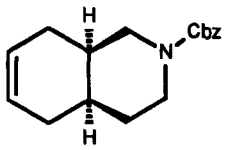


$C_9H_{13}NO$

(-)-1-Methanol-2-acetonitrile-4-cyclohexene

ee = >99% (by ^{19}F NMR of MTPA ester of a precursor)
$[\alpha]_D^{25}$ -10.4 (c = 4.06, $CHCl_3$)
Source of chirality: Enzymatic hydrolysis
Absolute configuration: 1R, 2R

B. Danieli, G. Lesma, M. Mauro, G. Palmisano, and D. Passarella | *Tetrahedron: Asymmetry* **1990**, *1*, 793



ee = >99% (by ^{19}F NMR of MTPA ester of a precursor)

$[\alpha]_D^{25}$ +49.3 (c = 4.20, $CHCl_3$)

Source of chirality: Enzymatic hydrolysis

$C_{17}H_{21}NO_2$ Absolute configuration: 4aR, 8aR

(+)-*cis*-2-Benzyloxycarbonyl-1,2,3,4,4a,5,8,8a-octahydroisoquinoline

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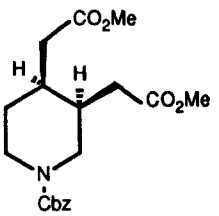
B. Danieli, G. Lesma, M. Mauro, G. Palmisano, and D. Passarella | *Tetrahedron: Asymmetry* **1990**, *1*, 793



ee = >99% (by ^{19}F NMR of MTPA ester of a precursor)

$[\alpha]_D^{25}$ +47.7 (c = 3.50, MeOH)

Source of chirality: Enzymatic hydrolysis

$C_{19}H_{25}NO_6$ Absolute configuration: 3R, 4S

(+)-1-Benzyloxycarbonyl-3,4-piperidine diacetic acid dimethyl ester

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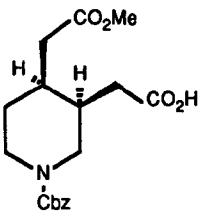
B. Danieli, G. Lesma, M. Mauro, G. Palmisano, and D. Passarella | *Tetrahedron: Asymmetry* **1990**, *1*, 793



ee = >99% (by ^{19}F NMR of MTPA ester of a precursor)

$[\alpha]_D^{25}$ +49.8 (c = 3.0, MeOH)

Source of chirality: Enzymatic hydrolysis

$C_{18}H_{23}NO_6$ Absolute configuration: 3R, 4S

(+)-1-Benzyloxycarbonyl-3,4-piperidine diacetic mono methyl ester

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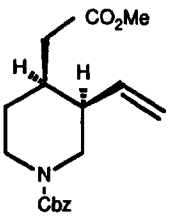
B. Danieli, G. Lesma, M. Mauro, G. Palmisano, and D. Passarella | *Tetrahedron: Asymmetry* **1990**, *1*, 793



ee = >99% (by ^{19}F NMR of MTPA ester of a precursor)

$[\alpha]_D^{25}$ +45.6 (c = 0.98, MeOH)

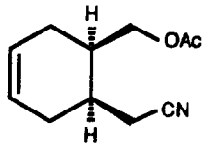
Source of chirality: Enzymatic hydrolysis

$C_{18}H_{23}NO_4$ Absolute configuration: 3R, 4S

(+)-1-Benzyloxycarbonyl-3-vinyl-4-piperidine acetic acid methyl ester

B. Danieli, G. Lesma, M. Mauro, G. Palmisano, and D. Passarella

Tetrahedron: Asymmetry **1990**, *1*, 793



ee = >99% (by ^{19}F NMR of MTPA ester of a precursor)

$[\alpha]_D^{25}$ -8.46 (c = 5.05, $CHCl_3$)

Source of chirality: Enzymatic hydrolysis

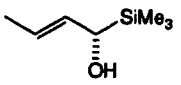
Absolute configuration: 1R, 2R

$C_{11}H_{15}NO_2$

(-)-1-Methanol-2-acetonitrile-4-cyclohexene acetate

Tetrahedron: Asymmetry **1990**, *1*, 801

J.S. Panek and M.A. Sparks



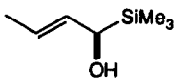
source of chirality: D-(-)-mandelic acid resolution
ee > 96 %, $[\alpha]_D^{23}$ = -39.20 (C 1.19, $CHCl_3$)
absolute configuration: S

$C_7H_{16}OSi$

(1*S*)-1-trimethylsilyl-2-buten-1-ol

Tetrahedron: Asymmetry **1990**, *1*, 801

J.S. Panek and M.A. Sparks



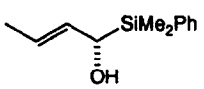
source of chirality: D-(-)-mandelic acid resolution
ee > 96 %, $[\alpha]_D^{23}$ = 35.48 (C 1.15, $CHCl_3$)
absolute configuration: R

$C_7H_{16}OSi$

(1*R*)-1-trimethylsilyl-2-buten-1-ol

Tetrahedron: Asymmetry **1990**, *1*, 801

J.S. Panek and M.A. Sparks



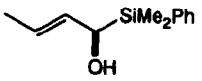
source of chirality: D-(-)-mandelic acid resolution
ee > 96 %, $[\alpha]_D^{23}$ = -28.32 (C 1.28, $CHCl_3$)
absolute configuration: S

$C_{12}H_{18}OSi$

(1*S*)-1-dimethylphenylsilyl-
2-buten-1-ol

J.S. Panek and M.A. Sparks

Tetrahedron: Asymmetry **1990**, *1*, 801



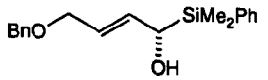
$C_{12}H_{18}OSi$

(1*R*)-1-dimethylphenylsilyl-2-buten-1-ol

source of chirality: D-(-)-mandelic acid resolution
ee > 96 %, $[\alpha]_D^{23}$ = 31.69 (C 1.04, $CHCl_3$)
absolute configuration: R

J.S. Panek and M.A. Sparks

Tetrahedron: Asymmetry **1990**, *1*, 801



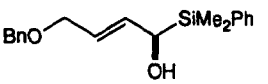
$C_{19}H_{24}O_2Si$

(1*S*)-4-benzyloxy-1-dimethylphenylsilyl-2-buten-1-ol

source of chirality: D-(-)-mandelic acid resolution
ee > 96 %, $[\alpha]_D^{23}$ = -11.69 (C 0.65, $CHCl_3$)
absolute configuration: S

J.S. Panek and M.A. Sparks

Tetrahedron: Asymmetry **1990**, *1*, 801



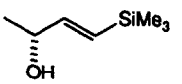
$C_{19}H_{24}O_2Si$

(1*R*)-4-benzyloxy-1-dimethylphenylsilyl-2-buten-1-ol

source of chirality: D-(-)-mandelic acid resolution
ee > 96 %, $[\alpha]_D^{23}$ = 10.68 (C 2.64, $CHCl_3$)
absolute configuration: R

J.S. Panek and M.A. Sparks

Tetrahedron: Asymmetry **1990**, *1*, 801



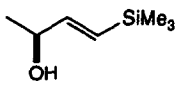
$C_7H_{16}OSi$

(3*R*)-1-trimethylsilyl-1-buten-3-ol

source of chirality: D-(-)-mandelic acid resolution
ee > 96 %, $[\alpha]_D^{23}$ = 2.48 (C 1.13, $CHCl_3$)
absolute configuration: R

Tetrahedron: Asymmetry **1990**, *1*, 801

J.S. Panek and M.A. Sparks



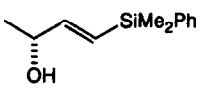
$C_7H_{16}OSi$

(3*S*)-1-trimethylsilyl-1-buten-3-ol

source of chirality: D-(-)-mandelic acid resolution
ee > 96 %, $[\alpha]_D^{23}$ = -2.36 (C 1.02, $CHCl_3$)
absolute configuration: S

Tetrahedron: Asymmetry **1990**, *1*, 801

J.S. Panek and M.A. Sparks



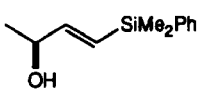
$C_{12}H_{18}OSi$

(3*R*)-1-dimethylphenylsilyl-1-buten-3-ol

source of chirality: D-(-)-mandelic acid resolution
ee > 96 %, $[\alpha]_D^{23}$ = -1.65 (C 1.64, $CHCl_3$)
absolute configuration: R

Tetrahedron: Asymmetry **1990**, *1*, 801

J.S. Panek and M.A. Sparks



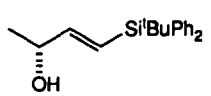
$C_{12}H_{18}OSi$

(3*S*)-1-dimethylphenylsilyl-1-buten-3-ol

source of chirality: D-(-)-mandelic acid resolution
ee > 96 %, $[\alpha]_D^{23}$ = 1.94 (C 1.65, $CHCl_3$)
absolute configuration: S

Tetrahedron: Asymmetry **1990**, *1*, 801

J.S. Panek and M.A. Sparks



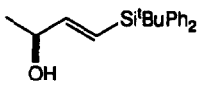
$C_{20}H_{26}OSi$

(3*R*)-1-diphenyl^{t}butylsilyl-1-buten-3-ol

source of chirality: D-(-)-mandelic acid resolution
ee > 96 %, $[\alpha]_D^{23}$ = -1.10 (C 1.01, $CHCl_3$)
absolute configuration: R

J.S. Panek and M.A. Sparks

Tetrahedron: Asymmetry **1990**, *1*, 801



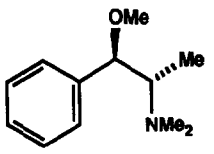
$C_{20}H_{26}OSi$

(3*S*)-1-diphenyl^{t}butylsilyl-1-buten-3-ol

source of chirality: D-(-)-mandelic acid resolution
ee > 96 %, $[\alpha]_D^{23}$ = 1.27 (C 1.02, $CHCl_3$)
absolute configuration: S

S.J. Coote, S.G. Davies, C.L. Goodfellow and K.H. Sutton

Tetrahedron: Asymmetry **1990**, *1*, 817



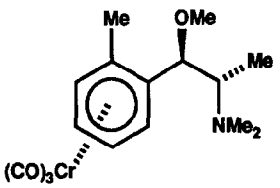
$C_{12}H_{19}NO$

N,O-Dimethylephedrine

e.e = 100%
homochiral derived from (-)-ephedrine
$[\alpha]_D^{20}$ -30.3 (c. 1.32, MeOH)
Absolute Configuration 1S,2S

S.J. Coote, S.G. Davies, C.L. Goodfellow and K.H. Sutton

Tetrahedron: Asymmetry **1990**, *1*, 817



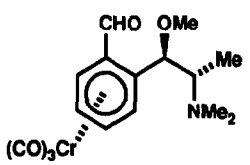
$C_{16}H_{21}NO_4Cr$

(N,O,o-Trimethylephedrine)tricarbonylchromium

e.e = 100%
homochiral derived from (-)-ephedrine
$[\alpha]_{546}^{20}$ -50.0 (c. 1.00, $CHCl_3$)
Absolute Configuration R,1S,2S, (X-ray)

S.J. Coote, S.G. Davies, C.L. Goodfellow and K.H. Sutton

Tetrahedron: Asymmetry **1990**, *1*, 817



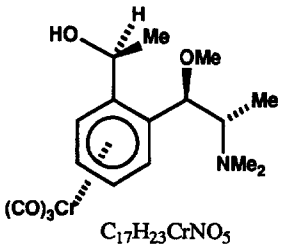
$C_{16}H_{19}CrNO_5$

(o-Formyl-N,O-dimethylephedrine)tricarbonylchromium

e.e. = 100%
homochiral derived from (-)-ephedrine.
$[\alpha]_D^{20}$ +393 (c. 0.14, $CHCl_3$)
Absolute Configuration R,1S,2S.

S.J. Coote, S.G. Davies, C.L. Goodfellow and K.H. Sutton

Tetrahedron: Asymmetry **1990,** *1*, 817



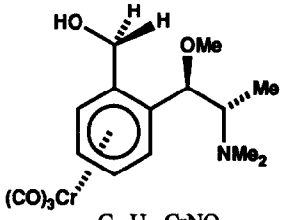
e.e. = 100%
homochiral derived from (-)-ephedrine
$[\alpha]_D^{20}$ - 32.7 (c. 0.17, $CHCl_3$)
Absolute Configuration (R,1S,2S,1'S) (X-ray)

$C_{17}H_{23}CrNO_5$

(o-1-Hydroxyethyl-N,O-dimethylephedrine)tricarbonylchromium

S.J. Coote, S.G. Davies, C.L. Goodfellow and K.H. Sutton

Tetrahedron: Asymmetry **1990,** *1*, 817



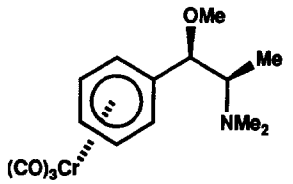
e.e. = 100%
homochiral derived from (-)-ephedrine.
$[\alpha]_D^{23}$ -66.2 (c. 0.11, $CHCl_3$)
Absolute Configuration (R,1S,2S,1'S)

$C_{16}H_{21}CrNO_5$

(o-1-Hydroxymethyl-N,O-dimethylephedrine)tricarbonylchromium

S.J. Coote, S.G. Davies, C.L. Goodfellow and K.H. Sutton

Tetrahedron: Asymmetry **1990,** *1*, 817



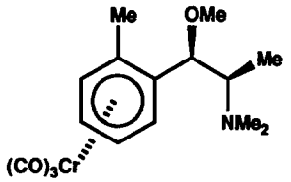
e.e. - 100%
homochiral derived from (-)-pseudoephedrine
$[\alpha]_D^{22}$ -81.0 (c. 0.98, $CHCl_3$)
Absolute Configuration (1S,2R)

$C_{15}H_{19}CrNO_4$

(N,O-dimethylpseudoephedrine)tricarbonylchromium

S.J. Coote, S.G. Davies, C.L. Goodfellow and K.H. Sutton

Tetrahedron: Asymmetry **1990,** *1*, 817



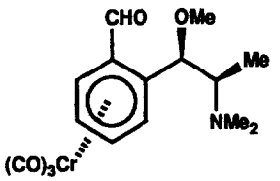
e.e. = 100%
homochiral derived from (-)-pseudoephedrine
$[\alpha]_D^{22}$ -60.0 (c. 0.70, $CHCl_3$)
Absolute Configuration (R,1S,2R) (X-ray)

$C_{16}H_{21}CrNO_4$

(N,O,o-Trimethylpseudoephedrine)tricarbonylchromium

S.J. Coote, S.G. Davies, C.L. Goodfellow and K.H. Sutton

Tetrahedron: Asymmetry **1990**, *1*, 817



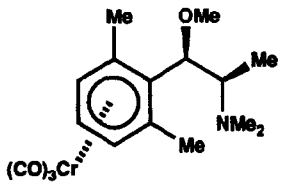
$C_{16}H_{19}CrNO_5$

e.e. = 100%
homochiral derived from (-)-pseudoephedrine
$[\alpha]_D^{20}$ +220.0 (c. 0.13, $CHCl_3$)
Absolute Configuration (R,1S,2R)

(o-Formyl-N,O-dimethylpseudoephedrine)tricarbonylchromium

S.J. Coote, S.G. Davies, C.L. Goodfellow and K.H. Sutton

Tetrahedron: Asymmetry **1990**, *1*, 817



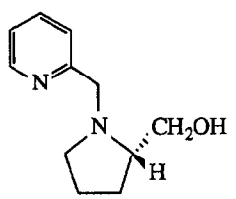
$C_{17}H_{23}CrNO_4$

e.e. = 100%
homochiral derived from (-)-pseudoephedrine
$[\alpha]_D^{21}$ +18.0 (c. 1.01, $CHCl_3$)
Absolute Configuration (1S,2R)

(N,O,o,o,-Tetramethylpseudoephedrine)tricarbonylchromium

Chelucci, G.; Falorni, M.; Giacomelli, G.

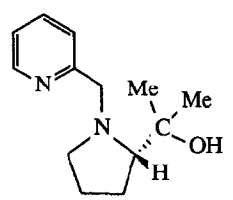
Tetrahedron: Asymmetry **1990**, *1*, 843



$C_{11}H_{16}N_2O$ 2-Hydroxymethyl-1-(2-pyridylmethyl)pyrrolidine
$[\alpha]^{25}_D$ –32.38 (*c* 3.5 $CHCl_3$)
Source of chirality: natural proline
Absolute configuration: S E.e. > 96%
Use: catalysts for enantioselective reactions.

Chelucci, G.; Falorni, M.; Giacomelli, G.

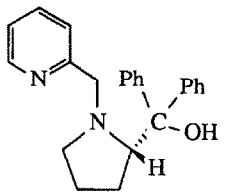
Tetrahedron: Asymmetry **1990**, *1*, 843



$C_{13}H_{20}N_2O$ 2-Hydroxy-1-methylethyl-1-(2-pyridylmethyl)pyrrolidine
$[\alpha]^{25}_D$ –5.41 (*c* 1.4 $CHCl_3$)
Source of chirality: natural proline
Absolute configuration: S E.e. > 96%
Use: catalysts for enantioselective reactions.

Chelucci, G.; Falorni, M.; Giacomelli, G.

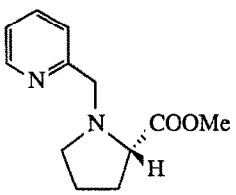
Tetrahedron: Asymmetry **1990,** *1*, 843



$C_{23}H_{24}N_2O$ 2-(Diphenylmethanol)-1-(2-pyridylmethyl)pyrrolidine
$[\alpha]^{25}_D$ +79.20 (*c* 2.6 $CHCl_3$)
Source of chirality: natural proline
Absolute configuration: S E.e. > 96%
Use: catalysts for enantioselective reactions.

Chelucci, G.; Falorni, M.; Giacomelli, G.

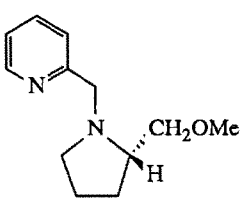
Tetrahedron: Asymmetry **1990,** *1*, 843



$C_{12}H_{16}N_2O_2$ 2-Methoxycarbonyl-1-(2-pyridylmethyl)pyrrolidine
$[\alpha]^{25}_D$ −71.49 (*c* 2.5 $CHCl_3$)
Source of chirality: natural proline
Absolute configuration: S E.e. > 96%
Use: intermediate in the synthesis of catalysts for enantioselective reactions.

Chelucci, G.; Falorni, M.; Giacomelli, G.

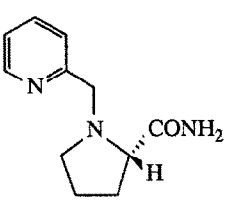
Tetrahedron: Asymmetry **1990,** *1*, 843



$C_{12}H_{18}N_2O$ 2-Methoxymethyl-1-(2-pyridylmethyl)pyrrolidine
$[\alpha]^{25}_D$ −85.43 (*c* 3.5 $CHCl_3$)
Source of chirality: natural proline
Absolute configuration: S E.e. > 96%
Use: catalysts for enantioselective reactions.

Chelucci, G.; Falorni, M.; Giacomelli, G.

Tetrahedron: Asymmetry **1990,** *1*, 843



$C_{11}H_{15}N_3O$ 2-Carboxamide-1-(2-pyridylmethyl)pyrrolidine
$[\alpha]^{25}_D$ −16.43 (*c* 4.3 MeOH)
Source of chirality: natural proline
Absolute configuration: S E.e. > 96%
Use: catalysts for enantioselective reactions.