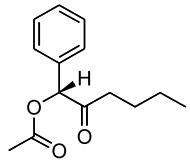
Jean-Christophe Jullian, Xavier Franck, Shamil Latypov, Reynald Hocquemiller and Bruno Figadère*

Tetrahedron: Asymmetry *14 (2003) 963*

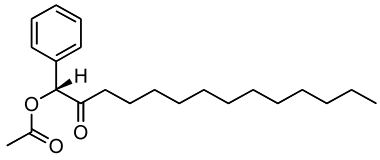


$C_{14}H_{18}O_3$
(*R*)-1-Acetoxy-1-phenylhexan-2-one

Ee >96% (by ^{1}H NMR)
$[\alpha]_D^{18} = -191$ (*c* 0.75; $CHCl_3$)
Source of chirality: (*R*)-mandelic acid
Absolute configuration: *R*

Jean-Christophe Jullian, Xavier Franck, Shamil Latypov, Reynald Hocquemiller and Bruno Figadère*

Tetrahedron: Asymmetry *14 (2003) 963*

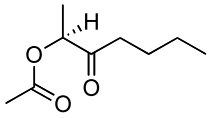


$C_{22}H_{34}O_3$
(*R*)-1-Acetoxy-1-phenyltetradecan-2-one

Ee >96% (by ^{1}H NMR)
$[\alpha]_D^{18} = -128$ (*c* 0.78; $CHCl_3$)
Source of chirality: (*R*)-mandelic acid
Absolute configuration: *R*

Jean-Christophe Jullian, Xavier Franck, Shamil Latypov, Reynald Hocquemiller and Bruno Figadère*

Tetrahedron: Asymmetry *14 (2003) 963*

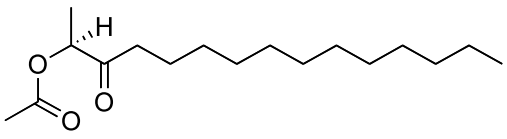


$C_9H_{16}O_3$
(*S*)-2-Acetoxyheptan-3-one

Ee >96% (by ^{1}H NMR)
$[\alpha]_D^{18} = -30$ (*c* 1.09; $CHCl_3$)
Source of chirality: synthesis from (*S*)-lactic acid
Absolute configuration: *S*

Jean-Christophe Jullian, Xavier Franck, Shamil Latypov, Reynald Hocquemiller and Bruno Figadère*

Tetrahedron: Asymmetry *14 (2003) 963*

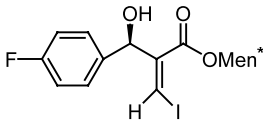


$C_{17}H_{32}O_3$
(*S*)-2-Acetoxypentadecan-3-one

Ee >96% (by ^{1}H NMR)
$[\alpha]_D^{18} = -20$ (*c* 0.71; $CHCl_3$)
Source of chirality: synthesis from (*S*)-lactic acid
Absolute configuration: *S*

Han-Xun Wei, Dianjun Chen, Xin Xu, Guigen Li and Paul W. Paré*

Tetrahedron: Asymmetry *14 (2003) 971*



$C_{20}H_{26}FIO_3$

(3*R*)-Menthyl-3-hydroxy-3-(4-fluorophenyl)-2-iodomethylenepropanoate

Pure isomer

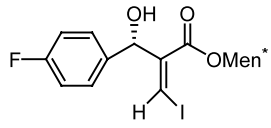
$[\alpha]_D^{25} = -0.73$ (*c* 1.9, CH_2Cl_2)

Source of chirality: asymmetric synthesis

Absolute configuration: 3*R*

Han-Xun Wei, Dianjun Chen, Xin Xu, Guigen Li and Paul W. Paré*

Tetrahedron: Asymmetry *14 (2003) 971*



$C_{20}H_{26}FIO_3$

(3*R*)-Menthyl-3-hydroxy-3-(4-fluorophenyl)-2-iodomethylenepropanoate

Pure isomer

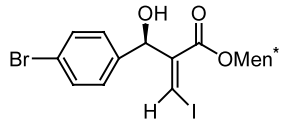
$[\alpha]_D^{25} = -0.33$ (*c* 0.32, CH_2Cl_2)

Source of chirality: asymmetric synthesis

Absolute configuration: 3*S*

Han-Xun Wei, Dianjun Chen, Xin Xu, Guigen Li and Paul W. Paré*

Tetrahedron: Asymmetry *14 (2003) 971*



$C_{20}H_{26}BrIO_3$

(3*R*)-Menthyl-3-hydroxy-3-(4-bromophenyl)-2-iodomethylenepropanoate

Pure isomer

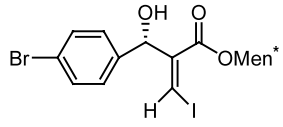
$[\alpha]_D^{25} = -0.38$ (*c* 1.0, CH_2Cl_2)

Source of chirality: asymmetric synthesis

Absolute configuration: 3*R*

Han-Xun Wei, Dianjun Chen, Xin Xu, Guigen Li and Paul W. Paré*

Tetrahedron: Asymmetry *14 (2003) 971*



$C_{20}H_{26}BrIO_3$

(3*S*)-Menthyl-3-hydroxy-3-(4-bromophenyl)-2-iodomethylenepropanoate

Pure isomer

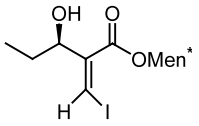
$[\alpha]_D^{25} = -0.32$ (*c* 0.32, CH_2Cl_2)

Source of chirality: asymmetric synthesis

Absolute configuration: 3*S*

Han-Xun Wei, Dianjun Chen, Xin Xu, Guigen Li and Paul W. Paré*

Tetrahedron: Asymmetry *14 (2003) 971*



$C_{16}H_{27}IO_3$

(3*R*)-Menthyl-3-hydroxy-2-iodomethylenepentanoate

Pure isomer

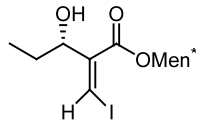
$[\alpha]_D^{25} = -0.51$ (*c* 0.42, CH_2Cl_2)

Source of chirality: asymmetric synthesis

Absolute configuration: 3*R*

Han-Xun Wei, Dianjun Chen, Xin Xu, Guigen Li and Paul W. Paré*

Tetrahedron: Asymmetry *14 (2003) 971*



$C_{16}H_{27}IO_3$

(3*S*)-Menthyl-3-hydroxy-2-iodomethylenepentanoate

Pure isomer

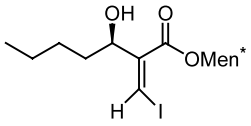
$[\alpha]_D^{25} = -0.42$ (*c* 0.32, CH_2Cl_2)

Source of chirality: asymmetric synthesis

Absolute configuration: 3*S*

Han-Xun Wei, Dianjun Chen, Xin Xu, Guigen Li and Paul W. Paré*

Tetrahedron: Asymmetry *14 (2003) 971*



$C_{18}H_{31}IO_3$

(3*R*)-Menthyl-3-hydroxy-2-iodomethyleneheptanoate

Pure isomer

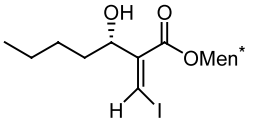
$[\alpha]_D^{25} = -0.51$ (*c* 0.52, CH_2Cl_2)

Source of chirality: asymmetric synthesis

Absolute configuration: 3*R*

Han-Xun Wei, Dianjun Chen, Xin Xu, Guigen Li and Paul W. Paré*

Tetrahedron: Asymmetry *14 (2003) 971*



$C_{18}H_{31}IO_3$

(3*S*)-Menthyl-3-hydroxy-2-iodomethyleneheptanoate

Pure isomer

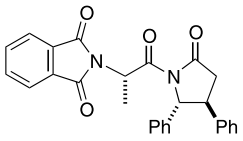
$[\alpha]_D^{25} = -0.47$ (*c* 0.40, CH_2Cl_2)

Source of chirality: asymmetric synthesis

Absolute configuration: 3*S*

Jaime Escalante* and Miguel A. González-Tototzin

Tetrahedron: Asymmetry *14 (2003) 981*



$C_{27}H_{22}N_2O_4$

2-[(1*S*)-1-Methyl-2-oxo-2-(5-oxo-(2*R*,3*S*)-2,3-diphenylpyrrolidin-1-yl)-ethyl]-isoindole-1,3-dione

E.e. = 96%

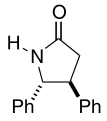
$[\alpha]_D^{25} = -61.9$ (*c* 1.1, $CHCl_3$)

Source of chirality: *N*-phthalyl-L-alanine

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

Jaime Escalante* and Miguel A. González-Tototzin

Tetrahedron: Asymmetry *14 (2003) 981*



$C_{16}H_{15}NO$

trans-(4*S*,5*R*)-Diphenylpyrrolidin-2-one

E.e. = 96%

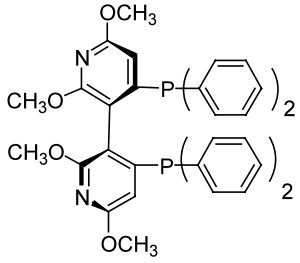
$[\alpha]_D^{25} = -150.1$ (*c* 1.1, MeOH)

Source of chirality: *N*-phthalyl-L-alanine

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

Jing Wu, Cheng Chao Pai, Wai Him Kwok, Rong Wei Guo, Terry T. L. Au-Yeung, Chi Hung Yeung* and Albert S. C. Chan*

Tetrahedron: Asymmetry *14 (2003) 987*



$C_{38}H_{34}N_2O_4P_2$

(*R*)-2,2′,6,6′-Tetramethoxy-4,4′-bis(diphenylphosphino)-3,3′-bipyridine

Ee >99%

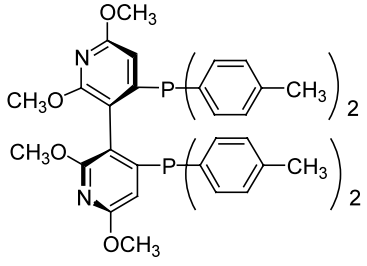
$[\alpha]_D^{20} = +103.8$ (*c* 1.0, CH_2Cl_2)

Source of chirality: resolution

Absolute configuration: *R*

Jing Wu, Cheng Chao Pai, Wai Him Kwok, Rong Wei Guo, Terry T. L. Au-Yeung, Chi Hung Yeung* and Albert S. C. Chan*

Tetrahedron: Asymmetry *14 (2003) 987*



$C_{42}H_{42}N_2O_4P_2$

(*R*)-2,2′,6,6′-Tetramethoxy-4,4′-bis[di(*p*-tolyl)phosphino]-3,3′-bipyridine

Ee >99%

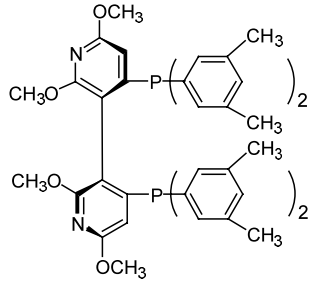
$[\alpha]_D^{20} = +73.0$ (*c* 0.93, CH_2Cl_2)

Source of chirality: resolution

Absolute configuration: *R*

Jing Wu, Cheng Chao Pai, Wai Him Kwok, Rong Wei Guo, Terry T. L. Au-Yeung, Chi Hung Yeung* and Albert S. C. Chan*

Tetrahedron: Asymmetry *14 (2003) 987*



$C_{46}H_{50}N_2O_4P_2$

(*R*)-2,2′,6,6′-Tetramethoxy-4,4′-bis[di(3,5-dimethylphenyl)phosphino]-3,3′-bipyridine

Ee >99%

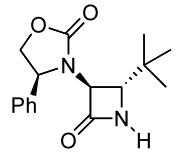
$[\alpha]_D^{20}$ = +122.8 (*c* 1.0, CH_2Cl_2)

Source of chirality: resolution

Absolute configuration: *R*

Alessandro Bongini,* Mauro Panunzio,* Emiliano Tamanini, Giorgio Martelli, Paola Vicennati and Magda Monari

Tetrahedron: Asymmetry *14 (2003) 993*



$C_{16}H_{20}N_2O_3$

(4*S*)-3-[(3*S*,4*S*)-2-Oxo-4-(*tert*-butyl)-azetidine-3-yl]-4-phenyloxazolidin-2-one

Ee >99%

Mp 181–185°C

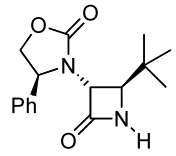
$[\alpha]_D^{20}$ = +88.82 (*c* 2.04, $CHCl_3$)

Source of chirality: 4-phenyloxazolidin-2-one

Absolute configuration: (4*S*)-3-[(3*S*,4*S*)]

Alessandro Bongini,* Mauro Panunzio,* Emiliano Tamanini, Giorgio Martelli, Paola Vicennati and Magda Monari

Tetrahedron: Asymmetry *14 (2003) 993*



$C_{16}H_{20}N_2O_3$

(4*S*)-3-[(3*R*,4*R*)-2-Oxo-4-(*tert*-butyl)-azetidine-3-yl]-4-phenyloxazolidin-2-one

Ee >99%

Mp 165–170°C

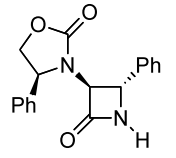
$[\alpha]_D^{20}$ = +87.66 (*c* 1.54, $CHCl_3$)

Source of chirality: 4-phenyloxazolidin-2-one

Absolute configuration: (4*S*)-3-[(3*R*,4*R*)]

Alessandro Bongini,* Mauro Panunzio,* Emiliano Tamanini, Giorgio Martelli, Paola Vicennati and Magda Monari

Tetrahedron: Asymmetry *14 (2003) 993*



$C_{18}H_{16}N_2O_3$

(4*S*)-3-[(3*S*,4*S*)-2-Oxo-4-phenyl-azetidine-3-yl]-4-phenyloxazolidin-2-one

Ee >99%

Mp 169–172°C

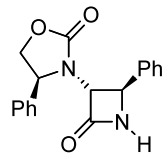
$[\alpha]_D^{20}$ = +39.7 (*c* 0.9, $CHCl_3$)

Source of chirality: 4-phenyloxazolidin-2-one

Absolute configuration: (4*S*)-3-[(3*S*,4*S*)]

Alessandro Bongini,* Mauro Panunzio,* Emiliano Tamanini, Giorgio Martelli, Paola Vicennati and Magda Monari

Tetrahedron: Asymmetry *14 (2003) 993*

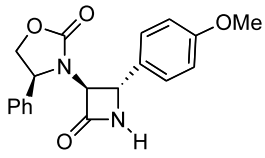


Ee >99%
Mp 155–159°C
$[\alpha]_D^{20}$ = +46.9 (*c* 0.56, $CHCl_3$)
Source of chirality: 4-phenyloxazolidin-2-one
Absolute configuration: (4*S*)-3-[(3*R*,4*R*)]

$C_{18}H_{16}N_2O_3$
(4*S*)-3-[(3*R*,4*R*)-2-Oxo-4-phenyl-azetidine-3-yl]-4-phenyloxazolidin-2-one

Alessandro Bongini,* Mauro Panunzio,* Emiliano Tamanini, Giorgio Martelli, Paola Vicennati and Magda Monari

Tetrahedron: Asymmetry *14 (2003) 993*

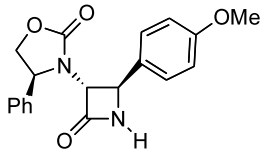


Ee >99%
Mp 190–195°C
$[\alpha]_D^{20}$ = +144.2 (*c* 0.66, $CHCl_3$)
Source of chirality: 4-phenyloxazolidin-2-one
Absolute configuration: (4*S*)-3-[(2*S*,3*S*)]

$C_{19}H_{18}N_2O_4$
(4*S*)-3-[(2*S*,3*S*)-2-(4-Methoxy-phenyl)-4-oxo-azetidine-3-yl]-4-phenyloxazolidin-2-one

Alessandro Bongini,* Mauro Panunzio,* Emiliano Tamanini, Giorgio Martelli, Paola Vicennati and Magda Monari

Tetrahedron: Asymmetry *14 (2003) 993*

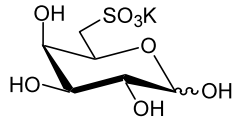


Ee >99%
Mp oil
$[\alpha]_D^{20}$ = +61.3 (*c* 1.5, $CHCl_3$)
Source of chirality: 4-phenyloxazolidin-2-one
Absolute configuration: (4*S*)-3-[(2*R*,3*R*)]

$C_{19}H_{18}N_2O_4$
(4*S*)-3-[(2*R*,3*R*)-2-(4-Methoxy-phenyl)-4-oxo-azetidine-3-yl]-4-phenyloxazolidin-2-one

José G. Fernández-Bolaños,* Victor Ulgar, Inés Maya, José Fuentes, Mª Jesús Diánez, Mª Dolores Estrada, Amparo López-Castro and Simeón Pérez-Garrido

Tetrahedron: Asymmetry *14 (2003) 1009*

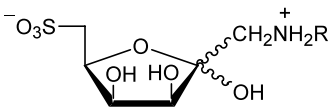


$[\alpha]_D^{22}$ +43 (*c* 1.1, H_2O)
α and β anomers in a 34:66 ratio
Source of chirality: D-galactose
Absolute configuration: α anomer 1*S*,2*R*,3*S*,4*R*,5*S*; β anomer 1*R*,2*R*,3*S*,4*R*,5*S*

$C_6H_{11}KO_8S$
Potassium 6-deoxy-D-galactopyranose-6-*C*-sulfonate

José G. Fernández-Bolaños,* Victor Ulgar, Inés Maya, José Fuentes, Mª Jesús Diánez, Mª Dolores Estrada, Amparo López-Castro and Simeón Pérez-Garrido

Tetrahedron: Asymmetry *14 (2003) 1009*



$C_{12}H_{23}NO_7S$

1-Cyclohexylamino-1,6-dideoxy-α-D-tagatofuranose-6-*C*-sulfonic acid

$[\alpha]_D^{22}$ +31 (*c* 1.1, H_2O)

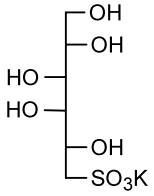
α and β anomers in a 62:38 ratio

Source of chirality: D-galactose

Absolute configuration: α anomer 2*S*,3*S*,4*R*,5*S*; β anomer 2*R*,3*S*,4*R*,5*S*

José G. Fernández-Bolaños,* Victor Ulgar, Inés Maya, José Fuentes, Mª Jesús Diánez, Mª Dolores Estrada, Amparo López-Castro and Simeón Pérez-Garrido

Tetrahedron: Asymmetry *14 (2003) 1009*



$C_6H_{13}KO_8S$

Potassium 6-deoxy-D-galactitol-6-*C*-sulfonate

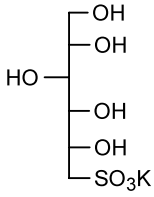
$[\alpha]_D^{22}$ −3 (*c* 1.1, H_2O)

Source of chirality: D-galactose

Absolute configuration: 2*S*,3*R*,4*R*,5*S*

José G. Fernández-Bolaños,* Victor Ulgar, Inés Maya, José Fuentes, Mª Jesús Diánez, Mª Dolores Estrada, Amparo López-Castro and Simeón Pérez-Garrido

Tetrahedron: Asymmetry *14 (2003) 1009*



$C_6H_{13}KO_8S$

Potassium 6-deoxy-D-glucitol-6-*C*-sulfonate

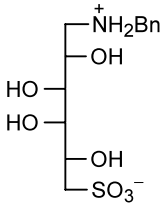
$[\alpha]_D^{22}$ +6 (*c* 1.0, H_2O)

Source of chirality: D-glucose

Absolute configuration: 2*S*,3*R*,4*S*,5*S*

José G. Fernández-Bolaños,* Victor Ulgar, Inés Maya, José Fuentes, Mª Jesús Diánez, Mª Dolores Estrada, Amparo López-Castro and Simeón Pérez-Garrido

Tetrahedron: Asymmetry *14 (2003) 1009*



$C_{13}H_{21}NO_7S$

1-Benzylamino-1,6-dideoxy-D-galactitol-6-*C*-sulfonic acid

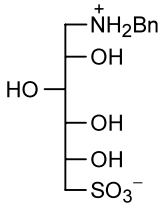
$[\alpha]_D^{22}$ −19 (*c* 1.0, H_2O)

Source of chirality: D-galactose

Absolute configuration: 2*S*,3*R*,4*R*,5*S*

José G. Fernández-Bolaños,* Victor Ulgar, Inés Maya, José Fuentes, Mª Jesús Diánez, Mª Dolores Estrada, Amparo López-Castro and Simeón Pérez-Garrido

Tetrahedron: Asymmetry *14 (2003) 1009*



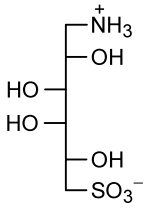
$C_{13}H_{21}NO_7S$

1-Benzylamino-1,6-dideoxy-D-glucitol-6-*C*-sulfonic acid

$[\alpha]_D^{22}$ −10.3 (*c* 1.2, H_2O)
Source of chirality: D-glucose
Absolute configuration: 2*S*,3*R*,4*S*,5*S*

José G. Fernández-Bolaños,* Victor Ulgar, Inés Maya, José Fuentes, Mª Jesús Diánez, Mª Dolores Estrada, Amparo López-Castro and Simeón Pérez-Garrido

Tetrahedron: Asymmetry *14 (2003) 1009*



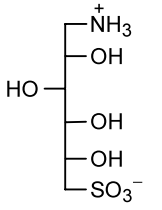
$C_6H_{15}NO_7S \cdot H_2O$

1-Amino-1,6-dideoxy-D-galactitol-6-*C*-sulfonic acid

$[\alpha]_D^{22}$ −13 (*c* 1.0, H_2O)
Source of chirality: D-galactose
Absolute configuration: 2*S*,3*R*,4*R*,5*S*

José G. Fernández-Bolaños,* Victor Ulgar, Inés Maya, José Fuentes, Mª Jesús Diánez, Mª Dolores Estrada, Amparo López-Castro and Simeón Pérez-Garrido

Tetrahedron: Asymmetry *14 (2003) 1009*



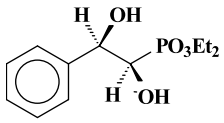
$C_6H_{15}NO_7S$

1-Amino-1,6-dideoxy-D-glucitol-6-*C*-sulfonic acid

$[\alpha]_D^{22}$ −5 (*c* 1.2, H_2O)
Source of chirality: D-glucose
Absolute configuration: 2*S*,3*R*,4*S*,5*S*

Alina Maly, Barbara Lejczak* and Pawel Kafarski

Tetrahedron: Asymmetry *14 (2003) 1019*



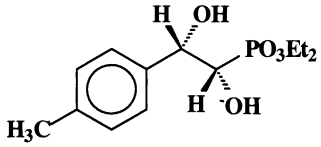
$C_{12}H_{19}O_5P$

Diethyl (1*R*,2*R*)-dihydroxy-2-phenylethanephosphonate

>98% ee, $[\alpha]_D^{20} = -22.5$ (*c* 1.0, $CHCl_3$)
Source of chirality: hydrolytic kinetic resolution
Absolute configuration: 1*R*,2*R*

Alina Maly, Barbara Lejczak* and Pawel Kafarski

Tetrahedron: Asymmetry *14 (2003) 1019*



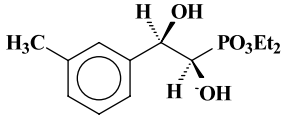
>98% ee, $[\alpha]_D^{20} = +28.8$ (*c* 1.0, $CHCl_3$)
Source of chirality: hydrolytic kinetic resolution
Absolute configuration: 1*S*,2*S*

$C_{13}H_{21}O_5P$
Diethyl (1*S*,2*S*)-dihydroxy-2-(*p*-methylphenyl)ethanephosphonate

---

Alina Maly, Barbara Lejczak* and Pawel Kafarski

Tetrahedron: Asymmetry *14 (2003) 1019*



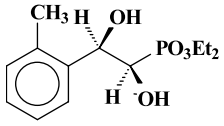
>98% ee, $[\alpha]_D^{20} = -11.6$ (*c* 1.0, $CHCl_3$)
Source of chirality: hydrolytic kinetic resolution
Absolute configuration: 1*R*,2*R*

$C_{13}H_{21}O_5P$
Diethyl (1*R*,2*R*)-dihydroxy-2-(*m*-methylphenyl)ethanephosphonate

---

Alina Maly, Barbara Lejczak* and Pawel Kafarski

Tetrahedron: Asymmetry *14 (2003) 1019*



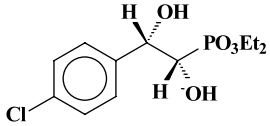
>98% ee, $[\alpha]_D^{20} = -37.5$ (*c* 1.0, $CHCl_3$)
Source of chirality: hydrolytic kinetic resolution
Absolute configuration: 1*R*,2*R*

$C_{13}H_{21}O_5P$
Diethyl (1*R*,2*R*)-dihydroxy-2-(*o*-methylphenyl)ethanephosphonate

---

Alina Maly, Barbara Lejczak* and Pawel Kafarski

Tetrahedron: Asymmetry *14 (2003) 1019*

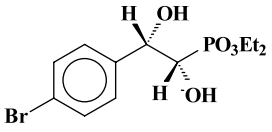


>98% ee, $[\alpha]_D^{20} = +43.7$ (*c* 1.0, $CHCl_3$)
Source of chirality: hydrolytic kinetic resolution
Absolute configuration: 1*S*,2*S*

$C_{12}H_{18}ClO_5P$
Diethyl (1*S*,2*S*)-dihydroxy-2-(*p*-chlorolphenyl)ethanephosphonate

Alina Maly, Barbara Lejczak* and Pawel Kafarski

Tetrahedron: Asymmetry *14 (2003) 1019*



$C_{12}H_{18}ClO_5P$

Diethyl (1*S*,2*S*)-dihydroxy-2-(*p*-bromophenyl)ethanephosphonate

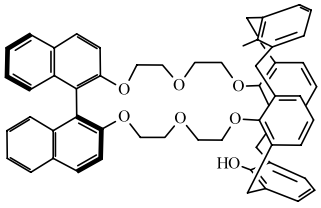
>98% ee, $[\alpha]_D^{20} = +20.8$ (*c* 1.0, $CHCl_3$)

Source of chirality: hydrolytic kinetic resolution

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

István Bitter,* Éva Kőszegi, Alajos Grün, Péter Bakó, Krisztina Pál, András Grofcsik, Miklós Kubinyi, Barbara Balázs and Gábor Tóth

Tetrahedron: Asymmetry *14 (2003) 1025*



$C_{56}H_{50}O_8$

25,27-Calix[4](*S*)-1,1′-bi-2-naphtho-crown-6

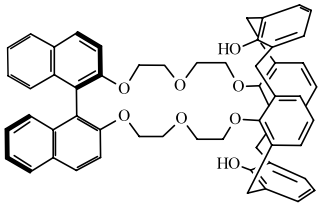
$[\alpha]_D^{22} = -61.3$ (*c* 1, THF)

Source of chirality: (*S*)-1,1′-bi-2-naphthol

Absolute configuration: 1*S*,1′*S*

István Bitter,* Éva Kőszegi, Alajos Grün, Péter Bakó, Krisztina Pál, András Grofcsik, Miklós Kubinyi, Barbara Balázs and Gábor Tóth

Tetrahedron: Asymmetry *14 (2003) 1025*



$C_{56}H_{50}O_8$

25,27-Calix[4](*R*)-1,1′-bi-2-naphtho-crown-6

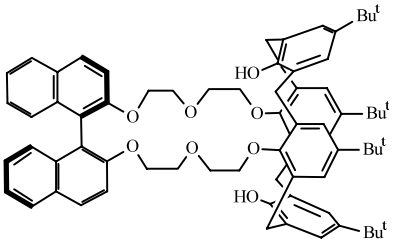
$[\alpha]_D^{22} = +60.1$ (*c* 1, THF)

Source of chirality: (*R*)-1,1′-bi-2-naphthol

Absolute configuration: 1*R*,1′*R*

István Bitter,* Éva Kőszegi, Alajos Grün, Péter Bakó, Krisztina Pál, András Grofcsik, Miklós Kubinyi, Barbara Balázs and Gábor Tóth

Tetrahedron: Asymmetry *14 (2003) 1025*



$C_{72}H_{82}O_8$

5,11,17,23-Tetrakis(1,1-dimethylethyl)-25,27-calix[4](*S*)-1,1′-bi-2-naphtho-crown-6

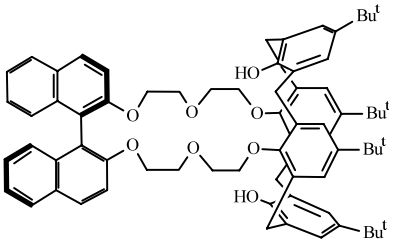
$[\alpha]_D^{22} = -110.8$ (*c* 1, THF)

Source of chirality: (*S*)-1,1′-bi-2-naphthol

Absolute configuration: 1*S*,1′*S*

István Bitter,* Éva Kőszegi, Alajos Grün, Péter Bakó, Krisztina Pál, András Grofcsik, Miklós Kubinyi, Barbara Balázs and Gábor Tóth

Tetrahedron: Asymmetry *14 (2003) 1025*



$C_{72}H_{82}O_8$

5,11,17,23-Tetrakis(1,1-dimethylethyl)-25,27-calix[4](*R*)-1,1′-bi-2-naphtho-crown-6

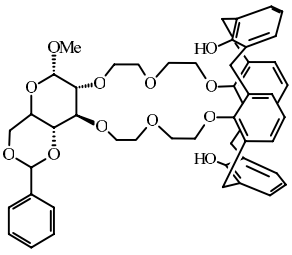
$[\alpha]_D^{22} = +107.8$ (*c* 1, THF)

Source of chirality: (*R*)-1,1′-bi-2-naphthol

Absolute configuration: 1*R*,1′*R*

István Bitter,* Éva Kőszegi, Alajos Grün, Péter Bakó, Krisztina Pál, András Grofcsik, Miklós Kubinyi, Barbara Balázs and Gábor Tóth

Tetrahedron: Asymmetry *14 (2003) 1025*



$C_{66}H_{86}O_{12}$

25,27-Calix[4][2,3-(methyl-(4,6-*O*-benzylidene)-α-D-glucopyranosido]-crown-6

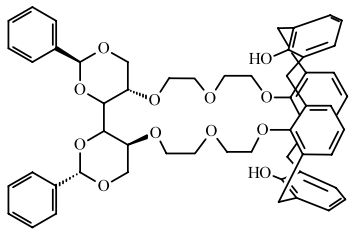
$[\alpha]_D^{22} = +21.1$ (*c* 1, THF)

Source of chirality: methyl-(4,6-*O*-benzylidene)-α-D-glucopyranoside

Absolute configuration: natural α-D-glucose

István Bitter,* Éva Kőszegi, Alajos Grün, Péter Bakó, Krisztina Pál, András Grofcsik, Miklós Kubinyi, Barbara Balázs and Gábor Tóth

Tetrahedron: Asymmetry *14 (2003) 1025*



$C_{72}H_{90}O_{12}$

25,27-Calix[4][2,5-(1,3:4,6-di-*O*-benzylidene)-D-mannito]-crown-6

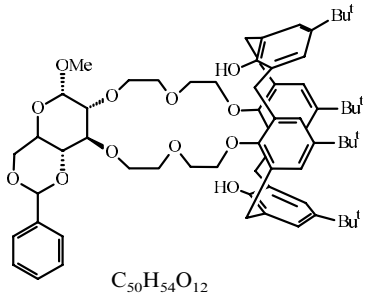
$[\alpha]_D^{22} = -31.6$ (*c* 1, THF)

Source of chirality: 1,3:4,6-di-*O*-benzylidene-D-mannitol

Absolute configuration: natural D-mannitol

István Bitter,* Éva Kőszegi, Alajos Grün, Péter Bakó, Krisztina Pál, András Grofcsik, Miklós Kubinyi, Barbara Balázs and Gábor Tóth

Tetrahedron: Asymmetry *14 (2003) 1025*



$C_{50}H_{54}O_{12}$

5,11,17,23-Tetrakis(1,1-dimethylethyl)-25,27-calix[4][2,3-(methyl-(4,6-*O*-benzylidene)-α-D-glucopyranosido]-crown-6

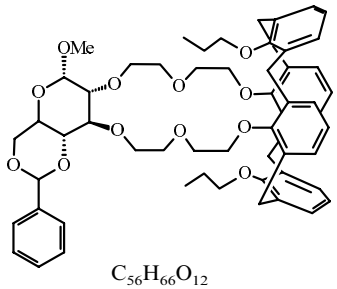
$[\alpha]_D^{22} = +36.7$ (*c* 1, THF)

Source of chirality: methyl-(4,6-*O*-benzylidene)-α-D-glucopyranoside

Absolute configuration: natural α-D-glucose

István Bitter,* Éva Kőszegi, Alajos Grün, Péter Bakó, Krisztina Pál, András Grofcsik, Miklós Kubinyi, Barbara Balázs and Gábor Tóth

Tetrahedron: Asymmetry *14 (2003) 1025*



$C_{56}H_{66}O_{12}$

$[\alpha]_D^{22} = +27.6$ (c 1, THF)

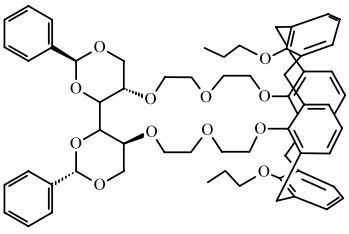
Source of chirality: methyl-(4,6-*O*-benzylidene)-α-D-glucopyranoside

Absolute configuration: natural α-D-glucose

26,28-Dipropyl-25,27-calix[4][2,3-(methyl-(4,6-*O*-benzylidene)-α-D-glucopyranosido]-crown-6

István Bitter,* Éva Kőszegi, Alajos Grün, Péter Bakó, Krisztina Pál, András Grofcsik, Miklós Kubinyi, Barbara Balázs and Gábor Tóth

Tetrahedron: Asymmetry *14 (2003) 1025*



$C_{62}H_{70}O_{12}$

$[\alpha]_D^{22} = -36.0$ (c 1, THF)

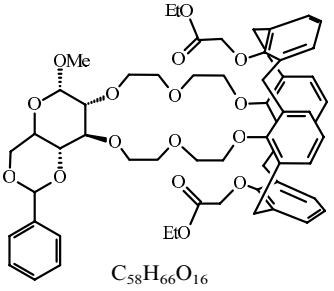
Source of chirality: 1,3:4,6-di-*O*-benzylidene-D-mannitol

Absolute configuration: natural D-mannitol

26,28-Dipropyl-25,27-calix[4][2,5-(1,3:4,6-di-*O*-benzylidene)-D-mannito]-crown-6

István Bitter,* Éva Kőszegi, Alajos Grün, Péter Bakó, Krisztina Pál, András Grofcsik, Miklós Kubinyi, Barbara Balázs and Gábor Tóth

Tetrahedron: Asymmetry *14 (2003) 1025*



$C_{58}H_{66}O_{16}$

$[\alpha]_D^{22} = +21.2$ (c 1, THF)

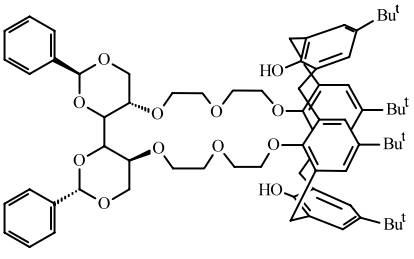
Source of chirality: methyl-(4,6-*O*-benzylidene)-α-D-glucopyranoside

Absolute configuration: natural α-D-glucose

26,28-Diethoxycarbonyl(methoxy)-25,27-calix[4][2,3-(methyl-(4,6-*O*-benzylidene)-α-D-glucopyranosido]-crown-6

István Bitter,* Éva Kőszegi, Alajos Grün, Péter Bakó, Krisztina Pál, András Grofcsik, Miklós Kubinyi, Barbara Balázs and Gábor Tóth

Tetrahedron: Asymmetry *14 (2003) 1025*



$C_{56}H_{58}O_{12}$

$[\alpha]_D^{20} = -31.0$ ($c = 1$, THF)

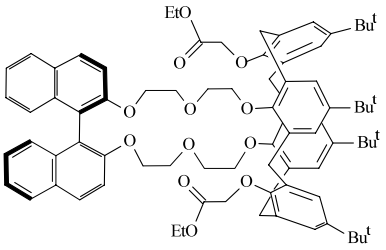
Source of chirality: 1,3:4,6-di-*O*-benzylidene-D-mannitol

Absolute configuration: natural D-mannitol

5,11,17,23-Tetrakis(1,1-dimethylethyl)-25,27-calix[4][2,5-(1,3:4,6-di-*O*-benzylidene)-D-mannito]-crown-6

István Bitter,* Éva Kőszegi, Alajos Grün, Péter Bakó, Krisztina Pál, András Grofcsik, Miklós Kubinyi, Barbara Balázs and Gábor Tóth

Tetrahedron: Asymmetry *14 (2003) 1025*



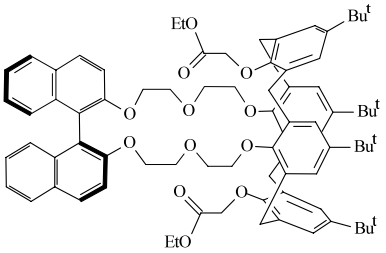
$[\alpha]_D^{22} = +55.7$ (c 1, THF)
Source of chirality: (*R*)-1,1′-bi-2-naphthol
Absolute configuration: 1*R*,1′*R*

$C_{80}H_{94}O_{12}$

5,11,17,23-Tetrakis(1,1-dimethylethyl)-26,28-diethoxycarbonyl(methoxy)-25,27-calix[4](*R*)-1,1′-bi-2-naphtho-crown-6

István Bitter,* Éva Kőszegi, Alajos Grün, Péter Bakó, Krisztina Pál, András Grofcsik, Miklós Kubinyi, Barbara Balázs and Gábor Tóth

Tetrahedron: Asymmetry *14 (2003) 1025*



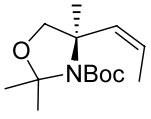
$[\alpha]_D^{22} = -52.7$ (c 1, THF)
Source of chirality: (*S*)-1,1′-bi-2-naphthol
Absolute configuration: 1*S*,1′*S*

$C_{80}H_{94}O_{12}$

5,11,17,23-Tetrakis(1,1-dimethylethyl)-26,28-diethoxycarbonyl(methoxy)-25,27-calix[4](*S*)-1,1′-bi-2-naphtho-crown-6

Alberto Avenoza,* Jesús H. Busto, Francisco Corzana, Jesús M. Peregrina,* David Sucunza and María M. Zurbano

Tetrahedron: Asymmetry *14 (2003) 1037*



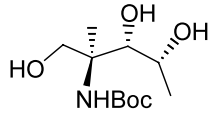
Ee >95%
$[\alpha]_D^{25} = -48.0$ (c 1.28, $CHCl_3$)
Source of chirality: asymmetric synthesis
Absolute configuration: *R*

$C_{14}H_{25}NO_3$

(*R*)-(*Z*)-2,2,4-Trimethyl-4-propenyloxazolidine-3-carboxylic acid *tert*-butyl ester

Alberto Avenoza,* Jesús H. Busto, Francisco Corzana, Jesús M. Peregrina,* David Sucunza and María M. Zurbano

Tetrahedron: Asymmetry *14 (2003) 1037*



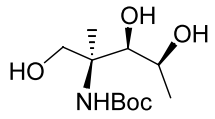
Ee >95%
$[\alpha]_D^{25} = -2.4$ (c 1.23, MeOH)
Source of chirality: asymmetric synthesis
Absolute configuration: 1*S*,2*S*,3*R*

$C_{11}H_{23}NO_5$

(1*S*,2*S*,3*R*)-(2,3-Dihydroxy-1-hydroxymethyl-1-methylbutyl)carbamic acid *tert*-butyl ester

Tetrahedron: Asymmetry *14 (2003) 1037*

Alberto Avenoza,* Jesús H. Busto, Francisco Corzana,
Jesús M. Peregrina,* David Sucunza and María M. Zurbano



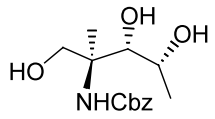
$C_{11}H_{23}NO_5$

(1*S*,2*R*,3*S*)-(2,3-Dihydroxy-1-hydroxymethyl-1-methylbutyl)carbamic acid *tert*-butyl ester

Ee >95%
$[\alpha]_D^{25} = -1.3$ (*c* 0.87, MeOH)
Source of chirality: asymmetric synthesis
Absolute configuration: 1*S*,2*R*,3*S*

Tetrahedron: Asymmetry *14 (2003) 1037*

Alberto Avenoza,* Jesús H. Busto, Francisco Corzana,
Jesús M. Peregrina,* David Sucunza and María M. Zurbano



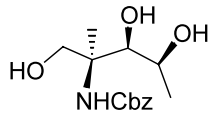
$C_{14}H_{21}NO_5$

(1*S*,2*S*,3*R*)-(2,3-Dihydroxy-1-hydroxymethyl-1-methylbutyl)carbamic acid benzyl ester

Ee >95%
$[\alpha]_D^{25} = +1.4$ (*c* 0.90, MeOH)
Source of chirality: asymmetric synthesis
Absolute configuration: 1*S*,2*S*,3*R*

Tetrahedron: Asymmetry *14 (2003) 1037*

Alberto Avenoza,* Jesús H. Busto, Francisco Corzana,
Jesús M. Peregrina,* David Sucunza and María M. Zurbano



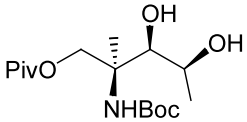
$C_{14}H_{21}NO_5$

(1*S*,2*R*,3*S*)-(2,3-Dihydroxy-1-hydroxymethyl-1-methylbutyl)carbamic acid benzyl ester

Ee >95%
$[\alpha]_D^{25} = -0.4$ (*c* 1.36, MeOH)
Source of chirality: asymmetric synthesis
Absolute configuration: 1*S*,2*R*,3*S*

Tetrahedron: Asymmetry *14 (2003) 1037*

Alberto Avenoza,* Jesús H. Busto, Francisco Corzana,
Jesús M. Peregrina,* David Sucunza and María M. Zurbano



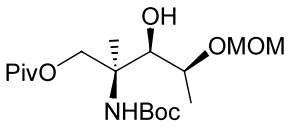
$C_{16}H_{31}NO_6$

(2′*S*,3′*R*,4′*S*)-2,2-Dimethylpropionic acid 2′-*tert*-butoxycarbonylamino-3′,4′-dihydroxy-2′-methylpentyl ester

Ee >95%
$[\alpha]_D^{25} = -2.5$ (*c* 1.04, MeOH)
Source of chirality: asymmetric synthesis
Absolute configuration: 2′*S*,3′*R*,4′*S*

Alberto Avenoza,* Jesús H. Busto, Francisco Corzana,
Jesús M. Peregrina,* David Sucunza and María M. Zurbano

Tetrahedron: Asymmetry *14 (2003) 1037*



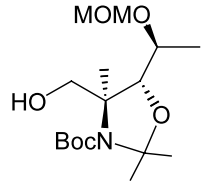
Ee >95%
$[\alpha]_D^{25} = -7.1$ (*c* 0.95, MeOH)
Source of chirality: asymmetric synthesis
Absolute configuration: 2′*S*,3′*R*,4′*S*

$C_{18}H_{35}NO_7$

(2′*S*,3′*R*,4′*S*)-2,2-Dimethylpropionic acid 2′-*tert*-butoxycarbonylamino-3′-hydroxy-4′-methoxymethoxy-2′-methylpentyl ester

Alberto Avenoza,* Jesús H. Busto, Francisco Corzana,
Jesús M. Peregrina,* David Sucunza and María M. Zurbano

Tetrahedron: Asymmetry *14 (2003) 1037*



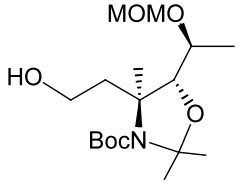
Ee >95%
$[\alpha]_D^{25} = +4.0$ (*c* 1.37, MeOH)
Source of chirality: asymmetric synthesis
Absolute configuration: 1′*S*,4*S*,5*R*

$C_{16}H_{31}NO_6$

(1′*S*,4*S*,5*R*)-4-Hydroxymethyl-5-(1′-methoxymethoxyethyl)-2,2,4-trimethyloxazolidine-3-carboxylic acid *tert*-butyl ester

Alberto Avenoza,* Jesús H. Busto, Francisco Corzana,
Jesús M. Peregrina,* David Sucunza and María M. Zurbano

Tetrahedron: Asymmetry *14 (2003) 1037*



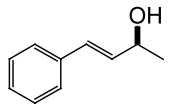
Ee >95%
$[\alpha]_D^{25} = +13.8$ (*c* 0.80, MeOH)
Source of chirality: asymmetric synthesis
Absolute configuration: 1′*S*,4*S*,5*R*

$C_{17}H_{33}NO_6$

(1′*S*,4*S*,5*R*)-4-(2″-Hydroxyethyl)-5-(1′-methoxymethoxyethyl)-2,2,4-trimethyloxazolidine-3-carboxylic acid *tert*-butyl ester

Ekkehard Lindner,* Ashraf Ghanem, Ismail Warad, Klaus Eichele,
Hermann A. Mayer and Volker Schurig

Tetrahedron: Asymmetry *14 (2003) 1045*



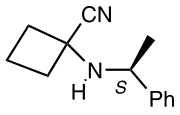
Ee >99%
$[\alpha]_D^{20} = -19.90$ (*c* 1, CH_2Cl_2)
Source of chirality: ruthenium/lipase
Absolute configuration: 2*S*

$C_{10}H_{12}O$

(*E*)-4-Phenyl-3-butene-2-ol

Molika Truong, Frédéric Lecornué and Antoine Fadel*

Tetrahedron: Asymmetry *14 (2003) 1063*



$C_{13}H_{16}N_2$

1-[(1′-Methylbenzyl)amino]cyclobutanecarbonitrile

E.e. >99% (by GC on chiral column)

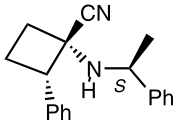
$[\alpha]_D^{20}$ −126 ($c=1$, $CHCl_3$)

Source of chirality: (*S*)-(1-phenyl)ethylamine

Absolute configuration: (1′*S*)

Molika Truong, Frédéric Lecornué and Antoine Fadel*

Tetrahedron: Asymmetry *14 (2003) 1063*



$C_{19}H_{20}N_2$

1-[(1′-Methylbenzyl)amino]-2-phenyl-cyclobutanecarbonitrile

E.e. >98% (by GC on chiral column)

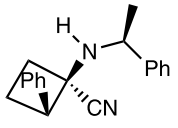
$[\alpha]_D^{20}$ −155 ($c=1$, $CHCl_3$)

Source of chirality: (*S*)-(1-phenyl)ethylamine

Absolute configuration: (1*S*,2*S*,1′*S*)

Molika Truong, Frédéric Lecornué and Antoine Fadel*

Tetrahedron: Asymmetry *14 (2003) 1063*



$C_{19}H_{20}N_2$

1-[(1′-Methylbenzyl)amino]-2-phenyl-cyclobutanecarbonitrile

E.e. >99% (by GC on chiral column)

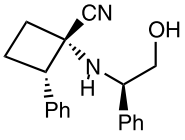
$[\alpha]_D^{20}$ −85.5 ($c=1$, $CHCl_3$)

Source of chirality: (*S*)-(1-phenyl)ethylamine

Absolute configuration: (1*R*,2*R*,1′*S*)

Molika Truong, Frédéric Lecornué and Antoine Fadel*

Tetrahedron: Asymmetry *14 (2003) 1063*



$C_{19}H_{20}N_2O$

1-[(1′-Hydroxymethylbenzyl)amino]-2-phenyl-cyclobutanecarbonitrile

E.e. >99% (by GC on chiral column)

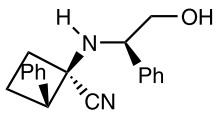
$[\alpha]_D^{20}$ −127.3 ($c=1$, $CHCl_3$)

Source of chirality: (*R*)-1-(hydroxymethyl)-benzylamine

Absolute configuration: (1*S*,2*S*,1′*R*)

Molika Truong, Frédéric Lecornué and Antoine Fadel*

Tetrahedron: Asymmetry *14 (2003) 1063*



$C_{19}H_{20}N_2O$

1-[(1′-Hydroxymethylbenzyl)amino]-2-phenyl-cyclobutanecarbonitrile

E.e. >99% (by GC on chiral column)

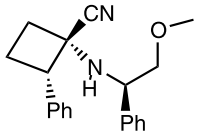
$[\alpha]_D^{20}$ −96.4 ($c = 1.27$, $CHCl_3$)

Source of chirality: (*R*)-1-(hydroxymethyl)-benzylamine

Absolute configuration: (1*R*,2*R*,1′*R*)

Molika Truong, Frédéric Lecornué and Antoine Fadel*

Tetrahedron: Asymmetry *14 (2003) 1063*



$C_{20}H_{22}N_2O$

1-[(1′-Methoxymethylbenzyl)amino]-2-phenyl-cyclobutanecarbonitrile

E.e. >98% (by GC on chiral column)

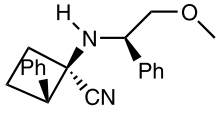
$[\alpha]_D^{20}$ −124 ($c = 1$, $CHCl_3$)

Source of chirality: (*R*)-1(methoxymethyl)-benzylamine

Absolute configuration: (1*S*,2*S*,1′*R*)

Molika Truong, Frédéric Lecornué and Antoine Fadel*

Tetrahedron: Asymmetry *14 (2003) 1063*



$C_{20}H_{22}N_2O$

1-[(1′-Methoxymethylbenzyl)amino]-2-phenyl-cyclobutanecarbonitrile

E.e. >99% (by GC on chiral column)

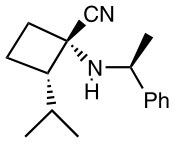
$[\alpha]_D^{20}$ −95 ($c = 0.40$, $CHCl_3$)

Source of chirality: (*R*)-1(methoxymethyl)-benzylamine

Absolute configuration: (1*R*,2*R*,1′*R*)

Molika Truong, Frédéric Lecornué and Antoine Fadel*

Tetrahedron: Asymmetry *14 (2003) 1063*



$C_{16}H_{22}N_2$

1-[(1′-Methylbenzyl)amino]-2-isopropyl-cyclobutanecarbonitrile

E.e. >99% (by GC on chiral column)

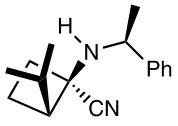
$[\alpha]_D^{20}$ −100 ($c = 1$, $CHCl_3$)

Source of chirality: (*S*)-(1-phenylethyl)amine

Absolute configuration: (1*S*,2*S*,1′*S*)

Molika Truong, Frédéric Lecornué and Antoine Fadel*

Tetrahedron: Asymmetry *14 (2003) 1063*



$C_{16}H_{22}N_2$

1-[(1′-Methylbenzyl)amino]-2-isopropyl-cyclobutanecarbonitrile

E.e. >99% (by GC on chiral column)

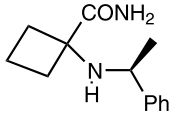
$[\alpha]_D^{20}$ −60.3 ($c=1$, $CHCl_3$)

Source of chirality: (*S*)-(1-phenylethyl)amine

Absolute configuration: (1*R*,2*R*,1′*S*)

Molika Truong, Frédéric Lecornué and Antoine Fadel*

Tetrahedron: Asymmetry *14 (2003) 1063*



$C_{13}H_{18}N_2O$

1-[(1′-Methylbenzyl)amino]-cyclobutanecarboxamide

E.e. >99% (by GC on chiral column)

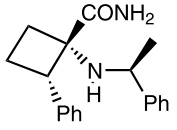
$[\alpha]_D^{20}$ −16, $[\alpha]_{365}^{20}$ −65.8 ($c=1$, $CHCl_3$)

Source of chirality: (*S*)-(1-phenylethyl)amine of precursor

Absolute configuration: (1′*S*)

Molika Truong, Frédéric Lecornué and Antoine Fadel*

Tetrahedron: Asymmetry *14 (2003) 1063*



$C_{19}H_{22}N_2O$

1-[(1′-Methylbenzyl)amino]-2-phenyl-cyclobutanecarboxamide

E.e. >99% (by GC on chiral column)

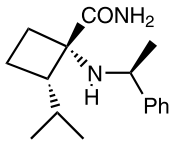
$[\alpha]_D^{20}$ +29 ($c=1$, $CHCl_3$)

Source of chirality: (*S*)-(1-phenylethyl)amine of precursor

Absolute configuration: (1*S*,2*S*,1′*S*)

Molika Truong, Frédéric Lecornué and Antoine Fadel*

Tetrahedron: Asymmetry *14 (2003) 1063*



$C_{16}H_{24}N_2O$

1-[(1′-Methylbenzyl)amino]-2-isopropylcyclobutanecarboxamide

E.e. >99% (by GC on chiral column)

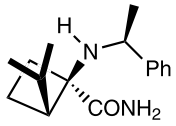
$[\alpha]_D^{20}$ +29.5 ($c=0.85$, $CHCl_3$)

Source of chirality: (*S*)-(1-phenylethyl)amine of precursor

Absolute configuration: (1*S*,2*S*,1′*S*)

Molika Truong, Frédéric Lecornué and Antoine Fadel*

Tetrahedron: Asymmetry *14 (2003) 1063*



$C_{16}H_{24}N_2O$

1-[(1′-Methylbenzyl)amino]-2-isopropyl-cyclobutanecarboxamide

E.e. >99% (by GC on chiral column)

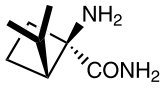
$[\alpha]_D^{20}$ −119.7 ($c=0.9$, $CHCl_3$)

Source of chirality: (*S*)-(1-phenylethyl)amine of precursor

Absolute configuration: (1*R*,2*R*,1′*S*)

Molika Truong, Frédéric Lecornué and Antoine Fadel*

Tetrahedron: Asymmetry *14 (2003) 1063*



$C_8H_{16}N_2O$

1-Amino-2-isopropyl-cyclobutanecarboxamide

E.e. >99% (by GC on chiral column)

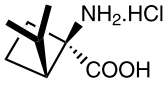
$[\alpha]_D^{20}$ −39.5 ($c=0.7$, $CHCl_3$)

Source of chirality: (*S*)-(1-phenylethyl)amine of precursor

Absolute configuration: (1*R*,2*R*)

Molika Truong, Frédéric Lecornué and Antoine Fadel*

Tetrahedron: Asymmetry *14 (2003) 1063*



$C_8H_{16}ClNO_2$

1-Amino-2-isopropyl-cyclobutanecarboxylic acid, hydrochloride

E.e. >99% (from amide precursor)

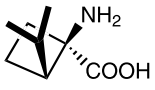
$[\alpha]_D^{20}$ −43 ($c=0.65$, H_2O), $[\alpha]_{20}^{D}$ −43.9 ($c=0.64$, MeOH)

Source of chirality: (*S*)-(1-phenylethyl)amine of precursor

Absolute configuration: (1*R*,2*R*)

Molika Truong, Frédéric Lecornué and Antoine Fadel*

Tetrahedron: Asymmetry *14 (2003) 1063*



$C_8H_{15}NO_2$

1-Amino-2-isopropylcyclobutanecarboxylic acid

E.e. >99% (from amide precursor)

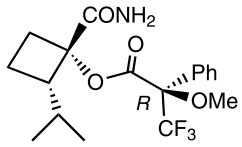
$[\alpha]_D^{20}$ −51.7 ($c=0.51$, H_2O)

Source of chirality: (*S*)-(1-phenylethyl)amine of precursor

Absolute configuration: (1*R*,2*R*)

Molika Truong, Frédéric Lecornué and Antoine Fadel*

Tetrahedron: Asymmetry *14 (2003) 1063*



$C_{18}H_{22}F_3N_2O_3$

2-Isopropyl-1-(3′,3′,3′-trifluoro-2′-methyl-2′-phenylpropionylamino)-cyclobutanecarboxamide

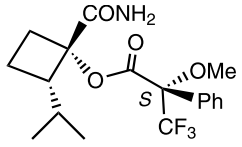
$[\alpha]_D^{20}$ +70.5 ($c = 0.6$, $CHCl_3$)

Source of chirality: (*S*)-(1-phenylethyl)amine of precursor

Absolute configuration: (1*S*,2*S*,2′*R*)

Molika Truong, Frédéric Lecornué and Antoine Fadel*

Tetrahedron: Asymmetry *14 (2003) 1063*



$C_{18}H_{22}F_3N_2O_3$

2-Isopropyl-1-(3′,3′,3′-trifluoro-2′-methyl-2′-phenylpropionylamino)cyclobutanecarboxamide

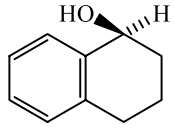
$[\alpha]_D^{20} = -47$ (c 0.4, $CHCl_3$)

Source of chirality: (*S*)-(1-phenylethyl)amine of precursor

Absolute configuration: (1*S*,2*S*,2′*S*)

Ashok K. Yadav,* Meera Manju and Pukh Raj Chhinpa

Tetrahedron: Asymmetry *14 (2003) 1079*



$C_{10}H_{12}O$

(*S*)-1,2,3,4-Tetrahydro-1-naphthol

$[\alpha]_D^{24} = -22.2$ (c 3.06, $CHCl_3$)

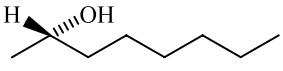
E.e. = 62%

Absolute configuration: *S*

Source of chirality: asymmetric reduction

Ashok K. Yadav,* Meera Manju and Pukh Raj Chhinpa

Tetrahedron: Asymmetry *14 (2003) 1079*



$C_8H_{18}O$

(*S*)-2-Octanol

$[\alpha]_D^{21} = -2.4$ (c 5.53, EtOH)

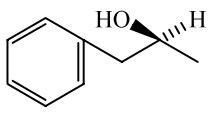
E.e. = 24%

Absolute configuration: *S*

Source of chirality: asymmetric reduction

Ashok K. Yadav,* Meera Manju and Pukh Raj Chhinpa

Tetrahedron: Asymmetry *14 (2003) 1079*



$C_9H_{12}O$

(*S*)-Phenyl-2-Propanol

$[\alpha]_D^{25} = +14.7$ (*c* 5.28, C_6H_6)

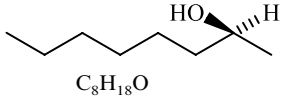
E.e. = 35%

Absolute configuration: *S*

Source of chirality: asymmetric reduction

Ashok K. Yadav,* Meera Manju and Pukh Raj Chhinpa

Tetrahedron: Asymmetry *14 (2003) 1079*



$C_8H_{18}O$

(*S*)-Octan-2-ol

$[\alpha]_D^{21} = -6.0$ (*c* 5.52, EtOH)

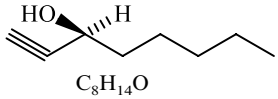
E.e. = 59%

Absolute configuration: *S*

Source of chirality: asymmetric reduction

Ashok K. Yadav,* Meera Manju and Pukh Raj Chhinpa

Tetrahedron: Asymmetry *14 (2003) 1079*



$C_8H_{14}O$

(*S*)-1-Octyn-3-ol

$[\alpha]_D^{22} = -14.4$ (*c* 0.85, Et_2O)

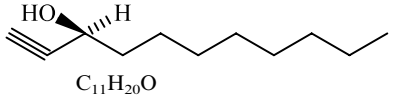
E.e. = 70%

Absolute configuration: *S*

Source of chirality: asymmetric reduction

Ashok K. Yadav,* Meera Manju and Pukh Raj Chhinpa

Tetrahedron: Asymmetry *14 (2003) 1079*



$C_{11}H_{20}O$

(*S*)-1-Undecyn-3-ol

$[\alpha]_D^{22} = -8.6$ (*c* 0.86, Et_2O)

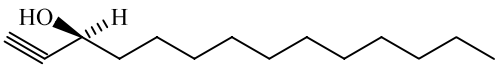
E.e. = 56%

Absolute configuration: *S*

Source of chirality: asymmetric reduction

Ashok K. Yadav,* Meera Manju and Pukh Raj Chhinpa

Tetrahedron: Asymmetry *14 (2003) 1079*



$C_{14}H_{26}O$

(*S*)-(−)-1-Tetradecyn-3-ol

$[\alpha]_D^{22} = -6.4$ (*c* 0.78, Et_2O)

E.e. = 50%

Absolute configuration: *S*

Source of chirality: asymmetric reduction