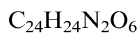
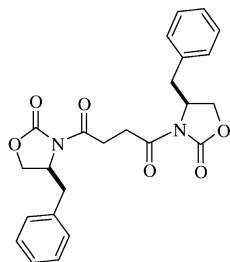


Stereochemistry abstracts

Ju-Cheun Kim, Kwang-Hyun Kim, Jae-Chul Jung and Oee-Sook Park*

Tetrahedron: Asymmetry 17 (2006) 3



1,4-Bis[4-(*S*)-benzyl-2-oxazolidin-3-yl]butane-1,4-dione

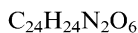
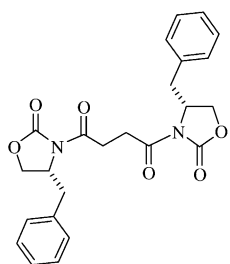
$[\alpha]_D^{22} = +103.8$ (*c* 1.0, MeOH)

Source of chirality: asymmetric synthesis

Absolute configuration: (*4S*)

Ju-Cheun Kim, Kwang-Hyun Kim, Jae-Chul Jung and Oee-Sook Park*

Tetrahedron: Asymmetry 17 (2006) 3



1,4-Bis[4-(*R*)-benzyl-2-oxazolidin-3-yl]butane-1,4-dione

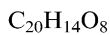
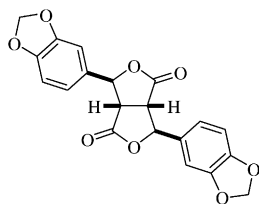
$[\alpha]_D^{22} = -104.0$ (*c* 1.0, MeOH)

Source of chirality: asymmetric synthesis

Absolute configuration: (*4R*)

Ju-Cheun Kim, Kwang-Hyun Kim, Jae-Chul Jung and Oee-Sook Park*

Tetrahedron: Asymmetry 17 (2006) 3



(*3S,6S*)-Bis[benzo(1,3)dioxol-5-yl]tetrahydrofuro[*3S,4S-c*]furan-1,4-dione

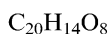
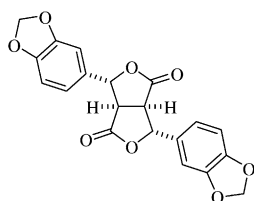
$[\alpha]_D^{22} = +69.2$ (*c* 1.0, MeOH)

Source of chirality: asymmetric synthesis

Absolute configuration: (*3S,6S;3S-c,4S-c*)

Ju-Cheun Kim, Kwang-Hyun Kim, Jae-Chul Jung and Oee-Sook Park*

Tetrahedron: Asymmetry 17 (2006) 3



(*3R,6R*)-Bis[benzo(1,3)dioxol-5-yl]tetrahydrofuro[*3R,4R-c*]furan-1,4-dione

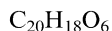
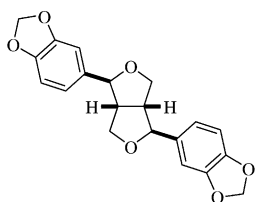
$[\alpha]_D^{22} = -70.1$ (*c* 1.0, MeOH)

Source of chirality: asymmetric synthesis

Absolute configuration: (*3R,6R;3R-c,4R-c*)

Ju-Cheun Kim, Kwang-Hyun Kim, Jae-Chul Jung and Oee-Sook Park*

Tetrahedron: Asymmetry 17 (2006) 3



(3*S*,3*aR*,4*S*,6*aR*)-5,5'-(Tetrahydro-1*H*,3*H*-furo[3,4-*c*]furan-1,4-diyl)bis-1,3-benzodioxol

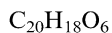
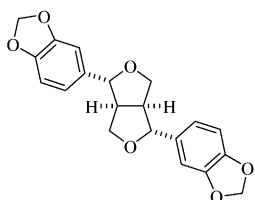
$[\alpha]_D^{22} = +68.3$ (*c* 1.0, MeOH)

Source of chirality: asymmetric synthesis

Absolute configuration: (3*S*,3*aR*,4*S*,6*aR*)

Ju-Cheun Kim, Kwang-Hyun Kim, Jae-Chul Jung and Oee-Sook Park*

Tetrahedron: Asymmetry 17 (2006) 3



(3*R*,3*aS*,4*R*,6*aS*)-5,5'-(Tetrahydro-1*H*,3*H*-furo[3,4-*c*]furan-1,4-diyl)bis-1,3-benzodioxol

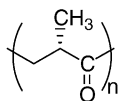
$[\alpha]_D^{22} = -68.1$ (*c* 1.0, MeOH)

Source of chirality: asymmetric synthesis

Absolute configuration: (3*R*,3*aS*,4*R*,6*aS*)

Hai-Jun Wang, Lai-Lai Wang,* Wing-Sze Lam, Wing-Yiu Yu and Albert S. C. Chan*

Tetrahedron: Asymmetry 17 (2006) 7



Poly(1-methyl-2-oxo-1,3-propanediyl)

$[\Phi]_D^{20} = +0.84$ (*c* 0.5, CH_2Cl_2)

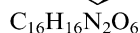
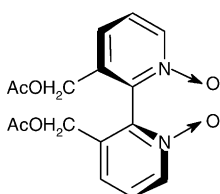
Regioregularity (h-h/h-t/t-t in %), 0/100/0

Stereoregularity (in % *l*-diads), 61%

$M_n = 4.7 \times 10^3$, $M_w/M_n = 1.7$

Claudia Sanfilippo,* Nicola D'Antona and Giovanni Nicolosi

Tetrahedron: Asymmetry 17 (2006) 12



(*aS*)-3,3'-Bis(acetoxymethyl)-2,2'-bipyridine *N,N*-dioxide

Ee = 97%

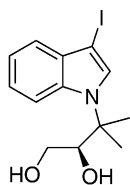
$[\alpha]_D^{25} = -203.1$ (*c* 0.25, CH_3OH)

Source of chirality: enzymatic resolution

Absolute configuration: *aS*

Darren B. Hansen, Alan S. Lewis, Steven J. Gavalas and Madeleine M. Joullie*

Tetrahedron: Asymmetry 17 (2006) 15



$C_{13}H_{16}INO_2$

(*R*)-3-(3-Iodo-1*H*-indol-1-yl)-3'-methylbutane-1',2'-diol

Ee = 91%

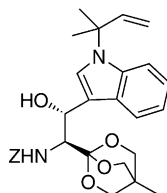
$[\alpha]_D^{20} = -3.3$ (*c* 1.0, $CHCl_3$)

Source of chirality: asymmetric synthesis

Absolute configuration: (*R*)

Darren B. Hansen, Alan S. Lewis, Steven J. Gavalas and Madeleine M. Joullie*

Tetrahedron: Asymmetry 17 (2006) 15



$C_{29}H_{34}O_6N_2$

Benzyl-(1*S*,2*R*)-2-hydroxy-1-(4''-methyl-2'',6'',7''-trioxabicyclo[2.2.2]octan-1''-yl)-2-[1-(2'-methylbut-3'-en-2'-yl)-1*H*-indol-3-yl]ethylcarbamate

Ee >95%

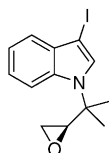
$[\alpha]_D^{20} = -27.0$ (*c* 0.9, $CHCl_3$)

Source of chirality: asymmetric synthesis

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

Darren B. Hansen, Alan S. Lewis, Steven J. Gavalas and Madeleine M. Joullie*

Tetrahedron: Asymmetry 17 (2006) 15



$C_{13}H_{14}INO$

(*R*)-3-Iodo-1-[2'-(oxiran-2'-yl)propan-2'-yl]-1*H*-indole

Ee = 91%

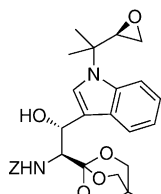
$[\alpha]_D^{20} = -3.6$ (*c* 1.0, $CHCl_3$)

Source of chirality: asymmetric synthesis

Absolute configuration: (*R*)

Darren B. Hansen, Alan S. Lewis, Steven J. Gavalas and Madeleine M. Joullie*

Tetrahedron: Asymmetry 17 (2006) 15



$C_{29}H_{34}N_2O_7$

Benzyl-(1*S*,2*R*)-2-hydroxy-1-(4''-methyl-2'',6'',7''-trioxabicyclo[2.2.2]octan-1''-yl)-2-[1'-(2'-((*R*)-oxiran-2'-yl)propan-2'-yl)-1*H*-indol-3-yl]ethylcarbamate

Ee >95%

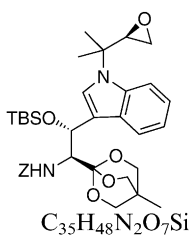
$[\alpha]_D^{20} = -28.0$ (*c* 1.0, $CHCl_3$)

Source of chirality: asymmetric synthesis

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

Darren B. Hansen, Alan S. Lewis, Steven J. Gavalas and Madeleine M. Joullie*

Tetrahedron: Asymmetry 17 (2006) 15



Benzyl-(1*S*,2*R*)-2-(*tert*-butyldimethylsilyloxy)-1-(4''-methyl-2'',6'',7''-trioxabicyclo-[2.2.2]octan-1''-yl)-2-[1'-(2'-((*R*)-oxiran-2'-yl)propan-2'-yl)-1*H*-indol-3-yl]ethylcarbamate

Ee >95%

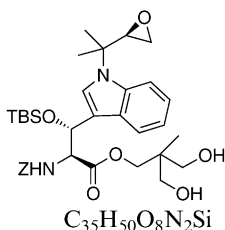
$[\alpha]_D^{20} = -7.6$ (*c* 1.0, $CHCl_3$)

Source of chirality: asymmetric synthesis

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

Darren B. Hansen, Alan S. Lewis, Steven J. Gavalas and Madeleine M. Joullie*

Tetrahedron: Asymmetry 17 (2006) 15



(2*S*,3*R*)-3''-Hydroxy-2''-(hydroxymethyl)-2''-methylpropyl-2-(benzyloxycarbonylamino)-3-(*tert*-butyldimethylsilyloxy)-3-[1'-(2'-((*R*)-oxiran-2'-yl)propan-2'-yl)-1*H*-indol-3-yl]propanoate

Ee >95%

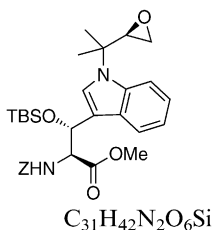
$[\alpha]_D^{20} = -5.5$ (*c* 1.0, $CHCl_3$)

Source of chirality: asymmetric synthesis

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

Darren B. Hansen, Alan S. Lewis, Steven J. Gavalas and Madeleine M. Joullie*

Tetrahedron: Asymmetry 17 (2006) 15



(2*S*,3*R*)-Methyl 2-(benzyloxycarbonylamino)-3-(*tert*-butyldimethylsilyloxy)-3-[1'-(2'-((*R*)-oxiran-2'-yl)propan-2'-yl)-1*H*-indol-3-yl]propanoate

Ee >95%

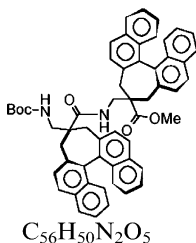
$[\alpha]_D^{20} = -8.2$ (*c* 2.1, $CHCl_3$)

Source of chirality: asymmetric synthesis

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

Anne Gaucher, Laurence Dutot, Olivier Barbeau, Michel Wakselman, Jean-Paul Mazaleyrat,* Cristina Peggion, Simona Oancea, Fernando Formaggio, Marco Crisma and Claudio Toniolo

Tetrahedron: Asymmetry 17 (2006) 30



Boc-[(*R*)-β^{2,2}-HBin]₂-OMe

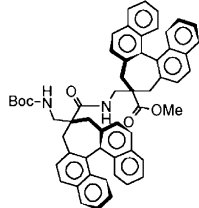
$[\alpha]_{436}^{25} = -164$ (*c* 0.16, CH_2Cl_2)

Absolute configuration: *RR*

(assigned by comparison)

Anne Gaucher, Laurence Dutot, Olivier Barbeau, Michel Wakselman,
Jean-Paul Mazaleyrat,* Cristina Peggion, Simona Oancea,
Fernando Formaggio, Marco Crisma and Claudio Toniolo

Tetrahedron: Asymmetry 17 (2006) 30



C₅₆H₅₀N₂O₅

Boc-[(*S*)-β^{2,2'}-HBin]₂-OMe

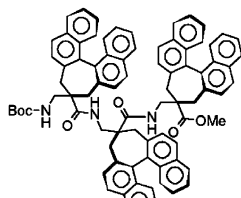
$[\alpha]_{436}^{25} = +154$ (*c* 0.11, CH₂Cl₂)

Absolute configuration: *SS*

(assigned by comparison)

Anne Gaucher, Laurence Dutot, Olivier Barbeau, Michel Wakselman,
Jean-Paul Mazaleyrat,* Cristina Peggion, Simona Oancea,
Fernando Formaggio, Marco Crisma and Claudio Toniolo

Tetrahedron: Asymmetry 17 (2006) 30



C₈₁H₆₉N₃O₆

Boc-[(*R*)-β^{2,2'}-HBin]₃-OMe

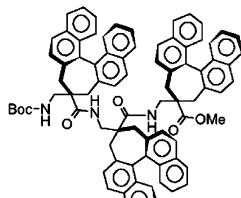
$[\alpha]_{436}^{25} = +47$ (*c* 0.13, CH₂Cl₂)

Absolute configuration: *RRR*

(assigned by comparison)

Anne Gaucher, Laurence Dutot, Olivier Barbeau, Michel Wakselman,
Jean-Paul Mazaleyrat,* Cristina Peggion, Simona Oancea,
Fernando Formaggio, Marco Crisma and Claudio Toniolo

Tetrahedron: Asymmetry 17 (2006) 30



C₈₁H₆₉N₃O₆

Boc-[(*S*)-β^{2,2'}-HBin]₃-OMe

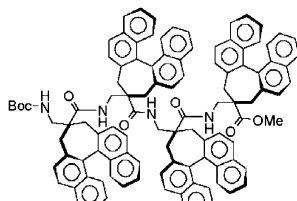
$[\alpha]_{436}^{25} = -55$ (*c* 0.10, CH₂Cl₂)

Absolute configuration: *SSS*

(assigned by comparison)

Anne Gaucher, Laurence Dutot, Olivier Barbeau, Michel Wakselman,
Jean-Paul Mazaleyrat,* Cristina Peggion, Simona Oancea,
Fernando Formaggio, Marco Crisma and Claudio Toniolo

Tetrahedron: Asymmetry 17 (2006) 30



C₁₀₆H₈₈N₄O₇

Boc-[(*R*)-β^{2,2'}-HBin]₄-OMe

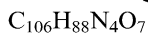
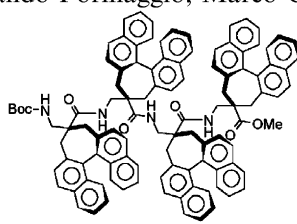
$[\alpha]_{436}^{25} = +52$ (*c* 0.12, CH₂Cl₂)

Absolute configuration: *RRRR*

(assigned by comparison)

Anne Gaucher, Laurence Dutot, Olivier Barbeau, Michel Wakselman,
Jean-Paul Mazaleyrat,* Cristina Peggion, Simona Oancea,
Fernando Formaggio, Marco Crisma and Claudio Toniolo

Tetrahedron: Asymmetry 17 (2006) 30



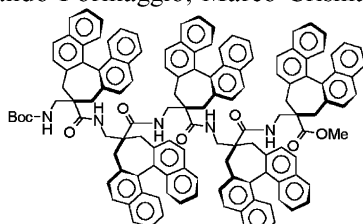
Boc-[(*S*)- $\beta^{2,2}$ -HBin]₄-OMe

$$[\alpha]_{436}^{25} = -64 \text{ (} c \text{ 0.10, CH}_2\text{Cl}_2\text{)}$$

Absolute configuration: *SSSS*
(assigned by comparison)

Anne Gaucher, Laurence Dutot, Olivier Barbeau, Michel Wakselman,
Jean-Paul Mazaleyrat,* Cristina Peggion, Simona Oancea,
Fernando Formaggio, Marco Crisma and Claudio Toniolo

Tetrahedron: Asymmetry 17 (2006) 30



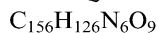
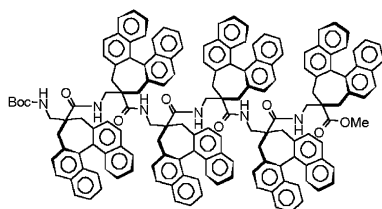
Boc-[(*R*)- $\beta^{2,2}$ -HBin]₅-OMe

$$[\alpha]_{436}^{25} = +82 \text{ (} c \text{ 0.26, CH}_2\text{Cl}_2\text{)}$$

Absolute configuration: *RRRRR*
(assigned by comparison)

Anne Gaucher, Laurence Dutot, Olivier Barbeau, Michel Wakselman,
Jean-Paul Mazaleyrat,* Cristina Peggion, Simona Oancea,
Fernando Formaggio, Marco Crisma and Claudio Toniolo

Tetrahedron: Asymmetry 17 (2006) 30



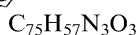
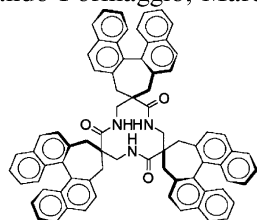
Boc-[(*R*)- $\beta^{2,2}$ -HBin]₆-OMe

$$[\alpha]_{436}^{25} = +75 \text{ (} c \text{ 0.13, CH}_2\text{Cl}_2\text{)}$$

Absolute configuration: *RRRRRR*
(assigned by comparison)

Anne Gaucher, Laurence Dutot, Olivier Barbeau, Michel Wakselman,
Jean-Paul Mazaleyrat,* Cristina Peggion, Simona Oancea,
Fernando Formaggio, Marco Crisma and Claudio Toniolo

Tetrahedron: Asymmetry 17 (2006) 30



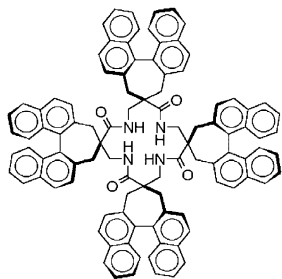
c[(*R*)- $\beta^{2,2}$ -HBin]₃

$$[\alpha]_{436}^{25} = -158 \text{ (} c \text{ 0.20, CH}_2\text{Cl}_2\text{)}$$

Absolute configuration: *RRR*
(assigned by comparison)

Anne Gaucher, Laurence Dutot, Olivier Barbeau, Michel Wakselman,
Jean-Paul Mazaleyrat,* Cristina Peggion, Simona Oancea,
Fernando Formaggio, Marco Crisma and Claudio Toniolo

Tetrahedron: Asymmetry 17 (2006) 30

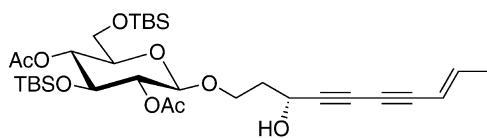


$$[\alpha]_{436}^{25} = -249 \text{ (} c \text{ 0.10, CH}_2\text{Cl}_2\text{)}$$

Absolute configuration: SSSS
(assigned by comparison)

Benjamin W. Gung,* Ryan M. Fox, Robert Falconer
and Daniel Shissler

Tetrahedron: Asymmetry 17 (2006) 40



(8'*E*)-(3'*R*)-3'-Hydroxy-8'-decen-4',6'-diyn-1-yl 3,6-*O*-di(*tert*-butyldimethylsilyl)-2,4-*O*-di(acetyl)-*D*-glucopyranoside

$$E_e = >98\%$$

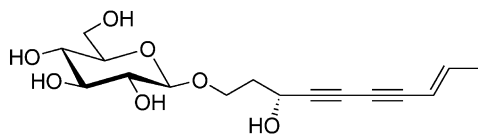
$$[\alpha]_D = -28.6 \text{ (} c \text{ 0.4, MeOH)}$$

Source of chirality: *D*-glucose and enzymatic resolution

Absolute configuration on side chain: 3*R*

Benjamin W. Gung,* Ryan M. Fox, Robert Falconer
and Daniel Shissler

Tetrahedron: Asymmetry 17 (2006) 40



Bidensyneoside A₁

$$E_e = >98\%$$

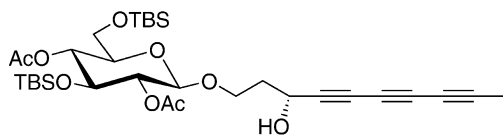
$$[\alpha]_D = -47 \text{ (} c \text{ 0.21, MeOH)}$$

Source of chirality: *D*-glucose and enzymatic resolution

Absolute configuration on side chain: 3*R*

Benjamin W. Gung,* Ryan M. Fox, Robert Falconer
and Daniel Shissler

Tetrahedron: Asymmetry 17 (2006) 40



(3'*R*)-3'-Hydroxy-4',6',8'-decatriyn-1-yl 3,6-*O*-di(*tert*-butyldimethylsilyl)-2,4-*O*-di(acetyl)-*D*-glucopyranoside

$$E_e = >98\%$$

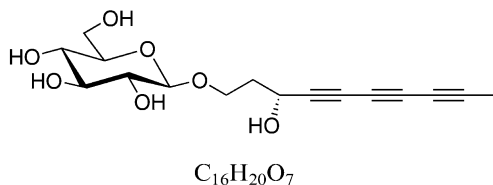
$$[\alpha]_D = -13.8 \text{ (} c \text{ 0.6, MeOH)}$$

Source of chirality: *D*-glucose and enzymatic resolution

Absolute configuration on side chain: 3*R*

Benjamin W. Gung,* Ryan M. Fox, Robert Falconer
and Daniel Shissler

Tetrahedron: Asymmetry 17 (2006) 40



Bidensyneoside B

Ee = >98%

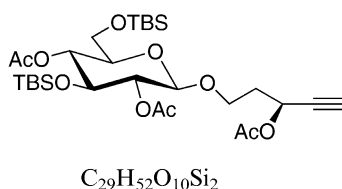
$[\alpha]_D = -60$ (c 0.07, MeOH)

Source of chirality: D-glucose and enzymatic
resolution

Absolute configuration on side chain: 3R

Benjamin W. Gung,* Ryan M. Fox, Robert Falconer
and Daniel Shissler

Tetrahedron: Asymmetry 17 (2006) 40



(3'S)-3'-Acetoxy-4'-pentyn-1-yl 2,4-O-di(acetyl)-3,6-O-di(*tert*-butyldimethylsilyl)-D-glucopyranoside

Ee = >98%

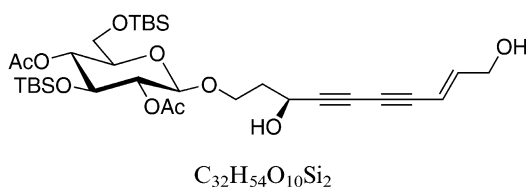
$[\alpha]_D = -26.2$ (c 1.4, MeOH)

Source of chirality: D-glucose and enzymatic
resolution

Absolute configuration on side chain: 3S

Benjamin W. Gung,* Ryan M. Fox, Robert Falconer
and Daniel Shissler

Tetrahedron: Asymmetry 17 (2006) 40



(3'S)-3,6-O-Di(*tert*-butyldimethylsilyl)-2,4-O-di(acetyl) bidensyneoside C

Ee = >98%

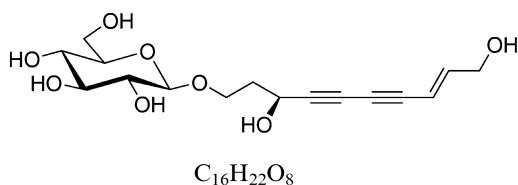
$[\alpha]_D = +18$ (c 1.7, MeOH)

Source of chirality: D-glucose and enzymatic
resolution

Absolute configuration on side chain: 3S

Benjamin W. Gung,* Ryan M. Fox, Robert Falconer
and Daniel Shissler

Tetrahedron: Asymmetry 17 (2006) 40



Bidensyneoside C with an inverted chiral center on the side chain

Ee = >98%

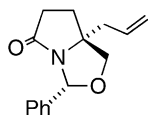
$[\alpha]_D = +13$ (c 0.2, MeOH)

Source of chirality: D-glucose and enzymatic
resolution

Absolute configuration on side chain: 3S

Nicole Langlois,* Bao Khanh Le Nguyen, Pascal Retailleau,
Céline Tarnus and Emmanuel Salomon

Tetrahedron: Asymmetry 17 (2006) 53



$C_{15}H_{19}NO_2$

(2*R*,5*R*)-5-Allyl-2-phenyl-3-oxa-1-azabicyclo[3.3.0]octan-8-one

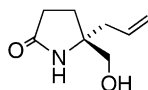
$[\alpha]_D^{23} = +193$ (*c* 1.15, $CHCl_3$)

Source of chirality: (*S*)-pyroglutaminol

Absolute configuration: (2*R*,5*R*)

Nicole Langlois,* Bao Khanh Le Nguyen, Pascal Retailleau,
Céline Tarnus and Emmanuel Salomon

Tetrahedron: Asymmetry 17 (2006) 53



$C_8H_{13}NO_2$

(5*R*)-5-Allyl-5-hydroxymethyl-pyrrolidin-2-one

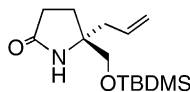
$[\alpha]_D^{23} = +18$ (*c* 1.8, CH_3OH)

Source of chirality: (*S*)-pyroglutaminol

Absolute configuration: (5*R*)

Nicole Langlois,* Bao Khanh Le Nguyen, Pascal Retailleau,
Céline Tarnus and Emmanuel Salomon

Tetrahedron: Asymmetry 17 (2006) 53



$C_{14}H_{27}NO_2Si$

(5*R*)-5-Allyl-5-(*tert*-butyldimethylsilyloxymethyl)-pyrrolidin-2-one

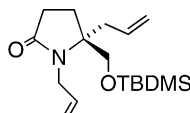
$[\alpha]_D^{23} = +38$ (*c* 1.98, $CHCl_3$)

Source of chirality: (*S*)-pyroglutaminol

Absolute configuration: (5*R*)

Nicole Langlois,* Bao Khanh Le Nguyen, Pascal Retailleau,
Céline Tarnus and Emmanuel Salomon

Tetrahedron: Asymmetry 17 (2006) 53



$C_{17}H_{31}NO_2Si$

(5*R*)-1,5-Diallyl-5-(*tert*-butyldimethylsilyloxymethyl)-pyrrolidin-2-one

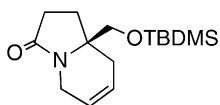
$[\alpha]_D^{23} = +35$ (*c* 0.60, $CHCl_3$)

Source of chirality: (*S*)-pyroglutaminol

Absolute configuration: (5*R*)

Nicole Langlois,* Bao Khanh Le Nguyen, Pascal Retailleau,
Céline Tarnus and Emmanuel Salomon

Tetrahedron: Asymmetry 17 (2006) 53



$C_{15}H_{27}NO_2Si$

(8aR)-tert-Butyldimethylsilyloxymethyl-1,5,8,8a-tetrahydro-2H-indolizin-3-one

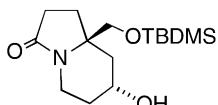
$$[\alpha]_D^{23} = -27 \text{ (} c \text{ 1.37, CHCl}_3\text{)}$$

Source of chirality: (S)-pyroglutaminol

Absolute configuration: (8aR)

Nicole Langlois,* Bao Khanh Le Nguyen, Pascal Retailleau,
Céline Tarnus and Emmanuel Salomon

Tetrahedron: Asymmetry 17 (2006) 53



$C_{15}H_{29}NO_4Si$

(6R,7S,8aR)-8a-tert-Butyldimethylsilyloxymethyl-6,7-dihydroxy-indolizidin-3-one

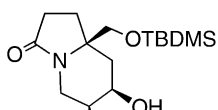
$$[\alpha]_D^{23} = -6.7 \text{ (} c \text{ 0.65, CHCl}_3\text{)}$$

Source of chirality: (S)-pyroglutaminol

Absolute configuration: (6R,7S,8aR)

Nicole Langlois,* Bao Khanh Le Nguyen, Pascal Retailleau,
Céline Tarnus and Emmanuel Salomon

Tetrahedron: Asymmetry 17 (2006) 53



$C_{15}H_{29}NO_4Si$

(6S,7R,8aR)-8a-tert-Butyldimethylsilyloxymethyl-6,7-dihydroxy-indolizidin-3-one

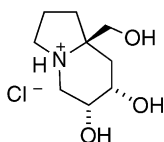
$$[\alpha]_D^{23} = -9.5 \text{ (} c \text{ 0.78, CHCl}_3\text{)}$$

Source of chirality: (S)-pyroglutaminol

Absolute configuration: (6S,7R,8aR)

Nicole Langlois,* Bao Khanh Le Nguyen, Pascal Retailleau,
Céline Tarnus and Emmanuel Salomon

Tetrahedron: Asymmetry 17 (2006) 53



$C_9H_{18}ClNO_4$

(6R,7S,8aR)-6,7-Dihydroxy-8a-hydroxymethyl-indolizidine hydrochloride

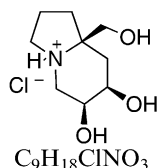
$$[\alpha]_D^{23} = -10 \text{ (} c \text{ 2.95, H}_2\text{O)}$$

Source of chirality: (S)-pyroglutaminol

Absolute configuration: (6R,7S,8aR)

Nicole Langlois,* Bao Khanh Le Nguyen, Pascal Retailleau,
Céline Tarnus and Emmanuel Salomon

Tetrahedron: Asymmetry 17 (2006) 53



(6*S*,7*R*,8*aR*)-6,7-Dihydroxy-8*a*-hydroxymethyl-indolizidine hydrochloride

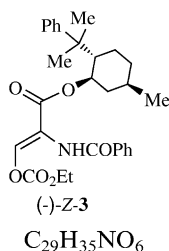
$$[\alpha]_D^{23} = +9.5 (c 0.85, H_2O)$$

Source of chirality: (*S*)-pyroglutaminol

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

Francesco Caputo, Francesca Clerici, Maria Luisa Gelmi,
Sara Pellegrino* and Tullio Pilati

Tetrahedron: Asymmetry 17 (2006) 61



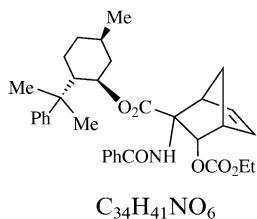
(-)-Phenylmenthyl (*Z*)-2-benzoylamino-3-ethoxycarbonyloxy-acrylate

$$[\alpha]_D^{25} = -11.2 (c 1, CHCl_3)$$

Source of chirality: (-)-phenylmenthol

Francesco Caputo, Francesca Clerici, Maria Luisa Gelmi,
Sara Pellegrino* and Tullio Pilati

Tetrahedron: Asymmetry 17 (2006) 61



(-)-Phenylmenthyl 2-benzoylamino-3-ethoxycarbonyloxy-bicyclo[2.2.1]hept-5-ene-2-carboxylate

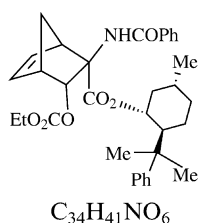
$$[\alpha]_D^{25} = -29 (c 1, CHCl_3)$$

Source of chirality: asymmetric synthesis

Absolute configuration: (1*R*,2*R*,3*S*,4*R*)

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Sara Pellegrino* and Tullio Pilati

Tetrahedron: Asymmetry 17 (2006) 61



(-)-Phenylmenthyl 2-benzoylamino-3-ethoxycarbonyloxy-bicyclo[2.2.1]hept-5-ene-2-carboxylate

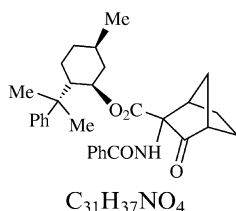
$$[\alpha]_D^{25} = -20 (c 1, CHCl_3)$$

Source of chirality: asymmetric synthesis

Absolute configuration: (1*R*,2*R*,3*S*,4*S*)

Francesco Caputo, Francesca Clerici, Maria Luisa Gelmi,
Sara Pellegrino* and Tullio Pilati

Tetrahedron: Asymmetry 17 (2006) 61



(-)-Phenylmethyl 2-benzoylamino-3-oxo-bicyclo[2.2.1]heptane-2-carboxylate

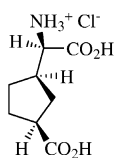
$$[\alpha]_D^{25} = +16 (c 1, CHCl_3)$$

Source of chirality: asymmetric synthesis

Absolute configuration: (1*R*,2*R*,4*S*)

Francesco Caputo, Francesca Clerici, Maria Luisa Gelmi,
Sara Pellegrino* and Tullio Pilati

Tetrahedron: Asymmetry 17 (2006) 61



(-)-3-(Amino-carboxy-methyl)-cyclopentanecarboxylic acid hydrochloride

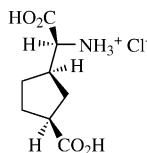
$$[\alpha]_D^{25} = -5 (c 1, H_2O)$$

Source of chirality: asymmetric synthesis

Absolute configuration: (1*S*,3*R*,1'*R*)

Francesco Caputo, Francesca Clerici, Maria Luisa Gelmi,
Sara Pellegrino* and Tullio Pilati

Tetrahedron: Asymmetry 17 (2006) 61



(+)-3-(Amino-carboxy-methyl)-cyclopentanecarboxylic acid hydrochloride

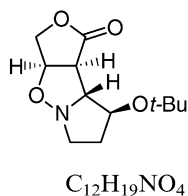
$$[\alpha]_D^{25} = +9 (c 1, H_2O)$$

Source of chirality: asymmetric synthesis

Absolute configuration: (1*S*,3*R*,1'*S*)

Sebastian Stecko, Konrad Pańniczek, Margarita Jurczak,
Zofia Urbańczyk-Lipkowska and Marek Chmielewski*

Tetrahedron: Asymmetry 17 (2006) 68



(1*aR*,4*aS*,4*bR*,5*S*)-5-*tert*-Butoxyhexahydrofuro[3,4-*d*]pyrrolo[1,2-*b*]isoxazol-4-(3*H*)-one

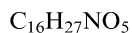
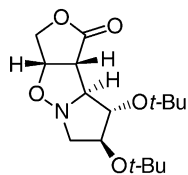
$$[\alpha]_D^{25} = -3.5 (c 0.5, CH_2Cl_2)$$

Source of chirality: asymmetric synthesis

Absolute configuration: 1*aR*,4*aS*,4*bR*,5*S*

Sebastian Stecko, Konrad Pańniczek, Margarita Jurczak,
Zofia Urbańczyk-Lipkowska and Marek Chmielewski*

Tetrahedron: Asymmetry 17 (2006) 68



(1a*S*,4a*R*,4b*S*,5*S*,6*S*)-5,6-Di-*tert*-butoxy-hexahydrofuro[3,4-*d*]pyrrolo[1,2-*b*]isoxazol-4(3*H*)-one

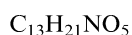
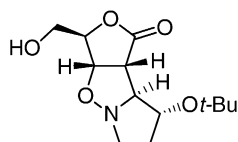
$$[\alpha]_D^{25} = +28.1 (c 0.5, CH_2Cl_2)$$

Source of chirality: asymmetric synthesis

Absolute configuration: 1a*S*,4a*R*,4b*S*,5*S*,6*S*

Sebastian Stecko, Konrad Pańniczek, Margarita Jurczak,
Zofia Urbańczyk-Lipkowska and Marek Chmielewski*

Tetrahedron: Asymmetry 17 (2006) 68



(1a*S*,2*R*,4a*R*,4b*S*,5*R*)-5-*tert*-Butoxy-2-hydroxymethyl-hexahydrofuro[3,4-*d*]pyrrolo[1,2-*b*]isoxazol-4(3*H*)-one

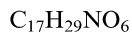
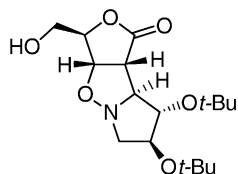
$$[\alpha]_D^{25} = +39.0 (c 0.6, CH_2Cl_2)$$

Source of chirality: asymmetric synthesis

Absolute configuration: 1a*S*,2*R*,4a*R*,4b*S*,5*R*

Sebastian Stecko, Konrad Pańniczek, Margarita Jurczak,
Zofia Urbańczyk-Lipkowska and Marek Chmielewski*

Tetrahedron: Asymmetry 17 (2006) 68



(1a*S*,2*R*,4a*R*,4b*S*,5*S*,6*S*)-2-Hydroxymethyl-5,6-di-*tert*-butoxy-hexahydrofuro[3,4-*d*]pyrrolo[1,2-*b*]isoxazol-2(3*H*)-one

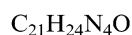
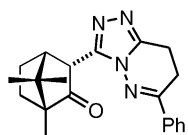
$$[\alpha]_D^{25} = +22.7 (c 1.0, CH_2Cl_2)$$

Source of chirality: asymmetric synthesis

Absolute configuration: 1a*S*,2*R*,4a*R*,4b*S*,5*S*,6*S*

Uroš Grošelj, David Bevk, Renata Jakše, Anton Meden,
Branko Stanovnik and Jurij Svetec*

Tetrahedron: Asymmetry 17 (2006) 79



(1*R*,3*R*,4*R*)-3-(7,8-Dihydro-6-phenyl[1,2,4]triazolo[4,3-*b*]pyridazin-3-yl)-1,7,7-trimethylbicyclo[2.2.1]heptan-2-one

De = 100%

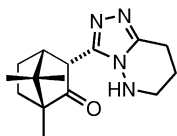
$$[\alpha]_D^{21} = +80.2 (c 0.26, CH_2Cl_2)$$

Source of chirality: natural (1*R*)-(+)-camphor

Absolute configuration: (1*R*,3*R*,4*R*)

Uroš Grošelj, David Bevk, Renata Jakše, Anton Meden,
Branko Stanovnik and Jurij Svete*

Tetrahedron: Asymmetry 17 (2006) 79



C₁₅H₂₂N₄O

(1*R*,3*R*,4*R*)-3-(5,6,7,8-Tetrahydro[1,2,4]triazolo[4,3-*b*]pyridazin-3-yl)-1,7,7-trimethylbicyclo[2.2.1]heptan-2-one

De = 92%

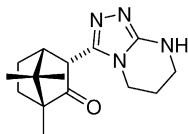
[α]_D²² = -85.8 (*c* 0.23, CHCl₃)

Source of chirality: natural (1*R*)-(+)-camphor

Absolute configuration: (1*R*,3*R*,4*R*)

Uroš Grošelj, David Bevk, Renata Jakše, Anton Meden,
Branko Stanovnik and Jurij Svete*

Tetrahedron: Asymmetry 17 (2006) 79



C₁₅H₂₂N₄O

(1*R*,3*R*,4*R*)-3-(5,6,7,8-Tetrahydro[1,2,4]triazolo[4,3-*a*]pyrimidin-3-yl)-1,7,7-trimethylbicyclo[2.2.1]heptan-2-one

De = 70%

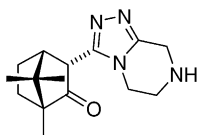
[α]_D²¹ = +98.4 (*c* 0.25, CH₂Cl₂)

Source of chirality: natural (1*R*)-(+)-camphor

Absolute configuration: (1*R*,3*R*,4*R*)

Uroš Grošelj, David Bevk, Renata Jakše, Anton Meden,
Branko Stanovnik and Jurij Svete*

Tetrahedron: Asymmetry 17 (2006) 79



C₁₅H₂₂N₄O

(1*R*,3*R*,4*R*)-3-(5,6,7,8-Tetrahydro[1,2,4]triazolo[4,3-*a*]pyrazin-3-yl)-1,7,7-trimethylbicyclo[2.2.1]heptan-2-one

De = 68%

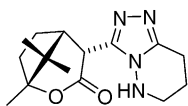
[α]_D²² = +81.4 (*c* 0.27, CH₂Cl₂)

Source of chirality: natural (1*R*)-(+)-camphor

Absolute configuration: (1*R*,3*R*,4*R*)

Uroš Grošelj, David Bevk, Renata Jakše, Anton Meden,
Branko Stanovnik and Jurij Svete*

Tetrahedron: Asymmetry 17 (2006) 79



C₁₅H₂₂N₄O₂

(1*R*,4*R*,5*R*)-4-(5,6,7,8-Tetrahydro[1,2,4]triazolo[4,3-*b*]pyridazin-3-yl)-1,8,8-trimethyl-2-oxabicyclo[3.2.1]octan-3-one

De = 84%

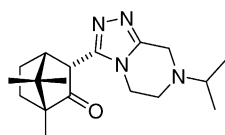
[α]_D²⁸ = -114.2 (*c* 0.25, CHCl₃)

Source of chirality: natural (1*R*)-(+)-camphor

Absolute configuration: (1*R*,4*R*,5*R*)

Uroš Grošelj, David Bevk, Renata Jakše, Anton Meden,
Branko Stanovnik and Jurij Svete*

Tetrahedron: Asymmetry 17 (2006) 79



$C_{18}H_{28}N_4O$

(1*R*,3*R*,4*R*)-3-(7-Isopropyl-5,6,7,8-tetrahydro[1,2,4]triazolo[4,3-*a*]pyrazin-3-yl)-1,7,7-trimethylbicyclo[2.2.1]heptan-2-one

De = 56%

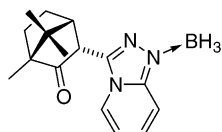
$[\alpha]_D^{21} = +86.7$ (*c* 0.31, CH_2Cl_2)

Source of chirality: natural (1*R*)-(+)-camphor

Absolute configuration: (1*R*,3*R*,4*R*)

Uroš Grošelj, David Bevk, Renata Jakše, Anton Meden,
Branko Stanovnik and Jurij Svete*

Tetrahedron: Asymmetry 17 (2006) 79



$C_{16}H_{22}BN_3O$

(1*R*,3*R*,4*R*)-3-([1,2,4]Triazolo[4,3-*a*]pyridin-3-yl)-1,7,7-trimethylbicyclo[2.2.1]heptan-2-one-1'-borane

De = 100%

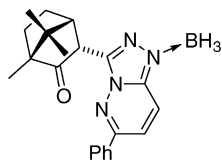
$[\alpha]_D^{22} = -150$ (*c* 0.30, $CHCl_3$)

Source of chirality: natural (1*R*)-(+)-camphor

Absolute configuration: (1*R*,3*R*,4*R*)

Uroš Grošelj, David Bevk, Renata Jakše, Anton Meden,
Branko Stanovnik and Jurij Svete*

Tetrahedron: Asymmetry 17 (2006) 79



$C_{21}H_{25}BN_4O$

(1*R*,3*R*,4*R*)-3-(6-Phenyl[1,2,4]triazolo[4,3-*b*]pyridazin-3-yl)-1,7,7-trimethylbicyclo[2.2.1]heptan-2-one-1'-borane

De = 96%

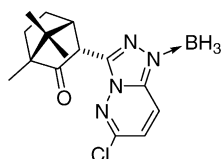
$[\alpha]_D^{21} = +24.0$ (*c* 0.10, $CHCl_3$)

Source of chirality: natural (1*R*)-(+)-camphor

Absolute configuration: (1*R*,3*R*,4*R*)

Uroš Grošelj, David Bevk, Renata Jakše, Anton Meden,
Branko Stanovnik and Jurij Svete*

Tetrahedron: Asymmetry 17 (2006) 79



$C_{15}H_{20}BClN_4O$

(1*R*,3*R*,4*R*)-3-(6-Chloro[1,2,4]triazolo[4,3-*b*]pyridazin-3-yl)-1,7,7-trimethylbicyclo[2.2.1]heptan-2-one-1'-borane

De = 100%

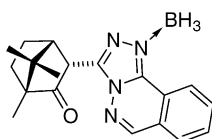
$[\alpha]_D^{22} = +27.0$ (*c* 0.30, $CHCl_3$)

Source of chirality: natural (1*R*)-(+)-camphor

Absolute configuration: (1*R*,3*R*,4*R*)

Uroš Grošelj, David Bevk, Renata Jakše, Anton Meden,
Branko Stanovnik and Jurij Svete*

Tetrahedron: Asymmetry 17 (2006) 79



$C_{19}H_{23}BN_4O$

(1*R*,3*R*,4*R*)-3-([1,2,4]Triazolo[3,4-*a*]phthalazin-3-yl)-1,7,7-trimethylbicyclo[2.2.1]heptan-2-one-1'-borane

De = 100%

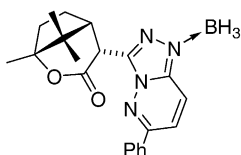
$[\alpha]_D^{21} = +29.8$ (*c* 0.24, $CHCl_3$)

Source of chirality: natural (1*R*)-(+)-camphor

Absolute configuration: (1*R*,3*R*,4*R*)

Uroš Grošelj, David Bevk, Renata Jakše, Anton Meden,
Branko Stanovnik and Jurij Svete*

Tetrahedron: Asymmetry 17 (2006) 79



$C_{21}H_{25}BN_4O_2$

(1*R*,4*R*,5*R*)-4-(6-Phenyl[1,2,4]triazolo[4,3-*b*]pyridazin-3-yl)-1,8,8-trimethyl-2-oxabicyclo[3.2.1]octan-3-one-1'-borane

De = 100%

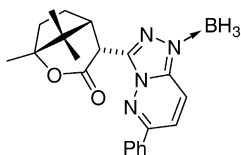
$[\alpha]_D^{22} = -38.2$ (*c* 0.22, CH_2Cl_2)

Source of chirality: natural (1*R*)-(+)-camphor

Absolute configuration: (1*R*,4*R*,5*R*)

Uroš Grošelj, David Bevk, Renata Jakše, Anton Meden,
Branko Stanovnik and Jurij Svete*

Tetrahedron: Asymmetry 17 (2006) 79



$C_{15}H_{20}BClN_4O_2$

(1*R*,4*R*,5*R*)-4-(6-Chloro[1,2,4]triazolo[4,3-*b*]pyridazin-3-yl)-1,8,8-trimethyl-2-oxabicyclo[3.2.1]octan-3-one-1'-borane

De = 100%

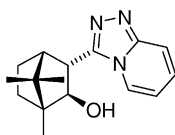
$[\alpha]_D^{21} = -44.6$ (*c* 0.24, CH_2Cl_2)

Source of chirality: natural (1*R*)-(+)-camphor

Absolute configuration: (1*R*,4*R*,5*R*)

Uroš Grošelj, David Bevk, Renata Jakše, Anton Meden,
Branko Stanovnik and Jurij Svete*

Tetrahedron: Asymmetry 17 (2006) 79



$C_{16}H_{21}N_3O$

(1*R*,2*R*,3*R*,4*R*)-3-([1,2,4]Triazolo[4,3-*a*]pyridin-3-yl)-1,7,7-trimethylbicyclo[2.2.1]heptan-2-ol

De = 100%

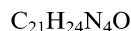
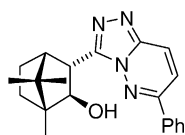
$[\alpha]_D^{21} = +126.5$ (*c* 0.16, $CHCl_3$ -MeOH, 1:5)

Source of chirality: natural (1*R*)-(+)-camphor

Absolute configuration: (1*R*,2*R*,3*R*,4*R*)

Uroš Grošelj, David Bevk, Renata Jakše, Anton Meden,
Branko Stanovnik and Jurij Svete*

Tetrahedron: Asymmetry 17 (2006) 79



(1*R*,2*R*,3*R*,4*R*)-3-(6-Phenyl[1,2,4]triazolo[4,3-*b*]pyridazin-3-yl)-1,7,7-trimethylbicyclo[2.2.1]heptan-2-ol

De = 100%

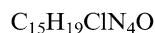
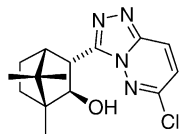
$[\alpha]_D^{21} = +71.8$ (*c* 0.30, $CHCl_3$)

Source of chirality: natural (1*R*)-(+)-camphor

Absolute configuration: (1*R*,2*R*,3*R*,4*R*)

Uroš Grošelj, David Bevk, Renata Jakše, Anton Meden,
Branko Stanovnik and Jurij Svete*

Tetrahedron: Asymmetry 17 (2006) 79



(1*R*,2*R*,3*R*,4*R*)-3-(6-Chloro[1,2,4]triazolo[4,3-*b*]pyridazin-3-yl)-1,7,7-trimethylbicyclo[2.2.1]heptan-2-ol

De = 100%

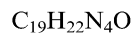
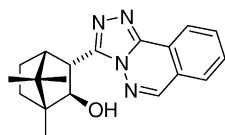
$[\alpha]_D^{21} = +120.5$ (*c* 0.22, $CHCl_3$)

Source of chirality: natural (1*R*)-(+)-camphor

Absolute configuration: (1*R*,2*R*,3*R*,4*R*)

Uroš Grošelj, David Bevk, Renata Jakše, Anton Meden,
Branko Stanovnik and Jurij Svete*

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(1*R*,2*R*,3*R*,4*R*)-3-([1,2,4]Triazolo[3,4-*a*]phthalazin-3-yl)-1,7,7-trimethylbicyclo[2.2.1]heptan-2-ol

De = 100%

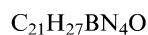
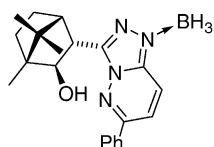
$[\alpha]_D^{21} = +110.0$ (*c* 0.16, $CHCl_3$ -MeOH, 1:5)

Source of chirality: natural (1*R*)-(+)-camphor

Absolute configuration: (1*R*,2*R*,3*R*,4*R*)

Uroš Grošelj, David Bevk, Renata Jakše, Anton Meden,
Branko Stanovnik and Jurij Svete*

Tetrahedron: Asymmetry 17 (2006) 79



(1*R*,2*R*,3*R*,4*R*)-3-(6-Phenyl[1,2,4]triazolo[4,3-*b*]pyridazin-3-yl)-1,7,7-trimethylbicyclo[2.2.1]heptan-2-ol-1'-borane

De = 100%

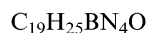
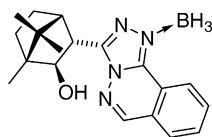
$[\alpha]_D^{19} = +115.4$ (*c* 0.08, $CHCl_3$)

Source of chirality: natural (1*R*)-(+)-camphor

Absolute configuration: (1*R*,2*R*,3*R*,4*R*)

Uroš Grošelj, David Bevk, Renata Jakše, Anton Meden,
Branko Stanovnik and Jurij Svete*

Tetrahedron: Asymmetry 17 (2006) 79



(1*R*,2*R*,3*R*,4*R*)-3-([1,2,4]Triazolo[3,4-*a*]phthalazin-3-yl)-1,7,7-trimethylbicyclo[2.2.1]heptan-2-ol-1'-borane

De = 100%

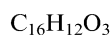
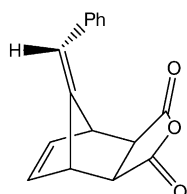
$[\alpha]_D^{19} = +103.3$ (*c* 0.07, CHCl₃)

Source of chirality: natural (1*R*)-(+)-camphor

Absolute configuration: (1*R*,2*R*,3*R*,4*R*)

Sosale Chandrasekhar* and Suresh Kumar Gorla

Tetrahedron: Asymmetry 17 (2006) 92



exo-10-(Phenylmethylene)-4-oxatricyclo(5.2.1.0^{2,6})dec-8-ene-3,5-dione

Ee = 94%

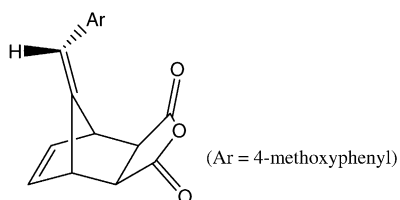
$[\alpha]_D^{25} = +80.9$ (*c* 1.0, CHCl₃)

Source of chirality: resolution

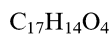
Absolute configuration: (*E*)

Sosale Chandrasekhar* and Suresh Kumar Gorla

Tetrahedron: Asymmetry 17 (2006) 92



(Ar = 4-methoxyphenyl)



exo-10-((4-Methoxyphenyl)methylene)-4-oxatricyclo(5.2.1.0^{2,6})dec-8-ene-3,5-dione

Ee = 30%

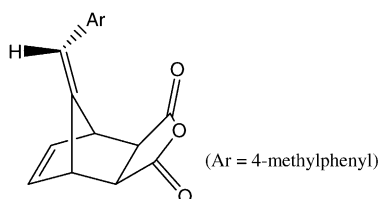
$[\alpha]_D^{24} = +284.1$ (*c* 0.9, CHCl₃)

Source of chirality: resolution

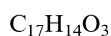
Absolute configuration: (*E*)

Sosale Chandrasekhar* and Suresh Kumar Gorla

Tetrahedron: Asymmetry 17 (2006) 92



(Ar = 4-methylphenyl)



exo-10-((4-Methylphenyl)methylene)-4-oxatricyclo(5.2.1.0^{2,6})dec-8-ene-3,5-dione

Ee = 91%

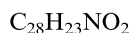
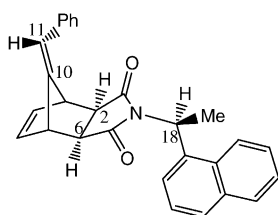
$[\alpha]_D^{25} = +192.8$ (*c* 1.1, CHCl₃)

Source of chirality: resolution

Absolute configuration: (*E*)

Sosale Chandrasekhar* and Suresh Kumar Gorla

Tetrahedron: Asymmetry 17 (2006) 92



((10-11)*E*,2*R*,6*S*)-4-((1*S*)-1-(Naphth-1-yl)ethyl)-10-(phenylmethylene)-4-azatricyclo(5.2.1.0^{2.6})dec-8-ene-3,5-dione

Ee >95%

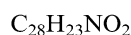
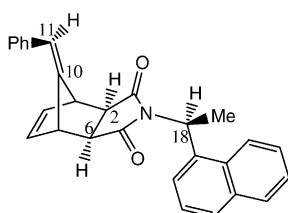
$[\alpha]_D^{24} = +11.2$ (c 2.5, CHCl₃)

Source of chirality: asymmetric synthesis

Absolute configuration: (10-11)*E*,2*R*,6*S*,18*S*

Sosale Chandrasekhar* and Suresh Kumar Gorla

Tetrahedron: Asymmetry 17 (2006) 92



((10-11)*Z*,2*R*,6*S*)-4-((1*S*)-1-(Naphth-1-yl)ethyl)-10-(phenylmethylene)-4-azatricyclo(5.2.1.0^{2.6})dec-8-ene-3,5-dione

Ee >95%

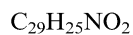
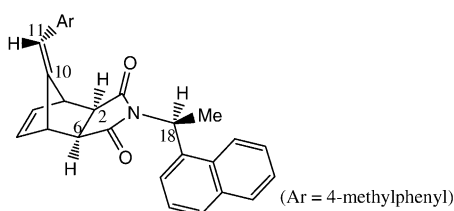
$[\alpha]_D^{24} = -114$ (c 1.6, CHCl₃)

Source of chirality: asymmetric synthesis

Absolute configuration: (10-11)*Z*,2*R*,6*S*,18*S*

Sosale Chandrasekhar* and Suresh Kumar Gorla

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((10-11)*E*,2*R*,6*S*)-4-((1*S*)-1-(Naphth-1-yl)ethyl)-10-((4-methylphenyl)methylene)-4-azatricyclo(5.2.1.0^{2.6})dec-8-ene-3,5-dione

Ee >95%

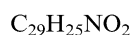
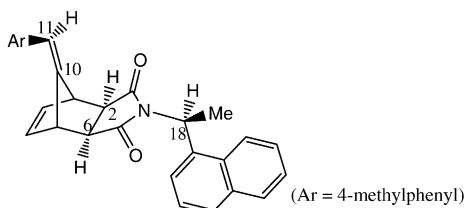
$[\alpha]_D^{24} = +73$ (c 5.0, CHCl₃)

Source of chirality: asymmetric synthesis

Absolute configuration: (10-11)*E*,2*R*,6*S*,18*S*

Sosale Chandrasekhar* and Suresh Kumar Gorla

Tetrahedron: Asymmetry 17 (2006) 92



((10-11)*Z*,2*R*,6*S*)-4-((1*S*)-1-(Naphth-1-yl)ethyl)-10-((4-methylphenyl)methylene)-4-azatricyclo(5.2.1.0^{2.6})dec-8-ene-3,5-dione

Ee >95%

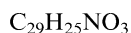
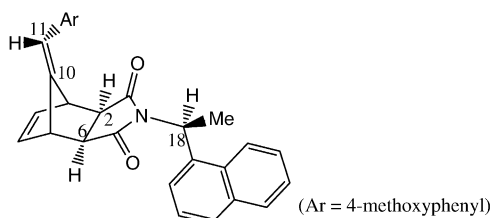
$[\alpha]_D^{24} = -104$ (c 2.0, CHCl₃)

Source of chirality: asymmetric synthesis

Absolute configuration: (10-11)*Z*,2*R*,6*S*,18*S*

Sosale Chandrasekhar* and Suresh Kumar Gorla

Tetrahedron: Asymmetry 17 (2006) 92



((10-11)*E*,2*R*,6*S*)-4-((1*S*)-1-(Naphth-1-yl)ethyl)-10-((4-methoxyphenyl)methylene)-4-azatricyclo(5.2.1.0^{2,6})dec-8-ene-3,5-dione

Ee >95%

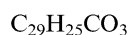
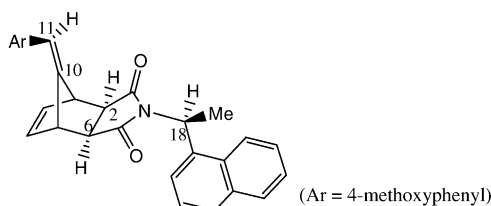
$[\alpha]_D^{25} = +90$ (*c* 3.8, CHCl₃)

Source of chirality: asymmetric synthesis

Absolute configuration: (10-11)*E*,2*R*,6*S*,18*S*

Sosale Chandrasekhar* and Suresh Kumar Gorla

Tetrahedron: Asymmetry 17 (2006) 92



((10-11)*Z*,2*R*,6*S*)-4-((1*S*)-1-(Naphth-1-yl)ethyl)-10-((4-methoxyphenyl)methylene)-4-azatricyclo(5.2.1.0^{2,6})dec-8-ene-3,5-dione

Ee >95%

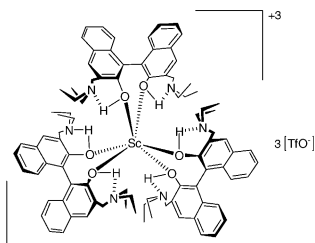
$[\alpha]_D^{25} = -114$ (*c* 3.5, CHCl₃)

Source of chirality: asymmetric synthesis

Absolute configuration: (10-11)*Z*,2*R*,6*S*,18*S*

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Tetrahedron: Asymmetry 17 (2006) 99



[(Δ ,*S*,*S*,*S*)-Binolam]₃·Sc(OTf)₃

Ee = 96%

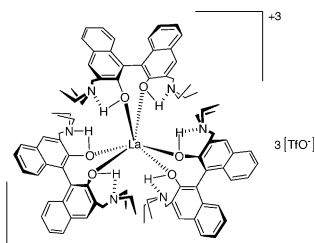
$[\alpha]_{589}^{25} = +139.2$ (*c* 0.12, CH₂Cl₂)

Source of chirality: (*S*)-binolam

Absolute configuration: (Δ ,*S*,*S*,*S*)

José M. Saá,* Fernando Tur, José González and Manuel Vega

Tetrahedron: Asymmetry 17 (2006) 99



[(Δ ,*S*,*S*,*S*)-Binolam]₃·La(OTf)₃

Ee = 96%

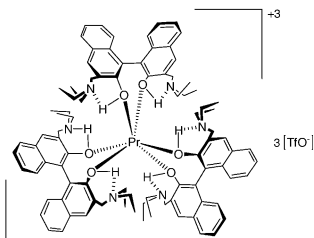
$[\alpha]_{589}^{25} = +25$ (*c* 0.12, CH₂Cl₂)

Source of chirality: (*S*)-binolam

Absolute configuration: (Δ ,*S*,*S*,*S*)

José M. Saá,* Fernando Tur, José González and Manuel Vega

Tetrahedron: Asymmetry 17 (2006) 99



$C_{93}H_{108}F_9N_6O_{15}S_3Pr$
[(Δ,S,S,S)-Binolam] $_3 \cdot Pr(OTf)_3$

Ee = 96%

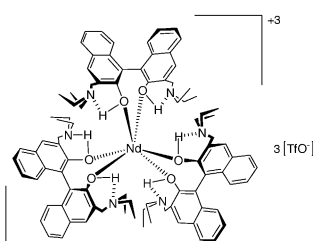
$[\alpha]_{589}^{25} = +58.3$ (c 0.12, CH_2Cl_2)

Source of chirality: (*S*)-binolam

Absolute configuration: (Δ,S,S,S)

José M. Saá,* Fernando Tur, José González and Manuel Vega

Tetrahedron: Asymmetry 17 (2006) 99



$C_{93}H_{108}F_9N_6O_{15}S_3Nd$
[(Δ,S,S,S)-Binolam] $_3 \cdot Nd(OTf)_3$

Ee = 96%

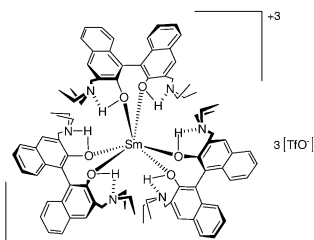
$[\alpha]_{589}^{25} = +48.8$ (c 0.25, CH_2Cl_2)

Source of chirality: (*S*)-binolam

Absolute configuration: (Δ,S,S,S)

José M. Saá,* Fernando Tur, José González and Manuel Vega

Tetrahedron: Asymmetry 17 (2006) 99



$C_{93}H_{108}F_9N_6O_{15}S_3Sm$
[(Δ,S,S,S)-Binolam] $_3 \cdot Sm(OTf)_3$

Ee = 96%

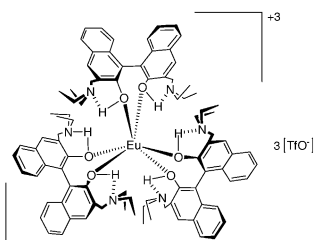
$[\alpha]_{589}^{25} = +70$ (c 0.12, CH_2Cl_2)

Source of chirality: (*S*)-binolam

Absolute configuration: (Δ,S,S,S)

José M. Saá,* Fernando Tur, José González and Manuel Vega

Tetrahedron: Asymmetry 17 (2006) 99



$C_{93}H_{108}F_9N_6O_{15}S_3Eu$
[(Δ,S,S,S)-Binolam] $_3 \cdot Eu(OTf)_3$

Ee = 96%

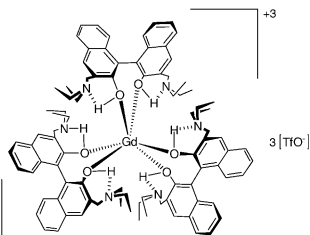
$[\alpha]_{589}^{25} = +96.7$ (c 0.12, CH_2Cl_2)

Source of chirality: (*S*)-binolam

Absolute configuration: (Δ,S,S,S)

José M. Saá,* Fernando Tur, José González and Manuel Vega

Tetrahedron: Asymmetry 17 (2006) 99



$C_{93}H_{108}F_9N_6O_{15}S_3Gd$
[(Δ,S,S,S)-Binolam] $_3 \cdot Gd(OTf)_3$

Ee = 96%

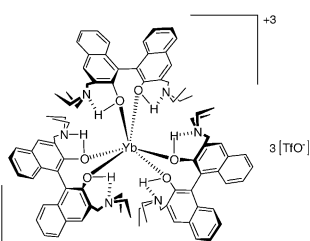
$[\alpha]_{589}^{25} = +125$ (c 0.12, CH_2Cl_2)

Source of chirality: (*S*)-binolam

Absolute configuration: (Δ,S,S,S)

José M. Saá,* Fernando Tur, José González and Manuel Vega

Tetrahedron: Asymmetry 17 (2006) 99



$C_{93}H_{108}F_9N_6O_{15}S_3Yb$
[(Δ,S,S,S)-Binolam] $_3 \cdot Yb(OTf)_3$

Ee = 96%

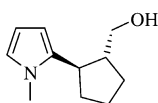
$[\alpha]_{589}^{25} = +175.8$ (c 0.12, CH_2Cl_2)

Source of chirality: (*S*)-binolam

Absolute configuration: (Δ,S,S,S)

Palle Breistein, Staffan Karlsson and Erik Hedenström*

Tetrahedron: Asymmetry 17 (2006) 107



$C_{11}H_{17}NO$
trans-(1*R*,2*R*)-2-(1-Methyl-1*H*-pyrrol-2-yl)cyclopentanecarbanol

>99.8% de and 66% ee

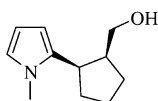
$[\alpha]_D^{20} = +77$ (c 0.62, $CHCl_3$)

Source of chirality: stereoselective conjugate addition

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

Palle Breistein, Staffan Karlsson and Erik Hedenström*

Tetrahedron: Asymmetry 17 (2006) 107



$C_{11}H_{17}NO$
cis-(1*S*,2*R*)-2-(1-Methyl-1*H*-pyrrol-2-yl)cyclopentanecarbanol

>99.8% de and 53% ee

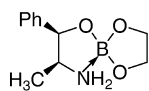
$[\alpha]_D^{20} = -81$ (c 0.54, $CHCl_3$)

Source of chirality: stereoselective conjugate addition

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

Viatcheslav Stepanenko, Margarita Ortiz-Marciales,* Wildeliz Correa,
Melvin De Jesús, Sandraliz Espinosa and Lymaris Ortiz

Tetrahedron: Asymmetry 17 (2006) 112



4

$C_{11}H_{16}BNO_3$

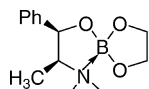
(1*S*,2*R*)-2-([1,3,2]Dioxaborolan-2-yloxy)-1-methyl-2-phenylethylamine

$[\alpha]_D^{20} = -37.5$ (*c* 0.056, DMSO)

Source of chirality: from (1*R*,2*S*)-(-)-norephedrine

Viatcheslav Stepanenko, Margarita Ortiz-Marciales,* Wildeliz Correa,
Melvin De Jesús, Sandraliz Espinosa and Lymaris Ortiz

Tetrahedron: Asymmetry 17 (2006) 112



5

$C_{13}H_{20}BNO_3$

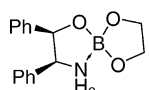
(1*S*,2*R*)-2-([1,3,2]Dioxaborolan-2-yloxy)-1-methyl-2-phenyl-ethyl-*N,N*-dimethylamine

$[\alpha]_D^{20} = -5.0$ (*c* 0.024, $CHCl_3$)

Source of chirality: from (1*R*,2*S*)-2-dimethyl-
amino-1-phenyl-propan-1-ol

Viatcheslav Stepanenko, Margarita Ortiz-Marciales,* Wildeliz Correa,
Melvin De Jesús, Sandraliz Espinosa and Lymaris Ortiz

Tetrahedron: Asymmetry 17 (2006) 112



6

$C_{16}H_{18}BNO_3$

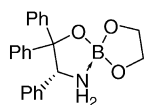
(1*S*,2*R*)-2-([1,3,2]Dioxaborolan-2-yloxy)-1,2-diphenylethylamine

$[\alpha]_D^{20} = +5.0$ (*c* 0.029, DMSO)

Source of chirality: from (1*R*,2*S*)-2-amino-1,2-
diphenylethanol

Viatcheslav Stepanenko, Margarita Ortiz-Marciales,* Wildeliz Correa,
Melvin De Jesús, Sandraliz Espinosa and Lymaris Ortiz

Tetrahedron: Asymmetry 17 (2006) 112



$C_{22}H_{22}BNO_3$

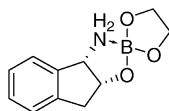
(1*R*)-2-([1,3,2]Dioxaborolan-2-yloxy)-1,2,2-triphenylethylamine

$[\alpha]_D^{20} = +98.0$ (*c* 0.05, $CHCl_3$)

Source of chirality: from (2*R*)-(+)-2-amino-1,1,2-
triphenylethanol

Viatcheslav Stepanenko, Margarita Ortiz-Marciales,* Wildeliz Correa,
Melvin De Jesús, Sandraliz Espinosa and Lymaris Ortiz

Tetrahedron: Asymmetry 17 (2006) 112



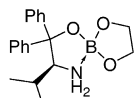
$C_{11}H_{14}BNO_3$
(1*S*,2*R*)-2-([1,3,2]Dioxaborolan-2-yloxy)-1-indanylamine

$[\alpha]_D^{20} = +28.6$ (*c* 0.018, $CHCl_3$)

Source of chirality: from (1*S*,2*R*)-(-)-*cis*-1-amino-indan-2-ol

Viatcheslav Stepanenko, Margarita Ortiz-Marciales,* Wildeliz Correa,
Melvin De Jesús, Sandraliz Espinosa and Lymaris Ortiz

Tetrahedron: Asymmetry 17 (2006) 112



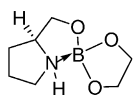
$C_{19}H_{24}BNO_3$
(1*S*)-1-([1,3,2]Dioxaborolan-2-yloxy)-diphenyl-methyl]-2-methyl-propylamine

$[\alpha]_D^{20} = +43.0$ (*c* 0.023, DMSO)

Source of chirality: from (1*S*)-(+)-2-amino-3-methyl-1-butanol (L-valinol)

Viatcheslav Stepanenko, Margarita Ortiz-Marciales,* Wildeliz Correa,
Melvin De Jesús, Sandraliz Espinosa and Lymaris Ortiz

Tetrahedron: Asymmetry 17 (2006) 112



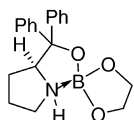
$C_{11}H_{14}BNO_3$
(*S*)-2-([1,3,2]Dioxaborolan-2-yloxymethyl)-pyrrolidine

$[\alpha]_D^{20} = +13.0$ (*c* 0.018, $CHCl_3$)

Source of chirality: from (*S*)-(+)-2-hydroxymethyl-pyrrolidine (L-prolinol)

Viatcheslav Stepanenko, Margarita Ortiz-Marciales,* Wildeliz Correa,
Melvin De Jesús, Sandraliz Espinosa and Lymaris Ortiz

Tetrahedron: Asymmetry 17 (2006) 112



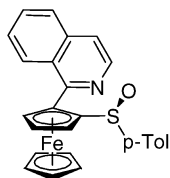
$C_{19}H_{22}BNO_3$
(*S*)-2-([1,3,2]Dioxaborolan-2-yloxy)-diphenylmethyl]-pyrrolidine

$[\alpha]_D^{20} = -110.0$ (*c* 0.03, DMSO)

Source of chirality: from (*S*)-(-)- α,α -diphenyl-2-pyrrolidinemethanol (α,α -diphenyl-L-prolinol)

Ralf J. Kloetzing and Paul Knochel*

Tetrahedron: Asymmetry 17 (2006) 116



$C_{26}H_{21}FeNSO$

(S_{Fc},S)-[2-(1-Isoquinolinyl)-ferrocen-1-yl]-*p*-tolylsulfoxide

$E_e = >99\%$; $d_e = >98\%$

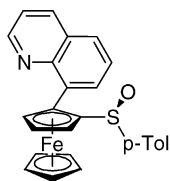
$[\alpha]_D = +131.3$ (c 0.34, THF)

Source of chirality: diastereoselective *ortho*-lithiation

Absolute configuration: (S_{Fc},S)

Ralf J. Kloetzing and Paul Knochel*

Tetrahedron: Asymmetry 17 (2006) 116



$C_{26}H_{21}FeNSO$

(S_{Fc},S)-[2-(8-Quinolinyl)-ferrocen-1-yl]-*p*-tolylsulfoxide

$E_e = >99\%$; $d_e = >98\%$

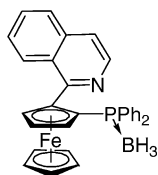
$[\alpha]_D = +360.9$ (c 0.44, THF)

Source of chirality: diastereoselective *ortho*-lithiation

Absolute configuration: (S_{Fc},S)

Ralf J. Kloetzing and Paul Knochel*

Tetrahedron: Asymmetry 17 (2006) 116



$C_{31}H_{27}BFeNP$

(S_{Fc})-[2-(1-Isoquinolinyl)ferrocen-1-yl] diphenylphosphine borane complex

$E_e = >98\%$

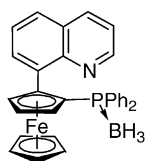
$[\alpha]_D = +229.3$ (c 1.22, THF)

Source of chirality: retention of planar chirality

Absolute configuration: (S_{Fc})

Ralf J. Kloetzing and Paul Knochel*

Tetrahedron: Asymmetry 17 (2006) 116



$C_{31}H_{27}BFeNP$

(S_{Fc})-[2-(8-Quinolinyl)ferrocen-1-yl] diphenylphosphine borane complex

$E_e = >98\%$

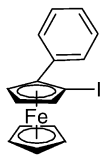
$[\alpha]_D = -3.7$ (c 0.54, THF)

Source of chirality: retention of planar chirality

Absolute configuration: (S_{Fc})

Ralf J. Kloetzing and Paul Knochel*

Tetrahedron: Asymmetry 17 (2006) 116



$C_{16}H_{13}FeI$
(S_{Fc})-1-Iodo-2-phenylferrocene

Ee = 99%

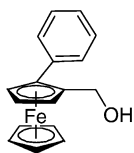
$[\alpha]_D = -6.9$ (c 0.64, acetone)

Source of chirality: retention of planar chirality

Absolute configuration: (S_{Fc})

Ralf J. Kloetzing and Paul Knochel*

Tetrahedron: Asymmetry 17 (2006) 116



$C_{17}H_{16}FeO$
(S_{Fc})-1-Hydroxymethyl-2-phenylferrocene

Ee = 99%

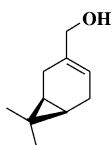
$[\alpha]_D = +201.0$ (c 0.59, acetone)

Source of chirality: retention of planar chirality

Absolute configuration: (S_{Fc})

Bożena Frąckowiak, Katarzyna Ochalik, Agata Białońska,
Zbigniew Ciunik, Czesław Wawrzeńczyk and Stanisław Lochyński*

Tetrahedron: Asymmetry 17 (2006) 124



$C_{10}H_{16}O$
(+)-3-Caren-10-ol

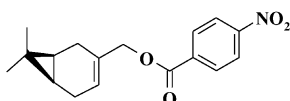
$[\alpha]_D^{25} = +7.1$ (c 1.1, $CHCl_3$)

Source of chirality: (+)-3-carene

Absolute configuration: (1*S*,6*R*)

Bożena Frąckowiak, Katarzyna Ochalik, Agata Białońska,
Zbigniew Ciunik, Czesław Wawrzeńczyk and Stanisław Lochyński*

Tetrahedron: Asymmetry 17 (2006) 124



$C_{17}H_{19}NO_4$
(-)-3-Carene-10-yl *p*-nitrobenzoate

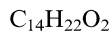
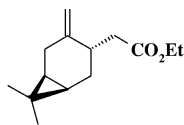
$[\alpha]_D^{25} = -2.9$ (c 1.2, $CHCl_3$)

Source of chirality: (+)-3-carene

Absolute configuration: (1*S*,6*R*)

Bożena Frąckowiak, Katarzyna Ochalik, Agata Białońska,
Zbigniew Ciunik, Czesław Wawrzeńczyk and Stanisław Lochyński*

Tetrahedron: Asymmetry 17 (2006) 124



Ethyl [(-)-3(10)-carene-*trans*-4-yl]acetate

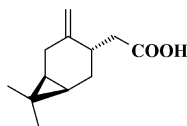
$$[\alpha]_D^{25} = -54.2 (c 1.2, CHCl_3)$$

Source of chirality: (+)-3-carene and Claisen rearrangement

Absolute configuration: (1*S*,4*S*,6*R*)

Bożena Frąckowiak, Katarzyna Ochalik, Agata Białońska,
Zbigniew Ciunik, Czesław Wawrzeńczyk and Stanisław Lochyński*

Tetrahedron: Asymmetry 17 (2006) 124



[(-)-3(10)-Caren-*trans*-4-yl]acetic acid

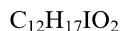
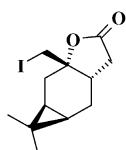
$$[\alpha]_D^{25} = +23.6 (c 3.4, CHCl_3)$$

Source of chirality: (+)-3-carene and Claisen rearrangement

Absolute configuration: (1*S*,4*S*,6*R*)

Bożena Frąckowiak, Katarzyna Ochalik, Agata Białońska,
Zbigniew Ciunik, Czesław Wawrzeńczyk and Stanisław Lochyński*

Tetrahedron: Asymmetry 17 (2006) 124



(1*S*,3*S*,7*S*,9*R*)-(+)-10,10-Dimethyl-3-iodomethyl-4-oxatricyclo[7.1.0.^{1.9}0^{3.7}]decan-5-one

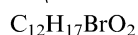
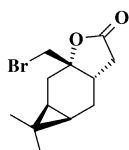
$$[\alpha]_D^{25} = +48.6 (c 2.3, CHCl_3)$$

Source of chirality: (+)-3-carene and iodolactonization

Absolute configuration: (1*S*,3*S*,7*S*,9*R*)

Bożena Frąckowiak, Katarzyna Ochalik, Agata Białońska,
Zbigniew Ciunik, Czesław Wawrzeńczyk and Stanisław Lochyński*

Tetrahedron: Asymmetry 17 (2006) 124



(1*S*,3*S*,7*S*,9*R*)-(+)-3-Bromomethyl-10,10-dimethyl-4-oxatricyclo[7.1.0.^{1.9}0^{3.7}]decan-5-one

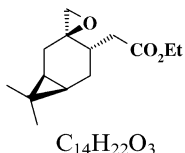
$$[\alpha]_D^{25} = +48.6 (c 2.3, CHCl_3)$$

Source of chirality: (+)-3-carene and bromolactonization

Absolute configuration: (1*S*,3*S*,7*S*,9*R*)

Bożena Frąckowiak, Katarzyna Ochalik, Agata Białońska,
Zbigniew Ciunik, Czesław Wawrzeńczyk and Stanisław Lochyński*

Tetrahedron: Asymmetry 17 (2006) 124



Ethyl [(−)-*cis*-3,10-epoxy-*trans*-caran-*trans*-4-yl]acetate

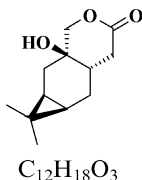
$$[\alpha]_D^{25} = -27.2 (c 1.1, CHCl_3)$$

Source of chirality: (+)-3-carene and epoxidation

Absolute configuration: (1*S*,3*S*,4*S*,6*R*)

Bożena Frąckowiak, Katarzyna Ochalik, Agata Białońska,
Zbigniew Ciunik, Czesław Wawrzeńczyk and Stanisław Lochyński*

Tetrahedron: Asymmetry 17 (2006) 124



(1*S*,3*S*,8*S*,10*R*)-(+)-11,11-Dimethyl-3-hydroxy-5-oxatricyclo[8.1.0.^{1.10}0^{3.8}]undecan-6-one

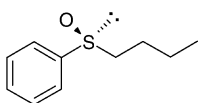
$$[\alpha]_D^{25} = +19.2 (c 3.3, CHCl_3)$$

Source of chirality: (+)-3-carene and hydroxyl-actonization

Absolute configuration: (1*S*,3*S*,8*S*,10*R*)

Gonzalo de Gonzalo,* Daniel E. Torres Pazmiño, Gianluca Ottolina,
Marco W. Fraaije and Giacomo Carrea

Tetrahedron: Asymmetry 17 (2006) 130



(*S*)-Butyl phenyl sulfoxide

Ee = 71% (HPLC, Chiralcel OB)

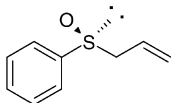
$$[\alpha]_D^{25} = -131.5 (c 0.98, acetone)$$

Source of chirality: enzymatic oxidation

Absolute configuration: *S*

Gonzalo de Gonzalo,* Daniel E. Torres Pazmiño, Gianluca Ottolina,
Marco W. Fraaije and Giacomo Carrea

Tetrahedron: Asymmetry 17 (2006) 130



(*S*)-Allyl phenyl sulfoxide

Ee = 98% (HPLC, Chiralcel OB)

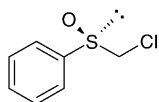
$$[\alpha]_D^{25} = -164.8 (c 1.08, EtOH)$$

Source of chirality: enzymatic oxidation

Absolute configuration: *S*

Gonzalo de Gonzalo,* Daniel E. Torres Pazmiño, Gianluca Ottolina,
Marco W. Fraaije and Giacomo Carrea

Tetrahedron: Asymmetry 17 (2006) 130



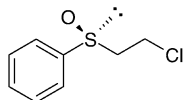
C₇H₇ClOS

(*R*)-Chloromethyl phenyl sulfoxide

Ee = 76% (HPLC, Chiralcel OD)
[α]_D²⁵ = -83.6 (c 0.73, acetone) (ee = 89%)
Source of chirality: enzymatic oxidation
Absolute configuration: *R*

Gonzalo de Gonzalo,* Daniel E. Torres Pazmiño, Gianluca Ottolina,
Marco W. Fraaije and Giacomo Carrea

Tetrahedron: Asymmetry 17 (2006) 130



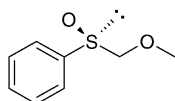
C₈H₉ClOS

(*R*)-Chloroethyl phenyl sulfoxide

Ee = 81% (HPLC, Chiralcel OD)
[α]_D²⁵ = -101.8 (c 1.39, acetone) (ee = 98%)
Source of chirality: enzymatic oxidation
Absolute configuration: *R*

Gonzalo de Gonzalo,* Daniel E. Torres Pazmiño, Gianluca Ottolina,
Marco W. Fraaije and Giacomo Carrea

Tetrahedron: Asymmetry 17 (2006) 130



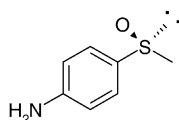
C₈H₁₀O₂S

(*R*)-Methoxymethyl phenyl sulfoxide

Ee = 97% (HPLC, Chiralcel OD)
[α]_D²⁵ = -207.1 (c 0.84, CHCl₃)
Source of chirality: enzymatic oxidation
Absolute configuration: *R*

Gonzalo de Gonzalo,* Daniel E. Torres Pazmiño, Gianluca Ottolina,
Marco W. Fraaije and Giacomo Carrea

Tetrahedron: Asymmetry 17 (2006) 130



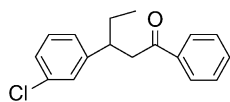
C₇H₁₀NOS

(*S*)-4-Aminophenyl methyl sulfoxide

Ee = 95% (HPLC, Chiralcel OD)
[α]_D²⁵ = -85.1 (c 0.82, EtOH)
Source of chirality: enzymatic oxidation
Absolute configuration: *S*

Lan-Tao Liu, Min-Can Wang,* Wen-Xian Zhao, Yan-Li Zhou and Xiao-Dan Wang

Tetrahedron: Asymmetry 17 (2006) 136



$C_{17}H_{17}ClO$

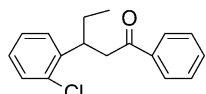
(+)-3-(3-Chlorophenyl)-1-phenyl-1-pentanone

Ee = 46%

$[\alpha]_D^{20} = +39.3$ (c 0.23, $CHCl_3$)

Lan-Tao Liu, Min-Can Wang,* Wen-Xian Zhao, Yan-Li Zhou and Xiao-Dan Wang

Tetrahedron: Asymmetry 17 (2006) 136



$C_{17}H_{17}ClO$

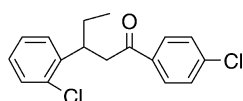
(-)-3-(2-Chlorophenyl)-1-phenyl-1-pentanone

Ee = 92%

$[\alpha]_D^{20} = -33.8$ (c 0.13, $CHCl_3$)

Lan-Tao Liu, Min-Can Wang,* Wen-Xian Zhao, Yan-Li Zhou and Xiao-Dan Wang

Tetrahedron: Asymmetry 17 (2006) 136



$C_{17}H_{16}Cl_2O$

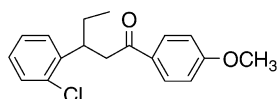
(-)-1-(4-Chlorophenyl)-3-(2-chlorophenyl)-1-pentanone

Ee = 85%

$[\alpha]_D^{20} = -28.6$ (c 0.56, $CHCl_3$)

Lan-Tao Liu, Min-Can Wang,* Wen-Xian Zhao, Yan-Li Zhou and Xiao-Dan Wang

Tetrahedron: Asymmetry 17 (2006) 136



$C_{18}H_{19}ClO_2$

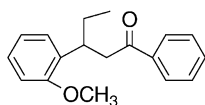
(+)-3-(2-Chlorophenyl)-1-(4-methoxyphenyl)-1-pentanone

Ee = 81%

$[\alpha]_D^{20} = +21.5$ (c 0.53, $CHCl_3$)

Lan-Tao Liu, Min-Can Wang,* Wen-Xian Zhao, Yan-Li Zhou and Xiao-Dan Wang

Tetrahedron: Asymmetry 17 (2006) 136



$C_{18}H_{20}O_2$

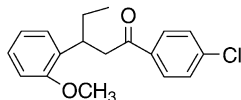
(-)-3-(2-Methoxyphenyl)-1-phenyl-1-pentanone

Ee = 88%

$[\alpha]_D^{20} = -28.7$ (c 0.72, $CHCl_3$)

Lan-Tao Liu, Min-Can Wang,* Wen-Xian Zhao, Yan-Li Zhou and Xiao-Dan Wang

Tetrahedron: Asymmetry 17 (2006) 136



$C_{18}H_{19}ClO_2$

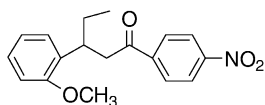
(+)-1-(4-Chlorophenyl)-3-(2-methoxyphenyl)-1-pentanone

Ee = 87%

$[\alpha]_D^{20} = +18.0$ (c 0.93, $CHCl_3$)

Lan-Tao Liu, Min-Can Wang,* Wen-Xian Zhao, Yan-Li Zhou and Xiao-Dan Wang

Tetrahedron: Asymmetry 17 (2006) 136



$C_{18}H_{19}NO_4$

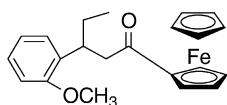
(-)-3-(2-Methoxyphenyl)-1-(4-nitrophenyl)-1-pentanone

Ee = 82%

$[\alpha]_D^{20} = -11.8$ (c 0.71, $CHCl_3$)

Lan-Tao Liu, Min-Can Wang,* Wen-Xian Zhao, Yan-Li Zhou and Xiao-Dan Wang

Tetrahedron: Asymmetry 17 (2006) 136



$C_{22}H_{24}FeO_2$

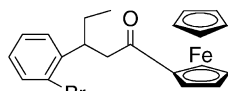
(-)-1-Ferrocenyl-3-(2-methoxyphenyl)-1-pentanone

Ee = 92%

$[\alpha]_D^{20} = -54.4$ (c 0.45, $CHCl_3$)

Lan-Tao Liu, Min-Can Wang,* Wen-Xian Zhao, Yan-Li Zhou and Xiao-Dan Wang

Tetrahedron: Asymmetry 17 (2006) 136



$C_{21}H_{21}BrFeO$

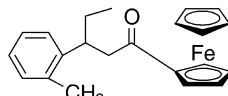
(-)-3-(2-Bromophenyl)-1-ferrocenyl-1-pentanone

Ee = 91%

$[\alpha]_D^{20} = -84.1$ (c 0.24, $CHCl_3$)

Lan-Tao Liu, Min-Can Wang,* Wen-Xian Zhao, Yan-Li Zhou and Xiao-Dan Wang

Tetrahedron: Asymmetry 17 (2006) 136



$C_{22}H_{24}FeO$

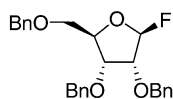
(-)-1-Ferrocenyl-3-(2-methylphenyl)-1-pentanone

Ee = 20%

$[\alpha]_D^{20} = -2.7$ (c 0.41, $CHCl_3$)

Maryon Ginisty, Christine Gravier-Pelletier* and Yves Le Merrer*

Tetrahedron: Asymmetry 17 (2006) 142



$C_{26}H_{27}FO_4$

2,3,5-Tri-*O*-benzyl-1-fluoro- β -D-ribofuranose

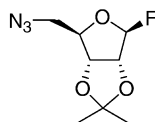
De >95% (by 1H NMR)

$[\alpha]_D = +22$ (c 1.0, CH_2Cl_2)

Source of chirality: 2,3,5-tri-*O*-benzyl-D-ribofuranose

Maryon Ginisty, Christine Gravier-Pelletier* and Yves Le Merrer*

Tetrahedron: Asymmetry 17 (2006) 142



$C_8H_{12}FN_3O_3$

5-Azido-5-deoxy-2,3-*O*-isopropylidene-1-fluoro- β -D-ribofuranose

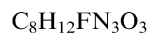
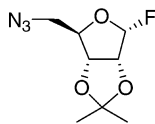
De >95% (by 1H NMR)

$[\alpha]_D = +24$ (c 1.0, CH_2Cl_2)

Source of chirality: D-ribose

Maryon Ginisty, Christine Gravier-Pelletier* and Yves Le Merrer*

Tetrahedron: Asymmetry 17 (2006) 142

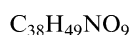
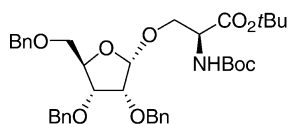


5-Azido-5-deoxy-2,3-*O*-isopropylidene-1-fluoro- α -D-ribofuranose

De >95% (by 1H NMR)
[α]_D = +98 (*c* 1.0, CH₂Cl₂)
Source of chirality: D-ribose

Maryon Ginisty, Christine Gravier-Pelletier* and Yves Le Merrer*

Tetrahedron: Asymmetry 17 (2006) 142

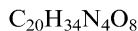
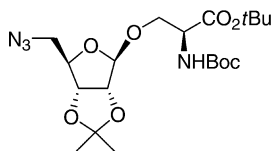


(*tert*-Butyl *N*-*tert*-butyloxycarbonyl-L-serinate-3'-yl)2,3,5-tri-*O*-benzyl- α -D-ribofuranoside

De >95% (by 1H NMR)
[α]_D = -27 (*c* 1.0, CH₂Cl₂)
Source of chirality: 2,3,5-tri-*O*-benzyl- β -D-ribofuranose and *tert*-butyl *N*-Boc-L-serinate

Maryon Ginisty, Christine Gravier-Pelletier* and Yves Le Merrer*

Tetrahedron: Asymmetry 17 (2006) 142

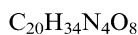
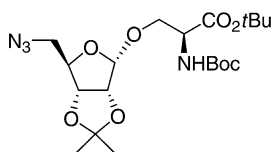


(*tert*-Butyl *N*-*tert*-butyloxycarbonyl-L-serinate-3'-yl)5-azido-5-deoxy-2,3-*O*-isopropylidene- β -D-ribofuranoside

De >95% (by 1H NMR)
[α]_D = -15 (*c* 1.0, CH₂Cl₂)
Source of chirality: D-ribose and *tert*-butyl-*N*-Boc-L-serinate

Maryon Ginisty, Christine Gravier-Pelletier* and Yves Le Merrer*

Tetrahedron: Asymmetry 17 (2006) 142

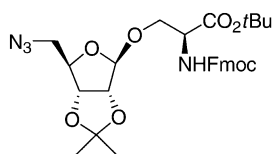


(*tert*-Butyl *N*-*tert*-butyloxycarbonyl-L-serinate-3'-yl)5-azido-5-deoxy-2,3-*O*-isopropylidene- α -D-ribofuranoside

De >95% (by 1H NMR)
[α]_D = +32 (*c* 1.0, CH₂Cl₂)
Source of chirality: D-ribose and *tert*-butyl-*N*-Boc-L-serinate

Maryon Ginisty, Christine Gravier-Pelletier* and Yves Le Merrer*

Tetrahedron: Asymmetry 17 (2006) 142



$C_{30}H_{36}N_4O_8$

(*tert*-Butyl *N*-*tert*-fluorenylmethoxycarbonyl-L-serinate-3'-yl)5-azido-5-deoxy-2,3-*O*-isopropylidene- β -D-ribofuranoside

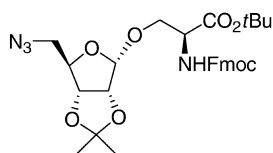
De >95% (by 1H NMR)

$[\alpha]_D = -7$ (*c* 1.0, CH_2Cl_2)

Source of chirality: D-ribose and *N*-Fmoc-L-serine

Maryon Ginisty, Christine Gravier-Pelletier* and Yves Le Merrer*

Tetrahedron: Asymmetry 17 (2006) 142



$C_{30}H_{36}N_4O_8$

(*tert*-Butyl *N*-*tert*-fluorenylmethoxycarbonyl-L-serinate-3'-yl)5-azido-5-deoxy-2,3-*O*-isopropylidene- α -D-ribofuranoside

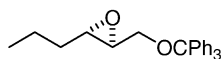
De >95% (by 1H NMR)

$[\alpha]_D = +21$ (*c* 1.0, CH_2Cl_2)

Source of chirality: D-ribose and *N*-Fmoc-L-serine

Belén Rodríguez, Mireia Pastó, Ciril Jimeno and Miquel A. Pericàs*

Tetrahedron: Asymmetry 17 (2006) 151



$C_{25}H_{26}O_2$

(2*S*,3*S*)-2-Triphenylmethoxymethyl-3-propyloxirane

Ee = 100%

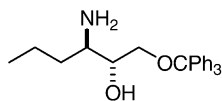
$[\alpha]_D^{23} = -3.8$ (*c* 1.0, $CHCl_3$)

Source of chirality: asymmetric synthesis

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

Belén Rodríguez, Mireia Pastó, Ciril Jimeno and Miquel A. Pericàs*

Tetrahedron: Asymmetry 17 (2006) 151



$C_{25}H_{29}NO_2$

(2*R*,3*R*)-3-Amino-1-triphenylmethoxyhexan-2-ol

Ee = 100%

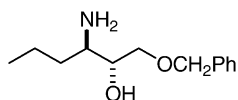
$[\alpha]_D^{23} = -18.8$ (*c* 5.6, $CHCl_3$)

Source of chirality: asymmetric synthesis

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

Belén Rodríguez, Mireia Pastó, Ciril Jimeno and Miquel A. Pericàs*

Tetrahedron: Asymmetry 17 (2006) 151



$C_{13}H_{21}NO_2$

(2*R*,3*R*)-3-Amino-1-benzyloxyhexan-2-ol

Ee = 100%

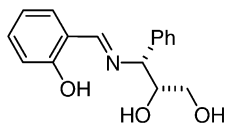
$[\alpha]_D^{23} = -11.5$ (c 4.1, $CHCl_3$)

Source of chirality: asymmetric synthesis

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

Belén Rodríguez, Mireia Pastó, Ciril Jimeno and Miquel A. Pericàs*

Tetrahedron: Asymmetry 17 (2006) 151



$C_{16}H_{17}NO_3$

(2*R*,3*R*)-3-(*N*-Salicylidene)-amino-3-phenylpropan-1,2-diol

Ee = 100%

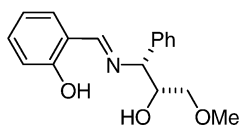
$[\alpha]_D^{23} = +111.4$ (c 1.0, $CHCl_3$)

Source of chirality: asymmetric synthesis

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

Belén Rodríguez, Mireia Pastó, Ciril Jimeno and Miquel A. Pericàs*

Tetrahedron: Asymmetry 17 (2006) 151



$C_{17}H_{19}NO_3$

(1*R*,2*R*)-1-(*N*-Salicylidene)-amino-1-phenyl-3-methoxypropan-2-ol

Ee = 100%

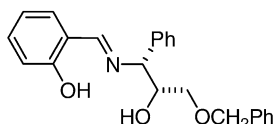
$[\alpha]_D^{23} = +114.9$ (c 1.0, $CHCl_3$)

Source of chirality: asymmetric synthesis

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

Belén Rodríguez, Mireia Pastó, Ciril Jimeno and Miquel A. Pericàs*

Tetrahedron: Asymmetry 17 (2006) 151



$C_{23}H_{23}NO_3$

(1*R*,2*R*)-1-(*N*-Salicylidene)-amino-3-benzyloxy-1-phenylpropan-2-ol

Ee = 100%

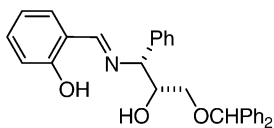
$[\alpha]_D^{23} = +53.3$ (c 0.8, $CHCl_3$)

Source of chirality: asymmetric synthesis

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

Belén Rodríguez, Mireia Pastó, Ciril Jimeno and Miquel A. Pericàs*

Tetrahedron: Asymmetry 17 (2006) 151



$C_{29}H_{27}NO_3$

(1*R*,2*R*)-1-(*N*-Salicylidene)-amino-1-phenyl-3-diphenylmethoxypropan-2-ol

Ee = 100%

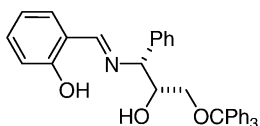
$[\alpha]_D^{23} = +29.4$ (c 0.8, $CHCl_3$)

Source of chirality: asymmetric synthesis

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

Belén Rodríguez, Mireia Pastó, Ciril Jimeno and Miquel A. Pericàs*

Tetrahedron: Asymmetry 17 (2006) 151



$C_{35}H_{31}NO_3$

(1*R*,2*R*)-1-(*N*-Salicylidene)-amino-1-phenyl-3-triphenylmethoxypropan-2-ol

Ee = 100%

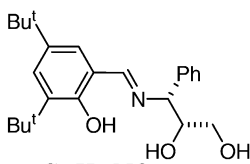
$[\alpha]_D^{23} = +27.9$ (c 0.8, $CHCl_3$)

Source of chirality: asymmetric synthesis

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

Belén Rodríguez, Mireia Pastó, Ciril Jimeno and Miquel A. Pericàs*

Tetrahedron: Asymmetry 17 (2006) 151



$C_{24}H_{33}NO_3$

(2*R*,3*R*)-1-(*N*-3',5'-Di-*tert*-butylsalicylidene)-amino-3-phenylpropan-1,2-diol

Ee = 100%

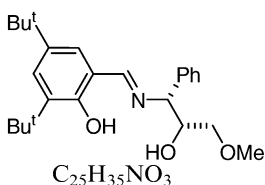
$[\alpha]_D^{23} = +81.0$ (c 1.0, $CHCl_3$)

Source of chirality: asymmetric synthesis

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

Belén Rodríguez, Mireia Pastó, Ciril Jimeno and Miquel A. Pericàs*

Tetrahedron: Asymmetry 17 (2006) 151



$C_{25}H_{35}NO_3$

(1*R*,2*R*)-1-(*N*-3',5'-Di-*tert*-butylsalicylidene)-amino-1-phenyl-3-methoxypropan-2-ol

Ee = 100%

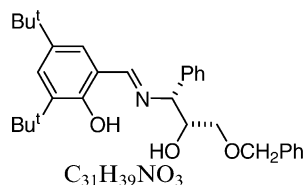
$[\alpha]_D^{23} = +90.6$ (c 0.7, $CHCl_3$)

Source of chirality: asymmetric synthesis

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

Belén Rodríguez, Mireia Pastó, Ciril Jimeno and Miquel A. Pericàs*

Tetrahedron: Asymmetry 17 (2006) 151



$C_{31}H_{39}NO_3$
(1*R*,2*R*)-1-(*N*-3',5'-Di-*tert*-butylsalicyliden)-amino-3-benzyloxyl-phenylpropan-2-ol

Ee = 100%

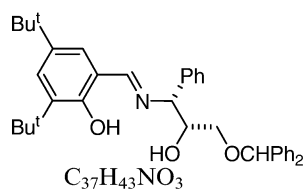
$[\alpha]_D^{23} = +40.6$ (*c* 1.8, $CHCl_3$)

Source of chirality: asymmetric synthesis

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

Belén Rodríguez, Mireia Pastó, Ciril Jimeno and Miquel A. Pericàs*

Tetrahedron: Asymmetry 17 (2006) 151



$C_{37}H_{43}NO_3$
(1*R*,2*R*)-1-(*N*-3',5'-Di-*tert*-butylsalicyliden)-amino-1-phenyl-3-diphenylmethoxypropan-2-ol

Ee = 100%

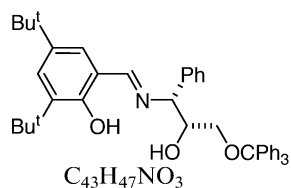
$[\alpha]_D^{23} = +34.2$ (*c* 1.0, $CHCl_3$)

Source of chirality: asymmetric synthesis

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

Belén Rodríguez, Mireia Pastó, Ciril Jimeno and Miquel A. Pericàs*

Tetrahedron: Asymmetry 17 (2006) 151



$C_{43}H_{47}NO_3$
(1*R*,2*R*)-1-(*N*-3',5'-Di-*tert*-butylsalicyliden)-amino-1-phenyl-3-triphenylmethoxypropan-2-ol

Ee = 100%

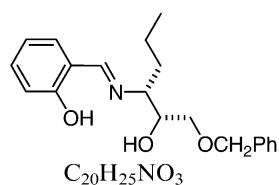
$[\alpha]_D^{23} = +19.8$ (*c* 1.0, $CHCl_3$)

Source of chirality: asymmetric synthesis

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

Belén Rodríguez, Mireia Pastó, Ciril Jimeno and Miquel A. Pericàs*

Tetrahedron: Asymmetry 17 (2006) 151



$C_{20}H_{25}NO_3$
(2*R*,3*R*)-3-(*N*-Salicyliden)-amino-1-benzyloxyhexan-2-ol

Ee = 100%

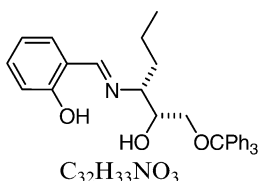
$[\alpha]_D^{23} = -48.5$ (*c* 1.0, $CHCl_3$)

Source of chirality: asymmetric synthesis

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

Belén Rodríguez, Mireia Pastó, Ciril Jimeno and Miquel A. Pericàs*

Tetrahedron: Asymmetry 17 (2006) 151



(2*R*,3*R*)-3-(*N*-Salicylidene)-amino-1-triphenylmethoxyhexan-2-ol

Ee = 100%

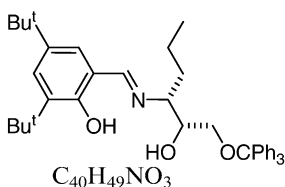
$[\alpha]_D^{23} = -19.0$ (*c* 1.0, $CHCl_3$)

Source of chirality: asymmetric synthesis

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

Belén Rodríguez, Mireia Pastó, Ciril Jimeno and Miquel A. Pericàs*

Tetrahedron: Asymmetry 17 (2006) 151



(2*R*,3*R*)-3-(*N*-3',5'-Di-*tert*-butylsalicylidene)-amino-1-triphenylmethoxyhexan-2-ol

Ee = 100%

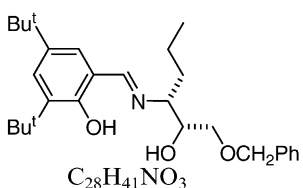
$[\alpha]_D^{23} = -16.3$ (*c* 1.0, $CHCl_3$)

Source of chirality: asymmetric synthesis

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

Belén Rodríguez, Mireia Pastó, Ciril Jimeno and Miquel A. Pericàs*

Tetrahedron: Asymmetry 17 (2006) 151



(2*R*,3*R*)-3-(*N*-3',5'-Di-*tert*-butylsalicylidene)-amino-1-benzyloxyhexan-2-ol

Ee = 100%

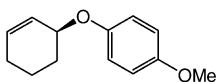
$[\alpha]_D^{23} = -37.3$ (*c* 1.0, $CHCl_3$)

Source of chirality: asymmetric synthesis

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

Yasuhiro Uozumi* and Masahiro Kimura

Tetrahedron: Asymmetry 17 (2006) 161



(*S*)-Cyclohex-2-enyl 4'-methoxyphenyl ether

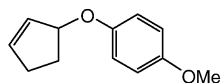
Ee = 86%

$[\alpha]_D^{25} = -102.5$ (*c* 1.3, dichloromethane)

Source of chirality: asymmetric synthesis

Yasuhiro Uozumi* and Masahiro Kimura

Tetrahedron: Asymmetry 17 (2006) 161



$C_{12}H_{14}O_2$

Cyclopent-2-enyl 4'-methoxyphenyl ether

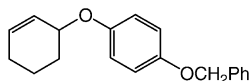
Ee = 84%

$[\alpha]_D^{25} = -68.0$ (c 1.0, dichloromethane)

Source of chirality: asymmetric synthesis

Yasuhiro Uozumi* and Masahiro Kimura

Tetrahedron: Asymmetry 17 (2006) 161



$C_{19}H_{20}O_2$

4'-Benzyloxyphenyl cyclohex-2-enyl ether

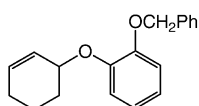
Ee = 85%

$[\alpha]_D^{25} = -78.2$ (c 1.2, dichloromethane)

Source of chirality: asymmetric synthesis

Yasuhiro Uozumi* and Masahiro Kimura

Tetrahedron: Asymmetry 17 (2006) 161



$C_{19}H_{20}O_2$

2'-Benzyloxyphenyl cyclohex-2-enyl ether

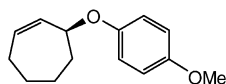
Ee = 88%

$[\alpha]_D^{25} = -81.0$ (c 1.0, dichloromethane)

Source of chirality: asymmetric synthesis

Yasuhiro Uozumi* and Masahiro Kimura

Tetrahedron: Asymmetry 17 (2006) 161



$C_{14}H_{18}O_2$

(S)-Cyclohept-2-enyl 4'-methoxyphenyl ether

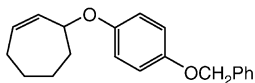
Ee = 92%

$[\alpha]_D^{24} = +3.4$ (c 1.2, dichloromethane)

Source of chirality: asymmetric synthesis

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$C_{20}H_{22}O_2$

4'-Benzyloxyphenyl cyclohept-2-enyl ether

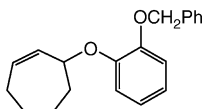
Ee = 89%

$[\alpha]_D^{25} = +7.4$ (c 1.0, dichloromethane)

Source of chirality: asymmetric synthesis

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$C_{20}H_{22}O_2$

2'-Benzyloxyphenyl cyclohept-2-enyl ether

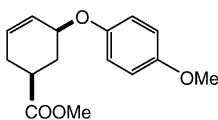
Ee = 93%

$[\alpha]_D^{25} = -8.1$ (c 1.7, dichloromethane)

Source of chirality: asymmetric synthesis

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$C_{15}H_{18}O_4$

cis-(5'-Methoxycarbonyl)cyclohex-2'-enyl 4-methoxyphenyl ether

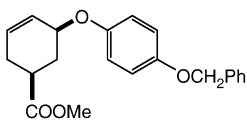
Ee = 93%

$[\alpha]_D^{25} = +5.9$ (c 1.2, dichloromethane)

Source of chirality: asymmetric synthesis

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$C_{21}H_{22}O_4$

cis-(5'-Methoxycarbonyl)cyclohex-2'-enyl 4-benzyloxyphenyl ether

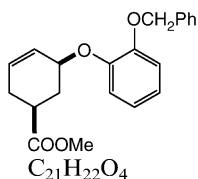
Ee = 93%

$[\alpha]_D^{25} = +7.1$ (c 1.3, dichloromethane)

Source of chirality: asymmetric synthesis

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cis-(5'-Methoxycarbonyl)cyclohex-2'-enyl 2-benzyloxyphenyl ether

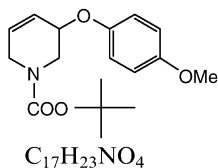
Ee = 94%

$[\alpha]_D^{25} = +1.0$ (c 1.2, dichloromethane)

Source of chirality: asymmetric synthesis

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tert-Butyl 3-(4'-methoxyphenoxy)-1,2,3,6-tetrahydropyridine-1-carboxylate

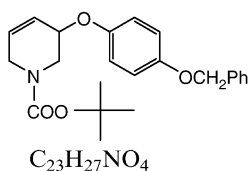
Ee = 94%

$[\alpha]_D^{25} = -45.7$ (c 0.8, dichloromethane)

Source of chirality: asymmetric synthesis

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tert-Butyl 3-(4'-benzyloxyphenoxy)-1,2,3,6-tetrahydropyridine-1-carboxylate

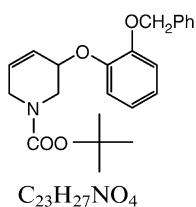
Ee = 94%

$[\alpha]_D^{25} = -34.7$ (c 0.7, dichloromethane)

Source of chirality: asymmetric synthesis

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tert-Butyl 3-(2'-benzyloxyphenoxy)-1,2,3,6-tetrahydropyridine-1-carboxylate

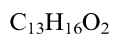
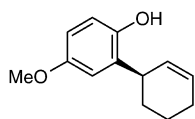
Ee = 92%

$[\alpha]_D^{25} = -45.1$ (c 0.7, dichloromethane)

Source of chirality: asymmetric synthesis

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(*R*)-2'-(Cyclohex-2-enyl)-4'-methoxyphenol

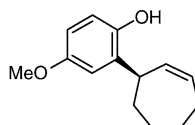
Ee = 83%

$[\alpha]_D^{25} = +95.0$ (*c* 1.0, dichloromethane)

Source of chirality: asymmetric synthesis

Yasuhiro Uozumi* and Masahiro Kimura

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(*R*)-2'-(Cyclohept-2-enyl)-4'-methoxyphenol

Ee = 90%

$[\alpha]_D^{25} = +35.5$ (*c* 1.1, dichloromethane)

Source of chirality: asymmetric synthesis