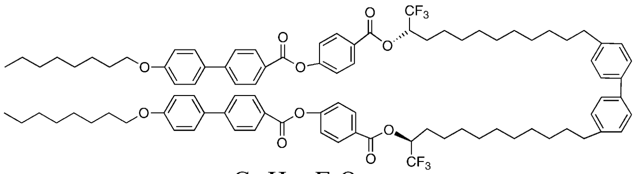
# Stereochemistry abstracts

Yumiko Takagi,* Fumi Yamana, Yousuke Sumino, Hideyuki Ito, Takashi Yoshida, Takashi Kato, Kazutoshi Miyazawa and Toshiyuki Itoh*

*Tetrahedron:* Asymmetry *15 (2004) 2591*



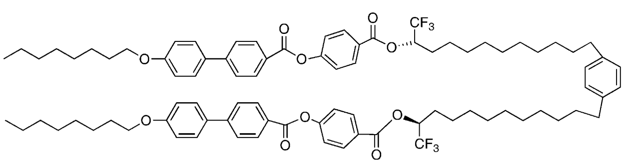
$C_{92}H_{108}F_6O_{10}$

De >98%
$[\alpha]_D = -45.3$ (*c* 1.05, $CHCl_3$)
Source of chirality: synthesis
Absolute configuration: 1*S*, (11*S*)

(1*S*)-1,1,1-Trifluoro-12-(4-((11*S*)-11,11,11-trifluoro-11-undecyl(4′-octyloxy-4-biphenylcarbonyloxy)benzoyl)biphenyl)-dodecan-2-yl 4-(4′-octyloxy-4-biphenylcarbo)benzoate

Yumiko Takagi,* Fumi Yamana, Yousuke Sumino, Hideyuki Ito, Takashi Yoshida, Takashi Kato, Kazutoshi Miyazawa and Toshiyuki Itoh*

*Tetrahedron:* Asymmetry *15 (2004) 2591*



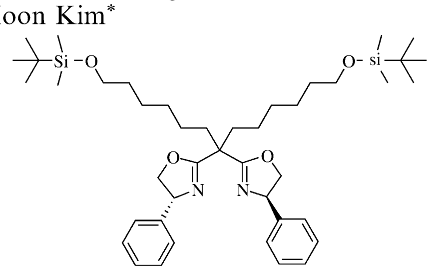
$C_{86}H_{104}F_6O_{10}$

De >98%
$[\alpha]_D = -30.0$ (*c* 1.05, $CHCl_3$)
Source of chirality: synthesis
Absolute configuration: 1*S*, (11*S*)

(1*S*)-1,1,1-Trifluoro-12-(4-(11*S*)-12,12,12-trifluoro-11-(4′-octyloxy-4-biphenylcarbobenzoyloxydodecyl)phenyl)dodecan-2-yl 4-(4′-octyloxy-4-biphenylcarbo)benzoate

Anna Lee, Woosung Kim, Jinwoo Lee, Taeghwan Hyeon* and B. Moon Kim*

*Tetrahedron:* Asymmetry *15 (2004) 2595*



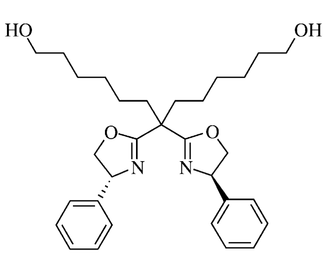
$C_{43}H_{70}N_2O_4Si_2$

Ee = >99%
$[\alpha]_D^{23} = +63.5$ (*c* 1.0, $C_2H_5OH$)
Source of chirality: commercial (*R*)-phenylglycine
Absolute configuration: (4*R*)

1,13-Bis(dimethyl-*tert*-butylsilyoxy)-7,7-bis(4-phenyl-4,5-dihydrooxazol-2-yl)tridecane

Anna Lee, Woosung Kim, Jinwoo Lee, Taeghwan Hyeon* and B. Moon Kim*

*Tetrahedron:* Asymmetry *15 (2004) 2595*



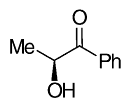
$C_{31}H_{42}N_4O_2$

Ee = >99%
$[\alpha]_D^{23} = +87.5$ (*c* 1.0, $C_2H_5OH$)
Source of chirality: commercial (*R*)-phenylglycine
Absolute configuration: (4*R*)

7,7-Bis[4(*R*)-phenyl-4,5-dihydrooxazol-2-yl]tridecane-1,13-diol

Ewa Krawczyk,* Marek Koprowski, Aleksandra Skowrońska and Jerzy Łuczak

*Tetrahedron:* Asymmetry *15 (2004) 2599*



$C_9H_{10}O_2$

(2*S*)-2-Hydroxy-1-phenyl-propan-1-one

Ee = 96% (HPLC)

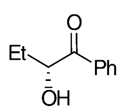
$[\alpha]_D^{20} = -82.7$ (*c* 3.6, $CHCl_3$)

Source of chirality: asymmetric synthesis by chiral catalyst

Absolute configuration (*S*)

Ewa Krawczyk,* Marek Koprowski, Aleksandra Skowrońska and Jerzy Łuczak

*Tetrahedron:* Asymmetry *15 (2004) 2599*



$C_{10}H_{12}O_2$

(*R*)-2-Hydroxy-1-phenyl-butan-1-one

Ee = 81% (HPLC)

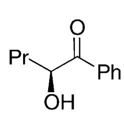
$[\alpha]_D^{20} = +40.5$ (*c* 0.3, $CHCl_3$)

Source of chirality: asymmetric synthesis by chiral catalyst

Absolute configuration (*R*)

Ewa Krawczyk,* Marek Koprowski, Aleksandra Skowrońska and Jerzy Łuczak

*Tetrahedron:* Asymmetry *15 (2004) 2599*



$C_{11}H_{14}O_2$

(2*S*)-2-Hydroxy-1-phenyl-pentan-1-one

Ee = 83% (HPLC)

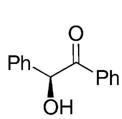
$[\alpha]_D^{20} = -14$ (*c* 0.3, $CHCl_3$)

Source of chirality: asymmetric synthesis by chiral catalyst

Absolute configuration (*S*)

Ewa Krawczyk,* Marek Koprowski, Aleksandra Skowrońska and Jerzy Łuczak

*Tetrahedron:* Asymmetry *15 (2004) 2599*



$C_{14}H_{12}O_2$

(2*S*)-2-Hydroxy-1,2-diphenyl-ethanone

Ee = 89% (HPLC)

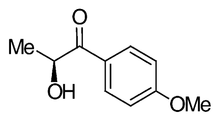
$[\alpha]_D^{20} = +138.4$ (*c* 0.25, $CHCl_3$)

Source of chirality: asymmetric synthesis by chiral catalyst

Absolute configuration (*S*)

Ewa Krawczyk,* Marek Koprowski, Aleksandra Skowrońska and Jerzy Łuczak

*Tetrahedron:* Asymmetry *15 (2004) 2599*




$C_{10}H_{12}O_3$

2(*S*)-2-Hydroxy-1-(4-methoxy-phenyl)-propan-1-one

Ee = 87% (HPLC)

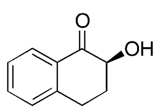
$[\alpha]_D^{20} = -30.7$ (*c* 0.88, $CHCl_3$)

Source of chirality: asymmetric synthesis by chiral catalyst

Absolute configuration (*S*)

Ewa Krawczyk,* Marek Koprowski, Aleksandra Skowrońska and Jerzy Łuczak

*Tetrahedron:* Asymmetry *15 (2004) 2599*




$C_{10}H_{10}O_2$

(2*S*)-2-Hydroxy-3,4-dihydro-2*H*-naphthalen-1-one

Ee = 83% (HPLC)

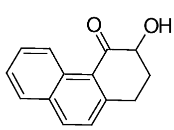
$[\alpha]_D^{20} = -27.0$ (*c* 0.1, $CHCl_3$)

Source of chirality: asymmetric synthesis by chiral catalyst

Absolute configuration (*S*)

Ewa Krawczyk,* Marek Koprowski, Aleksandra Skowrońska and Jerzy Łuczak

*Tetrahedron:* Asymmetry *15 (2004) 2599*




$C_{14}H_{12}O_2$

3-Hydroxy-2,3-dihydro-1H-phenanthren-4-one

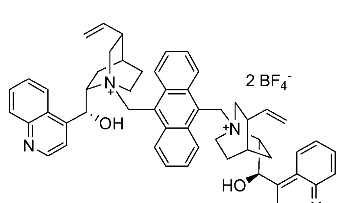
Ee = 81% (HPLC)

$[\alpha]_D^{20} = +17.5$ (*c* 0.4, $CHCl_3$)

Source of chirality: asymmetric synthesis by chiral catalyst

Rafael Chinchilla, Patricia Mazón, Carmen Nájera* and Francisco J. Ortega

*Tetrahedron:* Asymmetry *15 (2004) 2603*




$C_{54}H_{56}B_2F_8N_4O_2$

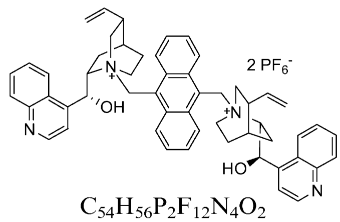
α,α′-Bis(cinchonidinium)-9,10-dimethylanthracene ditetrafluoroborate

$[\alpha]_D^{25} = -210$ (*c* 0.3, acetone)

Source of chirality: (−)-cinchonidine

Rafael Chinchilla, Patricia Mazón, Carmen Nájera* and Francisco J. Ortega

*Tetrahedron:* Asymmetry *15 (2004) 2603*



$C_{54}H_{56}P_2F_{12}N_4O_2$

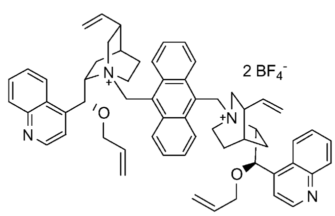
α,α′-Bis(cinchonidinium)-9,10-dimethylanthracene dihexafluorophosphate

$[\alpha]_D^{25} = -352$ ($c$ 0.5, acetone)

Source of chirality: (−)-cinchonidine

Rafael Chinchilla, Patricia Mazón, Carmen Nájera* and Francisco J. Ortega

*Tetrahedron:* Asymmetry *15 (2004) 2603*



$C_{60}H_{64}B_2F_8N_4O_2$

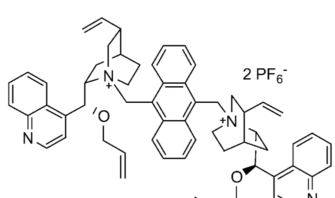
α,α′-Bis[*O*(9)-allylcinchonidinium]-9,10-dimethylanthracene ditetrafluoroborate

$[\alpha]_D^{25} = -378$ ($c$ 0.5, $CHCl_3$)

Source of chirality: (−)-cinchonidine

Rafael Chinchilla, Patricia Mazón, Carmen Nájera* and Francisco J. Ortega

*Tetrahedron:* Asymmetry *15 (2004) 2603*



$C_{60}H_{64}P_2F_{12}N_4O_2$

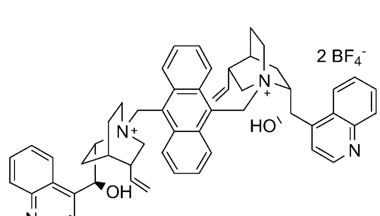
α,α′-Bis[*O*(9)-allylcinchonidinium]-9,10-dimethylanthracene dihexafluorophosphate

$[\alpha]_D^{25} = -144$ ($c$ 0.1, $CHCl_3$)

Source of chirality: (−)-cinchonidine

Rafael Chinchilla, Patricia Mazón, Carmen Nájera* and Francisco J. Ortega

*Tetrahedron:* Asymmetry *15 (2004) 2603*



$C_{54}H_{56}B_2F_8N_4O_2$

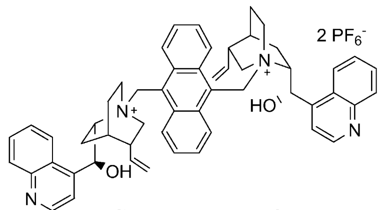
α,α′-Bis(cinchoninium)-9,10-dimethylanthracene ditetrafluoroborate

$[\alpha]_D^{25} = +246$ ($c$ 0.3, acetone)

Source of chirality: (+)-cinchonine

Rafael Chinchilla, Patricia Mazón, Carmen Nájera* and
Francisco J. Ortega

*Tetrahedron:* Asymmetry *15 (2004) 2603*



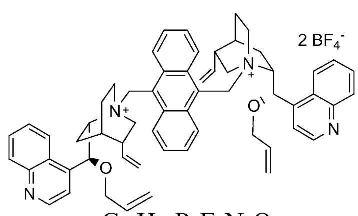

$C_{54}H_{56}P_2F_{12}N_4O_2$

α,α′-Bis(cinchoninium)-9,10-dimethylanthracene dihexafluorophosphate

$[\alpha]_D^{25} = +245$ (*c* 0.3, acetone)
Source of chirality: (+)-cinchonine

Rafael Chinchilla, Patricia Mazón, Carmen Nájera* and
Francisco J. Ortega

*Tetrahedron:* Asymmetry *15 (2004) 2603*



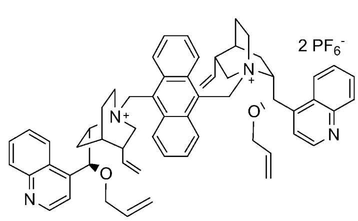

$C_{60}H_{64}B_2F_8N_4O_2$

α,α′-Bis[*O*(9)-allylcinchoninium]-9,10-dimethylanthracene ditetrafluoroborate

$[\alpha]_D^{25} = +162$ (*c* 0.5, $CHCl_3$)
Source of chirality: (+)-cinchonine

Rafael Chinchilla, Patricia Mazón, Carmen Nájera* and
Francisco J. Ortega

*Tetrahedron:* Asymmetry *15 (2004) 2603*



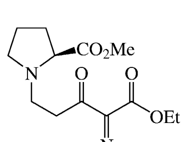

$C_{60}H_{64}P_2F_{12}N_4O_2$

α,α′-Bis[*O*(9)-allylcinchoninium]-9,10-dimethylanthracene dihexafluorophosphate

$[\alpha]_D^{25} = +108$ (*c* 0.3, $CHCl_3$)
Source of chirality: (+)-cinchonine

Daniele Muroni, Antonio Saba* and Nicola Culeddu

*Tetrahedron:* Asymmetry *15 (2004) 2609*



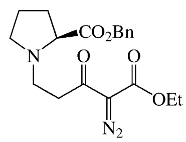

$C_{13}H_{19}N_3O_5$

(2*S*)-1-(4-Diazo-4-ethoxycarbonyl-3-oxo-butyl)-pyrrolidine-2-carboxylic acid methyl ester

Ee = 100%
$[\alpha]_D^{25} = -56.1$ (*c* 1.7, $CHCl_3$)
Source of chirality: L-proline
Absolute configuration: (2*S*)

Daniele Muroni, Antonio Saba* and Nicola Culeddu

*Tetrahedron:* Asymmetry *15 (2004) 2609*



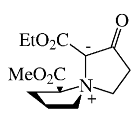

$C_{19}H_{23}N_3O_5$

(2*S*)-1-(4-Diazo-4-ethoxycarbonyl-3-oxo-butyl)-pyrrolidine-2-carboxylic acid benzyl ester

Ee = 100%
$[\alpha]_D^{25} = -43.3$ (*c* 1, $CHCl_3$)
Source of chirality: L-proline
Absolute configuration: (2*S*)

Daniele Muroni, Antonio Saba* and Nicola Culeddu

*Tetrahedron:* Asymmetry *15 (2004) 2609*



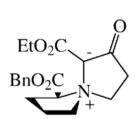

$C_{13}H_{19}NO_5$

(5*S*,6*R*)-1-Ethoxycarbonyl-6-methoxycarbonyl-2-oxo-5-azonia[4,4]nonane-1-ylide

Ee = 100%
$[\alpha]_D^{25} = -69.6$ (*c* 0.47, $CHCl_3$)
Source of chirality: L-proline
Absolute configuration: (5*S*,6*R*)

Daniele Muroni, Antonio Saba* and Nicola Culeddu

*Tetrahedron:* Asymmetry *15 (2004) 2609*



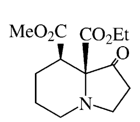

$C_{19}H_{23}NO_5$

(5*S*,6*R*)-1-Ethoxycarbonyl-6-benzyloxycarbonyl-2-oxo-5-azonia[4,4]nonane-1-ylide

Ee = 100%
$[\alpha]_D^{25} = -80.9$ (*c* 0.22, $CHCl_3$)
Source of chirality: L-proline
Absolute configuration: (5*S*,6*R*)

Daniele Muroni, Antonio Saba* and Nicola Culeddu

*Tetrahedron:* Asymmetry *15 (2004) 2609*



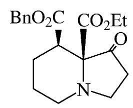

$C_{13}H_{19}NO_5$

(8*R*,8a*R*)-1-Oxo-hexahydro-indolizine-8,8a-dicarboxylic acid 8a-ethyl ester 8-methyl ester

Ee = 95%
$[\alpha]_D^{25} = -92$ (*c* 0.5, $CHCl_3$)
Source of chirality: L-proline
Absolute configuration: (8*R*,8a*R*)

Daniele Muroni, Antonio Saba* and Nicola Culeddu

*Tetrahedron:* Asymmetry *15 (2004) 2609*




$C_{19}H_{23}NO_5$

(8*R*,8a*R*)-1-Oxo-hexahydro-indolizine-8,8a-dicarboxylic acid 8a-ethyl ester 8-benzyl ester

Ee = 95%

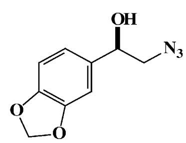
$[\alpha]_D^{25} = -70.1$ (*c* 1.5, $CHCl_3$)

Source of chirality: L-proline

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

Heidi Antunes, Lucídio C. Fardelone, J. Augusto R. Rodrigues and Paulo J. S. Moran*

*Tetrahedron:* Asymmetry *15 (2004) 2615*




$C_9H_9N_3O_3$

2-Azido-1-(1,3-benzodioxol-5-yl)-1-ethanol

Ee >99%

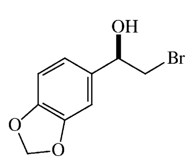
$[\alpha]_D^{25} = -70.0$ (*c* 1, $CHCl_3$)

Source of chirality: asymmetric reduction mediated by *Rhodothorula glutinis*

Absolute configuration: *R*

Heidi Antunes, Lucídio C. Fardelone, J. Augusto R. Rodrigues and Paulo J. S. Moran*

*Tetrahedron:* Asymmetry *15 (2004) 2615*




$C_9H_9BrO_3$

2-Bromo-1-(1,3-benzodioxol-5-yl)-1-ethanol

Ee >99%

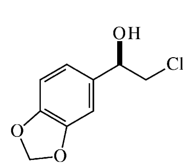
$[\alpha]_D^{25} = -33.2$ (*c* 1, $CHCl_3$)

Source of chirality: asymmetric reduction mediated by *R. glutinis*

Absolute configuration: *R*

Heidi Antunes, Lucídio C. Fardelone, J. Augusto R. Rodrigues and Paulo J. S. Moran*

*Tetrahedron:* Asymmetry *15 (2004) 2615*




$C_9H_9ClO_3$

2-Chloro-1-(1,3-benzodioxol-5-yl)-1-ethanol

Ee >99%

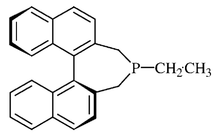
$[\alpha]_D^{25} = -36.0$ (*c* 1, $CHCl_3$)

Source of chirality: asymmetric reduction mediated by *R. glutinis*

Absolute configuration: *R*

Kathrin Junge, Bernhard Hagemann, Stephan Enthaler, Anke Spannenberg, Manfred Michalik, Günther Oehme, Axel Monsees, Thomas Riermeier and Matthias Beller*

*Tetrahedron:* Asymmetry *15 (2004) 2621*



$C_{24}H_{21}P$

(*S*)-4-Ethyl-4,5-dihydro-3*H*-dinaphtho[2,1-*c*;1′,2′-*e*]-phosphepine

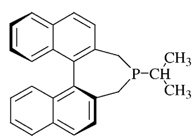
Ee >99%

$[\alpha]_D^{23} = +301$ (*c* 1, toluene)

Source of chirality: (*S*)-2,2′-binaphthol

Kathrin Junge, Bernhard Hagemann, Stephan Enthaler, Anke Spannenberg, Manfred Michalik, Günther Oehme, Axel Monsees, Thomas Riermeier and Matthias Beller*

*Tetrahedron:* Asymmetry *15 (2004) 2621*



$C_{25}H_{23}P$

(*S*)-4-*iso*-Propyl-4,5-dihydro-3*H*-dinaphtho[2,1-*c*;1′,2′-*e*]phosphepine

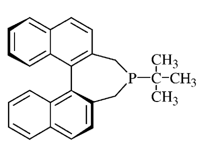
Ee >99%

$[\alpha]_D^{24} = +218$ (*c* 0.5, toluene)

Source of chirality: (*S*)-2,2′-binaphthol

Kathrin Junge, Bernhard Hagemann, Stephan Enthaler, Anke Spannenberg, Manfred Michalik, Günther Oehme, Axel Monsees, Thomas Riermeier and Matthias Beller*

*Tetrahedron:* Asymmetry *15 (2004) 2621*



$C_{26}H_{25}P$

(*S*)-4-*tert*-Butyl-4,5-dihydro-3*H*-dinaphtho[2,1-*c*;1′,2′-*e*]phosphepine

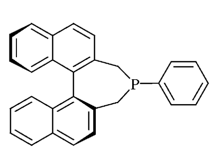
Ee >99%

$[\alpha]_D^{24} = +304$ (*c* 0.5, toluene)

Source of chirality: (*S*)-2,2′-binaphthol

Kathrin Junge, Bernhard Hagemann, Stephan Enthaler, Anke Spannenberg, Manfred Michalik, Günther Oehme, Axel Monsees, Thomas Riermeier and Matthias Beller*

*Tetrahedron:* Asymmetry *15 (2004) 2621*



$C_{28}H_{21}P$

(*S*)-4-Phenyl-4,5-dihydro-3*H*-dinaphtho[2,1-*c*;1′,2′-*e*]phosphepine

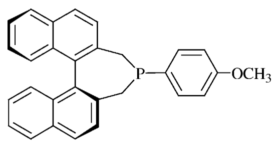
Ee >99%

$[\alpha]_D^{23} = -27$ (*c* 0.5, toluene)

Source of chirality: (*S*)-2,2′-binaphthol

Kathrin Junge, Bernhard Hagemann, Stephan Enthaler, Anke Spannenberg, Manfred Michalik, Günther Oehme, Axel Monsees, Thomas Riermeier and Matthias Beller*

*Tetrahedron:* Asymmetry *15 (2004) 2621*



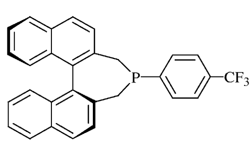

$C_{29}H_{28}OP$

(*S*)-4-(4-Methoxy)-phenyl-4,5-dihydro-3*H*-dinaphtho[2,1-*c*;1′,2′-*e*]phosphepine

Ee >99%
$[\alpha]_D^{23} = -35$ (*c* 0.01, toluene)
Source of chirality: (*S*)-2,2′-binaphthol

Kathrin Junge, Bernhard Hagemann, Stephan Enthaler, Anke Spannenberg, Manfred Michalik, Günther Oehme, Axel Monsees, Thomas Riermeier and Matthias Beller*

*Tetrahedron:* Asymmetry *15 (2004) 2621*



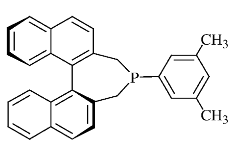

$C_{29}H_{20}PF_3$

(*S*)-4-(4-Trifluoromethyl)-phenyl-4,5-dihydro-3*H*-dinaphtho[2,1-*c*;1′,2′-*e*]phosphepine

Ee >99%
$[\alpha]_D^{23} = -34.3$ (*c* 0.01, toluene)
Source of chirality: (*S*)-2,2′-binaphthol

Kathrin Junge, Bernhard Hagemann, Stephan Enthaler, Anke Spannenberg, Manfred Michalik, Günther Oehme, Axel Monsees, Thomas Riermeier and Matthias Beller*

*Tetrahedron:* Asymmetry *15 (2004) 2621*



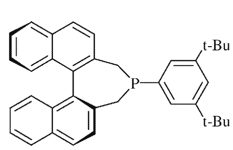

$C_{30}H_{25}P$

(*S*)-4-(3,5-Dimethyl)-phenyl-4,5-dihydro-3*H*-dinaphtho[2,1-*c*;1′,2′-*e*]phosphepine

Ee >99%
$[\alpha]_D^{26} = +12$ (*c* 0.5, toluene)
Source of chirality: (*S*)-2,2′-binaphthol

Kathrin Junge, Bernhard Hagemann, Stephan Enthaler, Anke Spannenberg, Manfred Michalik, Günther Oehme, Axel Monsees, Thomas Riermeier and Matthias Beller*

*Tetrahedron:* Asymmetry *15 (2004) 2621*



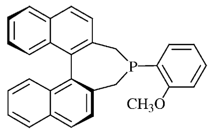

$C_{36}H_{37}P$

(*S*)-4-(3,5-Di-*t*-butyl)-phenyl-4,5-dihydro-3*H*-dinaphtho[2,1-*c*;1′,2′-*e*]phosphepine

Ee >99%
$[\alpha]_D^{26} = +48$ (*c* 0.5, toluene)
Source of chirality: (*S*)-2,2′-binaphthol

Kathrin Junge, Bernhard Hagemann, Stephan Enthaler, Anke Spannenberg, Manfred Michalik, Günther Oehme, Axel Monsees, Thomas Riermeier and Matthias Beller*

*Tetrahedron:* Asymmetry *15 (2004) 2621*



$C_{29}H_{23}OP$

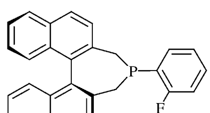
(*S*)-4-(2-Methoxy)-phenyl-4,5-dihydro-3*H*-dinaphtho[2,1-*c*;1′,2′-*e*]phosphepine

Ee >99%
$[\alpha]_D^{25} = -189$ (*c* 0.5, toluene)
Source of chirality: (*S*)-2,2′-binaphthol

---

Kathrin Junge, Bernhard Hagemann, Stephan Enthaler, Anke Spannenberg, Manfred Michalik, Günther Oehme, Axel Monsees, Thomas Riermeier and Matthias Beller*

*Tetrahedron:* Asymmetry *15 (2004) 2621*



$C_{28}H_{20}PF$

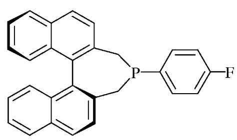
(*S*)-4-(2-Fluoro)-phenyl-4,5-dihydro-3*H*-dinaphtho[2,1-*c*;1′,2′-*e*]phosphepine

Ee >99%
$[\alpha]_D^{23} = -157$ (*c* 0.5, toluene)
Source of chirality: (*S*)-2,2′-binaphthol

---

Kathrin Junge, Bernhard Hagemann, Stephan Enthaler, Anke Spannenberg, Manfred Michalik, Günther Oehme, Axel Monsees, Thomas Riermeier and Matthias Beller*

*Tetrahedron:* Asymmetry *15 (2004) 2621*



$C_{28}H_{20}PF$

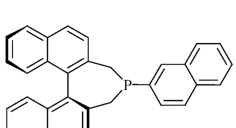
(*S*)-4-(4-Fluoro)-phenyl-4,5-dihydro-3*H*-dinaphtho[2,1-*c*;1′,2′-*e*]phosphepine

Ee >99%
$[\alpha]_D^{23} = -16$ (*c* 0.5, toluene)
Source of chirality: (*S*)-2,2′-binaphthol

---

Kathrin Junge, Bernhard Hagemann, Stephan Enthaler, Anke Spannenberg, Manfred Michalik, Günther Oehme, Axel Monsees, Thomas Riermeier and Matthias Beller*

*Tetrahedron:* Asymmetry *15 (2004) 2621*



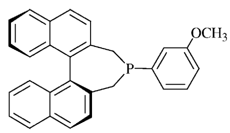
$C_{32}H_{23}P$

(*S*)-4-(2-Naphthyl)-4,5-dihydro-3*H*-dinaphtho[2,1-*c*;1′,2′-*e*]phosphepine

Ee >99%
$[\alpha]_D^{24} = -89$ (*c* 0.5, toluene)
Source of chirality: (*S*)-2,2′-binaphthol

Kathrin Junge, Bernhard Hagemann, Stephan Enthaler, Anke Spannenberg, Manfred Michalik, Günther Oehme, Axel Monsees, Thomas Riermeier and Matthias Beller*

*Tetrahedron:* Asymmetry *15 (2004) 2621*




$C_{29}H_{23}OP$

(*S*)-4-(3-Methoxy)-phenyl-4,5-dihydro-3*H*-dinaphtho[2,1-*c*;1′,2′-*e*]phosphepine

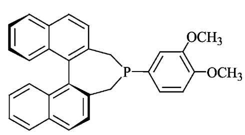
Ee >99% (NMR)

$[\alpha]_D^{24} = -15$ (*c* 0.3, toluene)

Source of chirality: asymmetric synthesis

Kathrin Junge, Bernhard Hagemann, Stephan Enthaler, Anke Spannenberg, Manfred Michalik, Günther Oehme, Axel Monsees, Thomas Riermeier and Matthias Beller*

*Tetrahedron:* Asymmetry *15 (2004) 2621*




$C_{30}H_{25}O_2P$

(*S*)-4-(3,4-Dimethoxy)-phenyl-4,5-dihydro-3*H*-dinaphtho[2,1-*c*;1′,2′-*e*]phosphepine

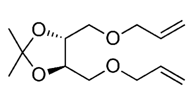
Ee >99%

$[\alpha]_D^{24} = -33.5$ (*c* 0.4, toluene)

Source of chirality: (*S*)-2,2′-binaphthol

Jerome Bayardon, David Maillard, Gianluca Pozzi and Denis Sinou*

*Tetrahedron:* Asymmetry *15 (2004) 2633*




$C_{13}H_{22}O_4$

(4*R*,5*R*)-Bis[(allyloxy)methyl]-2,2-dimethyl-1,3-dioxolane

Ee = 100%

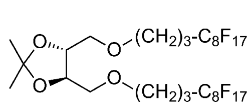
$[\alpha]_D^{25} = +13.3$ (*c* 1, $CHCl_3$)

Source of chirality: asymmetric synthesis

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

Jerome Bayardon, David Maillard, Gianluca Pozzi and Denis Sinou*

*Tetrahedron:* Asymmetry *15 (2004) 2633*




$C_{29}H_{24}O_4F_{34}$

2,2-Dimethyl-(4*R*,5*R*)-bis[(1*H*,1*H*,2*H*,2*H*,3*H*,3*H*-perfluoroundecyloxy)methyl]-1,3-dioxolane

Ee = 100%

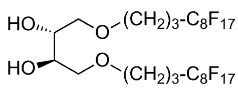
$[\alpha]_D^{25} = +3.2$ (*c* 0.76, $CHCl_3$)

Source of chirality: asymmetric synthesis

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

Jerome Bayardon, David Maillard, Gianluca Pozzi and Denis Sinou*

*Tetrahedron:* Asymmetry *15 (2004) 2633*




$C_{26}H_{20}O_4F_{34}$

(2*R*,3*R*)-1,4-Bis(1*H*,1*H*,2*H*,2*H*,3*H*,3*H*-perfluoroundecyloxy)butane-2,3-diol

Ee = 100%

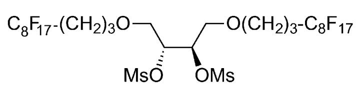
$[\alpha]_D^{25} = +0.7$ (*c* 0.4, $Et_2O$)

Source of chirality: asymmetric synthesis

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

Jerome Bayardon, David Maillard, Gianluca Pozzi and Denis Sinou*

*Tetrahedron:* Asymmetry *15 (2004) 2633*




$C_{28}H_{24}O_8F_{34}S_2$

(2*R*,3*R*)-1,4-Bis(1*H*,1*H*,2*H*,2*H*,3*H*,3*H*-perfluoroundecyloxy)butane-2,3-diyl dimethanesulfonate

Ee = 100%

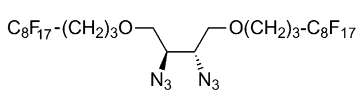
$[\alpha]_D^{25} = +6.8$ (*c* 0.5, $CHCl_3$)

Source of chirality: asymmetric synthesis

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

Jerome Bayardon, David Maillard, Gianluca Pozzi and Denis Sinou*

*Tetrahedron:* Asymmetry *15 (2004) 2633*




$C_{26}H_{18}O_2F_{34}N_6$

(2*R*,3*R*)-1,4-Bis(1*H*,1*H*,2*H*,2*H*,3*H*,3*H*-perfluoroundecyloxy)-2,3-diazidobutane

Ee = 100%

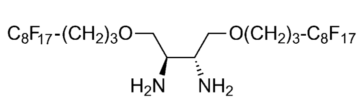
$[\alpha]_D^{25} = +13.3$ (*c* 0.5, $CHCl_3$)

Source of chirality: asymmetric synthesis

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

Jerome Bayardon, David Maillard, Gianluca Pozzi and Denis Sinou*

*Tetrahedron:* Asymmetry *15 (2004) 2633*




$C_{26}H_{22}O_2F_{34}N_2$

(2*R*,3*R*)-1,4-Bis(1*H*,1*H*,2*H*,2*H*,3*H*,3*H*-perfluoroundecyloxy)-2,3-diaminobutane

Ee = 100%

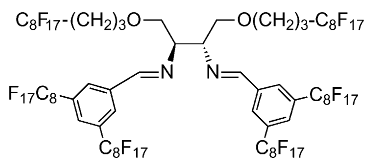
$[\alpha]_D^{25} = -1.8$ (*c* 0.5, $CHCl_3$)

Source of chirality: asymmetric synthesis

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

Jerome Bayardon, David Maillard, Gianluca Pozzi and Denis Sinou*

*Tetrahedron:* Asymmetry *15 (2004) 2633*



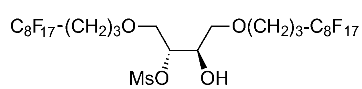

Ee = 100%
$[\alpha]_D^{25} = +16.1$ (*c* 0.5, FC-72)
Source of chirality: asymmetric synthesis
Absolute configuration: (2*R*,3*R*)

$C_{26}H_{20}O_4F_{34}$

(2*R*,3*R*)-*N*,*N'*-Bis{(1*E*)-[3,5-bis(perfluorooctyl)phenyl]methylene}-1,4-bis(1*H*,1*H*,2*H*,2*H*,3*H*,3*H*-perfluoroundecyloxy)-butane-2,3-diamine

Jerome Bayardon, David Maillard, Gianluca Pozzi and Denis Sinou*

*Tetrahedron:* Asymmetry *15 (2004) 2633*



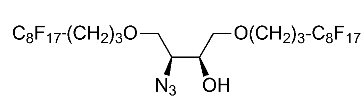

Ee = 100%
$[\alpha]_D^{25} = +6.4$ (*c* 0.45, $CHCl_3$)
Source of chirality: asymmetric synthesis
Absolute configuration: (1*R*,2*R*)

$C_{27}H_{22}O_6F_{34}S$

(1*R*,2*R*)-3-(1*H*,1*H*,2*H*,2*H*,3*H*,3*H*-perfluoroundecyloxy)-1-[(1*H*,1*H*,2*H*,2*H*,3*H*,3*H*-perfluoroundecyloxy)methyl]-2-hydroxypropyl methanesulfonate

Jerome Bayardon, David Maillard, Gianluca Pozzi and Denis Sinou*

*Tetrahedron:* Asymmetry *15 (2004) 2633*



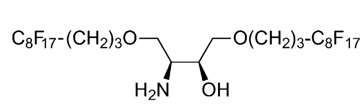

Ee = 100%
$[\alpha]_D^{25} = +9.8$ (*c* 0.5, $CHCl_3$)
Source of chirality: asymmetric synthesis
Absolute configuration: (2*S*,3*S*)

$C_{26}H_{19}O_3F_{34}N_3$

(2*S*,3*S*)-3-Azido-1,4-bis(1*H*,1*H*,2*H*,2*H*,3*H*,3*H*-perfluoroundecyloxy)butan-2-ol

Jerome Bayardon, David Maillard, Gianluca Pozzi and Denis Sinou*

*Tetrahedron:* Asymmetry *15 (2004) 2633*



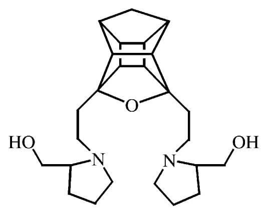

Ee = 100%
$[\alpha]_D^{25} = +1.2$ (*c* 0.5, $CHCl_3$)
Source of chirality: asymmetric synthesis
Absolute configuration: (2*S*,3*S*)

$C_{49}H_{25}O_3F_{68}N$

(2*S*,3*S*)-3-Amino-1,4-bis(1*H*,1*H*,2*H*,2*H*,3*H*,3*H*-perfluoroundecyloxy)butan-2-ol

Grant A. Boyle, Thavendran Govender, Hendrik G. Kruger* and Glenn E. M. Maguire

*Tetrahedron:* Asymmetry *15 (2004) 2661*

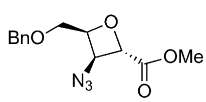


$C_{25}H_{38}N_2O_3$

$[\alpha]_D^{22} = -39.4$ ($c$ = 5, $CHCl_3$)
Source of chirality: ($S$)-(+)-prolinol
Absolute configuration: ($S$,$S$)

Sarah F. Jenkinson (née Barker), Timothy Harris and George W. J. Fleet*

*Tetrahedron:* Asymmetry *15 (2004) 2667*



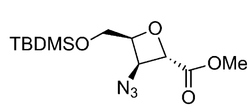
$C_{13}H_{15}N_3O_4$

Methyl 2,4-anhydro-3-azido-5-*O*-benzyl-3-deoxy-D-lyxonate

Ee = 100%
$[\alpha]_D^{26} = +44.1$ ($c$ 0.95, $CHCl_3$)
Source of chirality: D-xylose as starting material

Sarah F. Jenkinson (née Barker), Timothy Harris and George W. J. Fleet*

*Tetrahedron:* Asymmetry *15 (2004) 2667*



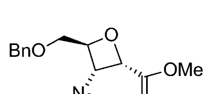
$C_{12}H_{23}N_3O_4Si$

Methyl 2,4-anhydro-3-azido-5-*O*-*tert*butyldimethylsilyl-3-deoxy-D-lyxonate

Ee = 100%
$[\alpha]_D^{25} = +33.2$ ($c$ 1.02, $CHCl_3$)
Source of chirality: D-xylose as starting material

Sarah F. Jenkinson (née Barker), Timothy Harris and George W. J. Fleet*

*Tetrahedron:* Asymmetry *15 (2004) 2667*



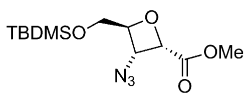
$C_{13}H_{15}N_3O_4$

Methyl 2,4-anhydro-3-azido-5-O-benzyl-3-deoxy-D-arabinonate

Ee = 100%
$[\alpha]_D^{25} = +128.8$ ($c$ 1.05, $CHCl_3$)
Source of chirality: D-xylose as starting material

Sarah F. Jenkinson (née Barker), Timothy Harris and George W. J. Fleet*

*Tetrahedron:* Asymmetry *15 (2004) 2667*



$C_{12}H_{23}N_3O_4Si$

Methyl 2,4-anhydro-3-azido-5-*O*-*tert*butyldimethylsilyl-3-deoxy-D-arabinonate

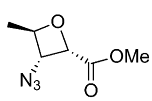
Ee = 100%

$[\alpha]_D^{24} = +95.7$ (*c* 1.27, $CHCl_3$)

Source of chirality: D-xylose as starting material

Sarah F. Jenkinson (née Barker), Timothy Harris and George W. J. Fleet*

*Tetrahedron:* Asymmetry *15 (2004) 2667*



$C_6H_9N_3O_3$

Methyl 2,4-anhydro-3-azido-5-deoxy-D-arabinonate

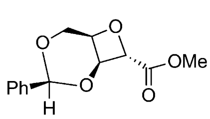
Ee = 100%

$[\alpha]_D^{25} = +123.9$ (*c* 0.36, $CHCl_3$)

Source of chirality: D-xylose as starting material

Sarah F. Jenkinson (née Barker), Timothy Harris and George W. J. Fleet*

*Tetrahedron:* Asymmetry *15 (2004) 2667*



$C_{13}H_{14}O_5$

Methyl 2,4-anhydro-(*S*)-3,5-*O*-benzylidene-D-lyxonate

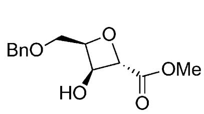
Ee = 100%

$[\alpha]_D^{22} = -30.5$ (*c* 0.98, $CHCl_3$)

Source of chirality: D-xylose as starting material

Sarah F. Jenkinson (née Barker), Timothy Harris and George W. J. Fleet*

*Tetrahedron:* Asymmetry *15 (2004) 2667*



$C_{13}H_{16}O_5$

Methyl 2,4-anhydro-5-*O*-benzyl-D-lyxonate

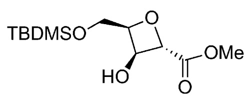
Ee = 100%

$[\alpha]_D^{25} = -5.6$ (*c* 0.9, $CHCl_3$)

Source of chirality: D-xylose as starting material

Sarah F. Jenkinson (née Barker), Timothy Harris and George W. J. Fleet*

*Tetrahedron:* Asymmetry *15 (2004) 2667*



$C_{12}H_{24}O_5Si$

Methyl 2,4-anhydro-5-*O*-*tert*butyldimethysilyl-D-lyxonate

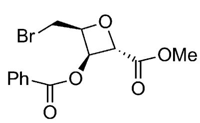
Ee = 100%

$[\alpha]_D^{24} = -9.7$ (*c* 0.97, $CHCl_3$)

Source of chirality: D-xylose as starting material

Sarah F. Jenkinson (née Barker), Timothy Harris and George W. J. Fleet*

*Tetrahedron:* Asymmetry *15 (2004) 2667*



$C_{13}H_{13}BrO_5$

Methyl 2,4-anhydro-3-*O*-benzoyl-5-bromo-5-deoxy-D-lyxonate

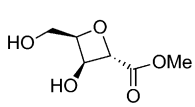
Ee = 100%

$[\alpha]_D^{22} = -10.5$ (*c* 1.03, $CHCl_3$)

Source of chirality: D-xylose as starting material

Sarah F. Jenkinson (née Barker), Timothy Harris and George W. J. Fleet*

*Tetrahedron:* Asymmetry *15 (2004) 2667*



$C_6H_{10}O_5$

Methyl 2,4-anhydro-D-lyxonate

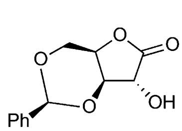
Ee = 100%

$[\alpha]_D^{24} = -27.1$ (*c* 0.92, $CHCl_3$)

Source of chirality: D-xylose as starting material

Sarah F. Jenkinson (née Barker), Timothy Harris and George W. J. Fleet*

*Tetrahedron:* Asymmetry *15 (2004) 2667*



$C_{12}H_{12}O_6$

(*S*)-3,5-*O*-Benzylidene-D-xylono-1,4-lactone

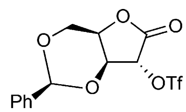
Ee = 100%

$[\alpha]_D^{22} = +70.2$ (*c* 1.0, acetone)

Source of chirality: D-xylose as starting material

Sarah F. Jenkinson (née Barker), Timothy Harris and George W. J. Fleet*

*Tetrahedron:* Asymmetry *15 (2004) 2667*



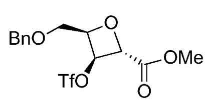

$C_{13}H_{11}F_3O_7S$

(*S*)-3,5-*O*-Benzylidene-2-*O*-trifluoromethanesulphonyl-D-xylono-1,4-lactone

Ee = 100%
$[\alpha]_D^{22} = +63.5$ (*c* 0.89, acetone)
Source of chirality: D-xylose as starting material

Sarah F. Jenkinson (née Barker), Timothy Harris and George W. J. Fleet*

*Tetrahedron:* Asymmetry *15 (2004) 2667*



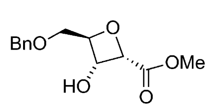

$C_{14}H_{15}F_3O_7S$

Methyl 2,4-anhydro-5-*O*-benzyl-3-*O*-trifluoromethanesulphonyl-D-lyxonate

Ee = 100%
$[\alpha]_D^{23} = +24.6$ (*c* 1.06, $CHCl_3$)
Source of chirality: D-xylose as starting material

Sarah F. Jenkinson (née Barker), Timothy Harris and George W. J. Fleet*

*Tetrahedron:* Asymmetry *15 (2004) 2667*



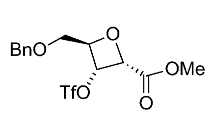

$C_{13}H_{16}O_5$

Methyl 2,4-anhydro-5-*O*-benzyl-D-arabinonate

Ee = 100%
$[\alpha]_D^{24} = -17.2$ (*c* 1.04, $CHCl_3$)
Source of chirality: D-xylose as starting material

Sarah F. Jenkinson (née Barker), Timothy Harris and George W. J. Fleet*

*Tetrahedron:* Asymmetry *15 (2004) 2667*



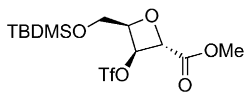

$C_{14}H_{15}F_3O_7S$

Methyl 2,4-anhydro-5-*O*-benzyl-3-*O*-trifluoromethanesulphonyl-D-arabinonate

Ee = 100%
$[\alpha]_D^{24} = +33.1$ (*c* 0.86, $CHCl_3$)
Source of chirality: D-xylose as starting material

Sarah F. Jenkinson (née Barker), Timothy Harris and George W. J. Fleet*

*Tetrahedron:* Asymmetry *15 (2004) 2667*



$C_{13}H_{23}F_3O_7SSi$

Methyl 2,4-anhydro-5-*O*-*tert*butyldimethylsilyl-3-*O*-trifluoromethanesulphonyl-D-lyxonate

Ee = 100%

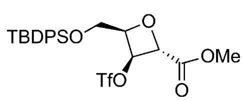
$[\alpha]_D^{24} = +15.4$ (*c* 0.85, $CHCl_3$)

Source of chirality: D-xylose as starting material

---

Sarah F. Jenkinson (née Barker), Timothy Harris and George W. J. Fleet*

*Tetrahedron:* Asymmetry *15 (2004) 2667*



$C_{23}H_{27}F_3O_7SSi$

Methyl 2,4-anhydro-5-*O*-*tert*butyldiphenylsilyl-3-*O*-trifluoromethanesulphonyl-D-lyxonate

Ee = 100%

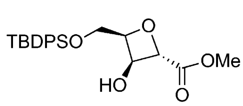
$[\alpha]_D^{25} = +16.2$ (*c* 0.97, $CHCl_3$)

Source of chirality: D-xylose as starting material

---

Sarah F. Jenkinson (née Barker), Timothy Harris and George W. J. Fleet*

*Tetrahedron:* Asymmetry *15 (2004) 2667*



$C_{22}H_{28}O_5Si$

Methyl 2,4-anhydro-5-*O*-*tert*butyldiphenylsilyl-D-lyxonate

Ee = 100%

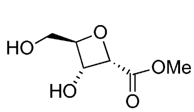
$[\alpha]_D^{25} = +3.0$ (*c* 1.03, $CHCl_3$)

Source of chirality: D-xylose as starting material

---

Sarah F. Jenkinson (née Barker), Timothy Harris and George W. J. Fleet*

*Tetrahedron:* Asymmetry *15 (2004) 2667*



$C_6H_{10}O_5$

Methyl 2,4-anhydro-D-arabinonate

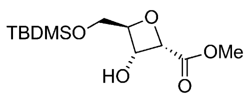
Ee = 100%

$[\alpha]_D^{26} = -5.7$ (*c* 1.04, MeOH)

Source of chirality: D-xylose as starting material

Sarah F. Jenkinson (née Barker), Timothy Harris and George W. J. Fleet*

*Tetrahedron:* Asymmetry *15 (2004) 2667*




$C_{12}H_{24}O_5Si$

Methyl 2,4-anhydro-5-*O*-*tert*butyldimethylsilyl-D-arabinonate

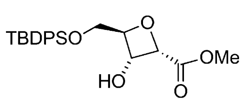
Ee = 100%

$[\alpha]_D^{26} = -21.6$ (*c* 0.93, $CHCl_3$)

Source of chirality: D-xylose as starting material

Sarah F. Jenkinson (née Barker), Timothy Harris and George W. J. Fleet*

*Tetrahedron:* Asymmetry *15 (2004) 2667*




$C_{23}H_{28}O_5Si$

Methyl 2,4-anhydro-5-*O*-*tert*butyldimethylsilyl-D-arabinonate

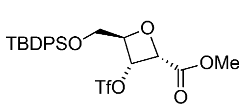
Ee = 100%

$[\alpha]_D^{25} = -21.6$ (*c* 1.03, $CHCl_3$)

Source of chirality: D-xylose as starting material

Sarah F. Jenkinson (née Barker), Timothy Harris and George W. J. Fleet*

*Tetrahedron:* Asymmetry *15 (2004) 2667*




$C_{23}H_{27}F_3O_7SSi$

Methyl 2,4-anhydro-5-*O*-*tert*butyldiphenylsilyl-3-*O*-trifluoromethanesulphonyl-D-arabinonate

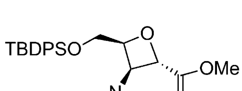
Ee = 100%

$[\alpha]_D^{25} = +10.5$ (*c* 1.05, $CHCl_3$)

Source of chirality: D-xylose as starting material

Sarah F. Jenkinson (née Barker), Timothy Harris and George W. J. Fleet*

*Tetrahedron:* Asymmetry *15 (2004) 2667*




$C_{22}H_{27}N_3O_4Si$

Methyl 2,4-anhydro-3-azido-5-*O*-*tert*butyldiphenylsilyl-3-deoxy-D-lyxonate

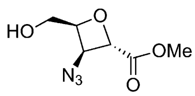
Ee = 100%

$[\alpha]_D^{25} = +23.3$ (*c* 1.0, $CHCl_3$)

Source of chirality: D-xylose as starting material

Sarah F. Jenkinson (née Barker), Timothy Harris and
George W. J. Fleet*

*Tetrahedron:* Asymmetry *15 (2004) 2667*

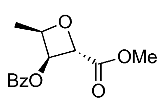



$C_6H_9N_3O_4$
Methyl 2,4-anhydro-3-azido-3-deoxy-D-lyxonate

Ee = 100%
$[\alpha]_D^{26} = +10.4$ (*c* 0.99, $CHCl_3$)
Source of chirality: D-xylose as starting material

Sarah F. Jenkinson (née Barker), Timothy Harris and
George W. J. Fleet*

*Tetrahedron:* Asymmetry *15 (2004) 2667*

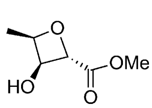



$C_{13}H_{14}O_5$
Methyl 2,4-anhydro-5-deoxy-4-*O*-benzoyl-D-lyxonate

Ee = 100%
$[\alpha]_D^{20} = +50.7$ (*c* 1.0, $CHCl_3$)
Source of chirality: D-xylose as starting material

Sarah F. Jenkinson (née Barker), Timothy Harris and
George W. J. Fleet*

*Tetrahedron:* Asymmetry *15 (2004) 2667*

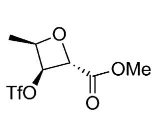



$C_6H_{10}O_4$
Methyl 2,4-anhydro-5-deoxy-D-lyxonate

Ee = 100%
$[\alpha]_D^{20} = -45.3$ (*c* 1.0, $CHCl_3$)
Source of chirality: D-xylose as starting material

Sarah F. Jenkinson (née Barker), Timothy Harris and
George W. J. Fleet*

*Tetrahedron:* Asymmetry *15 (2004) 2667*

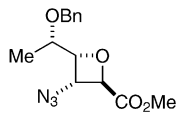



$C_7H_9F_3O_6S$
Methyl 2,4-anhydro-5-deoxy-3-*O*-trifluoromethanesulphonyl-D-lyxonate

Ee = 100%
$[\alpha]_D^{22} = +22.6$ (*c* 1.0, $CHCl_3$)
Source of chirality: D-xylose as starting material

Stephen W. Johnson, Sarah F. Jenkinson (née Barker), Donald Angus, John H. Jones, George W. J. Fleet* and Claude Taillefumier

*Tetrahedron:* Asymmetry *15 (2004) 2681*




$C_{14}H_{17}N_3O_4$

Methyl 2,4-anhydro-3-azido-3-deoxy-5-*O*-benzyl-L-rhamnonate

Ee = 100%

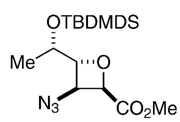
$[\alpha]_D^{22} = -30.0$ (*c* 1.0, $CHCl_3$)

Source of chirality: L-rhamnose as starting material

---

Stephen W. Johnson, Sarah F. Jenkinson (née Barker), Donald Angus, John H. Jones, George W. J. Fleet* and Claude Taillefumier

*Tetrahedron:* Asymmetry *15 (2004) 2681*




$C_{13}H_{25}N_3O_4Si$

Methyl 2,4-anhydro-3-azido-5-*O*-*tert*-butyldimethylsilyl-3,6-dideoxy-L-altronate

Ee = 100%

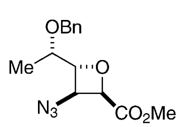
$[\alpha]_D^{22} = -69.5$ (*c* 0.8, $CHCl_3$)

Source of chirality: L-rhamnose as starting material

---

Stephen W. Johnson, Sarah F. Jenkinson (née Barker), Donald Angus, John H. Jones, George W. J. Fleet* and Claude Taillefumier

*Tetrahedron:* Asymmetry *15 (2004) 2681*




$C_{14}H_{17}N_3O_4$

Methyl 2,4-anhydro-3-azido-3,6-dideoxy-5-*O*-benzyl-L-altronate

Ee = 100%

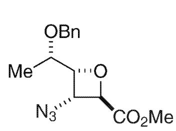
$[\alpha]_D^{22} = -106.3$ (*c* 1.4, $CHCl_3$)

Source of chirality: L-rhamnose as starting material

---

Stephen W. Johnson, Sarah F. Jenkinson (née Barker), Donald Angus, John H. Jones, George W. J. Fleet* and Claude Taillefumier

*Tetrahedron:* Asymmetry *15 (2004) 2681*




$C_{13}H_{26}O_5Si$

Methyl 2,4-anhydro-5-*O*-*tert*-butylmethylsilyl-6-L-rhamnonate

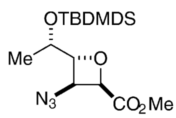
Ee = 100%

$[\alpha]_D^{22} = +0.65$ (*c* 0.8, $CHCl_3$)

Source of chirality: L-rhamnose as starting material

Stephen W. Johnson, Sarah F. Jenkinson (née Barker), Donald Angus, John H. Jones, George W. J. Fleet* and Claude Taillefumier

*Tetrahedron:* Asymmetry *15 (2004) 2681*




$C_{14}H_{25}F_3O_7SSi$

Methyl 2,4-anhydro-5-*O*-*tert*-butyldimethylsilyl-3-*O*-trifluoromethanesulfonyl-L-rhamnonate

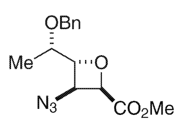
Ee = 100%

$[\alpha]_D^{22} = +17.7$ (*c* 1.13, $CHCl_3$)

Source of chirality: L-rhamnose as starting material

Stephen W. Johnson, Sarah F. Jenkinson (née Barker), Donald Angus, John H. Jones, George W. J. Fleet* and Claude Taillefumier

*Tetrahedron:* Asymmetry *15 (2004) 2681*




$C_{14}H_{18}O_5$

Methyl 2,4-anhydro-5-*O*-benzyl-L-rhamnonate

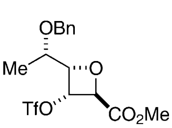
Ee = 100%

$[\alpha]_D^{22} = +69.7$ (*c* 1.1, $CHCl_3$)

Source of chirality: L-rhamnose as starting material

Stephen W. Johnson, Sarah F. Jenkinson (née Barker), Donald Angus, John H. Jones, George W. J. Fleet* and Claude Taillefumier

*Tetrahedron:* Asymmetry *15 (2004) 2681*




$C_{15}H_{17}F_3O_7S$

Methyl 2,4-anhydro-5-*O*-benzyl-3-*O*-trifluoromethanesulfonyl-L-rhamnonate

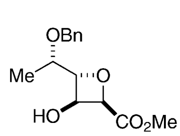
Ee = 100%

$[\alpha]_D^{22} = +13.4$ (*c* 1.1, $CHCl_3$)

Source of chirality: L-rhamnose as starting material

Stephen W. Johnson, Sarah F. Jenkinson (née Barker), Donald Angus, John H. Jones, George W. J. Fleet* and Claude Taillefumier

*Tetrahedron:* Asymmetry *15 (2004) 2681*




$C_{14}H_{18}O_5$

Methyl 2,4-anhydro-6-dideoxy-5-*O*-benzyl-L-altronate

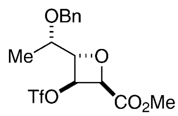
Ee = 100%

$[\alpha]_D^{22} = +30.5$ (*c* 0.5, $CHCl_3$)

Source of chirality: L-rhamnose as starting material

Stephen W. Johnson, Sarah F. Jenkinson (née Barker), Donald Angus, John H. Jones, George W. J. Fleet* and Claude Taillefumier

*Tetrahedron:* Asymmetry *15 (2004) 2681*




$C_{15}H_{17}F_3O_7S$

Methyl 2,4-anhydro-5-*O*-benzyl-6-deoxy-3-*O*-trifluoromethanesulfonyl-L-altronate

Ee = 100%

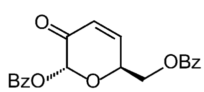
$[\alpha]_D^{22} = -33.2$ (*c* 0.9, $CHCl_3$)

Source of chirality: L-rhamnose as starting material

---

Andrea Boettcher and Frieder W. Lichtenthaler*

*Tetrahedron:* Asymmetry *15 (2004) 2693*




$C_{20}H_{16}O_6$

(2*R*,6*S*)-2-Benzoyloxy-6-(benzoyloxymethyl)-2*H*-pyran-3(6*H*)-one

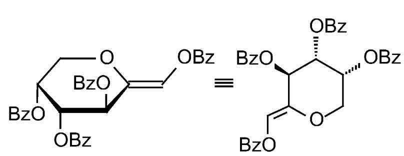
$[\alpha]_D^{20} = -168.8$ (*c* 1, $CHCl_3$)

Source of chirality: D-glucose

---

Andrea Boettcher and Frieder W. Lichtenthaler*

*Tetrahedron:* Asymmetry *15 (2004) 2693*




$C_{34}H_{26}O_9$

1,3,4,5-Tetra-*O*-benzoyl-2,6-anhydro-D-*arabino*-hex-1-(*Z*)-enitol

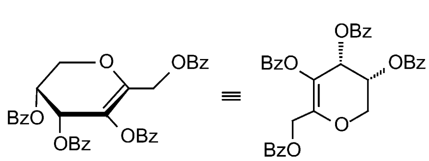
$[\alpha]_D^{20} = -48.6$ (*c* 1, $CHCl_3$)

Source of chirality: D-fructose

---

Andrea Boettcher and Frieder W. Lichtenthaler*

*Tetrahedron:* Asymmetry *15 (2004) 2693*




$C_{34}H_{26}O_9$

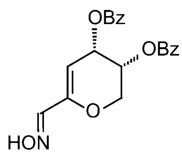
(3*R*,4*R*)-3,4,5-Tri(benzoyloxy)-6-benzoyloxymethyl-3,4-dihydro-2*H*-pyran

$[\alpha]_D^{20} = +7.1$ (*c* 2.7, $CHCl_3$)

Source of chirality: D-fructose

Andrea Boettcher and Frieder W. Lichtenthaler*

*Tetrahedron:* Asymmetry *15 (2004) 2693*



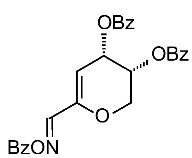

$C_{20}H_{17}NO_6$

(3*S*,4*S*)-Bis(benzoyloxy)-6-formyl-3,4-dihydro-2*H*-pyran oxime

$[\alpha]_D^{20} = +205.3$ (*c* 1, $CHCl_3$)
Source of chirality: D-fructose

Andrea Boettcher and Frieder W. Lichtenthaler*

*Tetrahedron:* Asymmetry *15 (2004) 2693*



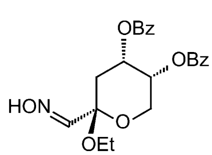

$C_{27}H_{21}NO_7$

(3*R*,4*S*)-3,4-Di(benzoyloxy)-6-formyl-3,4-dihydro-2*H*-pyran *O*-benzoyloxime

$[\alpha]_D^{20} = +205.5$ (*c* 1, $CHCl_3$)
Source of chirality: D-fructose

Andrea Boettcher and Frieder W. Lichtenthaler*

*Tetrahedron:* Asymmetry *15 (2004) 2693*



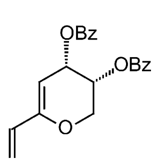

$C_{22}H_{23}NO_7$

(2*S*,4*S*,5*R*)-4,5-Di(benzoyloxy)-2-ethoxy-2-formyl-tetrahydropyran oxime

$[\alpha]_D^{20} = -152.8$ (*c* 1, $CHCl_3$)
Source of chirality: D-fructose

Andrea Boettcher and Frieder W. Lichtenthaler*

*Tetrahedron:* Asymmetry *15 (2004) 2693*




$C_{21}H_{18}O_5$

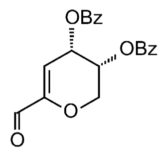
(3*R*,4*S*)-3,4-Di(benzoyloxy)-6-vinyl-3,4-dihydro-2*H*-pyran

$[\alpha]_D^{20} = +322.6$ (*c* 1, acetone)
Source of chirality: D-fructose

Andrea Boettcher and Frieder W. Lichtenthaler*

*Tetrahedron:* Asymmetry *15 (2004) 2693*

$[\alpha]_D^{20} = +148.2$ (*c* 1.4, $CHCl_3$)
Source of chirality: D-fructose

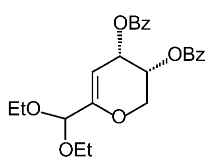


$C_{20}H_{16}O_6$
(3*R*,4*S*)-3,4-Di(benzoyloxy)-6-formyl-3,4-dihydro-2*H*-pyran

Andrea Boettcher and Frieder W. Lichtenthaler*

*Tetrahedron:* Asymmetry *15 (2004) 2693*

$[\alpha]_D^{20} = +145.3$ (*c* 1, $CHCl_3$)
Source of chirality: D-fructose

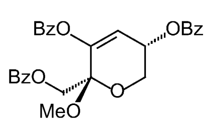


$C_{24}H_{26}O_7$
(3*R*,4*S*)-3,4-Di(benzoyloxy)-6-(diethoxy)methyl-3,4-dihydro-2*H*-pyran

Andrea Boettcher and Frieder W. Lichtenthaler*

*Tetrahedron:* Asymmetry *15 (2004) 2693*

$[\alpha]_D^{20} = -60.6$ (*c* 1, $CHCl_3$)
Source of chirality: D-fructose

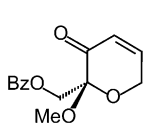


$C_{28}H_{24}O_8$
(2*R*,5*S*)-3,5-Di(benzoyloxy)-2-(benzoyloxymethyl)-2-methoxy-5,6-dihydro-2*H*-pyran

Andrea Boettcher and Frieder W. Lichtenthaler*

*Tetrahedron:* Asymmetry *15 (2004) 2693*

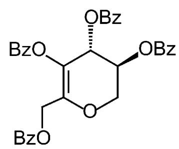
$[\alpha]_D^{20} = -74.3$ (*c* 1.1, $CHCl_3$)
Source of chirality: D-fructose



$C_{14}H_{14}O_5$
(2*R*)-2-(Benzoyloxymethyl)-2-methoxy-2*H*-pyran-3(6*H*)-one

Andrea Boettcher and Frieder W. Lichtenthaler*

*Tetrahedron:* Asymmetry *15 (2004) 2693*




$C_{34}H_{26}O_9$

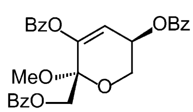
(3*S*,4*R*)-3,4,5-Tri(benzoyloxy)-6-benzoyloxymethyl-3,4-dihydro-2*H*-pyran

$[\alpha]_D^{20} = +173.1$ (*c* 1, $CHCl_3$)

Source of chirality: L-sorbose

Andrea Boettcher and Frieder W. Lichtenthaler*

*Tetrahedron:* Asymmetry *15 (2004) 2693*




$C_{28}H_{24}O_8$

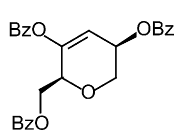
(2*S*,5*R*)-3,5-Di(benzoyloxy)-2-benzoyloxymethyl-2-methoxy-5,6-dihydro-2*H*-pyran

$[\alpha]_D^{20} = +63.1$ (*c* 1.1, $CHCl_3$)

Source of chirality: L-sorbose

Andrea Boettcher and Frieder W. Lichtenthaler*

*Tetrahedron:* Asymmetry *15 (2004) 2693*




$C_{27}H_{22}O_7$

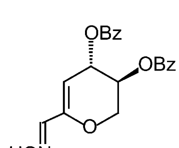
(2*S*,5*R*)-3,5-Di(benzoyloxy)-2-benzoyloxymethyl-5,6-dihydro-2*H*-pyran

$[\alpha]_D^{20} = +6.2$ (*c* 1, $CHCl_3$)

Source of chirality: L-sorbose

Andrea Boettcher and Frieder W. Lichtenthaler*

*Tetrahedron:* Asymmetry *15 (2004) 2693*




$C_{20}H_{17}NO_4$

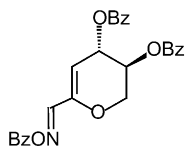
(3*S*,4*S*)-3,4-Di(benzoyloxy)-6-formyl-3,4-dihydro-2*H*-pyranoxime

$[\alpha]_D^{20} = +243.5$ (*c* 1.1, $CHCl_3$)

Source of chirality: L-sorbose

Andrea Boettcher and Frieder W. Lichtenthaler*

*Tetrahedron:* Asymmetry *15 (2004) 2693*




$C_{27}H_{21}NO_7$

(3*S*,4*S*)-3,4-Di(benzoyloxy)-6-formyl-3,4-dihydro-2*H*-pyran *O*-benzoyloxime

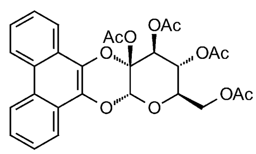
$[\alpha]_D^{20} = +183.7$ (*c* 1, $CHCl_3$)

Source of chirality: L-sorbose

---

Frieder W. Lichtenthaler,* Thomas Weimer and Stefan Immel

*Tetrahedron:* Asymmetry *15 (2004) 2703*




$C_{28}H_{26}O_{11}$

1,2-*O*-(9,10-Phenanthrenediyl) 2-acetoxy-3,4,6-tri-*O*-acetyl-α-D-glucopyranoside

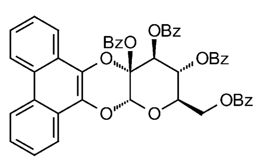
$[\alpha]_D^{20} = +9.2$ (*c* 1.1, $CHCl_3$)

Source of chirality: D-glucose

---

Frieder W. Lichtenthaler,* Thomas Weimer and Stefan Immel

*Tetrahedron:* Asymmetry *15 (2004) 2703*




$C_{48}H_{34}O_{11}$

1,2-*O*-(9,10-Phenanthrenediyl) 2-benzoyloxy-3,4,6-tri-*O*-benzoyl-α-D-glucopyranoside

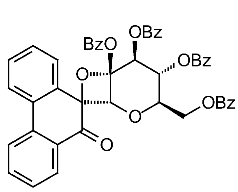
$[\alpha]_D^{20} = +24.2$ (*c* 1.1, $CHCl_3$)

Source of chirality: D-glucose

---

Frieder W. Lichtenthaler,* Thomas Weimer and Stefan Immel

*Tetrahedron:* Asymmetry *15 (2004) 2703*




$C_{48}H_{34}O_{11}$

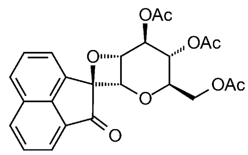
(1*S*,3*R*,4*S*,5*R*,6*R*,8*S*)-4,5-Bis(benzoyloxy)-3-benzoyloxymethyl-8,8-(spiro-9-phenantrone-10-ylidene)-2,7-dioxabicyclo[4.2.0]-octane

$[\alpha]_D^{20} = +441$ (*c* 1.1, $CHCl_3$)

Source of chirality: D-glucose

Frieder W. Lichtenthaler,* Thomas Weimer and Stefan Immel

*Tetrahedron:* Asymmetry *15 (2004) 2703*



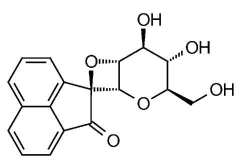
$[\alpha]_D^{20} = +188$ (*c* 1.1, $CHCl_3$)
Source of chirality: D-glucose

$C_{24}H_{22}O_9$

(1*S*,3*R*,4*S*,5*R*,6*R*,8*S*)-4,5-Bis(acetoxy)-3-acetoxymethyl-8,8-(spiro-1-acenaphthone-2-ylidene)-2,7-dioxabicyclo[4.2.0]octane

Frieder W. Lichtenthaler,* Thomas Weimer and Stefan Immel

*Tetrahedron:* Asymmetry *15 (2004) 2703*



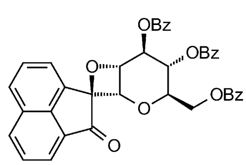
$[\alpha]_D^{20} = +176$ (*c* 1, MeOH)
Source of chirality: D-glucose

$C_8H_{16}O_6$

(1*S*,3*R*,4*S*,5*R*,6*R*,8*S*)-3-Hydroxymethyl-8,8-(spiro-1-acenaphthone-2-ylidene)-2,7-dioxabicyclo[4.2.0]octane-4,5-diol

Frieder W. Lichtenthaler,* Thomas Weimer and Stefan Immel

*Tetrahedron:* Asymmetry *15 (2004) 2703*

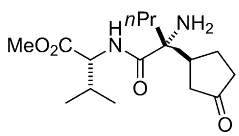


$[\alpha]_D^{20} = +190$ (*c* 0.7, $CHCl_3$)
Source of chirality: D-glucose

$C_{39}H_{28}O_9$

Mioara Andrei, Christian Römming and Kjell Undheim*

*Tetrahedron:* Asymmetry *15 (2004) 2711*




$C_{16}H_{28}N_2O_4$

(1″*S*,2*R*,2′*R*)-2-[2-Amino-2-(3-oxocyclopent-1-yl)pentanoylamino]-3-methylbutyric acid methyl ester

Ee = >95%

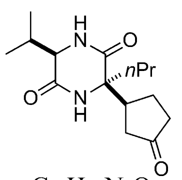
$[\alpha]_D^{20} = -13.6$ (*c* 0.28, $CH_2Cl_2$)

Source of chirality: (*R*)-2-isopropyl-3,6-dimethoxy-2,5-dihydropyrazine

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

Mioara Andrei, Christian Römming and Kjell Undheim*

*Tetrahedron:* Asymmetry *15 (2004) 2711*




$C_{15}H_{24}N_2O_3$

(1′*S*,3*R*,6*R*)-6-Isopropyl-3-(3-oxocyclopent-1-yl)-3-propylpiperazine-2,5-dione

Ee = >95%

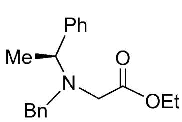
$[\alpha]_D^{20} = -14.6$ (*c* 0.38, AcOH)

Source of chirality: (*R*)-2-isopropyl-3,6-dimethoxy-2,5-dihydropyrazine

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

Mario Ordóñez,* Angelina González-Morales and Humberto Salazar-Fernández

*Tetrahedron:* Asymmetry *15 (2004) 2719*




$C_{19}H_{23}NO_2$

Ethyl (*S*)-(−)-(*N*-benzyl-*N*-α-methylbenzyl)glycinate

Ee >98%

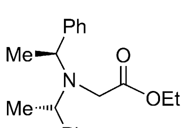
$[\alpha]_D^{20} = -45.5$ (*c* 1.67, $CHCl_3$)

Source of chirality: synthesis

Absolute configuration: (*S*)

Mario Ordóñez,* Angelina González-Morales and Humberto Salazar-Fernández

*Tetrahedron:* Asymmetry *15 (2004) 2719*




$C_{20}H_{25}NO_2$

Ethyl (*S*,*S*)-(−)-*N*,*N*-bis(α-methylbenzyl)glycinate

Ee >98%

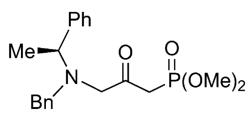
$[\alpha]_D^{20} = -51.3$ (*c* 6.15, $CHCl_3$)

Source of chirality: synthesis

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

Mario Ordóñez,* Angelina González-Morales and Humberto Salazar-Fernández

*Tetrahedron:* Asymmetry *15 (2004) 2719*



$C_{20}H_{26}NO_4P$

Dimethyl (*S*)-(−)-3-(*N*-benzyl-*N*-α-methylbenzyl)amino-2-oxopropylphosphonate

Ee >98%

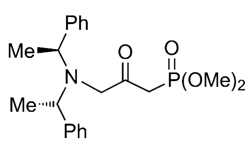
$[\alpha]_D^{20} = -28.4$ (*c* 8.81, $CHCl_3$)

Source of chirality: synthesis

Absolute configuration: (*S*)

Mario Ordóñez,* Angelina González-Morales and Humberto Salazar-Fernández

*Tetrahedron:* Asymmetry *15 (2004) 2719*



$C_{21}H_{28}NO_4P$

Dimethyl (*S*,*S*)-(−)-3-*N*,*N*-bis(α-methylbenzyl)amino-2-oxopropylphosphonate

Ee >98%

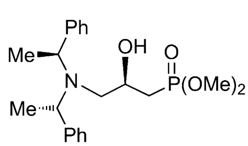
$[\alpha]_D^{20} = -13.7$ (*c* 5.1, $CHCl_3$)

Source of chirality: synthesis

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

Mario Ordóñez,* Angelina González-Morales and Humberto Salazar-Fernández

*Tetrahedron:* Asymmetry *15 (2004) 2719*



$C_{21}H_{30}NO_4P$

Dimethyl 3-[(*S*,*S*)-*N*,*N*-bis(α-methylbenzyl)amino]-(2*R*)-hydroxypropylphosphonate

De >98%

$[\alpha]_D^{20} = +23.1$ (*c* 0.59, $CHCl_3$)

Source of chirality: synthesis

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