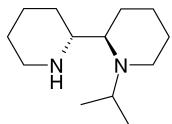


Stereochemistry abstracts

Marju Laars, Kadri Kriis, Tiiu Kailas, Aleksander-Mati Müürisepp, Tõnis Pehk, Tõnis Kanger\* and Margus Lopp

*Tetrahedron: Asymmetry* 19 (2008) 641



$C_{13}H_{26}N_2$   
(2R,2'R)-N-iPr-2,2'-Bipiperidine

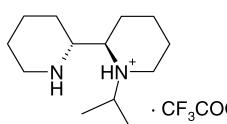
$[\alpha]_D^{18} = +45$  (*c* 7.0, MeOH)

Source of chirality: resolution with L-tartaric acid

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

Marju Laars, Kadri Kriis, Tiiu Kailas, Aleksander-Mati Müürisepp, Tõnis Pehk, Tõnis Kanger\* and Margus Lopp

*Tetrahedron: Asymmetry* 19 (2008) 641



$C_{15}H_{27}F_3N_2O_2$   
(2*R*,2'*R*)-N-iPr-2,2'-Bipiperidine trifluoroacetic acid salt

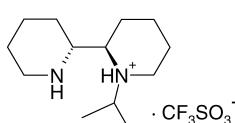
$[\alpha]_D^{20} = -4.2$  (*c* 5.6, MeOH)

Source of chirality: resolution with L-tartaric acid

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

Marju Laars, Kadri Kriis, Tiiu Kailas, Aleksander-Mati Müürisepp, Tõnis Pehk, Tõnis Kanger\* and Margus Lopp

*Tetrahedron: Asymmetry* 19 (2008) 641



$C_{14}H_{27}F_3N_2O_3S$   
(2*R*,2'*R*)-N-iPr-2,2'-Bipiperidine trifluoromethanesulfonic acid salt

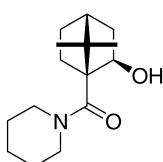
$[\alpha]_D^{23} = -3.6$  (*c* 5.2, MeOH)

Source of chirality: resolution with L-tartaric acid

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

Tomás de las Casas Engel, Beatriz Lora Maroto, Antonio García Martínez and Santiago de la Moya Cerero\*

*Tetrahedron: Asymmetry* 19 (2008) 646



$C_{16}H_{25}N_2O$   
(1*S*)-10-Oxo-10-piperidin-1-ylisoborneol

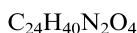
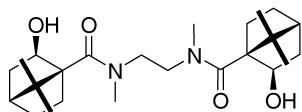
Source of chirality: (1*S*)-ketopinic acid

$[\alpha]_D^{20} = -0.7$  (*c* 1.34, CHCl<sub>3</sub>)

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

Tomás de las Casas Engel, Beatriz Lora Maroto,  
Antonio García Martínez and Santiago de la Moya Cerero\*

*Tetrahedron: Asymmetry* 19 (2008) 646



*N,N'-Bis{[(1S,2R)-7,7-dimethyl-2-hydroxynorborn-1-yl]carbonyl}-N,N'-dimethylethane-1,2-diamine*

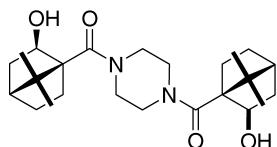
Source of chirality: (1*S*)-ketopinic acid

[ $\alpha$ ]<sub>D</sub><sup>20</sup> = -73.6 (c 0.28, CHCl<sub>3</sub>)

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

Tomás de las Casas Engel, Beatriz Lora Maroto,  
Antonio García Martínez and Santiago de la Moya Cerero\*

*Tetrahedron: Asymmetry* 19 (2008) 646



*N,N'-Bis{[(1S,2R)-7,7-dimethyl-2-hydroxynorborn-1-yl]carbonyl}piperazine*

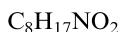
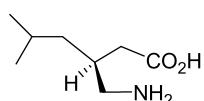
Source of chirality: (1*S*)-ketopinic acid

[ $\alpha$ ]<sub>D</sub><sup>20</sup> = -50.9 (c 0.17, CHCl<sub>3</sub>)

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

Sandra Izquierdo, Jordi Aguilera, Helmut H. Buschmann,  
Mónica García, Antoni Torrens\* and Rosa M. Ortúñoz\*

*Tetrahedron: Asymmetry* 19 (2008) 651



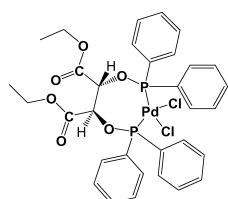
(3*S*)-3-Aminomethyl-5-methylhexanoic acid

[ $\alpha$ ]<sub>D</sub> = +10.0 (c 0.5, H<sub>2</sub>O)

Source of chirality: D-mannitol and stereoselective synthesis

Rakesh K. Sharma, Munirathnam Nethaji and Ashoka G. Samuelson\*

*Tetrahedron: Asymmetry* 19 (2008) 655

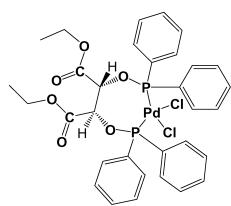


[(2*R*,3*R*)-Diethyl 2,3-bis(diphenylphosphinoxy) succinate PdCl<sub>2</sub>]

[ $\alpha$ ]<sub>D</sub><sup>25</sup> = +59.2 (c 1.0, CHCl<sub>3</sub>)

Source of chirality: L-tartaric acid

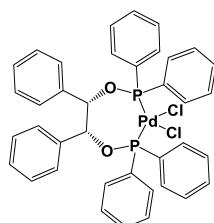
Absolute configuration: (2*R*,3*R*)


 $[\alpha]_D^{25} = -52.9$  (*c* 1.0, CH<sub>2</sub>Cl<sub>2</sub>)

Source of chirality: D-tartaric acid

Absolute configuration: (2S,3S)

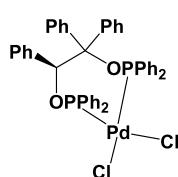
C<sub>32</sub>H<sub>32</sub>P<sub>2</sub>O<sub>6</sub>PdCl<sub>2</sub>  
[(2S,3S)-Diethyl 2,3-bis(diphenylphosphinoxy) succinate PdCl<sub>2</sub>]


 $[\alpha]_D^{25} = -9.9$  (*c* 2, CHCl<sub>3</sub>)

Source of chirality: (R,R)-hydrobenzoin

Absolute configuration: (1R,2R)

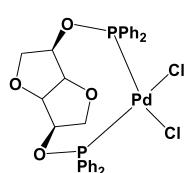
C<sub>38</sub>H<sub>32</sub>P<sub>2</sub>O<sub>2</sub>PdCl<sub>2</sub>  
[(1R,2R)-1,2-Bis(diphenylphosphinoxy)-1,2-diphenylethane PdCl<sub>2</sub>]


 $[\alpha]_D^{25} = +12.8$  (*c* 2, CH<sub>2</sub>Cl<sub>2</sub>)

Source of chirality: (S)-(+)-1,1,2-triphenylethanol

Absolute configuration: (S)

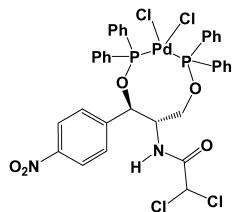
C<sub>44</sub>H<sub>36</sub>P<sub>2</sub>O<sub>2</sub>PdCl<sub>2</sub>  
[(S)-1,2-Bis(diphenylphosphinoxy)-1,1,2-triphenylethane PdCl<sub>2</sub>]


 $[\alpha]_D^{25} = +28.2$  (*c* 1, CHCl<sub>3</sub>)

Source of chirality: isomannide

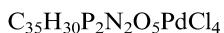
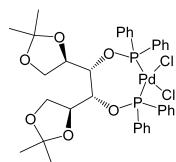
Absolute configuration: (3S,6S)

C<sub>30</sub>H<sub>28</sub>P<sub>2</sub>O<sub>4</sub>PdCl<sub>2</sub>  
[(3S,6S)-3,6-Bis(diphenylphosphinoxy)-hexahydrofuro[3,2-b]furan PdCl<sub>2</sub>]


 $[\alpha]_D^{25} = +57.3$  (c 1, DMSO)

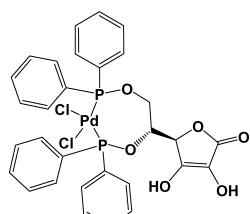
Source of chirality: chloramphenicol

Absolute configuration: (R,R)

[(*R,R*)-1,3-Bis(benzhydryloxy)-1-(4-nitrophenyl)propan-2-yl]-2,2-dichloroacetamide PdCl<sub>2</sub>]
 $[\alpha]_D^{25} = +28.4$  (c 0.5, CHCl<sub>3</sub>)

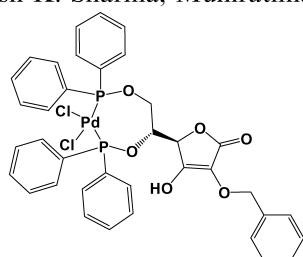
Source of chirality: D-mannitol

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

[(*R*)-4-((1*S,2R*)-2-((*S*)-2,2-Dimethyl-1,3-dioxolan-4-yl)-1,2-bis(diphenylphosphinoxy)ethyl)-2,2-dimethyl-1,3-dioxolane PdCl<sub>2</sub>]
 $[\alpha]_D^{25} = +21.2$  (c 1, DMSO)

Source of chirality: ascorbic acid

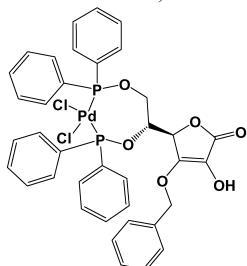
Absolute configuration: (R,S)

[(*R*)-5-((*S*)-1,2-Bis(diphenylphosphinoxy)ethyl)-3,4-dihydroxyfuran-2(5*H*)-one PdCl<sub>2</sub>]
 $[\alpha]_D^{25} = +19.9$  (c 1.6, CH<sub>2</sub>Cl<sub>2</sub>)

Source of chirality: ascorbic acid

Absolute configuration: (R,S)

[(*R*)-5-((*S*)-1,2-Bis(diphenylphosphinoxy)ethyl)-3-(benzyloxy)-4-hydroxyfuran-2(5*H*)-one PdCl<sub>2</sub>]

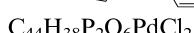
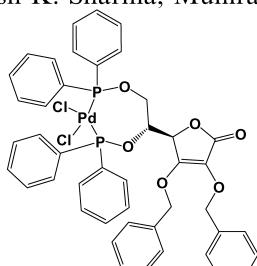


[(R)-5-((S)-1,2-Bis(diphenylphosphinoxy)ethyl)-4-(benzyloxy)-4-hydroxyfuran-2(5H)-one PdCl<sub>2</sub>]

$[\alpha]_D^{25} = +31.2$  (*c* 1.8, CHCl<sub>3</sub>)

Source of chirality: ascorbic acid

Absolute configuration: (R,S)

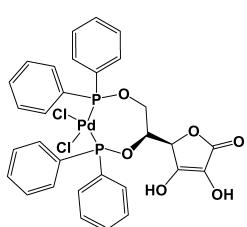


[(R)-5-((S)-1,2-Bis(diphenylphosphinoxy)ethyl)-3,4-bis(benzyloxy)furan-2(5H)-one PdCl<sub>2</sub>]

$[\alpha]_D^{25} = +42.1$  (*c* 1.4, CHCl<sub>3</sub>)

Source of chirality: ascorbic acid

Absolute configuration: (R,S)

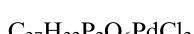
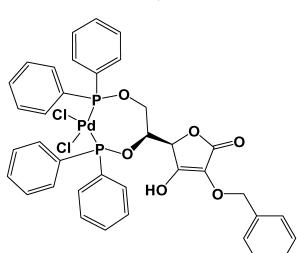


[(R)-5-((R)-1,2-Bis(diphenylphosphinoxy)ethyl)-3,4-dihydroxyfuran-2(5H)-one PdCl<sub>2</sub>]

$[\alpha]_D^{25} = -18.6$  (*c* 0.6, DMSO)

Source of chirality: isoascorbic acid

Absolute configuration: (R,R)



[(R)-5-((R)-1,2-Bis(diphenylphosphinoxy)ethyl)-3-(benzyloxy)-4-hydroxyfuran-2(5H)-one PdCl<sub>2</sub>]

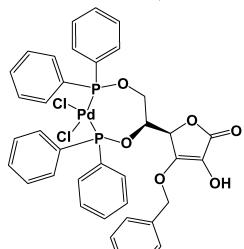
$[\alpha]_D^{25} = -23.6$  (*c* 1.1, CHCl<sub>3</sub>)

Source of chirality: isoascorbic acid

Absolute configuration: (R,R)

Rakesh K. Sharma, Munirathnam Nethaji and Ashoka G. Samuelson\*

Tetrahedron: Asymmetry 19 (2008) 655



[(*R*)-5-((*R*)-1,2-Bis(diphenylphosphinoxy)ethyl)-4-(benzyloxy)-4-hydroxyfuran-2(5*H*)-one PdCl<sub>2</sub>]

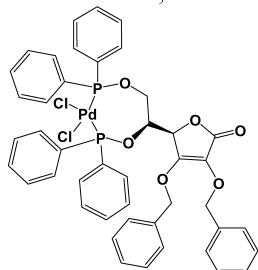
$[\alpha]_D^{25} = -37.3$  (*c* 1.8, CH<sub>2</sub>Cl<sub>2</sub>)

Source of chirality: isoascorbic acid

Absolute configuration: (*R,R*)

Rakesh K. Sharma, Munirathnam Nethaji and Ashoka G. Samuelson\*

Tetrahedron: Asymmetry 19 (2008) 655



[(*R*)-5-((*R*)-1,2-Bis(diphenylphosphinoxy)ethyl)-3,4-bis(benzyloxy)furan-2(5*H*)-one PdCl<sub>2</sub>]

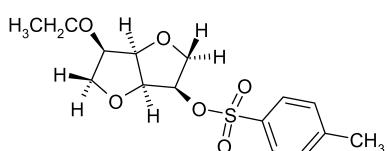
$[\alpha]_D^{25} = -33.9$  (*c* 2.0, CHCl<sub>3</sub>)

Source of chirality: isoascorbic acid

Absolute configuration: (*R,R*)

Vineet Kumar, Cao Pei, Carl E. Olsen, Susan J. C. Schäffer,  
Virinder S. Parmar\* and Sanjay V. Malhotra\*

Tetrahedron: Asymmetry 19 (2008) 664



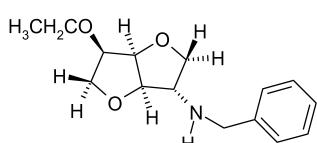
(1*S*,4*R*,5*R*,8*R*)-4-Ethoxy-8-(*p*-toluenesulfonyloxy)-2,6-dioxabicyclo [3.3.0] octane

$[\alpha]_D^{22} = +91.4$  (*c* 0.85, MeOH)

Absolute configuration: (1*S*,4*R*,5*R*,8*R*)

Vineet Kumar, Cao Pei, Carl E. Olsen, Susan J. C. Schäffer,  
Virinder S. Parmar\* and Sanjay V. Malhotra\*

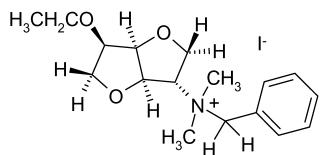
Tetrahedron: Asymmetry 19 (2008) 664



(1*R*,4*R*,5*R*,8*S*)-4-Ethoxy-8-(benzylamino)-2,6-dioxabicyclo [3.3.0] octane

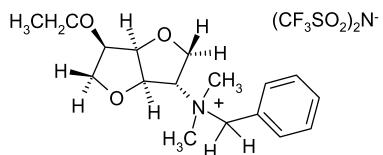
$[\alpha]_D^{22} = +94.0$  (*c* 1.076, MeOH)

Absolute configuration: (1*R*,4*R*,5*R*,8*S*)



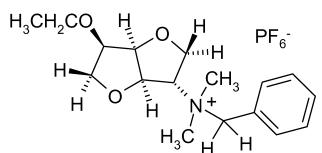
$[\alpha]_D^{22} = +54.8$  (*c* 0.96, MeOH)  
Absolute configuration: (1*R*,4*R*,5*R*,8*S*)

$C_{17}H_{26}NO_3I$   
((1*R*,4*R*,5*R*,8*S*)-4-Ethoxy-2,6-dioxabicyclo [3.3.0] octan-8-yl)-dimethylbenzylammonium iodide



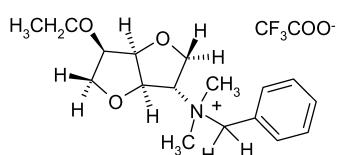
$[\alpha]_D^{22} = +35.6$  (*c* 0.88, MeOH)  
Absolute configuration: (1*R*,4*R*,5*R*,8*S*)

$C_{19}H_{26}N_2O_7S_2F_6$   
((1*R*,4*R*,5*R*,8*S*)-4-Ethoxy-2,6-dioxabicyclo [3.3.0] octan-8-yl)-dimethylbenzylammonium bis(triflic)imide



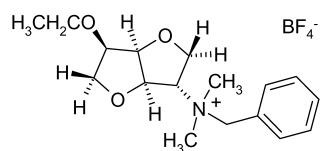
$[\alpha]_D^{22} = +49.8$  (*c* 0.92, MeOH)  
Absolute configuration: (1*R*,4*R*,5*R*,8*S*)

$C_{17}H_{26}NO_3PF_6$   
((1*R*,4*R*,5*R*,8*S*)-4-Ethoxy-2,6-dioxabicyclo [3.3.0] octan-8-yl)-dimethylbenzylammonium hexafluorophosphate



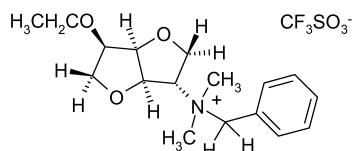
$[\alpha]_D^{22} = +53.1$  (*c* 1, MeOH)  
Absolute configuration: (1*R*,4*R*,5*R*,8*S*)

$C_{19}H_{26}NO_5F_3$   
((1*R*,4*R*,5*R*,8*S*)-4-Ethoxy-2,6-dioxabicyclo [3.3.0] octan-8-yl)-dimethylbenzylammonium trifluoroacetate



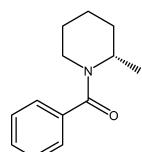
$[\alpha]_D^{22} = +61.3$  (*c* 1, MeOH)  
Absolute configuration: (1*R*,4*R*,5*R*,8*S*)

$C_{17}H_{26}NO_3BF_4$   
((1*R*,4*R*,5*R*,8*S*)-4-Ethoxy-2,6-dioxabicyclo [3.3.0] octan-8-yl)-dimethylbenzylammonium tetrafluoroborate



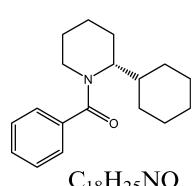
$[\alpha]_D^{22} = +49.8$  (*c* 0.92, MeOH)

$C_{18}H_{26}NO_6SF_3$   
((1*R*,4*R*,5*R*,8*S*)-4-Ethoxy-2,6-dioxabicyclo [3.3.0] octan-8-yl)-dimethylbenzylammonium trifluorosulfonate



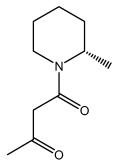
Ee = 96%  
 $[\alpha]_D^{21} = +37.2$  (*c* 0.95, CHCl<sub>3</sub>)  
Source of chirality: commercial standard  
Absolute configuration: (2*S*)

$C_{13}H_{17}NO$   
(*S*)-(2-Methyl-piperidin-1-yl)-phenyl-methanone



Ee = 72%  
 $[\alpha]_D^{23} = +47.4$  (*c* 0.25, CHCl<sub>3</sub>)  
Source of chirality: biotransformation  
Absolute configuration: (2*R*)

$C_{18}H_{25}NO$   
(*R*)-(2-Cyclohexyl-piperidin-1-yl)-phenyl-methanone



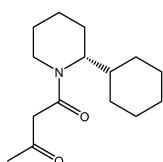
$C_{10}H_{17}NO_2$   
(S)-1-(2-Methyl-piperidin-1-yl)-butane-1,3-dione

Ee = 25%

 $[\alpha]_D^{22} = +16.35$  ( $c$  2.00,  $CHCl_3$ )

Source of chirality: biotransformation

Absolute configuration: (2S)



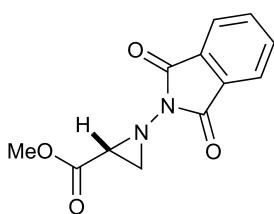
$C_{15}H_{25}NO_2$   
(R)-1-(2-Cylohexyl-piperidin-1-yl)-butane-1,3-dione

Ee = 72%

 $[\alpha]_D^{22} = +29.7$  ( $c$  1.10,  $CHCl_3$ )

Source of chirality: biotransformation

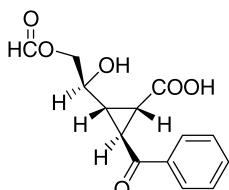
Absolute configuration: (2R)



$C_{12}H_{10}N_2O_4$   
1-(1,3-Dioxo-1,3-dihydro-isoindol-2-yl)-aziridine-(2R)-carboxylic acid methyl ester

 $[\alpha]_D = +109.5$  ( $c$  1,  $CHCl_3$ )

Absolute configuration: (2R)



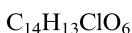
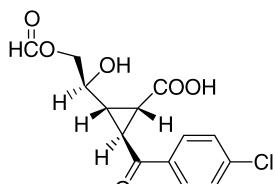
$C_{14}H_{14}O_6$   
(1S,2S,3S)-2-Benzoyl-3-((S)-2-formyloxy-1-hydroxyethyl)cyclopropanecarboxylic acid

Ee = 100%

 $[\alpha]_D^{20} = +112.4$  ( $c$  1.0,  $DMSO$ )

Source of chirality: levoglucosanone

Absolute configuration: (1S,2S,3S,1'S)



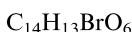
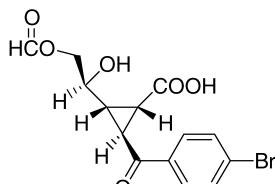
(1S,2S,3S)-2-(4-Chlorobenzoyl)-3-((S)-2-formyloxy-1-hydroxyethyl)cyclopropanecarboxylic acid

Ee = 100%

[ $\alpha$ ]<sub>D</sub><sup>20</sup> = +98.0 (c 1.0, DMSO)

Source of chirality: levoglucosanone

Absolute configuration: (1S,2S,3S,1'S)



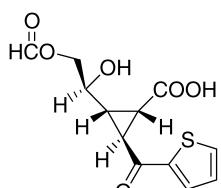
(1S,2S,3S)-2-(4-Bromobenzoyl)-3-((S)-2-formyloxy-1-hydroxyethyl)cyclopropanecarboxylic acid

Ee = 100%

[ $\alpha$ ]<sub>D</sub><sup>20</sup> = +89.6 (c 0.5, DMSO)

Source of chirality: levoglucosanone

Absolute configuration: (1S,2S,3S,1'S)



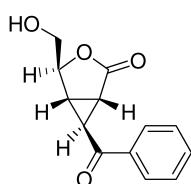
(1S,2S,3S)-2-((S)-2-Formyloxy-1-hydroxyethyl)-3-(2-thienoyl)cyclopropanecarboxylic acid

Ee = 100%

[ $\alpha$ ]<sub>D</sub><sup>20</sup> = +140.0 (c 0.8, DMSO)

Source of chirality: levoglucosanone

Absolute configuration: (1S,2S,3S,1'S)



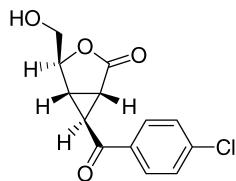
(1S,4S,5S,6S)-6-Benzoyl-4-hydroxymethyl-3-oxabicyclo[3.1.0]hexane-2-one

Ee = 100%

[ $\alpha$ ]<sub>D</sub><sup>20</sup> = +112.8 (c 1.0, DMSO)

Source of chirality: levoglucosanone

Absolute configuration: (1S,4S,5S,6S)



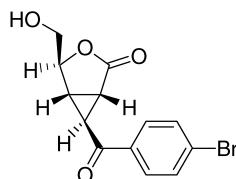
$C_{13}H_{11}ClO_4$   
(1S,4S,5S,6S)-6-(4-Chlorobenzoyl)-4-hydroxymethyl-3-oxabicyclo[3.1.0]hexane-2-one

Ee = 100%

$[\alpha]_D^{20} = +88.1$  (*c* 1.0, DMSO)

Source of chirality: levoglucosenone

Absolute configuration: (1S,4S,5S,6S)



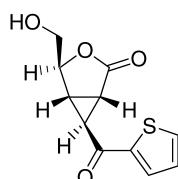
$C_{13}H_{11}BrO_4$   
(1S,4S,5S,6S)-6-(4-Bromobenzoyl)-4-hydroxymethyl-3-oxabicyclo[3.1.0]hexane-2-one

Ee = 100%

$[\alpha]_D^{20} = +79.7$  (*c* 1.0, DMSO)

Source of chirality: levoglucosenone

Absolute configuration: (1S,4S,5S,6S)



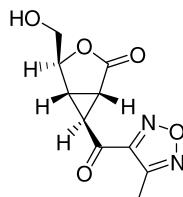
$C_{12}H_{12}O_6S$   
(1S,4S,5S,6S)-4-Hydroxymethyl-6-(2-thienoyl)-3-oxabicyclo[3.1.0]hexane-2-one

Ee = 100%

$[\alpha]_D^{20} = +112.4$  (*c* 1.0, DMSO)

Source of chirality: levoglucosenone

Absolute configuration: (1S,4S,5S,6S)



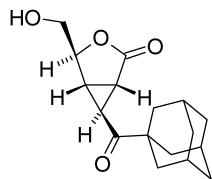
$C_{10}H_{10}N_2O_5$   
(1S,4S,5S,6S)-4-Hydroxymethyl-6-(4-methylfurazane-3-yl)carbonyl-3-oxabicyclo[3.1.0]hexane-2-one

Ee = 100%

$[\alpha]_D^{24} = +97.2$  (*c* 1.0, DMSO)

Source of chirality: levoglucosenone

Absolute configuration: (1S,4S,5S,6S)



Ee = 100%

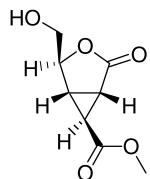
$[\alpha]_D^{20} = +84.1$  (*c* 1.0, DMSO)

Source of chirality: levoglucosanone

Absolute configuration: (1*S*,4*S*,5*S*,6*S*)

$C_{17}H_{22}O_4$

(1*S*,4*S*,5*S*,6*S*)-6-(1-Adamantoyl)-4-hydroxymethyl-3-oxabicyclo[3.1.0]hexane-2-one



Ee = 100%

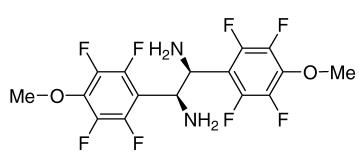
$[\alpha]_D^{20} = +98.8$  (*c* 1.0, DMSO)

Source of chirality: levoglucosanone

Absolute configuration: (1*S*,4*S*,5*S*,6*S*)

$C_8H_{10}O_5$

(1*S*,4*S*,5*S*,6*S*)-Methyl 4-hydroxymethyl-2-oxo-3-oxabicyclo[3.1.0]hexane-6-carboxylate



Ee >99%

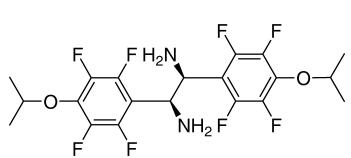
$[\alpha]_D^{20} = -85.8$  (*c* 0.50, MeOH)

Source of chirality: enantiopure starting material

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

$C_{16}H_{12}F_8N_2O_2$

(1*S*,2*S*)-1,2-Bis(4-methoxy-2,3,5,6-tetrafluorophenyl)ethane-1,2-diamine



Ee >99%

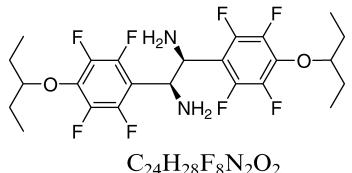
$[\alpha]_D^{30} = -92.5$  (*c* 0.21, MeOH)

Source of chirality: enantiopure starting material

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

$C_{20}H_{20}F_8N_2O_2$

(1*S*,2*S*)-1,2-Bis(4-isopropoxy-2,3,5,6-tetrafluorophenyl)ethane-1,2-diamine



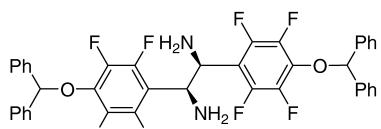
(1S,2S)-1,2-Bis(4-(pentan-3-yloxy)-2,3,5,6-tetrafluorophenyl)ethane-1,2-diamine

Ee >99%

[ $\alpha$ ]<sub>D</sub><sup>16</sup> = -51.4 (c 1.6, MeOH)

Source of chirality: enantiopure starting material

Absolute configuration: (1S,2S)



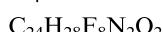
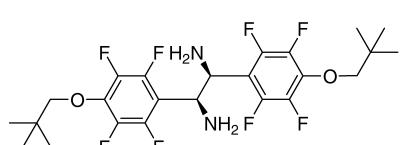
(1S,2S)-1,2-Bis(4-benzhydryloxy-2,3,5,6-tetrafluorophenyl)ethane-1,2-diamine

Ee >99%

[ $\alpha$ ]<sub>D</sub><sup>32</sup> = -41.9 (c 0.19, MeOH)

Source of chirality: enantiopure starting material

Absolute configuration: (1S,2S)



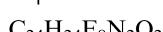
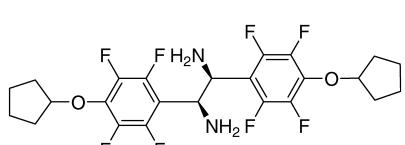
(1S,2S)-1,2-Bis(4-neopentyloxy-2,3,5,6-tetrafluorophenyl)ethane-1,2-diamine

Ee >99%

[ $\alpha$ ]<sub>D</sub><sup>30</sup> = -89.2 (c 0.45, MeOH)

Source of chirality: enantiopure starting material

Absolute configuration: (1S,2S)



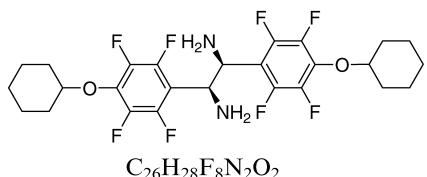
(1S,2S)-1,2-Bis(4-cyclopentyloxy-2,3,5,6-tetrafluorophenyl)ethane-1,2-diamine

Ee >99%

[ $\alpha$ ]<sub>D</sub><sup>31</sup> = -77.2 (c 0.54, MeOH)

Source of chirality: enantiopure starting material

Absolute configuration: (1S,2S)



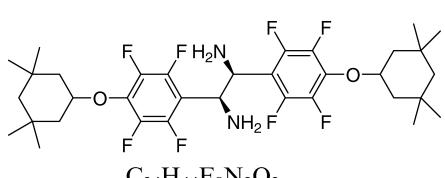
(1S,2S)-1,2-Bis(4-cyclohexyloxy-2,3,5,6-tetrafluorophenyl)ethane-1,2-diamine

Ee >99%

$[\alpha]_D^{32} = -80.2$  (*c* 0.13, MeOH)

Source of chirality: enantiopure starting material

Absolute configuration: (1S,2S)



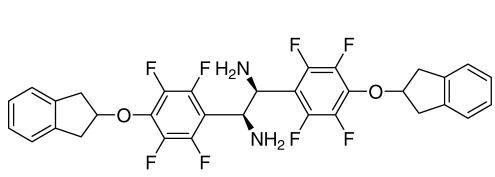
(1S,2S)-1,2-Bis(2,3,5,6-tetrafluoro-4-(3,3,5,5-tetramethylcyclohexyloxy)phenyl)ethane-1,2-diamine

Ee >99%

$[\alpha]_D^{32} = -95.8$  (*c* 0.78, MeOH)

Source of chirality: enantiopure starting material

Absolute configuration: (1S,2S)



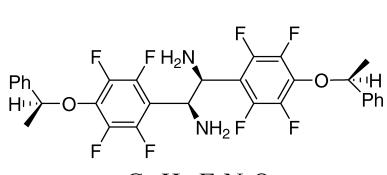
(1S,2S)-1,2-Bis(4-(2,3-dihydro-1H-inden-2-yloxy)-2,3,5,6-tetrafluorophenyl)ethane-1,2-diamine

Ee >99%

$[\alpha]_D^{32} = -72.8$  (*c* 0.18, MeOH)

Source of chirality: enantiopure starting material

Absolute configuration: (1S,2S)



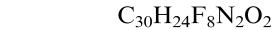
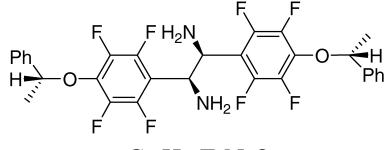
(1S,2S)-1,2-Bis(4-((S)-1-phenylethoxy)-2,3,5,6-tetrafluorophenyl)ethane-1,2-diamine

Ee >99%

$[\alpha]_D^{32} = -177.3$  (*c* 0.23, MeOH)

Source of chirality: enantiopure starting material

Absolute configuration: (1S,2S)



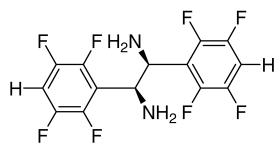
(1S,2S)-1,2-Bis(4-((R)-1-phenylethoxy)-2,3,5,6-tetrafluorophenyl)ethane-1,2-diamine

Ee >99%

$[\alpha]_D^{32} = +63.9$  (*c* 0.55, MeOH)

Source of chirality: enantiopure starting material

Absolute configuration: (1S,2S)



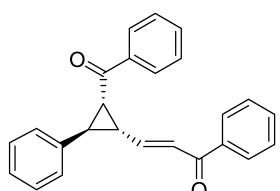
(1S,2S)-1,2-Bis(2,3,5,6-tetrafluorophenyl)ethane-1,2-diamine

Ee >99%

$[\alpha]_D^{18} = -61.9$  (*c* 1.8, MeOH)

Source of chirality: enantiopure starting material

Absolute configuration: (1S,2S)



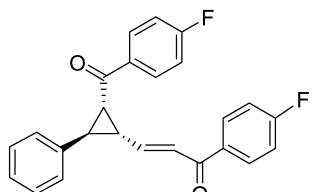
(E)-3-((1R,2R,3R)-2-Benzoyl-3-phenylcyclopropyl)-1-phenylprop-2-en-1-one

Ee = 98%

$[\alpha]_D^{25} = -36.0$  (*c* 1.53, CHCl<sub>3</sub>)

Source of chirality: asymmetric synthesis

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



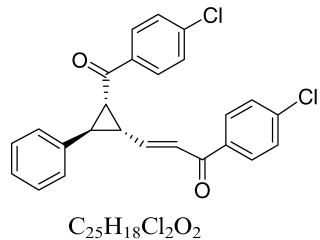
(E)-3-((1R,2R,3R)-2-(4-Fluorobenzoyl)-3-phenylcyclopropyl)-1-(4-fluorophenylprop)-2-en-1-one

Ee = 99%

$[\alpha]_D^{25} = +7.7$  (*c* 0.88, CHCl<sub>3</sub>)

Source of chirality: asymmetric synthesis

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

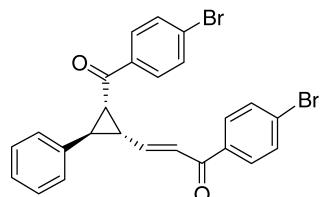


$C_{25}H_{18}Cl_2O_2$   
(E)-3-((1R,2R,3R)-2-(4-Chlorobenzoyl)-3-phenylcyclopropyl)-1-(4-chlorophenylprop)-2-en-1-one

Ee = 99%

 $[\alpha]_D^{25} = -21.3$  (*c* 0.83, CHCl<sub>3</sub>)

Source of chirality: asymmetric synthesis

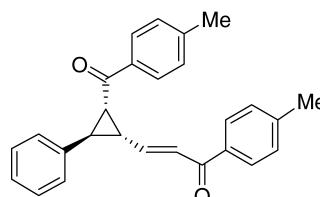
Absolute configuration: (1*R*,2*R*,3*R*)

$C_{25}H_{18}Br_2O_2$   
(E)-3-((1R,2R,3R)-2-(4-Bromobenzoyl)-3-phenylcyclopropyl)-1-(4-bromophenylprop)-2-en-1-one

Ee = 93%

 $[\alpha]_D^{25} = -31.2$  (*c* 0.74, CHCl<sub>3</sub>)

Source of chirality: asymmetric synthesis

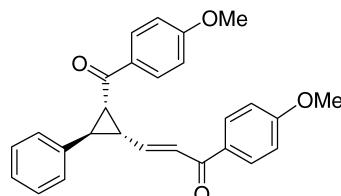
Absolute configuration: (1*R*,2*R*,3*R*)

$C_{27}H_{24}O_2$   
(E)-3-((1R,2R,3R)-2-(4-Methylbenzoyl)-3-phenylcyclopropyl)-1-(4-methylphenylprop)-2-en-1-one

Ee = 99%

 $[\alpha]_D^{25} = -10.2$  (*c* 0.61, CHCl<sub>3</sub>)

Source of chirality: asymmetric synthesis

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

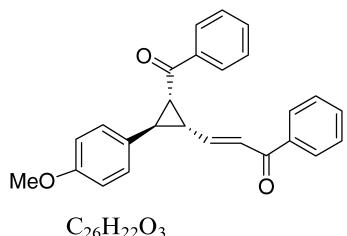
$C_{27}H_{24}O_4$   
(E)-3-((1R,2R,3R)-2-(4-Methoxylbenzoyl)-3-phenylcyclopropyl)-1-(4-methoxylphenylprop)-2-en-1-one

Ee = 94%

 $[\alpha]_D^{25} = 55.2$  (*c* 0.32, CHCl<sub>3</sub>)

Source of chirality: asymmetric synthesis

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

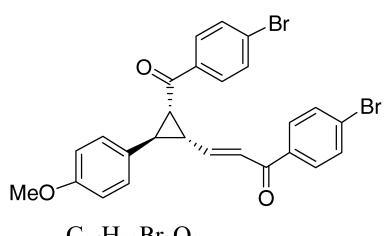


(E)-3-((1R,2R,3R)-2-Benzoyl-3-(4-methoxyphenyl)-cyclopropyl)-1-phenylprop-2-en-1-one

Ee = 92%

 $[\alpha]_D^{25} = -10.2$  (*c* 0.74, CHCl<sub>3</sub>)

Source of chirality: asymmetric synthesis

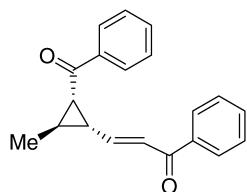
Absolute configuration: (1*R*,2*R*,3*R*)

(E)-3-((1R,2R,3R)-2-(4-Bromobenzoyl)-3-(4-methoxyphenyl)-cyclopropyl)-1-(4-bromophenylprop)-2-en-1-one

Ee = 87%

 $[\alpha]_D^{25} = -29.7$  (*c* 1.00, CHCl<sub>3</sub>)

Source of chirality: asymmetric synthesis

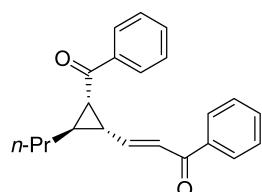
Absolute configuration: (1*R*,2*R*,3*R*)

(E)-3-((1R,2R,3R)-2-Benzoyl-3-methyl-cyclopropyl)-1-phenylprop-2-en-1-one

Ee = 71%

 $[\alpha]_D^{25} = -22.2$  (*c* 0.38, CHCl<sub>3</sub>)

Source of chirality: asymmetric synthesis

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

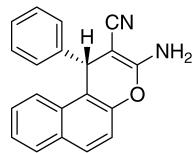
(E)-3-((1R,2R,3R)-2-Benzoyl-3-propyl-cyclopropyl)-1-phenylprop-2-en-1-one

Ee = 80%

 $[\alpha]_D^{25} = -33.2$  (*c* 0.34, CHCl<sub>3</sub>)

Source of chirality: asymmetric synthesis

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



Ee = 68%

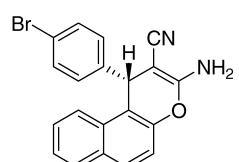
 $[\alpha]_D^{23.8} = -5.2$  (c 1.15, DMSO)

Source of chirality: asymmetric synthesis

Absolute configuration: (S)



(S)-3-Amino-1-phenyl-1H-benzo[f]chromene-2-carbonitrile



Ee = 71%

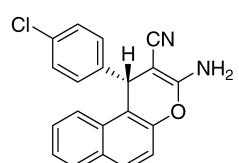
 $[\alpha]_D^{27.7} = -57.3$  (c 0.93, DMSO)

Source of chirality: asymmetric synthesis

Absolute configuration: (S)



(S)-3-Amino-1-(4-bromophenyl)-1H-benzo[f]chromene-2-carbonitrile

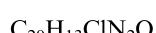


Ee = 84%

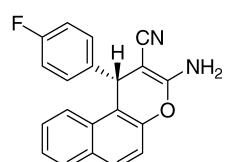
 $[\alpha]_D^{24.8} = -43.9$  (c 0.7, DMSO)

Source of chirality: asymmetric synthesis

Absolute configuration: (S)



(S)-3-Amino-1-(4-chlorophenyl)-1H-benzo[f]chromene-2-carbonitrile



Ee = 90%

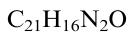
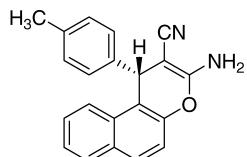
 $[\alpha]_D^{27.1} = -2.8$  (c 0.64, DMSO)

Source of chirality: asymmetric synthesis

Absolute configuration: (S)



(S)-3-Amino-1-(4-fluorophenyl)-1H-benzo[f]chromene-2-carbonitrile

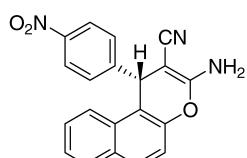
(S)-3-Amino-1-p-tolyl-1*H*-benzo[f]chromene-2-carbonitrile

Ee = 79%

 $[\alpha]_D^{24.3} = -20.3$  (c 3.05, DMSO)

Source of chirality: asymmetric synthesis

Absolute configuration: (S)

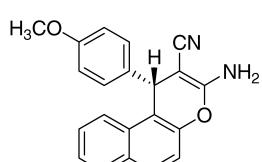
(S)-3-Amino-1-(4-nitrophenyl)-1*H*-benzo[f]chromene-2-carbonitrile

Ee = 65%

 $[\alpha]_D^{27.4} = -115.9$  (c 0.4, DMSO)

Source of chirality: asymmetric synthesis

Absolute configuration: (S)

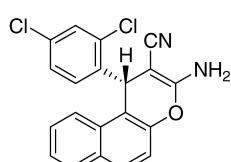
(S)-3-Amino-1-(4-methoxyphenyl)-1*H*-benzo[f]chromene-2-carbonitrile

Ee = 62%

 $[\alpha]_D^{27.1} = -19.5$  (c 0.65, DMSO)

Source of chirality: asymmetric synthesis

Absolute configuration: (S)

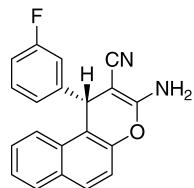
(S)-3-Amino-1-(2,4-dichlorophenyl)-1*H*-benzo[f]chromene-2-carbonitrile

Ee = 56%

 $[\alpha]_D^{26.8} = +4.3$  (c 0.73, DMSO)

Source of chirality: asymmetric synthesis

Absolute configuration: (S)



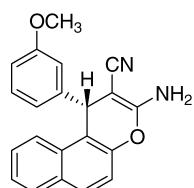
$C_{20}H_{13}FN_2O$   
(S)-3-Amino-1-(3-fluorophenyl)-1*H*-benzo[*f*]chromene-2-carbonitrile

Ee = 70%

 $[\alpha]_D^{27.5} = -21.7$  (*c* 0.62, DMSO)

Source of chirality: asymmetric synthesis

Absolute configuration: (S)



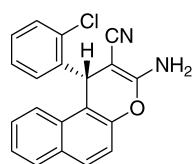
$C_{21}H_{16}N_2O_2$   
(S)-3-Amino-1-(3-methoxyphenyl)-1*H*-benzo[*f*]chromene-2-carbonitrile

Ee = 76%

 $[\alpha]_D^{27.3} = -6.6$  (*c* 0.77, DMSO)

Source of chirality: asymmetric synthesis

Absolute configuration: (S)



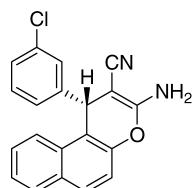
$C_{20}H_{13}ClN_2O$   
(S)-3-Amino-1-(2-chlorophenyl)-1*H*-benzo[*f*]chromene-2-carbonitrile

Ee = 67%

 $[\alpha]_D^{23.9} = +28.5$  (*c* 0.48, DMSO)

Source of chirality: asymmetric synthesis

Absolute configuration: (S)



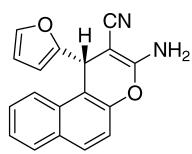
$C_{20}H_{13}ClN_2O$   
(S)-3-Amino-1-(3-chlorophenyl)-1*H*-benzo[*f*]chromene-2-carbonitrile

Ee = 65%

 $[\alpha]_D^{25.0} = -18.4$  (*c* 0.62, DMSO)

Source of chirality: asymmetric synthesis

Absolute configuration: (S)



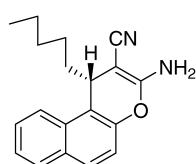
$C_{18}H_{12}N_2O_2$   
(S)-3-Amino-1-(furan-2-yl)-1*H*-benzo[*f*]chromene-2-carbonitrile

Ee = 61%

 $[\alpha]_D^{27.3} = -45.5$  (*c* 0.41, DMSO)

Source of chirality: asymmetric synthesis

Absolute configuration: (S)



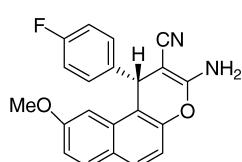
$C_{19}H_{20}N_2O$   
(S)-3-Amino-1-pentyl-1*H*-benzo[*f*]chromene-2-carbonitrile

Ee = 57%

 $[\alpha]_D^{27.8} = +5.5$  (*c* 0.64,  $CDCl_3$ )

Source of chirality: asymmetric synthesis

Absolute configuration: (S)



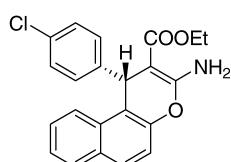
$C_{21}H_{15}FN_2O_2$   
(S)-3-Amino-1-(4-fluorophenyl)-9-methoxy-1*H*-benzo[*f*]chromene-2-carbonitrile

Ee = 66%

 $[\alpha]_D^{24.6} = -51.35$  (*c* 0.54, DMSO)

Source of chirality: asymmetric synthesis

Absolute configuration: (S)



$C_{22}H_{18}ClNO_2$   
(S)-Ethyl 3-amino-1-(4-chlorophenyl)-1*H*-benzo[*f*]chromene-2-carboxylate

Ee = 34%

 $[\alpha]_D^{12.7} = +2.5$  (*c* 0.33,  $CDCl_3$ )

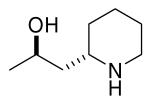
Source of chirality: asymmetric synthesis

Absolute configuration: (S)

$[\alpha]_D^{20} = -20.7$  (*c* 0.22, MeOH)

Source of chirality: (*R*)- $\alpha$ -methylbenzylamine

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

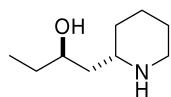


$C_8H_{17}NO$   
(*-*)-Allosedridine

$[\alpha]_D^{20} = -6.8$  (*c* 0.24, EtOH)

Source of chirality: (*R*)- $\alpha$ -methylbenzylamine

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

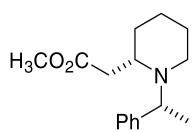


$C_9H_{19}NO$   
(*-*)-2-*epi*-Ethynorlobelol

$[\alpha]_D^{20} = +39.2$  (*c* 1,  $CHCl_3$ )

Source of chirality: (*R*)- $\alpha$ -methylbenzylamine

Absolute configuration: (2*S*, $\alpha$ *R*)

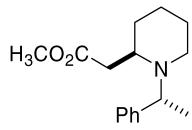


$C_{16}H_{23}NO_2$   
Methyl (2*S*)-1-[(1*R*)-1-phenylethyl]piperidineacetate

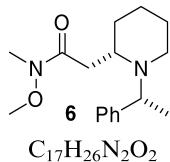
$[\alpha]_D^{20} = +9.7$  (*c* 1.5,  $CHCl_3$ )

Source of chirality: (*R*)- $\alpha$ -methylbenzylamine

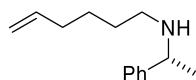
Absolute configuration: (2*R*, $\alpha$ *R*)



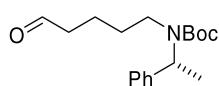
$C_{16}H_{23}NO_2$   
Methyl (2*R*)-1-[(1*R*)-1-phenylethyl]piperidineacetate



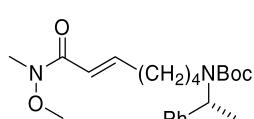
N-Methoxy-N-methyl (2S)-1-[(1R)-1-phenylethyl]piperidineacetamide

 $[\alpha]_D^{20} = +20.4$  (*c* 1, CHCl<sub>3</sub>)Source of chirality: (*R*)- $\alpha$ -methylbenzylamineAbsolute configuration: (2*S*, $\alpha$ *R*)

C<sub>14</sub>H<sub>21</sub>N  
(*R*)-*N*-(1-phenylethyl)-5-hexenyl amine

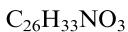
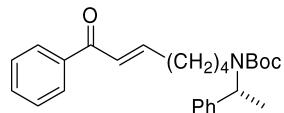
 $[\alpha]_D^{20} = +46.8$  (*c* 1, CHCl<sub>3</sub>)Source of chirality: (*R*)- $\alpha$ -methylbenzylamineAbsolute configuration: ( $\alpha$ *R*)

C<sub>18</sub>H<sub>27</sub>NO<sub>3</sub>  
tert-Butyl 5-oxopentyl (*R*)-(1-phenylethyl)carbamate

 $[\alpha]_D^{20} = +71.7$  (*c* 1, CHCl<sub>3</sub>)Source of chirality: (*R*)- $\alpha$ -methylbenzylamineAbsolute configuration: ( $\alpha$ *R*)

C<sub>22</sub>H<sub>34</sub>N<sub>2</sub>O<sub>4</sub>  
tert-Butyl 7-[methoxy(methyl)amino]-7-oxo-(5,*E*)-heptenyl-(*R*)-(1-phenylethyl)carbamate

 $[\alpha]_D^{20} = +54.0$  (*c* 1, CHCl<sub>3</sub>)Source of chirality: (*R*)- $\alpha$ -methylbenzylamineAbsolute configuration: ( $\alpha$ *R*)

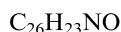
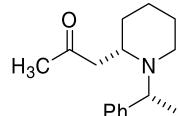


tert-Butyl (7-oxo-7-phenyl-(5,E)-heptenyl)-(R)-(1-phenylethyl)carbamate

$[\alpha]_D^{20} = +49.0$  (*c* 1, CHCl<sub>3</sub>)

Source of chirality: (*R*)- $\alpha$ -methylbenzylamine

Absolute configuration: ( $\alpha$ *R*)

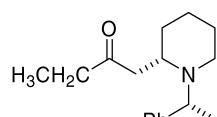


1-[(2*S*)-1-[(1*R*)-1-Phenylethyl]-2-piperidinyl]-2-propanone

$[\alpha]_D^{20} = +41.4$  (*c* 1.1, CHCl<sub>3</sub>)

Source of chirality: (*R*)- $\alpha$ -methylbenzylamine

Absolute configuration: (2*S*, $\alpha$ *R*)

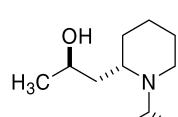


Methyl (2*S*)-1-[(1*R*)-1-phenylethyl]piperidineacetate

$[\alpha]_D^{20} = +32.6$  (*c* 0.8, CHCl<sub>3</sub>)

Source of chirality: (*R*)- $\alpha$ -methylbenzylamine

Absolute configuration: (2*S*, $\alpha$ *R*)

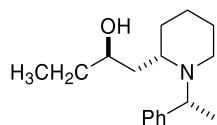


(*R*)-1-((*S*)-1-((*R*)-1-Phenylethyl)-2-piperidinyl)propan-2-ol

$[\alpha]_D^{20} = +13.5$  (*c* 0.4, CHCl<sub>3</sub>)

Source of chirality: (*R*)- $\alpha$ -methylbenzylamine

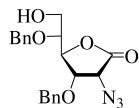
Absolute configuration: (2*S*,2'*R*, $\alpha$ *R*)

$[\alpha]_D^{20} = +5.8 (c \ 0.35, \text{CHCl}_3)$ 


$C_{17}H_{27}NO$   
(*R*)-1-((*S*)-1-((*R*)-1-Phenylethyl)-2-piperidinyl)butan-2-ol

 $[\alpha]_D^{27} = +11 (c \ 1.8, \text{CH}_2\text{Cl}_2)$ 

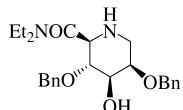
Source of chirality: D-erythrose and stereoselective synthesis



$C_{20}H_{21}N_3O_5$   
2-Azido-2-deoxy-3,5-di-O-benzyl-D-allono-1,4-lactone

 $[\alpha]_D^{27} = -83 (c \ 1.1, \text{CH}_2\text{Cl}_2)$ 

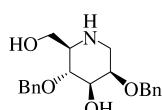
Source of chirality: D-erythrose, stereoselective synthesis and stereospecific cyclization



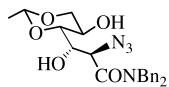
$C_{24}H_{32}N_2O_4$   
1,5-Dideoxy-1,5-imino-2,4-di-O-benzyl-N,N-diethyl-D-mannopyranosiduronamide

 $[\alpha]_D^{27} = -5.5 (c \ 0.7, \text{CH}_2\text{Cl}_2)$ 

Source of chirality: D-erythrose, stereoselective synthesis and stereospecific cyclization

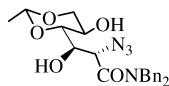


$C_{20}H_{25}NO_4$   
2,4-Di-O-Benzyl-1-deoxymannojirimicin


 $[\alpha]_D^{25} = -171$  (c 1, CH<sub>2</sub>Cl<sub>2</sub>)

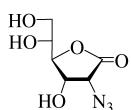
Source of chirality: D-erythrose and stereoselective synthesis

C<sub>22</sub>H<sub>26</sub>N<sub>4</sub>O<sub>5</sub>  
2-Azido-*N,N*-dibenzyl-4,6-*O*-ethylidene-*D-allo*-hexonamide


 $[\alpha]_D^{25} = +40$  (c 0.8, CH<sub>2</sub>Cl<sub>2</sub>)

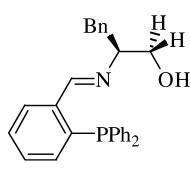
Source of chirality: D-erythrose and stereoselective synthesis

C<sub>22</sub>H<sub>26</sub>N<sub>4</sub>O<sub>5</sub>  
2-Azido-*N,N*-dibenzyl-4,6-*O*-ethylidene-*D-manno*-hexonamide


 $[\alpha]_D^{20} = -3.5$  (c 1.3, MeOH)

Source of chirality: D-erythrose and stereoselective synthesis

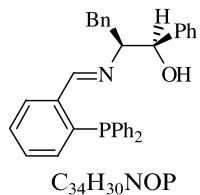
C<sub>6</sub>H<sub>9</sub>N<sub>3</sub>O<sub>5</sub>  
2-Azido-2-deoxy-*D-allono*-1,4-lactone


 $[\alpha]_D^{25} = -117$  (c 1, CH<sub>2</sub>Cl<sub>2</sub>)

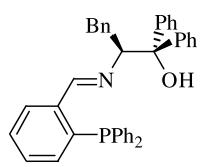
Absolute configuration: (S)

Source of chirality: L-phenylalanine as starting material

C<sub>28</sub>H<sub>26</sub>NOP  
(S)-2-(2-(Diphenylphosphino)benzylideneamino)-3-phenylpropan-1-ol

(1*R*,2*S*)-2-[2-(Diphenylphosphino)benzylideneamino]-1,3-diphenylpropan-1-ol $[\alpha]_D^{25} = -87.5$  (*c* 1,  $CH_2Cl_2$ )Absolute configuration: (1*R*,2*S*)

Source of chirality: L-phenylalanine as starting material

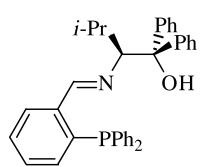


(S)-2-(2-(Diphenylphosphino)benzylideneamino)-1,1,3-triphenylpropan-1-ol

 $[\alpha]_D^{25} = -83.5$  (*c* 1,  $CH_2Cl_2$ )

Absolute configuration: (S)

Source of chirality: L-phenylalanine as starting material

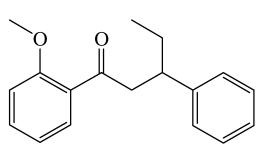


(S)-2-(2-(Diphenylphosphino)benzylideneamino)-3-methyl-1,1-diphenylbutan-1-ol

 $[\alpha]_D^{25} = -16.05$  (*c* 1,  $CH_2Cl_2$ )

Absolute configuration: (S)

Source of chirality: L-valine as starting material

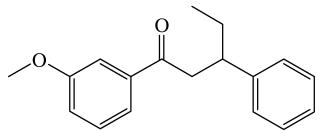


1-(2-Methoxyphenyl)-3-phenylpentan-1-one

Ee = 81%

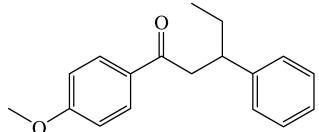
 $[\alpha]_D^{25} = -16.05$  (*c* 1,  $CH_2Cl_2$ )

Ee = 85%

 $[\alpha]_D^{25} = -16.0$  (c 1, CH<sub>2</sub>Cl<sub>2</sub>)C<sub>18</sub>H<sub>20</sub>O<sub>2</sub>

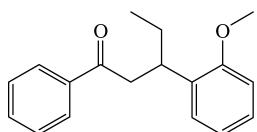
1-(3-Methoxyphenyl)-3-phenyl-pentan-1-one

Ee = 80%

 $[\alpha]_D^{25} = -21.65$  (c 1, CH<sub>2</sub>Cl<sub>2</sub>)C<sub>18</sub>H<sub>20</sub>O<sub>2</sub>

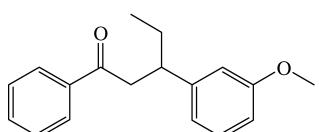
1-(4-Methoxyphenyl)-3-phenyl-pentan-1-one

Ee = 96%

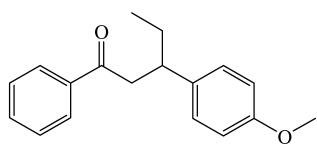
 $[\alpha]_D^{25} = -11.7$  (c 1, CH<sub>2</sub>Cl<sub>2</sub>)C<sub>18</sub>H<sub>20</sub>O<sub>2</sub>

3-(2-Methoxyphenyl)-1-phenyl-pentan-1-one

Ee = 78%

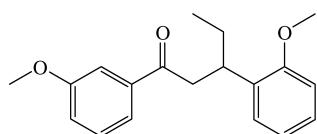
 $[\alpha]_D^{25} = -5.3$  (c 1, CH<sub>2</sub>Cl<sub>2</sub>)C<sub>18</sub>H<sub>20</sub>O<sub>2</sub>

3-(3-Methoxyphenyl)-1-phenyl-pentan-1-one



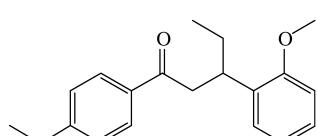
$C_{18}H_{20}O_2$   
3-(4-Methoxyphenyl)-1-phenyl-pentan-1-one

$Ee = 84\%$   
 $[\alpha]_D^{25} = -14.3 (c 1, \text{CH}_2\text{Cl}_2)$



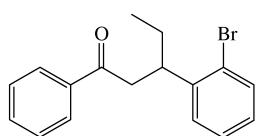
$C_{19}H_{22}O_3$   
3-(2-Methoxyphenyl)-1-(3-methoxyphenyl)-pentan-1-one

$Ee = 97\%$   
 $[\alpha]_D^{25} = -9.05 (c 1, \text{CH}_2\text{Cl}_2)$



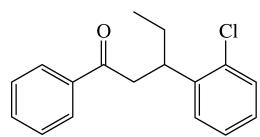
$C_{19}H_{22}O_3$   
3-(2-Methoxyphenyl)-1-(4-methoxyphenyl)-pentan-1-one

$Ee = 93\%$   
 $[\alpha]_D^{25} = -10.1 (c 1, \text{CH}_2\text{Cl}_2)$



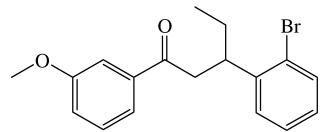
$C_{17}H_{17}BrO$   
3-(2-Bromophenyl)-1-phenyl-pentan-1-one

$Ee = 96\%$   
 $[\alpha]_D^{25} = -35.7 (c 1, \text{CH}_2\text{Cl}_2)$



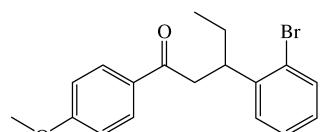
$C_{17}H_{17}ClO$   
3-(2-Chlorophenyl)-1-phenyl-pentan-1-one

$Ee = 96\%$   
 $[\alpha]_D^{25} = -32.5 (c 1, CH_2Cl_2)$



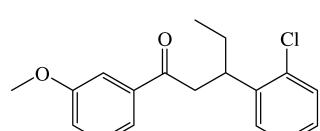
$C_{18}H_{19}BrO_2$   
3-(2-Bromophenyl)-1-(3-methoxyphenyl)pentan-1-one

$Ee = 95\%$   
 $[\alpha]_D^{25} = -33.8 (c 1, CH_2Cl_2)$



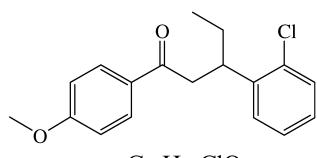
$C_{18}H_{19}BrO_2$   
3-(2-Bromophenyl)-1-(4-methoxyphenyl)pentan-1-one

$Ee = 94\%$   
 $[\alpha]_D^{25} = -39.3 (c 1, CH_2Cl_2)$



$C_{18}H_{19}ClO_2$   
3-(2-Chlorophenyl)-1-(3-methoxyphenyl)pentan-1-one

$Ee = 97\%$   
 $[\alpha]_D^{25} = -33.0 (c 1, CH_2Cl_2)$

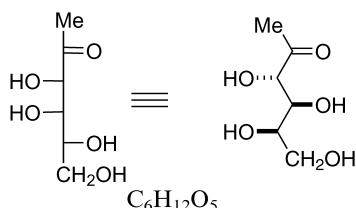


$C_{18}H_{19}ClO_2$   
3-(2-Chlorophenyl)-1-(4-methoxyphenyl)pentan-1-one

Ee = 94%  
 $[\alpha]_D^{25} = -38.6 (c\ 1, \text{CH}_2\text{Cl}_2)$

Akihide Yoshihara, Satoshi Haraguchi, Pushpakiran Gullapalli, Davendar Rao, Kenji Morimoto, Goro Takata, Nigel Jones, Sarah F. Jenkinson, Mark R. Wormald, Raymond A. Dwek, George W. J. Fleet and Ken Izumori\*

Tetrahedron: Asymmetry 19 (2008) 739

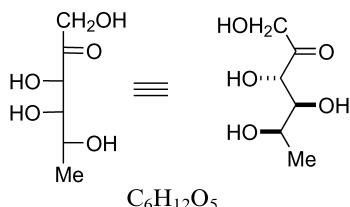


1-Deoxy-D-tagatose

Ee = 100%  
 $[\alpha]_D^{20} = -14.7 (c\ 1.0, \text{H}_2\text{O})$   
 Source of chirality: L-fucose as starting material

Akihide Yoshihara, Satoshi Haraguchi, Pushpakiran Gullapalli, Davendar Rao, Kenji Morimoto, Goro Takata, Nigel Jones, Sarah F. Jenkinson, Mark R. Wormald, Raymond A. Dwek, George W. J. Fleet and Ken Izumori\*

Tetrahedron: Asymmetry 19 (2008) 739

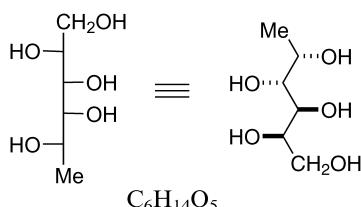


6-Deoxy-D-tagatose

Ee = 100%  
 $[\alpha]_D^{20} = -2.2 (c\ 1.0, \text{H}_2\text{O})$   
 Source of chirality: D-fucose as starting material

Akihide Yoshihara, Satoshi Haraguchi, Pushpakiran Gullapalli, Davendar Rao, Kenji Morimoto, Goro Takata, Nigel Jones, Sarah F. Jenkinson, Mark R. Wormald, Raymond A. Dwek, George W. J. Fleet and Ken Izumori\*

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L-Fucitol: 1-deoxy-D-galactitol

Ee = 100%  
 $[\alpha]_D^{20} = +1.9 (c\ 1.0, \text{H}_2\text{O})$   
 Source of chirality: L-fucose as starting material

Akihide Yoshihara, Satoshi Haraguchi, Pushpakiran Gullapalli, Davendar Rao, Kenji Morimoto, Goro Takata, Nigel Jones, Sarah F. Jenkinson, Mark R. Wormald, Raymond A. Dwek, George W. J. Fleet and Ken Izumori\*

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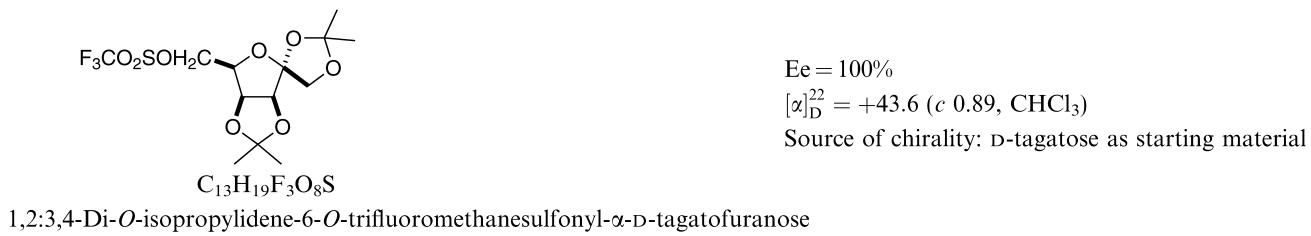
Akihide Yoshihara, Satoshi Haraguchi, Pushpakiran Gullapalli, Davendar Rao, Kenji Morimoto, Goro Takata, Nigel Jones, Sarah F. Jenkinson, Mark R. Wormald, Raymond A. Dwek, George W. J. Fleet and Ken Izumori\*

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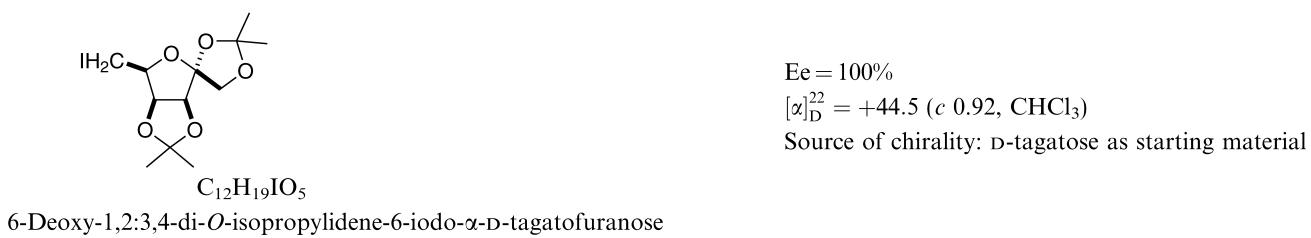
Akihide Yoshihara, Satoshi Haraguchi, Pushpakiran Gullapalli, Davendar Rao, Kenji Morimoto, Goro Takata, Nigel Jones, Sarah F. Jenkinson, Mark R. Wormald, Raymond A. Dwek, George W. J. Fleet and Ken Izumori\*

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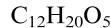
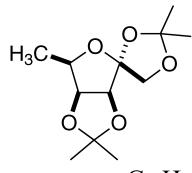
Akihide Yoshihara, Satoshi Haraguchi, Pushpakiran Gullapalli, Davendar Rao, Kenji Morimoto, Goro Takata, Nigel Jones, Sarah F. Jenkinson, Mark R. Wormald, Raymond A. Dwek, George W. J. Fleet and Ken Izumori\*

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Akihide Yoshihara, Satoshi Haraguchi, Pushpakiran Gullapalli, Davendar Rao, Kenji Morimoto, Goro Takata, Nigel Jones, Sarah F. Jenkinson, Mark R. Wormald, Raymond A. Dwek, George W. J. Fleet and Ken Izumori\*

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6-Deoxy-1,2;3,4-di-O-isopropylidene- $\alpha$ -D-tagatofuranose

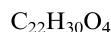
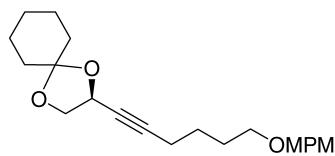
Ee = 100%

$[\alpha]_D^{22} = +64.3$  (c 0.96, CHCl<sub>3</sub>)

Source of chirality: D-tagatose as starting material

S. Chandrasekhar,\* B. V. D. Vijaykumar and T. V. Pratap

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(2S)-2-{6-[(4-Methoxybenzyl)oxy]-1-hexynyl}-1,4-dioxaspiro[4.5]decane

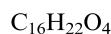
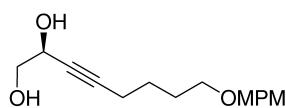
$[\alpha]_D^{25} = +24.5$  (c 1.2, CHCl<sub>3</sub>)

Source of chirality: D-(+)-mannitol

Absolute configuration: (2S)

S. Chandrasekhar,\* B. V. D. Vijaykumar and T. V. Pratap

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(2S)-8-[(4-Methoxybenzyl)oxy]-3-octyne-1,2-diol

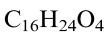
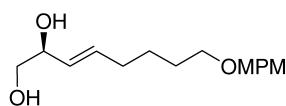
$[\alpha]_D^{25} = +11.0$  (c 1.2, CHCl<sub>3</sub>)

Source of chirality: D-(+)-mannitol

Absolute configuration: (2S)

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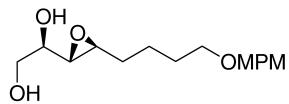


(2S,3E)-8-[(4-Methoxybenzyl)oxy]-3-octene-1,2-diol

$[\alpha]_D^{25} = +7.2$  (c 1.0, CHCl<sub>3</sub>)

Source of chirality: D-(+)-mannitol

Absolute configuration: (2S,3E)

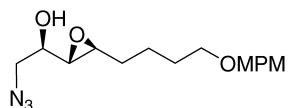


$C_{16}H_{24}O_5$   
(1*R*)-1-{(2*S*,3*S*)-3-4-[(4-Ethylbenzyl)oxy]butyloxiran-2-yl}ethane-1,2-diol

$[\alpha]_D^{25} = -12.8$  (*c* 1.0, CHCl<sub>3</sub>)

Source of chirality: D-(+)-mannitol, (+)-diisopropyl L-tartrate

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

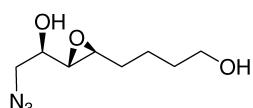


$C_{16}H_{23}N_3O_4$   
(*R*)-2-Azido-1-{(2*S*,3*S*)-3-[(4-methoxybenzyl)oxy]butyloxiran-2-yl}ethanol

$[\alpha]_D^{25} = -8.0$  (*c* 0.5, CHCl<sub>3</sub>)

Source of chirality: D-(+)-mannitol, (+)-diisopropyl L-tartrate

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

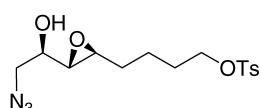


$C_8H_{15}N_3O_3$   
4-((2*S*,3*S*)-3-((*R*)-2-Azido-1-hydroxyethyl)oxiran-2-yl)butan-1-ol

$[\alpha]_D^{25} = -11.0$  (*c* 0.25, CHCl<sub>3</sub>)

Source of chirality: D-(+)-mannitol, (+)-diisopropyl L-tartrate

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

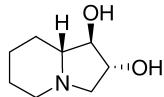


$C_{15}H_{21}N_3O_5S$   
4-((2*S*,3*S*)-3-((*R*)-2-Azido-1-hydroxyethyl)oxiran-2-yl)butyl-4-methylbenzenesulfonate

$[\alpha]_D^{25} = +19.0$  (*c* 1.0, CHCl<sub>3</sub>)

Source of chirality: D-(+)-mannitol, (+)-diisopropyl L-tartrate

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

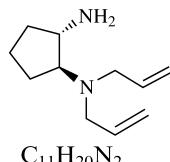


$C_8H_{15}NO_2$   
(1*R*,2*R*,8*aR*)-1,2-Dihydroxyindolizidine, [(-)-lentiginosine]

$[\alpha]_D^{25} = -3.1$  (*c* 0.5 MeOH)

Source of chirality: D-(+)-mannitol, (+)-diisopropyl L-tartrate

Absolute configuration: (1*R*,2*R*,8*aR*)

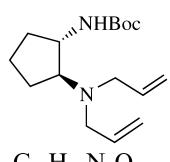


$C_{11}H_{20}N_2$   
(1*S*,2*S*)-*N,N*-Diallylcyclopentane-1,2-diamine

Ee >99%

$[\alpha]_D^{20} = +72.8$  (*c* 0.5, CHCl<sub>3</sub>)

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

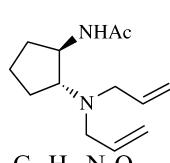


$C_{16}H_{28}N_2O_2$   
tert-Butyl (1*S*,2*S*)-*N*-[2-(*N'*,*N'*-diallylamino)cyclopentyl]carbamate

Ee >99%

$[\alpha]_D^{20} = +23.6$  (*c* 0.5, CHCl<sub>3</sub>)

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

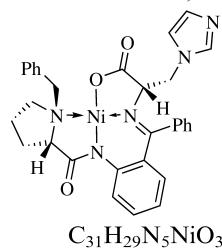


$C_{13}H_{22}N_2O$   
(1*R*,2*R*)-*N*-[2-(*N'*,*N'*-Diallylamino)cyclopentyl]acetamide

Ee = 97%

$[\alpha]_D^{20} = -21.6$  (*c* 0.6, CHCl<sub>3</sub>)

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



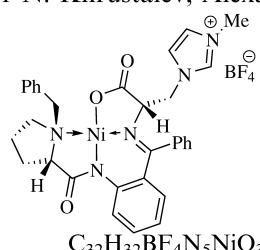
Ee >99%

$[\alpha]_D^{25} = +2356$  (*c* 0.050, MeOH)

Source of chirality: asymmetric synthesis

Absolute configuration: (*R<sub>N</sub>,S,S*)

$[(S)\text{-}2\text{-}\{2\text{-}\{2\text{-}\{2S,1R\}_N\}\text{-}1\text{-Benzylpyrrolidine-2-carboxamido}\text{phenyl}\}\text{(phenyl)methyleneamino}\text{-}3\text{-}(1H\text{-imidazol-1-yl})\text{propanoato-}N,N',N'',O]$  nickel(II)



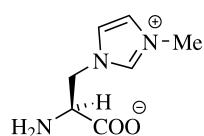
Ee >99%

$[\alpha]_D^{25} = +2386$  (*c* 0.056, MeOH)

Source of chirality: asymmetric synthesis

Absolute configuration: (*R<sub>N</sub>,S,S*)

$\{1\text{-}\{[(S)\text{-}2\text{-}\{2\text{-}\{2S,1R\}_N\}\text{-}1\text{-Benzylpyrrolidine-2-carboxamido}\text{phenyl}\}\text{(phenyl)methyleneamino}\text{-}2\text{-carboxylato-}N,N',N'',O]\text{-nickel(II)}\}\text{-ethyl}\}\text{-}3\text{-methyl-}1H\text{-imidazol-3-ium tetrafluoroborate}$



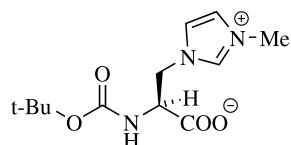
Ee >99%

$[\alpha]_D^{25} = -18.4$  (*c* 1.4, H<sub>2</sub>O)

Source of chirality: asymmetric synthesis

Absolute configuration: (*S*)

$C_7H_{11}N_3O_2$   
(*S*)-2-Amino-3-(3-methyl-1*H*-imidazol-3-ium-1-yl)propanoate



Ee >99%

$[\alpha]_D^{25} = +111.4$  (*c* 1.02, CHCl<sub>3</sub>)

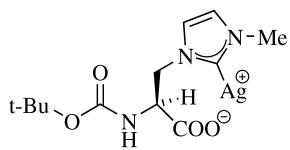
Source of chirality: asymmetric synthesis

Absolute configuration: (*S*)

$C_{12}H_{19}N_3O_4$   
(*S*)-2-(*tert*-Butoxycarbonylamino)-3-(3-methyl-1*H*-imidazol-3-ium-1-yl)propanoate

Yuri N. Belokon,\* Andrey V. Grachev, Victor I. Maleev,  
Victor N. Khrustalev, Alexander S. Peregudov and Michael North

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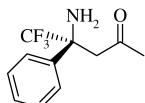


Ee >99%  
 $[\alpha]_D^{25} = +60.0$  (*c* 1.02, CHCl<sub>3</sub>)  
 Source of chirality: asymmetric synthesis  
 Absolute configuration: (*S*)

C<sub>12</sub>H<sub>18</sub>AgN<sub>3</sub>O<sub>4</sub>  
 (S)-(1-(2-(*tert*-Butoxycarbonylamino)-2-carboxylatoethyl)-3-methyl-1*H*-imidazol-2-ylidene)silver(I)

Volodymyr A. Sukach, Nataliya M. Golovach, Volodymyr V. Pirozhenko, Eduard B. Rusanov and Mykhaylo V. Vovk\*

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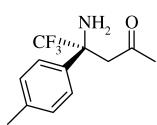


Ee = 80%  
 $[\alpha]_D^{20} = +26.6$  (*c* 1.80, MeOH)  
 Chiral source: (*S*)-proline  
 Absolute configuration: (*S*)

C<sub>11</sub>H<sub>12</sub>F<sub>3</sub>NO  
 4-Amino-4-phenyl-5,5,5-trifluoro-2-pentanone

Volodymyr A. Sukach, Nataliya M. Golovach, Volodymyr V. Pirozhenko, Eduard B. Rusanov and Mykhaylo V. Vovk\*

*Tetrahedron: Asymmetry* 19 (2008) 761

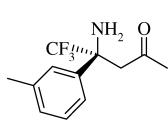


Ee = 74%  
 $[\alpha]_D^{20} = +15.4$  (*c* 0.75, MeOH)  
 Chiral source: (*S*)-proline  
 Absolute configuration: (*S*)

C<sub>12</sub>H<sub>14</sub>F<sub>3</sub>NO  
 4-Amino-4-(4-methylphenyl)-5,5,5-trifluoro-2-pentanone

Volodymyr A. Sukach, Nataliya M. Golovach, Volodymyr V. Pirozhenko, Eduard B. Rusanov and Mykhaylo V. Vovk\*

*Tetrahedron: Asymmetry* 19 (2008) 761



Ee = 92%  
 $[\alpha]_D^{20} = +24.8$  (*c* 0.81, MeOH)  
 Chiral source: (*S*)-proline  
 Absolute configuration: (*S*)

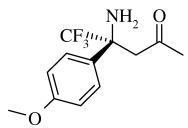
C<sub>12</sub>H<sub>14</sub>F<sub>3</sub>NO  
 4-Amino-4-(3-methylphenyl)-5,5,5-trifluoro-2-pentanone

Ee = 78%

$[\alpha]_D^{20} = +10.3$  (*c* 0.39, MeOH)

Chiral source: (*S*)-proline

Absolute configuration: (*S*)



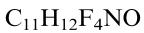
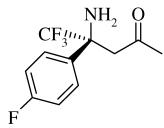
4-Amino-4-(4-methoxyphenyl)-5,5,5-trifluoro-2-pentanone

Ee = 83%

$[\alpha]_D^{20} = +30.1$  (*c* 0.63, MeOH)

Chiral source: (*S*)-proline

Absolute configuration: (*S*)



4-Amino-4-(4-fluorophenyl)-5,5,5-trifluoro-2-pentanone