

Stereochemistry abstracts

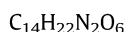
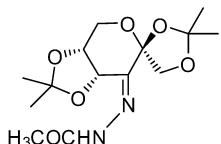
Dong Han, Xiang-Bao Meng, Lin-Na Wang, Hong Liu, Yun Yao, Zhuo Wang,
Zhen-Jun Yang, Zhen-Min Liu, Zhong-Jun Li*

Tetrahedron: Asymmetry 20 (2009) 399

$$[\alpha]_D^{25} = -276.3 \text{ (c 0.97, MeOH)}$$

Source of chirality: D-fructose

Absolute configuration: (E)



E-3-Acetylhydrazone-1,2:4,5-di-O-isopropylidene-β-D-erythro-2-hexulopyranose

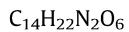
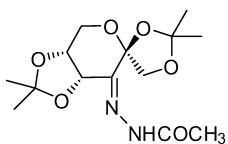
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Zhen-Jun Yang, Zhen-Min Liu, Zhong-Jun Li*

Tetrahedron: Asymmetry 20 (2009) 399

$$[\alpha]_D^{25} = -208.0 \text{ (c 1.00, MeOH)}$$

Source of chirality: D-fructose

Absolute configuration: (Z)



Z-3-Acetylhydrazone-1,2:4,5-di-O-isopropylidene-β-D-erythro-2-hexulopyranose

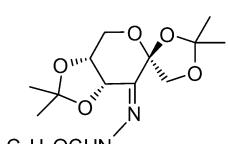
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Tetrahedron: Asymmetry 20 (2009) 399

$$[\alpha]_D^{25} = -237.7 \text{ (c 1.06, MeOH)}$$

Source of chirality: D-fructose

Absolute configuration: (E)



E-3-Propionylhydrazone-1,2:4,5-di-O-isopropylidene-β-D-erythro-2-hexulopyranose

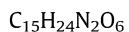
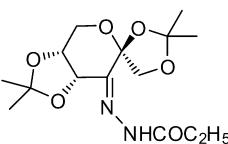
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Tetrahedron: Asymmetry 20 (2009) 399

$$[\alpha]_D^{25} = -160.7 \text{ (c 1.17, MeOH)}$$

Source of chirality: D-fructose

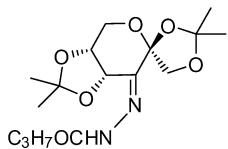
Absolute configuration: (Z)



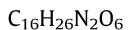
Z-3-Propionylhydrazone-1,2:4,5-di-O-isopropylidene-β-D-erythro-2-hexulopyranose

Dong Han, Xiang-Bao Meng, Lin-Na Wang, Hong Liu, Yun Yao, Zhuo Wang, Zhen-Jun Yang, Zhen-Min Liu, Zhong-Jun Li *

Tetrahedron: Asymmetry 20 (2009) 399



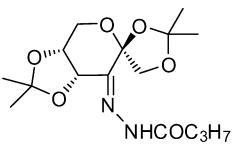
$[\alpha]_D^{25} = -220.0$ (*c* 1.00, MeOH)
Source of chirality: D-fructose
Absolute configuration: (E)



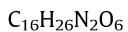
E-3-Butyrylhydrazone-1,2:4,5-di-O-isopropylidene-β-D-erythro-2-hexulopyranose

Dong Han, Xiang-Bao Meng, Lin-Na Wang, Hong Liu, Yun Yao, Zhuo Wang, Zhen-Jun Yang, Zhen-Min Liu, Zhong-Jun Li *

Tetrahedron: Asymmetry 20 (2009) 399



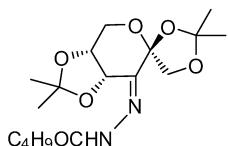
$[\alpha]_D^{25} = -192.2$ (*c* 1.02, MeOH)
Source of chirality: D-fructose
Absolute configuration: (Z)



Z-3-Butyrylhydrazone-1,2:4,5-di-O-isopropylidene-β-D-erythro-2-hexulopyranose

Dong Han, Xiang-Bao Meng, Lin-Na Wang, Hong Liu, Yun Yao, Zhuo Wang, Zhen-Jun Yang, Zhen-Min Liu, Zhong-Jun Li *

Tetrahedron: Asymmetry 20 (2009) 399



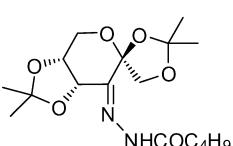
$[\alpha]_D^{25} = -211.8$ (*c* 1.02, MeOH)
Source of chirality: D-fructose
Absolute configuration: (E)



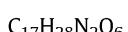
E-3-Valerylhydrazone-1,2:4,5-di-O-isopropylidene-β-D-erythro-2-hexulopyranose

Dong Han, Xiang-Bao Meng, Lin-Na Wang, Hong Liu, Yun Yao, Zhuo Wang, Zhen-Jun Yang, Zhen-Min Liu, Zhong-Jun Li *

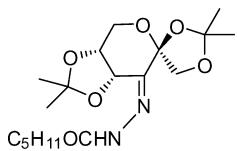
Tetrahedron: Asymmetry 20 (2009) 399



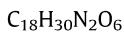
$[\alpha]_D^{25} = -167.6$ (*c* 1.05, MeOH)
Source of chirality: D-fructose
Absolute configuration: (Z)



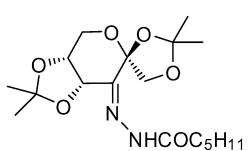
Z-3-Valerylhydrazone-1,2:4,5-di-O-isopropylidene-β-D-erythro-2-hexulopyranose



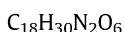
$[\alpha]_D^{25} = -192.0$ (*c* 1.00, MeOH)
Source of chirality: D-fructose
Absolute configuration: (E)



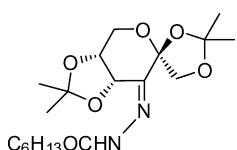
E-3-Caproylhydrazone-1,2:4,5-di-O-isopropylidene-β-D-erythro-2-hexulopyranose



$[\alpha]_D^{25} = -178.6$ (*c* 1.03, MeOH)
Source of chirality: D-fructose
Absolute configuration: (Z)



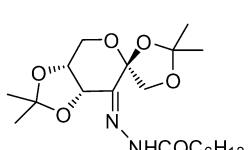
Z-3-Caproylhydrazone-1,2:4,5-di-O-isopropylidene-β-D-erythro-2-hexulopyranose



$[\alpha]_D^{25} = -195.9$ (*c* 0.98, MeOH)
Source of chirality: D-fructose
Absolute configuration: (E)



E-3-Heptanoylhydrazone-1,2:4,5-di-O-isopropylidene-β-D-erythro-2-hexulopyranose



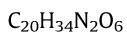
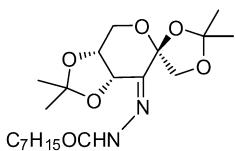
$[\alpha]_D^{25} = -170.9$ (*c* 1.03, MeOH)
Source of chirality: D-fructose
Absolute configuration: (Z)



Z-3-Heptanoylhydrazone-1,2:4,5-di-O-isopropylidene-β-D-erythro-2-hexulopyranose

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Tetrahedron: Asymmetry 20 (2009) 399

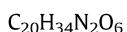
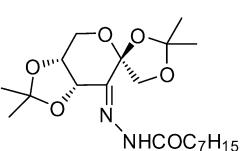


E-3-Oxanoylhydrazone-1,2:4,5-di-O-isopropylidene-β-D-erythro-2-hexulopyranose

[α]_D²⁵ = -234.3 (c 0.99, MeOH)

Source of chirality: D-fructose

Absolute configuration: (E)



Z-3-Oxanoylhydrazone-1,2:4,5-di-O-isopropylidene-β-D-erythro-2-hexulopyranose

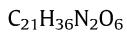
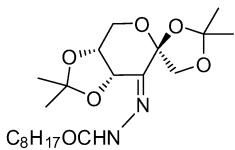
[α]_D²⁵ = -192.2 (c 1.02, MeOH)

Source of chirality: D-fructose

Absolute configuration: (Z)

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Tetrahedron: Asymmetry 20 (2009) 399



E-3-Nonanoylhydrazone-1,2:4,5-di-O-isopropylidene-β-D-erythro-2-hexulopyranose

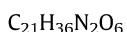
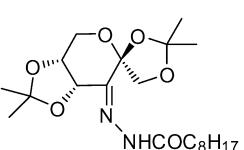
[α]_D²⁵ = -210.1 (c 0.99, MeOH)

Source of chirality: D-fructose

Absolute configuration: (E)

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Tetrahedron: Asymmetry 20 (2009) 399



Z-3-Nonanoylhydrazone-1,2:4,5-di-O-isopropylidene-β-D-erythro-2-hexulopyranose

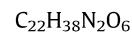
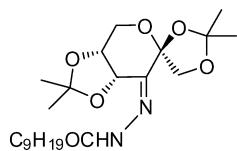
[α]_D²⁵ = -193.9 (c 0.99, MeOH)

Source of chirality: D-fructose

Absolute configuration: (Z)

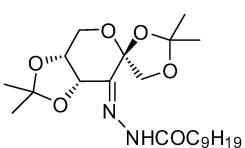
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Tetrahedron: Asymmetry 20 (2009) 399



E-3-Decanoylhydrazone-1,2:4,5-di-O-isopropylidene-β-D-erythro-2-hexulopyranose

[α]_D²⁵ = -196.6 (c 1.03, MeOH)
Source of chirality: D-fructose
Absolute configuration: (E)

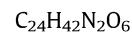
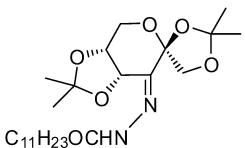


Z-3-Decanoylhydrazone-1,2:4,5-di-O-isopropylidene-β-D-erythro-2-hexulopyranose

[α]_D²⁵ = -157.2 (c 0.97, MeOH)
Source of chirality: D-fructose
Absolute configuration: (Z)

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Tetrahedron: Asymmetry 20 (2009) 399

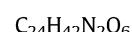
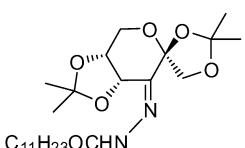


E-3-Lauroylhydrazone-1,2:4,5-di-O-isopropylidene-β-D-erythro-2-hexulopyranose

[α]_D²⁵ = -192.0 (c 1.00, MeOH)
Source of chirality: D-fructose
Absolute configuration: (E)

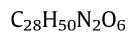
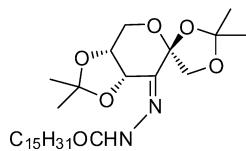
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Tetrahedron: Asymmetry 20 (2009) 399



Z-3-Lauroylhydrazone-1,2:4,5-di-O-isopropylidene-β-D-erythro-2-hexulopyranose

[α]_D²⁵ = -154.8 (c 0.93, MeOH)
Source of chirality: D-fructose
Absolute configuration: (Z)

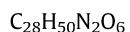
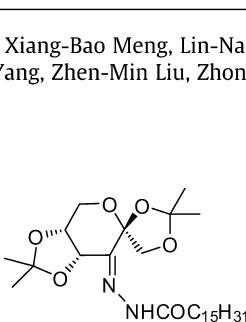


E-3-Palmitoylhydrazone-1,2:4,5-di-O-isopropylidene-β-D-erythro-2-hexulopyranose

[α]_D²⁵ = -193.9 (c 0.99, MeOH)

Source of chirality: D-fructose

Absolute configuration: (E)

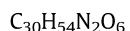
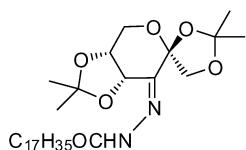


Z-3-Palmitoylhydrazone-1,2:4,5-di-O-isopropylidene-β-D-erythro-2-hexulopyranose

[α]_D²⁵ = -134.7 (c 1.01, MeOH)

Source of chirality: D-fructose

Absolute configuration: (Z)

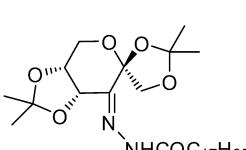


E-3-Stearoylhydrazone-1,2:4,5-di-O-isopropylidene-β-D-erythro-2-hexulopyranose

[α]_D²⁵ = -148.6 (c 1.05, MeOH)

Source of chirality: D-fructose

Absolute configuration: (E)

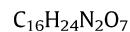
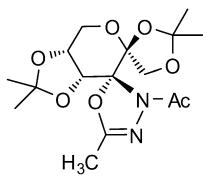


Z-3-Stearoylhydrazone-1,2:4,5-di-O-isopropylidene-β-D-erythro-2-hexulopyranose

[α]_D²⁵ = -114.9 (c 1.01, MeOH)

Source of chirality: D-fructose

Absolute configuration: (Z)

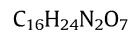
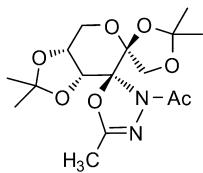


(2R,3a',6'S,7a'R)-3-Acetyl-2',2',2'',2''-tetramethyl-5-methyl-2,3-dihydro-1,3,4-oxadiazole-2-spiro-7'-(1',3'-dioxolano[4,5-c]pyrano)-6'-spiro-4''(1'',3''-diaxolane)

[α]_D²⁵ = -11.2 (c 1.07, MeOH)

Source of chirality: D-fructose

Absolute configuration: (2R,3a'R,6'S,7a'R)

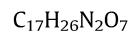
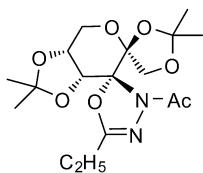


(2S,3a'R,6'S,7a'R)-3-Acetyl-2',2',2'',2''-tetramethyl-5-methyl-2,3-dihydro-1,3,4-oxadiazole-2-spiro-7'-(1',3'-dioxolano[4,5-c]pyrano)-6'-spiro-4''(1'',3''-diaxolane)

[α]_D²⁵ = -18.5 (c 0.96, MeOH)

Source of chirality: D-fructose

Absolute configuration: (2S,3a'R,6'S,7a'R)

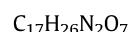
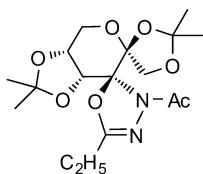


(2R,3a'R,6'S,7a'R)-3-Acetyl-2',2',2'',2''-tetramethyl-5-ethyl-2,3-dihydro-1,3,4-oxadiazole-2-spiro-7'-(1',3'-dioxolano[4,5-c]pyrano)-6'-spiro-4''(1'',3''-diaxolane)

[α]_D²⁵ = -35.0 (c 1.03, MeOH)

Source of chirality: D-fructose

Absolute configuration: (2R,3a'R,6'S,7a'R)

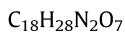
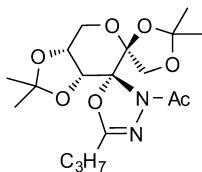


(2S,3a'R,6'S,7a'R)-3-Acetyl-2',2',2'',2''-tetramethyl-5-ethyl-2,3-dihydro-1,3,4-oxadiazole-2-spiro-7'-(1',3'-dioxolano[4,5-c]pyrano)-6'-spiro-4''(1'',3''-diaxolane)

[α]_D²⁵ = -34.3 (c 1.04, MeOH)

Source of chirality: D-fructose

Absolute configuration: (2S,3a'R,6'S,7a'R)

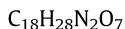
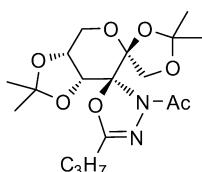


(2R,3a'R,6'S,7a'R)-3-Acetyl-2',2',2'',2''-tetramethyl-5-propyl-2,3-dihydro-1,3,4-oxadiazole-2-spiro-7'-(1',3'-dioxolano[4,5-c]pyrano)-6'-spiro-4''-(1'',3''-diaxolane)

[α]_D²⁵ = -16.7 (c 1.05, MeOH)

Source of chirality: D-fructose

Absolute configuration: (2R,3a'R,6'S,7a'R)

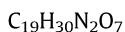
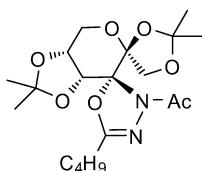


(2S,3a'R,6'S,7a'R)-3-Acetyl-2',2',2'',2''-tetramethyl-5-propyl-2,3-dihydro-1,3,4-oxadiazole-2-spiro-7'-(1',3'-dioxolano[4,5-c]pyrano)-6'-spiro-4''-(1'',3''-diaxolane)

[α]_D²⁵ = -33.0 (c 1.08, MeOH)

Source of chirality: D-fructose

Absolute configuration: (2S,3a'R,6'S,7a'R)

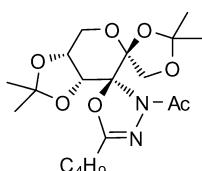


(2R,3a'R,6'S,7a'R)-3-Acetyl-2',2',2'',2''-tetramethyl-5-butyl-2,3-dihydro-1,3,4-oxadiazole-2-spiro-7'-(1',3'-dioxolano[4,5-c]pyrano)-6'-spiro-4''-(1'',3''-diaxolane)

[α]_D²⁵ = -29.8 (c 0.94, MeOH)

Source of chirality: D-fructose

Absolute configuration: (2R,3a'R,6'S,7a'R)

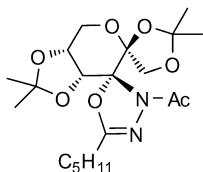


(2S,3a'R,6'S,7a'R)-3-Acetyl-2',2',2'',2''-tetramethyl-5-butyl-2,3-dihydro-1,3,4-oxadiazole-2-spiro-7'-(1',3'-dioxolano[4,5-c]pyrano)-6'-spiro-4''-(1'',3''-diaxolane)

[α]_D²⁵ = -11.0 (c 1.09, MeOH)

Source of chirality: D-fructose

Absolute configuration: (2S,3a'R,6'S,7a'R)



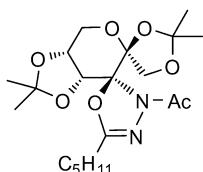
C₂₀H₃₂N₂O₇

(2R,3a'R,6'S,7a'R)-3-Acetyl-2',2'',2''-tetramethyl-5-pentyl-2,3-dihydro-1,3,4-oxadiazole-2-spiro-7'-{1',3'-dioxolano[4,5-c]pyran}-6'-spiro-4''-(1'',3''-diaxolane)

[α]_D²⁵ = -24.0 (c 1.00, MeOH)

Source of chirality: D-fructose

Absolute configuration: (2R,3a'R,6'S,7a'R)



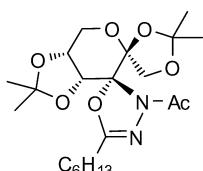
C₂₀H₃₂N₂O₇

(2S,3a'R,6'S,7a'R)-3-Acetyl-2',2'',2''-tetramethyl-5-pentyl-2,3-dihydro-1,3,4-oxadiazole-2-spiro-7'-{1',3'-dioxolano[4,5-c]pyran}-6'-spiro-4''-(1'',3''-diaxolane)

[α]_D²⁵ = -43.5 (c 0.92, MeOH)

Source of chirality: D-fructose

Absolute configuration: (2S,3a'R,6'S,7a'R)



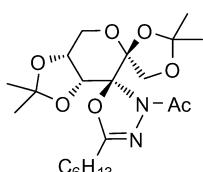
C₂₁H₃₄N₂O₇

(2R,3a'R,6'S,7a'R)-3-Acetyl-2',2'',2''-tetramethyl-5-hexyl-2,3-dihydro-1,3,4-oxadiazole-2-spiro-7'-{1',3'-dioxolano[4,5-c]pyran}-6'-spiro-4''-(1'',3''-diaxolane)

[α]_D²⁵ = -8.4 (c 0.95, MeOH)

Source of chirality: D-fructose

Absolute configuration: (2R,3a'R,6'S,7a'R)



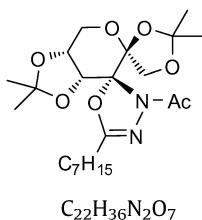
C₂₁H₃₄N₂O₇

(2S,3a'R,6'S,7a'R)-3-Acetyl-2',2'',2''-tetramethyl-5-hexyl-2,3-dihydro-1,3,4-oxadiazole-2-spiro-7'-{1',3'-dioxolano[4,5-c]pyran}-6'-spiro-4''-(1'',3''-diaxolane)

[α]_D²⁵ = -25.0 (c 1.12, MeOH)

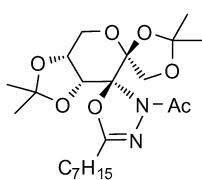
Source of chirality: D-fructose

Absolute configuration: (2S,3a'R,6'S,7a'R)



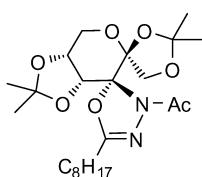
(2R,3a'R,6'S,7a'R)-3-Acetyl-2',2',2'',2''-tetramethyl-5-heptyl-2,3-dihydro-1,3,4-oxadiazole-2-spiro-7'-(1',3'-dioxolano[4,5-c]pyrano)-6'-spiro-4''-(1'',3''-diaxolane)

$[\alpha]_D^{25} = -46.3$ (c 0.95, MeOH)
Source of chirality: D-fructose
Absolute configuration: (2R,3a'R,6'S,7a'R)



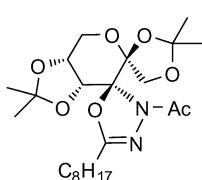
(2S,3a'R,6'S,7a'R)-3-Acetyl-2',2',2'',2''-tetramethyl-5-heptyl-2,3-dihydro-1,3,4-oxadiazole-2-spiro-7'-(1',3'-dioxolano[4,5-c]pyrano)-6'-spiro-4''-(1'',3''-diaxolane)

$[\alpha]_D^{25} = -47.3$ (c 1.10, MeOH)
Source of chirality: D-fructose
Absolute configuration: (2S,3a'R,6'S,7a'R)



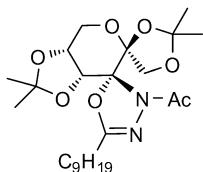
(2R,3a'R,6'S,7a'R)-3-Acetyl-2',2',2'',2''-tetramethyl-5-octyl-2,3-dihydro-1,3,4-oxadiazole-2-spiro-7'-(1',3'-dioxolano[4,5-c]pyrano)-6'-spiro-4''-(1'',3''-diaxolane)

$[\alpha]_D^{25} = -11.5$ (c 1.04, MeOH)
Source of chirality: D-fructose
Absolute configuration: (2R,3a'R,6'S,7a'R)



(2S,3a'R,6'S,7a'R)-3-Acetyl-2',2',2'',2''-tetramethyl-5-octyl-2,3-dihydro-1,3,4-oxadiazole-2-spiro-7'-(1',3'-dioxolano[4,5-c]pyrano)-6'-spiro-4''-(1'',3''-diaxolane)

$[\alpha]_D^{25} = -30.5$ (c 1.05, MeOH)
Source of chirality: D-fructose
Absolute configuration: (2S,3a'R,6'S,7a'R)



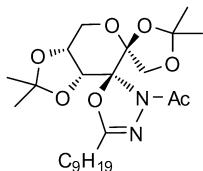
C₂₄H₄₀N₂O₇

(2R,3a'R,6'S,7a'R)-3-Acetyl-2',2'',2''-tetramethyl-5-octyl-2,3-dihydro-1,3,4-oxadiazole-2-spiro-7'-{1',3'-dioxolano[4,5-c]pyrano}-6'-spiro-4''-(1'',3''-diaxolane)

[α]_D²⁵ = -33.0 (c 0.97, MeOH)

Source of chirality: D-fructose

Absolute configuration: (2R,3a'R,6'S,7a'R)



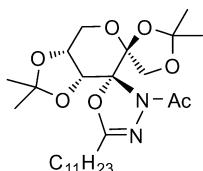
C₂₄H₄₀N₂O₇

(2S,3a'R,6'S,7a'R)-3-Acetyl-2',2'',2''-tetramethyl-5-octyl-2,3-dihydro-1,3,4-oxadiazole-2-spiro-7'-{1',3'-dioxolano[4,5-c]pyrano}-6'-spiro-4''-(1'',3''-diaxolane)

[α]_D²⁵ = -53.6 (c 0.97, MeOH)

Source of chirality: D-fructose

Absolute configuration: (2S,3a'R,6'S,7a'R)



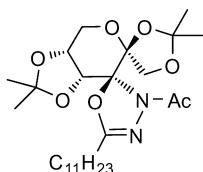
C₂₆H₄₄N₂O₇

(2R,3a'R,6'S,7a'R)-3-Acetyl-2',2'',2''-tetramethyl-5-undecyl-2,3-dihydro-1,3,4-oxadiazole-2-spiro-7'-{1',3'-dioxolano[4,5-c]pyrano}-6'-spiro-4''-(1'',3''-diaxolane)

[α]_D²⁵ = -23.5 (c 1.36, MeOH)

Source of chirality: D-fructose

Absolute configuration: (2R,3a'R,6'S,7a'R)



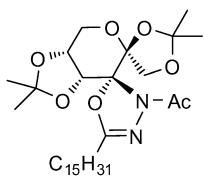
C₂₆H₄₄N₂O₇

(2S,3a'R,6'S,7a'R)-3-Acetyl-2',2'',2''-tetramethyl-5-undecyl-2,3-dihydro-1,3,4-oxadiazole-2-spiro-7'-{1',3'-dioxolano[4,5-c]pyrano}-6'-spiro-4''-(1'',3''-diaxolane)

[α]_D²⁵ = -39.3 (c 1.12, MeOH)

Source of chirality: D-fructose

Absolute configuration: (2S,3a'R,6'S,7a'R)



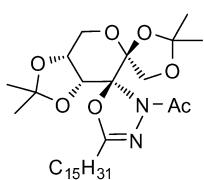
C₃₀H₅₂N₂O₇

(2R,3a'R,6'S,7a'R)-3-Acetyl-2',2',2'',2''-tetramethyl-5-pentadecyl-2,3-dihydro-1,3,4-oxadiazole-2-spiro-7'-(1',3'-dioxolano[4,5-c]pyrano)-6'-spiro-4''-(1'',3''-diaxolane)

[α]_D²⁵ = -3.6 (c 1.11, MeOH)

Source of chirality: D-fructose

Absolute configuration: (2R,3a'R,6'S,7a'R)



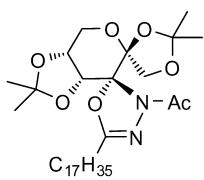
C₃₀H₅₂N₂O₇

(2S,3a'R,6'S,7a'R)-3-Acetyl-2',2',2'',2''-tetramethyl-5-pentadecyl-2,3-dihydro-1,3,4-oxadiazole-2-spiro-7'-(1',3'-dioxolano[4,5-c]pyrano)-6'-spiro-4''-(1'',3''-diaxolane)

[α]_D²⁵ = -11.3 (c 1.06, MeOH)

Source of chirality: D-fructose

Absolute configuration: (2S,3a'R,6'S,7a'R)



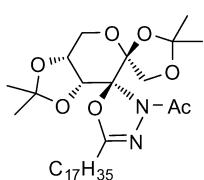
C₃₂H₅₆N₂O₇

(2R,3a'R,6'S,7a'R)-3-Acetyl-2',2',2'',2''-tetramethyl-5-heptadecyl-2,3-dihydro-1,3,4-oxadiazole-2-spiro-7'-(1',3'-dioxolano[4,5-c]pyrano)-6'-spiro-4''-(1'',3''-diaxolane)

[α]_D²⁵ = -12.6 (c 0.95, MeOH)

Source of chirality: D-fructose

Absolute configuration: (2R,3a'R,6'S,7a'R)



C₃₂H₅₆N₂O₇

(2S,3a'R,6'S,7a'R)-3-Acetyl-2',2',2'',2''-tetramethyl-5-heptadecyl-2,3-dihydro-1,3,4-oxadiazole-2-spiro-7'-(1',3'-dioxolano[4,5-c]pyrano)-6'-spiro-4''-(1'',3''-diaxolane)

[α]_D²⁵ = -24.0 (c 0.5, MeOH)

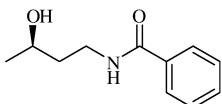
Source of chirality: D-fructose

Absolute configuration: (2S,3a'R,6'S,7a'R)

Raffaella Gandolfi *, Edoardo Cesarotti, Francesco Molinari, Diego Romano,
Isabella Rimoldi

Tetrahedron: Asymmetry 20 (2009) 411

$[\alpha]_D^{25} = -13.7$ (*c* 0.28, CHCl₃)
Absolute configuration: (*R*)

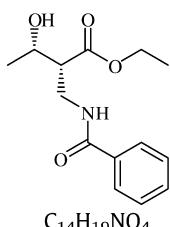


C₁₁H₁₅NO₂
(*R*)-*N*-(3-Hydroxybutyl)benzamide

Raffaella Gandolfi *, Edoardo Cesarotti, Francesco Molinari, Diego Romano,
Isabella Rimoldi

Tetrahedron: Asymmetry 20 (2009) 411

$[\alpha]_D^{25} = -49.7$ (*c* 0.14, CHCl₃)
Absolute configuration: (2*R*,3*S*)



C₁₄H₁₉NO₄
(2*R*,3*S*)-Ethyl 2-(benzamidomethyl)-3-hydroxybutanoate

Xiao-Feng Yang, Takuji Hirose *, Guang-You Zhang

Tetrahedron: Asymmetry 20 (2009) 415

Ee >99%
 $[\alpha]_D^{20} = -14.1$ (*c* 1.0, MeOH)
Source of chirality: (*R*)-2-(1-amino-2,2-dimethylpropyl)-4-*tert*-butylphenol
Absolute configuration: (*R*)

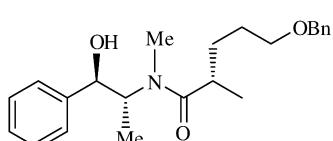


C₁₅H₂₄BrNO
(*R*)-2-(1-Amino-2,2-dimethylpropyl)-6-bromo-4-*tert*-butylphenol

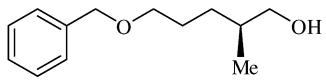
Lourdes Muñoz, M^a Pilar Bosch, Gloria Rosell, Angel Guerrero *

Tetrahedron: Asymmetry 20 (2009) 420

De ≥ 94%
 $[\alpha]_D^{20} = -55.3$ (*c* 1.0, CHCl₃)
Source of chirality: (*R,R*)-(−)-pseudoephedrine and asymmetric alkylation
Absolute configuration: (*S,R,R*) (from the known stereospecificity of Myers reaction)



C₂₃H₃₁NO₃
(*2S*)-*N*-methyl-*N*-[(1*R*,2*R*)-2-hydroxy-1-methyl-2-phenylethyl]-2-methyl-5-benzyloxypentamide

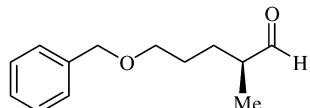


(2S)-5-benzyloxy-2-methyl-1-pentanol

Ee $\geq 94\%$ $[\alpha]_D^{20} = -9.4$ (*c* 6.6, CHCl₃)

Source of chirality: asymmetric alkylation

Absolute configuration: (S) (from the known absolute configuration of its precursor)

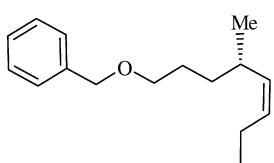


(2S)-5-benzyloxy-2-methyl-1-pentanal

Ee $\geq 94\%$ $[\alpha]_D^{20} = +9.3$ (*c* 1.3, CHCl₃)

Source of chirality: asymmetric alkylation

Absolute configuration: (S) (from the known absolute configuration of its precursor)

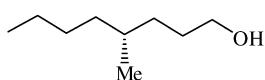


(4S)-1-benzyloxy-4-methyl-5-octene

Ee $\geq 94\%$ $[\alpha]_D^{20} = -4.4$ (*c* 1.1, CHCl₃)

Source of chirality: asymmetric alkylation

Absolute configuration: (S) (from the known absolute configuration of its precursor)

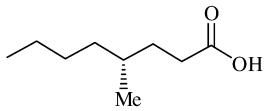


(4R)-4-methyl-1-octanol

Ee $\geq 94\%$ $[\alpha]_D^{20} = +0.5$ (*c* 1.4, CHCl₃)

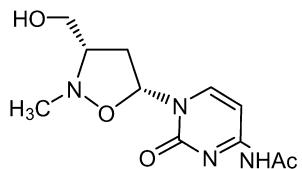
Source of chirality: asymmetric alkylation

Absolute configuration: (R) (from the known absolute configuration of its precursor)



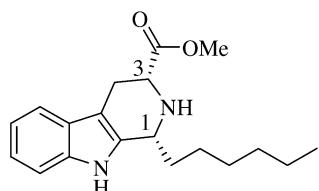
C₉H₁₈O₂
(4*R*)-4-methyloctanoic acid

Ee ≥ 94%
[α]_D²⁰ = -1.5 (c 1.4, CHCl₃)
Source of chirality: asymmetric alkylation
Absolute configuration: (*R*) (from the known absolute configuration of its precursor)



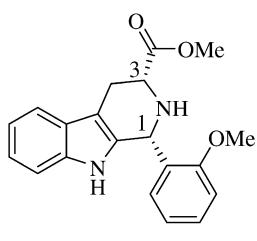
C₁₁H₁₆N₄O₅
(3'*R*,5'*S*)-2'-N-Methyl-3'-hydroxymethyl-1',2'-isoxazolidinyl-N-acetyl cytosine

Ee >98%
[α]_D²⁵ = -19.8 (c 0.23, EtOH)
Source of chirality: enzymatic resolution
Absolute configuration: (3*R*,5*S*)



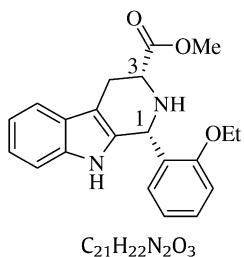
C₁₉H₂₆N₂O₂
(1*R*,3*R*)-Methyl 1-hexyl-2,3,4,9-tetrahydro-1*H*-pyrido[3,4-*b*]indole-3-carboxylate

[α]_D²⁰ = +57.8 (c 1.6, CHCl₃)
Source of chirality: *D*-tryptophan
Absolute configuration: (1*R*,3*R*)



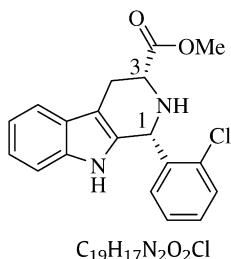
C₂₀H₂₀N₂O₃
(1*R*,3*R*)-Methyl 1-(2-methoxyphenyl)-2,3,4,9-tetrahydro-1*H*-pyrido[3,4-*b*]indole-3-carboxylate

[α]_D²⁰ = -14.1 (c 1.5, CHCl₃)
Source of chirality: *D*-tryptophan
Absolute configuration: (1*R*,3*R*)



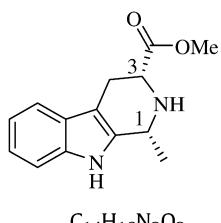
$[\alpha]_D^{20} = +1.6$ (*c* 4.1, CHCl₃)
Source of chirality: D-tryptophan
Absolute configuration: (1*R*,3*R*)

(1*R*,3*R*)-Methyl 1-(2-ethoxyphenyl)-2,3,4,9-tetrahydro-1*H*-pyrido[3,4-*b*]indole-3-carboxylate



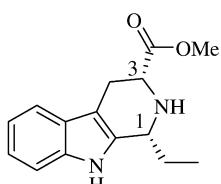
$[\alpha]_D^{20} = -20.6$ (*c* 0.9, CHCl₃)
Source of chirality: D-tryptophan
Absolute configuration: (1*R*,3*R*)

(1*R*,3*R*)-Methyl 1-(2-chlorophenyl)-2,3,4,9-tetrahydro-1*H*-pyrido[3,4-*b*]indole-3-carboxylate



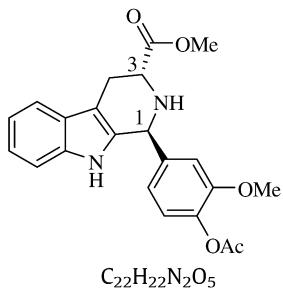
$[\alpha]_D^{20} = +93.6$ (*c* 2.5, CHCl₃)
Source of chirality: D-tryptophan
Absolute configuration: (1*R*,3*R*)

(1*R*,3*R*)-Methyl 1-methyl-2,3,4,9-tetrahydro-1*H*-pyrido[3,4-*b*]indole-3-carboxylate

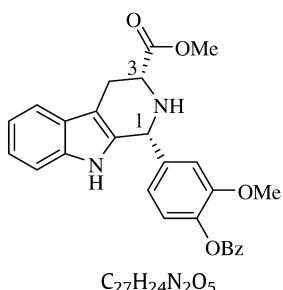


$[\alpha]_D^{20} = +9.8$ (*c* 1.6, CHCl₃)
Source of chirality: D-tryptophan
Absolute configuration: (1*R*,3*R*)

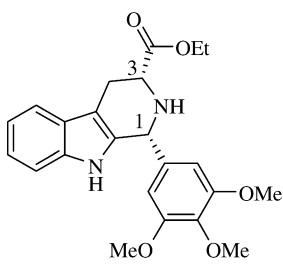
(1*R*,3*R*)-Methyl 1-ethyl-2,3,4,9-tetrahydro-1*H*-pyrido[3,4-*b*]indole-3-carboxylate

(1S,3R)-Methyl 1-(4-acetoxy-3-methoxyphenyl)-2,3,4,9-tetrahydro-1*H*-pyrido[3,4-*b*]indole-3-carboxylate

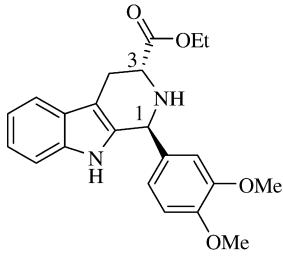
$[\alpha]_D^{20} = +30.4$ (*c* 1.2, CHCl₃)
Source of chirality: D-tryptophan
Absolute configuration: (1S,3R)

(1R,3R)-Methyl 1-(4-benzyloxy-3-methoxyphenyl)-2,3,4,9-tetrahydro-1*H*-pyrido[3,4-*b*]indole-3-carboxylate

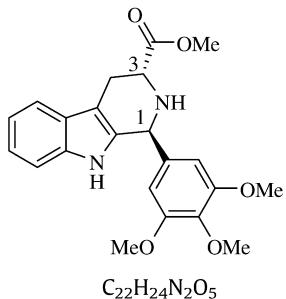
$[\alpha]_D^{20} = +8.1$ (*c* 1.4, CHCl₃)
Source of chirality: D-tryptophan
Absolute configuration: (1R,3R)

(1R,3R)-Ethyl 1-(3,4,5-trimethoxyphenyl)-2,3,4,9-tetrahydro-1*H*-pyrido[3,4-*b*]indole-3-carboxylate

$[\alpha]_D^{20} = +20.5$ (*c* 0.4, CHCl₃)
Source of chirality: D-tryptophan
Absolute configuration: (1R,3R)

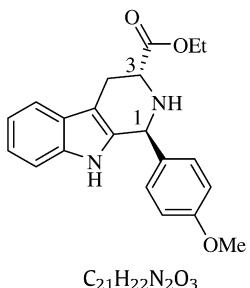
(1S,3R)-Ethyl 1-(3,4-dimethoxyphenyl)-2,3,4,9-tetrahydro-1*H*-pyrido[3,4-*b*]indole-3-carboxylate

$[\alpha]_D^{20} = +26.0$ (*c* 1.9, CHCl₃)
Source of chirality: D-tryptophan
Absolute configuration: (1S,3R)



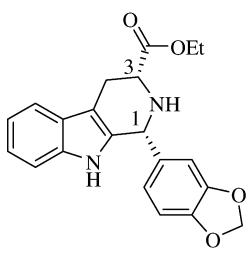
$[\alpha]_D^{20} = +11.3$ (*c* 1.3, CHCl₃)
Source of chirality: D-tryptophan
Absolute configuration: (1S,3R)

(1S,3R)-Methyl 1-(3,4,5-trimethoxyphenyl)-2,3,4,9-tetrahydro-1*H*-pyrido[3,4-*b*]indole-3-carboxylate



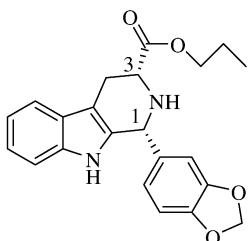
$[\alpha]_D^{20} = +49.7$ (*c* 0.3, CHCl₃)
Source of chirality: D-tryptophan
Absolute configuration: (1S,3R)

(1S,3R)-Ethyl 1-(4-methoxyphenyl)-2,3,4,9-tetrahydro-1*H*-pyrido[3,4-*b*]indole-3-carboxylate



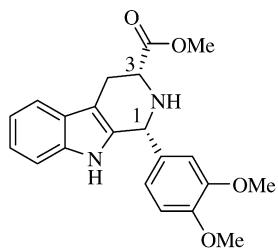
$[\alpha]_D^{20} = +32.2$ (*c* 1.0, EtOAc)
Source of chirality: D-tryptophan
Absolute configuration: (1R,3R)

(1R,3R)-Ethyl 1-(benzo[d][1,3]dioxol-5-yl)-2,3,4,9-tetrahydro-1*H*-pyrido[3,4-*b*]indole-3-carboxylate

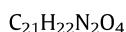


$[\alpha]_D^{20} = +36.2$ (*c* 1.0, EtOAc)
Source of chirality: D-tryptophan
Absolute configuration: (1R,3R)

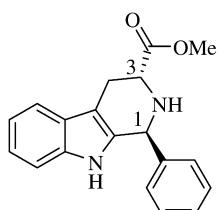
(1R,3R)-Propyl 1-(benzo[d][1,3]dioxol-5-yl)-2,3,4,9-tetrahydro-1*H*-pyrido[3,4-*b*]indole-3-carboxylate



$[\alpha]_D^{20} = +21.9$ (*c* 1.6, CHCl₃)
Source of chirality: D-tryptophan
Absolute configuration: (1*R*,3*R*)



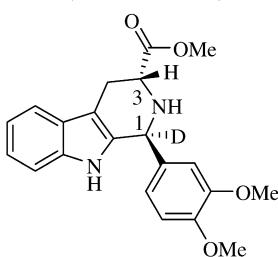
(1*R*,3*R*)-Methyl 1-(3,4-dimethoxyphenyl)-2,3,4,9-tetrahydro-1*H*-pyrido[3,4-*b*]indole-3-carboxylate



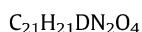
$[\alpha]_D^{20} = +44.5$ (*c* 1.0, CHCl₃)
Source of chirality: D-tryptophan
Absolute configuration: (1*S*,3*R*)



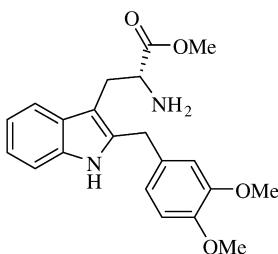
(1*S*,3*R*)-Methyl 1-phenyl-2,3,4,9-tetrahydro-1*H*-pyrido[3,4-*b*]indole-3-carboxylate



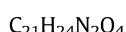
$[\alpha]_D^{20} = +24.5$ (*c* 1.0, CHCl₃)
Source of chirality: D-tryptophan
Absolute configuration: (1*S*,3*R*)



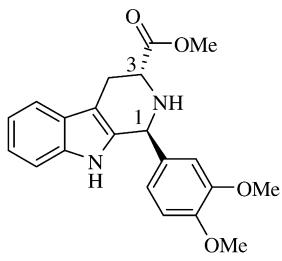
(1*S*,3*R*)-Methyl 1-deutero-1-(3,4-dimethoxyphenyl)-2,3,4,9-tetrahydro-1*H*-pyrido[3,4-*b*]indole-3-carboxylate



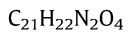
$[\alpha]_D^{20} = +17.3$ (*c* 1.2, CHCl₃)
Source of chirality: D-tryptophan
Absolute configuration: (*R*)



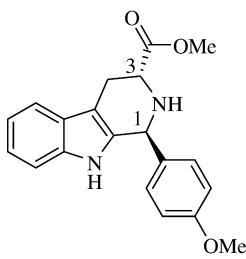
(*R*)-Methyl 2-amino-3-(2-(3,4-dimethoxybenzyl)-1*H*-indol-3-yl)propanoate



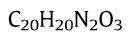
$[\alpha]_D^{20} = +25.4$ (*c* 1.7, CHCl₃)
Source of chirality: D-tryptophan
Absolute configuration: (1*S*,3*R*)



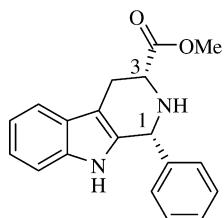
(1*S*,3*R*)-Methyl 1-(3,4-dimethoxyphenyl)-2,3,4,9-tetrahydro-1*H*-pyrido[3,4-*b*]indole-3-carboxylate



$[\alpha]_D^{20} = +44.0$ (*c* 2.0, CHCl₃)
Source of chirality: D-tryptophan
Absolute configuration: (1*S*,3*R*)



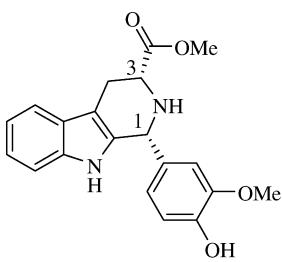
(1*S*,3*R*)-Methyl 1-(4-methoxyphenyl)-2,3,4,9-tetrahydro-1*H*-pyrido[3,4-*b*]indole-3-carboxylate



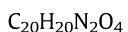
$[\alpha]_D^{20} = +14.2$ (*c* 1.5, CHCl₃)
Source of chirality: D-tryptophan
Absolute configuration: (1*R*,3*R*)



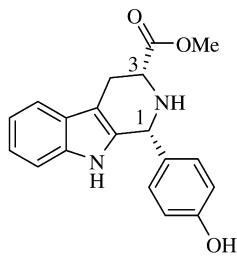
(1*R*,3*R*)-Methyl 1-phenyl-2,3,4,9-tetrahydro-1*H*-pyrido[3,4-*b*]indole-3-carboxylate



$[\alpha]_D^{20} = +39.8$ (*c* 1.1, CHCl₃)
Source of chirality: D-tryptophan
Absolute configuration: (1*R*,3*R*)

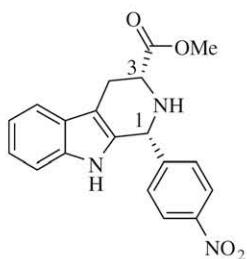


(1*R*,3*R*)-Methyl 1-(4-hydroxy-3-methoxyphenyl)-2,3,4,9-tetrahydro-1*H*-pyrido[3,4-*b*]indole-3-carboxylate



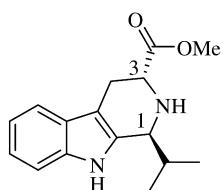
$[\alpha]_D^{20} = +34.2$ (*c* 1.0, acetone)
Source of chirality: D-tryptophan
Absolute configuration: (1*R*,3*R*)

C₁₉H₁₈N₂O₃
(1*R*,3*R*)-Methyl 1-(4-hydroxyphenyl)-2,3,4,9-tetrahydro-1*H*-pyrido[3,4-*b*]indole-3-carboxylate



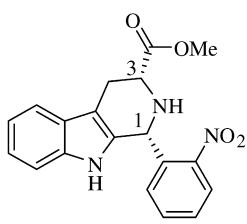
$[\alpha]_D^{20} = +5.4$ (*c* 1.0, CHCl₃)
Source of chirality: D-tryptophan
Absolute configuration: (1*R*,3*R*)

C₁₉H₁₇N₃O₄
(1*R*,3*R*)-Methyl 1-(4-nitrophenyl)-2,3,4,9-tetrahydro-1*H*-pyrido[3,4-*b*]indole-3-carboxylate



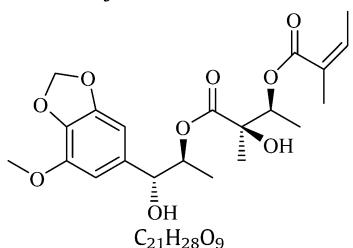
$[\alpha]_D^{20} = -53.4$ (*c* 1.6, CHCl₃)
Source of chirality: D-tryptophan
Absolute configuration: (1*S*,3*R*)

C₁₆H₂₀N₂O₂
(1*S*,3*R*)-Methyl 1-isopropyl-2,3,4,9-tetrahydro-1*H*-pyrido[3,4-*b*]indole-3-carboxylate



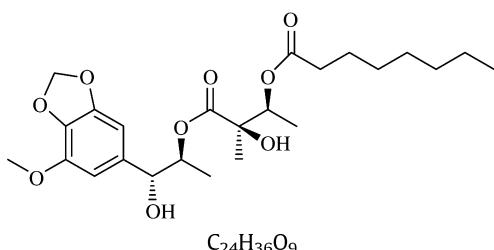
$[\alpha]_D^{20} = +22.6$ (*c* 6.6, CHCl₃)
Source of chirality: D-tryptophan
Absolute configuration: (1*R*,3*R*)

C₁₉H₁₇N₃O₄
(1*R*,3*R*)-Methyl 1-(2-nitrophenyl)-2,3,4,9-tetrahydro-1*H*-pyrido[3,4-*b*]indole-3-carboxylate



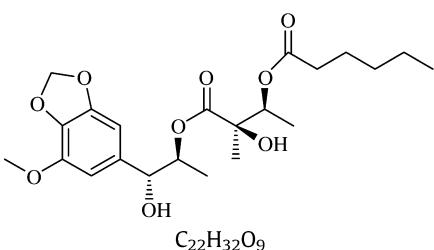
$[\alpha]_D = -23.1$ (*c* 1.5, CHCl₃)
Source of chirality: asymmetric synthesis
Absolute configuration: (2*S*,3*R*,1'*R*,2'*S*)

(*Z*)-(2*S*,3*R*)-3-(((1*R*,2*S*)-1-Hydroxy-1-(4-methoxybenzo[d][1,3]dioxol-6-yl)propan-2-yloxy)carbonyl)-3-hydroxybutan-2-yl 2-methylbut-2-enoate



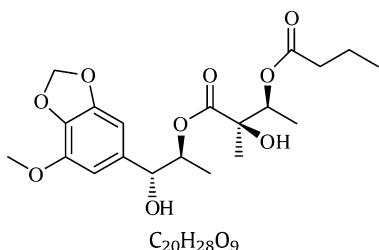
$[\alpha]_D = -28.16$ (*c* 1.5, CHCl₃),
Source of chirality: asymmetric synthesis
Absolute configuration: (2*S*,3*R*,1'*R*,2'*S*)

(2*S*,3*R*)-3-(((1*R*,2*S*)-1-hydroxy-1-(4-methoxybenzo[d][1,3]dioxol-6-yl)propan-2-yloxy)carbonyl)-3-hydroxybutan-2-yl octanoate



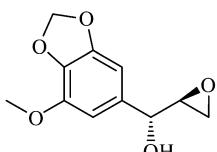
$[\alpha]_D = -28.2$ (*c* 1.5, CHCl₃)
Source of chirality: asymmetric synthesis
Absolute configuration: (2*S*,3*R*,1'*R*,2'*S*)

(2*S*,3*R*)-3-(((1*R*,2*S*)-1-Hydroxy-1-(4-methoxybenzo[d][1,3]dioxol-6-yl)propan-2-yloxy)carbonyl)-3-hydroxybutan-2-yl hexanoate



$[\alpha]_D = -29.1$ (*c* 1.0, CHCl₃)
Source of chirality: asymmetric synthesis
Absolute configuration: (2*S*,3*R*,1'*R*,2'*S*)

(2*S*,3*R*)-3-(((1*R*,2*S*)-1-Hydroxy-1-(4-methoxybenzo[d][1,3]dioxol-6-yl)propan-2-yloxy)carbonyl)-3-hydroxybutan-2-yl butanoate



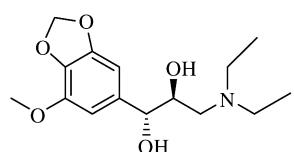
C₁₁H₁₂O₅

(R)-(4-Methoxybenzo[d][1,3]dioxol-6-yl)((S)-oxiran-2-yl) methanol

[α]_D = -25.6 (c 3.75, CHCl₃)

Source of chirality: asymmetric synthesis

Absolute configuration: (R)



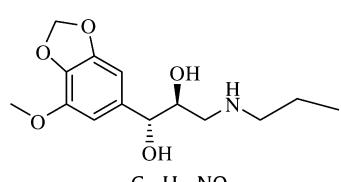
C₁₅H₂₃NO₅

(1R,2S)-3-(Diethylamino)-1-(4-methoxybenzo[a][1,3]dioxol-6-yl)propane-1,2-diol

[α]_D = -9.0 (c 0.66, acetone)

Source of chirality: asymmetric synthesis

Absolute configuration: (1R,2S)



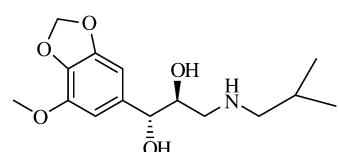
C₁₄H₂₁NO₅

(1R,2S)-1-(4-Methoxybenzo[a][1,3]dioxol-6-yl)-3-(propylamino)propane-1,2-diol

[α]_D = -37.7 (c 0.2, CHCl₃)

Source of chirality: asymmetric synthesis

Absolute configuration: (1R,2S)



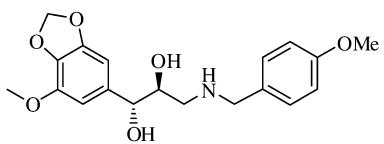
C₁₅H₂₃NO₅

(1R,2S)-3-(Isobutylamino)-1-(4-methoxybenzo[a][1,3]dioxol-6-yl)propane-1,2-diol

[α]_D = -17.25 (c 0.16, CHCl₃)

Source of chirality: asymmetric synthesis

Absolute configuration: (1R,2S)

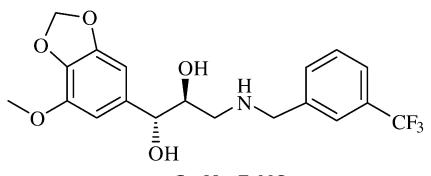


C₁₉H₂₃NO₆
(1R,2S)-3-(4-Methoxyphenylamino)-1-(4-methoxybenzo[a][1,3]dioxol-6-yl)propane-1,2-diol

[α]_D = -22.9 (c 0.56, CHCl₃)

Source of chirality: asymmetric synthesis

Absolute configuration: (1R,2S)

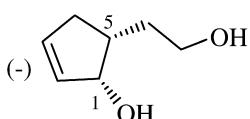


C₁₉H₂₀F₃NO₅
(1R,2S)-3-(3-(Trifluoromethyl)benzylamino)-1-(4-methoxybenzo[a][1,3]dioxol-6-yl)propane-1,2-diol

[α]_D = -21.1 (c 1.0, CHCl₃)

Source of chirality: Asymmetric synthesis

Absolute configuration: (1R,2S)

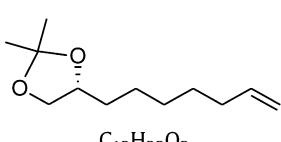


C₇H₁₂O₂
(1S,5R)-(-)-5-(2'-Hydroxyethyl)cyclopent-2-en-ol

[α]_D²⁰ = -90.2 (c 0.006, CHCl₃)

Absolute configuration: (1S,5R)

Source of chirality: Enzymatic Kinetic Resolution

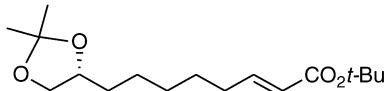


C₁₂H₂₂O₂
(R)-4-(Hept-6-enyl)-2,2-dimethyl-1,3-dioxolane

[α]_D²³ = -17.9 (c 1.21, CHCl₃)

Absolute configuration: (R)

Source of chirality: (4R)-4-(2-hydroxyethyl)2,2-dimethyl-1,3-dioxolane



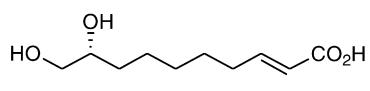
C₁₇H₃₀O₄

(E)-tert-Butyl 8-((R)-2,2-dimethyl-1,3-dioxolan-4-yl)oct-2-enoate

[α]_D²³ = -10.4 (c 1.39, CHCl₃)

Absolute configuration: (R)

Source of chirality: (4R)-4-(2-hydroxyethyl)2,2-dimethyl-1,3-dioxolane



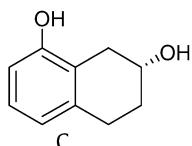
C₁₀H₁₈O₄

(2E,9R)-9,10-Dihydroxy-2-decanoic acid

[α]_D²⁵ = +11.9 (c 0.51, MeOH)

Absolute configuration: (R)

Source of chirality: (4R)-4-(2-hydroxyethyl)2,2-dimethyl-1,3-dioxolane



Ee = 99%

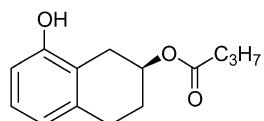
[α]_D²⁵ = +92.5 (c 0.5, MeOH)

Source of chirality: enzymatic resolution

Absolute configuration: (R)

10H₁₂O₂

(R)-8-Hydroxy-2-tetralol



Ee = 99%

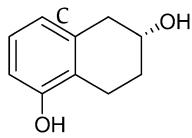
[α]_D²⁵ = -39.2 (c 0.5, MeOH)

Source of chirality: enzymatic resolution

Absolute configuration: (S)

14H₁₈O₃

(S)-8-Hydroxy-2-tetralyl butyrate



$^{10}\text{H}_{12}\text{O}_2$

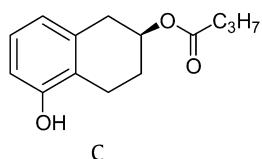
(R)-5-Hydroxy-2-tetralol

Ee = 71%

$[\alpha]_D^{25} = +50.6$ (*c* 0.5, MeOH)

Source of chirality: enzymatic resolution

Absolute configuration: (R)



$^{14}\text{H}_{18}\text{O}_3$

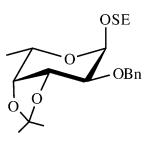
(S)-5-Hydroxy-2-tetralyl butyrate

Ee = 65%

$[\alpha]_D^{25} = -21.5$ (*c* 0.5, MeOH)

Source of chirality: enzymatic resolution

Absolute configuration: (S)



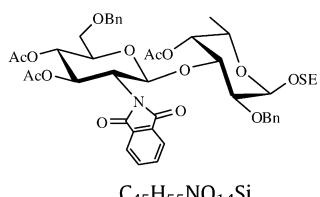
$\text{C}_{21}\text{H}_{34}\text{O}_5\text{Si}$

2-(Trimethylsilyl) ethyl 2-O-benzyl-3,4-O-isopropylidene- α -L-fucopyranoside

$[\alpha]_D^{25} = -78$ (*c* 1.0, CHCl₃)

Source of chirality: L-fucose

Absolute configuration: (1S,2S,3S,4S,5S)



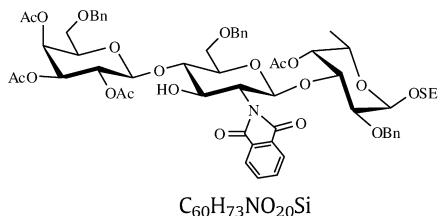
$\text{C}_{45}\text{H}_{55}\text{NO}_{14}\text{Si}$

2-(Trimethylsilyl) ethyl 3,4-di-O-acetyl-6-O-benzyl-2-deoxy-2-N-phthalimido- β -D-glucopyranosyl-(1→3)-4-O-acetyl-2-O-benzyl- α -L-fucopyranoside

$[\alpha]_D^{25} = -37$ (*c* 1.0, CHCl₃)

Source of chirality: D-glucosamine, L-fucose

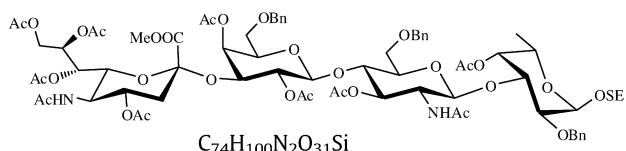
Absolute configuration: (1R,2S,3R,4S,5S); (1S,2S,3S,4S,5S)



2-(Trimethylsilyl)ethyl 2,3,4-tri-O-acetyl-6-O-benzyl- β -D-galactopyranosyl-(1 \rightarrow 4)-6-O-benzyl-2-deoxy-2-N-phthalimido- β -D-glucopyranosyl-(1 \rightarrow 3)-4-O-acetyl-2-O-benzyl- α -L-fucopyranoside

$[\alpha]_D^{25} = -37$ (c 1.0, CHCl₃)

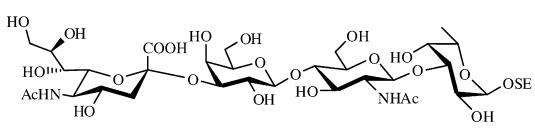
Source of chirality: D-galactose, D-glucosamine, L-fucose
Absolute configuration: (1S,2R,3R,4S,5S);
(1R,2S,3R,4S,5S); (1S,2S,3S,4S,5S)



2-(Trimethylsilyl) ethyl (methyl 5-acetamido-4,7,8,9-tetra-O-acetyl-3,5-dideoxy-D-glycero- α -D-galacto-2-nonulopyranosylonate)-(2 \rightarrow 3)-2,4-di-O-acetyl-6-O-benzyl- β -D-galactopyranosyl-(1 \rightarrow 4)-2-acetamido-3-O-acetyl-6-O-benzyl-2-deoxy- β -D-glucopyranosyl-(1 \rightarrow 3)-4-O-acetyl-2-O-benzyl- α -L-fucopyranoside

$[\alpha]_D^{25} = -64$ (c 1.0, CHCl₃)

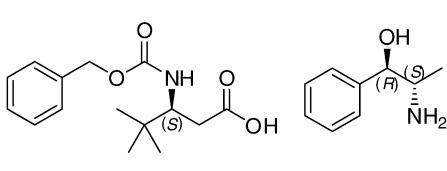
Source of chirality: N-acetylneuraminic acid, D-galactose, D-glucosamine, L-fucose
Absolute configuration: (2R,4R,5R,6S,7S,8R);
(1S,2R,3R,4S,5S); (1R,2S,3R,4S,5S); (1S,2S,3S,4S,5S)



2-(Trimethylsilyl) ethyl (sodium 5-acetamido-3,5-dideoxy-D-glycero- α -D-galacto-2-nonulopyranosylonate)-(2 \rightarrow 3)- β -D-galactopyranosyl-(1 \rightarrow 4)-2-acetamido-2-deoxy- β -D-glucopyranosyl-(1 \rightarrow 3)- α -L-fucopyranoside

$[\alpha]_D^{25} = -49$ (c 1.0, H₂O)

Source of chirality: N-acetylneuraminic acid, D-galactose, D-glucosamine, L-fucose
Absolute configuration: (2R,4R,5R,6S,7S,8R);
(1S,2R,3R,4S,5S); (1R,2S,3R,4S,5S); (1S,2S,3S,4S,5S)



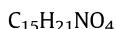
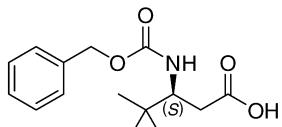
(S)-3-Benzylxycarbonylamino-4,4-dimethylpentanoic acid, L-(-)-Norephedrine salt

$[\alpha]_D^{20} = -6.4$ (c 1, EtOH)

Source of chirality: resolution
Absolute configuration: (S)

Matthijs K.J. ter Wiel *, Mirjam Arnold, Sandra Peter, Ingo Trotsch, Stefan Merget, Florian Glaser, Michael Schwarm, Harjinder S. Bhatti, Biju Kuriakose, Suryakant S. Pol, Mohanasundaram Balamurugan, Viral V. Joshi

Tetrahedron: Asymmetry 20 (2009) 478

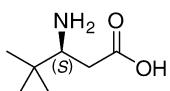


(S)-3-Benzylcarbonylamino-4,4-dimethylpentanoic acid; (S)-Cbz-β-neo-pentylglycine

[α]_D²⁰ = +13.4 (c 1.4, CHCl₃)
Source of chirality: resolution
Absolute configuration: (S)

Matthijs K.J. ter Wiel *, Mirjam Arnold, Sandra Peter, Ingo Trotsch, Stefan Merget, Florian Glaser, Michael Schwarm, Harjinder S. Bhatti, Biju Kuriakose, Suryakant S. Pol, Mohanasundaram Balamurugan, Viral V. Joshi

Tetrahedron: Asymmetry 20 (2009) 478

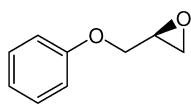


(S)-3-Amino-4,4-dimethylpentanoic acid; (S)-β-neopentylglycine

[α]_D²⁰ = -67.7 (c 1, H₂O)
Source of chirality: resolution
Absolute configuration: (S)

Joerg H. Schrittwieser, Iván Lavandera, Birgit Seisser, Barbara Mautner,
Jeffrey H. Lutje Spelberg, Wolfgang Kroutil *

Tetrahedron: Asymmetry 20 (2009) 483

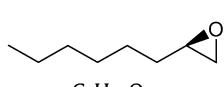


(S)-1,2-Epoxy-3-phenoxypropane

Ee >99%
[α]_D²⁰ = +4.5 (c 1, CHCl₃)
Source of chirality: asymmetric synthesis (biotransformation)
Absolute configuration: (S)

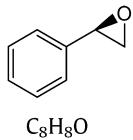
Joerg H. Schrittwieser, Iván Lavandera, Birgit Seisser, Barbara Mautner,
Jeffrey H. Lutje Spelberg, Wolfgang Kroutil *

Tetrahedron: Asymmetry 20 (2009) 483



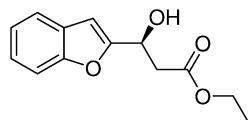
(R)-1,2-Epoxyoctane

Ee >99%
[α]_D²⁰ = +4.8 (c 1, CHCl₃)
Source of chirality: asymmetric synthesis (biotransformation)
Absolute configuration: (R)



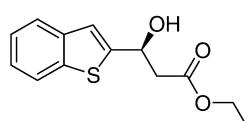
(R)-Styrene oxide

Ee >99%
 $[\alpha]_D^{20} = -19.5$ (c 1, CHCl₃)
Source of chirality: asymmetric synthesis (biotransformation)
Absolute configuration: (R)



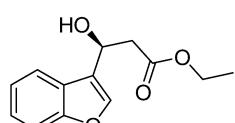
C₁₃H₁₄O₄
(S)-Ethyl 3-(benzofuran-2-yl)-3-hydroxypropanoate

$[\alpha]_D^{20} = -24.5$ (c 1, CHCl₃)
Ee = 99% on a tandem Chiraldak IA and OJ HPLC columns
Source of chirality: enzymatic reaction
Absolute configuration: (S)



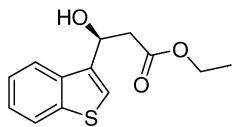
C₁₃H₁₄O₃S
(S)-Ethyl 3-(benzo[b]thiophen-2-yl)-3-hydroxypropanoate

$[\alpha]_D^{20} = -13.5$ (c 1, CHCl₃)
Ee = 99% on a tandem Chiraldak IA and OJ HPLC columns
Source of chirality: enzymatic reaction
Absolute configuration: (S)



C₁₃H₁₄O₄
(S)-Ethyl 3-(benzofuran-3-yl)-3-hydroxypropanoate

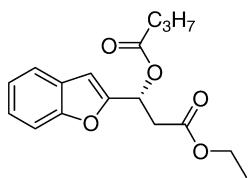
$[\alpha]_D^{20} = -25.5$ (c 1, CHCl₃)
Ee = 99% on Chiraldak IC HPLC column
Source of chirality: enzymatic reaction
Absolute configuration: (S)



$[\alpha]_D^{20} = -43.8$ (*c* 1, CHCl₃)
Ee = >97% on Chiralpak IC HPLC column
Source of chirality: enzymatic reaction
Absolute configuration: (S)

 $C_{13}H_{14}O_3S$

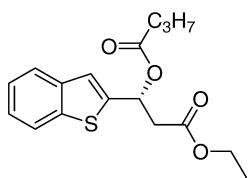
(S)-Ethyl 3-(benzo[b]thiophen-3-yl)-3-hydroxypropanoate



$[\alpha]_D^{20} = +38.5$ (*c* 1, CHCl₃)
Ee > 98% on a tandem Chiralpak IA and OJ HPLC columns
Source of chirality: enzymatic reaction
Absolute configuration: (R)

 $C_{17}H_{20}O_5$

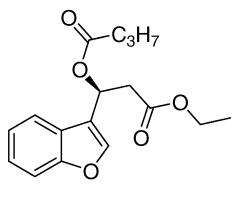
(R)-2-(Ethoxycarbonyl)-1-(benzofuran-2-yl)ethyl butyrate



$[\alpha]_D^{20} = +28.5$ (*c* 1, CHCl₃)
Ee = 99% on a tandem Chiralpak IA and OJ HPLC columns
Source of chirality: enzymatic reaction
Absolute configuration: (R)

 $C_{13}H_{14}O_4$

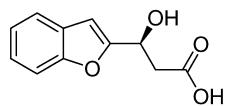
(R)-2-(Ethoxycarbonyl)-1-(benzo[b]thiophen-2-yl)ethyl butyrate



$[\alpha]_D^{20} = -44.5$ (*c* 1, CHCl₃)
Ee = 95% on Chiralpak IC HPLC column
Source of chirality: enzymatic reaction
Absolute configuration: (S)

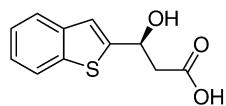
 $C_{17}H_{20}O_5$

(S)-2-(Ethoxycarbonyl)-1-(benzofuran-3-yl)ethyl butyrate



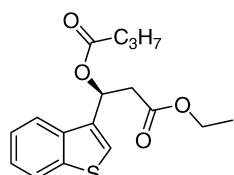
$[\alpha]_D^{20} = -19.8$ (*c* 1, CHCl₃)
Ee = 99% on a tandem Chirobiotic-Tag and -R HPLC columns
Source of chirality: enzymatic reaction
Absolute configuration: (S)

C₁₁H₁₀O₄
(S)-3-(Benzofuran-2-yl)-3-hydroxypropanoic acid



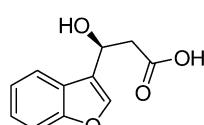
$[\alpha]_D^{20} = -5.8$ (*c* 1, CHCl₃)
Ee = 99% on a tandem Chirobiotic-Tag and -R HPLC columns
Source of chirality: enzymatic reaction
Absolute configuration: (S)

C₁₁H₁₀O₃S
(S)-3-(Benzo[b]thiophen-2-yl)-3-hydroxypropanoic acid



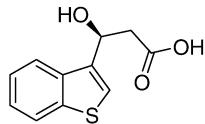
$[\alpha]_D^{20} = -67.5$ (*c* 1, CHCl₃)
Ee = 94% on Chiralpak IC HPLC column
Source of chirality: enzymatic reaction
Absolute configuration: (S)

C₁₇H₂₀O₄S
(S)-2-(Ethoxycarbonyl)-1-(benzo[b]thiophen-3-yl)ethyl butyrate



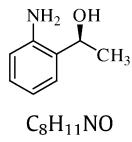
$[\alpha]_D^{20} = -10.3$ (*c* 1, CHCl₃)
Ee = 98% on a tandem Chirobiotic-Tag and -R HPLC columns
Source of chirality: enzymatic reaction
Absolute configuration: (S)

C₁₁H₁₀O₄
(S)-3-(Benzofuran-3-yl)-3-hydroxypropanoic acid



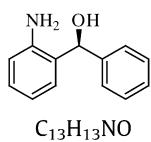
$C_{11}H_{10}O_3S$
(S)-3-(Benzo[*b*]thiophen-3-yl)-3-hydroxypropanoic acid

$[\alpha]_D^{20} = -25.9$ (*c* 1, CHCl₃)
Ee = 97% on a tandem Chirobiotic-Tag and -R HPLC columns
Source of chirality: enzymatic reaction
Absolute configuration: (S)



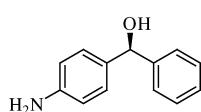
$C_8H_{11}NO$
(S)-1-(2-Aminophenyl)ethanol

Ee = 93%
 $[\alpha]_D^{20} = +52.5$ (*c* 1.0, CHCl₃)
Source of chirality: oxidative kinetic resolution
Absolute configuration: (S)



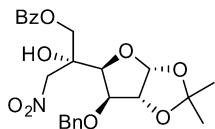
$C_{13}H_{13}NO$
(S)-(2-Aminophenyl)(phenyl)methanol

Ee = 87%
 $[\alpha]_D^{25} = +44.5$ (*c* 1.0, MeOH)
Source of chirality: oxidative kinetic resolution
Absolute configuration: (S)

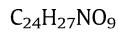
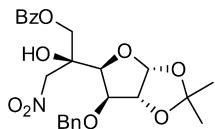


$C_{13}H_{13}NO$
(S)-(4-Aminophenyl)(phenyl)methanol

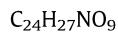
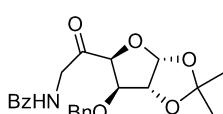
Ee = 71%
 $[\alpha]_D^{20} = -27.5$ (*c* 1.0, MeOH)
Source of chirality: oxidative kinetic resolution
Absolute configuration: (S)



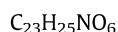
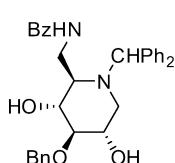
$[\alpha]_D^{25} = -75.6$ (*c* 1.00, CHCl₃)
Source of asymmetry: D-glucose
Absolute configuration: (1*R*,2*R*,3*S*,4*S*,5*R*)

6-O-Benzoyl-3-O-benzyl-1,2-O-isopropylidene-5-C-nitromethyl- α -D-glucofuranose

$[\alpha]_D^{22} = -38.0$ (*c* 1.90, CHCl₃)
Source of asymmetry: D-glucose
Absolute configuration: (1*R*,2*R*,3*S*,4*S*,5*S*)

6-O-Benzoyl-3-O-benzyl-1,2-O-isopropylidene-5-C-nitromethyl- β -L-idofuranose

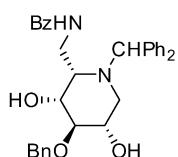
$[\alpha]_D^{22} = -94.8$ (*c* 1.20, CHCl₃)
Source of asymmetry: D-glucose
Absolute configuration: (1*R*,2*R*,3*R*,4*S*)

6-Benzoylamine-3-O-benzyl-6-deoxy-1,2-O-isopropylidene- α -D-xylo-hexofuran-5-one

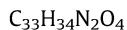
$[\alpha]_D^{21} = -1.3$ (*c* 0.50, CHCl₃)
Source of asymmetry: D-glucose
Absolute configuration: (2*S*,3*R*,4*R*,5*R*)



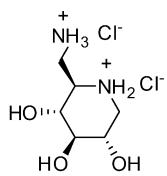
6-Benzoylamine-3-O-benzyl-1,5,6-trideoxy-N-(1,1-diphenylmethyl)-1,5-imino-D-glucitol



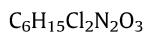
$[\alpha]_D^{22} = +10.2$ (*c* 2.42, CHCl₃)
Source of asymmetry: D-glucose
Absolute configuration: (2S,3R,4R,5S)



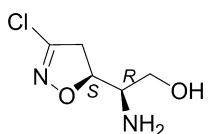
6-Benzoylamino-3-O-benzyl-1,5,6-trideoxy-N-(1,1-diphenylmethyl)-1,5-imino-L-iditol



$[\alpha]_D^{22} + 11.5$ (*c* 0.12, H₂O)
Source of asymmetry: D-glucose
Absolute configuration: (2S,3R,4R,5R)



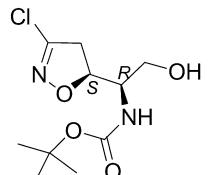
6-Amino-1,5,6-trideoxy-1,5-imino-D-glucitol dihydrochloride



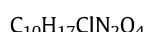
$[\alpha]_D^{20} = +95.7$ (*c* 1.00, CHCl₃)
Source of chirality: (R)-Garner's aldehyde
Absolute configuration: (2R,5S)



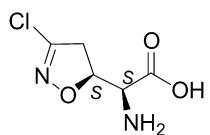
(+)-(2R,5S)-2-Amino-2-(3-chloro-4,5-dihydro-isoxazol-5-yl)-ethanol



$[\alpha]_D^{20} = +98.2$ (*c* 1.00, CHCl₃)
Source of chirality: (R)-Garner's aldehyde
Absolute configuration: (1R,5S)



(+)-(1R,5S)-[1-(3-Chloro-4,5-dihydro-isoxazol-5-yl)-2-hydroxy-ethyl]-carbamic acid tert-butyl ester



$[\alpha]_D^{20} = +157.6$ (*c* 0.13, H₂O)
Source of chirality: (*R*)-Garner's aldehyde
Absolute configuration: (*αS,5S*)

C₅H₇ClN₂O₃
(+)-[(*αS,5S*)-*α*-Amino-3-chloro-4,5-dihydroisoxazol-5-yl] acetic acid]