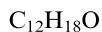
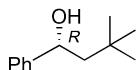


Stereochemistry abstracts

Takanori Shibata,\* Kimiko Iwahashi, Tsuneomi Kawasaki and  
Kenso Soai

*Tetrahedron: Asymmetry* 18 (2007) 1759



3,3-Dimethyl-1-phenylbutan-1-ol

Ee = 95.5% (HPLC, Chiralpak OD-H)

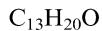
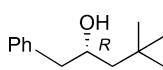
[ $\alpha$ ]<sub>D</sub><sup>28</sup> = +61.9 (c 0.10, CHCl<sub>3</sub>)

Source of chirality: resolution

Absolute configuration: modified Mosher method

Takanori Shibata,\* Kimiko Iwahashi, Tsuneomi Kawasaki and  
Kenso Soai

*Tetrahedron: Asymmetry* 18 (2007) 1759



4,4-Dimethyl-1-phenylpentan-2-ol

Ee = 96.6% (HPLC, Chiralpak OD-H)

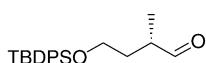
[ $\alpha$ ]<sub>D</sub><sup>23</sup> = +5.9 (c 0.47, CHCl<sub>3</sub>)

Source of chirality: resolution

Absolute configuration: modified Mosher method

Makoto Ojika,\* Jianhua Qi, Yuko Kito and Youji Sakagami

*Tetrahedron: Asymmetry* 18 (2007) 1763



(S)-4-[(tert-Butyldiphenylsilyl)oxy]-2-methylbutanal

Ee = 100%

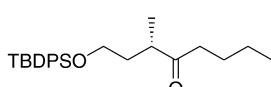
[ $\alpha$ ]<sub>D</sub><sup>28</sup> = +10 (c 0.13, CHCl<sub>3</sub>)

Source of chirality: commercial starting material

Absolute configuration: (S)

Makoto Ojika,\* Jianhua Qi, Yuko Kito and Youji Sakagami

*Tetrahedron: Asymmetry* 18 (2007) 1763



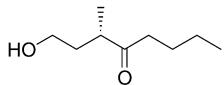
(S)-1-[(tert-Butyldiphenylsilyl)oxy]-3-methyl-4-octanone

Ee = 100%

[ $\alpha$ ]<sub>D</sub><sup>26</sup> = +8.0 (c 0.13, CHCl<sub>3</sub>)

Source of chirality: commercial starting material

Absolute configuration: (S)



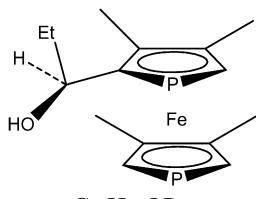
$C_9H_{18}O_2$   
(*S*)-1-Hydroxy-3-methyl-4-octanone

Ee = 100%

$[\alpha]_D^{25} = -7.7$  (*c* 0.25,  $CHCl_3$ )

Source of chirality: commercial starting material

Absolute configuration: (*S*)

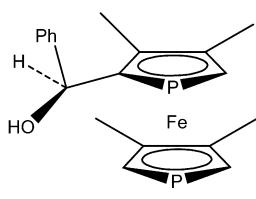


$C_{15}H_{22}OP_2$   
(*S,S\_p*)-1-(3,3',4,4'-Tetramethyl-1,1'-diphosphaferrrocen-2-yl)propan-1-ol

$[\alpha]_D^{20} = +30$  (*c* 0.22,  $CHCl_3$ )

Source of chirality: enantiomerically pure starting material

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

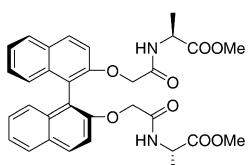


$C_{19}H_{22}OP_2$   
(*S,S\_p*)-Phenyl-(3,3',4,4'-tetramethyl-1,1'-diphosphaferrrocen-2-yl)methanol

$[\alpha]_D^{20} = +22$  (*c* 0.2,  $CHCl_3$ )

Source of chirality: enantiomerically pure starting material

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

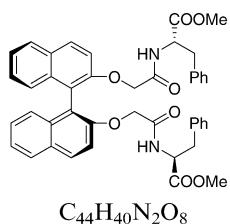


$C_{32}H_{32}N_2O_8$   
(*S*)-2-(2'-(2'-(*S*)-1-Methoxycarbonyl-ethylcarbamoyl)-methoxy)-(S)-[1,1'-binaphthalenyl-2-yloxy]-acetylaminopropionic acid methyl ester

$[\alpha]_D^{20} = -77.0$  (*c* 0.05,  $CHCl_3$ )

Source of chirality: starting material

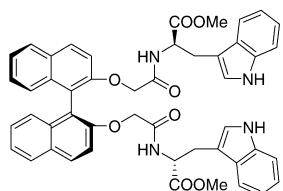
Absolute configuration, (*S<sub>a</sub>,S,S*)

 $C_{44}H_{40}N_2O_8$ 

(S)-2-(2'-(2'-(2-((S)-1-Methoxycarbonyl-2-phenyl-ethylcarbamoyl)-methoxy)-[1,1']binaphthalenyl-2-yloxy)-acetylamino)-3-phenylpropionic acid methyl ester

 $[\alpha]_D^{20} = -37.6 (c\ 0.05, \text{CHCl}_3)$ 

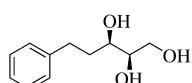
Source of chirality: starting material

Absolute configuration, ( $S_a, S, S$ ) $C_{48}H_{42}N_4O_8$ 

(S)-3-(1H-Indol-3-yl)-2-[2-(2'-(2-((S)-2-(1H-indol-3-yl)-1-methoxycarbonyl-ethylcarbamoyl)-methoxy)-[1,1']binaphthalenyl-2-yloxy)-acetylamino]-propionic acid methyl ester

 $[\alpha]_D^{20} = +24.4 (c\ 0.05, \text{CHCl}_3)$ 

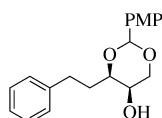
Source of chirality: starting material

Absolute configuration, ( $S_a, S, S$ ) $C_{11}H_{16}O_3$ 

5-Phenylpentane-1,2,3-triol

 $[\alpha]_D^{23.5} = +20.2 (c\ 1.8, \text{CHCl}_3)$ 

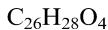
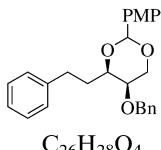
Source of chirality: Sharpless asymmetric dihydroxylation

 $C_{19}H_{22}O_4$ 

(5R,6R)-2-(4-Methoxyphenyl)-4-phenethyl-[1,3]dioxan-5-ol

 $[\alpha]_D^{23.5} = +75.9 (c\ 2.0, \text{CHCl}_3)$ 

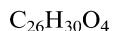
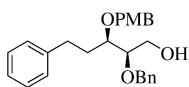
Source of chirality: Sharpless asymmetric dihydroxylation



(5*R*,6*R*)-5-Benzyl-6-phenyl-2-(4-methoxyphenyl)-1,3-dioxane

$[\alpha]_D^{26} = +57.75$  (*c* 1.0, CHCl<sub>3</sub>)

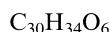
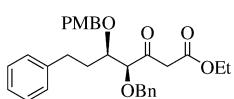
Source of chirality: Sharpless asymmetric dihydroxylation



(2*R*,3*R*)-2-Benzyl-3-(4-methoxybenzyl)-5-phenylpentan-1-ol

$[\alpha]_D^{23.5} = +25.4$  (*c* 1.0, CHCl<sub>3</sub>)

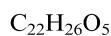
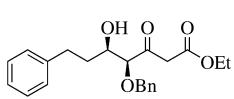
Source of chirality: Sharpless asymmetric dihydroxylation



(4*S*,5*R*)-4-Benzyl-5-(4-methoxybenzyl)-3-oxo-7-phenylheptanoic acid diethyl ester

$[\alpha]_D^{23.5} = -21.0$  (*c* 1.2, CHCl<sub>3</sub>)

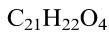
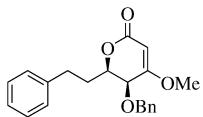
Source of chirality: Sharpless asymmetric dihydroxylation



(4*S*,5*R*)-4-Benzyl-5-hydroxy-3-oxo-7-phenylheptanoic acid diethyl ester

$[\alpha]_D^{23.5} = -40.6$  (*c* 1.0, CHCl<sub>3</sub>)

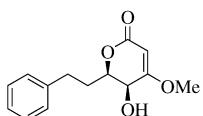
Source of chirality: Sharpless asymmetric dihydroxylation



(5S,6R)-5-Benzyl-6-methoxy-4-phenyl-5,6-dihydro-2H-pyran-2-one

 $[\alpha]_D^{26} = -120.5 (c\ 4.5, \text{CHCl}_3)$ 

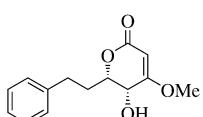
Source of chirality: Sharpless asymmetric dihydroxylation



(5S,6R)-5-Hydroxy-4-methoxy-6-phenyl-5,6-dihydro-2H-pyran-2-one

 $[\alpha]_D^{26} = -62.5 (c\ 2.0, \text{CHCl}_3)$ 

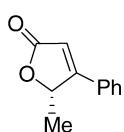
Source of chirality: Sharpless asymmetric dihydroxylation



(5R,6S)-5-Hydroxy-4-methoxy-6-phenyl-5,6-dihydro-2H-pyran-2-one

 $[\alpha]_D^{23.5} = +61.0 (c\ 2.0, \text{CHCl}_3)$ 

Source of chirality: Sharpless asymmetric dihydroxylation



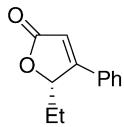
(S)-(+)-5-Methyl-4-phenylfuran-2-(5H)-one

Ee &gt;99%

 $[\alpha]_D^{20} = +200 (c\ 0.35, \text{CHCl}_3)$ 

Source of chirality: (S)-(-)-2-hydroxy-1-phenyl-1-propan-1-one

Absolute configuration: (S)



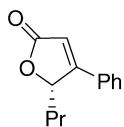
C<sub>12</sub>H<sub>12</sub>O<sub>2</sub>  
(S)-(+)-5-Ethyl-4-phenylfuran-2-(5H)-one

Ee = 94%

[ $\alpha$ ]<sub>D</sub><sup>20</sup> = +160 (c 0.45, CHCl<sub>3</sub>)

Source of chirality: (S)-(-)-2-hydroxy-1-phenyl-1-butan-1-one

Absolute configuration: (S)



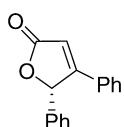
C<sub>13</sub>H<sub>14</sub>O<sub>2</sub>  
(S)-(+)-5-Propyl-4-phenylfuran-2-(5H)-one

Ee = 84%

[ $\alpha$ ]<sub>D</sub><sup>20</sup> = +148 (c 0.15, CHCl<sub>3</sub>)

Source of chirality: (S)-(-)-2-hydroxy-1-phenyl-1-pentan-1-one

Absolute configuration: (S)



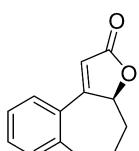
C<sub>16</sub>H<sub>12</sub>O<sub>2</sub>  
(S)-(+)-4,5-Diphenylfuran-2-(5H)-one

Ee = 74%

[ $\alpha$ ]<sub>D</sub><sup>20</sup> = +101 (c 0.1, CHCl<sub>3</sub>)

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

Absolute configuration: (S)



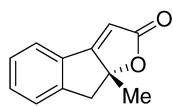
C<sub>13</sub>H<sub>12</sub>O<sub>2</sub>  
(S)-(-)-3a,4,5,6-Tetrahydro-2H-benzo[3,4]cyclohepta[1,2-b]furan-2-one

Ee = 83%

[ $\alpha$ ]<sub>D</sub><sup>20</sup> = -187 (c 0.17, CHCl<sub>3</sub>)

Source of chirality: (S)-(+)-6,7,8,9-tetrahydro-6-hydroxy-5H-benzocyclohepten-5-one

Absolute configuration: (S)



Ee = 94%

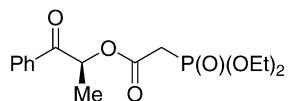
 $[\alpha]_D^{20} = +14.0$  (c 0.2, CHCl<sub>3</sub>)

Source of chirality: (R)-(+)-2-hydroxy-2-methyl 1-indanone

Absolute configuration: (R)

C<sub>12</sub>H<sub>10</sub>O<sub>2</sub>

(R)-(+)-8a-Methyl-8a-dihydro-2H-inden[2,1-b]furan-2-one

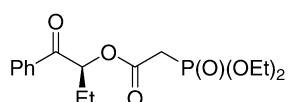
 $[\alpha]_D^{20} = -30.1$  (c 2.8, CHCl<sub>3</sub>)

Source of chirality: (S)-(-)-2-hydroxy-1-phenyl-1-propan-1-one

Absolute configuration: (S)

C<sub>15</sub>H<sub>21</sub>O<sub>6</sub>P

(S)-(-)-1-Methyl-2-oxo-2-phenylethyl(diethoxyphosphoryl)acetate



Ee = 93%

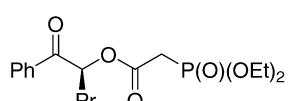
 $[\alpha]_D^{20} = -16.6$  (c 0.2, CHCl<sub>3</sub>)

Source of chirality: (S)-(-)-2-hydroxy-1-phenyl-1-butan-1-one

Absolute configuration: (S)

C<sub>16</sub>H<sub>23</sub>O<sub>6</sub>P

(S)-(-)-1-Benzoylpropyl(diethoxyphosphoryl)acetate



Ee = 85%

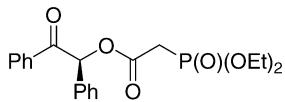
 $[\alpha]_D^{20} = -11.7$  (c 0.17, CHCl<sub>3</sub>)

Source of chirality: (S)-(-)-2-hydroxy-1-phenyl-1-pentan-1-one

Absolute configuration: (S)

C<sub>17</sub>H<sub>25</sub>O<sub>6</sub>P

(S)-(-)-1-Benzoylbutyl(diethoxyphosphoryl)acetate

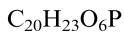


Ee = 82%

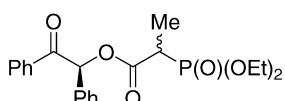
 $[\alpha]_D^{20} = +73.5$  (c 0.21, CHCl<sub>3</sub>)

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

Absolute configuration: (S)



(S)-(+)-2-Oxo-1,2-diphenylethyl(diethoxyphosphoryl)acetate



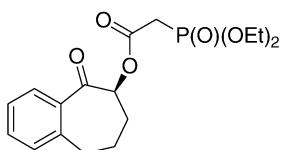
Ee = 75% (major isomer), 85% (minor isomer)

 $[\alpha]_D^{20} = +78.2$  (c 1.28, CHCl<sub>3</sub>)

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

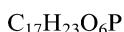


(+)-2-Oxo-1,2-diphenylethyl-2-(diethoxyphosphoryl)propanate

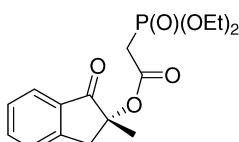
 $[\alpha]_D^{20} = -2.05$  (c 1.4, CHCl<sub>3</sub>)

Source of chirality: (S)-(+)-6,7,8,9-tetrahydro-6-hydroxy-5H-benzocyclohepten-5-one

Absolute configuration: (S)



(S)-(-)-5-Oxo-6,7,8,9-tetrahydro-5H-benzo[7]annulen-6-yl 2-(diethoxyphosphoryl)acetate

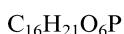


Ee = 69%

 $[\alpha]_D^{20} = -15.0$  (c 0.5, CHCl<sub>3</sub>)

Source of chirality: (R)-(+)-2-hydroxy-2-methyl-1-indanone

Absolute configuration: (R)

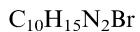
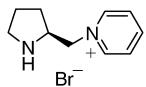


(R)-(-)-2-Methyl-1-oxo-2,3-dihydro-1H-inden-2-yl 2-(diethoxyphosphoryl)acetate

$[\alpha]_D^{20} = -6.1$  (*c* 2, MeOH)

Source of chirality: (*S*)-proline

Absolute configuration: (*S*)

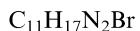
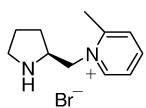


(*S*)-(+)-1-Pyrrolidin-2-ylmethyl-pyridinium bromide

$[\alpha]_D^{20} = -3.9$  (*c* 2, MeOH)

Source of chirality: (*S*)-proline

Absolute configuration: (*S*)

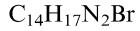
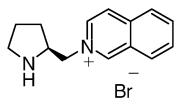


(*S*)-(+)-2-Methyl-1-pyrrolidin-2-ylmethyl-pyridinium bromide

$[\alpha]_D^{20} = -16.1$  (*c* 2, MeOH)

Source of chirality: (*S*)-proline

Absolute configuration: (*S*)

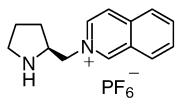


(*S*)-(+)-2-Pyrrolidin-2-ylmethyl-isoquinolinium bromide

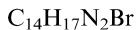
$[\alpha]_D^{20} = -12.6$  (*c* 2, MeOH)

Source of chirality: (*S*)-proline

Absolute configuration: (*S*)



(*S*)-(+)-2-Pyrrolidin-2-ylmethyl-isoquinolinium hexafluorophosphate

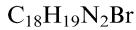
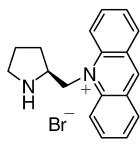


(S)-(+)-1-Pyrrolidin-2-ylmethyl-quinolinium bromide

[\alpha]<sub>D</sub><sup>20</sup> = -4.5 (c 2, MeOH)

Source of chirality: (S)-proline

Absolute configuration: (S)

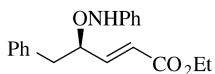


(S)-(+)-10-Pyrrolidin-2-ylmethyl-acridinium bromide

[\alpha]<sub>D</sub><sup>20</sup> = -7.35 (c 2, MeOH)

Source of chirality: (S)-proline

Absolute configuration: (S)

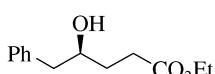


(R)-Ethyl 4-anilinoxy-5-phenylpent-2-enoate

[\alpha]<sub>D</sub><sup>25</sup> = +47 (c 1, CHCl<sub>3</sub>)

Source of chirality:  $\alpha$ -aminooxylation

Absolute configuration: (R)

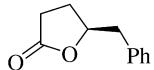


(S)-Ethyl 4-hydroxy-5-phenylpentanoate

[\alpha]<sub>D</sub><sup>25</sup> = +14.54 (c 1, CHCl<sub>3</sub>)

Source of chirality:  $\alpha$ -aminooxylation

Absolute configuration: (S)

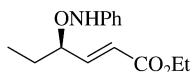


Ee = 97% (HPLC)

 $[\alpha]_D^{25} = +24.7$  (c 1, CHCl<sub>3</sub>)Source of chirality:  $\alpha$ -aminoxylation

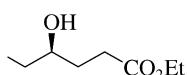
Absolute configuration: (S)

C<sub>11</sub>H<sub>12</sub>O<sub>2</sub>  
(S)-5-Benzyl-dihydrofuran-2(3H)-one

 $[\alpha]_D^{25} = +88$  (c 2, CHCl<sub>3</sub>)Source of chirality:  $\alpha$ -aminoxylation

Absolute configuration: (R)

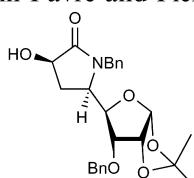
C<sub>14</sub>H<sub>19</sub>NO<sub>3</sub>  
(R)-Ethyl 4-anilinoxyhex-2-enoate

 $[\alpha]_D^{25} = +27$  (c 2, CHCl<sub>3</sub>)Source of chirality:  $\alpha$ -aminoxylation

Absolute configuration: (R)

C<sub>8</sub>H<sub>16</sub>O<sub>3</sub>  
(R)-Ethyl 4-hydroxyhexanoate

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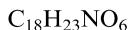
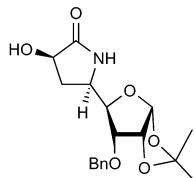


C<sub>25</sub>H<sub>29</sub>NO<sub>6</sub>  
(3R,5R)-1-Benzyl-5-(3-O-benzyl-1,2-O-isopropylidene-α-D-ribofuranos-5-ylidene)amine N-oxide

 $[\alpha]_D^{26} = +52.9$  (c 0.50, CH<sub>2</sub>Cl<sub>2</sub>)Source of chirality: (Z)-N-benzyl-(3-O-benzyl-1,2-O-isopropylidene- $\alpha$ -D-ribofuranos-5-ylidene)amine N-oxide and asymmetric synthesisAbsolute configuration: (3R,5R,1'R,2'R,3'R,4'R)  
assigned by X-ray crystallographic analysis

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(3R,5R)-5-(3-O-Benzyl-1,2-O-isopropylidene-α-D-ribo-tetrofuranos-4-yl)-3-hydroxy-2-oxopyrrolidine

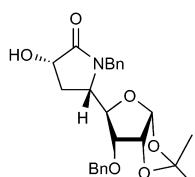
$[\alpha]_D^{26} = +16$  (*c* 1.0, CH<sub>2</sub>Cl<sub>2</sub>)

Source of chirality: (*Z*)-*N*-benzyl-(3-*O*-benzyl-1,2-*O*-isopropylidene- $\alpha$ -D-ribofuranos-5-ylidene)amine N-oxide and asymmetric synthesis

Absolute configuration: (3*R*,5*R*,1'*R*,2'*R*,3'*R*,4'*R*)

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(3S,5S)-1-Benzyl-5-(3-O-benzyl-1,2-O-isopropylidene-α-D-ribo-tetrofuranos-4-yl)-3-hydroxy-2-oxopyrrolidine

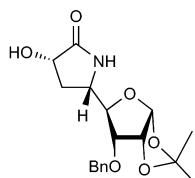
$[\alpha]_D^{26} = +34.8$  (*c* 0.325, CH<sub>2</sub>Cl<sub>2</sub>)

Source of chirality: (*Z*)-*N*-benzyl-(3-*O*-benzyl-1,2-*O*-isopropylidene- $\alpha$ -D-ribofuranos-5-ylidene)amine N-oxide and asymmetric synthesis

Absolute configuration: (3*S*,5*S*,1'*R*,2'*R*,3'*R*,4'*R*) assigned by X-ray crystallographic analysis

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(3S,5S)-5-(3-O-Benzyl-1,2-O-isopropylidene-α-D-ribo-tetrofuranos-4-yl)-3-hydroxy-2-oxopyrrolidine

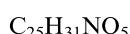
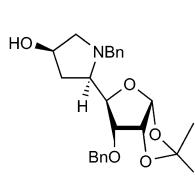
$[\alpha]_D^{26} = +36$  (*c* 1.0, CH<sub>2</sub>Cl<sub>2</sub>)

Source of chirality: (*Z*)-*N*-benzyl-(3-*O*-benzyl-1,2-*O*-isopropylidene- $\alpha$ -D-ribofuranos-5-ylidene)amine N-oxide and asymmetric synthesis

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

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(2*R*,4*R*)-1-Benzyl-2-(3-O-benzyl-1,2-O-isopropylidene-α-D-ribo-tetrofuranos-4-yl)-4-hydroxypyrrolidine

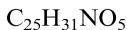
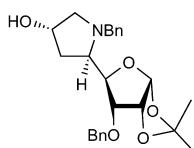
$[\alpha]_D^{26} = +73$  (*c* 1.0, CH<sub>2</sub>Cl<sub>2</sub>)

Source of chirality: (*Z*)-*N*-benzyl-(3-*O*-benzyl-1,2-*O*-isopropylidene- $\alpha$ -D-ribofuranos-5-ylidene)amine N-oxide and asymmetric synthesis

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

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(2R,4S)-1-Benzyl-2-(3-O-benzyl-1,2-O-isopropylidene-α-D-ribo-tetrofuranos-4-yl)-4-hydroxypyrrolidine

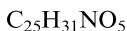
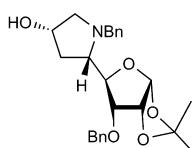
$[\alpha]_D^{26} = +13.1$  (c 1.5, CH<sub>2</sub>Cl<sub>2</sub>)

Source of chirality: (Z)-N-benzyl-(3-O-benzyl-1,2-O-isopropylidene-α-D-ribofuranos-5-ylidene)amine N-oxide and asymmetric synthesis

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

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(2S,4S)-1-Benzyl-2-(3-O-benzyl-1,2-O-isopropylidene-α-D-ribo-tetrofuranos-4-yl)-4-hydroxypyrrolidine

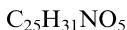
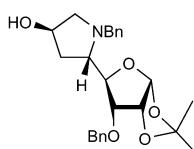
$[\alpha]_D^{26} = +13$  (c 0.3, CH<sub>2</sub>Cl<sub>2</sub>)

Source of chirality: (Z)-N-benzyl-(3-O-benzyl-1,2-O-isopropylidene-α-D-ribofuranos-5-ylidene)amine N-oxide and asymmetric synthesis

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

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(2S,4R)-1-Benzyl-2-(3-O-benzyl-1,2-O-isopropylidene-α-D-ribo-tetrofuranos-4-yl)-4-hydroxypyrrolidine

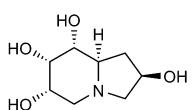
$[\alpha]_D^{26} = +4$  (c 0.25, CH<sub>2</sub>Cl<sub>2</sub>)

Source of chirality: (Z)-N-benzyl-(3-O-benzyl-1,2-O-isopropylidene-α-D-ribofuranos-5-ylidene)amine N-oxide and asymmetric synthesis

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

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(2R,6S,7S,8R,8aR)-2,6,7,8-Tetrahydroxyindolizidine

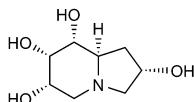
$[\alpha]_D^{26} = -0.4$  (c 0.75, CH<sub>3</sub>OH)

Source of chirality: (Z)-N-benzyl-(3-O-benzyl-1,2-O-isopropylidene-α-D-ribofuranos-5-ylidene)amine N-oxide and asymmetric synthesis

Absolute configuration: (2R,6S,7S,8R,8aR)

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C<sub>8</sub>H<sub>15</sub>NO<sub>4</sub>  
(2S,6S,7S,8R,8aR)-2,6,7,8-Tetrahydroxyindolizidine

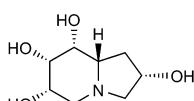
[\mathcal{D}]\_D^{26} = +0.2 (c 1.35, CH<sub>3</sub>OH)

Source of chirality: (Z)-N-benzyl-(3-O-benzyl-1,2-O-isopropylidene- $\alpha$ -D-ribofuranos-5-ylidene)amine N-oxide and asymmetric synthesis

Absolute configuration: (2S,6S,7S,8R,8aR)

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C<sub>8</sub>H<sub>15</sub>NO<sub>4</sub>  
(2S,6S,7S,8R,8aS)-2,6,7,8-Tetrahydroxyindolizidine

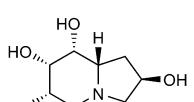
[\mathcal{D}]\_D^{26} = +0.2 (c 0.5, CH<sub>3</sub>OH)

Source of chirality: (Z)-N-benzyl-(3-O-benzyl-1,2-O-isopropylidene- $\alpha$ -D-ribofuranos-5-ylidene)amine N-oxide and asymmetric synthesis

Absolute configuration: (2S,6S,7S,8R,8aS)

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C<sub>8</sub>H<sub>15</sub>NO<sub>4</sub>  
(2R,6S,7S,8R,8aS)-2,6,7,8-Tetrahydroxyindolizidine

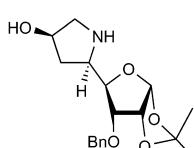
[\mathcal{D}]\_D^{26} = -1.2 (c 1.0, CH<sub>3</sub>OH)

Source of chirality: (Z)-N-benzyl-(3-O-benzyl-1,2-O-isopropylidene- $\alpha$ -D-ribofuranos-5-ylidene)amine N-oxide and asymmetric synthesis

Absolute configuration: (2R,6S,7S,8R,8aS)

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C<sub>18</sub>H<sub>25</sub>NO<sub>5</sub>  
(2R,4R)-2-(3-O-Benzyl-1,2-O-isopropylidene- $\alpha$ -D-ribofuranos-4-yl)-4-hydroxypyrrolidine

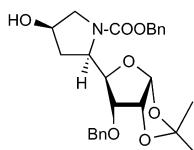
[\mathcal{D}]\_D^{26} = +82.3 (c 0.875, CH<sub>2</sub>Cl<sub>2</sub>)

Source of chirality: (Z)-N-benzyl-(3-O-benzyl-1,2-O-isopropylidene- $\alpha$ -D-ribofuranos-5-ylidene)amine N-oxide and asymmetric synthesis

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

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C<sub>26</sub>H<sub>31</sub>NO<sub>7</sub>  
(2R,4R)-2-(3-O-Benzyl-1,2-O-isopropylidene-α-D-ribofuranos-5-ylidene)-1-benzyloxycarbonyl-4-hydroxypyrrolidine

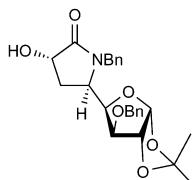
[ $\alpha$ ]<sub>D</sub><sup>26</sup> = +44.7 (c 0.45, CH<sub>2</sub>Cl<sub>2</sub>)

Source of chirality: (Z)-N-benzyl-(3-O-benzyl-1,2-O-isopropylidene-α-D-ribofuranos-5-ylidene)amine N-oxide and asymmetric synthesis

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

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C<sub>18</sub>H<sub>23</sub>NO<sub>6</sub>  
(3S,5R)-5-(3-O-Benzyl-1,2-O-isopropylidene-α-D-xylofuranos-5-ylidene)-3-hydroxy-2-oxopyrrolidine

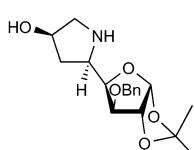
[ $\alpha$ ]<sub>D</sub><sup>26</sup> = -109 (c 0.875, CH<sub>2</sub>Cl<sub>2</sub>)

Source of chirality: (Z)-N-benzyl-(3-O-benzyl-1,2-O-isopropylidene-α-D-xylofuranos-5-ylidene)amine N-oxide and asymmetric synthesis

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

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C<sub>18</sub>H<sub>25</sub>NO<sub>5</sub>  
(2R,4R)-2-(3-O-Benzyl-1,2-O-isopropylidene-α-D-xylofuranos-5-ylidene)-4-hydroxypyrrolidine

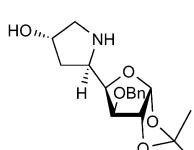
[ $\alpha$ ]<sub>D</sub><sup>26</sup> = -40 (c 0.2, CH<sub>2</sub>Cl<sub>2</sub>)

Source of chirality: (Z)-N-benzyl-(3-O-benzyl-1,2-O-isopropylidene-α-D-xylofuranos-5-ylidene)amine N-oxide and asymmetric synthesis

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

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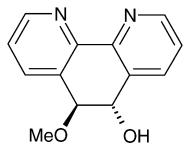


C<sub>18</sub>H<sub>25</sub>NO<sub>5</sub>  
(2R,4S)-2-(3-O-Benzyl-1,2-O-isopropylidene-α-D-xylofuranos-5-ylidene)-4-hydroxypyrrolidine

[ $\alpha$ ]<sub>D</sub><sup>26</sup> = -31.7 (c 0.45, CH<sub>2</sub>Cl<sub>2</sub>)

Source of chirality: (Z)-N-benzyl-(3-O-benzyl-1,2-O-isopropylidene-α-D-xylofuranos-5-ylidene)amine N-oxide and asymmetric synthesis

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



$C_{13}H_{12}N_2O_2$   
(5S,6S, M)-Dihydro-5-hydroxy-6-methoxy-1,10-phenanthroline

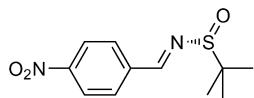
Ee = 97%

$[\alpha]_D^{25} = +93.2$  (*c* 0.43, CH<sub>3</sub>OH)

Source of chirality: enzymatic resolution

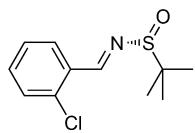
Absolute configuration: 5S,6S, M

$[\alpha]_D^{20} = -58.0$  (*c* 2.5, CHCl<sub>3</sub>)



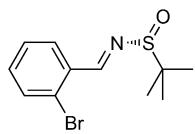
$C_{11}H_{14}N_2O_3S$   
(*R,E*)-2-Methyl-*N*-(4-nitrobenzylidene)propane-2-sulfinamide

$[\alpha]_D^{20} = -195.6$  (*c* 4.3, CHCl<sub>3</sub>)

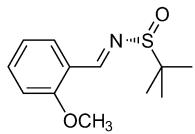


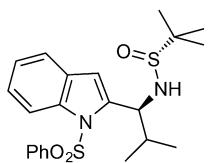
$C_{11}H_{14}NOSCl$   
(*R,E*)-*N*-(2-Chlorobenzylidene)-2-methylpropane-2-sulfinamide

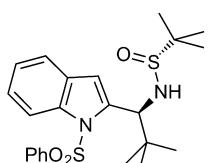
$[\alpha]_D^{20} = -207.2$  (*c* 3.1, CHCl<sub>3</sub>)

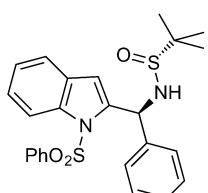


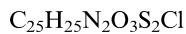
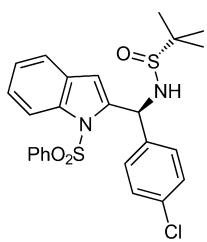
$C_{11}H_{14}NOSBr$   
(*R,E*)-*N*-(2-Bromobenzylidene)-2-methylpropane-2-sulfinamide

$[\alpha]_D^{20} = -230.4 (c \ 1.9, \ \text{CHCl}_3)$ 

 $\text{C}_{12}\text{H}_{17}\text{NO}_2\text{S}$ 
 $(R,E)$ -*N*-(2-Methoxybenzylidene)-2-methylpropane-2-sulfinamide

 $\text{Dr} > 99:1$ 
 $[\alpha]_D^{20} = +145.3 (c \ 1.8, \ \text{CHCl}_3)$ 

 $\text{C}_{22}\text{H}_{28}\text{N}_2\text{O}_3\text{S}_2$ 
 $(R,S,S)$ -*N*-[(1-Phenylsulfonyl-1*H*-indol-2-yl)(*iso*-propanyl)methane]-2-*tert*-butanesulfinamide

 $\text{Dr} > 99:1$ 
 $[\alpha]_D^{20} = +211.2 (c \ 2.9, \ \text{CHCl}_3)$ 

 $\text{C}_{23}\text{H}_{30}\text{N}_2\text{O}_3\text{S}_2$ 
 $(R,S,S)$ -*N*-[(1-Phenylsulfonyl-1*H*-indol-2-yl)(*tert*-butyl)methane]-2-*tert*-butanesulfinamide

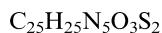
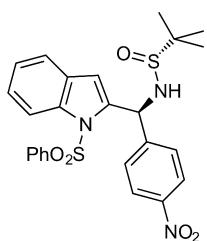
 $\text{Dr} > 99:1$ 
 $[\alpha]_D^{20} = +38.0 (c \ 2.0, \ \text{CHCl}_3)$ 

 $\text{C}_{25}\text{H}_{26}\text{N}_2\text{O}_3\text{S}_2$ 
 $(R,S,S)$ -*N*-[(1-Phenylsulfonyl-1*H*-indol-2-yl)phenylmethane]-2-*tert*-butanesulfinamide



(*R,S*)-*N*-[(1-Phenylsulfonyl-1*H*-indol-2-yl)(*p*-chlorophenyl)methane]-2-*tert*-butanesulfinamide

Dr >99:1

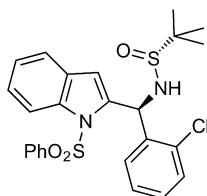
$[\alpha]_D^{20} = +46.7$  (*c* 0.6,  $\text{CHCl}_3$ )



(*R,S*)-*N*-[(1-Phenylsulfonyl-1*H*-indol-2-yl)(*p*-nitrophenyl)methane]-2-*tert*-butanesulfinamide

Dr >99:1

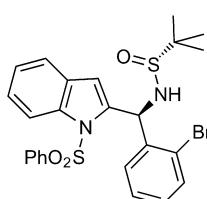
$[\alpha]_D^{20} = +67.7$  (*c* 2.7,  $\text{CHCl}_3$ )



(*R,S*)-*N*-[(1-Phenylsulfonyl-1*H*-indol-2-yl)(*o*-chlorophenyl)methane]-2-*tert*-butanesulfinamide

Dr >99:1

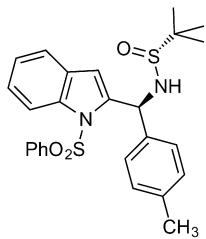
$[\alpha]_D^{20} = +23.4$  (*c* 1.0,  $\text{CHCl}_3$ )



(*R,S*)-*N*-[(1-Phenylsulfonyl-1*H*-indol-2-yl)(*o*-bromophenyl)methane]-2-*tert*-butanesulfinamide

Dr >99:1

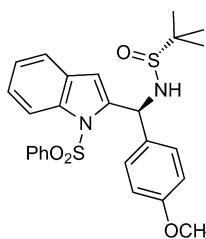
$[\alpha]_D^{20} = +38.3$  (*c* 2.2,  $\text{CHCl}_3$ )



(*R,S*)-*N*-[(1-Phenylsulfonyl-1*H*-indol-2-yl)(*p*-methylphenyl)methane]-2-*tert*-butanesulfinamide

Dr >99:1

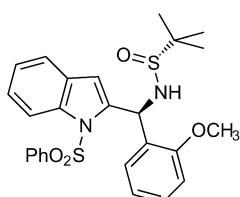
$[\alpha]_D^{20} = +54.9$  (*c* 2.6, CHCl<sub>3</sub>)



(*R,S*)-*N*-[(1-Phenylsulfonyl-1*H*-indol-2-yl)(*p*-methoxyphenyl)methane]-2-*tert*-butanesulfinamide

Dr >99:1

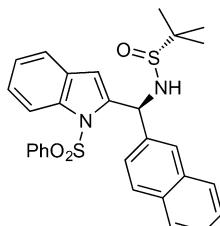
$[\alpha]_D^{20} = +51.9$  (*c* 1.1, CHCl<sub>3</sub>)



(*R,S*)-*N*-[(1-Phenylsulfonyl-1*H*-indol-2-yl)(*o*-methoxyphenyl)methane]-2-*tert*-butanesulfinamide

Dr >99:1

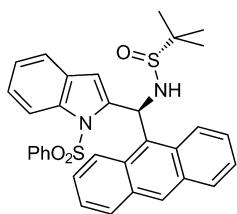
$[\alpha]_D^{20} = -20.9$  (*c* 2.8, CHCl<sub>3</sub>)



(*R,S*)-*N*-[(1-Phenylsulfonyl-1*H*-indol-2-yl)naphthylmethane]-2-*tert*-butanesulfinamide

Dr >99:1

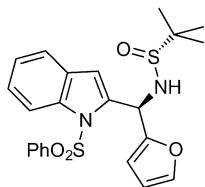
$[\alpha]_D^{20} = +17.1$  (*c* 1.2, CHCl<sub>3</sub>)



Dr >99:1  
 $[\alpha]_D^{20} = -69.3$  (c 1.0, CHCl<sub>3</sub>)



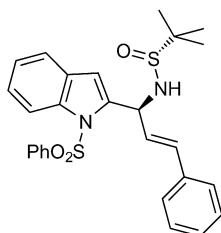
(R,S)-N-[(1-Phenylsulfonyl-1H-indol-2-yl)(9-anthryl)methane]-2-tert-butanesulfinamide



Dr >99:1  
 $[\alpha]_D^{20} = -16.0$  (c 0.9, CHCl<sub>3</sub>)



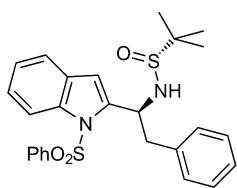
(R,S)-N-[(1-Phenylsulfonyl-1H-indol-2-yl)(fur-2-yl)methane]-2-tert-butanesulfinamide



Dr >99:1  
 $[\alpha]_D^{20} = +6.5$  (c 2.2, CHCl<sub>3</sub>)



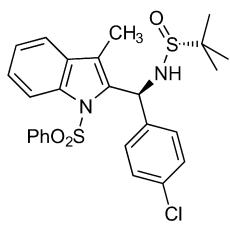
(R,S)-N-[(1-Phenylsulfonyl-1H-indol-2-yl)styrylmethane]-2-tert-butanesulfinamide



Dr >99:1  
 $[\alpha]_D^{20} = +4.4$  (c 0.2, CHCl<sub>3</sub>)

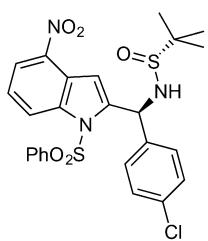


(R,S)-N-[(1-Phenylsulfonyl-1H-indol-2-yl)benzylmethane]-2-tert-butanesulfinamide



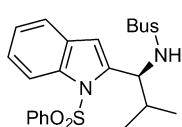
$C_{26}H_{27}N_2O_3S_2Cl$   
 $(R,S,S)-N-[(1\text{-Phenylsulfonyl-1}H\text{-3-methyl-indol-2-yl})(p\text{-chlorophenyl})\text{methane}]\text{-2-}tert\text{-butanesulfinamide}$

Dr >99:1  
 $[\alpha]_D^{20} = +93.7 (c\ 0.8, \text{CHCl}_3)$



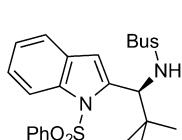
$C_{25}H_{24}N_3O_5S_2Cl$   
 $(R,S,S)-N-[(1\text{-Phenylsulfonyl-1}H\text{-4-nitro-indol-2-yl})(p\text{-chlorophenyl})\text{methane}]\text{-2-}tert\text{-butanesulfinamide}$

Dr >99:1  
 $[\alpha]_D^{20} = +144.6 (c\ 2.0, \text{CHCl}_3)$



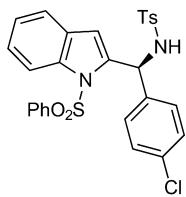
$C_{22}H_{28}N_2O_4S_2$   
 $(S)-N-[(1\text{-Phenylsulfonyl-1}H\text{-2-yl})(iso\text{-}propanyl)\text{methane}]\text{-}tert\text{-butanesulfonamide}$

Ee = 99%  
 $[\alpha]_D^{20} = +42.9 (c\ 0.9, \text{CHCl}_3)$



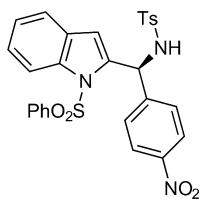
$C_{23}H_{30}N_2O_4S_2$   
 $(S)-N-[(1\text{-Phenylsulfonyl-1}H\text{-indole-2-yl})(tert\text{-butyl})\text{methane}]\text{-}tert\text{-butanesulfonamide}$

Ee >99%  
 $[\alpha]_D^{20} = +134.7 (c\ 1.5, \text{CHCl}_3)$



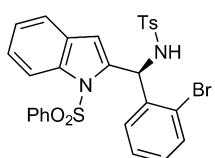
C<sub>28</sub>H<sub>23</sub>N<sub>2</sub>O<sub>4</sub>S<sub>2</sub>Cl  
(S)-N-[(1-Phenylsulfonyl-1H-indol-2-yl)(p-chlorophenyl)methane]-p-toluenesulfonamide

Ee >99%  
[ $\alpha$ ]<sub>D</sub><sup>20</sup> = +122.7 (c 1.5, CHCl<sub>3</sub>)



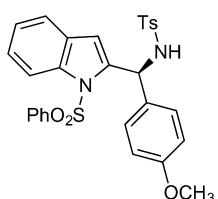
C<sub>28</sub>H<sub>23</sub>N<sub>3</sub>O<sub>6</sub>S<sub>2</sub>  
(S)-N-[(1-Phenylsulfonyl-1H-indol-2-yl)(p-nitrophenyl)methane]-p-toluenesulfonamide

Ee = 99%  
[ $\alpha$ ]<sub>D</sub><sup>20</sup> = +103.2 (c 2.8, CHCl<sub>3</sub>)



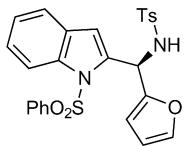
C<sub>28</sub>H<sub>23</sub>N<sub>2</sub>O<sub>4</sub>S<sub>2</sub>Br  
(S)-N-[(1-Phenylsulfonyl-1H-indol-2-yl)(o-bromophenyl)methyl]-p-toluenesulfonamide

Ee >99%  
[ $\alpha$ ]<sub>D</sub><sup>20</sup> = +52.6 (c 2.3, CHCl<sub>3</sub>)



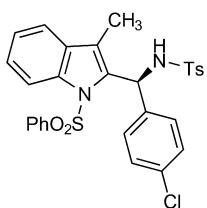
C<sub>29</sub>H<sub>26</sub>N<sub>2</sub>O<sub>5</sub>S<sub>2</sub>  
(S)-N-[(1-Phenylsulfonyl-1H-indol-2-yl)(p-methoxyphenyl)methane]-p-toluenesulfonamide

Ee = 99%  
[ $\alpha$ ]<sub>D</sub><sup>20</sup> = +78.6 (c 2.0, CHCl<sub>3</sub>)



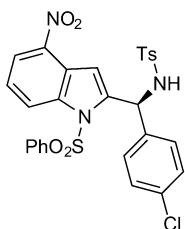
$C_{26}H_{22}N_2O_5S_2$   
(*R*)-*N*-[(1-Phenylsulfonyl-1*H*-indol-2-yl)(2-furyl)methane]-*p*-toluenesulfonamide

Ee = 98%  
 $[\alpha]_D^{20} = +64.6$  (*c* 1.3, CHCl<sub>3</sub>)



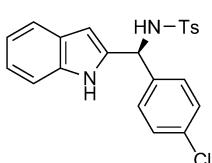
$C_{29}H_{25}ClN_2O_4S_2$   
(*S*)-*N*-[(1-Phenylsulfonyl-1*H*-3-methyl-indol-2-yl)(*p*-chlorophenyl)methane]-*p*-toluenesulfonamide

Ee = 98%  
 $[\alpha]_D^{20} = +117.5$  (*c* 0.6, CHCl<sub>3</sub>)



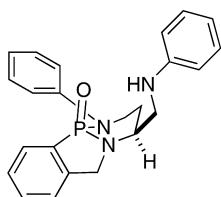
$C_{28}H_{22}ClN_3O_6S_2$   
(*S*)-*N*-[(1-Phenylsulfonyl-1*H*-4-nitro-indol-2-yl)(*p*-chlorophenyl)methane]-*p*-toluenesulfonamide

Ee = 98%  
 $[\alpha]_D^{20} = +77.8$  (*c* 0.7, CHCl<sub>3</sub>)



$C_{22}H_{19}N_2O_2SCl$   
(*S*)-*N*-[(1*H*-Indol-2-yl)(*p*-chlorophenyl)methyl]-*p*-toluenesulfonamide

Ee = 97%  
 $[\alpha]_D^{20} = -24.3$  (*c* 2.8, CH<sub>2</sub>Cl<sub>2</sub>)



C<sub>23</sub>H<sub>24</sub>N<sub>3</sub>OP

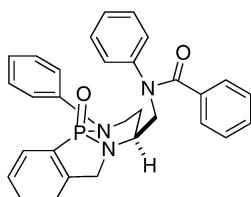
(1*S*,4*a**R*)-(4*a*-Oxo-4-phenyl-1,2,3,4,4*a*,9-hexahydro-4,9*a*-diaza-4*a*λ<sup>5</sup>-phospha-fluoren-1-ylmethyl)-phenyl-amine

Ee = 100%

[α]<sub>D</sub><sup>23</sup> = +335.3 (c 0.25, CHCl<sub>3</sub>)

Source of chirality: (S)-aspartic acid

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



C<sub>30</sub>H<sub>28</sub>N<sub>3</sub>O<sub>2</sub>P

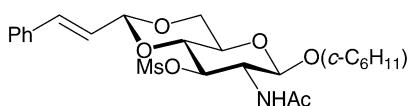
(1*S*,4*a**R*)-*N*-(4*a*-Oxo-4-phenyl-1,2,3,4,4*a*,9-hexahydro-4,9*a*-diaza-4*a*λ<sup>5</sup>-phospha-fluoren-1-ylmethyl)-*N*-phenyl-benzamide

Ee = 100%

[α]<sub>D</sub><sup>23</sup> = +68.8 (c 0.83, CHCl<sub>3</sub>)

Source of chirality: (S)-aspartic acid

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



C<sub>24</sub>H<sub>33</sub>NO<sub>8</sub>S

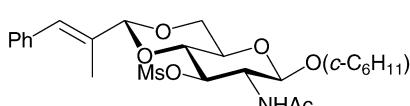
c-Hexyl 2-acetamido-2-deoxy-3-O-methanosulfonyl-4,6-O-[(*R,E*)-3-phenyl-2-propenylidene]-β-D-glucopyranoside

Ee = 100%

[α]<sub>D</sub><sup>25</sup> = -72.7 (c 1.0, DMF)

Source of chirality: asymmetric synthesis

Absolute configuration: 4,6-O-(*R,E*)-, β-D-gluco



C<sub>25</sub>H<sub>35</sub>NO<sub>8</sub>S

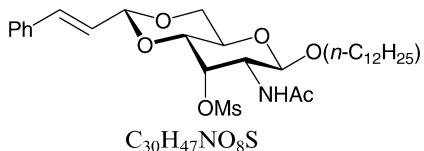
c-Hexyl 2-acetamido-2-deoxy-3-O-methanosulfonyl-4,6-O-[(*R,E*)-2-methyl-3-phenyl-2-propenylidene]-β-D-glucopyranoside

Ee = 100%

[α]<sub>D</sub><sup>25</sup> = -14.8 (c 0.9, CHCl<sub>3</sub>)

Source of chirality: asymmetric synthesis

Absolute configuration: 4,6-O-(*R,E*)-, β-D-gluco



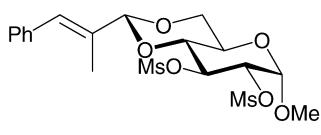
1-Dodecyl 2-acetamido-2-deoxy-3-O-methanosulfonyl-4,6-O-[(*R,E*)-3-phenyl-2-propenylidene]- $\beta$ -D-allopyranoside

Ee = 100%

$[\alpha]_D^{25} = -72.0$  (*c* 1.0, DMF)

Source of chirality: asymmetric synthesis

Absolute configuration: 4,6-O-(*R,E*)-,  $\beta$ -D-*allo*



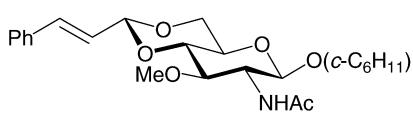
Methyl 2,3-di-O-methanosulfonyl-4,6-O-[(*R,E*)-2-methyl-3-phenyl-2-propenylidene]- $\alpha$ -D-glucopyranoside

Ee = 100%

$[\alpha]_D^{25} = +64.4$  (*c* 0.8, CHCl<sub>3</sub>)

Source of chirality: asymmetric synthesis

Absolute configuration: 4,6-O-(*R,E*)-,  $\alpha$ -D-*gluco*



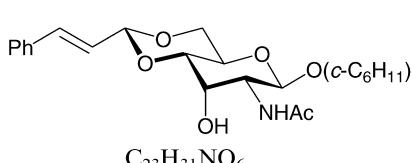
c-Hexyl 2-acetamido-2-deoxy-3-O-methyl-4,6-O-[(*R,E*)-3-phenyl-2-propenylidene]- $\beta$ -D-glucopyranoside

Ee = 100%

$[\alpha]_D^{25} = -10.3$  (*c* 0.7, CHCl<sub>3</sub>)

Source of chirality: asymmetric synthesis

Absolute configuration: 4,6-O-(*R,E*)-,  $\beta$ -D-*gluco*



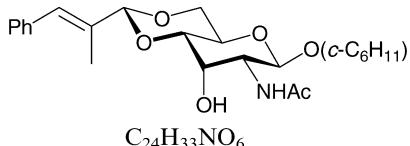
c-Hexyl 2-acetamido-2-deoxy-4,6-O-[(*R,E*)-3-phenyl-2-propenylidene]- $\beta$ -D-allopyranoside

Ee = 100%

$[\alpha]_D^{25} = -86.9$  (*c* 0.7, CH<sub>2</sub>Cl<sub>2</sub>)

Source of chirality: asymmetric synthesis

Absolute configuration: 4,6-O-(*R,E*)-,  $\beta$ -D-*allo*



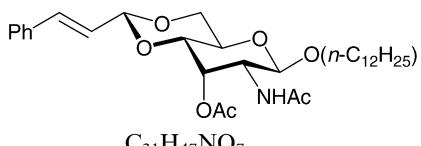
c-Hexyl 2-acetamido-2-deoxy-4,6-O-[(R,E)-2-methyl-3-phenyl-2-propenylidene]- $\beta$ -D-allopyranoside

Ee = 100%

$[\alpha]_D^{25} = -56.6$  (c 0.9, CHCl<sub>3</sub>)

Source of chirality: asymmetric synthesis

Absolute configuration: 4,6-O-(R,E)-,  $\beta$ -D-allo



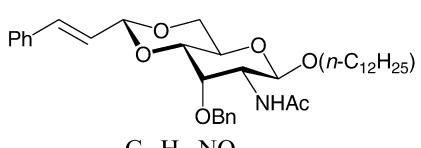
1-Dodecyl 2-acetamido-3-O-acetyl-2-deoxy-4,6-O-[(R,E)-3-phenyl-2-propenylidene]- $\beta$ -D-allopyranoside

Ee = 100%

$[\alpha]_D^{25} = -67.4$  (c 1.0, CHCl<sub>3</sub>)

Source of chirality: asymmetric synthesis

Absolute configuration: 4,6-O-(R,E)-,  $\beta$ -D-allo



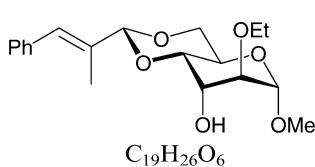
1-Dodecyl 2-acetamido-3-O-benzyl-2-deoxy-4,6-O-[(R,E)-3-phenyl-2-propenylidene]- $\beta$ -D-allopyranoside

Ee = 100%

$[\alpha]_D^{25} = -76.3$  (c 1.0, CH<sub>2</sub>Cl<sub>2</sub>)

Source of chirality: asymmetric synthesis

Absolute configuration: 4,6-O-(R,E)-,  $\beta$ -D-allo



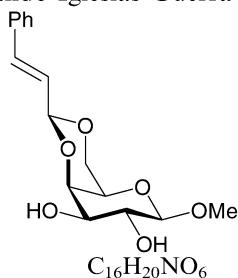
Methyl 2-O-ethyl-4,6-O-[(R,E)-2-methyl-3-phenyl-2-propenylidene]- $\alpha$ -D-altropyranoside

Ee = 100%

$[\alpha]_D^{25} = +79.5$  (c 0.9, CH<sub>2</sub>Cl<sub>2</sub>)

Source of chirality: asymmetric synthesis

Absolute configuration: 4,6-O-(R,E)-,  $\alpha$ -D-altro



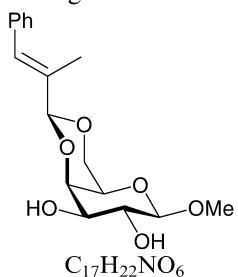
Methyl 4,6-O-[(S,E)-3-phenyl-2-propenylidene]- $\beta$ -D-galactopyranoside

Ee = 100%

$[\alpha]_D^{25} = -35.5$  (*c* 0.9,  $CH_2Cl_2$ )

Source of chirality: asymmetric synthesis

Absolute configuration: 4,6-O-(*S,E*)-,  $\beta$ -D-galacto



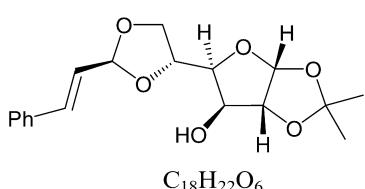
Methyl 4,6-O-[(S,E)-2-methyl-3-phenyl-2-propenylidene]- $\beta$ -D-galactopyranoside

Ee = 100%

$[\alpha]_D^{25} = -55.1$  (*c* 0.8,  $CH_2Cl_2$ )

Source of chirality: asymmetric synthesis

Absolute configuration: 4,6-O-(*S,E*)-,  $\beta$ -D-galacto



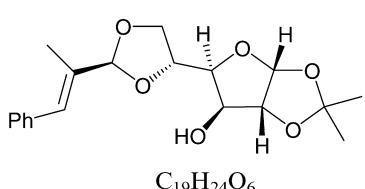
1,2-O-Isopropylidene-5,6-O-[(S,E)-3-phenyl-2-propenylidene]- $\alpha$ -D-glucofuranose

Ee = 100%

$[\alpha]_D^{25} = +26.4$  (*c* 1.0,  $CH_2Cl_2$ )

Source of chirality: asymmetric synthesis

Absolute configuration: 5,6-O-(*S,E*)-,  $\alpha$ -D-glucofuranose



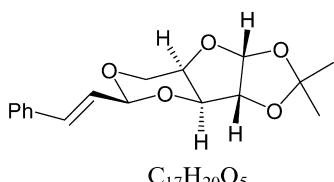
1,2-O-Isopropylidene-5,6-O-[(S,E)-2-methyl-3-phenyl-2-propenylidene]- $\alpha$ -D-glucofuranose

Ee = 100%

$[\alpha]_D^{25} = +12.7$  (*c* 0.9,  $CH_2Cl_2$ )

Source of chirality: asymmetric synthesis

Absolute configuration: 5,6-O-(*S,E*)-,  $\alpha$ -D-glucofuranose



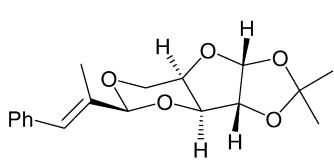
1,2-O-Isopropylidene-3,5-O-[(S,E)-3-phenyl-2-propenylidene]- $\alpha$ -D-xylofuranose

Ee = 100%

$[\alpha]_D^{25} = +12.3$  (c 0.8,  $\text{CH}_2\text{Cl}_2$ )

Source of chirality: asymmetric synthesis

Absolute configuration: 3,5-O-(S,E)-,  $\alpha$ -D-xylofuranose



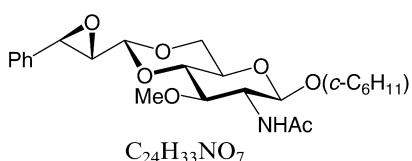
1,2-O-Isopropylidene-3,5-O-[(S,E)-2-methyl-3-phenyl-2-propenylidene]- $\alpha$ -D-xylofuranose

Ee = 100%

$[\alpha]_D^{25} = -3.9$  (c 0.7,  $\text{CH}_2\text{Cl}_2$ )

Source of chirality: asymmetric synthesis

Absolute configuration: 3,5-O-(S,E)-,  $\alpha$ -D-xylofuranose



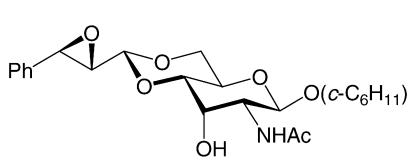
c-Hexyl 2-acetamido-2-deoxy-4,6-O-[(1R,2S,3R)-2,3-epoxy-3-phenylpropylidene]-3-O-methyl- $\beta$ -D-glucopyranoside

De = 14%

$[\alpha]_D^{25} = -14.3$  (c 0.6,  $\text{CH}_2\text{Cl}_2$ )

Source of chirality: asymmetric synthesis

Absolute configuration: 4,6-O-(1R,2S,3R)-,  $\beta$ -D-glucopyranoside



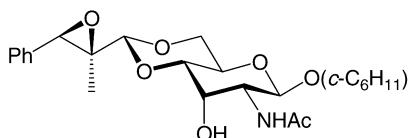
c-Hexyl 2-acetamido-2-deoxy-4,6-O-[(1R,2S,3R)-2,3-epoxy-3-phenylpropylidene]- $\beta$ -D-allopyranoside

De = 68%

$[\alpha]_D^{25} = -15.7$  (c 0.6,  $\text{CH}_2\text{Cl}_2$ )

Source of chirality: asymmetric synthesis

Absolute configuration: 4,6-O-(1R,2S,3R)-,  $\beta$ -D-allopyranoside



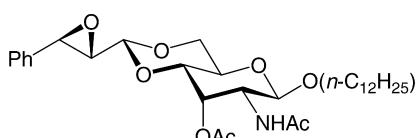
$C_{24}H_{33}NO_7$   
c-Hexyl 2-acetamido-2-deoxy-4,6-O-[(1R,2S,3R)-2,3-epoxy-2-methyl-3-phenylpropylidene]- $\beta$ -D-allopyranoside

De = 72%

$[\alpha]_D^{25} = -46.5$  ( $c$  0.6,  $CHCl_3$ )

Source of chirality: asymmetric synthesis

Absolute configuration: 4,6-O-(1R,2S,3R)-,  $\beta$ -D-*allo*



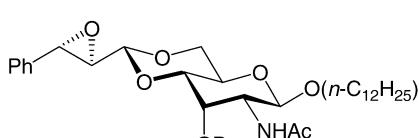
$C_{31}H_{47}NO_8$   
1-Dodecyl 2-acetamido-3-O-acetyl-2-deoxy-4,6-O-[(1R,2S,3R)-2,3-epoxy-3-phenylpropylidene]- $\beta$ -D-allopyranoside

De = 20%

$[\alpha]_D^{25} = -64.7$  ( $c$  0.8,  $CH_2Cl_2$ )

Source of chirality: asymmetric synthesis

Absolute configuration: 4,6-O-(1R,2S,3R)-,  $\beta$ -D-*allo*



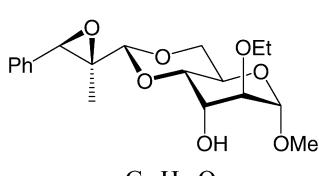
$C_{36}H_{51}NO_7$   
1-Dodecyl 2-acetamido-3-O-benzyl-2-deoxy-4,6-O-[(1R,2R,3S)-2,3-epoxy-3-phenylpropylidene]- $\beta$ -D-allopyranoside

De = 28%

$[\alpha]_D^{25} = -80.0$  ( $c$  1.2,  $CH_2Cl_2$ )

Source of chirality: asymmetric synthesis

Absolute configuration: 4,6-O-(1R,2R,3S)-,  $\beta$ -D-*allo*



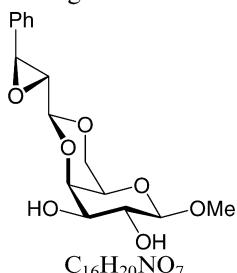
$C_{19}H_{26}O_7$   
Methyl 4,6-O-[(1R,2S,3R)-2,3-epoxy-2-methyl-3-phenylpropylidene]-2-O-ethyl- $\alpha$ -D-altropyranoside

De = 34%

$[\alpha]_D^{25} = +72.8$  ( $c$  0.8,  $CHCl_3$ )

Source of chirality: asymmetric synthesis

Absolute configuration: 4,6-O-(1R,2S,3R)-,  $\alpha$ -D-*altro*



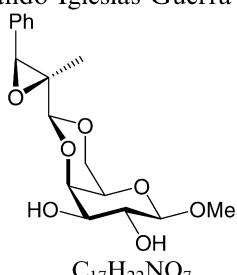
Methyl 4,6-O-[(1S,2R,3S)-2,3-epoxy-3-phenylpropylidene]- $\beta$ -D-galactopyranoside

De = 26%

$[\alpha]_D^{25} = -3.2$  (*c* 0.9,  $CH_2Cl_2$ )

Source of chirality: asymmetric synthesis

Absolute configuration: 4,6-O-(1S,2R,3S)-,  $\beta$ -D-galacto



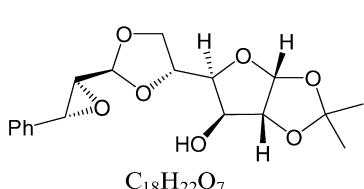
Methyl 4,6-O-[(1S,2R,3S)-2,3-epoxy-2-methyl-3-phenylpropylidene]- $\beta$ -D-galactopyranoside

De = 74%

$[\alpha]_D^{25} = -4.9$  (*c* 0.7,  $CH_2Cl_2$ )

Source of chirality: asymmetric synthesis

Absolute configuration: 4,6-O-(1S,2R,3S)-,  $\beta$ -D-galacto



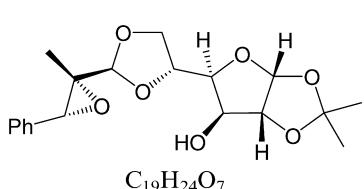
5,6-O-[(1S,2S,3R)-2,3-Epoxy-3-phenylpropylidene]-1,2-O-isopropylidene- $\alpha$ -D-glucofuranose

De = 56%

$[\alpha]_D^{25} = +2.6$  (*c* 0.7,  $CHCl_3$ )

Source of chirality: asymmetric synthesis

Absolute configuration: 5,6-O-(1S,2S,3R)-,  $\alpha$ -D-glucofuranose



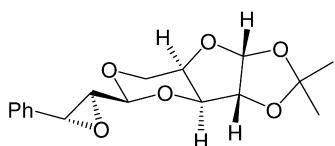
5,6-O-[(1S,2S,3R)-2,3-Epoxy-2-methyl-3-phenylpropylidene]-1,2-O-isopropylidene- $\alpha$ -D-glucofuranose

De = 60%

$[\alpha]_D^{25} = +1.4$  (*c* 0.7,  $CHCl_3$ )

Source of chirality: asymmetric synthesis

Absolute configuration: 5,6-O-(1S,2S,3R)-,  $\alpha$ -D-glucofuranose



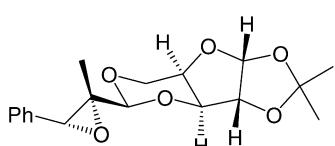
3,5-O-[(1S,2S,3R)-2,3-Epoxy-3-phenylpropylidene]-1,2-O-isopropylidene- $\alpha$ -D-xylofuranose

De = 22%

$[\alpha]_D^{25} = +6.5$  (c 0.8, CHCl<sub>3</sub>)

Source of chirality: asymmetric synthesis

Absolute configuration: 3,5-O-(1S,2S,3R)-,  $\alpha$ -D-xylofuranose



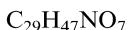
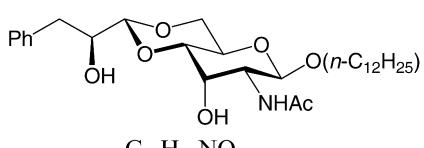
3,5-O-[(1S,2S,3R)-2,3-Epoxy-2-methyl-3-phenylpropylidene]-1,2-O-isopropylidene- $\alpha$ -D-xylofuranose

De = 30%

$[\alpha]_D^{25} = +7.6$  (c 0.9, CHCl<sub>3</sub>)

Source of chirality: asymmetric synthesis

Absolute configuration: 3,5-O-(1S,2S,3R)-,  $\alpha$ -D-xylofuranose



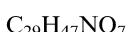
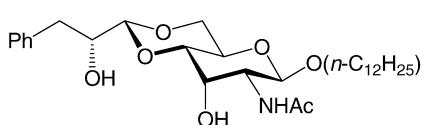
1-Dodecyl 2-acetamido-2-deoxy-4,6-O-[(1R,2S)-2-hydroxy-3-phenylpropylidene]- $\beta$ -D-allopyranoside

De = 70%

$[\alpha]_D^{25} = -33.6$  (c 0.7, CHCl<sub>3</sub>)

Source of chirality: asymmetric synthesis

Absolute configuration: 4,6-O-(1R,2S)-,  $\beta$ -D-allo



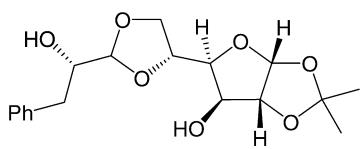
1-Dodecyl 2-acetamido-2-deoxy-4,6-O-[(1R,2R)-2-hydroxy-3-phenylpropylidene]- $\beta$ -D-allopyranoside

De = 36%

$[\alpha]_D^{25} = -35.8$  (c 0.9, CHCl<sub>3</sub>)

Source of chirality: asymmetric synthesis

Absolute configuration: 4,6-O-(1R,2R)-,  $\beta$ -D-allo



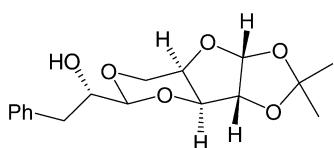
5,6-O-[(1S,2S)-2-Hydroxy-3-phenylpropylidene]-1,2-O-isopropylidene- $\alpha$ -D-glucofuranose

De = 60%

$[\alpha]_D^{25} = +12.6$  ( $c$  0.7,  $CH_2Cl_2$ )

Source of chirality: asymmetric synthesis

Absolute configuration: 5,6-O-(1S,2S)-,  $\alpha$ -D-glucofuranose



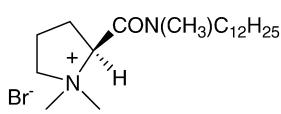
3,5-O-[(1S,2S)-2-Hydroxy-3-phenylpropylidene]-1,2-O-isopropylidene- $\alpha$ -D-xylofuranose

De = 26%

$[\alpha]_D^{25} = +10.2$  ( $c$  0.7,  $CHCl_3$ )

Source of chirality: asymmetric synthesis

Absolute configuration: 3,5-O-(1S,2S)-,  $\alpha$ -D-xylofuranose



(2S)-N-Dodecyl-N,1,1-trimethylpyrrolidinium-2-carboxamide bromide

$[\alpha]_D = -27.3$  ( $c$  1.75, MeOH)

Absolute configuration: (S)