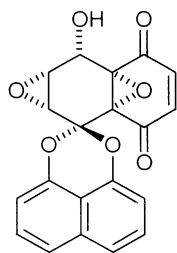


Karsten Krohn,* Klaus Steingröver and Ferenc Zsila

Tetrahedron: Asymmetry 12 (2001) 1961



$C_{20}H_{12}O_7$

Palmarumycin C_{10}

E.e. = 100%

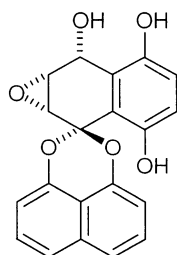
$[\alpha]_D^{20} = -48.2$ (c 0.17, CH_2Cl_2)

Source of chirality: natural product

Absolute configuration: (2*R*,3*R*,4*S*,4*aS*,8*aR*)

Karsten Krohn,* Klaus Steingröver and Ferenc Zsila

Tetrahedron: Asymmetry 12 (2001) 1961



$C_{20}H_{14}O_6$

Palmarumycin C_{12}

E.e. = 100%

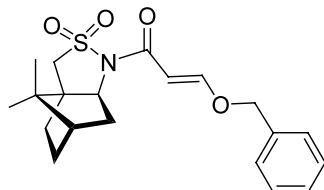
$[\alpha]_D^{20} = -179.6$ (c 0.204, CH_2Cl_2)

Source of chirality: natural product

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

Staffan Karlsson* and Hans-Erik Högberg*

Tetrahedron: Asymmetry 12 (2001) 1977



$C_{20}H_{25}NO_4S$

(*E*)-3-Benzyloxypropenoyl-(2'*S*)-bornane-10,2-sultam

E.e. >99%

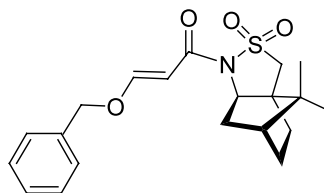
$[\alpha]_D^{25} = +77.8$ (c 0.58, $CHCl_3$)

Source of chirality: camphorsultam

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

Staffan Karlsson* and Hans-Erik Högberg*

Tetrahedron: Asymmetry 12 (2001) 1977



$C_{20}H_{25}NO_4S$

(*E*)-3-Benzyloxypropenoyl-(2'*R*)-bornane-10,2-sultam

E.e. >99%

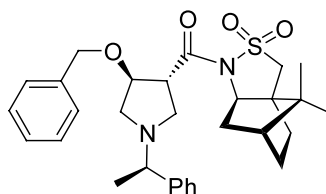
$[\alpha]_D^{25} = -76.5$ (c 0.52, $CHCl_3$)

Source of chirality: camphorsultam

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

Staffan Karlsson* and Hans-Erik Högberg*

Tetrahedron: Asymmetry 12 (2001) 1977



$C_{30}H_{38}N_2O_4S$

N-[[[(3*R*,4*S*)-4-Benzyloxy-1-(1(*R*)-phenylethyl)pyrrolidin-3-yl]carbonyl]-(2'*R*)-bornane-10,2-sultam

E.e. >99%, d.e. >99%

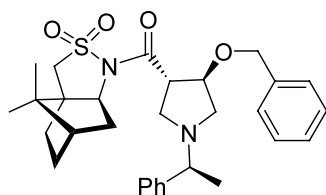
$[\alpha]_D^{25} = -61.0$ (*c* 0.37, $CHCl_3$)

Source of chirality: asymmetric 1,3-dipolar cycloaddition

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

Staffan Karlsson* and Hans-Erik Högberg*

Tetrahedron: Asymmetry 12 (2001) 1977



$C_{30}H_{38}N_2O_4S$

N-[[[(3*S*,4*R*)-4-Benzyloxy-1-(1(*S*)-phenylethyl)pyrrolidin-3-yl]carbonyl]-(2'*S*)-bornane-10,2-sultam

E.e. >99%, d.e. >99%

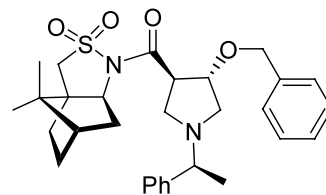
$[\alpha]_D^{25} = +62.7$ (*c* 0.56, $CHCl_3$)

Source of chirality: asymmetric 1,3-dipolar cycloaddition

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

Staffan Karlsson* and Hans-Erik Högberg*

Tetrahedron: Asymmetry 12 (2001) 1977



$C_{30}H_{38}N_2O_4S$

N-[[[(3*R*,4*S*)-4-Benzyloxy-1-(1(*S*)-phenylethyl)pyrrolidin-3-yl]carbonyl]-(2'*S*)-bornane-10,2-sultam

E.e. >99%, d.e. = 99%

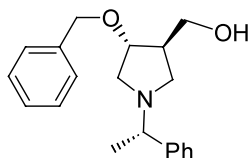
$[\alpha]_D^{25} = +14.7$ (*c* 1.04, $CHCl_3$)

Source of chirality: asymmetric 1,3-dipolar cycloaddition

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

Staffan Karlsson* and Hans-Erik Högberg*

Tetrahedron: Asymmetry 12 (2001) 1977



$C_{20}H_{25}NO_2$

[(3*R*,4*R*)-[4-(Benzyloxy)-1-[(*S*)-1-phenylethyl]pyrrolidin-3-yl]methanol

E.e. >99%, d.e. >99%

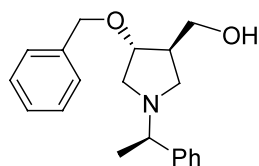
$[\alpha]_D^{25} = +6.2$ (*c* 0.70, MeOH)

Source of chirality: asymmetric 1,3-dipolar cycloaddition

Absolute configuration: 1*S*,3*R*,4*R*

Staffan Karlsson* and Hans-Erik Högberg*

Tetrahedron: Asymmetry 12 (2001) 1977



$C_{20}H_{25}NO_2$

[(3*R*,4*R*)-4-(Benzyloxy)-1-[(*R*)-1-phenylethyl]pyrrolidin-3-yl]methanol

E.e. >99%, d.e. >99%

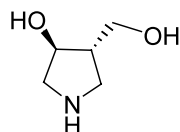
$[\alpha]_D^{25} = +53.0$ (*c* 0.44, MeOH)

Source of chirality: asymmetric 1,3-dipolar cycloaddition

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

Staffan Karlsson* and Hans-Erik Högberg*

Tetrahedron: Asymmetry 12 (2001) 1977



$C_5H_{11}NO_2$

(3*S*,4*S*)-4-Hydroxymethylpyrrolidin-3-ol

E.e. >99%, d.e. >99%

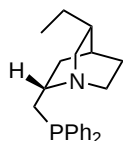
$[\alpha]_D^{25} = -49.0$ (*c* 0.48, MeOH)

Source of chirality: asymmetric 1,3-dipolar cycloaddition

Absolute configuration: 3*S*,4*S*

Stéphane Pellet-Rostaing, Christine Saluzzo, Rob Ter Halle, Jérémy Breuzard, Laurent Vial, Frédéric Le Guyader and Marc Lemaire*

Tetrahedron: Asymmetry 12 (2001) 1983



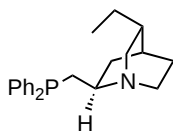
$C_{21}H_{26}PN$

(2*S*,4*S*,5*R*)-2-Diphenylphosphinomethyl-5-ethyl-quinuclidine

$[\alpha]_D = +15.9$ (*c* = 1, THF)

Stéphane Pellet-Rostaing, Christine Saluzzo, Rob Ter Halle, Jérémy Breuzard, Laurent Vial, Frédéric Le Guyader and Marc Lemaire*

Tetrahedron: Asymmetry 12 (2001) 1983



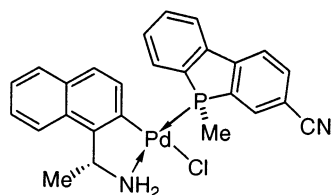
$C_{21}H_{26}PN$

(2*R*,4*S*,5*R*)-2-Diphenylphosphinomethyl-5-ethyl-quinuclidine

$[\alpha]_D = -16.2$ (*c* = 1, THF)

Ernesto Durán, Esther Gordo, Jaume Granell, Mercè Font-Bardía,
Xavier Solans, Dolores Velasco and Francisco López-Calahorra*

Tetrahedron: Asymmetry 12 (2001) 1987



(R_C, S_P)-[1-(1-Aminoethyl)naphthyl- C^2, N][chloro][3-cyano-5-methyl-5H-dibenzophosphole- P]palladium(II)

E.e. >95%

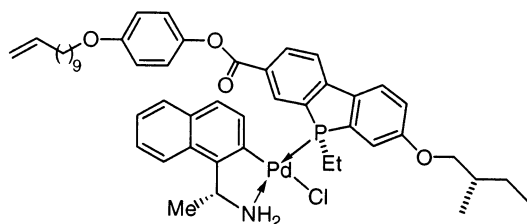
$[\alpha]_D^{20} = +99.8$ (c 1.02, $CHCl_3$)

Source of chirality: resolution

Absolute configuration: (R_C, S_P)

Ernesto Durán, Esther Gordo, Jaume Granell, Mercè Font-Bardía,
Xavier Solans, Dolores Velasco and Francisco López-Calahorra*

Tetrahedron: Asymmetry 12 (2001) 1987



($R_C, 11', S_P, S_C, 17$)-[1-(1-Aminoethyl)naphthyl- C^2, N][chloro][5-ethyl-3-(2-methylbutoxy)-7-(4-undec-10-enoxyphenoxy)carbonyl-5H-dibenzophosphole- P]palladium(II)

E.e. >95%

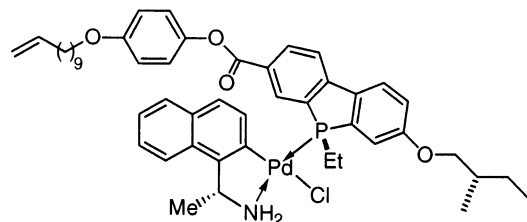
$[\alpha]_D^{20} = -139.0$ (c 1.29, CH_2Cl_2)

Source of chirality: resolution

Absolute configuration: ($11'R_C, S_P, 17S_C$)

Ernesto Durán, Esther Gordo, Jaume Granell, Mercè Font-Bardía,
Xavier Solans, Dolores Velasco and Francisco López-Calahorra*

Tetrahedron: Asymmetry 12 (2001) 1987



($R_C, 11', R_P, S_C, 17$)-[1-(1-Aminoethyl)naphthyl- C^2, N][chloro][5-ethyl-3-(2-methylbutoxy)-7-(4-undec-10-enoxyphenoxy)carbonyl-5H-dibenzophosphole- P]palladium(II)

E.e. = 91%

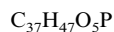
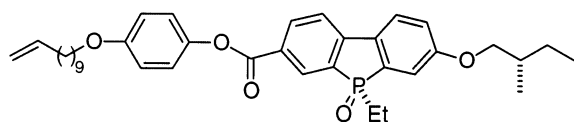
$[\alpha]_D^{20} = -9.05$ (c 1.05, CH_2Cl_2)

Source of chirality: resolution

Absolute configuration: ($11'R_C, R_P, 17S_C$)

Ernesto Durán, Esther Gordo, Jaume Granell, Mercè Font-Bardía,
Xavier Solans, Dolores Velasco and Francisco López-Calahorra*

Tetrahedron: Asymmetry 12 (2001) 1987



(S_C, S_P)-5-Ethyl-3-(2-methylbutoxy)-7-(4-undec-10-enoxyphenoxy)carbonyl-5H-dibenzophosphole-5-oxide

E.e. = 98%

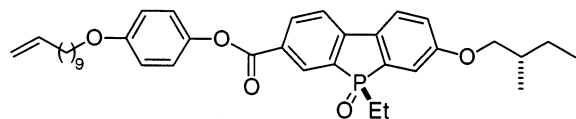
$[\alpha]_D^{20} = +20.2$ (c 1.03, CH_2Cl_2)

Source of chirality: resolution

Absolute configuration: (S_C, S_P)

Ernesto Durán, Esther Gordo, Jaume Granell, Mercè Font-Bardía, Xavier Solans, Dolores Velasco and Francisco López-Calahorra*

Tetrahedron: Asymmetry 12 (2001) 1987



$C_{37}H_{47}O_5P$

(S_C, R_P)-5-Ethyl-3-(2-methylbutoxy)-7-(4-undec-10-enoxyphenoxy)carbonyl-5H-dibenzophosphole-5-oxide

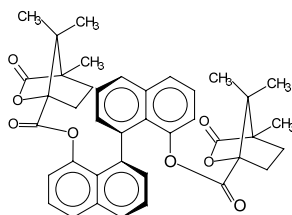
E.e. = 82%

Source of chirality: resolution

Absolute configuration: (S_C, R_P)

Duy H. Hua,* Trieu X. C. Nguyen, James W. McGill, Yi Chen and Paul D. Robinson

Tetrahedron: Asymmetry 12 (2001) 1999



$C_{40}H_{38}O_8$

8,8'-Bis[(1S,4R)-[3-oxo-4,7,7-trimethyl-2-oxabicyclo[2.2.1]heptan]-1-carbonyl]oxy-(aR)-1,1'-binaphthalene

E.e. = 100%

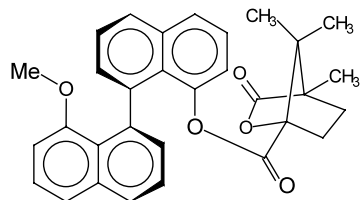
$[\alpha]_D^{22} = -207$ ($c = 0.5$; $CHCl_3$)

Source of chirality: resolution

Absolute configuration: (1S,4R,aR,1S,4R)

Duy H. Hua,* Trieu X. C. Nguyen, James W. McGill, Yi Chen and Paul D. Robinson

Tetrahedron: Asymmetry 12 (2001) 1999



$C_{31}H_{28}O_5$

8-Methoxy-8'-[(1S,4R)-[3-oxo-4,7,7-trimethyl-2-oxabicyclo[2.2.1]heptan]-1-carbonyl]oxy-(aR)-1,1'-binaphthalene

E.e. = 100%

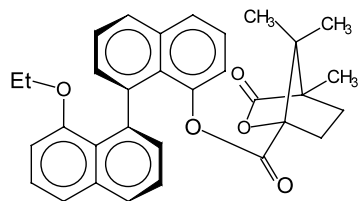
$[\alpha]_D^{22} = -170$ ($c = 1$; $CHCl_3$)

Source of chirality: resolution

Absolute configuration: (1S,4R,aR)

Duy H. Hua,* Trieu X. C. Nguyen, James W. McGill, Yi Chen and Paul D. Robinson

Tetrahedron: Asymmetry 12 (2001) 1999



$C_{32}H_{30}O_5$

8-Ethoxy-8'-[(1S,4R)-[3-oxo-4,7,7-trimethyl-2-oxabicyclo[2.2.1]heptan]-1-carbonyl]oxy-(aR)-1,1'-binaphthalene

E.e. = 100%

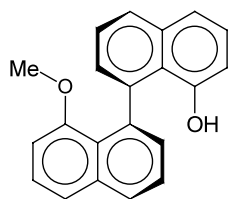
$[\alpha]_D^{22} = -251.6$ ($c = 0.5$; $CHCl_3$)

Source of chirality: resolution

Absolute configuration: (1S,4R,aR)

Duy H. Hua,* Trieu X. C. Nguyen, James W. McGill, Yi Chen and Paul D. Robinson

Tetrahedron: Asymmetry 12 (2001) 1999



$C_{21}H_{16}O_2$

(aR)-8'-Methoxy-1,1'-binaphthalen-8-ol

E.e. = 100%

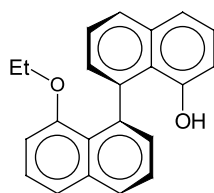
$[\alpha]_D^{22} = -195$ ($c = 0.5$; $CHCl_3$)

Source of chirality: resolution

Absolute configuration: (aR)

Duy H. Hua,* Trieu X. C. Nguyen, James W. McGill, Yi Chen and Paul D. Robinson

Tetrahedron: Asymmetry 12 (2001) 1999



$C_{22}H_{18}O_2$

(aR)-8'-Ethoxy-1,1'-binaphthalen-8-ol

E.e. = 100%

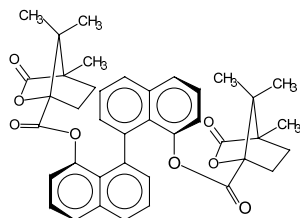
$[\alpha]_D^{22} = -264$ ($c = 0.5$; $CHCl_3$)

Source of chirality: resolution

Absolute configuration: (aR)

Duy H. Hua,* Trieu X. C. Nguyen, James W. McGill, Yi Chen and Paul D. Robinson

Tetrahedron: Asymmetry 12 (2001) 1999



$C_{40}H_{38}O_8$

8,8'-Bis[(1S,4R)-[3-oxo-4,7,7-trimethyl-2-oxabicyclo[2.2.1]heptan]-1-carbonyl]oxy-(aS)-1,1'-binaphthalene

E.e. = 100%

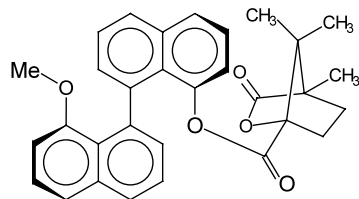
$[\alpha]_D^{22} = +75$ ($c = 0.53$; $CHCl_3$)

Source of chirality: resolution

Absolute configuration: (1S,4R,aS,1S,4R)

Duy H. Hua,* Trieu X. C. Nguyen, James W. McGill, Yi Chen and Paul D. Robinson

Tetrahedron: Asymmetry 12 (2001) 1999



$C_{31}H_{28}O_5$

8-Methoxy-8'-[(1S,4R)-[3-oxo-4,7,7-trimethyl-2-oxabicyclo[2.2.1]heptan]-1-carbonyl]oxy-(aS)-1,1'-binaphthalene

E.e. = 100%

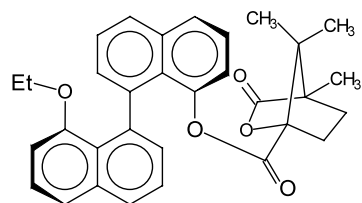
$[\alpha]_D^{22} = +406$ ($c = 1$; $CHCl_3$)

Source of chirality: resolution

Absolute configuration: (1S,4R,aS)

Duy H. Hua,* Trieu X. C. Nguyen, James W. McGill, Yi Chen and Paul D. Robinson

Tetrahedron: Asymmetry 12 (2001) 1999



8-Ethoxy-8'-{(1*S*,4*R*)-[3-oxo-4,7,7-trimethyl-2-oxabicyclo[2.2.1]heptan]-1-carbonyl}oxy-(a*S*)-1,1'-binaphthalene

E.e. = 100%

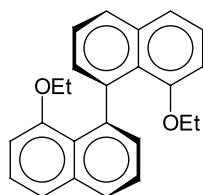
$[\alpha]_D^{22} = +293$ ($c = 0.5$; $CHCl_3$)

Source of chirality: resolution

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

Duy H. Hua,* Trieu X. C. Nguyen, James W. McGill, Yi Chen and Paul D. Robinson

Tetrahedron: Asymmetry 12 (2001) 1999



(a*R*)-8,8'-Diethoxy-1,1'-binaphthyl

E.e. = 100%

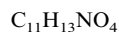
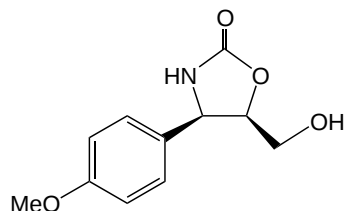
$[\alpha]_D^{22} = -464$ ($c = 0.5$; $CHCl_3$)

Source of chirality: resolution

Absolute configuration: (a*R*)

A. Madhan, A. Ravi Kumar and B. Venkateswara Rao*

Tetrahedron: Asymmetry 12 (2001) 2009



(4*R*,5*R*)-5-Hydroxymethyl-4-(4-methoxyphenyl)-2-oxazolidinone

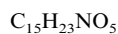
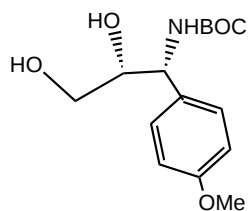
$[\alpha]_D^{25} = -69.7$ (c 0.5, MeOH)

Source of chirality: asymmetric synthesis

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

A. Madhan, A. Ravi Kumar and B. Venkateswara Rao*

Tetrahedron: Asymmetry 12 (2001) 2009



(2*R*,3*R*)-3-*tert*-Butoxycarbonylamino-3-(4-methoxyphenyl)-1,2-propanediol

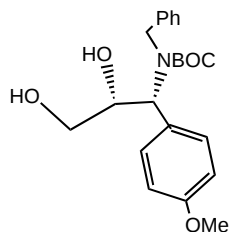
$[\alpha]_D^{25} = -51.2$ (c 1, $CHCl_3$)

Source of chirality: asymmetric synthesis

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

A. Madhan, A. Ravi Kumar and B. Venkateswara Rao*

Tetrahedron: Asymmetry 12 (2001) 2009



$C_{22}H_{29}NO_5$

(2*R*,3*R*)-3-Benzylamino-*N*-tert-butoxycarbonyl-3-(4-methoxyphenyl)-1,2-propanediol

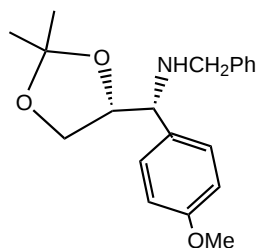
$[\alpha]_D^{25} = -29.3$ (*c* 1, $CHCl_3$)

Source of chirality: asymmetric synthesis

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

A. Madhan, A. Ravi Kumar and B. Venkateswara Rao*

Tetrahedron: Asymmetry 12 (2001) 2009



$C_{20}H_{25}NO_3$

(2*R*,3*R*)-3-Benzylamino-1,2-*O*-isopropylidene-3-(4-methoxyphenyl)-1,2-propanediol

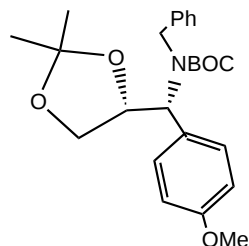
$[\alpha]_D^{25} = -42.3$ (*c* 1, $CHCl_3$)

Source of chirality: asymmetric synthesis

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

A. Madhan, A. Ravi Kumar and B. Venkateswara Rao*

Tetrahedron: Asymmetry 12 (2001) 2009



$C_{25}H_{33}NO_5$

(2*R*,3*R*)-3-Benzylamino-*N*-tert-butoxycarbonyl-1,2-*O*-isopropylidene-3-(4-methoxyphenyl)-1,2-propanediol

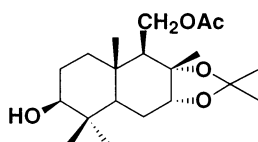
$[\alpha]_D^{25} = -37.1$ (*c* 1, $CHCl_3$)

Source of chirality: asymmetric synthesis

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

Gérard Aranda, Manuel Cortés, Michèle Maurs and Robert Azerad*

Tetrahedron: Asymmetry 12 (2001) 2013



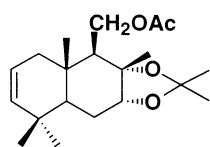
$C_{20}H_{34}O_5$

(-)-3β-Hydroxy-7α,8α-isopropylidenedioxy-11-acetoxymimane

$[\alpha]_D^{21} = -23$ (*c* 2.0, MeOH)

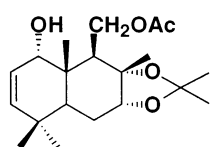
Source of chirality: natural (-)-drimenol

Absolute configuration: (3*S*,5*S*,7*R*,8*S*,9*S*,10*S*)

(-)-7 α ,8 α -Isopropylidenedioxy-11-acetoxymethyl-2-ene

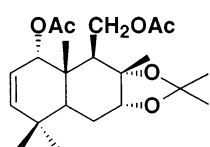
$$[\alpha]_{\text{D}}^{21} = -10.9 \text{ (c 2.0, MeOH)}$$

Source of chirality: natural (-)-drimenol

Absolute configuration: (5*S*,7*R*,8*S*,9*S*,10*S*)(+) -1 α -Hydroxy-7 α ,8 α -isopropylidenedioxy-11-acetoxymethyl-2-ene

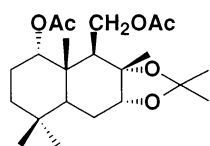
$$[\alpha]_{\text{D}}^{22} = +53 \text{ (c 1.98, MeOH)}$$

Source of chirality: natural (-)-drimenol

Absolute configuration: (1*S*,5*S*,7*R*,8*S*,9*S*,10*S*)(+) -1 α ,11-Diacetoxy-7 α ,8 α -isopropylidenedioxy-2-ene

$$[\alpha]_{\text{D}}^{22} = +155 \text{ (c 1.546, CHCl}_3\text{)}$$

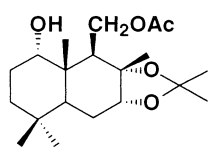
Source of chirality: natural (-)-drimenol

Absolute configuration: (1*S*,5*S*,7*R*,8*S*,9*S*,10*S*)(+) -1 α ,11-Diacetoxy-7 α ,8 α -isopropylidenedioxydrimane

$$[\alpha]_{\text{D}}^{22} = +9.3 \text{ (c 1.92, MeOH)}$$

Source of chirality: natural (-)-drimenol

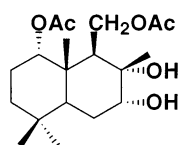
Absolute configuration: (1*S*,5*S*,7*R*,8*S*,9*S*,10*S*)



(-)-1 ,11-Diacetoxy-7 ,8 -isopropylidenedioxydrimane

$$[\alpha]_{\text{D}}^{22} = -3.6 \text{ (} c \text{ 1.66, MeOH)}$$

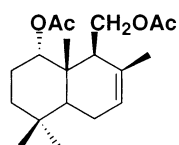
Source of chirality: natural (-)-drimenol

Absolute configuration: (1*S*,5*S*,7*R*,8*S*,9*S*,10*S*)

(+) -1 ,11-Diacetoxy-7 ,8 -dihydroxydrimane

$$[\alpha]_{\text{D}}^{22} = +4.2 \text{ (} c \text{ 2.055, MeOH)}$$

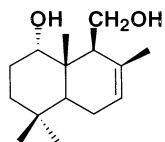
Source of chirality: natural (-)-drimenol

Absolute configuration: (1*S*,5*S*,7*R*,8*S*,9*S*,10*S*)

(+) -1 ,11-Diacetoxy-drim-7-ene

$$[\alpha]_{\text{D}}^{25} = +64.6 \text{ (} c \text{ 1.98, MeOH)}$$

Source of chirality: natural (-)-drimenol

Absolute configuration: (1*S*,5*S*,9*S*,10*S*)

(+) -1 ,11-Dihydroxydrim-7-ene

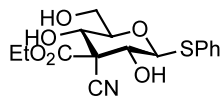
$$[\alpha]_{\text{D}}^{25} = +23.1 \text{ (} c \text{ 1.25, MeOH)}$$

Source of chirality: natural (-)-drimenol

Absolute configuration: (1*S*,5*S*,9*S*,10*S*)

Yolanda Vera-Ayoso, Pastora Borrachero,
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Manuel Gómez-Guillén, Amparo López-Castro and Simeón Pérez-Garrido

Tetrahedron: Asymmetry 12 (2001) 2031



Phenyl 3-C-cyano-3-deoxy-3-ethoxycarbonyl-1-thio-β-D-glucopyranoside

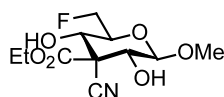
$[\alpha]_{\text{D}}^{22} -2.4$ (c 0.86, acetone)

Source of chirality: methyl β-D-glucopyranoside
and stereoselective Baer reaction

Absolute configuration: 1*S*,2*R*,3*S*,4*S*,5*R*; assigned on
the analogy of optically pure precursor and NMR

Yolanda Vera-Ayoso, Pastora Borrachero,
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Manuel Gómez-Guillén, Amparo López-Castro and Simeón Pérez-Garrido

Tetrahedron: Asymmetry 12 (2001) 2031



Methyl 3-C-cyano-3,6-dideoxy-3-ethoxycarbonyl-6-fluoro-β-D-glucopyranoside

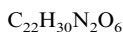
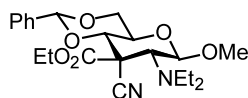
$[\alpha]_{\text{D}}^{26} -4.9$ (c 0.40, acetone)

Source of chirality: methyl β-D-glucopyranoside
and stereoselective Baer reaction

Absolute configuration: 1*R*,2*R*,3*S*,4*S*,5*S*; assigned on
the analogy of optically pure precursor and NMR

Yolanda Vera-Ayoso, Pastora Borrachero,
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Manuel Gómez-Guillén, Amparo López-Castro and Simeón Pérez-Garrido

Tetrahedron: Asymmetry 12 (2001) 2031



Methyl 4,6-*O*-benzylidene-3-C-cyano-2,3-dideoxy-3-ethoxycarbonyl-2-diethylamino-β-D-glucopyranoside

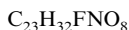
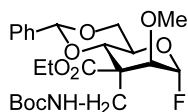
$[\alpha]_{\text{D}}^{27} -22.5$ (c 0.5, acetone)

Source of chirality: methyl β-D-glucopyranoside
and stereoselective Baer reaction

Absolute configuration: 1*R*,2*R*,3*S*,4*S*,5*R*; assigned
on the analogy of optically pure precursor and NMR

Yolanda Vera-Ayoso, Pastora Borrachero,
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Manuel Gómez-Guillén, Amparo López-Castro and Simeón Pérez-Garrido

Tetrahedron: Asymmetry 12 (2001) 2031



4,6-*O*-Benzylidene-3-*C*-[(*tert*-butoxycarbonylamino)methyl]-3-deoxy-3-ethoxycarbonyl-2-*O*-methyl-α-D-mannopyranosyl fluoride

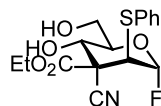
$[\alpha]_{\text{D}}^{26} -42$ (c 0.50, acetone)

Source of chirality: methyl β-D-glucopyranoside
and stereoselective Baer reaction

Absolute configuration: 1*R*,2*S*,3*R*,4*S*,5*R*; assigned
on the analogy of optically pure precursor and
NMR

Yolanda Vera-Ayoso, Pastora Borrachero,
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Tetrahedron: Asymmetry 12 (2001) 2031



3-C-Cyano-2,3-dideoxy-3-ethoxycarbonyl-2-phenylthio- α -D-mannopyranosyl fluoride

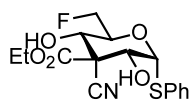
$[\alpha]_{\text{D}}^{26} +39.5$ (*c* 1.14, acetone)

Source of chirality: methyl β -D-glucopyranoside and stereoselective Baer reaction

Absolute configuration: 1*R*,2*S*,3*R*,4*S*,5*R*; assigned on the analogy of optically pure precursor and NMR

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Tetrahedron: Asymmetry 12 (2001) 2031



Phenyl 3-C-cyano-3,6-dideoxy-3-ethoxycarbonyl-6-fluoro-1-thio- α -D-glucopyranoside

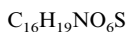
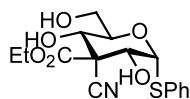
$[\alpha]_{\text{D}}^{26} +56.5$ (*c* 0.54, acetone)

Source of chirality: methyl β -D-glucopyranoside and stereoselective Baer reaction

Absolute configuration: 1*R*,2*R*,3*S*,4*S*,5*S*; assigned on the analogy of optically pure precursor and NMR

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Tetrahedron: Asymmetry 12 (2001) 2031



Phenyl 3-C-cyano-3-deoxy-3-ethoxycarbonyl-1-thio- α -D-glucopyranoside

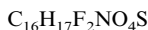
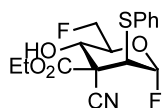
$[\alpha]_{\text{D}}^{22} +73$ (*c* 0.43, acetone)

Source of chirality: methyl β -D-glucopyranoside and stereoselective Baer reaction

Absolute configuration: 1*R*,2*R*,3*S*,4*S*,5*R*; assigned on the analogy of optically pure precursor and NMR

Yolanda Vera-Ayoso, Pastora Borrachero,
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Manuel Gómez-Guillén, Amparo López-Castro and Simeón Pérez-Garrido

Tetrahedron: Asymmetry 12 (2001) 2031



3-C-Cyano-2,3,6-trideoxy-3-ethoxycarbonyl-6-fluoro-2-phenylthio- α -D-mannopyranosyl fluoride

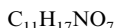
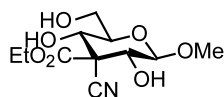
$[\alpha]_{\text{D}}^{24} +28$ (*c* 0.54, acetone)

Source of chirality: methyl β -D-glucopyranoside and stereoselective Baer reaction

Absolute configuration: 1*R*,2*S*,3*R*,4*S*,5*S*; assigned on the analogy of optically pure precursor and NMR

Yolanda Vera-Ayoso, Pastora Borrachero,
Francisca Cabrera-Escribano,* M^a Jesús Diáñez, M^a Dolores Estrada,
Manuel Gómez-Guillén, Amparo López-Castro and Simeón Pérez-Garrido

Tetrahedron: Asymmetry 12 (2001) 2031



Methyl 3-C-cyano-3-deoxy-3-ethoxycarbonyl- β -D-glucopyranoside

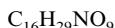
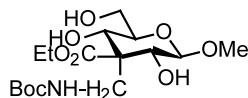
$[\alpha]_{\text{D}}^{25} -14$ (c 1.22, acetone)

Source of chirality: methyl β -D-glucopyranoside and stereoselective Baer reaction

Absolute configuration: 1*R*,2*R*,3*S*,4*S*,5*R*; assigned on the analogy of optically pure precursor and NMR

Yolanda Vera-Ayoso, Pastora Borrachero,
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Manuel Gómez-Guillén, Amparo López-Castro and Simeón Pérez-Garrido

Tetrahedron: Asymmetry 12 (2001) 2031



Methyl 3-C-[(*tert*-butoxycarbonylamino)methyl]-3-deoxy-3-ethoxycarbonyl- β -D-glucopyranoside

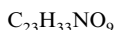
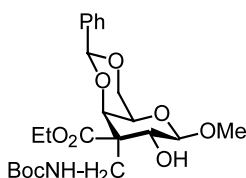
$[\alpha]_{\text{D}}^{28} -7.3$ (c 0.75, acetone)

Source of chirality: methyl β -D-glucopyranoside and stereoselective Baer reaction

Absolute configuration: 1*R*,2*R*,3*S*,4*S*,5*R*; assigned on the analogy of optically pure precursor and NMR

Yolanda Vera-Ayoso, Pastora Borrachero,
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Manuel Gómez-Guillén, Amparo López-Castro and Simeón Pérez-Garrido

Tetrahedron: Asymmetry 12 (2001) 2031



Methyl 4,6-*O*-(*S*)-benzylidene-3-C-[(*tert*-butoxycarbonylamino)methyl]-3-deoxy-3-ethoxycarbonyl- β -D-galactopyranoside

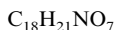
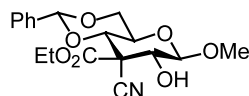
$[\alpha]_{\text{D}}^{26} +26$ (c 0.84, acetone)

Source of chirality: methyl β -D-glucopyranoside and stereoselective Baer reaction

Absolute configuration: 1*R*,2*R*,3*R*,5*R*; assigned on the analogy of optically pure precursor and NMR. 4*R*,2'*S* by NMR

Yolanda Vera-Ayoso, Pastora Borrachero,
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Manuel Gómez-Guillén, Amparo López-Castro and Simeón Pérez-Garrido

Tetrahedron: Asymmetry 12 (2001) 2031



Methyl 4,6-*O*-benzylidene-3-C-cyano-3-deoxy-3-ethoxycarbonyl- β -D-glucopyranoside

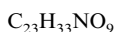
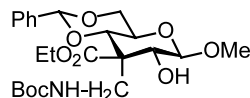
$[\alpha]_{\text{D}}^{26} -37$ (c 1.0, CH_2Cl_2)

Source of chirality: methyl β -D-glucopyranoside and stereoselective Baer reaction

Absolute configuration: 1*R*,2*R*,3*R*,4*S*,5*R*; assigned by X-ray diffraction

Yolanda Vera-Ayoso, Pastora Borrachero,
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Tetrahedron: Asymmetry 12 (2001) 2031



Methyl 4,6-*O*-benzylidene-3-*C*-[(*tert*-butoxycarbonylamino)methyl]-3-deoxy-3-ethoxycarbonyl- β -D-glucopyranoside

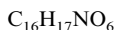
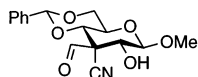
$[\alpha]_{\text{D}}^{20} -35.5$ (*c* 0.75, acetone)

Source of chirality: methyl β -D-glucopyranoside and stereoselective Baer reaction

Absolute configuration: 1*R*,2*R*,3*R*,4*S*,5*R*; assigned on the analogy of optically pure precursor and NMR

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Tetrahedron: Asymmetry 12 (2001) 2031



Methyl 4,6-*O*-benzylidene-3-*C*-cyano-3-deoxy-3-formyl- β -D-glucopyranoside

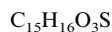
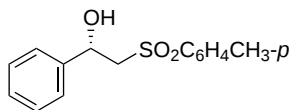
$[\alpha]_{\text{D}}^{26} -32$ (*c* 0.4, acetone)

Source of chirality: methyl β -D-glucopyranoside and stereoselective Baer reaction

Absolute configuration: 1*R*,2*R*,3*R*,4*S*,5*R*; assigned from the enantiomerically pure precursor and NMR

Byung Tae Cho* and Dong Jun Kim

Tetrahedron: Asymmetry 12 (2001) 2043



(*S*)-1-Phenyl-2-(*p*-toluenesulfonyl)ethanol

E.e. = 99% (by HPLC analysis on a Whelk-O1 chiral column)

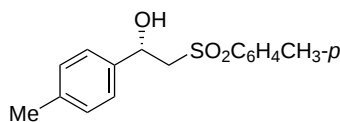
$[\alpha]_{\text{D}}^{20} = +20.6$ (*c* 1.02, CHCl_3)

Source of chirality: asymmetric reduction

Absolute configuration: *S*

Byung Tae Cho* and Dong Jun Kim

Tetrahedron: Asymmetry 12 (2001) 2043



(*S*)-1-*p*-Tolyl-2-(*p*-toluenesulfonyl)ethanol

E.e. = 98% (by HPLC analysis on a Whelk-O1 chiral column)

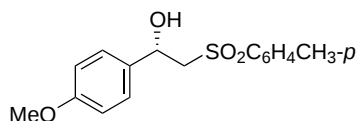
$[\alpha]_{\text{D}}^{20} = +11.8$ (*c* 1.04, CHCl_3)

Source of chirality: asymmetric reduction

Absolute configuration: *S*

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Tetrahedron: Asymmetry 12 (2001) 2043



$C_{16}H_{18}O_4S$

(*S*)-1-*p*-Methoxyphenyl-2-(*p*-toluenesulfonyl)ethanol

E.e. = 98% (by HPLC analysis on a Whelk-O1 chiral column)

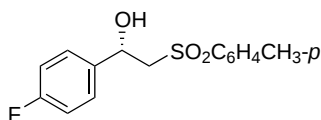
$[\alpha]_D^{20} = +10.8$ (*c* 1.12, $CHCl_3$)

Source of chirality: asymmetric reduction

Absolute configuration: *S*

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Tetrahedron: Asymmetry 12 (2001) 2043



$C_{15}H_{15}FO_3S$

(*S*)-1-*p*-Fluorophenyl-2-(*p*-toluenesulfonyl)ethanol

E.e. = 98% (by HPLC analysis on a Whelk-O1 chiral column)

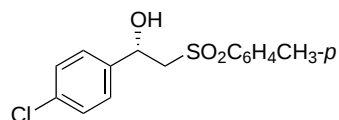
$[\alpha]_D^{20} = +20.0$ (*c* 1.24, $CHCl_3$)

Source of chirality: asymmetric reduction

Absolute configuration: *S*

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Tetrahedron: Asymmetry 12 (2001) 2043



$C_{15}H_{15}ClO_3S$

(*S*)-1-*p*-Chlorophenyl-2-(*p*-toluenesulfonyl)ethanol

E.e. = 99% (by HPLC analysis on a Whelk-O1 chiral column)

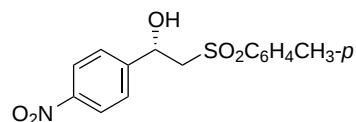
$[\alpha]_D^{20} = +10.1$ (*c* 1.04, $CHCl_3$)

Source of chirality: asymmetric reduction

Absolute configuration: *S*

Byung Tae Cho* and Dong Jun Kim

Tetrahedron: Asymmetry 12 (2001) 2043



$C_{15}H_{15}NO_5S$

(*S*)-1-*p*-Nitrophenyl-2-(*p*-toluenesulfonyl)ethanol

E.e. = 98% (by HPLC analysis on a Chiralcel OD-H chiral column)

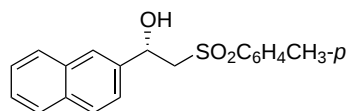
$[\alpha]_D^{20} = +33.7$ (*c* 1.07, acetone)

Source of chirality: asymmetric reduction

Absolute configuration: *S*

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Tetrahedron: Asymmetry 12 (2001) 2043



$C_{19}H_{18}O_3S$

(*S*)-1-(2-Naphthyl)-2-(*p*-toluenesulfonyl)ethanol

E.e. = 99% (by HPLC analysis on a Whelk-O1 chiral column)

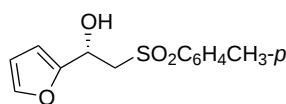
$[\alpha]_D^{20} = +6.1$ (*c* 1.02, $CHCl_3$)

Source of chirality: asymmetric reduction

Absolute configuration: *S*

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Tetrahedron: Asymmetry 12 (2001) 2043



$C_{13}H_{14}O_4S$

(*S*)-1-(2-Furyl)-2-(*p*-toluenesulfonyl)ethanol

E.e. = 97% (by HPLC analysis of its benzoate on a Whelk-O1 chiral column)

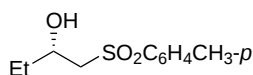
$[\alpha]_D^{20} = +5.8$ (*c* 1.02, $CHCl_3$)

Source of chirality: asymmetric reduction

Absolute configuration: *S*

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Tetrahedron: Asymmetry 12 (2001) 2043



$C_{11}H_{16}O_3S$

(*S*)-1-(*p*-Toluenesulfonyl)butan-2-ol

E.e. = 73% (by HPLC analysis on a Chiralcel OD chiral column)

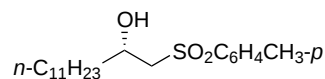
$[\alpha]_D^{20} = +17.6$ (*c* 1.07, $CHCl_3$)

Source of chirality: asymmetric reduction

Absolute configuration: *S*

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Tetrahedron: Asymmetry 12 (2001) 2043



$C_{20}H_{34}O_3S$

(*S*)-1-(*p*-Toluenesulfonyl)tridecan-2-ol

E.e. = 87% (by HPLC analysis on a Chiralcel OD chiral column)

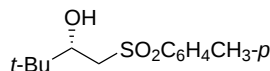
$[\alpha]_D^{20} = +11.0$ (*c* 1.03, $CHCl_3$)

Source of chirality: asymmetric reduction

Absolute configuration: *S*

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Tetrahedron: Asymmetry 12 (2001) 2043



$C_{13}H_{20}O_3S$

(S)-1-(p-Toluenesulfonyl)-3,3-dimethylbutan-2-ol

E.e. = 99% (by HPLC analysis on a Chiralcel OD chiral column)

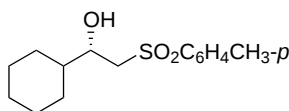
$[\alpha]_D^{20} = +42.5$ (c 0.97, $CHCl_3$)

Source of chirality: asymmetric reduction

Absolute configuration: S

Byung Tae Cho* and Dong Jun Kim

Tetrahedron: Asymmetry 12 (2001) 2043



$C_{15}H_{22}O_3S$

(S)-1-Cyclohexyl-2-(p-toluenesulfonyl)ethanol

E.e. = 99% (by HPLC analysis on a Chiralcel OD chiral column)

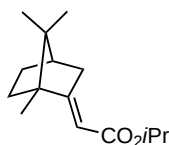
$[\alpha]_D^{20} = +21.8$ (c 1.05, $CHCl_3$)

Source of chirality: asymmetric reduction

Absolute configuration: S

Jerzy A. Bajgrowicz* and Iris Frank

Tetrahedron: Asymmetry 12 (2001) 2049



$C_{15}H_{24}O_2$

(E)-1,7,7-Trimethylbicyclo[2.2.1]hept-2-ylidene]acetic acid isopropyl ester

E.e. = 98.5%

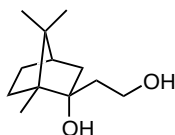
$[\alpha]_D^{22} = -45.5$ (c 1.0, EtOH)

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

Absolute configuration: (1R,4R)

Jerzy A. Bajgrowicz* and Iris Frank

Tetrahedron: Asymmetry 12 (2001) 2049



$C_{12}H_{22}O_2$

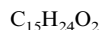
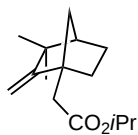
2-(2-Hydroxyethyl)-1,7,7-trimethylbicyclo[2.2.1]heptan-2-ol

E.e. = 98.5%; d.e. >98.5%

$[\alpha]_D^{22} = -14$ (c 1.0, EtOH)

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

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



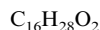
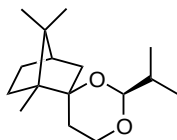
[(3,3-Dimethyl-2-methylenebicyclo[2.2.1]hept-1-yl)]acetic acid isopropyl ester

E.e. = 98.5%

$[\alpha]_{\text{D}}^{22} = +21.5$ (c 1.0, EtOH)

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

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



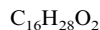
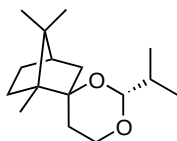
1,7,7-Trimethyl-2'-(1-methylethyl)spiro[bicyclo[2.2.1]heptane-2,4'-(1,3-dioxane)]

E.e. = 98.5%; d.e. >99%

$[\alpha]_{\text{D}}^{22} = -61.5$ (c 1.1, EtOH)

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

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



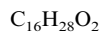
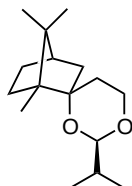
1,7,7-Trimethyl-2'-(1-methylethyl)spiro[bicyclo[2.2.1]heptane-2,4'-(1,3-dioxane)]

E.e. = 98.5%; d.e. >99%

$[\alpha]_{\text{D}}^{22} = +3.5$ (c 0.8, EtOH)

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

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



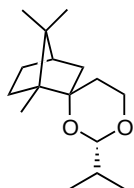
1,7,7-Trimethyl-2'-(1-methylethyl)spiro[bicyclo[2.2.1]heptane-2,4'-(1,3-dioxane)]

E.e. = 98.5%

$[\alpha]_{\text{D}}^{22} = +12.5$ (c 1.15, EtOH)

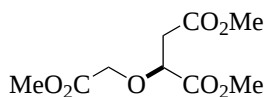
Source of chirality: (1*R*)-(+)-camphor

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

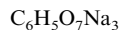
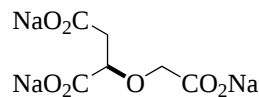


1,7,7-Trimethyl-2'-(1-methylethyl)spiro[bicyclo[2.2.1]heptane-2,4'-(1,3-dioxane)]

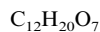
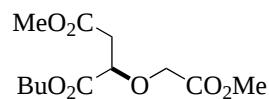
E.e. = 98.5%

 $[\alpha]_{\text{D}}^{22} = -51$ (c 0.2, EtOH)Source of chirality: (1*R*)-(+)-camphorAbsolute configuration: (1*R*,2*R*,4*R*,2'*S*)Trimethyl (*S*)-2-[(carboxymethyl)oxy]succinate

E.e. = 96%

 $[\alpha]_{\text{D}}^{20} = -63.0$ (c 1, MeOH)Source of chirality: acyl-transfer to butanol by acylase I from *Aspergillus* sp. immobilized on Eupergit CAbsolute configuration: *S*Trisodium (*S*)-2-[(carboxymethyl)oxy]succinate

E.e. = 96%

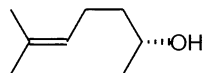
 $[\alpha]_{\text{D}}^{20} = -20.6$ (c 0.2, H₂O)Source of chirality: acyl-transfer to butanol by acylase I from *Aspergillus* sp. immobilized on Eupergit CAbsolute configuration: *S* α -Butyl dimethyl (*R*)-2-[carboxymethyl]oxy]succinate

E.e. = 78%

 $[\alpha]_{\text{D}}^{20} = +49.0$ (c 1, MeOH)Source of chirality: acyl-transfer to butanol by acylase I from *Aspergillus* sp. immobilized on Eupergit CAbsolute configuration: *R*

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$C_8H_{16}O$

(*R*)-6-Methylhept-5-en-2-ol

(*R*)-Sulcatol

E.e. >98%

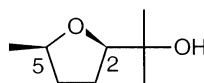
$[\alpha]_D^{20} = -10.6$ (*c* 0.98, $CHCl_3$)

Source of chirality: enzymatic deracemization

Absolute configuration: *R*

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$C_8H_{16}O$

(*2R,5R*)-5-Methyl-2-[(1-methyl-1-hydroxy)ethyl]tetrahydrofuran

(*2R,5R*)-Pityol

E.e. >98%, d.e. >98%

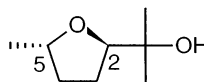
$[\alpha]_D^{20} = -10.8$ (*c* 0.56, $CHCl_3$)

Source of chirality: enzymatic hydrolysis

Absolute configuration: *2R,5R*

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Tetrahedron: Asymmetry 12 (2001) 2067



$C_8H_{16}O$

(*2R,5S*)-5-Methyl-2-[(1-methyl-1-hydroxy)ethyl]tetrahydrofuran

(*2R,5S*)-Pityol

E.e. >98%, d.e. >98%

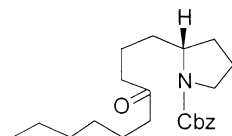
$[\alpha]_D^{20} = +17.4$ (*c* 0.44, $CHCl_3$)

Source of chirality: enzymatic hydrolysis

Absolute configuration: *2R,5S*

Guncheol Kim* and Eun-ju Lee

Tetrahedron: Asymmetry 12 (2001) 2073



$C_{22}H_{33}NO_3$

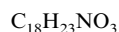
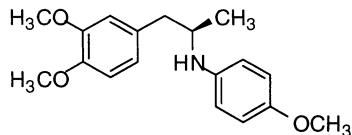
(*R*)-1-Benzoyloxycarbonyl-2-(4-oxodecyl)pyrrolidine

E.e. >99%

$[\alpha]_D^{24} = -38.0$ (*c* 1.50, $CHCl_3$)

Source of chirality: (*R*)-(-)-2-phenylglycine auxiliary-based allylation and hydroacylation

Absolute configuration: (*R*)



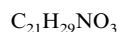
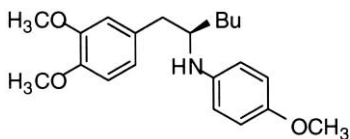
(-)-(R)-N-[2-(3,4-Dimethoxyphenyl)-1-methylethyl]-N-(4-methoxyphenyl)amine

E.e. = 66% CSP HPLC (Chiralcel OD, 4% hexane/
2-propanol, 1 mL/min)

$[\alpha]_D^{20} = -3.5$ ($c = 0.3$, $CHCl_3$)

Source of chirality: asymmetric synthesis

Absolute configuration: (1R)



(-)-(R)-N-[2-(3,4-Dimethoxyphenyl)-1-butylethyl]-N-(4-methoxyphenyl)amine

E.e. = 67% CSP HPLC (Chiralcel OD, 5% hexane/
2-propanol, 0.7 mL/min)

$[\alpha]_D^{20} = -23.2$ ($c = 0.3$, $CHCl_3$)

Source of chirality: asymmetric synthesis

Absolute configuration: (1R)