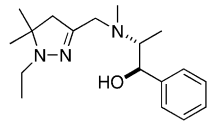
Mukund P. Sibi* and Levi M. Stanley

Tetrahedron: Asymmetry *15 (2004) 3353*



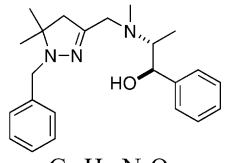
$C_{19}H_{29}N_3O$

Ee = 100%
$[\alpha]_D^{23} = -128.6$ (*c* 0.73, CH_2Cl_2)
Source of chirality: (1*R*,2*R*)-(−)-pseudoephedrine

2-[(1-Ethyl-5,5-dimethyl-4,5-dihydro-1*H*-pyrazol-3-ylmethyl)-methyl-amino]-1-phenyl-propan-1-ol

Mukund P. Sibi* and Levi M. Stanley

Tetrahedron: Asymmetry *15 (2004) 3353*



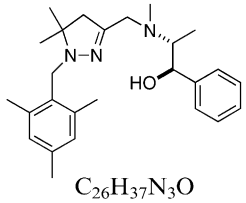
$C_{23}H_{31}N_3O$

Ee = 100%
$[\alpha]_D^{20} = -40.7$ (*c* 0.68, CH_2Cl_2)
Source of chirality: (1*R*,2*R*)-(−)-pseudoephedrine

2-[(1-Benzyl-5,5-dimethyl-4,5-dihydro-1*H*-pyrazol-3-ylmethyl)-methyl-amino]-1-phenyl-propan-1-ol

Mukund P. Sibi* and Levi M. Stanley

Tetrahedron: Asymmetry *15 (2004) 3353*



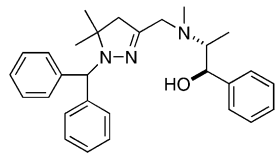
$C_{26}H_{37}N_3O$

Ee = 100%
$[\alpha]_D^{23} = -20.6$ (*c* 0.51, CH_2Cl_2)
Source of chirality: (1*R*,2*R*)-(−)-pseudoephedrine

2-{[5,5-Dimethyl-1-(2,4,6-trimethyl-benzyl)-4,5-dihydro-1*H*-pyrazol-3-ylmethyl]-methyl-amino}-1-phenyl-propan-1-ol

Mukund P. Sibi* and Levi M. Stanley

Tetrahedron: Asymmetry *15 (2004) 3353*



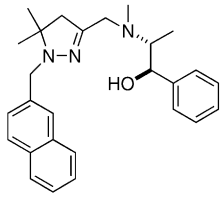
$C_{29}H_{35}N_3O$

Ee = 100%
$[\alpha]_D^{22} = -24.4$ (*c* 0.52, CH_2Cl_2)
Source of chirality: (1*R*,2*R*)-(−)-pseudoephedrine

2-[(1-Benzhydryl-5,5-dimethyl-4,5-dihydro-1*H*-pyrazol-3-ylmethyl)-methyl-amino]-1-phenyl-propan-1-ol

Mukund P. Sibi* and Levi M. Stanley

Tetrahedron: Asymmetry *15 (2004) 3353*



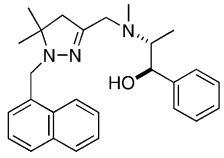
Ee = 100%
$[\alpha]_D^{23} = -22.3$ (*c* 0.62, CH_2Cl_2)
Source of chirality: (1*R*,2*R*)-(−)-pseudoephedrine

$C_{27}H_{33}N_3O$

2-[(5,5-Dimethyl-1-naphthalen-2-ylmethyl-4,5-dihydro-1*H*-pyrazol-3-ylmethyl)-methyl-amino]-1-phenyl-propan-1-ol

Mukund P. Sibi* and Levi M. Stanley

Tetrahedron: Asymmetry *15 (2004) 3353*



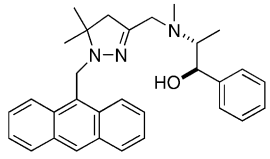
Ee = 100%
$[\alpha]_D^{20} = -31.9$ (*c* 0.62, CH_2Cl_2)
Source of chirality: (1*R*,2*R*)-(−)-pseudoephedrine

$C_{27}H_{33}N_3O$

2-[(5,5-Dimethyl-1-naphthalen-1-ylmethyl-4,5-dihydro-1*H*-pyrazol-3-ylmethyl)-methyl-amino]-1-phenyl-propan-1-ol

Mukund P. Sibi* and Levi M. Stanley

Tetrahedron: Asymmetry *15 (2004) 3353*



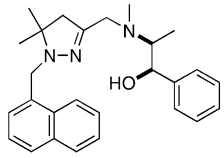
Ee = 100%
$[\alpha]_D^{23} = +1.0$ (*c* 0.51, CH_2Cl_2)
Source of chirality: (1*R*,2*R*)-(−)-pseudoephedrine

$C_{31}H_{35}N_3O$

2-[(1-Anthracen-9-ylmethyl-5,5-dimethyl-4,5-dihydro-1*H*-pyrazol-3-ylmethyl)-methyl-amino]-1-phenyl-propan-1-ol

Mukund P. Sibi* and Levi M. Stanley

Tetrahedron: Asymmetry *15 (2004) 3353*



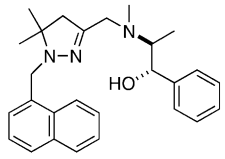
Ee = 100%
$[\alpha]_D^{20} = -0.2$ (*c* 0.84, CH_2Cl_2)
Source of chirality: (1*R*,2*S*)-(−)-ephedrine

$C_{27}H_{33}N_3O$

2-[(5,5-Dimethyl-1-naphthalen-1-ylmethyl-4,5-dihydro-1*H*-pyrazol-3-ylmethyl)-methyl-amino]-1-phenyl-propan-1-ol

Mukund P. Sibi* and Levi M. Stanley

Tetrahedron: Asymmetry *15 (2004) 3353*



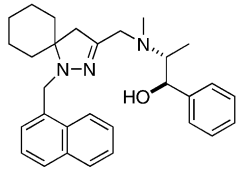
Ee = 100%
$[\alpha]_D^{20} = -56.2$ (*c* 0.50, CH_2Cl_2)
Source of chirality: (1*S*,2*S*)-(+)-pseudoephedrine

$C_{27}H_{33}N_3O$

2-[(5,5-Dimethyl-1-naphthalen-1-ylmethyl-4,5-dihydro-1*H*-pyrazol-3-ylmethyl)-methyl-amino]-1-phenyl-propan-1-ol

Mukund P. Sibi* and Levi M. Stanley

Tetrahedron: Asymmetry *15 (2004) 3353*



Ee = 100%
$[\alpha]_D^{23} = -27.8$ (*c* 0.51, CH_2Cl_2)
Source of chirality: (1*R*,2*R*)-(−)-pseudoephedrine

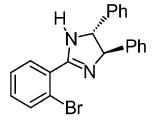
$C_{30}H_{37}N_3O$

2-[Methyl-(1-naphthalen-1-ylmethyl-1,2-diaza-spiro[4.5]dec-2-en-3-ylmethyl)-amino]-1-phenyl-propan-1-ol

Ester Guiu, Carmen Claver,* Jordi Benet-Buchholz and Sergio Castillón*

Tetrahedron: Asymmetry *15 (2004) 3365*

$[\alpha]_D^{20} = +60.1$ (*c* 1.07, CH_2Cl_2)



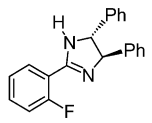
$C_{21}H_{17}BrN_2$

(4*R*,5*R*)-2-(2-Bromophenyl)-4,5-diphenyl-4,5-dihydro-1*H*-imidazole

Ester Guiu, Carmen Claver,* Jordi Benet-Buchholz and Sergio Castillón*

Tetrahedron: Asymmetry *15 (2004) 3365*

$[\alpha]_D^{20} = +48.5$ (*c* 0.811, CH_2Cl_2)



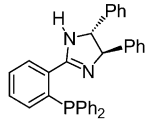
$C_{21}H_{17}BFN_2$

(4*R*,5*R*)-2-(2-Fluorophenyl)-4,5-diphenyl-4,5-dihydro-1*H*-imidazole

Ester Guiu, Carmen Claver,* Jordi Benet-Buchholz and Sergio Castillón*

Tetrahedron: Asymmetry *15 (2004) 3365*

$[\alpha]_D^{20} = -19.2$ (*c* 0.57, CH_2Cl_2)

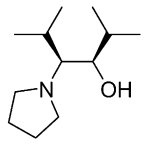


$C_{33}H_{27}N_2P$

(4*R*,5*R*)-2-(2-Diphenylphosphanyl-phenyl)-4,5-diphenyl-4,5-dihydro-1*H*-imidazole

Shi-Liang Tseng and Teng-Kuei Yang*

Tetrahedron: Asymmetry *15 (2004) 3375*



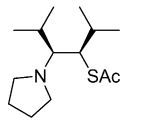
De >98%
$[\alpha]_D^{25} = +45.7$ (*c* 1.21, $CHCl_3$)
Source of chirality: L-valine
Absolute configuration: *R*,*S*

$C_{12}H_{25}NO$

(3*R*,4*S*)-2,5-Dimethyl-4-(pyrrolidin-1-yl)hexan-3-ol

Shi-Liang Tseng and Teng-Kuei Yang*

Tetrahedron: Asymmetry *15 (2004) 3375*



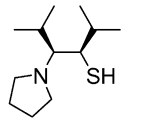
De >98%
$[\alpha]_D^{25} = +53.9$ (*c* 1.23, $CHCl_3$)
Source of chirality: L-valine
Absolute configuration: *R*,*S*

$C_{14}H_{27}NOS$

(*S*)-(3*R*,4*S*)-2,5-Dimethyl-4-(pyrrolidin-1-yl)hexan-3-yl ethanethioate

Shi-Liang Tseng and Teng-Kuei Yang*

Tetrahedron: Asymmetry *15 (2004) 3375*



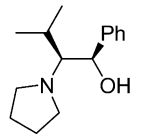
De >98%
$[\alpha]_D^{25} = +13.7$ (*c* 0.99, $CHCl_3$)
Source of chirality: L-valine
Absolute configuration: *R*,*S*

$C_{12}H_{25}NS$

(3*R*,4*S*)-2,5-Dimethyl-4-(pyrrolidin-1-yl)hexane-3-thiol

Shi-Liang Tseng and Teng-Kuei Yang*

Tetrahedron: Asymmetry *15 (2004) 3375*



$C_{15}H_{23}NO$

(1*R*,2*S*)-3-Methyl-1-phenyl-2-(pyrrolidin-1-yl)butan-1-ol

De >98%

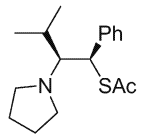
$[\alpha]_D^{22} = -7.4$ (*c* 1.8, $CHCl_3$)

Source of chirality: L-valine

Absolute configuration: *R*,*S*

Shi-Liang Tseng and Teng-Kuei Yang*

Tetrahedron: Asymmetry *15 (2004) 3375*



$C_{17}H_{25}NOS$

(*S*)-(1*R*,2*S*)-3-Methyl-1-phenyl-2-(pyrrolidin-1-yl)butyl ethanethioate

De >98%

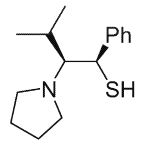
$[\alpha]_D^{25} = -240.8$ (*c* 1.02, $CHCl_3$)

Source of chirality: L-valine

Absolute configuration: *R*,*S*

Shi-Liang Tseng and Teng-Kuei Yang*

Tetrahedron: Asymmetry *15 (2004) 3375*



$C_{15}H_{23}NS$

(1*R*,2*S*)-3-Methyl-1-phenyl-2-(pyrrolidin-1-yl)butane-1-thiol

De >98%

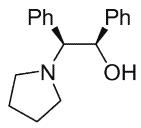
$[\alpha]_D^{25} = -489.0$ (*c* 1.0, $CHCl_3$)

Source of chirality: L-valine

Absolute configuration: *R*,*S*

Shi-Liang Tseng and Teng-Kuei Yang*

Tetrahedron: Asymmetry *15 (2004) 3375*



$C_{18}H_{21}NO$

(1*R*,2*S*)-1,2-Diphenyl-2-(pyrrolidin-1-yl)ethanol

De >98%

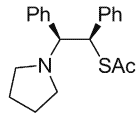
$[\alpha]_D^{25} = -87.5$ (*c* 1.0, $CHCl_3$)

Source of chirality: (1*R*,2*S*)-2-amino-1,2-diphenylethanol

Absolute configuration: *R*,*S*

Shi-Liang Tseng and Teng-Kuei Yang*

Tetrahedron: Asymmetry *15 (2004) 3375*



$C_{20}H_{23}NOS$

(*S*)-(1*R*,2*S*)-1,2-Diphenyl-2-(pyrrolidin-1-yl)ethyl ethanethioate

De >98%

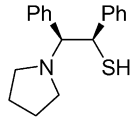
$[\alpha]_D^{25} = -32.5$ (*c* 1.0, $CHCl_3$)

Source of chirality: (1*R*,2*S*)-2-amino-1,2-diphenylethanol

Absolute configuration: *R*,*S*

Shi-Liang Tseng and Teng-Kuei Yang*

Tetrahedron: Asymmetry *15 (2004) 3375*



$C_{18}H_{21}NS$

(1*R*,2*S*)-1,2-Diphenyl-2-(pyrrolidin-1-yl)ethanethiol

De >98%

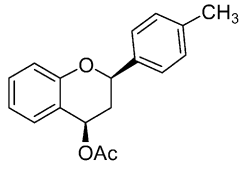
$[\alpha]_D^{25} = -162.0$ (*c* 1, $CHCl_3$)

Source of chirality: (1*R*,2*S*)-2-amino-1,2-diphenylethanol

Absolute configuration: *R*,*S*

Sathunuru Ramadas* and G. L. David Krupadanam

Tetrahedron: Asymmetry *15 (2004) 3381*



$C_{18}H_{18}O_3$

(−)-(2*R*,4*R*)-4′-Methyl-4-acetoxyflavan

Ee = 91.6%

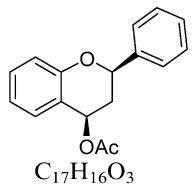
$[\alpha]_D = -58.2$ (*c* 1.00, $CHCl_3$)

Source of chirality: asymmetric synthesis

Absolute configuration: 2*R*,4*R*

Sathunuru Ramadas* and G. L. David Krupadanam

Tetrahedron: Asymmetry *15 (2004) 3381*



$C_{17}H_{16}O_3$

(2*R*,4*R*)-4-Acetoxyflavan

Ee = 69.2%

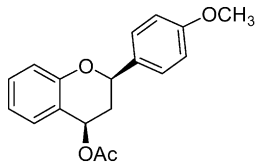
$[\alpha]_D = -71.6$ (*c* 1.25, $CHCl_3$)

Source of chirality: asymmetric synthesis

Absolute configuration: 2*R*,4*R*

Sathunuru Ramadas* and G. L. David Krupadanam

Tetrahedron: Asymmetry *15 (2004) 3381*



$C_{18}H_{18}O_4$

(−)-(2*R*,4*R*)-4′-Methoxy-4-acetoxyflavan

Ee = 75.2%

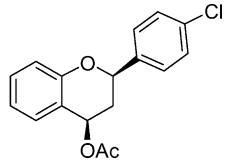
$[\alpha]_D = -78.4$ (*c* 1.00, $CHCl_3$)

Source of chirality: asymmetric synthesis

Absolute configuration: 2*R*,4*R*

Sathunuru Ramadas* and G. L. David Krupadanam

Tetrahedron: Asymmetry *15 (2004) 3381*



$C_{17}H_{15}ClO_3$

(−)-(2*R*,4*R*)-4′-Chloro-4-acetoxyflavan

Ee = 95.6%

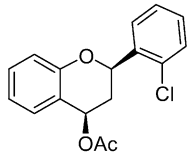
$[\alpha]_D = -54.2$ (*c* 1.32, $CHCl_3$)

Source of chirality: asymmetric synthesis

Absolute configuration: 2*R*,4*R*

Sathunuru Ramadas* and G. L. David Krupadanam

Tetrahedron: Asymmetry *15 (2004) 3381*



$C_{17}H_{15}ClO_3$

(−)-(2*R*,4*R*)-2′-Chloro-4-acetoxyflavan

Ee = 68.3%

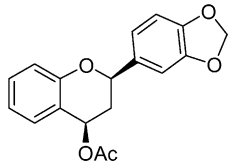
$[\alpha]_D = -97.3$ (*c* 0.92, $CHCl_3$)

Source of chirality: asymmetric synthesis

Absolute configuration: 2*R*,4*R*

Sathunuru Ramadas* and G. L. David Krupadanam

Tetrahedron: Asymmetry *15 (2004) 3381*



$C_{18}H_{16}O_5$

(−)-(2*R*,4*R*)-3′,4′-Methylenedioxy-4-acetoxyflavan

Ee = >99%

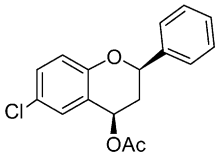
$[\alpha]_D = -61.85$ (*c* 1.35%, $CHCl_3$)

Source of chirality: asymmetric synthesis

Absolute configuration: 2*R*,4*R*

Sathunuru Ramadas* and G. L. David Krupadanam

Tetrahedron: Asymmetry *15 (2004) 3381*



$C_{17}H_{15}ClO_3$

(−)-(2*R*,4*R*)-6-Chloro-4-acetoxyflavan

Ee = 54.8%

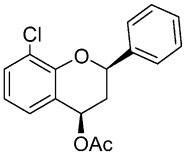
$[\alpha]_D = -44.6$ (*c* 2.50, $CHCl_3$)

Source of chirality: asymmetric synthesis

Absolute configuration: 2*R*,4*R*

Sathunuru Ramadas* and G. L. David Krupadanam

Tetrahedron: Asymmetry *15 (2004) 3381*



$C_{17}H_{15}ClO_3$

(−)-(2*R*,4*R*)-8-Chloro-4-acetoxyflavan

Ee = >99%

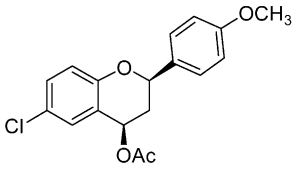
$[\alpha]_D = -78.35$ (*c* 1.85, $CHCl_3$)

Source of chirality: asymmetric synthesis

Absolute configuration: 2*R*,4*R*

Sathunuru Ramadas* and G. L. David Krupadanam

Tetrahedron: Asymmetry *15 (2004) 3381*



$C_{18}H_{17}ClO_4$

(−)-(2*R*,4*R*)-6-Chloro-4′-methoxy-4-acetoxyflavan

Ee = 86.5%

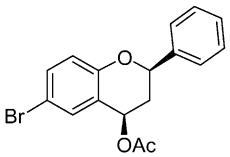
$[\alpha]_D = -87.2$ (*c* 1.50, $CHCl_3$)

Source of chirality: asymmetric synthesis

Absolute configuration: 2*R*,4*R*

Sathunuru Ramadas* and G. L. David Krupadanam

Tetrahedron: Asymmetry *15 (2004) 3381*



$C_{17}H_{15}BrO_3$

(−)-(2*R*,4*R*)-6-Bromo-4-acetoxyflavan

Ee = 79.9%

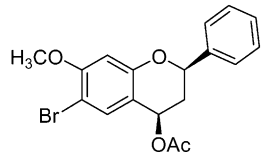
$[\alpha]_D = -48.4$ (*c* 1.40, $CHCl_3$)

Source of chirality: asymmetric synthesis

Absolute configuration: 2*R*,4*R*

Sathunuru Ramadas* and G. L. David Krupadanam

Tetrahedron: Asymmetry *15 (2004) 3381*



$C_{18}H_{17}BrO_4$

(−)-(2*R*,4*R*)-6-Bromo-7-methoxy-4-acetoxyflavan

Ee = 93.5%

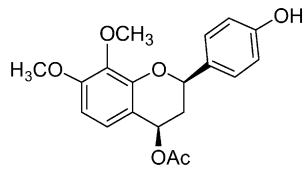
$[\alpha]_D = -56.8$ (*c* 1.50, $CHCl_3$)

Source of chirality: asymmetric synthesis

Absolute configuration: 2*R*,4*R*

Sathunuru Ramadas* and G. L. David Krupadanam

Tetrahedron: Asymmetry *15 (2004) 3381*



$C_{19}H_{20}O_6$

(−)-(2*R*,4*R*)-7,8-Dimethy-4′-hydroxy-4-acetoxyflavan

Ee = >99%

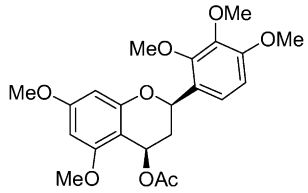
$[\alpha]_D = -69.35$ (*c* 1.60, $CHCl_3$)

Source of chirality: asymmetric synthesis

Absolute configuration: 2*R*,4*R*

Sathunuru Ramadas* and G. L. David Krupadanam

Tetrahedron: Asymmetry *15 (2004) 3381*



$C_{22}H_{26}O_8$

(−)-(2*R*,4*R*)-5,7,4′,5′,6′-Pentamethoxy-4-acetoxyflavan

Ee = >95.4%

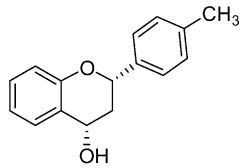
$[\alpha]_D = -85.6$ (*c* 1.70, $CHCl_3$)

Source of chirality: asymmetric synthesis

Absolute configuration: 2*R*,4*R*

Sathunuru Ramadas* and G. L. David Krupadanam

Tetrahedron: Asymmetry *15 (2004) 3381*



$C_{16}H_{16}O_2$

(+)-(2*S*,4*S*)-4′-Methylflavan-4-ol

Ee = 96.5%

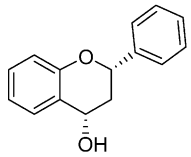
$[\alpha]_D = +62.4$ (*c* 1.24, $CHCl_3$)

Source of chirality: asymmetric synthesis

Absolute configuration: 2*S*,4*S*

Sathunuru Ramadas* and G. L. David Krupadanam

Tetrahedron: Asymmetry *15 (2004) 3381*



$C_{15}H_{14}O_2$

(+)-(2*S*,4*S*)-Flavan-4-ol

Ee = 92.4%

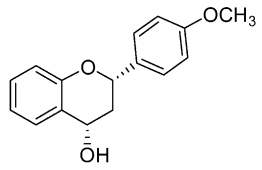
$[\alpha]_D = +65.7$ (*c* 1.49, $CHCl_3$)

Source of chirality: asymmetric synthesis

Absolute configuration: 2*S*,4*S*

Sathunuru Ramadas* and G. L. David Krupadanam

Tetrahedron: Asymmetry *15 (2004) 3381*



$C_{16}H_{16}O_3$

(+)-(2*S*,4*S*)-4′-Methoxyflavan-4-ol

Ee = 98.7%

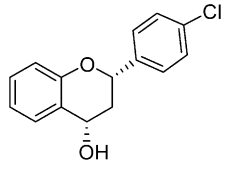
$[\alpha]_D = +71.6$ (*c* 1.26, $CHCl_3$)

Source of chirality: asymmetric synthesis

Absolute configuration: 2*S*,4*S*

Sathunuru Ramadas* and G. L. David Krupadanam

Tetrahedron: Asymmetry *15 (2004) 3381*



$C_{15}H_{13}ClO_2$

(+)-(2*S*,4*S*)-4′-Chloroflavan-4-ol

Ee = 83.5%

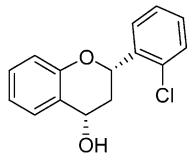
$[\alpha]_D = +67.25$ (*c* 1.26, $CHCl_3$)

Source of chirality: asymmetric synthesis

Absolute configuration: 2*S*,4*S*

Sathunuru Ramadas* and G. L. David Krupadanam

Tetrahedron: Asymmetry *15 (2004) 3381*



$C_{15}H_{13}ClO_2$

(+)-(2*S*,4*S*)-2′-Chloroflavan-4-ol

Ee = 89.2%

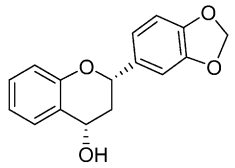
$[\alpha]_D = +86.9$ (*c* 1.01, $CHCl_3$)

Source of chirality: asymmetric synthesis

Absolute configuration: 2*S*,4*S*

Sathunuru Ramadas* and G. L. David Krupadanam

Tetrahedron: Asymmetry *15 (2004) 3381*



$C_{16}H_{14}O_4$

(+)-(2*S*,4*S*)-3′,4′- Methylenedioxyflavan-4-ol

Ee = >99%

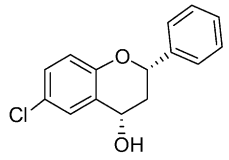
$[\alpha]_D = +94.5$ (*c* 2.12, $CHCl_3$)

Source of chirality: asymmetric synthesis

Absolute configuration: 2*S*,4*S*

Sathunuru Ramadas* and G. L. David Krupadanam

Tetrahedron: Asymmetry *15 (2004) 3381*



$C_{15}H_{13}ClO_2$

(+)-(2*S*,4*S*)-6-Chloroflavan-4-ol

Ee = 67.6%

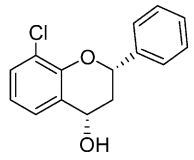
$[\alpha]_D = +65.15$ (*c* 2.15, $CHCl_3$)

Source of chirality: asymmetric synthesis

Absolute configuration: 2*S*,4*S*

Sathunuru Ramadas* and G. L. David Krupadanam

Tetrahedron: Asymmetry *15 (2004) 3381*



$C_{15}H_{13}ClO_2$

(+)-(2*S*,4*S*)-8-Chloroflavan-4-ol

Ee = 90.7%

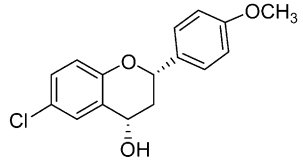
$[\alpha]_D = +51.75$ (*c* 2.05, $CHCl_3$)

Source of chirality: asymmetric synthesis

Absolute configuration: 2*S*,4*S*

Sathunuru Ramadas* and G. L. David Krupadanam

Tetrahedron: Asymmetry *15 (2004) 3381*



$C_{16}H_{15}ClO_3$

(+)-(2*S*,4*S*)-6-Chloro-4′-methoxyflavan-4-ol

Ee = >99%

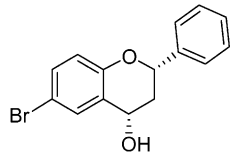
$[\alpha]_D = +67.45$ (*c* 2.31, $CHCl_3$)

Source of chirality: asymmetric synthesis

Absolute configuration: 2*S*,4*S*

Sathunuru Ramadas* and G. L. David Krupadanam

Tetrahedron: Asymmetry *15 (2004) 3381*



$C_{15}H_{13}BrO_2$

(+)-(2*S*,4*S*)-6-Bromoflavan-4-ol

Ee = 57.8%

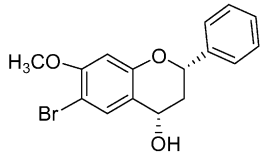
$[\alpha]_D = +62.8$ (*c* 1.95, $CHCl_3$)

Source of chirality: asymmetric synthesis

Absolute configuration: 2*S*,4*S*

Sathunuru Ramadas* and G. L. David Krupadanam

Tetrahedron: Asymmetry *15 (2004) 3381*



$C_{16}H_{15}BrO_3$

(+)-(2*S*,4*S*)-6-Bromo-7-methoxyflavan-4-ol

Ee = 95.4%

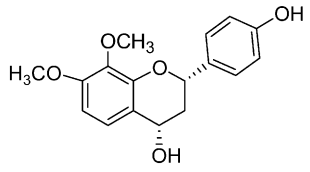
$[\alpha]_D = +84.5$ (*c* 2.31, $CHCl_3$)

Source of chirality: asymmetric synthesis

Absolute configuration: 2*S*,4*S*

Sathunuru Ramadas* and G. L. David Krupadanam

Tetrahedron: Asymmetry *15 (2004) 3381*



$C_{17}H_{18}O_5$

(+)-(2*S*,4*S*)-7,8-Dimethoxy-4′-hydroxyflavan-4-ol

Ee = >99%

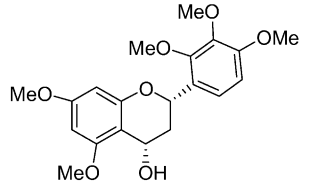
$[\alpha]_D = +78.2$ (*c* 1. 92, $CHCl_3$)

Source of chirality: asymmetric synthesis

Absolute configuration: 2*S*,4*S*

Sathunuru Ramadas* and G. L. David Krupadanam

Tetrahedron: Asymmetry *15 (2004) 3381*



$C_{20}H_{24}O_7$

(+)-(2*S*,4*S*)-5,7,4′,5′,6′-Pentamethoxyflavan-4-ol

Ee = >99%

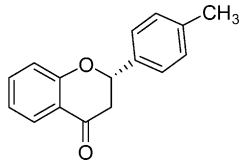
$[\alpha]_D = +58.9$ (*c* 1.74, $CHCl_3$)

Source of chirality: asymmetric synthesis

Absolute configuration: 2*S*,4*S*

Sathunuru Ramadas* and G. L. David Krupadanam

Tetrahedron: Asymmetry *15 (2004) 3381*



$C_{16}H_{14}O_2$

(−)-(2*S*)-4′-Methylflavan-4-one

Ee = 94.5%

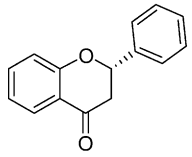
$[\alpha]_D = -76.1$ (*c* 1.25, $CHCl_3$)

Source of chirality: asymmetric synthesis

Absolute configuration: 2*S*

Sathunuru Ramadas* and G. L. David Krupadanam

Tetrahedron: Asymmetry *15 (2004) 3381*



$C_{15}H_{12}O_2$

(−)-(2*S*)-Flavan-4-one

Ee = 97.3%

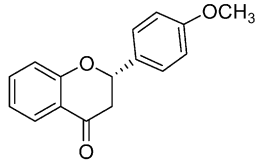
$[\alpha]_D = -56.2$ (*c* 0.50, $CHCl_3$)

Source of chirality: asymmetric synthesis

Absolute configuration: 2*S*

Sathunuru Ramadas* and G. L. David Krupadanam

Tetrahedron: Asymmetry *15 (2004) 3381*



$C_{16}H_{14}O_3$

(−)-(2*S*)-4′-Methoxyflavan-4-one

Ee = >99%

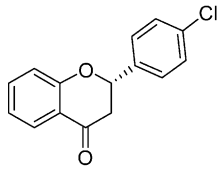
$[\alpha]_D = -36.7$ (*c* 1.81, $CHCl_3$)

Source of chirality: asymmetric synthesis

Absolute configuration: 2*S*

Sathunuru Ramadas* and G. L. David Krupadanam

Tetrahedron: Asymmetry *15 (2004) 3381*



$C_{15}H_{11}ClO_2$

(−)-(2*S*)-4′-Chloroflavan-4-one

Ee = 85.6%

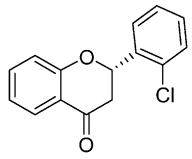
$[\alpha]_D = -43.75$ (*c* 2.51, $CHCl_3$)

Source of chirality: asymmetric synthesis

Absolute configuration: 2*S*

Sathunuru Ramadas* and G. L. David Krupadanam

Tetrahedron: Asymmetry *15 (2004) 3381*



$C_{15}H_{11}ClO_2$

(−)-(2*S*)-2′-Chloroflavan-4-one

Ee = 92.1%

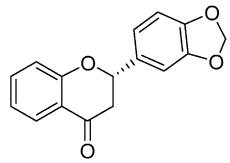
$[\alpha]_D = -56.7$ (*c* 1.50, $CHCl_3$)

Source of chirality: asymmetric synthesis

Absolute configuration: 2*S*

Sathunuru Ramadas* and G. L. David Krupadanam

Tetrahedron: Asymmetry *15 (2004) 3381*



$C_{16}H_{12}O_4$

(−)-(2*S*)-3′,4′-Methylenedioxyflavan-4-one

Ee = >99%

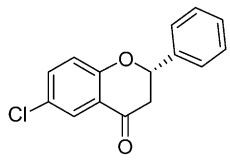
$[\alpha]_D = -72.3$ (*c* 1.50, $CHCl_3$)

Source of chirality: asymmetric synthesis

Absolute configuration: 2*S*

Sathunuru Ramadas* and G. L. David Krupadanam

Tetrahedron: Asymmetry *15 (2004) 3381*



$C_{15}H_{11}ClO_2$

(−)-(2*S*)-6-Chloroflavan-4-one

Ee = 68.7%

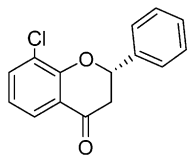
$[\alpha]_D = -65.7$ (*c* 1.75, $CHCl_3$)

Source of chirality: asymmetric synthesis

Absolute configuration: 2*S*

Sathunuru Ramadas* and G. L. David Krupadanam

Tetrahedron: Asymmetry *15 (2004) 3381*



$C_{15}H_{11}ClO_2$

(−)-(2*S*)-8-Chloroflavan-4-one

Ee = 69.5%

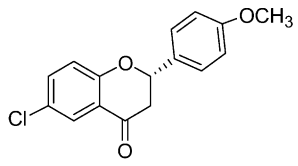
$[\alpha]_D = -38.15$ (*c* 1.61, $CHCl_3$)

Source of chirality: asymmetric synthesis

Absolute configuration: 2*S*

Sathunuru Ramadas* and G. L. David Krupadanam

Tetrahedron: Asymmetry *15 (2004) 3381*



$C_{16}H_{13}ClO_3$

(−)-(2*S*)-6-Chloro-4′-methoxyflavan-4-one

Ee = 96.2%

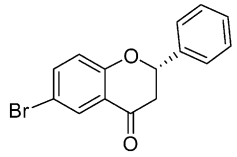
$[\alpha]_D = -48.4$ (*c* 2.71, $CHCl_3$)

Source of chirality: asymmetric synthesis

Absolute configuration: 2*S*

Sathunuru Ramadas* and G. L. David Krupadanam

Tetrahedron: Asymmetry *15 (2004) 3381*



$C_{15}H_{11}BrO_2$

(−)-(2*S*)-6-Bromoflavan-4-one

Ee = >99%

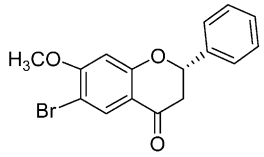
$[\alpha]_D = -75.1$ (*c* 1.12, $CHCl_3$)

Source of chirality: asymmetric synthesis

Absolute configuration: 2*S*

Sathunuru Ramadas* and G. L. David Krupadanam

Tetrahedron: Asymmetry *15 (2004) 3381*



$C_{16}H_{13}BrO_3$

(−)-(2*S*)-6-Bromo-7-methoxyflavan-4-one

Ee = 63.6%

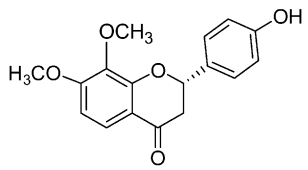
$[\alpha]_D = -62.6$ (*c* 1.71, $CHCl_3$)

Source of chirality: asymmetric synthesis

Absolute configuration: 2*S*

Sathunuru Ramadas* and G. L. David Krupadanam

Tetrahedron: Asymmetry *15 (2004) 3381*



$C_{17}H_{16}O_5$

(−)-(2*S*)-7,8-Dimethoxy-4′-hydroxyflavan-4-one

Ee = 97.2%

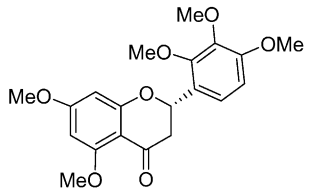
$[\alpha]_D = -65.3$ (*c* 1.81, $CHCl_3$)

Source of chirality: asymmetric synthesis

Absolute configuration: 2*S*

Sathunuru Ramadas* and G. L. David Krupadanam

Tetrahedron: Asymmetry *15 (2004) 3381*



$C_{20}H_{22}O_7$

(−)-(2*S*)-5,7,4′,5′,6′-Pentamethoxyflavan-4-one

Ee = >99%

$[\alpha]_D = -84.15$ (*c* 1.61, $CHCl_3$)

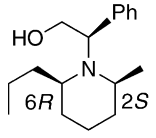
Source of chirality: asymmetric synthesis

Absolute configuration: 2*S*

Luis F. Roa, Dino Gnecco,* Alberto Galindo and Joel L. Terán

Tetrahedron: Asymmetry *15 (2004) 3393*

$[\alpha]_D^{20} = -17$ (*c* 1.5, EtOH)



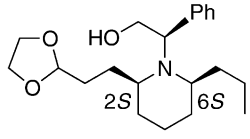
$C_{17}H_{27}NO$

(2*S*,6*R*)-1-[(1′*R*)-2′-Hydroxy-1′-phenylethyl]-2-methyl-6-propylpiperidine

Luis F. Roa, Dino Gnecco,* Alberto Galindo and Joel L. Terán

Tetrahedron: Asymmetry *15 (2004) 3393*

$[\alpha]_D^{20} = +40$ (*c* 1.0, EtOH)



$C_{21}H_{33}NO_3$

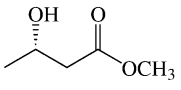
(2*S*,6*S*)-2′-[2-(2-[1,3]Dioxolan-2-yl-ethyl)-6-propylpiperidin-1-yl]-1′(*R*)-phenyl-ethanol

Neeta A. Salvi and Subrata Chattopadhyay*

Tetrahedron: Asymmetry *15 (2004) 3397*

$[\alpha]_D^{22} = +24.2$ (*c* 0.82, $CHCl_3$)

Source of chirality = microbial reduction



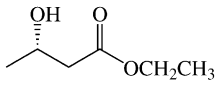
$C_5H_{10}O_3$

(*S*)-Methyl 3-hydroxybutanoate

Neeta A. Salvi and Subrata Chattopadhyay*

Tetrahedron: Asymmetry *15 (2004) 3397*

$[\alpha]_D^{22} = +30.0$ (*c* 0.77, $CHCl_3$)
Source of chirality = microbial reduction

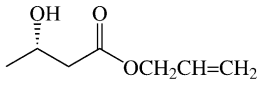


$C_6H_{12}O_3$
(*S*)-Ethyl 3-hydroxybutanoate

Neeta A. Salvi and Subrata Chattopadhyay*

Tetrahedron: Asymmetry *15 (2004) 3397*

$[\alpha]_D^{22} = +28.2$ (*c* 0.97, $CHCl_3$)
Source of chirality = microbial reduction

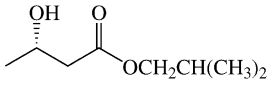


$C_7H_{12}O_3$
(*S*)-Allyl 3-hydroxybutanoate

Neeta A. Salvi and Subrata Chattopadhyay*

Tetrahedron: Asymmetry *15 (2004) 3397*

$[\alpha]_D^{22} = +27.0$ (*c* 1.16, $CHCl_3$)
Source of chirality = microbial reduction

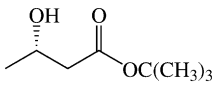


$C_8H_{16}O_3$
(*S*)-*iso*-Butyl 3-hydroxybutanoate

Neeta A. Salvi and Subrata Chattopadhyay*

Tetrahedron: Asymmetry *15 (2004) 3397*

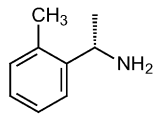
$[\alpha]_D^{22} = +32.3$ (*c* 1.03, $CHCl_3$)
Source of chirality = microbial reduction



$C_8H_{16}O_3$
(*S*)-*tert*-Butyl 3-hydroxybutanoate

József Bálint, József Schindler, Gabriella Egri,* Miklós Hanusz, Katalin Marthi, Zoltán Juvancz and Elemér Fogassy

Tetrahedron: Asymmetry *15 (2004) 3401*



$C_9H_{13}N$

2-Methyl-α-phenylethylamine

Ee = 98% [by chiral GC]

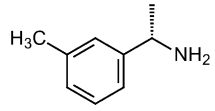
$[\alpha]_D^{20} = -48$ (*c* 2, methanol)

Source of chirality: optical resolution

Absolute configuration: *S* (known from literature)

József Bálint, József Schindler, Gabriella Egri,* Miklós Hanusz, Katalin Marthi, Zoltán Juvancz and Elemér Fogassy

Tetrahedron: Asymmetry *15 (2004) 3401*



$C_9H_{13}N$

3-Methyl-α-phenylethylamine

Ee = 99% [by chiral GC]

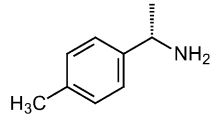
$[\alpha]_D^{20} = -25.9$ (*c* 2.5, methanol)

Source of chirality: optical resolution

Absolute configuration: *S* (known from literature)

József Bálint, József Schindler, Gabriella Egri,* Miklós Hanusz, Katalin Marthi, Zoltán Juvancz and Elemér Fogassy

Tetrahedron: Asymmetry *15 (2004) 3401*



$C_9H_{13}N$

4-Methyl-α-phenylethylamine

Ee >99% [by chiral GC]

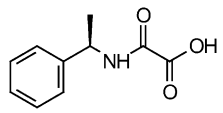
$[\alpha]_D^{20} = -28.6$ (*c* 2.5, methanol)

Source of chirality: optical resolution

Absolute configuration: *S* (known from literature)

József Bálint, József Schindler, Gabriella Egri,* Miklós Hanusz, Katalin Marthi, Zoltán Juvancz and Elemér Fogassy

Tetrahedron: Asymmetry *15 (2004) 3401*



$C_{10}H_{11}NO_3$

α-Phenylethylamine oxalamic acid

Ee >99% [prepared from enantiopure phenyl ethylamine]

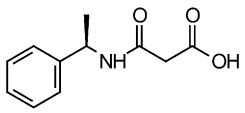
$[\alpha]_D^{20} = +125.7$ (*c* 1, methanol)

Source of chirality: enantiopure starting material

Absolute configuration: *R* (starting material of known configuration)

József Bálint, József Schindler, Gabriella Egri,* Miklós Hanusz, Katalin Marthi, Zoltán Juvancz and Elemér Fogassy

Tetrahedron: Asymmetry *15 (2004) 3401*



$C_{11}H_{13}NO_3$

α-Phenylethylamine malonamic acid

Ee >99% [prepared from enantiopure phenylethylamine]

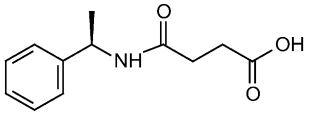
$[\alpha]_D^{20} = +116.4$ (*c* 1, methanol)

Source of chirality: enantiopure starting material

Absolute configuration: *R* (starting material of known configuration)

József Bálint, József Schindler, Gabriella Egri,* Miklós Hanusz, Katalin Marthi, Zoltán Juvancz and Elemér Fogassy

Tetrahedron: Asymmetry *15 (2004) 3401*



$C_{12}H_{15}NO_3$

α-Phenylethylamine succinamic acid

Ee >99% [prepared from enantiopure phenylethylamine]

$[\alpha]_D^{20} = +110.2$ (*c* 1, methanol)

Source of chirality: enantiopure starting material

Absolute configuration: *R* (starting material of known configuration)

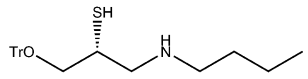
Cyrille Pousset,* Roland Callens, Mansour Haddad and [redacted]

Tetrahedron: Asymmetry *15 (2004) 3407*

Joyce Harfouche, Damien Hérault, Martine L. Tommasino, Stéphane Pellet-Rostaing and Marc Lemaire*

Tetrahedron: Asymmetry *15 (2004) 3413*

$[\alpha]_D^{25} = -7.4$ (*c* 1, toluene)
Source of chirality: asymmetric synthesis
Absolute configuration: (2*S*)



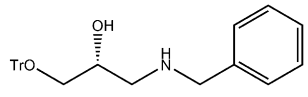
$C_{26}H_{31}NOS$

(2*S*)-1-(Trityloxymethyl)-3-butylaminopropan-2-thiol

Joyce Harfouche, Damien Hérault, Martine L. Tommasino, Stéphane Pellet-Rostaing and Marc Lemaire*

Tetrahedron: Asymmetry *15 (2004) 3413*

$[\alpha]_D^{25} = +30.5$ (*c* 0.36, toluene)
Source of chirality: asymmetric synthesis
Absolute configuration: (2*R*)



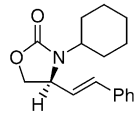
$C_{29}H_{29}NOS$

(2*R*)-1-(Trityloxymethyl)-3-benzylaminopropan-2-ol

Hassan Acherki, Carlos Alvarez-Ibarra,* Gonzalo García-Navazo, Elena Gómez-Sánchez and María L. Quiroga-Feijóo

Tetrahedron: Asymmetry *15 (2004) 3419*

Ee >97%
$[\alpha]_D^{25} = +110.6$ (*c* 2.5, $CHCl_3$)
Absolute configuration: 4*S*
Source: asymmetric synthesis



(+)-**3**

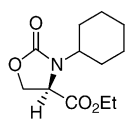
$C_{17}H_{21}NO_2$

(+)-(4*S*)-3-Cyclohexyl-4-[(*E*)-2-phenylvinyl]-1,3-oxazolidin-2-one

Hassan Acherki, Carlos Alvarez-Ibarra,* Gonzalo García-Navazo, Elena Gómez-Sánchez and María L. Quiroga-Feijóo

Tetrahedron: Asymmetry *15 (2004) 3419*

Ee >97%
$[\alpha]_D^{25} = -108.5$ (*c* 8.6, $CHCl_3$)
Absolute configuration: 4*R*
Source: asymmetric synthesis



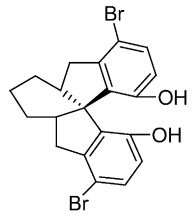
(-)-**5**

$C_{12}H_{19}NO_4$

Ethyl (−)-(4*R*)-3-cyclohexyl-2-oxo-1,3-oxazolidine-4-carboxylate

Murugapillai Venugopal,* Shanmugam Elango, Anbanandam Parthiban and Eni

Tetrahedron: Asymmetry *15 (2004) 3427*



$C_{20}H_{18}Br_2O_2$

7,7′-Dihydroxy-4,4′-dibromo-2.2′-cyclohexyl-1,1′-biindane

Ee = 97%

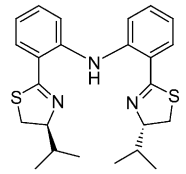
$[\alpha]_D = +111.7$ (*c* 2, $CHCl_3$)

Source of chirality: (*S*)-menthyl chloroformate

Absolute configuration: *S*

Shao-Feng Lu, Da-Ming Du,* Shi-Wei Zhang and Jiaxi Xu*

Tetrahedron: Asymmetry *15 (2004) 3433*



$C_{24}H_{29}N_3S_2$

Bis[2-((4*S*)-4-isopropyl-4,5-dihydrothiazol-2-yl)phenyl]amine

Ee = 99%

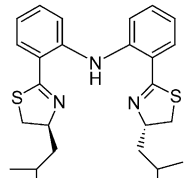
$[\alpha]_D^{20} = +22.9$ (*c* 0.45, $CHCl_3$)

Source of chirality: optically active starting L-valine

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

Shao-Feng Lu, Da-Ming Du,* Shi-Wei Zhang and Jiaxi Xu*

Tetrahedron: Asymmetry *15 (2004) 3433*



$C_{26}H_{33}N_3S_2$

Bis[2-((4*S*)-4-isobutyl-4,5-dihydrothiazol-2-yl)phenyl]amine

Ee = 99%

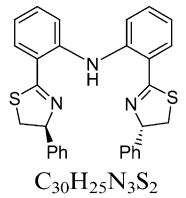
$[\alpha]_D^{20} = +44.7$ (*c* 0.82, $CHCl_3$)

Source of chirality: optically active starting L-leucine

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

Shao-Feng Lu, Da-Ming Du,* Shi-Wei Zhang and Jiaxi Xu*

Tetrahedron: Asymmetry *15 (2004) 3433*



$C_{30}H_{25}N_3S_2$

Bis[2-((4*S*)-4-phenyl-4,5-dihydrothiazol-2-yl)phenyl]amine

Ee = 99%

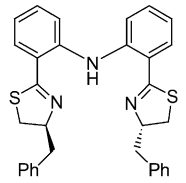
$[\alpha]_D^{20} = +448.7$ (*c* 0.78, $CHCl_3$)

Source of chirality: optically active starting L-phenylglycine

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

Shao-Feng Lu, Da-Ming Du,* Shi-Wei Zhang and Jiaxi Xu*

Tetrahedron: Asymmetry *15 (2004) 3433*



$C_{32}H_{29}N_3S_2$

Bis[2-((4*S*)-4-benzyl-4,5-dihydrothiazol-2-yl)phenyl]amine

Ee = 98.5%

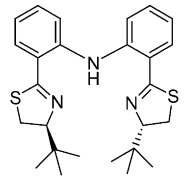
$[\alpha]_D^{20} = +97.6$ (*c* 0.96, $CHCl_3$)

Source of chirality: optically active starting L-phenylalanine

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

Shao-Feng Lu, Da-Ming Du,* Shi-Wei Zhang and Jiaxi Xu*

Tetrahedron: Asymmetry *15 (2004) 3433*



$C_{26}H_{33}N_3S_2$

Bis[2-((4*S*)-4-*tert*-butyl-4,5-dihydrothiazol-2-yl)phenyl]amine

Ee = 98%

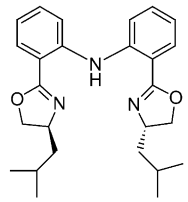
$[\alpha]_D^{20} = -43.4$ (*c* 0.35, $CHCl_3$)

Source of chirality: optically active starting (*S*)-*tert*-leucinol

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

Shao-Feng Lu, Da-Ming Du,* Shi-Wei Zhang and Jiaxi Xu*

Tetrahedron: Asymmetry *15 (2004) 3433*



$C_{26}H_{33}N_3O_2$

Bis[2-((4*S*)-4-isobutyl-4,5-dihydrooxazol-2-yl)phenyl]amine

Ee = 99%

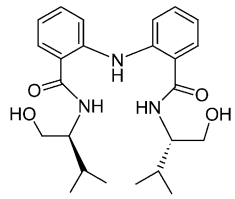
$[\alpha]_D^{20} = +47.2$ (*c* 1.17, $CHCl_3$)

Source of chirality: optically active starting L-leucine

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

Shao-Feng Lu, Da-Ming Du,* Shi-Wei Zhang and Jiaxi Xu*

Tetrahedron: Asymmetry *15 (2004) 3433*



$C_{24}H_{33}N_3O_4$

2,2′-Bis[*N*-(1*S*)-(1-isopropyl-2-hydroxyethyl)carbamoyl]diphenylamine

Ee = 99%

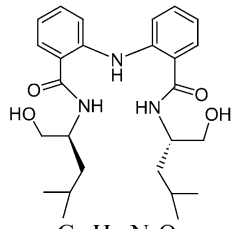
$[\alpha]_D^{20} = -104.2$ (*c* 0.81, $CHCl_3$)

Source of chirality: optically active starting L-valine

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

Shao-Feng Lu, Da-Ming Du,* Shi-Wei Zhang and Jiaxi Xu*

Tetrahedron: Asymmetry *15 (2004) 3433*



$C_{26}H_{37}N_3O_4$

2,2′-Bis[*N*-(1*S*)-(1-isobutyl-2-hydroxyethyl)carbamoyl]diphenylamine

Ee = 99%

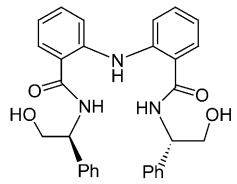
$[\alpha]_D^{20} = -100.3$ (*c* 0.64, $CHCl_3$)

Source of chirality: optically active starting L-leucine

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

Shao-Feng Lu, Da-Ming Du,* Shi-Wei Zhang and Jiaxi Xu*

Tetrahedron: Asymmetry *15 (2004) 3433*



$C_{30}H_{29}N_3O_4$

2,2′-Bis[*N*-(1*S*)-(1-phenyl-2-hydroxyethyl)carbamoyl]diphenylamine

Ee = 99%

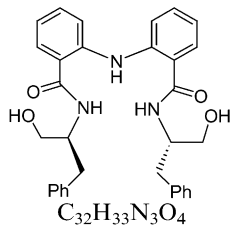
$[\alpha]_D^{20} = +2.6$ (*c* 0.55, $CHCl_3$)

Source of chirality: optically active starting L-phenylglycine

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

Shao-Feng Lu, Da-Ming Du,* Shi-Wei Zhang and Jiaxi Xu*

Tetrahedron: Asymmetry *15 (2004) 3433*



$C_{32}H_{33}N_3O_4$

2,2′-Bis[*N*-(1*S*)-(1-benzyl-2-hydroxyethyl)carbamoyl]diphenylamine

Ee = 98.5%

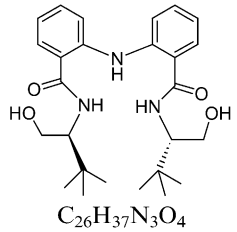
$[\alpha]_D^{20} = -81.1$ (*c* 0.40, $CHCl_3$)

Source of chirality: optically active starting L-phenylalanine

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

Shao-Feng Lu, Da-Ming Du,* Shi-Wei Zhang and Jiaxi Xu*

Tetrahedron: Asymmetry *15 (2004) 3433*



$C_{26}H_{37}N_3O_4$

2,2′-Bis[*N*-(1*S*)-(1-*tert*-butyl-2-hydroxyethyl)carbamoyl]diphenylamine

Ee = 98%

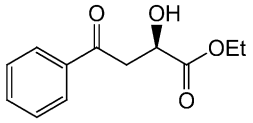
$[\alpha]_D^{20} = -64.9$ (*c* 0.64, $CHCl_3$)

Source of chirality: optically active starting L-*tert*-leucinol

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

Nitin W. Fadnavis* and Kasiraman R. Radhika

Tetrahedron: Asymmetry *15 (2004) 3443*



$C_{12}H_{14}O_4$

Ethyl (−)-(*R*)-2-hydroxy-4-oxo-4-phenylbutyrate

Ee = 98%

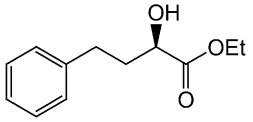
$[\alpha]_D^{25} = -7.2$ (*c* 1, chloroform)

Source of chirality: enzymatic asymmetric reduction

Absolute configuration: (*R*)

Nitin W. Fadnavis* and Kasiraman R. Radhika

Tetrahedron: Asymmetry *15 (2004) 3443*



$C_{12}H_{16}O_3$

Ethyl (−)-(*R*)-2-hydroxy-4-phenylbutyrate

Ee = 98%

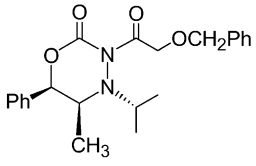
$[\alpha]_D^{25} = -18.1$ (*c* 1, chloroform)

Source of chirality: enzymatic asymmetric reduction

Absolute configuration: (*R*)

Jeremy F. Vaughn and Shawn R. Hitchcock*

Tetrahedron: Asymmetry *15 (2004) 3449*



$C_{22}H_{26}N_2O_4$

(5*S*,6*R*)-3-Benzyloxyacetyl-3,4,5,6-tetrahydro-4-isopropyl-5-methyl-6-phenyl-2*H*-1,3,4-oxadiazin-2-one

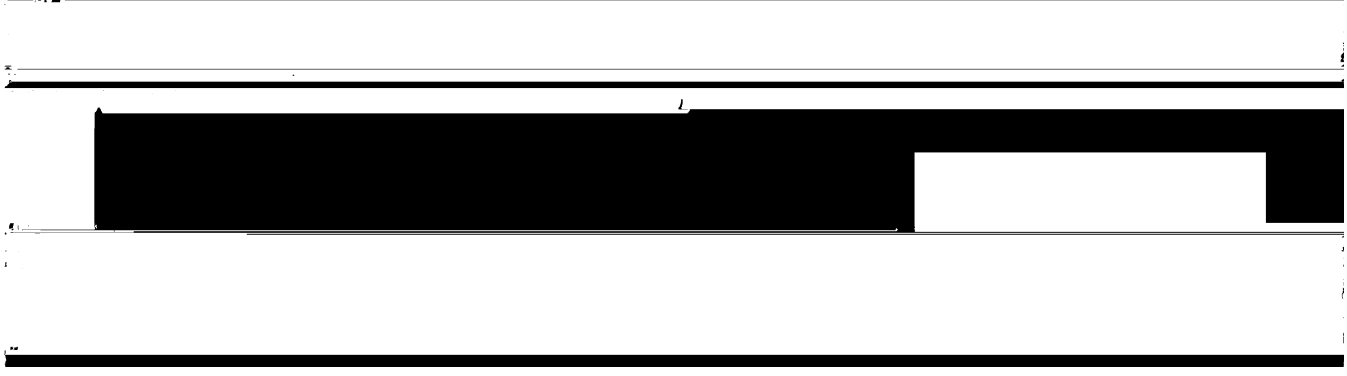
$[\alpha]_D^{25} = -40.7$ (*c* 0.39, $CHCl_3$)

Source of chirality: (1*R*,2*S*)-norephedrine

Absolute configuration: (5*S*,6*R*)

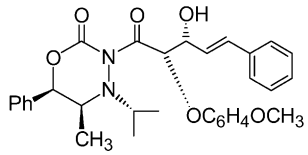
Jeremy F. Vaughn and Shawn R. Hitchcock*

Tetrahedron: Asymmetry *15 (2004) 3449*



Jeremy F. Vaughn and Shawn R. Hitchcock*

Tetrahedron: Asymmetry *15 (2004) 3449*



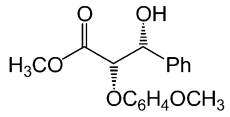
$[\alpha]_D^{25} = -2.8$ (c 0.29, $CHCl_3$)
Source of chirality: (1*R*,2*S*)-norephedrine
Absolute configuration: (2′*S*,3′*R*,5*S*,6*R*)

$C_{31}H_{34}N_2O_6$

(2′*S*,3′*R*,5*S*,6*R*)-3,4,5,6-Tetrahydro-3-[3-hydroxy-2-(*p*-methoxyphenoxy)-5-phenylpent-4-enoyl]-4-isopropyl-5-methyl-6-phenyl-2*H*-1,3,4-oxadiazin-2-one

Jeremy F. Vaughn and Shawn R. Hitchcock*

Tetrahedron: Asymmetry *15 (2004) 3449*



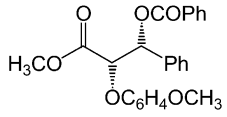
$[\alpha]_D^{25} = -25.0$ (c 0.35, $CHCl_3$)
Source of chirality: (1*R*,2*S*)-norephedrine
Absolute configuration: (2*S*,3*R*)

$C_{17}H_{18}O_5$

(2*S*,3*R*)-Methyl 3-hydroxy-2-(*p*-methoxyphenoxy)-3-phenylpropionate

Jeremy F. Vaughn and Shawn R. Hitchcock*

Tetrahedron: Asymmetry *15 (2004) 3449*



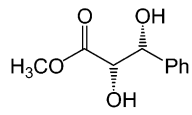
$[\alpha]_D^{25} = +24.7$ (c 0.25, $CHCl_3$)
Source of chirality: (1*R*,2*S*)-norephedrine
Absolute configuration: (2*S*,3*R*)

$C_{24}H_{22}O_6$

(2*S*,3*R*)-Methyl 3-benzoyl-2-(*p*-methoxyphenoxy)-3-phenylpropionate

Jeremy F. Vaughn and Shawn R. Hitchcock*

Tetrahedron: Asymmetry *15 (2004) 3449*



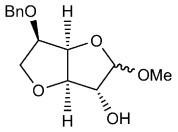
$[\alpha]_D^{25} = -9.3$ (c 0.46, $CHCl_3$)
Source of chirality: (1*R*,2*S*)-norephedrine
Absolute configuration: (2*S*,3*R*)

$C_{10}H_{12}O_4$

(2*S*,3*R*)-Methyl (2*S*,3*R*)-2,3-dihydroxy-3-phenylpropionate

Hari Babu Mereyala,* Mohd Baseeruddin and Sreenivasulu Reddy Koduru

Tetrahedron: Asymmetry *15 (2004) 3457*



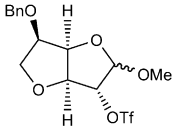
$C_{14}H_{18}O_5$

Methyl 3,6-anhydro-5-*O*-benzyl-D-glucofuranoside

$[\alpha]_D^{25} = +143$ (*c* 0.1, $CHCl_3$)
Source of chirality: D-glucose
Absolute configuration: (2*R*,3*S*,4*R*,5*R*)

Hari Babu Mereyala,* Mohd Baseeruddin and Sreenivasulu Reddy Koduru

Tetrahedron: Asymmetry *15 (2004) 3457*



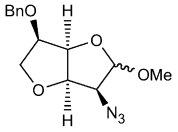
$C_{15}H_{17}F_3O_7S$

Methyl 3,6-anhydro-5-*O*-benzyl-2-*O*-trifluoromethanesulfonyl-D-glucofuranoside

$[\alpha]_D^{25} = +160$ (*c* 0.3, $CHCl_3$)
Source of chirality: D-glucose
Absolute configuration: (2*R*,3*S*,4*R*,5*R*)

Hari Babu Mereyala,* Mohd Baseeruddin and Sreenivasulu Reddy Koduru

Tetrahedron: Asymmetry *15 (2004) 3457*



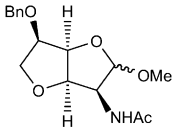
$C_{14}H_{17}O_4N_3$

Methyl 2-azido-2-deoxy-5-*O*-benzyl-3,6-anhydro-D-mannofuranoside

$[\alpha]_D^{25} = +93$ (*c* 1.0, $CHCl_3$)
Source of chirality: D-glucose
Absolute configuration: (2*S*,3*R*,4*S*,5*R*)

Hari Babu Mereyala,* Mohd Baseeruddin and Sreenivasulu Reddy Koduru

Tetrahedron: Asymmetry *15 (2004) 3457*



$C_{16}H_{21}O_5N$

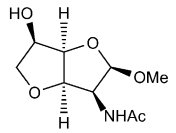
Methyl 3,6-anhydro-5-*O*-benzyl-D-mannofuranoside

$[\alpha]_D^{25} = +143$ (*c* 1.0, $CHCl_3$)
Source of chirality: D-glucose
Absolute configuration: (2*S*,3*R*,4*S*,5*R*)

Hari Babu Mereyala,* Mohd Baseeruddin and Sreenivasulu Reddy Koduru

Tetrahedron: Asymmetry *15 (2004) 3457*

$[\alpha]_D^{25} = +142$ (*c* 0.8, MeOH)
Source of chirality: D-glucose
Absolute configuration: (1*S*,2*S*,3*S*,4*R*,5*R*)



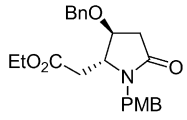
$C_9H_{15}O_5N$

Methyl 2-acetamido-3,6-anhydro-2-deoxy-β-D-mannofuranoside

Jing-Xing Du, Hui-Ying Huang and Pei-Qiang Huang*

Tetrahedron: Asymmetry *15 (2004) 3461*

$[\alpha]_D^{20} = +24.5$ (*c* 1.0, $CHCl_3$)
Source of chirality: (*S*)-malic acid
Absolute configuration: (4*S*,5*R*)



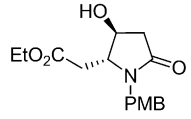
$C_{23}H_{27}NO_5$

Ethyl 2-[(4*S*,5*R*)-4-benzyloxy-1-(4-methoxybenzyl)-2-oxopyrrolidin-5-yl]acetate

Jing-Xing Du, Hui-Ying Huang and Pei-Qiang Huang*

Tetrahedron: Asymmetry *15 (2004) 3461*

$[\alpha]_D^{20} = +1.6$ (*c* 1.1, $CHCl_3$)
Source of chirality: (*S*)-malic acid
Absolute configuration: (4*S*,5*R*)



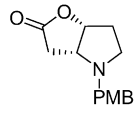
$C_{16}H_{21}NO_5$

Ethyl 2-[(4*S*,5*R*)-4-hydroxy-1-(4-methoxybenzyl)-2-oxopyrrolidin-5-yl]acetate

Jing-Xing Du, Hui-Ying Huang and Pei-Qiang Huang*

Tetrahedron: Asymmetry *15 (2004) 3461*

$[\alpha]_D^{20} = +48.2$ (*c* 1.0, $CHCl_3$)
Source of chirality: (*S*)-malic acid
Absolute configuration: (1*R*,5*R*)



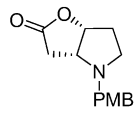
$C_{14}H_{15}NO_4$

(1*R*,5*R*)-6-Aza-6-(4-methoxybenzyl)-2-oxabicyclo[3.3.0]octan-3,7-dione

Jing-Xing Du, Hui-Ying Huang and Pei-Qiang Huang*

Tetrahedron: Asymmetry *15 (2004) 3461*

$[\alpha]_D^{20} = -3.65$ (*c* 1.0, $CHCl_3$)
Source of chirality: (*S*)-malic acid
Absolute configuration: (1*R*,5*R*)

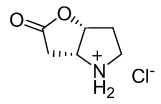


$C_{14}H_{17}NO_3$
(1*R*,5*R*)-6-(4-Methoxybenzyl)-6-aza-2-oxabicyclo[3.3.0]octan-3-one

Jing-Xing Du, Hui-Ying Huang and Pei-Qiang Huang*

Tetrahedron: Asymmetry *15 (2004) 3461*

$[\alpha]_D^{20} = +45.0$ (*c* 0.4, MeOH)
Source of chirality: (*S*)-malic acid
Absolute configuration: (1*R*,5*R*)

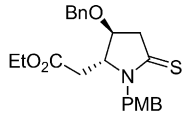


$C_6H_{10}ClNO_2$
(1*R*,5*R*)-6-Aza-2-oxabicyclo[3.3.0]octan-3-one hydrochloride

Jing-Xing Du, Hui-Ying Huang and Pei-Qiang Huang*

Tetrahedron: Asymmetry *15 (2004) 3461*

$[\alpha]_D^{20} = +99.5$ (*c* 1.0, $CHCl_3$)
Source of chirality: (*S*)-malic acid
Absolute configuration: (4*S*,5*R*)

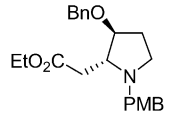


$C_{23}H_{27}NO_4S$
Ethyl 2-[(4*S*,5*R*)-4-(benzyloxy)-1-(4-methoxybenzyl)-2-thioxopyrrolidin-5-yl]acetate

Jing-Xing Du, Hui-Ying Huang and Pei-Qiang Huang*

Tetrahedron: Asymmetry *15 (2004) 3461*

$[\alpha]_D^{20} = -19.4$ (*c* 1.0, $CHCl_3$)
Source of chirality: (*S*)-malic acid
Absolute configuration: (2*R*,3*S*)

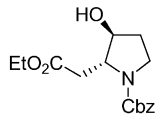


$C_{23}H_{29}NO_4$
Ethyl 2-[(2*R*,3*S*)-3-(benzyloxy)-1-(4-methoxybenzyl)-pyrrolidin-2-yl]acetate

Jing-Xing Du, Hui-Ying Huang and Pei-Qiang Huang*

Tetrahedron: Asymmetry *15 (2004) 3461*

$[\alpha]_D^{20} = -33.9$ (*c* 1.0, $CHCl_3$)
Source of chirality: (*S*)-malic acid
Absolute configuration: (2*R*,3*S*)

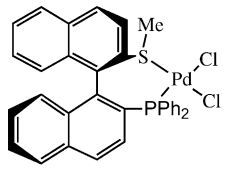


$C_{16}H_{21}NO_5$
Benzyl [(2*R*,3*S*)-2-ethoxycarbonylmethyl-3-hydroxypyrrolidin-1-yl]carboxylate

Wen Zhang and Min Shi*

Tetrahedron: Asymmetry *15 (2004) 3467*

Ee = 100%
$[\alpha]_D^{20} = +176.9$ (*c* 0.0567, $CHCl_3$)
Source of chirality: resolution
Absolute configuration: (*R*)

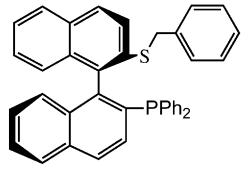


$C_{33}H_{25}Cl_2PdPS$
(2′-Methylsulfanyl-[1,1′]binaphthalenyl-2-yl)-diphenylphosphane-dichloropalladium complex

Wen Zhang and Min Shi*

Tetrahedron: Asymmetry *15 (2004) 3467*

Ee = 100%
$[\alpha]_D^{20} = +54.2$ (*c* 0.55, $CHCl_3$)
Source of chirality: resolution
Absolute configuration: (*R*)

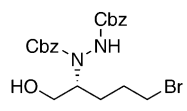


$C_{39}H_{29}PS$
(2′-Benzylsulfanyl-[1,1′]binaphthalenyl-2-yl)-diphenylphosphane

Yoshiaki Henmi, Kazuishi Makino, Yayoi Yoshitomi, Osamu Hara and Yasumasa Hamada*

Tetrahedron: Asymmetry *15 (2004) 3477*

Ee = >99%
$[\alpha]_D^{22} = -10.7$ (*c* 1.04, $CHCl_3$)
Source of chirality: asymmetric synthesis
Absolute configuration: (2*R*)

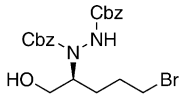


$C_{21}H_{25}BrN_2O_5$
(*R*)-5-Bromo-2-*N*,*N*′-dibenzyloxy carbonyhydrazino-1-pentanol

Yoshiaki Henmi, Kazuishi Makino, Yayoi Yoshitomi, Osamu Hara and Yasumasa Hamada*

Tetrahedron: Asymmetry *15 (2004) 3477*

Ee = >99%
$[\alpha]_D^{22} = +12.4$ (*c* 1.03, $CHCl_3$)
Source of chirality: asymmetric synthesis
Absolute configuration: (2*S*)



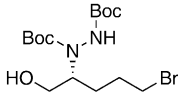
$C_{21}H_{25}BrN_2O_5$

(*S*)-5-Bromo-2-*N*,*N*′-dibenzyloxy carbonyhydrazino-1-pentanol

Yoshiaki Henmi, Kazuishi Makino, Yayoi Yoshitomi, Osamu Hara and Yasumasa Hamada*

Tetrahedron: Asymmetry *15 (2004) 3477*

Ee = 80%
$[\alpha]_D^{23} = -8.0$ (*c* 1.00, $CHCl_3$)
Source of chirality: asymmetric synthesis
Absolute configuration: (2*R*)



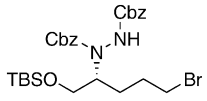
$C_{15}H_{29}BrN_2O_5$

(*R*)-5-Bromo-2-*N*,*N*′-di-*tert*-butyl carbonyhydrazino-1-pentanol

Yoshiaki Henmi, Kazuishi Makino, Yayoi Yoshitomi, Osamu Hara and Yasumasa Hamada*

Tetrahedron: Asymmetry *15 (2004) 3477*

Ee = >99%
$[\alpha]_D^{22} = +12.3$ (*c* 0.95, MeOH)
Source of chirality: asymmetric synthesis
Absolute configuration: (2*R*)



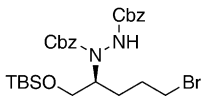
$C_{27}H_{39}BrN_2O_5Si$

(*R*)-2-(*N*,*N*′-Dibenzyloxycarbonylhydrazino)-5-bromo-1-(*tert*-butyldimethylsiloxy)pentane

Yoshiaki Henmi, Kazuishi Makino, Yayoi Yoshitomi, Osamu Hara and Yasumasa Hamada*

Tetrahedron: Asymmetry *15 (2004) 3477*

Ee = >99%
$[\alpha]_D^{22} = -12.2$ (*c* 1.13, MeOH)
Source of chirality: asymmetric synthesis
Absolute configuration: (2*S*)

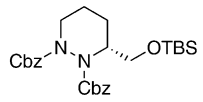


$C_{27}H_{39}BrN_2O_5Si$

(*S*)-2-(*N*,*N*′-Dibenzyloxycarbonylhydrazino)-5-bromo-1-(*tert*-butyldimethylsiloxy)pentane

Yoshiaki Henmi, Kazuishi Makino, Yayoi Yoshitomi, Osamu Hara and Yasumasa Hamada*

Tetrahedron: Asymmetry *15 (2004) 3477*



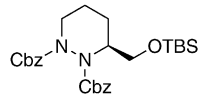
Ee = >99%
$[\alpha]_D^{22} = +17.5$ (*c* 1.10, $CHCl_3$)
Source of chirality: asymmetric synthesis
Absolute configuration: (*R*)

$C_{27}H_{38}N_2O_5Si$

(*R*)-1,2-Dibenzyloxycarbonyl-3-(*tert*-butyldimethyl siloxymethyl)tetrahydropyridazine

Yoshiaki Henmi, Kazuishi Makino, Yayoi Yoshitomi, Osamu Hara and Yasumasa Hamada*

Tetrahedron: Asymmetry *15 (2004) 3477*



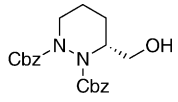
Ee = >99%
$[\alpha]_D^{22} = -16.7$ (*c*. 1.16 $CHCl_3$)
Source of chirality: asymmetric synthesis
Absolute configuration: (*S*)

$C_{27}H_{38}N_2O_5Si$

(*S*)-1,2-Dibenzyloxycarbonyl-3-(*tert*-butyldimethyl siloxymethyl)tetrahydropyridazine

Yoshiaki Henmi, Kazuishi Makino, Yayoi Yoshitomi, Osamu Hara and Yasumasa Hamada*

Tetrahedron: Asymmetry *15 (2004) 3477*



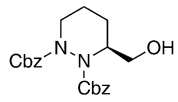
Ee = >99%
$[\alpha]_D^{22} = -11.0$ (*c* 1.48, $CHCl_3$)
Source of chirality: asymmetric synthesis
Absolute configuration: (*R*)

$C_{21}H_{24}N_2O_5$

(*R*)-1,2-Dibenzyloxycarbonyl-3-hydroxymethyltetrahydropyridazine

Yoshiaki Henmi, Kazuishi Makino, Yayoi Yoshitomi, Osamu Hara and Yasumasa Hamada*

Tetrahedron: Asymmetry *15 (2004) 3477*



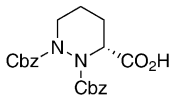
Ee = >99%
$[\alpha]_D^{22} = +12.6$ (*c* 1.03 $CHCl_3$)
Source of chirality: asymmetric synthesis
Absolute configuration: (*S*)

$C_{21}H_{24}N_2O_5$

(*S*)-1,2-Dibenzyloxycarbonyl-3-hydroxymethyltetrahydropyridazine

Yoshiaki Henmi, Kazuishi Makino, Yayoi Yoshitomi, Osamu Hara and Yasumasa Hamada*

Tetrahedron: Asymmetry *15 (2004) 3477*



$C_{21}H_{22}N_2O_6$

(*R*)-1,2-Dibenzyloxycarbonylpiperazic acid

Ee = 98%

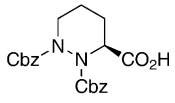
$[\alpha]_D^{22} = +20.0$ (*c* 0.975, $CHCl_3$)

Source of chirality: asymmetric synthesis

Absolute configuration: (*R*)

Yoshiaki Henmi, Kazuishi Makino, Yayoi Yoshitomi, Osamu Hara and Yasumasa Hamada*

Tetrahedron: Asymmetry *15 (2004) 3477*



$C_{21}H_{22}N_2O_6$

(*S*)-1,2-Dibenzyloxycarbonylpiperazic acid

Ee = 98%

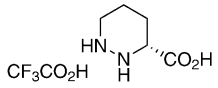
$[\alpha]_D^{22} = -19.6$ (*c* 1.04 $CHCl_3$)

Source of chirality: asymmetric synthesis

Absolute configuration: (*S*)

Yoshiaki Henmi, Kazuishi Makino, Yayoi Yoshitomi, Osamu Hara and Yasumasa Hamada*

Tetrahedron: Asymmetry *15 (2004) 3477*



$C_7H_{11}F_3N_2O_4$

(*R*)-Piperazic acid trifluoroacetic acid salt

Ee = >99%

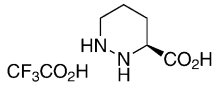
$[\alpha]_D^{22} = -10.5$ (*c* 0.96, MeOH)

Source of chirality: asymmetric synthesis

Absolute configuration: (*R*)

Yoshiaki Henmi, Kazuishi Makino, Yayoi Yoshitomi, Osamu Hara and Yasumasa Hamada*

Tetrahedron: Asymmetry *15 (2004) 3477*



$C_7H_{11}F_3N_2O_4$

(*S*)-Piperazic acid trifluoroacetic acid salt

Ee = >99%

$[\alpha]_D^{22} = +11.1$ (*c* 0.98 MeOH)

Source of chirality: asymmetric synthesis

Absolute configuration: (*S*)