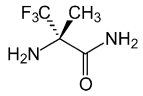
Beate Koksch,* Peter J. L. M. Quaedflieg, Thomas Michel, Klaus Burger, Quirinus B. Broxterman and Hans E. Schoemaker

Tetrahedron: Asymmetry *15 (2004) 1401*



$C_4H_7F_3N_2O$

(*S*)-(α-Trifluoromethyl)alanine amide

Ee = 98%

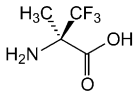
$[\alpha]_D = -23$ (*c* 2.1, 1M HCl)

Source of chirality: enzymatic resolution of (*R*,*S*)-*H*-(αTfm)Ala-NH_2

Absolute configuration: *S*

Beate Koksch,* Peter J. L. M. Quaedflieg, Thomas Michel, Klaus Burger, Quirinus B. Broxterman and Hans E. Schoemaker

Tetrahedron: Asymmetry *15 (2004) 1401*



$C_4H_6F_3NO_2$

(*R*)-(α-Trifluoromethyl)alanine

Ee = 96%

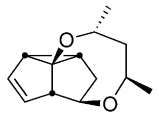
$[\alpha]_D = +6.1$ (*c* 2.0, 1M HCl)

Source of chirality: enzymatic resolution of (*R*,*S*)-*H*-(αTfm)Ala-NH_2

Absolute configuration: *R*

Kazutake Hagiya, Akiko Yamasaki, Tadashi Okuyama and Takashi Sugimura*

Tetrahedron: Asymmetry *15 (2004) 1409*



$C_{13}H_{18}O_2$

1,6-(2,4-Dimethyl-1,5-dioxapentamethylene)tricyclo[3.3.0.$0^{2,8}$]oct-3-ene

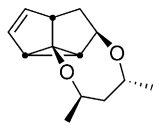
$[\alpha]_D^{25} = +120$ (*c* 1.0, methanol)

Source of chirality: (2′*R*,4′*R*)-chiral tether

Absolute configuration: 1*R*,2*S*,5*S*,6*R*,8*S*

Kazutake Hagiya, Akiko Yamasaki, Tadashi Okuyama and Takashi Sugimura*

Tetrahedron: Asymmetry *15 (2004) 1409*



$C_{13}H_{18}O_2$

1,7-(2,4-Dimethyl-1,5-dioxapentamethylene)tricyclo[3.3.0.$0^{2,8}$]oct-3-ene

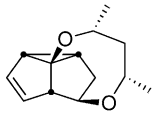
$[\alpha]_D^{25} = +68.8$ (*c* 0.8, methanol)

Source of chirality: (2′*R*,4′*R*)-chiral tether

Absolute configuration: 1*S*,2*R*,5*S*,7*R*,8*S*

Kazutake Hagiya, Akiko Yamasaki, Tadashi Okuyama and Takashi Sugimura*

Tetrahedron: Asymmetry *15 (2004) 1409*

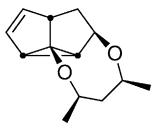


$[\alpha]_D^{25} = +70.7$ (c 0.9, methanol)
Source of chirality: (2′*R*,4′*S*)-chiral tether
Absolute configuration: 1*R*,2*S*,5*S*,6*R*,8*S*

$C_{13}H_{18}O_2$
1,6-(2,4-Dimethyl-1,5-dioxapentamethylene)tricyclo[3.3.0.0^{2,8}]oct-3-ene

Kazutake Hagiya, Akiko Yamasaki, Tadashi Okuyama and Takashi Sugimura*

Tetrahedron: Asymmetry *15 (2004) 1409*

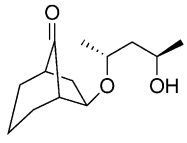


$[\alpha]_D^{25} = +21.3$ (c 0.2, methanol)
Source of chirality: (2′*R*,4′*S*)-chiral tether
Absolute configuration: 1*S*,2*R*,5*S*,7*R*,8*S*

$C_{13}H_{18}O_2$
1,7-(2,4-Dimethyl-1,5-dioxapentamethylene)tricyclo[3.3.0.0^{2,8}]oct-3-ene

Kazutake Hagiya, Akiko Yamasaki, Tadashi Okuyama and Takashi Sugimura*

Tetrahedron: Asymmetry *15 (2004) 1409*

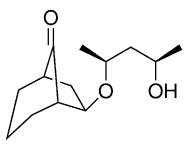


$[\alpha]_D^{25} = -73.5$ (c 0.8, methanol)
Source of chirality: (2′*R*,4′*R*)-chiral tether
Absolute configuration: 1*R*,5*S*,6*R*

$C_{13}H_{22}O_3$
6-(4-Hydroxy-2-methyl-1-oxapenta)bicyclo[3.2.1]octa-8-one

Kazutake Hagiya, Akiko Yamasaki, Tadashi Okuyama and Takashi Sugimura*

Tetrahedron: Asymmetry *15 (2004) 1409*

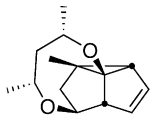


$[\alpha]_D^{25} = +21.9$ (c 0.8, methanol)
Source of chirality: (2′*R*,4′*S*)-chiral tether
Absolute configuration: 1*R*,5*S*,6*R*

$C_{13}H_{22}O_3$
6-(4-Hydroxy-2-methyl-1-oxapenta)bicyclo[3.2.1]octa-8-one

Kazutake Hagiya, Akiko Yamasaki, Tadashi Okuyama and Takashi Sugimura*

Tetrahedron: Asymmetry *15 (2004) 1409*

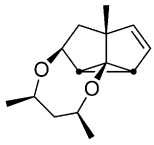


$[\alpha]_D^{25} = -61.5$ (*c* 0.4, methanol)
Source of chirality: (2′*S*,4′*R*)-chiral tether
Absolute configuration: 1*S*,2*R*,5*R*,6*S*,8*R*

$C_{14}H_{20}O_2$
1,6-(2,4-Dimethyl-1,5-dioxapentamethylene)-8-methyltricyclo[3.3.0.0^{2,8}]oct-3-ene

Kazutake Hagiya, Akiko Yamasaki, Tadashi Okuyama and Takashi Sugimura*

Tetrahedron: Asymmetry *15 (2004) 1409*

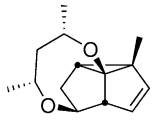


$[\alpha]_D^{25} = +20.2$ (*c* 0.4, methanol)
Source of chirality: (2′*S*,4′*R*)-chiral tether
Absolute configuration: 1*S*,2*S*,5*R*,7*S*,8*R*

$C_{14}H_{20}O_2$
1,7-(2,4-Dimethyl-1,5-dioxapentamethylene)-5-methyltricyclo[3.3.0.0^{2,8}]oct-3-ene

Kazutake Hagiya, Akiko Yamasaki, Tadashi Okuyama and Takashi Sugimura*

Tetrahedron: Asymmetry *15 (2004) 1409*

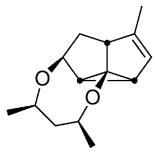


$[\alpha]_D^{25} = -258$ (*c* 0.5, methanol)
Source of chirality: (2′*S*,4′*R*)-chiral tether
Absolute configuration: 1*R*,2*R*,5*R*,6*S*,8*R*

$C_{14}H_{20}O_2$
1,6-(2,4-Dimethyl-1,5-dioxapentamethylene)-2-methyltricyclo[3.3.0.0^{2,8}]oct-3-ene

Kazutake Hagiya, Akiko Yamasaki, Tadashi Okuyama and Takashi Sugimura*

Tetrahedron: Asymmetry *15 (2004) 1409*

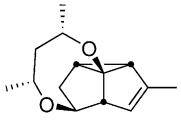


$[\alpha]_D^{25} = -32.9$ (*c* 0.5, methanol)
Source of chirality: (2′*S*,4′*R*)-chiral tether
Absolute configuration: 1*R*,2*S*,5*R*,7*S*,8*R*

$C_{14}H_{20}O_2$
1,7-(2,4-Dimethyl-1,5-dioxapentamethylene)-4-methyltricyclo[3.3.0.0^{2,8}]oct-3-ene

Kazutake Hagiya, Akiko Yamasaki, Tadashi Okuyama and Takashi Sugimura*

Tetrahedron: Asymmetry *15 (2004) 1409*

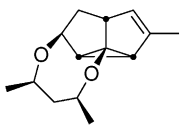


$[\alpha]_D^{25} = -46.9$ (c 0.9, methanol)
Source of chirality: (2′*S*,4′*R*)-chiral tether
Absolute configuration: 1*S*,2*R*,5*R*,6*S*,8*R*

$C_{14}H_{20}O_2$
1,6-(2,4-Dimethyl-1,5-dioxapentamethylene)-3-methyltricyclo[3.3.0.0^{2,8}]oct-3-ene

Kazutake Hagiya, Akiko Yamasaki, Tadashi Okuyama and Takashi Sugimura*

Tetrahedron: Asymmetry *15 (2004) 1409*

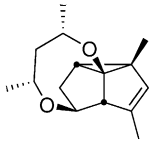


$[\alpha]_D^{25} = -13.1$ (c 0.4, methanol)
Source of chirality: chiral tethered reaction
Absolute configuration: 1*R*,2*S*,5*R*,7*S*,8*R*

$C_{14}H_{20}O_2$
1,7-(2,4-Dimethyl-1,5-dioxapentamethylene)-3-methyltricyclo[3.3.0.0^{2,8}]oct-3-ene

Kazutake Hagiya, Akiko Yamasaki, Tadashi Okuyama and Takashi Sugimura*

Tetrahedron: Asymmetry *15 (2004) 1409*

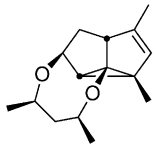


$[\alpha]_D^{25} = -18.9$ (c 0.2, methanol)
Source of chirality: chiral tethered reaction
Absolute configuration: 1*R*,2*R*,5*R*,6*S*,8*R*

$C_{15}H_{22}O_2$
1,6-(2,4-Dimethyl-1,5-dioxapentamethylene)-2,4-dimethyltricyclo[3.3.0.0^{2,8}]oct-3-ene

Kazutake Hagiya, Akiko Yamasaki, Tadashi Okuyama and Takashi Sugimura*

Tetrahedron: Asymmetry *15 (2004) 1409*

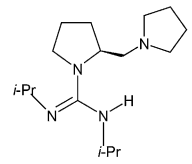


$[\alpha]_D^{25} = -10.0$ (c 0.2, methanol)
Source of chirality: chiral tethered reaction
Absolute configuration: 1*S*,2*S*,5*R*,7*S*,8*R*

$C_{15}H_{22}O_2$
1,7-(2,4-Dimethyl-1,5-dioxapentamethylene)-2,4-dimethyltricyclo[3.3.0.0^{2,8}]oct-3-ene

Uwe Köhn, Wolfgang Günther, Helmar Görls and Ernst Anders*

Tetrahedron: Asymmetry *15 (2004) 1419*

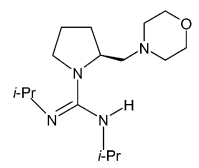


$[\alpha]_D^{rt} = -3.0$ (*c* 9.6, THF)
Source of chirality: (*S*)-2-(pyrrolidin-1-ylmethyl)pyrrolidine
Absolute configuration: 2*S*

$C_{16}H_{32}N_4$
N,*N*′-Isopropyl-(*S*)-2-(pyrrolidin-1-ylmethyl)-pyrrolidine-1-carboximidamide

Uwe Köhn, Wolfgang Günther, Helmar Görls and Ernst Anders*

Tetrahedron: Asymmetry *15 (2004) 1419*

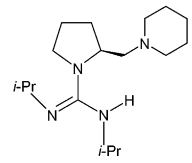


$[\alpha]_D^{rt} = -11.1$ (*c* 7.4, THF)
Source of chirality: (*S*)-2-(pyrrolidin-1-ylmethyl)pyrrolidine
Absolute configuration: 2*S*

$C_{16}H_{32}N_4O$
N,*N*′-Isopropyl-(*S*)-2-(morpholin-4-ylmethyl)-pyrrolidine-1-carboximidamide

Uwe Köhn, Wolfgang Günther, Helmar Görls and Ernst Anders*

Tetrahedron: Asymmetry *15 (2004) 1419*

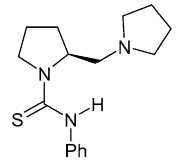


$[\alpha]_D^{rt} = -16.6$ (*c* 8.2, THF)
Source of chirality: (*S*)-2-(pyrrolidin-1-ylmethyl)pyrrolidine
Absolute configuration: 2*S*

$C_{17}H_{34}N_4$
N,*N*′-Isopropyl-(*S*)-2-(piperidin-1-ylmethyl)-pyrrolidine-1-carboximidamide

Uwe Köhn, Wolfgang Günther, Helmar Görls and Ernst Anders*

Tetrahedron: Asymmetry *15 (2004) 1419*

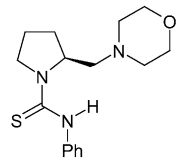


$[\alpha]_D^{rt} = -138.7$ (*c* 1.5, THF)
Source of chirality: (*S*)-2-(pyrrolidin-1-ylmethyl)pyrrolidine
Absolute configuration: 2*S*

$C_{16}H_{23}N_3S$
N-Phenyl-(*S*)-2-(pyrrolidin-1-ylmethyl)-pyrrolidine-1-carbothioamide

Uwe Köhn, Wolfgang Günther, Helmar Görls and Ernst Anders*

Tetrahedron: Asymmetry *15 (2004) 1419*

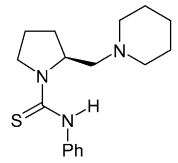


$[\alpha]_D^{rt} = -200.0$ (*c* 2.6, $CHCl_3$)
Source of chirality: (*S*)-2-(pyrrolidin-1-ylmethyl)pyrrolidine
Absolute configuration: 2*S*

$C_{16}H_{23}N_3OS$
(*S*)-2-(Morpholin-4-ylmethyl)-*N*-phenyl-pyrrolidine-1-carbothioamide

Uwe Köhn, Wolfgang Günther, Helmar Görls and Ernst Anders*

Tetrahedron: Asymmetry *15 (2004) 1419*

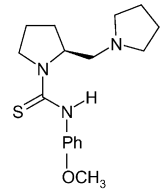


$[\alpha]_D^{rt} = -141.3$ (*c* 1.5, THF)
Source of chirality: (*S*)-2-(pyrrolidin-1-ylmethyl)pyrrolidine
Absolute configuration: 2*S*

$C_{17}H_{25}N_3S$
N-Phenyl-(*S*)-2-(piperidin-1-ylmethyl)-pyrrolidine-1-carbothioamide

Uwe Köhn, Wolfgang Günther, Helmar Görls and Ernst Anders*

Tetrahedron: Asymmetry *15 (2004) 1419*

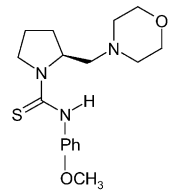


$[\alpha]_D^{rt} = -138.7$ (*c* 1.5, THF)
Source of chirality: (*S*)-2-(pyrrolidin-1-ylmethyl)pyrrolidine
Absolute configuration: 2*S*

$C_{17}H_{26}N_3OS$
N-(4-Methoxyphenyl)-(*S*)-2-(pyrrolidin-1-ylmethyl)-pyrrolidine-1-carbothioamide

Uwe Köhn, Wolfgang Günther, Helmar Görls and Ernst Anders*

Tetrahedron: Asymmetry *15 (2004) 1419*

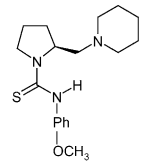


$[\alpha]_D^{rt} = -138.7$ (*c* 1.5, THF)
Source of chirality: (*S*)-2-(pyrrolidin-1-ylmethyl)pyrrolidine
Absolute configuration: 2*S*

$C_{17}H_{25}N_3O_2S$
N-(4-Methoxyphenyl)-(*S*)-2-(morpholin-4-ylmethyl)-pyrrolidine-1-carbothioamide

Uwe Köhn, Wolfgang Günther, Helmar Görls and Ernst Anders*

Tetrahedron: Asymmetry *15 (2004) 1419*

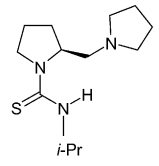


$[\alpha]_D^{rt} = -136.3$ (*c* 1.6, THF)
Source of chirality: (*S*)-2-(pyrrolidin-1-ylmethyl)pyrrolidine
Absolute configuration: 2*S*

$C_{18}H_{27}N_3OS$
N-(4-Methoxyphenyl)-(*S*)-2-(piperidin-1-ylmethyl)-pyrrolidine-1-carbothioamide

Uwe Köhn, Wolfgang Günther, Helmar Görls and Ernst Anders*

Tetrahedron: Asymmetry *15 (2004) 1419*

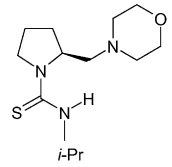


$[\alpha]_D^{rt} = -131.1$ (*c* 1.8, THF)
Source of chirality: (*S*)-2-(pyrrolidin-1-ylmethyl)pyrrolidine
Absolute configuration: 2*S*

$C_{13}H_{25}N_3S$
N-Isopropyl-(*S*)-2-(pyrrolidin-1-ylmethyl)-pyrrolidine-1-carbothioamide

Uwe Köhn, Wolfgang Günther, Helmar Görls and Ernst Anders*

Tetrahedron: Asymmetry *15 (2004) 1419*

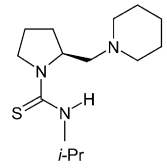


$[\alpha]_D^{rt} = -91.0$ (*c* 2.0, THF)
Source of chirality: (*S*)-2-(pyrrolidin-1-ylmethyl)pyrrolidine
Absolute configuration: 2*S*

$C_{16}H_{25}N_3OS$
N-Isopropyl-(*S*)-2-(morpholin-4-ylmethyl)-pyrrolidine-1-carbothioamide

Uwe Köhn, Wolfgang Günther, Helmar Görls and Ernst Anders*

Tetrahedron: Asymmetry *15 (2004) 1419*

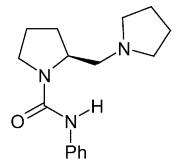


$[\alpha]_D^{rt} = -110.0$ (*c* 1.0, THF)
Source of chirality: (*S*)-2-(pyrrolidin-1-ylmethyl)pyrrolidine
Absoluteconfiguration: 2*S*

$C_{14}H_{27}N_3S$
N-Isopropyl-(*S*)-2-(piperdin-1-ylmethyl)-pyrrolidine-1-carbothioamide

Uwe Köhn, Wolfgang Günther, Helmar Görls and Ernst Anders*

Tetrahedron: Asymmetry *15 (2004) 1419*



$C_{16}H_{23}N_3O$

N-Phenyl-(*S*)-2-(pyrrolidin-1-ylmethyl)-pyrrolidine-1-carboxamide

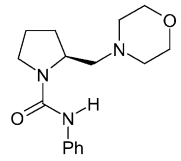
$[\alpha]_D^{rt} = -53.3$ (*c* 1.8, EtOH)

Source of chirality: (*S*)-2-(pyrrolidin-1-ylmethyl)pyrrolidine

Absolute configuration: 2*S*

Uwe Köhn, Wolfgang Günther, Helmar Görls and Ernst Anders*

Tetrahedron: Asymmetry *15 (2004) 1419*



$C_{16}H_{23}N_3O_2$

(*S*)-2-(Morpholin-4-ylmethyl)-*N*-phenyl-pyrrolidine-1-carboxamide

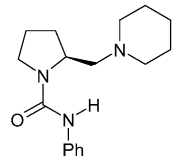
$[\alpha]_D^{rt} = -62.1$ (*c* 1.9, $CHCl_3$)

Source of chirality: (*S*)-2-(pyrrolidin-1-ylmethyl)pyrrolidine

Absolute configuration: 2*S*

Uwe Köhn, Wolfgang Günther, Helmar Görls and Ernst Anders*

Tetrahedron: Asymmetry *15 (2004) 1419*



$C_{17}H_{25}N_3O$

N-Phenyl-(*S*)-2-(piperidin-1-ylmethyl)-pyrrolidine-1-carboxamide

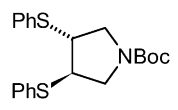
$[\alpha]_D^{rt} = -60.8$ (*c* 1.8, $CHCl_3$)

Source of chirality: (*S*)-2-(pyrrolidin-1-ylmethyl)pyrrolidine

Absolute configuration: 2*S*

Renata Siedlecka, Elżbieta Wojaczyńska and Jacek Skarżewski*

Tetrahedron: Asymmetry *15 (2004) 1437*



$C_{21}H_{25}NO_2S_2$

(+)-(3*R*,4*R*)-1-*tert*-Butoxycarbonyl-3,4-bis(phenylsulfanyl)pyrrolidine

De 100% (determined by ^1H NMR), >95% ee

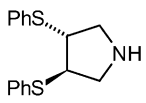
$[\alpha]_D = +50.0$ (*c* 0.90, CH_2Cl_2)

Source of chirality: double S_N2 reaction of (−)-(3*S*,4*S*)-1-*tert*-butoxycarbonyl-3,4-dihydroxypyrrolidine

Absolute configuration: 3*R*,4*R* (determined by chemical correlation)

Renata Siedlecka, Elżbieta Wojaczyńska and Jacek Skarżewski*

Tetrahedron: Asymmetry *15 (2004) 1437*



$C_{16}H_{17}NS_2$

(+)-(3*R*,4*R*)-3,4-Bis(phenylsulfanyl)pyrrolidine

De 100% (determined by ^{1}H NMR), >98% ee

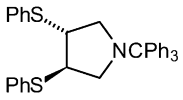
$[\alpha]_D = +40.0$ (*c* 0.68, CH_2Cl_2)

Source of chirality: double S_N2 reaction of (−)-(3*S*,4*S*)-1-*tert* -butoxycarbonyl-3,4-dihydroxypyrrolidine

Absolute configuration: 3*R*,4*R* (determined by chemical correlation)

Renata Siedlecka, Elżbieta Wojaczyńska and Jacek Skarżewski*

Tetrahedron: Asymmetry *15 (2004) 1437*



$C_{35}H_{31}NS_2$

(+)-(3*R*,4*R*)-1-Trityl-3,4-bis-(phenylsulfanyl)pyrrolidine

De 100% (determined by ^{1}H NMR), >98% ee

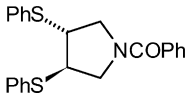
$[\alpha]_D = +41.6$ (*c* 0.48, CH_2Cl_2)

Source of chirality: double S_N2 reaction of (−)-(3*S*,4*S*)-1-*tert*-butoxycarbonyl-3,4-dihydroxypyrrolidine

Absolute configuration: 3*R*,4*R* (determined by chemical correlation)

Renata Siedlecka, Elżbieta Wojaczyńska and Jacek Skarżewski*

Tetrahedron: Asymmetry *15 (2004) 1437*



$C_{23}H_{21}NOS_2$

(+)-(3*S*,4*S*)-1-Benzoyl-3,4-bis(phenylsulfanyl)pyrrolidine

De 100% (determined by ^{1}H NMR), >98% ee

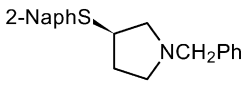
$[\alpha]_D = +84.2$ (*c* 0.76, CH_2Cl_2)

Source of chirality: double S_N2 reaction of (−)-(3*S*,4*S*)-1-*tert*-butoxycarbonyl-3,4-dihydroxypyrrolidine

Absolute configuration: 3*R*,4*R* (determined by chemical correlation)

Renata Siedlecka, Elżbieta Wojaczyńska and Jacek Skarżewski*

Tetrahedron: Asymmetry *15 (2004) 1437*



$C_{21}H_{21}NS$

(+)-(*R*)-1-Benzyl-3-(2-naphthylsulfanyl)pyrrolidine

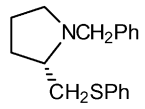
$[\alpha]_D = +36.1$ (*c* 1.08, CH_2Cl_2), >95% ee

Source of chirality: S_N2 reaction of (−)-(*S*)-3-hydroxypyrrolidine

Absolute configuration: 3*R* (determined by chemical correlation)

Renata Siedlecka, Elżbieta Wojaczyńska and Jacek Skarżewski*

Tetrahedron: Asymmetry *15 (2004) 1437*



$C_{18}H_{21}NS$

(−)-(*S*)-1-Benzyl-2-(phenylsulfanylmethyl)pyrrolidine

$[\alpha]_D = -67.5$ (*c* 1.20, CH_2Cl_2),
>95% ee

Source of chirality: transformation of (−)-(*S*)-benzyl-*2*-pyrrolidinemethanol

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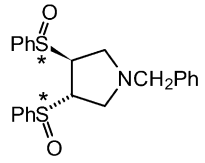
Renata Siedlecka, Elżbieta Wojaczyńska and Jacek Skarżewski*

Tetrahedron: Asymmetry *15 (2004) 1437*



$C_{23}H_{23}NO_2S_2$

(+)-(3*S*,4*S*,R_S,R_S)-1-Benzyl-3,4-bis(phenylsulfinyl)pyrrolidine

De 100% (determined by ^1H NMR),
>95% ee

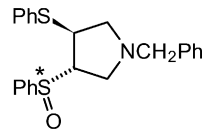
$[\alpha]_D = +56.0$ (*c* 0.36, CH_2Cl_2)

Source of chirality: double sulfoxidation of (−)-(3*S*,4*S*)-1-benzyl-3,4-bis(phenylsulfanyl)pyrrolidine

Absolute configuration: R_R,R_S (determined by CD spectrum)

Renata Siedlecka, Elżbieta Wojaczyńska and Jacek Skarżewski*

Tetrahedron: Asymmetry *15 (2004) 1437*



$C_{23}H_{23}NOS_2$

(+)-(3*S*,4*S*,R_S)-1-Benzyl-3-(phenylsulfanyl)-4-(phenylsulfinyl)pyrrolidine

De 100% (determined by ^1H NMR),
>95% ee

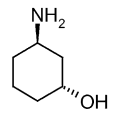
$[\alpha]_D = +34.6$ (*c* 0.52, CH_2Cl_2)

Source of chirality: sulfoxidation of (−)-(3*S*,4*S*)-1-benzyl-3,4-bis(phenylsulfanyl)pyrrolidine

Absolute configuration: R_S (determined by CD spectrum)

Patrick Bernardelli, Michael Bladon, Edwige Lorthiois, Ajith C. Manage,* Fabrice Vergne and Roger Wrigglesworth

Tetrahedron: Asymmetry *15 (2004) 1451*



$C_6H_{13}NO$

(*R*,*R*)-3-Aminocyclohexanol

Ee = 97.3% (HPLC)

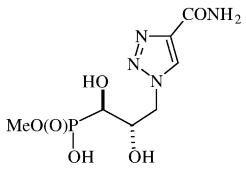
$[\alpha]_D^{20} = -8.5$ (*c* 1, CH_3OH)

Source of chirality: X-ray crystal structure

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

Andrzej E. Wróblewski* and Iwona E. Głowacka

Tetrahedron: Asymmetry *15 (2004) 1457*



Ee = 100%

$[\alpha]_D = -12.9$ (*c* 1.0, water)

Source of chirality: L-ascorbic acid

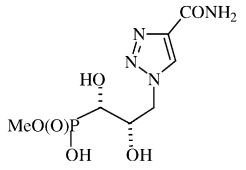
Absolute configuration: (1*R*,2*S*)

$C_7H_{13}N_4O_6P$

O-Methyl (1*R*,2*S*)-3-(4-carbamoyl-1,2,3-triazol-1-yl)-1,2-dihydroxypropylphosphonic acid

Andrzej E. Wróblewski* and Iwona E. Głowacka

Tetrahedron: Asymmetry *15 (2004) 1457*



Ee = 100%

$[\alpha]_D = -21.1$ (*c* 1.1, water)

Source of chirality: L-ascorbic acid

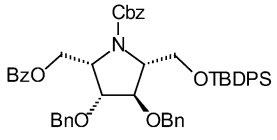
Absolute configuration: (1*S*,2*S*)

$C_7H_{13}N_4O_6P$

O-Methyl (1*S*,2*S*)-3-(4-carbamoyl-1,2,3-triazol-1-yl)-1,2-dihydroxypropylphosphonic acid

Isidoro Izquierdo,* María T. Plaza and Francisco Franco

Tetrahedron: Asymmetry *15 (2004) 1465*



$[\alpha]_D = +17.5$ (*c* 1.2, chloroform)

Source of chirality: D-fructose and stereoselective synthesis

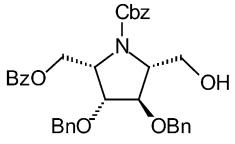
Absolute configuration: 2*S*,3*R*,4*R*,5*R* (assigned by NMR spectroscopic and chemical correlation)

$C_{51}H_{53}NO_7Si$

(2*S*,3*R*,4*R*,5*R*)-2′-*O*-Benzoyl-3,4-dibenzyloxy-*N*-benzyloxycarbonyl-5′-*O*-*tert*-butyldiphenylsilyl-2,5-bis(hydroxymethyl)pyrrolidine

Isidoro Izquierdo,* María T. Plaza and Francisco Franco

Tetrahedron: Asymmetry *15 (2004) 1465*



$[\alpha]_D = -16.5$ (*c* 1.5, chloroform)

Source of chirality: D-fructose and stereoselective synthesis

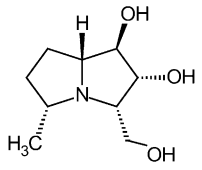
Absolute configuration: 2*S*,3*R*,4*R*,5*R* (assigned by NMR spectroscopic and chemical correlation)

$C_{35}H_{35}NO_7$

(2*S*,3*R*,4*R*,5*R*)-2′-*O*-Benzoyl-3,4-dibenzyloxy-*N*-benzyloxy carbonyl-2,5-bis(hydroxymethyl)pyrrolidine

Isidoro Izquierdo,* María T. Plaza and Francisco Franco

Tetrahedron: Asymmetry *15 (2004) 1465*



$C_9H_{17}NO_3$

(1*R*,2*R*,3*S*,5*R*,7a*R*)-1,2-Dihydroxy-3-hydroxymethyl-5-methylpyrrolizidine

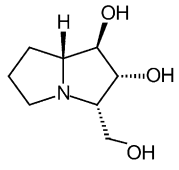
$[\alpha]_D = +17$ (*c* 1.3, methanol)

Source of chirality: D-fructose and stereoselective synthesis

Absolute configuration: 1*R*,2*R*,3*S*,5*R*,7a*R* (assigned by NMR spectroscopic and chemical correlation)

Isidoro Izquierdo,* María T. Plaza and Francisco Franco

Tetrahedron: Asymmetry *15 (2004) 1465*



$C_8H_{15}NO_3$

(1*R*,2*R*,3*S*,7a*R*)-1,2-Dihydroxy-3-hydroxymethylpyrrolizidine

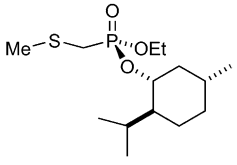
$[\alpha]_D = +2.5$ (*c* 0.8, methanol)

Source of chirality: D-fructose and stereoselective synthesis

Absolute configuration: 1*R*,2*R*,3*S*,7a*R* (assigned by NMR spectroscopic and chemical correlation)

Cosimo Cardellicchio, Francesco Naso* and Maria Annunziata M. Capozzi

Tetrahedron: Asymmetry *15 (2004) 1471*



$C_{14}H_{29}O_3PS$

Ethyl (1*R*,2*S*,5*R*)-menthyl (S_P)-(methylthio)methylphosphonate

De >98% (GC)

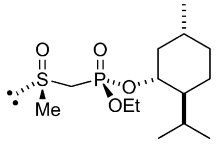
$[\alpha]_D^{25} = -78.5$ (*c* 1, $CHCl_3$)

Source of chirality: separation of diastereomers

Absolute configuration: 1*R*,2*S*,5*R*,S_P

Cosimo Cardellicchio, Francesco Naso* and Maria Annunziata M. Capozzi

Tetrahedron: Asymmetry *15 (2004) 1471*



$C_{14}H_{29}O_4PS$

Ethyl (1*R*,2*S*,5*R*)-menthyl (R_P,R_S)-(methylsulfinyl)methylphosphonate

De >98% (GC)

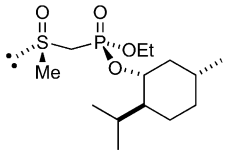
$[\alpha]_D^{25} = +4.1$ (*c* 1, $CHCl_3$)

Source of chirality: diastereoselective oxidation

Absolute configuration: 1*R*,2*S*,5*R*,R_P,R_S

Cosimo Cardellicchio, Francesco Naso* and Maria Annunziata M. Capozzi

Tetrahedron: Asymmetry *15 (2004) 1471*



$C_{14}H_{29}O_4PS$

Ethyl (1*R*,2*S*,5*R*)-menthyl (S_P,R_S)-(methylsulfinyl)methylphosphonate

De >98% (GC)

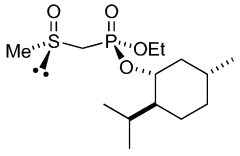
$[\alpha]_D^{25} = -6.3$ (*c* 1, $CHCl_3$)

Source of chirality: diastereoselective oxidation

Absolute configuration: 1*R*,2*S*,5*R*,S_P,R_S

Cosimo Cardellicchio, Francesco Naso* and Maria Annunziata M. Capozzi

Tetrahedron: Asymmetry *15 (2004) 1471*



$C_{14}H_{29}O_4PS$

Ethyl (1*R*,2*S*,5*R*)-menthyl (S_P,S_S)-(methylsulfinyl)methylphosphonate

De >98% (GC)

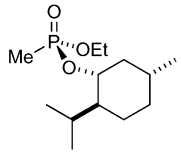
$[\alpha]_D^{25} = -119.7$ (*c* 1, $CHCl_3$)

Source of chirality: diastereoselective oxidation

Absolute configuration: 1*R*,2*S*,5*R*,S_P,S_S

Cosimo Cardellicchio, Francesco Naso* and Maria Annunziata M. Capozzi

Tetrahedron: Asymmetry *15 (2004) 1471*



$C_{13}H_{27}O_3P$

Ethyl (1*R*,2*S*,5*R*)-menthyl (S_P)-methylphosphonate

De >98% (NMR)

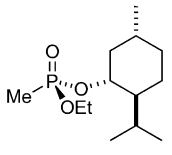
$[\alpha]_D^{25} = -58.3$ (*c* 0.5, $CHCl_3$)

Source of chirality: from a chiral precursor

Absolute configuration: 1*R*,2*S*,5*R*,S_P

Cosimo Cardellicchio, Francesco Naso* and Maria Annunziata M. Capozzi

Tetrahedron: Asymmetry *15 (2004) 1471*



$C_{13}H_{27}O_3P$

Ethyl (1*R*,2*S*,5*R*)-menthyl (R_P)-methylphosphonate

De >98% (NMR)

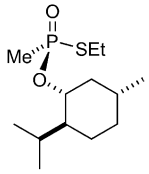
$[\alpha]_D^{25} = -59.8$ (*c* 0.5, $CHCl_3$)

Source of chirality: from a chiral precursor

Absolute configuration: 1*R*,2*S*,5*R*,R_P

Cosimo Cardellicchio, Francesco Naso* and Maria Annunziata M. Capozzi

Tetrahedron: Asymmetry *15 (2004) 1471*

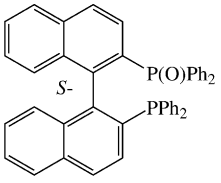


De = 83% (NMR)
$[\alpha]_D^{25} = -57.8$ (*c* 1, $CHCl_3$)
Source of chirality: from a chiral precursor
Absolute configuration: 1*R*,2*S*,5*R*,R_P

$C_{13}H_{27}O_2PS$
Ethyl *O*-(1*R*,2*S*,5*R*)-menthyl (R_P)-methylphosphonothioate

Serafino Gladiali,* Rossana Taras, Rosa M. Ceder, Mercè Rocamora, Guillermo Muller,* Xavier Solans and Mercè Font-Bardia

Tetrahedron: Asymmetry *15 (2004) 1477*

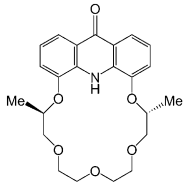


Ee = 100%
$[\alpha]_D^{20} = -92.2$ (*c* 1.02, $CHCl_3$)
Source of chirality: (+)-(*S*)-binaphtol
Absolute configuration: *S*

$C_{44}H_{32}P_2O$
(*S*)-2-Diphenylphosphino-2′-diphenylphosphinyl-1,1′-binaphthalene

Luca Szalay, Viktor Farkas, Elemér Vass, Miklós Hollósi,* Ildikó Móczár, Áron Pintér and Péter Huszthy

Tetrahedron: Asymmetry *15 (2004) 1487*

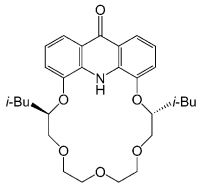


$[\alpha]_D^{25} = -14.1$ (*c* 1.60, CH_2Cl_2)
Source of chirality: (*S*)-ethyl-lactate
Absolute configuration: 3*R*,13*R*

$C_{23}H_{27}NO_6$
(3*R*,13*R*)-3,13-Dimethyl-2,5,8,11,14-pentaoxa-26-azatetracyclo[13.9.3.0.^{19,27}.0^{21,25}]heptacosa-1(24),15,17,19(27),21(25),22-hexaene-20(26*H*)-one

Luca Szalay, Viktor Farkas, Elemér Vass, Miklós Hollósi,* Ildikó Móczár, Áron Pintér and Péter Huszthy

Tetrahedron: Asymmetry *15 (2004) 1487*

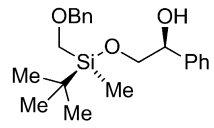


$[\alpha]_D^{25} = +42.3$ (*c* 1.37, CH_2Cl_2)
Source of chirality: L-leucine
Absolute configuration: 3*R*,13*R*

$C_{29}H_{39}NO_6$
(3*R*,13*R*)-3,13-Diisobutyl-2,5,8,11,14-pentaoxa-26-azatetracyclo[13.9.3.0.^{19,27}.0^{21,25}]heptacosa-1(24),15,17,19(27),21(25),22-hexaene-20(26*H*)-one

Michael Trzoss, Jie Shao and Stefan Bienz*

Tetrahedron: Asymmetry *15 (2004) 1501*



Er >99:1
$[\alpha]_D^{23} = +26.3$ (*c* 1.32, $CHCl_3$)
Source of chirality: chiral pool
Absolute configuration: (1*S*,S_{Si})

$C_{21}H_{30}O_3Si$
(1*S*)-2-{[(*S*)-[(Benzyloxy)methyl](*tert*-butyl)methylsilyl]oxy}-1-phenylethanol

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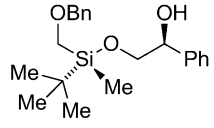
Michael Trzoss, Jie Shao and Stefan Bienz*

Tetrahedron: Asymmetry *15 (2004) 1501*



Er >99:1
$[\alpha]_D^{23} = +42.4$ (*c* 1.23, $CHCl_3$)
Source of chirality: chiral pool
Absolute configuration: (1*S*,R_{Si})

$C_{21}H_{30}O_3Si$
(1*S*)-2-{[(*R*)-[(Benzyloxy)methyl](*tert*-butyl)methylsilyl]oxy}-1-phenylethanol

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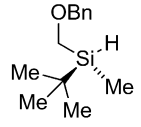
Michael Trzoss, Jie Shao and Stefan Bienz*

Tetrahedron: Asymmetry *15 (2004) 1501*

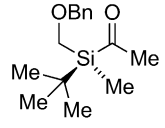


Er = 97:3
$[\alpha]_D^{23} = -6.5$ (*c* 1.0, $CHCl_3$)
Source of chirality: resolution
Absolute configuration: (R_{Si}) by reference

$C_{13}H_{22}OSi$
(−)-(*R*)-[(Benzyloxy)methyl](*tert*-butyl)methylsilane

Michael Trzoss, Jie Shao and Stefan Bienz*

Tetrahedron: Asymmetry *15 (2004) 1501*

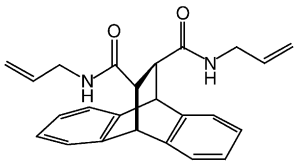


Er = 95:5
$[\alpha]_D^{23} = -8.7$ (*c* 0.57, $CHCl_3$)
Source of chirality: asymmetric synthesis
Absolute configuration: (S_{Si}) by reference (X-ray)

$C_{15}H_{24}O_2Si$
1-[(*S*)-[(Benzyloxy)methyl](*tert*-butyl)methylsilyl]ethanone

Linda Thunberg and Stig Allenmark*

Tetrahedron: Asymmetry *15 (2004) 1507*



$C_{24}O_2N_2H_{24}$

(*S*,*S*)-*trans*-9,10-Dihydro-9,10-ethanoanthracene-11,12-dicarboxylic acid bis-allylamide

Ee = 98.7%

$[\alpha]_D^{20} = +39.4$ (*c* 0.17, ethyl acetate)

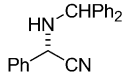
CD (acetonitrile): λ_{ext} (nm), $\Delta\varepsilon_{ext}$ (cm^2/mmol) 233, +4.06; 207, +22.0

Source of chirality: resolution of the dicarboxylic acid with brucine

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

Shuichi Nakamura, Naoki Sato, Masashige Sugimoto and Takeshi Toru*

Tetrahedron: Asymmetry *15 (2004) 1513*



$C_{21}H_{18}N_2$

(*S*)-2-(Diphenylmethyl)amino-2-phenylacetonitrile

Ee = 70%

$[\alpha]_D^{24} = -40.5$ (*c* 0.31, $CHCl_3$)

Source of chirality: asymmetric synthesis

Absolute configuration: (*S*)

Shuichi Nakamura, Naoki Sato, Masashige Sugimoto and Takeshi Toru*

Tetrahedron: Asymmetry *15 (2004) 1513*

$C_{14}H_{12}N_2$

2-Phenylamino-2-phenylacetonitrile

Ee = 61%

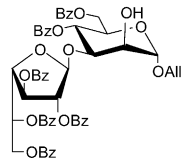
$[\alpha]_D^{21} = +91$ (*c* 0.178, $CHCl_3$)

Source of chirality: asymmetric synthesis

[redacted]

Zuchao Ma, Jianjun Zhang and Fanzuo Kong*

Tetrahedron: Asymmetry *15 (2004) 1517*



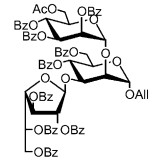
$[\alpha]_D^{25} = +17.2$ (c 1.0, $CHCl_3$)

$C_{57}H_{50}O_{17}$

Allyl 2,3,5,6-tetra-*O*-benzoyl-β-D-galactofuranosyl-(1→3)-4,6-di-*O*-benzoyl-α-D-mannopyranoside

Zuchao Ma, Jianjun Zhang and Fanzuo Kong*

Tetrahedron: Asymmetry *15 (2004) 1517*



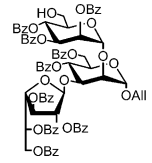
$[\alpha]_D^{25} = -20.2$ (c 1.0, $CHCl_3$)

$C_{86}H_{74}O_{26}$

Allyl 6-*O*-acetyl-2,3,4-tri-*O*-benzoyl-α-D-mannopyranosyl-[2,3,5,6-tetra-*O*-benzoyl-β-D-galactofuranosyl-(1→3)]-4,6-di-*O*-benzoyl-α-D-mannopyranoside

Zuchao Ma, Jianjun Zhang and Fanzuo Kong*

Tetrahedron: Asymmetry *15 (2004) 1517*



$[\alpha]_D^{25} = -52.5$ (c 1.0, $CHCl_3$)

$C_{84}H_{72}O_{25}$

Allyl 2,3,4-tri-*O*-benzoyl-α-D-mannopyranosyl-(1→2)-[2,3,5,6-tetra-*O*-benzoyl-β-D-galactofuranosyl-(1→3)]-4,6-di-*O*-benzoyl-α-D-mannopyranoside

Zuchao Ma, Jianjun Zhang and Fanzuo Kong*

Tetrahedron: Asymmetry *15 (2004) 1517*

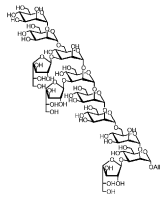
$[\alpha]_D^{25} = -41.7$ (c 1.0, $CHCl_3$)

$C_{307}H_{252}O_{90}$

Allyl 2,3,4,6-tetra-*O*-benzoyl-α-D-mannopyranosyl-(1→2)-3,4,6-tri-*O*-benzoyl-α-D-mannopyranosyl-(1→6)-[2,3,5,6-tetra-*O*-benzoyl-β-D-galactofuranosyl-(1→3)]-2,4-di-*O*-benzoyl-α-D-mannopyranosyl-(1→2)-[2,3,5,6-tetra-*O*-benzoyl-β-D-galactofuranosyl-(1→3)]-4,6-di-*O*-benzoyl-α-D-mannopyranosyl-(1→2)-3,4,6-tri-*O*-benzoyl-α-D-mannopyranosyl-(1→2)-3,4,6-tri-*O*-benzoyl-α-D-mannopyranosyl-(1→6)-2,3,4-tri-*O*-benzoyl-α-D-mannopyranosyl-(1→2)-[2,3,5,6-tetra-*O*-benzoyl-β-D-galactofuranosyl-(1→3)]-4,6-di-*O*-benzoyl-α-D-mannopyranoside

Zuchao Ma, Jianjun Zhang and Fanzuo Kong*

Tetrahedron: Asymmetry *15 (2004) 1517*



$[\alpha]_D^{25} = +8.5$ (c 1.0, H_2O)

$C_{69}H_{116}O_{56}$

Allyl α-D-mannopyranosyl-(1→2)-α-D-mannopyranosyl-(1→6)-[β-D-galactofuranosyl-(1→3)]-α-D-mannopyranosyl-(1→2)-[β-D-galactofuranosyl-(1→3)]-α-D-mannopyranosyl-(1→2)-α-D-mannopyranosyl-(1→2)-α-D-mannopyranosyl-(1→6)-α-D-mannopyranosyl-(1→2)-[β-D-galactofuranosyl-(1→3)]-α-D-mannopyranoside