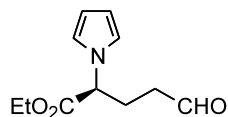


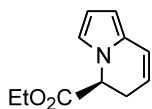
Roberta Settambolo, Giuditta Guazzelli and Raffaello Lazzaroni*

Tetrahedron: Asymmetry 14 (2003) 1447C₁₁H₁₅NO₃(4*S*)-(+)-4-Carboxyethyl-4-(pyrrol-1-yl)butanal $[\alpha]_D^{20} = +53.2$ (*c* 1, benzene)

Source of chirality: L-glutamic acid diethyl ester hydrochloride, starting substrate

Absolute configuration: (4*S*)

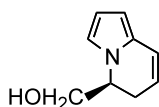
Roberta Settambolo, Giuditta Guazzelli and Raffaello Lazzaroni*

Tetrahedron: Asymmetry 14 (2003) 1447C₁₁H₁₃NO₂(5*S*)-(-)-5,6-Dihydroindolizine $[\alpha]_D^{20} = -127.5$ (*c* 0.35, hexane)

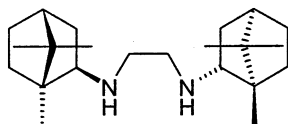
Source of chirality: L-glutamic acid diethyl ester hydrochloride, starting substrate

Absolute configuration: (5*S*)

Roberta Settambolo, Giuditta Guazzelli and Raffaello Lazzaroni*

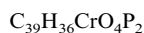
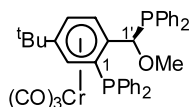
Tetrahedron: Asymmetry 14 (2003) 1447C₉H₁₁NO(5*S*)-(+)-5-Hydroxymethyl-5,6-dihydroindolizine $[\alpha]_D^{20} = +69.6$ (*c* 1, CH₂Cl₂)

Source of chirality: L-glutamic acid diethyl ester hydrochloride, starting substrate

Absolute configuration: (5*S*)Alessandro Caselli, Giovanni B. Giovenzana, Giovanni Palmisano,*
Massimo Sisti* and Tullio Pilati*Tetrahedron: Asymmetry 14 (2003) 1451*C₂₂H₄₀N₂*N,N'*-Bis[(1*R*,2*R*,4*R*)-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl]-1,2-ethanediamine $[\alpha]_D^{20} = -107.7$ (*c* 0.65, EtOH)Source of chirality: (1*R*)-camphor

Susan E. Gibson,* Hasim Ibrahim, Corinne Pasquier and Vishwanath M. Swamy

Tetrahedron: Asymmetry 14 (2003) 1455



(-)-(1*pR*,1'*R*)-Tricarbonyl[1-diphenylphosphine-2-(1'-diphenylphosphine-1'-methoxymethyl)-5-*tert*-butylbenzene]chromium(0)

Ee = 97%

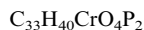
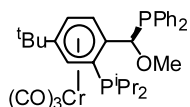
$[\alpha]_{\text{D}}^{24} = -242$ (c 0.5, CH₂Cl₂)

Source of chirality: α -methyl benzylamine

Absolute configuration: 1*pR*,1'*R*

Susan E. Gibson,* Hasim Ibrahim, Corinne Pasquier and Vishwanath M. Swamy

Tetrahedron: Asymmetry 14 (2003) 1455



(-)-(1*pR*,1'*R*)-Tricarbonyl[1-diisopropylphosphine-2-(1'-diphenylphosphine-1'-methoxymethyl)-5-*tert*-butylbenzene]chromium(0)

Ee = 97%

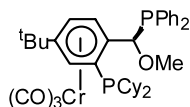
$[\alpha]_{\text{D}}^{24} = -48.2$ (c 0.5, CH₂Cl₂)

Source of chirality: α -methyl benzylamine

Absolute configuration: 1*pR*,1'*R*

Susan E. Gibson,* Hasim Ibrahim, Corinne Pasquier and Vishwanath M. Swamy

Tetrahedron: Asymmetry 14 (2003) 1455



(-)-(1*pR*,1'*R*)-Tricarbonyl[1-dicyclohexylphosphine-2-(1'-diphenylphosphine-1'-methoxymethyl)-5-*tert*-butylbenzene]chromium(0)

Ee = 97%

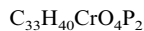
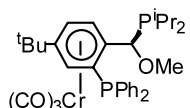
$[\alpha]_{\text{D}}^{24} = -111.2$ (c 0.5, CH₂Cl₂)

Source of chirality: α -methyl benzylamine

Absolute configuration: 1*pR*,1'*R*

Susan E. Gibson,* Hasim Ibrahim, Corinne Pasquier and Vishwanath M. Swamy

Tetrahedron: Asymmetry 14 (2003) 1455



(-)-(1*pR*,1'*R*)-Tricarbonyl[1-diphenylphosphine-2-(1'-diisopropylphosphine-1'-methoxymethyl)-5-*tert*-butylbenzene]chromium(0)

Ee = 96%

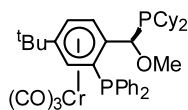
$[\alpha]_{\text{D}}^{24} = -104.6$ (c 0.5, CH₂Cl₂)

Source of chirality: α -methyl benzylamine

Absolute configuration: 1*pR*,1'*R*

Susan E. Gibson,* Hasim Ibrahim, Corinne Pasquier and Vishwanath M. Swamy

Tetrahedron: Asymmetry 14 (2003) 1455



(-)-(1*pR*,1'*R*)-Tricarbonyl[1-diphenylphosphine-2-(1'-dicyclohexylphosphine-1'-methoxymethyl)-5-*tert*-butylbenzene]chromium(0)

Ee = 97%

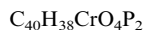
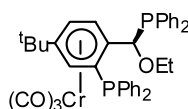
$[\alpha]_D^{24} = -82.9$ (c 0.5, CH₂Cl₂)

Source of chirality: α -methyl benzylamine

Absolute configuration: 1*pR*,1'*R*

Susan E. Gibson,* Hasim Ibrahim, Corinne Pasquier and Vishwanath M. Swamy

Tetrahedron: Asymmetry 14 (2003) 1455



(-)-(1*pR*,1'*R*)-Tricarbonyl[1-diphenylphosphine-2-(1'-diphenylphosphine-1'-ethoxymethyl)-5-*tert*-butylbenzene]chromium(0)

Ee = 84%

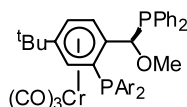
$[\alpha]_D^{24} = -162$ (c 0.5, CH₂Cl₂)

Source of chirality: α -methyl benzylamine

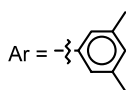
Absolute configuration: 1*pR*,1'*R*

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Tetrahedron: Asymmetry 14 (2003) 1455



(-)-(1*pR*,1'*R*)-Tricarbonyl[1-di(3,5-dimethylphenyl)phosphine-2-(1'-diphenylphosphine-1'-methoxymethyl)-5-*tert*-butylbenzene]chromium(0)



Ee = 95%

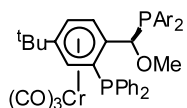
$[\alpha]_D^{24} = -171$ (c 0.5, CH₂Cl₂)

Source of chirality: α -methyl benzylamine

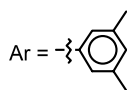
Absolute configuration: 1*pR*,1'*R*

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Tetrahedron: Asymmetry 14 (2003) 1455



(-)-(1*pR*,1'*R*)-Tricarbonyl[1-diphenylphosphine-2-(1'-di-3,5-dimethylphenylphosphine-1'-methoxymethyl)-5-*tert*-butylbenzene]chromium(0)



Ee = 95%

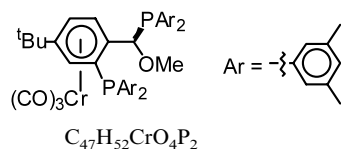
$[\alpha]_D^{24} = -132$ (c 0.5, CH₂Cl₂)

Source of chirality: α -methyl benzylamine

Absolute configuration: 1*pR*,1'*R*

Susan E. Gibson,* Hasim Ibrahim, Corinne Pasquier and Vishwanath M. Swamy

Tetrahedron: Asymmetry 14 (2003) 1455



(-)-(1*pR*,1'*R*)-Tricarbonyl[1-di(3,5-dimethylphenyl)phosphine-2-(1'-di(3,5-dimethylphenyl)phosphine-1'-methoxymethyl)-5-*tert*-butylbenzene]chromium(0)

Ee=97%

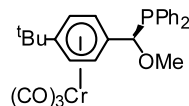
$[\alpha]_D^{24} = -27.6$ (c 0.5, CH₂Cl₂)

Source of chirality: α -methyl benzylamine

Absolute configuration: 1*pR*,1'*R*

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Tetrahedron: Asymmetry 14 (2003) 1455



(+)-(R)-Tricarbonyl[1-(1-diphenylphosphine-1-methoxymethyl)-4-*tert*-butylbenzene]chromium(0)

Ee=97%

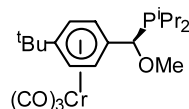
$[\alpha]_D^{24} = +66.1$ (c 0.75, CH₂Cl₂)

Source of chirality: α -methyl benzylamine

Absolute configuration: *R*

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Tetrahedron: Asymmetry 14 (2003) 1455



(+)-(R)-Tricarbonyl[1-(1-di-*iso*-propylphosphine-1-methoxymethyl)-4-*tert*-butylbenzene]chromium(0)

Ee=97%

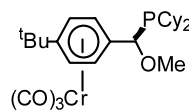
$[\alpha]_D^{24} = +109.4$ (c 0.5, CH₂Cl₂)

Source of chirality: α -methyl benzylamine

Absolute configuration: *R*

Susan E. Gibson,* Hasim Ibrahim, Corinne Pasquier and Vishwanath M. Swamy

Tetrahedron: Asymmetry 14 (2003) 1455



(+)-(R)-Tricarbonyl[1-(1-dicyclohexylphosphine-1-methoxymethyl)-4-*tert*-butylbenzene]chromium(0)

Ee=96%

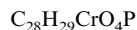
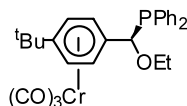
$[\alpha]_D^{24} = +83.4$ (c 0.5, CH₂Cl₂)

Source of chirality: α -methyl benzylamine

Absolute configuration: *R*

Susan E. Gibson,* Hasim Ibrahim, Corinne Pasquier and Vishwanath M. Swamy

Tetrahedron: Asymmetry 14 (2003) 1455



(+)-(R)-Tricarbonyl[1-(1-diphenylphosphine-1-ethoxymethyl)-4-*tert*-butylbenzene]chromium(0)

Ee = 97%

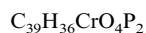
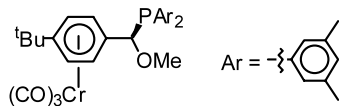
$[\alpha]_D^{24} = +133.4$ (c 0.25, CH_2Cl_2)

Source of chirality: α -methyl benzylamine

Absolute configuration: *R*

Susan E. Gibson,* Hasim Ibrahim, Corinne Pasquier and Vishwanath M. Swamy

Tetrahedron: Asymmetry 14 (2003) 1455



(+)-(R)-Tricarbonyl[1-(di-(3,5-dimethylphenyl)phosphine-1-methoxymethyl)-4-*tert*-butylbenzene]chromium(0)

Ee = 97%

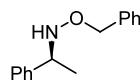
$[\alpha]_D^{24} = +36.4$ (c 0.5, CH_2Cl_2)

Source of chirality: α -methyl benzylamine

Absolute configuration: *R*

Marek P. Krzemiński and Marek Zaidlewicz*

Tetrahedron: Asymmetry 14 (2003) 1463



1-Phenylethylhydroxylamine *O*-benzyl ether

Ee = 94%

$[\alpha]_D^{20} = -29.2$ (c 1.16, $CHCl_3$)

Source of chirality: asymmetric synthesis

Absolute configuration: *S*

Marek P. Krzemiński and Marek Zaidlewicz*

Tetrahedron: Asymmetry 14 (2003) 1463



1-Phenylethylhydroxylamine

Ee = 87%

$[\alpha]_D^{20} = -30.1$ (c 4.25, $CHCl_3$)

Source of chirality: asymmetric synthesis

Absolute configuration: *S*

Marek P. Krzemiński and Marek Zaidlewicz*

Tetrahedron: Asymmetry 14 (2003) 1463



C₉H₁₃N

N-Methyl-1-phenylethylamine

Ee = 74%

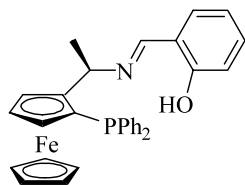
$[\alpha]_D^{20} = -55.2$ (*c* 1.22, CHCl₃)

Source of chirality: asymmetric synthesis

Absolute configuration: *S*

Huicong Dai, Xiangping Hu, Huilin Chen,* Changmin Bai and Zhuo Zheng*

Tetrahedron: Asymmetry 14 (2003) 1467



C₃₁H₂₈FeNOP

(*R*)-*N*-(2-Hydroxybenzylidene)-1-[(*S*)-2-(diphenylphosphino)ferrocenyl]ethylamine

E.e. >98%

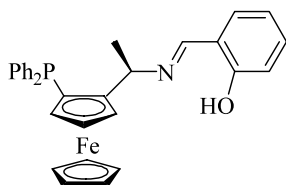
$[\alpha]_D^{25} = -48.7$ (*c* 0.61, CHCl₃)

Source of chirality: (*R*)-1-[(*S*)-2-(diphenylphosphino)ferrocenyl]-ethylamine

Absolute configurations: central chirality: *R*, planar chirality: *S*

Huicong Dai, Xiangping Hu, Huilin Chen,* Changmin Bai and Zhuo Zheng*

Tetrahedron: Asymmetry 14 (2003) 1467



C₃₁H₂₈FeNOP

(*R*)-*N*-(2-Hydroxybenzylidene)-1-[(*R*)-2-(diphenylphosphino)ferrocenyl]ethylamine

E.e. >98%

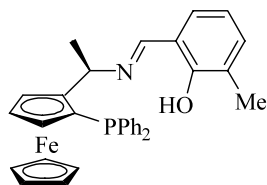
$[\alpha]_D^{25} = +46.2$ (*c* 0.61, CHCl₃)

Source of chirality: (*R*)-1-[(*R*)-2-(diphenylphosphino)ferrocenyl]-ethylamine

Absolute configurations: central chirality: *R*, planar chirality: *R*

Huicong Dai, Xiangping Hu, Huilin Chen,* Changmin Bai and Zhuo Zheng*

Tetrahedron: Asymmetry 14 (2003) 1467



C₃₂H₃₀FeNOP

(*R*)-*N*-(2-Hydroxy-3-methylbenzylidene)-1-[(*S*)-2-(diphenylphosphino)ferrocenyl]ethylamine

E.e. >98%

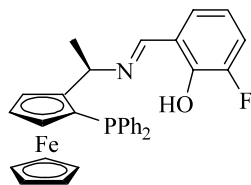
$[\alpha]_D^{25} = -45.8$ (*c* 0.12, CHCl₃)

Source of chirality: (*R*)-1-[(*S*)-2-(diphenylphosphino)ferrocenyl]-ethylamine

Absolute configurations: central chirality: *R*, planar chirality: *S*

Huicong Dai, Xiangping Hu, Huilin Chen,* Changmin Bai and Zhuo Zheng*

Tetrahedron: Asymmetry 14 (2003) 1467



$C_{31}H_{27}FFeNOP$

(*R*)-*N*-(3-Fluoro-2-hydroxybenzylidene)-1-[(*S*)-2-(diphenylphosphino)ferrocenyl]ethylamine

E.e. >98%

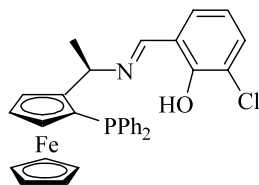
$[\alpha]_D^{25} = -43.6$ (*c* 0.21, $CHCl_3$)

Source of chirality: (*R*)-1-[(*S*)-2-(diphenylphosphino)ferrocenyl]-ethylamine

Absolute configurations: central chirality: *R*, planar chirality: *S*

Huicong Dai, Xiangping Hu, Huilin Chen,* Changmin Bai and Zhuo Zheng*

Tetrahedron: Asymmetry 14 (2003) 1467



$C_{31}H_{27}ClFeNOP$

(*R*)-*N*-(3-Chloro-2-hydroxybenzylidene)-1-[(*S*)-2-(diphenylphosphino)ferrocenyl]ethylamine

E.e. >98%

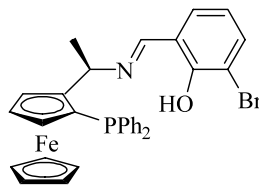
$[\alpha]_D^{25} = -40.3$ (*c* 0.17, $CHCl_3$)

Source of chirality: (*R*)-1-[(*S*)-2-(diphenylphosphino)ferrocenyl]-ethylamine

Absolute configurations: central chirality: *R*, planar chirality: *S*

Huicong Dai, Xiangping Hu, Huilin Chen,* Changmin Bai and Zhuo Zheng*

Tetrahedron: Asymmetry 14 (2003) 1467



$C_{31}H_{27}BrFeNOP$

(*R*)-*N*-(3-Bromo-2-hydroxybenzylidene)-1-[(*S*)-2-(diphenylphosphino)ferrocenyl]ethylamine

E.e. >98%

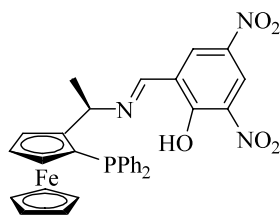
$[\alpha]_D^{25} = -44.5$ (*c* 0.20, $CHCl_3$)

Source of chirality: (*R*)-1-[(*S*)-2-(diphenylphosphino)ferrocenyl]-ethylamine

Absolute configurations: central chirality: *R*, planar chirality: *S*

Huicong Dai, Xiangping Hu, Huilin Chen,* Changmin Bai and Zhuo Zheng*

Tetrahedron: Asymmetry 14 (2003) 1467



$C_{31}H_{26}FeN_3O_5P$

(*R*)-*N*-(3,5-Dinitro-2-hydroxybenzylidene)-1-[(*S*)-2-(diphenylphosphino)ferrocenyl]ethylamine

E.e. >98%

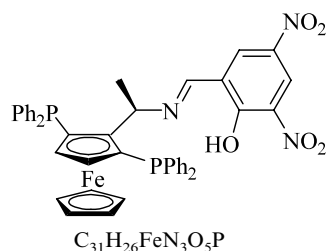
$[\alpha]_D^{25} = -98.1$ (*c* 0.15, $CHCl_3$)

Source of chirality: (*R*)-1-[(*S*)-2-(diphenylphosphino)ferrocenyl]-ethylamine

Absolute configurations: central chirality: *R*, planar chirality: *S*

Huicong Dai, Xiangping Hu, Huilin Chen,* Changmin Bai and Zhuo Zheng*

Tetrahedron: Asymmetry 14 (2003) 1467



(*R*)-*N*-(3,5-Dinitro-2-hydroxybenzylidene)-1-[(*R*)-2-(diphenylphosphino)ferrocenyl]ethylamine

E.e. >98%

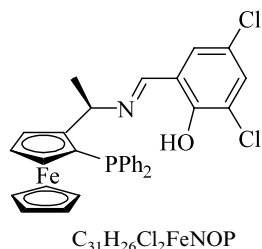
$[\alpha]_D^{25} = +95.6$ (*c* 0.15, $CHCl_3$)

Source of chirality: (*R*)-1-[(*R*)-2-(diphenylphosphino)ferrocenyl]-ethylamine

Absolute configurations: central chirality: *R*, planar chirality: *R*

Huicong Dai, Xiangping Hu, Huilin Chen,* Changmin Bai and Zhuo Zheng*

Tetrahedron: Asymmetry 14 (2003) 1467



(*R*)-*N*-(3,5-Dichloro-2-hydroxybenzylidene)-1-[(*S*)-2-(diphenylphosphino)ferrocenyl]ethylamine

E.e. >98%

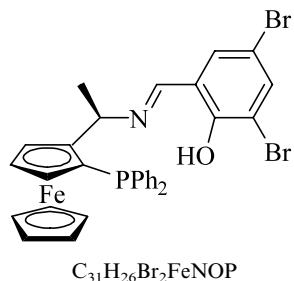
$[\alpha]_D^{25} = -42.8$ (*c* 0.12, $CHCl_3$)

Source of chirality: (*R*)-1-[(*S*)-2-(diphenylphosphino)ferrocenyl]-ethylamine

Absolute configurations: central chirality: *R*, planar chirality: *S*

Huicong Dai, Xiangping Hu, Huilin Chen,* Changmin Bai and Zhuo Zheng*

Tetrahedron: Asymmetry 14 (2003) 1467



(*R*)-*N*-(3,5-Dibromo-2-hydroxybenzylidene)-1-[(*S*)-2-(diphenylphosphino)ferrocenyl]ethylamine

E.e. >98%

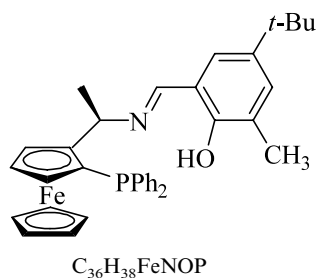
$[\alpha]_D^{25} = -43.7$ (*c* 0.11, $CHCl_3$)

Source of chirality: (*R*)-1-[(*S*)-2-(diphenylphosphino)ferrocenyl]-ethylamine

Absolute configurations: central chirality: *R*, planar chirality: *S*

Huicong Dai, Xiangping Hu, Huilin Chen,* Changmin Bai and Zhuo Zheng*

Tetrahedron: Asymmetry 14 (2003) 1467



(*R*)-*N*-(5-*tert*-Butyl-2-hydroxy-3-methylbenzylidene)-1-[(*S*)-2-(diphenylphosphino)ferrocenyl]ethylamine

E.e. >98%

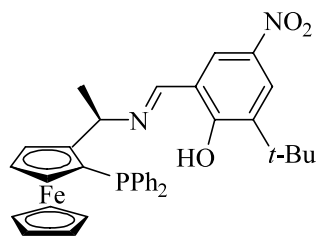
$[\alpha]_D^{25} = -44.7$ (*c* 0.22, $CHCl_3$)

Source of chirality: (*R*)-1-[(*S*)-2-(diphenylphosphino)ferrocenyl]-ethylamine

Absolute configurations: central chirality: *R*, planar chirality: *S*

Huicong Dai, Xiangping Hu, Huilin Chen,* Changmin Bai and Zhuo Zheng*

Tetrahedron: Asymmetry 14 (2003) 1467



$C_{35}H_{35}FeN_2O_3P$

(*R*)-*N*-(3-*tert*-Butyl-2-hydroxy-5-nitrobenzylidene)-1-[(*S*)-2-(diphenylphosphino)ferrocenyl]ethylamine

E.e. >98%

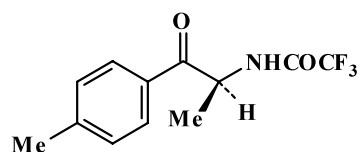
$[\alpha]_D^{25} = -52.7$ (*c* 0.15, $CHCl_3$)

Source of chirality: (*R*)-1-[(*S*)-2-(diphenylphosphino)ferrocenyl]-ethylamine

Absolute configurations: central chirality: *R*, planar chirality: *S*

Mauricio Osorio-Olivares, Marcos Caroli Rezende,*
Silvia Sepúlveda-Boza, Bruce K. Cassels, Ricardo F. Baggio and Juan C. Muñoz-Acevedo

Tetrahedron: Asymmetry 14 (2003) 1473



$C_{12}H_{12}F_3NO_2$

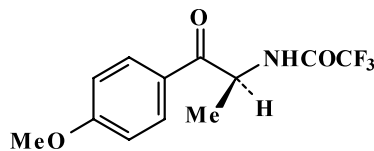
(*S*)-2-Trifluoroacetamido-1-(4-methylphenyl)-1-propanone

$[\alpha]_D^{24} = -48.7$ (*c* 1.0 g/100 mL, MeOH)

Source of chirality: natural L-alanine

Mauricio Osorio-Olivares, Marcos Caroli Rezende,*
Silvia Sepúlveda-Boza, Bruce K. Cassels, Ricardo F. Baggio and Juan C. Muñoz-Acevedo

Tetrahedron: Asymmetry 14 (2003) 1473



$C_{12}H_{12}F_3NO_3$

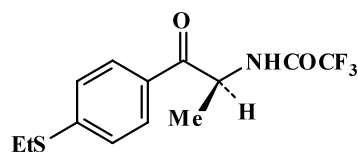
(*S*)-2-Trifluoroacetamido-1-(4-methoxyphenyl)-1-propanone

$[\alpha]_D^{24} = -32.2$ (*c* 1.03 g/100 mL, MeOH)

Source of chirality: natural L-alanine

Mauricio Osorio-Olivares, Marcos Caroli Rezende,*
Silvia Sepúlveda-Boza, Bruce K. Cassels, Ricardo F. Baggio and Juan C. Muñoz-Acevedo

Tetrahedron: Asymmetry 14 (2003) 1473



$C_{13}H_{14}F_3NO_2S$

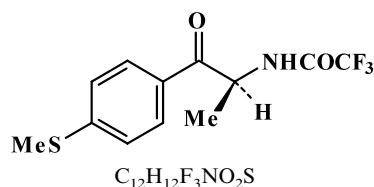
(*S*)-2-Trifluoroacetamido-1-(4-ethylthiophenyl)-1-propanone

$[\alpha]_D^{22} = -28.7$ (*c* 1.02 g/100 mL, MeOH)

Source of chirality: natural L-alanine

Mauricio Osorio-Olivares, Marcos Caroli Rezende,*
Silvia Sepúlveda-Boza, Bruce K. Cassels, Ricardo F. Baggio and
Juan C. Muñoz-Acevedo

Tetrahedron: Asymmetry 14 (2003) 1473

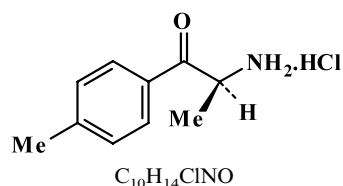


(*S*)-2-Trifluoroacetamido-1-(4-methylthiophenyl)-1-propanone

$[\alpha]_D^{24} -28.5$ (*c* 1.03 g/100 mL, MeOH)
Source of chirality: natural L-alanine

Mauricio Osorio-Olivares, Marcos Caroli Rezende,*
Silvia Sepúlveda-Boza, Bruce K. Cassels, Ricardo F. Baggio and
Juan C. Muñoz-Acevedo

Tetrahedron: Asymmetry 14 (2003) 1473

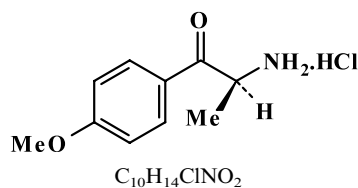


(*S*)-2-Amino-1-(4-methylphenyl)-1-propanone hydrochloride

$[\alpha]_D^{22} -32.0$ (*c* 1.06 g/100 mL, MeOH)
Source of chirality: natural L-alanine

Mauricio Osorio-Olivares, Marcos Caroli Rezende,*
Silvia Sepúlveda-Boza, Bruce K. Cassels, Ricardo F. Baggio and
Juan C. Muñoz-Acevedo

Tetrahedron: Asymmetry 14 (2003) 1473

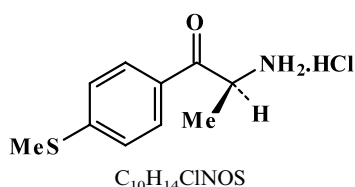


(*S*)-2-Amino-1-(4-methoxyphenyl)-1-propanone hydrochloride

$[\alpha]_D^{23} -32.1$ (*c* 1.01 g/100 mL, MeOH)
Source of chirality: natural L-alanine

Mauricio Osorio-Olivares, Marcos Caroli Rezende,*
Silvia Sepúlveda-Boza, Bruce K. Cassels, Ricardo F. Baggio and
Juan C. Muñoz-Acevedo

Tetrahedron: Asymmetry 14 (2003) 1473

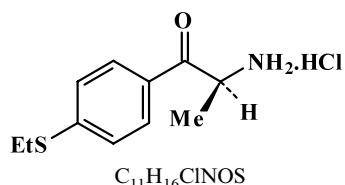


(*S*)-2-Amino-1-(4-methylthiophenyl)-1-propanone hydrochloride

$[\alpha]_D^{22} -30.4$ (*c* 0.98 g/100 mL, MeOH)
Source of chirality: natural L-alanine

Mauricio Osorio-Olivares, Marcos Caroli Rezende,*
Silvia Sepúlveda-Boza, Bruce K. Cassels, Ricardo F. Baggio and
Juan C. Muñoz-Acevedo

Tetrahedron: Asymmetry 14 (2003) 1473

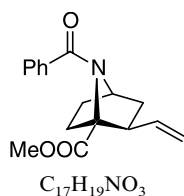


(S)-2-Amino-1-(4-ethylthiophenyl)-1-propanone hydrochloride

$[\alpha]_D^{24} -22.9$ (*c* 1.03 g/100 mL, MeOH)
Source of chirality: natural L-alanine

Ana M. Gil, Elena Buñuel, María D. Díaz-de-Villegas and
Carlos Cativiela*

Tetrahedron: Asymmetry 14 (2003) 1479

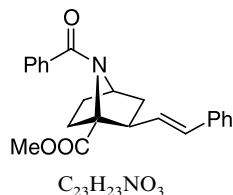


Methyl (1S,2S,4R)-N-benzoyl-2-vinyl-7-azabicyclo[2.2.1]heptane-1-carboxylate

E.e. >98%
 $[\alpha]_D^{25} = -53.6$ (*c* 1.0, $CHCl_3$)
Source of chirality: asymmetric synthesis
Absolute configuration: (1S,2S,4R)

Ana M. Gil, Elena Buñuel, María D. Díaz-de-Villegas and
Carlos Cativiela*

Tetrahedron: Asymmetry 14 (2003) 1479

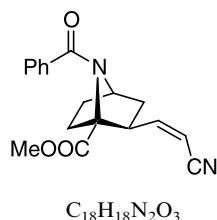


(E)-Methyl (1S,2S,4R)-N-benzoyl-2-(2-phenylvinyl)-7-azabicyclo[2.2.1]heptane-1-carboxylate

E.e. >98%
 $[\alpha]_D^{25} = -125.1$ (*c* 0.5, $CHCl_3$)
Source of chirality: asymmetric synthesis
Absolute configuration: (1S,2S,4R)

Ana M. Gil, Elena Buñuel, María D. Díaz-de-Villegas and
Carlos Cativiela*

Tetrahedron: Asymmetry 14 (2003) 1479

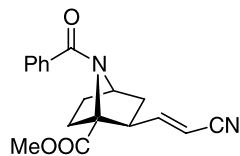


(Z)-Methyl (1S,2S,4R)-N-benzoyl-2-(2-cyanovinyl)-7-azabicyclo[2.2.1]heptane-1-carboxylate

E.e. >98%
 $[\alpha]_D^{25} = +32.1$ (*c* 1.0, $CHCl_3$)
Source of chirality: asymmetric synthesis
Absolute configuration: (1S,2S,4R)

Ana M. Gil, Elena Buñuel, María D. Díaz-de-Villegas and Carlos Cativiela*

Tetrahedron: Asymmetry 14 (2003) 1479



(*E*)-Methyl (1*S*,2*S*,4*R*)-*N*-benzoyl-2-(2-cyanovinyl)-7-azabicyclo[2.2.1]heptane-1-carboxylate

E.e. >98%

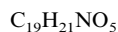
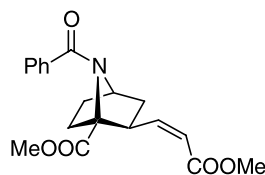
$[\alpha]_D^{25} = +4.8$ (*c* 0.5 $CHCl_3$)

Source of chirality: asymmetric synthesis

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

Ana M. Gil, Elena Buñuel, María D. Díaz-de-Villegas and Carlos Cativiela*

Tetrahedron: Asymmetry 14 (2003) 1479



(*Z*)-Methyl (1*S*,2*S*,4*R*)-*N*-benzoyl-2-(2-carbomethoxyvinyl)-7-azabicyclo[2.2.1]heptane-1-carboxylate

E.e. >98%

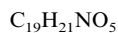
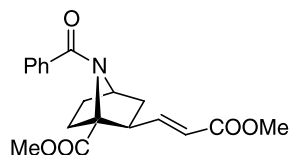
$[\alpha]_D^{25} = -7.9$ (*c* 0.5, $CHCl_3$)

Source of chirality: asymmetric synthesis

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

Ana M. Gil, Elena Buñuel, María D. Díaz-de-Villegas and Carlos Cativiela*

Tetrahedron: Asymmetry 14 (2003) 1479



(*E*)-Methyl (1*S*,2*S*,4*R*)-*N*-benzoyl-2-(2-carbomethoxyvinyl)-7-azabicyclo[2.2.1]heptane-1-carboxylate

E.e. >98%

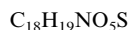
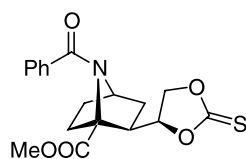
$[\alpha]_D^{25} = -42.3$ (*c* 1.0, $CHCl_3$)

Source of chirality: asymmetric synthesis

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

Ana M. Gil, Elena Buñuel, María D. Díaz-de-Villegas and Carlos Cativiela*

Tetrahedron: Asymmetry 14 (2003) 1479



Methyl (1*S*,2*R*,4*R*)-*N*-benzoyl-2-[(*S*)-2-thionocarbonyl-1,3-dioxolan-4-yl]-7-azabicyclo[2.2.1]heptane-1-carboxylate

E.e. >98%

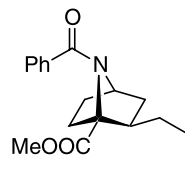
$[\alpha]_D^{25} = -61.9$ (*c* 1.0, $CHCl_3$)

Source of chirality: asymmetric synthesis

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

Ana M. Gil, Elena Buñuel, María D. Díaz-de-Villegas and Carlos Cativiela*

Tetrahedron: Asymmetry 14 (2003) 1479



$C_{17}H_{21}NO_3$

Methyl (1*S*,2*R*,4*R*)-*N*-benzoyl-2-ethyl-7-azabicyclo[2.2.1]heptane-1-carboxylate

E.e. >98%

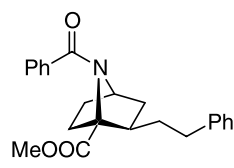
$[\alpha]_D^{25} = -111.5$ (*c* 1.0, $CHCl_3$)

Source of chirality: asymmetric synthesis

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

Ana M. Gil, Elena Buñuel, María D. Díaz-de-Villegas and Carlos Cativiela*

Tetrahedron: Asymmetry 14 (2003) 1479



$C_{23}H_{25}NO_3$

Methyl (1*S*,2*R*,4*R*)-*N*-benzoyl-2-(2-phenylethyl)-7-azabicyclo[2.2.1]heptane-1-carboxylate

E.e. >98%

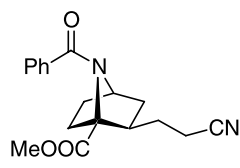
$[\alpha]_D^{25} = +62.4$ (*c* 1.0, $CHCl_3$)

Source of chirality: asymmetric synthesis

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

Ana M. Gil, Elena Buñuel, María D. Díaz-de-Villegas and Carlos Cativiela*

Tetrahedron: Asymmetry 14 (2003) 1479



$C_{18}H_{20}N_2O_3$

Methyl (1*S*,2*R*,4*R*)-*N*-benzoyl-2-(2-cyanoethyl)-7-azabicyclo[2.2.1]heptane-1-carboxylate

E.e. >98%

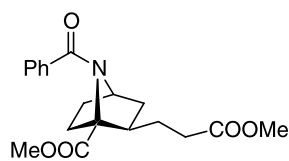
$[\alpha]_D^{25} = -66.8$ (*c* 0.5, $CHCl_3$)

Source of chirality: asymmetric synthesis

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

Ana M. Gil, Elena Buñuel, María D. Díaz-de-Villegas and Carlos Cativiela*

Tetrahedron: Asymmetry 14 (2003) 1479



$C_{19}H_{23}NO_5$

Methyl (1*S*,2*R*,4*R*)-*N*-benzoyl-2-(2-carbomethoxyethyl)-7-azabicyclo[2.2.1]heptane-1-carboxylate

E.e. >98%

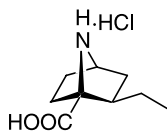
$[\alpha]_D^{25} = -76.3$ (*c* 1.0, $CHCl_3$)

Source of chirality: asymmetric synthesis

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

Ana M. Gil, Elena Buñuel, María D. Díaz-de-Villegas and Carlos Cativiela*

Tetrahedron: Asymmetry 14 (2003) 1479



$C_{19}H_{16}ClNO_2$

(1*S*,2*R*,4*R*)-2-Ethyl-7-azabicyclo[2.2.1]heptane-1-carboxylic acid hydrochloride

E.e. >98%

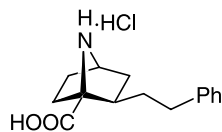
$[\alpha]_D^{25} = -48.3$ (c 1.0, H₂O)

Source of chirality: asymmetric synthesis

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

Ana M. Gil, Elena Buñuel, María D. Díaz-de-Villegas and Carlos Cativiela*

Tetrahedron: Asymmetry 14 (2003) 1479



$C_{16}H_{24}ClNO_2$

(1*S*,2*R*,4*R*)-2-(2-Phenylethyl)-7-azabicyclo[2.2.1]heptane-1-carboxylic acid hydrochloride

E.e. >98%

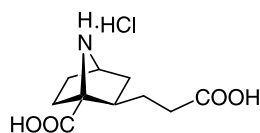
$[\alpha]_D^{25} = -48.5$ (c 0.5, H₂O)

Source of chirality: asymmetric synthesis

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

Ana M. Gil, Elena Buñuel, María D. Díaz-de-Villegas and Carlos Cativiela*

Tetrahedron: Asymmetry 14 (2003) 1479



$C_{10}H_{16}ClNO_4$

(1*S*,2*R*,4*R*)-2-(2-Carboxyethyl)-7-azabicyclo[2.2.1]heptane-1-carboxylic acid hydrochloride

E.e. >98%

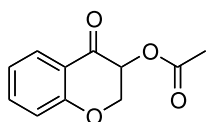
$[\alpha]_D^{25} = -44.5$ (c 0.5, H₂O)

Source of chirality: asymmetric synthesis

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

Ayhan S. Demir,* Asuman Aybey, Özge Sesenoglu and Fatos Polat

Tetrahedron: Asymmetry 14 (2003) 1489



$C_{11}H_{10}O_4$

(+)-4-Oxo-3,4-dihydro-2-chromen-3-yl acetate

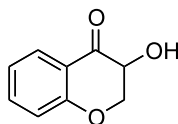
E.e: 97%

$[\alpha]_D^{20} = 61$ (c 0.4 CHCl₃)

Source of chirality: enzymatic kinetic resolution

Ayhan S. Demir,* Asuman Aybey, Özge Sesenoglu and Fatos Polat

Tetrahedron: Asymmetry 14 (2003) 1489



C₉H₈O₃

(-)-3-Hydroxy-2,3-dihydro-4*H*-chromen-4-one

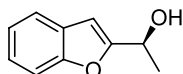
Ee: 97%

$[\alpha]_D^{20} = -57$ (c 2 CHCl₃)

Source of chirality: enzymatic kinetic resolution

Csaba Paizs, Monica Toşa, Cornelia Majdik, Paula Moldovan, Lajos Novák, Pál Kolonits, Adriana Marcovici, Florin-Dan Irimie* and László Poppe*

Tetrahedron: Asymmetry 14 (2003) 1495



C₁₀H₁₀O₂

(*S*)-1-(Benzofuran-2-yl)ethanol

Ee = 55% [by GC on HP Chiral column or by HPLC on (*S,S*)- or (*R,R*)-Whelk-01 column, after derivatisation with acetylchloride]

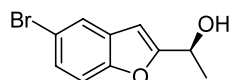
$[\alpha]_D^{20} = -9.1$ (c 1.00, CHCl₃)

Source of chirality: baker's yeast reduction

Absolute configuration: *S*

Csaba Paizs, Monica Toşa, Cornelia Majdik, Paula Moldovan, Lajos Novák, Pál Kolonits, Adriana Marcovici, Florin-Dan Irimie* and László Poppe*

Tetrahedron: Asymmetry 14 (2003) 1495



C₁₀H₉BrO₂

(*S*)-1-(5-Bromobenzofuran-2-yl)ethanol

Ee = 65% [by GC on HP Chiral column or by HPLC on (*S,S*)- or (*R,R*)-Whelk-01 column, after derivatisation with acetylchloride]

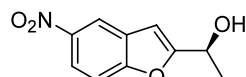
$[\alpha]_D^{20} = -9.4$ (c 1.00, CHCl₃)

Source of chirality: baker's yeast reduction

Absolute configuration: *S*

Csaba Paizs, Monica Toşa, Cornelia Majdik, Paula Moldovan, Lajos Novák, Pál Kolonits, Adriana Marcovici, Florin-Dan Irimie* and László Poppe*

Tetrahedron: Asymmetry 14 (2003) 1495



C₁₀H₉NO₄

(*S*)-1-(5-Nitrobenzofuran-2-yl)ethanol

Ee = 88% [by GC on HP Chiral column or by HPLC on (*S,S*)- or (*R,R*)-Whelk-01 column, after derivatisation with acetylchloride]

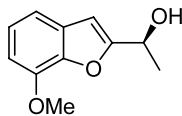
$[\alpha]_D^{20} = -16.8$ (c 1.00, CHCl₃)

Source of chirality: baker's yeast reduction

Absolute configuration: *S*

Csaba Paizs, Monica Toşa, Cornelia Majdik, Paula Moldovan,
Lajos Novák, Pál Kolonits, Adriana Marcovici, Florin-Dan Irimie*
and László Poppe*

Tetrahedron: Asymmetry 14 (2003) 1495



(*S*)-1-(7-Methoxybenzofuran-2-yl)ethanol

Ee=68% [by GC on HP Chiral column or by HPLC on (*S,S*)- or (*R,R*)-Whelk-01 column, after derivatisation with acetylchloride]

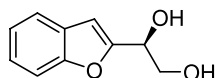
$[\alpha]_D^{20} = -10.2$ (*c* 1.00, $CHCl_3$)

Source of chirality: baker's yeast reduction

Absolute configuration: *S*

Csaba Paizs, Monica Toşa, Cornelia Majdik, Paula Moldovan,
Lajos Novák, Pál Kolonits, Adriana Marcovici, Florin-Dan Irimie*
and László Poppe*

Tetrahedron: Asymmetry 14 (2003) 1495



(*S*)-1-(Benzofuran-2-yl)ethane-1,2-diol

Ee=87% [by HPLC on (*S,S*)-Whelk-01 column]

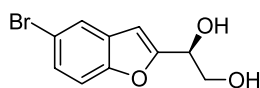
$[\alpha]_D^{20} = -25.3$ (*c* 1.00, $CHCl_3$)

Source of chirality: baker's yeast reduction of the corresponding hydroxymethyl ketone

Absolute configuration: *S*

Csaba Paizs, Monica Toşa, Cornelia Majdik, Paula Moldovan,
Lajos Novák, Pál Kolonits, Adriana Marcovici, Florin-Dan Irimie*
and László Poppe*

Tetrahedron: Asymmetry 14 (2003) 1495



(*S*)-1-(Bromobenzofuran-2-yl)ethane-1,2-diol

Ee=92% [by HPLC on (*S,S*)-Whelk-01 column]

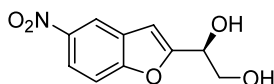
$[\alpha]_D^{20} = -22.1$ (*c* 1.00, $CHCl_3$)

Source of chirality: baker's yeast reduction of the corresponding hydroxymethyl ketone

Absolute configuration: *S*

Csaba Paizs, Monica Toşa, Cornelia Majdik, Paula Moldovan,
Lajos Novák, Pál Kolonits, Adriana Marcovici, Florin-Dan Irimie*
and László Poppe*

Tetrahedron: Asymmetry 14 (2003) 1495



(*S*)-1-(Nitrobenzofuran-2-yl)ethane-1,2-diol

Ee=93% [by HPLC on (*S,S*)-Whelk-01 column, after conversion to (*S*)-1-acetoxy-1-(5-nitrobenzofuran-2-yl)ethane]

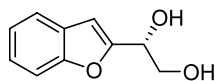
$[\alpha]_D^{20} = -19.4$ (*c* 1.00, $CHCl_3$)

Source of chirality: baker's yeast reduction of the corresponding hydroxymethyl ketone

Absolute configuration: *S*

Csaba Paizs, Monica Toşa, Cornelia Majdik, Paula Moldovan,
Lajos Novák, Pál Kolonits, Adriana Marcovici, Florin-Dan Irimie*
and László Poppe*

Tetrahedron: Asymmetry 14 (2003) 1495



C₁₀H₁₀O₃

(*R*)-1-(Benzofuran-2-yl)ethane-1,2-diol

Ee=84% [by HPLC on (*S,S*)-Whelk-01 column]

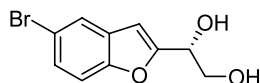
[α]_D²⁰=24.1 (*c* 1.00, CHCl₃)

Source of chirality: baker's yeast reduction of the
corresponding acetoxymethyl ketone

Absolute configuration: *R*

Csaba Paizs, Monica Toşa, Cornelia Majdik, Paula Moldovan,
Lajos Novák, Pál Kolonits, Adriana Marcovici, Florin-Dan Irimie*
and László Poppe*

Tetrahedron: Asymmetry 14 (2003) 1495



C₁₀H₉BrO₃

(*R*)-1-(Bromobenzofuran-2-yl)ethane-1,2-diol

Ee=91% [by HPLC on (*S,S*)-Whelk-01 column]

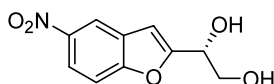
[α]_D²⁰=21.7 (*c* 1.00, CHCl₃)

Source of chirality: baker's yeast reduction of the
corresponding acetoxymethyl ketone

Absolute configuration: *R*

Csaba Paizs, Monica Toşa, Cornelia Majdik, Paula Moldovan,
Lajos Novák, Pál Kolonits, Adriana Marcovici, Florin-Dan Irimie*
and László Poppe*

Tetrahedron: Asymmetry 14 (2003) 1495



C₁₀H₉NO₅

(*R*)-1-(Nitrobenzofuran-2-yl)ethane-1,2-diol

Ee=91% [by HPLC on (*S,S*)-Whelk-01 column,
after conversion to (*R*)-1-acetoxy-1-
(5-nitrobenzofuran-2-yl)ethane]

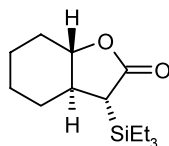
[α]_D²⁰=19.0 (*c* 1.00, CHCl₃)

Source of chirality: baker's yeast reduction of the
corresponding acetoxymethyl ketone

Absolute configuration: *R*

Paul Müller,* Fabienne Lacrampe and Gérald Bernardinelli

Tetrahedron: Asymmetry 14 (2003) 1503



C₁₄H₂₆O₂Si

(1*S*,6*S*,9*R*)-9-(Triethylsilyl)-7-oxabicyclo[4.3.0]nonan-2-one

Ee=66%

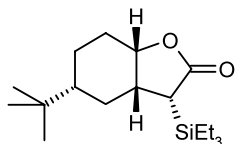
[α]_D²⁰=-16.1 (*c* 1.02, CHCl₃)

Source of chirality: asymmetric synthesis

Absolute configuration: (1*S*,6*S*,9*R*)

Paul Müller,* Fabienne Lacrampe and Gérald Bernardinelli

Tetrahedron: Asymmetry 14 (2003) 1503



$C_{18}H_{34}O_2Si$

(1*R*,3*R*,6*S*,9*R*)-3-*tert*-Butyl-9-(triethylsilyl)-7-oxabicyclo[4.3.0]nonan-8-one

Ee = 66%

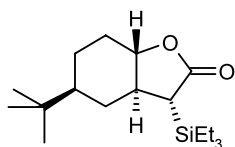
$[\alpha]_D^{20} = -18.5$ (c 1.01, EtOH)

Source of chirality: asymmetric synthesis

Absolute configuration: (1*R*,3*R*,6*S*,9*R*)

Paul Müller,* Fabienne Lacrampe and Gérald Bernardinelli

Tetrahedron: Asymmetry 14 (2003) 1503



$C_{18}H_{34}O_2Si$

(1*S*,3*S*,6*S*,9*R*)-3-*tert*-Butyl-9-(triethylsilyl)-7-oxabicyclo[4.3.0]nonan-8-one

Ee = 77%

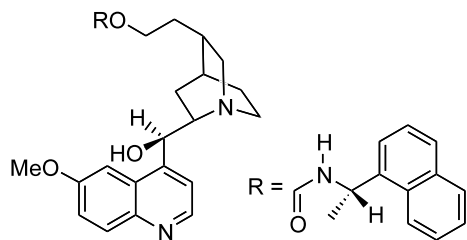
$[\alpha]_D^{20} = -0.6$ (c 1.00, EtOH)

Source of chirality: asymmetric synthesis

Absolute configuration: (1*S*,3*S*,6*S*,9*R*)

Gloria Uccello-Barretta, Francesca Mirabella, Federica Balzano and Piero Salvadori*

Tetrahedron: Asymmetry 14 (2003) 1511



$C_{33}H_{37}N_3O_4$

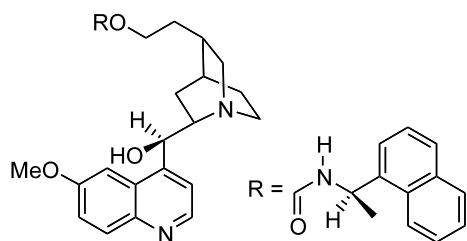
11-[(*S*)-1-(1-Naphthyl)ethylcarbamoyloxy]-10,11-dihydroquinine

$[\alpha]_D = -73.0$ (c 1, $CHCl_3$)

Source of chirality: quinine and (*S*)-(+)-1-(1-naphthyl)ethyl isocyanate

Gloria Uccello-Barretta, Francesca Mirabella, Federica Balzano and Piero Salvadori*

Tetrahedron: Asymmetry 14 (2003) 1511



$C_{33}H_{37}N_3O_4$

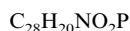
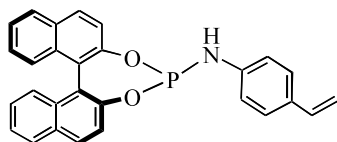
11-[(*R*)-1-(1-Naphthyl)ethylcarbamoyloxy]-10,11-dihydroquinine

$[\alpha]_D = -70.6$ (c 1, $CHCl_3$)

Source of chirality: quinine and (*R*)-(-)-1-(1-naphthyl)ethyl isocyanate

Simon Doherty,* Edward G. Robins, Ibolya Pál, Colin R. Newman,
Christopher Hardacre, David Rooney and Damian A. Mooney

Tetrahedron: Asymmetry 14 (2003) 1517



(3,5-Dioxa-4-phosphacyclohepta[2,1-*a*;3,4-*a'*]dinaphthalen-4-yl) (4-vinylphenyl) amine

^{31}P NMR ($CDCl_3$) δ 148.2

Ee = 100%

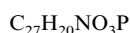
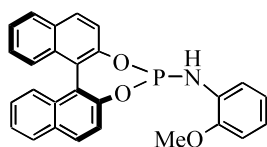
$[\alpha]_D^{24} = +7.52$ (*c* 0.05, $CHCl_3$)

Source of chirality: commercial source

Absolute configuration: *S*

Simon Doherty,* Edward G. Robins, Ibolya Pál, Colin R. Newman,
Christopher Hardacre, David Rooney and Damian A. Mooney

Tetrahedron: Asymmetry 14 (2003) 1517



(3,5-Dioxa-4-phosphacyclohepta[2,1-*a*;3,4-*a'*]dinaphthalen-4-yl) (2-methoxyphenyl) amine

^{31}P NMR ($CDCl_3$) δ 148.8

Ee = 100%

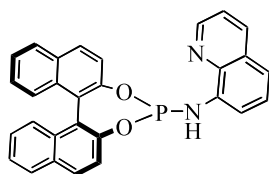
$[\alpha]_D^{24} = +96.9$ (*c* 0.05, $CHCl_3$)

Source of chirality: commercial source

Absolute configuration: *S*

Simon Doherty,* Edward G. Robins, Ibolya Pál, Colin R. Newman,
Christopher Hardacre, David Rooney and Damian A. Mooney

Tetrahedron: Asymmetry 14 (2003) 1517



(3,5-Dioxa-4-phosphacyclohepta[2,1-*a*;3,4-*a'*]dinaphthalen-4-yl) quinolin-8-yl amine

^{31}P NMR ($CDCl_3$) δ 147.2

Ee = 100%

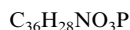
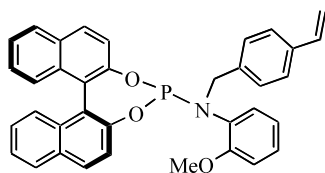
$[\alpha]_D^{24} = -43.4$ (*c* 0.05, $CHCl_3$)

Source of chirality: commercial source

Absolute configuration: *S*

Simon Doherty,* Edward G. Robins, Ibolya Pál, Colin R. Newman,
Christopher Hardacre, David Rooney and Damian A. Mooney

Tetrahedron: Asymmetry 14 (2003) 1517



(3,5-Dioxa-4-phosphacyclohepta[2,1-*a*;3,4-*a'*]dinaphthalen-4-yl) (2-methoxyphenyl) (4-vinylbenzyl) amine

^{31}P NMR ($CDCl_3$) δ 142.2

Ee = 100%

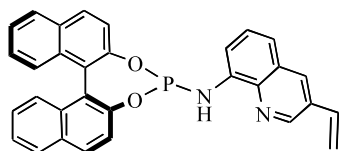
$[\alpha]_D^{24} = +96.9$ (*c* 0.05, $CHCl_3$)

Source of chirality: commercial source

Absolute configuration: *S*

Simon Doherty,* Edward G. Robins, Ibolya Pál, Colin R. Newman,
Christopher Hardacre, David Rooney and Damian A. Mooney

Tetrahedron: Asymmetry 14 (2003) 1517



$C_{31}H_{21}N_2O_2P$

(3,5-Dioxa-4-phosphacyclohepta[2,1-*a*;3,4-*a'*]dinaphthalen-4-yl) (3-vinylquinolin-8-yl) amine

^{31}P NMR ($CDCl_3$) δ 147.3

Ee = 100%

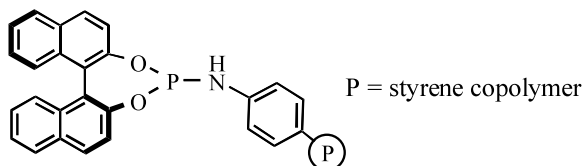
$[\alpha]_D^{24} = -34.2$ (*c* 0.05, $CHCl_3$)

Source of chirality: commercial source

Absolute configuration: *S*

Simon Doherty,* Edward G. Robins, Ibolya Pál, Colin R. Newman,
Christopher Hardacre, David Rooney and Damian A. Mooney

Tetrahedron: Asymmetry 14 (2003) 1517



[3,5-Dioxa-4-phosphacyclohepta[2,1-*a*;3,4-*a'*]dinaphthalen-4-yl] (4-vinylphenyl) amine[styrene] co-polymer

^{31}P NMR ($CDCl_3$) δ 148.4

Ee = 100%

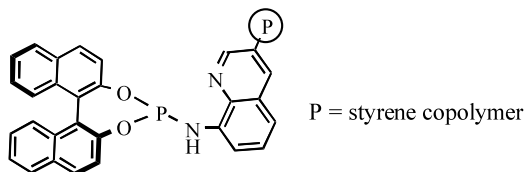
$[\alpha]_D^{24} = +4.8$ (*c* 0.1, $CHCl_3$)

Source of chirality: commercial source

Absolute configuration: *S*

Simon Doherty,* Edward G. Robins, Ibolya Pál, Colin R. Newman,
Christopher Hardacre, David Rooney and Damian A. Mooney

Tetrahedron: Asymmetry 14 (2003) 1517



[(3,5-Dioxa-4-phosphacyclohepta[2,1-*a*;3,4-*a'*]dinaphthalen-4-yl) (3-vinylquinolin-8-yl) amine][styrene] co-polymer

^{31}P NMR ($CDCl_3$) δ 147.0

Ee = 100%

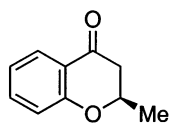
$[\alpha]_D^{24} = +13.7$ (*c* 0.1, $CHCl_3$)

Source of chirality: commercial source

Absolute configuration: *S*

Masashi Kawasaki,* Hiroko Kakuda, Michimasa Goto,
Shigeki Kawabata and Tadashi Kometani

Tetrahedron: Asymmetry 14 (2003) 1529



$C_{10}H_{10}O_2$

(*R*)-2-Methylchroman-4-one

E.e. = 99%

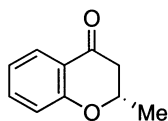
$[\alpha]_D^{27} = +46.6$ (*c* 1.0, CH_2Cl_2)

Source of chirality: lipase-catalyzed resolution

Absolute configuration: *R*

Masashi Kawasaki,* Hiroko Kakuda, Michimasa Goto,
Shigeki Kawabata and Tadashi Kometani

Tetrahedron: Asymmetry 14 (2003) 1529

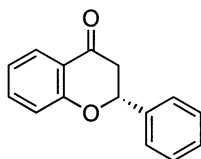


$C_{10}H_{10}O_2$
(*S*)-2-Methylchroman-4-one

E.e. = 99%
 $[\alpha]_D^{24} = -48.1$ (c 1.1, CH_3Cl)
Source of chirality: lipase-catalyzed resolution
Absolute configuration: *S*

Masashi Kawasaki,* Hiroko Kakuda, Michimasa Goto,
Shigeki Kawabata and Tadashi Kometani

Tetrahedron: Asymmetry 14 (2003) 1529

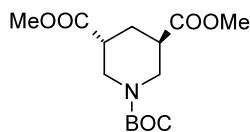


$C_{15}H_{12}O_2$
(*R*)-2-Phenylchroman-4-one

E.e. = 96%
 $[\alpha]_D^{24} = +61.6$ (c 1.0, CH_3Cl)
Source of chirality: lipase-catalyzed resolution
Absolute configuration: *R*

Hans Iding,* Beat Wirz and Rosa-María Rodríguez Sarmiento

Tetrahedron: Asymmetry 14 (2003) 1541

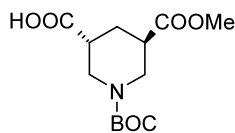


$C_{14}H_{23}NO_6$
Dimethyl (*R,R*)-*N*-Boc-piperidine-3,5-dicarboxylate

E.e. >99%
 $[\alpha]_D = -47.7$ (c 1.1, $CHCl_3$)
Source of chirality: enzymatic resolution
Absolute configuration: (*R,R*)

Hans Iding,* Beat Wirz and Rosa-María Rodríguez Sarmiento

Tetrahedron: Asymmetry 14 (2003) 1541

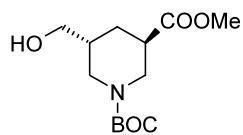


$C_{13}H_{21}NO_6$
Methyl (*R,R*)-*N*-Boc-piperidine-3,5-dicarboxylate

E.e. >99%
 $[\alpha]_D = -48.8$ (c 1.2, $CHCl_3$)
Source of chirality: enzymatic resolution
Absolute configuration: (*R,R*)

Hans Iding,* Beat Wirz and Rosa-María Rodríguez Sarmiento

Tetrahedron: Asymmetry 14 (2003) 1541



$C_{13}H_{23}NO_5$

Methyl (*R,R*)-*N*-Boc-5-hydroxymethyl-piperidine-3-carboxylate

Ee >99%

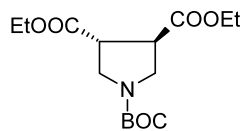
$[\alpha]_D -41.3$ (c 1.05, CH_2Cl_2)

Source of chirality: enzymatic resolution

Absolute configuration: (*R,R*)

Rosa María Rodríguez Sarmiento,* Beat Wirz and Hans Iding

Tetrahedron: Asymmetry 14 (2003) 1547



$C_{15}H_{25}NO_6$

Diethyl (*R,R*)-*N*-Boc-pyrrolidine-3,4-dicarboxylate

Ee >99%

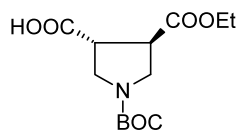
$[\alpha]_D +27.8$ (c 0.92, $CHCl_3$)

Source of chirality: enzymatic resolution

Absolute configuration: (*R,R*)

Rosa María Rodríguez Sarmiento,* Beat Wirz and Hans Iding

Tetrahedron: Asymmetry 14 (2003) 1547



$C_{13}H_{21}NO_6$

Ethyl (*R,R*)-*N*-Boc-pyrrolidine-3,4-dicarboxylate

Ee >99%

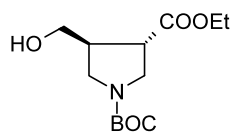
$[\alpha]_D +25.1$ (c 1.08, $CHCl_3$)

Source of chirality: enzymatic resolution

Absolute configuration: (*R,R*)

Rosa María Rodríguez Sarmiento,* Beat Wirz and Hans Iding

Tetrahedron: Asymmetry 14 (2003) 1547



$C_{13}H_{23}NO_5$

Ethyl (*S,S*)-*N*-Boc-4-hydroxymethyl-pyrrolidine-3-carboxylate

Ee >99%

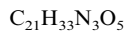
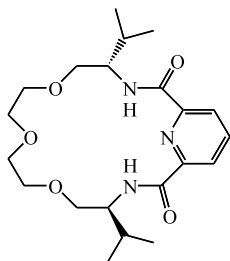
$[\alpha]_D -20.3$ (c 1.12, CH_2Cl_2)

Source of chirality: enzymatic resolution

Absolute configuration: (*S,S*)

Thavendran Govender, Humcha K. Hariprakasha,
Hendrik G. Kruger* and Alan P. Marchand

Tetrahedron: Asymmetry 14 (2003) 1553



(4*S*,14*S*)-(-)-4,14-Diisopropyl-6,9,12-trioxa-5,15,21-triazabicyclo[15.5.1]hencosa-1(20),17(21),18-triene-2,16-dione

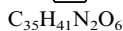
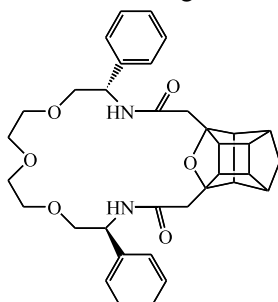
$[\alpha]_D^{22} = -113.6$ (*c* 0.02, $CHCl_3$)

Source of chirality: *S*-valine

Absolute configuration: (4*S*,14*S*)

Thavendran Govender, Humcha K. Hariprakasha,
Hendrik G. Kruger* and Alan P. Marchand

Tetrahedron: Asymmetry 14 (2003) 1553



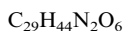
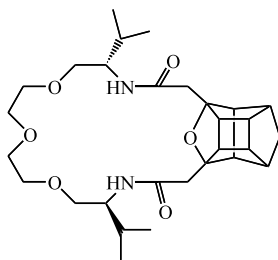
$[\alpha]_D^{22} = +6.8$ (*c* 0.01, CH_2Cl_2)

Source of chirality: *S*-phenylglycine

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

Thavendran Govender, Humcha K. Hariprakasha,
Hendrik G. Kruger* and Alan P. Marchand

Tetrahedron: Asymmetry 14 (2003) 1553



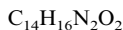
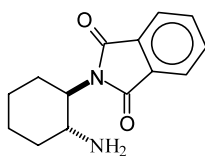
$[\alpha]_D^{22} = -93.3$ (*c* 0.0074, $CHCl_3$)

Source of chirality: *S*-valine

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

M. Kaik and J. Gawroński*

Tetrahedron: Asymmetry 14 (2003) 1559



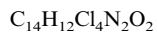
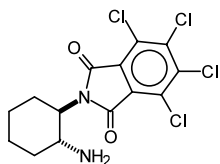
(1*R*,2*R*)-*N*-Phthaloyl-1,2-diaminocyclohexane

$[\alpha]_D^{20} = -79.3$ (*c* 1, $CHCl_3$)

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

M. Kaik and J. Gawroński*

Tetrahedron: Asymmetry 14 (2003) 1559



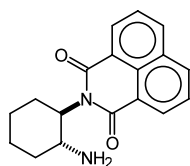
(1*R*,2*R*)-*N*-Tetrachlorophthaloyl-1,2-diaminocyclohexane

$[\alpha]_D^{20} -24.2$ (*c* 0.5, MeOH)

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

M. Kaik and J. Gawroński*

Tetrahedron: Asymmetry 14 (2003) 1559



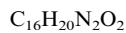
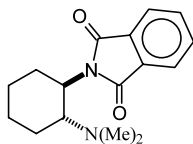
(1*R*,2*R*)-*N*-1',8'-Naphthaloyl-1,2-diaminocyclohexane

$[\alpha]_D^{20} +2.4$ (*c* 0.5, CHCl₃)

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

M. Kaik and J. Gawroński*

Tetrahedron: Asymmetry 14 (2003) 1559



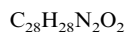
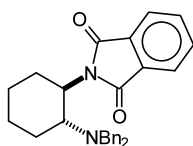
(1*R*,2*R*)-*N,N*-Dimethyl-*N'*-phthaloyl-1,2-diaminocyclohexane

$[\alpha]_D^{20} -32.5$ (*c* 1, CHCl₃)

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

M. Kaik and J. Gawroński*

Tetrahedron: Asymmetry 14 (2003) 1559



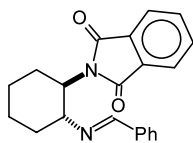
(1*R*,2*R*)-*N,N*-Dibenzyl-*N'*-phthaloyl-1,2-diaminocyclohexane

$[\alpha]_D^{20} -27.3$ (*c* 1, CHCl₃)

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

M. Kaik and J. Gawroński*

Tetrahedron: Asymmetry 14 (2003) 1559



$C_{21}H_{20}N_2O_2$

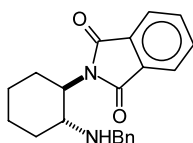
(1*R*,2*R*)-*N*-Benzylidene-*N'*-phthaloyl-1,2-diaminocyclohexane

$[\alpha]_D^{20} -24.2$ (*c* 1, $CHCl_3$)

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

M. Kaik and J. Gawroński*

Tetrahedron: Asymmetry 14 (2003) 1559



$C_{21}H_{22}N_2O_2$

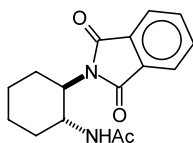
(1*R*,2*R*)-*N*-Benzyl-*N'*-phthaloyl-1,2-diaminocyclohexane

$[\alpha]_D^{20} -53.7$ (*c* 1, $CHCl_3$)

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

M. Kaik and J. Gawroński*

Tetrahedron: Asymmetry 14 (2003) 1559



$C_{16}H_{18}N_2O_3$

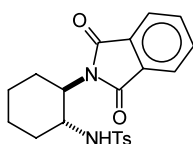
(1*R*,2*R*)-*N*-Acetyl-*N'*-phthaloyl-1,2-diaminocyclohexane

$[\alpha]_D^{20} -37.2$ (*c* 0.5, $CHCl_3$)

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

M. Kaik and J. Gawroński*

Tetrahedron: Asymmetry 14 (2003) 1559



$C_{21}H_{22}N_2O_4S$

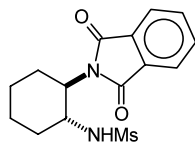
(1*R*,2*R*)-*N*-*p*-Toluenesulfonyl-*N'*-phthaloyl-1,2-diaminocyclohexane

$[\alpha]_D^{20} -19.9$ (*c* 1, $CHCl_3$)

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

M. Kaik and J. Gawroński*

Tetrahedron: Asymmetry 14 (2003) 1559



C₁₅H₁₈N₂O₄S

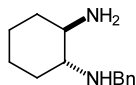
(1*R*,2*R*)-*N*-Methanesulfonyl-*N'*-phthaloyl-1,2-diaminocyclohexane

$[\alpha]_D^{20} -48.9$ (*c* 0.5, CHCl₃)

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

M. Kaik and J. Gawroński*

Tetrahedron: Asymmetry 14 (2003) 1559



C₁₃H₂₀N₂

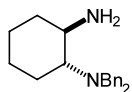
(1*R*,2*R*)-*N*-Benzyl-1,2-diaminocyclohexane

$[\alpha]_D^{20} -87.4$ (*c* 1, CHCl₃)

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

M. Kaik and J. Gawroński*

Tetrahedron: Asymmetry 14 (2003) 1559



C₂₀H₂₆N₂

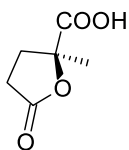
(1*R*,2*R*)-*N,N*-Dibenzyl-1,2-diaminocyclohexane

$[\alpha]_D^{20} -42.5$ (*c* 0.36, CHCl₃)

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

Anne Paju, Tõnis Kanger, Tõnis Pehk, Rasmus Lindmaa,
Aleksander-Mati Müürisepp and Margus Lopp*

Tetrahedron: Asymmetry 14 (2003) 1565



C₆H₈O₄

(*S*)-2-Methyl-5-oxotetrahydrofuran-2-carboxylic acid

E_e = 95%

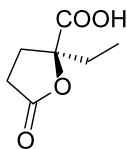
$[\alpha]_D^{20} = -15$ (*c* 1.66, CH₂Cl₂)

Source of chirality: asymmetric synthesis

Absolute configuration: 2*S*

Anne Paju, Tõnis Kanger, Tõnis Pehk, Rasmus Lindmaa,
Aleksander-Mati Müürisepp and Margus Lopp*

Tetrahedron: Asymmetry 14 (2003) 1565



(*S*)-2-Ethyl-5-oxotetrahydrofuran-2-carboxylic acid

Ee=95%

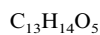
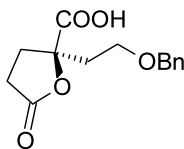
$[\alpha]_D^{25} = -23$ (c 1.49, CH_2Cl_2)

Source of chirality: asymmetric synthesis

Absolute configuration: 2*S*

Anne Paju, Tõnis Kanger, Tõnis Pehk, Rasmus Lindmaa,
Aleksander-Mati Müürisepp and Margus Lopp*

Tetrahedron: Asymmetry 14 (2003) 1565



(*R*)-2-Benzyloxyethyl-5-oxotetrahydrofuran-2-carboxylic acid

Ee=98%

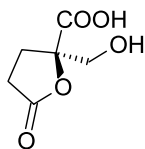
$[\alpha]_D^{20} = -24$ (c 2.96, $CHCl_3$)

Source of chirality: asymmetric synthesis

Absolute configuration: 2*R*

Anne Paju, Tõnis Kanger, Tõnis Pehk, Rasmus Lindmaa,
Aleksander-Mati Müürisepp and Margus Lopp*

Tetrahedron: Asymmetry 14 (2003) 1565



(*R*)-2-Hydroxymethyl-5-oxotetrahydrofuran-2-carboxylic acid

Ee=94%

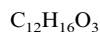
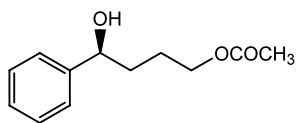
$[\alpha]_D^{19} = +16$ (c 1.99, MeOH)

Source of chirality: asymmetric synthesis

Absolute configuration: 2*R*

Ahmed Kamal,* Mahendra Sandbhor and Ahmad Ali Shaik

Tetrahedron: Asymmetry 14 (2003) 1575



(*S*)-4-Hydroxy-4-phenylbutyl acetate

E.e. =97.0% [by chiral HPLC]

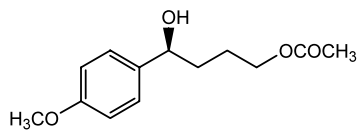
$[\alpha]_D^{25} = -27.3$ (c 1.36, benzene)

Source of chirality: enzymatic acetylation

Absolute configuration: *S*

Ahmed Kamal,* Mahendra Sandbhor and Ahmad Ali Shaik

Tetrahedron: Asymmetry 14 (2003) 1575



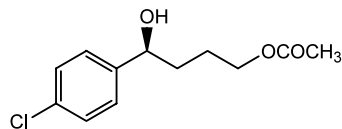
$C_{13}H_{18}O_4$

(*S*)-4-Hydroxy-4-(4-methoxyphenyl) butyl acetate

E.e. >99.0% [by chiral HPLC]
 $[\alpha]_D^{25} = -11.8$ (*c* 1.14, benzene)
Source of chirality: enzymatic acetylation
Absolute configuration: *S*

Ahmed Kamal,* Mahendra Sandbhor and Ahmad Ali Shaik

Tetrahedron: Asymmetry 14 (2003) 1575



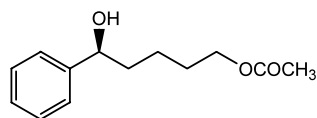
$C_{12}H_{15}ClO_3$

(*S*)-4-(4-Chlorophenyl)-4-hydroxy butyl acetate

E.e. = 92.0% [by chiral HPLC]
 $[\alpha]_D^{25} = -17.0$ (*c* 0.47, benzene)
Source of chirality: enzymatic acetylation
Absolute configuration: *S*

Ahmed Kamal,* Mahendra Sandbhor and Ahmad Ali Shaik

Tetrahedron: Asymmetry 14 (2003) 1575



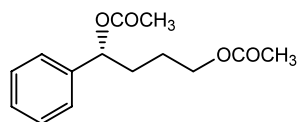
$C_{13}H_{18}O_3$

(*S*)-5-Hydroxy-5-phenylpentyl acetate

E.e. = 67.0% [by chiral HPLC]
 $[\alpha]_D^{25} = -28.8$ (*c* 0.97, benzene)
Source of chirality: enzymatic acetylation
Absolute configuration: *S*

Ahmed Kamal,* Mahendra Sandbhor and Ahmad Ali Shaik

Tetrahedron: Asymmetry 14 (2003) 1575



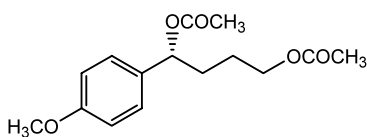
$C_{14}H_{18}O_4$

4-Methylcarbonyloxy-1-phenyl-(1*R*)-phenylbutyl acetate

E.e. = 70.0% [by chiral HPLC]
 $[\alpha]_D^{25} = +48.5$ (*c* 1.52, benzene)
Source of chirality: enzymatic acetylation
Absolute configuration: *R*

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Tetrahedron: Asymmetry 14 (2003) 1575



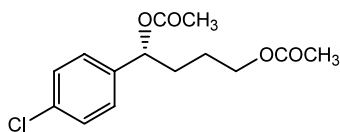
$C_{15}H_{20}O_5$

1-(4-Methoxyphenyl)-4-methyl carbonyloxy-(1*R*)-butyl acetate

E.e. >99.0% [by chiral HPLC]
 $[\alpha]_D^{25} = +80.3$ (*c* 1.01, benzene)
Source of chirality: enzymatic acetylation
Absolute configuration: *R*

Ahmed Kamal,* Mahendra Sandbhor and Ahmad Ali Shaik

Tetrahedron: Asymmetry 14 (2003) 1575



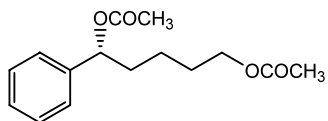
$C_{14}H_{17}ClO_4$

1-(4-Chlorophenyl)-4-methylcarbonyloxy-(1*R*)-butyl acetate

E.e. = 77.0% [by chiral HPLC]
 $[\alpha]_D^{25} = +60.4$ (*c* 0.48, benzene)
Source of chirality: enzymatic acetylation
Absolute configuration: *R*

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Tetrahedron: Asymmetry 14 (2003) 1575



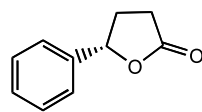
$C_{15}H_{20}O_4$

5-Methylcarbonyloxy-1-phenyl-(1*R*)-pentyl acetate

E.e. = 94.0% [by chiral HPLC]
 $[\alpha]_D^{25} = +43.2$ (*c* 0.98, benzene)
Source of chirality: enzymatic acetylation
Absolute configuration: *R*

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Tetrahedron: Asymmetry 14 (2003) 1575



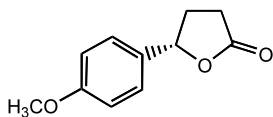
$C_{10}H_{10}O_2$

5-Phenyl-(5*S*)-tetrahydro-2-furanone

E.e. = 97.0% [by chiral HPLC]
 $[\alpha]_D^{25} = -17.6$
Source of chirality: enzymatic acetylation
Absolute configuration: *S*

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Tetrahedron: Asymmetry 14 (2003) 1575



$C_{11}H_{12}O_3$

5-(4-Methoxyphenyl)-(5S)-tetrahydro-2-furanone

E.e. >99.0% [by chiral HPLC]

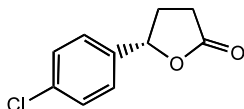
$[\alpha]_D^{25} = -5.2$

Source of chirality: enzymatic acetylation

Absolute configuration: *S*

Ahmed Kamal,* Mahendra Sandbhor and Ahmad Ali Shaik

Tetrahedron: Asymmetry 14 (2003) 1575



$C_{10}H_9ClO_2$

5-(4-Chlorophenyl)-(5S)-tetrahydro-2-furanone

E.e. = 92.0% [by chiral HPLC]

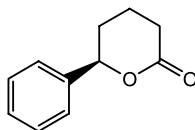
$[\alpha]_D^{25} = -17.2$

Source of chirality: enzymatic acetylation

Absolute configuration: *S*

Ahmed Kamal,* Mahendra Sandbhor and Ahmad Ali Shaik

Tetrahedron: Asymmetry 14 (2003) 1575



$C_{11}H_{12}O_2$

6-Phenyl-(6R)-tetrahydro-2H-2-pyranone

E.e. = 90.0% [by chiral HPLC]

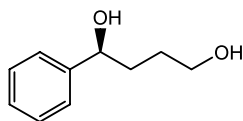
$[\alpha]_D^{25} = +41.4$ (*c* 1.01, benzene)

Source of chirality: enzymatic acetylation

Absolute configuration: *R*

Ahmed Kamal,* Mahendra Sandbhor and Ahmad Ali Shaik

Tetrahedron: Asymmetry 14 (2003) 1575



$C_{10}H_{14}O_2$

1-Phenyl-(1S)-butane-1,4-diol

E.e. = 97.0% [by chiral HPLC]

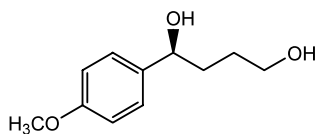
$[\alpha]_D^{25} = -28.0$ (*c* 1.27, methanol)

Source of chirality: enzymatic acetylation

Absolute configuration: *S*

Ahmed Kamal,* Mahendra Sandbhor and Ahmad Ali Shaik

Tetrahedron: Asymmetry 14 (2003) 1575



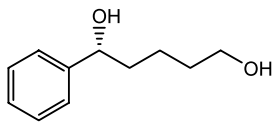
$C_{11}H_{16}O_3$

1-(4-Methoxyphenyl)-(1*S*)-butane-1,4-diol

E.e. >99.0% [by chiral HPLC]
 $[\alpha]_D^{25} = -25.9$ (*c* 1.20, benzene)
Source of chirality: enzymatic acetylation
Absolute configuration: *S*

Ahmed Kamal,* Mahendra Sandbhor and Ahmad Ali Shaik

Tetrahedron: Asymmetry 14 (2003) 1575



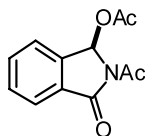
$C_{11}H_{16}O_2$

1-Phenyl-(1*R*)-pentane-1,5-diol

E.e. = 90.0% [by chiral HPLC]
 $[\alpha]_D^{25} = +23.4$
Source of chirality: enzymatic acetylation
Absolute configuration: *R*

Mohd. Sharfuddin, Atsushi Narumi, Yuko Iwai, Keiko Miyazawa,
Shinji Yamada, Toyoji Kakuchi and Harumi Kaga*

Tetrahedron: Asymmetry 14 (2003) 1581



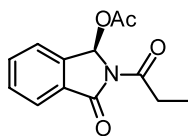
$C_{12}H_{11}NO_4$

(1*R*)-2-Acetyl-3-oxo-2,3-dihydro-1*H*-isoindol-1-yl acetate

E.e. = 63%
 $[\alpha]_D^{25} = -180$ (*c* 1.0, $CHCl_3$)
Source of chirality: dynamic kinetic resolution
Absolute configuration: *R* (determined by CD measurement)

Mohd. Sharfuddin, Atsushi Narumi, Yuko Iwai, Keiko Miyazawa,
Shinji Yamada, Toyoji Kakuchi and Harumi Kaga*

Tetrahedron: Asymmetry 14 (2003) 1581



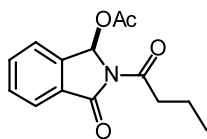
$C_{13}H_{13}NO_4$

(1*R*)-3-Oxo-2-propionyl-2,3-dihydro-1*H*-isoindol-1-yl acetate

E.e. >99%
 $[\alpha]_D^{25} = -191$ (*c* 1.0, $CHCl_3$)
Source of chirality: dynamic kinetic resolution
Absolute configuration: *R* (determined by CD measurement)

Mohd. Sharfuddin, Atsushi Narumi, Yuko Iwai, Keiko Miyazawa,
Shinji Yamada, Toyoji Kakuchi and Harumi Kaga*

Tetrahedron: Asymmetry 14 (2003) 1581



(1*R*)-2-Butyl-3-oxo-2,3-dihydro-1*H*-isoindol-1-yl acetate

E.e. = 98%

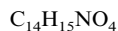
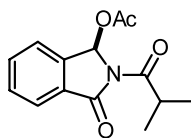
$[\alpha]_D^{25} = -176$ (*c* 1.0, $CHCl_3$)

Source of chirality: dynamic kinetic resolution

Absolute configuration: *R* (determined by CD measurement)

Mohd. Sharfuddin, Atsushi Narumi, Yuko Iwai, Keiko Miyazawa,
Shinji Yamada, Toyoji Kakuchi and Harumi Kaga*

Tetrahedron: Asymmetry 14 (2003) 1581



(1*R*)-2-Isobutyl-3-oxo-2,3-dihydro-1*H*-isoindol-1-yl acetate

E.e. >99%

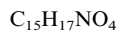
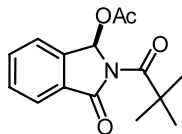
$[\alpha]_D^{25} = -181$ (*c* 1.0, $CHCl_3$)

Source of chirality: dynamic kinetic resolution

Absolute configuration: *R* (determined by CD measurement)

Mohd. Sharfuddin, Atsushi Narumi, Yuko Iwai, Keiko Miyazawa,
Shinji Yamada, Toyoji Kakuchi and Harumi Kaga*

Tetrahedron: Asymmetry 14 (2003) 1581



(1*R*)-3-Oxo-2-pivaloyl-2,3-dihydro-1*H*-isoindol-1-yl acetate

E.e. >99%

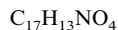
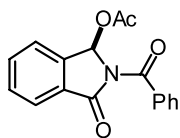
$[\alpha]_D^{25} = -165$ (*c* 1.0, $CHCl_3$)

Source of chirality: dynamic kinetic resolution

Absolute configuration: *R* (determined by CD measurement)

Mohd. Sharfuddin, Atsushi Narumi, Yuko Iwai, Keiko Miyazawa,
Shinji Yamada, Toyoji Kakuchi and Harumi Kaga*

Tetrahedron: Asymmetry 14 (2003) 1581



(1*R*)-2-Benzoyl-3-oxo-2,3-dihydro-1*H*-isoindol-1-yl acetate

E.e. >99%

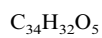
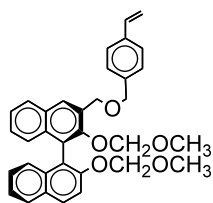
$[\alpha]_D^{25} = -358$ (*c* 1.0, $CHCl_3$)

Source of chirality: dynamic kinetic resolution

Absolute configuration: *R* (determined by CD measurement)

Doss Jayaprakash, Yukari Kobayashi, Shizue Watanabe,
Takayoshi Arai and Hiroaki Sasai*

Tetrahedron: Asymmetry 14 (2003) 1587



3-(4-Vinylbenzyloxy)methyl-2,2'-bis(methoxymethoxy)-1,1'-binaphthalene

$[\alpha]_D^{28} = +50$ (c 1, $CHCl_3$)

Source of chirality: BINOL

Absolute configuration: (*R*)