CAS SciFinder

Task History

Initiating Search

February 24, 2025, 11:53 AM

Substances:

Filtered By:

Structure Match: **As Drawn**

Search Tasks

Task	Search Type	View
Returned Substance Results + Filters (2,302)	Substances	View Results
Exported: Retrieved Related Reaction Results + Filters (103) Filtered By: Substance Role: **Reagent**	Reactions	View Results

Catalyst:	[(1,2,5,6-η)-1,5-Cyclooctadiene][(2*R*,2'*R*,5*R*,5'*R*)-1,1'-(1,2-ethanediyl)bis[2,5-diphenylphospholane-κ*P*]]cobalt, Bis[1,1,1-trifluoro-*N*-[(trifluoromethyl)sulfonyl-κ*O*]methanesulfonamidato-κ*O*]cobalt, Borate(1-), tetrafluoro-, cobalt(2+) (2:1), Carbonyldiiodo[(1,2,3,4,5-η)-1,2,3,4,5-pentamethyl-2,4-cyclopentadien-1-yl]cobalt, Cobalt, Cobalt(2+), (acetonitrile)[3,7-bis[2-(diphenylphosphino-κ*P*)ethyl]octahydro-1,5-diphenyl-1,5,3,7-diazadiphosphocine-κP^3,κP^7]-, (*SP*-5-32)-, tetrafluoroborate(1-) (1:2), Cobalt chloride ($CoCl_2$), Cobalt diacetate, Cobalt dibromide, Cobalt(II) acetylacetonate, Dichloro[*N*-[[6-[(4*S*)-4,5-dihydro-4-(1-methylethyl)-1-phenyl-1*H*-imidazol-2-yl-κN^3]-2-pyridinyl-κ*N*]methylene]-2,6-diethylbenzenamine-κ*N*]cobalt, Dicobalt octacarbonyl, (*OC*-6-12)-[[μ-[[2,3-Butanedione 2,3-di(oximato-κ*O*)](2-)]]tetrafluorodiborato(2-)-κ*N*,κ*N*',κ*N*'',κ*N*''']bis(tetrahydrofuran)cobalt, Octadecanoic acid, cobalt(2+) salt (2:1), (*SP*-4-1)-Methyl[*N*,*N*'-[(2,6-pyridinediyl-κ*N*)diethylidyne]bis[2,4,6-trimethylbenzenamine-κ*N*]]cobalt, (*SP*-4-2)-[(3*S*)-3-[[1-[6-[1-[[2,6-Bis(1-methylethyl)phenyl]imino-κ*N*]ethyl]-2-pyridinyl-κ*N*]ethylidene]amino-κ*N*]-2,2-dimethylbutyl-κ*C*]cobalt, (*SP*-4-2)-[*N*-[1-[6-[1-[[(1*S*)-1-Cyclohexylethyl]imino-κ*N*]ethyl]-2-pyridinyl-κ*N*]ethylidene]-2,6-bis(1-methylethyl)benzenamine-κ*N*]methylcobalt, (*SP*-4-2)-[*N*,*N*'-(1,2-Dimethyl-1,2-ethanediylidene)bis[2,6-bis(1-methylethyl)benzenamine-κ*N*]]bis[(trimethylsilyl)methyl]cobalt, (*SP*-5-14)-(Dinitrogen)[[1,1'-(1,3-phenylene-κC^2)bis[2,3-dihydro-3-(2,4,6-trimethylphenyl)-1*H*-benzimidazolato-κC^2]](5-)](triphenylphosphine)cobalt, (*T*-4)-Chlorotris(triphenylphosphine)cobalt, (*TB*-5-22)-Dichloro[*N*,*N*'-[(2,6-pyridinediyl-κ*N*)diethylidyne]bis[2,6-diethylbenzenamine-κ*N*]]cobalt, *tris*(Acetylacetonato)cobalt
Document Type:	Journal
Language:	English

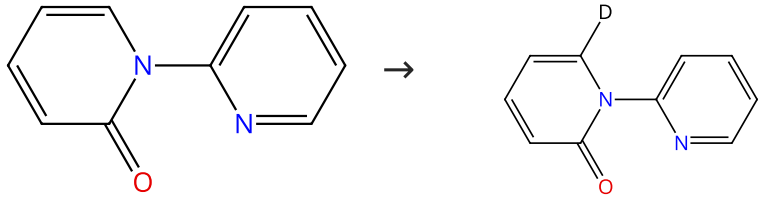
CAS SciFinder

Reactions (36)

View in CAS SciFinder

Scheme 1 (1 Reaction)

Steps: **1** Yield: **94%**



Suppliers (8)

31-116-CAS-23743374

Steps: **1** Yield: **94%**

1.1 **Reagents:** Deuterium
Catalysts: Potassium acetate, Silver tetrafluoroborate, Carbonyldiiodo[(1,2,3,4,5-η)-1,2,3,4,5-pentamethyl-2,4-cyclopentadien-1-yl]cobalt
Solvents: 1,1,1,3,3,3-Hexafluoro-2-propanol; 12 h, 130 °C

Experimental Protocols

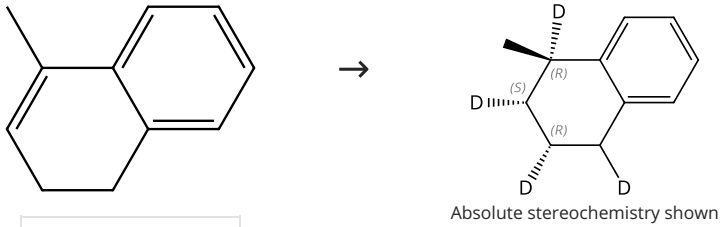
Cobalt(III)-Catalyzed Regioselective C6 Olefination of 2-Pyridones Using Alkynes: Olefination/Directing Group Migration and Olefination

By: Xu, Xin; et al

Organic Letters (2021), 23(12), 4624-4629.

Scheme 2 (1 Reaction)

Steps: **1** Yield: **82%**



Absolute stereochemistry shown

Suppliers (24)

31-116-CAS-11953554

Steps: **1** Yield: **82%**

1.1 **Reagents:** Deuterium
Catalysts: (*SP*-4-2)-[*N*-[1-[6-[1-[[(1*S*)-1-Cyclohexylethyl]imino-κ*N*]ethyl]-2-pyridinyl-κ*N*]ethylidene]-2,6-bis(1-methylethyl) benzenamine-κ*N*]methylcobalt
Solvents: Diethyl ether; 16 h, 4 atm, 25 °C

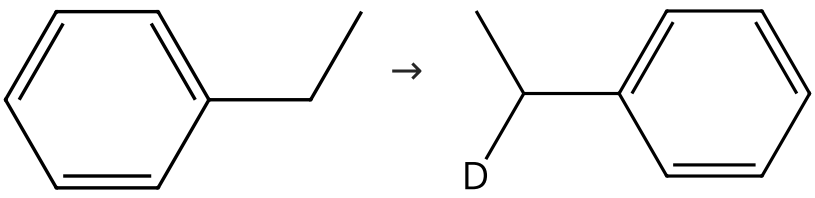
Cobalt-Catalyzed Enantioselective Hydrogenation of Minimally Functionalized Alkenes: Isotopic Labeling Provides Insight into the Origin of Stereoselectivity and Alkene Insertion Preferences

By: Friedfeld, Max R.; et al

Journal of the American Chemical Society (2016), 138(10), 3314-3324.

Scheme 3 (1 Reaction)

Steps: **1**



Suppliers (135)

Supplier (1)

31-116-CAS-17877349 Steps: **1**

1.1 **Reagents:** Deuterium
Catalysts: (*SP*-4-2)-[*N*,*N*′-(1,2-Dimethyl-1,2-ethanediylidene)bis[2,6-bis(1-methylethyl)benzenamine-κ*N*]]bis[(trimethylsilyl)methyl]cobalt
Solvents: Dodecane; 24 h, 1 atm, 50 ± 2 °C

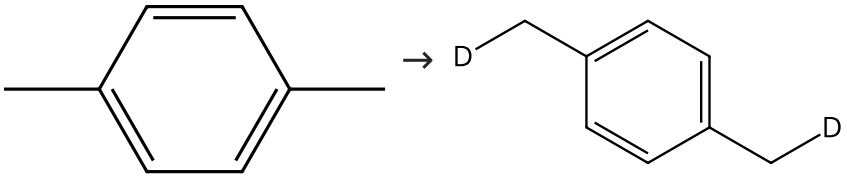
Experimental Protocols

Cobalt-Catalyzed Stereoretentive Hydrogen Isotope Exchange of C(sp^3)-H Bonds

By: Palmer, W. Neil; et al

ACS Catalysis (2017), 7(9), 5674-5678.

Scheme 4 (1 Reaction) Steps: **1**



Suppliers (121)

31-116-CAS-17877341 Steps: **1**

1.1 **Reagents:** Deuterium
Catalysts: (*SP*-4-2)-[*N*,*N*′-(1,2-Dimethyl-1,2-ethanediylidene)bis[2,6-bis(1-methylethyl)benzenamine-κ*N*]]bis[(trimethylsilyl)methyl]cobalt
Solvents: Dodecane; 24 h, 1 atm, 50 ± 2 °C

Experimental Protocols

Cobalt-Catalyzed Stereoretentive Hydrogen Isotope Exchange of C(sp^3)-H Bonds

By: Palmer, W. Neil; et al

ACS Catalysis (2017), 7(9), 5674-5678.

Scheme 5 (1 Reaction) Steps: **1**

Suppliers (92)

31-116-CAS-17877347 Steps: **1**

1.1 **Reagents:** Deuterium
Catalysts: (*SP*-4-2)-[*N*,*N*′-(1,2-Dimethyl-1,2-ethanediylidene)bis[2,6-bis(1-methylethyl)benzenamine-κ*N*]]bis[(trimethylsilyl)methyl]cobalt
Solvents: Dodecane; 24 h, 1 atm, 50 ± 2 °C

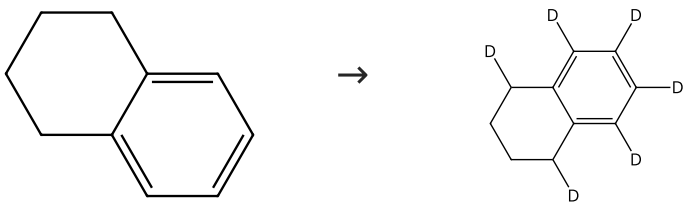
Experimental Protocols

Cobalt-Catalyzed Stereoretentive Hydrogen Isotope Exchange of C(sp^3)-H Bonds

By: Palmer, W. Neil; et al

ACS Catalysis (2017), 7(9), 5674-5678.

Scheme 6 (1 Reaction) Steps: **1**



Suppliers (104)

31-116-CAS-17877366 Steps: **1**

1.1 **Reagents:** Deuterium
Catalysts: (*SP*-4-2)-[*N*,*N*′-(1,2-Dimethyl-1,2-ethanediylidene)bis[2,6-bis(1-methylethyl)benzenamine-κ*N*]]bis[(trimethylsilyl)methyl]cobalt
Solvents: Heptane; 24 h, 1 atm, 50 ± 2 °C

1.2 **Reagents:** Oxygen

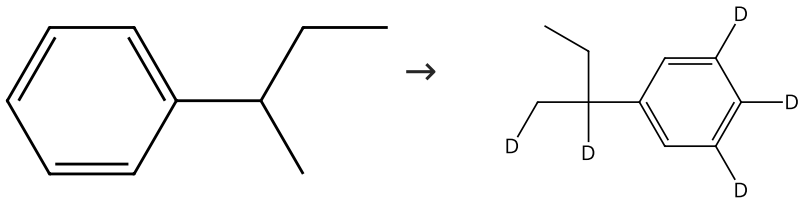
Experimental Protocols

Cobalt-Catalyzed Stereoretentive Hydrogen Isotope Exchange of C(sp^3)-H Bonds

By: Palmer, W. Neil; et al

ACS Catalysis (2017), 7(9), 5674-5678.

Scheme 7 (1 Reaction) Steps: **1**



Suppliers (66)

31-116-CAS-17877362 Steps: **1**

1.1 **Reagents:** Deuterium
Catalysts: (*SP*-4-2)-[*N*,*N*′-(1,2-Dimethyl-1,2-ethanediylidene)bis[2,6-bis(1-methylethyl)benzenamine-κ*N*]]bis[(trimethylsilyl)methyl]cobalt
Solvents: Heptane; 24 h, 1 atm, 50 ± 2 °C

1.2 **Reagents:** Oxygen

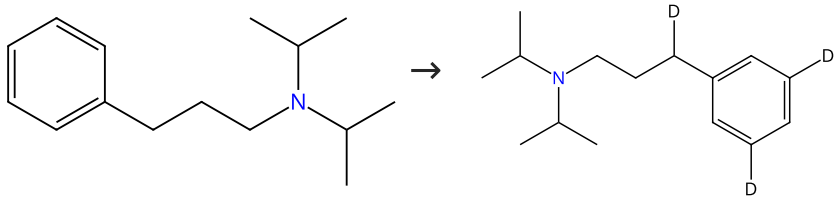
Experimental Protocols

Cobalt-Catalyzed Stereoretentive Hydrogen Isotope Exchange of C(sp^3)-H Bonds

By: Palmer, W. Neil; et al

ACS Catalysis (2017), 7(9), 5674-5678.

Scheme 8 (1 Reaction) Steps: **1**



Supplier (1)

31-116-CAS-17877363 Steps: **1**

1.1 **Reagents:** Deuterium
Catalysts: (*SP*-4-2)-[*N*,*N*′-(1,2-Dimethyl-1,2-ethanediylidene)bis[2,6-bis(1-methylethyl)benzenamine-κ*N*]]bis[(trimethylsilyl)methyl]cobalt
Solvents: Heptane; 24 h, 1 atm, 50 ± 2 °C

1.2 **Reagents:** Oxygen

Experimental Protocols

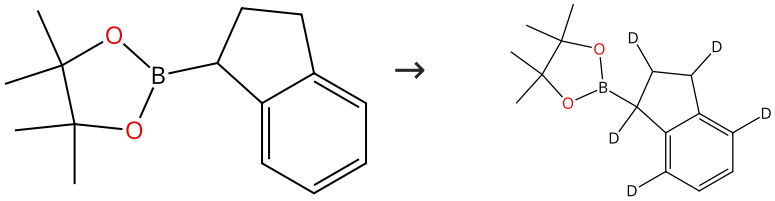
Cobalt-Catalyzed Stereoretentive Hydrogen Isotope Exchange of C(sp^3)-H Bonds

By: Palmer, W. Neil; et al

ACS Catalysis (2017), 7(9), 5674-5678.

Scheme 9 (1 Reaction)

Steps: **1**



Suppliers (3)

31-116-CAS-17877364

Steps: **1**

1.1 **Reagents:** Deuterium
Catalysts: (*SP*-4-2)-[*N*,*N*′-(1,2-Dimethyl-1,2-ethanediylidene)bis[2,6-bis(1-methylethyl)benzenamine-κ*N*]]bis[(trimethylsilyl)methyl]cobalt
Solvents: Heptane; 1 atm, 77 K; 4 atm, 77 K → 298 K; 24 h, 80 ± 2 °C

1.2 **Reagents:** Oxygen

Experimental Protocols

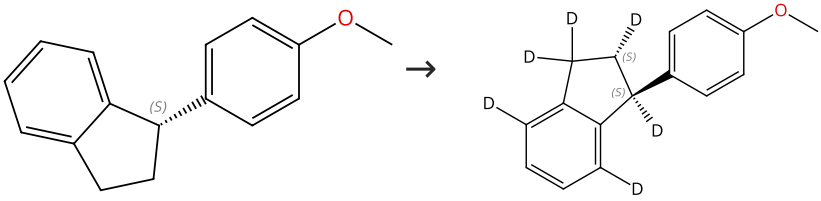
Cobalt-Catalyzed Stereoretentive Hydrogen Isotope Exchange of C(sp^3)-H Bonds

By: Palmer, W. Neil; et al

ACS Catalysis (2017), 7(9), 5674-5678.

Scheme 10 (1 Reaction)

Steps: **1**



Absolute stereochemistry shown, Rotation (-)

Absolute stereochemistry shown

31-116-CAS-17877358

Steps: **1**

1.1 **Reagents:** Deuterium
Catalysts: (*SP*-4-2)-[*N*,*N*′-(1,2-Dimethyl-1,2-ethanediylidene)bis[2,6-bis(1-methylethyl)benzenamine-κ*N*]]bis[(trimethylsilyl)methyl]cobalt
Solvents: Heptane; 24 h, 1 atm, 50 ± 2 °C

1.2 **Reagents:** Oxygen

Experimental Protocols

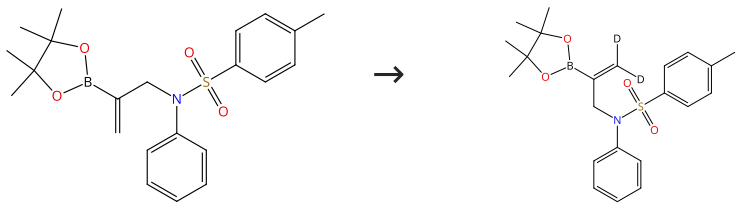
Cobalt-Catalyzed Stereoretentive Hydrogen Isotope Exchange of C(sp^3)-H Bonds

By: Palmer, W. Neil; et al

ACS Catalysis (2017), 7(9), 5674-5678.

Scheme 11 (1 Reaction)

Steps: **1**



31-614-CAS-31808756

Steps: **1**

1.1 **Reagents:** Deuterium
Catalysts: (*OC*-6-12)-[[μ-[[2,3-Butanedione 2,3-di(oximato-κ*O*)](2-)]]tetrafluorodiborato(2-)-κ*N*,κ*N*′,κ*N*′′,κ*N*′′′]bis(tetrahydrofuran)cobalt
Solvents: Benzene; 3 d, 4.8 atm, 50 °C

Experimental Protocols

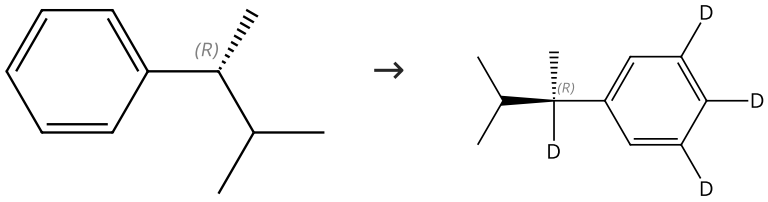
Generation of α-Boryl Radicals by H· Transfer and their Use in Cycloisomerizations

By: Shi, Shicheng; et al

Angewandte Chemie, International Edition (2021), 60(42), 22678-22682.

Scheme 12 (1 Reaction)

Steps: **1**



Absolute stereochemistry shown, Rotation (-)

Absolute stereochemistry shown

Supplier (1)

31-116-CAS-17877351

Steps: **1**

1.1 **Reagents:** Deuterium
Catalysts: (*SP*-4-2)-[*N*,*N*′-(1,2-Dimethyl-1,2-ethanediylidene)bis[2,6-bis(1-methylethyl)benzenamine-κ*N*]]bis[(trimethylsilyl)methyl]cobalt
Solvents: Heptane; 24 h, 1 atm, 50 ± 2 °C

1.2 **Reagents:** Oxygen

Experimental Protocols

Cobalt-Catalyzed Stereoretentive Hydrogen Isotope Exchange of C(sp^3)-H Bonds

By: Palmer, W. Neil; et al

ACS Catalysis (2017), 7(9), 5674-5678.

Scheme 13 (1 Reaction)

Steps: **1**

Suppliers (55)

31-116-CAS-17877352

Steps: **1**

1.1 **Reagents:** Deuterium
Catalysts: (*SP*-4-2)-[*N*,*N*′-(1,2-Dimethyl-1,2-ethanediylidene)bis[2,6-bis(1-methylethyl)benzenamine-κ*N*]]bis[(trimethylsilyl)methyl]cobalt
Solvents: Heptane; 24 h, 1 atm, 50 ± 2 °C

1.2 **Reagents:** Oxygen

Experimental Protocols

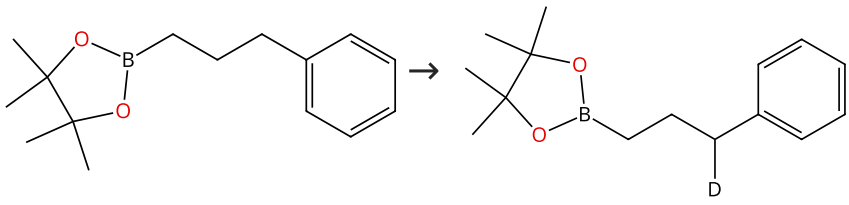
Cobalt-Catalyzed Stereoretentive Hydrogen Isotope Exchange of C(sp^3)-H Bonds

By: Palmer, W. Neil; et al

ACS Catalysis (2017), 7(9), 5674-5678.

Scheme 14 (1 Reaction)

Steps: **1**



Suppliers (61)

31-116-CAS-17877359 Steps: **1**

1.1 **Reagents:** Deuterium
Catalysts: (*SP*-4-2)-[*N*,*N*′-(1,2-Dimethyl-1,2-ethanediylidene)bis[2,6-bis(1-methylethyl)benzenamine-κ*N*]]bis[(trimethylsilyl)methyl]cobalt
Solvents: Heptane; 24 h, 1 atm, 50 ± 2 °C

1.2 **Reagents:** Oxygen

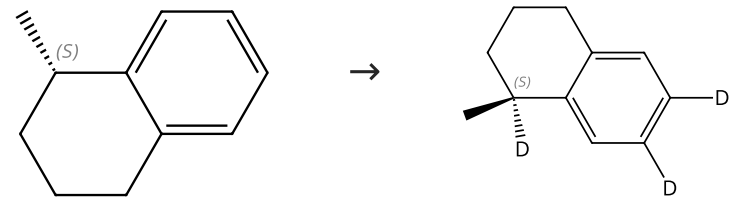
Experimental Protocols

Cobalt-Catalyzed Stereoretentive Hydrogen Isotope Exchange of C(sp^3)-H Bonds

By: Palmer, W. Neil; et al

ACS Catalysis (2017), 7(9), 5674-5678.

Scheme 15 (1 Reaction) Steps: **1**



Absolute stereochemistry shown, Rotation (+)

Absolute stereochemistry shown

Supplier (1)

31-116-CAS-17877365 Steps: **1**

1.1 **Reagents:** Deuterium
Catalysts: (*SP*-4-2)-[*N*,*N*′-(1,2-Dimethyl-1,2-ethanediylidene)bis[2,6-bis(1-methylethyl)benzenamine-κ*N*]]bis[(trimethylsilyl)methyl]cobalt
Solvents: Heptane; 24 h, 1 atm, 50 ± 2 °C

1.2 **Reagents:** Oxygen

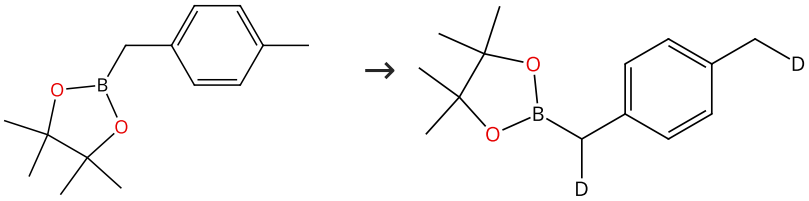
Experimental Protocols

Cobalt-Catalyzed Stereoretentive Hydrogen Isotope Exchange of C(sp^3)-H Bonds

By: Palmer, W. Neil; et al

ACS Catalysis (2017), 7(9), 5674-5678.

Scheme 16 (1 Reaction) Steps: **1**



Suppliers (56)

31-116-CAS-17877345 Steps: **1**

1.1 **Reagents:** Deuterium
Catalysts: (*SP*-4-2)-[*N*,*N*′-(1,2-Dimethyl-1,2-ethanediylidene)bis[2,6-bis(1-methylethyl)benzenamine-κ*N*]]bis[(trimethylsilyl)methyl]cobalt
Solvents: Heptane; 1 atm, 77 K; 4 atm, 77 K → 298 K; 24 h, 80 ± 2 °C

1.2 **Reagents:** Oxygen

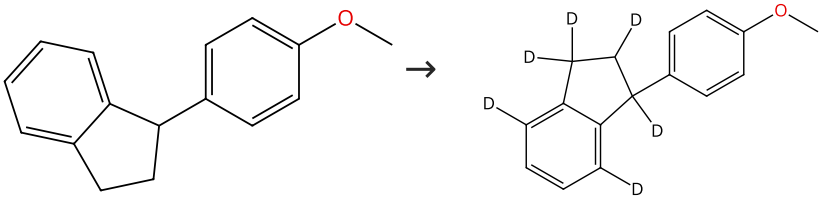
Experimental Protocols

Cobalt-Catalyzed Stereoretentive Hydrogen Isotope Exchange of C(sp^3)-H Bonds

By: Palmer, W. Neil; et al

ACS Catalysis (2017), 7(9), 5674-5678.

Scheme 17 (1 Reaction) Steps: **1**



Suppliers (4)

31-116-CAS-17877356 Steps: **1**

1.1 **Reagents:** Deuterium
Catalysts: (*SP*-4-2)-[*N*,*N*′-(1,2-Dimethyl-1,2-ethanediylidene)bis[2,6-bis(1-methylethyl)benzenamine-κ*N*]]bis[(trimethylsilyl)methyl]cobalt
Solvents: Heptane; 24 h, 1 atm, 50 ± 2 °C

1.2 **Reagents:** Oxygen

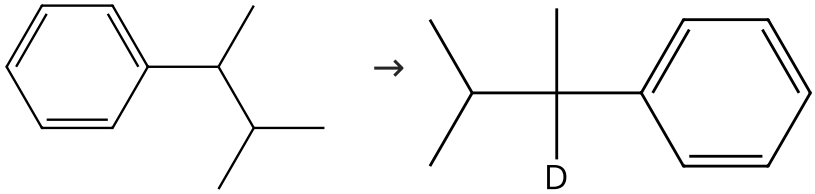
Experimental Protocols

Cobalt-Catalyzed Stereoretentive Hydrogen Isotope Exchange of C(sp^3)-H Bonds

By: Palmer, W. Neil; et al

ACS Catalysis (2017), 7(9), 5674-5678.

Scheme 18 (1 Reaction) Steps: **1**



Suppliers (55)

Supplier (1)

31-116-CAS-17877354 Steps: **1**

1.1 **Reagents:** Deuterium
Catalysts: (*SP*-4-2)-[*N*,*N*′-(1,2-Dimethyl-1,2-ethanediylidene)bis[2,6-bis(1-methylethyl)benzenamine-κ*N*]]bis[(trimethylsilyl)methyl]cobalt
Solvents: Heptane; 24 h, 1 atm, 50 ± 2 °C

1.2 **Reagents:** Oxygen

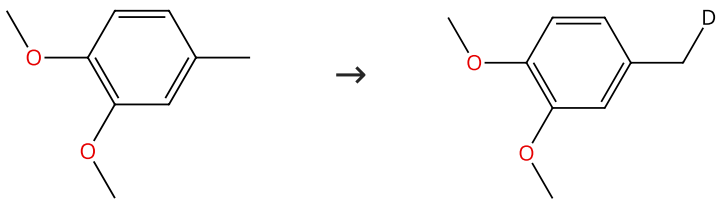
Experimental Protocols

Cobalt-Catalyzed Stereoretentive Hydrogen Isotope Exchange of C(sp^3)-H Bonds

By: Palmer, W. Neil; et al

ACS Catalysis (2017), 7(9), 5674-5678.

Scheme 19 (1 Reaction) Steps: **1**



Suppliers (72)

31-116-CAS-17877344 Steps: **1**

1.1 **Reagents:** Deuterium
Catalysts: (*SP*-4-2)-[*N*,*N*′-(1,2-Dimethyl-1,2-ethanediylidene)bis[2,6-bis(1-methylethyl)benzenamine-κ*N*]]bis[(trimethylsilyl)methyl]cobalt
Solvents: Heptane; 24 h, 1 atm, 50 ± 2 °C

1.2 **Reagents:** Oxygen

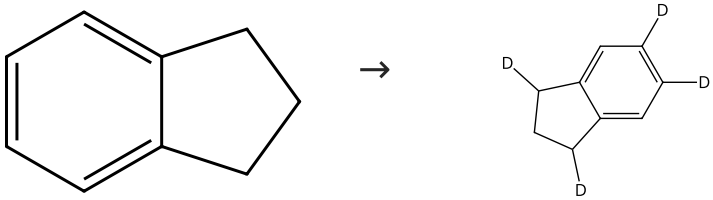
Experimental Protocols

Cobalt-Catalyzed Stereoretentive Hydrogen Isotope Exchange of C(sp^3)-H Bonds

By: Palmer, W. Neil; et al

ACS Catalysis (2017), 7(9), 5674-5678.

Scheme 20 (1 Reaction) Steps: **1**



Suppliers (97)

31-116-CAS-17877367 Steps: **1**

1.1 **Reagents:** Deuterium
Catalysts: (*SP*-4-2)-[*N*,*N*′-(1,2-Dimethyl-1,2-ethanediylidene)bis[2,6-bis(1-methylethyl)benzenamine-κ*N*]]bis[(trimethylsilyl)methyl]cobalt
Solvents: Heptane; 24 h, 1 atm, 50 ± 2 °C

1.2 **Reagents:** Oxygen

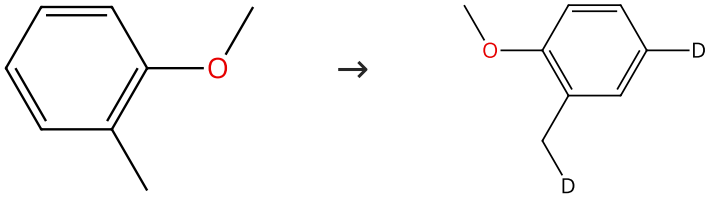
Experimental Protocols

Cobalt-Catalyzed Stereoretentive Hydrogen Isotope Exchange of C(sp^3)-H Bonds

By: Palmer, W. Neil; et al

ACS Catalysis (2017), 7(9), 5674-5678.

Scheme 21 (1 Reaction) Steps: **1**



Suppliers (91)

31-116-CAS-17877338 Steps: **1**

1.1 **Reagents:** Deuterium
Catalysts: (*SP*-4-2)-[*N*,*N*′-(1,2-Dimethyl-1,2-ethanediylidene)bis[2,6-bis(1-methylethyl)benzenamine-κ*N*]]bis[(trimethylsilyl)methyl]cobalt
Solvents: Dodecane; 24 h, 1 atm, 50 ± 2 °C

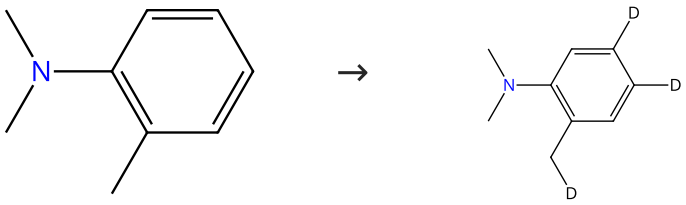
Experimental Protocols

Cobalt-Catalyzed Stereoretentive Hydrogen Isotope Exchange of C(sp^3)-H Bonds

By: Palmer, W. Neil; et al

ACS Catalysis (2017), 7(9), 5674-5678.

Scheme 22 (1 Reaction) Steps: **1**



Suppliers (62)

31-116-CAS-17877339 Steps: 1

1.1 **Reagents:** Deuterium
Catalysts: (*SP*-4-2)-[*N*,*N*′-(1,2-Dimethyl-1,2-ethanediylidene)bis[2,6-bis(1-methylethyl)benzenamine-κ*N*]]bis[(trimethylsilyl)methyl]cobalt
Solvents: Heptane; 24 h, 1 atm, 50 ± 2 °C

1.2 **Reagents:** Oxygen

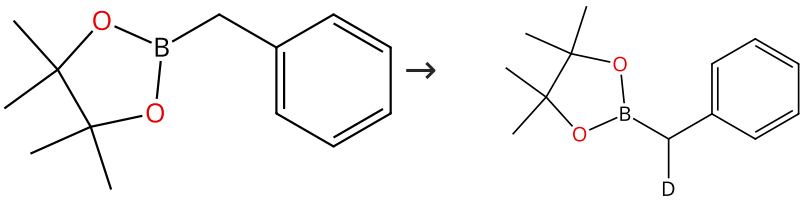
Experimental Protocols

Cobalt-Catalyzed Stereoretentive Hydrogen Isotope Exchange of C(sp^3)-H Bonds

By: Palmer, W. Neil; et al

ACS Catalysis (2017), 7(9), 5674-5678.

Scheme 23 (1 Reaction) Steps: **1**



Suppliers (95)

31-116-CAS-17877350 Steps: 1

1.1 **Reagents:** Deuterium
Catalysts: (*SP*-4-2)-[*N*,*N*′-(1,2-Dimethyl-1,2-ethanediylidene)bis[2,6-bis(1-methylethyl)benzenamine-κ*N*]]bis[(trimethylsilyl)methyl]cobalt
Solvents: Heptane; 24 h, 1 atm, 50 ± 2 °C

1.2 **Reagents:** Oxygen

Experimental Protocols

Cobalt-Catalyzed Stereoretentive Hydrogen Isotope Exchange of C(sp^3)-H Bonds

By: Palmer, W. Neil; et al

ACS Catalysis (2017), 7(9), 5674-5678.

Scheme 24 (1 Reaction) Steps: **1**

Suppliers (82)

31-116-CAS-17877348 Steps: **1**

1.1 **Reagents:** Deuterium
Catalysts: (*SP*-4-2)-[*N*,*N*′-(1,2-Dimethyl-1,2-ethanediylidene)bis[2,6-bis(1-methylethyl)benzenamine-κ*N*]]bis[(trimethylsilyl)methyl]cobalt
Solvents: Cyclopentyl methyl ether; 1 atm, 77 K; 4 atm, 77 K → 298 K; 3 h, 80 ± 2 °C

1.2 **Reagents:** Oxygen

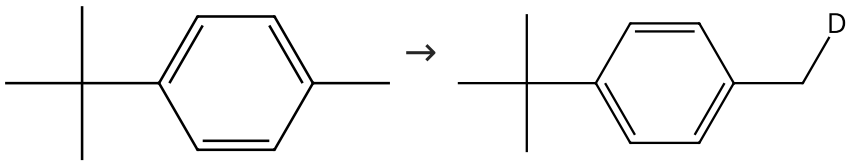
Experimental Protocols

Cobalt-Catalyzed Stereoretentive Hydrogen Isotope Exchange of C(sp^3)-H Bonds

By: Palmer, W. Neil; et al

ACS Catalysis (2017), 7(9), 5674-5678.

Scheme 25 (1 Reaction) Steps: **1**



Suppliers (64) Supplier (1)

31-116-CAS-17877343 Steps: **1**

1.1 **Reagents:** Deuterium
Catalysts: (*SP*-4-2)-[*N*,*N*′-(1,2-Dimethyl-1,2-ethanediylidene)bis[2,6-bis(1-methylethyl)benzenamine-κ*N*]]bis[(trimethylsilyl)methyl]cobalt
Solvents: Heptane; 24 h, 1 atm, 50 ± 2 °C

1.2 **Reagents:** Oxygen

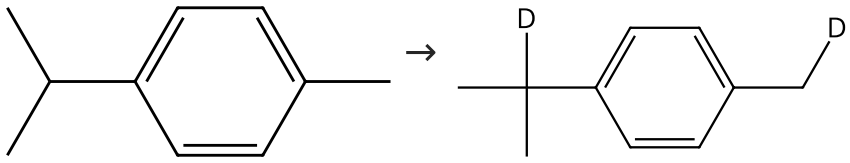
Experimental Protocols

Cobalt-Catalyzed Stereoretentive Hydrogen Isotope Exchange of C(sp^3)-H Bonds

By: Palmer, W. Neil; et al

ACS Catalysis (2017), 7(9), 5674-5678.

Scheme 26 (1 Reaction) Steps: **1**



Suppliers (85)

31-116-CAS-17877346 Steps: **1**

1.1 **Reagents:** Deuterium
Catalysts: (*SP*-4-2)-[*N*,*N*′-(1,2-Dimethyl-1,2-ethanediylidene)bis[2,6-bis(1-methylethyl)benzenamine-κ*N*]]bis[(trimethylsilyl)methyl]cobalt
Solvents: Dodecane; 24 h, 1 atm, 50 ± 2 °C

Experimental Protocols

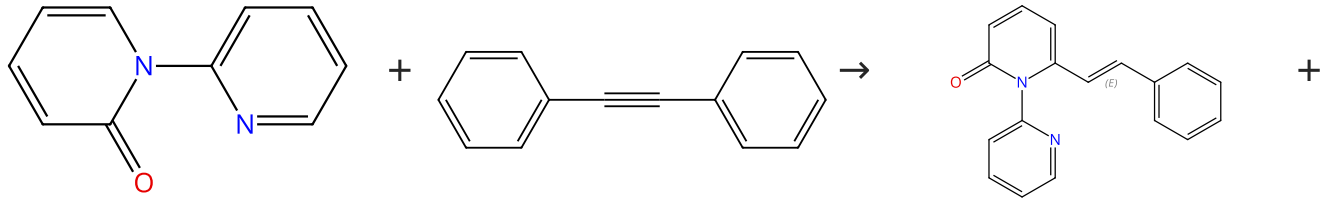
Cobalt-Catalyzed Stereoretentive Hydrogen Isotope Exchange of C(sp^3)-H Bonds

By: Palmer, W. Neil; et al

ACS Catalysis (2017), 7(9), 5674-5678.

Scheme 27 (1 Reaction)

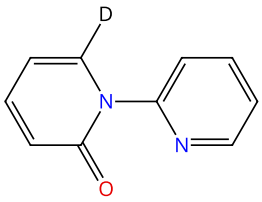
Steps: **1** Yield: **87%**



Suppliers (8)

Suppliers (88)

Double bond geometry shown



31-116-CAS-23743726

Steps: **1** Yield: **87%**

1.1 **Reagents:** Deuterium
Catalysts: Pivalic acid, Silver tetrafluoroborate, Carbonyldiiodo[(1,2,3,4,5-η)-1,2,3,4,5-pentamethyl-2,4-cyclopentadien-1-yl]cobalt
Solvents: 1,2-Dichloroethane, 1,1,1,3,3,3-Hexafluoro-2-propanol; 2 h, 130 °C

Experimental Protocols

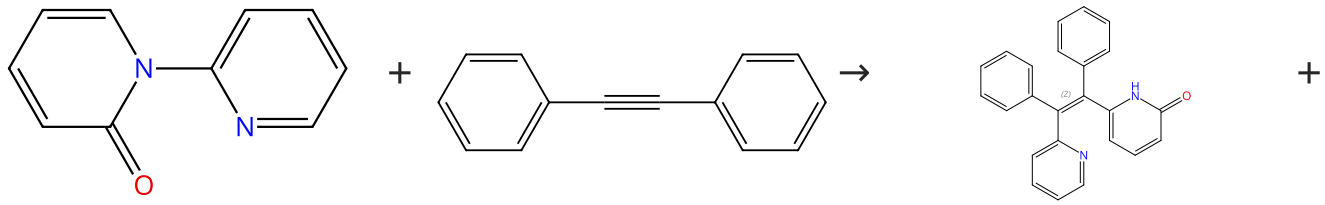
Cobalt(III)-Catalyzed Regioselective C6 Olefination of 2-Pyridones Using Alkynes: Olefination/Directing Group Migration and Olefination

By: Xu, Xin; et al

Organic Letters (2021), 23(12), 4624-4629.

Scheme 28 (1 Reaction)

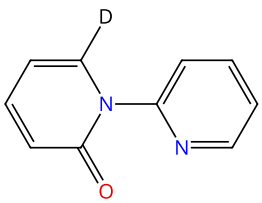
Steps: **1** Yield: **65%**



Suppliers (8)

Suppliers (88)

Double bond geometry shown



31-116-CAS-23743723

Steps: **1** Yield: **65%**

1.1 **Reagents:** Deuterium
Catalysts: Potassium acetate, Silver tetrafluoroborate, Carbonyldiiodo[(1,2,3,4,5-η)-1,2,3,4,5-pentamethyl-2,4-cyclopentadien-1-yl]cobalt
Solvents: 1,1,1,3,3,3-Hexafluoro-2-propanol; 12 h, 130 °C

Experimental Protocols

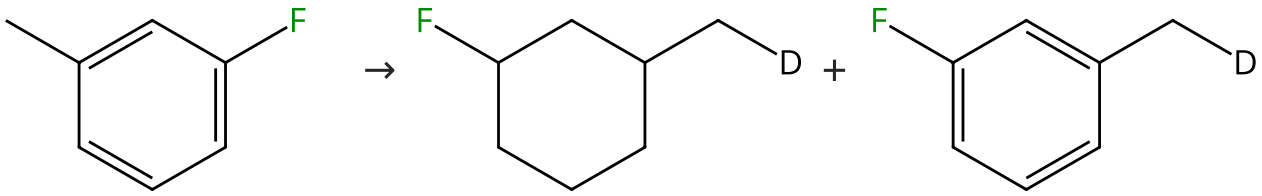
Cobalt(III)-Catalyzed Regioselective C6 Olefination of 2-Pyridones Using Alkynes: Olefination/Directing Group Migration and Olefination

By: Xu, Xin; et al

Organic Letters (2021), 23(12), 4624-4629.

Scheme 29 (1 Reaction)

Steps: **1** Yield: **8%**



Suppliers (53)

Suppliers (15)

31-116-CAS-17877337

Steps: **1** Yield: **8%**

1.1 **Reagents:** Deuterium
Catalysts: (*SP*-4-2)-[*N*,*N*′-(1,2-Dimethyl-1,2-ethanediylidene)bis[2,6-bis(1-methylethyl)benzenamine-κ*N*]]bis[(trimethylsilyl)methyl]cobalt
Solvents: Dodecane; 24 h, 1 atm, 50 ± 2 °C

Experimental Protocols

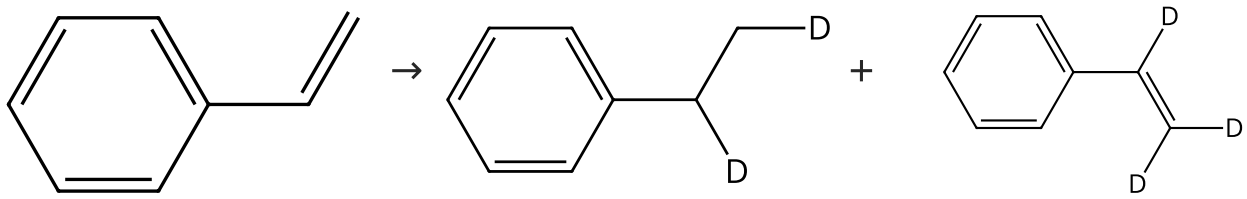
Cobalt-Catalyzed Stereoretentive Hydrogen Isotope Exchange of C(sp^3)-H Bonds

By: Palmer, W. Neil; et al

ACS Catalysis (2017), 7(9), 5674-5678.

Scheme 30 (1 Reaction)

Steps: **1**



Suppliers (120)

Supplier (1)

Suppliers (23)

31-116-CAS-16040697

Steps: **1**

1.1 **Reagents:** Deuterium
Catalysts: (*SP*-5-14)-(Dinitrogen)[[1,1′-(1,3-phenylene-κ*C*^{2})bis[2,3-dihydro-3-(2,4,6-trimethylphenyl)-1*H*-benzimidazolato-κ*C*^{2}]](5-)](triphenylphosphine)cobalt
Solvents: Benzene-d_6; 1 atm, 77 K; 77 K → rt; 24 h, 4 atm, rt

Experimental Protocols

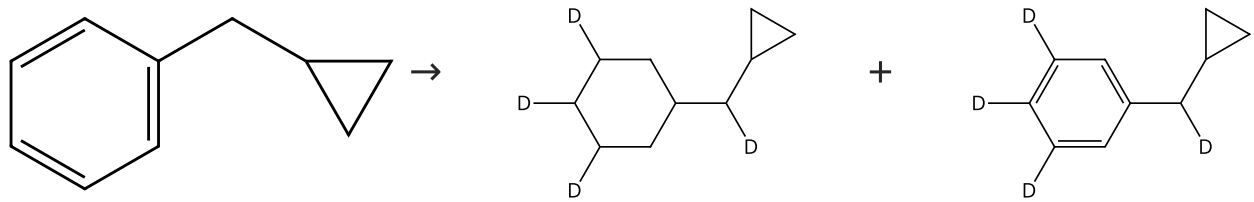
Well-Defined Cobalt(I) Dihydrogen Catalyst: Experimental Evidence for a Co(I)/Co(III) Redox Process in Olefin Hydrogenation

By: Tokmic, Kenan; et al

Journal of the American Chemical Society (2016), 138(36), 11907-11913.

Scheme 31 (1 Reaction)

Steps: **1**



Suppliers (41)

31-116-CAS-17877353

Steps: **1**

1.1 **Reagents:** Deuterium
Catalysts: (*SP*-4-2)-[*N*,*N*′-(1,2-Dimethyl-1,2-ethanediylidene)bis[2,6-bis(1-methylethyl)benzenamine-κ*N*]]bis[(trimethylsilyl)methyl]cobalt
Solvents: Heptane; 24 h, 1 atm, 50 ± 2 °C

1.2 **Reagents:** Oxygen

Experimental Protocols

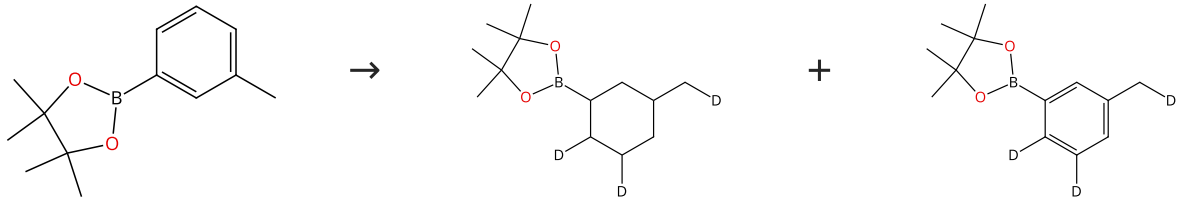
Cobalt-Catalyzed Stereoretentive Hydrogen Isotope Exchange of C(sp^3)-H Bonds

By: Palmer, W. Neil; et al

ACS Catalysis (2017), 7(9), 5674-5678.

Scheme 32 (1 Reaction)

Steps: **1**



Suppliers (85)

31-116-CAS-17877340

Steps: **1**

1.1 **Reagents:** Deuterium
Catalysts: (*SP*-4-2)-[*N*,*N*′-(1,2-Dimethyl-1,2-ethanediylidene)bis[2,6-bis(1-methylethyl)benzenamine-κ*N*]]bis[(trimethylsilyl)methyl]cobalt
Solvents: Heptane; 1 atm, 77 K; 4 atm, 77 K → 298 K; 24 h, 80 ± 2 °C

1.2 **Reagents:** Oxygen

Experimental Protocols

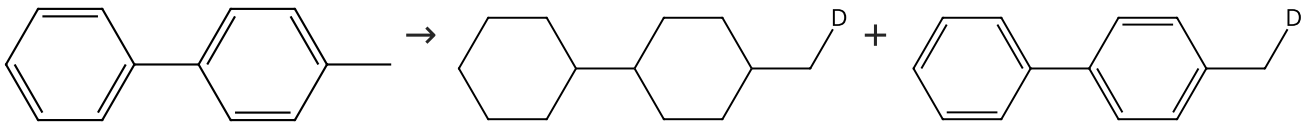
Cobalt-Catalyzed Stereoretentive Hydrogen Isotope Exchange of C(sp^3)-H Bonds

By: Palmer, W. Neil; et al

ACS Catalysis (2017), 7(9), 5674-5678.

Scheme 33 (1 Reaction)

Steps: **1**



Suppliers (86)

31-116-CAS-17877342

Steps: **1**

1.1 **Reagents:** Deuterium
Catalysts: (*SP*-4-2)-[*N*,*N*′-(1,2-Dimethyl-1,2-ethanediylidene)bis[2,6-bis(1-methylethyl)benzenamine-κ*N*]]bis[(trimethylsilyl)methyl]cobalt
Solvents: Heptane; 24 h, 1 atm, 50 ± 2 °C

1.2 **Reagents:** Oxygen

Experimental Protocols

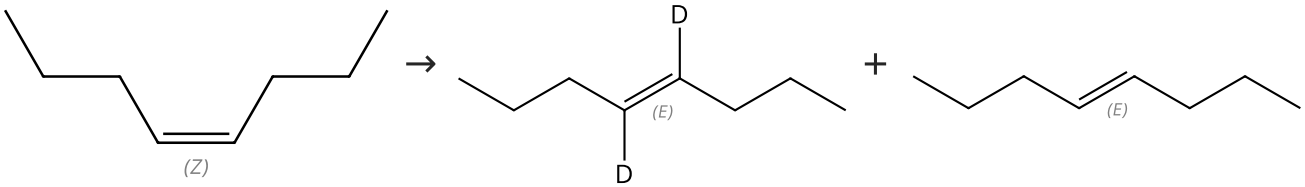
Cobalt-Catalyzed Stereoretentive Hydrogen Isotope Exchange of C(sp^3)-H Bonds

By: Palmer, W. Neil; et al

ACS Catalysis (2017), 7(9), 5674-5678.

Scheme 34 (1 Reaction)

Steps: **1**



Double bond geometry shown

Suppliers (50)

Double bond geometry shown

Double bond geometry shown

Suppliers (54)

31-116-CAS-16142512 Steps: **1**

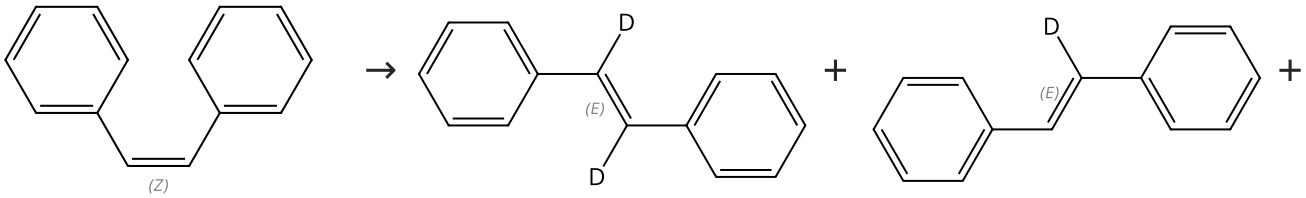
1.1 **Reagents:** Deuterium
Catalysts: (*SP*-5-14)-(Dinitrogen)[[1,1'-(1,3-phenylene-κ*C*^{2})bis[2,3-dihydro-3-(2,4,6-trimethylphenyl)-1*H*-benzimidazolato-κ*C*^{2}]](5-)](triphenylphosphine)cobalt
Solvents: Benzene-d_6; 1 atm, 77 K; 4 atm, 77 K → rt; 5 h, 4 atm, rt

Alkyne Semihydrogenation with a Well-Defined Nonclassical Co-H_2 Catalyst: A H_2 Spin on Isomerization and E-Selectivity

By: Tokmic, Kenan; et al

Journal of the American Chemical Society (2016), 138(41), 13700-13705.

Scheme 35 (1 Reaction) Steps: **1**



Double bond geometry shown

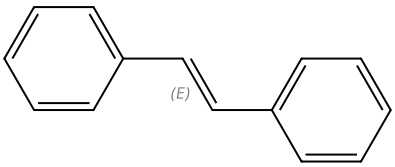
Suppliers (65)

Double bond geometry shown

Suppliers (19)

Double bond geometry shown

Supplier (1)



Double bond geometry shown

Suppliers (79)

31-116-CAS-16142511 Steps: **1**

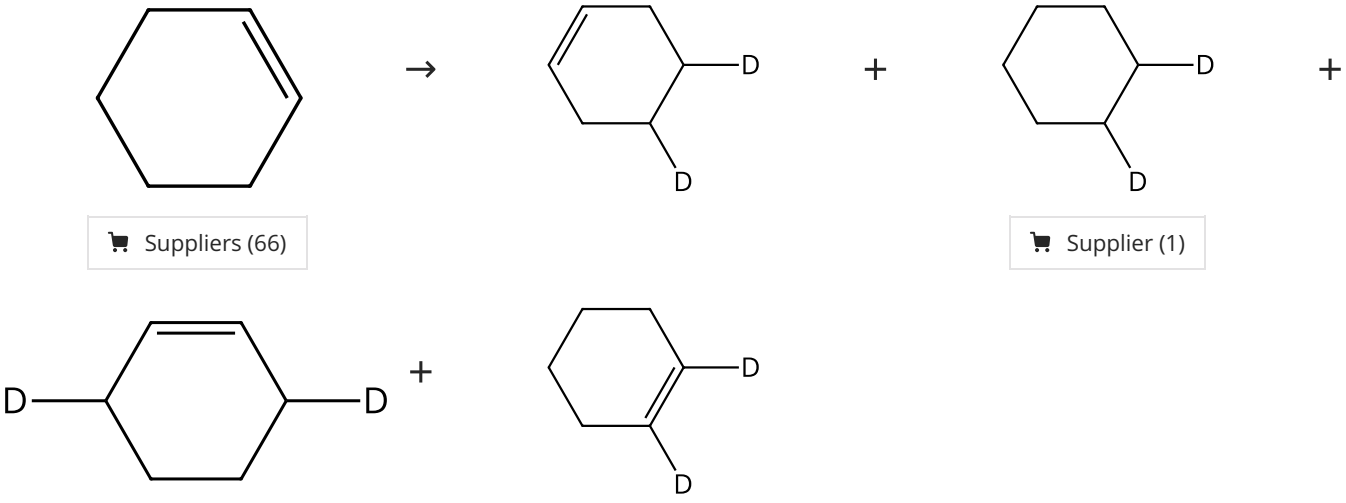
1.1 **Reagents:** Deuterium
Catalysts: (*SP*-5-14)-(Dinitrogen)[[1,1'-(1,3-phenylene-κ*C*^{2})bis[2,3-dihydro-3-(2,4,6-trimethylphenyl)-1*H*-benzimidazolato-κ*C*^{2}]](5-)](triphenylphosphine)cobalt
Solvents: Benzene-d_6; 1 atm, 77 K; 4 atm, 77 K → rt; 2 h, 4 atm, rt

Alkyne Semihydrogenation with a Well-Defined Nonclassical Co-H_2 Catalyst: A H_2 Spin on Isomerization and E-Selectivity

By: Tokmic, Kenan; et al

Journal of the American Chemical Society (2016), 138(41), 13700-13705.

Scheme 36 (1 Reaction) Steps: **1**



Suppliers (66)

Supplier (1)

31-116-CAS-16040698	Steps: 1
1.1 **Reagents:** Deuterium **Catalysts:** (*SP*-5-14)-(Dinitrogen)[[1,1'-(1,3-phenylene-κC^2)bis[2,3-dihydro-3-(2,4,6-trimethylphenyl)-1*H*-benzimidazolato-κC^2]](5-)](triphenylphosphine)cobalt **Solvents:** Benzene-d_6; 1 atm, 77 K; 77 K → rt; 24 h, 48 atm, 60 °C	
Experimental Protocols	

Well-Defined Cobalt(I) Dihydrogen Catalyst: Experimental Evidence for a Co(I)/Co(III) Redox Process in Olefin Hydroge nation

By: Tokmic, Kenan; et al

Journal of the American Chemical Society (2016), 138(36), 11907-11913.