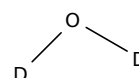


Initiating Search

February 24, 2025, 11:14 AM



 Substances:

Filtered By:



Structure Match: As Drawn

Search Tasks

Task	Search Type	View
Returned Substance Results + Filters (1,728)	 Substances	View Results
Exported: Retrieved Related Reaction Results + Filters (457)	 Reactions	View Results
Filtered By:		
Substance Role:	Reagent, Solvent	
Catalyst:	Benzoic acid, cobalt(2+) salt (2:1), Borate(1-), tetrafluoro-, cobalt(2+) (2:1), Carbonyl(η^5 -2,4-cyclopentadien-1-yl)diiodocobalt, Carbonyldiiodo[(1,2,3,4,5- η)-1,2,3,4,5-pentamethyl-2,4-cyclopentadien-1-yl]cobalt, Cobalt, Cobalt, [1,1'-bis(diphenylphosphino)ferrocene- <i>P,P'</i>]dibromo-, (<i>T</i> -4)-, Cobalt, [1,1'-bis(diphenylphosphino)ferrocene- <i>P,P'</i>]diiodo-, (<i>T</i> -4)-, Cobalt, [1,1'-bis(diphenylphosphino- κP)ferrocene]dichloro-, (<i>T</i> -4)-, Cobalt, [1,4,8,11,15,18,22,25-octakis(pentyloxy)-29 <i>H</i> ,31 <i>H</i> -phthalocyaninato(2-)- <i>N</i> ²⁹ , <i>N</i> ³⁰ , <i>N</i> ³¹ , <i>N</i> ³²]-, (<i>SP</i> -4-1)-, Cobalt(16+), dodecakis[μ -[2,2'-[1,5-naphthalenediylbis(methylene-1 <i>H</i> -pyrazole-1,3-diyl- κN^2)]bis[pyridine- κM]]]octa-, chloride (1:16), stereoisomer, Cobalt(1+), (acetonitrile) [(1,2,3,4,5- η)-1,2,3,4,5-pentamethyl-2,4-cyclopentadien-1-yl][2-(2-pyridinyl- κM)phenyl- κC]-, tetrafluoroborate(1-) (1:1), Cobalt(1+), [octahydro-1-[(4-methylphenyl)sulfonyl]-4,7-bis[(2-pyridinyl- κM)methyl]-1 <i>H</i> -1,4,7-triazonine- κN^1 , κN^4 , κN^7](1,1,1-trifluoromethanesulfonato- κO)-, (<i>OC</i> -6-43)-, 1,1,1-trifluoromethanesulfonate (1:1), Cobalt(2+),	

tris(acetonitrile)[(1,2,3,4,5- η)-1,2,3,4,5-pentamethyl-2,4-cyclopentadien-1-yl]-, (OC-6-11)-hexafluoroantimonate(1-)(1:2), Cobalt acetate tetrahydrate, Cobaltate(1-), dibromobis[(2,3-butanedione dioximato)(1-)-*N,N'*]-, Cobaltate(2-), bis[[2,3-butanedione 2,3-di(oximato- κN)](1-)]chloro[*P*-(4-pyridinyl- κM)phosphonato(2-)]-, hydrogen (1:2), (OC-6-42)-, Cobaltate(8-), [[5,5',5'',5'''-(21*H*,23*H*-porphine-5,10,15,20-tetra-yl- $\kappa N^{21}, \kappa N^{22}, \kappa N^{23}, \kappa N^{24}$)tetrakis[2,4,6-trimethyl-1,3-benzenedisulfonato]](10-)]-, sodium (1:8), (*SP*-4-1)-, Cobalt, bis(1,1,1,5,5,5-hexafluoro-2,4-pentanedionato- $\kappa O, \kappa O'$)-, hydrate, (*T*-4)-, Cobalt, bis[[2,3-butanedione di(oximato- κM)](1-)]chloro(pyridine)-, (OC-6-42)-, Cobalt bis(tetrafluoroborate) hexahydrate, Cobalt bromide (CoBr₂), hexahydrate, Cobalt chloride (CoCl₂), Cobalt, compd. with rhodium (2:2), Cobalt diacetate, Cobalt dibromide, Cobalt dichloride hexahydrate, Cobalt, di- μ -chlorodichlorobis[(1,2,3,4,5- η)-1,2,3,4,5-pentamethyl-2,4-cyclopentadien-1-yl]di-, stereoisomer, Cobalt(II) acetylacetonate, Cobalt(II) perchlorate, Cobalt iodide (CoI₂), Cobalt nitrate hexahydrate, Cobalt perchlorate hexahydrate, Cobalt phthalocyanine, Cobalt stearate, Cobalt tetraphenylporphine, Cobalt tetra(*p*-methoxyphenyl)porphyrin, Dibromo[*N*-[1-[6-[(4*S*)-4,5-dihydro-4-(1-methylethyl)-1-phenyl-1*H*-imidazol-2-yl- κN^2]-2-pyridinyl- κM]ethylidene]-2,6-dimethylbenzenamine- κM]cobalt, Dicarbonyl(η^5 -cyclopentadienyl)cobalt, Dicobalt octacarbonyl, Di- μ -iododiiodobis[(1,2,3,4,5- η)-1,2,3,4,5-pentamethyl-2,4-cyclopentadien-1-yl]dicobalt, Methanesulfonic acid, 1,1,1-trifluoro-, cobalt(2+) salt (2:1), (OC-6-12)-Dibromobis[[2,3-butanedione 2,3-di(oximato- κM)](1-)]cobaltate(2-), (OC-6-13)-[2,6-Bis[[bis(1-methylethyl)phosphino- κP]methyl]-4-methylpyridine- κM]dihydro(4,4,5,5-tetramethyl-1,3,2-dioxaborolan-2-yl)cobalt, (OC-6-42)-Bis[[2,3-butanedione 2,3-di(oximato- κM)](1-)]chloro(*N,N*-dimethyl-4-pyridinamine- κN^1)cobalt, (OC-6-42)-Chlorobis[[1,2-cyclohexanedione 1,2-di(oximato- κM)](1-)](*N,N*-dimethyl-4-pyridinamine- κN^1)cobalt, (*SP*-4-2)-[[2,2'-[(1,1,2,2-Tetramethyl-1,2-ethanediyl)bis[(nitrilo- κM)methylidyne]]bis[4,6-bis(1,1-dimethylethyl)phenolato- κO]](2-)]cobalt, (*SP*-4-2)-[[2,2'-[1,2-Ethanediylbis[(nitrilo- κM)methylidyne]]bis[6-chlorophenolato- κO]](2-)]cobalt, (*SP*-4-2)-[[2,2'-[1,2-Phenylenebis[(nitrilo- κM)methylidyne]]bis[4,6-bis(1,1-dimethylethyl)phenolato- κO]](2-)]cobalt, (*SP*-4-2)-[[*rel*-(1*R*,2*R*)-2,2'-[1,2-Cyclohexanediylbis[(nitrilo- κM)methylidyne]]bis[phenolato- κO]](2-)]cobalt, (*T*-4)-[1,1'-(1,2-Ethanediyl)bis[1,1-diphenylphosphine- κP]]diiodocobalt, (*T*-4)-Dichloro[1,1'-(1,2-ethanediyl)bis[1,1-diphenylphosphine- κP]]cobalt, (*T*-4)-

Document
Type:
Language:

Dichloro[1,1'-(9,9-dimethyl-9*H*-xanthene-4,5-
diyl)bis[1,1-diphenylphosphine- κP]]cobalt, (7-
4)-Diiodobis(triphenylphosphine)cobalt, (7*B*-5-
22)-Dichloro[*N,N*-[(2,6-pyridinediyl-
 κM)diethyldiyl]bis[2,4,6-
trimethylbenzenamine- κM]]cobalt

Journal

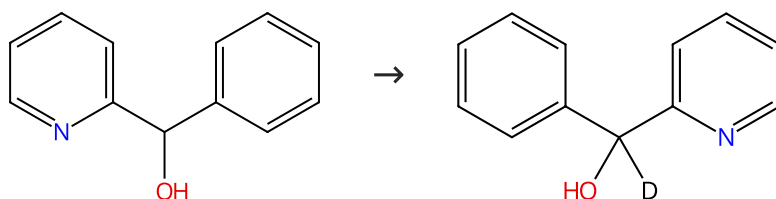
English

Reactions (134)

[View in CAS SciFinder](#)

Scheme 1 (1 Reaction)

Steps: 1 Yield: 100%


 Suppliers (81)

31-614-CAS-36795072

Steps: 1 Yield: 100%

Cobalt-Catalyzed Chemoselective Reduction of N-Heteroaryl Ketones with N,N-Dimethylformamide as a Hydride Source

By: Yu, Rurong; et al

Journal of Organic Chemistry (2023), 88(13), 8279-8285.

1.1 **Reagents:** Dimethylformamide, Water- d_2
Catalysts: Cobalt stearate
Solvents: Water; 24 h, 150 °C

Experimental Protocols

Scheme 2 (1 Reaction)

Steps: 1 Yield: 99%


 Suppliers (9)

31-614-CAS-37018528

Steps: 1 Yield: 99%

Visible light promoted direct deuteration of alkenes via Co(III)-H mediated H/D exchange

By: Jia, Zongbin; et al

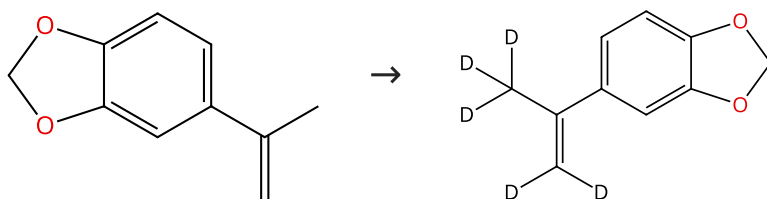

CCS Chemistry (2023), 5(5), 1069-1076.

1.1 **Reagents:** Water- d_2
Catalysts: Diisopropylethylamine, Iridium(1+), [4,4'-bis(1,1-dimethylethyl)-2,2'-bipyridine- $\kappa N^1, \kappa N^1$]bis[2-(2-pyridinyl- κM)phenyl- κC]-, (OC-6-33)-, hexafluorophosphate(1-) (1:1), (OC-6-42)-Chlorobis[[1,2-cyclohexanedione 1,2-di(oximato- κM)](1-)] (*N,N*-dimethyl-4-pyridinamine- κN^1)cobalt
Solvents: Acetonitrile; 36 h, rt

Experimental Protocols

Scheme 3 (1 Reaction)

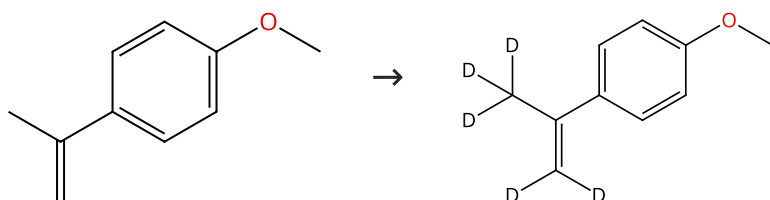
Steps: 1 Yield: 99%


 Suppliers (10)

31-614-CAS-37018394 Steps: 1 Yield: 99%	Visible light promoted direct deuteration of alkenes via Co(III)-H mediated H/D exchange
1.1 Reagents: Water- d_2 Catalysts: Diisopropylethylamine, Iridium(1+), [4,4'-bis(1,1-dimethylethyl)-2,2'-bipyridine- $\kappa N^1, \kappa N^1$]bis[2-(2-pyridinyl- κM)phenyl- κC]-, (<i>OC</i> -6-33)-, hexafluorophosphate(1-) (1:1), (<i>OC</i> -6-42)-Chlorobis[[1,2-cyclohexanedione 1,2-di(oximato- κM)](1-)] (<i>N,N</i> -dimethyl-4-pyridinamine- κN^1)cobalt Solvents: Acetonitrile; 36 h, rt	By: Jia, Zongbin; et al CCS Chemistry (2023), 5(5), 1069-1076.
Experimental Protocols	

Scheme 4 (1 Reaction)

Steps: 1 Yield: 99%

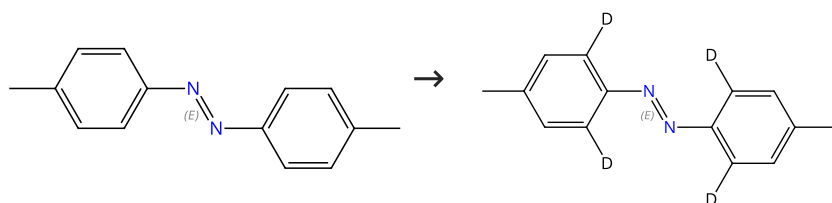


Suppliers (63)

31-614-CAS-37018415 Steps: 1 Yield: 99%	Visible light promoted direct deuteration of alkenes via Co(III)-H mediated H/D exchange
1.1 Reagents: Water- d_2 Catalysts: Diisopropylethylamine, Iridium(1+), [4,4'-bis(1,1-dimethylethyl)-2,2'-bipyridine- $\kappa N^1, \kappa N^1$]bis[2-(2-pyridinyl- κM)phenyl- κC]-, (<i>OC</i> -6-33)-, hexafluorophosphate(1-) (1:1), (<i>OC</i> -6-42)-Chlorobis[[1,2-cyclohexanedione 1,2-di(oximato- κM)](1-)] (<i>N,N</i> -dimethyl-4-pyridinamine- κN^1)cobalt Solvents: Acetonitrile; 36 h, rt	By: Jia, Zongbin; et al CCS Chemistry (2023), 5(5), 1069-1076.
Experimental Protocols	

Scheme 5 (2 Reactions)

Steps: 1 Yield: 99%



Double bond geometry shown

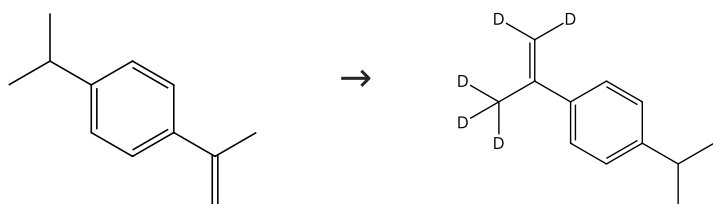
Double bond geometry shown

Suppliers (21)

31-116-CAS-17255586 Steps: 1 Yield: 99%	Cobalt(III)-Catalyzed C-H Activation: Azo Directed Selective 1,4-Addition of Ortho C-H Bond to Maleimides
1.1 Reagents: Sodium acetate, Water- d_2 Catalysts: Silver hexafluoroantimonate, Carbonyldiiodo[(1,2,3,4,5- η)-1,2,3,4,5-pentamethyl-2,4-cyclopentadien-1-yl]cobalt Solvents: 1,2-Dichloroethane; 1 - 2 h, 120 °C	By: Muniraj, Nachimuthu; et al Journal of Organic Chemistry (2017), 82(13), 6913-6921.
Experimental Protocols	
31-116-CAS-18009148 Steps: 1 Yield: 99%	Cobalt(III)-Catalyzed C-H Amidation of Azobenzene Derivatives Using Dioxazolone as an Amidating Reagent
1.1 Reagents: Water- d_2 Catalysts: Sodium acetate, Silver hexafluoroantimonate, Carbonyldiiodo[(1,2,3,4,5- η)-1,2,3,4,5-pentamethyl-2,4-cyclopentadien-1-yl]cobalt Solvents: 1,2-Dichloroethane; 2 h, 100 °C	By: Hande, Akshay Ekanath; et al ChemistrySelect (2017), 2(21), 5965-5969.

Scheme 6 (1 Reaction)

Steps: 1 Yield: 99%



Suppliers (38)

31-614-CAS-37018410

Steps: 1 Yield: 99%

Visible light promoted direct deuteration of alkenes via Co(III)-H mediated H/D exchange

By: Jia, Zongbin; et al

CCS Chemistry (2023), 5(5), 1069-1076.

1.1 Reagents: Water- d_2

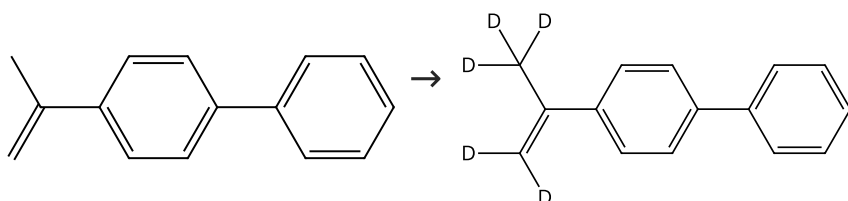
Catalysts: Diisopropylethylamine, Iridium(1+), [4,4'-bis(1,1-dimethylethyl)-2,2'-bipyridine- $\kappa N^1, \kappa N^1$]bis[2-(2-pyridinyl- κM)phenyl- κC]-, (OC-6-33)-, hexafluorophosphate(1-) (1:1), (OC-6-42)-Chlorobis[[1,2-cyclohexanedione 1,2-di(oximato- κM)](1-)] (*N,N*-dimethyl-4-pyridinamine- κN^1)cobalt

Solvents: Acetonitrile; 36 h, rt

Experimental Protocols

Scheme 7 (1 Reaction)

Steps: 1 Yield: 99%



Suppliers (33)

31-614-CAS-37018422

Steps: 1 Yield: 99%

Visible light promoted direct deuteration of alkenes via Co(III)-H mediated H/D exchange

By: Jia, Zongbin; et al

CCS Chemistry (2023), 5(5), 1069-1076.

1.1 Reagents: Water- d_2

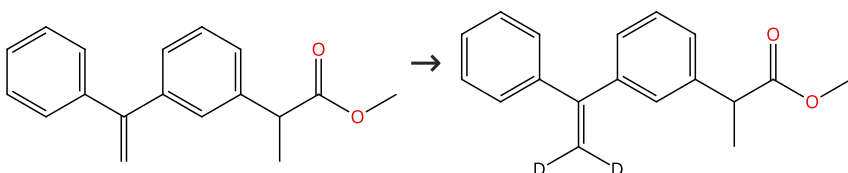
Catalysts: Diisopropylethylamine, Iridium(1+), [4,4'-bis(1,1-dimethylethyl)-2,2'-bipyridine- $\kappa N^1, \kappa N^1$]bis[2-(2-pyridinyl- κM)phenyl- κC]-, (OC-6-33)-, hexafluorophosphate(1-) (1:1), (OC-6-42)-Chlorobis[[1,2-cyclohexanedione 1,2-di(oximato- κM)](1-)] (*N,N*-dimethyl-4-pyridinamine- κN^1)cobalt

Solvents: Acetonitrile; 36 h, rt

Experimental Protocols

Scheme 8 (1 Reaction)

Steps: 1 Yield: 98%

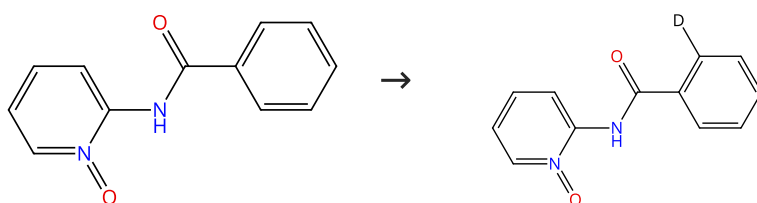


Suppliers (8)

31-614-CAS-37018529 Steps: 1 Yield: 98% 1.1 Reagents: Water- d_2 Catalysts: Diisopropylethylamine, Iridium(1+), [4,4'-bis(1,1-dimethylethyl)-2,2'-bipyridine- $\kappa N^1, \kappa N^1$]bis[2-(2-pyridinyl- κM)phenyl- κC]-, (OC-6-33)-, hexafluorophosphate(1-) (1:1), (OC-6-42)-Chlorobis[[1,2-cyclohexanedione 1,2-di(oximato- κM)](1-)] (<i>N,N</i> -dimethyl-4-pyridinamine- κN^1)cobalt Solvents: Acetonitrile; 36 h, rt	Visible light promoted direct deuteration of alkenes via Co(III)-H mediated H/D exchange By: Jia, Zongbin; et al CCS Chemistry (2023), 5(5), 1069-1076.
Experimental Protocols	

Scheme 9 (1 Reaction)

Steps: 1 Yield: 98%

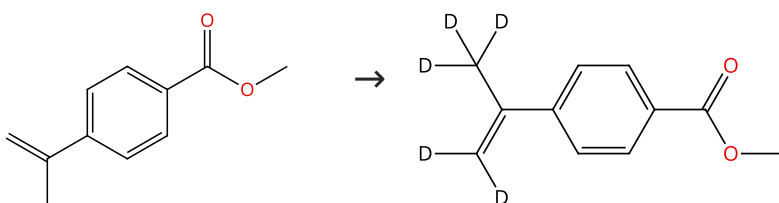


Suppliers (8)

31-116-CAS-15641639 Steps: 1 Yield: 98% 1.1 Reagents: Pivalic acid, Oxygen Catalysts: Cobalt diacetate Solvents: 2,2,2-Trifluoroethanol, Water- d_2 ; 16 h, 60 °C 1.2 Reagents: Sodium bicarbonate Solvents: Water	Cobalt-Catalyzed Oxidase C-H/N-H Alkyne Annulation: Mechanistic Insights and Access to Anticancer Agents By: Mei, Ruhuai; et al Chemistry - A European Journal (2016), 22(20), 6759-6763.
Experimental Protocols	

Scheme 10 (1 Reaction)

Steps: 1 Yield: 98%



Suppliers (9)

31-614-CAS-37018444 Steps: 1 Yield: 98% 1.1 Reagents: Water- d_2 Catalysts: Diisopropylethylamine, Iridium(1+), [4,4'-bis(1,1-dimethylethyl)-2,2'-bipyridine- $\kappa N^1, \kappa N^1$]bis[2-(2-pyridinyl- κM)phenyl- κC]-, (OC-6-33)-, hexafluorophosphate(1-) (1:1), (OC-6-42)-Chlorobis[[1,2-cyclohexanedione 1,2-di(oximato- κM)](1-)] (<i>N,N</i> -dimethyl-4-pyridinamine- κN^1)cobalt Solvents: Acetonitrile; 36 h, rt	Visible light promoted direct deuteration of alkenes via Co(III)-H mediated H/D exchange By: Jia, Zongbin; et al CCS Chemistry (2023), 5(5), 1069-1076.
Experimental Protocols	

Scheme 11 (1 Reaction)

Steps: 1 Yield: 98%



Absolute stereochemistry shown

Steps: **1** Yield: **98%**

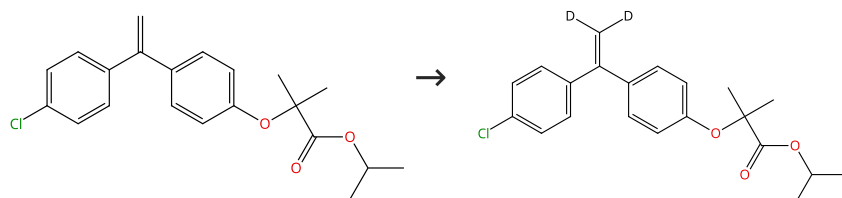
By: Jia, Zongbin; et al

CCS Chemistry (2023), 5(5), 1069-1076.

Catalysts: Diisopropylethylamine, Iridium(1+), [4,4'-bis(1,1-dimethylethyl)-2,2'-bipyridine- $\kappa N^1, \kappa N^1$ ']bis[2-(2-pyridinyl- κN) phenyl- κC]-, (*OC*-6-33)-, hexafluorophosphate(1-) (1:1), (*OC*-6-42)-Chlorobis[[1,2-cyclohexanedione 1,2-di(oximato- κN)](1-)] (*N,N*-dimethyl-4-pyridinamine- κN^1)cobalt

Solvents: Acetonitrile; 36 h, rt

Experimental Protocols

Steps: **1** Yield: **96%**

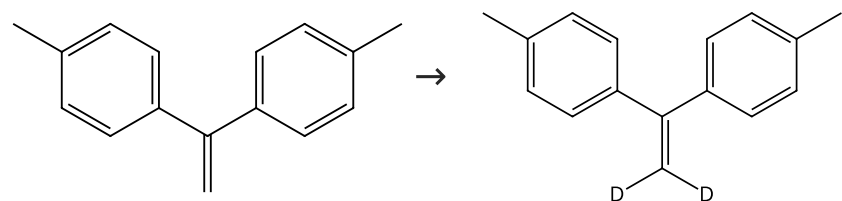
By: Jia, Zongbin; et al

CCS Chemistry (2023), 5(5), 1069-1076.

Catalysts: Diisopropylethylamine, Iridium(1+), [4,4'-bis(1,1-dimethylethyl)-2,2'-bipyridine- $\kappa N^1, \kappa N^1$ ']bis[2-(2-pyridinyl- κN) phenyl- κC]-, (*OC*-6-33)-, hexafluorophosphate(1-) (1:1), (*OC*-6-42)-Chlorobis[[1,2-cyclohexanedione 1,2-di(oximato- κN)](1-)] (*N,N*-dimethyl-4-pyridinamine- κN^1)cobalt

Solvents: Acetonitrile; 36 h, rt

Experimental Protocols



 Suppliers (29)

Steps: **1** Yield: **96%**

By: Jia, Zongbin; et al

CCS Chemistry (2023), 5(5), 1069-1076.

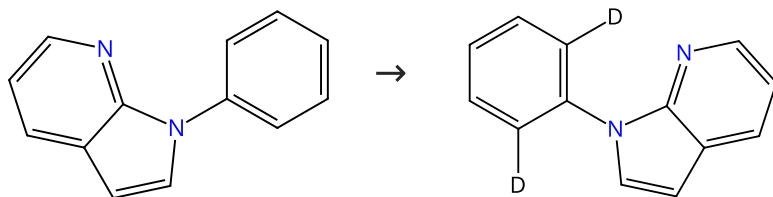
Catalysts: Diisopropylethylamine, Iridium(1+), [4,4'-bis(1,1-dimethylethyl)-2,2'-bipyridine- $\kappa N^1, \kappa N^1$]bis[2-(2-pyridinyl- κN) phenyl- κC]-, (*OC*-6-33)-, hexafluorophosphate(1-) (1:1), (*OC*-6-42)-Chlorobis[[1,2-cyclohexanedione 1,2-di(oximato- κN)](1-)] (*N,N*-dimethyl-4-pyridinamine- κN^1)cobalt

Solvents: Acetonitrile; 36 h, rt

Experimental Protocols

Scheme 14 (1 Reaction)

Steps: 1 Yield: 96%



Suppliers (6)

31-116-CAS-19137684

Steps: 1 Yield: 96%

Cobalt(III)-Catalyzed C-H Amidation of 7-Azaindoles with Dioxazolones: Synthesis of 7-Azaindole Amidated Derivatives

By: Sun, Jun-Shu; et al

Journal of Organic Chemistry (2018), 83(17), 10555-10563.

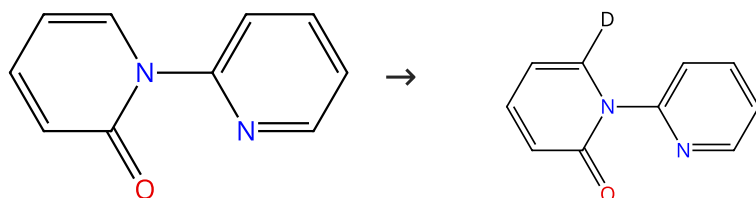
1.1 **Catalysts:** [1,1,1-Trifluoro-*N*-[(trifluoromethyl)sulfonyl- κ O]methanesulfonamidato- κ O]silver, Cobalt, di- μ -chlorodichlorobis[(1,2,3,4,5- η)-1,2,3,4,5-pentamethyl-2,4-cyclopentadien-1-yl]di-, stereoisomer; 3 h, 100 °C

1.2 **Reagents:** Water- d_2 ; 2 h, 100 °C

Experimental Protocols

Scheme 15 (1 Reaction)

Steps: 1 Yield: 96%



Suppliers (8)

31-614-CAS-41215476

Steps: 1 Yield: 96%

Co(III)-catalyzed regioselective benzannulation of substituted pyridones with 1,6-diynes via dual C-H bond activation

By: Yadav, Suresh Kumar; et al

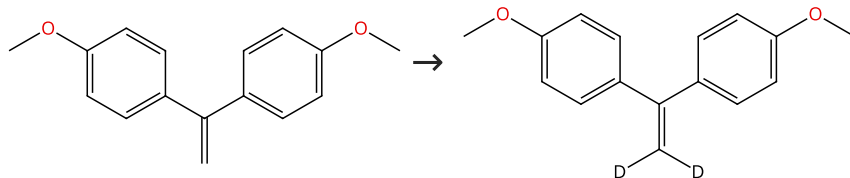
Chemical Communications (Cambridge, United Kingdom) (2024), 60(63), 8296-8299.

1.1 **Reagents:** Silver carbonate, Water- d_2
Catalysts: Cupric acetate, Silver hexafluoroantimonate, Carbonyldiiodo[(1,2,3,4,5- η)-1,2,3,4,5-pentamethyl-2,4-cyclopentadien-1-yl]cobalt
Solvents: 2,2,2-Trifluoroethanol; 12 h, 110 °C

Experimental Protocols

Scheme 16 (1 Reaction)

Steps: 1 Yield: 96%



Suppliers (25)

31-614-CAS-37018514

Steps: 1 Yield: 96%

Visible light promoted direct deuteration of alkenes via Co(III)-H mediated H/D exchange

By: Jia, Zongbin; et al

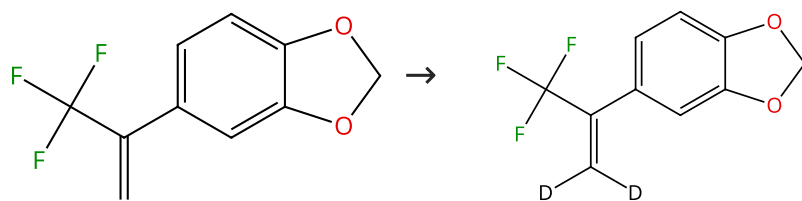
CCS Chemistry (2023), 5(5), 1069-1076.

1.1 **Reagents:** Water- d_2
Catalysts: Diisopropylethylamine, Iridium(1+), [4,4'-bis(1,1-dimethylethyl)-2,2'-bipyridine- κ N¹, κ N^{1'}]bis[2-(2-pyridinyl- κ M)phenyl- κ C]-, (OC-6-33)-, hexafluorophosphate(1-) (1:1), (OC-6-42)-Chlorobis[[1,2-cyclohexanedione 1,2-di(oximato- κ M)](1-)] (*N,N*-dimethyl-4-pyridinamine- κ N¹)cobalt
Solvents: Acetonitrile; 36 h, rt

Experimental Protocols

Scheme 17 (1 Reaction)

Steps: 1 Yield: 96%



Suppliers (4)

31-614-CAS-37018524

Steps: 1 Yield: 96%

Visible light promoted direct deuteration of alkenes via Co(III)-H mediated H/D exchange

By: Jia, Zongbin; et al

CCS Chemistry (2023), 5(5), 1069-1076.

1.1 Reagents: Water- d_2

Catalysts: Diisopropylethylamine, Iridium(1+), [4,4'-bis(1,1-dimethylethyl)-2,2'-bipyridine- $\kappa N^1, \kappa N^1$]bis[2-(2-pyridinyl- κM)phenyl- κC]-, (OC-6-33)-, hexafluorophosphate(1-) (1:1), (OC-6-42)-Chlorobis[[1,2-cyclohexanedione 1,2-di(oximato- κM)](1-)] (*N,N*-dimethyl-4-pyridinamine- κN^1)cobalt

Solvents: Acetonitrile; 36 h, rt

Experimental Protocols

Scheme 18 (1 Reaction)

Steps: 1 Yield: 96%



Suppliers (3)

31-614-CAS-37018484

Steps: 1 Yield: 96%

Visible light promoted direct deuteration of alkenes via Co(III)-H mediated H/D exchange

By: Jia, Zongbin; et al

CCS Chemistry (2023), 5(5), 1069-1076.

1.1 Reagents: Water- d_2

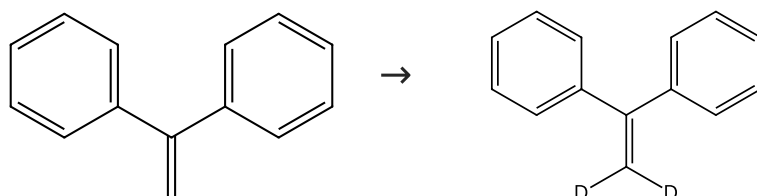
Catalysts: Diisopropylethylamine, Iridium(1+), [4,4'-bis(1,1-dimethylethyl)-2,2'-bipyridine- $\kappa N^1, \kappa N^1$]bis[2-(2-pyridinyl- κM)phenyl- κC]-, (OC-6-33)-, hexafluorophosphate(1-) (1:1), (OC-6-42)-Chlorobis[[1,2-cyclohexanedione 1,2-di(oximato- κM)](1-)] (*N,N*-dimethyl-4-pyridinamine- κN^1)cobalt

Solvents: Acetonitrile; 36 h, rt

Experimental Protocols

Scheme 19 (1 Reaction)

Steps: 1 Yield: 96%



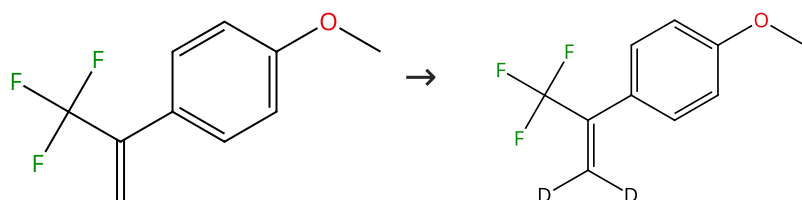
Suppliers (77)

Supplier (1)

31-614-CAS-37018501 Steps: 1 Yield: 96% 1.1 Reagents: Water- d_2 Catalysts: Diisopropylethylamine, Iridium(1+), [4,4'-bis(1,1-dimethylethyl)-2,2'-bipyridine- $\kappa N^1, \kappa N^1$]bis[2-(2-pyridinyl- κM)phenyl- κC]-, (OC-6-33)-, hexafluorophosphate(1-) (1:1), (OC-6-42)-Chlorobis[[1,2-cyclohexanedione 1,2-di(oximato- κM)](1-)] (<i>N,N</i> -dimethyl-4-pyridinamine- κN^1)cobalt Solvents: Acetonitrile; 36 h, rt	Visible light promoted direct deuteration of alkenes via Co(III)-H mediated H/D exchange By: Jia, Zongbin; et al CCS Chemistry (2023), 5(5), 1069-1076.
Experimental Protocols	

Scheme 20 (1 Reaction)

Steps: 1 Yield: 96%

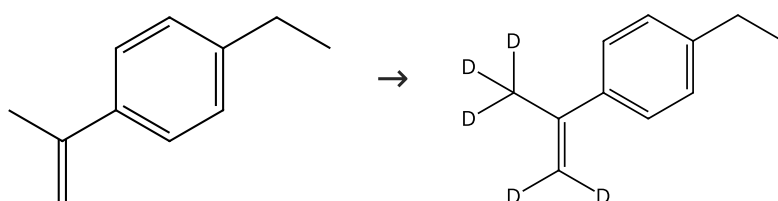


Suppliers (9)

31-614-CAS-37018526 Steps: 1 Yield: 96% 1.1 Reagents: Water- d_2 Catalysts: Diisopropylethylamine, Iridium(1+), [4,4'-bis(1,1-dimethylethyl)-2,2'-bipyridine- $\kappa N^1, \kappa N^1$]bis[2-(2-pyridinyl- κM)phenyl- κC]-, (OC-6-33)-, hexafluorophosphate(1-) (1:1), (OC-6-42)-Chlorobis[[1,2-cyclohexanedione 1,2-di(oximato- κM)](1-)] (<i>N,N</i> -dimethyl-4-pyridinamine- κN^1)cobalt Solvents: Acetonitrile; 36 h, rt	Visible light promoted direct deuteration of alkenes via Co(III)-H mediated H/D exchange By: Jia, Zongbin; et al CCS Chemistry (2023), 5(5), 1069-1076.
Experimental Protocols	

Scheme 21 (1 Reaction)

Steps: 1 Yield: 95%

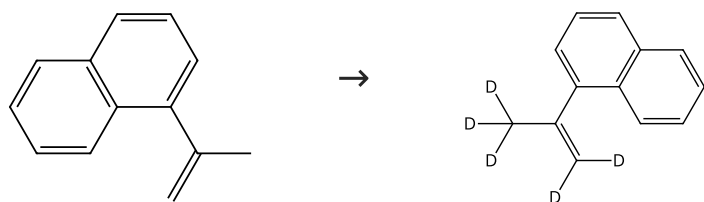


Suppliers (11)

31-614-CAS-37018398 Steps: 1 Yield: 95% 1.1 Reagents: Water- d_2 Catalysts: Diisopropylethylamine, Iridium(1+), [4,4'-bis(1,1-dimethylethyl)-2,2'-bipyridine- $\kappa N^1, \kappa N^1$]bis[2-(2-pyridinyl- κM)phenyl- κC]-, (OC-6-33)-, hexafluorophosphate(1-) (1:1), (OC-6-42)-Chlorobis[[1,2-cyclohexanedione 1,2-di(oximato- κM)](1-)] (<i>N,N</i> -dimethyl-4-pyridinamine- κN^1)cobalt Solvents: Acetonitrile; 36 h, rt	Visible light promoted direct deuteration of alkenes via Co(III)-H mediated H/D exchange By: Jia, Zongbin; et al CCS Chemistry (2023), 5(5), 1069-1076.
Experimental Protocols	

Scheme 22 (1 Reaction)

Steps: 1 Yield: 95%



Suppliers (14)

31-614-CAS-37018476

Steps: 1 Yield: 95%

Visible light promoted direct deuteration of alkenes via Co(III)-H mediated H/D exchange

By: Jia, Zongbin; et al

CCS Chemistry (2023), 5(5), 1069-1076.

1.1 Reagents: Water- d_2

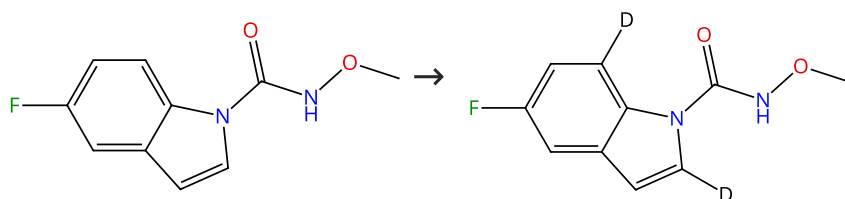
Catalysts: Diisopropylethylamine, Iridium(1+), [4,4'-bis(1,1-dimethylethyl)-2,2'-bipyridine- $\kappa N^1, \kappa N^1$]bis[2-(2-pyridinyl- κM)phenyl- κC]-, (OC-6-33)-, hexafluorophosphate(1-) (1:1), (OC-6-42)-Chlorobis[[1,2-cyclohexanedione 1,2-di(oximato- κM)](1-)] (N,N-dimethyl-4-pyridinamine- κN^1)cobalt

Solvents: Acetonitrile; 36 h, rt

Experimental Protocols

Scheme 23 (1 Reaction)

Steps: 1 Yield: 95%



31-116-CAS-22543033

Steps: 1 Yield: 95%

Versatile Regioselective Deuteration of Indoles via Transition-Metal-Catalyzed H/D Exchange

By: Zhang, Jinquan; et al

ACS Catalysis (2020), 10(14), 7486-7494.

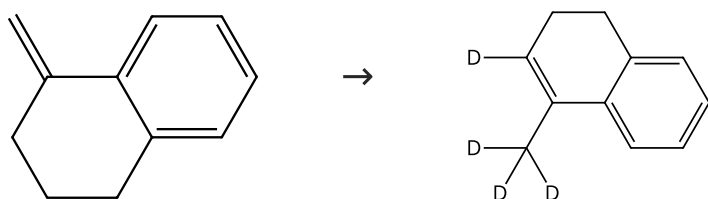
1.1 Reagents: Sodium acetate, Water- d_2

Catalysts: Bis[dichloro(η^5 -(pentamethylcyclopentadienyl))rhodium], Carbonyldiiodo[(1,2,3,4,5- η)-1,2,3,4,5-pentamethyl-2,4-cyclopentadien-1-yl]cobalt

Solvents: 1,2-Dichloroethane; 36 h, 25 °C

Scheme 24 (1 Reaction)

Steps: 1 Yield: 95%



Suppliers (19)

31-614-CAS-37018569

Steps: 1 Yield: 95%

Visible light promoted direct deuteration of alkenes via Co(III)-H mediated H/D exchange

By: Jia, Zongbin; et al

CCS Chemistry (2023), 5(5), 1069-1076.

1.1 Reagents: Water- d_2

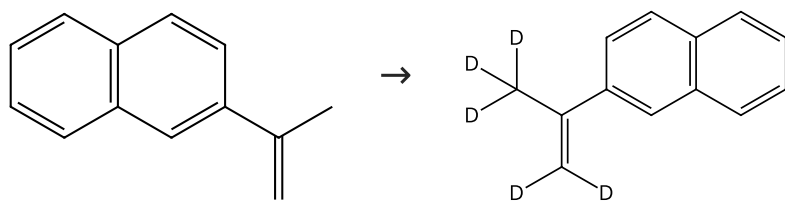
Catalysts: Diisopropylethylamine, Iridium(1+), [4,4'-bis(1,1-dimethylethyl)-2,2'-bipyridine- $\kappa N^1, \kappa N^1$]bis[2-(2-pyridinyl- κM)phenyl- κC]-, (OC-6-33)-, hexafluorophosphate(1-) (1:1), (OC-6-42)-Chlorobis[[1,2-cyclohexanedione 1,2-di(oximato- κM)](1-)] (N,N-dimethyl-4-pyridinamine- κN^1)cobalt

Solvents: Acetonitrile; 36 h, rt

Experimental Protocols

Scheme 25 (1 Reaction)

Steps: 1 Yield: 95%



Suppliers (55)

31-614-CAS-37018472

Steps: 1 Yield: 95%

Visible light promoted direct deuteration of alkenes via Co(III)-H mediated H/D exchange

By: Jia, Zongbin; et al

CCS Chemistry (2023), 5(5), 1069-1076.

1.1 Reagents: Water- d_2

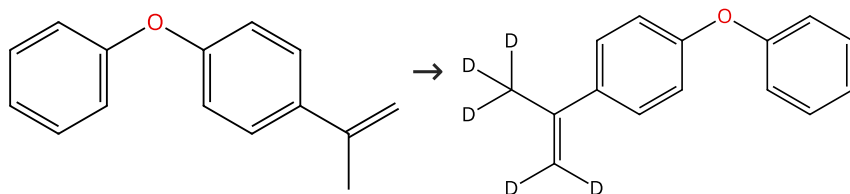
Catalysts: Diisopropylethylamine, Iridium(1+), [4,4'-bis(1,1-dimethylethyl)-2,2'-bipyridine- $\kappa N^1, \kappa N^1$]bis[2-(2-pyridinyl- κM)phenyl- κC]-, (OC-6-33)-, hexafluorophosphate(1-) (1:1), (OC-6-42)-Chlorobis[[1,2-cyclohexanedione 1,2-di(oximato- κM)](1-)] (N,N-dimethyl-4-pyridinamine- κN^1)cobalt

Solvents: Acetonitrile; 36 h, rt

Experimental Protocols

Scheme 26 (1 Reaction)

Steps: 1 Yield: 95%



Suppliers (12)

31-614-CAS-37018430

Steps: 1 Yield: 95%

Visible light promoted direct deuteration of alkenes via Co(III)-H mediated H/D exchange

By: Jia, Zongbin; et al

CCS Chemistry (2023), 5(5), 1069-1076.

1.1 Reagents: Water- d_2

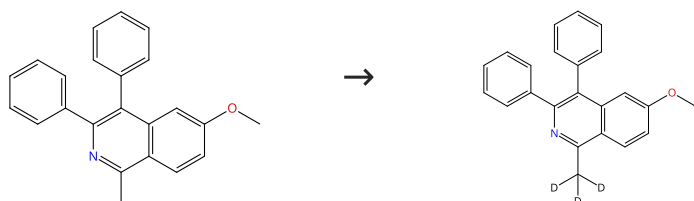
Catalysts: Diisopropylethylamine, Iridium(1+), [4,4'-bis(1,1-dimethylethyl)-2,2'-bipyridine- $\kappa N^1, \kappa N^1$]bis[2-(2-pyridinyl- κM)phenyl- κC]-, (OC-6-33)-, hexafluorophosphate(1-) (1:1), (OC-6-42)-Chlorobis[[1,2-cyclohexanedione 1,2-di(oximato- κM)](1-)] (N,N-dimethyl-4-pyridinamine- κN^1)cobalt

Solvents: Acetonitrile; 36 h, rt

Experimental Protocols

Scheme 27 (1 Reaction)

Steps: 1 Yield: 95%

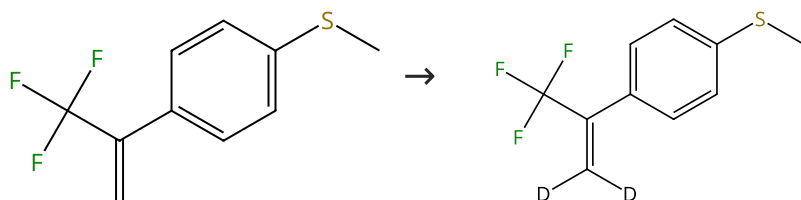


Suppliers (2)

<p>31-116-CAS-10755748 Steps: 1 Yield: 95%</p> <p>1.1 Reagents: Oxygen, Water-d_2 Catalysts: Sodium acetate, Silver hexafluoroantimonate, Carbonyldiiodo[(1,2,3,4,5-η)-1,2,3,4,5-pentamethyl-2,4-cyclopentadien-1-yl]cobalt Solvents: 1,2-Dichloroethane; 15 min, 120 °C</p> <p>Experimental Protocols</p>	<p>Cobalt(III)-Catalyzed C-H/N-O Functionalizations: Isohypsic Access to Isoquinolines</p> <p>By: Wang, Hui; et al</p> <p>Chemistry - A European Journal (2015), 21(44), 15525-15528.</p>
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Scheme 28 (1 Reaction)

Steps: 1 Yield: 94%

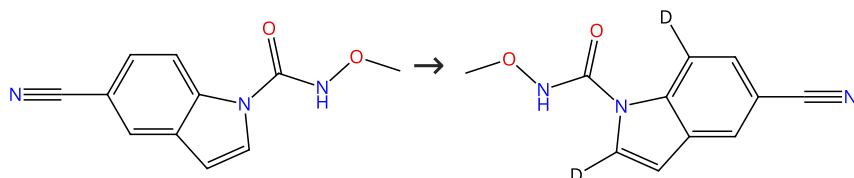


Suppliers (6)

<p>31-614-CAS-37018518 Steps: 1 Yield: 94%</p> <p>1.1 Reagents: Water-d_2 Catalysts: Diisopropylethylamine, Iridium(1+), [4,4'-bis(1,1-dimethylethyl)-2,2'-bipyridine-$\kappa N^1, \kappa N^1$]bis[2-(2-pyridinyl-κM) phenyl-κC]-, (OC-6-33)-, hexafluorophosphate(1-) (1:1), (OC-6-42)-Chlorobis[[1,2-cyclohexanedione 1,2-di(oximato-κM)](1-)] (N,N-dimethyl-4-pyridinamine-κN^1)cobalt Solvents: Acetonitrile; 36 h, rt</p> <p>Experimental Protocols</p>	<p>Visible light promoted direct deuteration of alkenes via Co(III)-H mediated H/D exchange</p> <p>By: Jia, Zongbin; et al</p> <p>CCS Chemistry (2023), 5(5), 1069-1076.</p>
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Scheme 29 (1 Reaction)

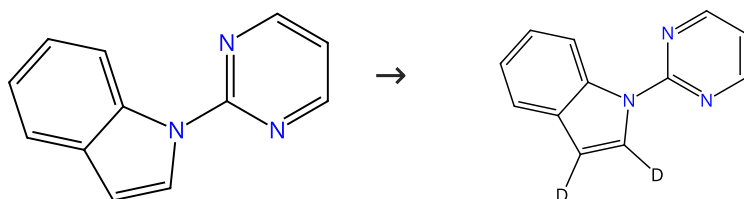
Steps: 1 Yield: 94%



<p>31-116-CAS-22543037 Steps: 1 Yield: 94%</p> <p>1.1 Reagents: Sodium acetate, Water-d_2 Catalysts: Bis[dichloro[η^5-(pentamethylcyclopentadienyl)]rhodium], Carbonyldiiodo[(1,2,3,4,5-η)-1,2,3,4,5-pentamethyl-2,4-cyclopentadien-1-yl]cobalt Solvents: Acetonitrile, 1,2-Dichloroethane; 36 h, 25 °C</p>	<p>Versatile Regioselective Deuteration of Indoles via Transition-Metal-Catalyzed H/D Exchange</p> <p>By: Zhang, Jinqun; et al</p> <p>ACS Catalysis (2020), 10(14), 7486-7494.</p>
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Scheme 30 (1 Reaction)

Steps: 1 Yield: 94%

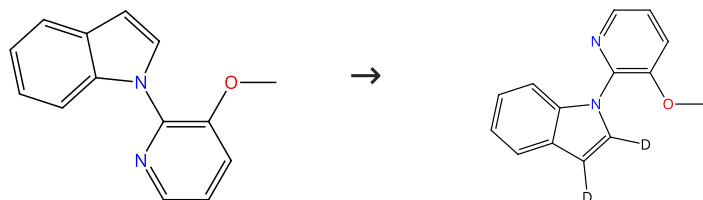


Suppliers (59)

31-614-CAS-43156932	Steps: 1 Yield: 94%	Harnessing Dual Reactivity of N-Chloroamides for Cascade C-H Amidation/Chlorination of Indoles under Cobalt-Catalysis: Overriding Hofmann Rearrangement Pathway Leading to Aminocarbonylation
1.1 Reagents: Sodium acetate, Water- d_2 Catalysts: Carbonyldiiodo[(1,2,3,4,5- η)-1,2,3,4,5-pentamethyl-2,4-cyclopentadien-1-yl]cobalt, [1,1,1-Trifluoro- <i>N</i> -[(trifluoromethyl)sulfonyl- κO]methanesulfonamido- κO]silver Solvents: 1,2-Dichloroethane; 24 h, 40 °C		By: Nagesh, Vinod V.; et al Organic Letters (2024), 26(49), 10523-10528.
Experimental Protocols		

Scheme 31 (1 Reaction)

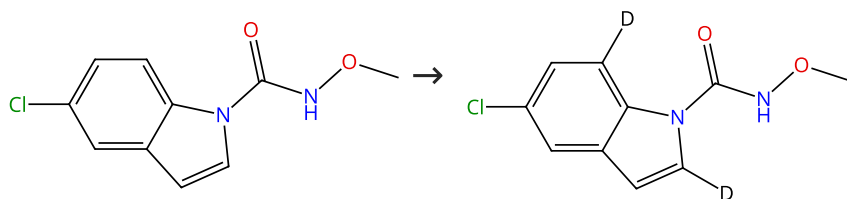
Steps: 1 Yield: 93%



31-614-CAS-42872600	Steps: 1 Yield: 93%	Cobalt's Dual Role in Promoting C3-Glycosylation of Indoles: Unraveling Mechanistic Insights
1.1 Reagents: Manganese, Water- d_2 Catalysts: Cobalt dibromide, Sodium tetrakis[3,5-bis(trifluoromethyl)phenyl]borate Solvents: 1,2-Dichloroethane; 24 h, rt → 40 °C		By: Mu, Qiu-Qi; et al Organic Letters (2023), 25(38), 7040-7045.
Experimental Protocols		

Scheme 32 (1 Reaction)

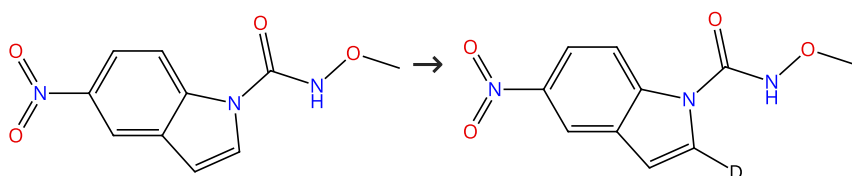
Steps: 1 Yield: 93%



31-116-CAS-22543034	Steps: 1 Yield: 93%	Versatile Regioselective Deuteration of Indoles via Transition-Metal-Catalyzed H/D Exchange
1.1 Reagents: Sodium acetate, Water- d_2 Catalysts: Bis[dichloro[η^5 -(pentamethylcyclopentadienyl)]rhodium], Carbonyldiiodo[(1,2,3,4,5- η)-1,2,3,4,5-pentamethyl-2,4-cyclopentadien-1-yl]cobalt Solvents: 1,2-Dichloroethane; 36 h, 25 °C		By: Zhang, Jinqun; et al ACS Catalysis (2020), 10(14), 7486-7494.

Scheme 33 (1 Reaction)

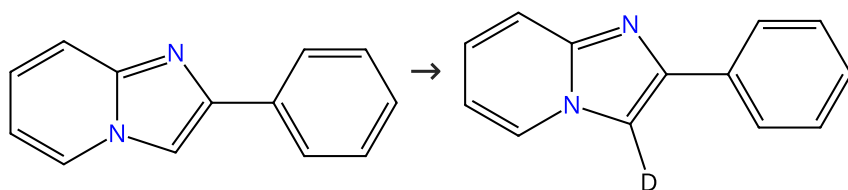
Steps: 1 Yield: 93%



31-116-CAS-22543022	Steps: 1 Yield: 93%	Versatile Regioselective Deuteration of Indoles via Transition-Metal-Catalyzed H/D Exchange
1.1 Reagents: Sodium acetate, Water- d_2 Catalysts: Bis[dichloro[η^5 -(pentamethylcyclopentadienyl)]rhodium], Carbonyldiiodo[(1,2,3,4,5- η)-1,2,3,4,5-pentamethyl-2,4-cyclopentadien-1-yl]cobalt Solvents: Acetonitrile, 1,2-Dichloroethane; 36 h, 25 °C		By: Zhang, Jinqun; et al ACS Catalysis (2020), 10(14), 7486-7494.

Scheme 34 (1 Reaction)

Steps: 1 Yield: 93%



Suppliers (83)

31-614-CAS-35317601

Steps: 1 Yield: 93%

Cobalt-Catalyzed Double C-H Activation of Imidazopyridines with Vinylene Carbonate for the Synthesis of Pyrido[1,2-a]benzimidazoles

By: Liu, Min; et al

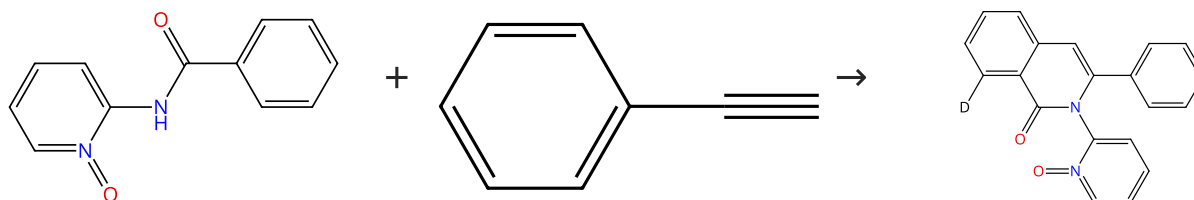
European Journal of Organic Chemistry (2022), 2022(47), e202201349.

1.1 **Reagents:** Water- d_2
Catalysts: Cobalt(2+), tris(acetonitrile)[(1,2,3,4,5- η)-1,2,3,4,5-pentamethyl-2,4-cyclopentadien-1-yl]-, (OC-6-11)-hexafluoroantimonate(1-) (1:2)
Solvents: 1,1,1,3,3,3-Hexafluoro-2-propanol; 12 h, 100 °C

Experimental Protocols

Scheme 35 (1 Reaction)

Steps: 1 Yield: 92%



Suppliers (8)

Suppliers (72)

31-116-CAS-15593213

Steps: 1 Yield: 92%

Cobalt-Catalyzed Oxidative C-H/N-H Alkyne Annulation: Mechanistic Insights and Access to Anticancer Agents

By: Mei, Ruhuai; et al

Chemistry - A European Journal (2016), 22(20), 6759-6763.

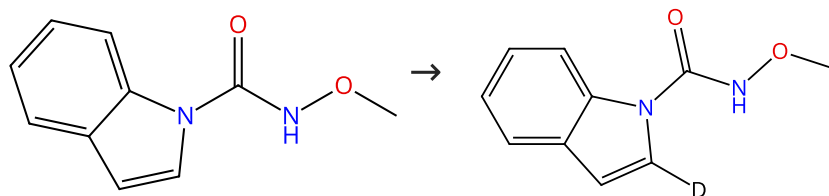
1.1 **Reagents:** Pivalic acid, Oxygen
Catalysts: Cobalt diacetate
Solvents: 2,2,2-Trifluoroethanol, Water- d_2 ; 16 h, 60 °C

1.2 **Reagents:** Sodium bicarbonate
Solvents: Water

Experimental Protocols

Scheme 36 (2 Reactions)

Steps: 1 Yield: 82-92%



Supplier (1)

31-614-CAS-37741572

Steps: 1 Yield: 92%

Rhodium(III)-Catalyzed C-H/N-H Activation for Direct Synthesis of Pyrimidoindolones under Mild Conditions

By: Kumar, Vikash; et al

Chemistry - An Asian Journal (2023), 18(19), e202300675.

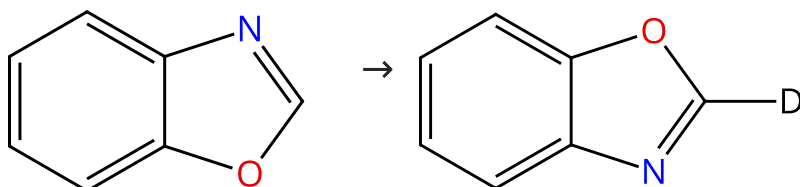
1.1 **Reagents:** Sodium acetate
Catalysts: Carbonyldiiodo[(1,2,3,4,5- η)-1,2,3,4,5-pentamethyl-2,4-cyclopentadien-1-yl]cobalt
Solvents: Acetonitrile, Water- d_2 ; 12 h, 90 °C

Experimental Protocols

31-116-CAS-22543011	Steps: 1 Yield: 82%	Versatile Regioselective Deuteration of Indoles via Transition-Metal-Catalyzed H/D Exchange
1.1 Reagents: Sodium acetate, Water- d_2 Catalysts: Carbonyldiiodo[(1,2,3,4,5-η)-1,2,3,4,5-pentamethyl-2,4-cyclopentadien-1-yl]cobalt Solvents: Acetonitrile; 12 h, 90 °C		By: Zhang, Jinquan; et al ACS Catalysis (2020), 10(14), 7486-7494.

Scheme 37 (1 Reaction)

Steps: 1 Yield: 92%

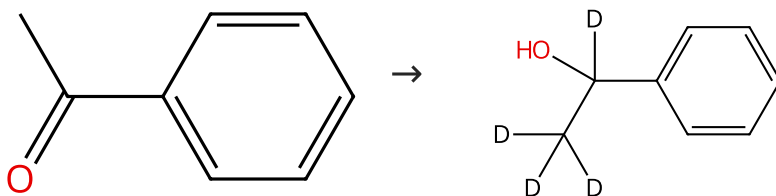


Suppliers (81)

31-116-CAS-15972060	Steps: 1 Yield: 92%	Cobalt-Catalyzed Oxidative C-H/C-H Cross-Coupling between Two Heteroarenes
1.1 Reagents: Pivalic acid, Silver carbonate, Water- d_2 Catalysts: Cobalt diacetate Solvents: Toluene; 2 h, 120 °C		By: Tan, Guangying; et al Angewandte Chemie, International Edition (2016), 55(35), 10414-10418.
Experimental Protocols		

Scheme 38 (1 Reaction)

Steps: 1 Yield: 92%



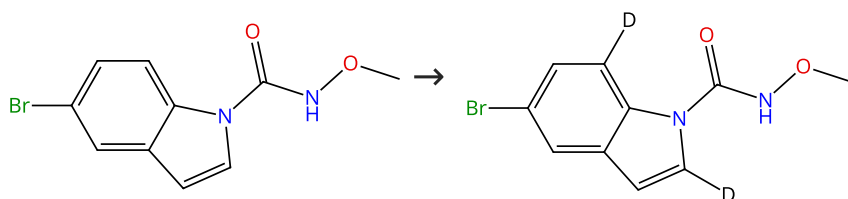
Suppliers (109)

Suppliers (18)

31-116-CAS-17804796	Steps: 1 Yield: 92%	Dual cobalt-copper light-driven catalytic reduction of aldehydes and aromatic ketones in aqueous media
1.1 Reagents: Triethylamine, Water- d_2 Catalysts: Copper(1+), (2,9-dimethyl-4,7-diphenyl-1,10-phenanthroline-κ ^N ¹ ,κ ^N ¹⁰)[1,1'-(9,9-dimethyl-9H-xanthene-4,5-diyl)bis[1,1-diphenylphosphine-κ ^P]]-, (T-4)-, hexafluorophosphate(1-) (1:1), Cobalt(1+), [octahydro-1-[(4-methylphenyl)sulfonyl]-4,7-bis[(2-pyridinyl-κ ^N)methyl]-1H-1,4,7-triazonine-κ ^N ¹ ,κ ^N ⁴ ,κ ^N ⁷](1,1,1-trifluoromethanesulfonato-κ ^O)-, (OC-6-43)-, 1,1,1-trifluoromethanesulfonate (1:1) Solvents: Acetonitrile; 5 h, 30 °C		By: Call, Arnau; et al Chemical Science (2017), 8(7), 4739-4749.
1.2 Solvents: Dichloromethane		

Scheme 39 (1 Reaction)

Steps: 1 Yield: 91%

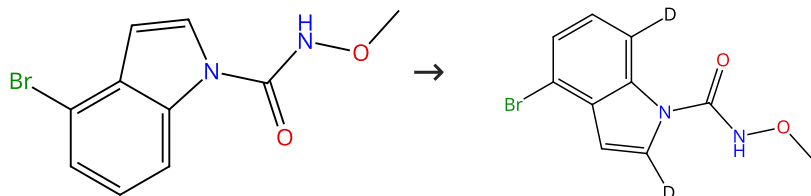


Supplier (1)

31-116-CAS-22543035	Steps: 1 Yield: 91%	Versatile Regioselective Deuteration of Indoles via Transition-Metal-Catalyzed H/D Exchange
1.1 Reagents: Sodium acetate, Water- d_2 Catalysts: Bis[dichloro[η^5 -(pentamethylcyclopentadienyl)]rhodium], Carbonyldiiodo[(1,2,3,4,5- η)-1,2,3,4,5-pentamethyl-2,4-cyclopentadien-1-yl]cobalt Solvents: 1,2-Dichloroethane; 36 h, 25 °C		By: Zhang, Jinqun; et al ACS Catalysis (2020), 10(14), 7486-7494.

Scheme 40 (1 Reaction)

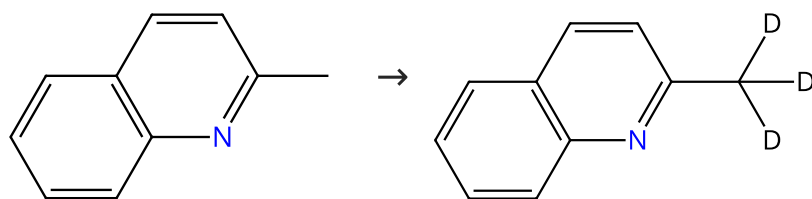
Steps: 1 Yield: 91%



31-116-CAS-22543030	Steps: 1 Yield: 91%	Versatile Regioselective Deuteration of Indoles via Transition-Metal-Catalyzed H/D Exchange
1.1 Reagents: Sodium acetate, Water- d_2 Catalysts: Bis[dichloro[η^5 -(pentamethylcyclopentadienyl)]rhodium], Carbonyldiiodo[(1,2,3,4,5- η)-1,2,3,4,5-pentamethyl-2,4-cyclopentadien-1-yl]cobalt Solvents: 1,2-Dichloroethane; 36 h, 25 °C		By: Zhang, Jinqun; et al ACS Catalysis (2020), 10(14), 7486-7494.

Scheme 41 (1 Reaction)

Steps: 1 Yield: 91%



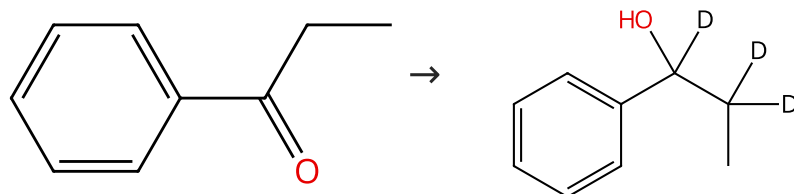
Suppliers (79)

Supplier (1)

31-116-CAS-15268333	Steps: 1 Yield: 91%	Functionalization of the Benzylic C-H Bonds in Azaarenes by Cobalt-Catalyzed 1,4-Addition to Enones
1.1 Reagents: Water- d_2 Catalysts: Cobalt chloride (CoCl_2); 24 h, 120 °C		By: Jamal, Zaini; et al
Experimental Protocols		European Journal of Organic Chemistry (2014), 2014(33), 7343-7346.

Scheme 42 (1 Reaction)

Steps: 1 Yield: 91%

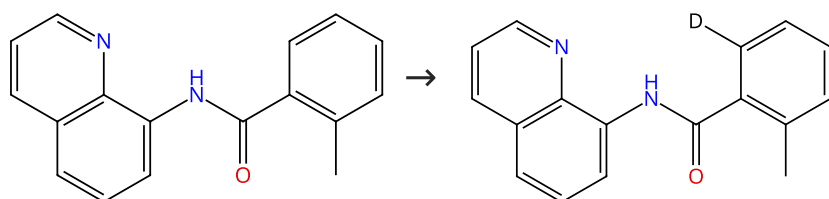


Suppliers (72)

<p>31-116-CAS-17804797</p> <p>Steps: 1 Yield: 91%</p> <p>1.1 Reagents: Triethylamine, Water-d_2 Catalysts: Copper(1+), (2,9-dimethyl-4,7-diphenyl-1,10-phenanthroline-$\kappa N^1, \kappa N^10$)[1,1'-(9,9-dimethyl-9H-xanthene-4,5-diyl)bis[1,1-diphenylphosphine-κP]]-, (7-4)-, hexafluoro phosphate(1-) (1:1), Cobalt(1+), [octahydro-1-[(4-methyl phenyl)sulfonyl]-4,7-bis[(2-pyridinyl-κN)methyl]-1H-1,4,7-triazonine-$\kappa N^1, \kappa N^4, \kappa N^7$](1,1,1-trifluoromethanesulfonato-κO)-, (OC-6-43)-, 1,1,1-trifluoromethanesulfonate (1:1) Solvents: Acetonitrile; 5 h, 30 °C</p> <p>1.2 Solvents: Dichloromethane</p>	<p>Dual cobalt-copper light-driven catalytic reduction of aldehydes and aromatic ketones in aqueous media</p> <p>By: Call, Arnau; et al</p> <p>Chemical Science (2017), 8(7), 4739-4749.</p>
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Scheme 43 (2 Reactions)

Steps: 1 Yield: 90%

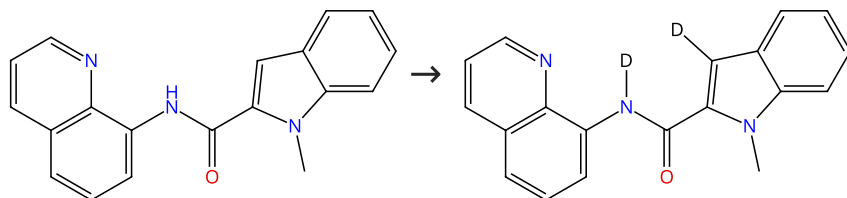


Suppliers (4)

<p>31-614-CAS-41879506</p> <p>Steps: 1 Yield: 90%</p> <p>1.1 Reagents: Propanoic acid, 2,2-dimethyl-, sodium salt (1:1), Oxygen, Water-d_2 Catalysts: Cobalt(II) acetylacetonate, Eosin Solvents: 2,2,2-Trifluoroethanol; 2 h, 25 °C</p> <p>Experimental Protocols</p>	<p>Room temperature C-O bond cleavage of vinyl cyclic synthons via a metallaphotoredox approach</p> <p>By: Keshri, Santosh Kumar; et al</p> <p>Chemical Communications (Cambridge, United Kingdom) (2024), 60(79), 11164-11167.</p>
<p>31-116-CAS-19262336</p> <p>Steps: 1</p> <p>1.1 Reagents: Oxygen, Water-d_2, Propanoic acid, 2,2-dimethyl-, sodium salt, hydrate (1:1:?) Catalysts: Cobalt acetate tetrahydrate, Tris(acetylacetonato) manganese Solvents: 2-Methyl-2-butanol; 18 h, 65 °C</p> <p>Experimental Protocols</p>	<p>Cobalt-Catalyzed Aerobic Oxidative C-H/C-H Cross-Coupling of Unactivated Arenes for the Synthesis of Biaryls</p> <p>By: Lv, Ningning; et al</p> <p>Organic Letters (2018), 20(18), 5845-5848.</p>

Scheme 44 (1 Reaction)

Steps: 1 Yield: 90%

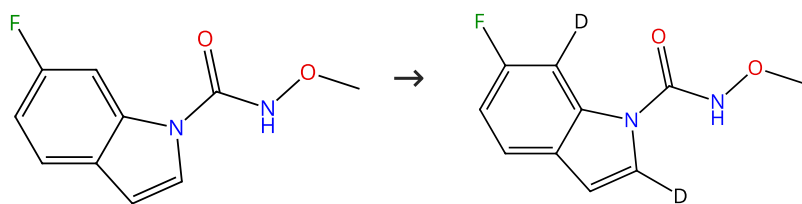


Supplier (1)

<p>31-614-CAS-31492417</p> <p>Steps: 1 Yield: 90%</p> <p>1.1 Reagents: Manganese triacetate, Propanoic acid, 2,2-dimethyl-, sodium salt (1:1), Water-d_2 Catalysts: Cobalt(II) acetylacetonate Solvents: 2,2,2-Trifluoroethanol; 1 h, rt</p> <p>Experimental Protocols</p>	<p>Co(II)-Catalyzed C-H/N-H Annulation of Cyclic Alkenes with Indole-2-carboxamides at Room Temperature: One-Step Access to β-Carboline-1-one Derivatives</p> <p>By: Das Adhikari, Gopal Krushna; et al</p> <p>Journal of Organic Chemistry (2022), 87(6), 4438-4448.</p>
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Scheme 45 (1 Reaction)

Steps: 1 Yield: 90%



31-116-CAS-22543038

Steps: 1 Yield: 90%

Versatile Regioselective Deuteration of Indoles via Transition-Metal-Catalyzed H/D Exchange

1.1 Reagents: Sodium acetate, Water- d_2 Catalysts: Bis[dichloro[η^5 -(pentamethylcyclopentadienyl)]rhodium], Carbonyldiiodo[(1,2,3,4,5- η)-1,2,3,4,5-pentamethyl-2,4-cyclopentadien-1-yl]cobalt

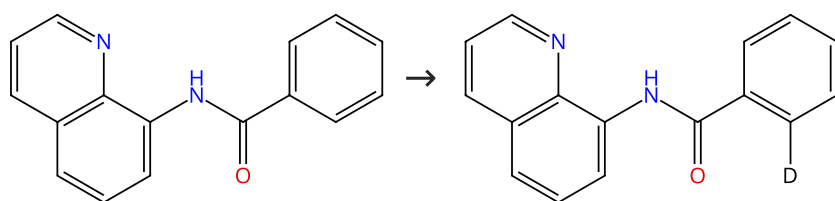
Solvents: 1,2-Dichloroethane; 36 h, 25 °C

By: Zhang, Jinqun; et al

ACS Catalysis (2020), 10(14), 7486-7494.

Scheme 46 (1 Reaction)

Steps: 1 Yield: 90%



Suppliers (25)

31-614-CAS-41879503

Steps: 1 Yield: 90%

Room temperature C-O bond cleavage of vinyl cyclic synthons via a metallaphotoredox approach

1.1 Reagents: Propanoic acid, 2,2-dimethyl-, sodium salt (1:1), Oxygen, Water- d_2

Catalysts: Cobalt(II) acetylacetonate, Eosin

Solvents: 2,2,2-Trifluoroethanol; 2 h, 25 °C

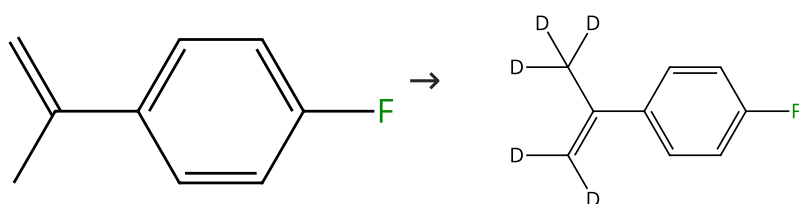
By: Keshri, Santosh Kumar; et al

Chemical Communications (Cambridge, United Kingdom) (2024), 60(79), 11164-11167.

Experimental Protocols

Scheme 47 (1 Reaction)

Steps: 1 Yield: 90%



Suppliers (71)

31-614-CAS-37018421

Steps: 1 Yield: 90%

Visible light promoted direct deuteration of alkenes via Co(III)-H mediated H/D exchange

1.1 Reagents: Water- d_2 Catalysts: Diisopropylethylamine, Iridium(1+), [4,4'-bis(1,1-dimethylethyl)-2,2'-bipyridine- $\kappa N^1, \kappa N^1$]bis[2-(2-pyridinyl- κM)phenyl- κC]-, (OC-6-33)-, hexafluorophosphate(1-) (1:1), (OC-6-42)-Chlorobis[[1,2-cyclohexanedione 1,2-di(oximato- κM)](1-)] (*N,N*-dimethyl-4-pyridinamine- κN^1)cobalt

Solvents: Acetonitrile; 36 h, rt

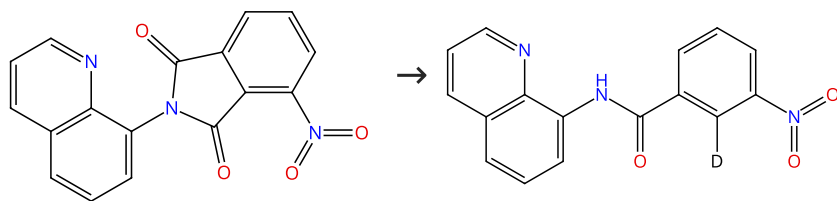
By: Jia, Zongbin; et al

CCS Chemistry (2023), 5(5), 1069-1076.

Experimental Protocols

Scheme 48 (1 Reaction)

Steps: 1 Yield: 90%



Suppliers (3)

31-108-CAS-21805688

Steps: 1 Yield: 90%

Cobalt-Catalyzed Regioselective Carboamidation of Alkynes with Imides Enabled by Cleavage of C-N and C-C Bonds1.1 Reagents: Silver carbonate, Water- d_2 Catalysts: Tris(2-methoxyphenyl)phosphine, Cobalt iodide (CoI_2)

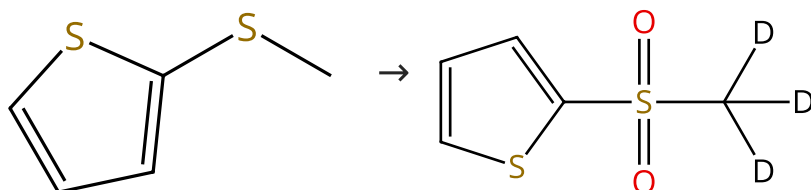
Solvents: 1,2-Dichlorobenzene; 24 h, 130 °C

By: Min, Xiang-Ting; et al

Organic Letters (2020), 22(9), 3386-3391.

Scheme 49 (1 Reaction)

Steps: 1 Yield: 90%



Suppliers (59)

31-116-CAS-20922363

Steps: 1 Yield: 90%

Cobalt Single-Atom-Intercalated Molybdenum Disulfide for Sulfide Oxidation with Exceptional Chemoselectivity

1.1 Reagents: Hydrogen peroxide

Catalysts: Cobalt (intercalated molybdenum disulfide)

Solvents: Acetonitrile; 20 min, 40 °C

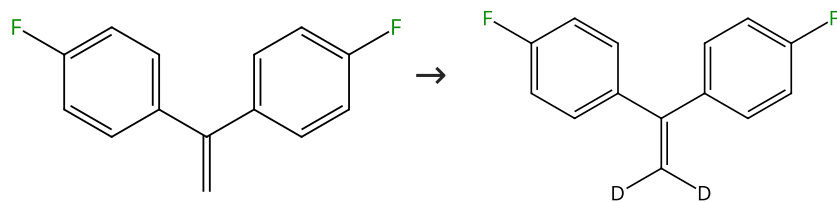
By: Chen, Zhongxin; et al

Advanced Materials (Weinheim, Germany) (2020), 32(4), 1906437.

1.2 Reagents: Sodium hydroxide, Water- d_2 ; 12 h, 90 °C

Scheme 50 (1 Reaction)

Steps: 1 Yield: 90%



Suppliers (23)

31-614-CAS-37018510

Steps: 1 Yield: 90%

Visible light promoted direct deuteration of alkenes via Co(III)-H mediated H/D exchange1.1 Reagents: Water- d_2 Catalysts: Diisopropylethylamine, Iridium(1+), [4,4'-bis(1,1-dimethylethyl)-2,2'-bipyridine- $\kappa N^1, \kappa N^1$]bis[2-(2-pyridinyl- κM)phenyl- κC]-, (*OC*-6-33)-, hexafluorophosphate(1-)(1:1), (*OC*-6-42)-Chlorobis[[1,2-cyclohexanedione 1,2-di(oximato- κM)](1-)](*N,N*-dimethyl-4-pyridinamine- κN^1)cobalt

Solvents: Acetonitrile; 36 h, rt

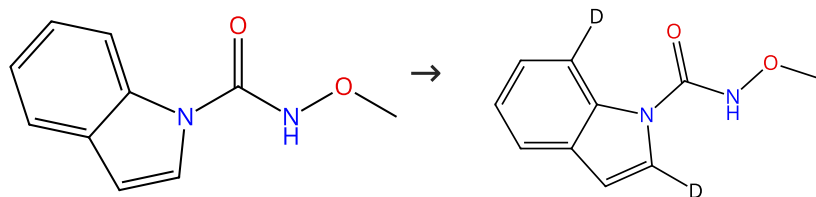
By: Jia, Zongbin; et al

CCS Chemistry (2023), 5(5), 1069-1076.

Experimental Protocols

Scheme 51 (1 Reaction)

Steps: 1 Yield: 89%



Supplier (1)

31-116-CAS-22543027

Steps: 1 Yield: 89%

Versatile Regioselective Deuteration of Indoles via Transition-Metal-Catalyzed H/D Exchange

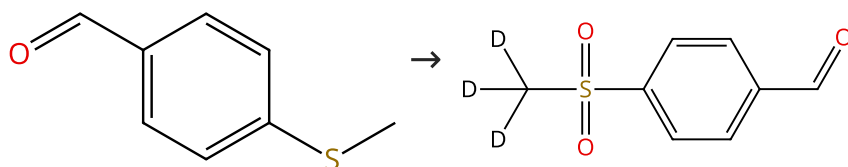
- 1.1 **Reagents:** Sodium acetate, Water- d_2
Catalysts: Bis[dichloro[η^5 -(pentamethylcyclopentadienyl)]rhodium], Carbonyldiiodo[(1,2,3,4,5- η)-1,2,3,4,5-pentamethyl-2,4-cyclopentadien-1-yl]cobalt
Solvents: 1,2-Dichloroethane; 36 h, 25 °C

By: Zhang, Jinqun; et al

ACS Catalysis (2020), 10(14), 7486-7494.

Scheme 52 (1 Reaction)

Steps: 1 Yield: 89%



Suppliers (88)

31-116-CAS-20922360

Steps: 1 Yield: 89%

Cobalt Single-Atom-Intercalated Molybdenum Disulfide for Sulfide Oxidation with Exceptional Chemoselectivity

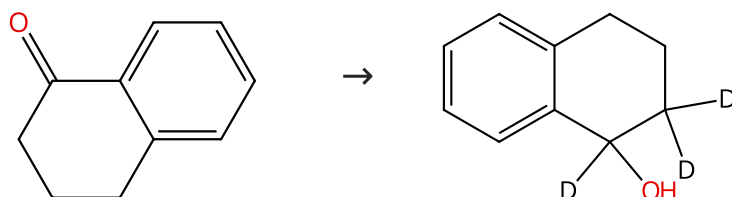
- 1.1 **Reagents:** Hydrogen peroxide
Catalysts: Cobalt (intercalated molybdenum disulfide)
Solvents: Acetonitrile; 20 min, 40 °C
- 1.2 **Reagents:** Sodium hydroxide, Water- d_2 ; 12 h, 90 °C

By: Chen, Zhongxin; et al

Advanced Materials (Weinheim, Germany) (2020), 32(4), 1906437.

Scheme 53 (1 Reaction)

Steps: 1 Yield: 89%



Suppliers (101)

31-116-CAS-17804798

Steps: 1 Yield: 89%

Dual cobalt-copper light-driven catalytic reduction of aldehydes and aromatic ketones in aqueous media

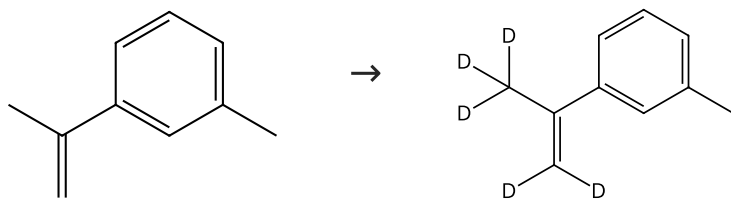
- 1.1 **Reagents:** Triethylamine, Water- d_2
Catalysts: Copper(1+), (2,9-dimethyl-4,7-diphenyl-1,10-phenanthroline- $\kappa N^1, \kappa N^{10}$)[1,1'-(9,9-dimethyl-9H-xanthene-4,5-diyl)bis[1,1-diphenylphosphine- κP]]-, (7-4)-, hexafluorophosphate(1-) (1:1), Cobalt(1+), [octahydro-1-[(4-methylphenyl)sulfonyl]-4,7-bis[(2-pyridinyl- κN)methyl]-1H-1,4,7-triazonine- $\kappa N^1, \kappa N^4, \kappa N^7$](1,1,1-trifluoromethanesulfonato- κO)-, (OC-6-43)-, 1,1,1-trifluoromethanesulfonate (1:1)
Solvents: Acetonitrile; 5 h, 30 °C
- 1.2 **Solvents:** Dichloromethane

By: Call, Arnau; et al

Chemical Science (2017), 8(7), 4739-4749.

Scheme 54 (1 Reaction)

Steps: 1 Yield: 88%



Suppliers (61)

31-614-CAS-37018449

Steps: 1 Yield: 88%

Visible light promoted direct deuteration of alkenes via Co(III)-H mediated H/D exchange

By: Jia, Zongbin; et al

CCS Chemistry (2023), 5(5), 1069-1076.

1.1 Reagents: Water- d_2

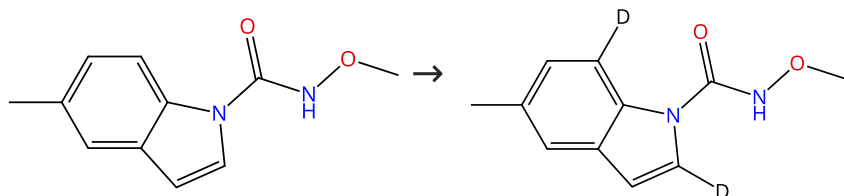
Catalysts: Diisopropylethylamine, Iridium(1+), [4,4'-bis(1,1-dimethylethyl)-2,2'-bipyridine- $\kappa N^1, \kappa N^{1'}$]bis[2-(2-pyridinyl- κM)phenyl- κC]-, (OC-6-33)-, hexafluorophosphate(1-)(1:1), (OC-6-42)-Chlorobis[[1,2-cyclohexanedione 1,2-di(oximato- κM)](1-)](N,N-dimethyl-4-pyridinamine- κN^1)cobalt

Solvents: Acetonitrile; 36 h, rt

Experimental Protocols

Scheme 55 (1 Reaction)

Steps: 1 Yield: 88%



Supplier (1)

31-116-CAS-22543031

Steps: 1 Yield: 88%

Versatile Regioselective Deuteration of Indoles via Transition-Metal-Catalyzed H/D Exchange

By: Zhang, Jinquan; et al

ACS Catalysis (2020), 10(14), 7486-7494.

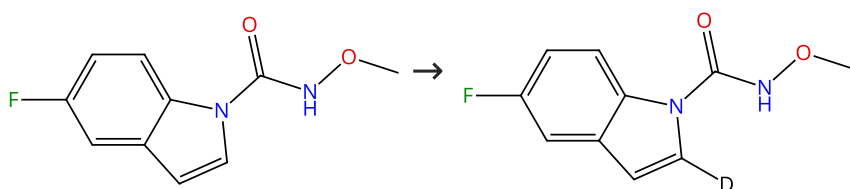
1.1 Reagents: Sodium acetate, Water- d_2

Catalysts: Bis[dichloro[η^5 -(pentamethylcyclopentadienyl)]rhodium], Carbonyldiiodo[(1,2,3,4,5- η)-1,2,3,4,5-pentamethyl-2,4-cyclopentadien-1-yl]cobalt

Solvents: 1,2-Dichloroethane; 36 h, 25 °C

Scheme 56 (1 Reaction)

Steps: 1 Yield: 88%



31-116-CAS-22543017

Steps: 1 Yield: 88%

Versatile Regioselective Deuteration of Indoles via Transition-Metal-Catalyzed H/D Exchange

By: Zhang, Jinquan; et al

ACS Catalysis (2020), 10(14), 7486-7494.

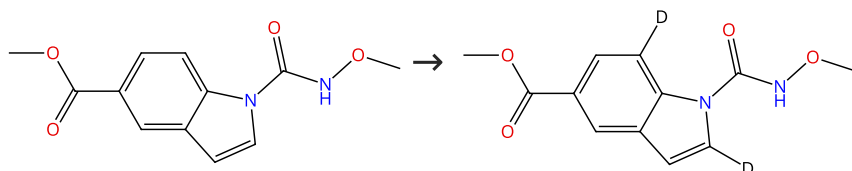
1.1 Reagents: Sodium acetate, Water- d_2

Catalysts: Carbonyldiiodo[(1,2,3,4,5- η)-1,2,3,4,5-pentamethyl-2,4-cyclopentadien-1-yl]cobalt

Solvents: Acetonitrile; 12 h, 90 °C

Scheme 57 (1 Reaction)

Steps: 1 Yield: 88%



31-116-CAS-22543036

Steps: 1 Yield: 88%

Versatile Regioselective Deuteration of Indoles via Transition-Metal-Catalyzed H/D Exchange

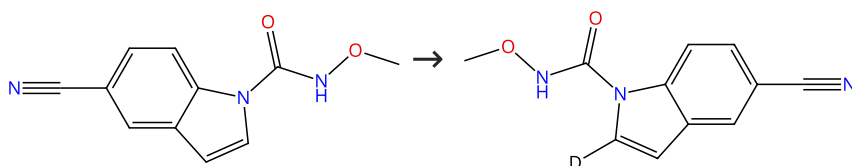
1.1 **Reagents:** Sodium acetate, Water- d_2
Catalysts: Bis[dichloro[η^5 -(pentamethylcyclopentadienyl)]rhodium], Carbonyldiiodo[(1,2,3,4,5- η)-1,2,3,4,5-pentamethyl-2,4-cyclopentadien-1-yl]cobalt
Solvents: 1,2-Dichloroethane; 36 h, 25 °C

By: Zhang, Jinqun; et al

ACS Catalysis (2020), 10(14), 7486-7494.

Scheme 58 (1 Reaction)

Steps: 1 Yield: 88%



31-116-CAS-22543021

Steps: 1 Yield: 88%

Versatile Regioselective Deuteration of Indoles via Transition-Metal-Catalyzed H/D Exchange

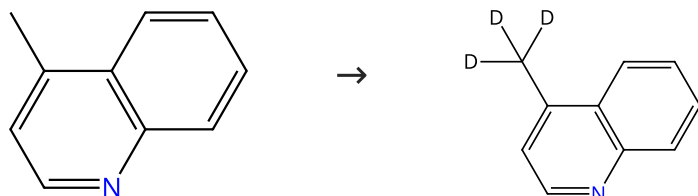
1.1 **Reagents:** Sodium acetate, Water- d_2
Catalysts: Carbonyldiiodo[(1,2,3,4,5- η)-1,2,3,4,5-pentamethyl-2,4-cyclopentadien-1-yl]cobalt
Solvents: Acetonitrile; 12 h, 90 °C

By: Zhang, Jinqun; et al

ACS Catalysis (2020), 10(14), 7486-7494.

Scheme 59 (1 Reaction)

Steps: 1 Yield: 88%



Suppliers (73)

31-116-CAS-6696616

Steps: 1 Yield: 88%

Functionalization of the Benzylic C-H Bonds in Azaarenes by Cobalt-Catalyzed 1,4-Addition to Enones

1.1 **Reagents:** Water- d_2
Catalysts: Cobalt chloride (CoCl_2); 24 h, 140 °C

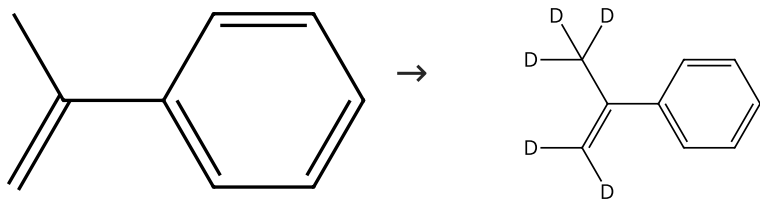
By: Jamal, Zaini; et al

Experimental Protocols

European Journal of Organic Chemistry (2014), 2014(33), 7343-7346.

Scheme 60 (1 Reaction)

Steps: 1 Yield: 88%



Suppliers (70)

Supplier (1)

31-614-CAS-37018397

Steps: 1 Yield: 88%

Visible light promoted direct deuteration of alkenes via Co(III)-H mediated H/D exchange

By: Jia, Zongbin; et al

CCS Chemistry (2023), 5(5), 1069-1076.

1.1 Reagents: Water-*d*₂

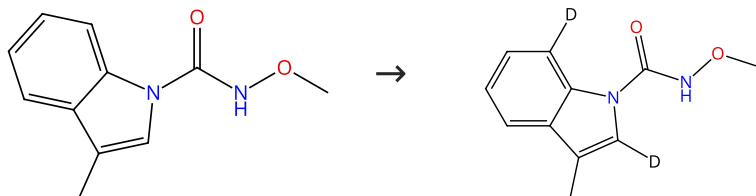
Catalysts: Diisopropylethylamine, Iridium(1+), [4,4'-bis(1,1-dimethylethyl)-2,2'-bipyridine-κ*N*¹,κ*N*^{1'}][bis[2-(2-pyridinyl-κ*M*)phenyl-κ*C*]-, (*OC*-6-33)-, hexafluorophosphate(1-) (1:1), (*OC*-6-42)-Chlorobis[[1,2-cyclohexanedione 1,2-di(oximato-κ*M*)](1-)] (*N,N*-dimethyl-4-pyridinamine-κ*N*¹)cobalt

Solvents: Acetonitrile; 36 h, rt

Experimental Protocols

Scheme 61 (1 Reaction)

Steps: 1 Yield: 87%



Supplier (1)

31-116-CAS-22543028

Steps: 1 Yield: 87%

Versatile Regioselective Deuteration of Indoles via Transition-Metal-Catalyzed H/D Exchange

By: Zhang, Jinquan; et al

ACS Catalysis (2020), 10(14), 7486-7494.

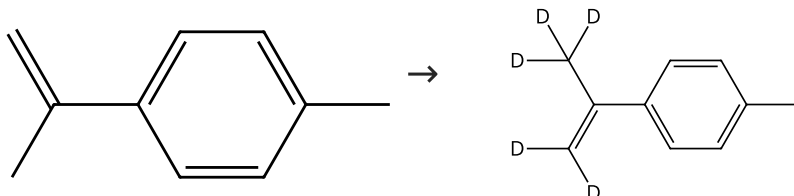
1.1 Reagents: Sodium acetate, Water-*d*₂

Catalysts: Bis[dichloro[η⁵-(pentamethylcyclopentadienyl)]rhodium], Carbonyldiiodo[(1,2,3,4,5-η)-1,2,3,4,5-pentamethyl-2,4-cyclopentadien-1-yl]cobalt

Solvents: 1,2-Dichloroethane; 36 h, 25 °C

Scheme 62 (1 Reaction)

Steps: 1 Yield: 86%



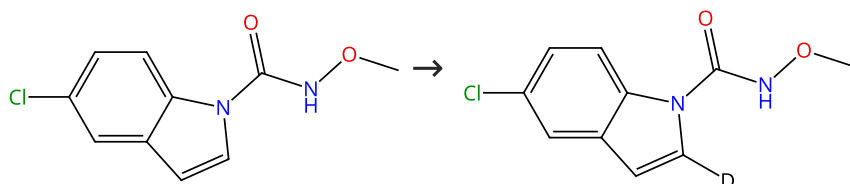
Suppliers (50)

Supplier (1)

31-614-CAS-37018403 Steps: 1 Yield: 86% 1.1 Reagents: Water- d_2 Catalysts: Diisopropylethylamine, Iridium(1+), [4,4'-bis(1,1-dimethylethyl)-2,2'-bipyridine- $\kappa N^1, \kappa N^1$]bis[2-(2-pyridinyl- κM)phenyl- κC]-, (OC-6-33)-, hexafluorophosphate(1-) (1:1), (OC-6-42)-Chlorobis[[1,2-cyclohexanedione 1,2-di(oximato- κM)](1-)] (<i>N,N</i> -dimethyl-4-pyridinamine- κN^1)cobalt Solvents: Acetonitrile; 36 h, rt	Visible light promoted direct deuteration of alkenes via Co(III)-H mediated H/D exchange By: Jia, Zongbin; et al CCS Chemistry (2023), 5(5), 1069-1076.
Experimental Protocols	

Scheme 63 (1 Reaction)

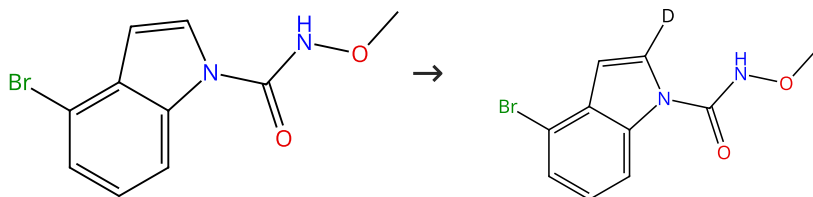
Steps: 1 Yield: 86%



31-116-CAS-22543018 Steps: 1 Yield: 86% 1.1 Reagents: Sodium acetate, Water- d_2 Catalysts: Carbonyldiiodo[(1,2,3,4,5- η)-1,2,3,4,5-pentamethyl-2,4-cyclopentadien-1-yl]cobalt Solvents: Acetonitrile; 12 h, 90 °C	Versatile Regioselective Deuteration of Indoles via Transition-Metal-Catalyzed H/D Exchange By: Zhang, Jinquan; et al ACS Catalysis (2020), 10(14), 7486-7494.
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Scheme 64 (1 Reaction)

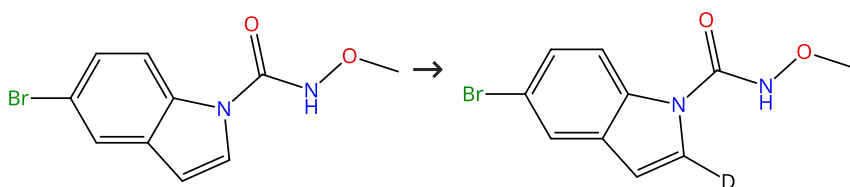
Steps: 1 Yield: 86%



31-116-CAS-22543014 Steps: 1 Yield: 86% 1.1 Reagents: Sodium acetate, Water- d_2 Catalysts: Carbonyldiiodo[(1,2,3,4,5- η)-1,2,3,4,5-pentamethyl-2,4-cyclopentadien-1-yl]cobalt Solvents: Acetonitrile; 12 h, 90 °C	Versatile Regioselective Deuteration of Indoles via Transition-Metal-Catalyzed H/D Exchange By: Zhang, Jinquan; et al ACS Catalysis (2020), 10(14), 7486-7494.
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Scheme 65 (1 Reaction)

Steps: 1 Yield: 85%

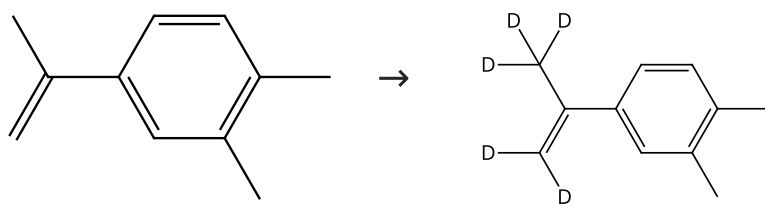


Supplier (1)

31-116-CAS-22543019 Steps: 1 Yield: 85% 1.1 Reagents: Sodium acetate, Water- d_2 Catalysts: Carbonyldiiodo[(1,2,3,4,5- η)-1,2,3,4,5-pentamethyl-2,4-cyclopentadien-1-yl]cobalt Solvents: Acetonitrile; 12 h, 90 °C	Versatile Regioselective Deuteration of Indoles via Transition-Metal-Catalyzed H/D Exchange By: Zhang, Jinquan; et al ACS Catalysis (2020), 10(14), 7486-7494.
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Scheme 66 (1 Reaction)

Steps: 1 Yield: 85%



Suppliers (13)

31-614-CAS-37018457

Steps: 1 Yield: 85%

Visible light promoted direct deuteration of alkenes via Co(III)-H mediated H/D exchange

By: Jia, Zongbin; et al

CCS Chemistry (2023), 5(5), 1069-1076.

1.1 Reagents: Water- d_2

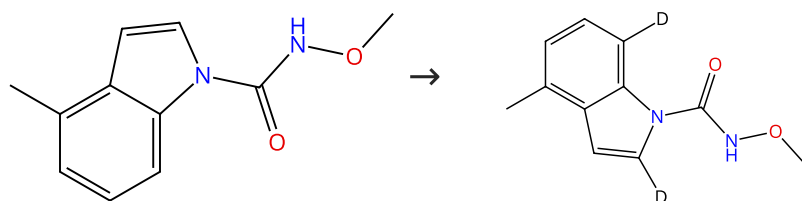
Catalysts: Diisopropylethylamine, Iridium(1+), [4,4'-bis(1,1-dimethylethyl)-2,2'-bipyridine- $\kappa N^1, \kappa N^1$]bis[2-(2-pyridinyl- κM)phenyl- κC]-, (OC-6-33)-, hexafluorophosphate(1-) (1:1), (OC-6-42)-Chlorobis[[1,2-cyclohexanedione 1,2-di(oximato- κM)](1-)] (N,N-dimethyl-4-pyridinamine- κN^1)cobalt

Solvents: Acetonitrile; 36 h, rt

Experimental Protocols

Scheme 67 (1 Reaction)

Steps: 1 Yield: 85%



31-116-CAS-22543029

Steps: 1 Yield: 85%

Versatile Regioselective Deuteration of Indoles via Transition-Metal-Catalyzed H/D Exchange

By: Zhang, Jinquan; et al

ACS Catalysis (2020), 10(14), 7486-7494.

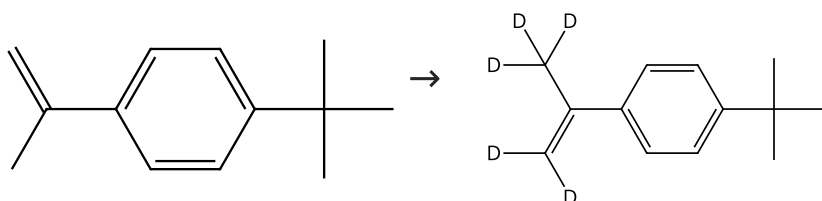
1.1 Reagents: Sodium acetate, Water- d_2

Catalysts: Bis[dichloro[η^5 -(pentamethylcyclopentadienyl)]rhodium], Carbonyldiiodo[(1,2,3,4,5- η)-1,2,3,4,5-pentamethyl-2,4-cyclopentadien-1-yl]cobalt

Solvents: 1,2-Dichloroethane; 36 h, 25 °C

Scheme 68 (1 Reaction)

Steps: 1 Yield: 85%



Suppliers (23)

31-614-CAS-37018412

Steps: 1 Yield: 85%

Visible light promoted direct deuteration of alkenes via Co(III)-H mediated H/D exchange

By: Jia, Zongbin; et al

CCS Chemistry (2023), 5(5), 1069-1076.

1.1 Reagents: Water- d_2

Catalysts: Diisopropylethylamine, Iridium(1+), [4,4'-bis(1,1-dimethylethyl)-2,2'-bipyridine- $\kappa N^1, \kappa N^1$]bis[2-(2-pyridinyl- κM)phenyl- κC]-, (OC-6-33)-, hexafluorophosphate(1-) (1:1), (OC-6-42)-Chlorobis[[1,2-cyclohexanedione 1,2-di(oximato- κM)](1-)] (N,N-dimethyl-4-pyridinamine- κN^1)cobalt

Solvents: Acetonitrile; 36 h, rt

Experimental Protocols

Scheme 69 (1 Reaction)

Steps: 1 Yield: 85%



Suppliers (12)

31-614-CAS-37018474

Steps: 1 Yield: 85%

Visible light promoted direct deuteration of alkenes via Co(III)-H mediated H/D exchange

By: Jia, Zongbin; et al

CCS Chemistry (2023), 5(5), 1069-1076.

1.1 Reagents: Water- d_2

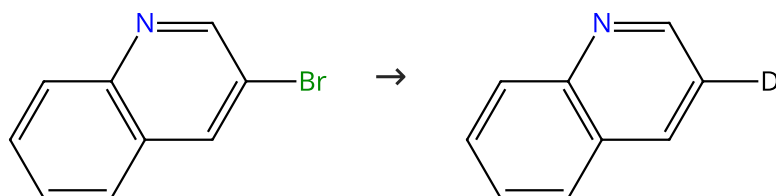
Catalysts: Diisopropylethylamine, Iridium(1+), [4,4'-bis(1,1-dimethylethyl)-2,2'-bipyridine- $\kappa N^1, \kappa N^1$]bis[2-(2-pyridinyl- κM)phenyl- κC]-, (OC-6-33)-, hexafluorophosphate(1-) (1:1), (OC-6-42)-Chlorobis[[1,2-cyclohexanedione 1,2-di(oximato- κM)](1-)] (N,N-dimethyl-4-pyridinamine- κN^1)cobalt

Solvents: Acetonitrile; 36 h, rt

Experimental Protocols

Scheme 70 (1 Reaction)

Steps: 1 Yield: 85%



Suppliers (106)

Suppliers (6)

31-113-CAS-19002722

Steps: 1 Yield: 85%

Application of Silicon-Initiated Water Splitting for the Reduction of Organic Substrates

By: Gevorgyan, Ashot; et al

ChemPlusChem (2018), 83(5), 375-382.

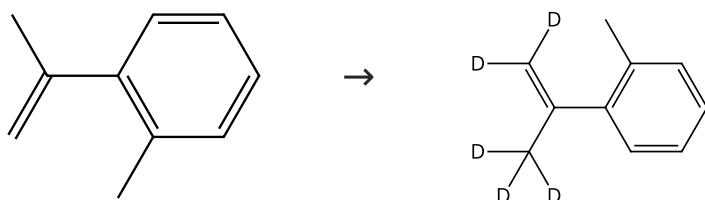
1.1 Reagents: Potassium *tert*-butoxide, Tetrabutylammonium bromide, Silicon, Water- d_2

Catalysts: Cobalt diacetate, Triphenylphosphine; 24 h, rt \rightarrow 100 °C

Experimental Protocols

Scheme 71 (1 Reaction)

Steps: 1 Yield: 85%

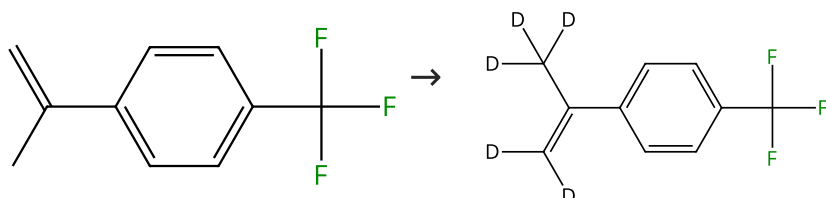


Suppliers (50)

31-614-CAS-37018467	Steps: 1 Yield: 85%	Visible light promoted direct deuteration of alkenes via Co(III)-H mediated H/D exchange
1.1 Reagents: Water- d_2 Catalysts: Diisopropylethylamine, Iridium(1+), [4,4'-bis(1,1-dimethylethyl)-2,2'-bipyridine- $\kappa N^1, \kappa N^1$]bis[2-(2-pyridinyl- κM)phenyl- κC]-, (OC-6-33)-, hexafluorophosphate(1-) (1:1), (OC-6-42)-Chlorobis[[1,2-cyclohexanedione 1,2-di(oximato- κM)](1-)] (<i>N,N</i> -dimethyl-4-pyridinamine- κN^1)cobalt Solvents: Acetonitrile; 36 h, rt		By: Jia, Zongbin; et al CCS Chemistry (2023), 5(5), 1069-1076.
Experimental Protocols		

Scheme 72 (1 Reaction)

Steps: 1 Yield: 84%

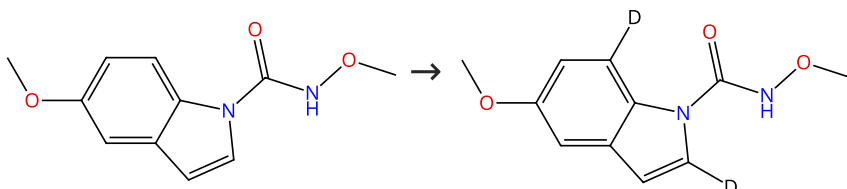


Suppliers (33)

31-614-CAS-37018438	Steps: 1 Yield: 84%	Visible light promoted direct deuteration of alkenes via Co(III)-H mediated H/D exchange
1.1 Reagents: Water- d_2 Catalysts: Diisopropylethylamine, Iridium(1+), [4,4'-bis(1,1-dimethylethyl)-2,2'-bipyridine- $\kappa N^1, \kappa N^1$]bis[2-(2-pyridinyl- κM)phenyl- κC]-, (OC-6-33)-, hexafluorophosphate(1-) (1:1), (OC-6-42)-Chlorobis[[1,2-cyclohexanedione 1,2-di(oximato- κM)](1-)] (<i>N,N</i> -dimethyl-4-pyridinamine- κN^1)cobalt Solvents: Acetonitrile; 36 h, rt		By: Jia, Zongbin; et al CCS Chemistry (2023), 5(5), 1069-1076.
Experimental Protocols		

Scheme 73 (1 Reaction)

Steps: 1 Yield: 82%

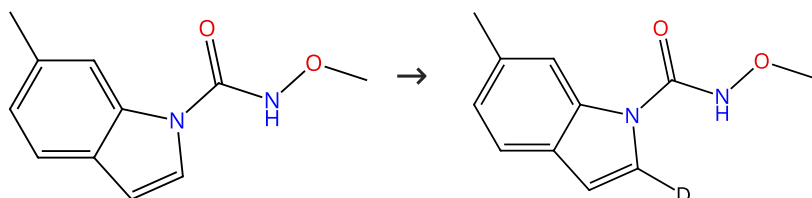


Supplier (1)

31-116-CAS-22543032	Steps: 1 Yield: 82%	Versatile Regioselective Deuteration of Indoles via Transition-Metal-Catalyzed H/D Exchange
1.1 Reagents: Sodium acetate, Water- d_2 Catalysts: Bis[dichloro[η^5 -(pentamethylcyclopentadienyl)]rhodium], Carbonyldiiodo[(1,2,3,4,5- η)-1,2,3,4,5-pentamethyl-2,4-cyclopentadien-1-yl]cobalt Solvents: 1,2-Dichloroethane; 36 h, 25 °C		By: Zhang, Jinquan; et al ACS Catalysis (2020), 10(14), 7486-7494.

Scheme 74 (1 Reaction)

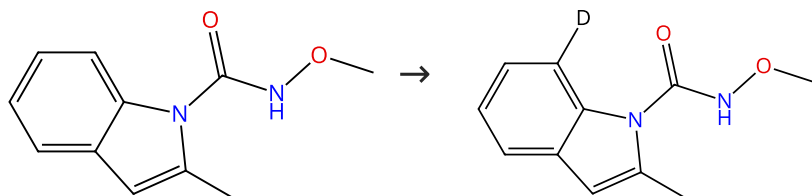
Steps: 1 Yield: 82%



<p>31-116-CAS-22543024</p> <p>Steps: 1 Yield: 82%</p> <p>1.1 Reagents: Sodium acetate, Water-d_2 Catalysts: Bis[dichloro[η^5-(pentamethylcyclopentadienyl)]rhodium], Carbonyldiiodo[(1,2,3,4,5-η)-1,2,3,4,5-pentamethyl-2,4-cyclopentadien-1-yl]cobalt Solvents: 1,2-Dichloroethane; 36 h, 25 °C</p>	<p>Versatile Regioselective Deuteration of Indoles via Transition-Metal-Catalyzed H/D Exchange</p> <p>By: Zhang, Jinqun; et al</p> <p>ACS Catalysis (2020), 10(14), 7486-7494.</p>
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Scheme 75 (1 Reaction)

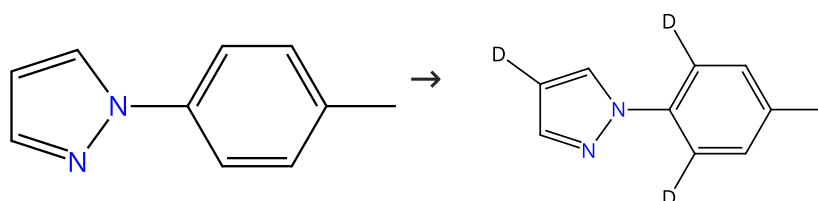
Steps: 1 Yield: 82%



<p>31-116-CAS-22543039</p> <p>Steps: 1 Yield: 82%</p> <p>1.1 Reagents: Sodium acetate, Water-d_2 Catalysts: Bis[dichloro[η^5-(pentamethylcyclopentadienyl)]rhodium], Carbonyldiiodo[(1,2,3,4,5-η)-1,2,3,4,5-pentamethyl-2,4-cyclopentadien-1-yl]cobalt Solvents: 1,2-Dichloroethane; 36 h, 25 °C</p>	<p>Versatile Regioselective Deuteration of Indoles via Transition-Metal-Catalyzed H/D Exchange</p> <p>By: Zhang, Jinqun; et al</p> <p>ACS Catalysis (2020), 10(14), 7486-7494.</p>
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Scheme 76 (1 Reaction)

Steps: 1 Yield: 81%

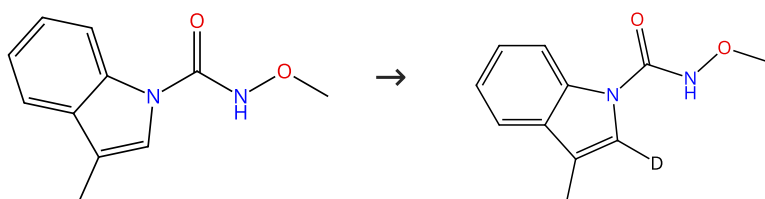


Suppliers (60)

<p>31-116-CAS-19940441</p> <p>Steps: 1 Yield: 81%</p> <p>1.1 Reagents: Water-d_2 Catalysts: Sodium acetate, Silver hexafluoroantimonate, Carbonyldiiodo[(1,2,3,4,5-η)-1,2,3,4,5-pentamethyl-2,4-cyclopentadien-1-yl]cobalt Solvents: 1,2-Dichloroethane; 24 h, 100 °C</p> <p>Experimental Protocols</p>	<p>Cobalt(III)-Catalyzed Direct ortho-Alkenylation of Arylpyrazoles: A Comparative Study on Decarboxylation and Desilylation</p> <p>By: Kumar, Anil; et al</p> <p>European Journal of Organic Chemistry (2019), 2019(16), 2735-2739.</p>
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Scheme 77 (1 Reaction)

Steps: 1 Yield: 80%

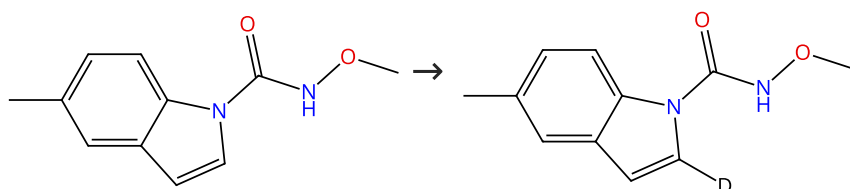


Supplier (1)

31-116-CAS-22543012	Steps: 1 Yield: 80%	Versatile Regioselective Deuteration of Indoles via Transition-Metal-Catalyzed H/D Exchange
1.1 Reagents: Sodium acetate, Water- d_2 Catalysts: Carbonyldiiodo[(1,2,3,4,5- η)-1,2,3,4,5-pentamethyl-2,4-cyclopentadien-1-yl]cobalt Solvents: Acetonitrile; 12 h, 90 °C		By: Zhang, Jinquan; et al ACS Catalysis (2020), 10(14), 7486-7494.

Scheme 78 (1 Reaction)

Steps: 1 Yield: 79%

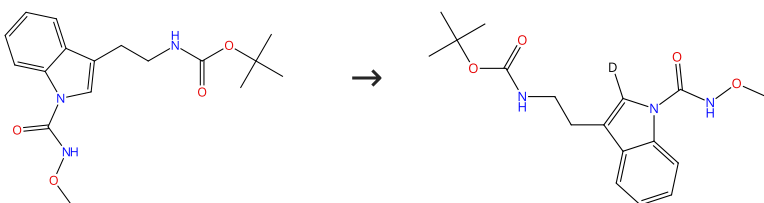


Supplier (1)

31-116-CAS-22543015	Steps: 1 Yield: 79%	Versatile Regioselective Deuteration of Indoles via Transition-Metal-Catalyzed H/D Exchange
1.1 Reagents: Sodium acetate, Water- d_2 Catalysts: Carbonyldiiodo[(1,2,3,4,5- η)-1,2,3,4,5-pentamethyl-2,4-cyclopentadien-1-yl]cobalt Solvents: Acetonitrile; 12 h, 90 °C		By: Zhang, Jinquan; et al ACS Catalysis (2020), 10(14), 7486-7494.

Scheme 79 (1 Reaction)

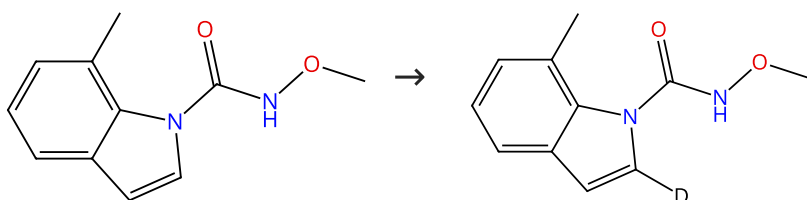
Steps: 1 Yield: 79%



31-116-CAS-22543026	Steps: 1 Yield: 79%	Versatile Regioselective Deuteration of Indoles via Transition-Metal-Catalyzed H/D Exchange
1.1 Reagents: Sodium acetate, Water- d_2 Catalysts: Carbonyldiiodo[(1,2,3,4,5- η)-1,2,3,4,5-pentamethyl-2,4-cyclopentadien-1-yl]cobalt Solvents: Acetonitrile; 12 h, 90 °C		By: Zhang, Jinquan; et al ACS Catalysis (2020), 10(14), 7486-7494.

Scheme 80 (1 Reaction)

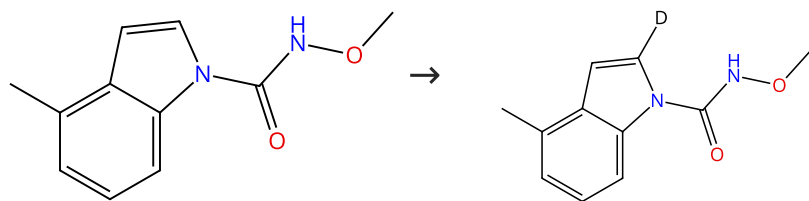
Steps: 1 Yield: 78%



31-116-CAS-22543025	Steps: 1 Yield: 78%	Versatile Regioselective Deuteration of Indoles via Transition-Metal-Catalyzed H/D Exchange
1.1 Reagents: Sodium acetate, Water- d_2 Catalysts: Bis[dichloro[η^5 -(pentamethylcyclopentadienyl)]rhodium], Carbonyldiiodo[(1,2,3,4,5- η)-1,2,3,4,5-pentamethyl-2,4-cyclopentadien-1-yl]cobalt Solvents: 1,2-Dichloroethane; 36 h, 25 °C		By: Zhang, Jinquan; et al ACS Catalysis (2020), 10(14), 7486-7494.

Scheme 81 (1 Reaction)

Steps: 1 Yield: 77%



31-116-CAS-22543013

Steps: 1 Yield: 77%

Versatile Regioselective Deuteration of Indoles via Transition-Metal-Catalyzed H/D Exchange

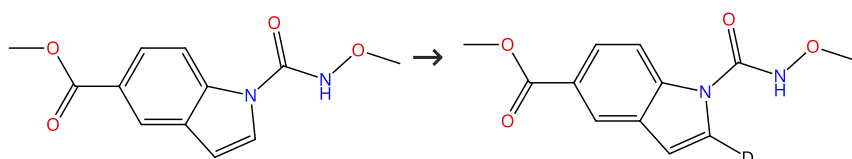
1.1 **Reagents:** Sodium acetate, Water- d_2
Catalysts: Carbonyldiiodo[(1,2,3,4,5- η)-1,2,3,4,5-pentamethyl-2,4-cyclopentadien-1-yl]cobalt
Solvents: Acetonitrile; 12 h, 90 °C

By: Zhang, Jinquan; et al

ACS Catalysis (2020), 10(14), 7486-7494.

Scheme 82 (1 Reaction)

Steps: 1 Yield: 77%



31-116-CAS-22543020

Steps: 1 Yield: 77%

Versatile Regioselective Deuteration of Indoles via Transition-Metal-Catalyzed H/D Exchange

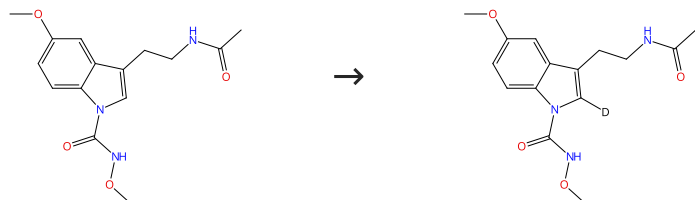
1.1 **Reagents:** Sodium acetate, Water- d_2
Catalysts: Carbonyldiiodo[(1,2,3,4,5- η)-1,2,3,4,5-pentamethyl-2,4-cyclopentadien-1-yl]cobalt
Solvents: Acetonitrile; 12 h, 90 °C

By: Zhang, Jinquan; et al

ACS Catalysis (2020), 10(14), 7486-7494.

Scheme 83 (1 Reaction)

Steps: 1 Yield: 77%



31-116-CAS-22543085

Steps: 1 Yield: 77%

Versatile Regioselective Deuteration of Indoles via Transition-Metal-Catalyzed H/D Exchange

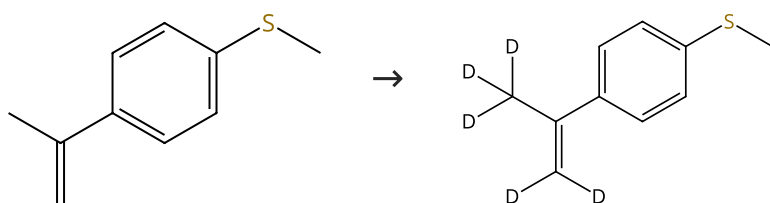
1.1 **Reagents:** Sodium acetate, Water- d_2
Catalysts: Carbonyldiiodo[(1,2,3,4,5- η)-1,2,3,4,5-pentamethyl-2,4-cyclopentadien-1-yl]cobalt
Solvents: Acetonitrile; 12 h, 90 °C

By: Zhang, Jinquan; et al

ACS Catalysis (2020), 10(14), 7486-7494.

Scheme 84 (1 Reaction)

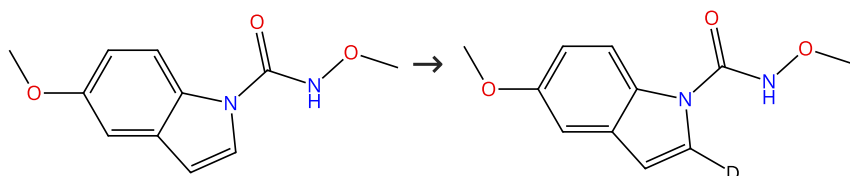
Steps: 1 Yield: 77%



Suppliers (8)

31-614-CAS-37018418 Steps: 1 Yield: 77% 1.1 Reagents: Water- d_2 Catalysts: Diisopropylethylamine, Iridium(1+), [4,4'-bis(1,1-dimethylethyl)-2,2'-bipyridine- $\kappa N^1, \kappa N^1$]bis[2-(2-pyridinyl- κM)phenyl- κC]-, (OC-6-33)-, hexafluorophosphate(1-) (1:1), (OC-6-42)-Chlorobis[[1,2-cyclohexanedione 1,2-di(oximato- κM)](1-)] (<i>N,N</i> -dimethyl-4-pyridinamine- κN^1)cobalt Solvents: Acetonitrile; 36 h, rt	Visible light promoted direct deuteration of alkenes via Co(III)-H mediated H/D exchange By: Jia, Zongbin; et al CCS Chemistry (2023), 5(5), 1069-1076.
Experimental Protocols	

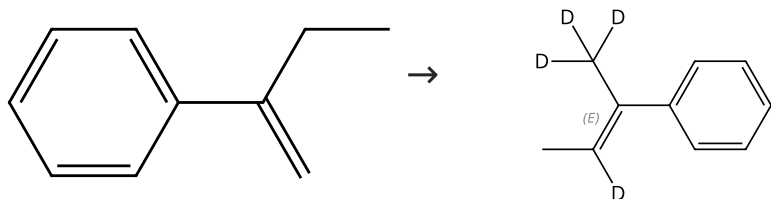
Scheme 85 (1 Reaction)

Steps: **1** Yield: **75%**

Supplier (1)

31-116-CAS-22543016 Steps: 1 Yield: 75% 1.1 Reagents: Sodium acetate, Water- d_2 Catalysts: Carbonyldiiodo[(1,2,3,4,5- η)-1,2,3,4,5-pentamethyl-2,4-cyclopentadien-1-yl]cobalt Solvents: Acetonitrile; 12 h, 90 °C	Versatile Regioselective Deuteration of Indoles via Transition-Metal-Catalyzed H/D Exchange By: Zhang, Jinqun; et al ACS Catalysis (2020), 10(14), 7486-7494.
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Scheme 86 (1 Reaction)

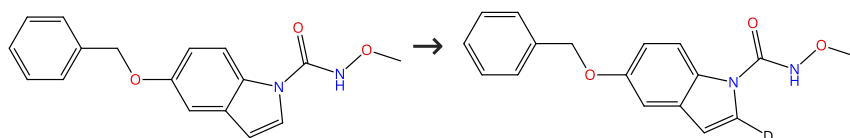
Steps: **1** Yield: **75%**

Suppliers (53)

Double bond geometry shown

31-614-CAS-37018571 Steps: 1 Yield: 75% 1.1 Reagents: Water- d_2 Catalysts: Diisopropylethylamine, Iridium(1+), [4,4'-bis(1,1-dimethylethyl)-2,2'-bipyridine- $\kappa N^1, \kappa N^1$]bis[2-(2-pyridinyl- κM)phenyl- κC]-, (OC-6-33)-, hexafluorophosphate(1-) (1:1), (OC-6-42)-Chlorobis[[1,2-cyclohexanedione 1,2-di(oximato- κM)](1-)] (<i>N,N</i> -dimethyl-4-pyridinamine- κN^1)cobalt Solvents: Acetonitrile; 36 h, rt	Visible light promoted direct deuteration of alkenes via Co(III)-H mediated H/D exchange By: Jia, Zongbin; et al CCS Chemistry (2023), 5(5), 1069-1076.
Experimental Protocols	

Scheme 87 (1 Reaction)

Steps: **1** Yield: **75%**

31-116-CAS-22543023	Steps: 1 Yield: 75%	Versatile Regioselective Deuteration of Indoles via Transition-Metal-Catalyzed H/D Exchange
1.1 Reagents: Sodium acetate, Water- d_2 Catalysts: Carbonyldiiodo[(1,2,3,4,5- η)-1,2,3,4,5-pentamethyl-2,4-cyclopentadien-1-yl]cobalt Solvents: Acetonitrile; 12 h, 90 °C		By: Zhang, Jinquan; et al ACS Catalysis (2020), 10(14), 7486-7494.

Scheme 88 (1 Reaction)

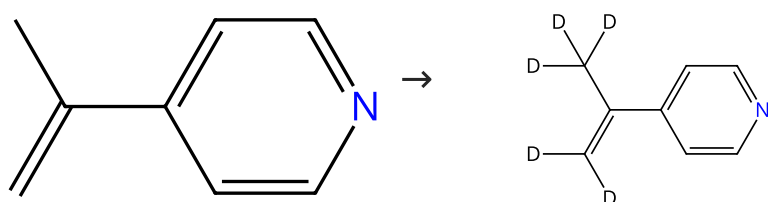
Steps: 1 Yield: 71%



31-614-CAS-37018493	Steps: 1 Yield: 71%	Visible light promoted direct deuteration of alkenes via Co(III)-H mediated H/D exchange
1.1 Reagents: Water- d_2 Catalysts: Diisopropylethylamine, Iridium(1+), [4,4'-bis(1,1-dimethylethyl)-2,2'-bipyridine- $\kappa N^1, \kappa N^1$]bis[2-(2-pyridinyl- κM)phenyl- κC]-, (<i>OC</i> -6-33)-, hexafluorophosphate(1-) (1:1), (<i>OC</i> -6-42)-Chlorobis[[1,2-cyclohexanedione 1,2-di(oximato- κM)](1-)] (<i>N,N</i> -dimethyl-4-pyridinamine- κN^1)cobalt Solvents: Acetonitrile; 36 h, rt		By: Jia, Zongbin; et al CCS Chemistry (2023), 5(5), 1069-1076.
Experimental Protocols		

Scheme 89 (1 Reaction)

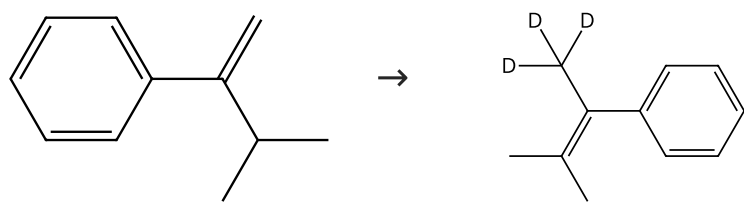
Steps: 1 Yield: 67%



31-614-CAS-37018482	Steps: 1 Yield: 67%	Visible light promoted direct deuteration of alkenes via Co(III)-H mediated H/D exchange
1.1 Reagents: Water- d_2 Catalysts: Diisopropylethylamine, Iridium(1+), [4,4'-bis(1,1-dimethylethyl)-2,2'-bipyridine- $\kappa N^1, \kappa N^1$]bis[2-(2-pyridinyl- κM)phenyl- κC]-, (<i>OC</i> -6-33)-, hexafluorophosphate(1-) (1:1), (<i>OC</i> -6-42)-Chlorobis[[1,2-cyclohexanedione 1,2-di(oximato- κM)](1-)] (<i>N,N</i> -dimethyl-4-pyridinamine- κN^1)cobalt Solvents: Acetonitrile; 36 h, rt		By: Jia, Zongbin; et al CCS Chemistry (2023), 5(5), 1069-1076.
Experimental Protocols		

Scheme 90 (1 Reaction)

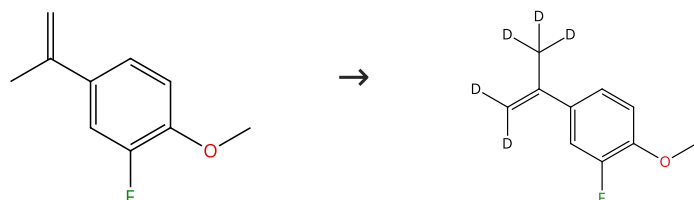
Steps: 1 Yield: 66%



31-614-CAS-37018574 Steps: 1 Yield: 66%	Visible light promoted direct deuteration of alkenes via Co(III)-H mediated H/D exchange
1.1 Reagents: Water- d_2 Catalysts: Diisopropylethylamine, Iridium(1+), [4,4'-bis(1,1-dimethylethyl)-2,2'-bipyridine- $\kappa N^1, \kappa N^1$]bis[2-(2-pyridinyl- κM)phenyl- κC]-, (OC-6-33)-, hexafluorophosphate(1-) (1:1), (OC-6-42)-Chlorobis[[1,2-cyclohexanedione 1,2-di(oximato- κM)](1-)] (<i>N,N</i> -dimethyl-4-pyridinamine- κN^1)cobalt Solvents: Acetonitrile; 36 h, rt	By: Jia, Zongbin; et al CCS Chemistry (2023), 5(5), 1069-1076.
Experimental Protocols	

Scheme 91 (1 Reaction)

Steps: 1 Yield: 62%

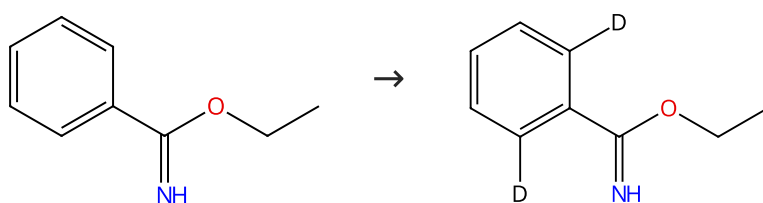


Suppliers (4)

31-614-CAS-37018456 Steps: 1 Yield: 62%	Visible light promoted direct deuteration of alkenes via Co(III)-H mediated H/D exchange
1.1 Reagents: Water- d_2 Catalysts: Diisopropylethylamine, Iridium(1+), [4,4'-bis(1,1-dimethylethyl)-2,2'-bipyridine- $\kappa N^1, \kappa N^1$]bis[2-(2-pyridinyl- κM)phenyl- κC]-, (OC-6-33)-, hexafluorophosphate(1-) (1:1), (OC-6-42)-Chlorobis[[1,2-cyclohexanedione 1,2-di(oximato- κM)](1-)] (<i>N,N</i> -dimethyl-4-pyridinamine- κN^1)cobalt Solvents: Acetonitrile; 36 h, rt	By: Jia, Zongbin; et al CCS Chemistry (2023), 5(5), 1069-1076.
Experimental Protocols	

Scheme 92 (3 Reactions)

Steps: 1 Yield: 50%



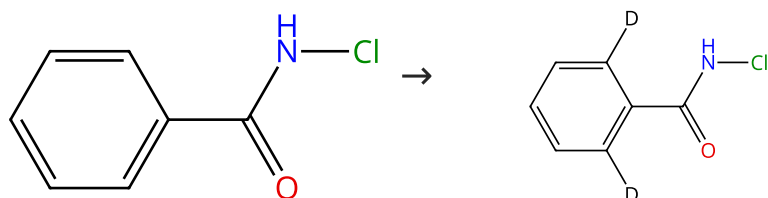
Suppliers (20)

31-614-CAS-34408705 Steps: 1 Yield: 50%	Redox-Neutral Synthesis of Polycyclic Azaheterocycles via Cobalt-Catalyzed Hydroarylation/Annulation of Maleimides
1.1 Reagents: Acetic acid, Water- d_2 , Silver hexafluoroantimonate Catalysts: Carbonyldiiodo[(1,2,3,4,5- η)-1,2,3,4,5-pentamethyl-2,4-cyclopentadien-1-yl]cobalt Solvents: 1,2-Dichloroethane; 2 h, 100 °C	By: He, Yequan; et al Advanced Synthesis & Catalysis (2022), 364(21), 3730-3735.
Experimental Protocols	
31-614-CAS-40246895 Steps: 1	Cobalt-Catalyzed Annulation of Benzimidates or NH-Benzaldehydes with Ynamides: Synthesis of 1-Alkoxy- and 1-Alkyl-3-Aminoisoquinolines
1.1 Reagents: Acetic acid, Water- d_2 , Silver hexafluoroantimonate Catalysts: Carbonyldiiodo[(1,2,3,4,5- η)-1,2,3,4,5-pentamethyl-2,4-cyclopentadien-1-yl]cobalt Solvents: 1,2-Dichloroethane; 4 h, 100 °C	By: Sanaa, Hamdi; et al Advanced Synthesis & Catalysis (2024), 366(11), 2495-2500.
Experimental Protocols	

31-614-CAS-41361342	Steps: 1	Redox-neutral access to isoquinolines via cobalt(III)-catalyzed C-H acylmethylation/cyclization of benzimidates with sulfoxonium ylides
1.1 Reagents: Water- d_2 Catalysts: Silver triflate, Carbonyldiiodo[(1,2,3,4,5- η)-1,2,3,4,5-pentamethyl-2,4-cyclopentadien-1-yl]cobalt Solvents: 1,2-Dichloroethane; 40 min, 110 °C		By: Li, Min; et al Tetrahedron Letters (2024), 146, 155185.
Experimental Protocols		

Scheme 93 (4 Reactions)

Steps: 1 Yield: 48%



Suppliers (5)

31-116-CAS-23501735	Steps: 1 Yield: 48%	Cobalt(III)-catalyzed redox-neutral [4+2]-annulation of N-chlorobenzamides/acrylamides with alkylidenecyclopropanes at room temperature
1.1 Reagents: Sodium acetate, Water- d_2 Catalysts: Silver acetate, Carbonyldiiodo[(1,2,3,4,5- η)-1,2,3,4,5-pentamethyl-2,4-cyclopentadien-1-yl]cobalt Solvents: 1,2-Dichloroethane; 24 h, rt		By: Ramesh, Balu; et al Chemical Communications (Cambridge, United Kingdom) (2021), 57(30), 3692-3695.
Experimental Protocols		

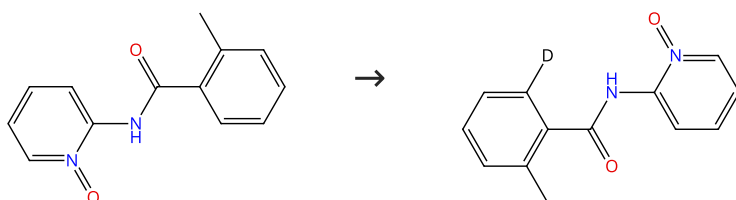
31-614-CAS-39111138	Steps: 1	Co(III)-Catalyzed Regioselective [4+2]-Annulation of N-Chlorobenzamides with Allenes and Vinyl Acetate
1.1 Reagents: Sodium carbonate, Water- d_2 Catalysts: Cobalt(2+), tris(acetonitrile)[(1,2,3,4,5- η)-1,2,3,4,5-pentamethyl-2,4-cyclopentadien-1-yl]-, (OC-6-11)-hexafluoroantimonate(1-) (1:2) Solvents: 1,2-Dichloroethane; 3 h, 40 °C		By: Chandra, Devesh; et al Asian Journal of Organic Chemistry (2024), 13(1), e202300536.
Experimental Protocols		

31-614-CAS-34278529	Steps: 1	Cobalt(III)-Catalyzed Regioselective [4 + 2]-Annulation of N-Chlorobenzamides with Substituted Alkenes
1.1 Reagents: Sodium acetate, Water- d_2 Catalysts: Silver acetate, Carbonyldiiodo[(1,2,3,4,5- η)-1,2,3,4,5-pentamethyl-2,4-cyclopentadien-1-yl]cobalt Solvents: 2,2,2-Trifluoroethanol; 24 h, rt		By: Yadav, Suresh Kumar; et al Journal of Organic Chemistry (2022), 87(19), 13073-13088.

31-116-CAS-19754456	Steps: 1	Cobalt(III)-Catalyzed [4 + 2] Annulation of N-Chlorobenzamides with Maleimides
1.1 Reagents: Sodium acetate, Water- d_2 Catalysts: Silver acetate, Carbonyldiiodo[(1,2,3,4,5- η)-1,2,3,4,5-pentamethyl-2,4-cyclopentadien-1-yl]cobalt Solvents: 1,2-Dichloroethane; 24 h, rt		By: Muniraj, Nachimuthu; et al Organic Letters (2019), 21(4), 1068-1072.
Experimental Protocols		

Scheme 94 (1 Reaction)

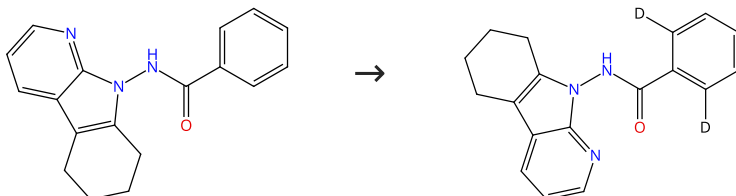
Steps: 1 Yield: 15%



31-116-CAS-19350187	Steps: 1 Yield: 15%	Cobalt-Catalyzed Direct C-H Thiolation of Aromatic Amides with Disulfides: Application to the Synthesis of Quetiapine
1.1 Reagents: <i>tert</i> -Butyl peroxide, Sodium acetate, Water- <i>d</i> ₂ Catalysts: Cobalt dibromide Solvents: Toluene; 3 h, 130 °C		By: Li, Mingliang; et al
Experimental Protocols		Organic Letters (2018), 20(20), 6490-6493.

Scheme 95 (1 Reaction)

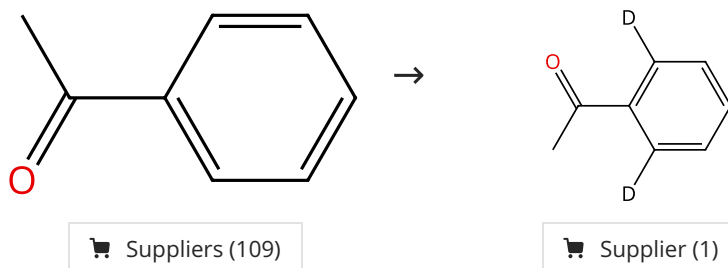
Steps: 1 Yield: 5%



31-614-CAS-37644015	Steps: 1 Yield: 5%	Cobalt-catalyzed atroposelective C-H activation/annulation to access N-N axially chiral frameworks
1.1 Reagents: Oxygen, Water- <i>d</i> ₂ Catalysts: Cobalt acetate tetrahydrate, 2-[(4 <i>S</i>)-4,5-Dihydro-4-phenyl-2-oxazolyl]-4,6-bis(1,1-dimethylethyl)phenol Solvents: 1,4-Dioxane; 6 h, 80 °C		By: Li, Tong; et al
Experimental Protocols		Nature Communications (2023), 14(1), 5271.

Scheme 96 (2 Reactions)

Steps: 1 Yield: 5%

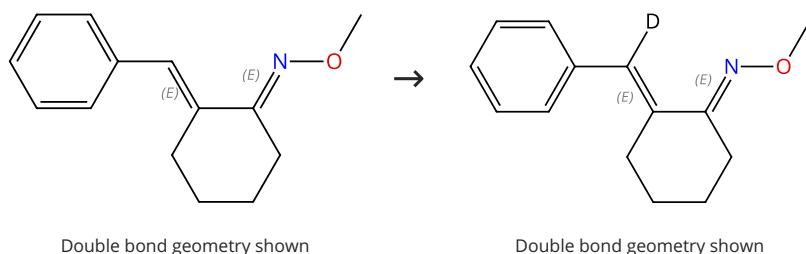


31-614-CAS-35333340	Steps: 1 Yield: 5%	Weakly Coordinating, Ketone-Directed Cp*Co(III)-Catalyzed C-H Allylation on Arenes and Indoles
1.1 Reagents: Cupric acetate, Water- <i>d</i> ₂ Catalysts: Silver hexafluoroantimonate, Carbonyldiiodo[(1,2,3,4,5-η)-1,2,3,4,5-pentamethyl-2,4-cyclopentadien-1-yl]cobalt Solvents: 2,2,2-Trifluoroethanol; 5 h, 100 °C		By: Sk, Raja Md; et al
Experimental Protocols		Organic Letters (2018), 20(1), 134-137.

31-116-CAS-19821655	Steps: 1	Cp*Co(III)-Catalyzed C-H Alkenylation of Aromatic Ketones with Alkenes
1.1 Reagents: Water- <i>d</i> ₂ Catalysts: Cupric acetate, Silver hexafluoroantimonate, Carbonyldiiodo[(1,2,3,4,5-η)-1,2,3,4,5-pentamethyl-2,4-cyclopentadien-1-yl]cobalt Solvents: 2,2,2-Trifluoroethanol; 24 h, 90 °C		By: Sk, Raja Md; et al
Experimental Protocols		Advanced Synthesis & Catalysis (2019), 361(3), 585-590.

Scheme 97 (1 Reaction)

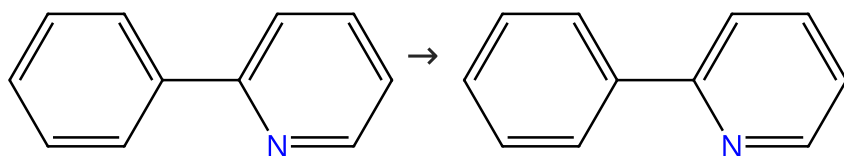
Steps: 1



31-116-CAS-23305670	Steps: 1	Redox-Neutral Cobalt(III)-Catalyzed C-H Activation/Annulation of α,β-Unsaturated Oxime Ether with Alkyne: One-Step Access to Multisubstituted Pyridine By: Mohanty, Smruti Ranjan; et al Journal of Organic Chemistry (2021), 86(1), 1074-1083.
1.1 Reagents: Potassium acetate, Water- d_2 Catalysts: Carbonyldiiodo[(1,2,3,4,5- η)-1,2,3,4,5-pentamethyl-2,4-cyclopentadien-1-yl]cobalt, [1,1,1-Trifluoro- <i>N</i> -[(trifluoromethyl)sulfonyl- κO]methanesulfonamido- κO]silver Solvents: 1,1,1,3,3,3-Hexafluoro-2-propanol; 30 min, 120 °C		

Scheme 98 (1 Reaction)

Steps: 1

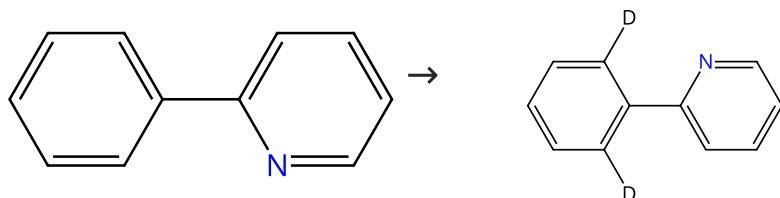


Suppliers (93)

31-614-CAS-29790606	Steps: 1	Capturing Elusive Cobaltacycle Intermediates: A Real-Time Snapshot of the Cp*Co^{III}-Catalyzed Oxidative Alkyne Annulation By: Sanjose-Orduna, Jesus; et al Angewandte Chemie, International Edition (2017), 56(40), 12137-12141.
1.1 Reagents: Cupric acetate Catalysts: Cobalt(1+), (acetonitrile)[[(1,2,3,4,5- η)-1,2,3,4,5-pentamethyl-2,4-cyclopentadien-1-yl][2-(2-pyridinyl- κM)phenyl- κC]-, tetrafluoroborate(1-)] (1:1) Solvents: Dichloromethane- d_2 , Water- d_2 ; 6 h, rt	Experimental Protocols	

Scheme 99 (1 Reaction)

Steps: 1



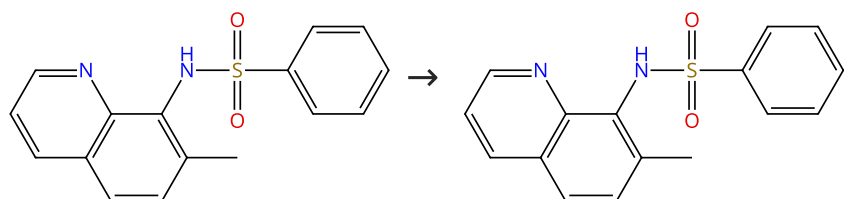
Suppliers (93)

Supplier (1)

31-116-CAS-23707005	Steps: 1	Cobalt-Catalyzed C-H Allylation of Arenes with Allylic Amines By: Yan, Rui; et al Chinese Journal of Chemistry (2021), 39(5), 1205-1210.
1.1 Reagents: Silver acetate, Silver trifluoroacetate, Water- d_2 Catalysts: Carbonyldiiodo[(1,2,3,4,5- η)-1,2,3,4,5-pentamethyl-2,4-cyclopentadien-1-yl]cobalt Solvents: 1,1,2,2,2-Pentafluoroethanol; 2 h, 75 °C	Experimental Protocols	

Scheme 100 (1 Reaction)

Steps: 1

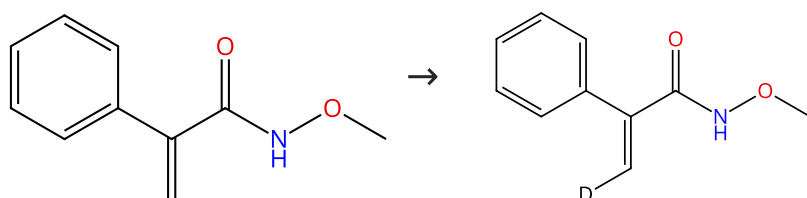


Suppliers (2)

<p>31-614-CAS-36994796 Steps: 1</p> <p>1.1 Reagents: Pivalic acid, Oxygen, Water-d_2 Catalysts: Cobalt diacetate, 2-[(4<i>S</i>)-4,5-Dihydro-4-phenyl-2-oxazolyl]-4,6-bis(1,1-dimethylethyl)phenol Solvents: 1,1,2,2-Tetrachloroethane; 5 h, 100 °C; 100 °C → rt</p> <p>1.2 Reagents: Sodium bicarbonate Solvents: Water; rt</p> <p>Experimental Protocols</p>	<p>Cobalt-catalyzed enantioselective C-H/N-H annulation of aryl sulfonamides with allenes or alkynes: facile access to C-N axially chiral sultams</p> <p>By: Si, Xiao-Ju; et al</p> <p>Chemical Science (2023), 14(26), 7291-7303.</p>
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Scheme 101 (1 Reaction)

Steps: 1

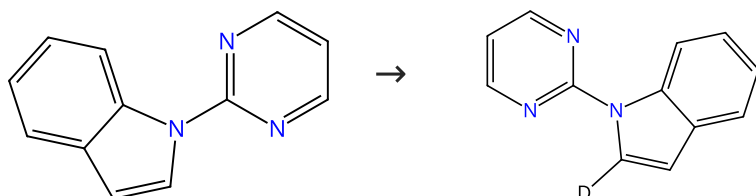


Suppliers (2)

<p>31-116-CAS-18664237 Steps: 1</p> <p>1.1 Reagents: Zinc acetate, Water-d_2 Catalysts: Carbonyldiiodo[(1,2,3,4,5-η)-1,2,3,4,5-pentamethyl-2,4-cyclopentadien-1-yl]cobalt, [1,1,1-Trifluoro-<i>N</i>-[(trifluoromethyl)sulfonyl-κO]methanesulfonamido-κO]silver Solvents: 1,2-Dichloroethane; 12 h, 40 °C</p> <p>Experimental Protocols</p>	<p>Cp*Co(III)-catalyzed amidation of olefinic and aryl C-H bonds: highly selective synthesis of enamides and pyrimidones</p> <p>By: Liu, Yuan; et al</p> <p>Chemical Communications (Cambridge, United Kingdom) (2018), 54(34), 4345-4348.</p>
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Scheme 102 (2 Reactions)

Steps: 1



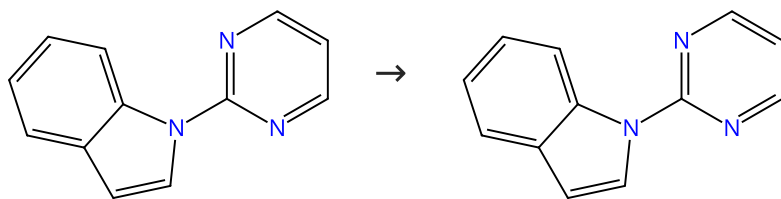
Suppliers (59)

Suppliers (3)

<p>31-116-CAS-20816928 Steps: 1</p> <p>1.1 Reagents: Benzoyl azide, Cesium acetate, Water-d_2 Catalysts: Dicarboxyl(η^5-cyclopentadienyl)cobalt, Silver hexafluoroantimonate Solvents: 1,2-Dichloroethane; 12 h, 70 °C</p> <p>Experimental Protocols</p>	<p>Cp*Co(III)-Catalyzed Regioselective C2-Amidation of Indoles Using Acyl Azides</p> <p>By: Shah, Tariq A.; et al</p> <p>Journal of Organic Chemistry (2019), 84(24), 16278-16285.</p>
<p>31-116-CAS-682187 Steps: 1</p> <p>1.1 Reagents: Potassium carbonate, Water-d_2 Catalysts: Silver hexafluoroantimonate, Di-μ-iododibis[(1,2,3,4,5-η)-1,2,3,4,5-pentamethyl-2,4-cyclopentadien-1-yl]dicobalt Solvents: 2,2,2-Trifluoroethanol; 18 h, 80 °C</p> <p>Experimental Protocols</p>	<p>Cobalt(III)-Catalyzed C-H Alkynylation with Bromoalkynes under Mild Conditions</p> <p>By: Sauermann, Nicolas; et al</p> <p>Organic Letters (2015), 17(21), 5316-5319.</p>

Scheme 103 (1 Reaction)

Steps: 1



Suppliers (59)

31-614-CAS-26744478

Steps: 1

- 1.1 **Reagents:** Water- d_2
Catalysts: Silver hexafluoroantimonate, Carbonyldiiodo[(1,2,3,4,5- η)-1,2,3,4,5-pentamethyl-2,4-cyclopentadien-1-yl]cobalt
Solvents: 2,2,2-Trifluoroethanol; 12 h, 25 °C

Experimental Protocols

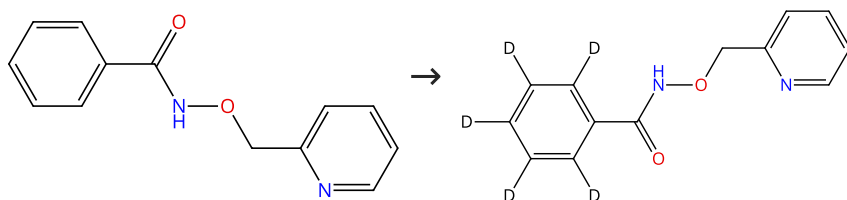
Co(III)-Catalyzed stereospecific synthesis of (E)-homoallylic alcohols with 4-vinyl-1,3-dioxan-2-ones: late-stage C-H homoallylation of indole derivatives

By: Hu, Hong; et al

Organic Chemistry Frontiers (2021), 8(16), 4459-4465.

Scheme 104 (1 Reaction)

Steps: 1



31-116-CAS-21776560

Steps: 1

- 1.1 **Reagents:** Pivalic acid, Silver acetate, Water- d_2
Catalysts: Cobalt diacetate
Solvents: 2,2,2-Trifluoroethanol; 6 h, 110 °C

Experimental Protocols

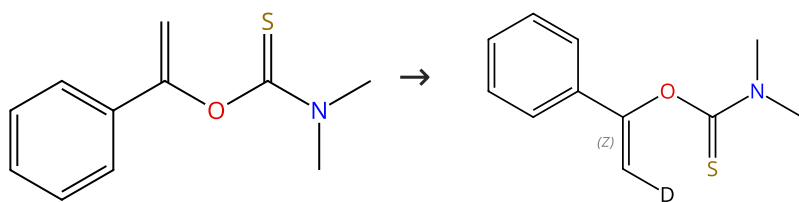
Development of a Traceless Directing Group: Cp*- Free Cobalt-Catalyzed C-H Activation/Annulations to Access Isoquino linones

By: Liu, Minghui; et al

Journal of Organic Chemistry (2020), 85(6), 4067-4078.

Scheme 105 (1 Reaction)

Steps: 1



Double bond geometry shown

31-116-CAS-23232454

Steps: 1

- 1.1 **Reagents:** Acetic acid, Oxygen, Water- d_2
Catalysts: Cobalt(2+), tris(acetonitrile)[(1,2,3,4,5- η)-1,2,3,4,5-pentamethyl-2,4-cyclopentadien-1-yl]-, (OC-6-11)-hexafluoroantimonate(1-) (1:2)
Solvents: 1,4-Dioxane; 12 h, rt

Experimental Protocols

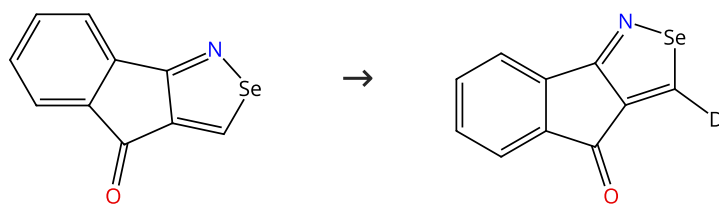
Thiocarbamate-directed Cp*Co(III)-Catalyzed Olefinic C-H Amidation: Facile Access to Enamines with High (Z)-Selectivity

By: Liang, Ya-Ru; et al

European Journal of Organic Chemistry (2021), 2021(4), 694-700.

Scheme 106 (1 Reaction)

Steps: 1



31-614-CAS-37555458

Steps: 1

Silver-Mediated [2+2+1] Cyclization of ortho-Propiolylbenzonitriles with Elemental Selenium: Synthesis of 4 H-indeno[1,2-c][1,2]selenazol-4-ones

By: Fei, Nana; et al

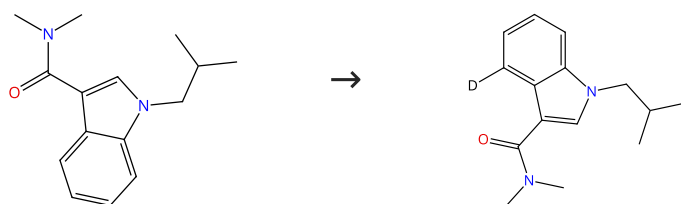
Journal of Organic Chemistry (2023), 88(18), 13042-13048.

- 1.1 **Reagents:** Silver acetate, Water- d_2
Catalysts: Cobalt diacetate
Solvents: Dimethyl sulfoxide; 1 h, 40 °C; 40 °C → rt
- 1.2 **Reagents:** Water; rt

Experimental Protocols

Scheme 107 (1 Reaction)

Steps: 1



31-614-CAS-39300315

Steps: 1

Weak-Chelation Assisted Regioselective Indole C(4)-Alkynylation via Six-Membered Cobaltacycle Intermediate

By: Joshi, Sofaya; et al

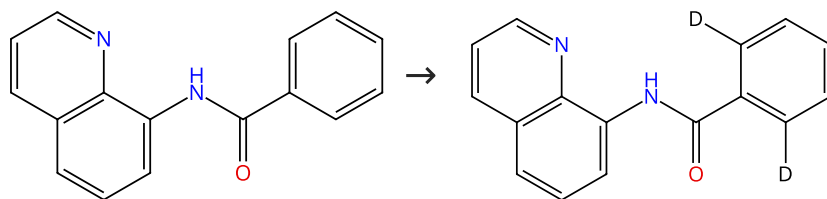
Advanced Synthesis & Catalysis (2024), 366(6), 1341-1347.

- 1.1 **Reagents:** Silver carbonate, Methanol- d_4 , Water- d_2
Catalysts: Silver hexafluoroantimonate, Carbonyldiiodo[(1,2,3,4,5-η)-1,2,3,4,5-pentamethyl-2,4-cyclopentadien-1-yl]cobalt
Solvents: Dichloromethane; 12 h, 80 °C

Experimental Protocols

Scheme 108 (1 Reaction)

Steps: 1



Suppliers (25)

31-116-CAS-23193141

Steps: 1

Directed Cobalt-Catalyzed C-H Activation to Form C-C and C-O Bonds in One Pot via Three-Component Coupling

By: Li, Meng-Hui; et al

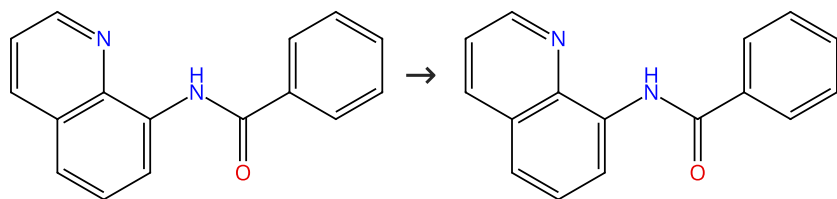
Organic Letters (2021), 23(3), 914-919.

- 1.1 **Reagents:** *tert*-Butyl hydroperoxide, Water- d_2
Catalysts: Cobalt(II) acetylacetonate
Solvents: 1,2-Dichloroethane, Water; 10 h, rt

Experimental Protocols

Scheme 109 (1 Reaction)

Steps: 1



Suppliers (25)

31-614-CAS-35963628

Steps: 1

Cobalt-Catalyzed Enantioselective C-H Annulation with Alkenes

By: Yang, Dandan; et al

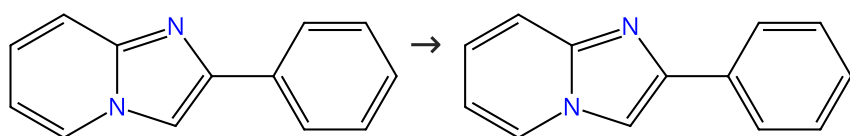
ACS Catalysis (2023), 13(7), 4250-4260.

1.1 **Reagents:** Manganese triacetate, Propanoic acid, 2,2-dimethyl-, sodium salt (1:1), Water- d_2
Catalysts: Cobalt diacetate, 1-Naphthalenol, 2-[(4S)-4,5-dihydro-4-phenyl-2-oxazolyl]-
Solvents: 1,1,1,3,3,3-Hexafluoro-2-propanol; 10 min, 60 °C; 60 °C → rt

Experimental Protocols

Scheme 110 (1 Reaction)

Steps: 1



Suppliers (83)

31-614-CAS-43338286

Steps: 1

Deciphering Co(III)-Catalyzed Oxidative C-H/C-H Annulation Towards Maleimide-Fused Imidazopyridine AEEgens

By: Ghosh, Subhendu; et al

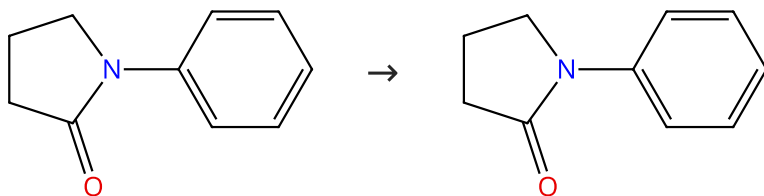
Chemistry - A European Journal (2025), 31(5), e202403576.

1.1 **Reagents:** Cupric acetate, Water- d_2 , [1,1,1-Trifluoro-*N*-[(trifluoromethyl)sulfonyl- κO]methanesulfonamido- κO] silver
Catalysts: Carbonyldiiodo[(1,2,3,4,5- η)-1,2,3,4,5-pentamethyl-2,4-cyclopentadien-1-yl]cobalt
Solvents: Toluene; 20 h, 130 °C

Experimental Protocols

Scheme 111 (1 Reaction)

Steps: 1



Suppliers (79)

31-614-CAS-36924168

Steps: 1

Uncovering the Reactivity of Cobalt-Catalyst Towards Regioselective Hydroarylation of 1,6-Diyne via Weak-Chelation Assisted C-H Bond Activation

By: Kumar Banjare, Shyam; et al

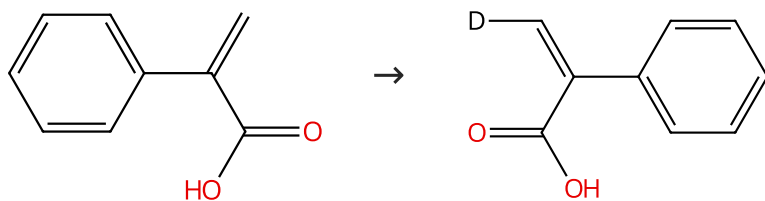
Advanced Synthesis & Catalysis (2023), 365(12), 1977-1982.

1.1 **Reagents:** Cupric acetate, Water- d_2
Catalysts: Silver hexafluoroantimonate, Carbonyldiiodo[(1,2,3,4,5- η)-1,2,3,4,5-pentamethyl-2,4-cyclopentadien-1-yl]cobalt
Solvents: 1,2-Dichlorobenzene; 30 h, 80 °C

Experimental Protocols

Scheme 112 (1 Reaction)

Steps: 1



Suppliers (95)

31-614-CAS-24449373

Steps: 1

Cobalt-Catalyzed Vinylic C-H Addition to Formaldehyde: Synthesis of Butenolides from Acrylic Acids and HCHO

By: Yu, Shuling; et al

Organic Letters (2021), 23(21), 8359-8364.

1.1 **Reagents:** Sodium acetate, Water- d_2
Catalysts: Silver hexafluoroantimonate, 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; 1 h, 110 °C

Experimental Protocols

Scheme 113 (1 Reaction)

Steps: 1



Suppliers (4)

31-614-CAS-38608633

Steps: 1

Annulative π -Extension by Cp*Co(III)-Catalyzed Ketone-Directed peri-Annulation: An Approach to Access Fused Arenes

By: Bhattacharyya, Arya; et al

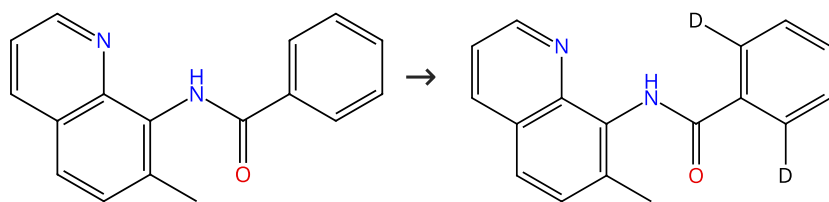
Organic Letters (2023), 25(48), 8622-8627.

1.1 **Reagents:** Water- d_2
Catalysts: Sodium acetate, Silver hexafluoroantimonate, Carbonyldiiodo[(1,2,3,4,5- η)-1,2,3,4,5-pentamethyl-2,4-cyclopentadien-1-yl]cobalt
Solvents: 1,2-Dichloroethane; 20 min, 130 °C; 24 h, 130 °C

Experimental Protocols

Scheme 114 (1 Reaction)

Steps: 1



31-614-CAS-37136105

Steps: 1

C-N Axially Chiral Heterobiaryl Skeletons Construction via Cobalt-Catalyzed Atroposelective Annulation

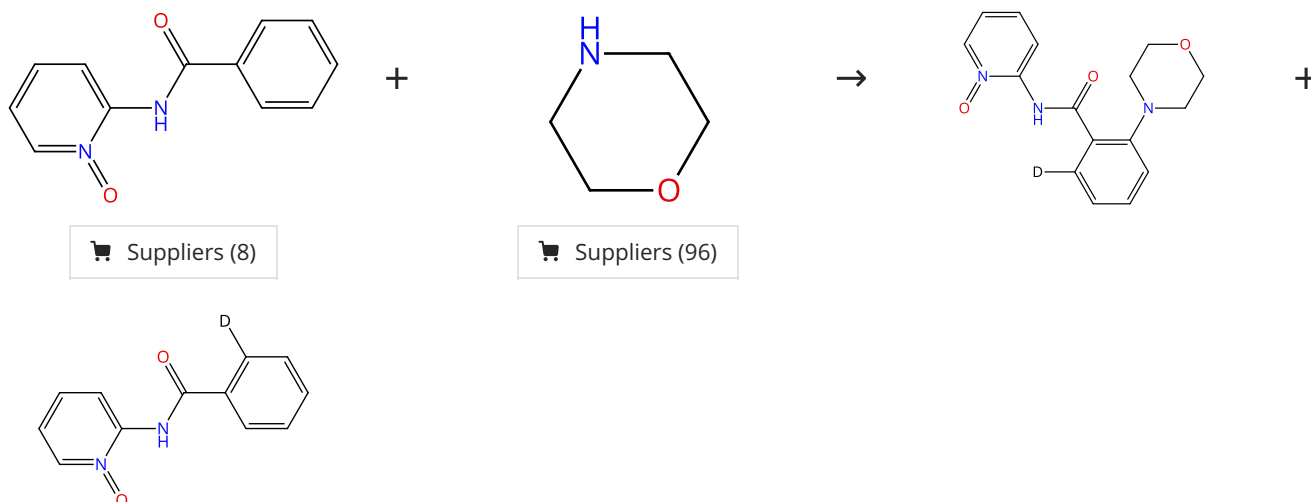
By: Li, Tong; et al

Organic Letters (2023), 25(28), 5191-5196.

1.1 **Reagents:** Oxygen, Water- d_2
Catalysts: Benzoic acid, cobalt(2+) salt (2:1), Phenol, 2-[(4S)-4,5-dihydro-4-phenyl-2-oxazolyl]-4-methoxy-
Solvents: Cyclopentyl methyl ether; 7 h, 100 °C

Scheme 115 (1 Reaction)

Steps: 1 Yield: 55%



31-116-CAS-18747685

Steps: 1 Yield: 55%

Electrochemical C-H Amination by Cobalt Catalysis in a Renewable Solvent

By: Sauermann, Nicolas; et al

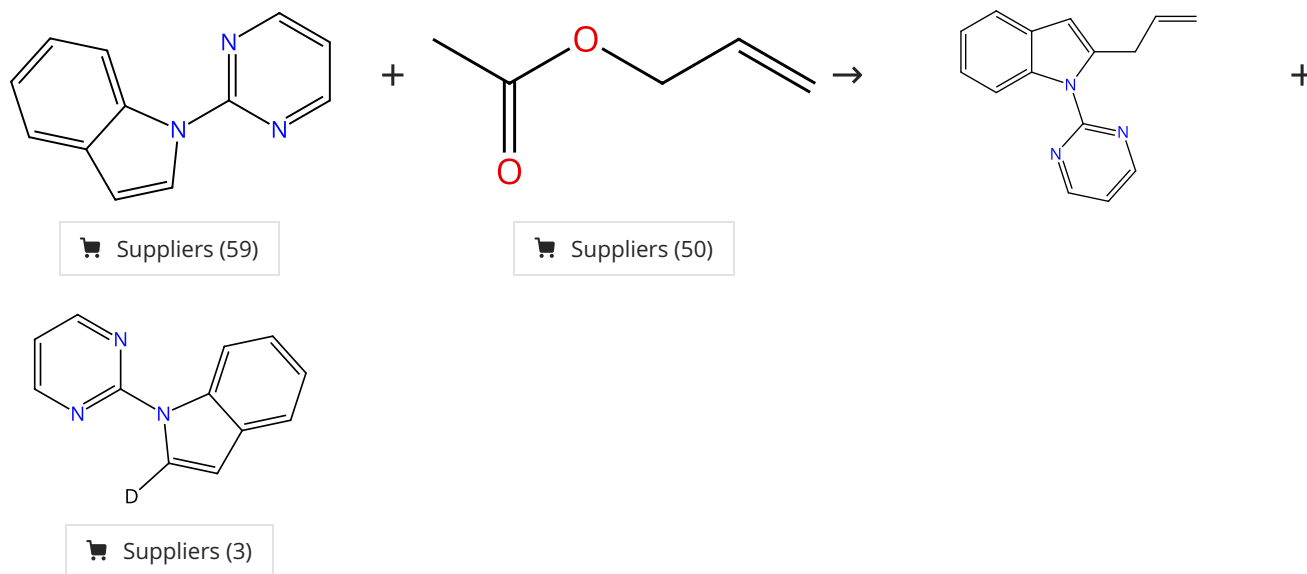
Angewandte Chemie, International Edition (2018), 57(18), 5090-5094.

1.1 **Reagents:** Potassium acetate, Tetrabutylammonium hexafluorophosphate
Catalysts: Cobalt diacetate
Solvents: γ -Valerolactone, Water- d_2 ; 15 h, 40 °C

Experimental Protocols

Scheme 116 (1 Reaction)

Steps: 1 Yield: 53%



31-085-CAS-10592122

Steps: 1 Yield: 53%

Cobalt(III)-Catalyzed Allylation with Allyl Acetates by C- H/C-O Cleavage

By: Moselage, Marc; et al

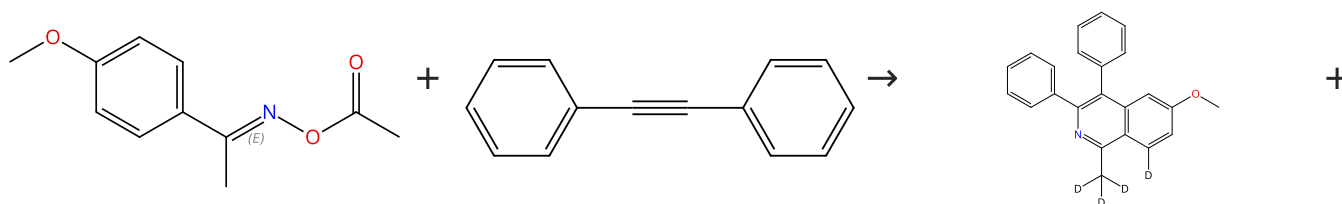
Synlett (2015), 26(11), 1596-1600.

1.1 **Reagents:** Water- d_2
Catalysts: Potassium acetate, Silver hexafluoroantimonate, Carbonyldiiodo[(1,2,3,4,5- η)-1,2,3,4,5-pentamethyl-2,4-cyclopentadien-1-yl]cobalt
Solvents: 1,2-Dichloroethane; 16 h, 80 °C

1.2 **Reagents:** Ammonium chloride
Solvents: Water; rt

Scheme 117 (1 Reaction)

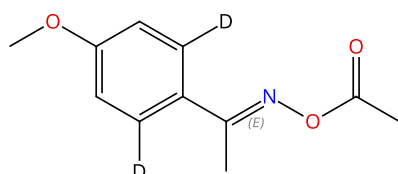
Steps: 1 Yield: 51%



Double bond geometry shown

Suppliers (88)

Supplier (1)



Double bond geometry shown

31-116-CAS-11331530

Steps: 1 Yield: 51%

Cobalt(III)-Catalyzed C-H/N-O Functionalizations: Isohyptic Access to Isoquinolines

By: Wang, Hui; et al

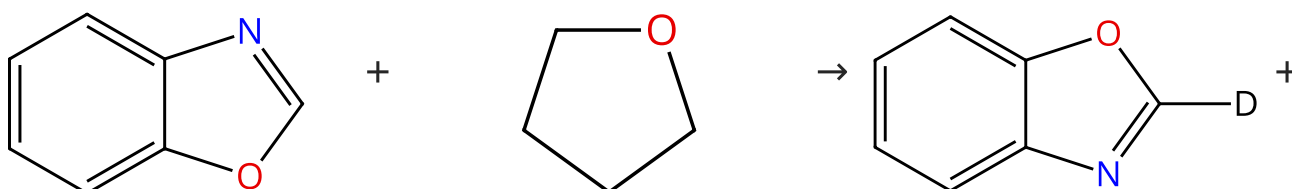
Chemistry - A European Journal (2015), 21(44), 15525-15528.

1.1 **Reagents:** Oxygen, Water- d_2
Catalysts: Sodium acetate, Silver hexafluoroantimonate, Carbonyldiiodo[(1,2,3,4,5-η)-1,2,3,4,5-pentamethyl-2,4-cyclopentadien-1-yl]cobalt
Solvents: 1,2-Dichloroethane; 15 min, 120 °C

Experimental Protocols

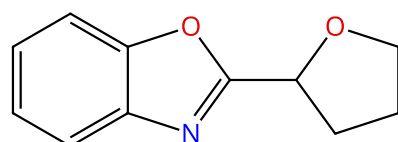
Scheme 118 (1 Reaction)

Steps: 1 Yield: 49%



Suppliers (81)

Suppliers (410)



Suppliers (7)

31-116-CAS-18958403

Steps: 1 Yield: 49%

Heterogeneous Co-catalyzed direct 2-alkylation of azoles with ethers

By: Yang, Ke; et al

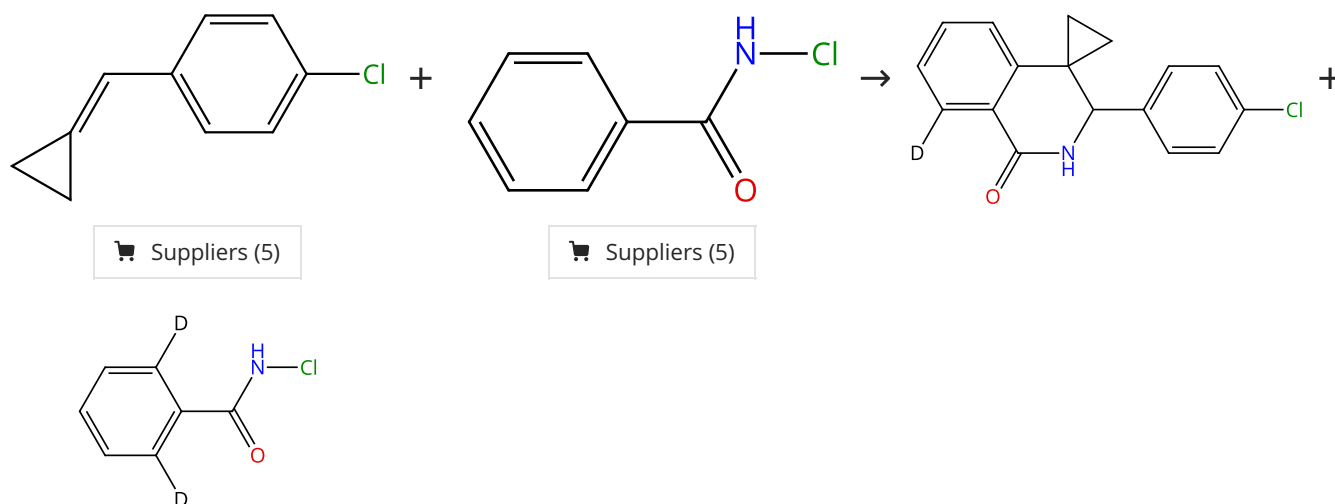
RSC Advances (2018), 8(25), 13671-13674.

1.1 **Reagents:** *tert*-Butyl hydroperoxide, Water- d_2
Catalysts: Cobalt (mesoporous zeolite ETS-10 supported)
Solvents: Decane; 2 h, 100 °C

Experimental Protocols

Scheme 119 (1 Reaction)

Steps: 1 Yield: 38%



31-116-CAS-23496288

Steps: 1 Yield: 38%

Cobalt(III)-catalyzed redox-neutral [4+2]-annulation of N-chlorobenzamides/acrylamides with alkylidenecyclopropanes at room temperature

By: Ramesh, Balu; et al

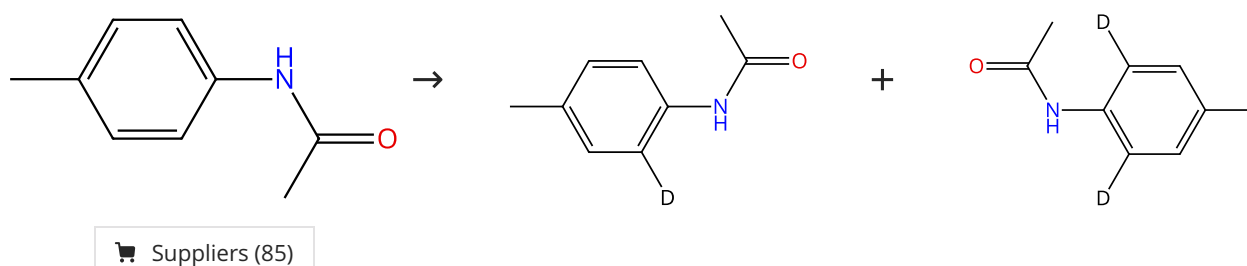
Chemical Communications (Cambridge, United Kingdom) (2021), 57(30), 3692-3695.

1.1 **Reagents:** Sodium acetate, Water- d_2
Catalysts: Silver acetate, Carbonyldiiodo[(1,2,3,4,5- η)-1,2,3,4,5-pentamethyl-2,4-cyclopentadien-1-yl]cobalt
Solvents: 1,2-Dichloroethane; 24 h, rt

Experimental Protocols

Scheme 120 (1 Reaction)

Steps: 1



31-116-CAS-18983599

Steps: 1

Cobalt(II)-catalyzed regioselective C-H halogenation of anilides

By: Li, Ze-lin; et al

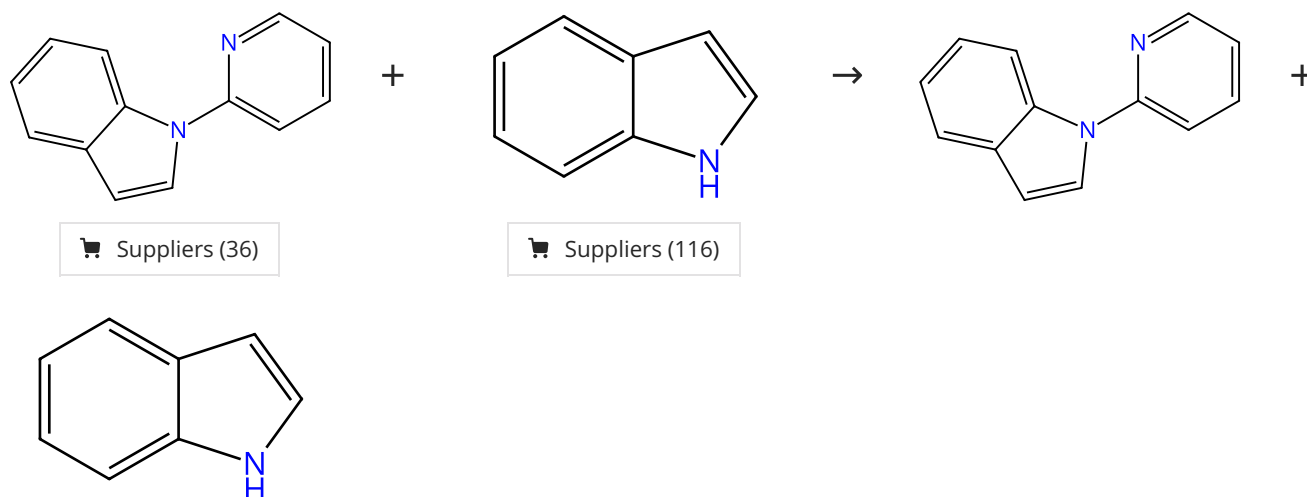
Organic & Biomolecular Chemistry (2018), 16(30), 5433-5440.

1.1 **Reagents:** Water- d_2
Catalysts: Trifluoroacetic acid, Cobalt(II) acetylacetonate, Silver oxide (Ag_2O)
Solvents: 1,2-Dichloroethane; 16 h, 60 °C

Experimental Protocols

Scheme 121 (1 Reaction)

Steps: 1



31-614-CAS-27891237

Steps: 1

1.1 **Reagents:** Sodium acetate, Water-*d*₂, Silver oxide (Ag₂O)
Catalysts: Pivalic acid, Silver hexafluoroantimonate, Carbonyl diiodo[(1,2,3,4,5-η)-1,2,3,4,5-pentamethyl-2,4-cyclopentadien-1-yl]cobalt
Solvents: 1,2-Dichloroethane; 2 h, 110 °C

Experimental Protocols

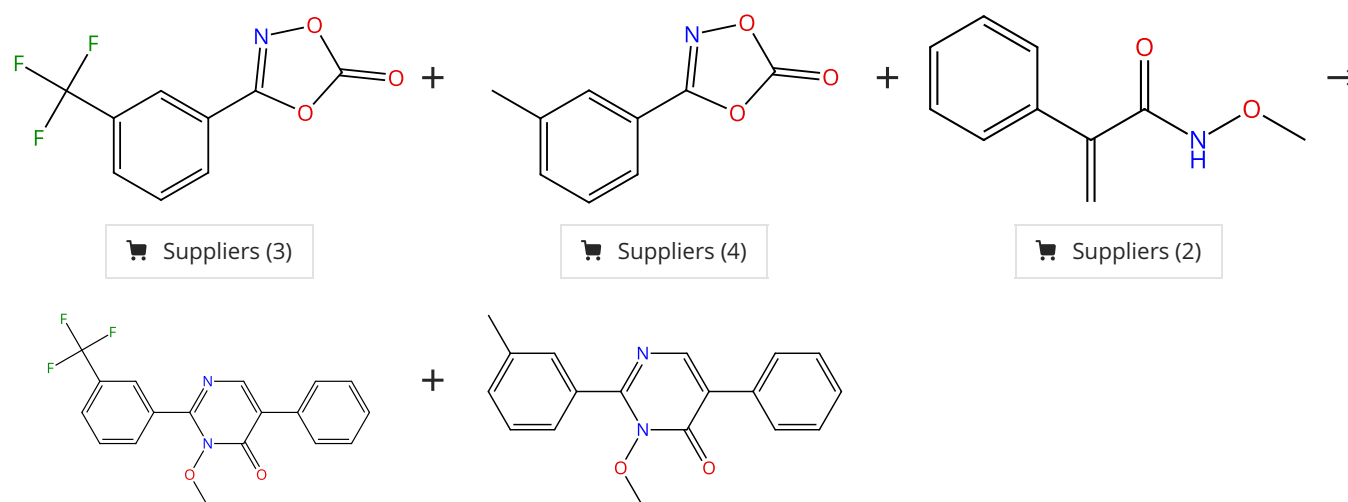
Cobalt-catalyzed cross-dehydrogenative coupling between N-(2-pyridyl) and free indoles for the synthesis of unsymmetrical 2,2'-biindoles

By: Li, Ting; et al

Chemical Communications (Cambridge, United Kingdom) (2019), 55(3), 353-356.

Scheme 122 (1 Reaction)

Steps: 1



31-614-CAS-25366567

Steps: 1

1.1 **Reagents:** Zinc acetate, Water-*d*₂
Catalysts: Carbonyl diiodo[(1,2,3,4,5-η)-1,2,3,4,5-pentamethyl-2,4-cyclopentadien-1-yl]cobalt, [1,1,1-Trifluoro-N-[(trifluoromethyl)sulfonyl-κO]methanesulfonamido-κO]silver
Solvents: 1,2-Dichloroethane; 12 h, 110 °C

Experimental Protocols

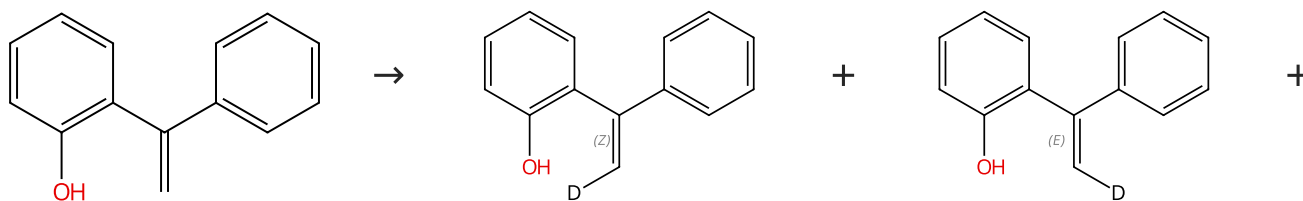
Cp*Co(III)-catalyzed amidation of olefinic and aryl C-H bonds: highly selective synthesis of enamides and pyrimidones

By: Liu, Yuan; et al

Chemical Communications (Cambridge, United Kingdom) (2018), 54(34), 4345-4348.

Scheme 123 (1 Reaction)

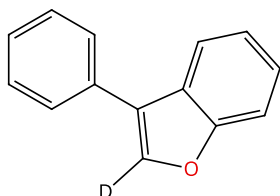
Steps: 1 Yield: 40%



Suppliers (13)

Double bond geometry shown

Double bond geometry shown



31-116-CAS-16109878

Steps: 1 Yield: 40%

Cobalt(III) Catalyzed Intramolecular Cross-Dehydrogenative C-H/X-H Coupling: Efficient Synthesis of Indoles and Benzofurans

By: Ghorai, Jayanta; et al

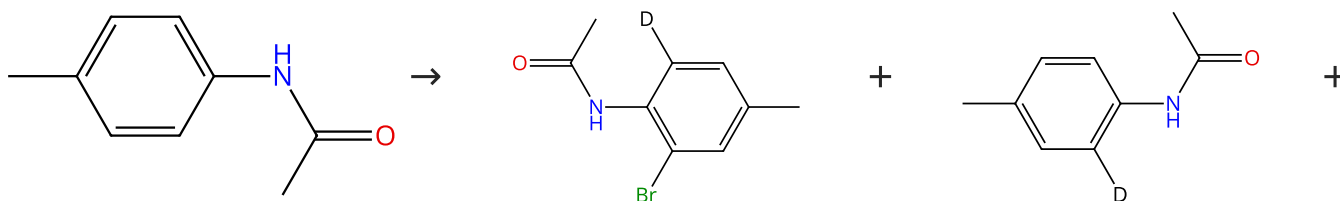
Chemistry - A European Journal (2016), 22(45), 16042-16046.

1.1 **Reagents:** Oxygen, Water- d_2
Catalysts: Cupric acetate, Carbonyl(η^5 -2,4-cyclopentadien-1-yl) diiodocobalt
Solvents: Toluene; 5 h, 100 °C

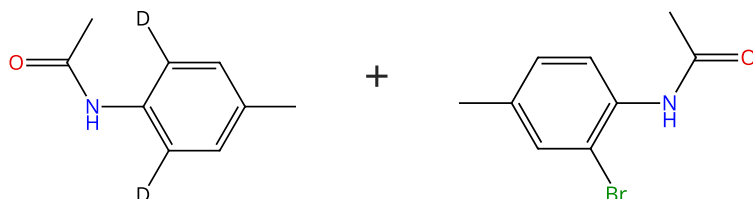
Experimental Protocols

Scheme 124 (1 Reaction)

Steps: 1



Suppliers (85)



Suppliers (70)

31-084-CAS-18983600

Steps: 1

Cobalt(II)-catalyzed regioselective C-H halogenation of anilides

By: Li, Ze-lin; et al

Organic & Biomolecular Chemistry (2018), 16(30), 5433-5440.

1.1 **Reagents:** *N*-Bromosuccinimide, Water- d_2
Catalysts: Trifluoroacetic acid, Cobalt(II) acetylacetonate, Silver oxide (Ag_2O)
Solvents: 1,2-Dichloroethane; 16 h, 60 °C

Experimental Protocols