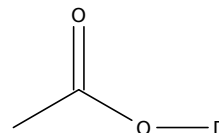


Initiating Search



February 24, 2025, 11:45 AM

 Substances:

Filtered By:

Structure Match: **Substructure**

Search Tasks

Task	Search Type	View
Returned Substance Results + Filters (2,558)	 Substances	View Results
Exported: Retrieved Related Reaction Results + Filters (143)	 Reactions	View Results
Filtered By:		
Substance	Reactant, Reagent, Solvent	
Role:		

Catalyst:	<p>Borate(1-), tetrafluoro-, cobalt(2+) (2:1), Carbonyl(η^5-2,4-cyclopentadien-1-yl)diodocobalt, Carbonyldiiodo[(1,2,3,4,5-η)-1,2,3,4,5-pentamethyl-2,4-cyclopentadien-1-yl]cobalt, Cobalt, [[2,2'-[(1,1,2,2-tetramethyl-1,2-ethanediyl)bis[(nitrilo-κM)methylidyne]]bis[6-(1,1-dimethylethyl)-4-nitrophenolato-κO]](2-)]-, (<i>SP</i>-4-2)-, Cobalt, [[2,2'-[1,2-phenylenebis[(nitrilo-κM)methylidyne]]bis[phenolato-κO]](2-)]-, monohydrate, (<i>SP</i>-4-2)-, Cobalt(2+), tris(acetonitrile)[(1,2,3,4,5-η)-1,2,3,4,5-pentamethyl-2,4-cyclopentadien-1-yl]-, (<i>OC</i>-6-11)-hexafluoroantimonate(1-) (1:2), Cobalt, bis[2-chloro-6-(hydroxy-κO)benzaldehydato-κO]-, Cobalt, bis[2-(hydroxy-κO)-5-methoxybenzaldehydato-κO]-, Cobalt, bis[2-(hydroxy-κO)-5-methylbenzaldehydato-κO]-, Cobalt chloride (CoCl₂), Cobalt diacetate, Cobalt dibromide, Cobalt, di-μ-iodobis[(1,2,3,4,5-η)-1,2,3,4,5-pentamethyl-2,4-cyclopentadien-1-yl]di-, (<i>Co-Co</i>), Cobalt dinitrate, Cobalt iodide (CoI₂), Cobalt nitrate hexahydrate, Cobalt oxide (Co₃O₄), Dicarbonyl(η^5-cyclopentadienyl)cobalt, Di-μ-chlorodichlorobis[(1,2,3,4,5-η)-1,2,3,4,5-pentamethyl-2,4-cyclopentadien-1-yl]dicobalt, (<i>SP</i>-5-13)-[[<i>rel</i>-2,2'-[(1<i>R</i>,2<i>R</i>)-1,2-Cyclohexanediyl]bis[(nitrilo-κM)methylidyne]]bis[4,6-bis(1,1-dimethylethyl)phenolato-κO]](2-)](4-methylbenzenesulfonato-κO)cobalt, <i>tris</i>(Acetylacetonato)cobalt</p>
Document Type:	Journal
Language:	English

Reactions (39)

[View in CAS SciFinder](#)

Scheme 1 (1 Reaction)

Steps: 1 Yield: 100%



31-614-CAS-38403335

Steps: 1 Yield: 100%

Construction of Nitrogen Spirocycles in a Tandem Co(III)-catalyzed C-H Activation/Dipolar Cycloaddition Reaction

By: Brzeskiewicz, Jakub; et al

Advanced Synthesis & Catalysis (2023), 365(23), 4241-4247.

1.1 Reagents: Acetic acid-*d*₄

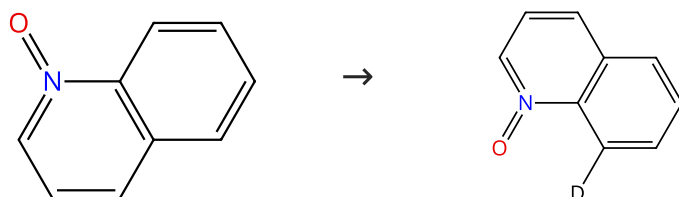
Catalysts: Silver hexafluoroantimonate, Carbonyldiiodo[(1,2,3,4,5-η)-1,2,3,4,5-pentamethyl-2,4-cyclopentadien-1-yl]cobalt

Solvents: 1,2-Dichloroethane; 24 h, 80 °C

Experimental Protocols

Scheme 2 (2 Reactions)

Steps: 1 Yield: 99%


 Suppliers (56)

 Supplier (1)

31-614-CAS-35968590

Steps: 1 Yield: 99%

Cp*Co(III)-Catalyzed C(8)-Nucleophilic Cascade Cyclization of Quinoline N-Oxide with 1,6-Enyne

By: Garai, Bholanath; et al

Organic Letters (2023), 25(12), 2018-2023.

1.1 Reagents: Acetic acid-*d*₄

Catalysts: Pivalic acid, 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; 36 h, 100 °C

Experimental Protocols

31-614-CAS-33527163

Steps: 1

Cp*Co(III)-Catalyzed Selective C8-Olefination and Oxyarylation of Quinoline N-Oxides with Terminal Alkynes

By: Parmar, Diksha; et al

Journal of Organic Chemistry (2022), 87(14), 9069-9087.

1.1 Reagents: Acetic acid-*d*₄

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)

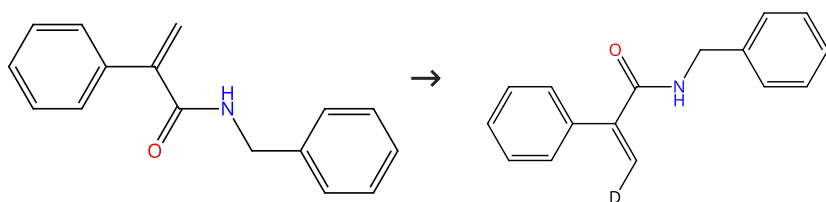
Solvents: 1,2-Dichloroethane; 30 min, 120 °C

1.2 Solvents: 1,2-Dichloroethane; 5 h, 120 °C

Experimental Protocols

Scheme 3 (1 Reaction)

Steps: 1 Yield: 98%



Suppliers (12)

31-116-CAS-20701549

Steps: 1 Yield: 98%

Cobalt-Catalyzed Olefinic C-H Alkenylation/Alkylation Switched by Carbonyl Groups

By: Li, Tingyan; et al

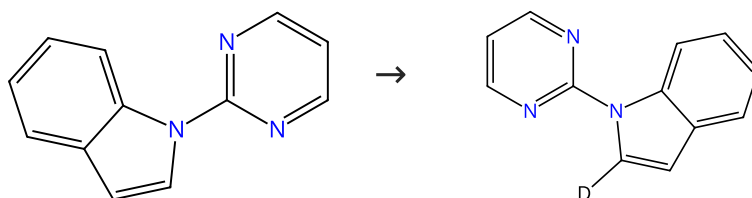
Organic Letters (2019), 21(19), 7772-7777.

1.1 **Reagents:** Silver acetate, Acetic acid-*d*₄, Silver hexafluoro antimonate
Catalysts: Carbonyldiiodo[(1,2,3,4,5-η)-1,2,3,4,5-pentamethyl-2,4-cyclopentadien-1-yl]cobalt
Solvents: 1,2-Dichloroethane; 1 h, rt → 60 °C

Experimental Protocols

Scheme 4 (1 Reaction)

Steps: 1 Yield: 94%



Suppliers (59)

Suppliers (3)

31-116-CAS-21773694

Steps: 1 Yield: 94%

Direct Hiyama Cross-Coupling of (Hetero)arylsilanes with C(sp²)-H Bonds Enabled by Cobalt Catalysis

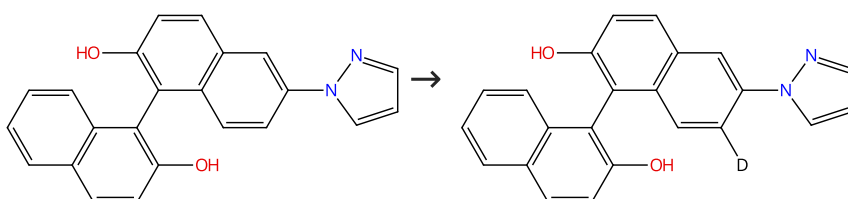
By: Lu, Ming-Zhu; et al

Organic Letters (2020), 22(7), 2663-2668.

1.1 **Reagents:** Acetic acid-*d*₄, Oxygen, Copper fluoride (CuF₂)
Catalysts: *tris*(Acetylacetonato)cobalt
Solvents: Toluene; rt → 160 °C; 24 h, 160 °C

Scheme 5 (1 Reaction)

Steps: 1 Yield: 94%



31-614-CAS-36152378

Steps: 1 Yield: 94%

Cascade Alkenylation/Intramolecular Friedel-Crafts Alkylation: High Selectivity at the C7-Position of BINOL

By: Liu, Hao; et al

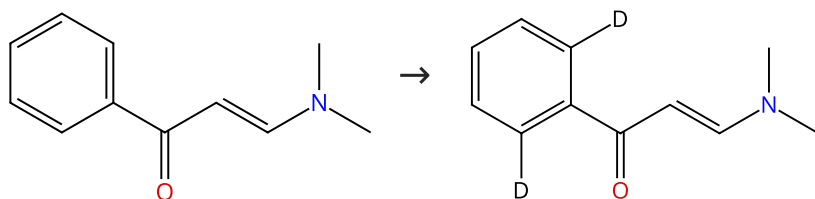
Journal of Organic Chemistry (2023), 88(9), 6108-6119.

1.1 **Reagents:** Acetic acid-*d*₄
Catalysts: Carbonyldiiodo[(1,2,3,4,5-η)-1,2,3,4,5-pentamethyl-2,4-cyclopentadien-1-yl]cobalt, Zinc triflate
Solvents: 1,2-Dichloroethane; 2 h, 120 °C

Experimental Protocols

Scheme 6 (1 Reaction)

Steps: 1 Yield: 88%



Suppliers (68)

31-116-CAS-16963628

Steps: 1 Yield: 88%

1.1 **Reagents:** Potassium acetate, Acetic acid- d_4
Catalysts: Silver hexafluoroantimonate, Carbonyldiiodo[(1,2,3,4,5- η)-1,2,3,4,5-pentamethyl-2,4-cyclopentadien-1-yl]cobalt
Solvents: 1,4-Dioxane; 12 h, 100 °C

Experimental Protocols

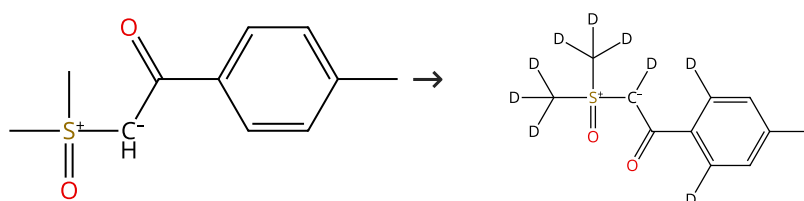
Cobalt(III)- and Rhodium(III)-Catalyzed C-H Amidation and Synthesis of 4-Quinolones: C-H Activation Assisted by Weakly Coordinating and Functionalizable Enaminone

By: Wang, Fen; et al

Organic Letters (2017), 19(7), 1812-1815.

Scheme 7 (1 Reaction)

Steps: 1 Yield: 81%



Supplier (1)

31-116-CAS-23963866

Steps: 1 Yield: 81%

1.1 **Reagents:** Acetic acid- d_4
Catalysts: Dicarboxyl(η^5 -cyclopentadienyl)cobalt, Silver hexafluoroantimonate
Solvents: 1,2-Dichloroethane; 15 min, 110 °C

Experimental Protocols

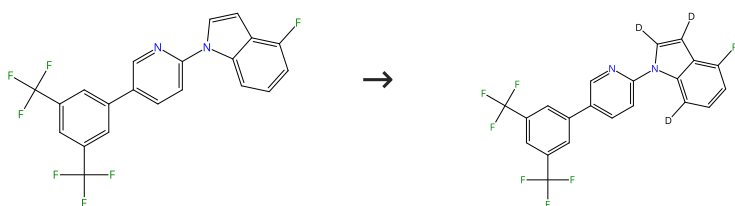
Cp*Co(III)-catalyzed C-H amination/annulation cascade of sulfoxonium ylides with anthranils for the synthesis of indoloindolones

By: Aher, Yogesh N.; et al

Chemical Communications (Cambridge, United Kingdom) (2021), 57(58), 7164-7167.

Scheme 8 (1 Reaction)

Steps: 1 Yield: 74%



31-614-CAS-24622971

Steps: 1 Yield: 74%

1.1 **Catalysts:** Carbonyldiiodo[(1,2,3,4,5- η)-1,2,3,4,5-pentamethyl-2,4-cyclopentadien-1-yl]cobalt, (α S)-1,3-Dihydro- α -[2-(4-methoxy-3-methylphenyl)-1-[(4-methoxy-3-methylphenyl)methyl]-1-methylethyl]-1,3-dioxo-2H-isoindole-2-acetic acid, 2738884-95-0
Solvents: Dichloromethane, Acetic acid- d_4 ; 36 h, 40 °C

Experimental Protocols

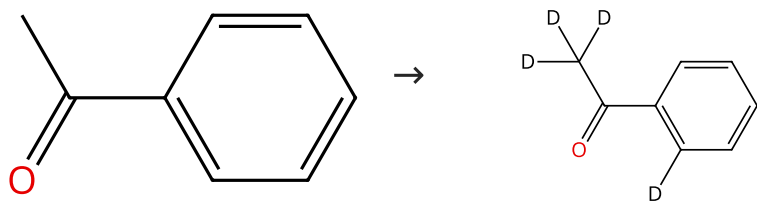
Cp*Co(III)-Catalyzed Enantioselective Hydroarylation of Unactivated Terminal Alkenes via C-H Activation

By: Liu, Yan-Hua; et al

Journal of the American Chemical Society (2021), 143(45), 19112-19120.

Scheme 9 (1 Reaction)

Steps: 1 Yield: 65%



Suppliers (109)

31-116-CAS-21949714

Steps: 1 Yield: 65%

- 1.1 **Reagents:** Acetic acid- d_4 , Copper diacetate monohydrate
Catalysts: Carbonyl(η^5 -2,4-cyclopentadien-1-yl)diodocobalt,
 Silver hexafluoroantimonate
Solvents: 1,2-Dichloroethane; 5 min, rt
 1.2 16 h, rt \rightarrow 80 °C

Experimental Protocols

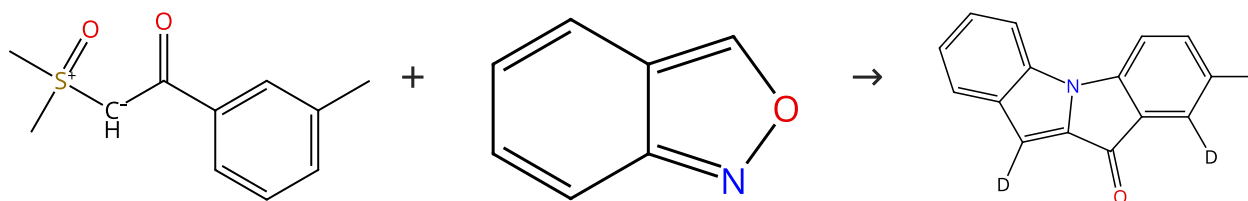
Cp*Co(III) Catalyzed Ketone Directed Ortho C-H Activation for Synthesis of Indene Derivatives

By: Dethe, Dattatraya H.; et al

Journal of Organic Chemistry (2020), 85(11), 7565-7575.

Scheme 10 (1 Reaction)

Steps: 1 Yield: 38%



Suppliers (6)

Suppliers (70)

31-116-CAS-23963434

Steps: 1 Yield: 38%

- 1.1 **Reagents:** Acetic acid- d_4
Catalysts: Dicarboxyl(η^5 -cyclopentadienyl)cobalt, Silver
 hexafluoroantimonate
Solvents: 1,2-Dichloroethane; 12 h, 110 °C

Experimental Protocols

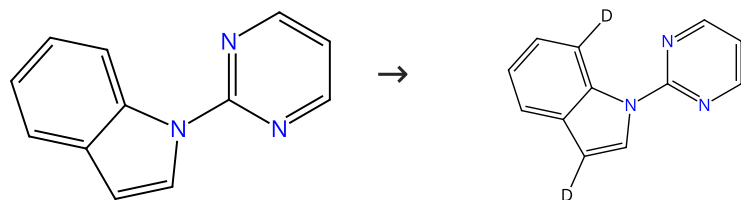
Cp*Co(III)-catalyzed C-H amination/annulation cascade of sulfoxonium ylides with anthranils for the synthesis of indoloindolones

By: Aher, Yogesh N.; et al

Chemical Communications (Cambridge, United Kingdom) (2021), 57(58), 7164-7167.

Scheme 11 (1 Reaction)

Steps: 1 Yield: 37%



Suppliers (59)

31-116-CAS-16045106

Steps: 1 Yield: 37%

- 1.1 **Reagents:** Acetic acid- d_4 , Silver hexafluoroantimonate
Catalysts: Di- μ -chlorodichlorobis[(1,2,3,4,5- η)-1,2,3,4,5-pentamethyl-2,4-cyclopentadien-1-yl]dicobalt
Solvents: 1,2-Dichloroethane; 12 h, 50 °C

Experimental Protocols

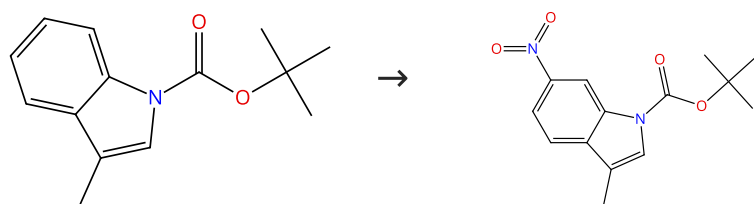
Cobalt(III)-Catalyzed C-C Coupling of Arenes with 7-Oxabenzonorbornadiene and 2-Vinylloxirane via C-H Activation

By: Kong, Lingheng; et al

Organic Letters (2016), 18(15), 3802-3805.

Scheme 12 (1 Reaction)

Steps: 1 Yield: 16%



Suppliers (46)

31-076-CAS-19203257

Steps: 1 Yield: 16%

Cobalt-Catalyzed C-H Nitration of Indoles by Employing a Removable Directing Group

By: Saxena, Paridhi; et al

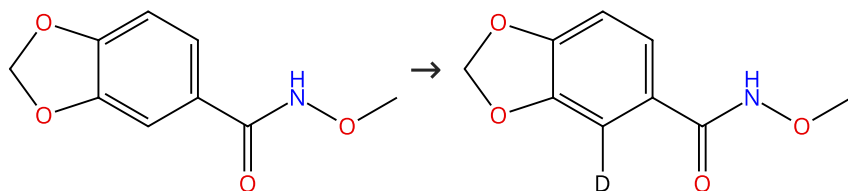
Chemistry - An Asian Journal (2018), 13(7), 861-870.

- 1.1 **Reagents:** Oxygen
Solvents: Tetrahydrofuran; 10 min, rt
- 1.2 **Reagents:** *tert*-Butyl nitrite, Potassium persulfate
Catalysts: Cobalt nitrate hexahydrate
Solvents: Acetic acid-*d*₄; 14 h, rt

Experimental Protocols

Scheme 13 (1 Reaction)

Steps: 1 Yield: 10%



Suppliers (6)

31-116-CAS-2313373

Steps: 1 Yield: 10%

Cobalt-catalyzed cyclization of N-methoxy benzamides with alkynes using an internal oxidant through C-H/N-O bond activation

By: Sivakumar, Ganesan; et al

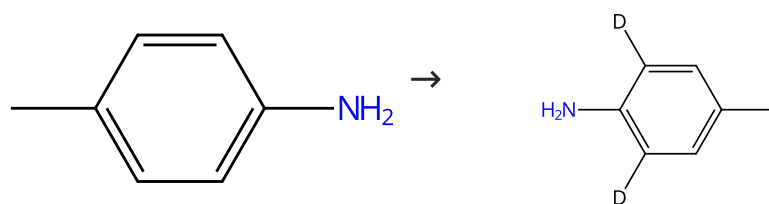
Chemistry - A European Journal (2016), 22(17), 5899-5903.

- 1.1 **Reagents:** Sodium acetate, Acetic acid-*d*₄
Catalysts: Carbonyl(η^5 -2,4-cyclopentadien-1-yl)diiodocobalt
Solvents: 2,2,2-Trifluoroethanol; 24 h, 120 °C

Experimental Protocols

Scheme 14 (1 Reaction)

Steps: 1



Suppliers (77)

31-116-CAS-17887526

Steps: 1

The one-pot synthesis of quinolines via Co(III)-catalyzed C-H activation/carbonylation/cyclization of anilines

By: Xu, Xuefeng; et al

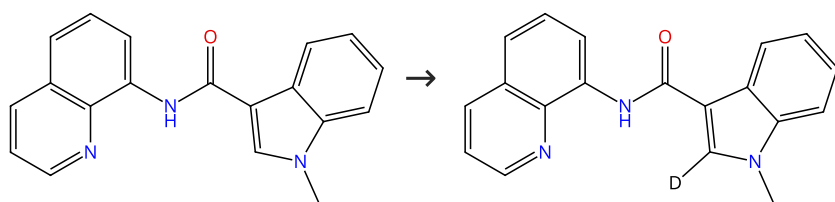
Organic & Biomolecular Chemistry (2017), 15(43), 9061-9065.

- 1.1 **Reagents:** Trifluoroacetic acid-*d*, Methanol-*d*₄
Catalysts: Carbonyl(η^5 -2,4-cyclopentadien-1-yl)diiodocobalt, [1,1,1-Trifluoro-*N*-[(trifluoromethyl)sulfonyl- κO]methane sulfonamidato- κO]silver; 2 h, 120 °C
- 1.2 **Reagents:** Sodium bicarbonate
Solvents: Water

Experimental Protocols

Scheme 15 (2 Reactions)

Steps: 1



Suppliers (2)

31-614-CAS-39669294

Steps: 1

Salicylaldehyde-Cobalt(II)-Catalyzed C-H Alkoxylation of Indoles with Secondary Alcohols

By: Huang, Mao-Gui; et al

Journal of Organic Chemistry (2024), 89(7), 4438-4443.

1.1 **Reagents:** Acetic acid- d_4 , Silver oxide (Ag_2O)
Catalysts: Cobalt, bis[2-(hydroxy- κO)-5-methoxybenzaldehyde- κO]-
Solvents: Ethyl acetate; 12 h, 100 °C

Experimental Protocols

31-614-CAS-23978177

Steps: 1

Salicylaldehyde-Promoted Cobalt-Catalyzed C-H/N-H Annulation of Indolyl Amides with Alkynes: Direct Synthesis of a 5-HT₃ Receptor Antagonist Analogue

By: Huang, Mao-Gui; et al

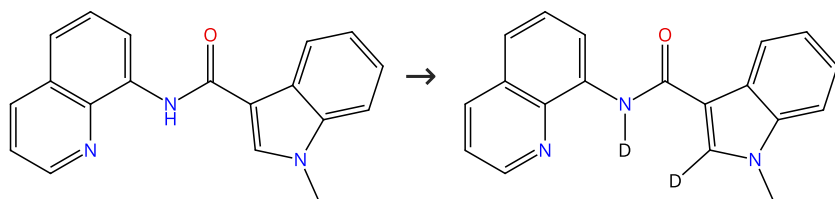
Organic Letters (2021), 23(18), 7094-7099.

1.1 **Reagents:** Acetic acid- d_4 , Monopotassium phosphate, Silver oxide (Ag_2O)
Catalysts: Cobalt dinitrate
Solvents: 2-Methyltetrahydrofuran; 12 h, 100 °C

Experimental Protocols

Scheme 16 (1 Reaction)

Steps: 1



Suppliers (2)

31-614-CAS-23978192

Steps: 1

Salicylaldehyde-Promoted Cobalt-Catalyzed C-H/N-H Annulation of Indolyl Amides with Alkynes: Direct Synthesis of a 5-HT₃ Receptor Antagonist Analogue

By: Huang, Mao-Gui; et al

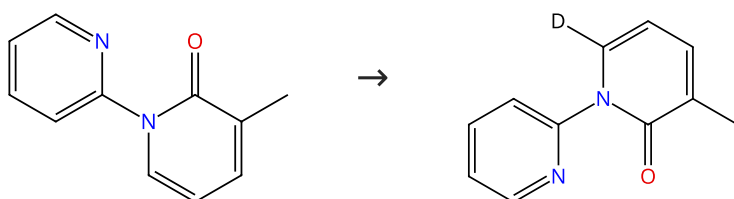
Organic Letters (2021), 23(18), 7094-7099.

1.1 **Reagents:** Acetic acid- d_4 , Monopotassium phosphate, Silver oxide (Ag_2O)
Catalysts: Cobalt, bis[2-chloro-6-(hydroxy- κO)benzaldehyde- κO]-
Solvents: 2-Methyltetrahydrofuran; 12 h, 100 °C

Experimental Protocols

Scheme 17 (1 Reaction)

Steps: 1

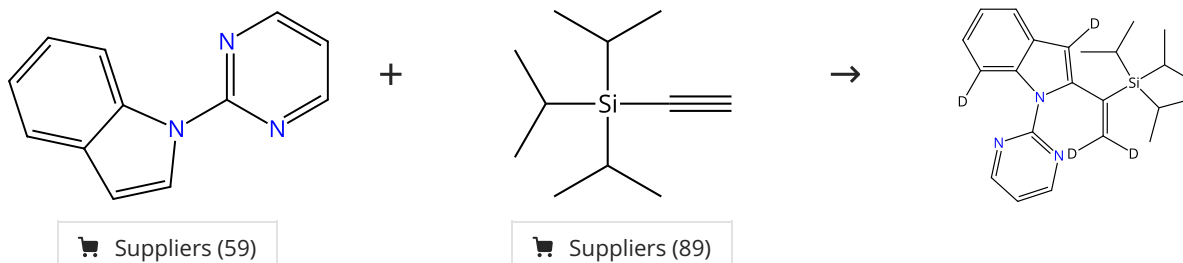


Supplier (1)

31-614-CAS-42982149	Steps: 1	Co(III) or Ru(II)-Catalyzed Selective C-H Alkynylation of 2-Pyridones and Their Derivatives with Bromoalkynes
1.1 Reagents: Acetic acid- <i>d</i> 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; 16 h, 100 °C		By: Luo, Quanjian; et al Journal of Organic Chemistry (2024), 89(24), 18400-18405.
Experimental Protocols		

Scheme 18 (1 Reaction)

Steps: 1



31-116-CAS-18442776	Steps: 1	Cp*Co^{III}-Catalyzed Branch-Selective Hydroarylation of Alkynes via C-H Activation: Efficient Access to α-gem-Vinylindoles
1.1 Reagents: Propanoic acid- <i>d</i> , 2,2-dimethyl- 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-Trifluoroethan-1,1- <i>d</i> ₂ -ol- <i>d</i> ; 12 h, rt		By: Zhou, Xukai; et al ACS Catalysis (2017), 7(10), 7296-7304.

Scheme 19 (1 Reaction)

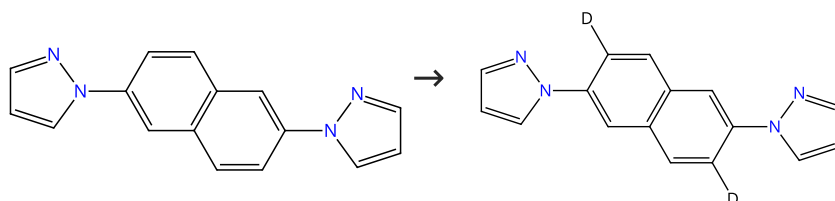
Steps: 1



31-614-CAS-33527171	Steps: 1	Cp*Co(III)-Catalyzed Selective C8-Olefination and Oxyarylation of Quinoline N-Oxides with Terminal Alkynes
1.1 Reagents: Acetic acid- <i>d</i> ₄ 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; 30 min, 120 °C		By: Parmar, Diksha; et al Journal of Organic Chemistry (2022), 87(14), 9069-9087.
1.2 Solvents: 1,2-Dichloroethane; 15 min, 120 °C		
Experimental Protocols		

Scheme 20 (1 Reaction)

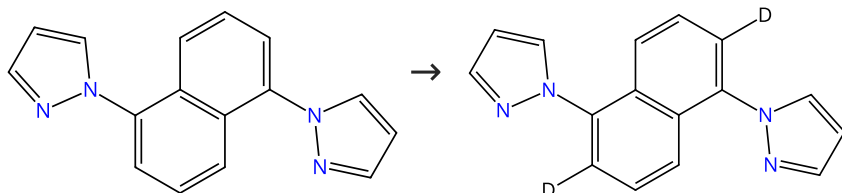
Steps: 1



31-614-CAS-42065688	Steps: 1	Molecular Design of Naphthalene- and Carbazole-Based Monomers for Regiospecific Synthesis of Poly(arylenevinylene)s via Co-Catalyzed Hydroarylation Polyaddition By: Iwamori, Ryota; et al Macromolecular Rapid Communications (2024), 45(16), 2400168.
1.1 Reagents: 1,3,5-Trimethoxybenzene, Acetic acid- d_4 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: Tetrahydrofuran; 24 h, 30 °C		
Experimental Protocols		

Scheme 21 (1 Reaction)

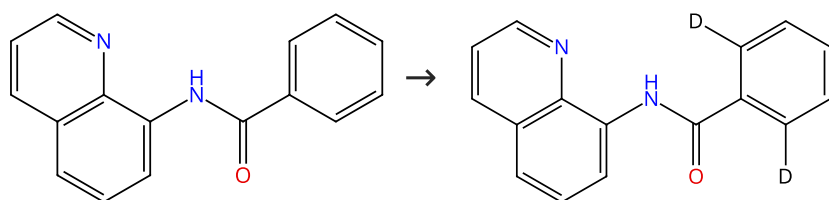
Steps: 1



31-614-CAS-42065689	Steps: 1	Molecular Design of Naphthalene- and Carbazole-Based Monomers for Regiospecific Synthesis of Poly(arylenevinylene)s via Co-Catalyzed Hydroarylation Polyaddition By: Iwamori, Ryota; et al Macromolecular Rapid Communications (2024), 45(16), 2400168.
1.1 Reagents: 1,3,5-Trimethoxybenzene, Acetic acid- d_4 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: Tetrahydrofuran; 24 h, 30 °C		
Experimental Protocols		

Scheme 22 (1 Reaction)

Steps: 1

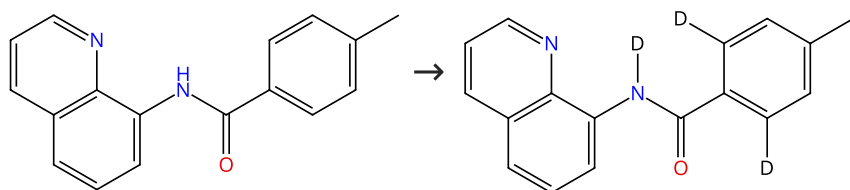


Suppliers (25)

31-614-CAS-40570404	Steps: 1	Cobalt/Salicylaldehyde-Enabled C-H Alkoxylation of Benzamides with Secondary Alcohols under Solvothermal Conditions By: Chen, Xiao-Hong; et al Journal of Organic Chemistry (2024), 89(12), 9011-9018.
1.1 Reagents: Acetic acid- d_4 , Silver oxide (Ag_2O) Catalysts: Cobalt, bis[2-chloro-6-(hydroxy- κO)benzaldehydato- κO]- Solvents: Ethyl acetate; 12 h, 100 °C		
Experimental Protocols		

Scheme 23 (1 Reaction)

Steps: 1

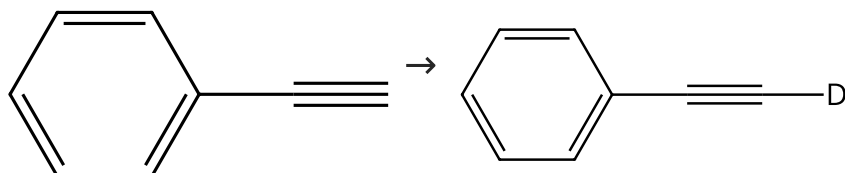


Suppliers (8)

31-116-CAS-13312550	Steps: 1	Cobalt-catalyzed, aminoquinoline-directed C(sp²)-H bond alkenylation by alkynes By: Grigorjeva, Liene; et al Angewandte Chemie, International Edition (2014), 53(38), 10209-10212.
1.1	Reagents: Propanoic acid, 2,2-dimethyl-, sodium salt (1:1), Acetic acid- <i>d</i> ₄ , Propanoic acid, 2,2-dimethyl-, silver(1+) salt (1:1) Catalysts: Cobalt diacetate; 16 h, 150 °C	

Scheme 24 (1 Reaction)

Steps: 1



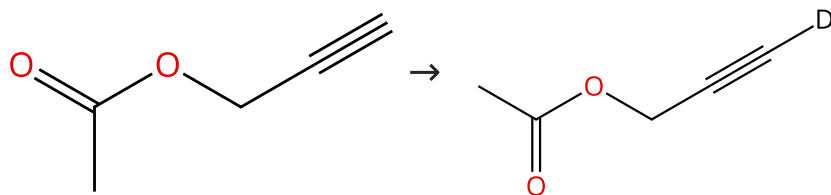
Suppliers (72)

Suppliers (11)

31-116-CAS-23662146	Steps: 1	Cobalt-Catalyzed Hydroalkynylation of Vinylaziridines By: Biletskyi, Bohdan; et al Advanced Synthesis & Catalysis (2021), 363(10), 2578-2585.
1.1	Reagents: Acetic acid- <i>d</i> ₄ Catalysts: Cobalt diacetate, 1,2-Bis(diphenylphosphino)ethane Solvents: DMSO- <i>d</i> ₆ ; 2 h, 80 °C	

Scheme 25 (1 Reaction)

Steps: 1



Suppliers (65)

31-116-CAS-23660101	Steps: 1	Cobalt-Catalyzed Hydroalkynylation of Vinylaziridines By: Biletskyi, Bohdan; et al Advanced Synthesis & Catalysis (2021), 363(10), 2578-2585.
1.1	Reagents: Acetic acid- <i>d</i> ₄ Catalysts: Cobalt diacetate, 1,2-Bis(diphenylphosphino)ethane Solvents: DMSO- <i>d</i> ₆ ; 2 h, 80 °C	

Scheme 26 (1 Reaction)

Steps: 1



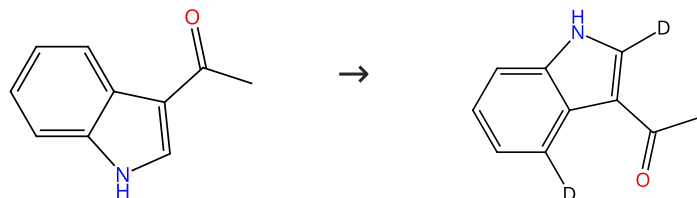
Suppliers (38)

Supplier (1)

<p>31-116-CAS-19327564</p> <p>Steps: 1</p> <p>1.1 Reagents: Cupric acetate, Silver carbonate, Acetic acid-<i>d</i> Catalysts: Carbonyl(η^5-2,4-cyclopentadien-1-yl)diodocobalt Solvents: 1,2-Dichloroethane; 4 h, 25 °C</p> <p>Experimental Protocols</p>	<p>Cp*Co(III)-Catalyzed oxidative [5+2] annulation: regioselective synthesis of 2-aminobenzoxepines via C-H/O-H functionalization of 2-vinylphenols with ynamides</p> <p>By: Han, Xiang-Lei; et al</p> <p>Chemical Communications (Cambridge, United Kingdom) (2018), 54(82), 11562-11565.</p>
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Scheme 27 (1 Reaction)

Steps: 1

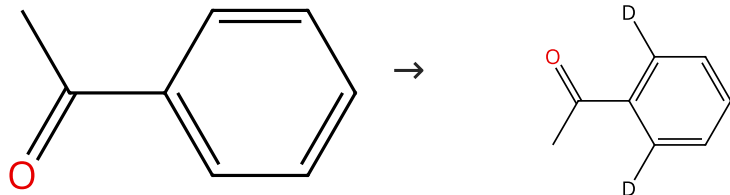


Suppliers (102)

<p>31-116-CAS-21534318</p> <p>Steps: 1</p> <p>1.1 Reagents: Acetic acid-<i>d</i>₄, 1-Adamantaneacetic acid Catalysts: Silver hexafluoroantimonate, Carbonyldiiodo[(1,2,3,4,5-η)-1,2,3,4,5-pentamethyl-2,4-cyclopentadien-1-yl]cobalt Solvents: Chlorobenzene; 12 h, 100 °C</p> <p>Experimental Protocols</p>	<p>Ketone-Directed Cobalt(III)-Catalyzed Regioselective C2 Amidation of Indoles</p> <p>By: Shi, Xinxia; et al</p> <p>Journal of Organic Chemistry (2020), 85(5), 3911-3920.</p>
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Scheme 28 (1 Reaction)

Steps: 1



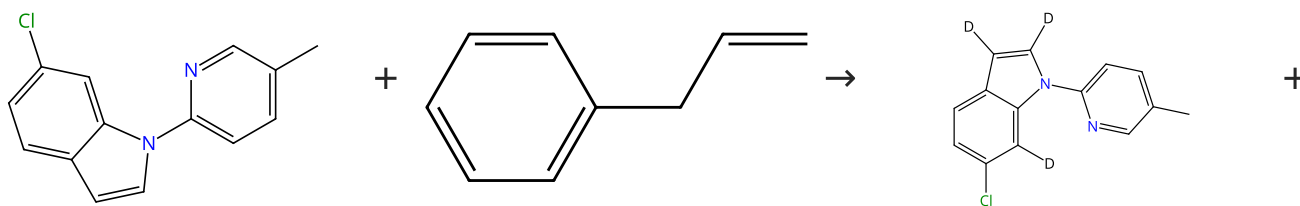
Suppliers (109)

Supplier (1)

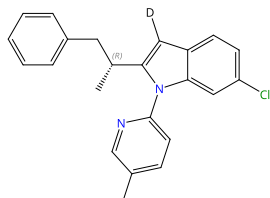
<p>31-116-CAS-20907840</p> <p>Steps: 1</p> <p>1.1 Reagents: Cupric acetate, Acetic acid-<i>d</i>₄, Silver hexafluoroantimonate Catalysts: Cobalt, di-μ-iodobis[(1,2,3,4,5-η)-1,2,3,4,5-pentamethyl-2,4-cyclopentadien-1-yl]di-, (<i>Co-Co</i>) Solvents: 2,2,2-Trifluoroethanol; 5.5 h, 100 °C</p> <p>Experimental Protocols</p>	<p>Cobalt (III)-catalyzed ketone-directed C-H vinylation using vinyl acetate</p> <p>By: Sk, Raja Md; et al</p> <p>Organic Chemistry Frontiers (2020), 7(1), 19-24.</p>
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Scheme 29 (1 Reaction)

Steps: 1 Yield: 88%



Suppliers (72)



Absolute stereochemistry shown

31-085-CAS-19399477

Steps: 1 Yield: 88%

Enantioselective Cobalt(III)-Catalyzed C-H Activation Enabled by Chiral Carboxylic Acid Cooperation

By: Pesciaioli, Fabio; et al

Angewandte Chemie, International Edition (2018), 57(47), 15425-15429.

1.1 Reagents: Amberlyst 15

Catalysts: Silver hexafluoroantimonate, Carbonyldiiodo[(1,2,3,4,5-η)-1,2,3,4,5-pentamethyl-2,4-cyclopentadien-1-yl]cobalt, (4*S*,5*S*)-1,3-Dibenzoyl-4,5-diphenyl-2-imidazolidinecarboxylic acidSolvents: 1,2-Dichloroethane, Acetic acid-*d*₄; 20 h, 50 °C

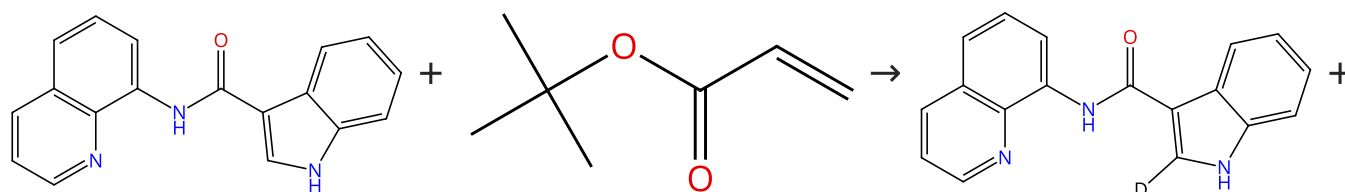
1.2 Reagents: Triethylamine

Solvents: Ethyl acetate; 0.5 h, rt

Experimental Protocols

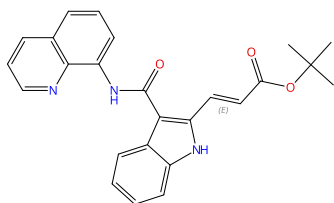
Scheme 30 (2 Reactions)

Steps: 1 Yield: 51-53%



Suppliers (3)

Suppliers (61)



Double bond geometry shown

31-614-CAS-43496877

Steps: 1 Yield: 53%

Cobalt(II)-Catalyzed Selective C2-H Heck Reaction of Native (N-H) Indoles Enabled by Salicylaldehyde Ligand

By: Li, Jia-Wei; et al

Journal of Organic Chemistry (2025), 90(2), 1126-1136.

1.1 Reagents: Manganese diacetate, Acetic acid-*d*₄Catalysts: Cobalt, bis[2-chloro-6-(hydroxy-κ*O*)benzaldehydato-κ*O*]-

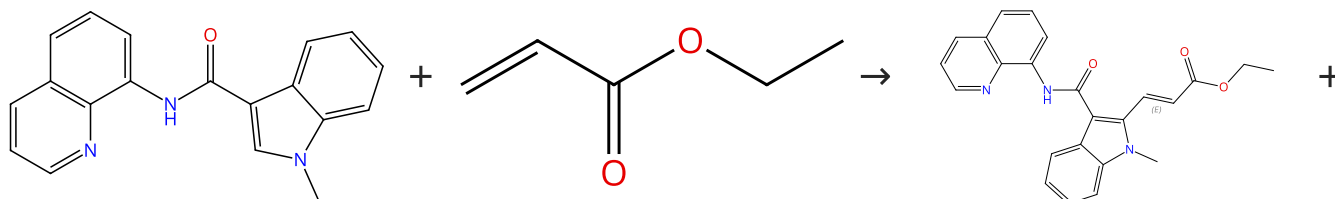
Solvents: Dimethylformamide; 12 h, 80 °C

Experimental Protocols

31-614-CAS-43496868	Steps: 1 Yield: 51%	Cobalt(II)-Catalyzed Selective C2-H Heck Reaction of Native (N-H) Indoles Enabled by Salicylaldehyde Ligand
1.1 Reagents: Manganese diacetate, Acetic acid- <i>d</i> ₄ Catalysts: Cobalt diacetate, 2-Chloro-6-hydroxybenzaldehyde Solvents: Dimethylformamide; 12 h, 80 °C		By: Li, Jia-Wei; et al Journal of Organic Chemistry (2025), 90(2), 1126-1136.
Experimental Protocols		

Scheme 31 (2 Reactions)

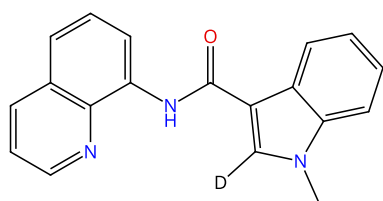
Steps: 1 Yield: 52-53%



Suppliers (2)

Suppliers (76)

Double bond geometry shown

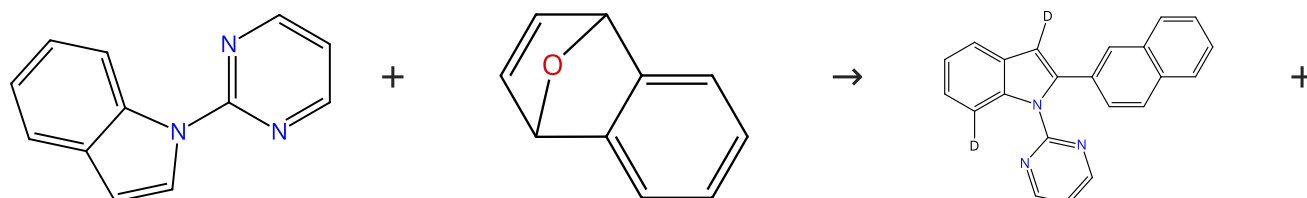


31-614-CAS-43509714	Steps: 1 Yield: 53%	Salicylaldehyde-Enabled Co(II)-Catalyzed Oxidative C-H Alkenylation of Indoles with Olefins
1.1 Reagents: Manganese diacetate, Acetic acid- <i>d</i> ₄ , Monopotassium phosphate Catalysts: Cobalt, bis[2-(hydroxy- <i>κ</i> O)-5-methylbenzaldehyde- <i>κ</i> O]- Solvents: Dimethylformamide; 12 h, 80 °C		By: Li, Jia-Wei; et al Journal of Organic Chemistry (2025), 90(1), 35-43.
Experimental Protocols		

31-614-CAS-43509707	Steps: 1 Yield: 52%	Salicylaldehyde-Enabled Co(II)-Catalyzed Oxidative C-H Alkenylation of Indoles with Olefins
1.1 Reagents: Manganese diacetate, Acetic acid- <i>d</i> ₄ , Monopotassium phosphate Catalysts: 5-Methylsalicylaldehyde, Cobalt dinitrate Solvents: Dimethylformamide; 12 h, 80 °C		By: Li, Jia-Wei; et al Journal of Organic Chemistry (2025), 90(1), 35-43.
Experimental Protocols		

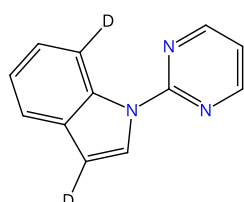
Scheme 32 (1 Reaction)

Steps: 1 Yield: 45%

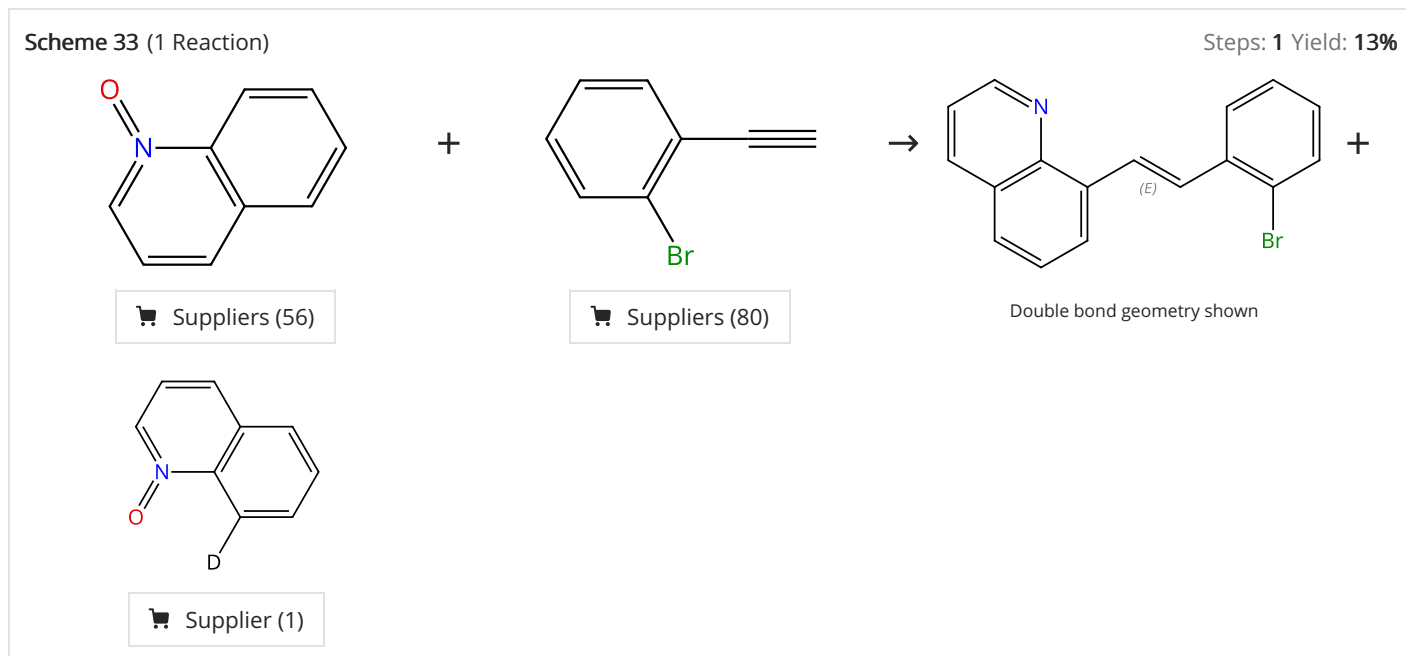


Suppliers (59)

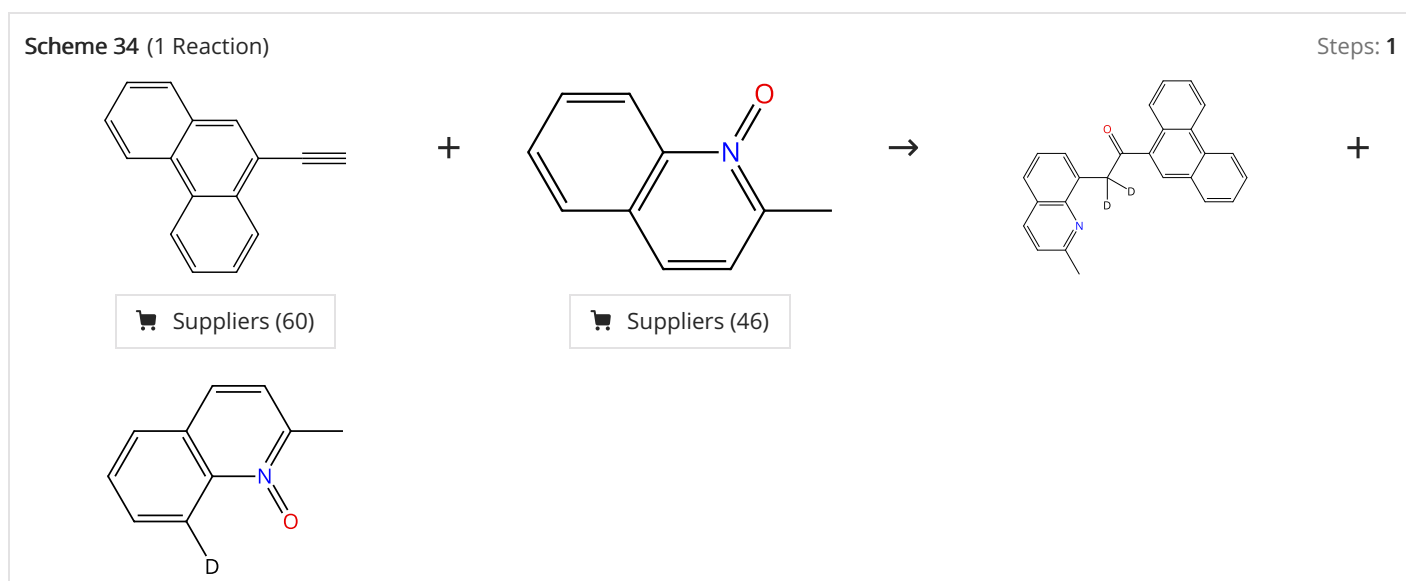
Suppliers (71)



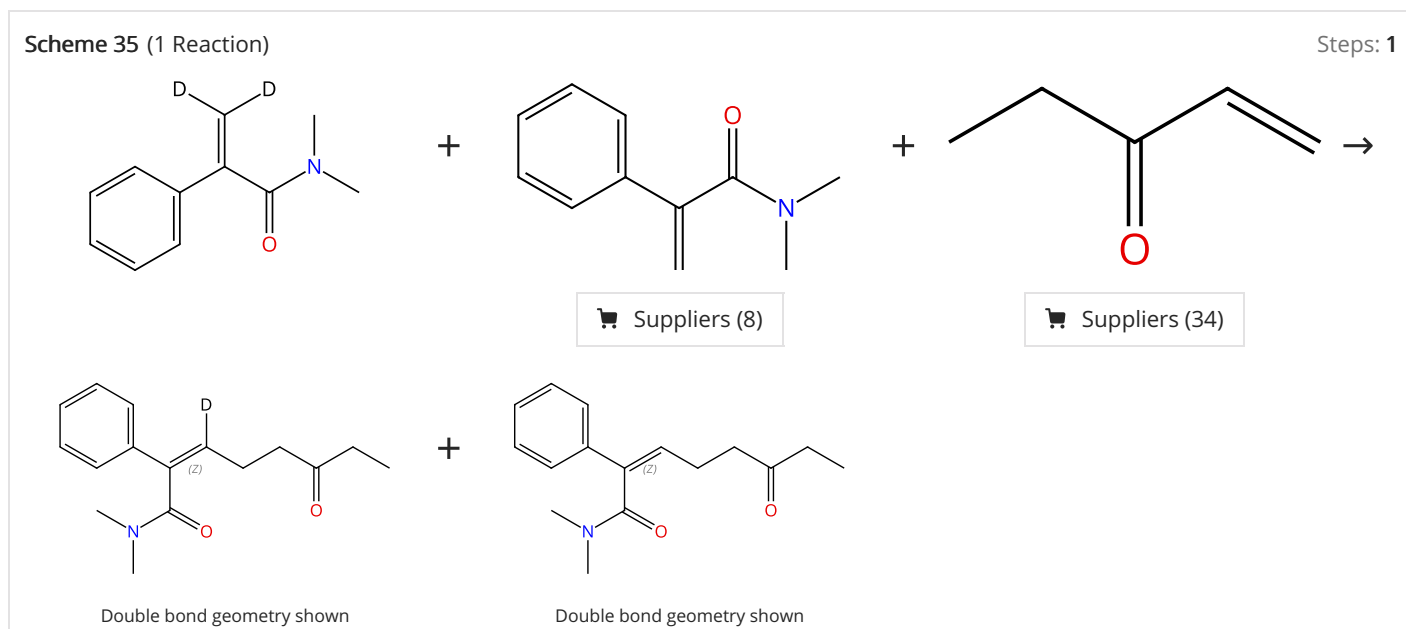
31-116-CAS-16045107 Steps: 1 Yield: 45% 1.1 Reagents: Acetic acid- <i>d</i> ₄ , Silver hexafluoroantimonate Catalysts: Di-μ-chlorodichlorobis[(1,2,3,4,5-η)-1,2,3,4,5-pentamethyl-2,4-cyclopentadien-1-yl]dicobalt Solvents: 1,2-Dichloroethane; 1 h, 50 °C	Cobalt(III)-Catalyzed C-C Coupling of Arenes with 7-Oxabenzonorborene and 2-Vinyloxirane via C-H Activation By: Kong, Lingheng; et al Organic Letters (2016), 18(15), 3802-3805.
Experimental Protocols	



31-614-CAS-33527164 Steps: 1 Yield: 13% 1.1 Reagents: Acetic acid- <i>d</i> ₄ 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; 30 min, 120 °C 1.2 Solvents: 1,2-Dichloroethane; 5 h, 120 °C	Cp*Co(III)-Catalyzed Selective C8-Olefination and Oxyarylation of Quinoline N-Oxides with Terminal Alkynes By: Parmar, Diksha; et al Journal of Organic Chemistry (2022), 87(14), 9069-9087.
Experimental Protocols	



<p>31-614-CAS-33527166 Steps: 1</p> <p>1.1 Reagents: Acetic acid-<i>d</i>₄ 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; 30 min, 120 °C</p> <p>1.2 Solvents: 1,2-Dichloroethane; 15 min, 120 °C</p> <p>Experimental Protocols</p>	<p>Cp*Co(III)-Catalyzed Selective C8-Olefination and Oxyarylation of Quinoline N-Oxides with Terminal Alkynes</p> <p>By: Parmar, Diksha; et al</p> <p>Journal of Organic Chemistry (2022), 87(14), 9069-9087.</p>
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<p>31-116-CAS-20701553 Steps: 1</p> <p>1.1 Reagents: Silver acetate, Acetic acid-<i>d</i>₄, 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, rt → 60 °C</p> <p>Experimental Protocols</p>	<p>Cobalt-Catalyzed Olefinic C-H Alkenylation/Alkylation Switched by Carbonyl Groups</p> <p>By: Li, Tingyan; et al</p> <p>Organic Letters (2019), 21(19), 7772-7777.</p>
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