CAS SciFinder

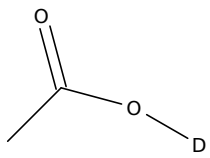
Task History

Initiating Search

February 20, 2025, 6:14 PM

Substances:

Filtered By:



Structure Match: **Substructure**

Search Tasks

Task	Search Type	View
Returned Substance Results + Filters (2,557)	Substances	View Results
Exported: Retrieved Related Reaction Results + Filters (584)	Reactions	View Results

Filtered By:

Substance Role: **Reactant, Reagent, Solvent**

Catalyst:	[1,1'-Bis(diphenylphosphino)ferrocene]dichloropalladium, Bis[(1*E*,4*E*)-(1,2,4,5-η)-1,5-bis(3,5-dimethoxyphenyl)-1,4-pentadien-3-one]palladium, Bis(acetato-κ*O*)[1,3-dihydro-1,3-bis(2,4,6-trimethylphenyl)-2*H*-imidazol-2-ylidene]palladium, Bis(acetato-κ*O*)bis(3-nitropyridine-κ*N*)palladium, Bis(benzonitrile)dichloropalladium, Bis(dibenzylideneacetone)palladium, Di-μ-chlorobis[(1,2,3-η)-1-phenyl-2-propen-1-yl]dipalladium, Dichlorobis(triphenylphosphine)palladium, Dichlorobis[tris(4-methoxyphenyl)phosphine-κ*P*]palladium, (*OC*-6-32)-Bis(acetato-κ*O*)bis[2-(2-pyridinyl-κ*N*)phenyl-κ*C*]palladium, Palladium, Palladium(1+), (2,2'-bipyrimidine-κN^1,κ$N^{1'}$)[(1,2,3-η)-1-phenyl-2-propen-1-yl]-, acetate (1:1), Palladium(2+), dichloro(2,2''',4,4''',6,6'''-hexaphenyl-1,4':2',2'':4'',1'''-quaterpyridinium-κ$N^{1'}$,κ$N^{1''}$)-, (*SP*-4-2)-, tetrafluoroborate(1-) (1:2), Palladium acetylacetonate, Palladium, bis[μ-(acetato-κ*O*:κ*O*')]bis(acetato-κ*O*)bis[2-(2-pyridinyl-κ*N*)phenyl-κ*C*]di-, (*Pd*-*Pd*), stereoisomer, Palladium chloride, Palladium, chloro[2,3-dihydro-*N*-[2-(methoxy-κ*O*)ethyl]-3-methyl-1*H*-benzimidazole-1-acetamidato(3-)-κC^2,κN^{N^1}]-, (*SP*-4-3)-, Palladium diacetate, Palladium dihydroxide, Palladium dipivalate, Palladium trifluoroacetate, Palladium, tris[μ-[(1,2-η:4,5-η)-(1*E*,4*E*)-1,5-diphenyl-1,4-pentadien-3-one]]di-, compd. with trichloromethane (1:1), Tetrakis(triphenylphosphine)palladium, Tris(dibenzylideneacetone)dipalladium
Document Type:	Journal

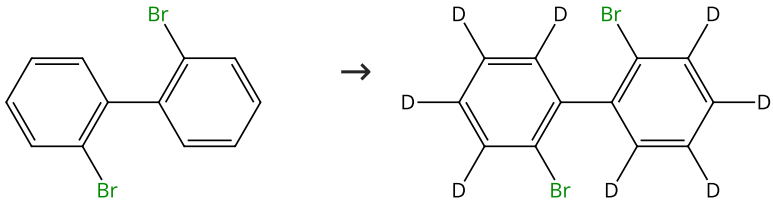
CAS SciFinder

Reactions (398)

View in CAS SciFinder

Scheme 1 (1 Reaction)

Steps: **1** Yield: **100%**



Suppliers (86)

Suppliers (4)

31-614-CAS-40416765

Steps: **1** Yield: **100%**

1.1 **Reagents:** 1,1,1,3,3,3-Hexafluoro-2-propanol, Acetic acid-d_4
Catalysts: Palladium diacetate, 2(1*H*)-Pyridinone, 6-(3-methyl-1*H*-pyrazol-1-yl)-; 48 h, 120 °C

Experimental Protocols

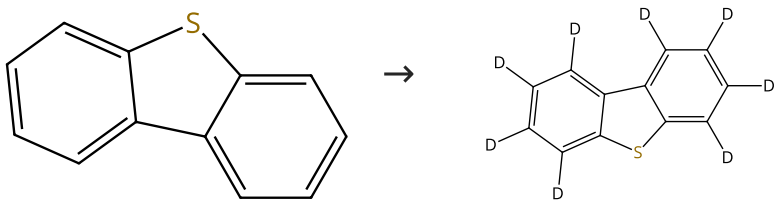
Nondirected Pd-Catalyzed C-H Perdeuteration and meta-Selective Alkenylation of Arenes Enabled by Pyrazolo pyridone Ligands

By: Yun, Seo Jin; et al

ACS Catalysis (2023), 13(7), 4042-4052.

Scheme 2 (1 Reaction)

Steps: **1** Yield: **100%**



Suppliers (116)

Suppliers (30)

31-614-CAS-40416791

Steps: **1** Yield: **100%**

1.1 **Reagents:** 1,1,1,3,3,3-Hexafluoro-2-propanol, Acetic acid-d_4
Catalysts: Palladium diacetate, 2(1*H*)-Pyridinone, 6-(3-methyl-1*H*-pyrazol-1-yl)-; 48 h, 120 °C

Experimental Protocols

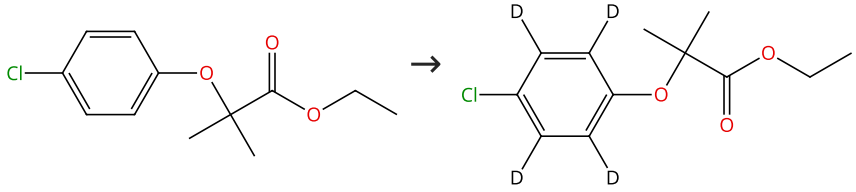
Nondirected Pd-Catalyzed C-H Perdeuteration and meta-Selective Alkenylation of Arenes Enabled by Pyrazolo pyridone Ligands

By: Yun, Seo Jin; et al

ACS Catalysis (2023), 13(7), 4042-4052.

Scheme 3 (1 Reaction)

Steps: **1** Yield: **100%**



Suppliers (90)

Suppliers (28)

31-614-CAS-40416800 Steps: **1** Yield: **100%**

1.1 **Reagents:** 1,1,1,3,3,3-Hexafluoro-2-propanol, Acetic acid-d_4
Catalysts: Palladium diacetate, 2(1*H*)-Pyridinone, 6-(3-methyl-1*H*-pyrazol-1-yl)-; 48 h, 120 °C

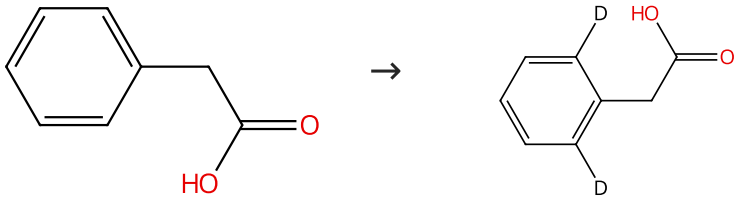
Experimental Protocols

Nondirected Pd-Catalyzed C-H Perdeuteration and meta-Selective Alkenylation of Arenes Enabled by Pyrazolo pyridone Ligands

By: Yun, Seo Jin; et al

ACS Catalysis (2023), 13(7), 4042-4052.

Scheme 4 (2 Reactions) Steps: **1** Yield: **99%**



Suppliers (40)

31-116-CAS-4655455 Steps: **1** Yield: **99%**

1.1 **Reagents:** Sodium carbonate, Acetic acid-d_4
Catalysts: Palladium diacetate
Solvents: Acetic acid-d_4; 12 h, 120 °C

1.2 **Reagents:** Sodium hydroxide
Solvents: Dichloromethane, Water; 12 h, 120 °C

Experimental Protocols

Palladium-Catalyzed ortho-Selective C-H Deuteration of Arenes: Evidence for Superior Reactivity of Weakly Coordi nated Palladacycles

By: Ma, Sandy; et al

Angewandte Chemie, International Edition (2014), 53(3), 734-737.

31-116-CAS-17045549 Steps: **1**

1.1 **Reagents:** Sodium carbonate
Catalysts: Palladium diacetate
Solvents: Acetic acid-d_4; rt → 120 °C; 12 h, 120 °C; 120 °C → rt

1.2 **Reagents:** Sodium hydroxide
Solvents: Dichloromethane, Water; 12 h, 120 °C; 120 °C → rt

1.3 **Reagents:** Hydrochloric acid
Solvents: Water; acidified, rt

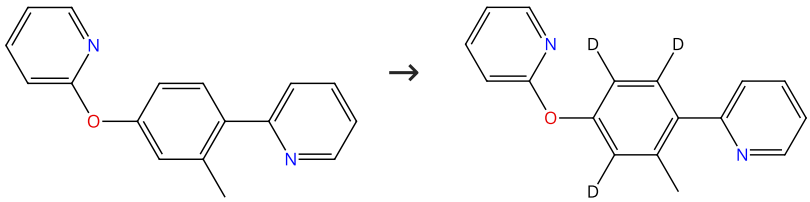
Experimental Protocols

Pd-Catalyzed ortho-olefination of aromatic acetyl esters

By: Xiang, Lei; et al

Chinese Chemical Letters (2017), 28(3), 517-520.

Scheme 5 (1 Reaction) Steps: **1** Yield: **99%**



31-116-CAS-18610978 Steps: **1** Yield: **99%**

1.1 **Catalysts:** Palladium diacetate
Solvents: Acetic acid-d_4; 48 h, 120 °C

Experimental Protocols

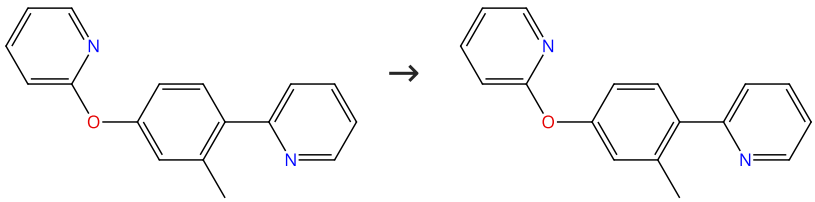
Palladium-Catalyzed Regioselective C-H Functionalization of Arenes Substituted by Two N-Heterocycles and Application in Late-Stage Functionalization

By: Yin, Da-Wei; et al

Journal of Organic Chemistry (2018), 83(7), 3987-4001.

Scheme 6 (1 Reaction)

Steps: **1** Yield: **99%**



31-614-CAS-25024487

Steps: **1** Yield: **99%**

1.1 **Catalysts:** Palladium diacetate
Solvents: Trifluoroacetic acid-*d*; 24 h, 120 °C

Experimental Protocols

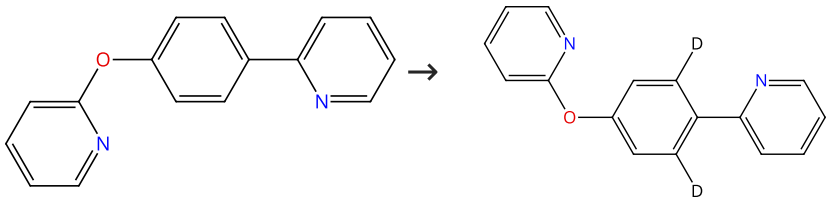
Palladium-Catalyzed Regioselective C-H Functionalization of Arenes Substituted by Two N-Heterocycles and Application in Late-Stage Functionalization

By: Yin, Da-Wei; et al

Journal of Organic Chemistry (2018), 83(7), 3987-4001.

Scheme 7 (1 Reaction)

Steps: **1** Yield: **99%**



31-116-CAS-18610979

Steps: **1** Yield: **99%**

1.1 **Catalysts:** Palladium diacetate
Solvents: Acetic acid-d_4; 48 h, 120 °C

Experimental Protocols

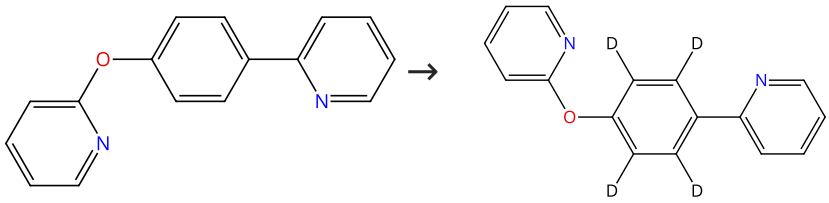
Palladium-Catalyzed Regioselective C-H Functionalization of Arenes Substituted by Two N-Heterocycles and Application in Late-Stage Functionalization

By: Yin, Da-Wei; et al

Journal of Organic Chemistry (2018), 83(7), 3987-4001.

Scheme 8 (1 Reaction)

Steps: **1** Yield: **99%**



31-116-CAS-18610980

Steps: **1** Yield: **99%**

1.1 **Catalysts:** Palladium diacetate
Solvents: Trifluoroacetic acid-*d*; 24 h, 120 °C

Experimental Protocols

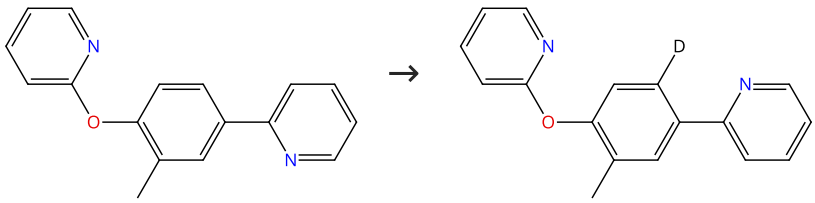
Palladium-Catalyzed Regioselective C-H Functionalization of Arenes Substituted by Two N-Heterocycles and Application in Late-Stage Functionalization

By: Yin, Da-Wei; et al

Journal of Organic Chemistry (2018), 83(7), 3987-4001.

Scheme 9 (1 Reaction)

Steps: **1** Yield: **99%**



31-116-CAS-18610981 Steps: **1** Yield: **99%**

1.1 **Catalysts:** Palladium diacetate
Solvents: Acetic acid-d_4; 48 h, 120 °C

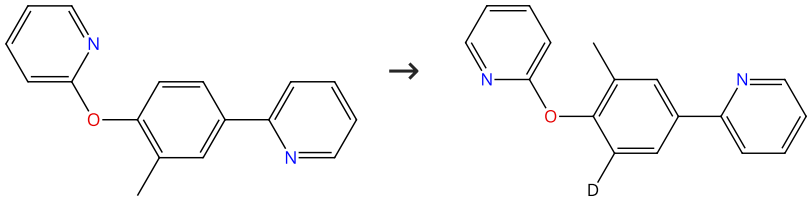
Experimental Protocols

Palladium-Catalyzed Regioselective C-H Functionalization of Arenes Substituted by Two N-Heterocycles and Application in Late-Stage Functionalization

By: Yin, Da-Wei; et al

Journal of Organic Chemistry (2018), 83(7), 3987-4001.

Scheme 10 (1 Reaction) Steps: **1** Yield: **99%**



31-116-CAS-18610982 Steps: **1** Yield: **99%**

1.1 **Catalysts:** Palladium diacetate
Solvents: Trifluoroacetic acid-*d*; 24 h, 120 °C

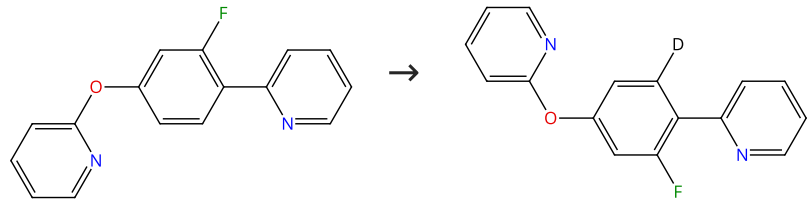
Experimental Protocols

Palladium-Catalyzed Regioselective C-H Functionalization of Arenes Substituted by Two N-Heterocycles and Application in Late-Stage Functionalization

By: Yin, Da-Wei; et al

Journal of Organic Chemistry (2018), 83(7), 3987-4001.

Scheme 11 (1 Reaction) Steps: **1** Yield: **99%**



31-116-CAS-18610983 Steps: **1** Yield: **99%**

1.1 **Catalysts:** Palladium diacetate
Solvents: Acetic acid-d_4; 48 h, 120 °C

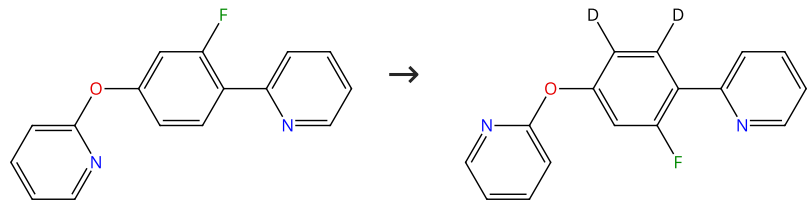
Experimental Protocols

Palladium-Catalyzed Regioselective C-H Functionalization of Arenes Substituted by Two N-Heterocycles and Application in Late-Stage Functionalization

By: Yin, Da-Wei; et al

Journal of Organic Chemistry (2018), 83(7), 3987-4001.

Scheme 12 (1 Reaction) Steps: **1** Yield: **99%**



31-116-CAS-18610984 Steps: **1** Yield: **99%**

1.1 **Catalysts:** Palladium diacetate
Solvents: Trifluoroacetic acid-*d*; 24 h, 120 °C

Experimental Protocols

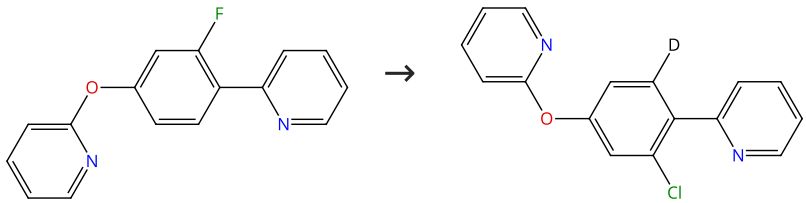
Palladium-Catalyzed Regioselective C-H Functionalization of Arenes Substituted by Two N-Heterocycles and Application in Late-Stage Functionalization

By: Yin, Da-Wei; et al

Journal of Organic Chemistry (2018), 83(7), 3987-4001.

Scheme 13 (1 Reaction)

Steps: **1** Yield: **99%**



31-116-CAS-18610985

Steps: **1** Yield: **99%**

1.1 **Catalysts:** Palladium diacetate
Solvents: Acetic acid-d_4; 48 h, 120 °C

Experimental Protocols

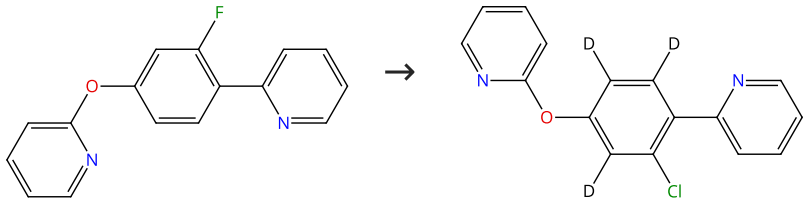
Palladium-Catalyzed Regioselective C-H Functionalization of Arenes Substituted by Two N-Heterocycles and Application in Late-Stage Functionalization

By: Yin, Da-Wei; et al

Journal of Organic Chemistry (2018), 83(7), 3987-4001.

Scheme 14 (1 Reaction)

Steps: **1** Yield: **99%**



31-116-CAS-18610986

Steps: **1** Yield: **99%**

1.1 **Catalysts:** Palladium diacetate
Solvents: Trifluoroacetic acid-*d*; 24 h, 120 °C

Experimental Protocols

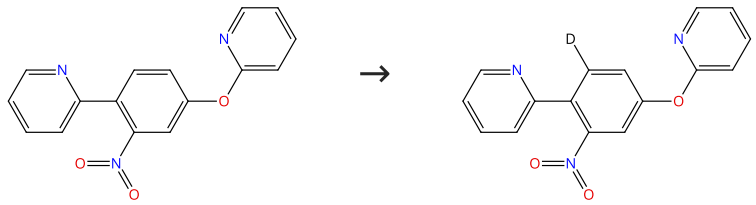
Palladium-Catalyzed Regioselective C-H Functionalization of Arenes Substituted by Two N-Heterocycles and Application in Late-Stage Functionalization

By: Yin, Da-Wei; et al

Journal of Organic Chemistry (2018), 83(7), 3987-4001.

Scheme 15 (1 Reaction)

Steps: **1** Yield: **99%**



31-116-CAS-18610987

Steps: **1** Yield: **99%**

1.1 **Catalysts:** Palladium diacetate
Solvents: Acetic acid-d_4; 48 h, 120 °C

Experimental Protocols

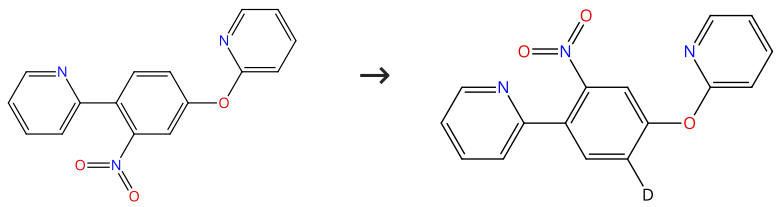
Palladium-Catalyzed Regioselective C-H Functionalization of Arenes Substituted by Two N-Heterocycles and Application in Late-Stage Functionalization

By: Yin, Da-Wei; et al

Journal of Organic Chemistry (2018), 83(7), 3987-4001.

Scheme 16 (1 Reaction)

Steps: **1** Yield: **99%**



31-116-CAS-18610988 Steps: **1** Yield: **99%**

1.1 **Catalysts:** Palladium diacetate
Solvents: Trifluoroacetic acid-*d*; 24 h, 120 °C

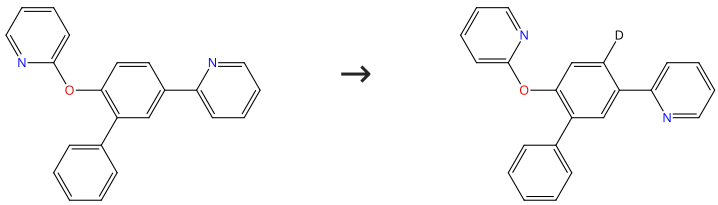
Experimental Protocols

Palladium-Catalyzed Regioselective C-H Functionalization of Arenes Substituted by Two N-Heterocycles and Application in Late-Stage Functionalization

By: Yin, Da-Wei; et al

Journal of Organic Chemistry (2018), 83(7), 3987-4001.

Scheme 17 (1 Reaction) Steps: **1** Yield: **99%**



31-116-CAS-18610989 Steps: **1** Yield: **99%**

1.1 **Catalysts:** Palladium diacetate
Solvents: Acetic acid-d_4; 48 h, 120 °C

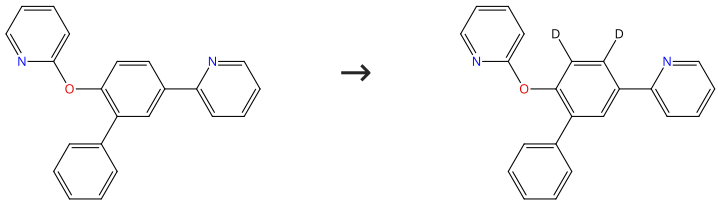
Experimental Protocols

Palladium-Catalyzed Regioselective C-H Functionalization of Arenes Substituted by Two N-Heterocycles and Application in Late-Stage Functionalization

By: Yin, Da-Wei; et al

Journal of Organic Chemistry (2018), 83(7), 3987-4001.

Scheme 18 (1 Reaction) Steps: **1** Yield: **99%**



31-116-CAS-18610990 Steps: **1** Yield: **99%**

1.1 **Catalysts:** Palladium diacetate
Solvents: Trifluoroacetic acid-*d*; 24 h, 120 °C

Experimental Protocols

Palladium-Catalyzed Regioselective C-H Functionalization of Arenes Substituted by Two N-Heterocycles and Application in Late-Stage Functionalization

By: Yin, Da-Wei; et al

Journal of Organic Chemistry (2018), 83(7), 3987-4001.

Scheme 19 (1 Reaction) Steps: **1** Yield: **99%**

31-116-CAS-18610991 Steps: **1** Yield: **99%**

1.1 **Catalysts:** Palladium diacetate
Solvents: Acetic acid-d_4; 48 h, 120 °C

Experimental Protocols

Palladium-Catalyzed Regioselective C-H Functionalization of Arenes Substituted by Two N-Heterocycles and Application in Late-Stage Functionalization

By: Yin, Da-Wei; et al

Journal of Organic Chemistry (2018), 83(7), 3987-4001.

Scheme 20 (1 Reaction)

Steps: **1** Yield: **99%**

31-116-CAS-18610992

Steps: **1** Yield: **99%**

1.1 **Catalysts:** Palladium diacetate
Solvents: Trifluoroacetic acid-*d*; 24 h, 120 °C

Experimental Protocols

Palladium-Catalyzed Regioselective C-H Functionalization of Arenes Substituted by Two N-Heterocycles and Application in Late-Stage Functionalization

By: Yin, Da-Wei; et al

Journal of Organic Chemistry (2018), 83(7), 3987-4001.

Scheme 21 (1 Reaction)

Steps: **1** Yield: **99%**

31-116-CAS-18610994

Steps: **1** Yield: **99%**

1.1 **Catalysts:** Palladium diacetate
Solvents: Acetic acid-d_4; 48 h, 120 °C

Experimental Protocols

Palladium-Catalyzed Regioselective C-H Functionalization of Arenes Substituted by Two N-Heterocycles and Application in Late-Stage Functionalization

By: Yin, Da-Wei; et al

Journal of Organic Chemistry (2018), 83(7), 3987-4001.

Scheme 22 (1 Reaction)

Steps: **1** Yield: **99%**

31-116-CAS-18610993

Steps: **1** Yield: **99%**

1.1 **Catalysts:** Palladium diacetate
Solvents: Trifluoroacetic acid-*d*; 24 h, 120 °C

Experimental Protocols

Palladium-Catalyzed Regioselective C-H Functionalization of Arenes Substituted by Two N-Heterocycles and Application in Late-Stage Functionalization

By: Yin, Da-Wei; et al

Journal of Organic Chemistry (2018), 83(7), 3987-4001.

Scheme 23 (1 Reaction)

Steps: **1** Yield: **99%**

31-116-CAS-18610995 Steps: **1** Yield: **99%**

1.1 **Catalysts:** Palladium diacetate
Solvents: Acetic acid-d_4; 48 h, 120 °C

Experimental Protocols

Palladium-Catalyzed Regioselective C-H Functionalization of Arenes Substituted by Two N-Heterocycles and Application in Late-Stage Functionalization

By: Yin, Da-Wei; et al

Journal of Organic Chemistry (2018), 83(7), 3987-4001.

Scheme 24 (1 Reaction) Steps: **1** Yield: **99%**

31-116-CAS-18610996 Steps: **1** Yield: **99%**

1.1 **Catalysts:** Palladium diacetate
Solvents: Trifluoroacetic acid-*d*; 24 h, 120 °C

Experimental Protocols

Palladium-Catalyzed Regioselective C-H Functionalization of Arenes Substituted by Two N-Heterocycles and Application in Late-Stage Functionalization

By: Yin, Da-Wei; et al

Journal of Organic Chemistry (2018), 83(7), 3987-4001.

Scheme 25 (1 Reaction) Steps: **1** Yield: **99%**

31-116-CAS-18610997 Steps: **1** Yield: **99%**

1.1 **Catalysts:** Palladium diacetate
Solvents: Acetic acid-d_4; 48 h, 120 °C

Experimental Protocols

Palladium-Catalyzed Regioselective C-H Functionalization of Arenes Substituted by Two N-Heterocycles and Application in Late-Stage Functionalization

By: Yin, Da-Wei; et al

Journal of Organic Chemistry (2018), 83(7), 3987-4001.

Scheme 26 (1 Reaction) Steps: **1** Yield: **99%**

31-116-CAS-18610998 Steps: **1** Yield: **99%**

1.1 **Catalysts:** Palladium diacetate
Solvents: Trifluoroacetic acid-*d*; 24 h, 120 °C

Experimental Protocols

Palladium-Catalyzed Regioselective C-H Functionalization of Arenes Substituted by Two N-Heterocycles and Application in Late-Stage Functionalization

By: Yin, Da-Wei; et al

Journal of Organic Chemistry (2018), 83(7), 3987-4001.

Scheme 27 (1 Reaction)

Steps: **1** Yield: **99%**

31-116-CAS-18610999

Steps: **1** Yield: **99%**

1.1 **Catalysts:** Palladium diacetate
Solvents: Acetic acid-d_4; 48 h, 120 °C

Experimental Protocols

Palladium-Catalyzed Regioselective C-H Functionalization of Arenes Substituted by Two N-Heterocycles and Application in Late-Stage Functionalization

By: Yin, Da-Wei; et al

Journal of Organic Chemistry (2018), 83(7), 3987-4001.

Scheme 28 (1 Reaction)

Steps: **1** Yield: **99%**

31-116-CAS-18611000

Steps: **1** Yield: **99%**

1.1 **Catalysts:** Palladium diacetate
Solvents: Trifluoroacetic acid-*d*; 24 h, 120 °C

Experimental Protocols

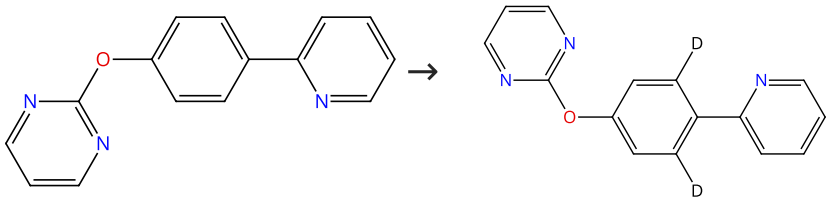
Palladium-Catalyzed Regioselective C-H Functionalization of Arenes Substituted by Two N-Heterocycles and Application in Late-Stage Functionalization

By: Yin, Da-Wei; et al

Journal of Organic Chemistry (2018), 83(7), 3987-4001.

Scheme 29 (1 Reaction)

Steps: **1** Yield: **99%**



Supplier (1)

31-116-CAS-18611001

Steps: **1** Yield: **99%**

1.1 **Catalysts:** Palladium diacetate
Solvents: Acetic acid-d_4; 48 h, 120 °C

Experimental Protocols

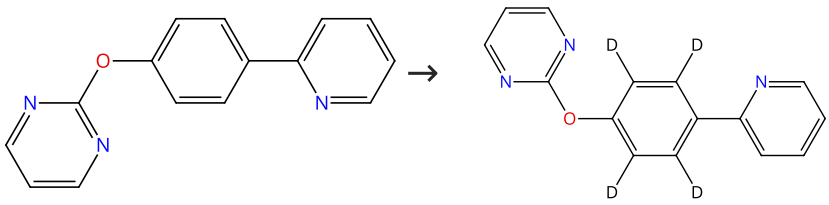
Palladium-Catalyzed Regioselective C-H Functionalization of Arenes Substituted by Two N-Heterocycles and Application in Late-Stage Functionalization

By: Yin, Da-Wei; et al

Journal of Organic Chemistry (2018), 83(7), 3987-4001.

Scheme 30 (1 Reaction)

Steps: **1** Yield: **99%**



Supplier (1)

31-116-CAS-18611002

Steps: **1** Yield: **99%**

1.1 **Catalysts:** Palladium diacetate
Solvents: Trifluoroacetic acid-*d*; 24 h, 120 °C

Experimental Protocols

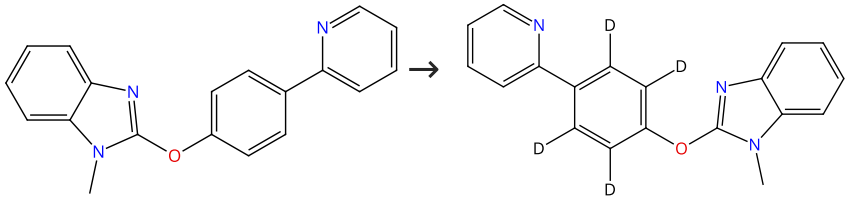
Palladium-Catalyzed Regioselective C-H Functionalization of Arenes Substituted by Two N-Heterocycles and Application in Late-Stage Functionalization

By: Yin, Da-Wei; et al

Journal of Organic Chemistry (2018), 83(7), 3987-4001.

Scheme 31 (1 Reaction)

Steps: **1** Yield: **99%**



31-116-CAS-18611003

Steps: **1** Yield: **99%**

1.1 **Catalysts:** Palladium diacetate
Solvents: Trifluoroacetic acid-*d*; 24 h, 120 °C

Experimental Protocols

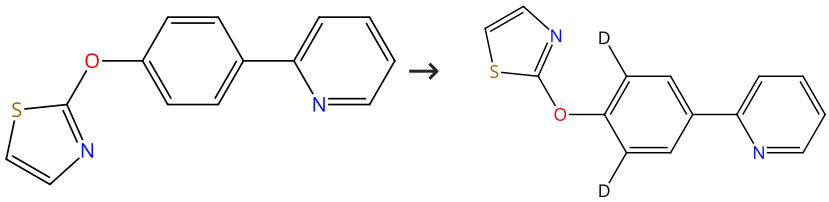
Palladium-Catalyzed Regioselective C-H Functionalization of Arenes Substituted by Two N-Heterocycles and Application in Late-Stage Functionalization

By: Yin, Da-Wei; et al

Journal of Organic Chemistry (2018), 83(7), 3987-4001.

Scheme 32 (1 Reaction)

Steps: **1** Yield: **99%**



Supplier (1)

31-116-CAS-18611005

Steps: **1** Yield: **99%**

1.1 **Catalysts:** Palladium diacetate
Solvents: Trifluoroacetic acid-*d*; 24 h, 120 °C

Experimental Protocols

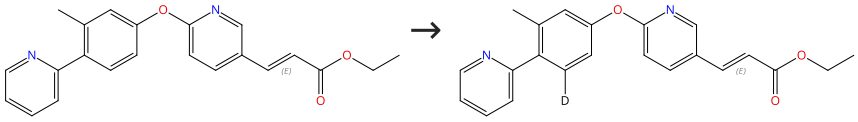
Palladium-Catalyzed Regioselective C-H Functionalization of Arenes Substituted by Two N-Heterocycles and Application in Late-Stage Functionalization

By: Yin, Da-Wei; et al

Journal of Organic Chemistry (2018), 83(7), 3987-4001.

Scheme 33 (1 Reaction)

Steps: **1** Yield: **99%**



Double bond geometry shown

Double bond geometry shown

31-116-CAS-18611007

Steps: **1** Yield: **99%**

1.1 **Catalysts:** Palladium diacetate
Solvents: Acetic acid-d_4; 48 h, 120 °C

Experimental Protocols

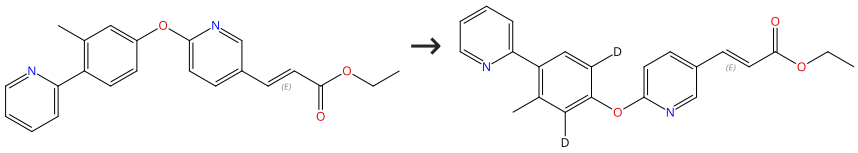
Palladium-Catalyzed Regioselective C-H Functionalization of Arenes Substituted by Two N-Heterocycles and Application in Late-Stage Functionalization

By: Yin, Da-Wei; et al

Journal of Organic Chemistry (2018), 83(7), 3987-4001.

Scheme 34 (1 Reaction)

Steps: **1** Yield: **99%**



Double bond geometry shown

Double bond geometry shown

31-116-CAS-18611008

Steps: **1** Yield: **99%**

1.1 **Catalysts:** Palladium diacetate
Solvents: Trifluoroacetic acid-*d*; 24 h, 120 °C

Experimental Protocols

Palladium-Catalyzed Regioselective C-H Functionalization of Arenes Substituted by Two N-Heterocycles and Application in Late-Stage Functionalization

By: Yin, Da-Wei; et al

Journal of Organic Chemistry (2018), 83(7), 3987-4001.

Scheme 35 (1 Reaction)

Steps: **1** Yield: **99%**

Suppliers (93)

31-116-CAS-11050671

Steps: **1** Yield: **99%**

1.1 **Reagents:** Sodium carbonate, Acetic acid-d_4
Catalysts: Palladium diacetate
Solvents: Acetic acid-d_4; 12 h, 120 °C

Experimental Protocols

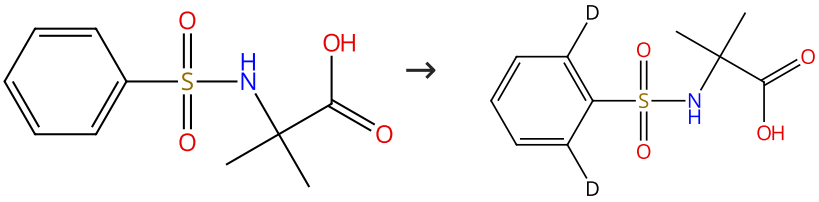
Palladium-Catalyzed ortho-Selective C-H Deuteration of Arenes: Evidence for Superior Reactivity of Weakly Coordi nated Palladacycles

By: Ma, Sandy; et al

Angewandte Chemie, International Edition (2014), 53(3), 734-737.

Scheme 36 (1 Reaction)

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



Suppliers (8)

31-116-CAS-19314684

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

1.1 **Reagents:** Potassium carbonate
Catalysts: Palladium diacetate
Solvents: Acetic acid-d_4, Water-d_2; 18 h, rt → 120 °C

Experimental Protocols

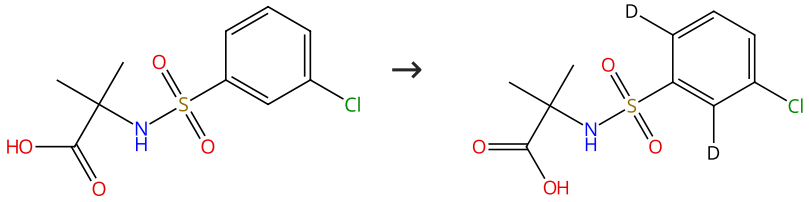
Palladium-catalyzed site-selective hydrogen isotope exchange (HIE) reaction of arylsulfonamides using amino acid auxiliary

By: Liu, Wei; et al

Tetrahedron (2018), 74(30), 4111-4118.

Scheme 37 (1 Reaction)

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



Suppliers (3)

31-116-CAS-19314689

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

1.1 **Reagents:** Potassium carbonate
Catalysts: Palladium diacetate
Solvents: Acetic acid-d_4, Water-d_2; 18 h, rt → 120 °C

Experimental Protocols

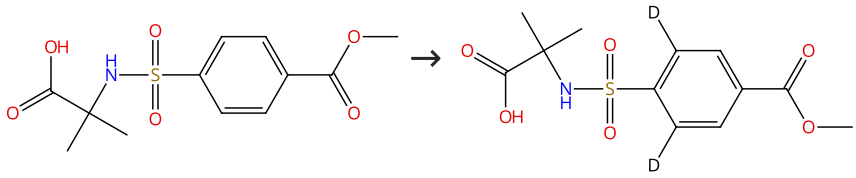
Palladium-catalyzed site-selective hydrogen isotope exchange (HIE) reaction of arylsulfonamides using amino acid auxiliary

By: Liu, Wei; et al

Tetrahedron (2018), 74(30), 4111-4118.

Scheme 38 (1 Reaction)

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



Suppliers (2)

31-116-CAS-19314687

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

1.1 **Reagents:** Potassium carbonate
Catalysts: Palladium diacetate
Solvents: Acetic acid-d_4, Water-d_2; 18 h, rt → 120 °C

Experimental Protocols

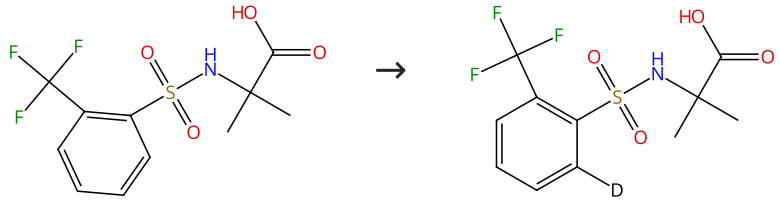
Palladium-catalyzed site-selective hydrogen isotope exchange (HIE) reaction of arylsulfonamides using amino acid auxiliary

By: Liu, Wei; et al

Tetrahedron (2018), 74(30), 4111-4118.

Scheme 39 (1 Reaction)

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



Suppliers (2)

31-116-CAS-19314734

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

1.1 **Reagents:** Potassium carbonate
Catalysts: Palladium diacetate
Solvents: Acetic acid-d_4, Water-d_2; 18 h, rt → 120 °C

Experimental Protocols

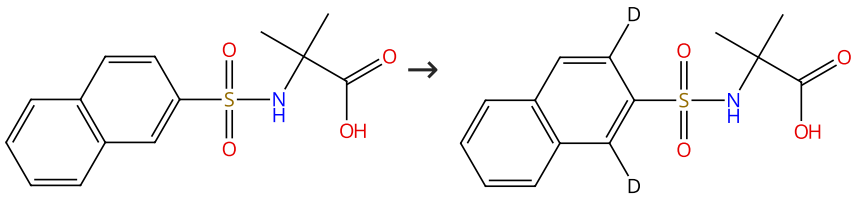
Palladium-catalyzed site-selective hydrogen isotope exchange (HIE) reaction of arylsulfonamides using amino acid auxiliary

By: Liu, Wei; et al

Tetrahedron (2018), 74(30), 4111-4118.

Scheme 40 (1 Reaction)

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



Suppliers (2)

31-116-CAS-19314693

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

1.1 **Reagents:** Potassium carbonate
Catalysts: Palladium diacetate
Solvents: Acetic acid-d_4, Water-d_2; 18 h, rt → 120 °C

Experimental Protocols

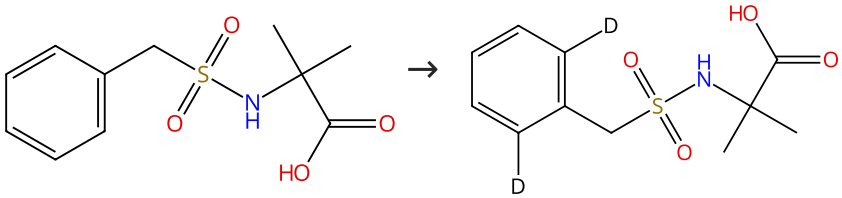
Palladium-catalyzed site-selective hydrogen isotope exchange (HIE) reaction of arylsulfonamides using amino acid auxiliary

By: Liu, Wei; et al

Tetrahedron (2018), 74(30), 4111-4118.

Scheme 41 (1 Reaction)

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



Suppliers (2)

31-116-CAS-19314695

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

1.1 **Reagents:** Potassium carbonate
Catalysts: Palladium diacetate
Solvents: Acetic acid-d_4, Water-d_2; 18 h, rt → 120 °C

Experimental Protocols

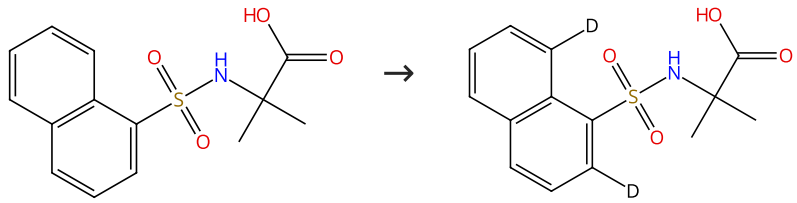
Palladium-catalyzed site-selective hydrogen isotope exchange (HIE) reaction of arylsulfonamides using amino acid auxiliary

By: Liu, Wei; et al

Tetrahedron (2018), 74(30), 4111-4118.

Scheme 42 (1 Reaction)

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



Supplier (1)

31-116-CAS-19314692

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

1.1 **Reagents:** Potassium carbonate
Catalysts: Palladium diacetate
Solvents: Acetic acid-d_4, Water-d_2; 18 h, rt → 120 °C

Experimental Protocols

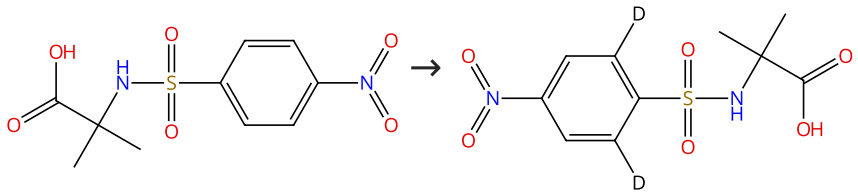
Palladium-catalyzed site-selective hydrogen isotope exchange (HIE) reaction of arylsulfonamides using amino acid auxiliary

By: Liu, Wei; et al

Tetrahedron (2018), 74(30), 4111-4118.

Scheme 43 (1 Reaction)

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



Suppliers (4)

31-116-CAS-19314731

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

1.1 **Reagents:** Potassium carbonate
Catalysts: Palladium diacetate
Solvents: Acetic acid-d_4, Water-d_2; 18 h, rt → 120 °C

Experimental Protocols

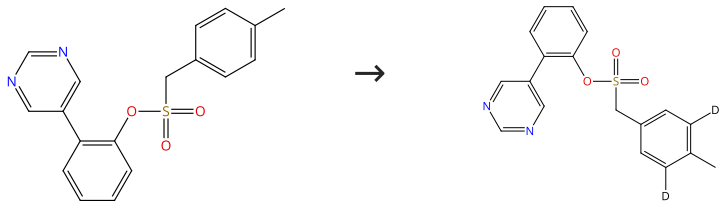
Palladium-catalyzed site-selective hydrogen isotope exchange (HIE) reaction of arylsulfonamides using amino acid auxiliary

By: Liu, Wei; et al

Tetrahedron (2018), 74(30), 4111-4118.

Scheme 44 (1 Reaction)

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



31-116-CAS-20235112

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

1.1 **Reagents:** Acetic acid-d_4
Catalysts: Palladium diacetate; 24 h, 110 °C

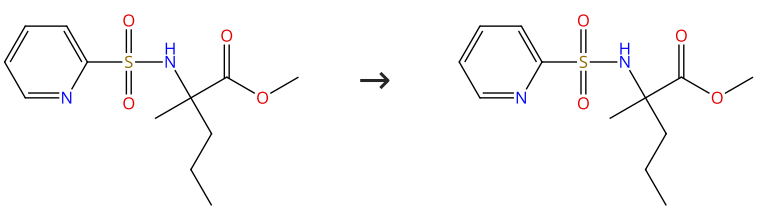
Palladium-Catalyzed Selective meta-C-H Deuteration of Arenes: Reaction Design and Applications

By: Bag, Sukdev; et al

Chemistry - A European Journal (2019), 25(40), 9433-9437.

Scheme 45 (1 Reaction)

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



31-614-CAS-34693702 Steps: **1** Yield: **98%**

1.1 **Reagents:** Acetic acid-d_4
Catalysts: Palladium diacetate
Solvents: Toluene; 30 min, 140 °C

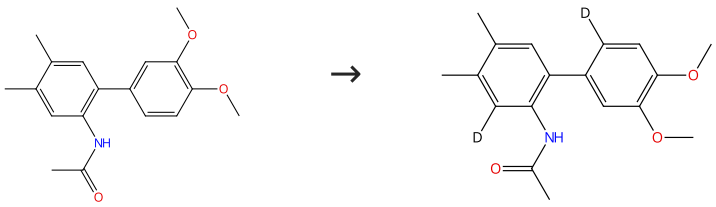
Experimental Protocols

Palladium-Catalyzed PIDA-Mediated δ-C(sp^3)-H Acetoxylation of Amino Acid Derivatives: Overriding Competitive Intramolecular Amination

By: Martinez-Mingo, Mario; et al

Angewandte Chemie, International Edition (2022), 61(47), e202209865.

Scheme 46 (1 Reaction) Steps: **1** Yield: **98%**



31-614-CAS-37395651 Steps: **1** Yield: **98%**

1.1 **Reagents:** Acetic acid-d_4, Oxygen
Catalysts: Palladium diacetate, Scandium triflate
Solvents: Dimethylformamide; 4 h, 60 °C

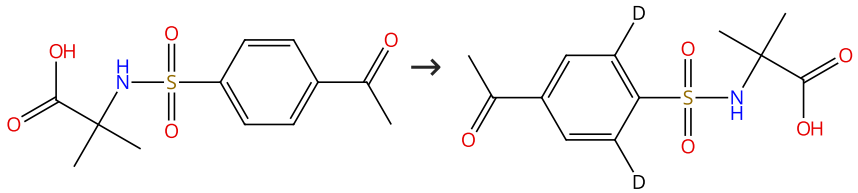
Experimental Protocols

Pd(II)/Lewis Acid Catalyzed Intramolecular Oxidative C-H Amination to Construct Carbazoles with Dioxygen

By: Jiang, Hongwu; et al

European Journal of Organic Chemistry (2023), 26(35), e202300598.

Scheme 47 (1 Reaction) Steps: **1** Yield: **98%**



Suppliers (4)

31-116-CAS-19314685 Steps: **1** Yield: **98%**

1.1 **Reagents:** Potassium carbonate
Catalysts: Palladium diacetate
Solvents: Acetic acid-d_4, Water-d_2; 18 h, rt → 120 °C

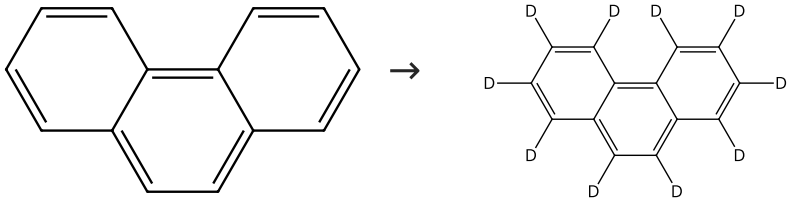
Experimental Protocols

Palladium-catalyzed site-selective hydrogen isotope exchange (HIE) reaction of arylsulfonamides using amino acid auxiliary

By: Liu, Wei; et al

Tetrahedron (2018), 74(30), 4111-4118.

Scheme 48 (1 Reaction) Steps: **1** Yield: **98%**



Suppliers (131) Suppliers (77)

31-614-CAS-40416792 Steps: **1** Yield: **98%**

1.1 **Reagents:** 1,1,1,3,3,3-Hexafluoro-2-propanol, Acetic acid-d_4
Catalysts: Palladium diacetate, 2(1*H*)-Pyridinone, 6-(3-methyl-1*H*-pyrazol-1-yl)-; 48 h, 120 °C

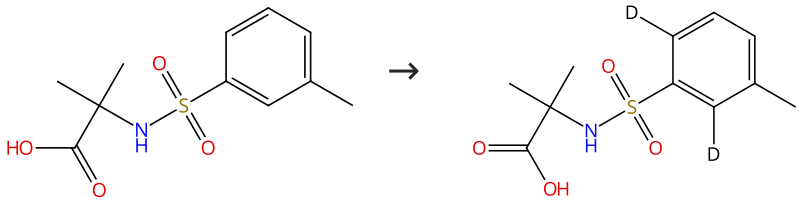
Experimental Protocols

Nondirected Pd-Catalyzed C-H Perdeuteration and meta-Selective Alkenylation of Arenes Enabled by Pyrazolo pyridone Ligands

By: Yun, Seo Jin; et al

ACS Catalysis (2023), 13(7), 4042-4052.

Scheme 49 (1 Reaction) Steps: **1** Yield: **97%**



Suppliers (3)

31-116-CAS-19314733 Steps: **1** Yield: **97%**

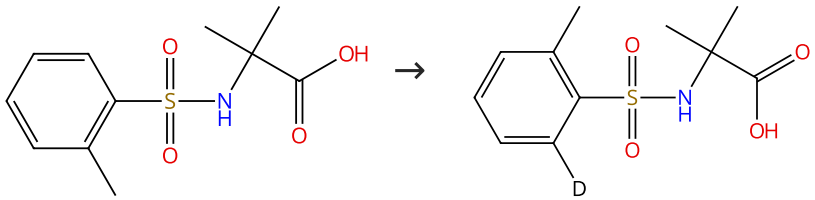
1.1 **Reagents:** Potassium carbonate
Catalysts: Palladium diacetate
Solvents: Acetic acid-d_4, Water-d_2; 18 h, rt → 120 °C

Palladium-catalyzed site-selective hydrogen isotope exchange (HIE) reaction of arylsulfonamides using amino acid auxiliary

By: Liu, Wei; et al

Tetrahedron (2018), 74(30), 4111-4118.

Scheme 50 (1 Reaction) Steps: **1** Yield: **97%**



Suppliers (2)

31-116-CAS-19314690 Steps: **1** Yield: **97%**

1.1 **Reagents:** Potassium carbonate
Catalysts: Palladium diacetate
Solvents: Acetic acid-d_4, Water-d_2; 18 h, rt → 120 °C

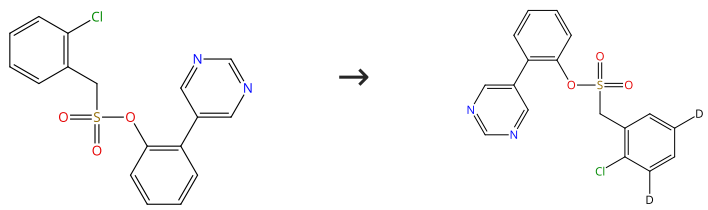
Experimental Protocols

Palladium-catalyzed site-selective hydrogen isotope exchange (HIE) reaction of arylsulfonamides using amino acid auxiliary

By: Liu, Wei; et al

Tetrahedron (2018), 74(30), 4111-4118.

Scheme 51 (1 Reaction) Steps: **1** Yield: **97%**



31-116-CAS-20235124 Steps: **1** Yield: **97%**

1.1 **Reagents:** Acetic acid-d_4
Catalysts: Palladium diacetate; 24 h, 110 °C

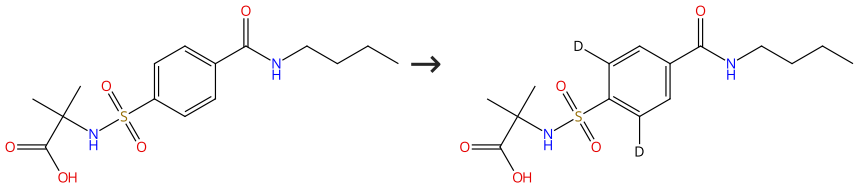
Palladium-Catalyzed Selective meta-C-H Deuteration of Arenes: Reaction Design and Applications

By: Bag, Sukdev; et al

Chemistry - A European Journal (2019), 25(40), 9433-9437.

Scheme 52 (1 Reaction)

Steps: **1** Yield: **97%**



31-116-CAS-19314688

Steps: **1** Yield: **97%**

1.1 **Reagents:** Potassium carbonate
Catalysts: Palladium diacetate
Solvents: Acetic acid-d_4, Water-d_2; 18 h, rt → 120 °C

Experimental Protocols

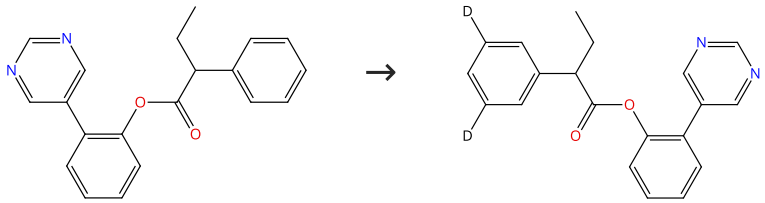
Palladium-catalyzed site-selective hydrogen isotope exchange (HIE) reaction of arylsulfonamides using amino acid auxiliary

By: Liu, Wei; et al

Tetrahedron (2018), 74(30), 4111-4118.

Scheme 53 (1 Reaction)

Steps: **1** Yield: **97%**



31-116-CAS-20235106

Steps: **1** Yield: **97%**

1.1 **Reagents:** Acetic acid-d_4
Catalysts: Palladium diacetate; 24 h, 110 °C

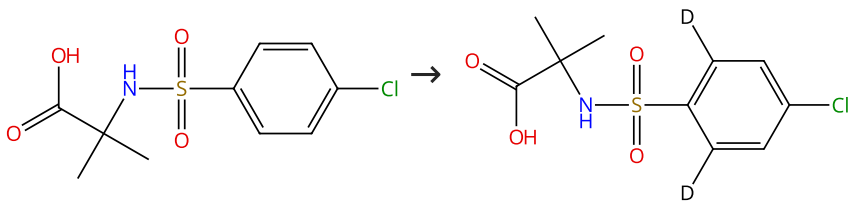
Palladium-Catalyzed Selective meta-C-H Deuteration of Arenes: Reaction Design and Applications

By: Bag, Sukdev; et al

Chemistry - A European Journal (2019), 25(40), 9433-9437.

Scheme 54 (1 Reaction)

Steps: **1** Yield: **97%**



Suppliers (5)

31-116-CAS-19314730

Steps: **1** Yield: **97%**

1.1 **Reagents:** Potassium carbonate
Catalysts: Palladium diacetate
Solvents: Acetic acid-d_4, Water-d_2; 18 h, rt → 120 °C

Experimental Protocols

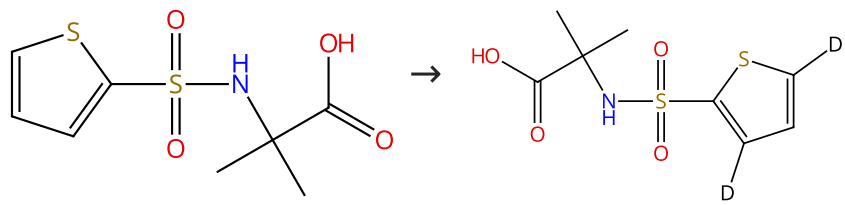
Palladium-catalyzed site-selective hydrogen isotope exchange (HIE) reaction of arylsulfonamides using amino acid auxiliary

By: Liu, Wei; et al

Tetrahedron (2018), 74(30), 4111-4118.

Scheme 55 (1 Reaction)

Steps: **1** Yield: **97%**



Suppliers (18)

31-116-CAS-19314694 Steps: **1** Yield: **97%**

1.1 **Reagents:** Potassium carbonate
Catalysts: Palladium diacetate
Solvents: Acetic acid-d_4, Water-d_2; 18 h, rt → 120 °C

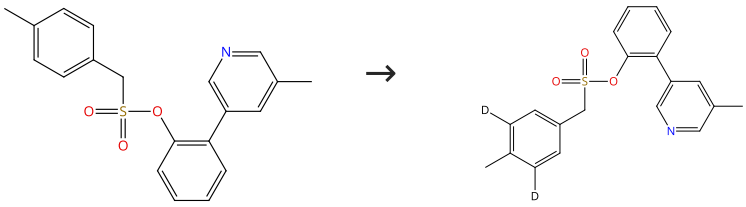
Experimental Protocols

Palladium-catalyzed site-selective hydrogen isotope exchange (HIE) reaction of arylsulfonamides using amino acid auxiliary

By: Liu, Wei; et al

Tetrahedron (2018), 74(30), 4111-4118.

Scheme 56 (1 Reaction) Steps: **1** Yield: **96%**



31-116-CAS-20235187 Steps: **1** Yield: **96%**

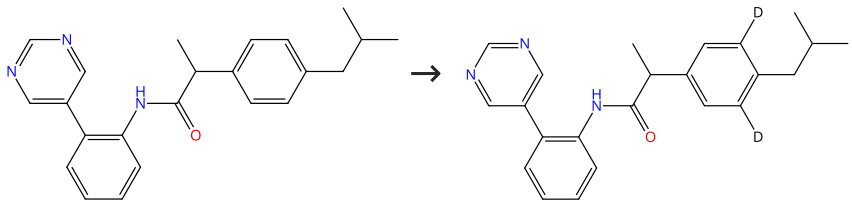
1.1 **Reagents:** Acetic acid-d_4
Catalysts: Acetylglycine, Palladium diacetate; 24 h, 110 °C

Palladium-Catalyzed Selective meta-C-H Deuteration of Arenes: Reaction Design and Applications

By: Bag, Sukdev; et al

Chemistry - A European Journal (2019), 25(40), 9433-9437.

Scheme 57 (1 Reaction) Steps: **1** Yield: **96%**



31-116-CAS-21932414 Steps: **1** Yield: **96%**

1.1 **Reagents:** Acetic acid-d_4
Catalysts: Acetylglycine, Palladium diacetate; 24 h, 110 °C

Experimental Protocols

Diverse meta-C-H Functionalization of Amides

By: Gholap, Aniket; et al

ACS Catalysis (2020), 10(9), 5347-5352.

Scheme 58 (1 Reaction) Steps: **1** Yield: **96%**

Suppliers (103)

31-116-CAS-11667399 Steps: **1** Yield: **96%**

1.1 **Reagents:** Sodium carbonate, Acetic acid-d_4
Catalysts: Palladium diacetate
Solvents: Acetic acid-d_4; 12 h, 120 °C

1.2 **Reagents:** Sodium hydroxide
Solvents: Dichloromethane, Water; 12 h, 120 °C

Experimental Protocols

Palladium-Catalyzed ortho-Selective C-H Deuteration of Arenes: Evidence for Superior Reactivity of Weakly Coordi nated Palladacycles

By: Ma, Sandy; et al

Angewandte Chemie, International Edition (2014), 53(3), 734-737.

Scheme 59 (1 Reaction)

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

Suppliers (84)

31-116-CAS-14119006

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

1.1 **Reagents:** Sodium carbonate, Acetic acid-d_4
Catalysts: Palladium diacetate
Solvents: Acetic acid-d_4; 12 h, 120 °C

1.2 **Reagents:** Sodium hydroxide
Solvents: Dichloromethane, Water; 12 h, 120 °C

Experimental Protocols

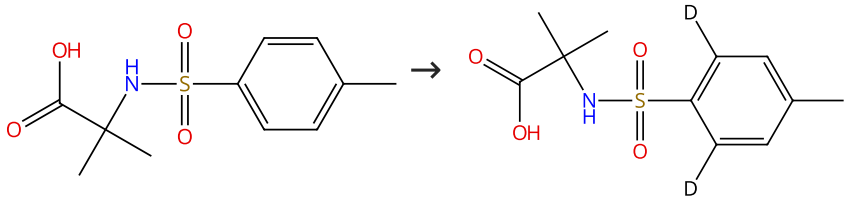
Palladium-Catalyzed ortho-Selective C-H Deuteration of Arenes: Evidence for Superior Reactivity of Weakly Coordi nated Palladacycles

By: Ma, Sandy; et al

Angewandte Chemie, International Edition (2014), 53(3), 734-737.

Scheme 60 (1 Reaction)

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



Suppliers (18)

31-116-CAS-19314729

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

1.1 **Reagents:** Potassium carbonate
Catalysts: Palladium diacetate
Solvents: Acetic acid-d_4, Water-d_2; 18 h, rt → 120 °C

Experimental Protocols

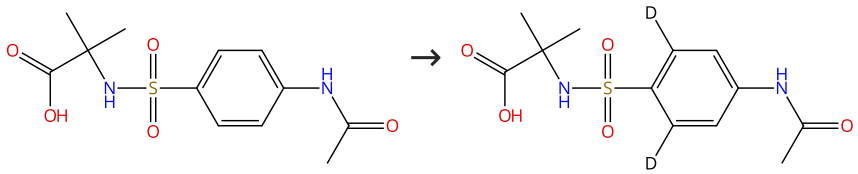
Palladium-catalyzed site-selective hydrogen isotope exchange (HIE) reaction of arylsulfonamides using amino acid auxiliary

By: Liu, Wei; et al

Tetrahedron (2018), 74(30), 4111-4118.

Scheme 61 (1 Reaction)

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



Suppliers (4)

31-116-CAS-19314732

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

1.1 **Reagents:** Potassium carbonate
Catalysts: Palladium diacetate
Solvents: Acetic acid-d_4, Water-d_2; 18 h, rt → 120 °C

Experimental Protocols

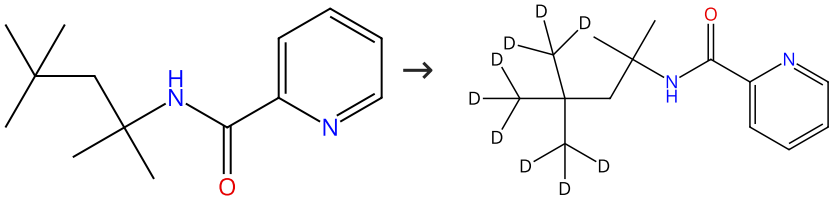
Palladium-catalyzed site-selective hydrogen isotope exchange (HIE) reaction of arylsulfonamides using amino acid auxiliary

By: Liu, Wei; et al

Tetrahedron (2018), 74(30), 4111-4118.

Scheme 62 (2 Reactions)

Steps: **1** Yield: **95%**



Suppliers (2)

31-614-CAS-24104627

Steps: **1** Yield: **95%**

1.1 **Reagents:** Sodium carbonate, Acetic acid-d_4
Catalysts: Palladium diacetate; 72 h, 80 °C

Ligand-Enabled δ-C(sp^3)-H Borylation of Aliphatic Amines

By: Chandrashekar, Hediyala B.; et al

Angewandte Chemie, International Edition (2021), 60(33), 18194-18200.

31-116-CAS-19982513

Steps: **1** Yield: **95%**

1.1 **Reagents:** Acetic acid-d_4, Sodium trifluoroacetate
Catalysts: Pyridine, Palladium trifluoro acetate; 72 h, 130 °C

Experimental Protocols

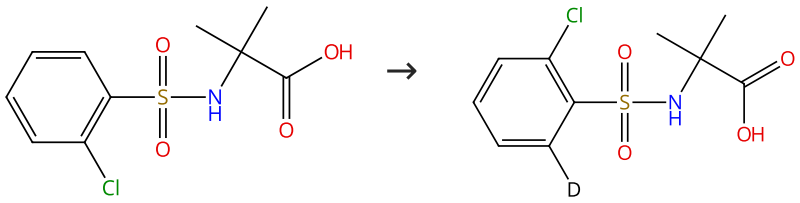
Iterative Arylation of Amino Acids and Aliphatic Amines via δ-C(sp^3)-H Activation: Experimental and Computational Exploration

By: Guin, Srimanta; et al

Angewandte Chemie, International Edition (2019), 58(17), 5633-5638.

Scheme 63 (1 Reaction)

Steps: **1** Yield: **95%**



Suppliers (3)

31-116-CAS-19314691

Steps: **1** Yield: **95%**

1.1 **Reagents:** Potassium carbonate
Catalysts: Palladium diacetate
Solvents: Acetic acid-d_4, Water-d_2; 18 h, rt → 120 °C

Experimental Protocols

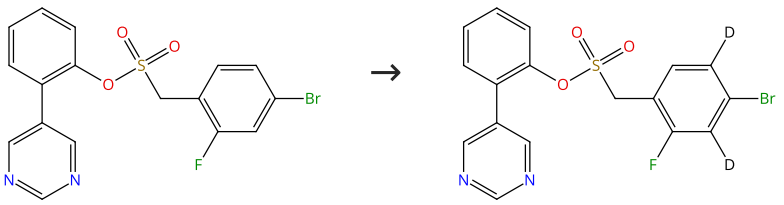
Palladium-catalyzed site-selective hydrogen isotope exchange (HIE) reaction of arylsulfonamides using amino acid auxiliary

By: Liu, Wei; et al

Tetrahedron (2018), 74(30), 4111-4118.

Scheme 64 (1 Reaction)

Steps: **1** Yield: **95%**



31-116-CAS-20235125

Steps: **1** Yield: **95%**

1.1 **Reagents:** Acetic acid-d_4
Catalysts: Palladium diacetate; 72 h, 110 °C

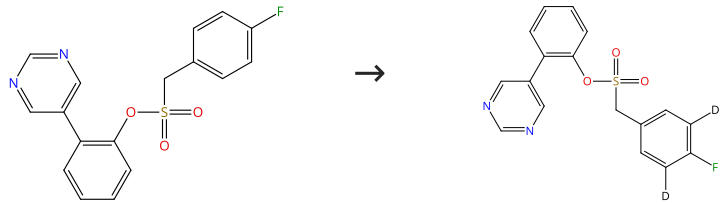
Palladium-Catalyzed Selective meta-C-H Deuteration of Arenes: Reaction Design and Applications

By: Bag, Sukdev; et al

Chemistry - A European Journal (2019), 25(40), 9433-9437.

Scheme 65 (1 Reaction)

Steps: **1** Yield: **95%**



31-116-CAS-20235114

Steps: **1** Yield: **95%**

1.1 **Reagents:** Acetic acid-d_4
Catalysts: Palladium diacetate; 24 h, 110 °C

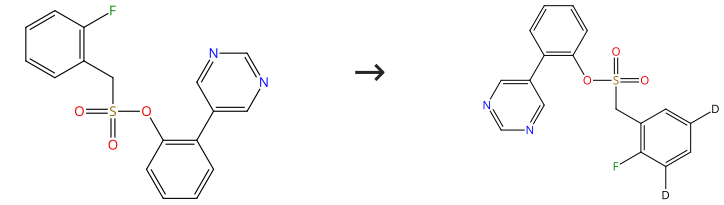
Palladium-Catalyzed Selective meta-C-H Deuteration of Arenes: Reaction Design and Applications

By: Bag, Sukdev; et al

Chemistry - A European Journal (2019), 25(40), 9433-9437.

Scheme 66 (1 Reaction)

Steps: **1** Yield: **95%**



31-116-CAS-20235123

Steps: **1** Yield: **95%**

1.1 **Reagents:** Acetic acid-d_4
Catalysts: Palladium diacetate; 24 h, 110 °C

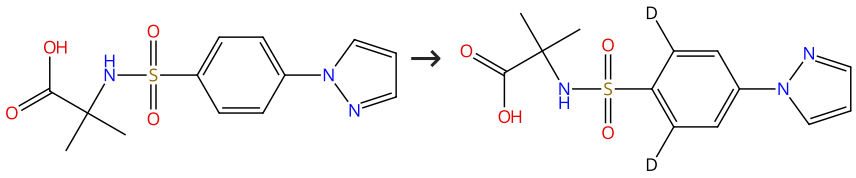
Palladium-Catalyzed Selective meta-C-H Deuteration of Arenes: Reaction Design and Applications

By: Bag, Sukdev; et al

Chemistry - A European Journal (2019), 25(40), 9433-9437.

Scheme 67 (1 Reaction)

Steps: **1** Yield: **95%**



31-116-CAS-19314686

Steps: **1** Yield: **95%**

1.1 **Reagents:** Potassium carbonate
Catalysts: Palladium diacetate
Solvents: Acetic acid-d_4, Water-d_2; 18 h, rt → 120 °C

Experimental Protocols

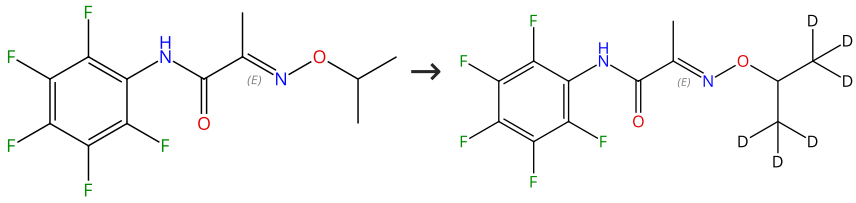
Palladium-catalyzed site-selective hydrogen isotope exchange (HIE) reaction of arylsulfonamides using amino acid auxiliary

By: Liu, Wei; et al

Tetrahedron (2018), 74(30), 4111-4118.

Scheme 68 (1 Reaction)

Steps: **1** Yield: **95%**



Double bond geometry shown

Double bond geometry shown

31-116-CAS-19368046 Steps: **1** Yield: **95%**

1.1 **Reagents:** Acetic acid-d_4
Catalysts: Palladium diacetate
Solvents: Chlorobenzene; 24 h, 75 °C

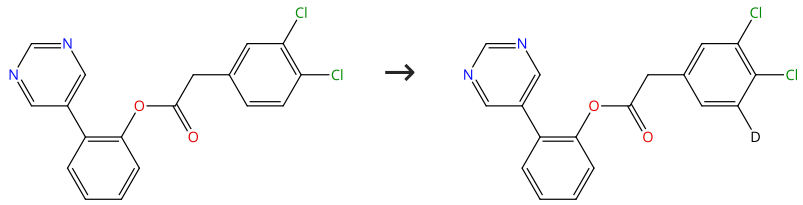
Experimental Protocols

Selective C(sp^3)-H and C(sp^2)-H Fluorination of Alcohols Using Practical Auxiliaries

By: Mao, Yang-Jie; et al

Angewandte Chemie, International Edition (2018), 57(43), 14085-14089.

Scheme 69 (1 Reaction) Steps: **1** Yield: **95%**



31-116-CAS-20235109 Steps: **1** Yield: **95%**

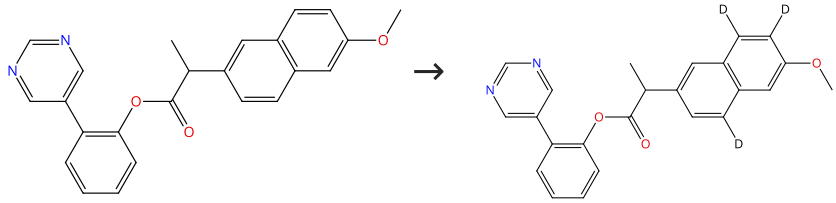
1.1 **Reagents:** Acetic acid-d_4
Catalysts: Palladium diacetate; 48 h, 110 °C

Palladium-Catalyzed Selective meta-C-H Deuteration of Arenes: Reaction Design and Applications

By: Bag, Sukdev; et al

Chemistry - A European Journal (2019), 25(40), 9433-9437.

Scheme 70 (1 Reaction) Steps: **1** Yield: **95%**



31-116-CAS-20235129 Steps: **1** Yield: **95%**

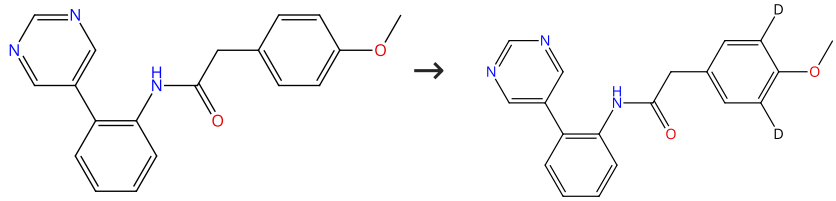
1.1 **Reagents:** Acetic acid-d_4
Catalysts: Palladium diacetate; 24 h, 110 °C

Palladium-Catalyzed Selective meta-C-H Deuteration of Arenes: Reaction Design and Applications

By: Bag, Sukdev; et al

Chemistry - A European Journal (2019), 25(40), 9433-9437.

Scheme 71 (1 Reaction) Steps: **1** Yield: **95%**



31-116-CAS-21932412 Steps: **1** Yield: **95%**

1.1 **Reagents:** Acetic acid-d_4
Catalysts: Acetylglycine, Palladium diacetate; 24 h, 110 °C

Experimental Protocols

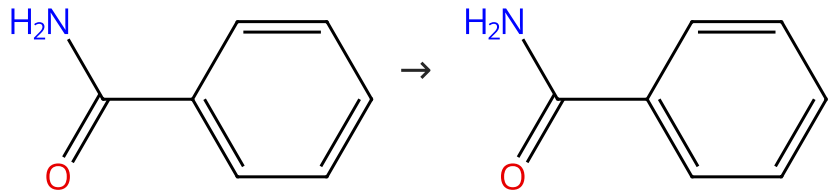
Diverse meta-C-H Functionalization of Amides

By: Gholap, Aniket; et al

ACS Catalysis (2020), 10(9), 5347-5352.

Scheme 72 (1 Reaction)

Steps: **1** Yield: **95%**



Suppliers (115)

31-614-CAS-30070101

Steps: **1** Yield: **95%**

1.1 **Reagents:** Trifluoroacetic acid-*d*
Catalysts: Silver trifluoroacetate, Palladium, chloro[2,3-dihydro-*N*-[2-(methoxy-κ*O*)ethyl]-3-methyl-1*H*-benzimidazole-1-acetamidato(3-)-κC^{2},κN^{N1}]-, (*SP*-4-3)-; 16 h, rt → 110 °C

1.2 **Reagents:** Sodium bicarbonate
Solvents: Water; 0.5 h, rt

Experimental Protocols

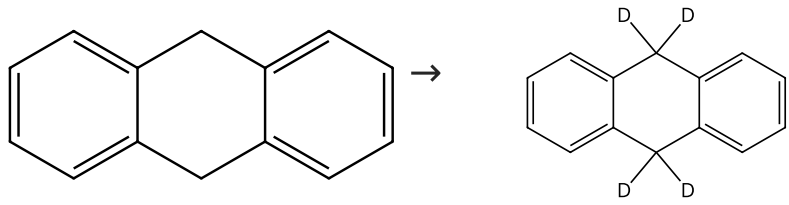
H-D exchange in deuterated trifluoroacetic acid via ligand-directed NHC-palladium catalysis: a powerful method for deuteration of aromatic ketones, amides, and amino acids

By: Giles, Richard; et al

Tetrahedron Letters (2015), 56(45), 6231-6235.

Scheme 73 (1 Reaction)

Steps: **1** Yield: **95%**



Suppliers (68)

Supplier (1)

31-116-CAS-5203181

Steps: **1** Yield: **95%**

1.1 **Reagents:** Deuterium
Catalysts: Palladium
Solvents: Acetic acid-*d*

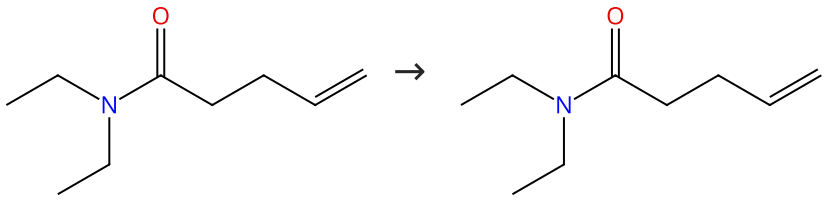
A selective method for deuterium exchange in hydroar omatic compounds

By: Ofosu-Asante, K.; et al

Journal of Organic Chemistry (1986), 51(26), 5452-4.

Scheme 74 (1 Reaction)

Steps: **1** Yield: **95%**



Suppliers (6)

31-614-CAS-40895948

Steps: **1** Yield: **95%**

1.1 **Reagents:** Acetic acid-d_4, Methyldiethoxysilane, Dipotassium phosphate
Catalysts: Palladium diacetate, 2-(4,5-Dihydro-4,4-dimethyl-2-oxazolyl)-6-methylpyridine
Solvents: Tetrahydrofuran; 1 h, 60 °C

Experimental Protocols

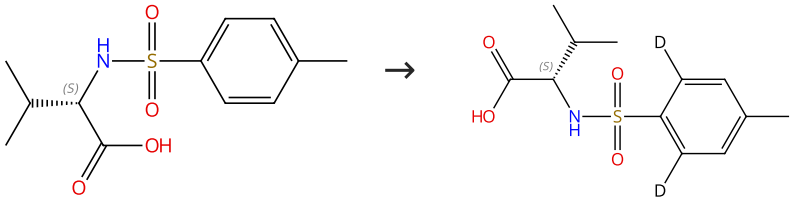
Palladium-catalyzed site-selective functionalization of unacti vated alkenes with vinylcycl opropanes aided by weakly coordi nating native amides

By: Keerthana, Meledath Sudhakaran; et al

Chemical Communications (Cambridge, United Kingdom) (2024), 60(57), 7347-7350.

Scheme 75 (1 Reaction)

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



Absolute stereochemistry shown, Rotation (+)

Absolute stereochemistry shown

Suppliers (25)

31-116-CAS-19314704

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

1.1 **Reagents:** Sodium acetate
Catalysts: Palladium diacetate
Solvents: Acetic acid-*d*; 18 h, rt → 120 °C

Experimental Protocols

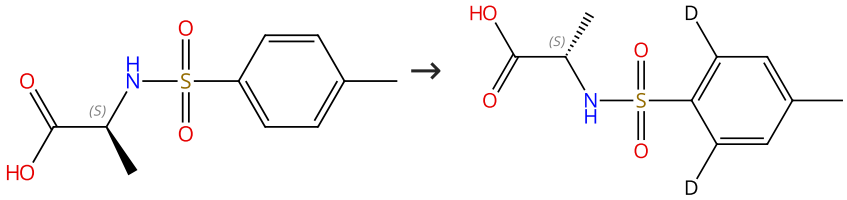
Palladium-catalyzed site-selective hydrogen isotope exchange (HIE) reaction of arylsulfonamides using amino acid auxiliary

By: Liu, Wei; et al

Tetrahedron (2018), 74(30), 4111-4118.

Scheme 76 (1 Reaction)

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



Absolute stereochemistry shown, Rotation (-)

Absolute stereochemistry shown

Suppliers (68)

31-116-CAS-19314736

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

1.1 **Reagents:** Potassium carbonate
Catalysts: Palladium diacetate
Solvents: Acetic acid-d_4, Water-d_2; 18 h, rt → 120 °C

Experimental Protocols

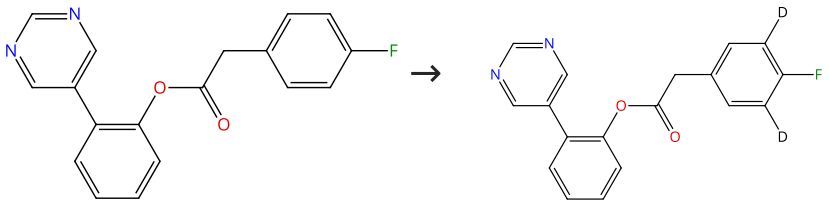
Palladium-catalyzed site-selective hydrogen isotope exchange (HIE) reaction of arylsulfonamides using amino acid auxiliary

By: Liu, Wei; et al

Tetrahedron (2018), 74(30), 4111-4118.

Scheme 77 (1 Reaction)

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



31-116-CAS-20235101

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

1.1 **Reagents:** Acetic acid-d_4
Catalysts: Palladium diacetate; 24 h, 110 °C

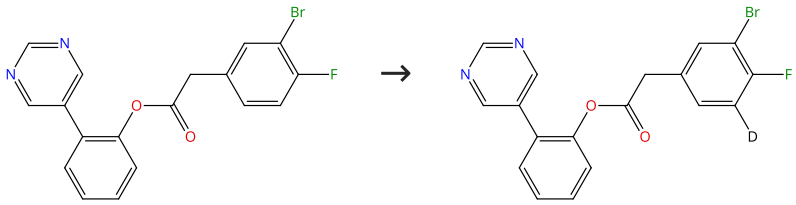
Palladium-Catalyzed Selective meta-C-H Deuteration of Arenes: Reaction Design and Applications

By: Bag, Sukdev; et al

Chemistry - A European Journal (2019), 25(40), 9433-9437.

Scheme 78 (1 Reaction)

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



31-116-CAS-20235111

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

1.1 **Reagents:** Acetic acid-d_4
Catalysts: Palladium diacetate; 36 h, 110 °C

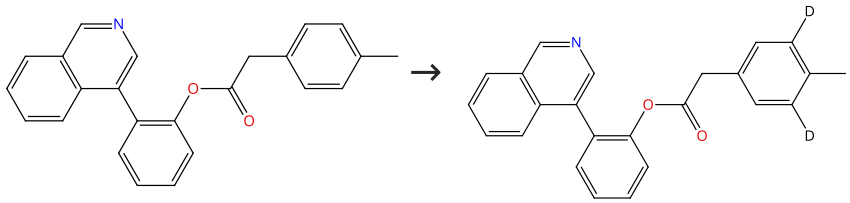
Palladium-Catalyzed Selective meta-C-H Deuteration of Arenes: Reaction Design and Applications

By: Bag, Sukdev; et al

Chemistry - A European Journal (2019), 25(40), 9433-9437.

Scheme 79 (1 Reaction)

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



31-116-CAS-20235141

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

1.1 **Reagents:** Acetic acid-d_4
Catalysts: Acetylglycine, Palladium diacetate; 24 h, 110 °C

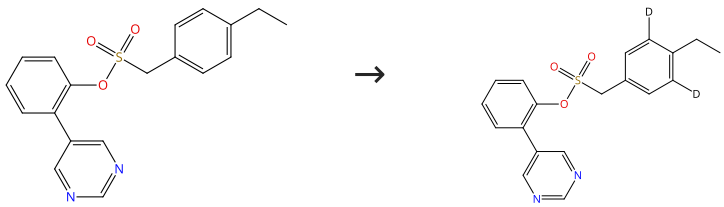
Palladium-Catalyzed Selective meta-C-H Deuteration of Arenes: Reaction Design and Applications

By: Bag, Sukdev; et al

Chemistry - A European Journal (2019), 25(40), 9433-9437.

Scheme 80 (1 Reaction)

Steps: **1** Yield: **93%**



31-116-CAS-20235113

Steps: **1** Yield: **93%**

1.1 **Reagents:** Acetic acid-d_4
Catalysts: Palladium diacetate; 24 h, 110 °C

Palladium-Catalyzed Selective meta-C-H Deuteration of Arenes: Reaction Design and Applications

By: Bag, Sukdev; et al

Chemistry - A European Journal (2019), 25(40), 9433-9437.

Scheme 81 (1 Reaction)

Steps: **1** Yield: **93%**

31-116-CAS-20235120 Steps: **1** Yield: **93%**

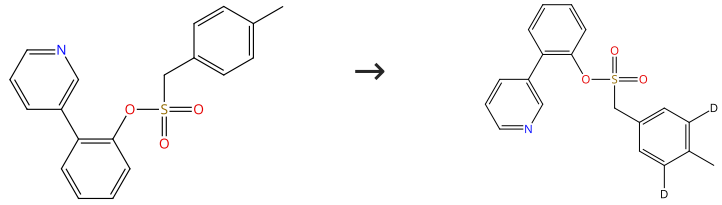
1.1 **Reagents:** Acetic acid-d_4
Catalysts: Palladium diacetate; 36 h, 110 °C

Palladium-Catalyzed Selective meta-C-H Deuteration of Arenes: Reaction Design and Applications

By: Bag, Sukdev; et al

Chemistry - A European Journal (2019), 25(40), 9433-9437.

Scheme 82 (1 Reaction) Steps: **1** Yield: **93%**



31-116-CAS-20235186 Steps: **1** Yield: **93%**

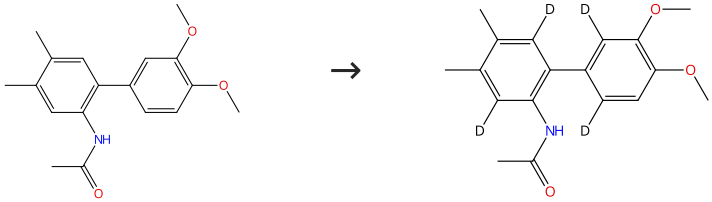
1.1 **Reagents:** Acetic acid-d_4
Catalysts: Acetylglycine, Palladium diacetate; 24 h, 110 °C

Palladium-Catalyzed Selective meta-C-H Deuteration of Arenes: Reaction Design and Applications

By: Bag, Sukdev; et al

Chemistry - A European Journal (2019), 25(40), 9433-9437.

Scheme 83 (1 Reaction) Steps: **1** Yield: **93%**



31-614-CAS-37395645 Steps: **1** Yield: **93%**

1.1 **Reagents:** Acetic acid-d_4, Oxygen
Catalysts: Palladium diacetate, Scandium triflate
Solvents: Dimethylformamide; 4 h, 100 °C

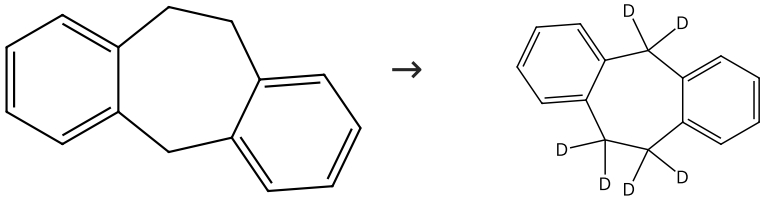
Experimental Protocols

Pd(II)/Lewis Acid Catalyzed Intramolecular Oxidative C-H Amination to Construct Carbazoles with Dioxygen

By: Jiang, Hongwu; et al

European Journal of Organic Chemistry (2023), 26(35), e202300598.

Scheme 84 (1 Reaction) Steps: **1** Yield: **93%**



Suppliers (40)

31-116-CAS-11664295 Steps: **1** Yield: **93%**

1.1 **Reagents:** Deuterium
Catalysts: Palladium
Solvents: Acetic acid-*d*

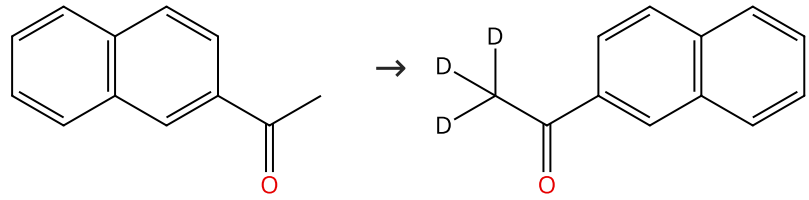
High-resolution EPR spectroscopic investigations of a homologous set of d^9-cobalt(0), d^9-rhodium(0), and d^9-iridium (0) complexes

By: Deblon, Stephan; et al

Chemistry - A European Journal (2002), 8(3), 601-611.

Scheme 85 (1 Reaction)

Steps: **1** Yield: **93%**



Suppliers (96)

31-614-CAS-29033282

Steps: **1** Yield: **93%**

1.1 **Reagents:** Trifluoroacetic acid-*d*
Catalysts: Silver trifluoroacetate, Palladium, chloro[2,3-dihydro-*N*-[2-(methoxy-κ*O*)ethyl]-3-methyl-1*H*-benzimidazole-1-acetamidato(3-)-κC^{2},κN^{N1}]-, (*SP*-4-3)-; 16 h, rt → 110 °C

1.2 **Reagents:** Sodium bicarbonate
Solvents: Water; 0.5 h, rt

Experimental Protocols

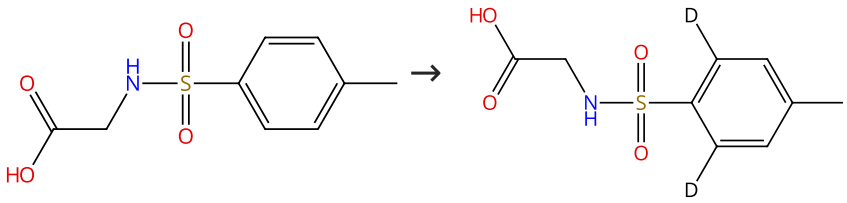
H-D exchange in deuterated trifluoroacetic acid via ligand-directed NHC-palladium catalysis: a powerful method for deuteration of aromatic ketones, amides, and amino acids

By: Giles, Richard; et al

Tetrahedron Letters (2015), 56(45), 6231-6235.

Scheme 86 (1 Reaction)

Steps: **1** Yield: **92%**



Suppliers (95)

31-116-CAS-19314703

Steps: **1** Yield: **92%**

1.1 **Reagents:** Sodium acetate
Catalysts: Palladium diacetate
Solvents: Acetic acid-*d*; 18 h, rt → 120 °C

Experimental Protocols

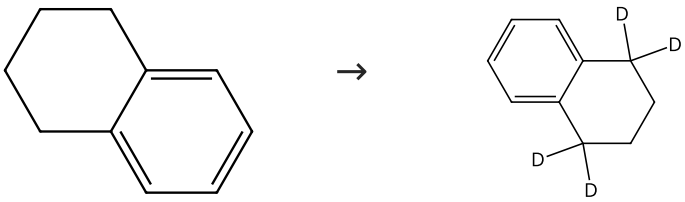
Palladium-catalyzed site-selective hydrogen isotope exchange (HIE) reaction of arylsulfonamides using amino acid auxiliary

By: Liu, Wei; et al

Tetrahedron (2018), 74(30), 4111-4118.

Scheme 87 (1 Reaction)

Steps: **1** Yield: **90%**



Suppliers (104)

31-116-CAS-3074194

Steps: **1** Yield: **90%**

1.1 **Reagents:** Deuterium
Catalysts: Palladium
Solvents: Acetic acid-*d*

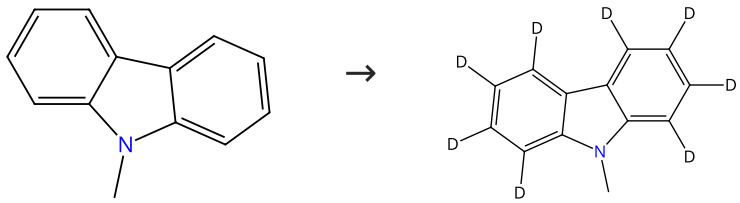
A selective method for deuterium exchange in hydroar omatic compounds

By: Ofosu-Asante, K.; et al

Journal of Organic Chemistry (1986), 51(26), 5452-4.

Scheme 88 (1 Reaction)

Steps: **1** Yield: **92%**



Suppliers (78)

31-614-CAS-40416789

Steps: **1** Yield: **92%**

1.1 **Reagents:** 1,1,1,3,3,3-Hexafluoro-2-propanol, Acetic acid-d_4
Catalysts: Palladium diacetate, 2(1*H*)-Pyridinone, 6-(3-methyl-1*H*-pyrazol-1-yl)-; 48 h, 120 °C

Experimental Protocols

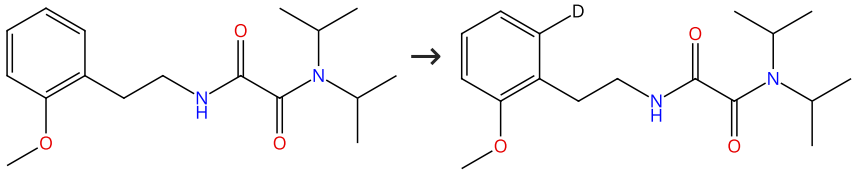
Nondirected Pd-Catalyzed C-H Perdeuteration and meta-Selective Alkenylation of Arenes Enabled by Pyrazolo pyridone Ligands

By: Yun, Seo Jin; et al

ACS Catalysis (2023), 13(7), 4042-4052.

Scheme 89 (3 Reactions)

Steps: **1** Yield: **90-92%**



31-116-CAS-6016527

Steps: **1** Yield: **92%**

1.1 **Reagents:** Acetic acid-*d*
Catalysts: Palladium diacetate
Solvents: Toluene; 30 h, 60 °C; 60 °C → rt

Experimental Protocols

Oxalyl Amide Assisted Palladium-Catalyzed Arylation of C(sp^2)-H Bond at the δ Position

By: Han, Jian; et al

Organic Letters (2014), 16(21), 5682-5685.

31-116-CAS-8997691

Steps: **1** Yield: **92%**

1.1 **Reagents:** Acetic acid-*d*
Catalysts: Palladium diacetate; 30 h, 60 °C; 60 °C → rt

Experimental Protocols

Easily accessible auxiliary for palladium-catalyzed intramo lecular amination of C(sp^2)-H and C(sp^3)-H bonds at δ- and ε-positions

By: Wang, Chao; et al

Angewandte Chemie, International Edition (2014), 53(37), 9884-9888.

31-116-CAS-15679108

Steps: **1** Yield: **90%**

1.1 **Reagents:** Acetic acid-*d*
Catalysts: Palladium diacetate
Solvents: Mesitylene; 24 h, 100 °C

Experimental Protocols

Highly regioselective meta arylation of oxalyl amide-protected β-arylethylamine via the Catellani reaction

By: Han, Jian; et al

Chemical Communications (Cambridge, United Kingdom) (2016), 52(42), 6903-6906.

Scheme 90 (1 Reaction)

Steps: **1** Yield: **92%**

31-116-CAS-20235122 Steps: **1** Yield: **92%**

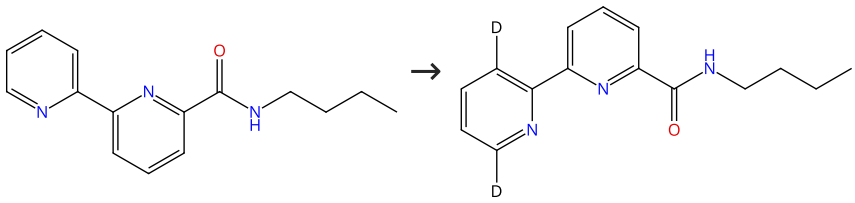
1.1 **Reagents:** Acetic acid-d_4
Catalysts: Palladium diacetate; 36 h, 110 °C

Palladium-Catalyzed Selective meta-C-H Deuteration of Arenes: Reaction Design and Applications

By: Bag, Sukdev; et al

Chemistry - A European Journal (2019), 25(40), 9433-9437.

Scheme 91 (1 Reaction) Steps: **1** Yield: **92%**



31-116-CAS-19081596 Steps: **1** Yield: **92%**

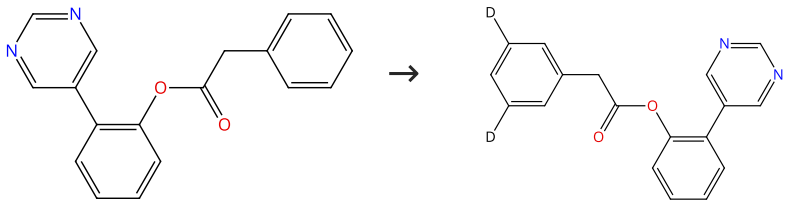
1.1 **Reagents:** Acetic acid-d_4
Catalysts: Palladium diacetate
Solvents: Mesitylene; 72 h, 160 °C

Palladium-Catalyzed Site-Selective C-H Arylation of 2,2'-Bipyridine-6-carboxamides via a Rollover Cyclometalation Pathway

By: Yu, Jia; et al

Organic Letters (2018), 20(16), 4732-4735.

Scheme 92 (1 Reaction) Steps: **1** Yield: **92%**



31-116-CAS-20235105 Steps: **1** Yield: **92%**

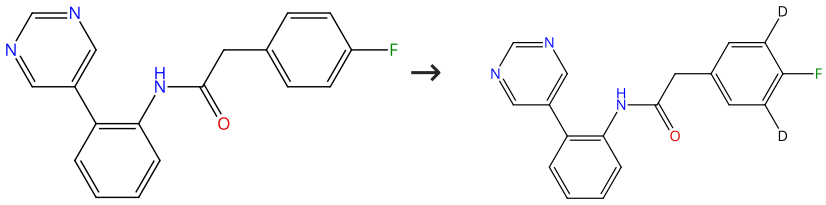
1.1 **Reagents:** Acetic acid-d_4
Catalysts: Palladium diacetate; 24 h, 110 °C

Palladium-Catalyzed Selective meta-C-H Deuteration of Arenes: Reaction Design and Applications

By: Bag, Sukdev; et al

Chemistry - A European Journal (2019), 25(40), 9433-9437.

Scheme 93 (1 Reaction) Steps: **1** Yield: **92%**



31-116-CAS-21932410 Steps: **1** Yield: **92%**

1.1 **Reagents:** Acetic acid-d_4
Catalysts: Acetylglycine, Palladium diacetate; 24 h, 110 °C

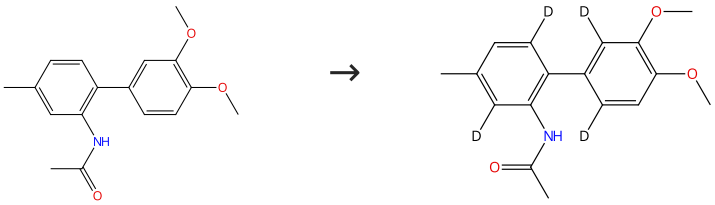
Experimental Protocols

Diverse meta-C-H Functionalization of Amides

By: Gholap, Aniket; et al

ACS Catalysis (2020), 10(9), 5347-5352.

Scheme 94 (1 Reaction) Steps: **1** Yield: **92%**



31-614-CAS-37395654 Steps: **1** Yield: **92%**

1.1 **Reagents:** Acetic acid-d_4, Oxygen
Catalysts: Palladium diacetate, Scandium triflate
Solvents: Dimethylformamide; 4 h, 100 °C

Experimental Protocols

Pd(II)/Lewis Acid Catalyzed Intramolecular Oxidative C-H Amination to Construct Carbazoles with Dioxygen

By: Jiang, Hongwu; et al

European Journal of Organic Chemistry (2023), 26(35), e202300598.

Scheme 95 (1 Reaction) Steps: **1** Yield: **92%**

Suppliers (53)

31-614-CAS-24115993 Steps: **1** Yield: **92%**

1.1 **Reagents:** Sodium acetate, Silver trifluoroacetate, Oxygen
Catalysts: Palladium diacetate, L-*tert*-Leucine
Solvents: 1,1,1,3,3,3-Hexafluoro-2-propanol, Acetic acid-d_4; 24 h, 70 °C

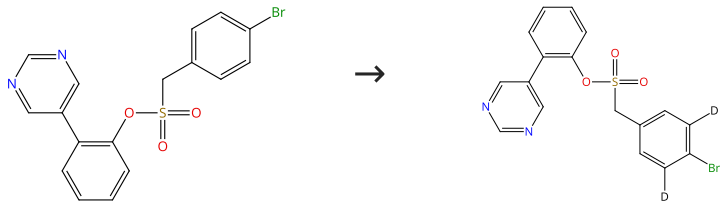
Experimental Protocols

Pd(II)-Catalyzed enantioconvergent twofold C-H annulation to access atropisomeric aldehydes: a platform for diversity-oriented-synthesis

By: Zhang, Jitan; et al

Organic Chemistry Frontiers (2021), 8(13), 3404-3412.

Scheme 96 (1 Reaction) Steps: **1** Yield: **91%**



31-116-CAS-20235116 Steps: **1** Yield: **91%**

1.1 **Reagents:** Acetic acid-d_4
Catalysts: Palladium diacetate; 72 h, 110 °C

Palladium-Catalyzed Selective meta-C-H Deuteration of Arenes: Reaction Design and Applications

By: Bag, Sukdev; et al

Chemistry - A European Journal (2019), 25(40), 9433-9437.

Scheme 97 (1 Reaction) Steps: **1** Yield: **91%**

31-116-CAS-20235121 Steps: **1** Yield: **91%**

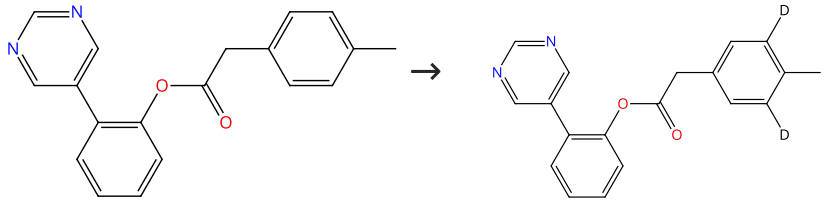
1.1 **Reagents:** Acetic acid-d_4
Catalysts: Palladium diacetate; 36 h, 110 °C

Palladium-Catalyzed Selective meta-C-H Deuteration of Arenes: Reaction Design and Applications

By: Bag, Sukdev; et al

Chemistry - A European Journal (2019), 25(40), 9433-9437.

Scheme 98 (1 Reaction) Steps: **1** Yield: **91%**



31-116-CAS-20235096 Steps: **1** Yield: **91%**

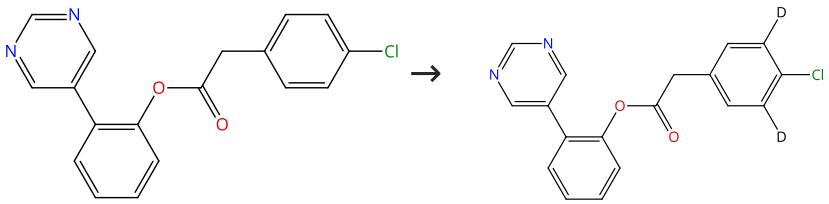
1.1 **Reagents:** Acetic acid-d_4
Catalysts: Palladium diacetate; 24 h, 110 °C

Palladium-Catalyzed Selective meta-C-H Deuteration of Arenes: Reaction Design and Applications

By: Bag, Sukdev; et al

Chemistry - A European Journal (2019), 25(40), 9433-9437.

Scheme 99 (1 Reaction) Steps: **1** Yield: **91%**



31-116-CAS-20235102 Steps: **1** Yield: **91%**

1.1 **Reagents:** Acetic acid-d_4
Catalysts: Palladium diacetate; 36 h, 110 °C

Palladium-Catalyzed Selective meta-C-H Deuteration of Arenes: Reaction Design and Applications

By: Bag, Sukdev; et al

Chemistry - A European Journal (2019), 25(40), 9433-9437.

Scheme 100 (1 Reaction) Steps: **1** Yield: **91%**

31-116-CAS-20235132 Steps: **1** Yield: **91%**

1.1 **Reagents:** Acetic acid-d_4
Catalysts: Palladium diacetate; 24 h, 110 °C

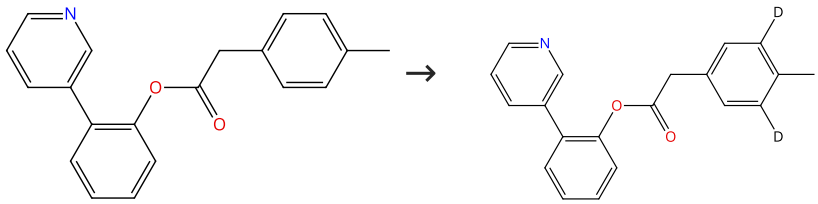
Palladium-Catalyzed Selective meta-C-H Deuteration of Arenes: Reaction Design and Applications

By: Bag, Sukdev; et al

Chemistry - A European Journal (2019), 25(40), 9433-9437.

Scheme 101 (1 Reaction)

Steps: **1** Yield: **91%**



31-116-CAS-20235139

Steps: **1** Yield: **91%**

1.1 **Reagents:** Acetic acid-d_4
Catalysts: Acetylglycine, Palladium diacetate; 24 h, 110 °C

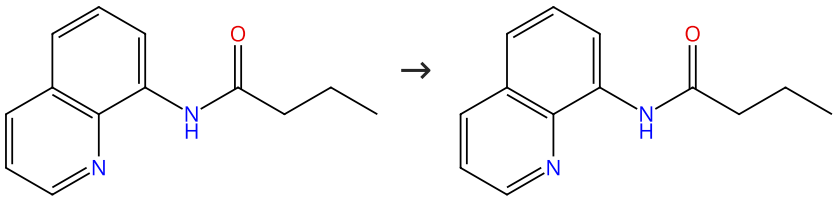
Palladium-Catalyzed Selective meta-C-H Deuteration of Arenes: Reaction Design and Applications

By: Bag, Sukdev; et al

Chemistry - A European Journal (2019), 25(40), 9433-9437.

Scheme 102 (1 Reaction)

Steps: **1** Yield: **91%**



Suppliers (5)

31-614-CAS-35849000

Steps: **1** Yield: **91%**

1.1 **Catalysts:** Palladium diacetate
Solvents: Acetic acid-d_4; 24 h, 90 °C

Experimental Protocols

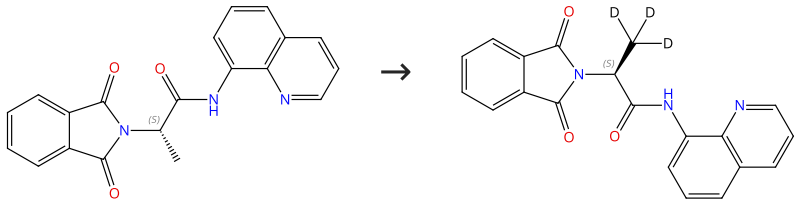
Pd(II)-catalyzed β- and γ-C-(sp^3)-H dienylation with allenyl acetates

By: Shukla, Rahul K.; et al

Chemical Science (2023), 14(4), 955-962.

Scheme 103 (4 Reactions)

Steps: **1** Yield: **72-91%**



Absolute stereochemistry shown, Rotation (+)

Absolute stereochemistry shown

Suppliers (4)

31-116-CAS-21672125

Steps: **1** Yield: **91%**

1.1 **Reagents:** Acetic acid-*d*
Catalysts: Palladium diacetate; 24 h, 90 °C

Experimental Protocols

Palladium-catalysed C(sp^3)-H glycosylation for the synthesis of C-alkyl glycoamino acids

By: Liu, Yichu; et al

Angewandte Chemie, International Edition (2020), 59(9), 3491-3494.

31-116-CAS-17576238 Steps: **1** Yield: **72%**

1.1 **Reagents:** Acetic acid-d_4
Catalysts: Palladium diacetate; 24 h, 90 °C

Palladium-catalyzed alkylation of unactivated C(sp^3)-H bonds with primary alkyl iodides at room temperature: facile synthesis of β-alkyl α-amino acids

By: Wang, B.; et al

Organic Chemistry Frontiers (2015), 2(10), 1318-1321.

31-116-CAS-8502811 Steps: **1** Yield: **72%**

1.1 **Reagents:** Acetic acid-d_4
Catalysts: Palladium diacetate; 24 h, 90 °C

Experimental Protocols

Palladium-catalyzed stereoretentive olefination of unactivated C(sp^3)-H bonds with vinyl iodides at room temperature: Synthesis of β-vinyl α-amino acids

By: Wang, Bo; et al

Organic Letters (2014), 16(23), 6260-6263.

31-116-CAS-16042533 Steps: **1** Yield: **72%**

1.1 **Reagents:** Acetic acid-*d*
Catalysts: Palladium diacetate; 24 h, 90 °C

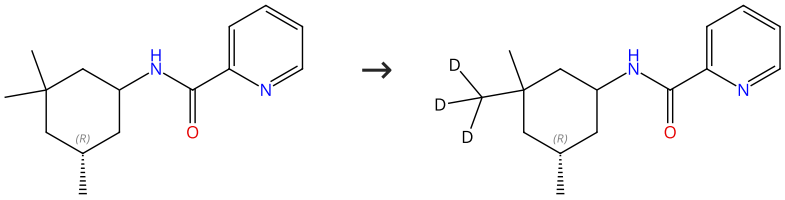
Experimental Protocols

Palladium-catalyzed trifluoroacetate-promoted mono-arylation of the β-methyl group of alanine at room temperature: synthesis of β-arylated α-amino acids through sequential C-H functionalization

By: Wang, Bo; et al

Chemical Science (2014), 5(10), 3952-3957.

Scheme 104 (1 Reaction) Steps: **1** Yield: **90%**



Absolute stereochemistry shown

Absolute stereochemistry shown

31-116-CAS-19982514 Steps: **1** Yield: **90%**

1.1 **Reagents:** Acetic acid-d_4, Sodium trifluoroacetate
Catalysts: Palladium dipivalate; 72 h, 130 °C

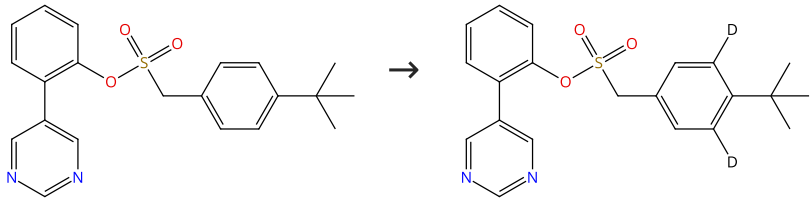
Experimental Protocols

Iterative Arylation of Amino Acids and Aliphatic Amines via δ-C(sp^3)-H Activation: Experimental and Computational Exploration

By: Guin, Srimanta; et al

Angewandte Chemie, International Edition (2019), 58(17), 5633-5638.

Scheme 105 (1 Reaction) Steps: **1** Yield: **90%**



31-116-CAS-20235118 Steps: **1** Yield: **90%**

1.1 **Reagents:** Acetic acid-d_4
Catalysts: Palladium diacetate; 48 h, 110 °C

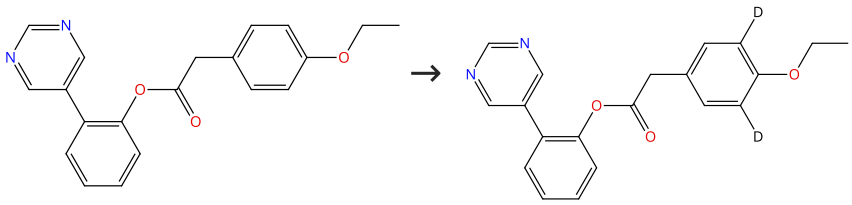
Palladium-Catalyzed Selective meta-C-H Deuteration of Arenes: Reaction Design and Applications

By: Bag, Sukdev; et al

Chemistry - A European Journal (2019), 25(40), 9433-9437.

Scheme 106 (1 Reaction)

Steps: **1** Yield: **90%**



31-116-CAS-20235098

Steps: **1** Yield: **90%**

1.1 **Reagents:** Acetic acid-d_4
Catalysts: Palladium diacetate; 24 h, 110 °C

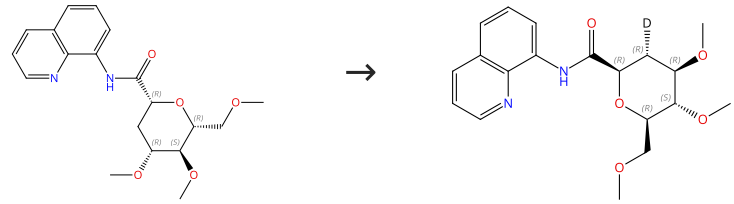
Palladium-Catalyzed Selective meta-C-H Deuteration of Arenes: Reaction Design and Applications

By: Bag, Sukdev; et al

Chemistry - A European Journal (2019), 25(40), 9433-9437.

Scheme 107 (1 Reaction)

Steps: **1** Yield: **90%**



Absolute stereochemistry shown

Absolute stereochemistry shown

31-614-CAS-33077070

Steps: **1** Yield: **90%**

1.1 **Catalysts:** Palladium diacetate
Solvents: Acetic acid-d_4; 24 h, 120 °C

Experimental Protocols

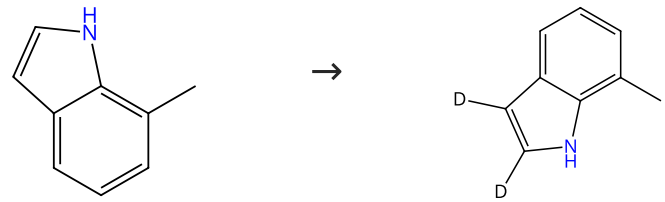
Synthesis of C-Oligosaccharides through Versatile C(sp^3)-H Glycosylation of Glycosides

By: Wu, Jun; et al

Angewandte Chemie, International Edition (2022), 61(11), e202114993.

Scheme 108 (1 Reaction)

Steps: **1** Yield: **90%**



Suppliers (94)

31-614-CAS-37227920

Steps: **1** Yield: **90%**

1.1 **Reagents:** Sodium acetate, Acetic acid-d_4
Catalysts: Palladium diacetate
Solvents: 1,4-Dioxane; 16 h, 120 °C

Programmable Deuteration of Indoles via Reverse Deuterium Exchange

By: Fitzgerald, Liam S.; et al

Journal of Organic Chemistry (2023), 88(15), 10772-10776.

Scheme 109 (1 Reaction)

Steps: **1** Yield: **89%**

Suppliers (100)

Suppliers (22)

31-614-CAS-40416785

Steps: **1** Yield: **89%**

1.1 **Reagents:** 1,1,1,3,3,3-Hexafluoro-2-propanol, Acetic acid-d_4
Catalysts: Palladium diacetate, 2(1*H*)-Pyridinone, 6-(3-methyl-1*H*-pyrazol-1-yl)-; 48 h, 120 °C

Experimental Protocols

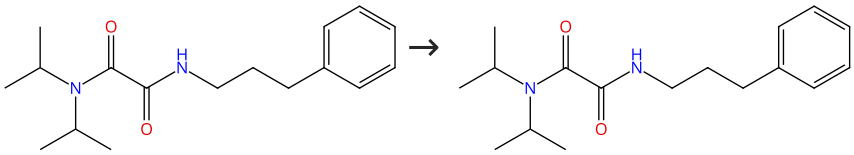
Nondirected Pd-Catalyzed C-H Perdeuteration and meta-Selective Alkenylation of Arenes Enabled by Pyrazolo pyridone Ligands

By: Yun, Seo Jin; et al

ACS Catalysis (2023), 13(7), 4042-4052.

Scheme 110 (1 Reaction)

Steps: **1** Yield: **89%**



31-614-CAS-30879489

Steps: **1** Yield: **89%**

1.1 **Reagents:** Acetic acid-*d*
Catalysts: Palladium diacetate; 24 h, 80 °C; 80 °C → rt

Experimental Protocols

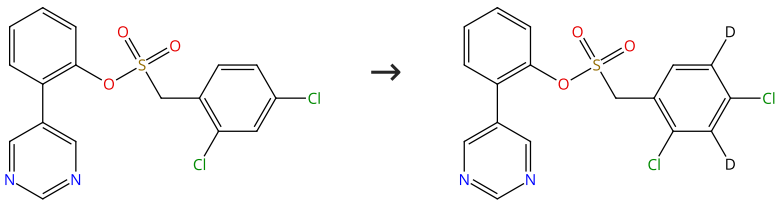
Easily accessible auxiliary for palladium-catalyzed intramo lecular amination of C(sp^2)-H and C(sp^3)-H bonds at δ- and ε-positions

By: Wang, Chao; et al

Angewandte Chemie, International Edition (2014), 53(37), 9884-9888.

Scheme 111 (1 Reaction)

Steps: **1** Yield: **89%**



31-116-CAS-20235126

Steps: **1** Yield: **89%**

1.1 **Reagents:** Acetic acid-d_4
Catalysts: Palladium diacetate; 48 h, 110 °C

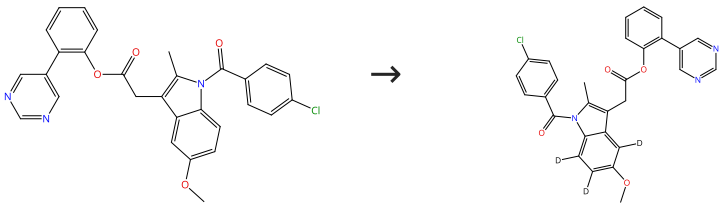
Palladium-Catalyzed Selective meta-C-H Deuteration of Arenes: Reaction Design and Applications

By: Bag, Sukdev; et al

Chemistry - A European Journal (2019), 25(40), 9433-9437.

Scheme 112 (1 Reaction)

Steps: **1** Yield: **89%**



31-116-CAS-20235131 Steps: **1** Yield: **89%**

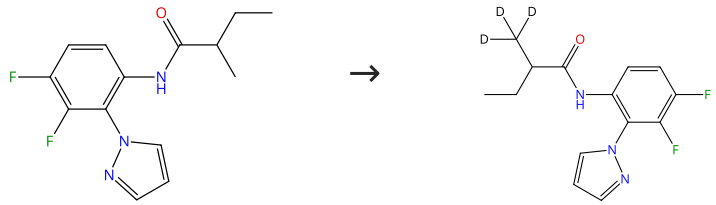
1.1 **Reagents:** Acetic acid-d_4
Catalysts: Palladium diacetate; 24 h, 110 °C

Palladium-Catalyzed Selective meta-C-H Deuteration of Arenes: Reaction Design and Applications

By: Bag, Sukdev; et al

Chemistry - A European Journal (2019), 25(40), 9433-9437.

Scheme 113 (1 Reaction) Steps: **1** Yield: **89%**



31-116-CAS-20562548 Steps: **1** Yield: **89%**

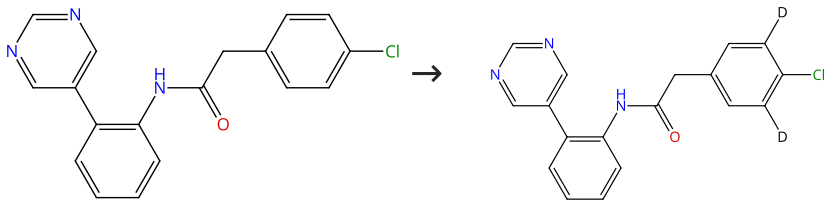
1.1 **Reagents:** Cupric acetate, Acetic acid-*d*, Silver phosphate
Catalysts: Palladium diacetate
Solvents: Dimethylformamide, *p*-Xylene; 1.5 h, 130 °C

2-Amino-5,6-difluorophenyl-1H-pyrazole-Directed Pd^{II} Catalysis: Arylation of Unactivated β-C(sp^3)-H Bonds

By: Yang, Jinyue; et al

Journal of Organic Chemistry (2019), 84(16), 10221-10236.

Scheme 114 (1 Reaction) Steps: **1** Yield: **89%**



31-116-CAS-21932411 Steps: **1** Yield: **89%**

1.1 **Reagents:** Acetic acid-d_4
Catalysts: Acetylglycine, Palladium diacetate; 24 h, 110 °C

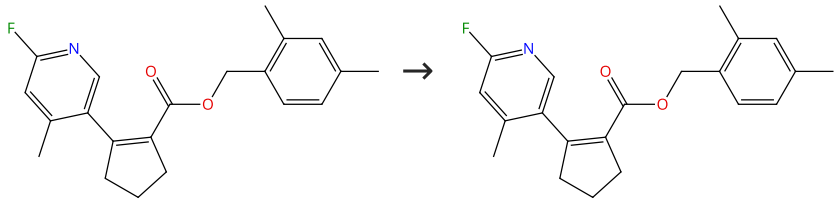
Experimental Protocols

Diverse meta-C-H Functionalization of Amides

By: Gholap, Aniket; et al

ACS Catalysis (2020), 10(9), 5347-5352.

Scheme 115 (1 Reaction) Steps: **1** Yield: **89%**



31-614-CAS-41423123 Steps: **1** Yield: **89%**

1.1 **Reagents:** Acetic acid-*d*
Catalysts: Palladium diacetate
Solvents: 1,2-Dichloroethane; 24 h, 80 °C

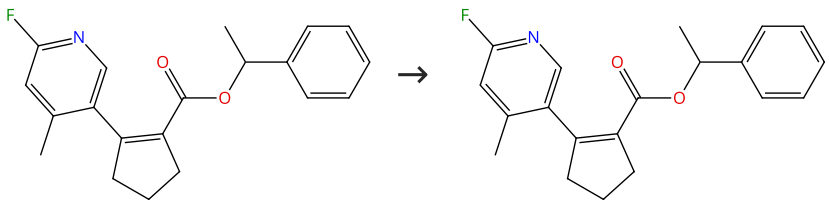
Experimental Protocols

Palladium-catalysed directed remote meta-C-H functionalization of arenes using a cyclopentenyl-pyridyl template

By: Huang, Jun; et al

New Journal of Chemistry (2024), 48(34), 15172-15178.

Scheme 116 (1 Reaction) Steps: **1** Yield: **89%**



31-614-CAS-41423127 Steps: **1** Yield: **89%**

1.1 **Reagents:** Acetic acid-*d*
Catalysts: Palladium diacetate
Solvents: 1,2-Dichloroethane; 24 h, 80 °C

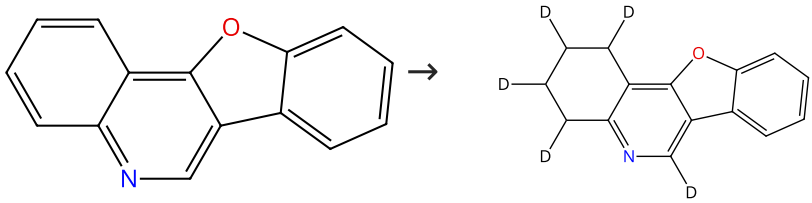
Experimental Protocols

Palladium-catalysed directed remote meta-C-H functiona lization of arenes using a cyclope ntenyl-pyridyl template

By: Huang, Jun; et al

New Journal of Chemistry (2024), 48(34), 15172-15178.

Scheme 117 (1 Reaction) Steps: **1** Yield: **89%**



Suppliers (2)

31-614-CAS-39390209 Steps: **1** Yield: **89%**

1.1 **Reagents:** Acetic acid-d_4, Deuterium
Catalysts: Palladium; 24 h, 80 °C

1.2 **Reagents:** Sodium bicarbonate; neutralized

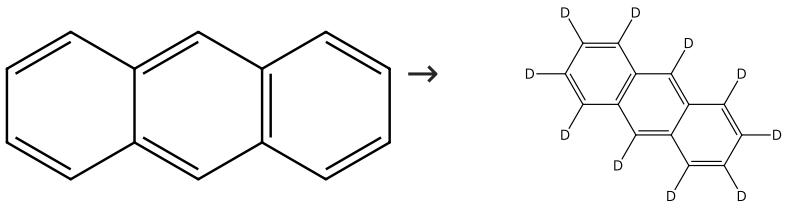
Experimental Protocols

Regioselective Partial Hydrogenation and Deuteration of Tetracyclic (Hetero)aromatic Systems Using a Simple Heterog eneous Catalyst

By: Kehoe, Roberta A.; et al

Chemistry - A European Journal (2024), 30(17), e202400102.

Scheme 118 (1 Reaction) Steps: **1** Yield: **88%**



Suppliers (121) Suppliers (59)

31-614-CAS-40416784 Steps: **1** Yield: **88%**

1.1 **Reagents:** 1,1,1,3,3,3-Hexafluoro-2-propanol, Acetic acid-d_4
Catalysts: Palladium diacetate, 2(1*H*)-Pyridinone, 6-(3-methyl-1*H*-pyrazol-1-yl)-; 48 h, 120 °C

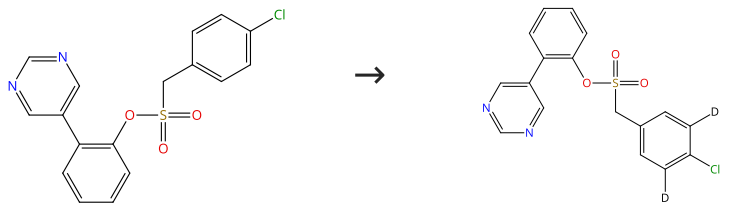
Experimental Protocols

Nondirected Pd-Catalyzed C-H Perdeuteration and meta-Selective Alkenylation of Arenes Enabled by Pyrazolo pyridone Ligands

By: Yun, Seo Jin; et al

ACS Catalysis (2023), 13(7), 4042-4052.

Scheme 119 (1 Reaction) Steps: **1** Yield: **88%**



31-116-CAS-20235115 Steps: **1** Yield: **88%**

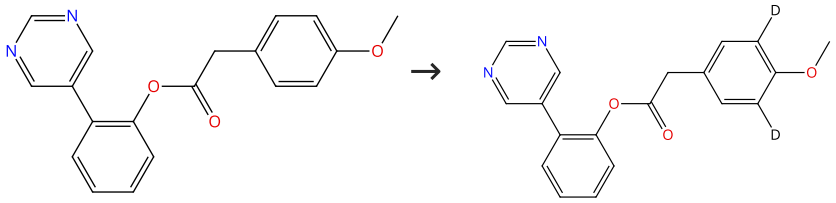
1.1 **Reagents:** Acetic acid-d_4
Catalysts: Palladium diacetate; 36 h, 110 °C

Palladium-Catalyzed Selective meta-C-H Deuteration of Arenes: Reaction Design and Applications

By: Bag, Sukdev; et al

Chemistry - A European Journal (2019), 25(40), 9433-9437.

Scheme 120 (1 Reaction) Steps: **1** Yield: **88%**



31-116-CAS-20235097 Steps: **1** Yield: **88%**

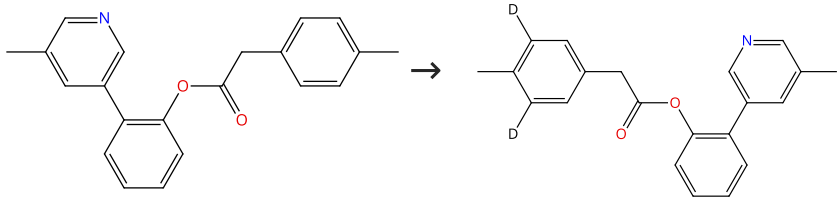
1.1 **Reagents:** Acetic acid-d_4
Catalysts: Palladium diacetate; 24 h, 110 °C

Palladium-Catalyzed Selective meta-C-H Deuteration of Arenes: Reaction Design and Applications

By: Bag, Sukdev; et al

Chemistry - A European Journal (2019), 25(40), 9433-9437.

Scheme 121 (1 Reaction) Steps: **1** Yield: **88%**



31-116-CAS-20235140 Steps: **1** Yield: **88%**

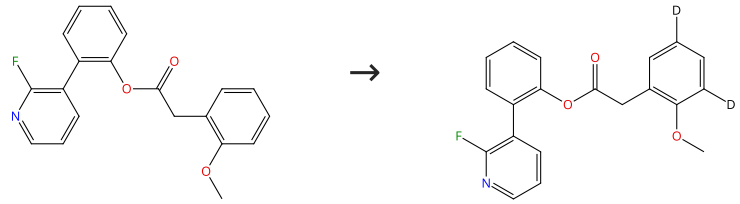
1.1 **Reagents:** Acetic acid-d_4
Catalysts: Acetylglycine, Palladium diacetate; 24 h, 110 °C

Palladium-Catalyzed Selective meta-C-H Deuteration of Arenes: Reaction Design and Applications

By: Bag, Sukdev; et al

Chemistry - A European Journal (2019), 25(40), 9433-9437.

Scheme 122 (1 Reaction) Steps: **1** Yield: **88%**



31-116-CAS-20396557 Steps: **1** Yield: **88%**

1.1 **Catalysts:** Palladium diacetate
Solvents: Acetic acid-d_4; 2 h, 80 °C

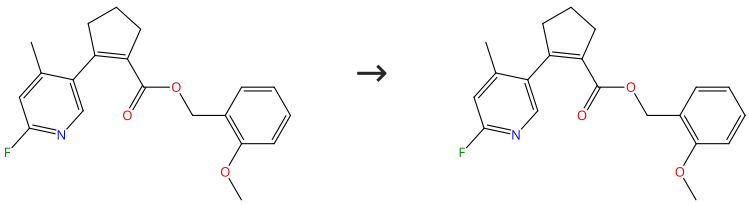
Palladium-Catalyzed Remote meta-C-H Bond Deuteration of Arenes Using a Pyridine Template

By: Xu, Hui; et al

Organic Letters (2019), 21(12), 4887-4891.

Scheme 123 (1 Reaction)

Steps: **1** Yield: **88%**



31-614-CAS-41423121

Steps: **1** Yield: **88%**

1.1 **Reagents:** Acetic acid-*d*
Catalysts: Palladium diacetate
Solvents: 1,2-Dichloroethane; 24 h, 80 °C

Experimental Protocols

Palladium-catalysed directed remote meta-C-H functionalization of arenes using a cyclopentenyl-pyridyl template

By: Huang, Jun; et al

New Journal of Chemistry (2024), 48(34), 15172-15178.

Scheme 124 (1 Reaction)

Steps: **1** Yield: **88%**

Suppliers (87)

Supplier (1)

31-116-CAS-7646392

Steps: **1** Yield: **88%**

1.1 **Reagents:** Deuterium
Catalysts: Palladium
Solvents: Acetic acid-*d*

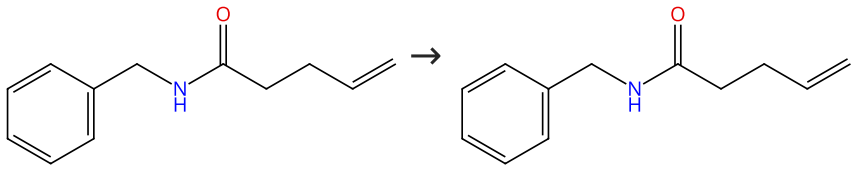
A selective method for deuterium exchange in hydroaromatic compounds

By: Ofosu-Asante, K.; et al

Journal of Organic Chemistry (1986), 51(26), 5452-4.

Scheme 125 (1 Reaction)

Steps: **1** Yield: **88%**



Suppliers (5)

31-614-CAS-40895949

Steps: **1** Yield: **88%**

1.1 **Reagents:** Acetic acid-d_4, Dipotassium phosphate
Catalysts: Palladium diacetate, 2-(4,5-Dihydro-4,4-dimethyl-2-oxazolyl)-6-methylpyridine
Solvents: Tetrahydrofuran; 1 h, 60 °C

Experimental Protocols

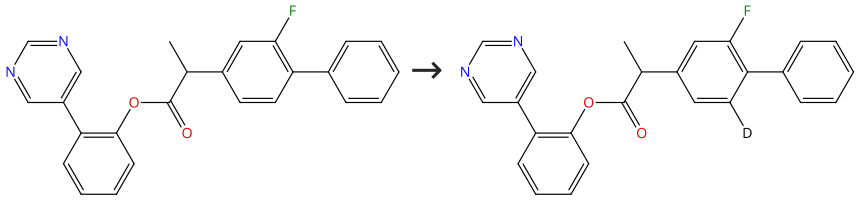
Palladium-catalyzed site-selective functionalization of unactivated alkenes with vinylcyclopropanes aided by weakly coordinating native amides

By: Keerthana, Meledath Sudhakaran; et al

Chemical Communications (Cambridge, United Kingdom) (2024), 60(57), 7347-7350.

Scheme 126 (1 Reaction)

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



31-116-CAS-20235133

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

1.1 **Reagents:** Acetic acid-d_4
Catalysts: Palladium diacetate; 24 h, 110 °C

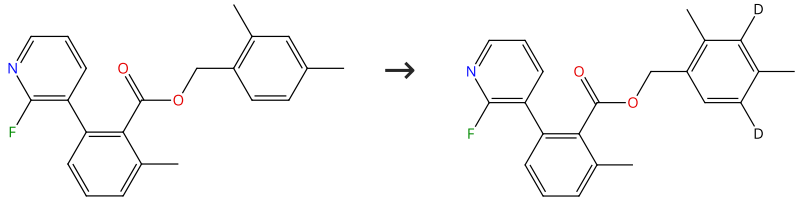
Palladium-Catalyzed Selective meta-C-H Deuteration of Arenes: Reaction Design and Applications

By: Bag, Sukdev; et al

Chemistry - A European Journal (2019), 25(40), 9433-9437.

Scheme 127 (1 Reaction)

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



31-116-CAS-20396584

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

1.1 **Reagents:** Acetic acid-d_4
Catalysts: Palladium diacetate
Solvents: 1,2-Dichloroethane; 24 h, 90 °C

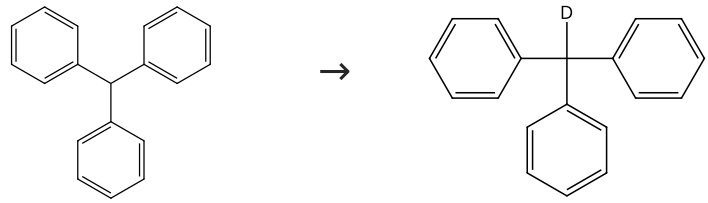
Palladium-Catalyzed Remote meta-C-H Bond Deuteration of Arenes Using a Pyridine Template

By: Xu, Hui; et al

Organic Letters (2019), 21(12), 4887-4891.

Scheme 128 (1 Reaction)

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



Suppliers (85)

Suppliers (2)

31-116-CAS-5486131

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

1.1 **Reagents:** Deuterium
Catalysts: Palladium
Solvents: Acetic acid-*d*

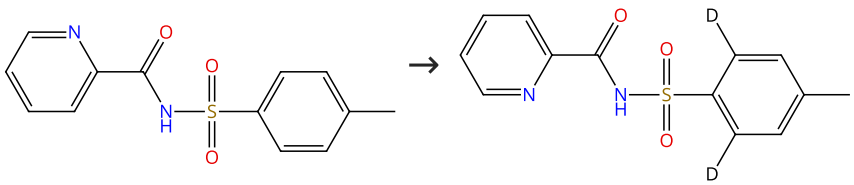
A selective method for deuterium exchange in hydroar omatic compounds

By: Ofosu-Asante, K.; et al

Journal of Organic Chemistry (1986), 51(26), 5452-4.

Scheme 129 (1 Reaction)

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



Suppliers (5)

31-116-CAS-19314705 Steps: **1** Yield: **87%**

1.1 **Reagents:** Sodium acetate
Catalysts: Palladium diacetate
Solvents: Acetic acid-*d*; 18 h, rt → 120 °C

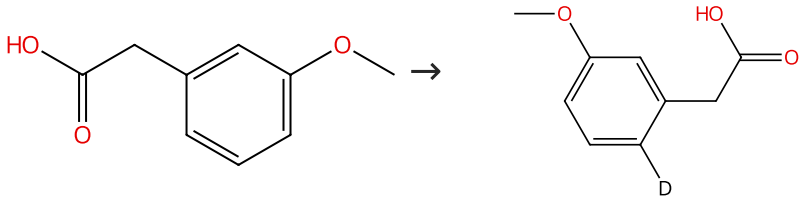
Experimental Protocols

Palladium-catalyzed site-selective hydrogen isotope exchange (HIE) reaction of arylsulfonamides using amino acid auxiliary

By: Liu, Wei; et al

Tetrahedron (2018), 74(30), 4111-4118.

Scheme 130 (1 Reaction) Steps: **1** Yield: **86%**



Suppliers (108)

31-116-CAS-13508273 Steps: **1** Yield: **86%**

1.1 **Reagents:** Sodium carbonate, Acetic acid-d_4
Catalysts: Palladium diacetate
Solvents: Acetic acid-d_4; 12 h, 120 °C

1.2 **Reagents:** Sodium hydroxide
Solvents: Dichloromethane, Water; 12 h, 120 °C

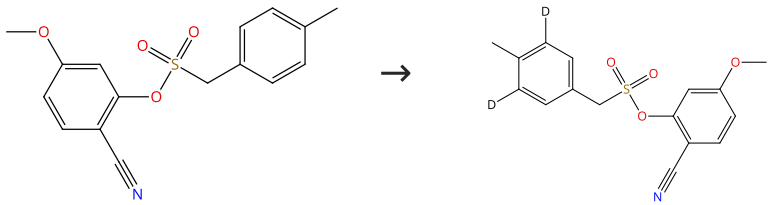
Experimental Protocols

Palladium-Catalyzed ortho-Selective C-H Deuteration of Arenes: Evidence for Superior Reactivity of Weakly Coordi nated Palladacycles

By: Ma, Sandy; et al

Angewandte Chemie, International Edition (2014), 53(3), 734-737.

Scheme 131 (1 Reaction) Steps: **1** Yield: **86%**



31-116-CAS-20235185 Steps: **1** Yield: **86%**

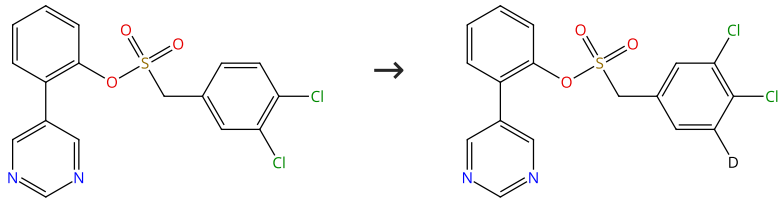
1.1 **Reagents:** Acetic acid-d_4
Catalysts: Acetylglycine, Palladium diacetate; 24 h, 110 °C

Palladium-Catalyzed Selective meta-C-H Deuteration of Arenes: Reaction Design and Applications

By: Bag, Sukdev; et al

Chemistry - A European Journal (2019), 25(40), 9433-9437.

Scheme 132 (1 Reaction) Steps: **1** Yield: **86%**



31-116-CAS-20235127 Steps: **1** Yield: **86%**

1.1 **Reagents:** Acetic acid-d_4
Catalysts: Palladium diacetate; 48 h, 110 °C

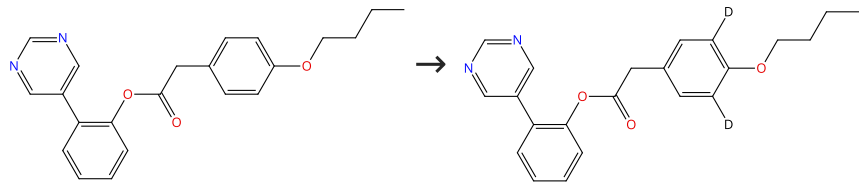
Palladium-Catalyzed Selective meta-C-H Deuteration of Arenes: Reaction Design and Applications

By: Bag, Sukdev; et al

Chemistry - A European Journal (2019), 25(40), 9433-9437.

Scheme 133 (1 Reaction)

Steps: **1** Yield: **86%**



31-116-CAS-20235099

Steps: **1** Yield: **86%**

1.1 **Reagents:** Acetic acid-d_4
Catalysts: Palladium diacetate; 24 h, 110 °C

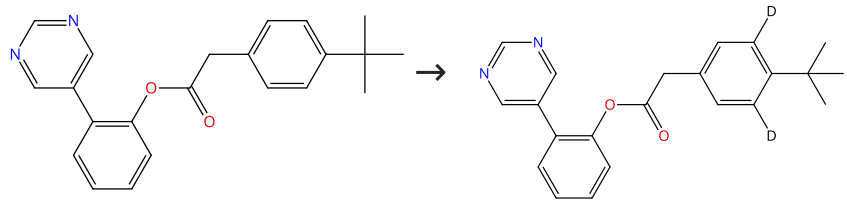
Palladium-Catalyzed Selective meta-C-H Deuteration of Arenes: Reaction Design and Applications

By: Bag, Sukdev; et al

Chemistry - A European Journal (2019), 25(40), 9433-9437.

Scheme 134 (1 Reaction)

Steps: **1** Yield: **86%**



31-116-CAS-20235104

Steps: **1** Yield: **86%**

1.1 **Reagents:** Acetic acid-d_4
Catalysts: Palladium diacetate; 48 h, 110 °C

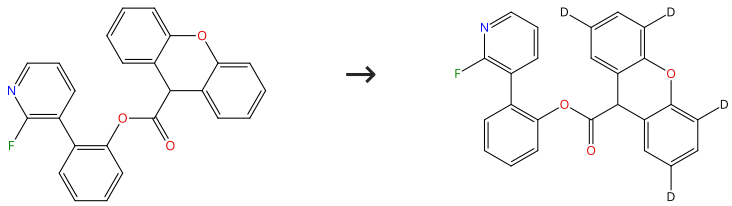
Palladium-Catalyzed Selective meta-C-H Deuteration of Arenes: Reaction Design and Applications

By: Bag, Sukdev; et al

Chemistry - A European Journal (2019), 25(40), 9433-9437.

Scheme 135 (1 Reaction)

Steps: **1** Yield: **86%**



31-116-CAS-20396559

Steps: **1** Yield: **86%**

1.1 **Catalysts:** Palladium diacetate
Solvents: Acetic acid-d_4; 3 h, 80 °C

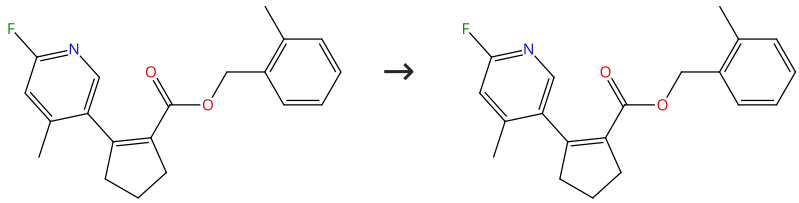
Palladium-Catalyzed Remote meta-C-H Bond Deuteration of Arenes Using a Pyridine Template

By: Xu, Hui; et al

Organic Letters (2019), 21(12), 4887-4891.

Scheme 136 (1 Reaction)

Steps: **1** Yield: **86%**



31-614-CAS-41423124 Steps: **1** Yield: **86%**

1.1 **Reagents:** Acetic acid-*d*
Catalysts: Palladium diacetate
Solvents: 1,2-Dichloroethane; 24 h, 80 °C

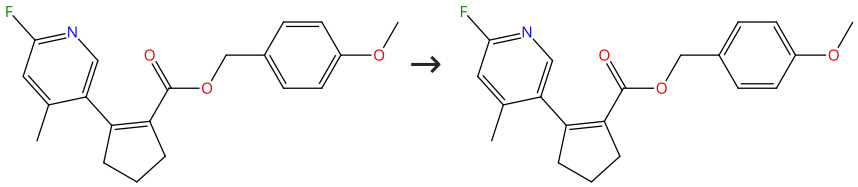
Experimental Protocols

Palladium-catalysed directed remote meta-C-H functiona lization of arenes using a cyclope ntenyl-pyridyl template

By: Huang, Jun; et al

New Journal of Chemistry (2024), 48(34), 15172-15178.

Scheme 137 (1 Reaction) Steps: **1** Yield: **86%**



31-614-CAS-41423130 Steps: **1** Yield: **86%**

1.1 **Reagents:** Acetic acid-*d*
Catalysts: Palladium diacetate
Solvents: 1,2-Dichloroethane; 24 h, 80 °C

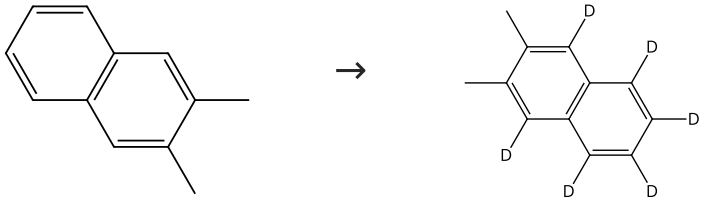
Experimental Protocols

Palladium-catalysed directed remote meta-C-H functiona lization of arenes using a cyclope ntenyl-pyridyl template

By: Huang, Jun; et al

New Journal of Chemistry (2024), 48(34), 15172-15178.

Scheme 138 (1 Reaction) Steps: **1** Yield: **86%**



Suppliers (64)

31-614-CAS-40416778 Steps: **1** Yield: **86%**

1.1 **Reagents:** 1,1,1,3,3,3-Hexafluoro-2-propanol, Acetic acid-d_4
Catalysts: Palladium diacetate, 2(1*H*)-Pyridinone, 6-(3-methyl-1*H*-pyrazol-1-yl)-; 48 h, 120 °C

Experimental Protocols

Nondirected Pd-Catalyzed C-H Perdeuteration and meta-Selective Alkenylation of Arenes Enabled by Pyrazolo pyridone Ligands

By: Yun, Seo Jin; et al

ACS Catalysis (2023), 13(7), 4042-4052.

Scheme 139 (1 Reaction) Steps: **1** Yield: **86%**

Suppliers (93)

31-116-CAS-4969471 Steps: **1** Yield: **86%**

1.1 **Reagents:** Sodium carbonate, Acetic acid-d_4
Catalysts: Palladium diacetate
Solvents: Acetic acid-d_4; 12 h, 120 °C

1.2 **Reagents:** Sodium hydroxide
Solvents: Dichloromethane, Water; 12 h, 120 °C

Experimental Protocols

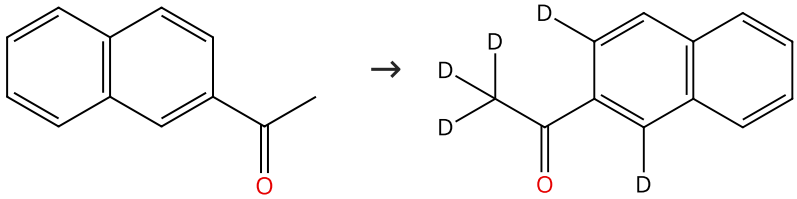
Palladium-Catalyzed ortho-Selective C-H Deuteration of Arenes: Evidence for Superior Reactivity of Weakly Coordi nated Palladacycles

By: Ma, Sandy; et al

Angewandte Chemie, International Edition (2014), 53(3), 734-737.

Scheme 140 (1 Reaction)

Steps: **1** Yield: **86%**



Suppliers (96)

31-116-CAS-5309101

Steps: **1** Yield: **86%**

1.1 **Reagents:** Trifluoroacetic acid-*d*
Catalysts: Silver trifluoroacetate, Palladium, chloro[2,3-dihydro-*N*-[2-(methoxy-κ*O*)ethyl]-3-methyl-1*H*-benzimidazole-1-acetamidato(3-)-κC^{2},κN^{N1}]-, (*SP*-4-3)-; 16 h, rt → 110 °C

Experimental Protocols

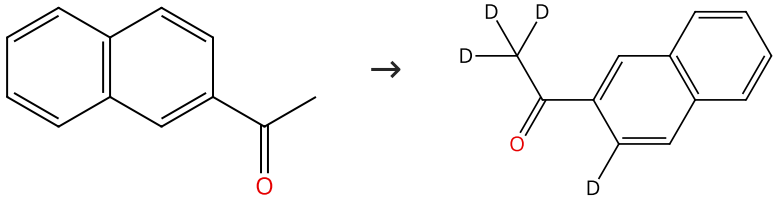
H-D exchange in deuterated trifluoroacetic acid via ligand-directed NHC-palladium catalysis: a powerful method for deuteration of aromatic ketones, amides, and amino acids

By: Giles, Richard; et al

Tetrahedron Letters (2015), 56(45), 6231-6235.

Scheme 141 (1 Reaction)

Steps: **1** Yield: **86%**



Suppliers (96)

31-116-CAS-9419153

Steps: **1** Yield: **86%**

1.1 **Reagents:** Trifluoroacetic acid-*d*
Catalysts: Silver trifluoroacetate, Palladium, chloro[2,3-dihydro-*N*-[2-(methoxy-κ*O*)ethyl]-3-methyl-1*H*-benzimidazole-1-acetamidato(3-)-κC^{2},κN^{N1}]-, (*SP*-4-3)-; 16 h, rt → 110 °C

Experimental Protocols

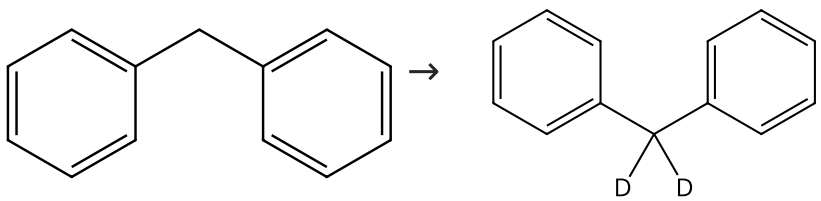
H-D exchange in deuterated trifluoroacetic acid via ligand-directed NHC-palladium catalysis: a powerful method for deuteration of aromatic ketones, amides, and amino acids

By: Giles, Richard; et al

Tetrahedron Letters (2015), 56(45), 6231-6235.

Scheme 142 (1 Reaction)

Steps: **1** Yield: **85%**



Suppliers (88)

Suppliers (4)

31-116-CAS-9493526

Steps: **1** Yield: **85%**

1.1 **Reagents:** Deuterium
Catalysts: Palladium
Solvents: Acetic acid-*d*

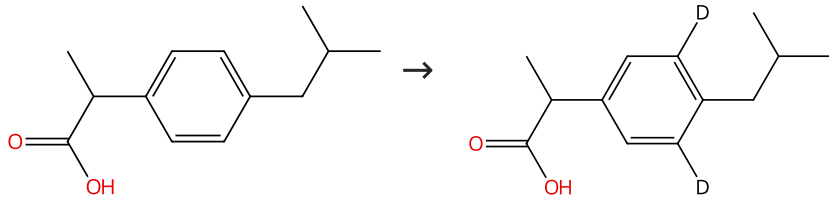
A selective method for deuterium exchange in hydroar omatic compounds

By: Ofosu-Asante, K.; et al

Journal of Organic Chemistry (1986), 51(26), 5452-4.

Scheme 143 (1 Reaction)

Steps: **1** Yield: **85%**



Suppliers (156)

31-614-CAS-40416796

Steps: **1** Yield: **85%**

1.1 **Reagents:** 1,1,1,3,3,3-Hexafluoro-2-propanol, Acetic acid-d_4
Catalysts: Palladium diacetate, 2(1*H*)-Pyridinone, 6-(3-methyl-1*H*-pyrazol-1-yl)-; 48 h, 120 °C

Experimental Protocols

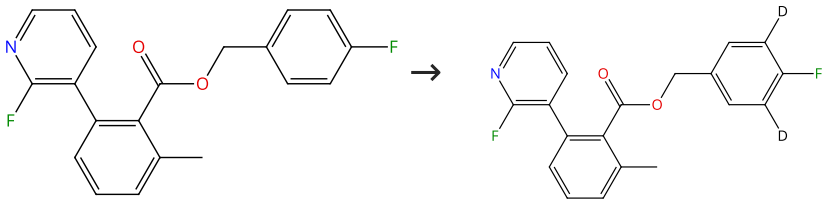
Nondirected Pd-Catalyzed C-H Perdeuteration and meta-Selective Alkenylation of Arenes Enabled by Pyrazolo pyridone Ligands

By: Yun, Seo Jin; et al

ACS Catalysis (2023), 13(7), 4042-4052.

Scheme 144 (1 Reaction)

Steps: **1** Yield: **85%**



31-116-CAS-20396582

Steps: **1** Yield: **85%**

1.1 **Reagents:** Acetic acid-d_4
Catalysts: Palladium diacetate
Solvents: 1,2-Dichloroethane; 24 h, 90 °C

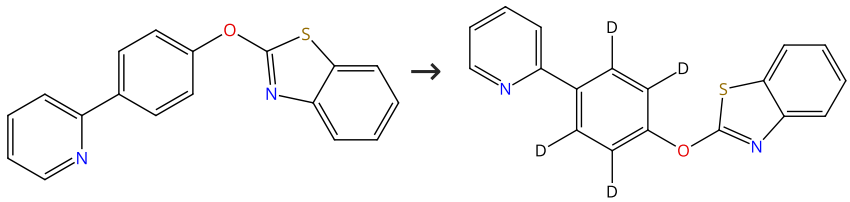
Palladium-Catalyzed Remote meta-C-H Bond Deuteration of Arenes Using a Pyridine Template

By: Xu, Hui; et al

Organic Letters (2019), 21(12), 4887-4891.

Scheme 145 (1 Reaction)

Steps: **1** Yield: **85%**



Supplier (1)

31-116-CAS-18611004

Steps: **1** Yield: **85%**

1.1 **Catalysts:** Palladium diacetate
Solvents: Trifluoroacetic acid-*d*; 24 h, 120 °C

Experimental Protocols

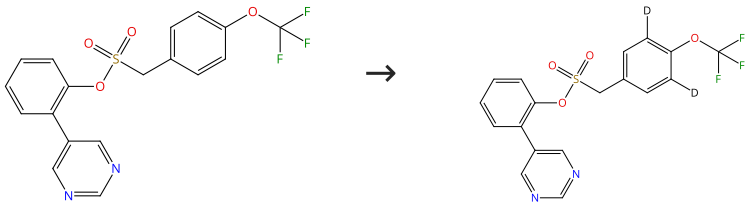
Palladium-Catalyzed Regioselective C-H Functionalization of Arenes Substituted by Two N-Heterocycles and Application in Late-Stage Functionalization

By: Yin, Da-Wei; et al

Journal of Organic Chemistry (2018), 83(7), 3987-4001.

Scheme 146 (1 Reaction)

Steps: **1** Yield: **85%**



31-116-CAS-20235117

Steps: **1** Yield: **85%**

1.1 **Reagents:** Acetic acid-d_4
Catalysts: Palladium diacetate; 48 h, 110 °C

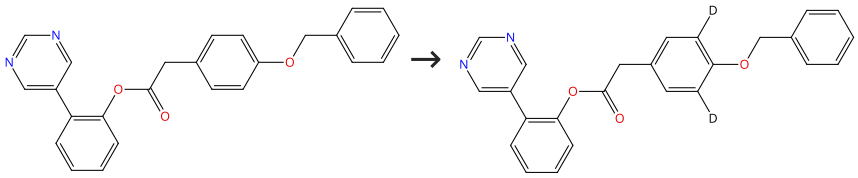
Palladium-Catalyzed Selective meta-C-H Deuteration of Arenes: Reaction Design and Applications

By: Bag, Sukdev; et al

Chemistry - A European Journal (2019), 25(40), 9433-9437.

Scheme 147 (1 Reaction)

Steps: **1** Yield: **85%**



31-116-CAS-20235100

Steps: **1** Yield: **85%**

1.1 **Reagents:** Acetic acid-d_4
Catalysts: Palladium diacetate; 24 h, 110 °C

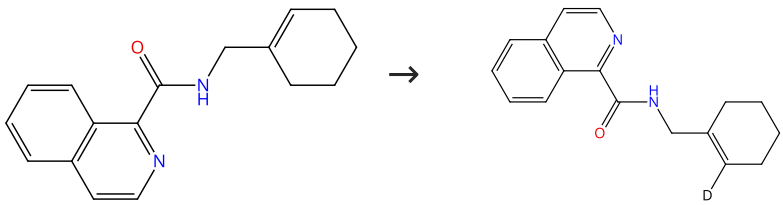
Palladium-Catalyzed Selective meta-C-H Deuteration of Arenes: Reaction Design and Applications

By: Bag, Sukdev; et al

Chemistry - A European Journal (2019), 25(40), 9433-9437.

Scheme 148 (1 Reaction)

Steps: **1** Yield: **85%**



31-614-CAS-24243464

Steps: **1** Yield: **85%**

1.1 **Reagents:** Acetic acid-d_4
Catalysts: Palladium diacetate; 4 h, 110 °C

Experimental Protocols

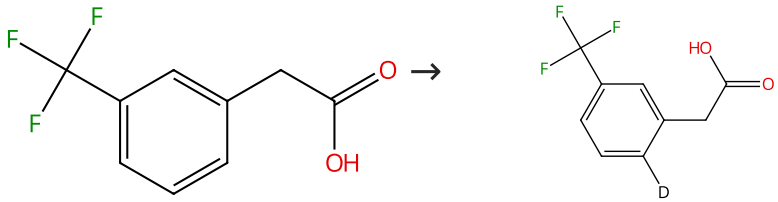
Stereoselective Synthesis of C-Vinyl Glycosides via Palladium-Catalyzed C-H Glycosylation of Alkenes

By: Sun, Qikai; et al

Angewandte Chemie, International Edition (2021), 60(36), 19620-19625.

Scheme 149 (1 Reaction)

Steps: **1** Yield: **85%**



Suppliers (92)

31-116-CAS-726512 Steps: **1** Yield: **85%**

1.1 **Reagents:** Sodium carbonate, Acetic acid-d_4
Catalysts: Palladium diacetate
Solvents: Acetic acid-d_4; 12 h, 120 °C

1.2 **Reagents:** Sodium hydroxide
Solvents: Dichloromethane, Water; 12 h, 120 °C

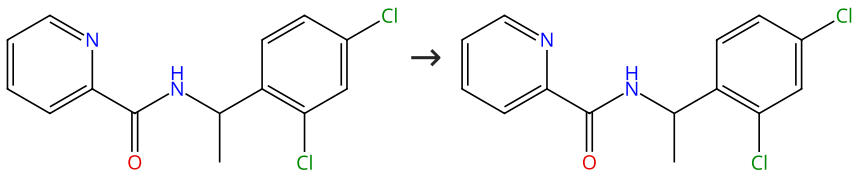
Experimental Protocols

Palladium-Catalyzed ortho-Selective C-H Deuteration of Arenes: Evidence for Superior Reactivity of Weakly Coordi nated Palladacycles

By: Ma, Sandy; et al

Angewandte Chemie, International Edition (2014), 53(3), 734-737.

Scheme 150 (1 Reaction) Steps: **1** Yield: **85%**



Suppliers (2)

31-614-CAS-27887663 Steps: **1** Yield: **85%**

1.1 **Reagents:** Acetic acid-d_4
Catalysts: Palladium diacetate
Solvents: Methanol-d_4; 36 h, 125 °C

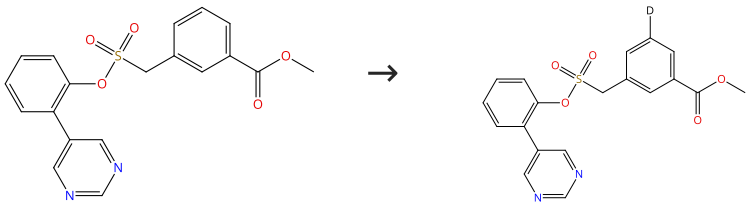
Experimental Protocols

Expedient Cobalt-Catalyzed C-H Alkynylation of (Enantiopure) Benzylamines

By: Landge, Vinod G.; et al

Organic Letters (2016), 18(20), 5252-5255.

Scheme 151 (1 Reaction) Steps: **1** Yield: **84%**



31-116-CAS-20235119 Steps: **1** Yield: **84%**

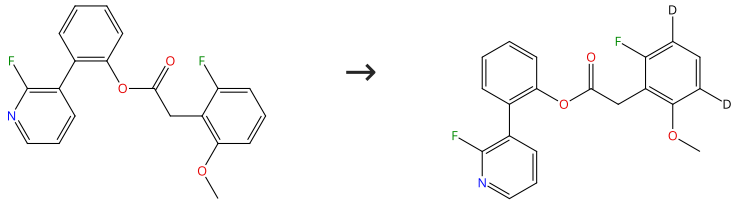
1.1 **Reagents:** Acetic acid-d_4
Catalysts: Palladium diacetate; 24 h, 110 °C

Palladium-Catalyzed Selective meta-C-H Deuteration of Arenes: Reaction Design and Applications

By: Bag, Sukdev; et al

Chemistry - A European Journal (2019), 25(40), 9433-9437.

Scheme 152 (1 Reaction) Steps: **1** Yield: **84%**



31-116-CAS-20396558 Steps: **1** Yield: **84%**

1.1 **Catalysts:** Palladium diacetate
Solvents: Acetic acid-d_4; 3 h, 80 °C

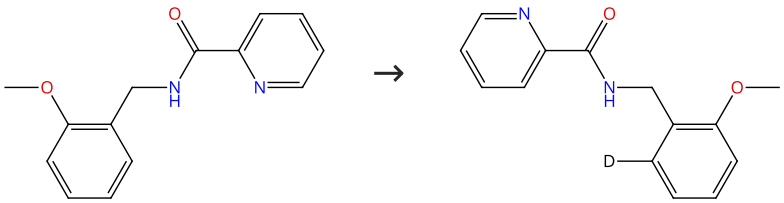
Palladium-Catalyzed Remote meta-C-H Bond Deuteration of Arenes Using a Pyridine Template

By: Xu, Hui; et al

Organic Letters (2019), 21(12), 4887-4891.

Scheme 153 (3 Reactions)

Steps: **1** Yield: **84%**



Suppliers (7)

31-116-CAS-4200251

Steps: **1** Yield: **84%**

1.1 **Reagents:** Acetic acid-*d*
Catalysts: Palladium diacetate
Solvents: *tert*-Butyl alcohol-*d*; 36 h, 125 °C

Experimental Protocols

Palladium-catalyzed alkenylation and alkynylation of ortho-C (sp^2)-H bonds of benzylamine picolinamides

By: Zhao, Yingsheng; et al

Organic Letters (2012), 14(12), 2948-2951.

31-116-CAS-6125153

Steps: **1** Yield: **84%**

1.1 **Reagents:** Acetic acid-*d*, *tert*-Butyl alcohol-*d*
Catalysts: Palladium diacetate
Solvents: *tert*-Butyl alcohol-*d*; 1 atm, rt; 36 h, 125 °C

Experimental Protocols

Palladium-Catalyzed Alkylation of ortho-C(sp2)-H Bonds of Benzylamide Substrates with Alkyl Halides

By: Zhao, Yingsheng; et al

Organic Letters (2011), 13(18), 4850-4853.

31-116-CAS-19801429

Steps: **1**

1.1 **Reagents:** Sodium acetate, Acetic acid-d_4
Catalysts: Palladium diacetate
Solvents: 1,2-Dichloroethane; 48 h, 120 °C

Experimental Protocols

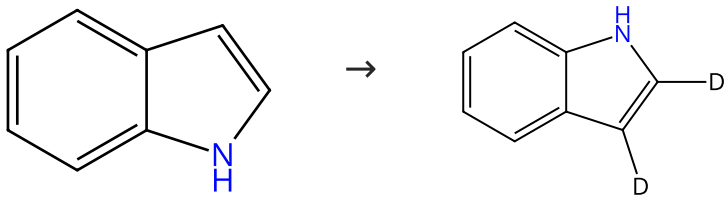
Pd(II)-Catalyzed Direct Sulfonylation of Benzylamines Using Sodium Sulfinates

By: Karmakar, Ujjwal; et al

Journal of Organic Chemistry (2019), 84(5), 2850-2861.

Scheme 154 (1 Reaction)

Steps: **1** Yield: **83%**



Suppliers (117)

Suppliers (4)

31-614-CAS-37227917

Steps: **1** Yield: **83%**

1.1 **Reagents:** Sodium acetate, Acetic acid-d_4
Catalysts: Palladium diacetate
Solvents: 1,4-Dioxane; 16 h, 120 °C

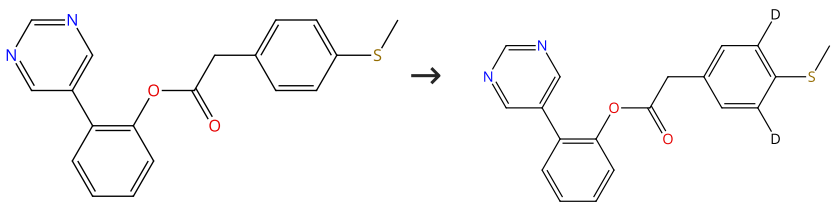
Programmable Deuteration of Indoles via Reverse Deuterium Exchange

By: Fitzgerald, Liam S.; et al

Journal of Organic Chemistry (2023), 88(15), 10772-10776.

Scheme 155 (1 Reaction)

Steps: **1** Yield: **83%**



31-116-CAS-20235103 Steps: **1** Yield: **83%**

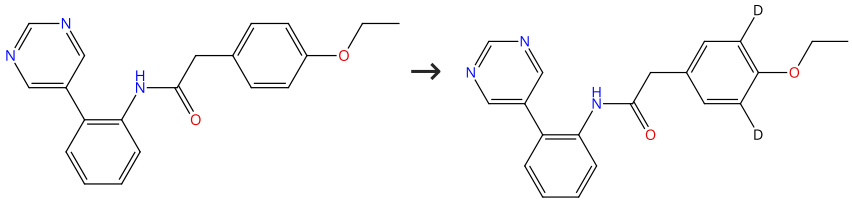
1.1 **Reagents:** Acetic acid-d_4
Catalysts: Palladium diacetate; 24 h, 110 °C

Palladium-Catalyzed Selective meta-C-H Deuteration of Arenes: Reaction Design and Applications

By: Bag, Sukdev; et al

Chemistry - A European Journal (2019), 25(40), 9433-9437.

Scheme 156 (1 Reaction) Steps: **1** Yield: **83%**



31-116-CAS-21932413 Steps: **1** Yield: **83%**

1.1 **Reagents:** Acetic acid-d_4
Catalysts: Acetylglycine, Palladium diacetate; 24 h, 110 °C

Experimental Protocols

Diverse meta-C-H Functionalization of Amides

By: Gholap, Aniket; et al

ACS Catalysis (2020), 10(9), 5347-5352.

Scheme 157 (1 Reaction) Steps: **1** Yield: **83%**

Suppliers (97)

31-116-CAS-2260460 Steps: **1** Yield: **83%**

1.1 **Reagents:** Sodium carbonate, Acetic acid-d_4
Catalysts: Palladium diacetate
Solvents: Acetic acid-d_4; 12 h, 120 °C

1.2 **Reagents:** Sodium hydroxide
Solvents: Dichloromethane, Water; 12 h, 120 °C

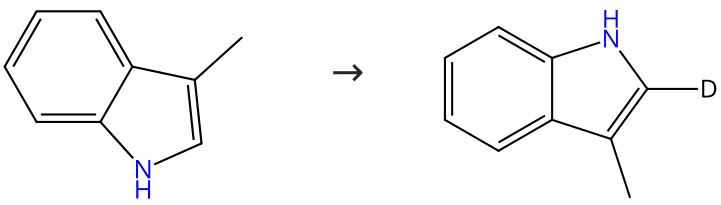
Experimental Protocols

Palladium-Catalyzed ortho-Selective C-H Deuteration of Arenes: Evidence for Superior Reactivity of Weakly Coordi nated Palladacycles

By: Ma, Sandy; et al

Angewandte Chemie, International Edition (2014), 53(3), 734-737.

Scheme 158 (1 Reaction) Steps: **1** Yield: **83%**



Suppliers (117) Supplier (1)

31-614-CAS-37227915 Steps: **1** Yield: **83%**

1.1 **Reagents:** Sodium acetate, Acetic acid-d_4
Catalysts: Palladium diacetate
Solvents: 1,4-Dioxane; 16 h, 120 °C

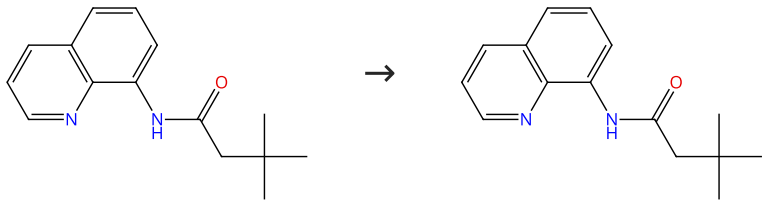
Programmable Deuteration of Indoles via Reverse Deuterium Exchange

By: Fitzgerald, Liam S.; et al

Journal of Organic Chemistry (2023), 88(15), 10772-10776.

Scheme 159 (2 Reactions)

Steps: **1** Yield: **52-82%**



Suppliers (3)

31-614-CAS-25270068

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

1.1 **Reagents:** Sodium carbonate, Acetic acid-*d*
Catalysts: Palladium diacetate; 48 h, 90 °C

Ligand-Enabled Pd^{II}-Catalyzed Iterative γ-C(sp3)-H Arylation of Free Aliphatic Acid

By: Dolui, Pravas; et al

Angewandte Chemie, International Edition (2019), 58(39), 13773-13777.

31-614-CAS-26319820

Steps: **1** Yield: **52%**

1.1 **Reagents:** Acetic acid-d_4
Catalysts: 2-Pyridone, Palladium diacetate
Solvents: 1,2-Dichloroethane; 24 h, 130 °C

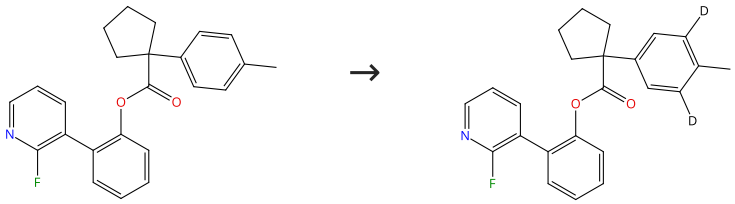
Remote γ-C(sp^3)-H Alkylation of Aliphatic Carboxamides via an Unexpected Regiodetermining Pd Migration Process: Reaction Development and Mechanistic Study

By: Li, Ya; et al

ACS Catalysis (2020), 10(15), 8212-8222.

Scheme 160 (1 Reaction)

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



31-116-CAS-20396571

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

1.1 **Catalysts:** Palladium diacetate
Solvents: Acetic acid-d_4; 24 h, 80 °C

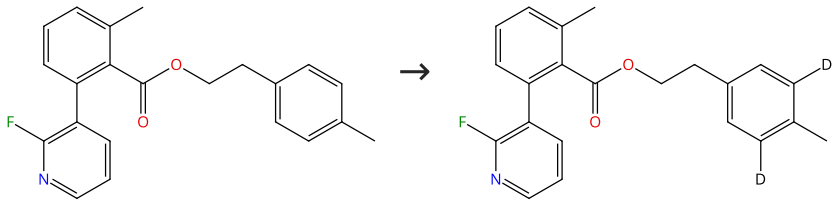
Palladium-Catalyzed Remote meta-C-H Bond Deuteration of Arenes Using a Pyridine Template

By: Xu, Hui; et al

Organic Letters (2019), 21(12), 4887-4891.

Scheme 161 (1 Reaction)

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



31-116-CAS-20396587

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

1.1 **Reagents:** Acetic acid-d_4
Catalysts: Palladium diacetate
Solvents: 1,2-Dichloroethane; 24 h, 80 °C

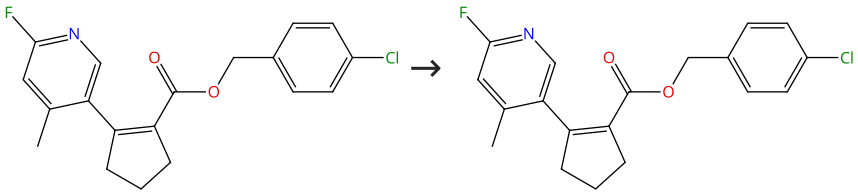
Palladium-Catalyzed Remote meta-C-H Bond Deuteration of Arenes Using a Pyridine Template

By: Xu, Hui; et al

Organic Letters (2019), 21(12), 4887-4891.

Scheme 162 (1 Reaction)

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



31-614-CAS-41423119

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

1.1 **Reagents:** Acetic acid-*d*
Catalysts: Palladium diacetate
Solvents: 1,2-Dichloroethane; 24 h, 80 °C

Experimental Protocols

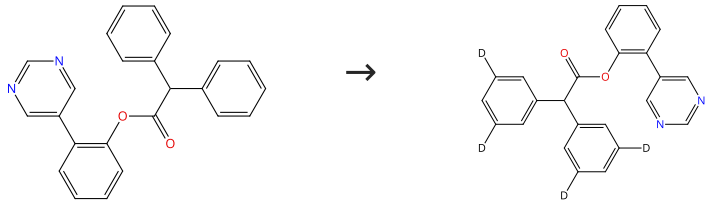
Palladium-catalysed directed remote meta-C-H functionalization of arenes using a cyclopentenyl-pyridyl template

By: Huang, Jun; et al

New Journal of Chemistry (2024), 48(34), 15172-15178.

Scheme 163 (1 Reaction)

Steps: **1** Yield: **81%**



31-116-CAS-20235107

Steps: **1** Yield: **81%**

1.1 **Reagents:** Acetic acid-d_4
Catalysts: Palladium diacetate; 24 h, 110 °C

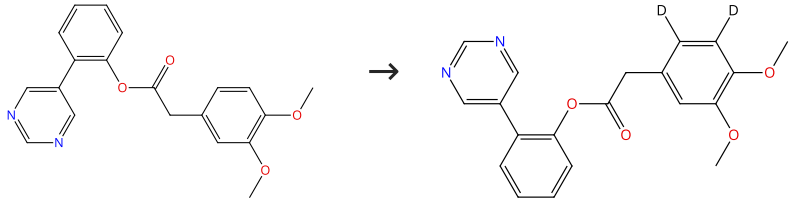
Palladium-Catalyzed Selective meta-C-H Deuteration of Arenes: Reaction Design and Applications

By: Bag, Sukdev; et al

Chemistry - A European Journal (2019), 25(40), 9433-9437.

Scheme 164 (1 Reaction)

Steps: **1** Yield: **81%**



31-116-CAS-20235130

Steps: **1** Yield: **81%**

1.1 **Reagents:** Acetic acid-d_4
Catalysts: Palladium diacetate; 24 h, 110 °C

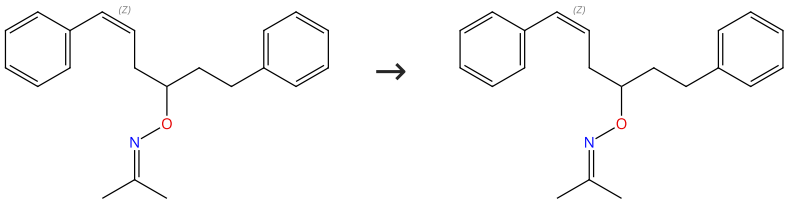
Palladium-Catalyzed Selective meta-C-H Deuteration of Arenes: Reaction Design and Applications

By: Bag, Sukdev; et al

Chemistry - A European Journal (2019), 25(40), 9433-9437.

Scheme 165 (1 Reaction)

Steps: **1** Yield: **81%**



Double bond geometry shown

Double bond geometry shown

31-614-CAS-25418694 Steps: **1** Yield: **81%**

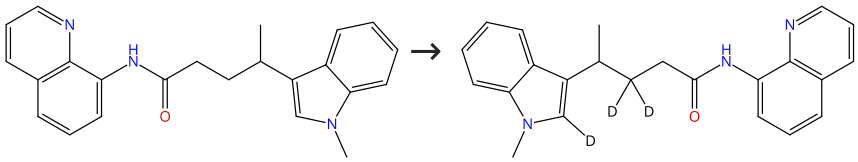
1.1 **Reagents:** Silver acetate, Acetic acid-d_4
Catalysts: Palladium diacetate, 3-(Trifluoromethyl)-2(1*H*)-pyridinone, 3a,4,7,7a-Tetrahydro-2-phenyl-4,7-methano-1*H*-isoindole-1,3(2*H*)-dione
Solvents: Chloroform; rt → 100 °C; 12 h, 100 °C

Distal Alkenyl C-H Functionalization via the Palladium/Norbornene Cooperative Catalysis

By: Wu, Zhao; et al

Journal of the American Chemical Society (2020), 142(6), 2715-2720.

Scheme 166 (1 Reaction) Steps: **1** Yield: **80%**



31-116-CAS-16215760 Steps: **1** Yield: **80%**

1.1 **Reagents:** Acetic acid-d_4
Catalysts: Palladium diacetate
Solvents: Acetic acid-d_4; 3 h, 120 °C

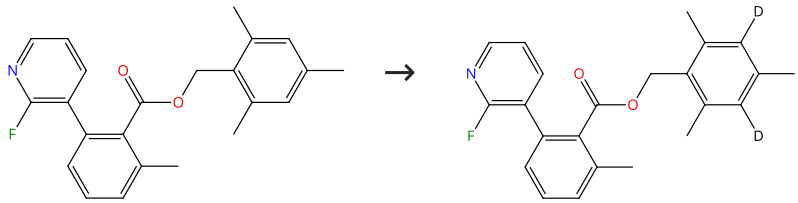
Experimental Protocols

Catalytic, Regioselective Hydrocarbofunctionalization of Unactivated Alkenes with Diverse C-H Nucleophiles

By: Yang, Kin S.; et al

Journal of the American Chemical Society (2016), 138(44), 14705-14712.

Scheme 167 (1 Reaction) Steps: **1** Yield: **80%**



31-116-CAS-20396585 Steps: **1** Yield: **80%**

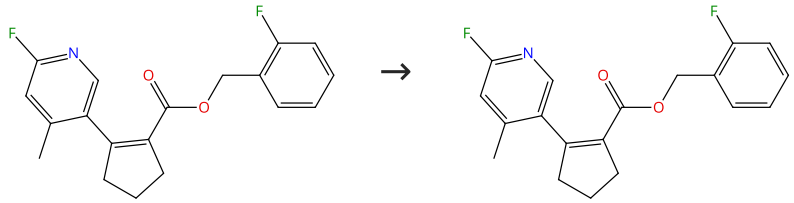
1.1 **Reagents:** Acetic acid-d_4
Catalysts: Palladium diacetate
Solvents: 1,2-Dichloroethane; 24 h, 90 °C

Palladium-Catalyzed Remote meta-C-H Bond Deuteration of Arenes Using a Pyridine Template

By: Xu, Hui; et al

Organic Letters (2019), 21(12), 4887-4891.

Scheme 168 (1 Reaction) Steps: **1** Yield: **79%**



31-614-CAS-41423118 Steps: **1** Yield: **79%**

1.1 **Reagents:** Acetic acid-*d*
Catalysts: Palladium diacetate
Solvents: 1,2-Dichloroethane; 24 h, 80 °C

Experimental Protocols

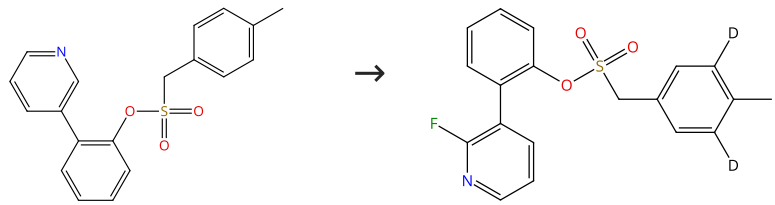
Palladium-catalysed directed remote meta-C-H functionalization of arenes using a cyclopentenyl-pyridyl template

By: Huang, Jun; et al

New Journal of Chemistry (2024), 48(34), 15172-15178.

Scheme 169 (1 Reaction)

Steps: **1** Yield: **78%**



31-084-CAS-20396579

Steps: **1** Yield: **78%**

1.1 **Reagents:** Acetic acid-d_4
Catalysts: Palladium diacetate; 24 h, 80 °C

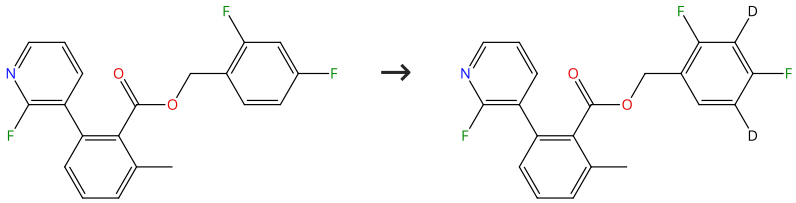
Palladium-Catalyzed Remote meta-C-H Bond Deuteration of Arenes Using a Pyridine Template

By: Xu, Hui; et al

Organic Letters (2019), 21(12), 4887-4891.

Scheme 170 (1 Reaction)

Steps: **1** Yield: **78%**



31-116-CAS-20396583

Steps: **1** Yield: **78%**

1.1 **Reagents:** Acetic acid-d_4
Catalysts: Palladium diacetate
Solvents: 1,2-Dichloroethane; 24 h, 90 °C

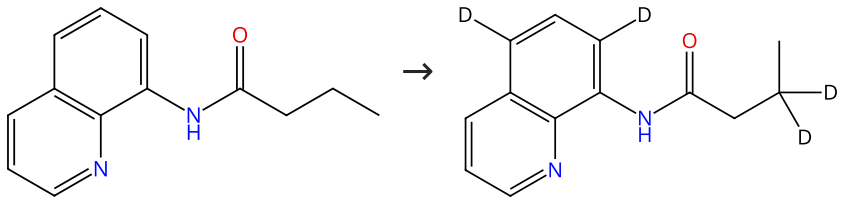
Palladium-Catalyzed Remote meta-C-H Bond Deuteration of Arenes Using a Pyridine Template

By: Xu, Hui; et al

Organic Letters (2019), 21(12), 4887-4891.

Scheme 171 (1 Reaction)

Steps: **1** Yield: **78%**



Suppliers (5)

31-116-CAS-19588550

Steps: **1** Yield: **78%**

1.1 **Reagents:** Acetic acid-d_4
Catalysts: Palladium diacetate; 24 h, 90 °C

Experimental Protocols

Transition Metal-Controlled Direct Regioselective Intermo lecular Amidation of C-H Bonds with Azodicarboxylates: Scope, Mechanistic Studies, and Applications

By: Bai, He-Yuan; et al

Advanced Synthesis & Catalysis (2018), 360(21), 4205-4214.

Scheme 172 (2 Reactions)

Steps: **1** Yield: **77%**

Suppliers (72)

31-614-CAS-40416804 Steps: **1** Yield: **77%**

1.1 **Reagents:** 1,1,1,3,3,3-Hexafluoro-2-propanol, Acetic acid-d_4
Catalysts: Palladium diacetate, 2(1*H*)-Pyridinone, 6-(3-methyl-1*H*-pyrazol-1-yl)-; 48 h, 120 °C

Experimental Protocols

Nondirected Pd-Catalyzed C-H Perdeuteration and meta-Selective Alkenylation of Arenes Enabled by Pyrazolo pyridone Ligands

By: Yun, Seo Jin; et al

ACS Catalysis (2023), 13(7), 4042-4052.

31-614-CAS-34891712 Steps: **1**

1.1 **Reagents:** Water-d_2
Catalysts: Palladium diacetate, Ethyl 4,5-diphenylpyrazolo[1,5-*a*][1,8]naphthyridine-3-carboxylate
Solvents: Acetic acid-d_4; 7 d, 80 °C

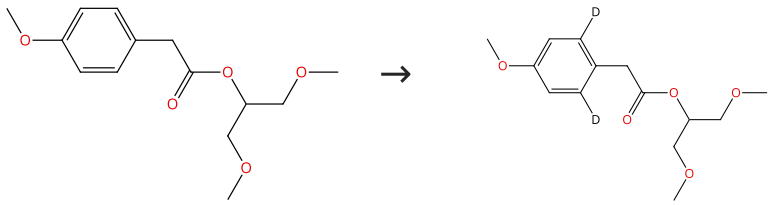
Experimental Protocols

Nondirected Pd-catalyzed aerobic C-H alkenylation of ruthenocene and ferrocene

By: Muller, Sven; et al

Chemical Communications (Cambridge, United Kingdom) (2022), 58(77), 10809-10812.

Scheme 173 (1 Reaction) Steps: **1** Yield: **77%**



31-116-CAS-12944757 Steps: **1** Yield: **77%**

1.1 **Reagents:** Acetic acid-*d*
Catalysts: 1,10-Phenanthroline, Palladium diacetate; 30 h, 100 °C

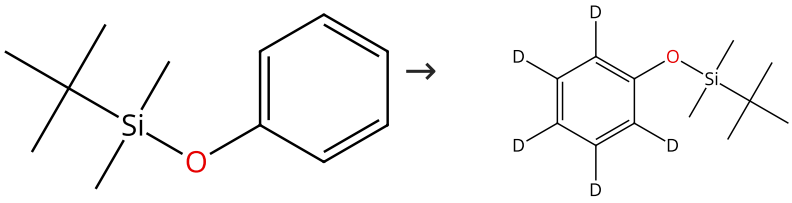
Experimental Protocols

Palladium-Catalyzed ortho-Olefination of Phenyl Acetic and Phenyl Propylacetic Esters via C-H Bond Activation

By: Hu, Jundie; et al

Journal of Organic Chemistry (2015), 80(16), 7896-7904.

Scheme 174 (1 Reaction) Steps: **1** Yield: **77%**



Suppliers (10)

31-614-CAS-40416756 Steps: **1** Yield: **77%**

1.1 **Reagents:** 1,1,1,3,3,3-Hexafluoro-2-propanol, Acetic acid-d_4
Catalysts: Palladium diacetate, 2(1*H*)-Pyridinone, 6-(3-methyl-1*H*-pyrazol-1-yl)-; 48 h, 120 °C

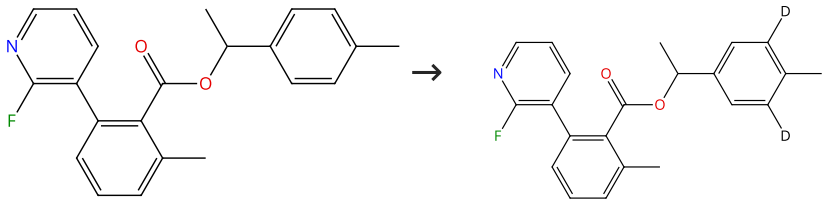
Experimental Protocols

Nondirected Pd-Catalyzed C-H Perdeuteration and meta-Selective Alkenylation of Arenes Enabled by Pyrazolo pyridone Ligands

By: Yun, Seo Jin; et al

ACS Catalysis (2023), 13(7), 4042-4052.

Scheme 175 (1 Reaction) Steps: **1** Yield: **77%**



31-116-CAS-20396586 Steps: **1** Yield: **77%**

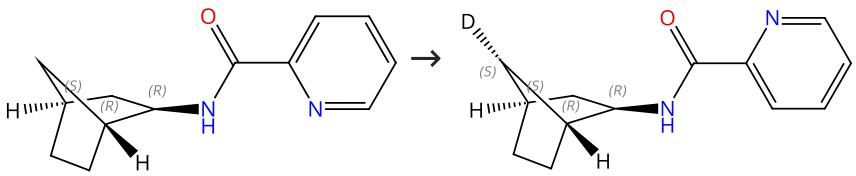
1.1 **Reagents:** Acetic acid-d_4
Catalysts: Palladium diacetate
Solvents: 1,2-Dichloroethane; 24 h, 90 °C

Palladium-Catalyzed Remote meta-C-H Bond Deuteration of Arenes Using a Pyridine Template

By: Xu, Hui; et al

Organic Letters (2019), 21(12), 4887-4891.

Scheme 176 (1 Reaction) Steps: **1** Yield: **76%**



Relative stereochemistry shown Relative stereochemistry shown

Supplier (1)

31-116-CAS-10294851 Steps: **1** Yield: **76%**

1.1 **Reagents:** Silver carbonate, Acetic acid-*d*
Catalysts: Palladium diacetate
Solvents: *tert*-Butyl alcohol-*d*; 48 h, 80 °C

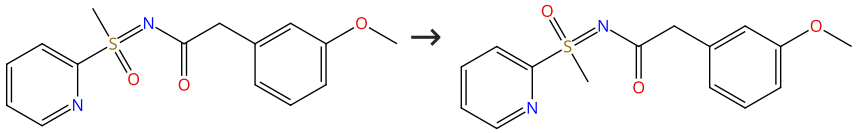
Experimental Protocols

A Practical Strategy for the Structural Diversification of Aliphatic Scaffolds through the Palladium-Catalyzed Picolinamide-Directed Remote Functionalization of Unactivated C (sp^3)-H Bonds

By: He, Gang; et al

Angewandte Chemie, International Edition (2011), 50(22), 5192-5196.

Scheme 177 (1 Reaction) Steps: **1** Yield: **76%**



Supplier (1)

31-614-CAS-26597925 Steps: **1** Yield: **76%**

1.1 **Reagents:** Potassium persulfate
Catalysts: Palladium diacetate
Solvents: Acetic acid-d_4; 2 h, 50 °C; 50 °C → rt

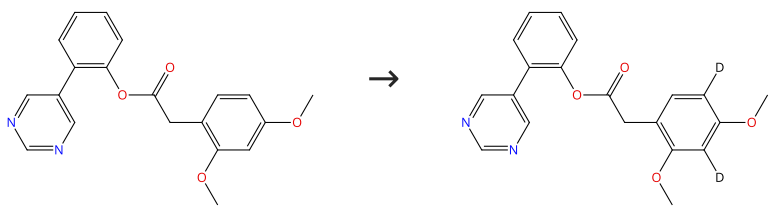
Experimental Protocols

Pd(II)-Catalyzed ortho-C-H Oxidation of Arylacetic Acid Derivatives: Synthesis of Benzofuranones

By: Rit, Raja K.; et al

Organic Letters (2014), 16(3), 968-971.

Scheme 178 (1 Reaction) Steps: **1** Yield: **76%**



31-116-CAS-20235108 Steps: **1** Yield: **76%**

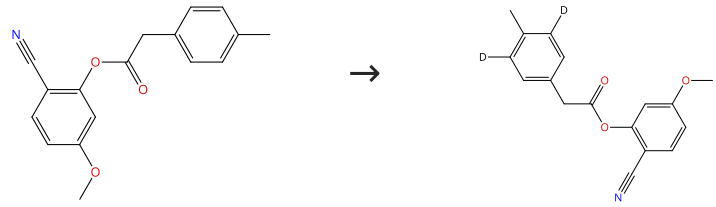
1.1 **Reagents:** Acetic acid-d_4
Catalysts: Palladium diacetate; 48 h, 110 °C

Palladium-Catalyzed Selective meta-C-H Deuteration of Arenes: Reaction Design and Applications

By: Bag, Sukdev; et al

Chemistry - A European Journal (2019), 25(40), 9433-9437.

Scheme 179 (1 Reaction) Steps: **1** Yield: **76%**



31-116-CAS-20235138 Steps: **1** Yield: **76%**

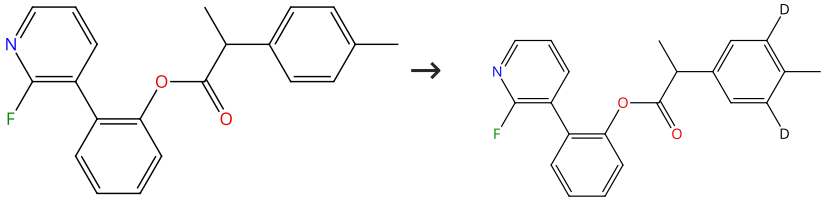
1.1 **Reagents:** Acetic acid-d_4
Catalysts: Acetylglycine, Palladium diacetate; 24 h, 110 °C

Palladium-Catalyzed Selective meta-C-H Deuteration of Arenes: Reaction Design and Applications

By: Bag, Sukdev; et al

Chemistry - A European Journal (2019), 25(40), 9433-9437.

Scheme 180 (1 Reaction) Steps: **1** Yield: **76%**



31-116-CAS-20396569 Steps: **1** Yield: **76%**

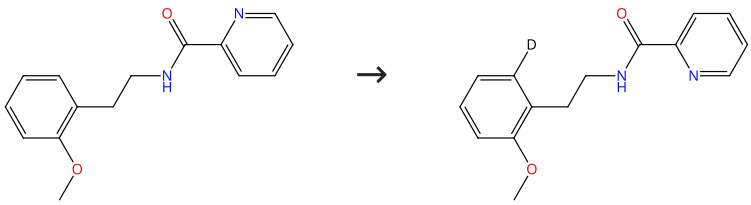
1.1 **Catalysts:** Palladium diacetate
Solvents: Acetic acid-d_4; 24 h, 80 °C

Palladium-Catalyzed Remote meta-C-H Bond Deuteration of Arenes Using a Pyridine Template

By: Xu, Hui; et al

Organic Letters (2019), 21(12), 4887-4891.

Scheme 181 (1 Reaction) Steps: **1** Yield: **75%**



Suppliers (4)

31-116-CAS-1814802 Steps: **1** Yield: **75%**

1.1 **Reagents:** Acetic acid-d_4
Catalysts: Palladium diacetate
Solvents: Toluene; 30 h, 100 °C

Experimental Protocols

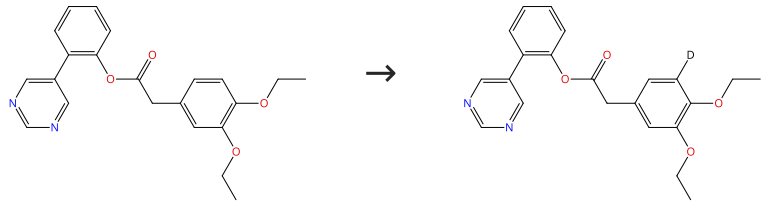
Improved Protocol for Indoline Synthesis via Palladium-Catalyzed Intramolecular C(sp^2)-H Amination

By: He, Gang; et al

Organic Letters (2012), 14(12), 2944-2947.

Scheme 182 (1 Reaction)

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



31-116-CAS-20235110

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

1.1 **Reagents:** Acetic acid-d_4
Catalysts: Palladium diacetate; 24 h, 110 °C

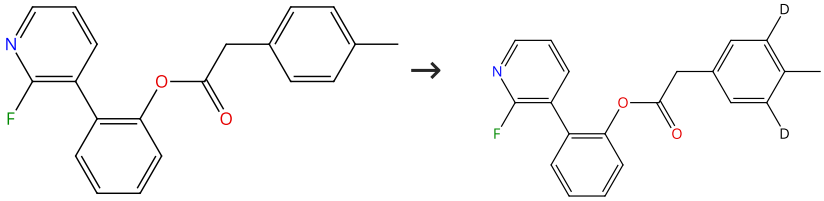
Palladium-Catalyzed Selective meta-C-H Deuteration of Arenes: Reaction Design and Applications

By: Bag, Sukdev; et al

Chemistry - A European Journal (2019), 25(40), 9433-9437.

Scheme 183 (1 Reaction)

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



31-116-CAS-20396560

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

1.1 **Catalysts:** Palladium diacetate
Solvents: Acetic acid-d_4; 24 h, 80 °C

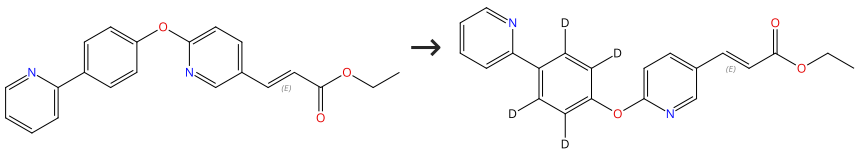
Palladium-Catalyzed Remote meta-C-H Bond Deuteration of Arenes Using a Pyridine Template

By: Xu, Hui; et al

Organic Letters (2019), 21(12), 4887-4891.

Scheme 184 (1 Reaction)

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



Double bond geometry shown

Double bond geometry shown

31-116-CAS-23981251

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

1.1 **Catalysts:** Palladium diacetate
Solvents: Trifluoroacetic acid-d; 120 °C

1.2 **Solvents:** Acetic acid-d_4; 120 °C

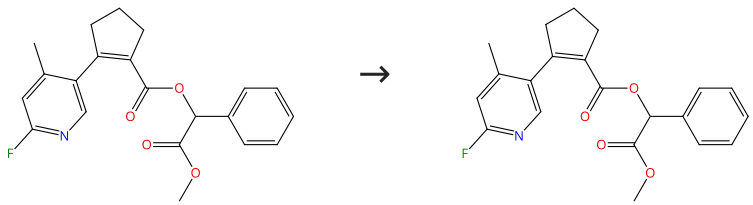
Discovery of Potent Inhibitors against P-Glycoprotein-Mediated Multidrug Resistance Aided by Late-Stage Functionalization of a 2-(4-(Pyridin-2-yl)phenoxy)pyridine Analogue

By: Ma, Yao; et al

Journal of Medicinal Chemistry (2020), 63(10), 5458-5476.

Scheme 185 (1 Reaction)

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



31-614-CAS-41423131 Steps: **1** Yield: **75%**

1.1 **Reagents:** Acetic acid-*d*
Catalysts: Palladium diacetate
Solvents: 1,2-Dichloroethane; 24 h, 80 °C

Experimental Protocols

Palladium-catalysed directed remote meta-C-H functiona lization of arenes using a cyclope ntenyl-pyridyl template

By: Huang, Jun; et al

New Journal of Chemistry (2024), 48(34), 15172-15178.

Scheme 186 (1 Reaction) Steps: **1** Yield: **75%**

Suppliers (94)

31-614-CAS-37227932 Steps: **1** Yield: **75%**

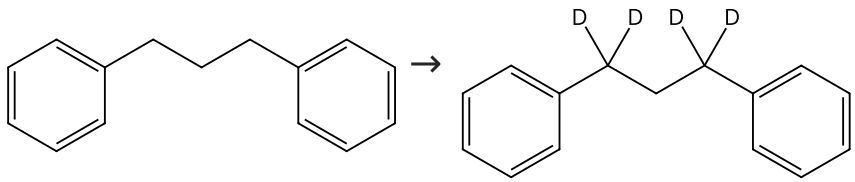
1.1 **Reagents:** Sodium acetate, Acetic acid-d_4
Catalysts: Palladium diacetate
Solvents: 1,4-Dioxane; 16 h, 120 °C

Programmable Deuteration of Indoles via Reverse Deuterium Exchange

By: Fitzgerald, Liam S.; et al

Journal of Organic Chemistry (2023), 88(15), 10772-10776.

Scheme 187 (1 Reaction) Steps: **1** Yield: **74%**



Suppliers (70) Supplier (1)

31-116-CAS-975958 Steps: **1** Yield: **74%**

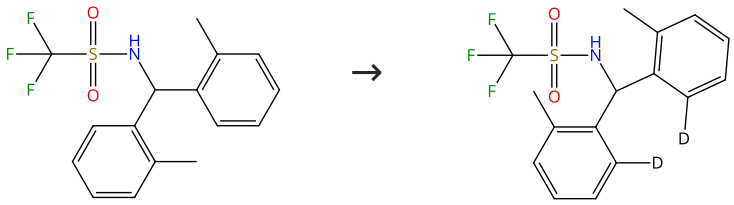
1.1 **Reagents:** Deuterium
Catalysts: Palladium
Solvents: Acetic acid-*d*

A selective method for deuterium exchange in hydroar omatic compounds

By: Ofosu-Asante, K.; et al

Journal of Organic Chemistry (1986), 51(26), 5452-4.

Scheme 188 (1 Reaction) Steps: **1** Yield: **74%**



31-116-CAS-17428420 Steps: **1** Yield: **74%**

1.1 **Reagents:** Sodium carbonate
Catalysts: Palladium diacetate
Solvents: Acetic acid-d_4; 5 h, rt → 100 °C; 100 °C → rt

1.2 **Solvents:** Water; rt

Experimental Protocols

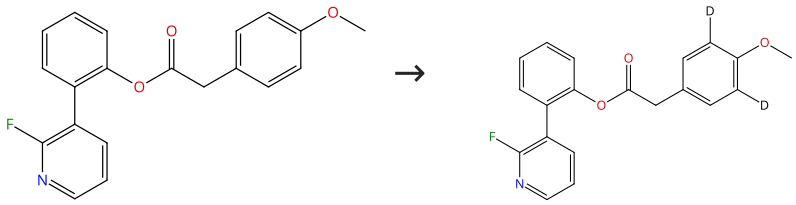
A Role for Pd(IV) in Catalytic Enantioselective C-H Functiona lization with Monoprotected Amino Acid Ligands under Mild Conditions

By: Plata, R. Erik; et al

Journal of the American Chemical Society (2017), 139(27), 9238-9245.

Scheme 189 (1 Reaction)

Steps: **1** Yield: **74%**



31-116-CAS-20396562

Steps: **1** Yield: **74%**

1.1 **Catalysts:** Palladium diacetate
Solvents: Acetic acid-d_4; 24 h, 80 °C

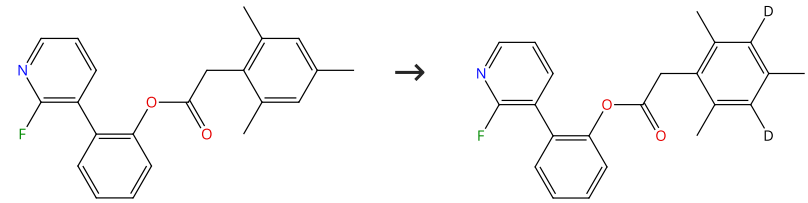
Palladium-Catalyzed Remote meta-C-H Bond Deuteration of Arenes Using a Pyridine Template

By: Xu, Hui; et al

Organic Letters (2019), 21(12), 4887-4891.

Scheme 190 (1 Reaction)

Steps: **1** Yield: **74%**



31-116-CAS-20396568

Steps: **1** Yield: **74%**

1.1 **Catalysts:** Palladium diacetate
Solvents: Acetic acid-d_4; 24 h, 80 °C

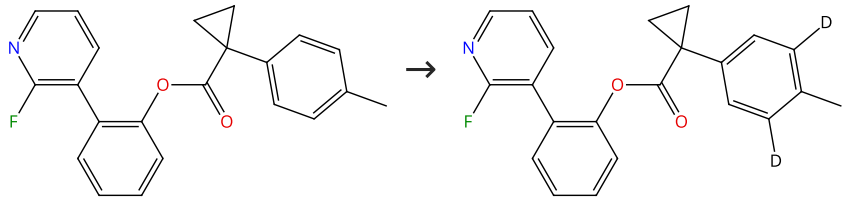
Palladium-Catalyzed Remote meta-C-H Bond Deuteration of Arenes Using a Pyridine Template

By: Xu, Hui; et al

Organic Letters (2019), 21(12), 4887-4891.

Scheme 191 (1 Reaction)

Steps: **1** Yield: **74%**



31-116-CAS-20396570

Steps: **1** Yield: **74%**

1.1 **Catalysts:** Palladium diacetate
Solvents: Acetic acid-d_4; 24 h, 80 °C

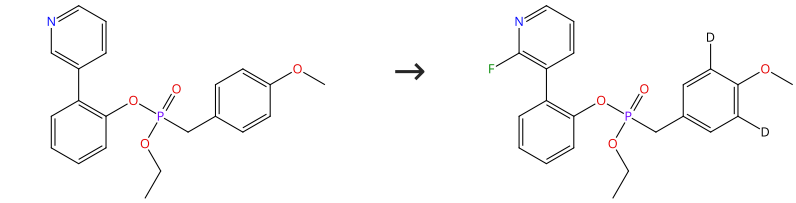
Palladium-Catalyzed Remote meta-C-H Bond Deuteration of Arenes Using a Pyridine Template

By: Xu, Hui; et al

Organic Letters (2019), 21(12), 4887-4891.

Scheme 192 (1 Reaction)

Steps: **1** Yield: **74%**



31-084-CAS-20396577 Steps: **1** Yield: **74%**

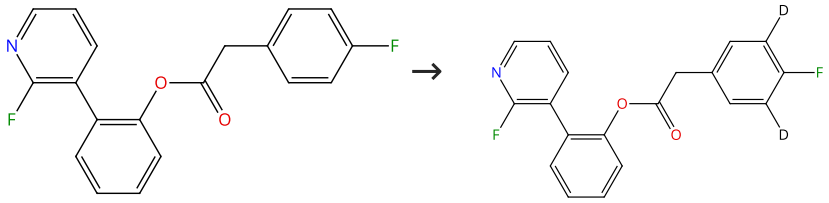
1.1 **Reagents:** Acetic acid-d_4
Catalysts: Palladium diacetate; 24 h, 80 °C

Palladium-Catalyzed Remote meta-C-H Bond Deuteration of Arenes Using a Pyridine Template

By: Xu, Hui; et al

Organic Letters (2019), 21(12), 4887-4891.

Scheme 193 (1 Reaction) Steps: **1** Yield: **73%**



31-116-CAS-20396563 Steps: **1** Yield: **73%**

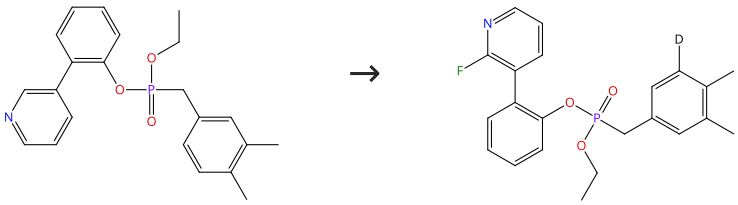
1.1 **Catalysts:** Palladium diacetate
Solvents: Acetic acid-d_4; 24 h, 80 °C

Palladium-Catalyzed Remote meta-C-H Bond Deuteration of Arenes Using a Pyridine Template

By: Xu, Hui; et al

Organic Letters (2019), 21(12), 4887-4891.

Scheme 194 (1 Reaction) Steps: **1** Yield: **73%**



31-084-CAS-20396578 Steps: **1** Yield: **73%**

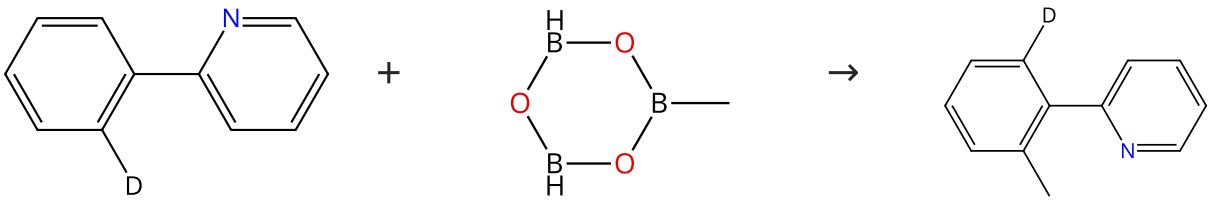
1.1 **Reagents:** Acetic acid-d_4
Catalysts: Palladium diacetate; 24 h, 80 °C

Palladium-Catalyzed Remote meta-C-H Bond Deuteration of Arenes Using a Pyridine Template

By: Xu, Hui; et al

Organic Letters (2019), 21(12), 4887-4891.

Scheme 195 (1 Reaction) Steps: **1** Yield: **73%**



Suppliers (6) Suppliers (2)

31-179-CAS-5573390 Steps: **1** Yield: **73%**

1.1 **Reagents:** Quinone, Cupric acetate, Acetic acid-d_4
Catalysts: Palladium diacetate
Solvents: Dichloromethane; 2 h, 100 °C

Experimental Protocols

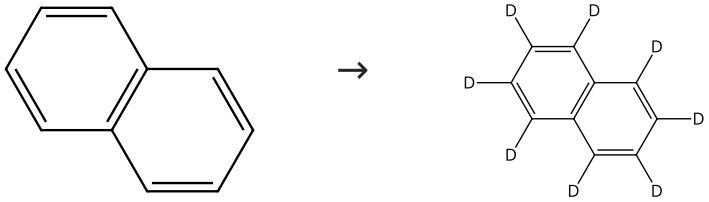
Palladium-Catalyzed Alkylation of sp^2 and sp^3 C-H Bonds with Methylboroxine and Alkylboronic Acids: Two Distinct C-H Activation Pathways

By: Chen, Xiao; et al

Journal of the American Chemical Society (2006), 128(39), 12634-12635.

Scheme 196 (1 Reaction)

Steps: **1** Yield: **73%**



Suppliers (137)

Suppliers (70)

31-614-CAS-40416779

Steps: **1** Yield: **73%**

1.1 **Reagents:** 1,1,1,3,3,3-Hexafluoro-2-propanol, Acetic acid-d_4
Catalysts: Palladium diacetate, 2(1*H*)-Pyridinone, 6-(3-methyl-1*H*-pyrazol-1-yl)-; 48 h, 120 °C

Experimental Protocols

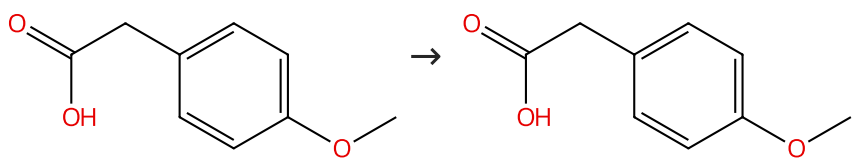
Nondirected Pd-Catalyzed C-H Perdeuteration and meta-Selective Alkenylation of Arenes Enabled by Pyrazolo pyridone Ligands

By: Yun, Seo Jin; et al

ACS Catalysis (2023), 13(7), 4042-4052.

Scheme 197 (1 Reaction)

Steps: **1** Yield: **72%**



Suppliers (114)

31-614-CAS-28520589

Steps: **1** Yield: **72%**

1.1 **Reagents:** Trifluoroacetic acid-*d*
Catalysts: Silver trifluoroacetate, Palladium, chloro[2,3-dihydro-*N*-[2-(methoxy-κ*O*)ethyl]-3-methyl-1*H*-benzimidazole-1-acetamidato(3-)-κC^2,κN^{N1}]-, (*SP*-4-3)-; 16 h, rt → 110 °C

1.2 **Reagents:** Sodium bicarbonate
Solvents: Water; 0.5 h, rt

Experimental Protocols

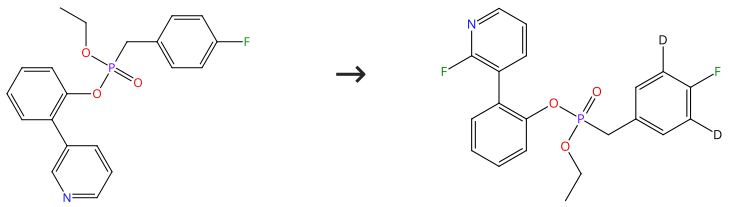
H-D exchange in deuterated trifluoroacetic acid via ligand-directed NHC-palladium catalysis: a powerful method for deuteration of aromatic ketones, amides, and amino acids

By: Giles, Richard; et al

Tetrahedron Letters (2015), 56(45), 6231-6235.

Scheme 198 (1 Reaction)

Steps: **1** Yield: **72%**



31-084-CAS-20396575

Steps: **1** Yield: **72%**

1.1 **Reagents:** Acetic acid-d_4
Catalysts: Palladium diacetate; 24 h, 80 °C

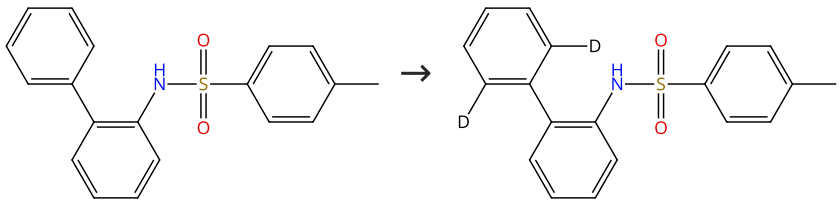
Palladium-Catalyzed Remote meta-C-H Bond Deuteration of Arenes Using a Pyridine Template

By: Xu, Hui; et al

Organic Letters (2019), 21(12), 4887-4891.

Scheme 199 (1 Reaction)

Steps: **1** Yield: **72%**



Suppliers (12)

31-614-CAS-36482195

Steps: **1** Yield: **72%**

1.1 **Reagents:** Acetic acid-d_4, Oxygen
Catalysts: Palladium diacetate, Zinc triflate
Solvents: Dimethylformamide; 4 h, 100 °C

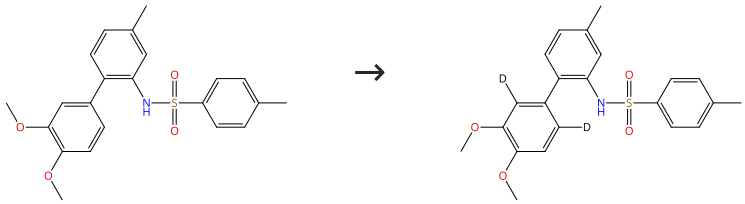
Pd(II)/Lewis acid catalyzed oxidative C-H olefination/annulation with dioxygen to construct dihydrophenanthridines and its mechanistic studies

By: Jiang, Hongwu; et al

Tetrahedron (2023), 138, 133419.

Scheme 200 (2 Reactions)

Steps: **1** Yield: **70-72%**



31-614-CAS-37395653

Steps: **1** Yield: **72%**

1.1 **Reagents:** Acetic acid-d_4, Oxygen
Catalysts: Palladium diacetate, Scandium triflate
Solvents: Dimethylformamide; 4 h, 100 °C

Experimental Protocols

Pd(II)/Lewis Acid Catalyzed Intramolecular Oxidative C-H Amination to Construct Carbazoles with Dioxygen

By: Jiang, Hongwu; et al

European Journal of Organic Chemistry (2023), 26(35), e202300598.

31-614-CAS-36482197

Steps: **1** Yield: **70%**

1.1 **Reagents:** Acetic acid-d_4, Oxygen
Catalysts: Palladium diacetate, Zinc triflate
Solvents: Dimethylformamide; 4 h, 100 °C

Pd(II)/Lewis acid catalyzed oxidative C-H olefination/annulation with dioxygen to construct dihydrophenanthridines and its mechanistic studies

By: Jiang, Hongwu; et al

Tetrahedron (2023), 138, 133419.

Scheme 201 (1 Reaction)

Steps: **1** Yield: **72%**

Suppliers (58)

31-614-CAS-40416777 Steps: **1** Yield: **72%**

1.1 **Reagents:** 1,1,1,3,3,3-Hexafluoro-2-propanol, Acetic acid-d_4
Catalysts: Palladium diacetate, 2(1*H*)-Pyridinone, 6-(3-methyl-1*H*-pyrazol-1-yl)-; 48 h, 120 °C

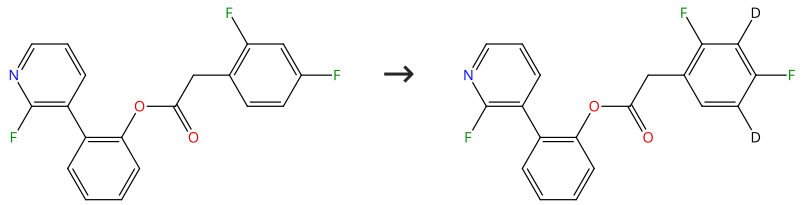
Experimental Protocols

Nondirected Pd-Catalyzed C-H Perdeuteration and meta-Selective Alkenylation of Arenes Enabled by Pyrazolo pyridone Ligands

By: Yun, Seo Jin; et al

ACS Catalysis (2023), 13(7), 4042-4052.

Scheme 202 (1 Reaction) Steps: **1** Yield: **71%**



31-116-CAS-20396566 Steps: **1** Yield: **71%**

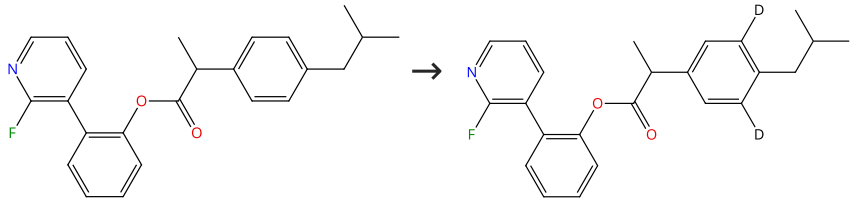
1.1 **Catalysts:** Palladium diacetate
Solvents: Acetic acid-d_4; 24 h, 80 °C

Palladium-Catalyzed Remote meta-C-H Bond Deuteration of Arenes Using a Pyridine Template

By: Xu, Hui; et al

Organic Letters (2019), 21(12), 4887-4891.

Scheme 203 (1 Reaction) Steps: **1** Yield: **71%**



31-116-CAS-20396572 Steps: **1** Yield: **71%**

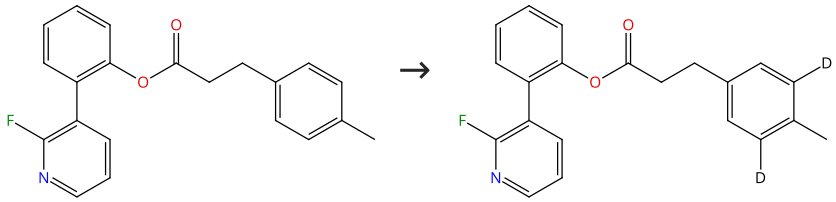
1.1 **Catalysts:** Palladium diacetate
Solvents: Acetic acid-d_4; 24 h, 80 °C

Palladium-Catalyzed Remote meta-C-H Bond Deuteration of Arenes Using a Pyridine Template

By: Xu, Hui; et al

Organic Letters (2019), 21(12), 4887-4891.

Scheme 204 (1 Reaction) Steps: **1** Yield: **71%**



31-116-CAS-20396573 Steps: **1** Yield: **71%**

1.1 **Catalysts:** Palladium diacetate
Solvents: Acetic acid-d_4; 24 h, 80 °C

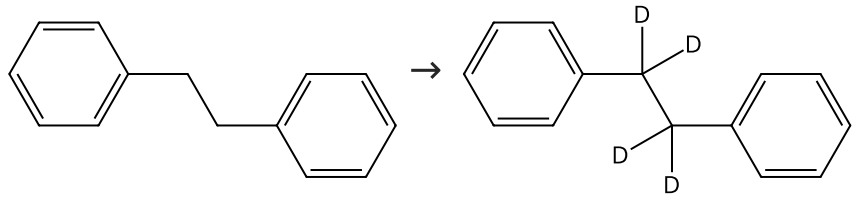
Palladium-Catalyzed Remote meta-C-H Bond Deuteration of Arenes Using a Pyridine Template

By: Xu, Hui; et al

Organic Letters (2019), 21(12), 4887-4891.

Scheme 205 (1 Reaction)

Steps: **1** Yield: **70%**



Suppliers (93)

Supplier (1)

31-116-CAS-3363492

Steps: **1** Yield: **70%**

1.1 **Reagents:** Deuterium
Catalysts: Palladium
Solvents: Acetic acid-*d*

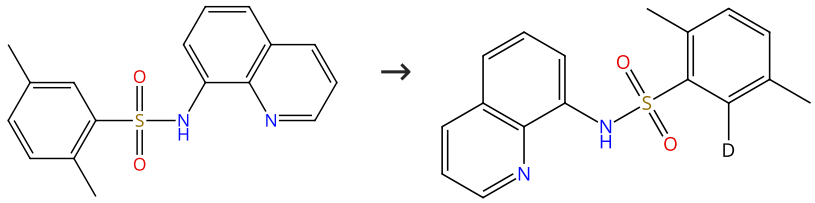
A selective method for deuterium exchange in hydroar omatic compounds

By: Ofosu-Asante, K.; et al

Journal of Organic Chemistry (1986), 51(26), 5452-4.

Scheme 206 (1 Reaction)

Steps: **1** Yield: **70%**



Suppliers (9)

31-614-CAS-41073661

Steps: **1** Yield: **70%**

1.1 **Reagents:** Acetic acid-d_4
Catalysts: Palladium diacetate; 1 h, 170 °C

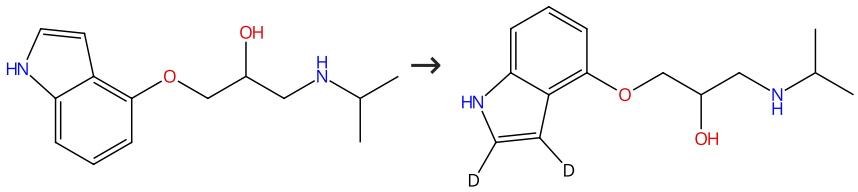
Palladium-Catalyzed Selective Benzylic C-H Alkylation of Aromatic Sulfonamides with Maleimides

By: Chakraborty, Trisha; et al

Journal of Organic Chemistry (2024), 89(15), 10624-10638.

Scheme 207 (1 Reaction)

Steps: **1** Yield: **70%**



Suppliers (57)

31-614-CAS-37227930

Steps: **1** Yield: **70%**

1.1 **Reagents:** Sodium acetate, Acetic acid-d_4
Catalysts: Palladium diacetate
Solvents: 1,4-Dioxane; 16 h, 120 °C

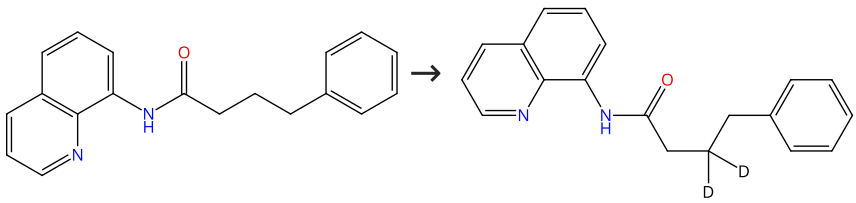
Programmable Deuteration of Indoles via Reverse Deuterium Exchange

By: Fitzgerald, Liam S.; et al

Journal of Organic Chemistry (2023), 88(15), 10772-10776.

Scheme 208 (1 Reaction)

Steps: **1** Yield: **70%**



Suppliers (5)

31-614-CAS-33032351

Steps: **1** Yield: **70%**

1.1 **Catalysts:** Palladium diacetate
Solvents: Acetic acid-d_4; 24 h, 90 °C

Experimental Protocols

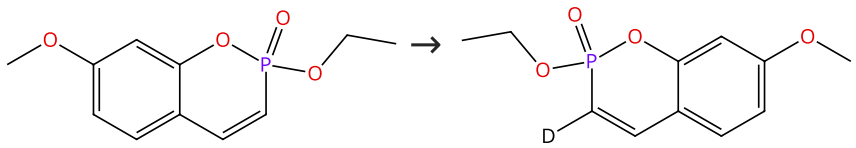
Site-selective desaturation of C(sp^3)-C(sp^3) bonds via photoinduced ruthenium catalysis

By: Wang, Chuanyong; et al

Organic Chemistry Frontiers (2022), 9(16), 4316-4327.

Scheme 209 (1 Reaction)

Steps: **1** Yield: **70%**



31-116-CAS-10204385

Steps: **1** Yield: **70%**

1.1 **Reagents:** Acetic acid-d_4
Catalysts: Palladium diacetate; 2 h, 80 °C

Experimental Protocols

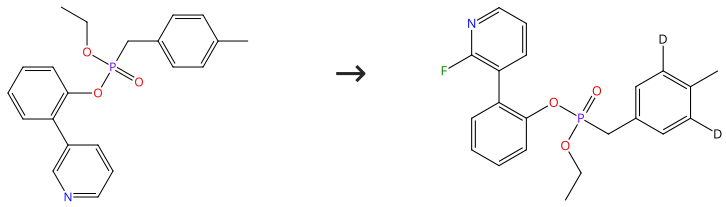
Alkenylation of Phosphacoumarins via Aerobic Oxidative Heck Reactions and Their Synthetic Application to Fluorescent Benzophosphacoumarins

By: Kim, Cheol-Eui; et al

Organic Letters (2015), 17(4), 908-911.

Scheme 210 (1 Reaction)

Steps: **1** Yield: **70%**



31-084-CAS-20396574

Steps: **1** Yield: **70%**

1.1 **Reagents:** Acetic acid-d_4
Catalysts: Palladium diacetate; 24 h, 80 °C

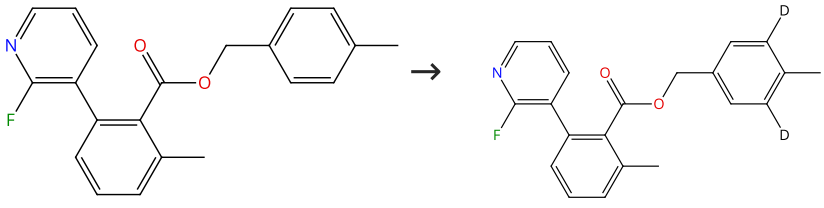
Palladium-Catalyzed Remote meta-C-H Bond Deuteration of Arenes Using a Pyridine Template

By: Xu, Hui; et al

Organic Letters (2019), 21(12), 4887-4891.

Scheme 211 (1 Reaction)

Steps: **1** Yield: **70%**



31-116-CAS-20396580 Steps: **1** Yield: **70%**

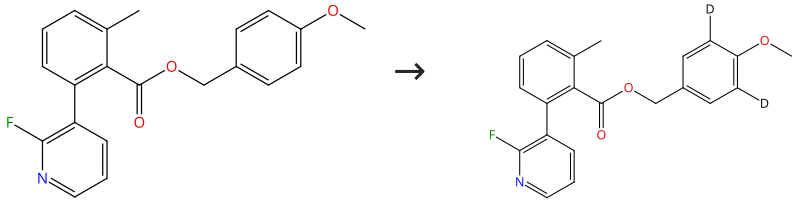
1.1 **Reagents:** Acetic acid-d_4
Catalysts: Palladium diacetate
Solvents: 1,2-Dichloroethane; 24 h, 90 °C

Palladium-Catalyzed Remote meta-C-H Bond Deuteration of Arenes Using a Pyridine Template

By: Xu, Hui; et al

Organic Letters (2019), 21(12), 4887-4891.

Scheme 212 (1 Reaction) Steps: **1** Yield: **70%**



31-116-CAS-20396581 Steps: **1** Yield: **70%**

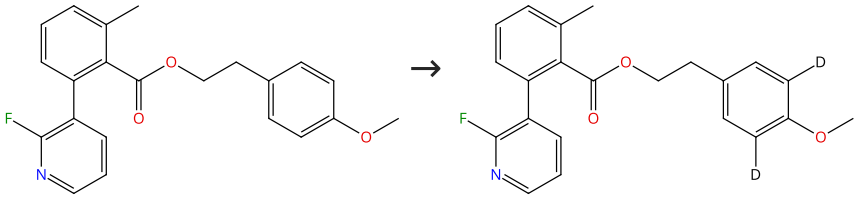
1.1 **Reagents:** Acetic acid-d_4
Catalysts: Palladium diacetate
Solvents: 1,2-Dichloroethane; 24 h, 90 °C

Palladium-Catalyzed Remote meta-C-H Bond Deuteration of Arenes Using a Pyridine Template

By: Xu, Hui; et al

Organic Letters (2019), 21(12), 4887-4891.

Scheme 213 (1 Reaction) Steps: **1** Yield: **70%**



31-116-CAS-20396588 Steps: **1** Yield: **70%**

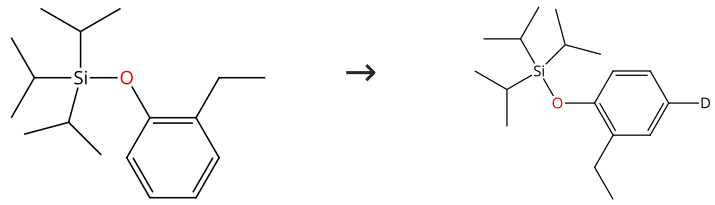
1.1 **Reagents:** Acetic acid-d_4
Catalysts: Palladium diacetate
Solvents: 1,2-Dichloroethane; 24 h, 80 °C

Palladium-Catalyzed Remote meta-C-H Bond Deuteration of Arenes Using a Pyridine Template

By: Xu, Hui; et al

Organic Letters (2019), 21(12), 4887-4891.

Scheme 214 (1 Reaction) Steps: **1** Yield: **70%**



31-614-CAS-35356465 Steps: **1** Yield: **70%**

1.1 **Reagents:** Acetic acid-d_4
Catalysts: Palladium diacetate, 3,5-dimethyladamantane-1-carboxylic acid
Solvents: 1,1,1,3,3,3-Hexafluoro-2-propanol; 10 h, 100 °C

Experimental Protocols

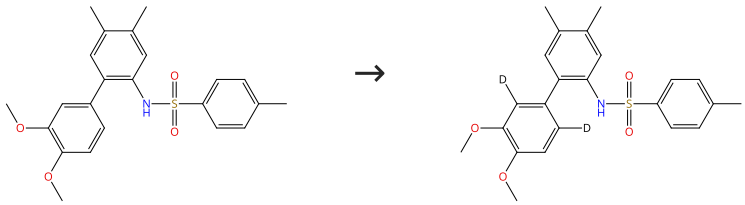
Non-directed highly para-selective C-H functionalization of TIPS-protected phenols promoted by a carboxylic acid ligand

By: Geng, Jingyao; et al

Chinese Chemical Letters (2023), 34(3), 107609.

Scheme 215 (1 Reaction)

Steps: **1** Yield: **70%**



31-614-CAS-37395657

Steps: **1** Yield: **70%**

1.1 **Reagents:** Acetic acid-d_4, Oxygen
Catalysts: Palladium diacetate, Scandium triflate
Solvents: Dimethylformamide; 4 h, 100 °C

Experimental Protocols

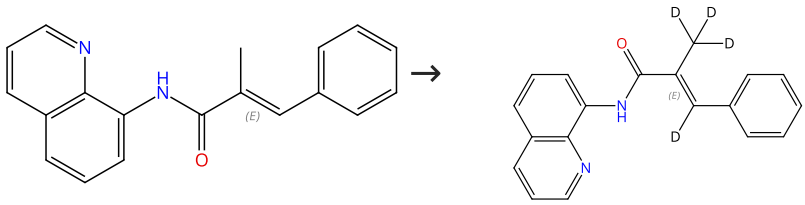
Pd(II)/Lewis Acid Catalyzed Intramolecular Oxidative C-H Amination to Construct Carbazoles with Dioxygen

By: Jiang, Hongwu; et al

European Journal of Organic Chemistry (2023), 26(35), e202300598.

Scheme 216 (1 Reaction)

Steps: **1** Yield: **69%**



Double bond geometry shown

Double bond geometry shown

Supplier (1)

31-116-CAS-20032735

Steps: **1** Yield: **69%**

1.1 **Reagents:** Acetic acid-*d*
Catalysts: Palladium diacetate; 3 h, 110 °C

Experimental Protocols

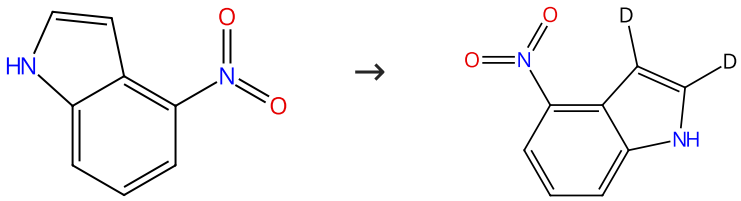
Co(III)-catalyzed Z-selective oxidative C-H/C-H cross-coupling of alkenes with triisopropylsilylacetylene

By: Zhao, Tingxing; et al

Chemical Communications (Cambridge, United Kingdom) (2019), 55(43), 6118-6121.

Scheme 217 (1 Reaction)

Steps: **1** Yield: **69%**



Suppliers (90)

31-614-CAS-37227918

Steps: **1** Yield: **69%**

1.1 **Reagents:** Sodium acetate, Acetic acid-d_4
Catalysts: Palladium diacetate
Solvents: 1,4-Dioxane; 32 h, 120 °C

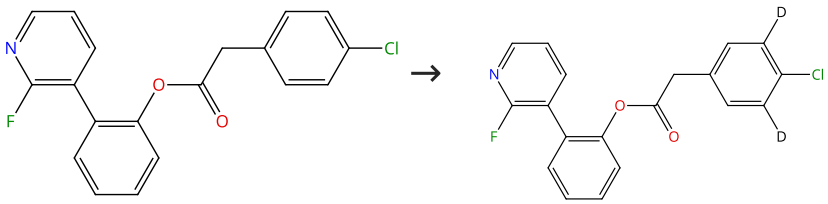
Programmable Deuteration of Indoles via Reverse Deuterium Exchange

By: Fitzgerald, Liam S.; et al

Journal of Organic Chemistry (2023), 88(15), 10772-10776.

Scheme 218 (1 Reaction)

Steps: **1** Yield: **68%**



31-116-CAS-20396564

Steps: **1** Yield: **68%**

1.1 **Catalysts:** Palladium diacetate
Solvents: Acetic acid-d_4; 24 h, 80 °C

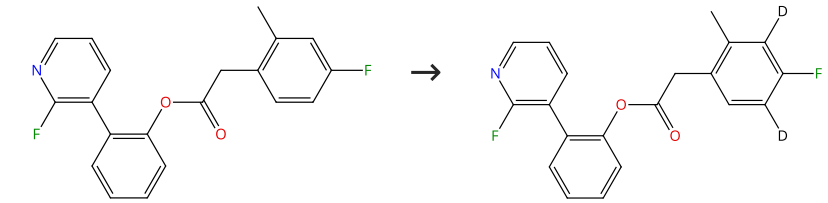
Palladium-Catalyzed Remote meta-C-H Bond Deuteration of Arenes Using a Pyridine Template

By: Xu, Hui; et al

Organic Letters (2019), 21(12), 4887-4891.

Scheme 219 (1 Reaction)

Steps: **1** Yield: **68%**



31-116-CAS-20396565

Steps: **1** Yield: **68%**

1.1 **Catalysts:** Palladium diacetate
Solvents: Acetic acid-d_4; 24 h, 80 °C

Palladium-Catalyzed Remote meta-C-H Bond Deuteration of Arenes Using a Pyridine Template

By: Xu, Hui; et al

Organic Letters (2019), 21(12), 4887-4891.

Scheme 220 (1 Reaction)

Steps: **1** Yield: **68%**

31-084-CAS-20396576

Steps: **1** Yield: **68%**

1.1 **Reagents:** Acetic acid-d_4
Catalysts: Palladium diacetate; 24 h, 80 °C

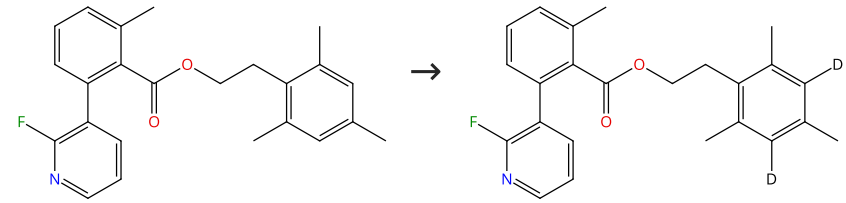
Palladium-Catalyzed Remote meta-C-H Bond Deuteration of Arenes Using a Pyridine Template

By: Xu, Hui; et al

Organic Letters (2019), 21(12), 4887-4891.

Scheme 221 (1 Reaction)

Steps: **1** Yield: **68%**



31-116-CAS-20396589 Steps: **1** Yield: **68%**

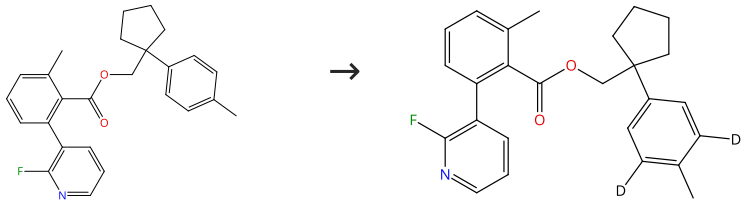
1.1 **Reagents:** Acetic acid-d_4
Catalysts: Palladium diacetate
Solvents: 1,2-Dichloroethane; 24 h, 80 °C

Palladium-Catalyzed Remote meta-C-H Bond Deuteration of Arenes Using a Pyridine Template

By: Xu, Hui; et al

Organic Letters (2019), 21(12), 4887-4891.

Scheme 222 (1 Reaction) Steps: **1** Yield: **68%**



31-116-CAS-20396591 Steps: **1** Yield: **68%**

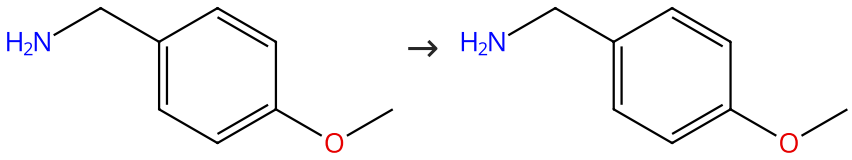
1.1 **Reagents:** Acetic acid-d_4
Catalysts: Palladium diacetate
Solvents: 1,2-Dichloroethane; 24 h, 80 °C

Palladium-Catalyzed Remote meta-C-H Bond Deuteration of Arenes Using a Pyridine Template

By: Xu, Hui; et al

Organic Letters (2019), 21(12), 4887-4891.

Scheme 223 (1 Reaction) Steps: **1** Yield: **68%**



Suppliers (94)

31-614-CAS-25896969 Steps: **1** Yield: **68%**

1.1 **Reagents:** Trifluoroacetic acid-*d*
Catalysts: Silver trifluoroacetate, Palladium, chloro[2,3-dihydro-*N*-[2-(methoxy-κ*O*)ethyl]-3-methyl-1*H*-benzimidazole-1-acetamidato(3-)-κC^2,κN^{N1}]-, (*SP*-4-3)-; 16 h, rt → 110 °C

1.2 **Reagents:** Sodium bicarbonate
Solvents: Water; 0.5 h, rt

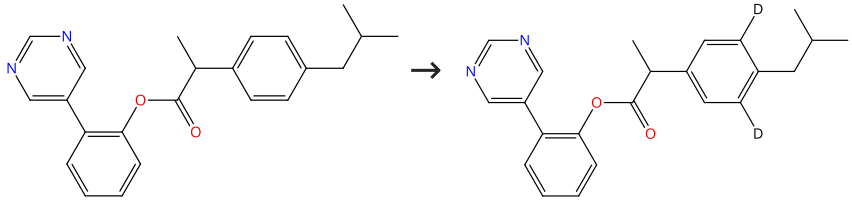
Experimental Protocols

H-D exchange in deuterated trifluoroacetic acid via ligand-directed NHC-palladium catalysis: a powerful method for deuteration of aromatic ketones, amides, and amino acids

By: Giles, Richard; et al

Tetrahedron Letters (2015), 56(45), 6231-6235.

Scheme 224 (1 Reaction) Steps: **1** Yield: **67%**



31-116-CAS-20235128 Steps: **1** Yield: **67%**

1.1 **Reagents:** Acetic acid-d_4
Catalysts: Palladium diacetate; 24 h, 110 °C

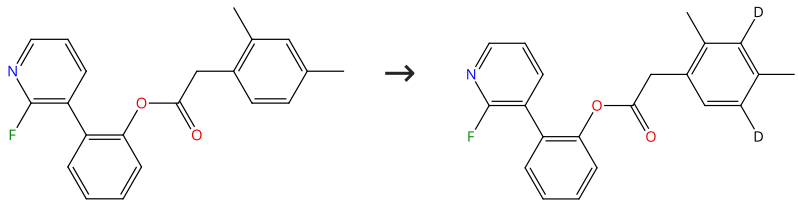
Palladium-Catalyzed Selective meta-C-H Deuteration of Arenes: Reaction Design and Applications

By: Bag, Sukdev; et al

Chemistry - A European Journal (2019), 25(40), 9433-9437.

Scheme 225 (1 Reaction)

Steps: **1** Yield: **67%**



31-116-CAS-20396567

Steps: **1** Yield: **67%**

1.1 **Catalysts:** Palladium diacetate
Solvents: Acetic acid-d_4; 24 h, 80 °C

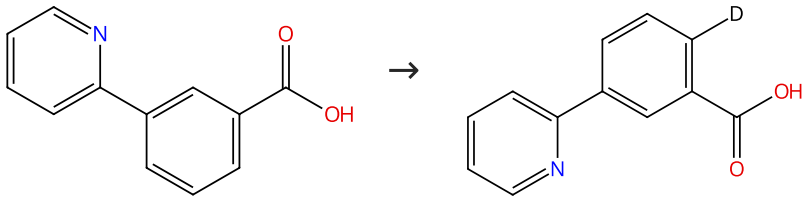
Palladium-Catalyzed Remote meta-C-H Bond Deuteration of Arenes Using a Pyridine Template

By: Xu, Hui; et al

Organic Letters (2019), 21(12), 4887-4891.

Scheme 226 (1 Reaction)

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



Suppliers (64)

31-614-CAS-24143597

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

1.1 **Reagents:** Quinone, Potassium acetate, Acetic acid-d_4
Catalysts: Palladium diacetate, 6-[1-Cyclohexyl-1-(5-methyl-2-pyridinyl)ethyl]-2(1*H*)-pyridinone
Solvents: Dimethylformamide; 10 min, 1 atm, rt; 24 h, 1 atm, rt → 110 °C; 110 °C → rt

1.2 **Reagents:** Formic acid; 10 min, rt

Experimental Protocols

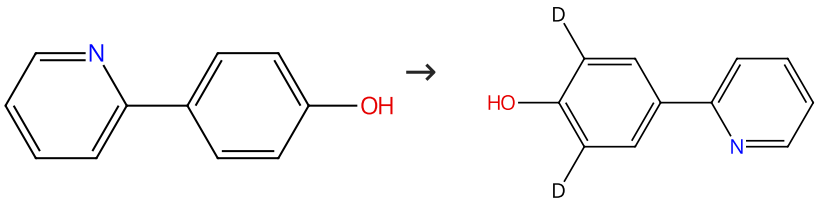
A tautomeric ligand enables directed C-H hydroxylation with molecular oxygen

By: Li, Zhen; et al

Science (Washington, DC, United States) (2021), 372(6549), 1452-1457.

Scheme 227 (1 Reaction)

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



Suppliers (67)

31-116-CAS-18611006

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

1.1 **Catalysts:** Palladium diacetate
Solvents: Trifluoroacetic acid-*d*; 24 h, 120 °C

Experimental Protocols

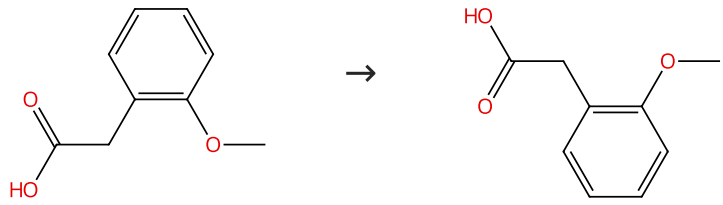
Palladium-Catalyzed Regioselective C-H Functionalization of Arenes Substituted by Two N-Heterocycles and Application in Late-Stage Functionalization

By: Yin, Da-Wei; et al

Journal of Organic Chemistry (2018), 83(7), 3987-4001.

Scheme 228 (1 Reaction)

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



Suppliers (94)

31-614-CAS-29470747

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

1.1 **Reagents:** Sodium carbonate, Acetic acid-d_4
Catalysts: Palladium diacetate
Solvents: Acetic acid-d_4; 12 h, 120 °C

1.2 **Reagents:** Sodium hydroxide
Solvents: Dichloromethane, Water; 12 h, 120 °C

Experimental Protocols

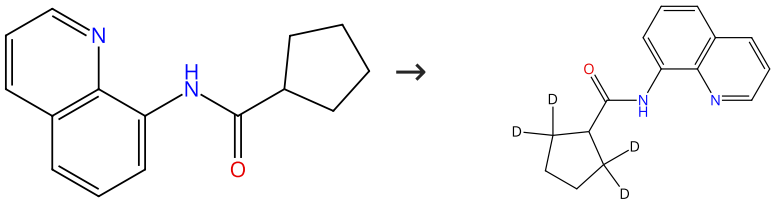
Palladium-Catalyzed ortho-Selective C-H Deuteration of Arenes: Evidence for Superior Reactivity of Weakly Coordi nated Palladacycles

By: Ma, Sandy; et al

Angewandte Chemie, International Edition (2014), 53(3), 734-737.

Scheme 229 (2 Reactions)

Steps: **1** Yield: **52-62%**



Suppliers (3)

31-116-CAS-15969584

Steps: **1** Yield: **62%**

1.1 **Reagents:** Acetic acid-*d*
Catalysts: Palladium diacetate; 24 h, 90 °C

Experimental Protocols

Palladium-catalyzed arylation of β-methylene C(sp^3)-H bonds at room temperature: desymmetrization of simple cycloalkyl carboxylic acids

By: Nack, W. A.; et al

Organic Chemistry Frontiers (2016), 3(5), 561-564.

31-614-CAS-30040175

Steps: **1** Yield: **52%**

1.1 **Reagents:** Acetic acid-*d*
Catalysts: Palladium diacetate; 24 h, 90 °C

Experimental Protocols

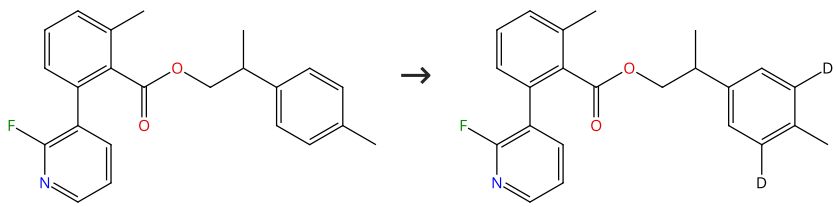
Palladium-Catalyzed Migratory Insertion of Carbenes and C-C Cleavage of Cycloalkanecarboxamides

By: Zhang, Peng; et al

Organic Letters (2022), 24(2), 536-541.

Scheme 230 (1 Reaction)

Steps: **1** Yield: **61%**



31-116-CAS-20396590

Steps: **1** Yield: **61%**

1.1 **Reagents:** Acetic acid-d_4
Catalysts: Palladium diacetate
Solvents: 1,2-Dichloroethane; 24 h, 90 °C

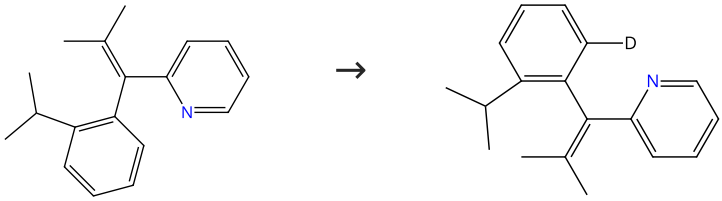
Palladium-Catalyzed Remote meta-C-H Bond Deuteration of Arenes Using a Pyridine Template

By: Xu, Hui; et al

Organic Letters (2019), 21(12), 4887-4891.

Scheme 231 (1 Reaction)

Steps: **1** Yield: **61%**



31-116-CAS-21983709

Steps: **1** Yield: **61%**

1.1 **Reagents:** Acetic acid-*d*
Catalysts: Palladium diacetate; 48 h, 50 °C

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

Experimental Protocols

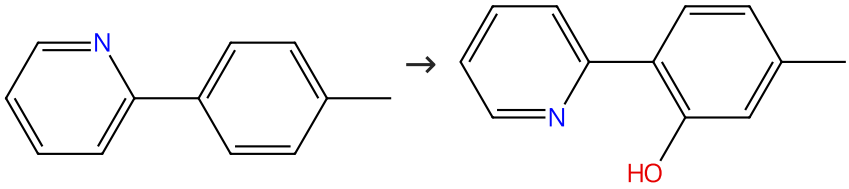
Atroposelective Synthesis of Axially Chiral Styrenes via an Asymmetric C-H Functionalization Strategy

By: Jin, Liang; et al

Chem (2020), 6(2), 497-511.

Scheme 232 (1 Reaction)

Steps: **1** Yield: **61%**



Suppliers (80)

Suppliers (10)

31-100-CAS-5546015

Steps: **1** Yield: **61%**

1.1 **Catalysts:** Palladium diacetate, 2-Pyridinemethanesulfonic acid, 6-methyl-α-(6-methyl-2-pyridinyl)-, lithium salt (1:1)
Solvents: 1,4-Dioxane, Acetic acid-d_4; rt

1.2 **Reagents:** Hydrogen peroxide
Solvents: Water; > 12 h, 35 °C

Experimental Protocols

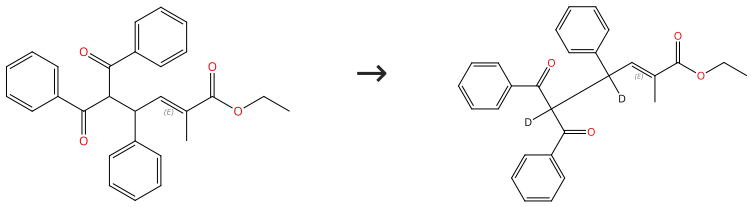
Preparation and C-X Reductive Elimination Reactivity of Monoaryl Pd^{IV}-X Complexes in Water (X = OH, OH_2, Cl, Br)

By: Oloo, Williamson; et al

Journal of the American Chemical Society (2010), 132(41), 14400-14402.

Scheme 233 (1 Reaction)

Steps: **1** Yield: **60%**



Double bond geometry shown

Double bond geometry shown

31-116-CAS-2757480

Steps: **1** Yield: **60%**

1.1 **Reagents:** Trifluoroacetic acid-*d*
Catalysts: Palladium chloride, Dicyclohexyl(2,4,6-trimetho xyphenyl)phosphine; 11 h, 30 °C

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

Experimental Protocols

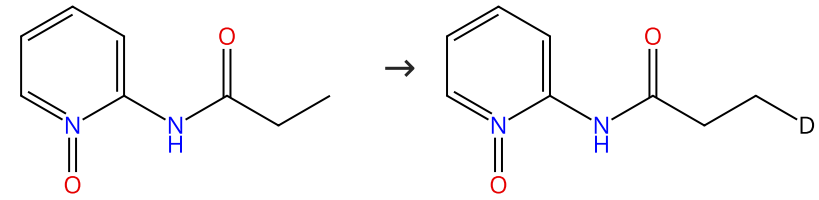
Controlled Reactions of 2,3-Allenoates with a 1,3-Diketone Catalyst Effect

By: Fang, Zhao; et al

European Journal of Organic Chemistry (2012), 2012(13), 2585-2596, S2585/1-S2585/57.

Scheme 234 (1 Reaction)

Steps: **1** Yield: **60%**



31-116-CAS-1741459

Steps: **1** Yield: **60%**

1.1 **Reagents:** Silver acetate, Acetic acid-*d*
Catalysts: Palladium diacetate
Solvents: *p*-Xylene; 6 h, 130 °C

Experimental Protocols

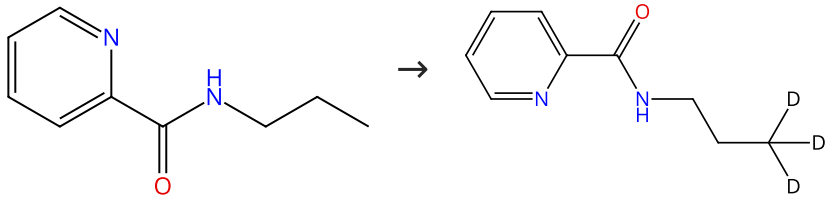
Pd(II)-Catalyzed Pyridine N-Oxides Directed Arylation of Unactivated C_{sp^3}-H Bonds

By: Liu, Jianzhong; et al

Journal of Organic Chemistry (2015), 80(9), 4618-4626.

Scheme 235 (1 Reaction)

Steps: **1** Yield: **60%**



Suppliers (12)

31-116-CAS-16069871

Steps: **1** Yield: **60%**

1.1 **Reagents:** Silver acetate, Acetic acid-*d*
Catalysts: Palladium diacetate
Solvents: *p*-Xylene; 6 h, 130 °C; 130 °C → rt

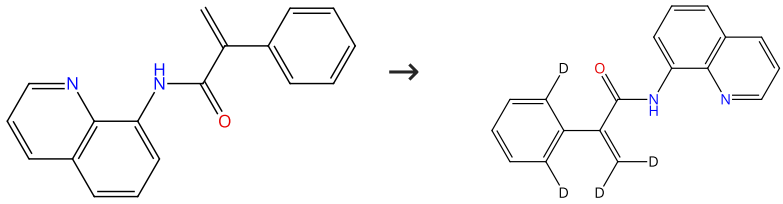
Iridium(III)-Catalyzed Regioselective Intermolecular Unactivated Secondary Csp^3-H Bond Amidation

By: Xiao, Xinsheng; et al

Angewandte Chemie, International Edition (2016), 55(39), 11897-11901.

Scheme 236 (1 Reaction)

Steps: **1** Yield: **58%**



Supplier (1)

31-116-CAS-17809292

Steps: **1** Yield: **58%**

1.1 **Reagents:** Acetic acid-*d*
Catalysts: Palladium diacetate; 3 h, 110 °C; 110 °C → rt

Experimental Protocols

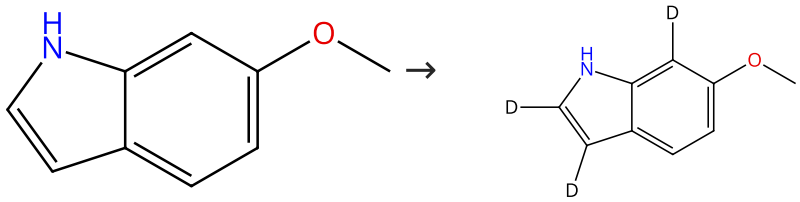
Stereoselective Synthesis of Z-Vinylsilanes via Palladium-Catalyzed Direct Intermolecular Silylation of C(sp^2)-H Bonds

By: Pan, Jin-Long; et al

Organic Letters (2017), 19(19), 5216-5219.

Scheme 237 (1 Reaction)

Steps: **1** Yield: **58%**



Suppliers (101)

31-614-CAS-37227923

Steps: **1** Yield: **58%**

1.1 **Reagents:** Sodium acetate, Acetic acid-d_4
Catalysts: Palladium diacetate
Solvents: 1,4-Dioxane; 16 h, 120 °C

Programmable Deuteration of Indoles via Reverse Deuterium Exchange

By: Fitzgerald, Liam S.; et al

Journal of Organic Chemistry (2023), 88(15), 10772-10776.

Scheme 238 (2 Reactions)

Steps: **1** Yield: **57%**

31-614-CAS-43657698

Steps: **1** Yield: **57%**

1.1 **Reagents:** Acetic acid-*d*, Oxygen
Catalysts: Palladium diacetate; 6 h, 1 atm, 35 °C

Construction of planar chiral ferrocenes by cobalt-catalyzed enantioselective C-H acyloxylation enabled by dual ligands

By: Huang, Fan-Rui; et al

CCS Chemistry (2024), 6(11), 2783-2793.

31-614-CAS-38104413

Steps: **1**

1.1 **Reagents:** Potassium carbonate, Acetic acid-*d*
Catalysts: Palladium diacetate
Solvents: Toluene; 24 h, 60 °C

Experimental Protocols

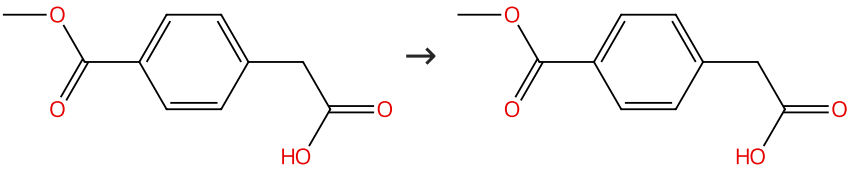
Highly Stereoselective Synthesis of Bis-C-ferrocenyl Glycosides via Palladium-Catalyzed Directed C-H Glycosylation

By: Zhang, Zhuo-Zhuo; et al

Organic Letters (2023), 25(22), 4070-4074.

Scheme 239 (1 Reaction)

Steps: **1** Yield: **57%**



Suppliers (69)

31-614-CAS-27148417

Steps: **1** Yield: **57%**

1.1 **Reagents:** Sodium acetate, Silver acetate, Acetic acid-*d*
Catalysts: Palladium chloride; 12 h, 130 °C

1.2 **Reagents:** Hydrochloric acid
Solvents: Water

Experimental Protocols

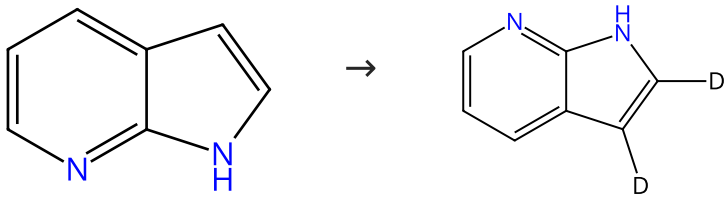
Palladium-catalyzed silver-mediated α-arylation of acetic acid. A new approach for the α-arylation of carbonyl compounds

By: Wu, Guo-Jie; et al

ChemCatChem (2014), 6(6), 1589-1593.

Scheme 240 (1 Reaction)

Steps: **1** Yield: **57%**



Suppliers (124)

31-614-CAS-37227919

Steps: **1** Yield: **57%**

1.1 **Reagents:** Sodium acetate, Acetic acid-d_4
Catalysts: Palladium diacetate
Solvents: 1,4-Dioxane; 16 h, 120 °C

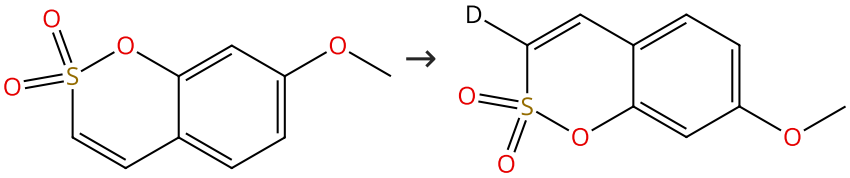
Programmable Deuteration of Indoles via Reverse Deuterium Exchange

By: Fitzgerald, Liam S.; et al

Journal of Organic Chemistry (2023), 88(15), 10772-10776.

Scheme 241 (1 Reaction)

Steps: **1** Yield: **56%**



Suppliers (3)

31-116-CAS-744536

Steps: **1** Yield: **56%**

1.1 **Reagents:** Acetic acid-*d*, Oxygen
Catalysts: Palladium diacetate; 15 min, 80 °C

1.2 **Reagents:** Sodium bicarbonate
Solvents: Dichloromethane; neutralized; 10 - 12 min, rt

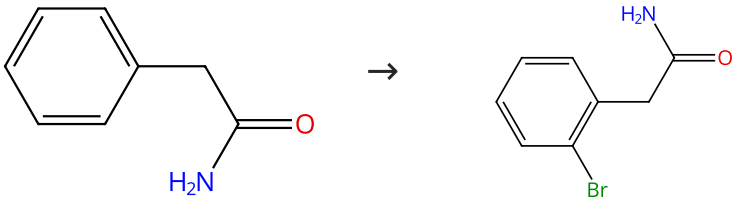
Regioselective palladium(II)-catalyzed aerobic oxidative Heck-type C3 alkenylation of sulfocoumarins

By: Kim, Namhoon; et al

Organic Chemistry Frontiers (2015), 2(12), 1621-1624.

Scheme 242 (1 Reaction)

Steps: **1** Yield: **55%**



Suppliers (89)

Suppliers (52)

31-084-CAS-20298188

Steps: **1** Yield: **55%**

1.1 **Reagents:** Trifluoroacetic acid, *N*-Bromosuccinimide, Trifluoroacetic acid-*d*
Catalysts: Palladium diacetate
Solvents: 1,2-Dichloroethane; 24 h, 50 °C; 50 °C → rt

1.2 **Reagents:** Sodium bicarbonate
Solvents: Ethyl acetate, Water; neutralized, rt

Experimental Protocols

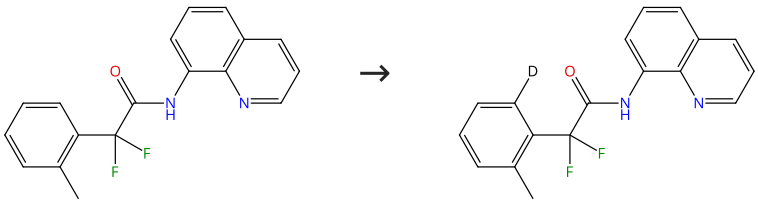
The palladium(II)-catalyzed regioselective ortho-C-H bromination/iodination of arylacetamides with in situ generated imidic acid as the directing group: mechanistic exploration

By: Jaiswal, Yogesh; et al

Organic & Biomolecular Chemistry (2019), 17(28), 6809-6820.

Scheme 243 (1 Reaction)

Steps: **1** Yield: **54%**



31-116-CAS-16343567

Steps: **1** Yield: **54%**

1.1 **Reagents:** Trifluoroacetic acid-*d*
Catalysts: Palladium diacetate
Solvents: 1,2-Dichloroethane; 6 h, 140 °C

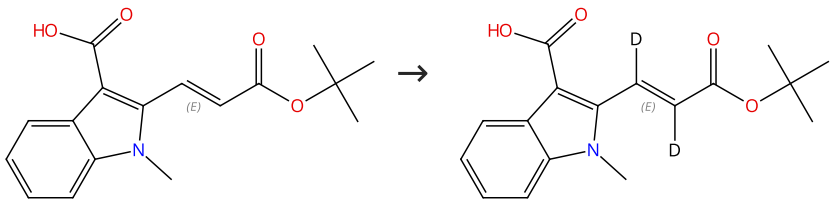
Easy Access to Difluoromethylene-Containing Arene Analogues through Palladium-Catalysed C-H Olefination

By: Shao, Changdong; et al

European Journal of Organic Chemistry (2016), 2016(33), 5529-5538.

Scheme 244 (1 Reaction)

Steps: **1** Yield: **53%**



Double bond geometry shown

Double bond geometry shown

31-116-CAS-19968194

Steps: **1** Yield: **53%**

1.1 **Reagents:** Acetic acid-d_4, Dipotassium phosphate, Oxygen
Catalysts: *N*-Acetyl-L-phenylalanine, Palladium diacetate
Solvents: Acetonitrile; 24 h, 80 °C

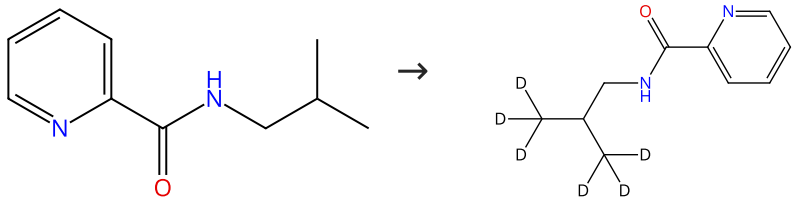
Carboxylate-Assisted Pd(II)-Catalyzed ortho-C-H and Remote C-H Activation: Economical Synthesis of Pyrano[4,3-b]Indol-1(5H)-ones

By: Wang, Hao; et al

Organic Letters (2019), 21(8), 2847-2850.

Scheme 245 (1 Reaction)

Steps: **1** Yield: **50%**



Suppliers (3)

31-614-CAS-39828328

Steps: **1** Yield: **50%**

1.1 **Reagents:** Acetic acid-d_4, Propanoic acid, 2,2-dimethyl-, potassium salt (1:1)
Catalysts: Palladium diacetate; 48 h, 120 °C

Experimental Protocols

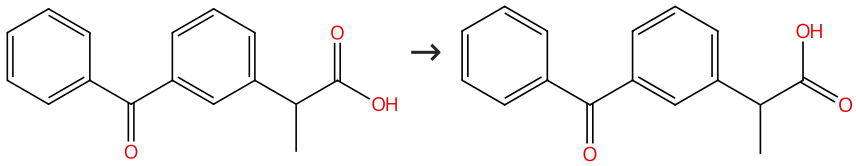
Palladium-Catalyzed Regioselective Insertion of Carbenes into γ-C(sp^3)-H Bonds of Aliphatic Amines

By: Zhang, Peng; et al

Organic Letters (2024), 26(13), 2523-2528.

Scheme 246 (1 Reaction)

Steps: **1** Yield: **49%**



Suppliers (121)

31-614-CAS-40416788

Steps: **1** Yield: **49%**

1.1 **Reagents:** 1,1,1,3,3,3-Hexafluoro-2-propanol, Acetic acid-d_4
Catalysts: Palladium diacetate, 2(1*H*)-Pyridinone, 6-(3-methyl-1*H*-pyrazol-1-yl)-; 48 h, 120 °C

Experimental Protocols

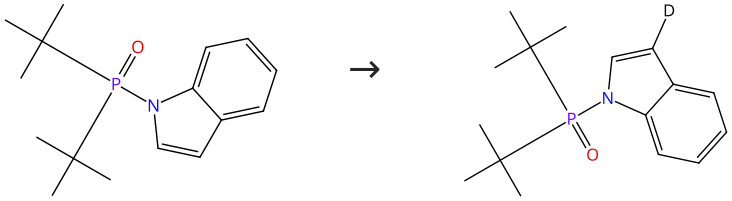
Nondirected Pd-Catalyzed C-H Perdeuteration and meta-Selective Alkenylation of Arenes Enabled by Pyrazolo pyridone Ligands

By: Yun, Seo Jin; et al

ACS Catalysis (2023), 13(7), 4042-4052.

Scheme 247 (1 Reaction)

Steps: **1** Yield: **49%**



Suppliers (2)

31-614-CAS-33609673

Steps: **1** Yield: **49%**

1.1 **Reagents:** *tert*-Butyl hydroperoxide, 4-Methylbenzaldehyde, Acetic acid-*d*
Catalysts: Bis(benzonitrile)dichloropalladium, *N*-[(1,1-Dimethylethoxy)carbonyl]-2-methylalanine, *fac*-Tris(2-(2-pyridinyl)phenyl)iridium
Solvents: Ethyl acetate; 20 h, rt

Experimental Protocols

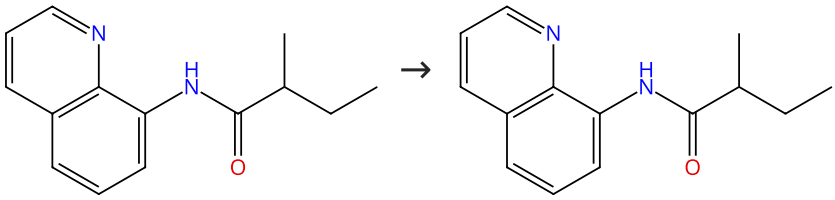
Palladium metallaphotoredox-catalyzed 3-acylation of indole derivatives

By: Wang, Xinmou; et al

Chemical Communications (Cambridge, United Kingdom) (2022), 58(68), 9492-9495.

Scheme 248 (1 Reaction)

Steps: **1** Yield: **46%**



Suppliers (3)

31-614-CAS-29627881

Steps: **1** Yield: **46%**

1.1 **Reagents:** Acetic acid-d_4, Dipotassium phosphate
Catalysts: Tris(dibenzylideneacetone)dipalladium
Solvents: 1,2,3-Trichloropropane; 24 h, 120 °C

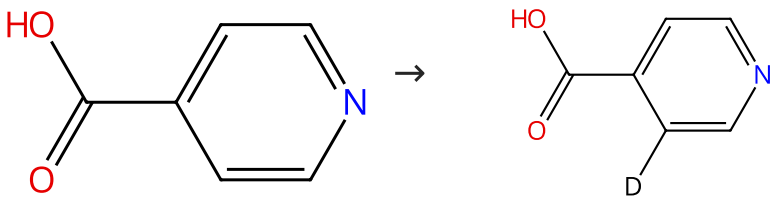
Remote γ-C(sp^3)-H Alkylation of Aliphatic Carboxamides via an Unexpected Regiodetermining Pd Migration Process: Reaction Development and Mechanistic Study

By: Li, Ya; et al

ACS Catalysis (2020), 10(15), 8212-8222.

Scheme 249 (1 Reaction)

Steps: **1** Yield: **42%**



Suppliers (125)

31-614-CAS-24143601

Steps: **1** Yield: **42%**

1.1 **Reagents:** Quinone, Potassium acetate, Acetic acid-d_4
Catalysts: Palladium diacetate, 6-[1-Cyclohexyl-1-(5-methyl-2-pyridinyl)ethyl]-2(1*H*)-pyridinone
Solvents: Dimethylformamide; 10 min, 1 atm, rt; 24 h, 1 atm, rt → 110 °C; 110 °C → rt

1.2 **Reagents:** Formic acid; 10 min, rt

Experimental Protocols

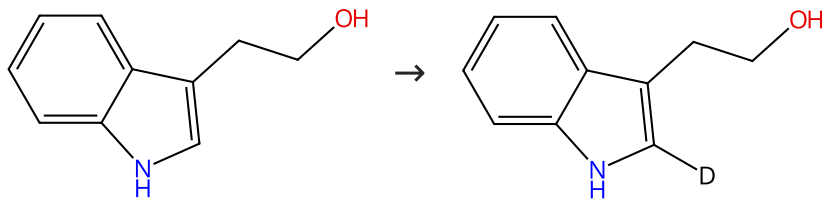
A tautomeric ligand enables directed C-H hydroxylation with molecular oxygen

By: Li, Zhen; et al

Science (Washington, DC, United States) (2021), 372(6549), 1452-1457.

Scheme 250 (1 Reaction)

Steps: **1** Yield: **39%**



Suppliers (99)

31-614-CAS-37227936

Steps: **1** Yield: **39%**

1.1 **Reagents:** Sodium acetate, Acetic acid-d_4
Catalysts: Palladium diacetate
Solvents: 1,4-Dioxane; 16 h, 120 °C

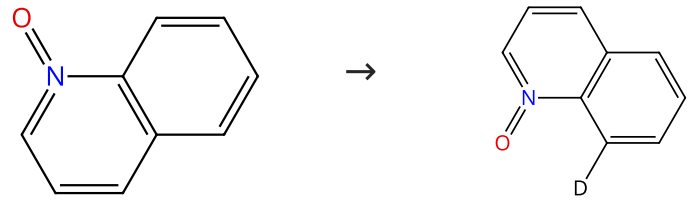
Programmable Deuteration of Indoles via Reverse Deuterium Exchange

By: Fitzgerald, Liam S.; et al

Journal of Organic Chemistry (2023), 88(15), 10772-10776.

Scheme 251 (1 Reaction)

Steps: **1** Yield: **34%**



Suppliers (57)

Supplier (1)

31-116-CAS-13538617

Steps: **1** Yield: **34%**

1.1 **Reagents:** Acetic acid-d_4
Catalysts: Palladium diacetate
Solvents: Water-d_2; 3 h, 120 °C

Experimental Protocols

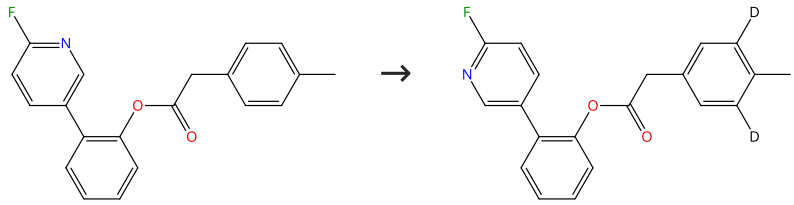
Palladium-Catalyzed C8-Selective C-H Arylation of Quinoline N-Oxides: Insights into the Electronic, Steric, and Solvation Effects on the Site Selectivity by Mechanistic and DFT Computational Studies

By: Stephens, David E.; et al

ACS Catalysis (2015), 5(1), 167-175.

Scheme 252 (1 Reaction)

Steps: **1** Yield: **30%**



31-116-CAS-20396561

Steps: **1** Yield: **30%**

1.1 **Catalysts:** Palladium diacetate
Solvents: Acetic acid-d_4; 24 h, 80 °C

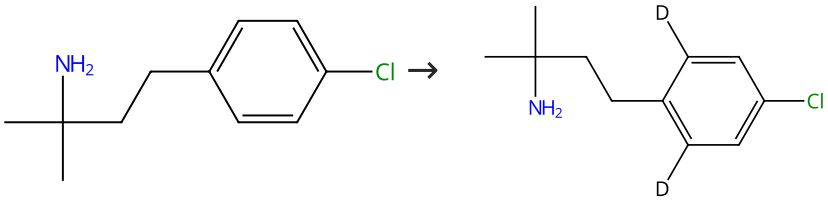
Palladium-Catalyzed Remote meta-C-H Bond Deuteration of Arenes Using a Pyridine Template

By: Xu, Hui; et al

Organic Letters (2019), 21(12), 4887-4891.

Scheme 253 (1 Reaction)

Steps: **1** Yield: **30%**



Suppliers (15)

31-116-CAS-19578840

Steps: **1** Yield: **30%**

1.1 **Reagents:** Acetic acid-d_4
Catalysts: Palladium diacetate; 25 °C; 30 min, 110 °C

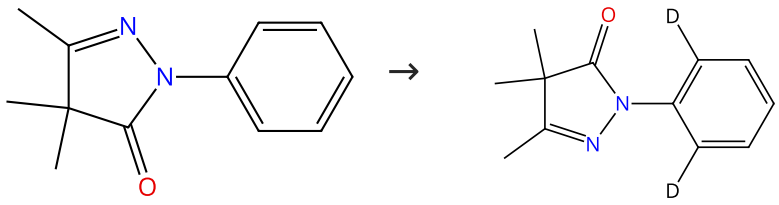
Palladium-Catalyzed C(sp^3)-H Arylation of Primary Amines Using a Catalytic Alkyl Acetal to Form a Transient Directing Group

By: St John-Campbell, Sahra; et al

Chemistry - A European Journal (2018), 24(67), 17838-17843.

Scheme 254 (1 Reaction)

Steps: **1** Yield: **26%**



Suppliers (12)

31-614-CAS-34408391

Steps: **1** Yield: **26%**

1.1 **Reagents:** Acetic acid-d_4
Catalysts: Palladium diacetate
Solvents: Polytetrafluoroethylene; 24 h, 140 °C

Experimental Protocols

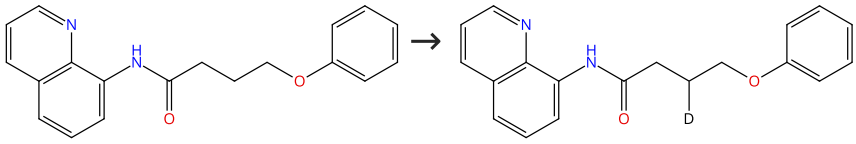
Temperature-Controlled Selective Mono- vs. Di-ortho-Arylation for the Synthesis of Arylhydrazine Derivatives

By: Gulia, Nurbey; et al

Chemistry - A European Journal (2022), 28(66), e202202449.

Scheme 255 (2 Reactions)

Steps: **1** Yield: **23%**



Supplier (1)

31-116-CAS-22968430

Steps: **1** Yield: **23%**

1.1 **Reagents:** Acetic acid-d_4, Water-d_2
Catalysts: Palladium diacetate
Solvents: Dichloromethane; 25 h, 130 °C

Experimental Protocols

Palladium-Catalyzed Selective Carbofunctionalization of Inert γ-C(sp^3)-O Bonds with 4-Hydroxypyridin-2(1H)-ones and 4-Hydroxy-2H-pyran-2-ones

By: Guan, Qifan; et al

Advanced Synthesis & Catalysis (2020), 362(24), 5772-5776.

31-614-CAS-31333357

Steps: **1**

1.1 **Reagents:** Acetic acid-d_4, Water-d_2
Catalysts: Palladium diacetate
Solvents: Dichloromethane; 24 h, 120 °C

Experimental Protocols

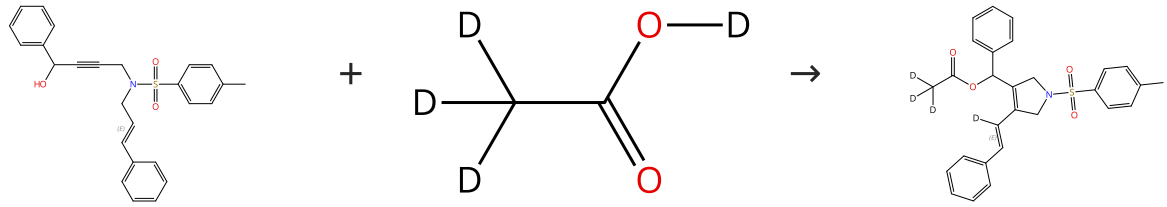
Pd(II)-Catalyzed Selective Amination of Inert γ-C(sp^3)-O Bonds of Aliphatic Amides with Hydrazines

By: Chen, Sai; et al

Asian Journal of Organic Chemistry (2022), 11(2), e202100765.

Scheme 256 (1 Reaction)

Steps: **1** Yield: **22%**



Double bond geometry shown

Suppliers (70)

Double bond geometry shown

31-614-CAS-27853913

Steps: **1** Yield: **22%**

1.1 **Reagents:** *tert*-Butyl hydroperoxide
Catalysts: Tris(pentafluorophenyl)phosphine, Palladium acetylacetonate
Solvents: Nitromethane; 60 °C

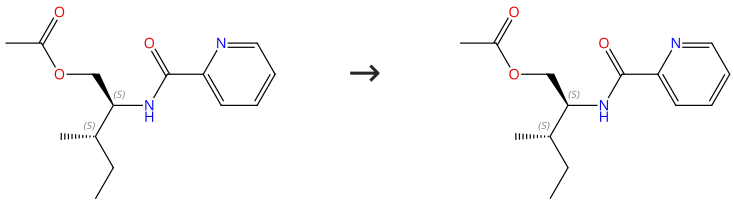
Synthesis of (E)-3-styryl-2,5-dihydro-1H-pyrrole derivatives via Pd-catalyzed addition of indoles to hydroxy 1,6-enynes

By: Zhong, Mei-Jin; et al

RSC Advances (2014), 4(17), 8914-8917.

Scheme 257 (1 Reaction)

Steps: **1** Yield: **22%**



Absolute stereochemistry shown

Absolute stereochemistry shown

31-614-CAS-25717223

Steps: **1** Yield: **22%**

1.1 **Reagents:** Acetic acid-*d*
Catalysts: Palladium diacetate
Solvents: Toluene; 24 h, 110 °C

Experimental Protocols

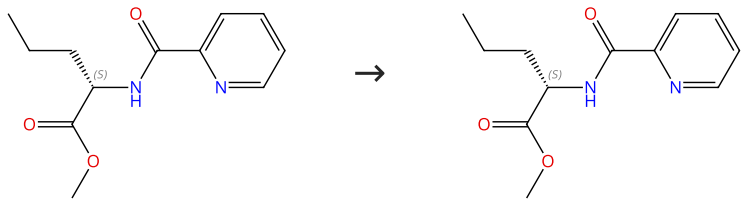
Highly Efficient Syntheses of Azetidines, Pyrrolidines, and Indolines via Palladium Catalyzed Intramolecular Amination of C(sp^3)-H and C(sp^2)-H Bonds at γ and δ Positions

By: He, Gang; et al

Journal of the American Chemical Society (2012), 134(1), 3-6.

Scheme 258 (1 Reaction)

Steps: **1** Yield: **14%**



Absolute stereochemistry shown, Rotation (+)

Absolute stereochemistry shown

31-614-CAS-27328524

Steps: **1** Yield: **14%**

1.1 **Reagents:** Acetic acid-*d*
Catalysts: Palladium diacetate
Solvents: Toluene; 24 h, 110 °C

Experimental Protocols

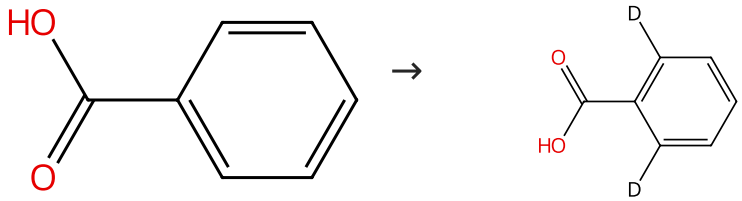
Highly Efficient Syntheses of Azetidines, Pyrrolidines, and Indolines via Palladium Catalyzed Intramolecular Amination of C(sp^3)-H and C(sp^2)-H Bonds at γ and δ Positions

By: He, Gang; et al

Journal of the American Chemical Society (2012), 134(1), 3-6.

Scheme 259 (1 Reaction)

Steps: **1** Yield: **10%**



Suppliers (193)

Suppliers (6)

31-614-CAS-36691656

Steps: **1** Yield: **10%**

1.1 **Reagents:** Acetic acid-d_4
Catalysts: Palladium trifluoroacetate
Solvents: Acetonitrile; 24 h, 150 °C

Experimental Protocols

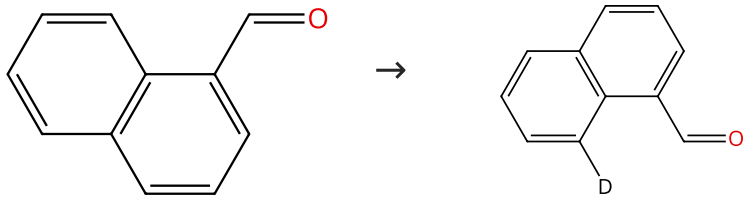
Silver trifluoroacetate as a bifunctional reagent for palladium-catalyzed oxidative carbonylative [4+1] annulation of aromatic acids

By: Li, Zhuang-Zhuang; et al

Organic Chemistry Frontiers (2023), 10(9), 2243-2250.

Scheme 260 (1 Reaction)

Steps: **1** Yield: **4%**



Suppliers (93)

Supplier (1)

31-614-CAS-31174282

Steps: **1** Yield: **4%**

1.1 **Reagents:** 1,1,1,3,3,3-Hexafluoro-2-propanol, Acetic acid-d_4
Catalysts: Palladium diacetate; 36 h, 90 °C

Experimental Protocols

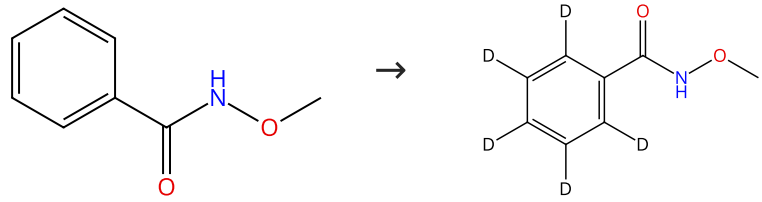
Overcoming peri- and ortho-selectivity in C-H methylation of 1-naphthaldehydes by a tunable transient ligand strategy

By: Mao, Yujian; et al

Chemical Science (2022), 13(10), 2900-2908.

Scheme 261 (1 Reaction)

Steps: **1** Yield: **2%**



Suppliers (49)

Supplier (1)

31-116-CAS-17928541

Steps: **1** Yield: **2%**

1.1 **Reagents:** Potassium persulfate
Catalysts: Palladium trifluoroacetate
Solvents: Acetic acid-d_4; 2 h, 60 °C

Experimental Protocols

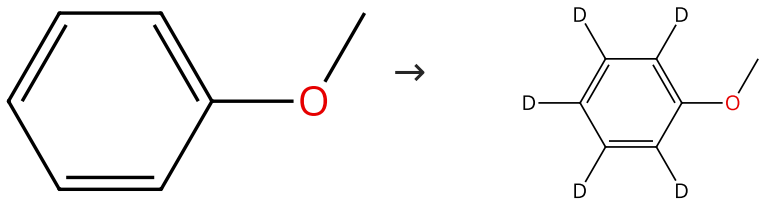
A Cascade Dehydrogenative Cross-Coupling/Annulation Reaction of Benzamides with β-Keto Esters for the Synthesis of Isoquinolinone Derivatives

By: Xu, Guo-Dong; et al

Organic Letters (2017), 19(23), 6265-6267.

Scheme 262 (1 Reaction)

Steps: **1**



Suppliers (89)

Suppliers (23)

31-614-CAS-40416747

Steps: **1**

1.1 **Reagents:** 1,1,1,3,3,3-Hexafluoro-2-propanol, Acetic acid-d_4
Catalysts: Palladium diacetate, 2(1*H*)-Pyridinone, 6-(3-methyl-1*H*-pyrazol-1-yl)-; 48 h, 120 °C

Experimental Protocols

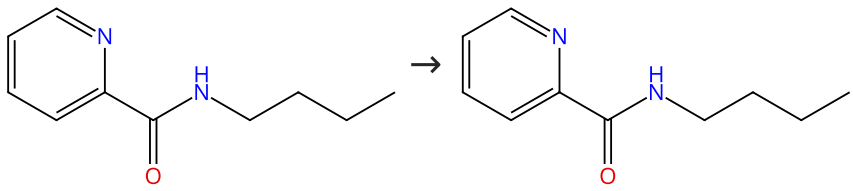
Nondirected Pd-Catalyzed C-H Perdeuteration and meta-Selective Alkenylation of Arenes Enabled by Pyrazolo pyridone Ligands

By: Yun, Seo Jin; et al

ACS Catalysis (2023), 13(7), 4042-4052.

Scheme 263 (1 Reaction)

Steps: **1**



Suppliers (10)

31-614-CAS-41688146

Steps: **1**

1.1 **Reagents:** Acetic acid-d_4
Catalysts: Palladium diacetate, 5-Methyl-3-nitro-2(1*H*)-pyridi none; 72 h, 130 °C

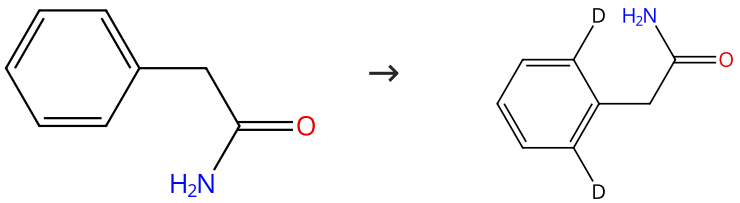
Ligand-Controlled Orthogonal Selectivity between δ and γ Positions of Long-Chain Picolinamides

By: Sinha, Soumya Kumar; et al

ACS Catalysis (2024), 14(16), 12681-12693.

Scheme 264 (1 Reaction)

Steps: **1**



Suppliers (89)

31-614-CAS-35048397

Steps: **1**

1.1 **Reagents:** Cupric acetate, Trifluoroacetic acid-*d*
Catalysts: Palladium diacetate; 4 h, 100 °C; 100 °C → rt

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

Experimental Protocols

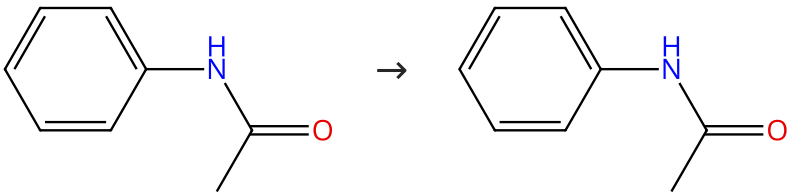
Synthesis of 3-Arylacetamides Substituted Maleimide Via Weakly Coordinating Acetamide Assisted Cross-dehydrog enative Coupling and Their Photoph ysical Studies

By: Mishra, Saksham; et al

European Journal of Organic Chemistry (2022), 2022(44), e202201129.

Scheme 265 (1 Reaction)

Steps: **1**



Suppliers (108)

31-614-CAS-31906748

Steps: **1**

1.1 **Reagents:** Acetic acid-*d*, Lithium trifluoromethanesulfonate
Catalysts: Palladium diacetate
Solvents: 1,1,1,3,3,3-Hexafluoro-2-propanol; 24 h, 50 °C

Experimental Protocols

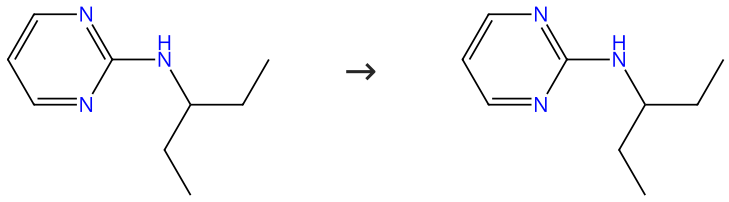
Palladium(II) - Catalyzed Functiona lization of Aromatic Amines with Aliphatic Aziridines: Direct Approach to Form O-Aminophenethylamine Backbones

By: He, Shuo; et al

Advanced Synthesis & Catalysis (2022), 364(9), 1555-1563.

Scheme 266 (1 Reaction)

Steps: **1**



Suppliers (2)

31-614-CAS-40420589

Steps: **1**

1.1 **Reagents:** Silver carbonate, Diisopropyl sulfide, Acetic acid-d_4
Catalysts: Palladium diacetate
Solvents: 1,4-Dioxane; 12 h, 140 °C

Experimental Protocols

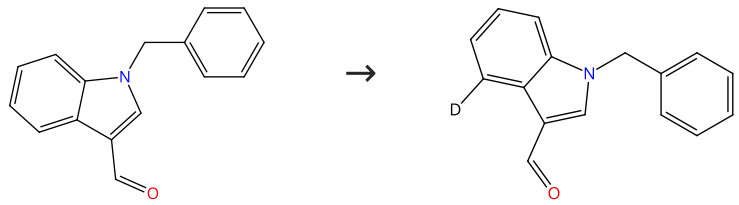
Substrate-controlled divergent remote C-H and N-H polyfluoroarylation of 2-aminopyrimidines with polyfluo roarenes via Pd(II)/Pd(0) catalysis

By: Das, Animesh; et al

Chemical Communications (Cambridge, United Kingdom) (2024), 60(43), 5630-5633.

Scheme 267 (1 Reaction)

Steps: **1**



Suppliers (73)

31-116-CAS-19710627

Steps: **1**

1.1 **Reagents:** Acetic acid-*d*, Silver trifluoroacetate, 2,2-Diphenyl glycine, Water-d_2
Catalysts: Palladium diacetate
Solvents: 1,1,1,3,3,3-Hexafluoro-2-propanol; 6 h, 110 °C

Experimental Protocols

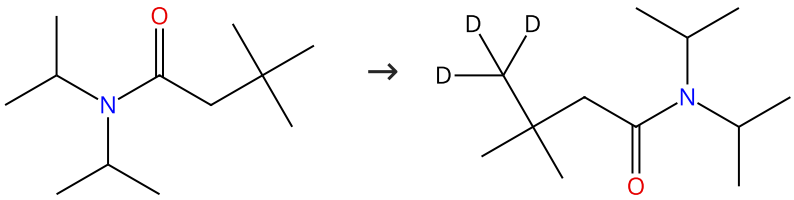
Palladium Catalyzed Regioselective C4-Arylation and Olefination of Indoles and Azaindoles

By: Thrimurtulu, Neetipalli; et al

Advanced Synthesis & Catalysis (2019), 361(6), 1441-1446.

Scheme 268 (1 Reaction)

Steps: **1**



Suppliers (3)

31-614-CAS-39508278

Steps: **1**

1.1 **Reagents:** Silver acetate, Acetic acid-d_4
Catalysts: 5-Nitro-2(1*H*)-pyridinone, Palladium dipivalate; 48 h, 100 °C

Experimental Protocols

Surpassing the Limited Coordination Affinity of Native Amides by Introducing Pyridone-Pd-AgOAc Clusters to Promote Distal γ-C(sp^3)-H Arylation

By: Goswami, Nupur; et al

ACS Catalysis (2024), 14(6), 3798-3811.

Scheme 269 (1 Reaction)

Steps: **1**

Suppliers (55)

31-614-CAS-25359171

Steps: **1**

1.1 **Reagents:** Cesium carbonate, Acetic acid-d_4
Catalysts: Palladium diacetate; 10 min, rt; 6 h, rt → 130 °C

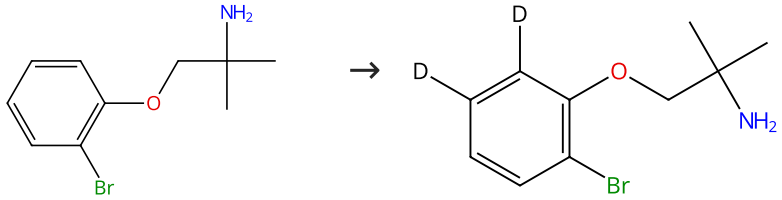
Native Directed Site-Selective δ-C(sp^3)-H and δ-C(sp^2)-H Arylation of Primary Amines

By: Lin, Hua; et al

ACS Catalysis (2019), 9(6), 4887-4891.

Scheme 270 (1 Reaction)

Steps: **1**



Suppliers (3)

31-614-CAS-39823328

Steps: **1**

1.1 **Reagents:** Acetic acid-*d*, Silver oxide (Ag_2O)
Catalysts: Methyl bicyclo[2.2.1]hept-2-ene-2-carboxylate, Palladium diacetate
Solvents: 1,1,1,3,3,3-Hexafluoro-2-propanol; 10 min, rt; 12 h, rt → 110 °C; 110 °C → rt

1.2 **Reagents:** Hydrochloric acid
Solvents: Water; 1 h, rt

1.3 **Reagents:** Ammonium hydroxide
Solvents: Diethyl ether, Water; > p H 10

Experimental Protocols

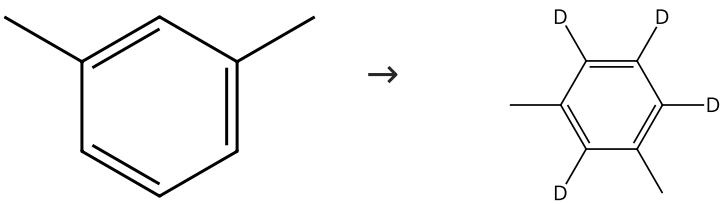
Native Amino Group Directed Meta-Selective C-H Arylation of Primary Amines Via Pd/Norbornene Catalysis

By: Zhang, Shasha; et al

Organic Letters (2024), 26(12), 2495-2499.

Scheme 271 (1 Reaction)

Steps: **1**



Suppliers (104)

Suppliers (14)

31-614-CAS-40416752

Steps: **1**

1.1 **Reagents:** 1,1,1,3,3,3-Hexafluoro-2-propanol, Acetic acid-d_4
Catalysts: Palladium diacetate, 2(1*H*)-Pyridinone, 6-(3-methyl-1*H*-pyrazol-1-yl)-; 48 h, 120 °C

Experimental Protocols

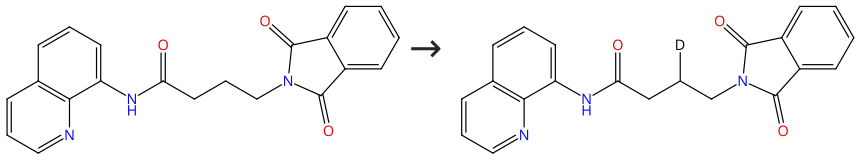
Nondirected Pd-Catalyzed C-H Perdeuteration and meta-Selective Alkenylation of Arenes Enabled by Pyrazolo pyridone Ligands

By: Yun, Seo Jin; et al

ACS Catalysis (2023), 13(7), 4042-4052.

Scheme 272 (1 Reaction)

Steps: **1**



Supplier (1)

31-116-CAS-19707104

Steps: **1**

1.1 **Reagents:** Acetic acid-d_4
Catalysts: Palladium diacetate
Solvents: Acetonitrile; 24 h, 120 °C

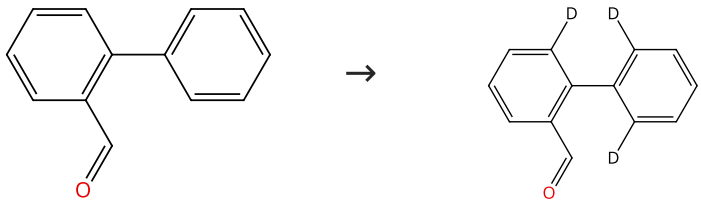
Activation of diverse carbon-heteroatom and carbon-carbon bonds via palladium(II)-catalyzed β-X elimination

By: Tran, Van T.; et al

Nature Chemistry (2018), 10(11), 1126-1133.

Scheme 273 (1 Reaction)

Steps: **1**



Suppliers (83)

31-614-CAS-41520937

Steps: **1**

1.1 **Reagents:** Silver carbonate, Acetic acid-d_4
Catalysts: Palladium diacetate, *tert*-Leucine
Solvents: 1,1,1,3,3,3-Hexafluoro-2-propanol; 24 h, 120 °C

Experimental Protocols

Pd(II)-Catalyzed Formal [5+2]-Carbocyclization of Ortho-Aryl-Substituted Arylaldehydes with Allylic Alcohols

By: Wang, Chengjie; et al

Advanced Synthesis & Catalysis (2024), 366(18), 3875-3880.

Scheme 274 (1 Reaction)

Steps: **1**

Suppliers (84)

31-614-CAS-35858940

Steps: **1**

1.1 **Reagents:** Potassium acetate, Acetic acid-*d*, Oxygen
Catalysts: 2,5-Di-*tert*-butyl-1,4-benzoquinone, Palladium diacetate, L-*tert*-Leucine
Solvents: 2,2,2-Trifluoroethanol-*d*; 2 h, 100 °C

Experimental Protocols

Remote Editing of Stacked Aromatic Assemblies for Heteroannular C-H Functionalization by a Palladium Switch between Aromatic Rings

By: Yu, Zhiqian; et al

Angewandte Chemie, International Edition (2022), 61(48), e202212079.

Scheme 275 (1 Reaction)

Steps: **1**

Suppliers (84)

31-614-CAS-35858924

Steps: **1**

1.1 **Reagents:** Potassium acetate, Acetic acid-*d*, Cyclohexyl acrylate, Oxygen
Catalysts: 2,5-Di-*tert*-butyl-1,4-benzoquinone, Palladium diacetate, L-*tert*-Leucine
Solvents: 2,2,2-Trifluoroethanol-*d*; 2 h, 100 °C

Experimental Protocols

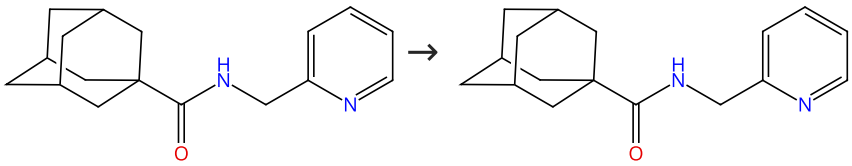
Remote Editing of Stacked Aromatic Assemblies for Heteroannular C-H Functionalization by a Palladium Switch between Aromatic Rings

By: Yu, Zhiqian; et al

Angewandte Chemie, International Edition (2022), 61(48), e202212079.

Scheme 276 (1 Reaction)

Steps: **1**



Suppliers (9)

31-614-CAS-29343445

Steps: **1**

1.1 **Reagents:** Acetic acid-d_4
Catalysts: Palladium diacetate
Solvents: *p*-Xylene; 18 h, 130 °C

Experimental Protocols

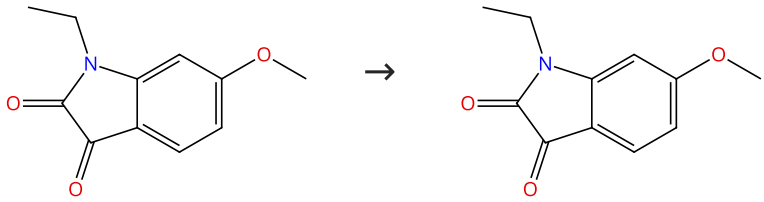
Directed C-H Bond Oxidation of Bridged Cycloalkanes Catalyzed by Palladium(II) Acetate

By: Larrosa, Marta; et al

Chemistry - A European Journal (2018), 24(23), 6269-6276.

Scheme 277 (1 Reaction)

Steps: **1**



Suppliers (5)

31-614-CAS-33408274

Steps: **1**

1.1 **Reagents:** Silver acetate, Acetic acid-*d*
Catalysts: 1-Adamantanecarboxylic acid, Palladium diacetate, 2-[(1,1-Dimethylethyl)amino]-2-oxoacetic acid
Solvents: 1,1,1,3,3,3-Hexafluoro-2-propanol; 24 h, 120 °C

Experimental Protocols

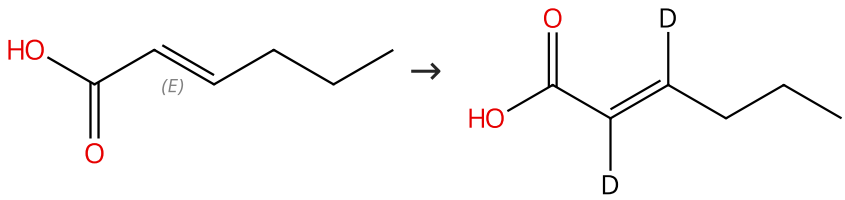
Ligand-Promoted Fluorinated Olefination of Isatins at the C5 Position via a Palladium Catalyst

By: Zhou, Kehan; et al

Organic Letters (2022), 24(30), 5568-5572.

Scheme 278 (1 Reaction)

Steps: **1**



Double bond geometry shown

Suppliers (74)

31-614-CAS-31106953

Steps: **1**

1.1 **Reagents:** Acetic acid-d_4
Catalysts: Palladium diacetate, 6-[1-Methyl-1-(2-quinolinyl) ethyl]-2(1*H*)-pyridinone
Solvents: 1,4-Dioxane; 24 h, 80 °C

Experimental Protocols

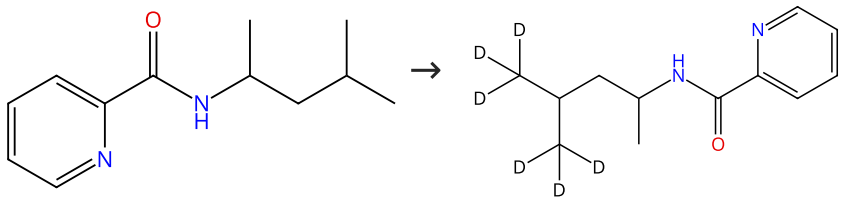
Ligand-controlled divergent dehydrogenative reactions of carboxylic acids via C-H activation

By: Wang, Zhen; et al

Science (Washington, DC, United States) (2021), 374(6572), 1281-1285.

Scheme 279 (1 Reaction)

Steps: **1**



Suppliers (3)

31-614-CAS-42934004

Steps: **1**

1.1 **Reagents:** Sodium carbonate, Acetic acid-d_4
Catalysts: Palladium diacetate; 16 h, 130 °C

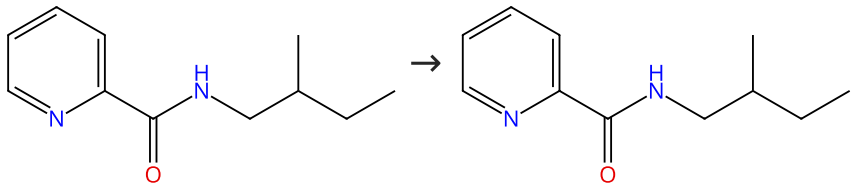
Remote Alkynylation of Aliphatic Amines.

By: Dauncey, Elizabeth M.; et al

Organic Letters (2024), 26(49), 10441-10446.

Scheme 280 (1 Reaction)

Steps: **1**



Suppliers (3)

31-614-CAS-41688145

Steps: **1**

1.1 **Reagents:** Acetic acid-d_4
Catalysts: 6-Methyluracil, Palladium diacetate; 72 h, 130 °C

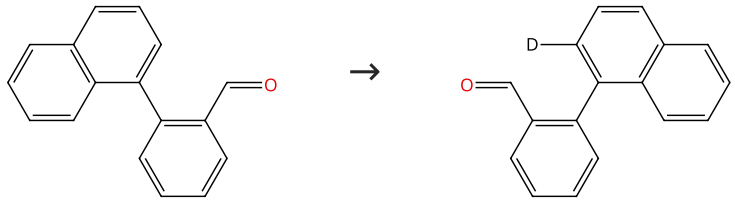
Ligand-Controlled Orthogonal Selectivity between δ and γ Positions of Long-Chain Picolinamides

By: Sinha, Soumya Kumar; et al

ACS Catalysis (2024), 14(16), 12681-12693.

Scheme 281 (2 Reactions)

Steps: **1**



Suppliers (42)

31-614-CAS-33213557

Steps: **1**

1.1 **Reagents:** Acetic acid-d_4, Manganese oxide (MnO_2), Lithium acetate dihydrate
Catalysts: L-*tert*-Leucine, Palladium trifluoroacetate
Solvents: 1,1,1,3,3,3-Hexafluoro-2-propanol; 72 h, 60 °C

Experimental Protocols

Pd-Catalyzed Atroposelective C-H Acyloxylation Enabling Access to an Axially Chiral Biaryl Phenol Organocatalyst

By: Zhang, Jitan; et al

Organic Letters (2022), 24(28), 5143-5148.

31-614-CAS-30038467

Steps: **1**

1.1 **Reagents:** Quinone, Acetic acid-*d*
Catalysts: Palladium diacetate, L-*tert*-Leucine; 12 h, 80 °C

Experimental Protocols

Pd-Catalyzed Atropselective C-H Olefination Promoted by a Transient Directing Group

By: Kumar, Rohit; et al

Advanced Synthesis & Catalysis (2022), 364(4), 897-908.

Scheme 282 (1 Reaction)

Steps: **1**

Suppliers (11)

31-614-CAS-39898321

Steps: **1**

1.1 **Reagents:** Cupric acetate, Acetic acid-*d*
Catalysts: Palladium chloride, Butyl bicyclo[2.2.1]hept-2-ene-2-carboxylate
Solvents: 1,4-Dioxane; 24 h, 120 °C

Experimental Protocols

Site-Selective C-H Arylation of 2-Pyridones via Pd/NBE Cooperative Catalysis

By: Sun, Ziyi; et al

ACS Catalysis (2024), 14(10), 7762-7770.

Scheme 283 (1 Reaction)

Steps: **1**

Suppliers (4)

31-614-CAS-36484774

Steps: **1**

1.1 **Reagents:** Chlorosuccinimide, Silver carbonate, Trifluoroacetic acid-*d*, L-*tert*-Leucine
Catalysts: Palladium diacetate
Solvents: 1,2-Dichloroethane; 60 °C

Experimental Protocols

Atroposelective brominations to access chiral biaryl scaffolds using high-valent Pd-catalysis

By: Linde, Sif T.; et al

Chemical Science (2023), 14(13), 3676-3681.

Scheme 284 (1 Reaction)

Steps: **1**

Suppliers (4)

31-614-CAS-36484777

Steps: **1**

1.1 **Reagents:** Silver carbonate, Trifluoroacetic acid-*d*, L-*tert*-Leucine
Catalysts: Palladium diacetate
Solvents: 1,2-Dichloroethane; 60 °C

Experimental Protocols

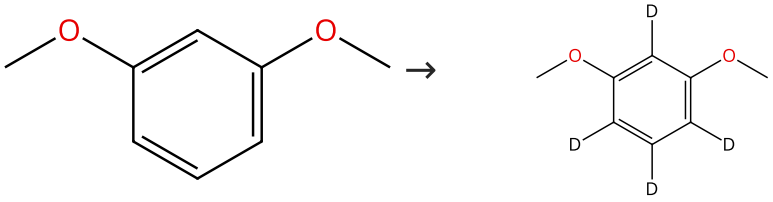
Atroposelective brominations to access chiral biaryl scaffolds using high-valent Pd-catalysis

By: Linde, Sif T.; et al

Chemical Science (2023), 14(13), 3676-3681.

Scheme 285 (1 Reaction)

Steps: **1**



Suppliers (95)

Suppliers (23)

31-614-CAS-40416749

Steps: **1**

1.1 **Reagents:** 1,1,1,3,3,3-Hexafluoro-2-propanol, Acetic acid-d_4
Catalysts: Palladium diacetate, 2(1*H*)-Pyridinone, 6-(3-methyl-1*H*-pyrazol-1-yl)-; 48 h, 120 °C

Experimental Protocols

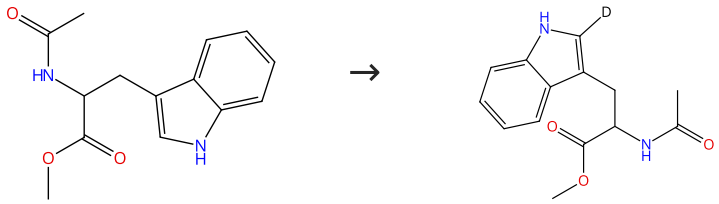
Nondirected Pd-Catalyzed C-H Perdeuteration and meta-Selective Alkenylation of Arenes Enabled by Pyrazolo pyridone Ligands

By: Yun, Seo Jin; et al

ACS Catalysis (2023), 13(7), 4042-4052.

Scheme 286 (1 Reaction)

Steps: **1**



Suppliers (7)

31-614-CAS-41277663

Steps: **1**

1.1 -

1.2 **Reagents:** Acetic acid-d_4, Oxygen, Water-d_2
Catalysts: Palladium diacetate, 4,5-Diazafluoren-9-one; 40 °C

Experimental Protocols

Overcoming Pd Catalyst Deactivation in the C-H Coupling of Tryptophan Residues in Water Using Air as the Oxidant

By: Beckers, Igor; et al

ACS Catalysis (2024), 14(9), 7080-7086.

Scheme 287 (1 Reaction)

Steps: **1**

31-614-CAS-43478151

Steps: **1**

1.1 **Reagents:** Silver carbonate, Lithium acetate, Acetic acid-d_4
Catalysts: Palladium diacetate
Solvents: 1,4-Dioxane; 12 h, 80 °C

Experimental Protocols

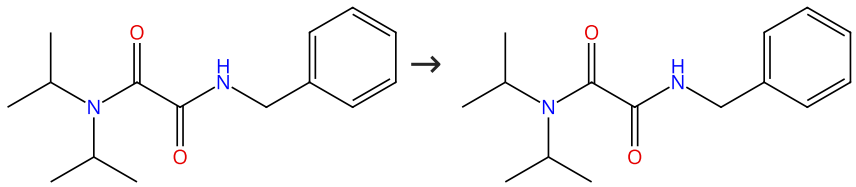
Palladium-Catalyzed Solvent-Controlled Divergent C2/C5 Site-Selective Alkynylation of Pyrrole Derivatives

By: Huang, Zeng; et al

Journal of Organic Chemistry (2025), 90(2), 1115-1125.

Scheme 288 (1 Reaction)

Steps: **1**



Supplier (1)

31-614-CAS-27521291

Steps: **1**

1.1 **Reagents:** Silver carbonate, Acetic acid-*d*
Catalysts: Dibutyl phosphate, Palladium diacetate
Solvents: 1,2-Dichloroethane; 12 h, 120 °C

Experimental Protocols

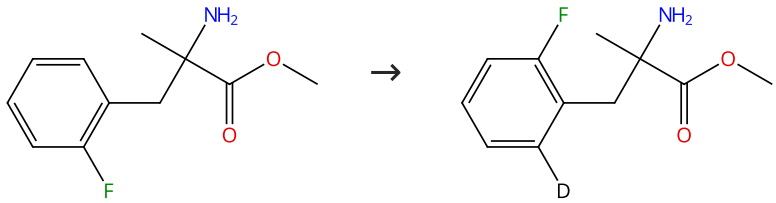
Palladium-Catalyzed Isoquinoline Synthesis by Tandem C- H Allylation and Oxidative Cyclization of Benzylamines with Allyl Acetate

By: Chen, Yujie; et al

Organic Letters (2021), 23(11), 4209-4213.

Scheme 289 (1 Reaction)

Steps: **1**



Suppliers (6)

31-614-CAS-24226003

Steps: **1**

1.1 **Reagents:** Trifluoroacetic acid-*d*, Dichloromethane-d_2
Catalysts: Palladium diacetate; 16 h, 50 °C

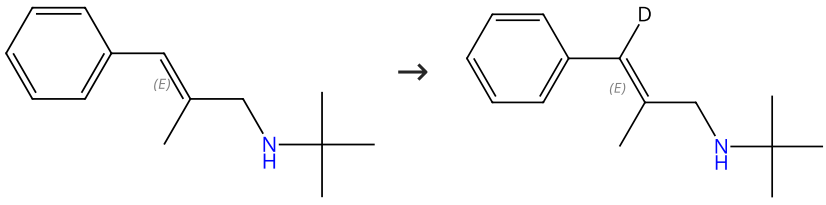
Amine-Directed Palladium-Catalyzed C-H Halogenation of Phenylalanine Derivatives

By: Ville, Alexia; et al

Chemistry - A European Journal (2021), 27(56), 13961-13965.

Scheme 290 (1 Reaction)

Steps: **1**



Double bond geometry shown

Double bond geometry shown

Suppliers (5)

31-614-CAS-24032945

Steps: **1**

1.1 **Reagents:** Trifluoroacetic acid-*d*, Silver sulfate, (2*Z*)-*N*-(1,1-Dimethylethyl)-2-methyl-3-phenyl-2-propen-1-amine
Catalysts: Palladium diacetate
Solvents: Tetrahydrofuran; 14 h, 90 °C; 90 °C → rt

1.2 **Reagents:** Ammonium hydroxide
Solvents: Water; 15 min, pH 8, rt

Experimental Protocols

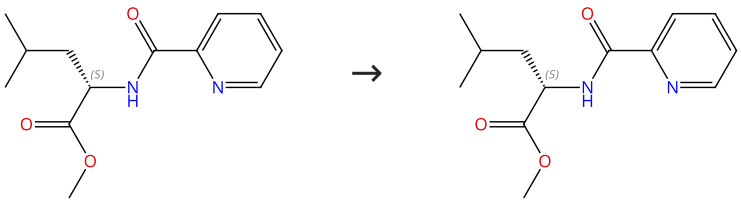
Palladium-Catalyzed γ,γ'-Diarylation of Free Alkenyl Amines

By: Landge, Vinod G.; et al

Journal of the American Chemical Society (2021), 143(27), 10352-10360.

Scheme 291 (1 Reaction)

Steps: **1**



Absolute stereochemistry shown

Absolute stereochemistry shown

Suppliers (3)

31-614-CAS-26539449

Steps: **1**

1.1 **Reagents:** Acetic acid-*d*
Catalysts: Palladium diacetate
Solvents: Toluene; 24 h, 110 °C

Experimental Protocols

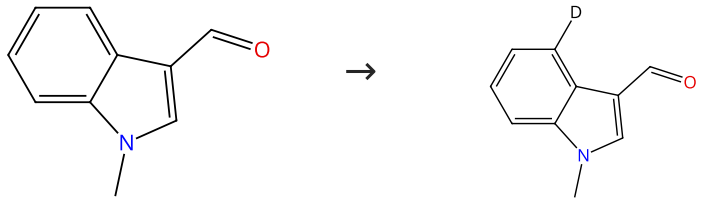
Highly Efficient Syntheses of Azetidines, Pyrrolidines, and Indolines via Palladium Catalyzed Intramolecular Amination of C(sp^3)-H and C(sp^2)-H Bonds at γ and δ Positions

By: He, Gang; et al

Journal of the American Chemical Society (2012), 134(1), 3-6.

Scheme 292 (1 Reaction)

Steps: **1**



Suppliers (83)

31-614-CAS-33762790

Steps: **1**

1.1 **Reagents:** Acetic acid-d_4
Catalysts: Palladium diacetate
Solvents: 2,2,2-Trifluoroethanol; 12 h, 70 °C

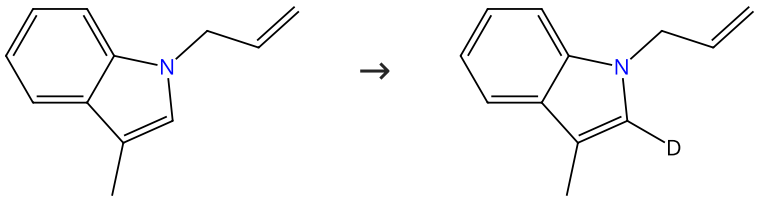
Palladium-Catalyzed Regioselective C4 Functionalization of Indoles with Quinones

By: Aslam, Mohammad; et al

Advanced Synthesis & Catalysis (2022), 364(18), 3179-3192.

Scheme 293 (1 Reaction)

Steps: **1**



Suppliers (3)

31-116-CAS-17180743

Steps: **1**

1.1 **Catalysts:** Palladium trifluoroacetate, (3a*R*,3'a*R*,6*R*)-3,3',3a,3'a,4,4',5,5'-Octahydro-3,3,3',3'-tetrakis(1-methylethyl)-6,6'-spirobi[6*H*-cyclopent[*c*]isoxazole]
Solvents: Dichloromethane; 2 h, 30 °C; 10 min, 30 °C; 1 h, 30 °C

1.2 **Reagents:** Quinone
Solvents: 2-Methyl-2-butanol

1.3 **Reagents:** Acetic acid-d_4

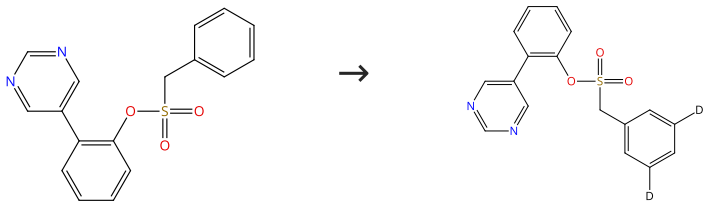
Enantioselective synthesis of tetrahydrocyclopenta[b]indole bearing a chiral quaternary carbon center via Pd(II)-SPRIX-catalyzed C-H activation

By: Abozeid, Mohamed Ahmed; et al

Chemical Communications (Cambridge, United Kingdom) (2017), 53(51), 6887-6890.

Scheme 294 (1 Reaction)

Steps: **1**



31-116-CAS-20235137

Steps: **1**

1.1 **Reagents:** Silver acetate, Acetic acid-d_4
Catalysts: Acetylglycine, Palladium diacetate; 24 h, 110 °C

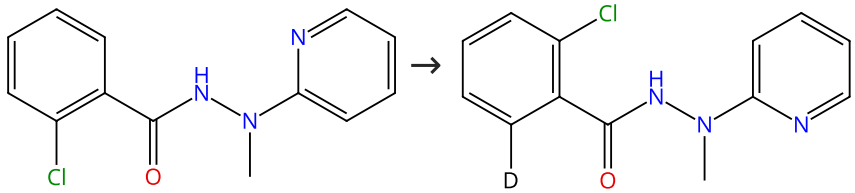
Palladium-Catalyzed Selective meta-C-H Deuteration of Arenes: Reaction Design and Applications

By: Bag, Sukdev; et al

Chemistry - A European Journal (2019), 25(40), 9433-9437.

Scheme 295 (1 Reaction)

Steps: **1**



31-614-CAS-24723404

Steps: **1**

1.1 **Reagents:** Sodium acetate, Acetic acid-d_4
Catalysts: Palladium diacetate
Solvents: Chlorobenzene; 6 h, 140 °C

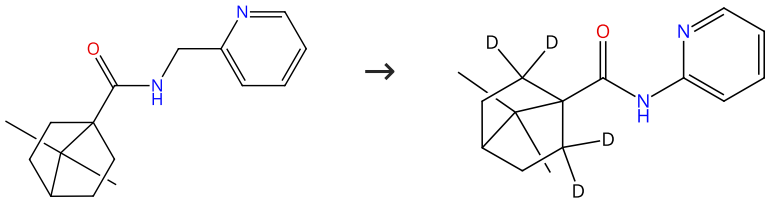
Palladium-Catalyzed Arylation of C(sp^2)-H Bonds with 2-(1-Methylhydrazinyl)pyridine as the Bidentate Directing Group

By: Wei, Jian; et al

ACS Omega (2021), 6(39), 25151-25161.

Scheme 296 (1 Reaction)

Steps: **1**



31-116-CAS-18635041

Steps: **1**

1.1 **Reagents:** Acetic acid-d_4
Catalysts: Palladium diacetate
Solvents: *p*-Xylene; 18 h, 130 °C

Experimental Protocols

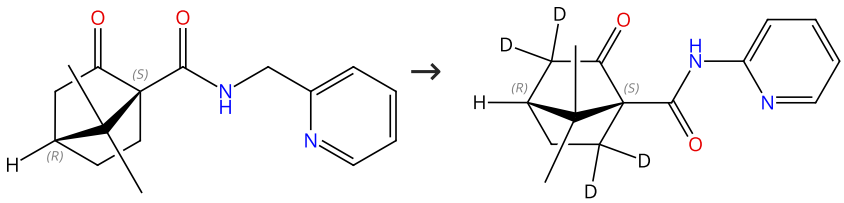
Directed C-H Bond Oxidation of Bridged Cycloalkanes Catalyzed by Palladium(II) Acetate

By: Larrosa, Marta; et al

Chemistry - A European Journal (2018), 24(23), 6269-6276.

Scheme 297 (1 Reaction)

Steps: **1**



Absolute stereochemistry shown

Absolute stereochemistry shown

Suppliers (2)

31-116-CAS-18635042 Steps: **1**

1.1 **Reagents:** Acetic acid-d_4
Catalysts: Palladium diacetate
Solvents: *p*-Xylene; 18 h, 130 °C

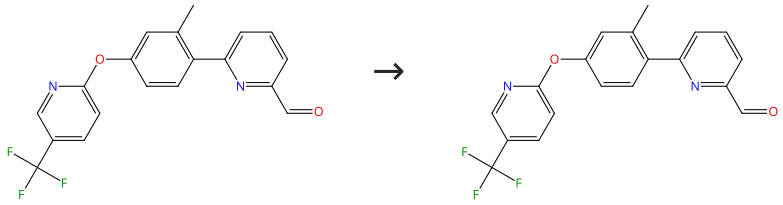
Experimental Protocols

Directed C-H Bond Oxidation of Bridged Cycloalkanes Catalyzed by Palladium(II) Acetate

By: Larrosa, Marta; et al

Chemistry - A European Journal (2018), 24(23), 6269-6276.

Scheme 298 (1 Reaction) Steps: **1**



31-614-CAS-25653660 Steps: **1**

1.1 **Catalysts:** Palladium diacetate
Solvents: Trifluoroacetic acid-*d*; 24 h, 120 °C

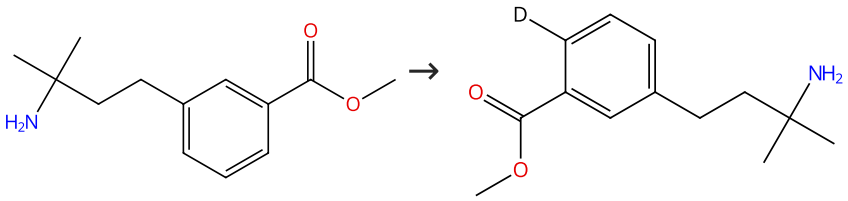
Experimental Protocols

Palladium-Catalyzed Regioselective C-H Functionalization of Arenes Substituted by Two N-Heterocycles and Application in Late-Stage Functionalization

By: Yin, Da-Wei; et al

Journal of Organic Chemistry (2018), 83(7), 3987-4001.

Scheme 299 (1 Reaction) Steps: **1**



Suppliers (4)

31-614-CAS-35733678 Steps: **1**

1.1 **Catalysts:** Palladium diacetate
Solvents: Acetic acid-*d*; 10 min, rt; 12 h, 80 °C; 80 °C → rt

1.2 **Reagents:** Hydrochloric acid
Solvents: Water; 1 h, rt

1.3 **Reagents:** Ammonium hydroxide
Solvents: Water; 20 min, pH 10, rt

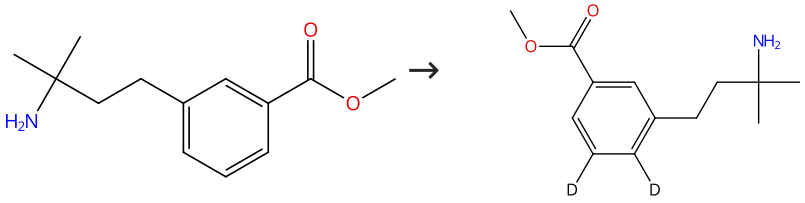
Experimental Protocols

Native Amino Group Directed Site-Selective ε-C(sp^2)-H Iodination of Primary Amines

By: Feng, Yueyao; et al

Organic Letters (2023), 25(9), 1348-1352.

Scheme 300 (1 Reaction) Steps: **1**



Suppliers (4)

31-614-CAS-39823333 Steps: **1**

1.1 **Reagents:** Acetic acid-*d*, Silver oxide (Ag_2O)
Catalysts: Methyl bicyclo[2.2.1]hept-2-ene-2-carboxylate, Palladium diacetate
Solvents: 1,1,1,3,3,3-Hexafluoro-2-propanol; 10 min, rt; 12 h, rt → 110 °C; 110 °C → rt

1.2 **Reagents:** Hydrochloric acid
Solvents: Water; 1 h, rt

1.3 **Reagents:** Ammonium hydroxide
Solvents: Diethyl ether, Water; > p H 10

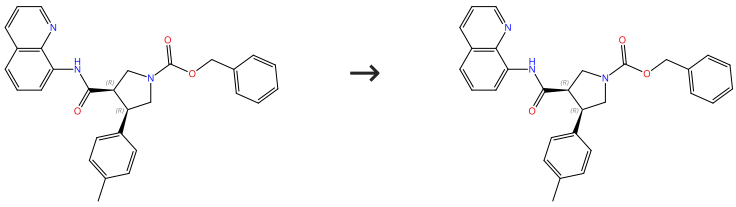
Experimental Protocols

Native Amino Group Directed Meta-Selective C-H Arylation of Primary Amines Via Pd/Norbornene Catalysis

By: Zhang, Shasha; et al

Organic Letters (2024), 26(12), 2495-2499.

Scheme 301 (1 Reaction) Steps: **1**



Relative stereochemistry shown Relative stereochemistry shown

31-614-CAS-40198771 Steps: **1**

1.1 **Reagents:** Acetic acid-d_4
Catalysts: Palladium diacetate
Solvents: Toluene-d_8; 18 h, 110 °C

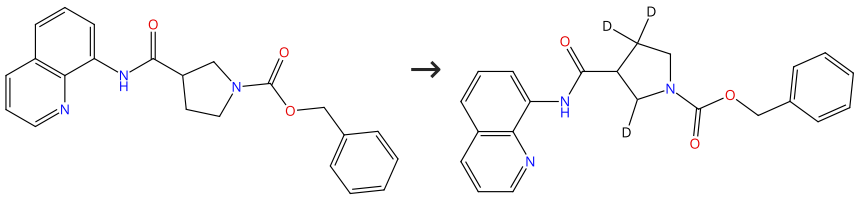
Experimental Protocols

On the Mechanism and Selectivity of Palladium-Catalyzed C (sp^3)-H Arylation of Pyrrolidines and Piperidines at Unactivated C4 Positions: Discovery of an Improved Dimethylaminoquinoline Amide Directing Group

By: Antermite, Daniele; et al

ACS Catalysis (2023), 13(14), 9597-9615.

Scheme 302 (1 Reaction) Steps: **1**



Supplier (1)

31-614-CAS-40198768 Steps: **1**

1.1 **Reagents:** Acetic acid-d_4
Catalysts: Palladium diacetate
Solvents: Toluene-d_8; 18 h, 110 °C

Experimental Protocols

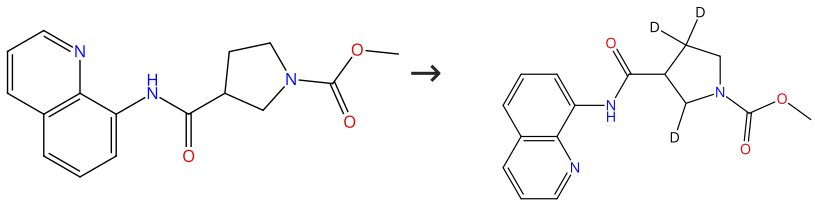
On the Mechanism and Selectivity of Palladium-Catalyzed C (sp^3)-H Arylation of Pyrrolidines and Piperidines at Unactivated C4 Positions: Discovery of an Improved Dimethylaminoquinoline Amide Directing Group

By: Antermite, Daniele; et al

ACS Catalysis (2023), 13(14), 9597-9615.

Scheme 303 (1 Reaction)

Steps: **1**



Supplier (1)

31-614-CAS-40198766

Steps: **1**

1.1 **Reagents:** Acetic acid-d_4
Catalysts: Palladium diacetate
Solvents: Toluene-d_8; 18 h, 110 °C

Experimental Protocols

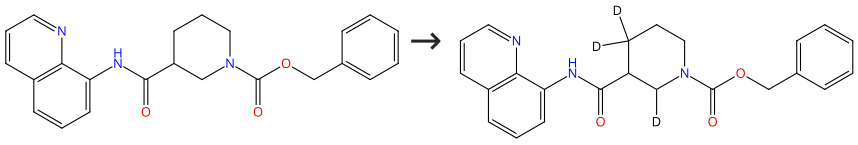
On the Mechanism and Selectivity of Palladium-Catalyzed C (sp^3)-H Arylation of Pyrrolidines and Piperidines at Unactivated C4 Positions: Discovery of an Improved Dimethylaminoquinoline Amide Directing Group

By: Antermite, Daniele; et al

ACS Catalysis (2023), 13(14), 9597-9615.

Scheme 304 (1 Reaction)

Steps: **1**



Supplier (1)

31-614-CAS-40198765

Steps: **1**

1.1 **Reagents:** Acetic acid-d_4
Catalysts: Palladium diacetate
Solvents: Toluene-d_8; 18 h, 110 °C

Experimental Protocols

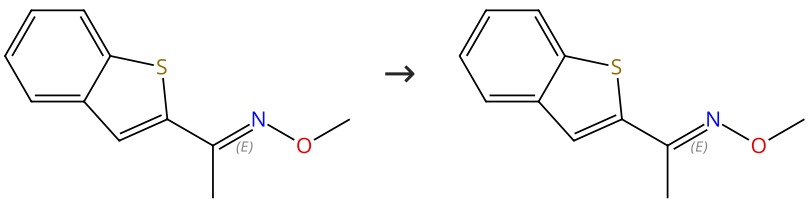
On the Mechanism and Selectivity of Palladium-Catalyzed C (sp^3)-H Arylation of Pyrrolidines and Piperidines at Unactivated C4 Positions: Discovery of an Improved Dimethylaminoquinoline Amide Directing Group

By: Antermite, Daniele; et al

ACS Catalysis (2023), 13(14), 9597-9615.

Scheme 305 (1 Reaction)

Steps: **1**



Double bond geometry shown

Double bond geometry shown

Supplier (1)

31-614-CAS-29137470

Steps: **1**

1.1 **Reagents:** Pyridine, Silver trifluoroacetate
Catalysts: Palladium diacetate
Solvents: Acetic acid-*d*; 3.5 h, 110 °C

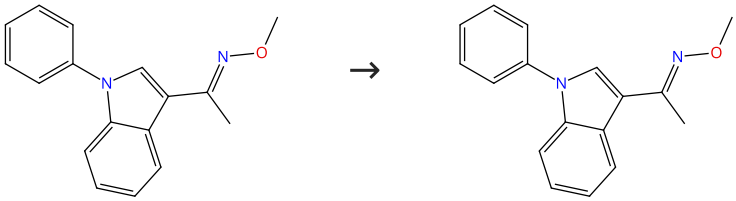
Tandem C-C/C-N Formation via Palladium-Catalyzed C-H Activation/Styrenation and Sequential Annulation of O-Methylketoxime with Styrenes

By: Fu, Xiaopan; et al

Organic Letters (2019), 21(10), 3505-3509.

Scheme 306 (1 Reaction)

Steps: **1**



31-614-CAS-25362751

Steps: **1**

1.1 **Reagents:** Acetylvaline, Silver oxide (Ag_2O)
Catalysts: Palladium trifluoroacetate
Solvents: 1,2-Dichloroethane, Acetic acid-*d*; 24 h, 90 °C

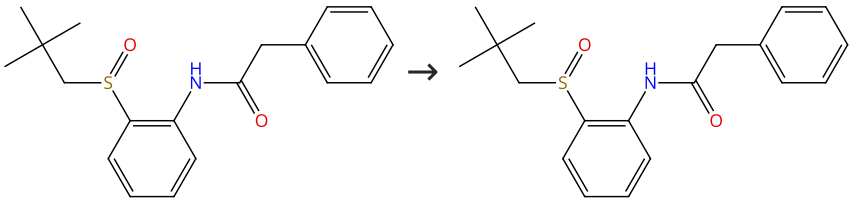
Cascade Access to Carboline Carboxylates from Indolyl Ketoximes and Acrylates via Palladium-Catalyzed C-H Bond Alkenylation/Annulation

By: Fu, Xiao-Pan; et al

Synlett (2021), 32(1), 69-74.

Scheme 307 (1 Reaction)

Steps: **1**



31-614-CAS-27113044

Steps: **1**

1.1 **Reagents:** Acetic acid-d_4
Catalysts: Palladium diacetate; 40 min, 100 °C

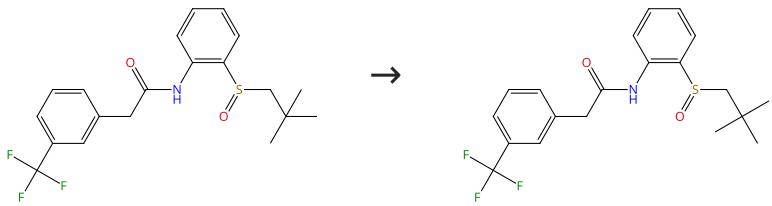
Palladium-Catalyzed 2-(Neopentylsulfinyl)aniline Directed C-H Acetoxylation and Alkenylation of Arylacetamides

By: Barysevich, Maryia V.; et al

European Journal of Organic Chemistry (2020), 2020(8), 937-943.

Scheme 308 (1 Reaction)

Steps: **1**



31-614-CAS-26201045

Steps: **1**

1.1 **Reagents:** Acetic acid-d_4
Catalysts: Palladium diacetate; 24 h, 100 °C

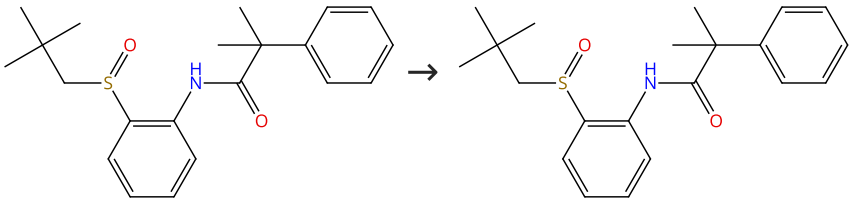
Palladium-Catalyzed 2-(Neopentylsulfinyl)aniline Directed C-H Acetoxylation and Alkenylation of Arylacetamides

By: Barysevich, Maryia V.; et al

European Journal of Organic Chemistry (2020), 2020(8), 937-943.

Scheme 309 (1 Reaction)

Steps: **1**



31-614-CAS-25241091 Steps: 1

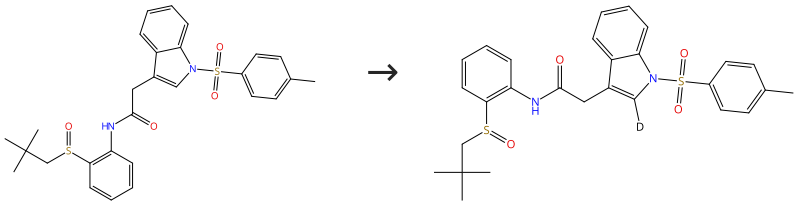
1.1 **Reagents:** Acetic acid-d_4
Catalysts: Palladium diacetate; 40 min, 100 °C

Palladium-Catalyzed 2-(Neopentylsulfinyl)aniline Directed C-H Acetoxylation and Alkenylation of Arylacetamides

By: Barysevich, Maryia V.; et al

European Journal of Organic Chemistry (2020), 2020(8), 937-943.

Scheme 310 (1 Reaction) Steps: 1



31-116-CAS-21622254 Steps: 1

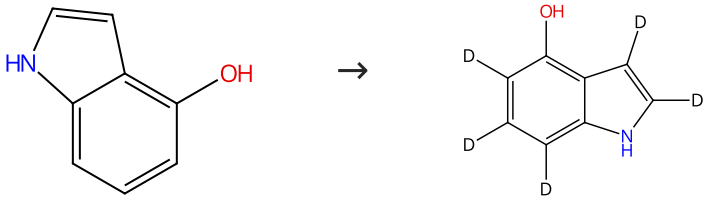
1.1 **Reagents:** Acetic acid-d_4
Catalysts: Palladium diacetate; 40 min, 100 °C

Palladium-Catalyzed 2-(Neopentylsulfinyl)aniline Directed C-H Acetoxylation and Alkenylation of Arylacetamides

By: Barysevich, Maryia V.; et al

European Journal of Organic Chemistry (2020), 2020(8), 937-943.

Scheme 311 (1 Reaction) Steps: 1



Suppliers (94)

31-614-CAS-37227938 Steps: 1

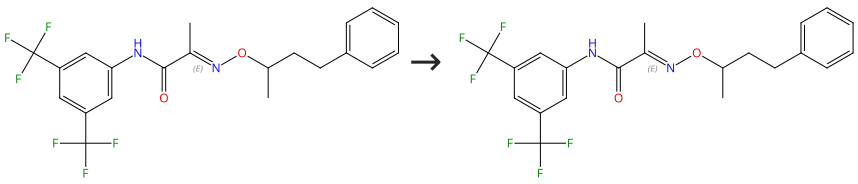
1.1 **Reagents:** Sodium acetate, Acetic acid-d_4
Catalysts: Palladium diacetate
Solvents: 1,4-Dioxane; 16 h, 120 °C

Programmable Deuteration of Indoles via Reverse Deuterium Exchange

By: Fitzgerald, Liam S.; et al

Journal of Organic Chemistry (2023), 88(15), 10772-10776.

Scheme 312 (1 Reaction) Steps: 1



Double bond geometry shown Double bond geometry shown

31-614-CAS-31265587 Steps: 1

1.1 **Reagents:** Acetic acid-d_4
Catalysts: Palladium diacetate
Solvents: 1,2-Dichloroethane; 24 h, 90 °C

Experimental Protocols

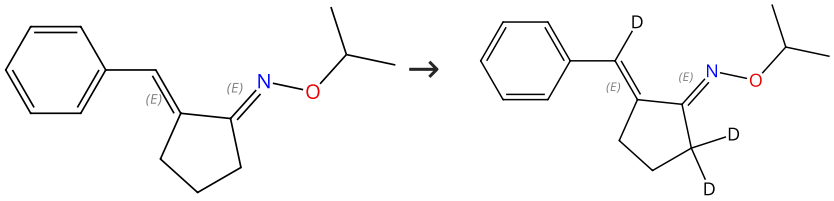
Selective Cross-Dehydrogenative C(sp^3)-H Arylation with Arenes

By: Hao, Hong-Yan; et al

Organic Letters (2020), 22(6), 2396-2402.

Scheme 313 (1 Reaction)

Steps: **1**



Double bond geometry shown

Double bond geometry shown

31-614-CAS-33631830

Steps: **1**

1.1 **Reagents:** Acetic acid-d_4, Silver trifluoroacetate
Catalysts: Palladium diacetate, 2,6-Bis(tricyclo[3.3.1.1^{3,7}]dec-1-yloxy)pyridine
Solvents: 1,4-Dioxane; 36 h, 90 °C

Experimental Protocols

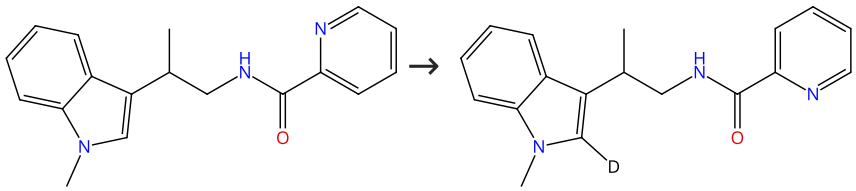
Cationic palladium(II)-catalyzed synthesis of substituted pyridines from α,β-unsaturated oxime ethers

By: Yamada, Takahiro; et al

RSC Advances (2022), 12(33), 21548-21557.

Scheme 314 (1 Reaction)

Steps: **1**



31-614-CAS-35247954

Steps: **1**

1.1 **Reagents:** Acetic acid-d_4
Catalysts: Palladium diacetate
Solvents: 2,2,2-Trifluoroethanol; 14 h, 120 °C

Experimental Protocols

Palladium(II)-Catalyzed Regioselective Hydrocarbofunction alization of N-Alkenyl Amides: Synthesis of Tryptamine Deriva tives

By: Ballav, Nityananda; et al

Organic Letters (2022), 24(50), 9228-9232.

Scheme 315 (1 Reaction)

Steps: **1**

31-614-CAS-36351016

Steps: **1**

1.1 **Reagents:** Quinone
Catalysts: Palladium diacetate, (2*S*)-2,3,3-Trimethylbutanoic acid
Solvents: Acetic acid-*d*; 16 h, 60 °C

Experimental Protocols

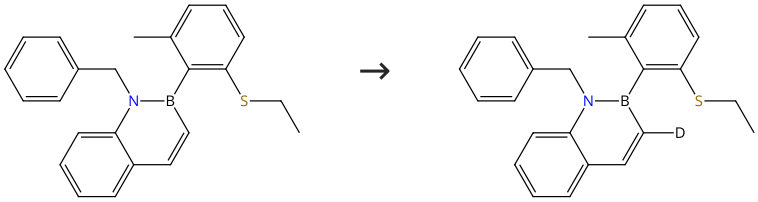
Enantioselective Synthesis of N-N Atropisomers by Palladium-Catalyzed C-H Functionalization of Pyrroles

By: Yao, Wang; et al

Angewandte Chemie, International Edition (2023), 62(21), e202218871.

Scheme 316 (1 Reaction)

Steps: **1**



31-614-CAS-40479460 Steps: **1**

1.1 **Reagents:** Silver carbonate, Acetic acid-*d*, (+)-Pyroglutamic acid
Catalysts: Palladium diacetate; 21 h, 80 °C

Experimental Protocols

Palladium-Catalyzed Atroposelective Kinetic C-H Olefination and Allylation for the Synthesis of C-B Axial Chirality

By: Xu, Jie; et al

Angewandte Chemie, International Edition (2023), 62(47), e202313388.

Scheme 317 (1 Reaction) Steps: **1**

Suppliers (84)

31-116-CAS-4707475 Steps: **1**

1.1 **Reagents:** Lithium carbonate (Li_2CO_3), Acetic acid-d_4
Catalysts: Palladium diacetate
Solvents: Acetic acid-d_4; 12 h, 120 °C

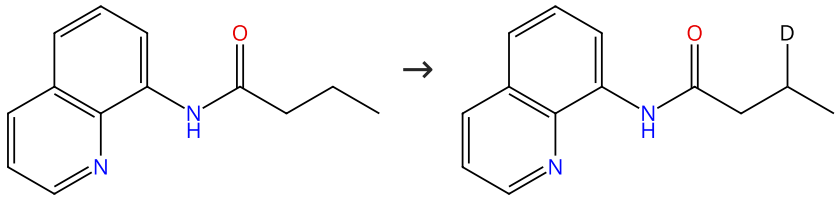
Experimental Protocols

Palladium-Catalyzed ortho-Selective C-H Deuteration of Arenes: Evidence for Superior Reactivity of Weakly Coordinated Palladacycles

By: Ma, Sandy; et al

Angewandte Chemie, International Edition (2014), 53(3), 734-737.

Scheme 318 (1 Reaction) Steps: **1**



Suppliers (5)

Supplier (1)

31-116-CAS-7172337 Steps: **1**

1.1 **Reagents:** Potassium carbonate, Acetic acid-d_4
Catalysts: Bis(acetato-κ*O*)[1,3-dihydro-1,3-bis(2,4,6-trimethylphenyl)-2*H*-imidazol-2-ylidene]palladium
Solvents: 1,2-Dichloroethane; 24 h, 120 °C

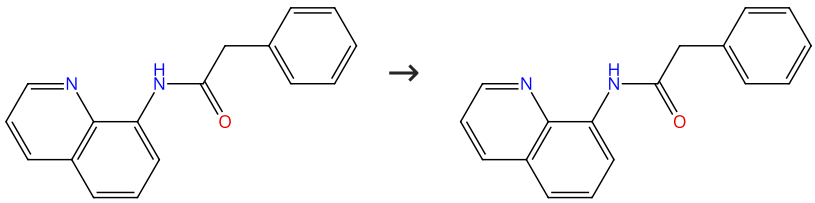
Experimental Protocols

Direct Arylation of Primary and Secondary sp^3 C-H Bonds with Diarylhyperiodonium Salts via Pd Catalysis

By: Pan, Fei; et al

Organic Letters (2013), 15(18), 4758-4761.

Scheme 319 (1 Reaction) Steps: **1**



Suppliers (5)

31-614-CAS-25907984 Steps: 1

1.1 **Reagents:** Potassium carbonate, Acetic acid-d_4
Catalysts: Palladium diacetate; 12 h, 120 °C

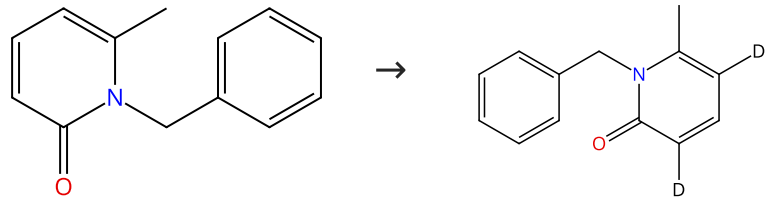
Experimental Protocols

Detailed Mechanistic Studies on Palladium-Catalyzed Selective C-H Olefination with Aliphatic Alkenes: A Significant Influence of Proton Shuttling

By: Deb, Arghya; et al

Journal of the American Chemical Society (2017), 139(2), 763-775.

Scheme 320 (1 Reaction) Steps: **1**



Suppliers (4)

31-614-CAS-40195344 Steps: 1

1.1 **Reagents:** Acetic acid-*d*
Catalysts: Palladium diacetate; 48 h, 100 °C

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

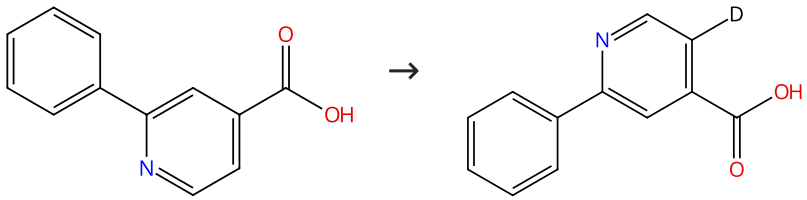
Experimental Protocols

Intramolecular Palladium(II)-Catalyzed Regioselective 6-endo or 6-exo C-H Benzannulation: An Approach for the Diversity-Oriented Synthesis of Quinolinone Derivatives from Pyridones

By: Sun, Ziyi; et al

Journal of Organic Chemistry (2024), 89(10), 7058-7064.

Scheme 321 (1 Reaction) Steps: **1**



Suppliers (77)

31-614-CAS-24143587 Steps: 1

1.1 **Reagents:** Quinone, Potassium acetate, Acetic acid-d_4
Catalysts: Palladium diacetate, 6-[1-Cyclohexyl-1-(5-methyl-2-pyridinyl)ethyl]-2(1*H*)-pyridinone
Solvents: Dimethylformamide; 10 min, 1 atm, rt; 24 h, 1 atm, rt → 110 °C; 110 °C → rt

1.2 **Reagents:** Formic acid; 10 min, rt

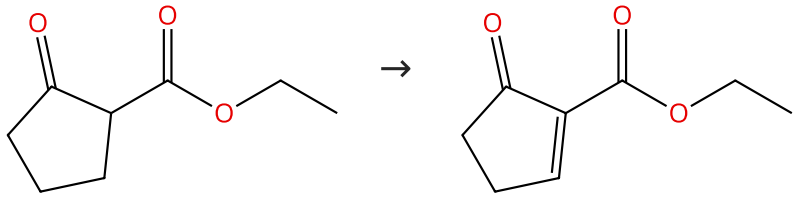
Experimental Protocols

A tautomeric ligand enables directed C-H hydroxylation with molecular oxygen

By: Li, Zhen; et al

Science (Washington, DC, United States) (2021), 372(6549), 1452-1457.

Scheme 322 (1 Reaction) Steps: **1**



Suppliers (88)

Suppliers (5)

31-479-CAS-3961902 Steps: **1**

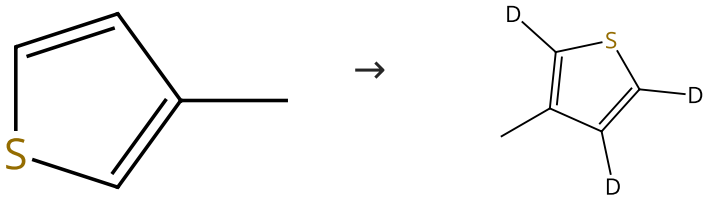
1.1 **Reagents:** 1,2,3-Trimethyl-1*H*-indole, 1,1-Dimethylethyl phenyl methyl peroxide
Catalysts: Palladium diacetate
Solvents: Acetic acid-d_4; 14 h, 30 °C

Palladium-Catalyzed Dehydrogenative β'-Arylation of β-Keto Esters under Aerobic Conditions: Interplay of Metal and Bronsted Acids

By: Yip, Kai-Tai; et al

Chemistry - A European Journal (2012), 18(40), 12590-12594, S12590/1-S12590/109.

Scheme 323 (2 Reactions) Steps: **1**



Suppliers (65)

31-614-CAS-40416755 Steps: **1**

1.1 **Reagents:** 1,1,1,3,3,3-Hexafluoro-2-propanol, Acetic acid-d_4
Catalysts: Palladium diacetate, 2(1*H*)-Pyridinone, 6-(3-methyl-1*H*-pyrazol-1-yl)-; 48 h, 120 °C

Experimental Protocols

Nondirected Pd-Catalyzed C-H Perdeuteration and meta-Selective Alkenylation of Arenes Enabled by Pyrazolo pyridone Ligands

By: Yun, Seo Jin; et al

ACS Catalysis (2023), 13(7), 4042-4052.

31-614-CAS-24544989 Steps: **1**

1.1 **Reagents:** Oxygen, Water-d_2
Catalysts: Palladium diacetate, 4,5-Diphenylpyrazolo[1,5-*a*][1,8]naphthyridine
Solvents: Acetic acid-d_4; 3 h, 1 atm, 60 °C

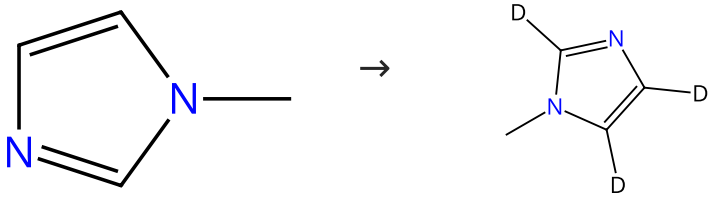
Experimental Protocols

Sterically controlled C-H alkenylation of pyrroles and thiophenes

By: Kang, Eunsu; et al

Chemical Communications (Cambridge, United Kingdom) (2021), 57(89), 11791-11794.

Scheme 324 (1 Reaction) Steps: **1**



Suppliers (123) Suppliers (19)

31-614-CAS-40416757 Steps: **1**

1.1 **Reagents:** 1,1,1,3,3,3-Hexafluoro-2-propanol, Acetic acid-d_4
Catalysts: Palladium diacetate, 2(1*H*)-Pyridinone, 6-(3-methyl-1*H*-pyrazol-1-yl)-; 48 h, 120 °C

Experimental Protocols

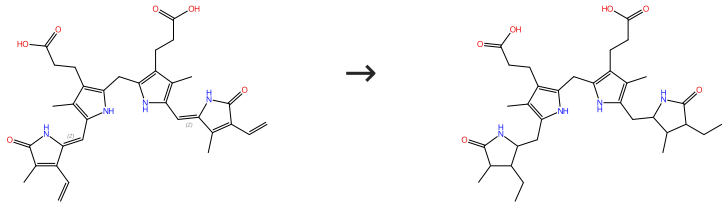
Nondirected Pd-Catalyzed C-H Perdeuteration and meta-Selective Alkenylation of Arenes Enabled by Pyrazolo pyridone Ligands

By: Yun, Seo Jin; et al

ACS Catalysis (2023), 13(7), 4042-4052.

Scheme 325 (1 Reaction)

Steps: **1**



Double bond geometry shown

Suppliers (100)

31-614-CAS-26959108

Steps: **1**

1.1 **Reagents:** Hydrogen
Catalysts: Palladium
Solvents: Acetic acid-d_4; 1.5 h, 20.5 psi, 65 °C

Experimental Protocols

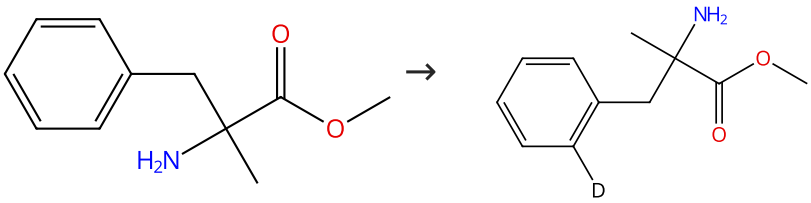
Synthesis and characterization of a deuterium labeled sterco bilin: A potential biomarker for autism

By: Coffey, Jordan M.; et al

Journal of Labelled Compounds and Radiopharmaceuticals (2018), 61(10), 742-748.

Scheme 326 (1 Reaction)

Steps: **1**



Suppliers (20)

31-614-CAS-24225997

Steps: **1**

1.1 **Reagents:** Trifluoroacetic acid-*d*, Dichloromethane-d_2
Catalysts: Palladium diacetate; 16 h, 50 °C

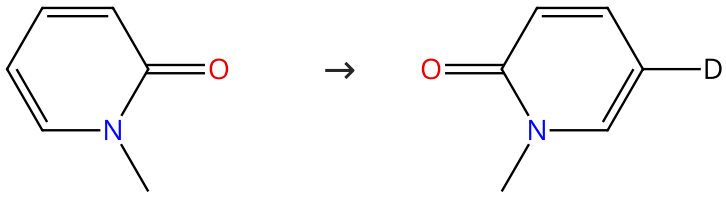
Amine-Directed Palladium-Catalyzed C-H Halogenation of Phenylalanine Derivatives

By: Ville, Alexia; et al

Chemistry - A European Journal (2021), 27(56), 13961-13965.

Scheme 327 (1 Reaction)

Steps: **1**



Suppliers (80)

31-116-CAS-19156714

Steps: **1**

1.1 **Catalysts:** Palladium diacetate, Silver nitrate
Solvents: 1,2-Dimethoxyethane, Acetic acid-d_4; 3 h, 110 °C

1.2 **Reagents:** Sodium bicarbonate; neutralized

Direct Pd(II)-Catalyzed Site-Selective C5-Arylation of 2-Pyridone Using Aryl Iodides

By: Maity, Saurabh; et al

Organic Letters (2018), 20(17), 5167-5171.

Scheme 328 (1 Reaction)

Steps: **1**

Suppliers (101)

31-614-CAS-31288249

Steps: **1**

1.1 **Reagents:** Silver trifluoroacetate, Water-d_2
Catalysts: Palladium diacetate
Solvents: Trifluoroacetic acid-*d*, 2-Propan-*2-d*-ol-*d*, 1,1,1,3,3,3-hexafluoro-; 6 h, 100 °C

Experimental Protocols

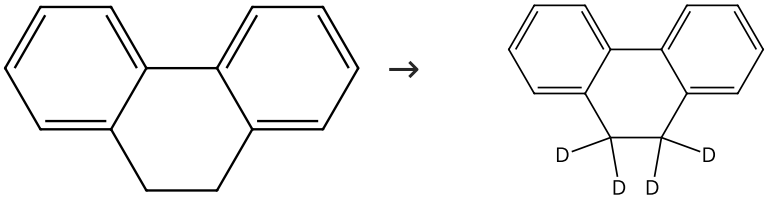
C4-arylation and domino C4-arylation/3,2-carbonyl migration of indoles by tuning Pd catalytic modes: Pd(I)-Pd(II) catalysis vs. Pd(II) catalysis

By: Cheng, Yaohang; et al

Chemical Science (2021), 12(9), 3216-3225.

Scheme 329 (1 Reaction)

Steps: **1**



Suppliers (52)

31-116-CAS-7399973

Steps: **1**

1.1 **Reagents:** Deuterium
Catalysts: Palladium
Solvents: Acetic acid-*d*

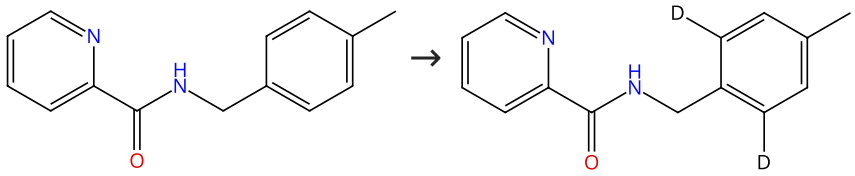
A selective method for deuterium exchange in hydroar omatic compounds

By: Ofosu-Asante, K.; et al

Journal of Organic Chemistry (1986), 51(26), 5452-4.

Scheme 330 (1 Reaction)

Steps: **1**



Suppliers (9)

31-116-CAS-19801428

Steps: **1**

1.1 **Reagents:** Sodium acetate, Silver carbonate, Acetic acid-d_4
Catalysts: Palladium diacetate
Solvents: 1,2-Dichloroethane; 6 h, 110 °C

Experimental Protocols

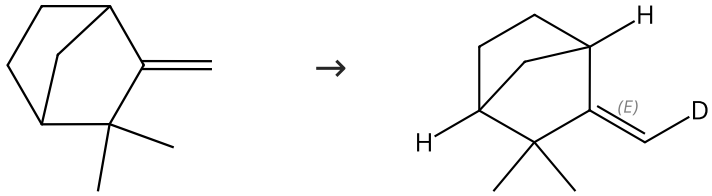
Pd(II)-Catalyzed Direct Sulfonylation of Benzylamines Using Sodium Sulfinates

By: Karmakar, Ujjwal; et al

Journal of Organic Chemistry (2019), 84(5), 2850-2861.

Scheme 331 (1 Reaction)

Steps: **1**



Suppliers (81)

Double bond geometry shown

31-116-CAS-2342263

Steps: **1**

1.1 **Catalysts:** Palladium diacetate
Solvents: Acetic acid-d_4; 1 h, 25 °C

Palladium catalyzed transformations of monoterpenes: stereoselective deuteriation and oxidative dimerization of camphene

By: Jose da Silva, Marcio; et al

Journal of Organometallic Chemistry (2004), 689(2), 302-308.

Scheme 332 (1 Reaction)

Steps: **1**

Suppliers (63)

Supplier (1)

31-116-CAS-17180745

Steps: **1**

1.1 **Catalysts:** Palladium trifluoroacetate, (3a*R*,3'a*R*,6*R*)-3,3',3a,3'a,4,4',5,5'-Octahydro-3,3,3',3'-tetrakis(1-methylethyl)-6,6'-spirobi[6*H*-cyclopent[*c*]isoxazole]
Solvents: Dichloromethane; 2 h, 30 °C; 10 min, 30 °C; 1 h, 30 °C

1.2 **Reagents:** Quinone
Solvents: 2-Methyl-2-butanol

1.3 **Reagents:** Acetic acid-d_4

Enantioselective synthesis of tetrahydrocyclopenta[b]indole bearing a chiral quaternary carbon center via Pd(II)-SPRIX-catalyzed C-H activation

By: Abozeid, Mohamed Ahmed; et al

Chemical Communications (Cambridge, United Kingdom) (2017), 53(51), 6887-6890.

Scheme 333 (1 Reaction)

Steps: **1**

Absolute stereochemistry shown, Rotation (-)

Absolute stereochemistry shown

31-116-CAS-4551736

Steps: **1**

1.1 **Reagents:** Acetic acid-d_4
Catalysts: Palladium diacetate
Solvents: Toluene-d_8; 5 h, 100 °C

Experimental Protocols

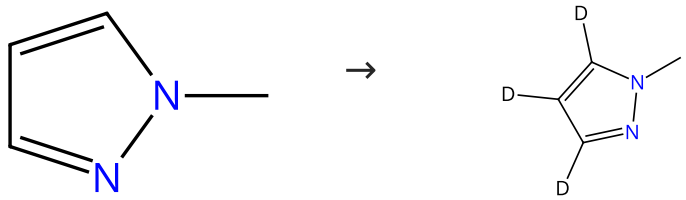
Nonnatural Amino Acid Synthesis by Using Carbon- Hydrogen Bond Functionalization Methodology

By: Tran, Ly Dieu; et al

Angewandte Chemie, International Edition (2012), 51(21), 5188-5191, S5188/1-S5188/74.

Scheme 334 (1 Reaction)

Steps: **1**



Suppliers (85)

31-614-CAS-40416759

Steps: **1**

1.1 **Reagents:** 1,1,1,3,3,3-Hexafluoro-2-propanol, Acetic acid-d_4
Catalysts: Palladium diacetate, 2(1*H*)-Pyridinone, 6-(3-methyl-1*H*-pyrazol-1-yl)-; 48 h, 120 °C

Experimental Protocols

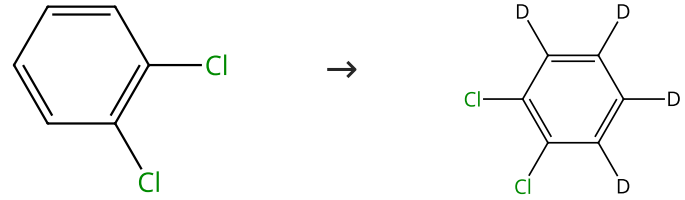
Nondirected Pd-Catalyzed C-H Perdeuteration and meta-Selective Alkenylation of Arenes Enabled by Pyrazolo pyridone Ligands

By: Yun, Seo Jin; et al

ACS Catalysis (2023), 13(7), 4042-4052.

Scheme 335 (1 Reaction)

Steps: **1**



Suppliers (139)

Suppliers (70)

31-614-CAS-40416753

Steps: **1**

1.1 **Reagents:** 1,1,1,3,3,3-Hexafluoro-2-propanol, Acetic acid-d_4
Catalysts: Palladium diacetate, 2(1*H*)-Pyridinone, 6-(3-methyl-1*H*-pyrazol-1-yl)-; 48 h, 120 °C

Experimental Protocols

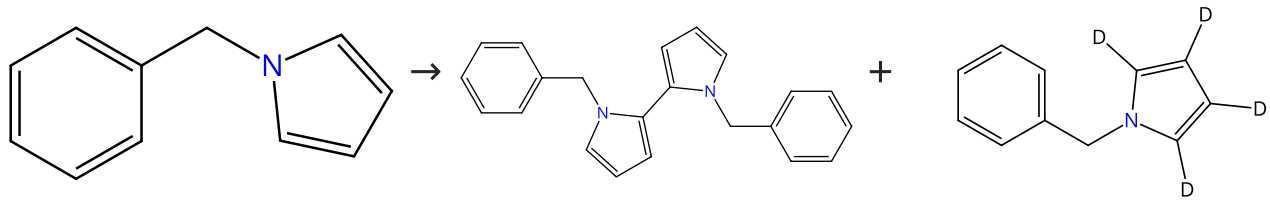
Nondirected Pd-Catalyzed C-H Perdeuteration and meta-Selective Alkenylation of Arenes Enabled by Pyrazolo pyridone Ligands

By: Yun, Seo Jin; et al

ACS Catalysis (2023), 13(7), 4042-4052.

Scheme 336 (1 Reaction)

Steps: **1** Yield: **78%**



Suppliers (73)

Supplier (1)

31-614-CAS-24545005

Steps: **1** Yield: **78%**

1.1 **Reagents:** DMSO-d_6, Oxygen, Water-d_2
Catalysts: Palladium diacetate
Solvents: Dimethylformamide, Acetic acid-d_4; 20 min, 1 atm, 35 °C

Experimental Protocols

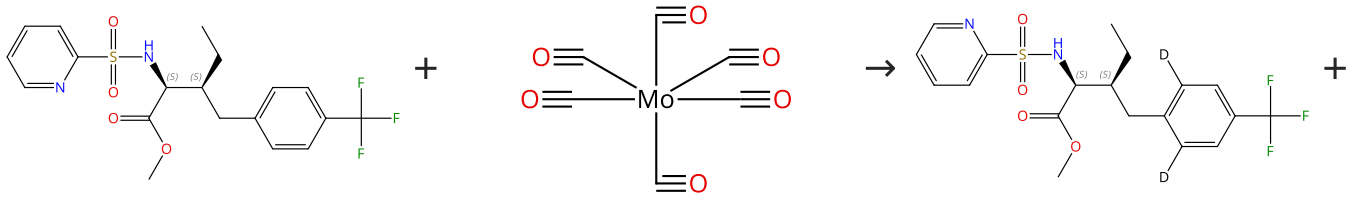
Sterically controlled C-H alkenylation of pyrroles and thiophenes

By: Kang, Eunsu; et al

Chemical Communications (Cambridge, United Kingdom) (2021), 57(89), 11791-11794.

Scheme 337 (1 Reaction)

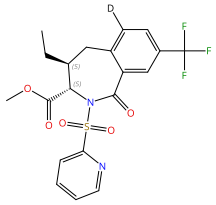
Steps: **1** Yield: **75%**



Relative stereochemistry shown

Suppliers (60)

Relative stereochemistry shown



Relative stereochemistry shown

31-116-CAS-23468866

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

1.1 **Reagents:** Quinone, Silver acetate, Acetic acid-d_4
Catalysts: Palladium diacetate
Solvents: 1,4-Dioxane; 4 h, 110 °C

Experimental Protocols

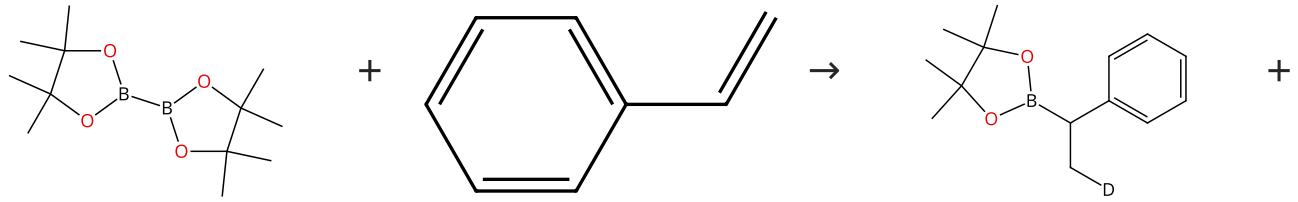
Mechanistic understanding enables chemoselective sp^3 over sp^2 C-H activation in Pd-catalyzed carbonylative cyclization of amino acids

By: Martinez-Mingo, Mario; et al

Catalysis Science & Technology (2021), 11(4), 1590-1601.

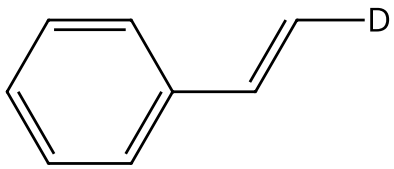
Scheme 338 (1 Reaction)

Steps: **1** Yield: **73%**



Suppliers (132)

Suppliers (122)



Supplier (1)

31-614-CAS-25333072

Steps: **1** Yield: **73%**

1.1 **Reagents:** Acetic acid-*d*
Catalysts: Palladium diacetate, 2,6-Bis[(4*S*)-4,5-dihydro-4-phenyl-2-oxazolyl]pyridine
Solvents: Acetonitrile; 16 h, 90 °C; 90 °C → rt

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

Experimental Protocols

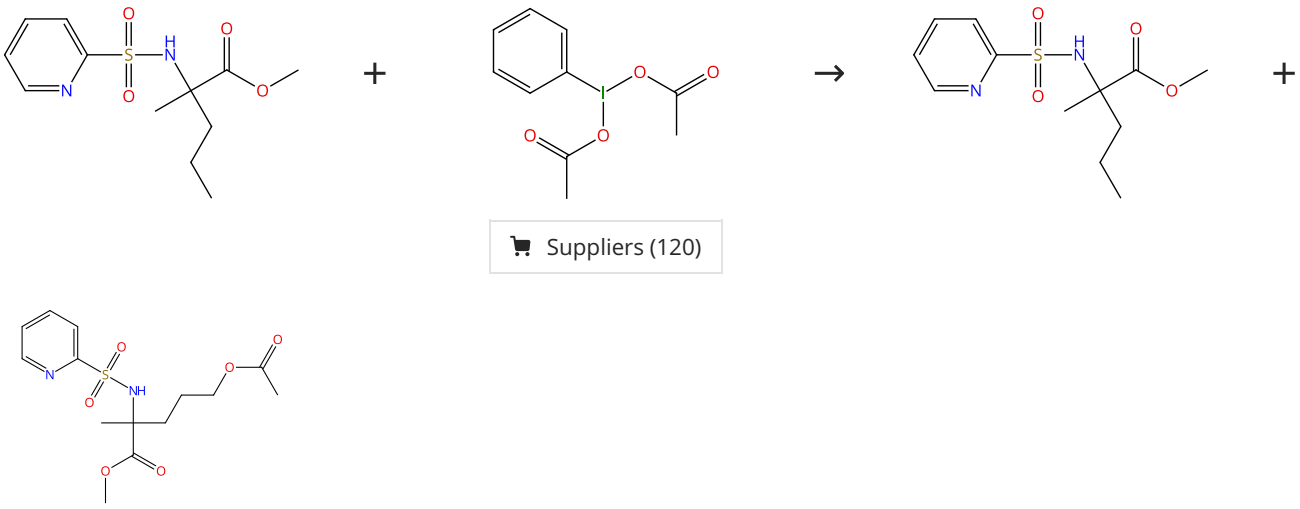
Palladium-catalyzed regioselective hydroboration of aryl alkenes with B_2pin_2

By: Huang, Jiuzhong; et al

Chemical Communications (Cambridge, United Kingdom) (2018), 54(14), 1770-1773.

Scheme 339 (1 Reaction)

Steps: **1** Yield: **71%**



Suppliers (120)

31-614-CAS-34693694

Steps: **1** Yield: **71%**

1.1 **Reagents:** Acetic acid-d_4
Catalysts: Palladium diacetate
Solvents: Toluene; 30 min, 140 °C

Experimental Protocols

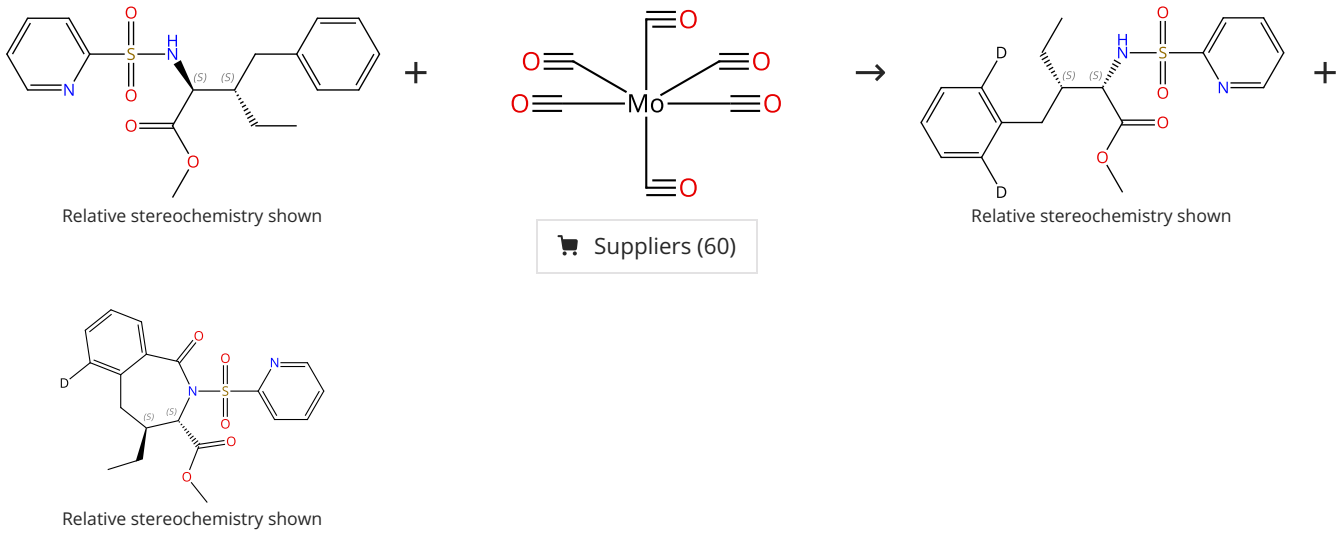
Palladium-Catalyzed PIDA-Mediated δ-C(sp^3)-H Acetoxylation of Amino Acid Derivatives: Overriding Competitive Intramolecular Amination

By: Martinez-Mingo, Mario; et al

Angewandte Chemie, International Edition (2022), 61(47), e202209865.

Scheme 340 (1 Reaction)

Steps: **1** Yield: **56%**



Relative stereochemistry shown

Suppliers (60)

Relative stereochemistry shown

Relative stereochemistry shown

31-116-CAS-23467181

Steps: **1** Yield: **56%**

1.1 **Reagents:** Quinone, Silver acetate, Acetic acid-d_4
Catalysts: Palladium diacetate
Solvents: 1,4-Dioxane; 4 h, 110 °C

Experimental Protocols

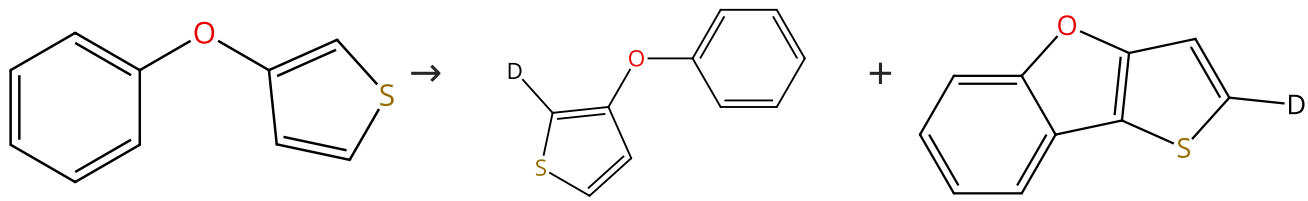
Mechanistic understanding enables chemoselective sp^3 over sp^2 C-H activation in Pd-catalyzed carbonylative cyclization of amino acids

By: Martinez-Mingo, Mario; et al

Catalysis Science & Technology (2021), 11(4), 1590-1601.

Scheme 341 (1 Reaction)

Steps: **1** Yield: **37%**



Suppliers (52)

31-116-CAS-5490014

Steps: **1** Yield: **37%**

1.1 **Reagents:** Silver acetate, Acetic acid-d_4
Catalysts: Palladium trifluoroacetate; 6 h, 110 °C

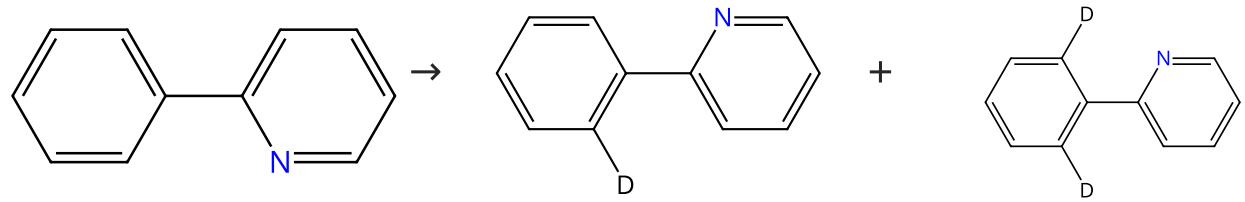
Synthesis of thieno[3,2-b]benzofurans by palladium-catalyzed intramolecular C-H/C-H coupling

By: Kaida, Hiroyuki; et al

Chemistry Letters (2015), 44(8), 1125-1127.

Scheme 342 (1 Reaction)

Steps: **1**



Suppliers (94)

Suppliers (6)

Supplier (1)

31-116-CAS-11293203

Steps: **1**

1.1 **Reagents:** Sodium carbonate, Acetic acid-d_4
Catalysts: Palladium diacetate
Solvents: Acetic acid-d_4; 12 h, 120 °C

Experimental Protocols

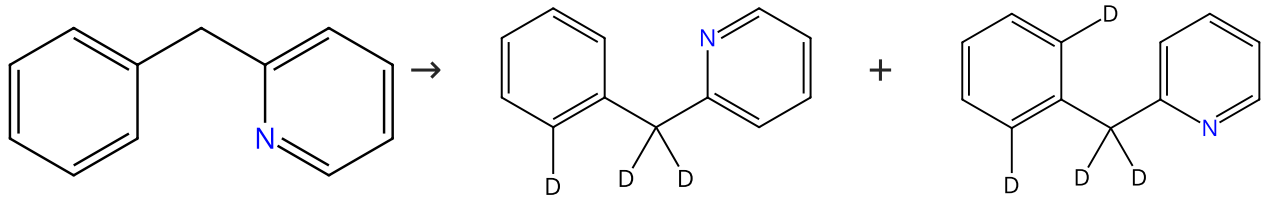
Palladium-Catalyzed ortho-Selective C-H Deuteration of Arenes: Evidence for Superior Reactivity of Weakly Coordi nated Palladacycles

By: Ma, Sandy; et al

Angewandte Chemie, International Edition (2014), 53(3), 734-737.

Scheme 343 (1 Reaction)

Steps: **1**



Suppliers (66)

31-116-CAS-13459002

Steps: **1**

1.1 **Reagents:** Sodium carbonate, Acetic acid-d_4
Catalysts: Palladium diacetate
Solvents: Acetic acid-d_4; 12 h, 120 °C

Experimental Protocols

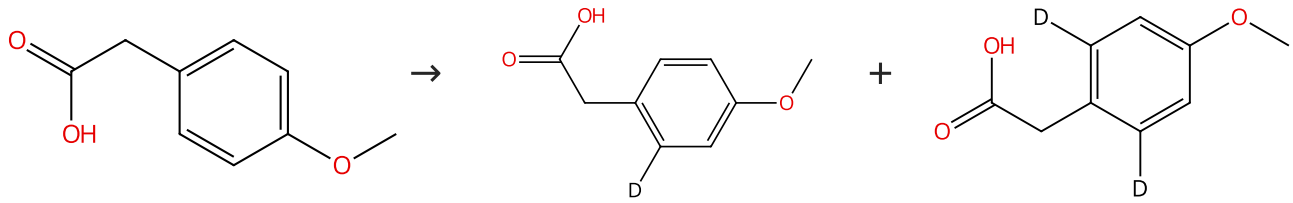
Palladium-Catalyzed ortho-Selective C-H Deuteration of Arenes: Evidence for Superior Reactivity of Weakly Coordi nated Palladacycles

By: Ma, Sandy; et al

Angewandte Chemie, International Edition (2014), 53(3), 734-737.

Scheme 344 (1 Reaction)

Steps: **1**



Suppliers (114)

31-116-CAS-102439

Steps: **1**

1.1 **Reagents:** Sodium carbonate, Acetic acid-d_4
Catalysts: Palladium diacetate
Solvents: Acetic acid-d_4; 12 h, 120 °C

1.2 **Reagents:** Sodium hydroxide
Solvents: Dichloromethane, Water; 12 h, 120 °C

Experimental Protocols

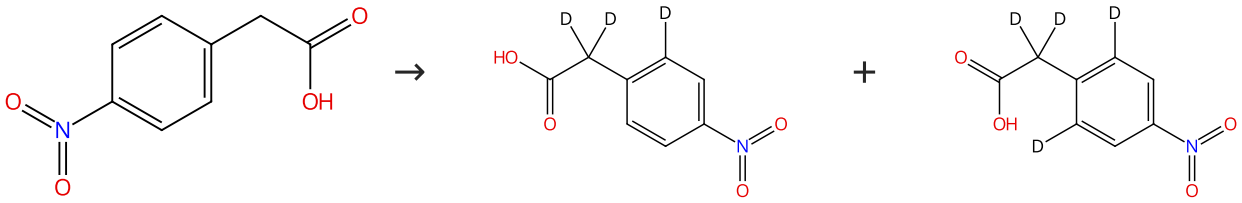
Palladium-Catalyzed ortho-Selective C-H Deuteration of Arenes: Evidence for Superior Reactivity of Weakly Coordinated Palladacycles

By: Ma, Sandy; et al

Angewandte Chemie, International Edition (2014), 53(3), 734-737.

Scheme 345 (1 Reaction)

Steps: **1**



Suppliers (101)

31-116-CAS-2532530

Steps: **1**

1.1 **Reagents:** Sodium carbonate, Acetic acid-d_4
Catalysts: Palladium diacetate
Solvents: Acetic acid-d_4; 12 h, 120 °C

Experimental Protocols

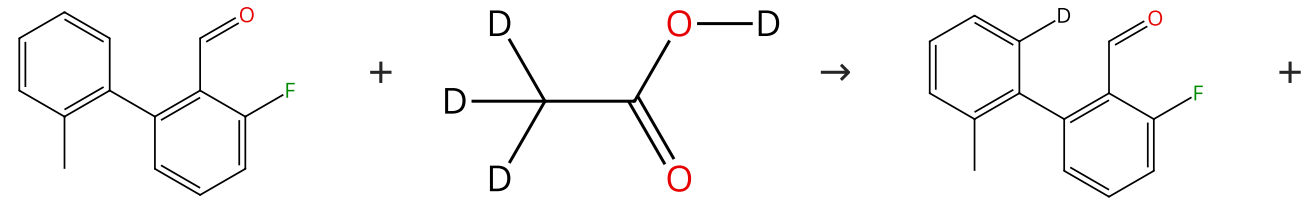
Palladium-Catalyzed ortho-Selective C-H Deuteration of Arenes: Evidence for Superior Reactivity of Weakly Coordinated Palladacycles

By: Ma, Sandy; et al

Angewandte Chemie, International Edition (2014), 53(3), 734-737.

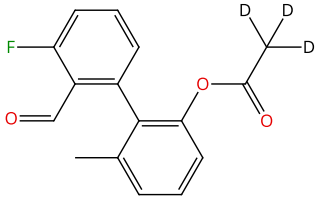
Scheme 346 (1 Reaction)

Steps: **1**



Suppliers (10)

Suppliers (70)



31-614-CAS-33213547 Steps: 1

1.1 **Reagents:** Manganese oxide (MnO_2), Lithium acetate dihydrate
Catalysts: L-*tert*-Leucine, Palladium trifluoroacetate
Solvents: 1,1,1,3,3,3-Hexafluoro-2-propanol; 72 h, 60 °C

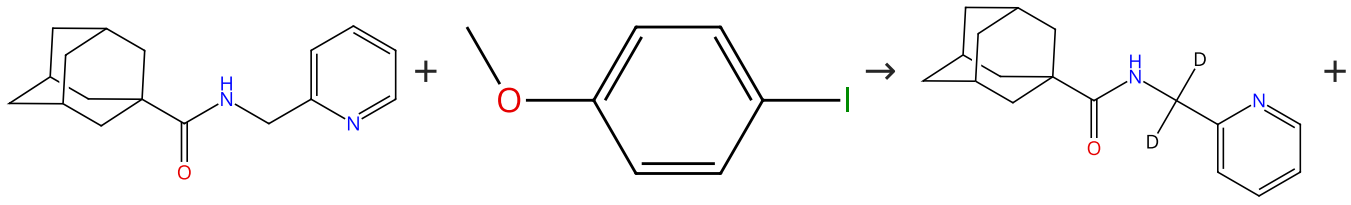
Experimental Protocols

Pd-Catalyzed Atroposelective C-H Acyloxylation Enabling Access to an Axially Chiral Biaryl Phenol Organocatalyst

By: Zhang, Jitan; et al

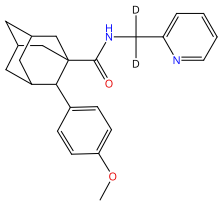
Organic Letters (2022), 24(28), 5143-5148.

Scheme 347 (1 Reaction) Steps: 1



Suppliers (9)

Suppliers (98)



31-614-CAS-28185993 Steps: 1

1.1 **Reagents:** Silver acetate, Acetic acid-*d*
Catalysts: Palladium diacetate
Solvents: 2-Propan-*2*-*d*-ol-*d*, 1,1,1,3,3,3-hexafluoro-; 18 h, 110 °C

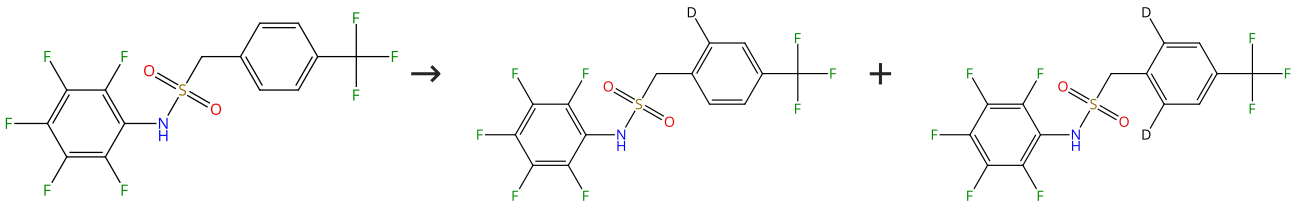
Experimental Protocols

C-H Bond Arylation of Diamondoids Catalyzed by Palladium(II) Acetate

By: Larrosa, Marta; et al

Advanced Synthesis & Catalysis (2016), 358(13), 2163-2171.

Scheme 348 (1 Reaction) Steps: 1



31-116-CAS-15319947 Steps: 1

1.1 **Reagents:** Sodium carbonate, Acetic acid-d_4
Catalysts: Palladium diacetate
Solvents: Acetic acid-d_4; 12 h, 120 °C

Experimental Protocols

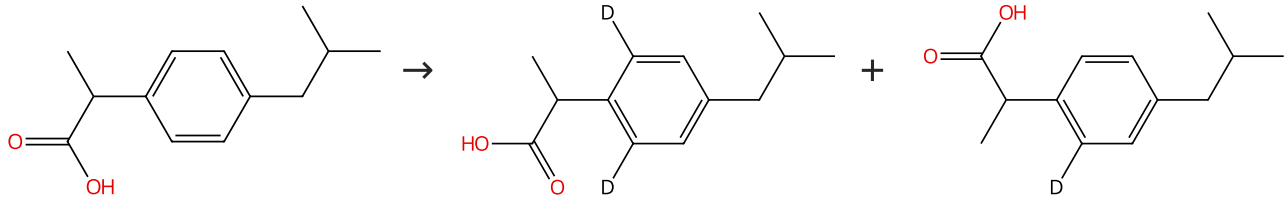
Palladium-Catalyzed ortho-Selective C-H Deuteration of Arenes: Evidence for Superior Reactivity of Weakly Coordinated Palladacycles

By: Ma, Sandy; et al

Angewandte Chemie, International Edition (2014), 53(3), 734-737.

Scheme 349 (1 Reaction)

Steps: **1**



Suppliers (156)

31-116-CAS-6791366

Steps: **1**

1.1 **Reagents:** Sodium carbonate, Acetic acid-d_4
Catalysts: Palladium diacetate
Solvents: Acetic acid-d_4; 12 h, 120 °C

1.2 **Reagents:** Sodium hydroxide
Solvents: Dichloromethane, Water; 12 h, 120 °C

Experimental Protocols

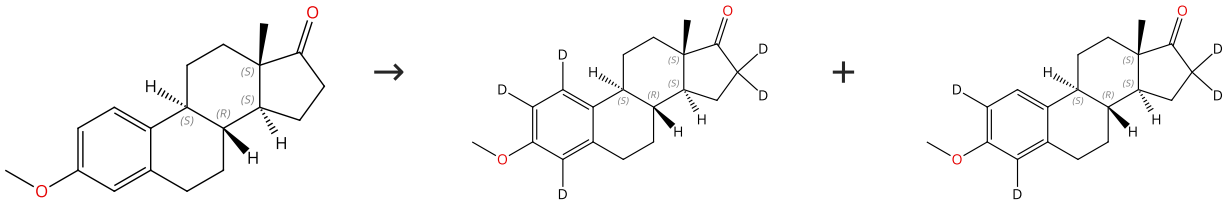
Palladium-Catalyzed ortho-Selective C-H Deuteration of Arenes: Evidence for Superior Reactivity of Weakly Coordi nated Palladacycles

By: Ma, Sandy; et al

Angewandte Chemie, International Edition (2014), 53(3), 734-737.

Scheme 350 (1 Reaction)

Steps: **1**



Absolute stereochemistry shown, Rotation (+)

Absolute stereochemistry shown

Absolute stereochemistry shown

Suppliers (68)

31-614-CAS-40416805

Steps: **1**

1.1 **Reagents:** 1,1,1,3,3,3-Hexafluoro-2-propanol, Acetic acid-d_4
Catalysts: Palladium diacetate, 2(1*H*)-Pyridinone, 6-(3-methyl-1*H*-pyrazol-1-yl)-; 48 h, 120 °C

Experimental Protocols

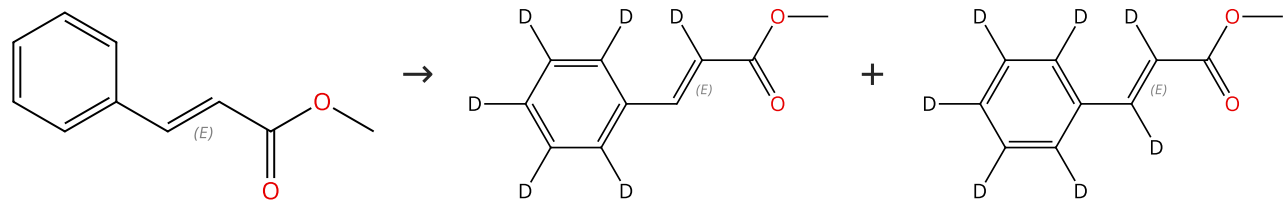
Nondirected Pd-Catalyzed C-H Perdeuteration and meta-Selective Alkenylation of Arenes Enabled by Pyrazolo pyridone Ligands

By: Yun, Seo Jin; et al

ACS Catalysis (2023), 13(7), 4042-4052.

Scheme 351 (1 Reaction)

Steps: **1**



Double bond geometry shown

Double bond geometry shown

Double bond geometry shown

Suppliers (69)

Suppliers (13)

31-614-CAS-40416761

Steps: **1**

1.1 **Reagents:** 1,1,1,3,3,3-Hexafluoro-2-propanol, Acetic acid-d_4
Catalysts: Palladium diacetate, 2(1*H*)-Pyridinone, 6-(3-methyl-1*H*-pyrazol-1-yl)-; 48 h, 120 °C

Experimental Protocols

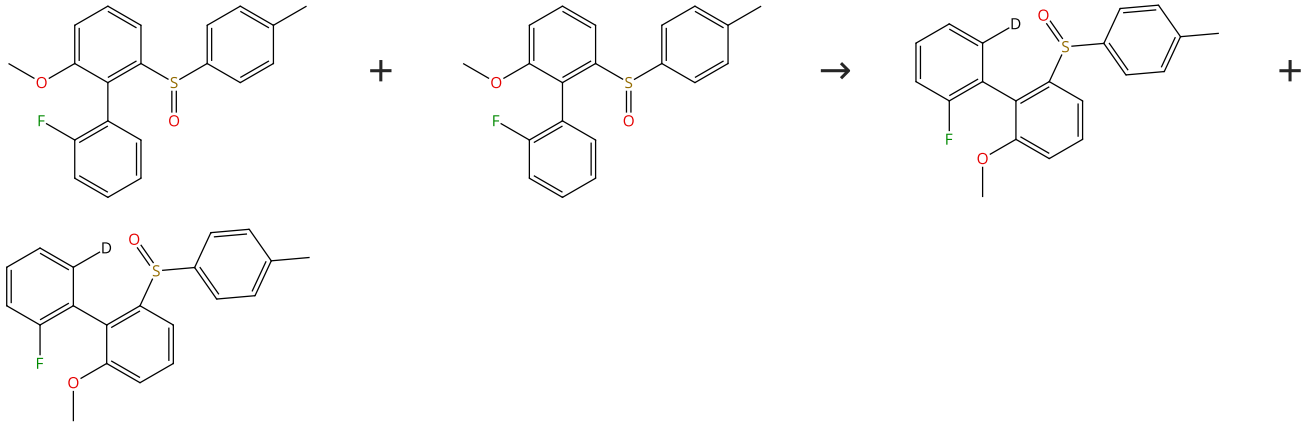
Nondirected Pd-Catalyzed C-H Perdeuteration and meta-Selective Alkenylation of Arenes Enabled by Pyrazolo pyridone Ligands

By: Yun, Seo Jin; et al

ACS Catalysis (2023), 13(7), 4042-4052.

Scheme 352 (1 Reaction)

Steps: **1**



31-116-CAS-12051446

Steps: **1**

1.1 **Reagents:** Acetic acid-d_4
Catalysts: Palladium diacetate; 48 h, 60 °C

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

Experimental Protocols

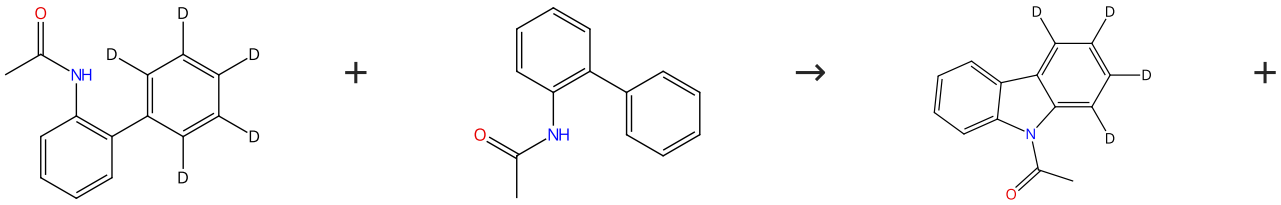
Synthesis of axially chiral biaryls through sulfoxide- directed asymmetric mild C-H activation and dynamic kinetic resolution

By: Hazra, Chinmoy Kumar; et al

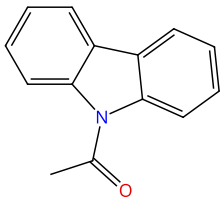
Angewandte Chemie, International Edition (2014), 53(50), 13871-13875.

Scheme 353 (1 Reaction)

Steps: **1**



Suppliers (34)



Suppliers (59)

31-614-CAS-37395641

Steps: **1**

1.1 **Reagents:** Acetic acid-d_4, Oxygen
Catalysts: Palladium diacetate, Scandium triflate
Solvents: Dimethylformamide; 3 h, 120 °C

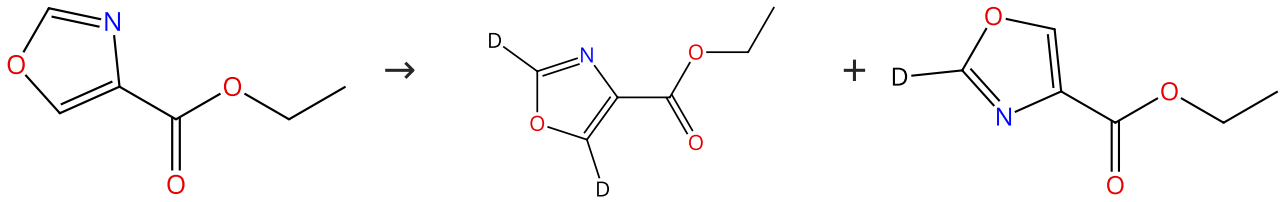
Pd(II)/Lewis Acid Catalyzed Intramolecular Oxidative C-H Amination to Construct Carbazoles with Dioxygen

By: Jiang, Hongwu; et al

European Journal of Organic Chemistry (2023), 26(35), e202300598.

Scheme 354 (1 Reaction)

Steps: **1**



Suppliers (91)

31-614-CAS-40416758

Steps: **1**

1.1 **Reagents:** 1,1,1,3,3,3-Hexafluoro-2-propanol, Acetic acid-d_4
Catalysts: Palladium diacetate, 2(1*H*)-Pyridinone, 6-(3-methyl-1*H*-pyrazol-1-yl)-; 48 h, 120 °C

Experimental Protocols

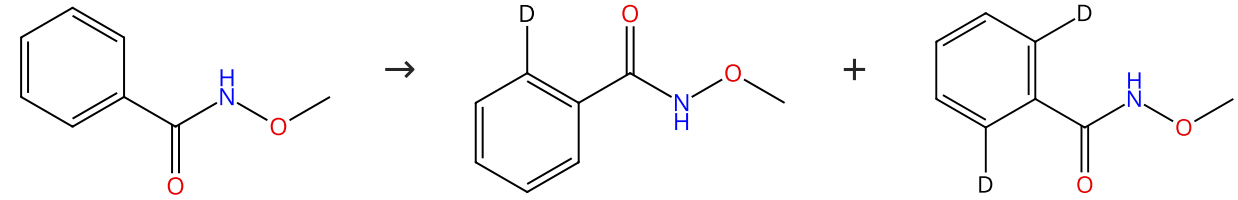
Nondirected Pd-Catalyzed C-H Perdeuteration and meta-Selective Alkenylation of Arenes Enabled by Pyrazolo pyridone Ligands

By: Yun, Seo Jin; et al

ACS Catalysis (2023), 13(7), 4042-4052.

Scheme 355 (1 Reaction)

Steps: **1**



Suppliers (49)

Supplier (1)

31-116-CAS-9208781

Steps: **1**

1.1 **Reagents:** Sodium carbonate, Acetic acid-d_4
Catalysts: Palladium diacetate
Solvents: Acetic acid-d_4; 18 h, 80 °C

Experimental Protocols

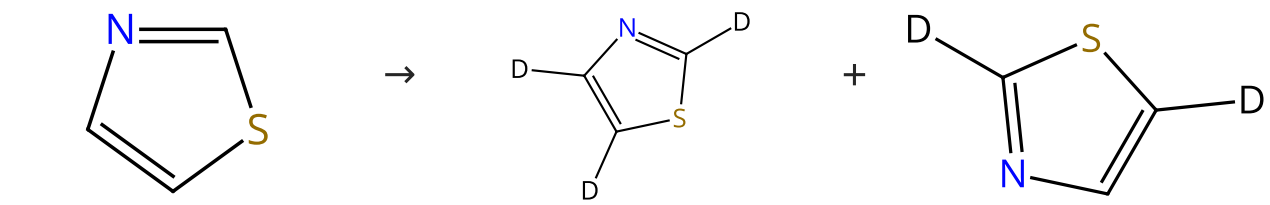
Palladium-Catalyzed ortho-Selective C-H Deuteration of Arenes: Evidence for Superior Reactivity of Weakly Coordi nated Palladacycles

By: Ma, Sandy; et al

Angewandte Chemie, International Edition (2014), 53(3), 734-737.

Scheme 356 (1 Reaction)

Steps: **1**



Suppliers (84)

Suppliers (5)

Suppliers (6)

31-614-CAS-40416751

Steps: **1**

1.1 **Reagents:** 1,1,1,3,3,3-Hexafluoro-2-propanol, Acetic acid-d_4
Catalysts: Palladium diacetate, 2(1*H*)-Pyridinone, 6-(3-methyl-1*H*-pyrazol-1-yl)-; 48 h, 120 °C

Experimental Protocols

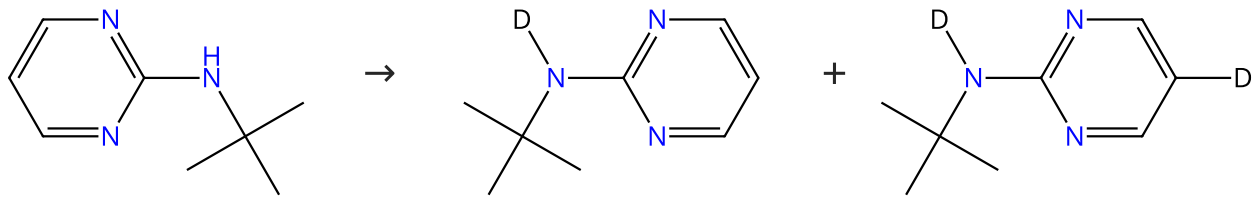
Nondirected Pd-Catalyzed C-H Perdeuteration and meta-Selective Alkenylation of Arenes Enabled by Pyrazolo pyridone Ligands

By: Yun, Seo Jin; et al

ACS Catalysis (2023), 13(7), 4042-4052.

Scheme 357 (1 Reaction)

Steps: **1**



Suppliers (7)

31-116-CAS-22267962

Steps: **1**

1.1 **Reagents:** Sodium carbonate, Silver carbonate, Acetic acid-d_4
Catalysts: Palladium diacetate
Solvents: Acetic acid-d_4; 5 h, 120 °C

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

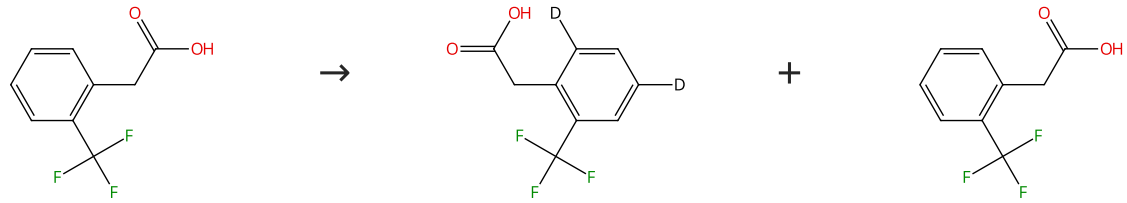
Palladium-catalyzed remote C-H functionalization of 2-aminopyrimidines

By: Das, Animesh; et al

Chemical Communications (Cambridge, United Kingdom) (2020), 56(31), 4284-4287.

Scheme 358 (1 Reaction)

Steps: **1**



Suppliers (84)

31-614-CAS-40416768

Steps: **1**

1.1 **Reagents:** 1,1,1,3,3,3-Hexafluoro-2-propanol, Acetic acid-d_4
Catalysts: Palladium diacetate, 2(1*H*)-Pyridinone, 6-(3-methyl-1*H*-pyrazol-1-yl)-; 48 h, 120 °C

Experimental Protocols

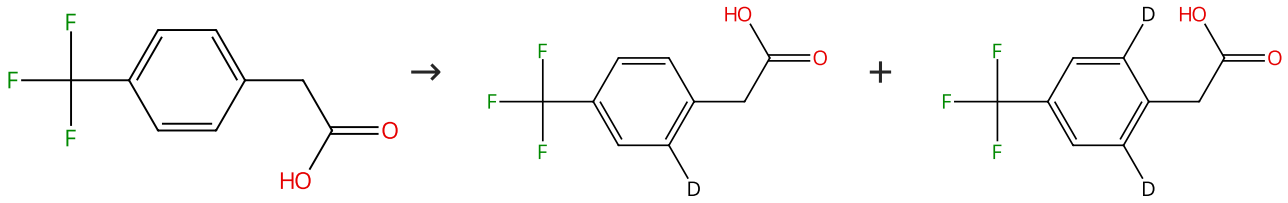
Nondirected Pd-Catalyzed C-H Perdeuteration and meta-Selective Alkenylation of Arenes Enabled by Pyrazolo pyridone Ligands

By: Yun, Seo Jin; et al

ACS Catalysis (2023), 13(7), 4042-4052.

Scheme 359 (1 Reaction)

Steps: **1**



Suppliers (93)

31-116-CAS-2869393

Steps: **1**

1.1 **Reagents:** Sodium carbonate, Acetic acid-d_4
Catalysts: Palladium diacetate
Solvents: Acetic acid-d_4; 12 h, 120 °C

1.2 **Reagents:** Sodium hydroxide
Solvents: Dichloromethane, Water; 12 h, 120 °C

Experimental Protocols

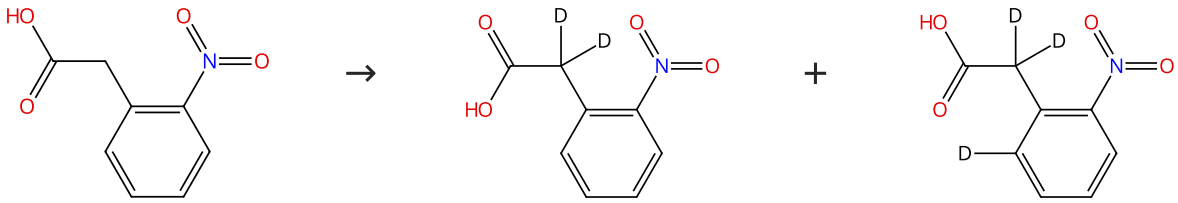
Palladium-Catalyzed ortho-Selective C-H Deuteration of Arenes: Evidence for Superior Reactivity of Weakly Coordi nated Palladacycles

By: Ma, Sandy; et al

Angewandte Chemie, International Edition (2014), 53(3), 734-737.

Scheme 360 (1 Reaction)

Steps: **1**



Suppliers (91)

31-116-CAS-355408

Steps: **1**

1.1 **Reagents:** Sodium carbonate, Acetic acid-d_4
Catalysts: Palladium diacetate
Solvents: Acetic acid-d_4; 12 h, 120 °C

Experimental Protocols

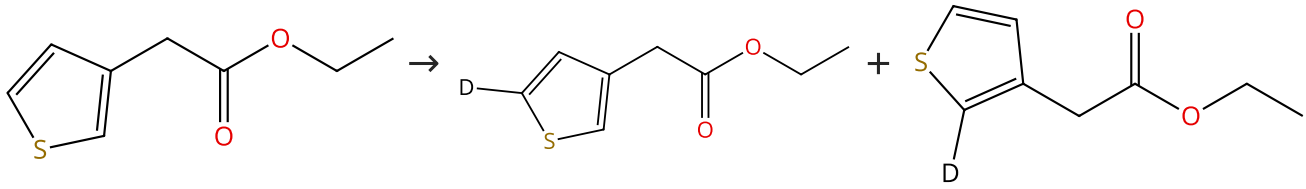
Palladium-Catalyzed ortho-Selective C-H Deuteration of Arenes: Evidence for Superior Reactivity of Weakly Coordi nated Palladacycles

By: Ma, Sandy; et al

Angewandte Chemie, International Edition (2014), 53(3), 734-737.

Scheme 361 (1 Reaction)

Steps: **1**



Suppliers (54)

31-116-CAS-9938771

Steps: **1**

1.1 **Reagents:** Quinone, Trifluoroacetic acid-*d*, Silver oxide (Ag_2O), Acetic acid, 2,2,2-trifluoro-, cesium salt (1:1)
Catalysts: Palladium trifluoroacetate; rt

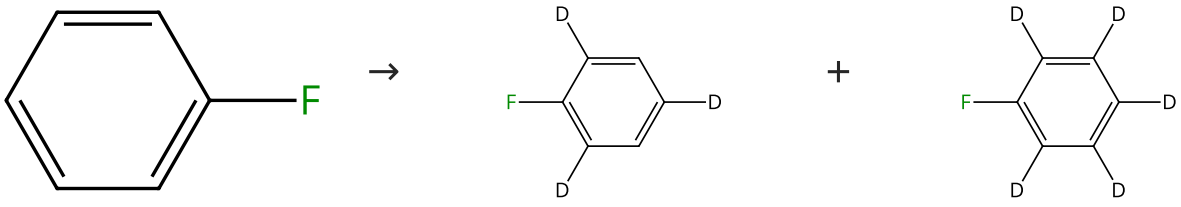
Kinetic Studies on the Palladium(II)-Catalyzed Oxidative Cross-Coupling of Thiophenes with Arylboron Compounds and Their Mechanistic Implications

By: Schnapperelle, Ingo; et al

Chemistry - A European Journal (2015), 21(50), 18407-18416.

Scheme 362 (1 Reaction)

Steps: **1**



Suppliers (93)

Suppliers (36)

31-614-CAS-40416748

Steps: **1**

1.1 **Reagents:** 1,1,1,3,3,3-Hexafluoro-2-propanol, Acetic acid-d_4
Catalysts: Palladium diacetate, 2(1*H*)-Pyridinone, 6-(3-methyl-1*H*-pyrazol-1-yl)-; 48 h, 120 °C

Experimental Protocols

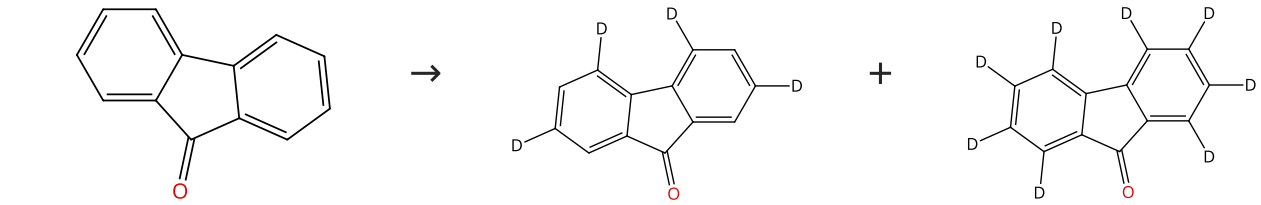
Nondirected Pd-Catalyzed C-H Perdeuteration and meta-Selective Alkenylation of Arenes Enabled by Pyrazolo pyridone Ligands

By: Yun, Seo Jin; et al

ACS Catalysis (2023), 13(7), 4042-4052.

Scheme 363 (1 Reaction)

Steps: **1**



Suppliers (105)

Suppliers (32)

31-614-CAS-40416775

Steps: **1**

1.1 **Reagents:** 1,1,1,3,3,3-Hexafluoro-2-propanol, Acetic acid-d_4
Catalysts: Palladium diacetate, 2(1*H*)-Pyridinone, 6-(3-methyl-1*H*-pyrazol-1-yl)-; 24 h, 130 °C

Experimental Protocols

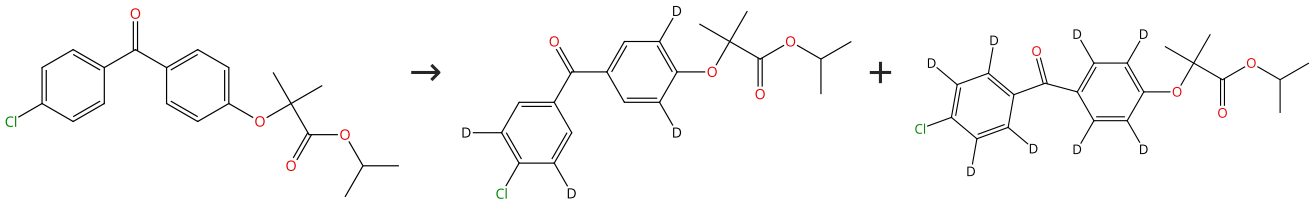
Nondirected Pd-Catalyzed C-H Perdeuteration and meta-Selective Alkenylation of Arenes Enabled by Pyrazolo pyridone Ligands

By: Yun, Seo Jin; et al

ACS Catalysis (2023), 13(7), 4042-4052.

Scheme 364 (1 Reaction)

Steps: **1**



Suppliers (125)

31-614-CAS-40416814

Steps: **1**

1.1 **Reagents:** 1,1,1,3,3,3-Hexafluoro-2-propanol, Acetic acid-d_4
Catalysts: Palladium diacetate, 2(1*H*)-Pyridinone, 6-(3-methyl-1*H*-pyrazol-1-yl)-; 48 h, 120 °C

Experimental Protocols

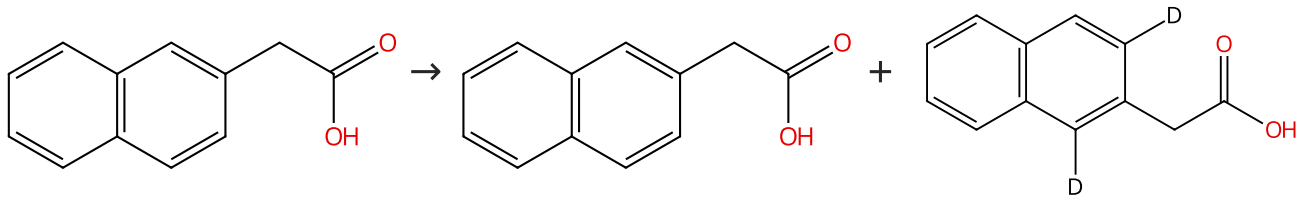
Nondirected Pd-Catalyzed C-H Perdeuteration and meta-Selective Alkenylation of Arenes Enabled by Pyrazolo pyridone Ligands

By: Yun, Seo Jin; et al

ACS Catalysis (2023), 13(7), 4042-4052.

Scheme 365 (1 Reaction)

Steps: **1**



Suppliers (109)

31-614-CAS-30374388

Steps: **1**

1.1 **Reagents:** Sodium carbonate, Acetic acid-d_4
Catalysts: Palladium diacetate
Solvents: Acetic acid-d_4; 12 h, 120 °C

1.2 **Reagents:** Sodium hydroxide
Solvents: Dichloromethane, Water; 12 h, 120 °C

Experimental Protocols

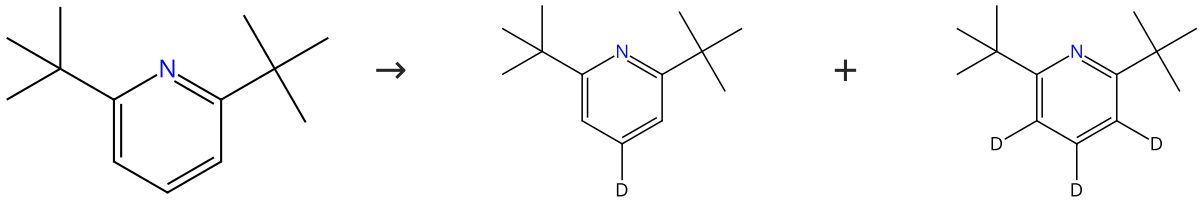
Palladium-Catalyzed ortho-Selective C-H Deuteration of Arenes: Evidence for Superior Reactivity of Weakly Coordi nated Palladacycles

By: Ma, Sandy; et al

Angewandte Chemie, International Edition (2014), 53(3), 734-737.

Scheme 366 (1 Reaction)

Steps: **1**



Suppliers (100)

31-614-CAS-40416766

Steps: **1**

1.1 **Reagents:** 1,1,1,3,3,3-Hexafluoro-2-propanol, Acetic acid-d_4
Catalysts: Palladium diacetate, 2(1*H*)-Pyridinone, 6-(3-methyl-1*H*-pyrazol-1-yl)-; 48 h, 120 °C

Experimental Protocols

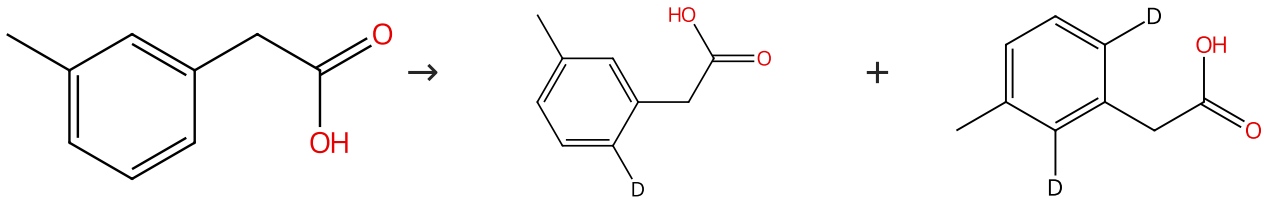
Nondirected Pd-Catalyzed C-H Perdeuteration and meta-Selective Alkenylation of Arenes Enabled by Pyrazolo pyridone Ligands

By: Yun, Seo Jin; et al

ACS Catalysis (2023), 13(7), 4042-4052.

Scheme 367 (1 Reaction)

Steps: **1**



Suppliers (93)

31-116-CAS-7127578

Steps: **1**

1.1 **Reagents:** Sodium carbonate, Acetic acid-d_4
Catalysts: Palladium diacetate
Solvents: Acetic acid-d_4; 12 h, 120 °C

1.2 **Reagents:** Sodium hydroxide
Solvents: Dichloromethane, Water; 12 h, 120 °C

Experimental Protocols

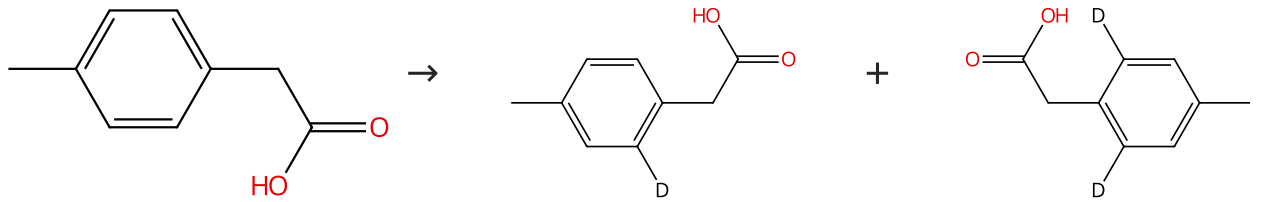
Palladium-Catalyzed ortho-Selective C-H Deuteration of Arenes: Evidence for Superior Reactivity of Weakly Coordi nated Palladacycles

By: Ma, Sandy; et al

Angewandte Chemie, International Edition (2014), 53(3), 734-737.

Scheme 368 (1 Reaction)

Steps: **1**



Suppliers (98)

31-116-CAS-9258955

Steps: **1**

1.1 **Reagents:** Sodium carbonate, Acetic acid-d_4
Catalysts: Palladium diacetate
Solvents: Acetic acid-d_4; 12 h, 120 °C

1.2 **Reagents:** Sodium hydroxide
Solvents: Dichloromethane, Water; 12 h, 120 °C

Experimental Protocols

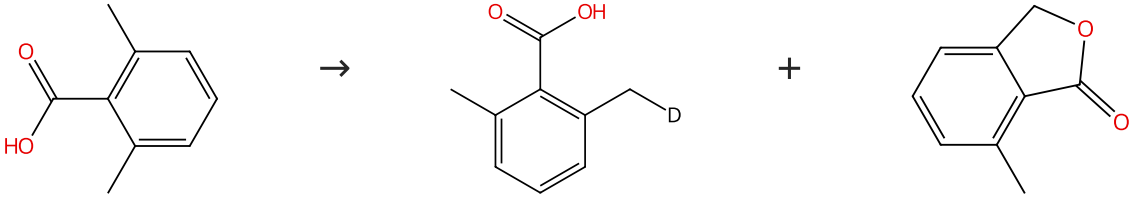
Palladium-Catalyzed ortho-Selective C-H Deuteration of Arenes: Evidence for Superior Reactivity of Weakly Coordi nated Palladacycles

By: Ma, Sandy; et al

Angewandte Chemie, International Edition (2014), 53(3), 734-737.

Scheme 369 (1 Reaction)

Steps: **1**



Suppliers (94)

Suppliers (37)

31-614-CAS-31147483

Steps: **1**

1.1 **Reagents:** Acetic acid-d_4, Dipotassium phosphate
Catalysts: Bis(benzonitrile)dichloropalladium, 3-(Trifluor omethyl)-2(1*H*)-pyridinone
Solvents: Chlorobenzene; 20 h, 140 °C; 140 °C → rt

1.2 **Reagents:** Formic acid; 10 min, rt

Experimental Protocols

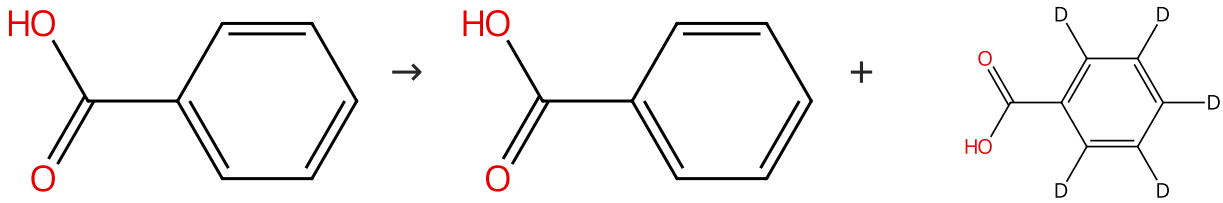
Unconventional mechanism and selectivity of the Pd-catalyzed C-H bond lactonization in aromatic carboxylic acid

By: Xu, Li-Ping; et al

Nature Communications (2022), 13(1), 315.

Scheme 370 (1 Reaction)

Steps: **1**



Suppliers (193)

Suppliers (62)

31-614-CAS-40416764

Steps: **1**

1.1 **Reagents:** 1,1,1,3,3,3-Hexafluoro-2-propanol, Acetic acid-d_4
Catalysts: Palladium diacetate, 2(1*H*)-Pyridinone, 6-(3-methyl-1*H*-pyrazol-1-yl)-; 48 h, 120 °C

Experimental Protocols

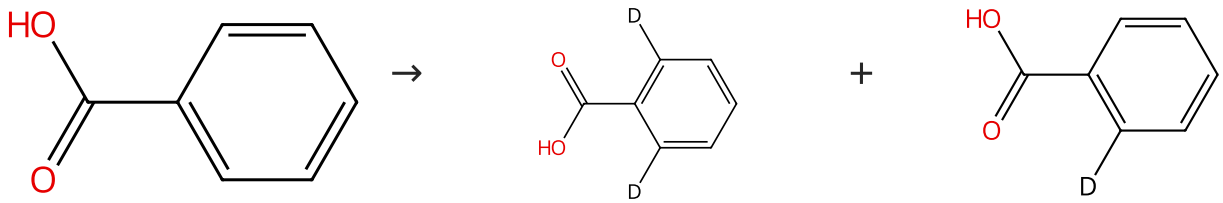
Nondirected Pd-Catalyzed C-H Perdeuteration and meta-Selective Alkenylation of Arenes Enabled by Pyrazolo pyridone Ligands

By: Yun, Seo Jin; et al

ACS Catalysis (2023), 13(7), 4042-4052.

Scheme 371 (1 Reaction)

Steps: **1**



Suppliers (193)

Suppliers (6)

Supplier (1)

31-116-CAS-8921605

Steps: **1**

1.1 **Reagents:** Sodium carbonate, Acetic acid-d_4
Catalysts: Palladium diacetate
Solvents: Acetic acid-d_4; 12 h, 120 °C

Experimental Protocols

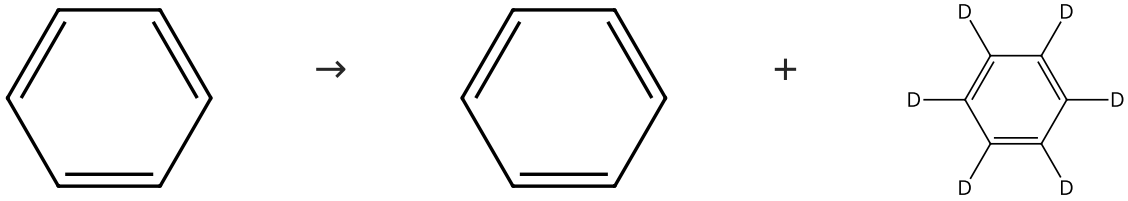
Palladium-Catalyzed ortho-Selective C-H Deuteration of Arenes: Evidence for Superior Reactivity of Weakly Coordi nated Palladacycles

By: Ma, Sandy; et al

Angewandte Chemie, International Edition (2014), 53(3), 734-737.

Scheme 372 (1 Reaction)

Steps: **1**



Suppliers (179)

Suppliers (143)

31-614-CAS-30370753

Steps: **1**

1.1 **Reagents:** Acetic acid-d_4, Silver tetrafluoroborate
Catalysts: Palladium(2+), dichloro(2,2''',4,4''',6,6'''-hexaphenyl-1,4':2',2'':4'',1'''-quaterpyridinium-κ$N^{1'}$,κ$N^{1''}$)-, (*SP*-4-2)-, tetrafluoroborate(1-) (1:2)
Solvents: Acetic acid-d_4; 15 min, 150 °C; 150 °C → rt

1.2 **Reagents:** Potassium carbonate
Solvents: Water; rt

Experimental Protocols

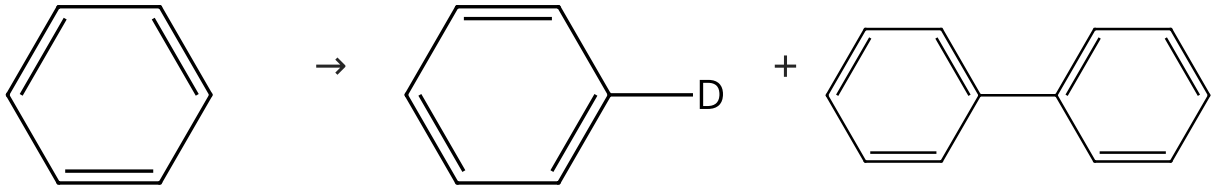
Platinum and Palladium Complexes Containing Cationic Ligands as Catalysts for Arene H/D Exchange and Oxidation

By: Emmert, Marion H.; et al

Angewandte Chemie, International Edition (2010), 49(34), 5884-5886, S5884/1-S5884/46.

Scheme 373 (1 Reaction)

Steps: **1**



Suppliers (179)

Suppliers (23)

Suppliers (119)

31-089-CAS-21001007

Steps: **1**

1.1 **Reagents:** Acetic acid-d_4, Trifluoromethanesulfonic acid, Oxygen
Catalysts: Palladium diacetate; 3 h, 16 bar, 120 °C

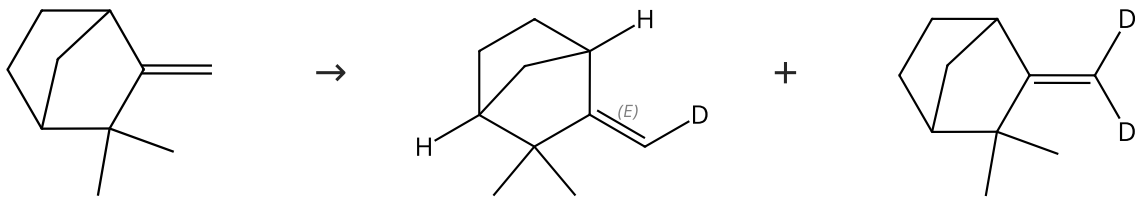
The Dual Effect of the Acetate Ligand on the Mechanism of the Pd-Catalyzed C-H/C-H Coupling of Benzene

By: Beckers, Igor; et al

ChemCatChem (2020), 12(1), 90-94.

Scheme 374 (1 Reaction)

Steps: **1**



Suppliers (81)

Double bond geometry shown

31-116-CAS-6325328

Steps: **1**

1.1 **Catalysts:** Palladium diacetate
Solvents: Acetic acid-d_4; 1.5 - 30 h, 25 °C

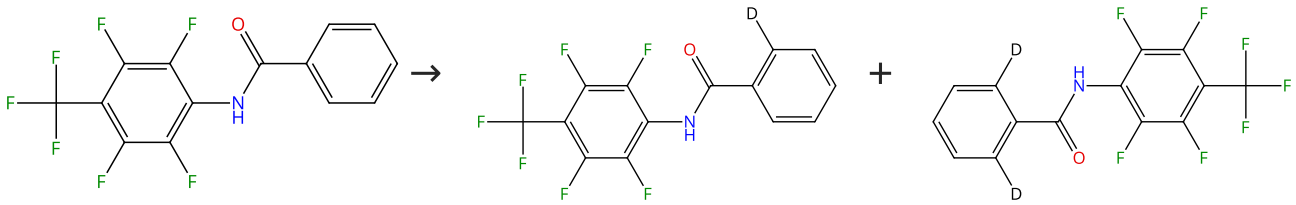
Palladium catalyzed transformations of monoterpenes: stereoselective deuteriation and oxidative dimerization of camphene

By: Jose da Silva, Marcio; et al

Journal of Organometallic Chemistry (2004), 689(2), 302-308.

Scheme 375 (1 Reaction)

Steps: **1**



Supplier (1)

31-116-CAS-13191255

Steps: **1**

1.1 **Reagents:** Sodium carbonate, Acetic acid-d_4
Catalysts: Palladium diacetate
Solvents: Acetic acid-d_4; 12 h, 120 °C

Experimental Protocols

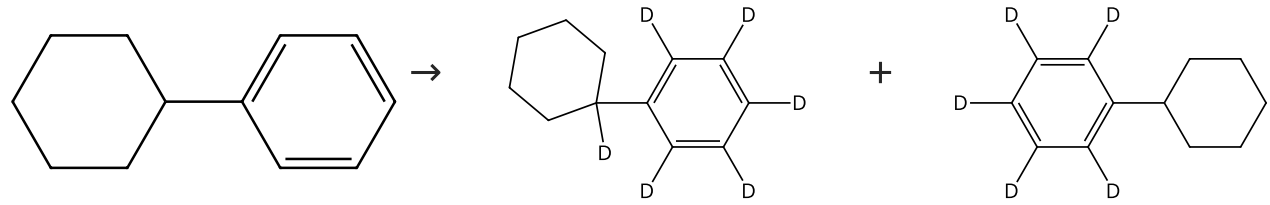
Palladium-Catalyzed ortho-Selective C-H Deuteration of Arenes: Evidence for Superior Reactivity of Weakly Coordinated Palladacycles

By: Ma, Sandy; et al

Angewandte Chemie, International Edition (2014), 53(3), 734-737.

Scheme 376 (3 Reactions)

Steps: **1**



Suppliers (83)

31-614-CAS-40416737

Steps: **1**

1.1 **Reagents:** 1,1,1,3,3,3-Hexafluoro-2-propanol, Acetic acid-d_4
Catalysts: Palladium diacetate, 2(1*H*)-Pyridinone, 6-(3-methyl-1*H*-pyrazol-1-yl)-; 48 h, 120 °C

Experimental Protocols

Nondirected Pd-Catalyzed C-H Perdeuteration and meta-Selective Alkenylation of Arenes Enabled by Pyrazolo pyridone Ligands

By: Yun, Seo Jin; et al

ACS Catalysis (2023), 13(7), 4042-4052.

31-614-CAS-40416738

Steps: **1**

1.1 **Reagents:** 1,1,1,3,3,3-Hexafluoro-2-propanol, Acetic acid-d_4
Catalysts: Palladium diacetate, 1,2-Dihydro-1-(2-pyridinyl)-3*H*-pyrazol-3-one; 48 h, 120 °C

Experimental Protocols

Nondirected Pd-Catalyzed C-H Perdeuteration and meta-Selective Alkenylation of Arenes Enabled by Pyrazolo pyridone Ligands

By: Yun, Seo Jin; et al

ACS Catalysis (2023), 13(7), 4042-4052.

31-614-CAS-40416741

Steps: **1**

1.1 **Reagents:** 1,1,1,3,3,3-Hexafluoro-2-propanol, Acetic acid-d_4
Catalysts: Palladium diacetate, 6-(1*H*-Pyrazol-1-yl)-3-pyridinol; 48 h, 120 °C

Experimental Protocols

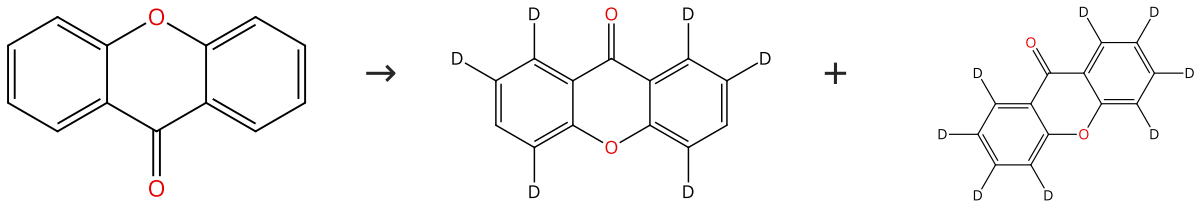
Nondirected Pd-Catalyzed C-H Perdeuteration and meta-Selective Alkenylation of Arenes Enabled by Pyrazolo pyridone Ligands

By: Yun, Seo Jin; et al

ACS Catalysis (2023), 13(7), 4042-4052.

Scheme 377 (1 Reaction)

Steps: **1**



Suppliers (102)

31-614-CAS-40416786

Steps: **1**

1.1 **Reagents:** 1,1,1,3,3,3-Hexafluoro-2-propanol, Acetic acid-d_4
Catalysts: Palladium diacetate, 2(1*H*)-Pyridinone, 6-(3-methyl-1*H*-pyrazol-1-yl)-; 48 h, 120 °C

Experimental Protocols

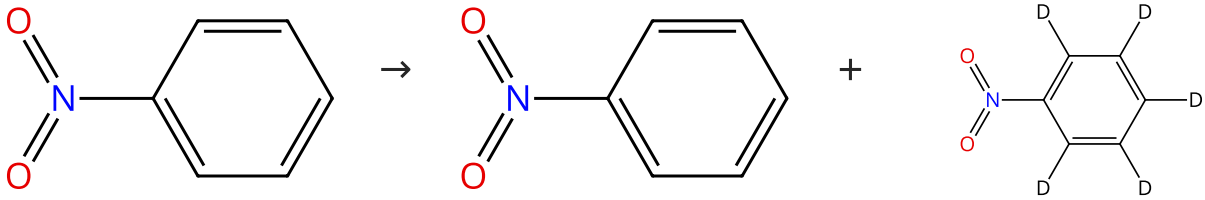
Nondirected Pd-Catalyzed C-H Perdeuteration and meta-Selective Alkenylation of Arenes Enabled by Pyrazolo pyridone Ligands

By: Yun, Seo Jin; et al

ACS Catalysis (2023), 13(7), 4042-4052.

Scheme 378 (1 Reaction)

Steps: **1**



Suppliers (107)

Suppliers (55)

31-614-CAS-40416754

Steps: **1**

1.1 **Reagents:** 1,1,1,3,3,3-Hexafluoro-2-propanol, Acetic acid-d_4
Catalysts: Palladium diacetate, 2(1*H*)-Pyridinone, 6-(3-methyl-1*H*-pyrazol-1-yl)-; 48 h, 120 °C

Experimental Protocols

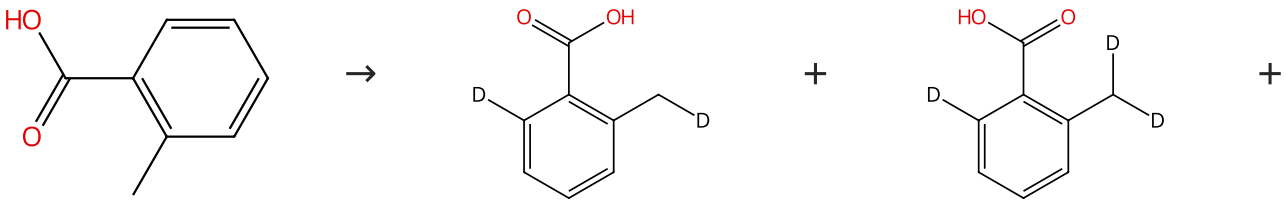
Nondirected Pd-Catalyzed C-H Perdeuteration and meta-Selective Alkenylation of Arenes Enabled by Pyrazolo pyridone Ligands

By: Yun, Seo Jin; et al

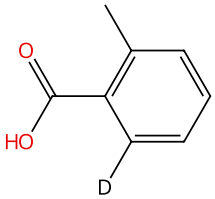
ACS Catalysis (2023), 13(7), 4042-4052.

Scheme 379 (1 Reaction)

Steps: **1** Yield: **67%**



Suppliers (92)



Suppliers (3)

31-614-CAS-31147482	Steps: **1** Yield: **67%**
1.1 **Reagents:** Acetic acid-d_4, Dipotassium phosphate **Catalysts:** Bis(benzonitrile)dichloropalladium, 3-(Trifluoromethyl)-2(1*H*)-pyridinone **Solvents:** Chlorobenzene; 20 h, 140 °C; 140 °C → rt 1.2 **Reagents:** Formic acid; 10 min, rt	
Experimental Protocols	

Unconventional mechanism and selectivity of the Pd-catalyzed C-H bond lactonization in aromatic carboxylic acid

By: Xu, Li-Ping; et al

Nature Communications (2022), 13(1), 315.