

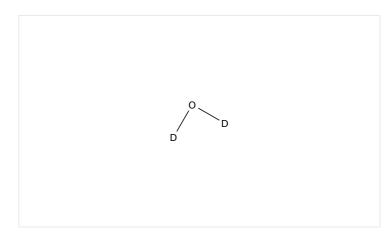
Task History

Initiating Search

February 23, 2025, 8:49 PM

Substances:

Filtered By:



Structure Match: As Drawn

Search Tasks

¯ask	Search Type	View
Returned Substance Results + Filters (1,728)	Substances	View Results
Exported: Retrieved Related Reaction Results + Filters (154)	■ Reactions	View Results
Filtered By:		
Substance Reagent, Solvent Role:		

CAS SciFinder® Page 2

Catalyst: Bromopentacarbonylmanganese, Di-µ-

bromooctacarbonyldimanganese,

Dimanganese decacarbonyl, Manganese, Manganese(1+), [5,10,15,20-tetraphenyl-

21 H,23 H-porphinato(2-)-

 $\kappa N^{21}, \kappa N^{22}, \kappa N^{23}, \kappa N^{24}]$ -, (SP-4-1)-, (OC-6-

11)-hexafluoroantimonate(1-) (1:1),

Manganese(3+), diaquadi-µ-oxobis(2,2':6',2"-terpyridine-

 $\kappa N^1, \kappa N^1', \kappa N^1''$)di-, stereoisomer, nitrate

(1:3), Manganese dichloride, Manganese

oxide (MnO $_2$), Manganese triacetate, (${\it OC}$ -

6-22)-Dichloro(4,11-dimethyl-1,4,8,11-

tetraazabicyclo[6.6.2]hexadecane-

 κN^1 , κN^4 , κN^8 , κN^{11}) manganese, (*OC*-6-25)-

[(αZ)-β-[Bis(1,1-dimethylethyl)phosphino-

κ*P*]-6-[[bis(1,1-dimethylethyl)phosphino-

 κP]methyl]- α -(phenylmethylene)-2-

pyridineethanaminato-

 κN^1 , κN^2] dicarbonylmanganese, (*OC*-6-42)-

[2-[Bis(1-methylethyl)phosphino-κ*P*]-*N*-[2-

[bis(1-methylethyl)phosphino-

кР]ethyl]ethanamine-

κ/Jbromodicarbonylmanganese, (OC-6-

42)-Bromodicarbonyl[2-

(diphenylphosphino-κ*P*)-*N*-[2-

(diphenylphosphino-κP)ethyl]ethanamine-

κ//Jmanganese, (*SP*-5-42)-[6-[[Bis(1,1-dimethylathyl)]]

dimethylethyl)phosphino-κ*P*]methyl]-2-

[[bis(1,1-dimethylethyl)phosphino-

 κP]methylene]-1,2-hydropyridinato-

κ**//Jdicarbonylmanganese**Document **Journal**

Type:

Language: English

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Steps: 1 Yield: 100%

Steps: 1 Yield: 100%



Reactions (131)

View in CAS SciFinder

Steps: 1 Yield: 100%

Steps: 1 Yield: 100%

Steps: 1 Yield: 100%

Scheme 1 (1 Reaction)

31-116-CAS-23175378

1.1 **Reagents:** Sodium acetate

Catalysts: Butylamine, Bromopentacarbonylmanganese Solvents: 1,2-Dichloroethane, Water- d₂; 72 h, 100 °C

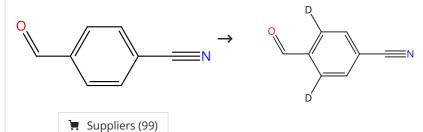
Experimental Protocols

Manganese-catalyzed selective C-H activation and deuteration by means of a catalytic transient directing group strategy

By: Kopf, Sara; et al

Chemical Communications (Cambridge, United Kingdom) (2021), 57(9), 1137-1140.

Scheme 2 (1 Reaction)



31-116-CAS-23174447

.1 Reagents: 4-Chlorobenzoic acid Catalysts: Benzylamine, Bromopentacarbonylmanganese Solvents: 1,2-Dichloroethane, Water-*d*₂; 16 h, 100 °C

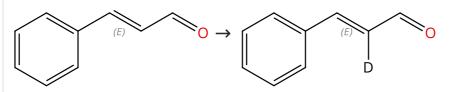
Experimental Protocols

Manganese-catalyzed selective C-H activation and deuteration by means of a catalytic transient directing group strategy

By: Kopf, Sara; et al

Chemical Communications (Cambridge, United Kingdom) (2021), 57(9), 1137-1140.

Scheme 3 (1 Reaction)



Double bond geometry shown

Double bond geometry shown

➤ Suppliers (113)

Steps: 1 Yield: 100%

Steps: 1 Yield: 100%

31-116-CAS-23175144

Steps: 1 Yield: 100%

1.1 Reagents: Sodium acetate

Catalysts: Butylamine, Bromopentacarbonylmanganese Solvents: 1,2-Dichloroethane, Water- d₂; 16 h, 100 °C

Experimental Protocols

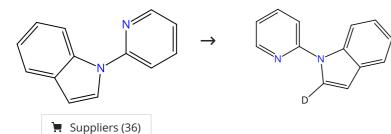
Manganese-catalyzed selective C-H activation and deuteration by means of a catalytic transient directing group strategy

By: Kopf, Sara; et al

Chemical Communications (Cambridge, United Kingdom)

(2021), 57(9), 1137-1140.

Scheme 4 (2 Reactions)



31-116-CAS-17609569

Steps: 1 Yield: 100%

1.1 **Reagents:** Water-*d*₂

Catalysts: Dimanganese decacarbonyl Solvents: Ethyl acetate; 2 h, 120 °C

Experimental Protocols

An Approach to 3-(Indol-2-yl)succinimide Derivatives by Manganese-Catalyzed C-H Activation

By: Liu, Shuang-Liang; et al

Organic Letters (2017), 19(15), 4042-4045.

31-614-CAS-41987480

Steps: 1

1.1 **Reagents:** Water- d_2

Catalysts: Sodium carbonate, Dimanganese decacarbonyl

Solvents: Toluene; 12 h, 120 °C

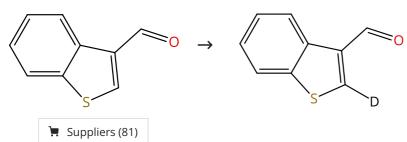
Experimental Protocols

Robust Synthesis of Terpenoid Scaffolds under Mn (I)-Catalysis

By: Parammal, Athira; et al

Journal of Organic Chemistry (2023), 88(15), 10761-10771.

Scheme 5 (1 Reaction)



31-116-CAS-23175282

Steps: 1 Yield: 100%

1.1 **Reagents:** Sodium acetate

Catalysts: Butylamine, Bromopentacarbonylmanganese Solvents: 1,2-Dichloroethane, Water- d₂; 16 h, 100 °C

Experimental Protocols

Manganese-catalyzed selective C-H activation and deuteration by means of a catalytic transient directing group strategy

By: Kopf, Sara; et al

Chemical Communications (Cambridge, United Kingdom)

(2021), 57(9), 1137-1140.

Steps: 1 Yield: 100%

Steps: 1 Yield: 99%

Steps: 1 Yield: 99%

Scheme 6 (1 Reaction)

31-116-CAS-23175467

Steps: 1 Yield: 100%

Manganese-catalyzed selective C-H activation and deuteration by means of a catalytic transient directing group strategy

By: Kopf, Sara; et al

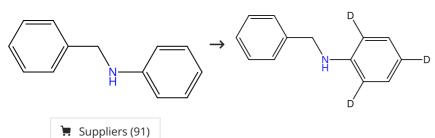
Chemical Communications (Cambridge, United Kingdom) (2021), 57(9), 1137-1140.

1.1 Reagents: 4-Chlorobenzoic acid

Catalysts: Benzylamine, Bromopentacarbonylmanganese **Solvents:** 1,2-Dichloroethane, Water-*d*₂; 19 h, 100 °C

Experimental Protocols

Scheme 7 (1 Reaction)



31-614-CAS-32141254

Steps: 1 Yield: 99%

1.1 **Reagents:** Hydrogen, Water- d_2

Catalysts: Manganese; 24 h, 10 bar, 120 °C

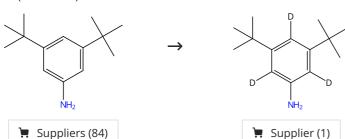
Experimental Protocols

Manganese-Catalysed Deuterium Labelling of Anilines and Electron-Rich (Hetero)Arenes

By: Bourriquen, Florian; et al

Angewandte Chemie, International Edition (2022), 61(27), e202202423.

Scheme 8 (1 Reaction)



31-614-CAS-32141252

Steps: 1 Yield: 99%

Manganese-Catalysed Deuterium Labelling of Anilines and Electron-Rich (Hetero)Arenes

Reagents: Hydrogen, Water-d₂

Catalysts: Manganese; 24 h, 10 bar, 120 °C

By: Bourriquen, Florian; et al

Experimental Protocols

Steps: 1 Yield: 99%

Steps: 1 Yield: 99%

Steps: 1 Yield: 99%

Scheme 9 (1 Reaction)

≒ Suppliers (77)

31-614-CAS-32141268

1.1 **Reagents:** Hydrogen, Water- d₂

Catalysts: Manganese; 24 h, 10 bar, 120 °C

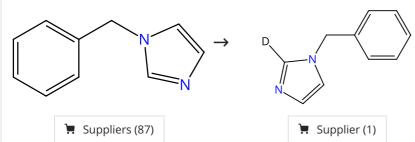
Experimental Protocols

Manganese-Catalysed Deuterium Labelling of Anilines and Electron-Rich (Hetero)Arenes

By: Bourriquen, Florian; et al

Angewandte Chemie, International Edition (2022), 61(27), e202202423.

Scheme 10 (1 Reaction)



31-614-CAS-32141266

.1 **Reagents:** Hydrogen, Water- d_2

Catalysts: Manganese; 24 h, 10 bar, 120 °C

Experimental Protocols

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

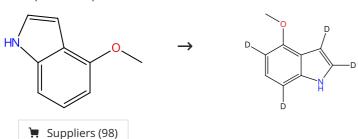
Steps: 1 Yield: 99%

Manganese-Catalysed Deuterium Labelling of Anilines and Electron-Rich (Hetero)Arenes

By: Bourriquen, Florian; et al

Angewandte Chemie, International Edition (2022), 61(27), e202202423.

Scheme 11 (1 Reaction)



31-614-CAS-32141277

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

1.1 **Reagents:** Hydrogen, Water- d_2

Catalysts: Manganese; 24 h, 10 bar, 120 °C

Experimental Protocols

Manganese-Catalysed Deuterium Labelling of Anilines and Electron-Rich (Hetero)Arenes

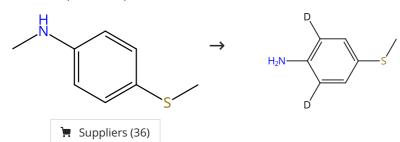
By: Bourriquen, Florian; et al

Steps: 1 Yield: 99%

Steps: 1 Yield: 99%

Steps: 1 Yield: 99%

Scheme 12 (1 Reaction)



31-614-CAS-32141248

Steps: 1 Yield: 99%

1.1 **Reagents:** Hydrogen, Water- d₂

Catalysts: Manganese; 24 h, 10 bar, 120 °C

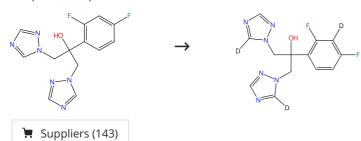
Experimental Protocols

Manganese-Catalysed Deuterium Labelling of Anilines and Electron-Rich (Hetero)Arenes

By: Bourriquen, Florian; et al

Angewandte Chemie, International Edition (2022), 61(27), e202202423.

Scheme 13 (1 Reaction)



31-614-CAS-32141276

Steps: 1 Yield: 99%

Reagents: Hydrogen, Water- d₂

Catalysts: Manganese; 24 h, 10 bar, 120 °C

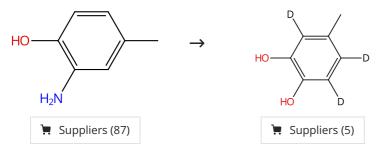
Experimental Protocols

Manganese-Catalysed Deuterium Labelling of Anilines and Electron-Rich (Hetero)Arenes

By: Bourriquen, Florian; et al

Angewandte Chemie, International Edition (2022), 61(27), e202202423.

Scheme 14 (1 Reaction)



31-614-CAS-32141284

Steps: 1 Yield: 99%

Reagents: Hydrogen, Water- d₂

Catalysts: Manganese; 24 h, 10 bar, 120 °C

Experimental Protocols

Manganese-Catalysed Deuterium Labelling of Anilines and Electron-Rich (Hetero)Arenes

By: Bourriquen, Florian; et al

Steps: 1 Yield: 98%

Steps: 1 Yield: 98%

Steps: 1 Yield: 97%

Scheme 15 (1 Reaction)

Suppliers (68)

31-614-CAS-32141261

1.1 **Reagents:** Hydrogen, Water- d₂

Catalysts: Manganese; 24 h, 10 bar, 120 °C

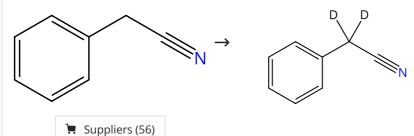
Experimental Protocols

Manganese-Catalysed Deuterium Labelling of Anilines and Electron-Rich (Hetero)Arenes

By: Bourriquen, Florian; et al

Angewandte Chemie, International Edition (2022), 61(27), e202202423.

Scheme 16 (2 Reactions)



31-614-CAS-27118464

1.1 Reagents: Water-d₂

Catalysts: (*OC*-6-25)-[(α*Z*)-β-[Bis(1,1-dimethylethyl)phosphino-κ*P*]-6-[[bis(1,1-dimethylethyl)phosphino-κ*P*]methyl]-α-(phenylmethylene)-2-pyridineethanaminato-κ N^1 ,κ N^2]

dicarbonylmanganese

Solvents: Toluene; 24 h, 110 °C

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

Steps: 1 Yield: 98%

Manganese-Pincer-Catalyzed Nitrile Hydration, α -Deuteration and α -Deuterated Amide Formation via Metal Ligand Cooper ation

By: Zhou, Quan-Quan; et al

ACS Catalysis (2021), 11(16), 10239-10245.

Experimental Protocols

31-614-CAS-29655791

1.1 **Reagents:** Water- d_2

Catalysts: (*SP*-5-42)-[6-[[Bis(1,1-dimethylethyl)phosphino-κP] methyl]-2-[[bis(1,1-dimethylethyl)phosphino-κP]methylene]-1, 2-hydropyridinato-κN]dicarbonylmanganese

2-riyaropyriamato-k/vjaicarboriy

Solvents: Toluene; 24 h, 110 °C

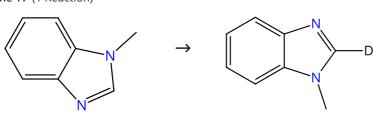
Experimental Protocols

Manganese-Pincer-Catalyzed Nitrile Hydration, $\alpha\text{-}Deuteration$ and $\alpha\text{-}Deuterated$ Amide Formation via Metal Ligand Cooper ation

By: Zhou, Quan-Quan; et al

ACS Catalysis (2021), 11(16), 10239-10245.

Scheme 17 (1 Reaction)



≒ Suppliers (87)

Suppliers (2)

Steps: 1

Steps: 1 Yield: 86-97%

Steps: 1 Yield: 96%

31-614-CAS-32141271 Steps: **1** Yield: **97%**

1.1 **Reagents:** Hydrogen, Water- d_2

Catalysts: Manganese; 24 h, 10 bar, 120 °C

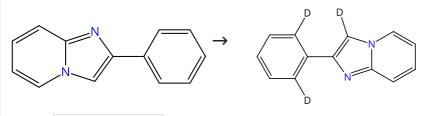
Experimental Protocols

Manganese-Catalysed Deuterium Labelling of Anilines and Electron-Rich (Hetero)Arenes

By: Bourriquen, Florian; et al

Angewandte Chemie, International Edition (2022), 61(27), e202202423.

Scheme 18 (2 Reactions)



31-614-CAS-37081678

1.1 Reagents: Water-d₂

Catalysts: Dimanganese decacarbonyl Solvents: Ethyl acetate; 24 h, 120 °C

☐ Suppliers (83)

Steps: 1 Yield: 97%

Steps: 1 Yield: 96%

Manganese-Catalyzed ortho -Hydroalkylation of Aryl-Substituted N - Heteroaromatic Compounds with Maleimides

By: Shinde, Vikki N.; et al

Synthesis (2023), 55(21), 3632-3643.

31-614-CAS-24227479 Steps: 1 Yield: 86%

1.1 Reagents: Ammonium acetate, Water-*d*₂
Catalysts: Bromopentacarbonylmanganese
Solvents: 2,2,2-Trifluoroethanol; 15 h, 100 °C

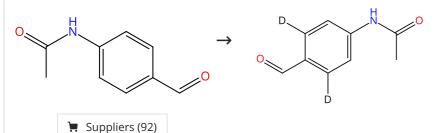
Experimental Protocols

Solvent-Switched Manganese(I)-Catalyzed Regiodivergent Distal vs Proximal C-H Alkylation of Imidazopyridine with Maleimide

By: Ghosh, Subhendu; et al

Organic Letters (2021), 23(19), 7370-7375.

Scheme 19 (1 Reaction)



31-116-CAS-23174135

I.1 Reagents: Sodium acetate

Catalysts: Butylamine, Bromopentacarbonylmanganese **Solvents:** 1,2-Dichloroethane, Water-*d*₂; 72 h, 100 °C

Experimental Protocols

Manganese-catalyzed selective C-H activation and deuteration by means of a catalytic transient directing group strategy

By: Kopf, Sara; et al

Chemical Communications (Cambridge, United Kingdom) (2021), 57(9), 1137-1140.

Steps: 1 Yield: 96%

Steps: 1 Yield: 95%

Steps: 1 Yield: 91-95%

Scheme 20 (1 Reaction)

31-614-CAS-26082703

Steps: 1 Yield: 96%

Manganese-catalyzed C-H alkynylation: expedient peptide synthesis and modification

1.1 Reagents: Dicyclohexylamine

> Suppliers (59)

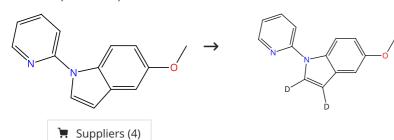
Catalysts: Bromopentacarbonylmanganese **Solvents:** 1,2-Dichloroethane, Water-*d*₂; 16 h, 80 °C

Experimental Protocols

By: Ruan, Zhixiong; et al

Angewandte Chemie, International Edition (2017), 56(12), 3172-3176.

Scheme 21 (1 Reaction)



31-116-CAS-13738781

Steps: 1 Yield: 95%

Manganese(I)-Catalyzed C-H Aminocarbonylation of Hetero arenes

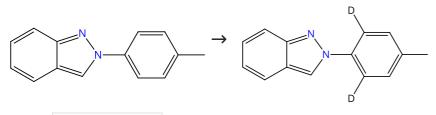
.1 Catalysts: Bromopentacarbonylmanganese Solvents: Diethyl ether, Water- d2; 3 h, 100 °C

Experimental Protocols

By: Liu, Weiping; et al

Angewandte Chemie, International Edition (2015), 54(47), 14137-14140.

Scheme 22 (3 Reactions)



> Suppliers (10)

31-614-CAS-38655539

Steps: 1 Yield: 95%

One-Pot Manganese (I)-Catalyzed Oxidant-Controlled Divergent Functionalization of 2-Arylindazoles

1.1 **Catalysts:** Sodium acetate, Bromopentacarbonylmanganese **Solvents:** 1,2-Dichloroethylene; 5 min, rt

1.2 **Reagents:** Water-*d*₂; 24 h, 100 °C

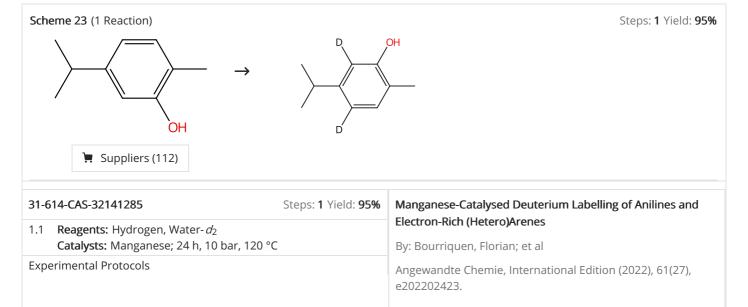
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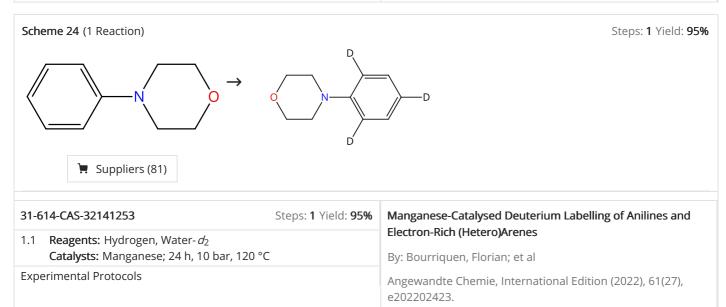
By: Kanta Das, Krishna; et al

Experimental Protocols

Chemistry - A European Journal (2024), 30(4), e202302849.

31-614-CAS-33030158 Steps: 1 Yield: 95% Late-stage ortho-C-H alkenylation of 2-arylindazoles in aqueous medium by Manganese(I)-catalysis Catalysts: Sodium acetate, Bromopentacarbonylmanganese Solvents: 1,4-Dioxane; 5 min, rt By: Das, Krishna Kanta; et al Reagents: Water-d₂; 8 h, 100 °C RSC Advances (2022), 12(30), 19412-19416. **Experimental Protocols** 31-614-CAS-24319672 Steps: 1 Yield: 91% Ortho-Allylation of 2-Arylindazoles with Vinyl Cyclic Carbonate and Diallyl Carbonate via Manganese-Catalyzed C-H Bond Reagents: Water-d2 Activation Catalysts: Sodium acetate, Dimanganese decacarbonyl Solvents: 1,4-Dioxane; 10 h, 100 °C By: Kumar Ghosh, Asim; et al **Experimental Protocols** Advanced Synthesis & Catalysis (2021), 363(21), 4974-4981.





Steps: 1 Yield: 94%

Steps: 1 Yield: 94%

Steps: 1 Yield: 94%

Scheme 25 (1 Reaction)

H_2N

31-614-CAS-32141263

Steps: 1 Yield: 94%

Reagents: Hydrogen, Water- d_2

Suppliers (77)

Catalysts: Manganese; 24 h, 10 bar, 120 °C

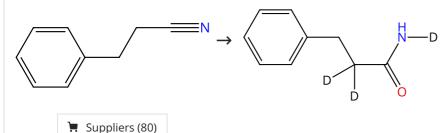
Experimental Protocols

Manganese-Catalysed Deuterium Labelling of Anilines and Electron-Rich (Hetero)Arenes

By: Bourriquen, Florian; et al

Angewandte Chemie, International Edition (2022), 61(27), e202202423.

Scheme 26 (1 Reaction)



31-116-CAS-24133457

Steps: 1 Yield: 94%

Reagents: Water-d2

Catalysts: (SP-5-42)-[6-[[Bis(1,1-dimethylethyl)phosphino-κP] methyl]-2-[[bis(1,1-dimethylethyl)phosphino-κP]methylene]-1,

2-hydropyridinato-κ//jdicarbonylmanganese

Solvents: Toluene; 60 h, 90 °C

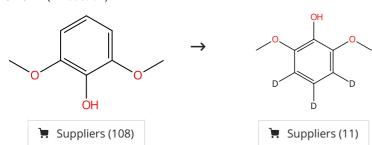
Experimental Protocols

Manganese-Pincer-Catalyzed Nitrile Hydration, α-Deuteration and α-Deuterated Amide Formation via Metal Ligand Cooper

By: Zhou, Quan-Quan; et al

ACS Catalysis (2021), 11(16), 10239-10245.

Scheme 27 (1 Reaction)



31-614-CAS-32141286

Steps: 1 Yield: 94%

Reagents: Hydrogen, Water- d2

Catalysts: Manganese; 24 h, 10 bar, 120 °C

Experimental Protocols

Manganese-Catalysed Deuterium Labelling of Anilines and Electron-Rich (Hetero)Arenes

By: Bourriquen, Florian; et al

Steps: 1 Yield: 93%

Steps: 1 Yield: 93%

Steps: 1 Yield: 92%

Scheme 28 (1 Reaction)

$$\rightarrow$$
 NH_2

31-614-CAS-32141258

Steps: 1 Yield: 93%

Reagents: Hydrogen, Water- d_2

Suppliers (82)

Catalysts: Manganese; 24 h, 10 bar, 120 °C

Experimental Protocols

Manganese-Catalysed Deuterium Labelling of Anilines and Electron-Rich (Hetero)Arenes

By: Bourriquen, Florian; et al

Angewandte Chemie, International Edition (2022), 61(27), e202202423.

Scheme 29 (1 Reaction)



31-614-CAS-32141287

Steps: 1 Yield: 93%

Reagents: Hydrogen, Water- d₂ Catalysts: Manganese; 24 h, 10 bar, 120 °C

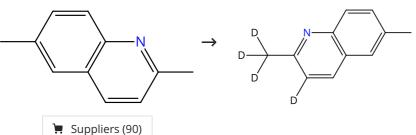
Experimental Protocols

Manganese-Catalysed Deuterium Labelling of Anilines and Electron-Rich (Hetero)Arenes

By: Bourriquen, Florian; et al

Angewandte Chemie, International Edition (2022), 61(27), e202202423.

Scheme 30 (1 Reaction)



31-614-CAS-32141279

Steps: 1 Yield: 92%

Reagents: Hydrogen, Water- d₂

Catalysts: Manganese; 24 h, 10 bar, 120 °C

Experimental Protocols

Manganese-Catalysed Deuterium Labelling of Anilines and Electron-Rich (Hetero)Arenes

By: Bourriquen, Florian; et al

Steps: 1 Yield: 91%

Steps: 1 Yield: 91%

Steps: 1 Yield: 91%

Scheme 31 (1 Reaction)

31-614-CAS-32141249

1.1 **Reagents:** Hydrogen, Water- d₂

Suppliers (88)

Catalysts: Manganese; 24 h, 10 bar, 120 °C

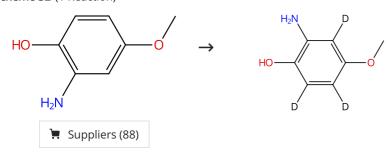
Experimental Protocols

Manganese-Catalysed Deuterium Labelling of Anilines and Electron-Rich (Hetero)Arenes

By: Bourriquen, Florian; et al

Angewandte Chemie, International Edition (2022), 61(27), e202202423.

Scheme 32 (1 Reaction)



31-614-CAS-32141275

.1 **Reagents:** Hydrogen, Water- d_2

Catalysts: Manganese; 24 h, 10 bar, 120 °C

Experimental Protocols

Steps: 1 Yield: 91%

Steps: 1 Yield: 91%

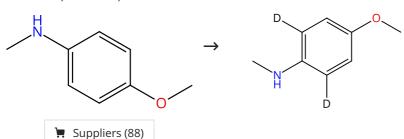
Steps: 1 Yield: 91%

Manganese-Catalysed Deuterium Labelling of Anilines and Electron-Rich (Hetero)Arenes

By: Bourriquen, Florian; et al

Angewandte Chemie, International Edition (2022), 61(27), e202202423.

Scheme 33 (1 Reaction)



31-614-CAS-32141246

.1 **Reagents:** Hydrogen, Water- d₂

Catalysts: Manganese; 24 h, 10 bar, 120 °C

Experimental Protocols

Manganese-Catalysed Deuterium Labelling of Anilines and Electron-Rich (Hetero)Arenes

By: Bourriquen, Florian; et al

Steps: 1 Yield: 91%

Steps: 1 Yield: 91%

Steps: 1 Yield: 90%

Steps: 1 Yield: 91%

Steps: 1 Yield: 91%

Steps: 1 Yield: 90%

Scheme 34 (1 Reaction)

31-614-CAS-32141283

1.1 **Reagents:** Hydrogen, Water- d_2

📜 Suppliers (135)

Catalysts: Manganese; 24 h, 10 bar, 120 °C

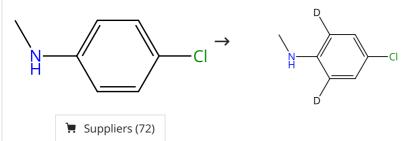
Experimental Protocols

Manganese-Catalysed Deuterium Labelling of Anilines and Electron-Rich (Hetero)Arenes

By: Bourriquen, Florian; et al

Angewandte Chemie, International Edition (2022), 61(27), e202202423.

Scheme 35 (1 Reaction)



31-614-CAS-32141251

1.1 **Reagents:** Hydrogen, Water-*d*₂

Catalysts: Manganese; 24 h, 10 bar, 120 °C

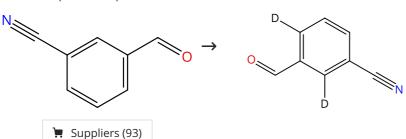
Experimental Protocols

Manganese-Catalysed Deuterium Labelling of Anilines and Electron-Rich (Hetero)Arenes

By: Bourriquen, Florian; et al

Angewandte Chemie, International Edition (2022), 61(27), e202202423.

Scheme 36 (1 Reaction)



31-116-CAS-23176796

.1 Reagents: 4-Chlorobenzoic acid
Catalysts: Benzylamine, Bromopentacarbonylmanganese
Solvents: 1,2-Dichloroethane, Water-d₂; 8 h, 100 °C

Experimental Protocols

Manganese-catalyzed selective C-H activation and deuteration by means of a catalytic transient directing group strategy

By: Kopf, Sara; et al

Chemical Communications (Cambridge, United Kingdom) (2021), 57(9), 1137-1140.

Steps: 1 Yield: 89%

Steps: 1 Yield: 89%

Steps: 1 Yield: 89%

Scheme 37 (1 Reaction)

$$\bigcup_{D}$$

31-116-CAS-23174027

Steps: 1 Yield: 89%

1.1 Reagents: Sodium acetate

Suppliers (86)

Catalysts: Butylamine, Bromopentacarbonylmanganese Solvents: 1,2-Dichloroethane, Water- d₂; 16 h, 100 °C

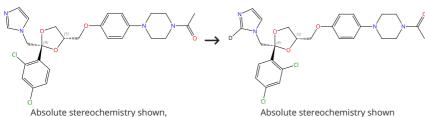
Experimental Protocols

Manganese-catalyzed selective C-H activation and deuteration by means of a catalytic transient directing group strategy

By: Kopf, Sara; et al

Chemical Communications (Cambridge, United Kingdom) (2021), 57(9), 1137-1140.

Scheme 38 (1 Reaction)



Absolute stereochemistry shown, Rotation (+)

➤ Suppliers (34)

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

1.1 **Reagents:** Hydrogen, Water-*d*₂

Catalysts: Manganese; 24 h, 10 bar, 120 °C

Experimental Protocols

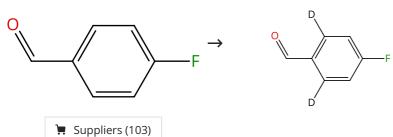
31-614-CAS-32141273

Manganese-Catalysed Deuterium Labelling of Anilines and Electron-Rich (Hetero)Arenes

By: Bourriquen, Florian; et al

Angewandte Chemie, International Edition (2022), 61(27), e202202423.

Scheme 39 (1 Reaction)



31-116-CAS-23175462

Steps: 1 Yield: 89%

-116-CAS-23175462 Steps: 1 Yield

1.1 Reagents: Sodium acetate

Catalysts: Butylamine, Bromopentacarbonylmanganese **Solvents:** 1,2-Dichloroethane, Water-*d*₂; 16 h, 100 °C

Experimental Protocols

Manganese-catalyzed selective C-H activation and deuteration by means of a catalytic transient directing group strategy

By: Kopf, Sara; et al

Chemical Communications (Cambridge, United Kingdom) (2021), 57(9), 1137-1140.

Steps: 1 Yield: 89%

Steps: 1 Yield: 89%

Steps: 1 Yield: 88%

Scheme 40 (1 Reaction)

31-614-CAS-32141280

Steps: 1 Yield: 89%

Manganese-Catalysed Deuterium Labelling of Anilines and Electron-Rich (Hetero)Arenes

1.1 **Reagents:** Hydrogen, Water- d₂

Suppliers (69)

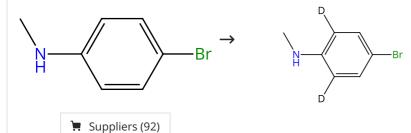
Catalysts: Manganese; 24 h, 10 bar, 120 °C

Experimental Protocols

By: Bourriquen, Florian; et al

Angewandte Chemie, International Edition (2022), 61(27), e202202423.

Scheme 41 (1 Reaction)



31-614-CAS-32141265

Steps: 1 Yield: 89%

Manganese-Catalysed Deuterium Labelling of Anilines and Electron-Rich (Hetero)Arenes

.1 **Reagents:** Hydrogen, Water- *d*₂

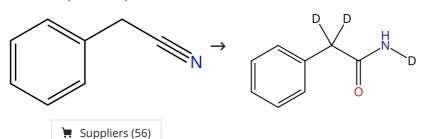
Catalysts: Manganese; 24 h, 10 bar, 120 °C

Experimental Protocols

By: Bourriquen, Florian; et al

Angewandte Chemie, International Edition (2022), 61(27), e202202423.

Scheme 42 (1 Reaction)



31-614-CAS-31425849

Steps: 1 Yield: 88%

Hydration of Nitriles Enabled by PNP-manganese Pincer Catalyst

1.1 Reagents: Potassium *tert*-butoxide, Water-*d*₂

Catalysts: (OC-6-42)-Bromodicarbonyl[2-(diphenylphosphino- κP)-N-[2-(diphenylphosphino- κP)ethyl]ethanamine- κN]

manganese

Solvents: 1,4-Dioxane; 24 h, 110 °C

Experimental Protocols

By: Wen, Xiaoting; et al

Asian Journal of Organic Chemistry (2022), 11(4), e202100781.

Steps: 1 Yield: 87%

Steps: 1 Yield: 85%

Steps: 1 Yield: 85%

Steps: 1 Yield: 87%

Steps: 1 Yield: 85%

Steps: 1 Yield: 85%

Scheme 43 (1 Reaction)

$$NH_2$$
 \rightarrow CI NH_2 \rightarrow CI NH_2 \rightarrow CI NH_2 \rightarrow NH_2

31-614-CAS-32141259

1.1 **Reagents:** Hydrogen, Water- *d*₂

Catalysts: Manganese; 24 h, 10 bar, 120 °C

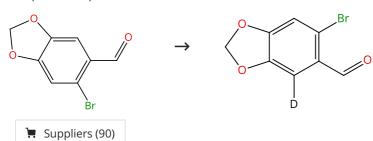
Experimental Protocols

Manganese-Catalysed Deuterium Labelling of Anilines and Electron-Rich (Hetero)Arenes

By: Bourriquen, Florian; et al

Angewandte Chemie, International Edition (2022), 61(27), e202202423.

Scheme 44 (1 Reaction)



31-614-CAS-28732750

1.1 Reagents: 4-Chlorobenzoic acid

Catalysts: Benzylamine, Bromopentacarbonylmanganese **Solvents:** 1,2-Dichloroethane, Water- d_2 ; 17 h, 100 °C

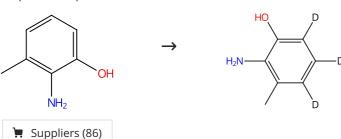
Experimental Protocols

Manganese-catalyzed selective C-H activation and deuteration by means of a catalytic transient directing group strategy

By: Kopf, Sara; et al

Chemical Communications (Cambridge, United Kingdom) (2021), 57(9), 1137-1140.

Scheme 45 (1 Reaction)



31-614-CAS-32141278

.1 **Reagents:** Hydrogen, Water- d₂

Catalysts: Manganese; 24 h, 10 bar, 120 °C

Experimental Protocols

Manganese-Catalysed Deuterium Labelling of Anilines and Electron-Rich (Hetero)Arenes

By: Bourriquen, Florian; et al

Steps: 1 Yield: 85%

Steps: 1 Yield: 85%

Steps: 1 Yield: 85%

Steps: 1 Yield: 85%

Scheme 46 (1 Reaction)

₩ Suppliers (104)

31-614-CAS-32141272

1.1 **Reagents:** Hydrogen, Water- d_2

Catalysts: Manganese; 24 h, 10 bar, 120 °C

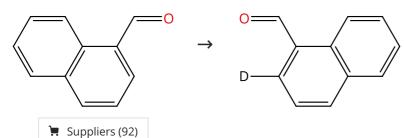
Experimental Protocols

Manganese-Catalysed Deuterium Labelling of Anilines and Electron-Rich (Hetero)Arenes

By: Bourriquen, Florian; et al

Angewandte Chemie, International Edition (2022), 61(27), e202202423.

Scheme 47 (1 Reaction)



31-116-CAS-23174328

1.1 Reagents: Sodium acetate

Catalysts: Butylamine, Bromopentacarbonylmanganese Solvents: 1,2-Dichloroethane, Water- d₂; 16 h, 100 °C

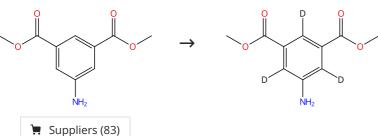
Experimental Protocols

Steps: 1 Yield: 85% Manganese-catalyzed selective C-H activation and deuteration by means of a catalytic transient directing group strategy

By: Kopf, Sara; et al

Chemical Communications (Cambridge, United Kingdom) (2021), 57(9), 1137-1140.

Scheme 48 (1 Reaction)



Steps: 1 Yield: 85%

31-614-CAS-32141267

.1 **Reagents:** Hydrogen, Water- d₂

Catalysts: Manganese; 24 h, 10 bar, 120 °C

Experimental Protocols

Manganese-Catalysed Deuterium Labelling of Anilines and Electron-Rich (Hetero)Arenes

By: Bourriquen, Florian; et al

Steps: 1 Yield: 84%

Steps: 1 Yield: 83%

Steps: 1 Yield: 83%

Scheme 49 (1 Reaction)

Double bond geometry shown

□ Suppliers (84)

Double bond geometry shown

> Suppliers (4)

Steps: 1 Yield: 84%

Steps: 1 Yield: 83%

Steps: 1 Yield: 83%

31-116-CAS-23174469

1.1 Reagents: Sodium acetate

Catalysts: Butylamine, Bromopentacarbonylmanganese **Solvents:** 1,2-Dichloroethane, Water-*d*₂; 16 h, 100 °C

Experimental Protocols

Manganese-catalyzed selective C-H activation and deuteration by means of a catalytic transient directing group strategy

By: Kopf, Sara; et al

Chemical Communications (Cambridge, United Kingdom) (2021), 57(9), 1137-1140.

Scheme 50 (1 Reaction)

31-614-CAS-32141257

1.1 **Reagents:** Hydrogen, Water- d_2

Catalysts: Manganese; 24 h, 10 bar, 120 °C

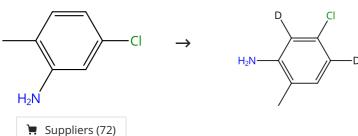
Experimental Protocols

Manganese-Catalysed Deuterium Labelling of Anilines and Electron-Rich (Hetero)Arenes

By: Bourriquen, Florian; et al

Angewandte Chemie, International Edition (2022), 61(27), e202202423.

Scheme 51 (1 Reaction)



31-614-CAS-32141256

1 **Reagents:** Hydrogen, Water- d₂

Catalysts: Manganese; 24 h, 10 bar, 120 °C

Experimental Protocols

Manganese-Catalysed Deuterium Labelling of Anilines and Electron-Rich (Hetero)Arenes

By: Bourriquen, Florian; et al

Steps: 1 Yield: 82%

Steps: 1 Yield: 81%

Steps: 1 Yield: 80%

Scheme 52 (1 Reaction)

31-116-CAS-23175183

Steps: 1 Yield: 82% Reagents: 4-Chlorobenzoic acid

Catalysts: Benzylamine, Bromopentacarbonylmanganese Solvents: 1,2-Dichloroethane, Water-d₂; 16 h, 100 °C

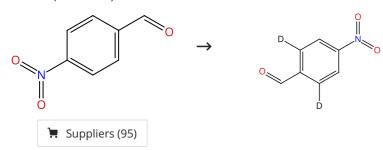
Experimental Protocols

Manganese-catalyzed selective C-H activation and deuteration by means of a catalytic transient directing group strategy

By: Kopf, Sara; et al

Chemical Communications (Cambridge, United Kingdom) (2021), 57(9), 1137-1140.

Scheme 53 (1 Reaction)



31-116-CAS-23176715

Reagents: 4-Chlorobenzoic acid

Catalysts: Benzylamine, Bromopentacarbonylmanganese Solvents: 1,2-Dichloroethane, Water-d₂; 16 h, 100 °C

Experimental Protocols

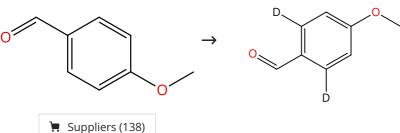
Steps: 1 Yield: 81%

Manganese-catalyzed selective C-H activation and deuteration by means of a catalytic transient directing group strategy

By: Kopf, Sara; et al

Chemical Communications (Cambridge, United Kingdom) (2021), 57(9), 1137-1140.

Scheme 54 (1 Reaction)



31-116-CAS-23176765

Reagents: Sodium acetate

Catalysts: Butylamine, Bromopentacarbonylmanganese Solvents: 1,2-Dichloroethane, Water-d₂; 16 h, 120 °C

Experimental Protocols

Steps: 1 Yield: 80%

Manganese-catalyzed selective C-H activation and deuteration by means of a catalytic transient directing group strategy

By: Kopf, Sara; et al

Chemical Communications (Cambridge, United Kingdom) (2021), 57(9), 1137-1140.

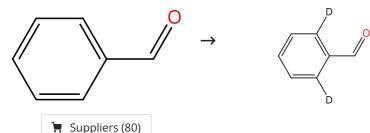
Steps: 1 Yield: 79%

Steps: 1 Yield: 69%

Steps: 1 Yield: 50-79%

Steps: 1 Yield: 79%

Scheme 55 (3 Reactions)



31-116-CAS-23173967

1.1 Reagents: Sodium acetate

Catalysts: Butylamine, Bromopentacarbonylmanganese Solvents: 1,2-Dichloroethane, Water- d₂; 16 h, 100 °C

Experimental Protocols

Manganese-catalyzed selective C-H activation and deuteration by means of a catalytic transient directing group strategy

By: Kopf, Sara; et al

Chemical Communications (Cambridge, United Kingdom) (2021), 57(9), 1137-1140.

31-116-CAS-21551867

1.1 Reagents: Water-d₂

Catalysts: Manganese triacetate, Bis[dichloro[η^5 -(pentameth ylcyclopentadienyl)]rhodium], [1,1,1-Trifluoro-*N*-[(trifluor omethyl)sulfonyl-κ*O*]methanesulfonamidato-κ*O*]silver

Solvents: 1,2-Dichloroethane; 16 h, 130 °C

Aldehyde as a Traceless Directing Group for Regiose lective C-H Alkylation Catalyzed by Rhodium(III) in Air

By: Chen, Si-Qi; et al

Organic Letters (2020), 22(4), 1259-1264.

31-116-CAS-23174255 Steps: **1** Yield: **50%**

1.1 Reagents: Benzene, Sodium acetate

Catalysts: Butylamine, Bromopentacarbonylmanganese Solvents: 1,2-Dichloroethane, Water-*d*₂; 16 h, 100 °C

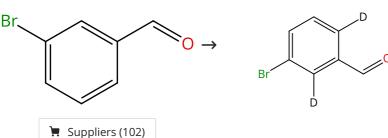
Experimental Protocols

Manganese-catalyzed selective C-H activation and deuteration by means of a catalytic transient directing group strategy

By: Kopf, Sara; et al

Chemical Communications (Cambridge, United Kingdom) (2021), 57(9), 1137-1140.

Scheme 56 (1 Reaction)



31-116-CAS-23176739

Steps: **1** Yield: **79%**

1.1 Reagents: Sodium acetate

Catalysts: Butylamine, Bromopentacarbonylmanganese **Solvents:** 1,2-Dichloroethane, Water-*d*₂; 72 h, 100 °C

Experimental Protocols

Manganese-catalyzed selective C-H activation and deuteration by means of a catalytic transient directing group strategy

By: Kopf, Sara; et al

Chemical Communications (Cambridge, United Kingdom) (2021), 57(9), 1137-1140.

Steps: 1 Yield: 79%

Steps: 1 Yield: 78%

Steps: 1 Yield: 78%

Scheme 57 (1 Reaction)

31-614-CAS-42829671

Suppliers (16)

Steps: 1 Yield: 79%

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

Catalysts: 2-Hydroxy-5-methylpyridine, Bromopentacarbonyl

manganese

Solvents: N-Methyl-2-pyrrolidone; 2 h, 100 °C

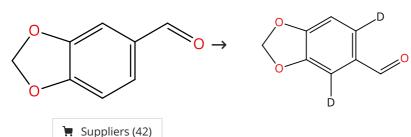
Experimental Protocols

2-Pyridone-Enhanced Mn-Catalysis for the Synthesis of ortho-Deuterated Aromatic Nitriles

By: Liu, Yanran; et al

Organic Letters (2024), 26(47), 10170-10175.

Scheme 58 (1 Reaction)



31-116-CAS-23175722

Steps: **1** Yield: **78%**

1.1 **Reagents:** Sodium acetate

Catalysts: Butylamine, Bromopentacarbonylmanganese Solvents: 1,2-Dichloroethane, Water-*d*₂; 16 h, 100 °C

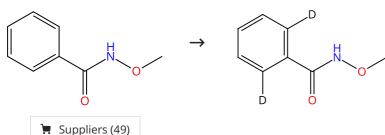
Experimental Protocols

Manganese-catalyzed selective C-H activation and deuteration by means of a catalytic transient directing group strategy

By: Kopf, Sara; et al

Chemical Communications (Cambridge, United Kingdom) (2021), 57(9), 1137-1140.

Scheme 59 (1 Reaction)



31-614-CAS-42829676

Steps: 1 Yield: 78%

1.1 **Reagents:** Sodium carbonate, Water- d_2

Catalysts: 2-Hydroxy-5-methylpyridine, Bromopentacarbonyl

manganese

Solvents: N-Methyl-2-pyrrolidone; 16 h, 60 °C

Experimental Protocols

2-Pyridone-Enhanced Mn-Catalysis for the Synthesis of ortho-Deuterated Aromatic Nitriles

By: Liu, Yanran; et al

Organic Letters (2024), 26(47), 10170-10175.

Steps: 1 Yield: 78%

Steps: 1 Yield: 77%

Steps: 1 Yield: 77%

Scheme 60 (1 Reaction)

31-116-CAS-23174368

Steps: 1 Yield: 78%

Reagents: Sodium acetate

Catalysts: Butylamine, Bromopentacarbonylmanganese Solvents: 1,2-Dichloroethane, Water-d₂; 16 h, 100 °C

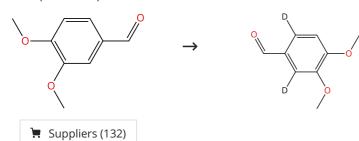
Experimental Protocols

Manganese-catalyzed selective C-H activation and deuteration by means of a catalytic transient directing group strategy

By: Kopf, Sara; et al

Chemical Communications (Cambridge, United Kingdom) (2021), 57(9), 1137-1140.

Scheme 61 (1 Reaction)



31-116-CAS-23174581

Steps: 1 Yield: 77%

Reagents: Sodium acetate

Catalysts: Butylamine, Bromopentacarbonylmanganese Solvents: 1,2-Dichloroethane, Water-d₂; 16 h, 100 °C

Experimental Protocols

Manganese-catalyzed selective C-H activation and deuteration by means of a catalytic transient directing group strategy

By: Kopf, Sara; et al

Chemical Communications (Cambridge, United Kingdom) (2021), 57(9), 1137-1140.

Scheme 62 (1 Reaction)



31-116-CAS-23174333

Steps: 1 Yield: 77%

Reagents: 4-Chlorobenzoic acid

Catalysts: Butylamine, Bromopentacarbonylmanganese Solvents: 1,2-Dichloroethane, Water-d₂; 8 h, 100 °C

Experimental Protocols

Manganese-catalyzed selective C-H activation and deuteration by means of a catalytic transient directing group strategy

By: Kopf, Sara; et al

Chemical Communications (Cambridge, United Kingdom) (2021), 57(9), 1137-1140.

Steps: 1 Yield: 77%

Steps: 1 Yield: 76%

Scheme 63 (1 Reaction)

$$\begin{array}{c} \\ \\ \\ \\ \\ \end{array}$$

Steps: 1 Yield: 77%

Manganese-catalyzed selective C-H activation and deuteration by means of a catalytic transient directing group strategy

By: Kopf, Sara; et al

Chemical Communications (Cambridge, United Kingdom) (2021), 57(9), 1137-1140.

31-116-CAS-23176314

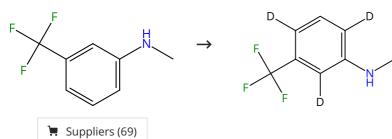
Reagents: Sodium acetate

Suppliers (78)

Catalysts: Butylamine, Bromopentacarbonylmanganese Solvents: 1,2-Dichloroethane, Water-d2; 72 h, 100 °C

Experimental Protocols

Scheme 64 (1 Reaction)



31-614-CAS-32141260

Steps: 1 Yield: 76%

Reagents: Hydrogen, Water- d₂

Catalysts: Manganese; 24 h, 10 bar, 120 °C

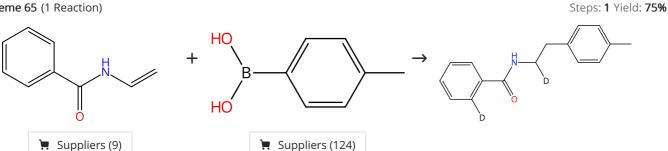
Experimental Protocols

Manganese-Catalysed Deuterium Labelling of Anilines and Electron-Rich (Hetero)Arenes

By: Bourriquen, Florian; et al

Angewandte Chemie, International Edition (2022), 61(27), e202202423.

Scheme 65 (1 Reaction)



31-614-CAS-31964783

Steps: 1 Yield: 75%

Manganese-Catalyzed Anti-Markovnikov Hydroarylation of **Enamides: Modular Synthesis of Arylethylamines**

By: He, Yijie; et al

Chinese Journal of Chemistry (2022), 40(13), 1546-1552.

Reagents: Potassium carbonate, Water-d2 Catalysts: Di-µ-bromooctacarbonyldimanganese Solvents: tert-Butyl methyl ether; 15 min, 120 °C

Experimental Protocols

Steps: 1 Yield: 75%

Scheme 66 (1 Reaction)

31-614-CAS-32141264

1.1 **Reagents:** Hydrogen, Water- d₂

> Suppliers (68)

Catalysts: Manganese; 24 h, 10 bar, 120 °C

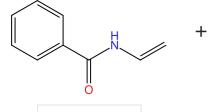
Experimental Protocols

Manganese-Catalysed Deuterium Labelling of Anilines and Electron-Rich (Hetero)Arenes

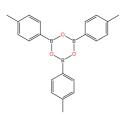
By: Bourriquen, Florian; et al

Angewandte Chemie, International Edition (2022), 61(27), e202202423.

Scheme 67 (1 Reaction)



➤ Suppliers (9)



Steps: 1 Yield: 75%

Suppliers (28)

Steps: 1 Yield: 74%

Steps: 1 Yield: 74%

Steps: 1 Yield: 74%

31-614-CAS-31964793

.1 Reagents: Potassium carbonate, Water- d₂
Catalysts: Di-μ-bromooctacarbonyldimanganese
Solvents: tert-Butyl methyl ether; 15 min, 120 °C

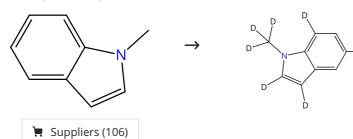
Experimental Protocols

Manganese-Catalyzed Anti-Markovnikov Hydroarylation of Enamides: Modular Synthesis of Arylethylamines

By: He, Yijie; et al

Chinese Journal of Chemistry (2022), 40(13), 1546-1552.

Scheme 68 (1 Reaction)



31-614-CAS-32141281

1.1 **Reagents:** Hydrogen, Water- d₂

Catalysts: Manganese; 24 h, 10 bar, 120 °C

Experimental Protocols

Steps: 1 Yield: 74% Manganese-Catalyse

Manganese-Catalysed Deuterium Labelling of Anilines and Electron-Rich (Hetero)Arenes

By: Bourriquen, Florian; et al

Steps: 1 Yield: 73%

Steps: 1 Yield: 72%

Steps: 1 Yield: 66%

Scheme 69 (1 Reaction)

$$\rightarrow$$
 H_2N

31-614-CAS-32141255

Steps: 1 Yield: 73%

1.1 **Reagents:** Hydrogen, Water- d₂

> Suppliers (88)

Catalysts: Manganese; 24 h, 10 bar, 120 °C

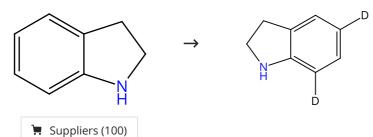
Experimental Protocols

Manganese-Catalysed Deuterium Labelling of Anilines and Electron-Rich (Hetero)Arenes

By: Bourriquen, Florian; et al

Angewandte Chemie, International Edition (2022), 61(27), e202202423.

Scheme 70 (1 Reaction)



31-614-CAS-32141274

Steps: 1 Yield: 72%

Reagents: Hydrogen, Water- d₂

Catalysts: Manganese; 24 h, 10 bar, 120 °C

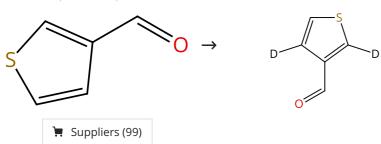
Experimental Protocols

Manganese-Catalysed Deuterium Labelling of Anilines and Electron-Rich (Hetero)Arenes

By: Bourriquen, Florian; et al

Angewandte Chemie, International Edition (2022), 61(27), e202202423.

Scheme 71 (1 Reaction)



31-116-CAS-23176104

Steps: 1 Yield: 66%

Reagents: 4-Chlorobenzoic acid

Catalysts: Benzylamine, Bromopentacarbonylmanganese Solvents: 1,2-Dichloroethane, Water-d₂; 17 h, 100 °C

Experimental Protocols

Manganese-catalyzed selective C-H activation and deuteration by means of a catalytic transient directing group strategy

By: Kopf, Sara; et al

Chemical Communications (Cambridge, United Kingdom) (2021), 57(9), 1137-1140.

Steps: 1 Yield: 63%

Steps: 1 Yield: 63%

Steps: 1 Yield: 61%

Scheme 72 (1 Reaction)

📜 Suppliers (111)

31-116-CAS-23174382

Steps: 1 Yield: 63%

Reagents: Sodium acetate

Catalysts: Butylamine, Bromopentacarbonylmanganese Solvents: 1,2-Dichloroethane, Water-d2; 72 h, 100 °C

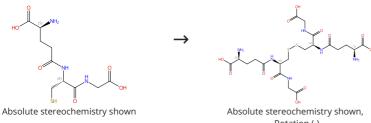
Experimental Protocols

Manganese-catalyzed selective C-H activation and deuteration by means of a catalytic transient directing group strategy

By: Kopf, Sara; et al

Chemical Communications (Cambridge, United Kingdom) (2021), 57(9), 1137-1140.

Scheme 73 (1 Reaction)



➤ Suppliers (192)

Rotation (-)

Suppliers (135)

Steps: 1 Yield: 63%

31-511-CAS-8508648

Reagents: Oxygen

Catalysts: Bromopentacarbonylmanganese Solvents: tert-Butanol, Water-d₂; 5 h, rt

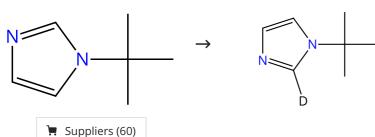
Experimental Protocols

Photocatalytic Transformation of Organic and Water-Soluble Thiols into Disulfides and Hydrogen under Aerobic Conditions Using Mn(CO)5Br

By: Tan, Kheng Yee Desmond; et al

Organometallics (2011), 30(15), 4136-4143.

Scheme 74 (1 Reaction)



31-614-CAS-32141270

Steps: 1 Yield: 61%

Reagents: Hydrogen, Water-d2

Catalysts: Manganese; 24 h, 10 bar, 120 °C

Experimental Protocols

Manganese-Catalysed Deuterium Labelling of Anilines and Electron-Rich (Hetero)Arenes

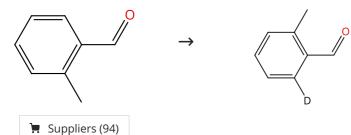
By: Bourriquen, Florian; et al

Steps: 1 Yield: 61%

Steps: 1 Yield: 55%

Steps: 1 Yield: 48%

Scheme 75 (1 Reaction)



31-116-CAS-23175261

Steps: 1 Yield: 61%

Reagents: Sodium acetate

Catalysts: Butylamine, Bromopentacarbonylmanganese Solvents: 1,2-Dichloroethane, Water-d2; 72 h, 100 °C

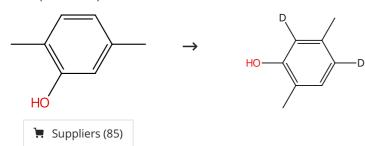
Experimental Protocols

Manganese-catalyzed selective C-H activation and deuteration by means of a catalytic transient directing group strategy

By: Kopf, Sara; et al

Chemical Communications (Cambridge, United Kingdom) (2021), 57(9), 1137-1140.

Scheme 76 (1 Reaction)



Steps: 1 Yield: 55%

31-614-CAS-32141282

Reagents: Hydrogen, Water- d₂

Catalysts: Manganese; 24 h, 10 bar, 120 °C

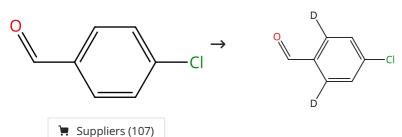
Experimental Protocols

Manganese-Catalysed Deuterium Labelling of Anilines and Electron-Rich (Hetero)Arenes

By: Bourriquen, Florian; et al

Angewandte Chemie, International Edition (2022), 61(27), e202202423.

Scheme 77 (1 Reaction)



31-116-CAS-23175447

Steps: 1 Yield: 48% Reagents: Sodium acetate

Catalysts: Butylamine, Bromopentacarbonylmanganese

Solvents: 1,2-Dichloroethane, Water-d₂; 16 h, 100 °C

Experimental Protocols

Manganese-catalyzed selective C-H activation and deuteration by means of a catalytic transient directing group strategy

By: Kopf, Sara; et al

Chemical Communications (Cambridge, United Kingdom) (2021), 57(9), 1137-1140.

Steps: 1 Yield: 48%

Steps: 1 Yield: 41%

Scheme 78 (1 Reaction)

31-116-CAS-23174139

Steps: 1 Yield: 48%

Reagents: Sodium acetate

Suppliers (78)

Catalysts: Butylamine, Bromopentacarbonylmanganese Solvents: 1,2-Dichloroethane, Water-d₂; 16 h, 100 °C

Experimental Protocols

Manganese-catalyzed selective C-H activation and deuteration by means of a catalytic transient directing group strategy

By: Kopf, Sara; et al

Chemical Communications (Cambridge, United Kingdom) (2021), 57(9), 1137-1140.

Scheme 79 (1 Reaction)

31-116-CAS-21551868

Steps: 1 Yield: 47%

Reagents: Water-d2

Catalysts: Manganese triacetate, $Bis[dichloro[\eta^5-(pentameth$ ylcyclopentadienyl)]rhodium], [1,1,1-Trifluoro-N-[(trifluor omethyl)sulfonyl-κO]methanesulfonamidato-κO]silver

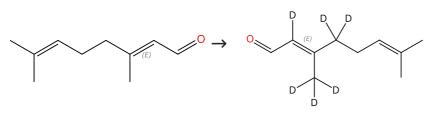
Solvents: 1,2-Dichloroethane; 16 h, 130 °C

Aldehyde as a Traceless Directing Group for Regiose lective C-H Alkylation Catalyzed by Rhodium (III) in Air

By: Chen, Si-Qi; et al

Organic Letters (2020), 22(4), 1259-1264.

Scheme 80 (1 Reaction)



Double bond geometry shown

Double bond geometry shown

Suppliers (37)

31-116-CAS-23176250

Steps: 1 Yield: 41%

Reagents: Sodium acetate

Catalysts: Butylamine, Bromopentacarbonylmanganese Solvents: 1,2-Dichloroethane, Water-d₂; 16 h, 100 °C

Experimental Protocols

Manganese-catalyzed selective C-H activation and deuteration by means of a catalytic transient directing group strategy

By: Kopf, Sara; et al

Chemical Communications (Cambridge, United Kingdom) (2021), 57(9), 1137-1140.

Steps: 1 Yield: 32%

Steps: 1 Yield: 30%

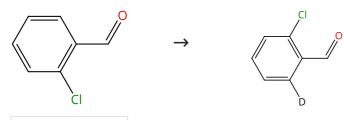
Steps: 1

Steps: 1 Yield: 32%

Steps: 1 Yield: 30%

Steps: 1

Scheme 81 (1 Reaction)



Suppliers (101)

31-116-CAS-23176253

.1 Reagents: 4-Chlorobenzoic acidCatalysts: Benzylamine, Bromopentacarbonylmanganese

Solvents: 1,2-Dichloroethane, Water- d_2 ; 19 h, 100 °C

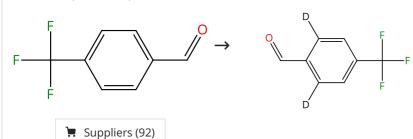
Experimental Protocols

Manganese-catalyzed selective C-H activation and deuteration by means of a catalytic transient directing group strategy

By: Kopf, Sara; et al

Chemical Communications (Cambridge, United Kingdom) (2021), 57(9), 1137-1140.

Scheme 82 (1 Reaction)



31-116-CAS-23175444

.1 Reagents: Sodium acetate

Catalysts: Butylamine, Bromopentacarbonylmanganese Solvents: 1,2-Dichloroethane, Water- d₂; 16 h, 100 °C

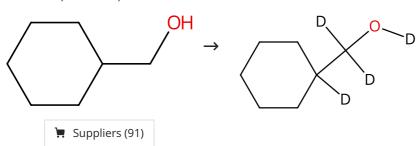
Experimental Protocols

Manganese-catalyzed selective C-H activation and deuteration by means of a catalytic transient directing group strategy

By: Kopf, Sara; et al

Chemical Communications (Cambridge, United Kingdom) (2021), 57(9), 1137-1140.

Scheme 83 (1 Reaction)



31-116-CAS-18890975

.1 Reagents: Sodium hydroxide, Water- d_2

Catalysts: (*OC*-6-42)-[2-[Bis(1-methylethyl)phosphino-κP]-*N*-[2-[bis(1-methylethyl)phosphino-κP]ethyl]ethanamine-κN] bromodicarbonylmanganese

Solvents: Water-*d*₂; 12 h, 120 °C

Experimental Protocols

Regioselective deuteration of alcohols in D₂O catalysed by homogeneous manganese and iron pincer complexes

By: Kar, Sayan; et al

Green Chemistry (2018), 20(12), 2706-2710.

Scheme 84 (1 Reaction)

Steps: 1

31-116-CAS-18890977

Steps: 1

📜 Supplier (1)

1.1 Reagents: Sodium hydroxide, Water- d₂

📜 Suppliers (161)

Catalysts: (OC-6-42)-[2-[Bis(1-methylethyl)phosphino- κP]-N-[2-[bis(1-methylethyl)phosphino- κP]ethyl]ethanamine- κN]

bromodicarbonylmanganese **Solvents:** Water-*d*₂; 12 h, 120 °C

Experimental Protocols

Regioselective deuteration of alcohols in D₂O catalysed by homogeneous manganese and iron pincer complexes

By: Kar, Sayan; et al

Green Chemistry (2018), 20(12), 2706-2710.

Scheme 85 (1 Reaction)

Steps: 1

31-116-CAS-24132992

Steps: 1

1.1 **Reagents:** Water-*d*₂

Catalysts: (SP-5-42)-[6-[[Bis(1,1-dimethylethyl)phosphino-κP] methyl]-2-[[bis(1,1-dimethylethyl)phosphino-κP]methylene]-1, 2-hydropyridinato-κN[dicarbonylmanganese

Solvents: Toluene; 24 h, 110 °C

Experimental Protocols

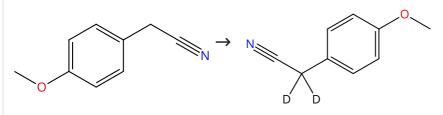
Manganese-Pincer-Catalyzed Nitrile Hydration, $\alpha\text{-}Deuteration$ and $\alpha\text{-}Deuterated$ Amide Formation via Metal Ligand Cooper ation

By: Zhou, Quan-Quan; et al

ACS Catalysis (2021), 11(16), 10239-10245.

Scheme 86 (1 Reaction)

Steps: 1



> Suppliers (89)

31-116-CAS-24132552

Steps: 1

1.1 **Reagents:** Water-*d*₂

Catalysts: (SP-5-42)-[6-[[Bis(1,1-dimethylethyl)phosphino-κP] methyl]-2-[[bis(1,1-dimethylethyl)phosphino-κP]methylene]-1, 2-hydropyridinato-κN]dicarbonylmanganese

Solvents: Toluene; 24 h, 110 °C

Experimental Protocols

Manganese-Pincer-Catalyzed Nitrile Hydration, $\alpha\text{-}Deuteration$ and $\alpha\text{-}Deuterated$ Amide Formation via Metal Ligand Cooper ation

By: Zhou, Quan-Quan; et al

Scheme 87 (1 Reaction)

Steps: 1

31-116-CAS-18890978

Steps: 1

Regioselective deuteration of alcohols in D₂O catalysed by homogeneous manganese and iron pincer complexes

By: Kar, Sayan; et al

Green Chemistry (2018), 20(12), 2706-2710.

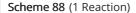
Catalysts: (OC-6-42)-[2-[Bis(1-methylethyl)phosphino-κP]-N-[2-[bis(1-methylethyl)phosphino-κ*P*]ethyl]ethanamine-κ*N*] bromodicarbonylmanganese

Solvents: Water-*d*₂; 12 h, 120 °C

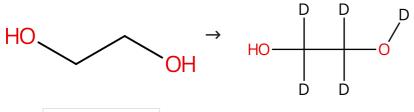
Reagents: Sodium hydroxide, Water- d2

Suppliers (108)

Experimental Protocols



Steps: 1



Suppliers (179)

31-116-CAS-18890980

Steps: 1 Regioselective deuteration of alcohols in D₂O catalysed by homogeneous manganese and iron pincer complexes

Reagents: Sodium hydroxide, Water- d2

Catalysts: (OC-6-42)-[2-[Bis(1-methylethyl)phosphino-κP]-N-[2-[bis(1-methylethyl)phosphino-κ*P*]ethyl]ethanamine-κ*N*] bromodicarbonylmanganese

Solvents: Water-d₂; 12 h, 140 °C

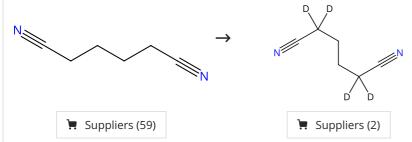
Experimental Protocols

By: Kar, Sayan; et al

Green Chemistry (2018), 20(12), 2706-2710.

Scheme 89 (1 Reaction)

Steps: 1



31-116-CAS-24132244

Steps: 1

Reagents: Water-d2

Catalysts: (SP-5-42)-[6-[[Bis(1,1-dimethylethyl)phosphino-κP] methyl]-2-[[bis(1,1-dimethylethyl)phosphino-κP]methylene]-1, 2-hydropyridinato-κ//Jdicarbonylmanganese

Solvents: Toluene; 24 h, 110 °C

Experimental Protocols

Manganese-Pincer-Catalyzed Nitrile Hydration, α-Deuteration and α-Deuterated Amide Formation via Metal Ligand Cooper ation

By: Zhou, Quan-Quan; et al

Steps: 1

Steps: 1

Scheme 90 (1 Reaction)

31-614-CAS-36529150

Steps: 1

Reagents: Dimethylzinc

➤ Suppliers (91)

Catalysts: Bromopentacarbonylmanganese Solvents: Tetrahydrofuran; 20 h, 60 °C; 60 °C → rt

Reagents: Water-d2 Solvents: Ethyl acetate; rt

Experimental Protocols

Manganese(I) Catalyzed ortho C-H Allylation of Benzoic Acids

By: Goebel, Jonas F.; et al

Angewandte Chemie, International Edition (2023), 62(24), e202301839.

Scheme 91 (1 Reaction)

Steps: 1

$$\xrightarrow{\mathsf{OH}} \xrightarrow{\mathsf{D}} \xrightarrow{\mathsf{D}} \xrightarrow{\mathsf{D}} \xrightarrow{\mathsf{D}}$$

Suppliers (92)

31-116-CAS-18890971

Steps: 1

Reagents: Sodium hydroxide, Water- d2

Catalysts: (OC-6-42)-[2-[Bis(1-methylethyl)phosphino-κP]-N-[2-[bis(1-methylethyl)phosphino-κ*P*]ethyl]ethanamine-κ*N*]

bromodicarbonylmanganese **Solvents:** Water-*d*₂; 12 h, 120 °C

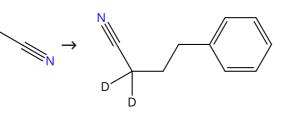
Experimental Protocols

Regioselective deuteration of alcohols in D₂O catalysed by homogeneous manganese and iron pincer complexes

By: Kar, Sayan; et al

Green Chemistry (2018), 20(12), 2706-2710.

Scheme 92 (1 Reaction)



Suppliers (52)

📜 Supplier (1)

31-116-CAS-24132558

Steps: 1

Reagents: Water-d2

Catalysts: (SP-5-42)-[6-[[Bis(1,1-dimethylethyl)phosphino-κP] methyl]-2-[[bis(1,1-dimethylethyl)phosphino-κP]methylene]-1, $\hbox{2-hydropyridinato-} \kappa \textit{N}] dicarbonyl manganese$

Solvents: Toluene; 24 h, 110 °C

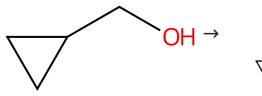
Experimental Protocols

Manganese-Pincer-Catalyzed Nitrile Hydration, α-Deuteration and α-Deuterated Amide Formation via Metal Ligand Cooper ation

By: Zhou, Quan-Quan; et al

Scheme 93 (1 Reaction)

Steps: 1



Suppliers (71)

31-116-CAS-18890973

Steps: 1

Regioselective deuteration of alcohols in D₂O catalysed by homogeneous manganese and iron pincer complexes

Reagents: Sodium hydroxide, Water- d2

Catalysts: (OC-6-42)-[2-[Bis(1-methylethyl)phosphino-κP]-N-[2-[bis(1-methylethyl)phosphino-κ*P*]ethyl]ethanamine-κ*N*]

bromodicarbonylmanganese **Solvents:** Water-*d*₂; 12 h, 120 °C

Experimental Protocols

By: Kar, Sayan; et al

Green Chemistry (2018), 20(12), 2706-2710.

Scheme 94 (1 Reaction)





31-614-CAS-36481294

Steps: 1

Reagents: Water-d2

Catalysts: Bromopentacarbonylmanganese Solvents: 1,2-Dichloroethane; 24 h, 75 °C

Experimental Protocols

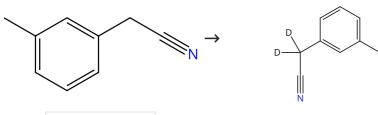
Mn(I)-catalyzed sigmatropic rearrangement of β, y-unsatu rated alcohols

By: Yang, Can; et al

Nature Communications (2023), 14(1), 1862.

Scheme 95 (1 Reaction)





Suppliers (76)

31-614-CAS-30230412

Steps: 1

Reagents: Water-d2

Catalysts: (*SP*-5-42)-[6-[[Bis(1,1-dimethylethyl)phosphino-κ*P*] methyl]-2-[[bis(1,1-dimethylethyl)phosphino-κP]methylene]-1, 2-hydropyridinato-κ//jdicarbonylmanganese

Solvents: Toluene; 24 h, 110 °C

Experimental Protocols

Manganese-Pincer-Catalyzed Nitrile Hydration, α-Deuteration and α-Deuterated Amide Formation via Metal Ligand Cooper ation

By: Zhou, Quan-Quan; et al

Scheme 96 (1 Reaction)

Steps: 1

D Br

Suppliers (71)

► Suppliers (4)

31-614-CAS-24127504

Steps: 1

1.1 **Reagents:** Water-*d*₂

Catalysts: (*SP*-5-42)-[6-[[Bis(1,1-dimethylethyl)phosphino-κP] methyl]-2-[[bis(1,1-dimethylethyl)phosphino-κP]methylene]-1,

 $\hbox{$2$-hydropyridinato-} \kappa \textit{N}] dicarbonyl manganese$

Solvents: Toluene; 24 h, 110 °C

Experimental Protocols

Manganese-Pincer-Catalyzed Nitrile Hydration, $\alpha\text{-}Deuteration$ and $\alpha\text{-}Deuterated$ Amide Formation via Metal Ligand Cooper ation

By: Zhou, Quan-Quan; et al

ACS Catalysis (2021), 11(16), 10239-10245.

Scheme 97 (1 Reaction)

Steps: 1

$$\rightarrow \qquad \stackrel{\mathsf{D}}{\triangleright} \qquad$$

📜 Suppliers (75)

31-116-CAS-18890990

Steps: 1

.1 **Reagents:** Sodium hydroxide, Water- d_2

Catalysts: (OC-6-42)-[2-[Bis(1-methylethyl)phosphino- κP]-N-[2-[bis(1-methylethyl)phosphino- κP]ethyl]ethanamine- κN]

bromodicarbonylmanganese **Solvents:** Water-*d*₂; 48 h, 120 °C

Experimental Protocols

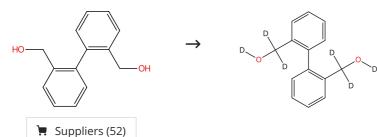
Regioselective deuteration of alcohols in D₂O catalysed by homogeneous manganese and iron pincer complexes

By: Kar, Sayan; et al

Green Chemistry (2018), 20(12), 2706-2710.

Scheme 98 (1 Reaction)

Steps: 1



31-116-CAS-18890983

Steps: 1

Steps:

1.1 **Reagents:** Sodium hydroxide, Water- d_2

Catalysts: (*OC*-6-42)-[2-[Bis(1-methylethyl)phosphino-κP]-*N*-[2-[bis(1-methylethyl)phosphino-κP]ethyl]ethanamine-κN] bromodicarbonylmanganese

Solvents: Water-*d*₂; 12 h, 140 °C

Experimental Protocols

Regioselective deuteration of alcohols in D₂O catalysed by homogeneous manganese and iron pincer complexes

By: Kar, Sayan; et al

Green Chemistry (2018), 20(12), 2706-2710.

Scheme 99 (1 Reaction)

Steps: 1

$$\longrightarrow \bigvee_{N} \bigvee_$$

Suppliers (83)

31-614-CAS-24227480

Steps: 1

1.1 Reagents: Ammonium acetate, Water-d₂ Catalysts: Bromopentacarbonylmanganese Solvents: 2,2,2-Trifluoroethanol; 18 h, 100 °C

Experimental Protocols

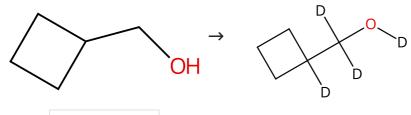
Solvent-Switched Manganese(I)-Catalyzed Regiodivergent Distal vs Proximal C-H Alkylation of Imidazopyridine with Maleimide

By: Ghosh, Subhendu; et al

Organic Letters (2021), 23(19), 7370-7375.

Scheme 100 (1 Reaction)

Steps: 1



☐ Suppliers (86)

31-116-CAS-18890974

Steps: 1

.1 Reagents: Sodium hydroxide, Water- d₂
Catalysts: (*OC*-6-42)-[2-[Bis(1-methylethyl)phosphino-κ*P*]-*N*[2-[bis(1-methylethyl)phosphino-κ*P*]ethyl]ethanamine-κ*N*]
bromodicarbonylmanganese

Solvents: Water-*d*₂; 12 h, 120 °C

Experimental Protocols

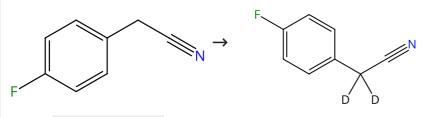
Regioselective deuteration of alcohols in D₂O catalysed by homogeneous manganese and iron pincer complexes

By: Kar, Sayan; et al

Green Chemistry (2018), 20(12), 2706-2710.

Scheme 101 (1 Reaction)

Steps: 1



➤ Suppliers (82)

31-116-CAS-24132494

Steps: 1

1.1 Reagents: Water-d₂

Catalysts: (*SP*-5-42)-[6-[[Bis(1,1-dimethylethyl)phosphino-κP] methyl]-2-[[bis(1,1-dimethylethyl)phosphino-κP]methylene]-1,

2-hydropyridinato-κ//dicarbonylmanganese

Solvents: Toluene; 24 h, 110 °C

Experimental Protocols

Manganese-Pincer-Catalyzed Nitrile Hydration, $\alpha\text{-}Deuteration$ and $\alpha\text{-}Deuterated$ Amide Formation via Metal Ligand Cooper ation

By: Zhou, Quan-Quan; et al

Scheme 102 (1 Reaction)

Steps: 1

Steps: 1

Regioselective deuteration of alcohols in D₂O catalysed by homogeneous manganese and iron pincer complexes

By: Kar, Sayan; et al

Green Chemistry (2018), 20(12), 2706-2710.

31-116-CAS-18890976

Reagents: Sodium hydroxide, Water- d2

> Suppliers (62)

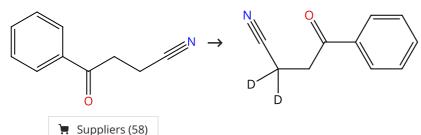
Catalysts: (OC-6-42)-[2-[Bis(1-methylethyl)phosphino-κP]-N-[2-[bis(1-methylethyl)phosphino-κ*P*]ethyl]ethanamine-κ*N*]

bromodicarbonylmanganese **Solvents:** Water-*d*₂; 12 h, 120 °C

Experimental Protocols

Scheme 103 (1 Reaction)

Steps: 1



31-116-CAS-24132798

Steps: 1

Reagents: Water-d2

Catalysts: (*SP*-5-42)-[6-[[Bis(1,1-dimethylethyl)phosphino-κ*P*] methyl]-2-[[bis(1,1-dimethylethyl)phosphino-κP]methylene]-1, 2-hydropyridinato-κ//dicarbonylmanganese

Solvents: Toluene; 24 h, 110 °C

Experimental Protocols

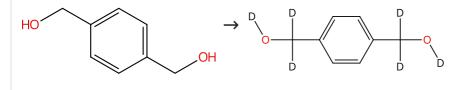
Manganese-Pincer-Catalyzed Nitrile Hydration, α-Deuteration and α-Deuterated Amide Formation via Metal Ligand Cooper ation

By: Zhou, Quan-Quan; et al

ACS Catalysis (2021), 11(16), 10239-10245.

Scheme 104 (1 Reaction)

Steps: 1



Suppliers (96)

31-116-CAS-18890982

Steps: 1

Regioselective deuteration of alcohols in D₂O catalysed by homogeneous manganese and iron pincer complexes

By: Kar, Sayan; et al

Green Chemistry (2018), 20(12), 2706-2710.

Reagents: Sodium hydroxide, Water- d2

Catalysts: (OC-6-42)-[2-[Bis(1-methylethyl)phosphino-κP]-N-[2-[bis(1-methylethyl)phosphino-κ*P*]ethyl]ethanamine-κ*N*] bromodicarbonylmanganese

Solvents: Water-*d*₂; 12 h, 140 °C

Experimental Protocols

Scheme 105 (1 Reaction)

Steps: 1

$$\longrightarrow \bigcup_{D} \bigcup_$$

📜 Suppliers (119)

31-116-CAS-18890979

Steps: 1

Regioselective deuteration of alcohols in D₂O catalysed by homogeneous manganese and iron pincer complexes

1 **Reagents:** Sodium hydroxide, Water-*d*₂

 $\label{eq:catalysts: of C-6-42} \textbf{Catalysts: } (\textit{OC-}6-42)-[2-[Bis(1-methylethyl)phosphino-\kappa\textit{P}]-\textit{N-} \\ [2-[bis(1-methylethyl)phosphino-\kappa\textit{P}]ethyl]ethanamine-\kappa\textit{N}]$

bromodicarbonylmanganese **Solvents:** Water-*d*₂; 12 h, 120 °C

Experimental Protocols

By: Kar, Sayan; et al

Green Chemistry (2018), 20(12), 2706-2710.

Scheme 106 (1 Reaction)

Steps: 1

Suppliers (95)

31-116-CAS-18890981

Steps: 1

Regioselective deuteration of alcohols in D₂O catalysed by homogeneous manganese and iron pincer complexes

1.1 **Reagents:** Sodium hydroxide, Water- d_2

Catalysts: (OC-6-42)-[2-[Bis(1-methylethyl)phosphino- κP]-N-[2-[bis(1-methylethyl)phosphino- κP]ethyl]ethanamine- κN] bromodicarbonylmanganese

Solvents: Water-*d*₂; 12 h, 140 °C

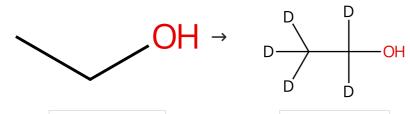
Experimental Protocols

By: Kar, Sayan; et al

Green Chemistry (2018), 20(12), 2706-2710.

Scheme 107 (1 Reaction)

Steps: 1



31-116-CAS-18890970

Steps: 1

Suppliers (32)

Regioselective deuteration of alcohols in D₂O catalysed by homogeneous manganese and iron pincer complexes

1.1 Reagents: Sodium hydroxide, Water- d₂

Suppliers (582)

Catalysts: (OC-6-42)-[2-[Bis(1-methylethyl)phosphino- κP]-N-[2-[bis(1-methylethyl)phosphino- κP]ethyl]ethanamine- κN] bromodicarbonylmanganese

Solvents: Water-d₂; 24 h, 120 °C

Experimental Protocols

By: Kar, Sayan; et al

Green Chemistry (2018), 20(12), 2706-2710.

Steps: 1

Scheme 108 (1 Reaction)

 $\bigcap_{\mathsf{D}} \bigcap_{\mathsf{D}}$

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Suppliers (75)

31-116-CAS-24133593

Steps: 1

1.1 Reagents: Water-d₂

Catalysts: (*SP*-5-42)-[6-[[Bis(1,1-dimethylethyl)phosphino-κ*P*] methyl]-2-[[bis(1,1-dimethylethyl)phosphino-κ*P*]methylene]-1, 2-hydropyridinato-κ*M*]dicarbonylmanganese

Solvents: Toluene; 24 h, 110 °C

Experimental Protocols

Manganese-Pincer-Catalyzed Nitrile Hydration, α -Deuteration and α -Deuterated Amide Formation via Metal Ligand Cooper ation

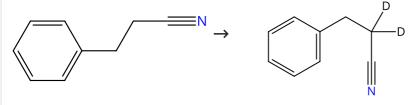
By: Zhou, Quan-Quan; et al

ACS Catalysis (2021), 11(16), 10239-10245.

Scheme 109 (1 Reaction)

Steps: 1

Steps: 1



📜 Suppliers (80)

31-116-CAS-24132470

Steps: 1

1.1 Reagents: Water-d₂

Catalysts: (SP-5-42)-[6-[[Bis(1,1-dimethylethyl)phosphino-κP] methyl]-2-[[bis(1,1-dimethylethyl)phosphino-κP]methylene]-1, 2-hydropyridinato-κN[dicarbonylmanganese

Solvents: Toluene; 24 h, 110 °C

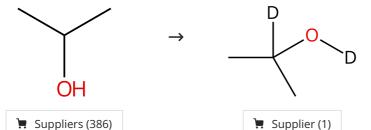
Experimental Protocols

Manganese-Pincer-Catalyzed Nitrile Hydration, $\alpha\text{-}Deuteration$ and $\alpha\text{-}Deuterated$ Amide Formation via Metal Ligand Cooper ation

By: Zhou, Quan-Quan; et al

ACS Catalysis (2021), 11(16), 10239-10245.

Scheme 110 (1 Reaction)



31-116-CAS-18890992

Steps: 1

Regioselective deuteration of alcohols in D₂O catalysed by homogeneous manganese and iron pincer complexes

1.1 **Reagents:** Sodium hydroxide, Water- d_2

Catalysts: (OC-6-42)-[2-[Bis(1-methylethyl)phosphino- κP]-N-[2-[bis(1-methylethyl)phosphino- κP]ethyl]ethanamine- κN] bromodicarbonylmanganese

Solvents: Water-*d*₂; 48 h, 140 °C

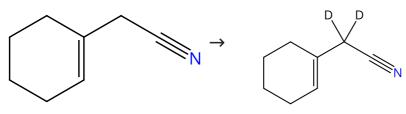
Experimental Protocols

By: Kar, Sayan; et al

Green Chemistry (2018), 20(12), 2706-2710.

Scheme 111 (1 Reaction)

Steps: 1



Suppliers (48)

31-116-CAS-24133506

Steps: 1

Reagents: Water-d2

Catalysts: (SP-5-42)-[6-[[Bis(1,1-dimethylethyl)phosphino-κP] methyl]-2-[[bis(1,1-dimethylethyl)phosphino-κP]methylene]-1,

2-hydropyridinato-κ/\]dicarbonylmanganese

Solvents: Toluene; 24 h, 110 °C

Experimental Protocols

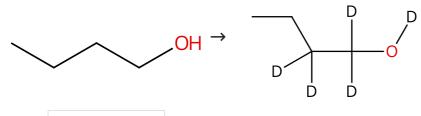
Manganese-Pincer-Catalyzed Nitrile Hydration, α-Deuteration and α-Deuterated Amide Formation via Metal Ligand Cooper ation

By: Zhou, Quan-Quan; et al

ACS Catalysis (2021), 11(16), 10239-10245.

Scheme 112 (1 Reaction)

Steps: 1



Suppliers (215)

31-116-CAS-18890969

Steps: 1

Reagents: Sodium hydroxide, Water- d2

Catalysts: (OC-6-42)-[2-[Bis(1-methylethyl)phosphino-κP]-N-[2-[bis(1-methylethyl)phosphino-κ*P*]ethyl]ethanamine-κ*N*] bromodicarbonylmanganese

Solvents: Water-d₂; 12 h, 120 °C

Experimental Protocols

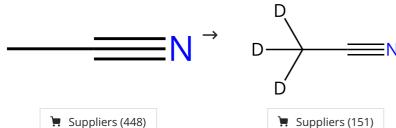
Regioselective deuteration of alcohols in D₂O catalysed by homogeneous manganese and iron pincer complexes

By: Kar, Sayan; et al

Green Chemistry (2018), 20(12), 2706-2710.

Scheme 113 (1 Reaction)

Steps: 1



Suppliers (151)

31-116-CAS-24132745

Steps: 1

Reagents: Water-d2

Catalysts: (SP-5-42)-[6-[[Bis(1,1-dimethylethyl)phosphino-κP] methyl]-2-[[bis(1,1-dimethylethyl)phosphino-κP]methylene]-1, 2-hydropyridinato-κ//Jdicarbonylmanganese

Solvents: Toluene; 24 h, 110 °C

Experimental Protocols

Manganese-Pincer-Catalyzed Nitrile Hydration, α-Deuteration and α-Deuterated Amide Formation via Metal Ligand Cooper ation

By: Zhou, Quan-Quan; et al

Scheme 114 (1 Reaction)

Steps: 1

> Suppliers (75)

31-116-CAS-24133695

Steps: 1

1.1 Reagents: Water-d₂

Catalysts: (*SP*-5-42)-[6-[[Bis(1,1-dimethylethyl)phosphino-κ*P*] methyl]-2-[[bis(1,1-dimethylethyl)phosphino-κ*P*]methylene]-1, 2-hydropyridinato-κ*M*]dicarbonylmanganese

Solvents: Toluene; 24 h, 110 °C

Experimental Protocols

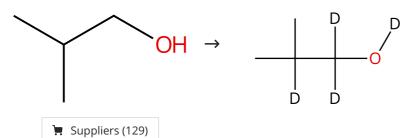
Manganese-Pincer-Catalyzed Nitrile Hydration, $\alpha\text{-}Deuteration$ and $\alpha\text{-}Deuterated$ Amide Formation via Metal Ligand Cooper ation

By: Zhou, Quan-Quan; et al

ACS Catalysis (2021), 11(16), 10239-10245.

Scheme 115 (1 Reaction)

Steps: 1



31-116-CAS-18890972

Steps: 1

1.1 Reagents: Sodium hydroxide, Water- d₂

Catalysts: (OC-6-42)-[2-[Bis(1-methylethyl)phosphino- κP]-N-[2-[bis(1-methylethyl)phosphino- κP]ethyl]ethanamine- κN]

bromodicarbonylmanganese **Solvents:** Water-*d*₂; 12 h, 120 °C

Experimental Protocols

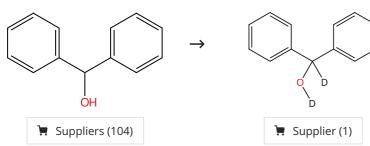
Regioselective deuteration of alcohols in D₂O catalysed by homogeneous manganese and iron pincer complexes

By: Kar, Sayan; et al

Green Chemistry (2018), 20(12), 2706-2710.

Scheme 116 (1 Reaction)

Steps: 1



31-116-CAS-18890991

Steps: 1

Regioselective deuteration of alcohols in D₂O catalysed by homogeneous manganese and iron pincer complexes

1.1 **Reagents:** Sodium hydroxide, Water- d_2

Catalysts: (*OC*-6-42)-[2-[Bis(1-methylethyl)phosphino-κP]-*N*-[2-[bis(1-methylethyl)phosphino-κP]ethyl]ethanamine-κN] bromodicarbonylmanganese

Solvents: Water-d₂; 30 h, 140 °C

Experimental Protocols

By: Kar, Sayan; et al

Green Chemistry (2018), 20(12), 2706-2710.

Steps: 1

Steps: 1

Scheme 117 (1 Reaction)

31-116-CAS-23174801

Reagents: Sodium acetate

> Suppliers (88)

Catalysts: Butylamine, Bromopentacarbonylmanganese Solvents: 1,2-Dichloroethane, Water-d₂; 16 h, 100 °C

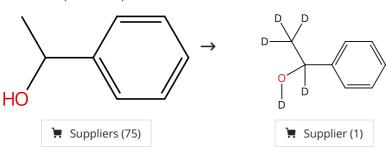
Experimental Protocols

Steps: 1 Manganese-catalyzed selective C-H activation and deuteration by means of a catalytic transient directing group strategy

By: Kopf, Sara; et al

Chemical Communications (Cambridge, United Kingdom) (2021), 57(9), 1137-1140.

Scheme 118 (1 Reaction)



31-116-CAS-18890989

Reagents: Sodium hydroxide, Water- d2

Catalysts: (OC-6-42)-[2-[Bis(1-methylethyl)phosphino-κP]-N-[2-[bis(1-methylethyl)phosphino-κ*P*]ethyl]ethanamine-κ*N*] bromodicarbonylmanganese

Solvents: Water-*d*₂; 30 h, 140 °C

Experimental Protocols

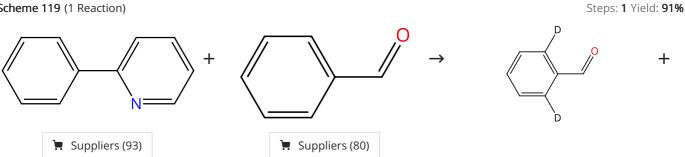
Steps: 1

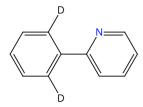
Regioselective deuteration of alcohols in D₂O catalysed by homogeneous manganese and iron pincer complexes

By: Kar, Sayan; et al

Green Chemistry (2018), 20(12), 2706-2710.

Scheme 119 (1 Reaction)





Supplier (1)

31-116-CAS-23175996

Steps: 1 Yield: 91%

1.1 Reagents: Sodium acetate

Catalysts: Butylamine, Bromopentacarbonylmanganese Solvents: 1,2-Dichloroethane, Water-d₂; 16 h, 100 °C

Experimental Protocols

Manganese-catalyzed selective C-H activation and deuteration by means of a catalytic transient directing group strategy

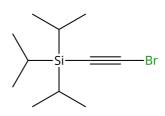
By: Kopf, Sara; et al

Chemical Communications (Cambridge, United Kingdom) (2021), 57(9), 1137-1140.

Scheme 120 (1 Reaction)



Suppliers (59)

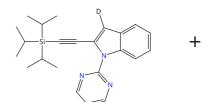


Suppliers (67)

Steps: 1 Yield: 72%

Steps: 1 Yield: 72%

Steps: 1 Yield: 65%



31-614-CAS-25362454

1.1 Reagents: Dicyclohexylamine

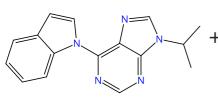
> Catalysts: Bromopentacarbonylmanganese Solvents: 1,2-Dichloroethane, Water-d₂; 3 h, 80 °C

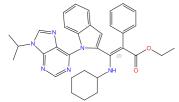
Experimental Protocols

Manganese-catalyzed C-H alkynylation: expedient peptide synthesis and modification

Angewandte Chemie, International Edition (2017), 56(12), 3172-3176.

Scheme 121 (1 Reaction)





Double bond geometry shown

By: Ruan, Zhixiong; et al

31-116-CAS-22825259

Reagents: Water-d₂

Catalysts: Sodium acetate, Bromopentacarbonylmanganese; 3 h, 80 °C

Experimental Protocols

Steps: 1 Yield: 65%

Manganese- and rhenium-catalyzed C-H enaminylation: expedient access to novel indole-purine hybrids with antitumor bioactivities

By: Xu, Zhongnan; et al

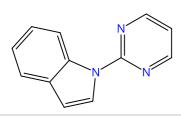
Organic Chemistry Frontiers (2020), 7(22), 3709-3714.

Steps: 1 Yield: 64%

Scheme 122 (1 Reaction)

Suppliers (59)

📜 Suppliers (62)



31-614-CAS-29151372

1.1 Reagents: Sodium acetate, Oxygen Catalysts: Bromopentacarbonylmanganese Solvents: Water-d₂; 5 h, 100 °C

Experimental Protocols

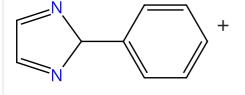
Steps: 1 Yield: 64%

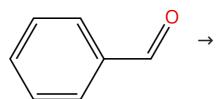
Air-Stable Manganese(I)-Catalyzed C-H Activation for Decarboxylative C-H/C-O Cleavages in Water

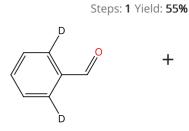
By: Wang, Hui; et al

Angewandte Chemie, International Edition (2017), 56(22), 6339-6342.

Scheme 123 (1 Reaction)

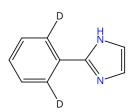






📜 Supplier (1)

Suppliers (80)



31-116-CAS-23174209

Steps: 1 Yield: 55%

Reagents: Sodium acetate

Catalysts: Butylamine, Bromopentacarbonylmanganese **Solvents:** 1,2-Dichloroethane, Water- d_2 ; 16 h, 100 °C

Experimental Protocols

Manganese-catalyzed selective C-H activation and deuteration by means of a catalytic transient directing group strategy

By: Kopf, Sara; et al

Chemical Communications (Cambridge, United Kingdom) (2021), 57(9), 1137-1140.

Scheme 124 (1 Reaction) Steps: 1 Yield: 39% The suppliers (90) Steps: 1 Yield: 39% Suppliers (80) Steps: 1 Yield: 39% Manganese-catalyzed selective C-H activation and deuteration by means of a catalytic transient directing group strategy By: Kopf, Sara; et al Chemical Communications (Cambridge, United Kingdom) (2021), 57(9), 1137-1140.

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