

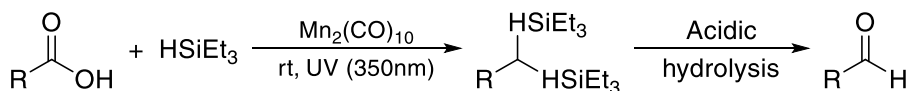
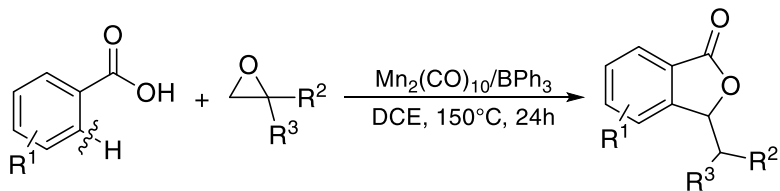
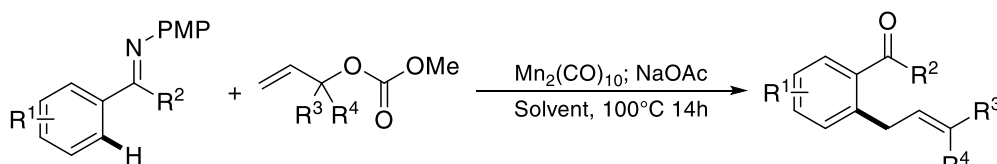
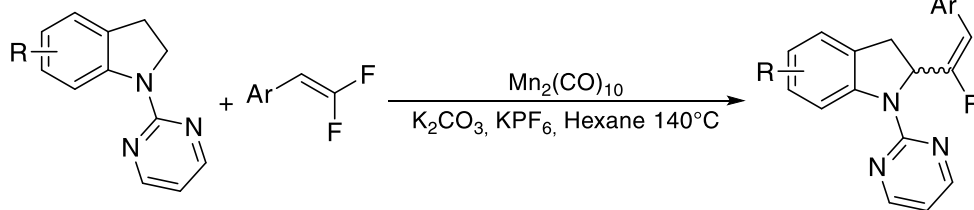
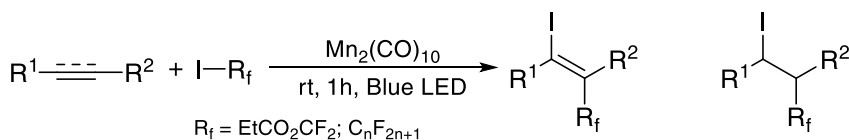
Catalog # 25-1330 Manganese carbonyl, 98%

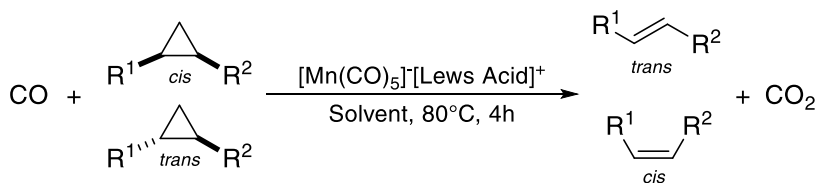
 $\text{Mn}_2(\text{CO})_{10}$

Catalysis Applications

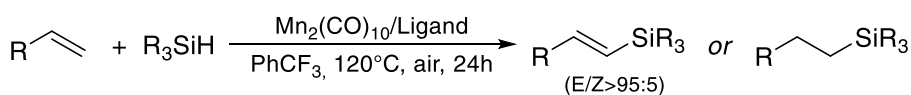
Technical Notes:

1. Catalyst for the selective reduction of carboxylic acids to aldehydes through manganese catalyzed hydrosilylation.
2. Used in the manganese- and borane-mediated synthesis of isobenzofuranones from aromatic esters and oxiranes via C–H bond activation.
3. Catalyst for the substitutive C–H bond activation for the through the allylation of arenes.
4. Used in Mn-catalyzed synthesis of monofluoroalkenes via C–H activation and C–F cleavage.
5. Catalyst for the intermolecular iodofluoroalkylation of unactivated alkynes and alkenes.
6. Catalyst for the Lewis acid assisted deoxygenation of both cis- and trans-2,3-disubstituted epoxides.
7. Used Mn-catalyzed divergent silylation of alkenes.

Tech Note (1)
Ref. (1)Tech Note (2)
Ref. (2)Tech Note (3)
Ref. (3)Tech Note (4)
Ref. (4)Tech Note (5)
Ref. (5)



Tech Note (6)
Ref. (6)



Tech Note (7)
Ref. (7)

References:

1. [Chem. Commun., 2013, 49, 10010.](#)
2. [Org. Lett. 2016, 18, 304.](#)
3. [Angew. Chem. Int. Ed. 2016, 55, 7747.](#)
4. [Chem. Commun., 2017, 53, 8731.](#)
5. [Adv. Synth. Catal. 2020, 362, 1131.](#)
6. [J. Am. Chem. Soc. 2020, 142, 8029.](#)
7. [Nat. Chem. 2021, 13, 182.](#)

CVD/ALD Applications

Thermal Behavior:

- Melting point: 152-154 °C
- Boiling point: sublimes at 60°C/0.5 Torr

Technical Notes:

1. ALD/CVD precursor for the deposition of thin manganese films.

Target Deposit	Deposition Technique	Delivery Temperature	Pressure	Co-reactants	Deposition Temperature	Ref.
MnO	ALD		1x10 ⁻⁹ Torr	-	170-350°C	1
α-Mn ₂ O ₃ Mn ₃ O ₄	ALD	55°C	1.5-2 Torr	O ₃	60-100°C 120-160°C	2

References:

1. [J. Vac. Sci. Technol. A, 2012, 30, 01A112.](#)
2. [Dalton Trans., 2016, 45, 18737.](#)