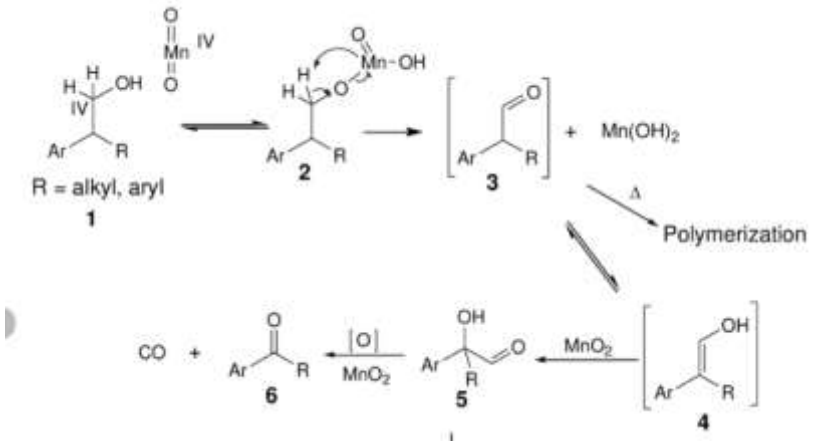
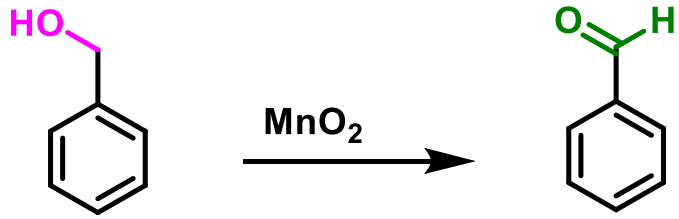
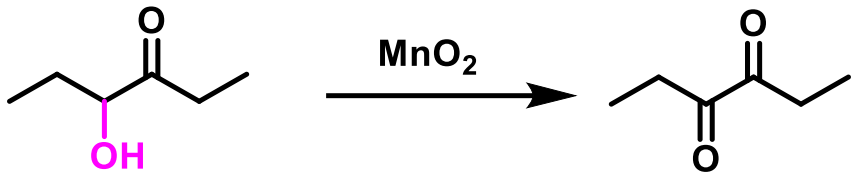
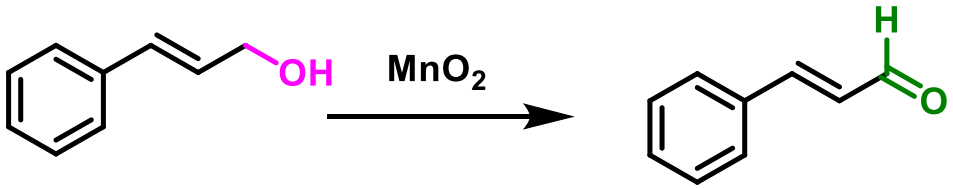
MnO_2

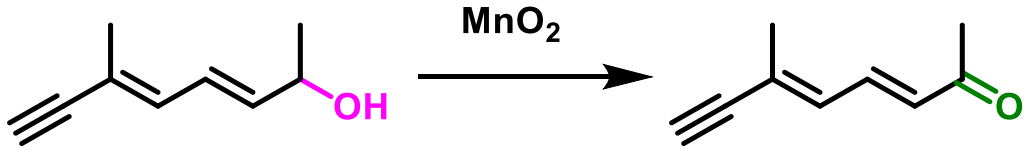
- Useful, mild reagent for the oxidation of 1^0 and 2^0 alcohols to carbonyl compounds
- Highly specific oxidant for allylic and benzylic hydroxy groups.
- Reaction ,under mild conditions (rt) in neutral solvent (e.g. water, Petroleum, acetone, DMF, DCM or $CHCl_3$)

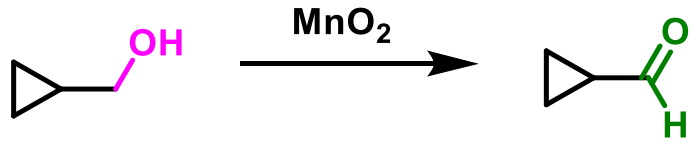


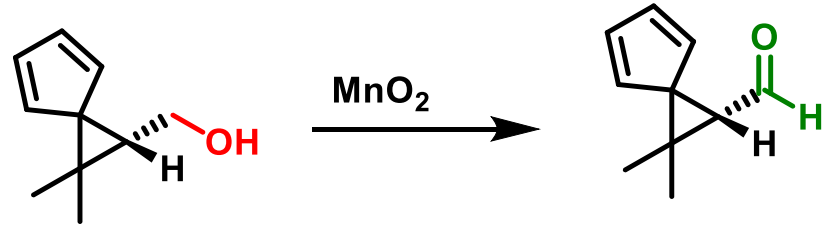

HO
MnO2
O
H

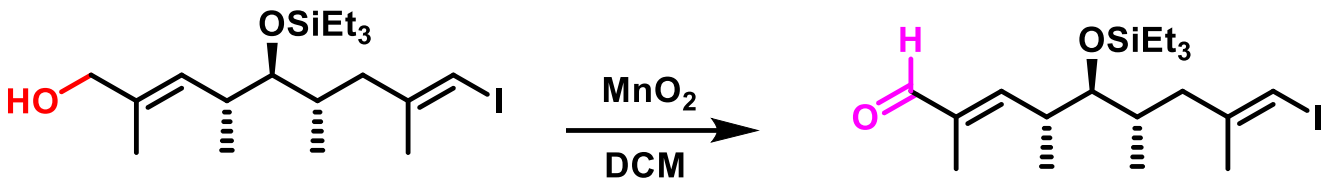

O
OH
MnO2
O
O

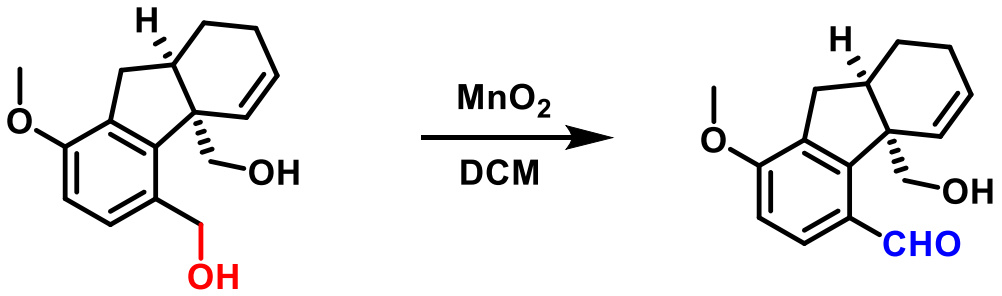

OH
MnO2
H
O

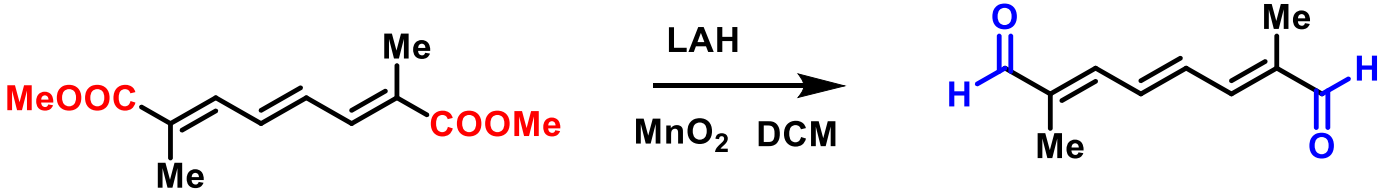

OH
MnO2
O

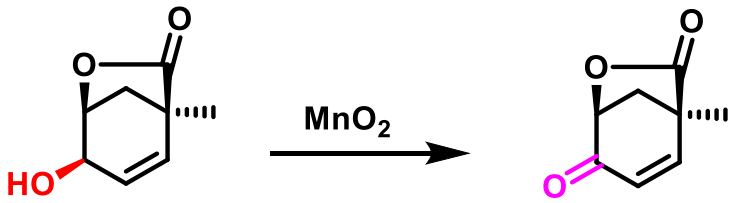

OH
MnO2
O
H

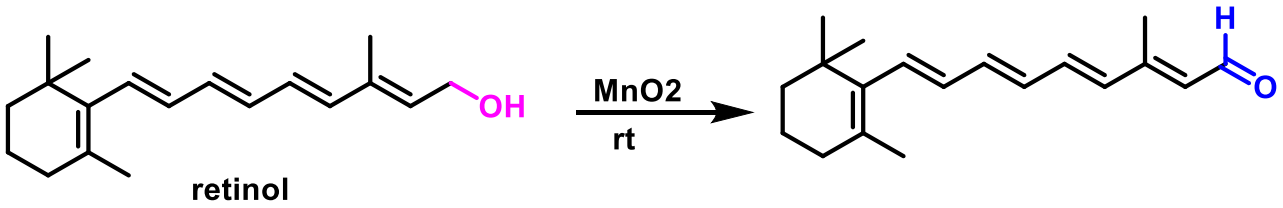

OH
H
MnO2
O
H
H

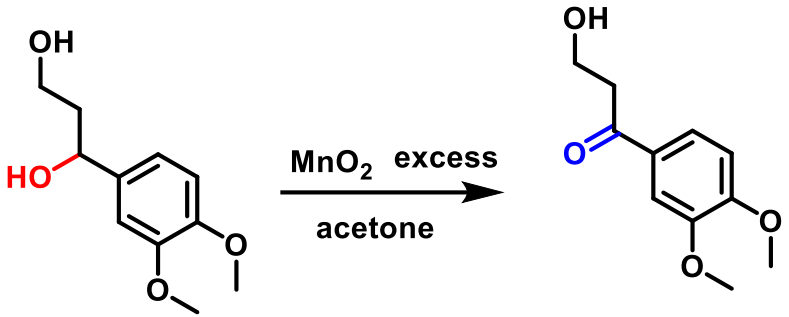

OSiEt3
HO
I
MnO2
DCM
H
O
OSiEt3
I

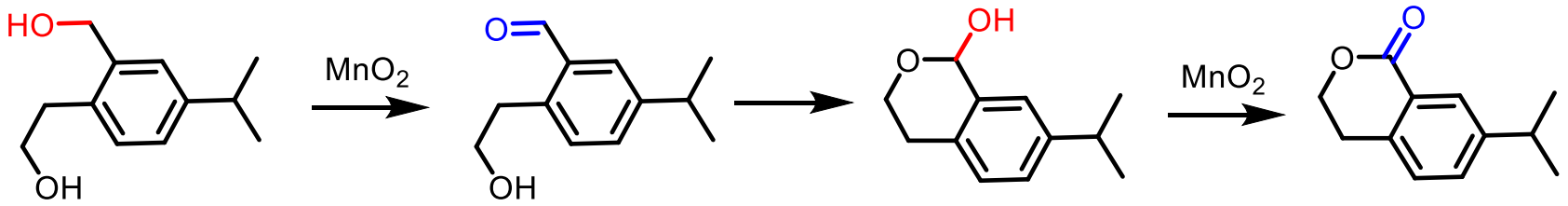

H
O
OH
OH
MnO2
DCM
H
O
OH
CHO

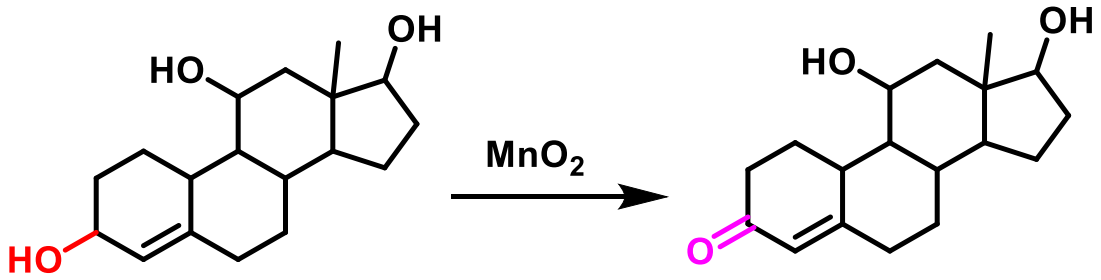

Me
MeOOC
COOMe
Me
LAH
MnO2 DCM
O
H
Me
Me
H
O

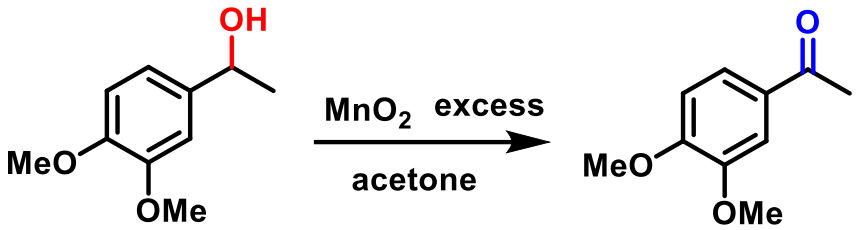

O
O
HO
MnO2
O
O
O

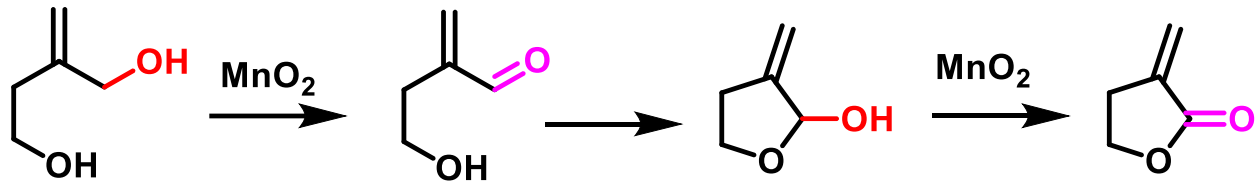

OH
retinol
MnO2
rt
H
O

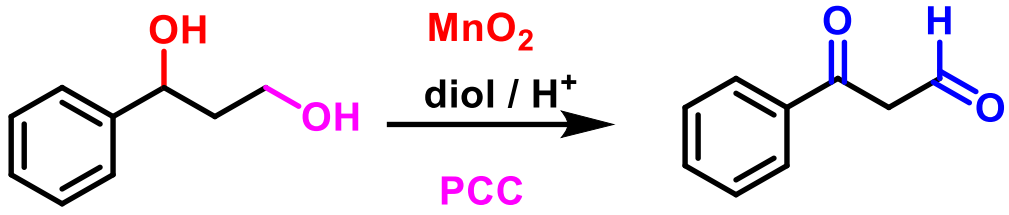

OH
HO
O
O
MnO2 excess
acetone
OH
O
O
O

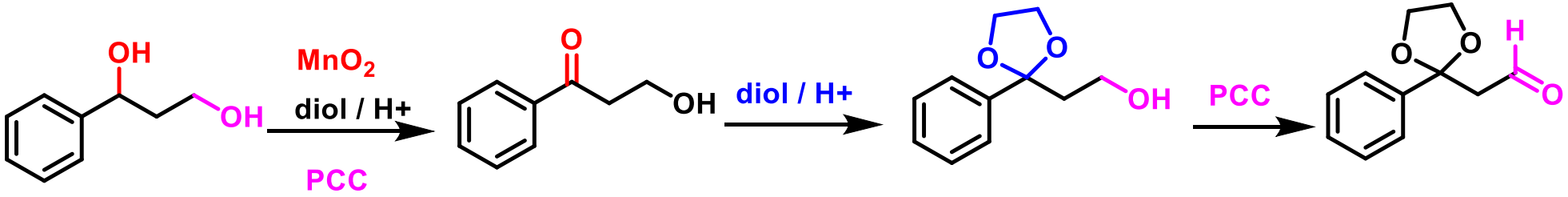

HO
OH
MnO2
O
OH
OH
O
MnO2
O
O

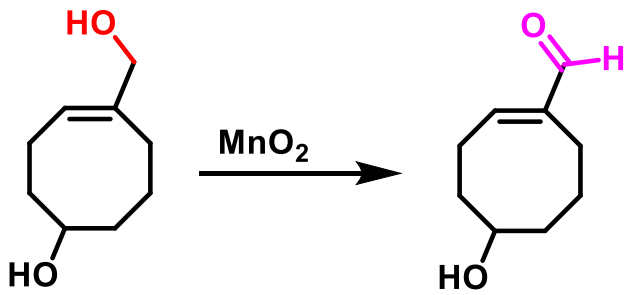

HO
OH
HO
MnO_2
HO
OH
O

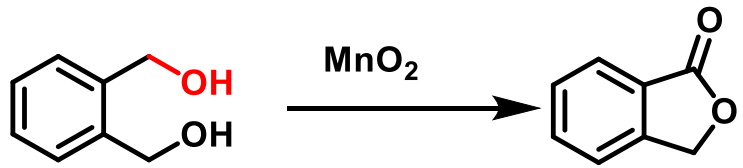

OH
MeO
OMe
MnO_2 excess
acetone
O
MeO
OMe

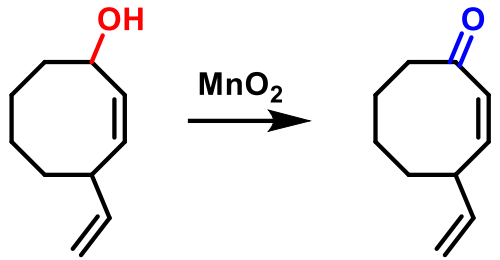

OH
OH
MnO_2
O
OH
OH
O
MnO_2
O
O

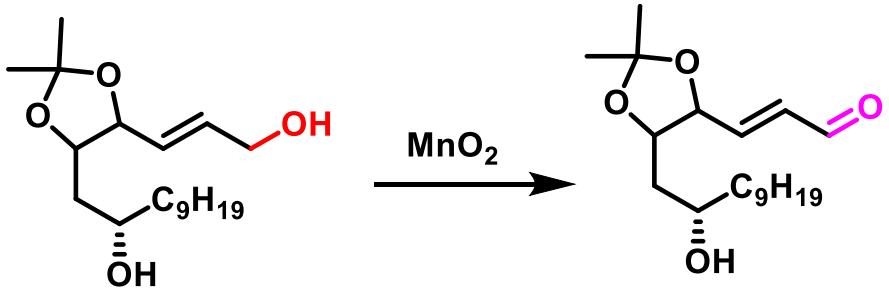

OH
OH
MnO2
diol / H+
PCC
O
H
O

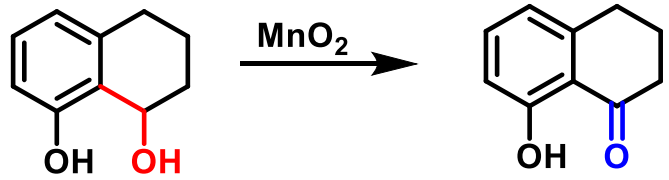

OH
OH
MnO2
diol / H+
PCC
O
OH
diol / H+
O
O
OH
PCC
O
O
H
O

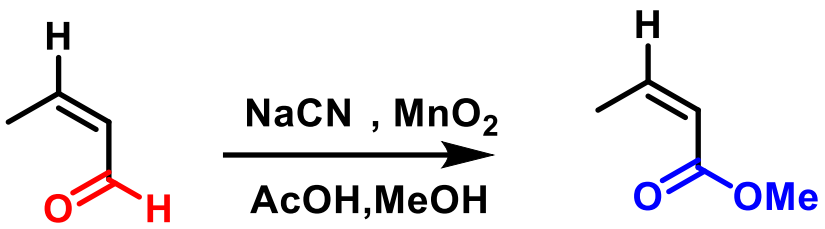

HO
HO
MnO2
O
H
HO

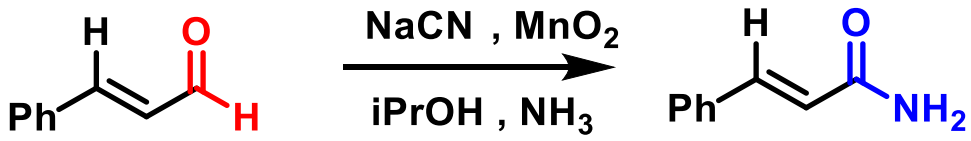

OH
OH
MnO2
O
O

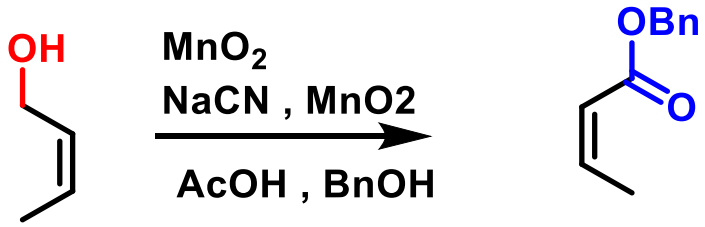

OH
MnO2
O

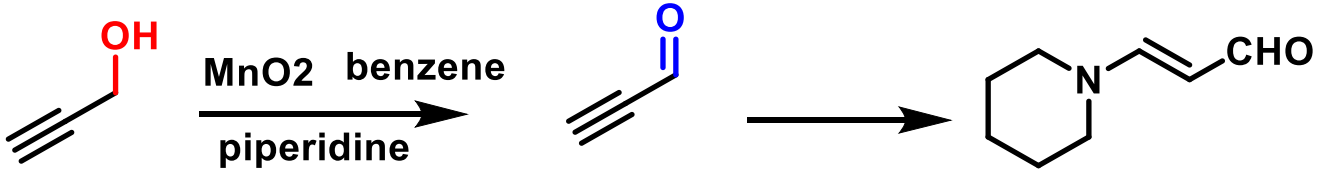

O
O
OH
C9H19
OH
MnO2
O
O
C9H19
OH


OH
OH
MnO2
OH
O


H
O
H
NaCN , MnO2
AcOH,MeOH
H
O
OMe

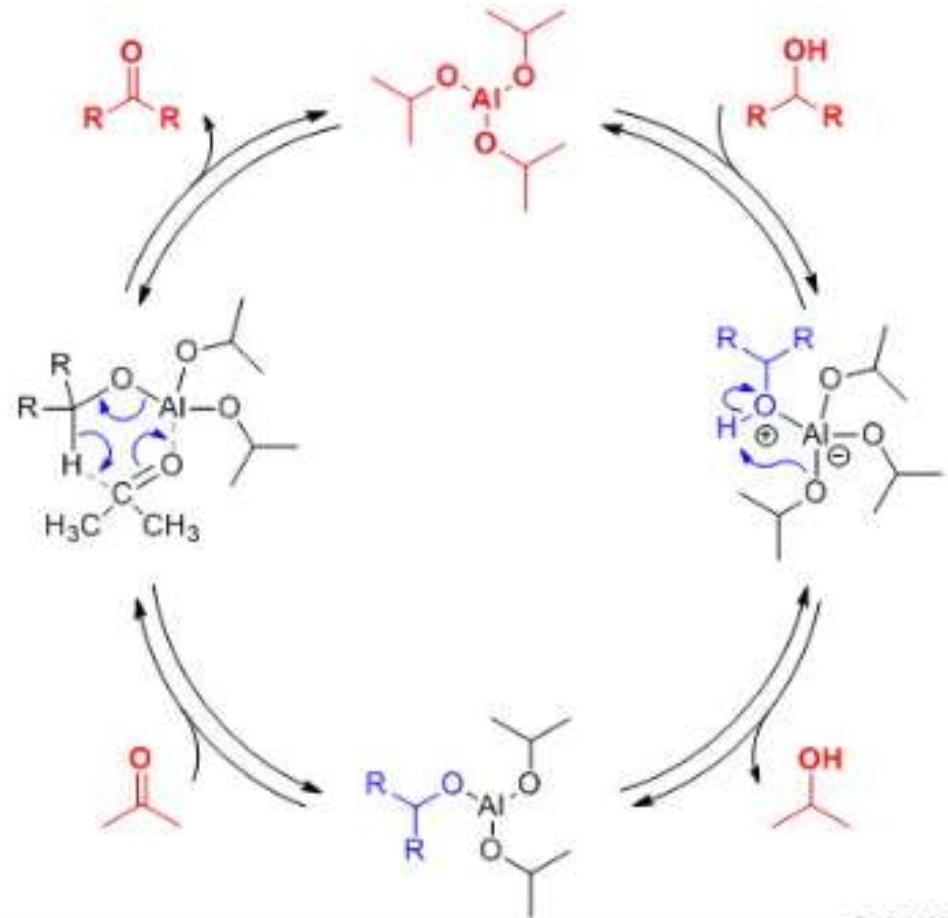

H
O
Ph
H
NaCN , MnO2
iPrOH , NH3
H
O
Ph
NH2


OH
MnO2
NaCN , MnO2
AcOH , BnOH
OBn
O


OH
MnO2 benzene
piperidine
O
N
CHO

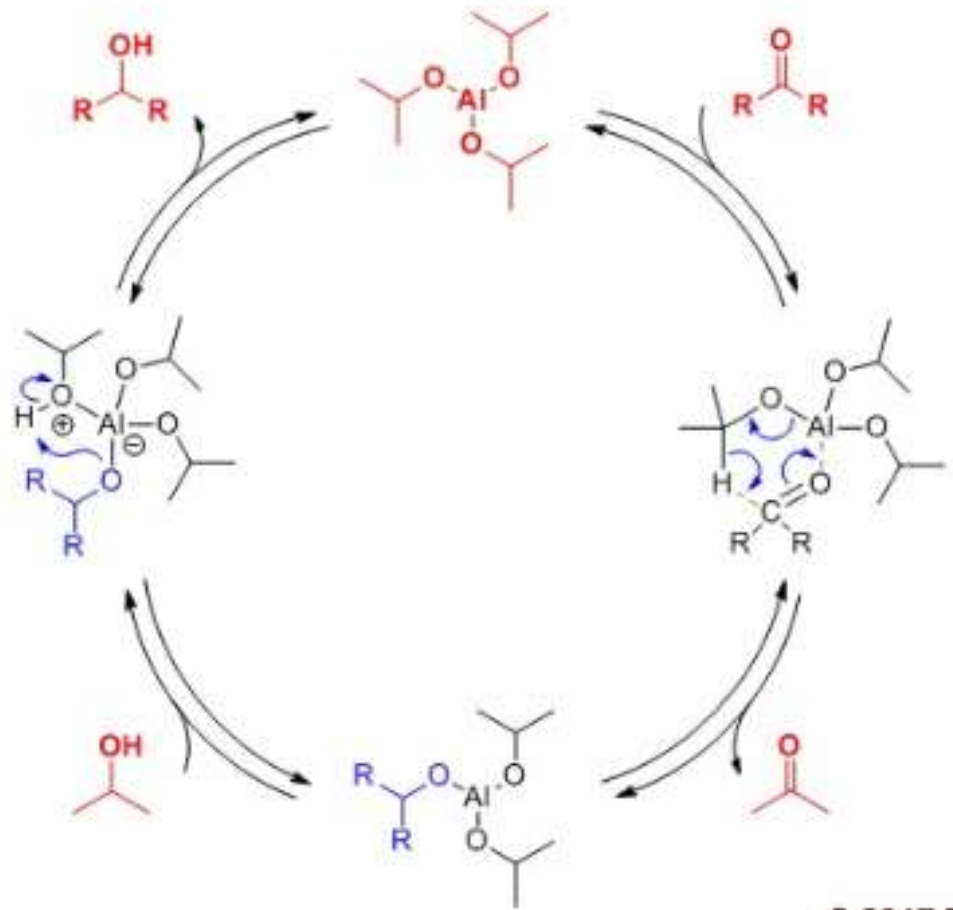
Oppenauer Oxidation

[1937]



Meerwein-Ponndorf-Verley Reduction

[1924]



Birch Reduction

[1944]