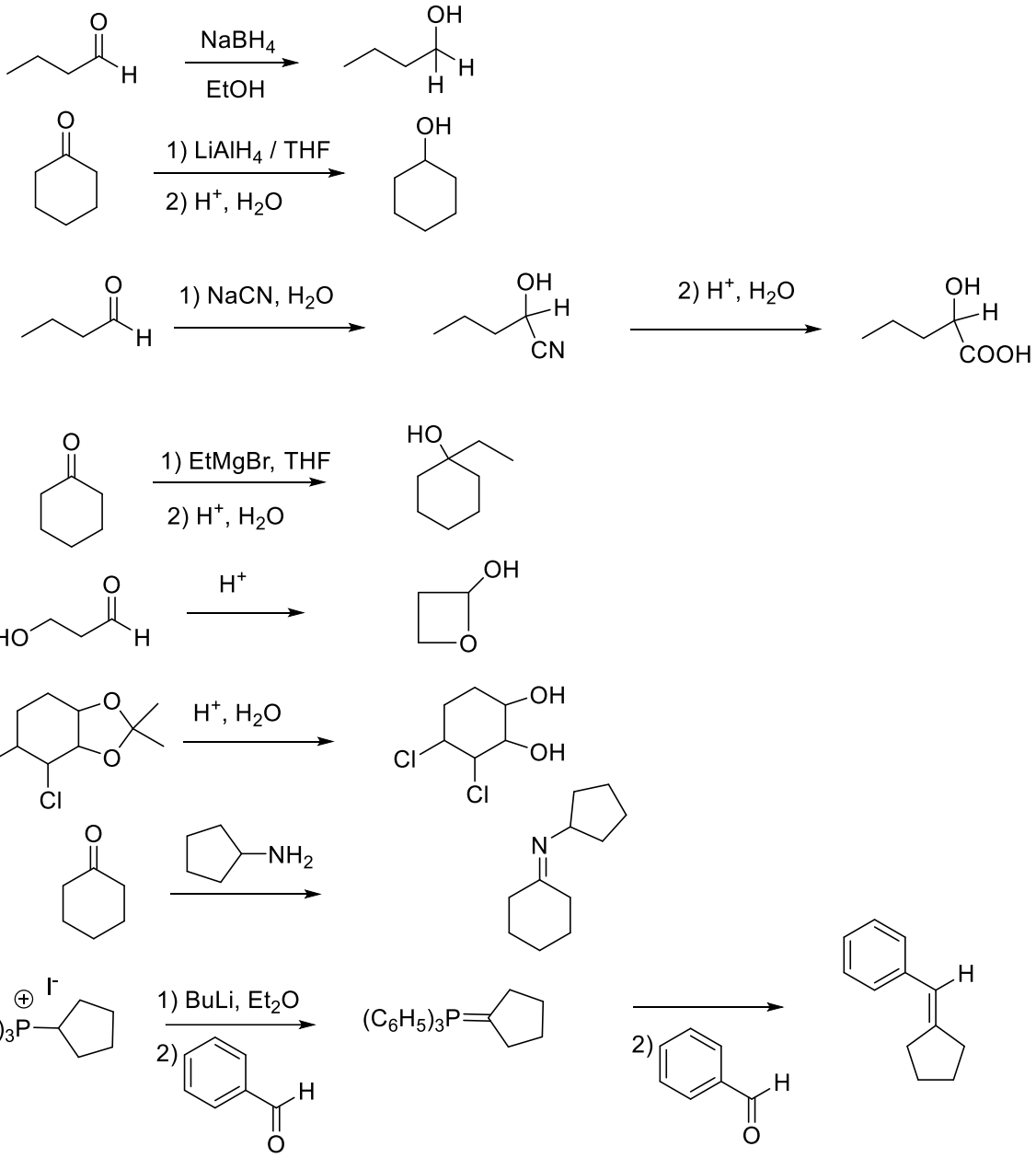
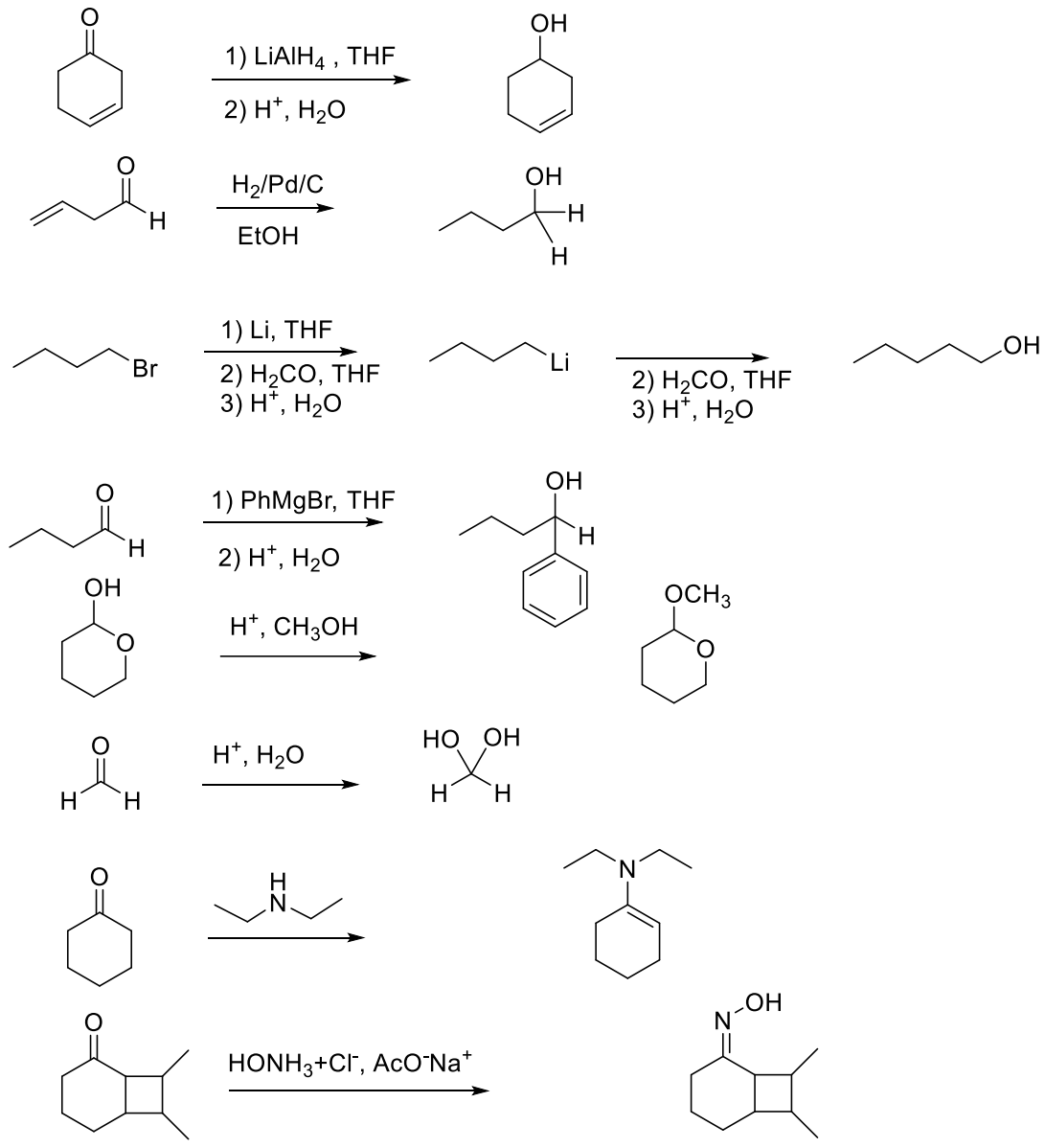
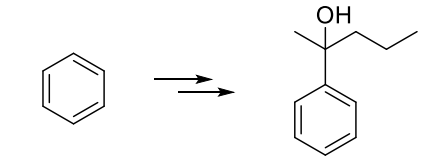
1. Completare le seguenti reazioni.

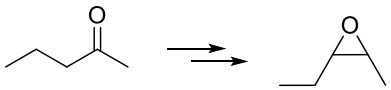



1) LiAlH4 , THF
2) H+, H2O
H2/Pd/C
EtOH
1) Li, THF
2) H2CO, THF
3) H+, H2O
2) H2CO, THF
3) H+, H2O
1) PhMgBr, THF
2) H+, H2O
H+, CH3OH
H+, H2O
HONH3+Cl-, AcO-Na+

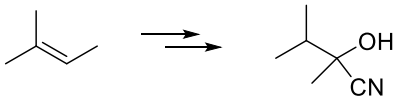
2. Individuare i reagenti e gli intermedi nelle seguenti trasformazioni



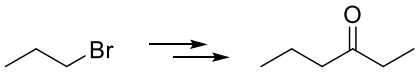
a) Br_2, $FeBr_3$
b) Mg, THF
c) $CH_3COCH_2CH_2CH_3$, THF
d) H^+, H_2O



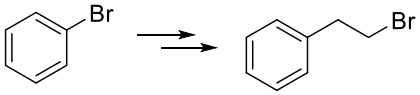
a) $NaBH_4$, EtOH
b) TsCl, piridina
c) KOH, Etanolo
d) mCPBA, CH_2Cl_2



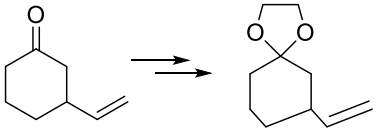
a)BH_3, THF
b) H_2O_2, NaOH
c) CrO_3, H_2SO_4
d) NaCN



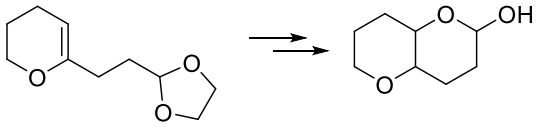
a) Mg, THF
b) CH_3CH_2CHO, THF
c) H^+, H_2O
d) CrO_3, H_2SO_4



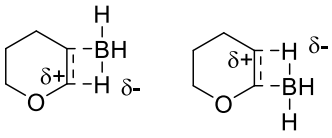
a) Mg, THF
b) ossido di etilene, THF
c) H^+, H_2O
d) PBr_3, piridina



a) $HOCH_2CH_2OH$, H^+
b) BH_3, THF
c) H_2O_2, NaOH

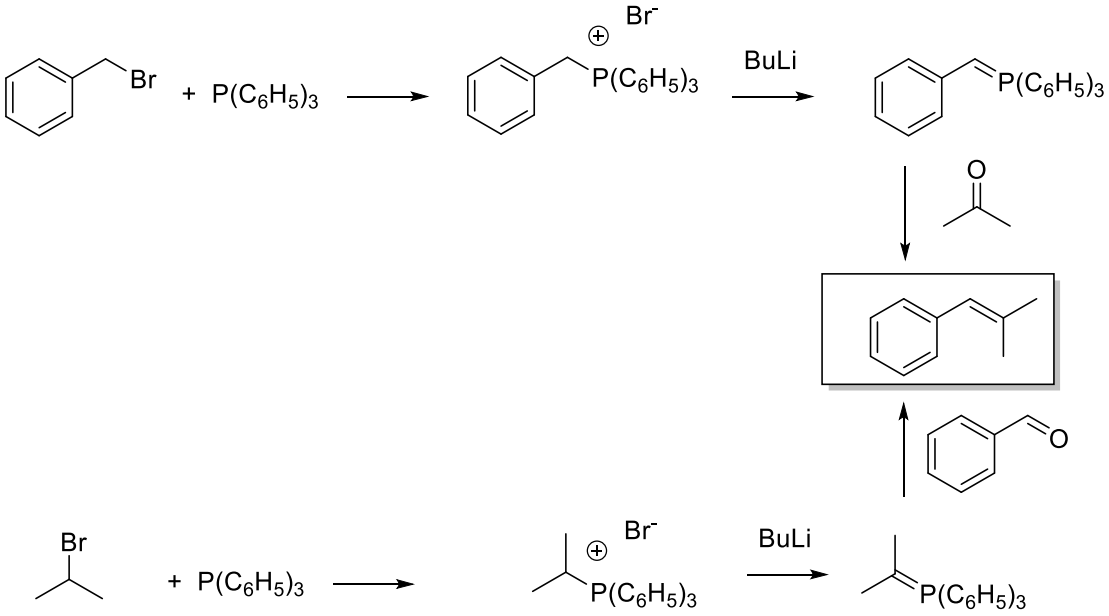


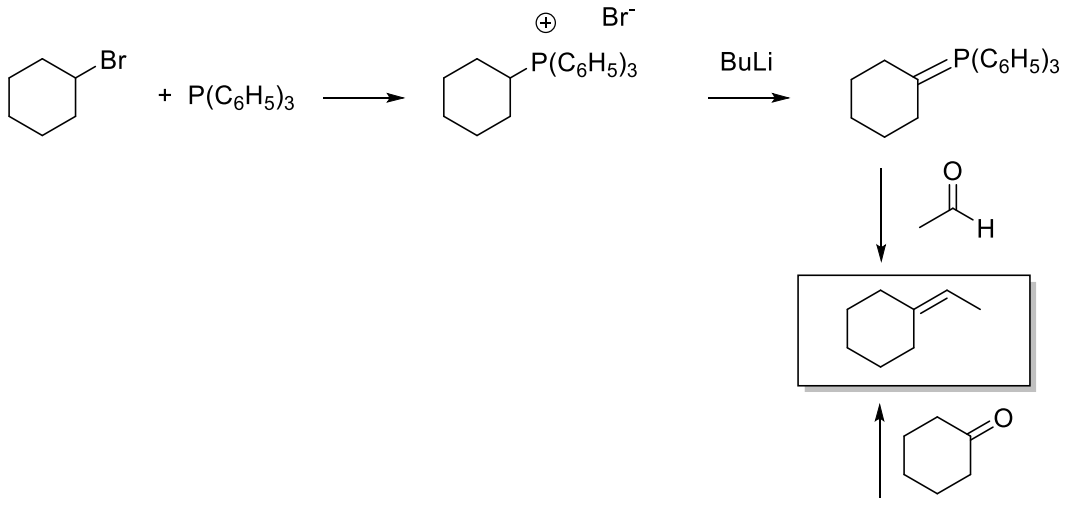
a) BH_3, THF
b) H_2O_2, NaOH
c) H^+

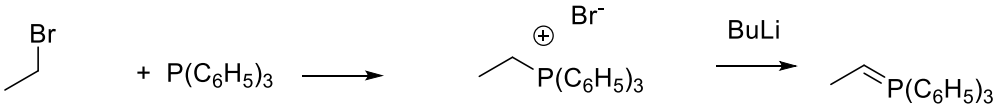


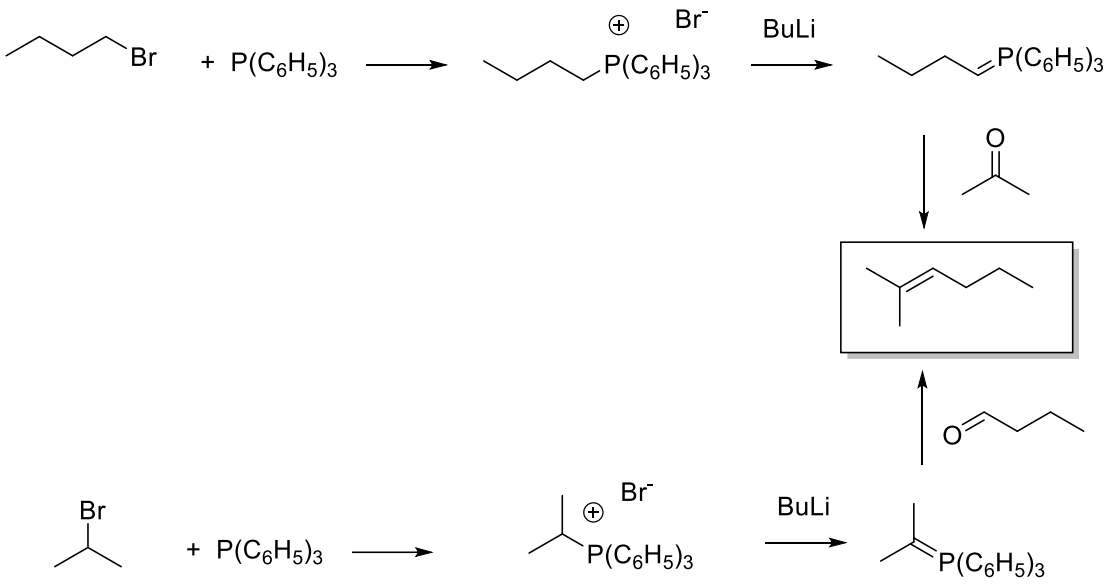
more stable becose the positive charge is can be delocalized on oxygen

3. Preparare con la reazione di Wittig i seguenti composti








Br
+ P(C6H5)3
Br-
P(C6H5)3
BuLi
P(C6H5)3
O
O
Br
+ P(C6H5)3
Br-
P(C6H5)3
BuLi
P(C6H5)3