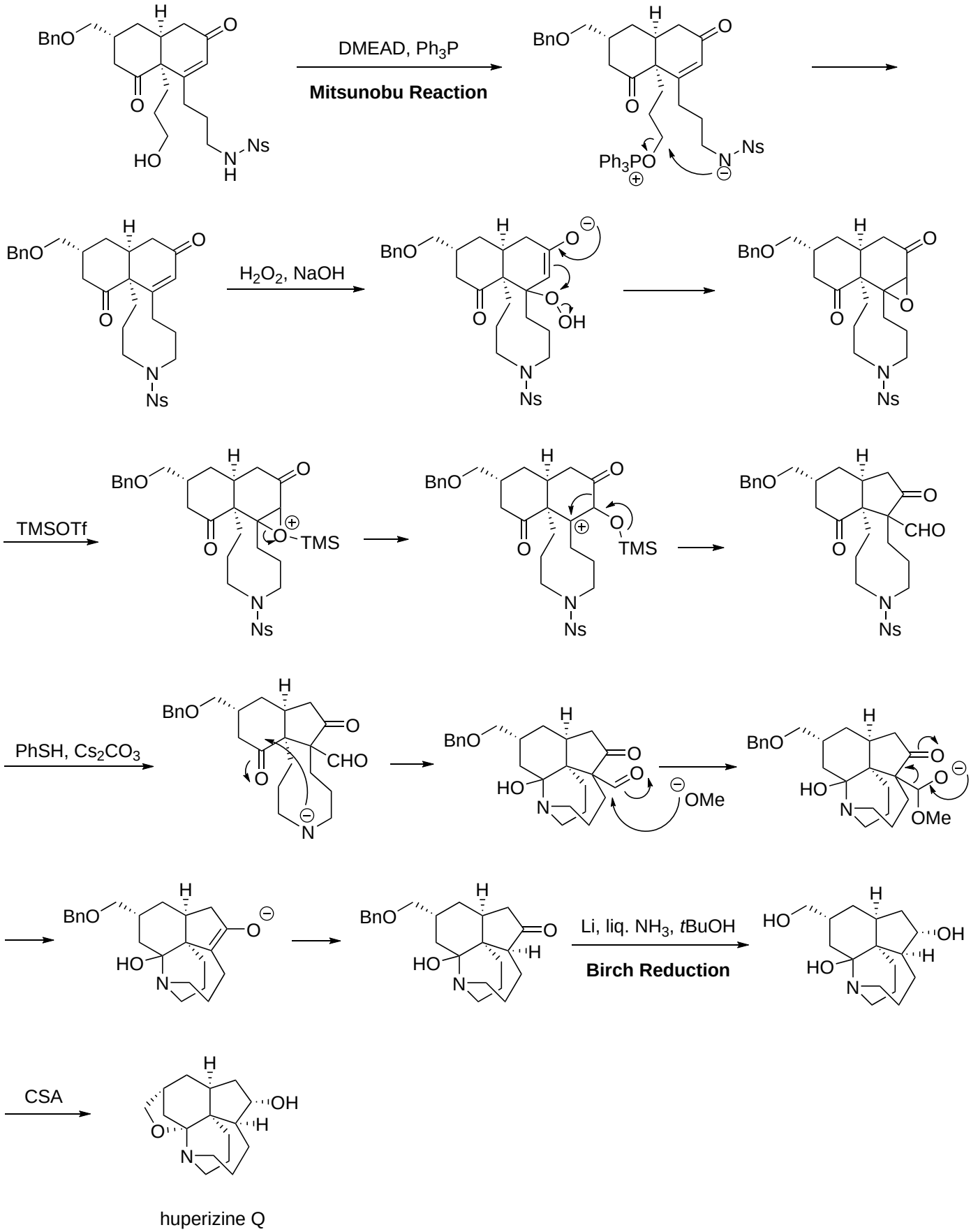
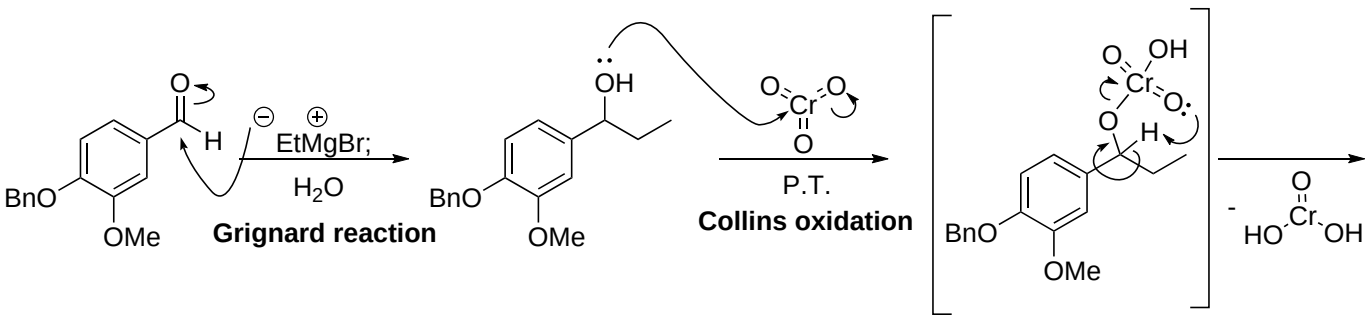
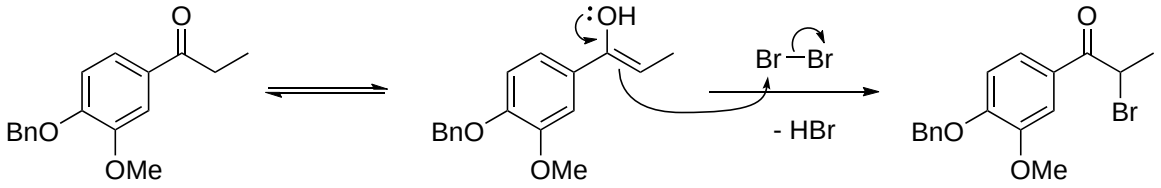
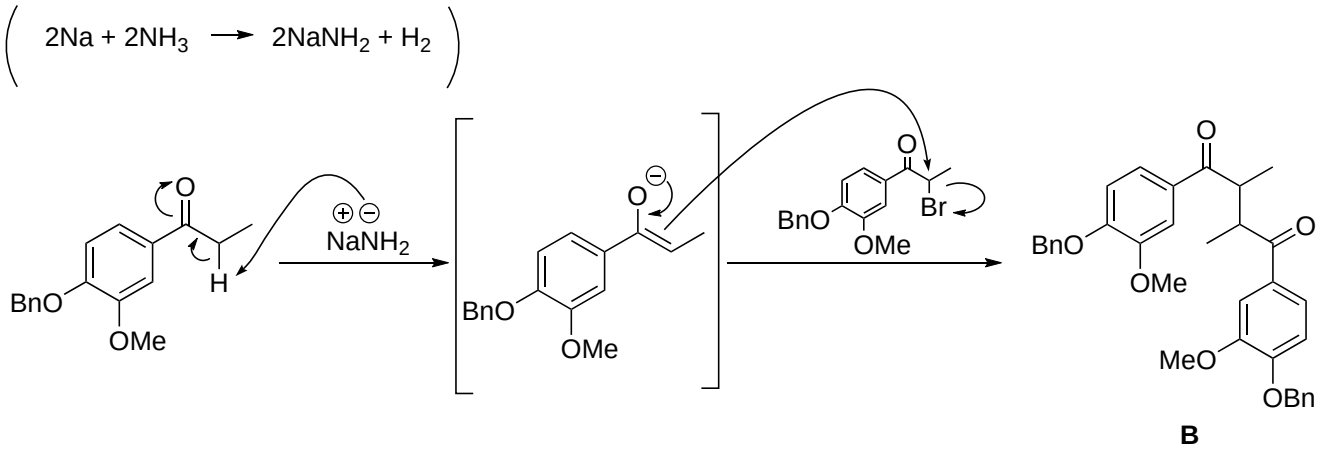


huperizine Q

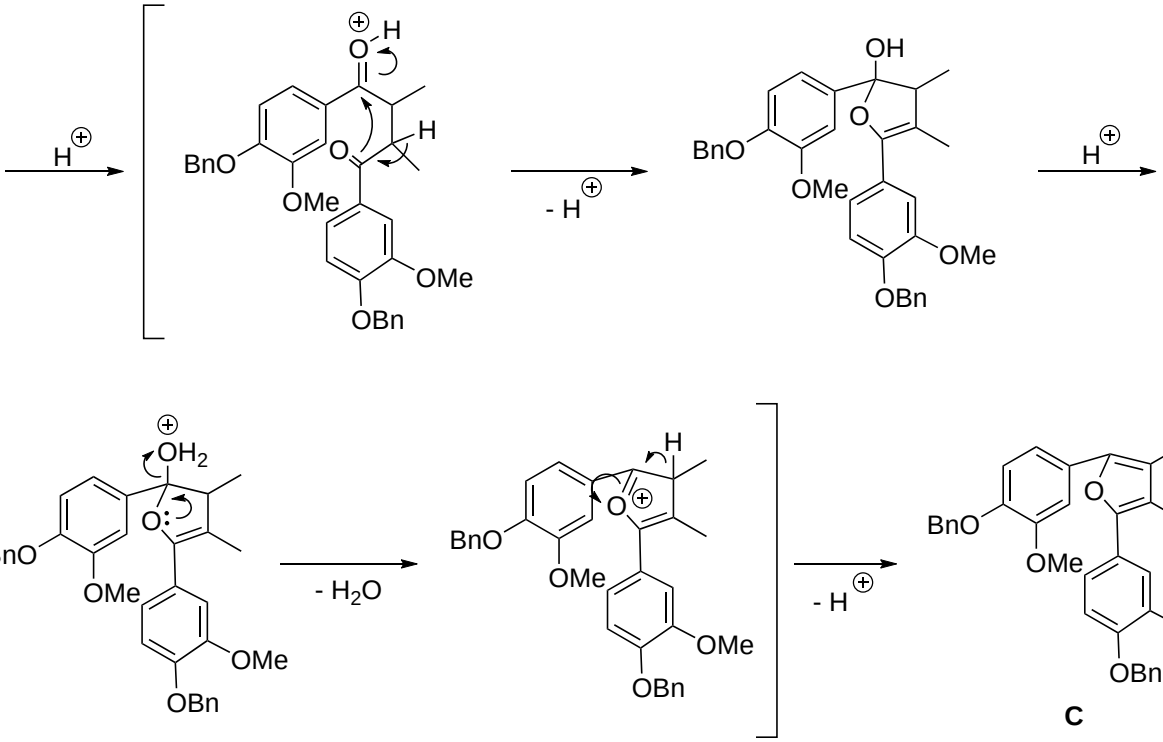

EtMgBr;
H_2O
Grignard reaction
P.T.
Collins oxidation


- HBr

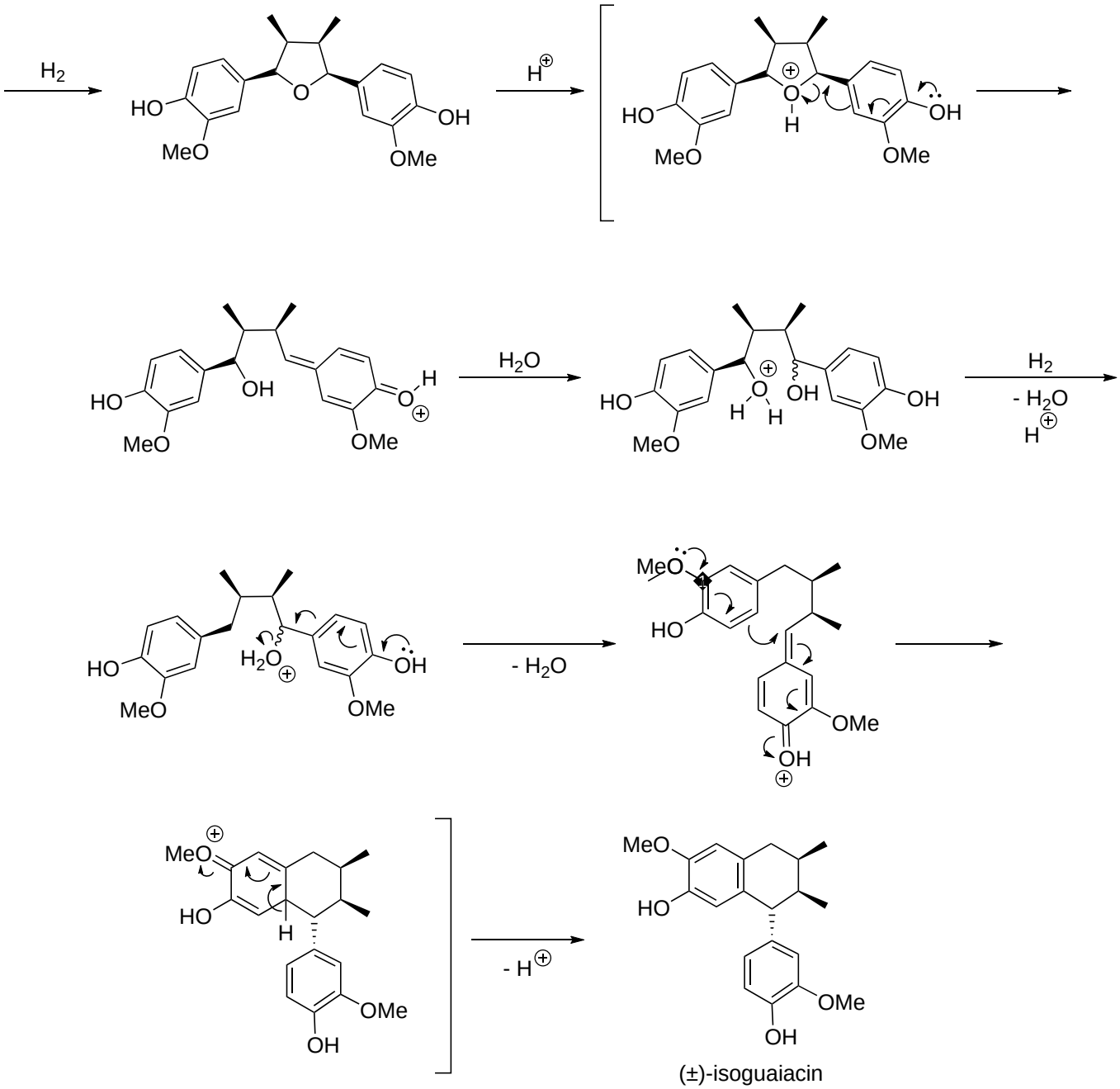
A


$2Na + 2NH_3 \longrightarrow 2NaNH_2 + H_2$
$NaNH_2$

B


- H^+
- H_2O

C


H2
HO
MeO
O
OH
OMe
H⊕
H
H2O
- H2O
- H⊕
(±)-isoguaiacin