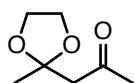
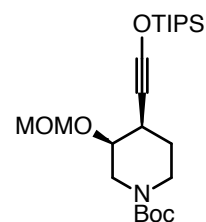
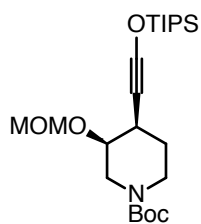


1. **A**, $i\text{Pr}_2\text{NEt}$, $(\text{DHQD})_2\text{Phal}$, CH_2Cl_2 , 34%, >95% ee
2. K_2CO_3 , EtOH; MOMCl, $i\text{Pr}_2\text{NEt}$, CH_2Cl_2 , 0 °C to rt, 86%
3. LiTMP, CH_2Br_2 , THF, -78 °C, 40%
4. LHMDS, THF, -78 °C then $s\text{-BuLi}$, -78 °C to 0 °C then TIPSOTf, -78 °C, 45%



1. $(\text{EtO}_2\text{C})_2$, NaOEt, EtOH/THF, 50 °C, then HCl in EtOH, 75%
2. 2N HCl aq. 80 °C, 78%
3. ClCO_2Et , Et_3N , THF, then TMSCHN_2 , MeCN, MS3A, -15 °C to 0 °C 45%

B

+

B

Blue LED, MS3A
 $(\text{Cl}_2\text{CH}_2)_2$, 75 °C

