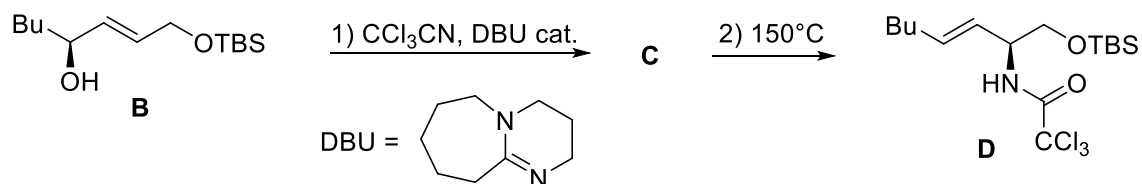
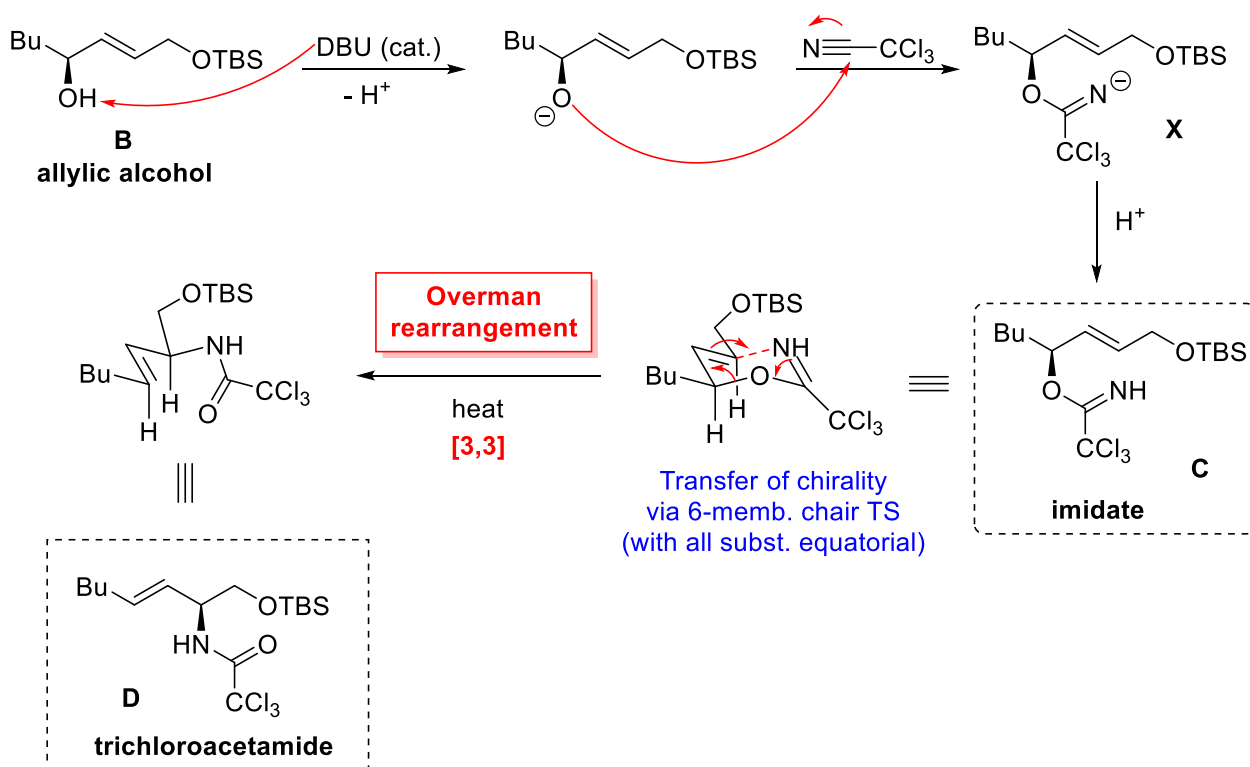


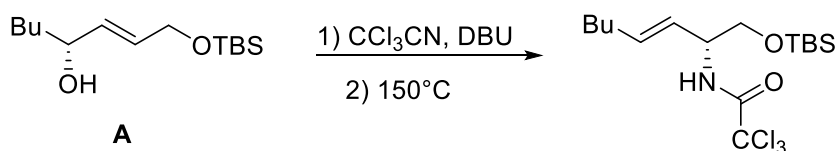
SR2024 POW3 – Solutions



Mechanism:



Starting from A:



- ♦ Simple acetonitrile (CH_3CN) cannot be used because it lacks the strong $-I$ effect of the CCl_3 group, which is necessary to allow the initial nucleophilic addition by the alkoxide.
- ♦ Only catalytic base is needed, since the trichloroacetimidate anion **X** can easily deprotonate another alcohol **B**.
- ♦ The Overman rearrangement converts allylic alcohols into allylic amines (after $(\text{C}=\text{O})\text{CCl}_3$ hydrolysis) with high transfer of chirality. Therefore (cfr. transition state), only **B** can give product **D**.