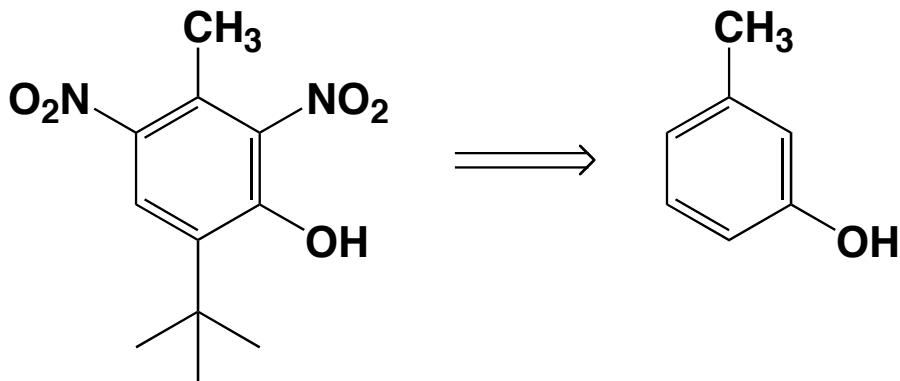
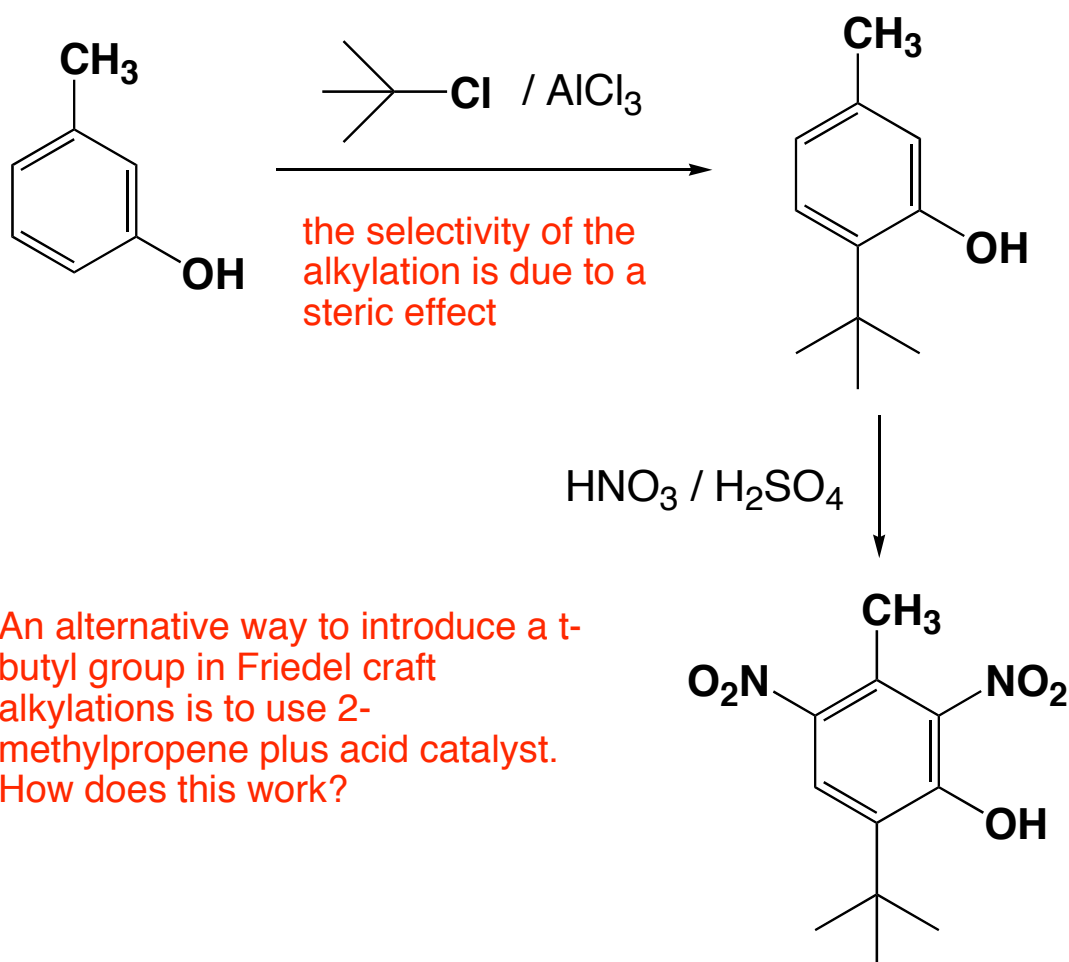
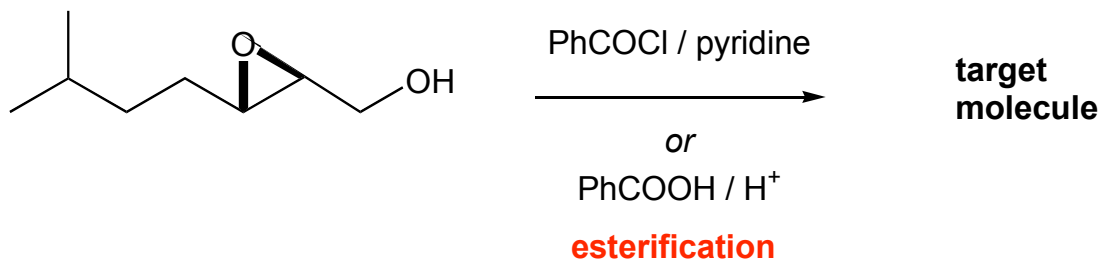
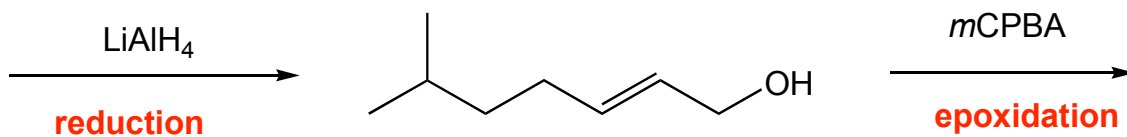
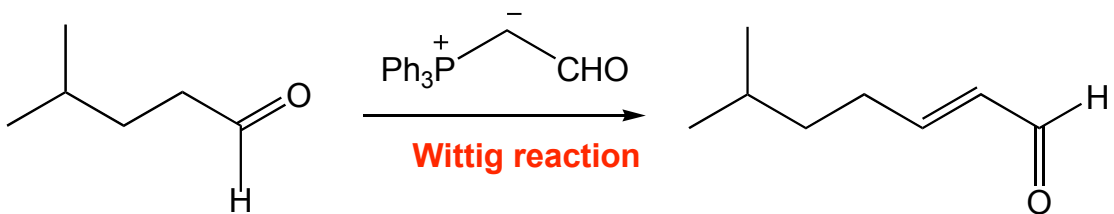


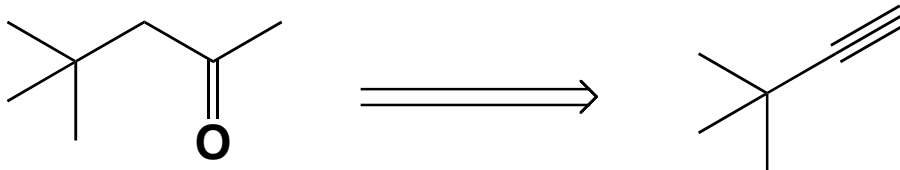
Suggested Solutions to Retrosynthesis Problems:



here we need to add three groups via electrophilic aromatic substitution. The required substitution pattern is favored by both the OH and CH₃ groups directing effects. We carry out the alkylation first however, since conducting nitration first would lead to nitration at the position where we need to add the t-butyl group as well.

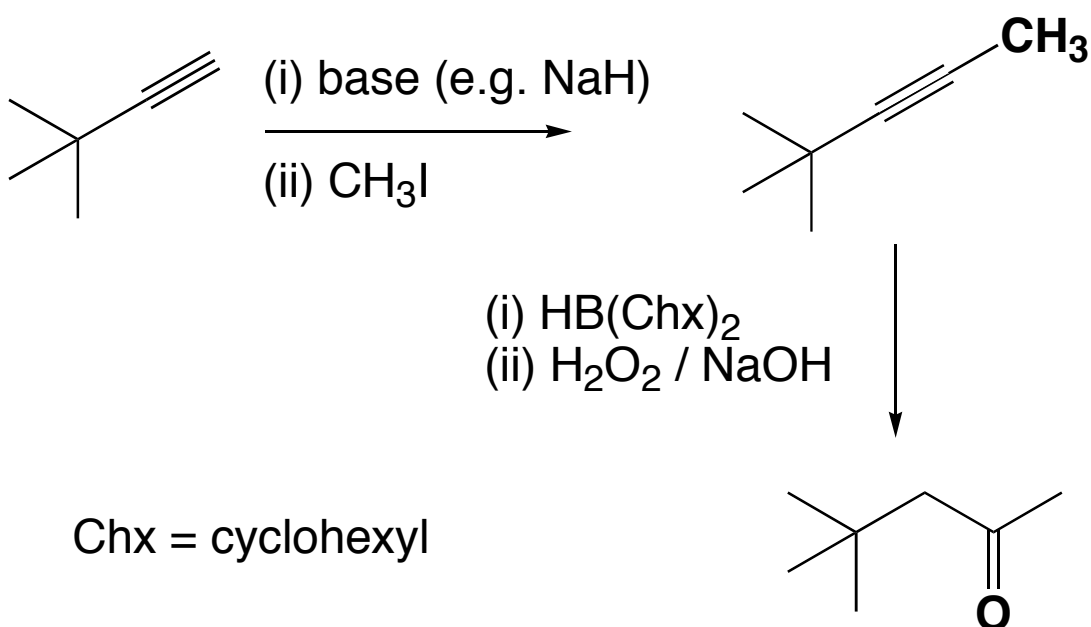






We need to add one carbon to the alkyne and then hydrate:

Suggested synthesis



i.e. hydroboration using bulky hydroborating agent, => boron adds to less hindered carbon of the alkyne followed by oxidation

