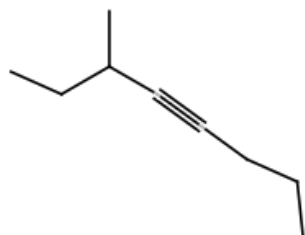


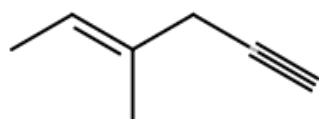
Alkynes & Intro to Synthesis

1. Give the IUPAC name for the following compounds:

a.)



b.)

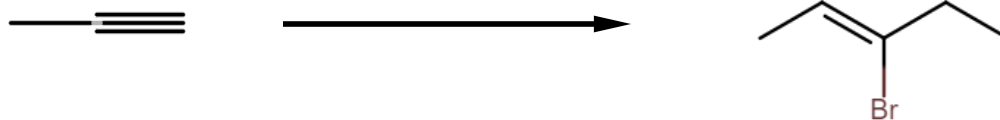


c.)

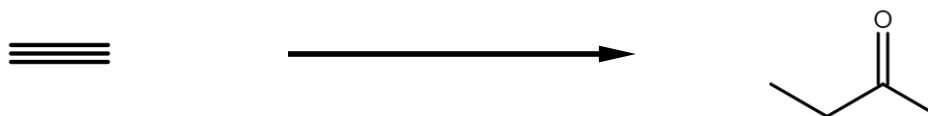


2. Propose reagents that would give the following products:

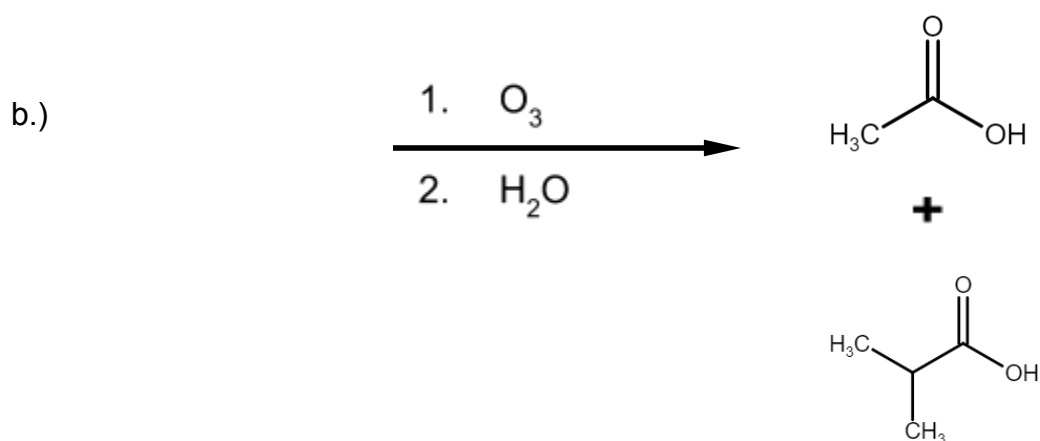
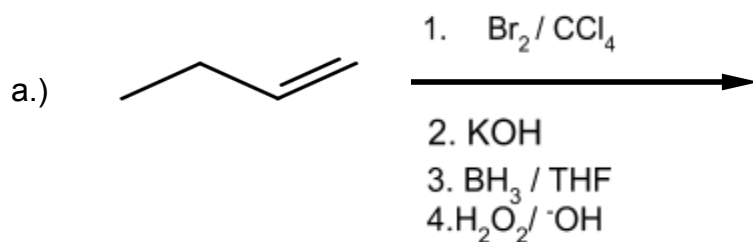
a.)



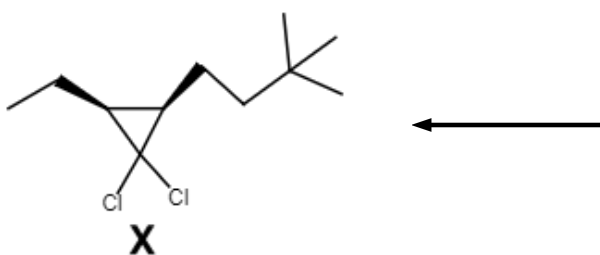
b.)



3. Predict what the following reactants or products are based on the reagents used:



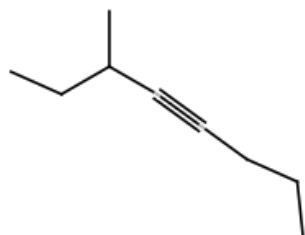
4. Use retrosynthesis to design a step-by-step synthetic pathway to produce compound **X** from 1-butyne:



Alkynes & Intro to Synthesis Solutions

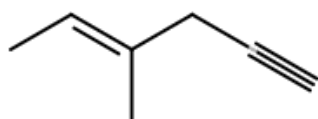
1. Give the IUPAC name for the following compounds:

a.)



3-methyl-4-octyne

b.)



(Z)-4-methyl-4-hexen-1-yne

c.)



1-octen-4,7-diyne

2. Propose reagents that would give the following products:

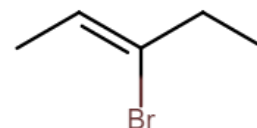
a.)



1. NaNH_2

2. $\text{CH}_3\text{CH}_2\text{Br}$

3. HBr



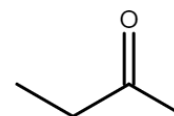
b.)



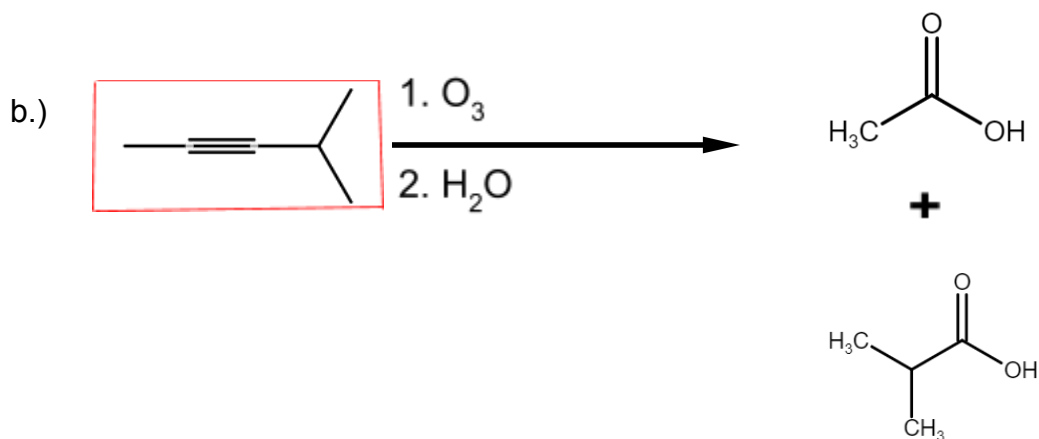
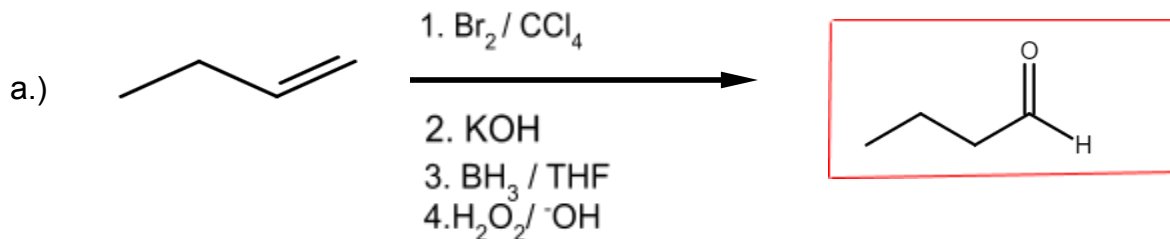
1. NaNH_2

2. $\text{CH}_3\text{CH}_2\text{Br}$

3. $\text{HgSO}_4 / \text{H}_3\text{O}^+$



3. Predict what the following reactants or products are based on the reagents used:



4. Use retrosynthesis to design a step-by-step synthetic pathway to produce compound **X** from 1-butyne:

