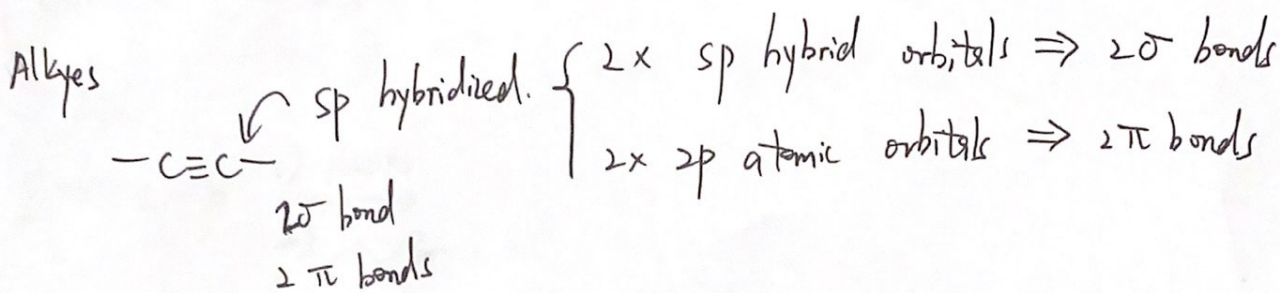


NTW 10.31

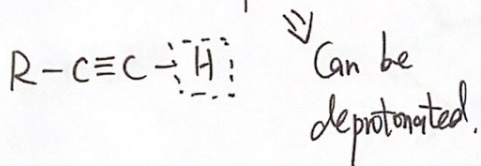
①



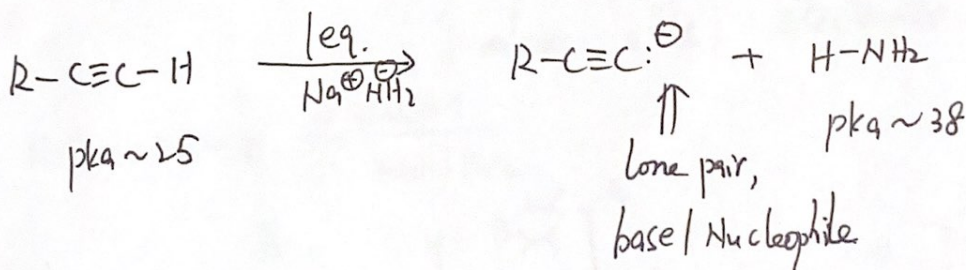
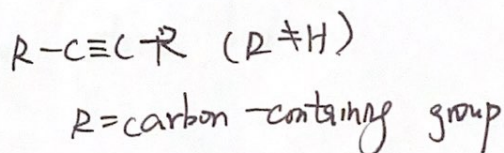
Recall \uparrow s-character stabilized anions on carbon.
 \hookrightarrow sp hybridized C-atoms are relatively acidic.

2-types of Alkynes:

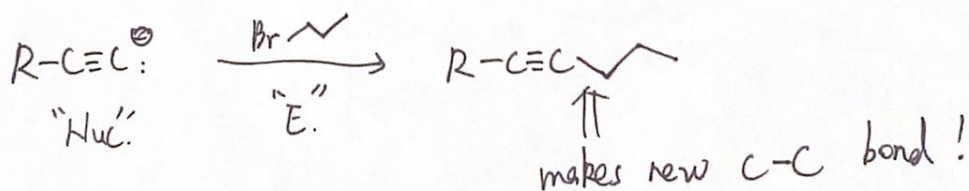
Terminal alkynes



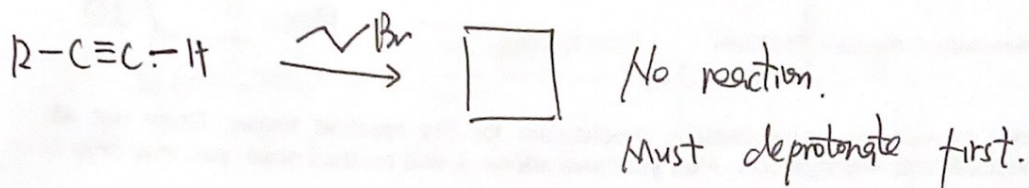
Internal Alkynes



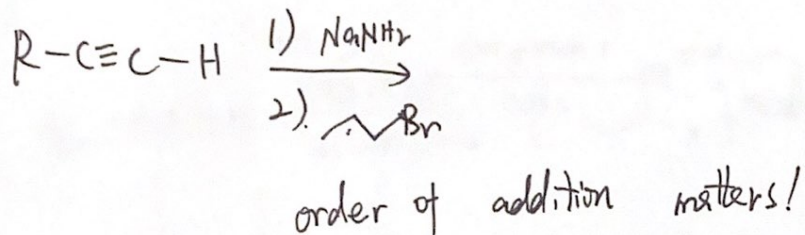
Terminal Alkyne anion:



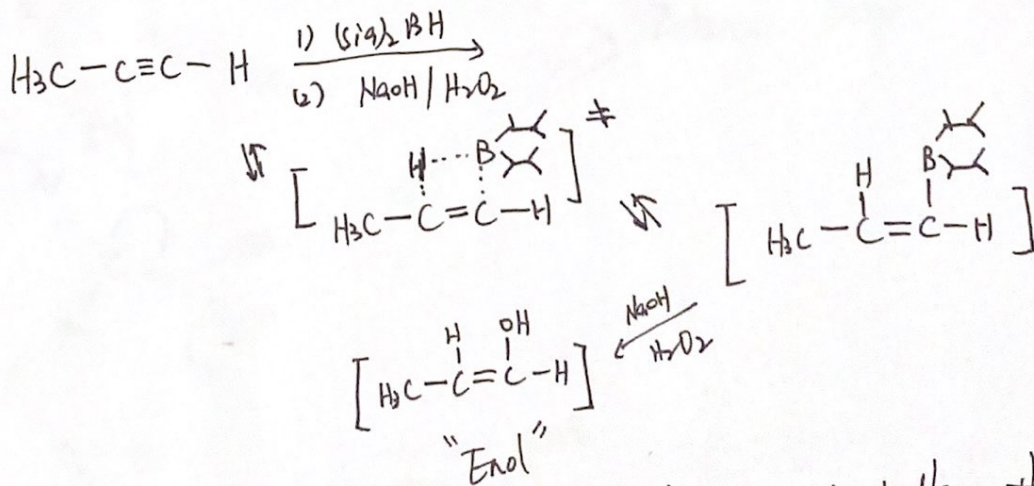
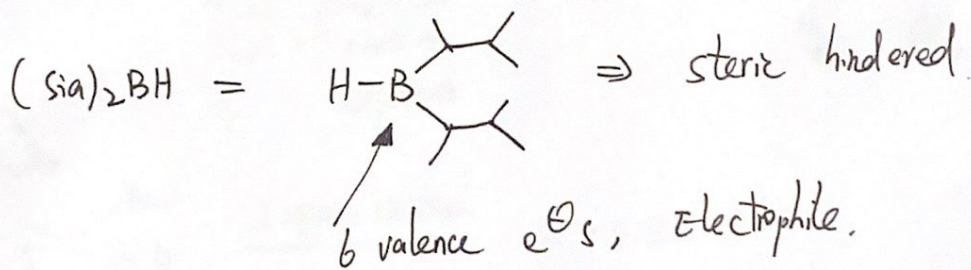
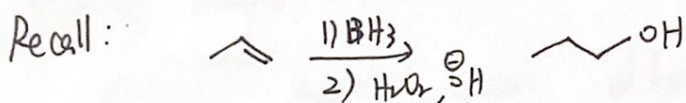
The only reaction to make C—C bond we learned so far.



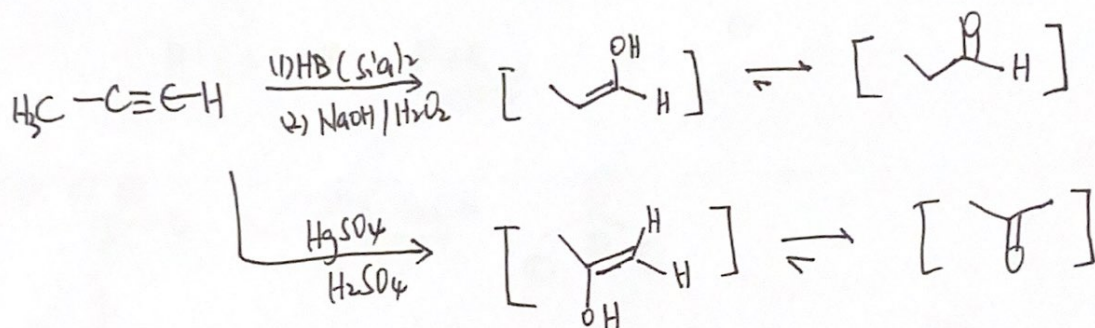
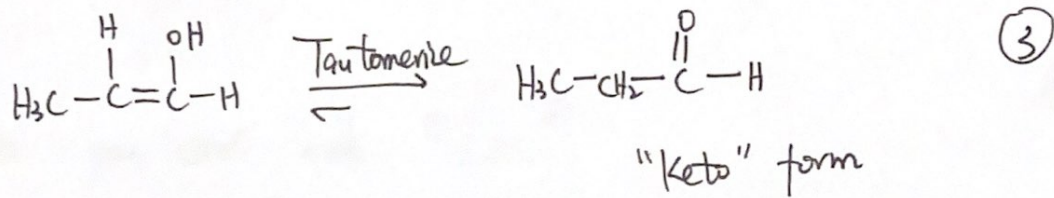
(2)



Hydroboration - Oxidation of Alkynes

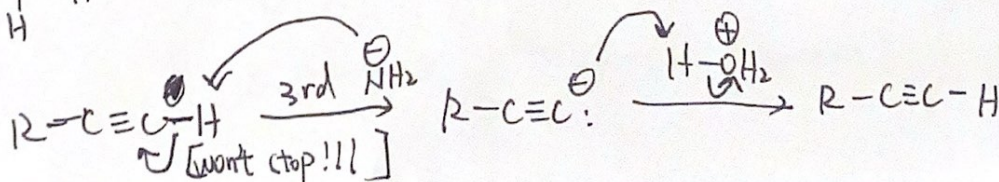
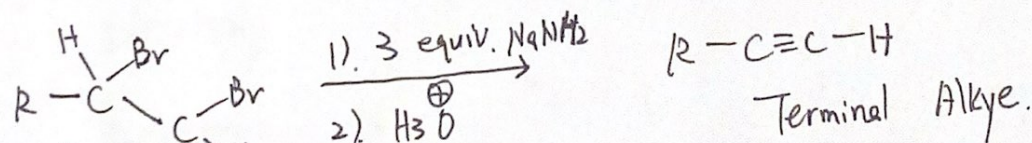
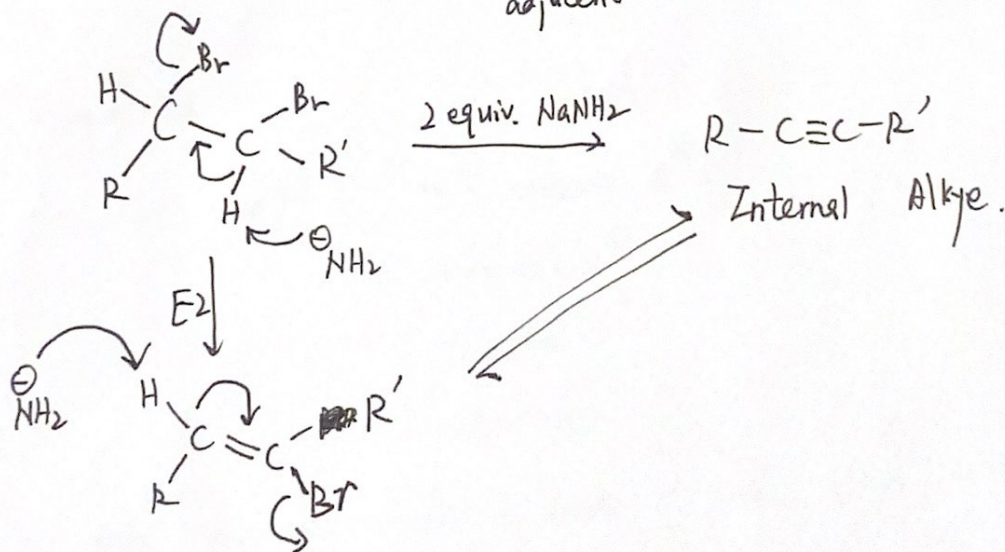


Enols are not stable, react further through "tautomerisation".



Making Alkyes.

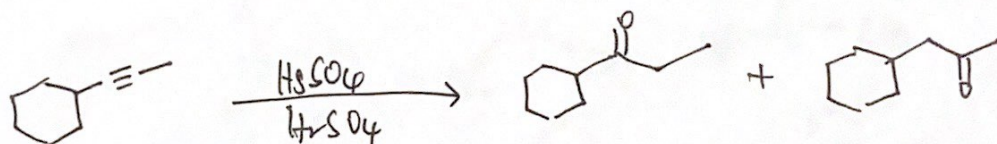
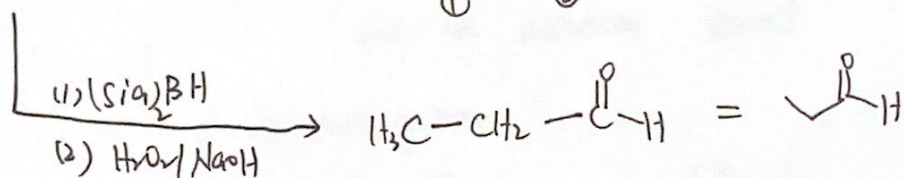
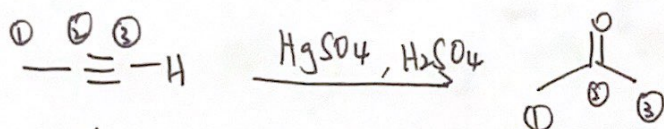
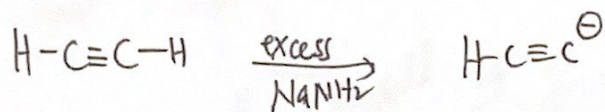
from vicinal dihalides " $\begin{array}{c} \text{Br} \quad \text{Br} \\ | \quad | \\ \text{R}-\text{C}-\text{C}-\text{R}' \\ | \quad | \\ \text{H} \quad \text{H} \end{array}$ " next to adjacent



Note: you can't make $\ominus :C \equiv C: \ominus$

④

"dianion"



Radicals



- sp^2 hybrid

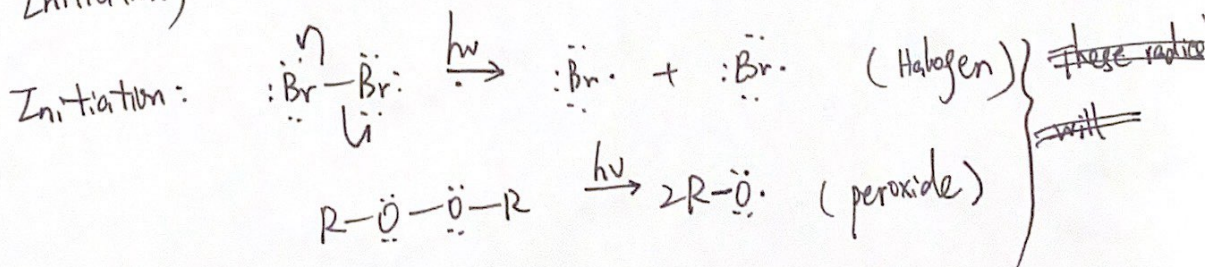
- 7 valence e^\ominus s

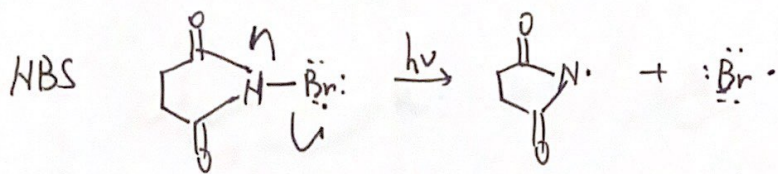
- unpaired e^\ominus

- Neutral

- Reactive

Make original radicals: break a weak bond with heat or light
(Δ) ($h\nu$)
(Initiation)



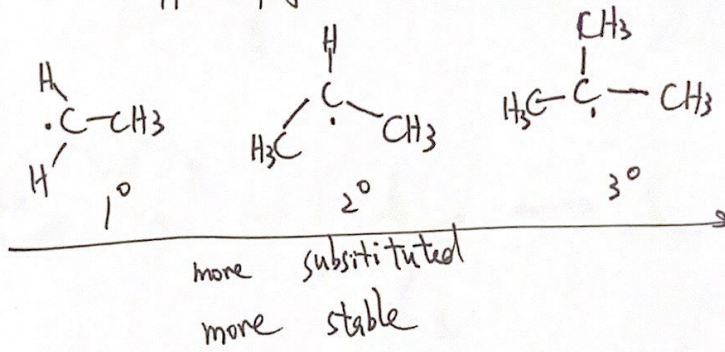


(5)

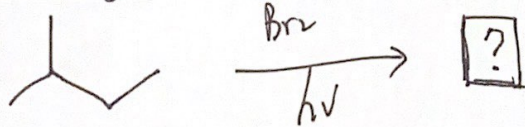
These radicals with: $\left\{ \begin{array}{l} \textcircled{1} \text{ extract an H-atom} \\ \textcircled{2} \text{ add to a double bond.} \end{array} \right.$

Radical stability: align with stability of carbocation, but no inductive effect.

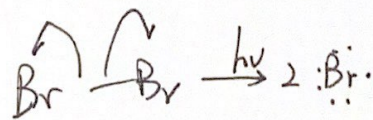
↳ Hyperconjugation



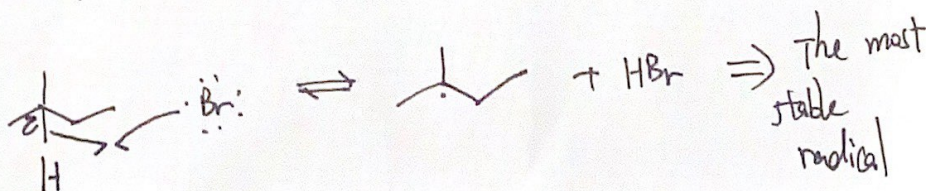
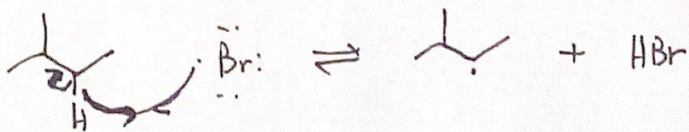
Radical halogenation



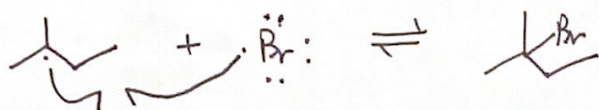
• Initialization:



• propagation

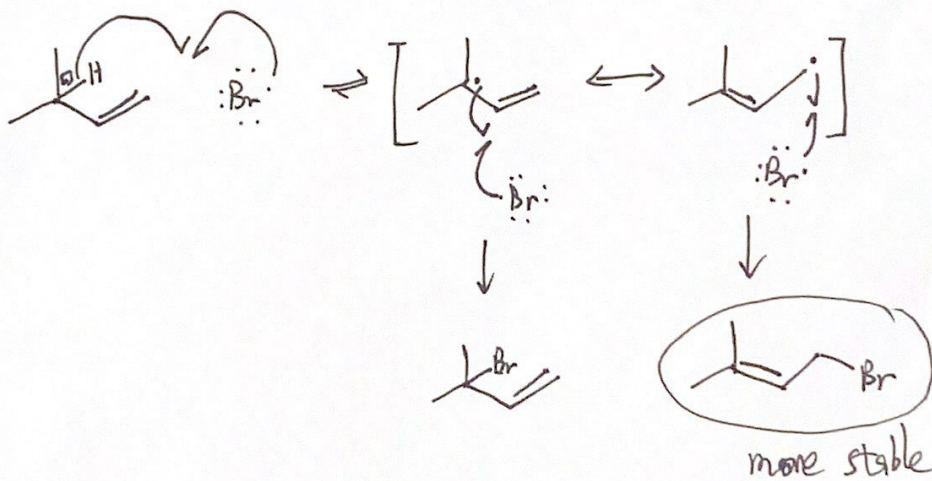
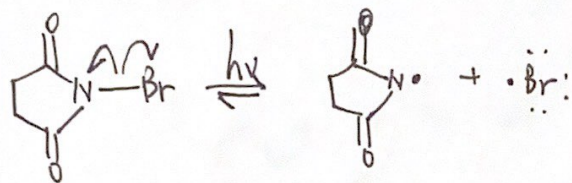
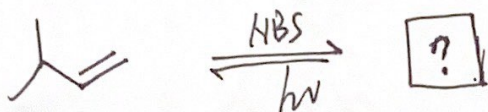


Termination



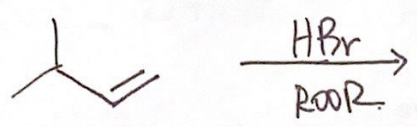
⑥

Radical Alkylation

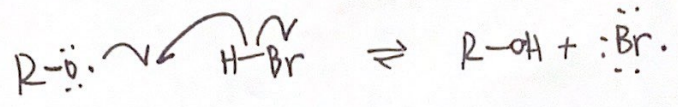
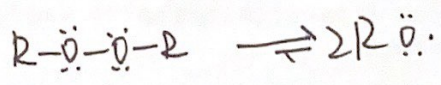


alkene (more substituted)
major product.

7



Initiation



propagation

