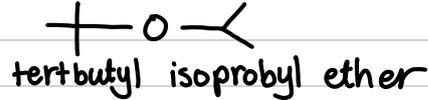
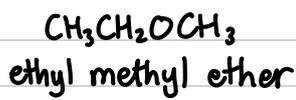


Chapter 8.

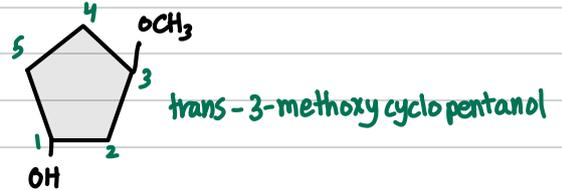
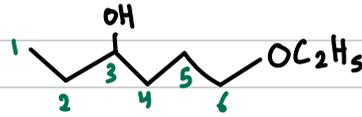
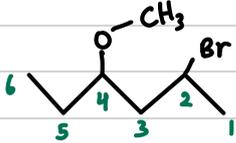


Naming: Alkyl Alkyl Ether.



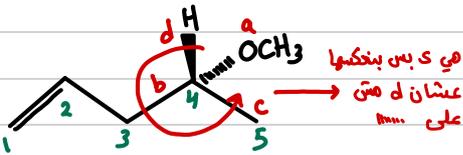
* if RO was a substituent \Rightarrow CH_3O methoxy

CH_3CH_2O ethoxy



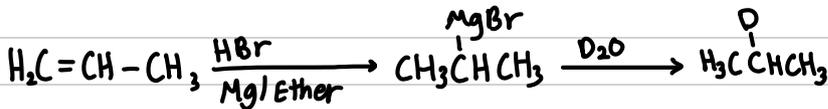
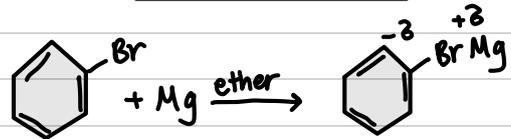
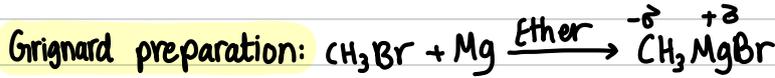
2-Bromo-4-methoxyhexane

6-ethoxy-3-hexanol

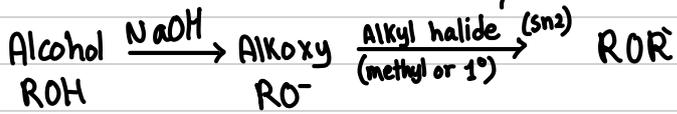


nucleophile, strong base.

* Ether can be used as organic solvent in preparation at Grignard reagents ($R-MgBr$)

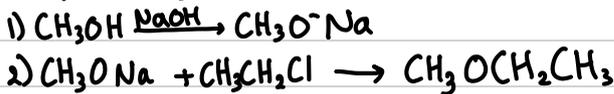


* Williamson method: Ether synthesis

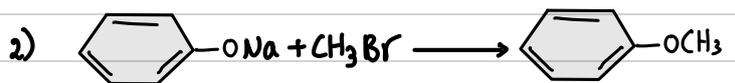
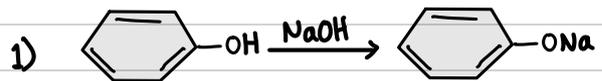
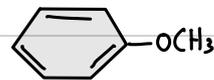


can't be 3°

* Prepare $CH_3OCH_2CH_3$



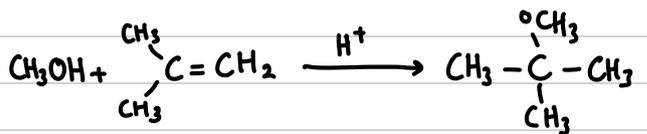
* Prepare



* Prepare $(CH_3)_3COCH_3$

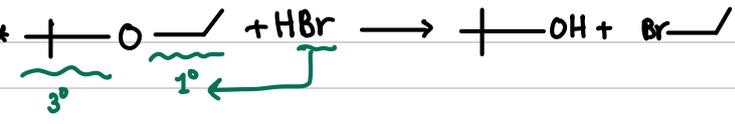
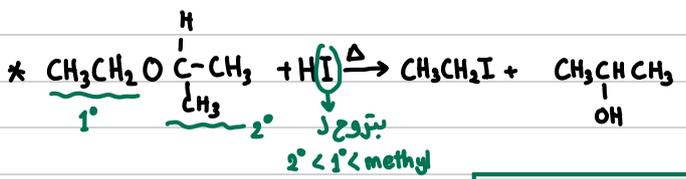


*complete the reaction: (another way to prepare Ether).



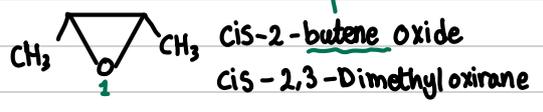
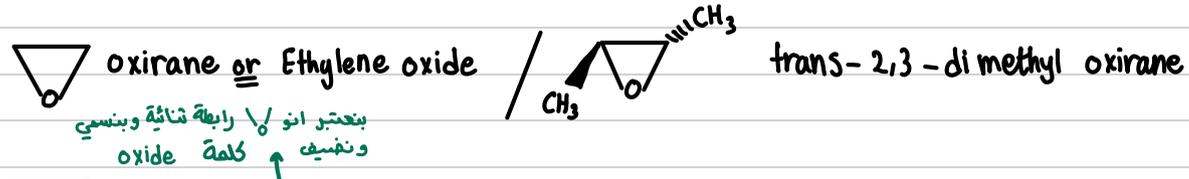
إذا سُفِّت
Ether $\xrightarrow[\text{H}_2\text{O}]{\text{H}^+}$
النتيجة رح يكون كحول وكحول

Cleavage of ether: Ether + HX $\xrightarrow{\text{heat}}$ alcohol & alkyl halide

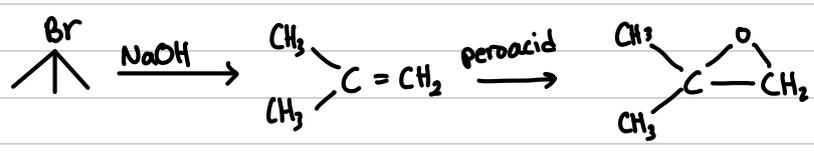
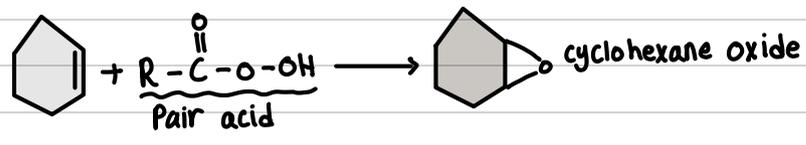


إذا سُفِّت
 $\xrightarrow[\text{H}_2\text{O}]{+\text{BF}_3}$
اعتبر انو HBr

Epoxide (Oxiranes): Cyclic Ether with 3-membered rings.

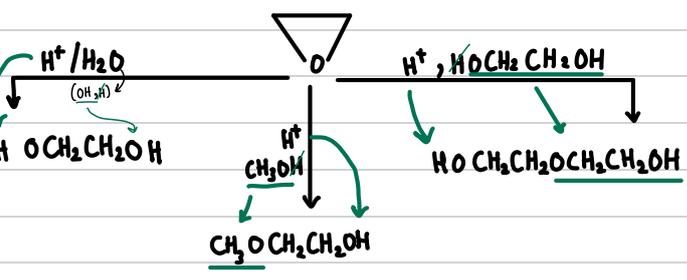


*preparing epoxide (oxirane)

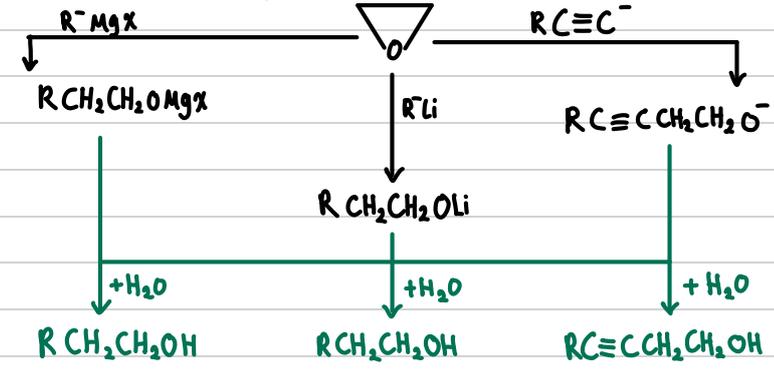


*epoxide are reactive, they undergo ring opening reaction.

1) in presence of H⁺



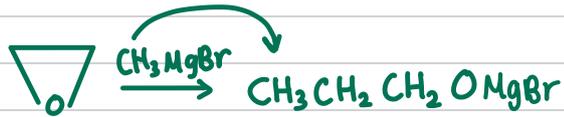
2) R⁻ then hydrolysis



Examples:

Q: the reaction of CH_3MgBr with ethylene oxide will produce?

- a) chiral molecule
- b) achiral molecule
- c) meso molecule
- d) racemic mixture



Answer: B

Q: Tetrahydrofuran (THF) is , is it 4 or 5 membered ring?

5 membered. (!! it is not oxirane, because oxirane is 3 membered).

