

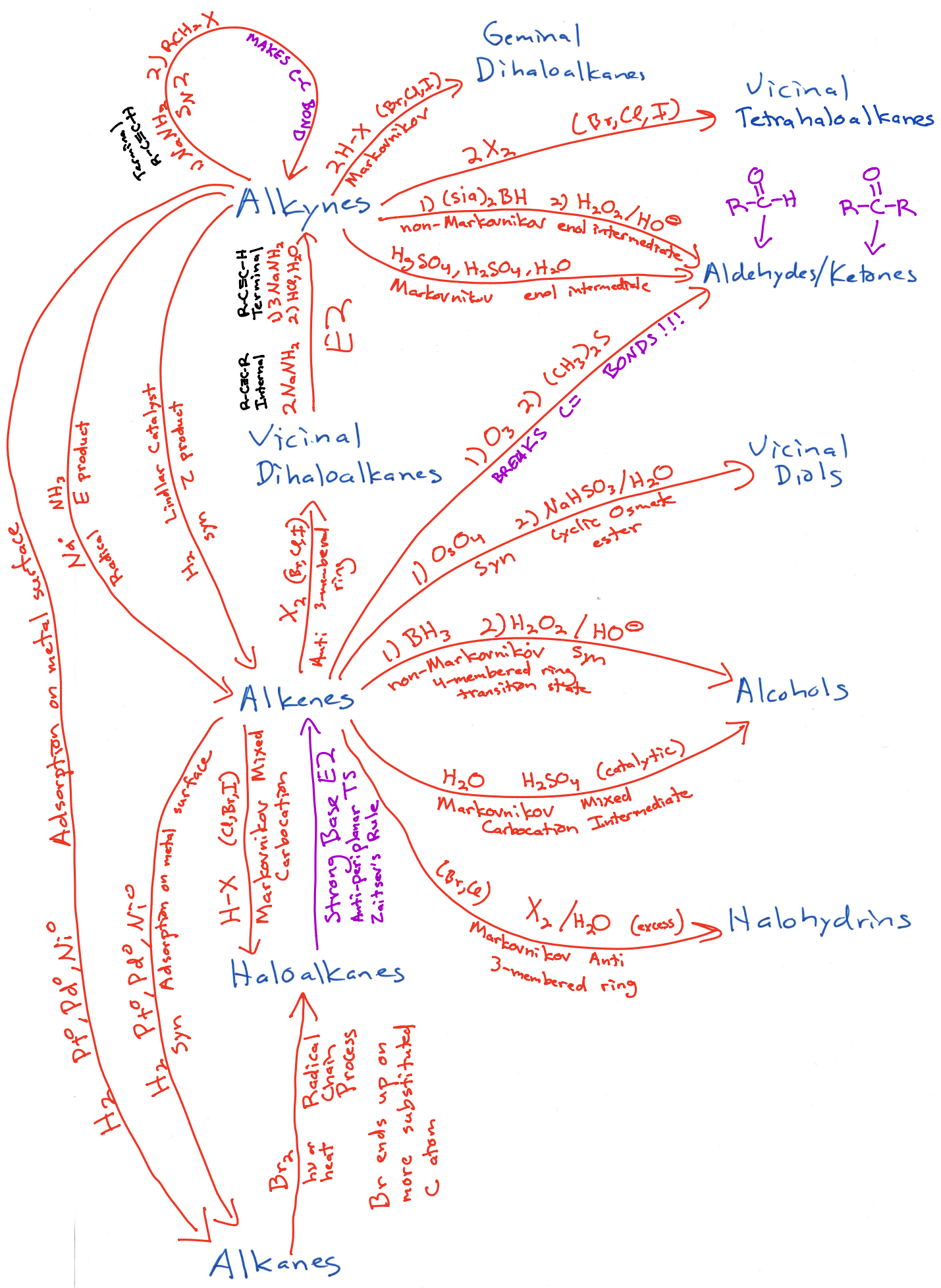
How to solve synthesis problems:

- 1) Working backwards from the product → Recognize in the product clues about the last reaction

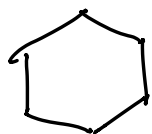
Study tip → find a friend → write out reactions → only show your friend the product and have them guess the starting material and reagent

Presumes you know the roadmap

- 2) Count carbons in product vs. the starting material
⇒ Do you need to make or break a C-C bond



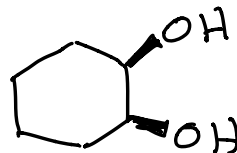
6 carbons



Alkane



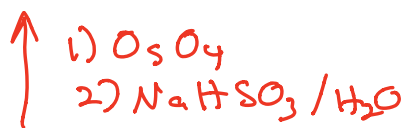
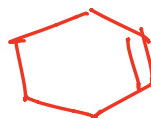
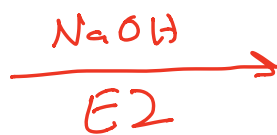
6 carbons



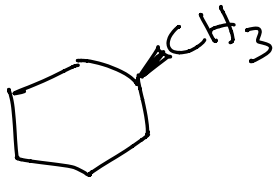
vicinal diol
syn
addition



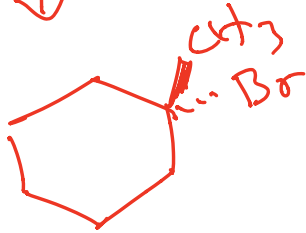
Not
(chiral)



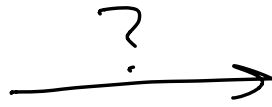
7 carbons



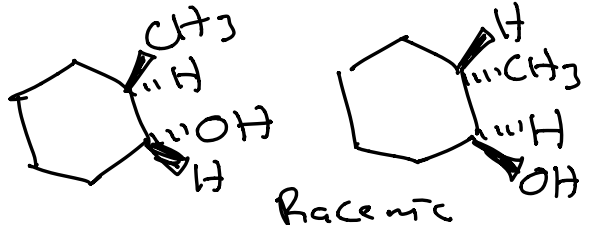
Alkane



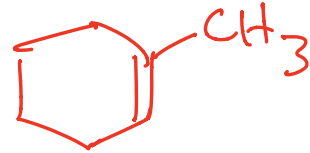
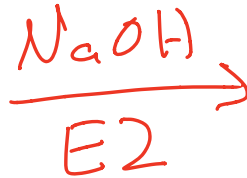
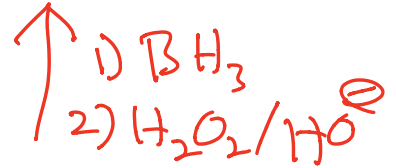
Not
Chiral



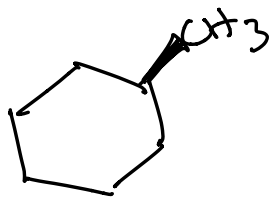
7 carbons



Alcohol, Syn addition of
H and OH, OH on less substituted
carbon



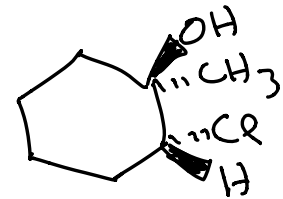
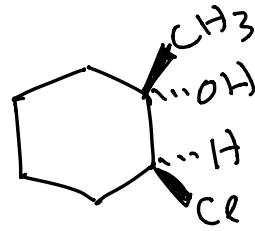
7 carbons



Alkane

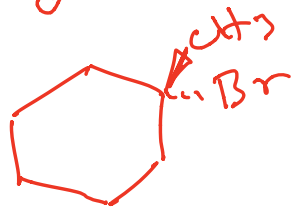


7 carbons



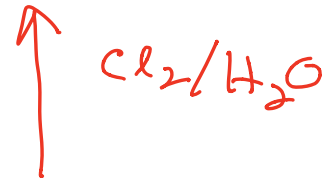
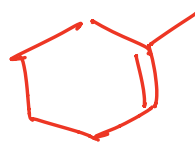
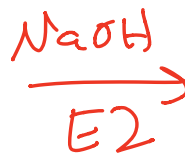
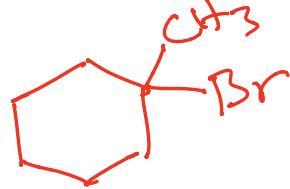
Racemic

Halohydrin

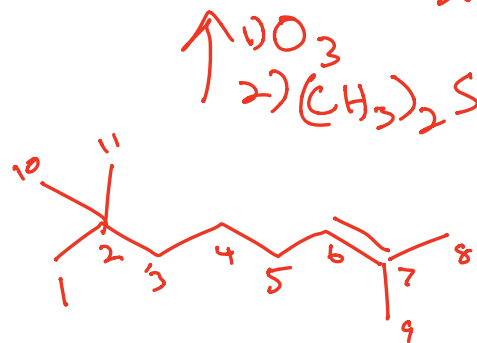
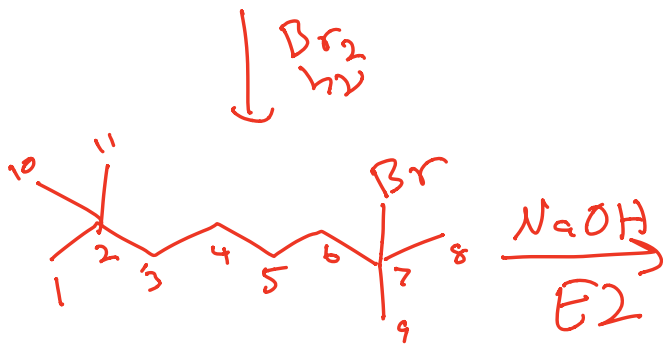
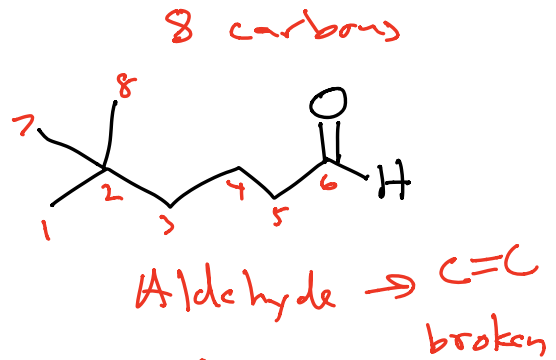
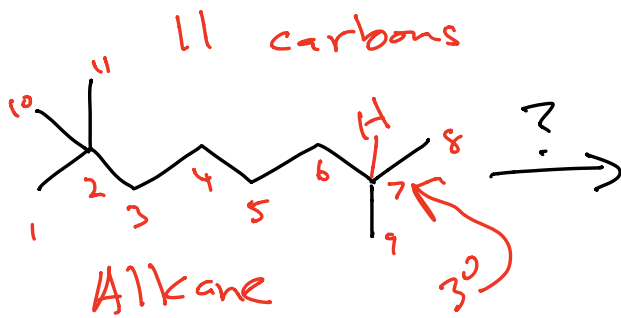


Not
Chiral

or



C-C bonds broken!! \Rightarrow Must use ozonolysis!



\downarrow
Zaitsev

