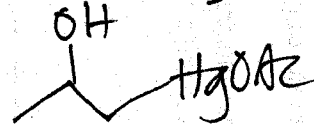
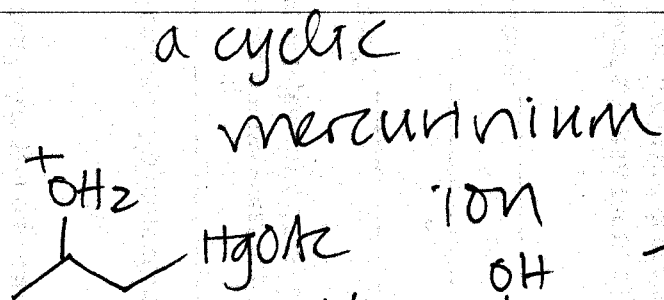
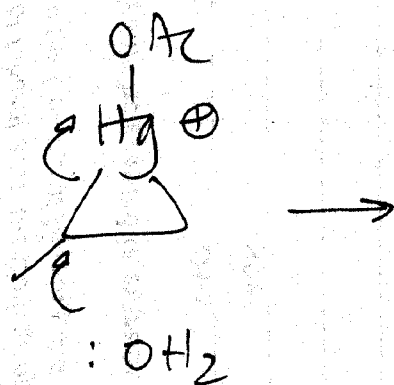
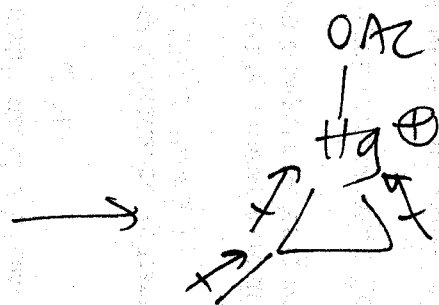
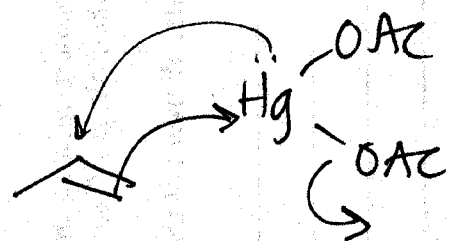
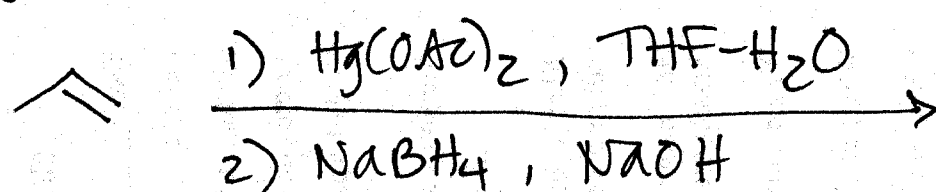
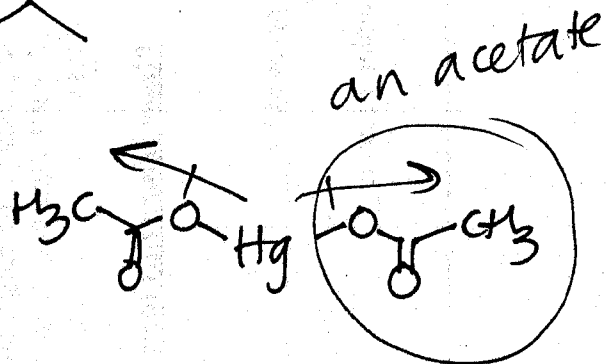
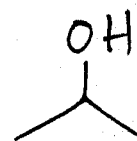


2. oxymercuration - demercuration

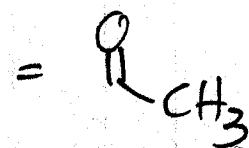


THF
tetrahydrofuran

NaBH₄

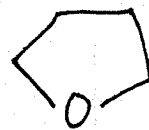


Ac = acetyl



Why does the nucleophile (water) attack the more subst. position?

Think of it as pseudo carbocations - which side makes the better cation? Nucleophile attacks there.



* markovnikov addition

* 1st step is an anti addition

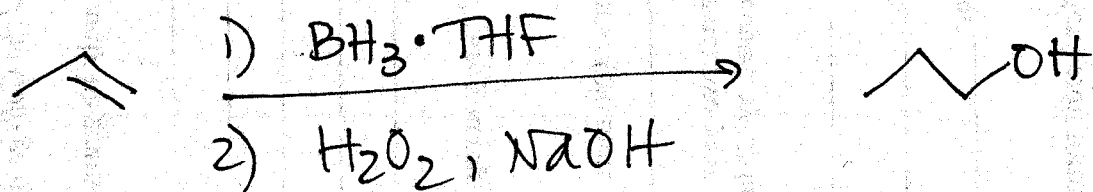
* 2nd step is random

} net effect
= racemic

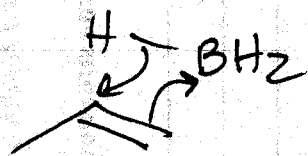
* no carbocations \Rightarrow no rearrangement

(don't worry about solvomercuration)

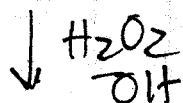
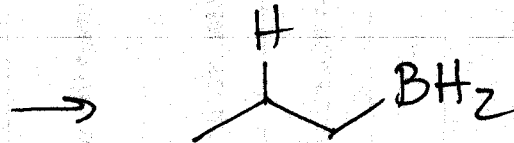
3. hydroboration-oxidation



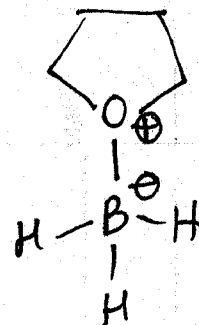
anti-
markovnikov



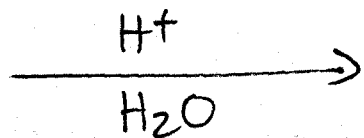
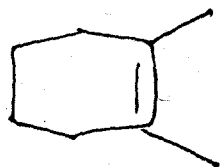
syn
addition



boron has
3 hydrides;
can do
this
3 times.

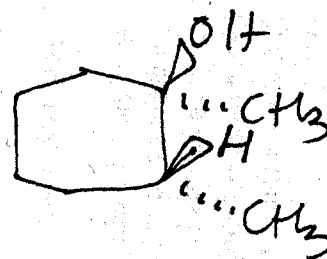
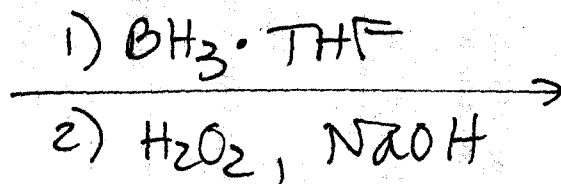


* goes with retention



4 products

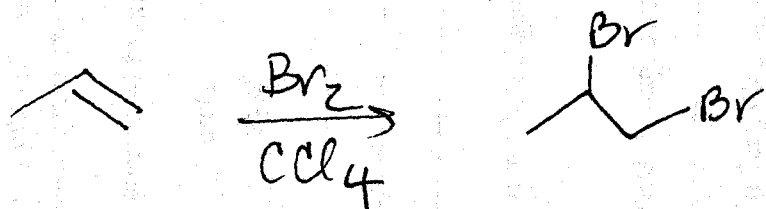
"



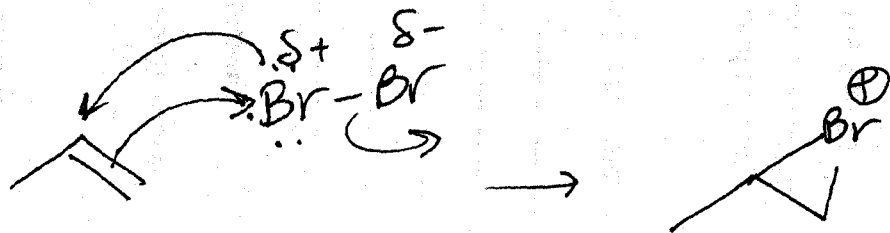
(+ enantiomer)

(SKIP 8.11)

Addition of Halogens (Br_2 , Cl_2 , I_2)

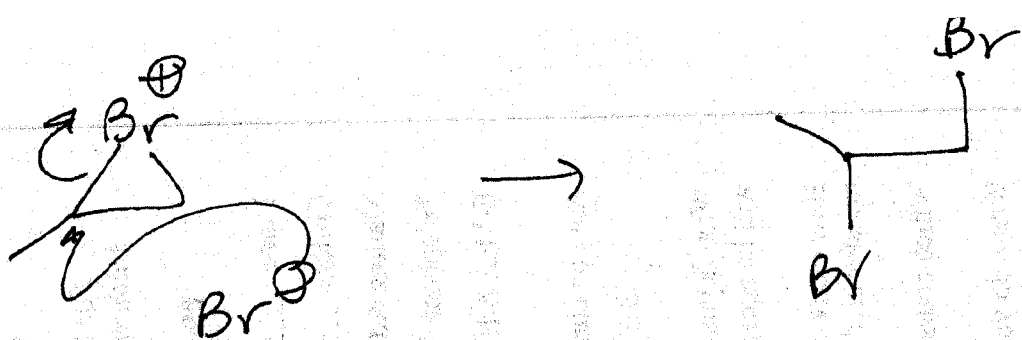


- makes vicinal dibromide
- markovnikov's Rule does not apply (symmetrical reagent)



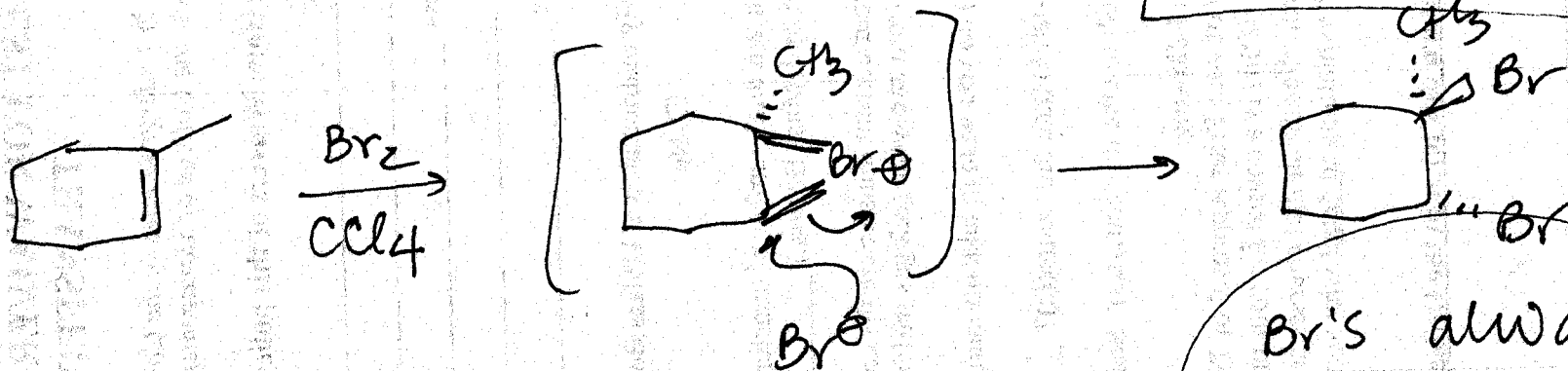
- anti addition

cyclic halonium ion

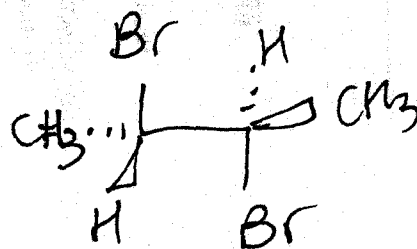
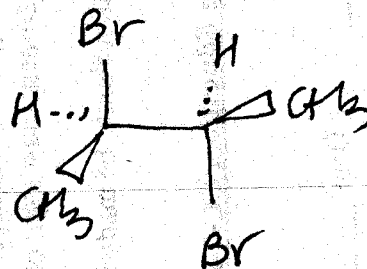
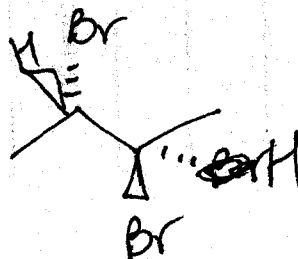
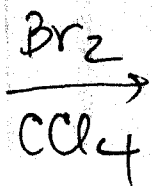
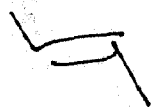
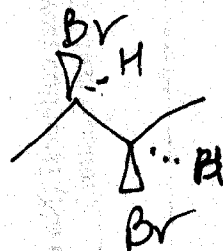
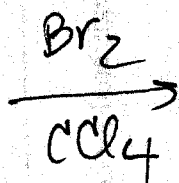


This is also a functional group test (for alkenes + alkynes).

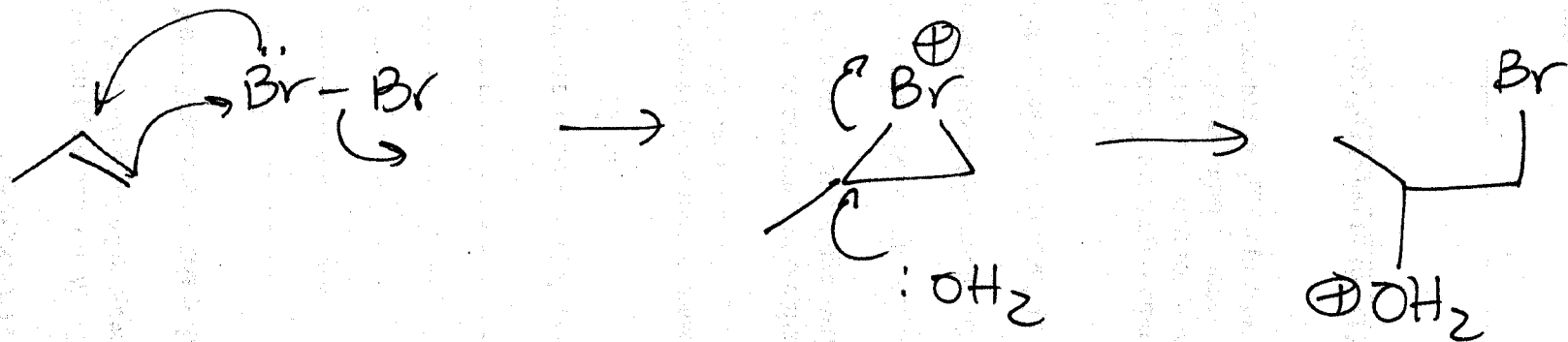
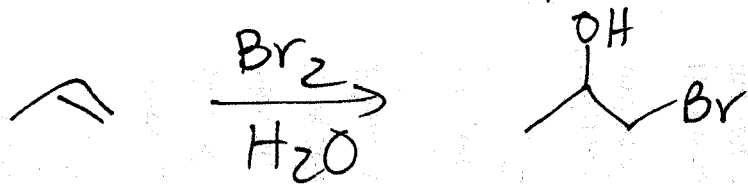
* Decolorizing Br_2



Br's always anti to each other.



variation: Halohydrins — (OH + ~~Br~~) on
(X)
adjacent C's)



still anti addition

H₂O attacks more subst side

