Problem 6-1.

(a) $CH_3-Br + KOH \rightarrow CH_3OH + KBr$.

Br is changed to OH

This rxn is substitution.

(b) $CH_3CH_2-Br \rightarrow CH_2=CH_2 + HBr$.

H and Br is removed.

This rxn is elimination.

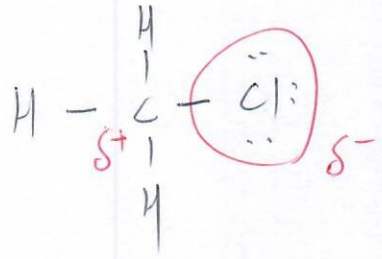
(c) $H_2C=CH_2 + H_2 \rightarrow CH_3-CH_3$

Two Hs are added.

This rxn is addition

problem 6 – 4.

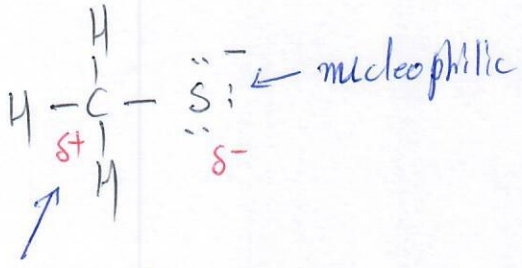
(a)



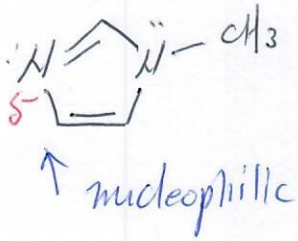
C: electrophilic

Cl: nucleophilic.

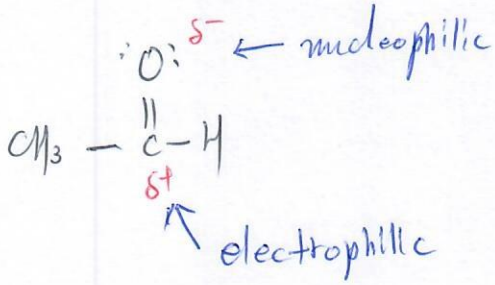
(b)



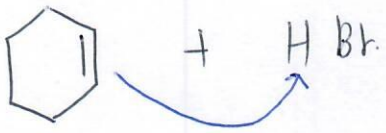
(c)

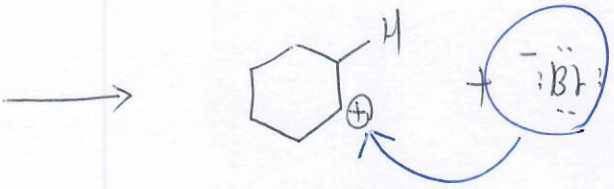


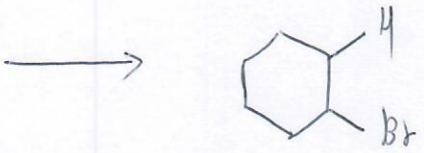
(d)



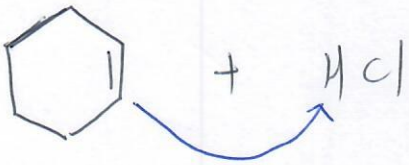
Problem 6-6

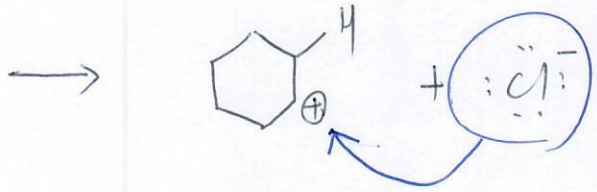


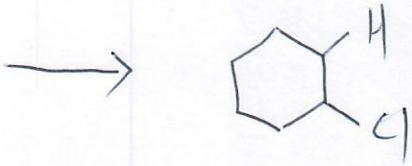




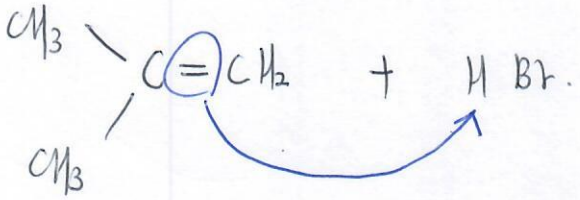
Bromocyclohexane.



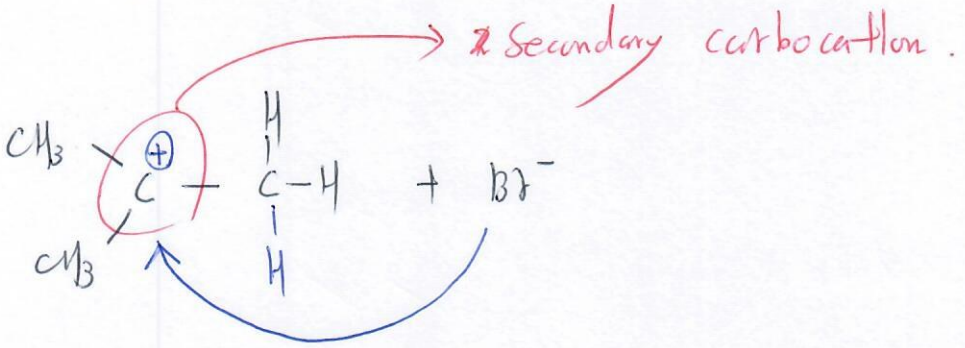


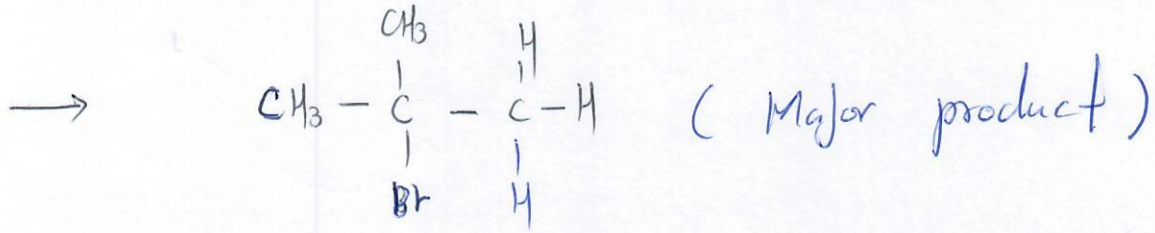


Problem 6-7.

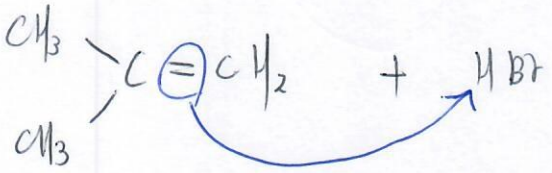


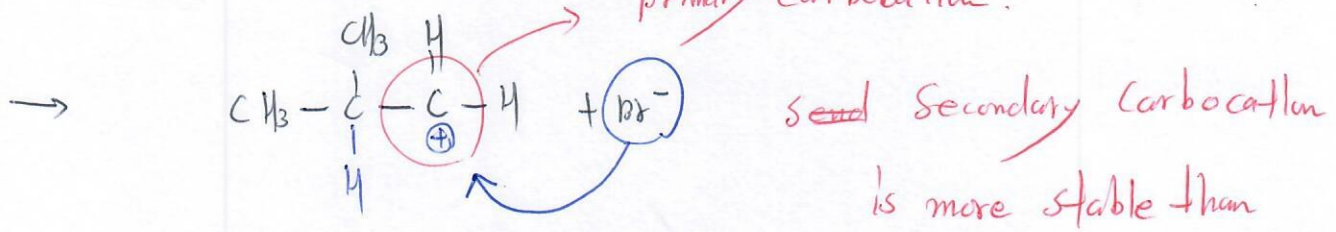
2-Methyl propene

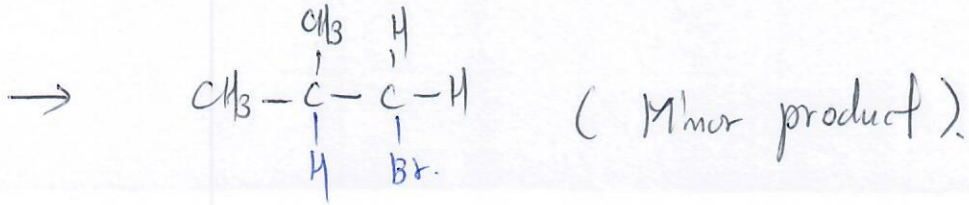




Another rxn mechanism

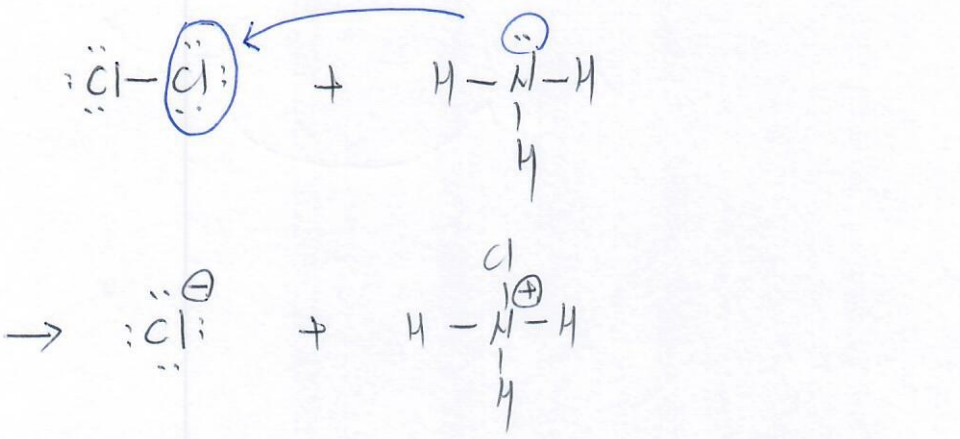




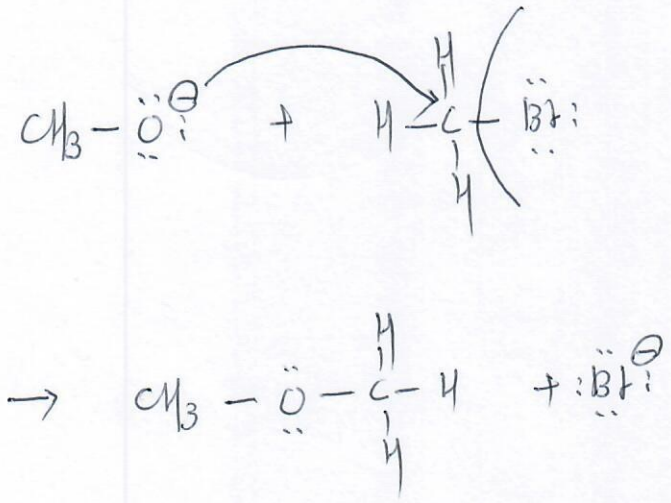


Problem 6-8.

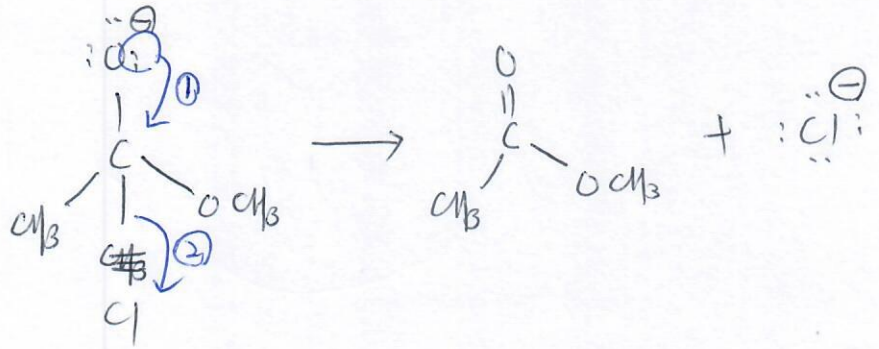
(a)



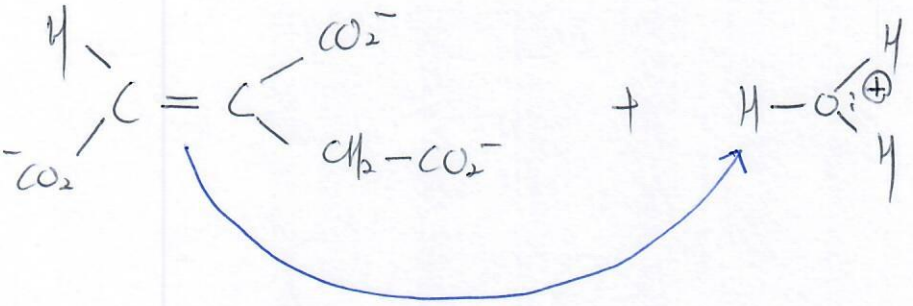
(b)

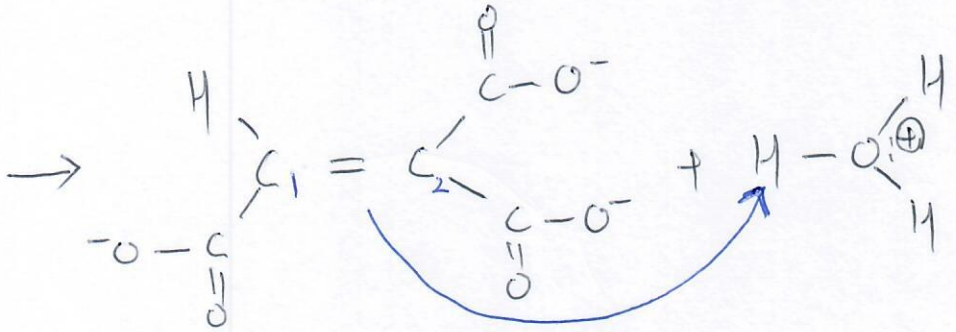


(c)



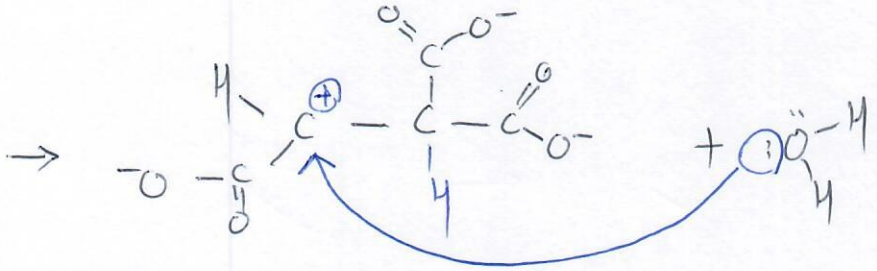
Problem 6-9

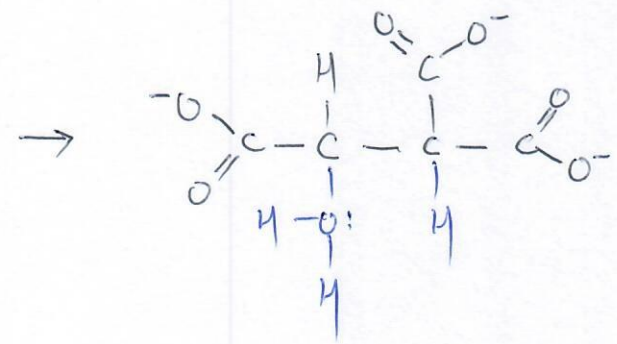




C=O is electron withdrawing group.

So the carbocation of C_1 is more stable.





ppt, p 24

C 2p ↑ ↑ —
   2s ↑↓
   1s ↑↓

hybrid orbital →

C 2p ↑
   2sp² ↑↓ ↑ — ⇒

C 2p ↑
   2sp² ↑ ↑ ↑
   1s ↑↓