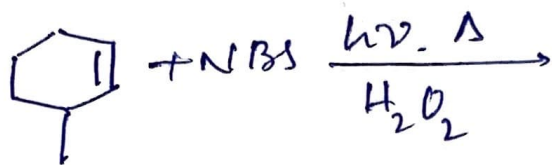


# Haloalkane and Haloarenes

① very short ans type [1x5]  
a. Write the by products formed when ethyl alcohol reacts with  $\text{PCl}_5$ .

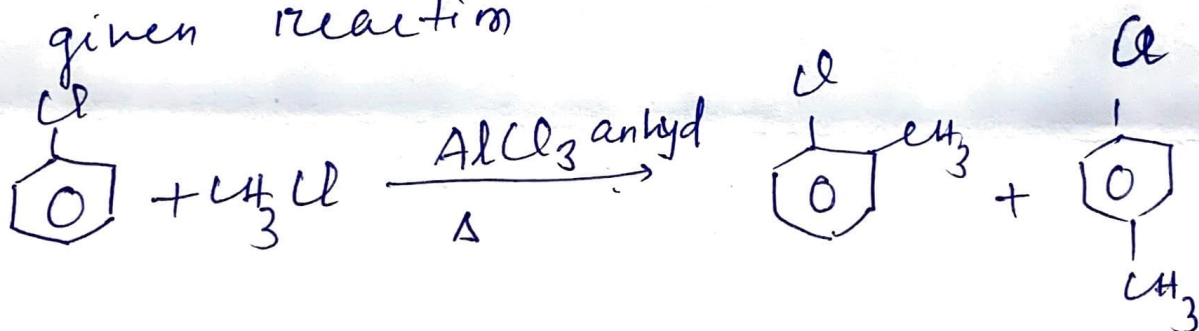
b. Write the product formed (major)



c. Write correct order of b.p of the following compounds

n-butyl bromide, Isobutyl bromide, tert-butyl bromide

d. on the given reaction



what is the name of the reaction.

e. on nitration of chlorobenzene a mixture of  $\text{conc}^n \text{HNO}_3$  and  $\text{conc}^n \text{H}_2\text{SO}_4$  is used. what is the electrophile generated in this rxn.

- ② Short ans type [2x5]
- What is Markovnikov's rule. Give an example.
  - What is anti Markovnikov's rule. Give an example.
  - Why  $\text{HBr}$  only shows anti Markovnikov's addition.
  - Give a note on Sandmeyer's reaction.
  - Why chlorobenzene is less reactive towards nucleophilic substitution reaction.

- ③ Long ans type [2x5]
- Write difference between  $\text{S}_\text{N}1$  and  $\text{S}_\text{N}2$  mechanism. What is Swarts reaction. [3+2]
  - What is
    - Wurtz rxn [1.5]
    - Wurtz Fittig rxn [1.5]
    - Fittig rxn [2.5]
    - ~~Wurtz~~ Grignard's reagent [0.5]