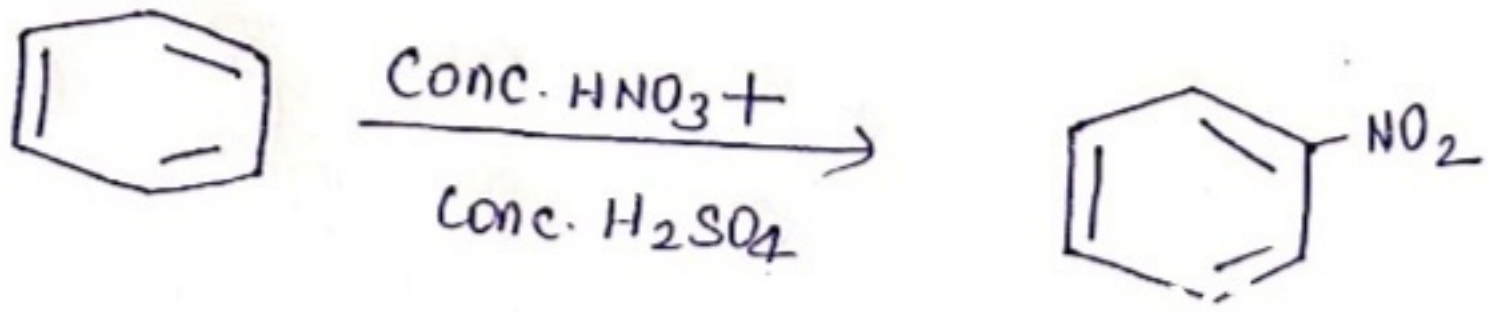
# NOTES FOR EXAM PURPOSE

## DEGREE-II HONS.

BY:-DR.RINKY,DATED 10/10/2020

**Q. Discuss the mechanism of the following :**

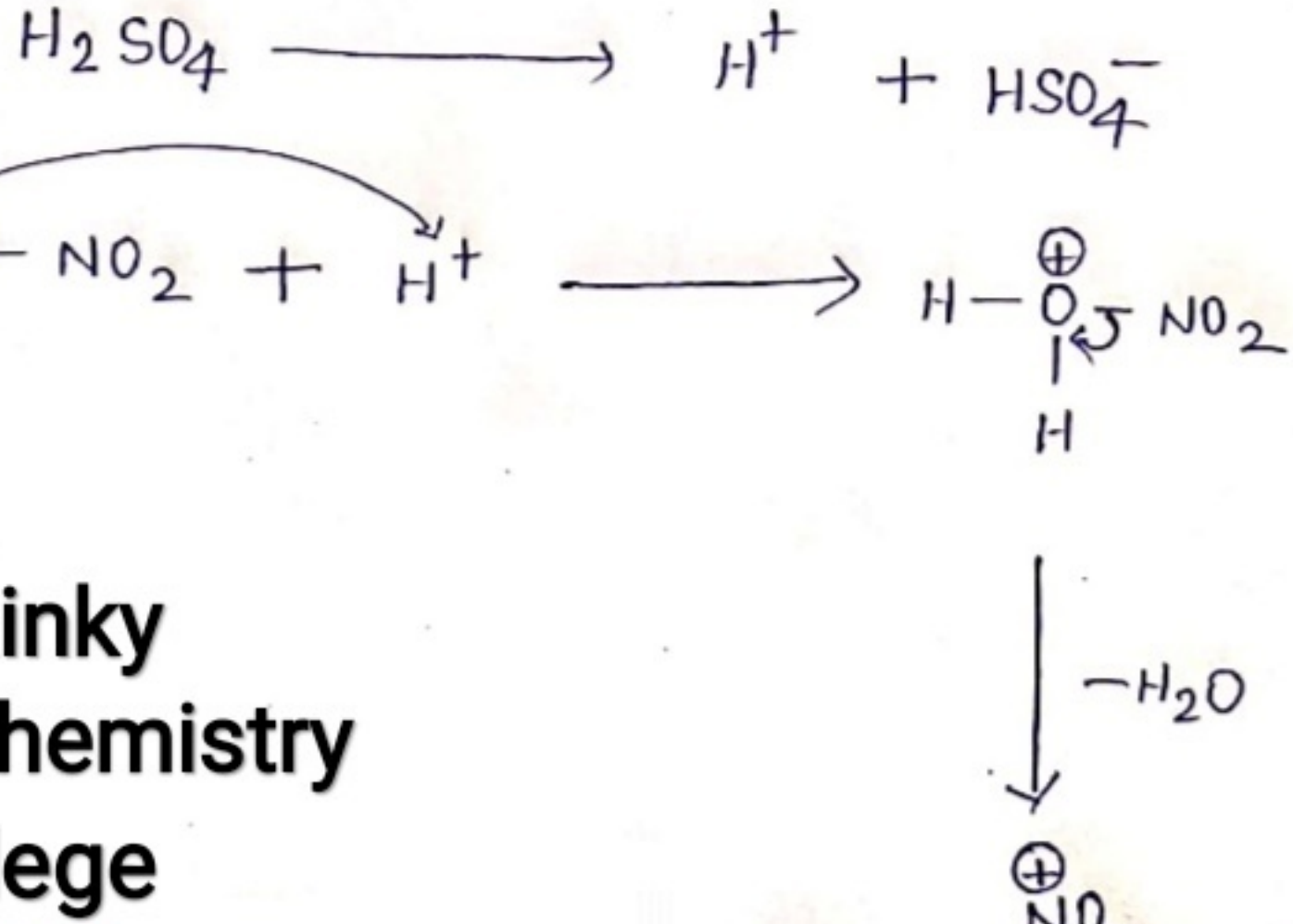
## 1. Nitration of Benzene




Nitrobenzene

**Mechanism**

**Step : 1 Generation of $NO_2^+$**

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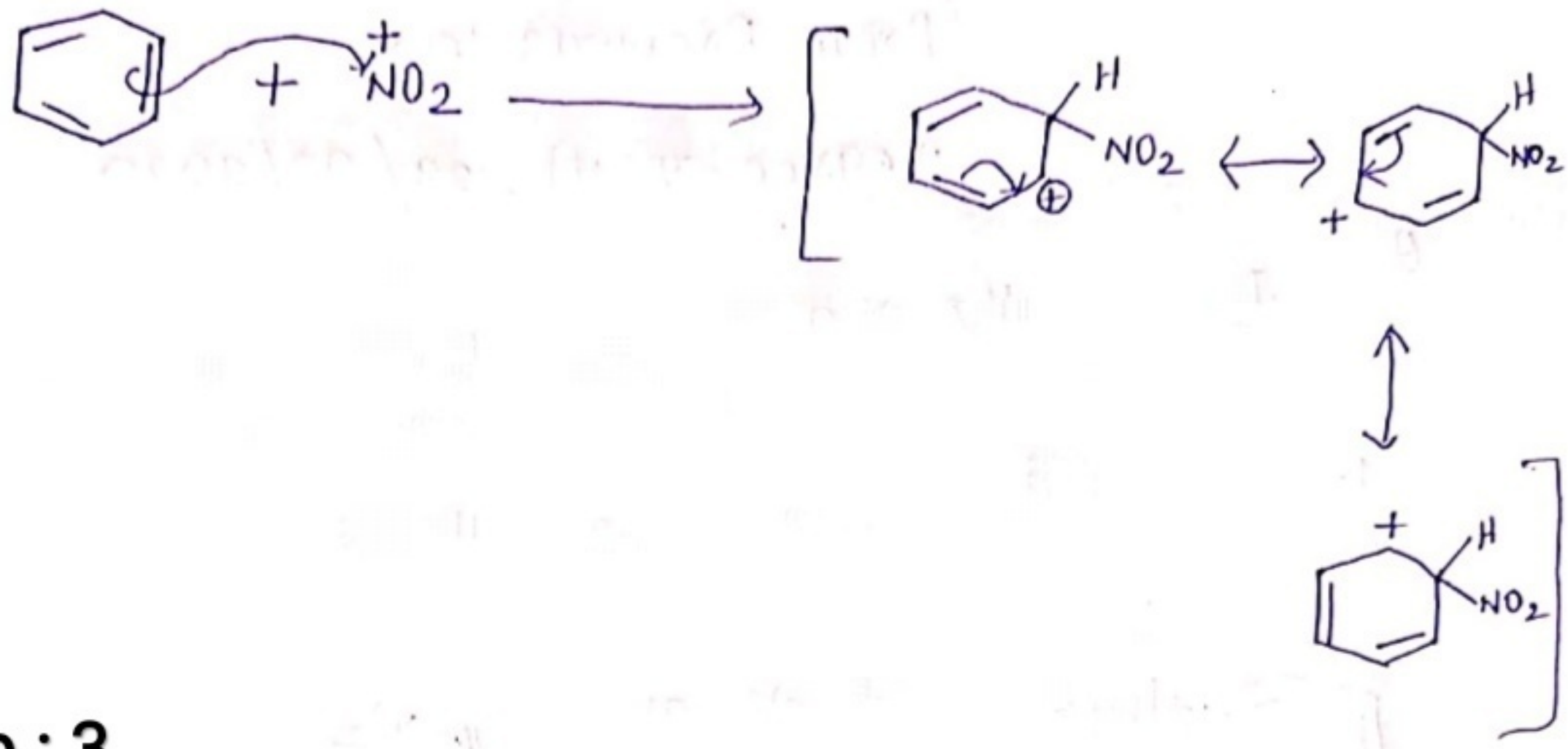
Step : 2 Attack of $\overset{+}{N}O2$ on benzene ring 2.

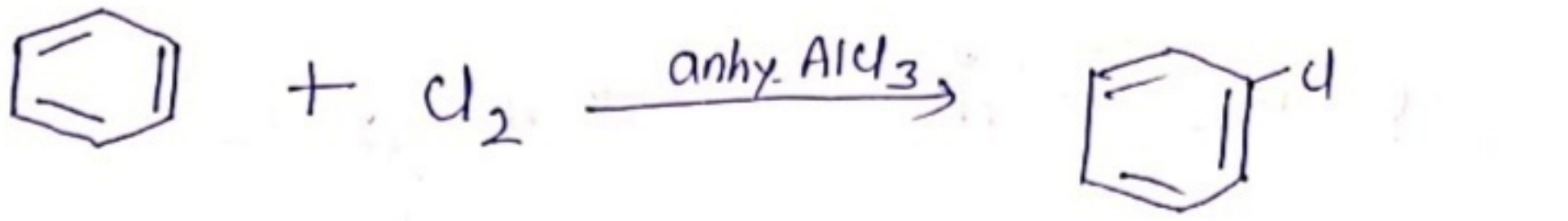



Step : 3


Nitrobenzene

~Completed~

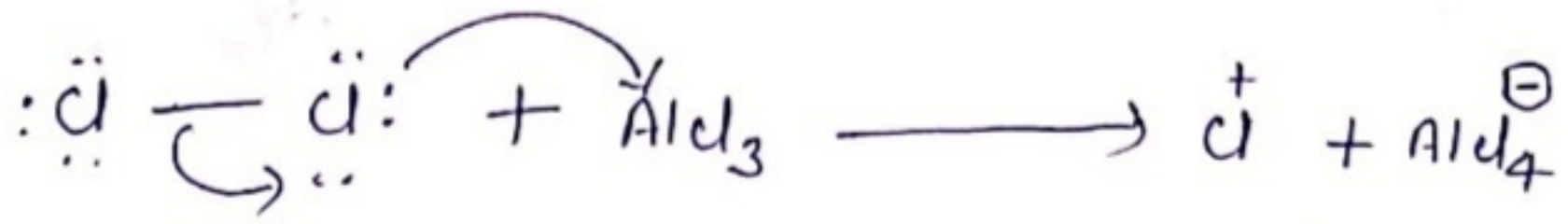
# 2. Halogenation of Benzene



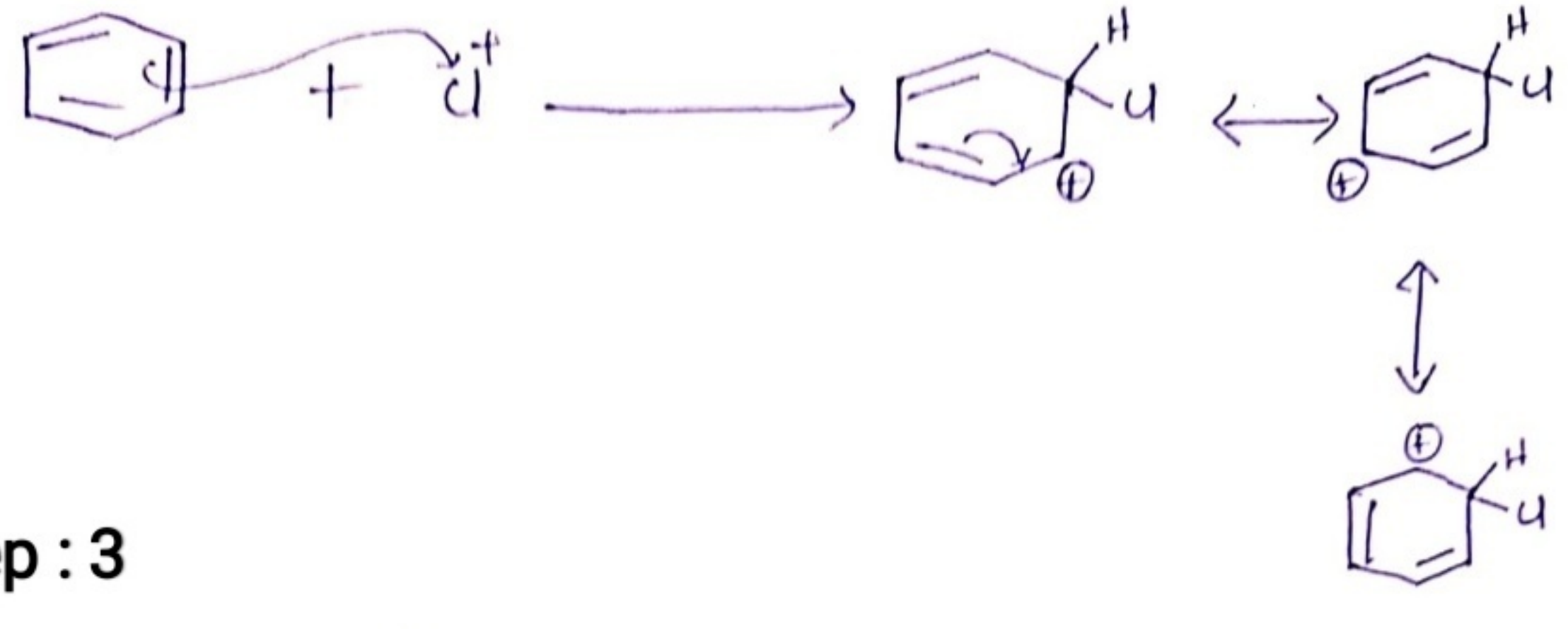

chlorobenzene

## Mechanism

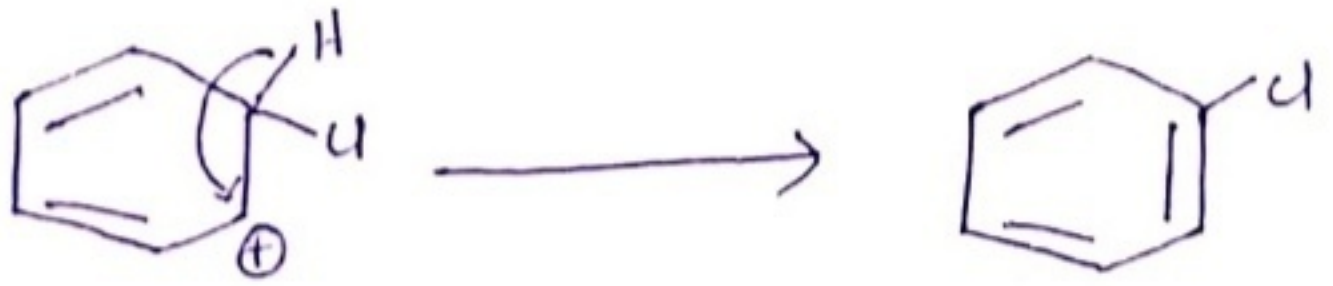
Step : 1 Generation of $\overset{+}{Cl}$



## Step : 2 Electrophilic attack of $\bar{Cl}$ on benzene ring

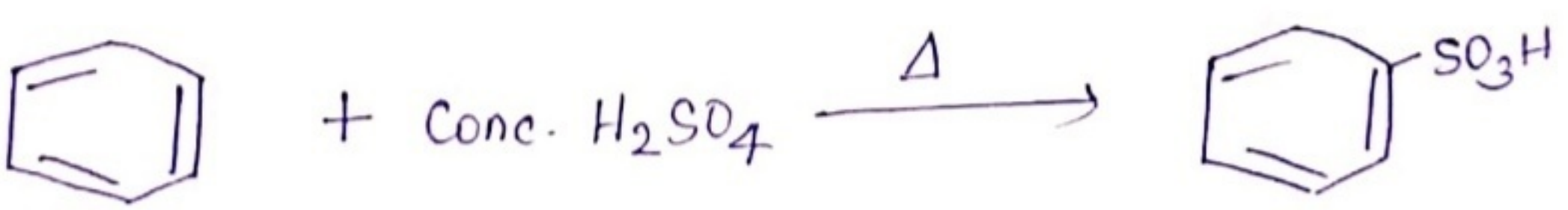


## Step : 3



Chlorobenzene

# 3. Sulphonation of Benzene



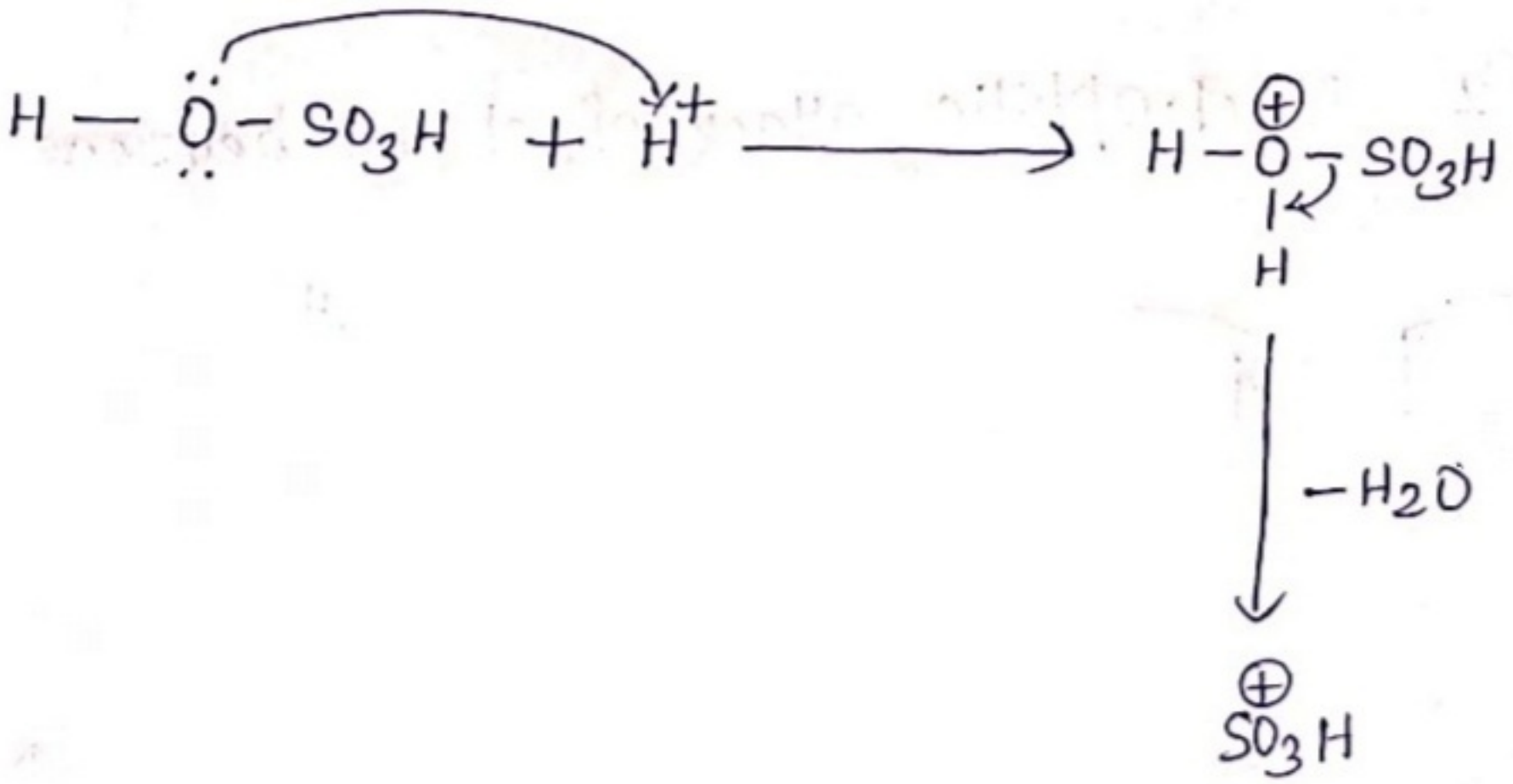
Benzene Sulphonic Acid

# Mechanism

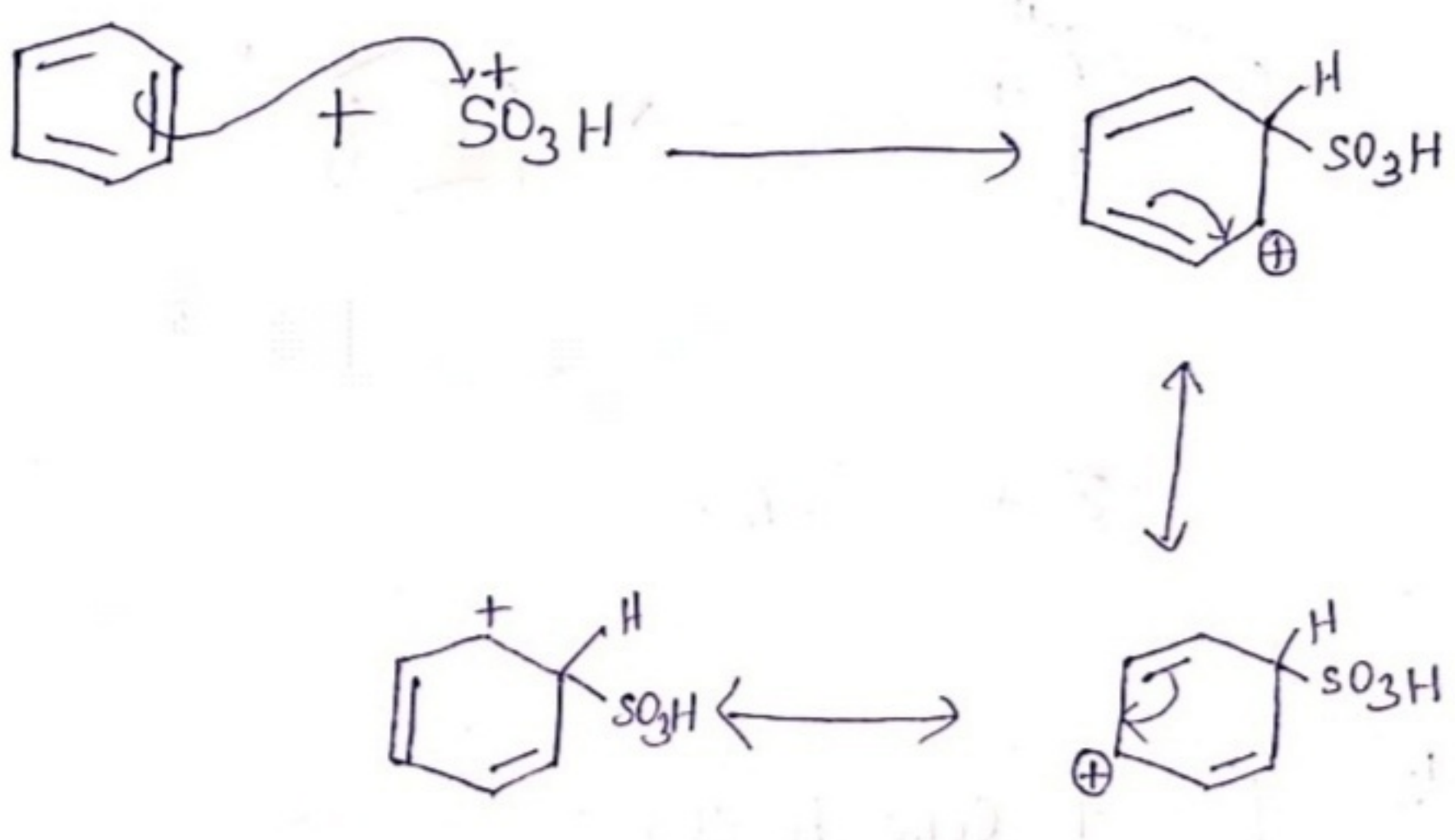
## Step : 1 Generation of $\overset{+}{S}O3H$

$$H_2SO_4 \longrightarrow H^+ + HSO_4^-$$

4.




Step : 2 Electrophilic attack of $SO_3H^+$




Step : 3


Benzene Sulphonic Acid

# Sulphonation of Benzene Completed