1.

DEGREE-II (HONS.)

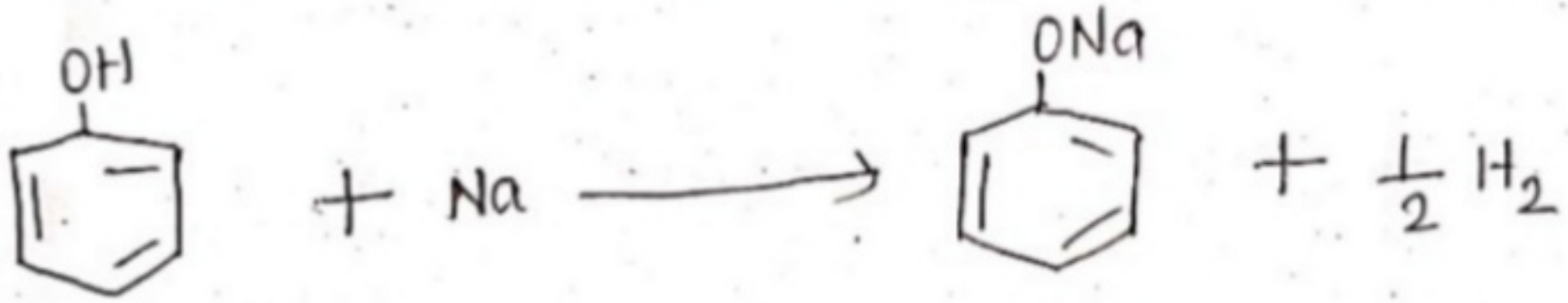
03/11/2020

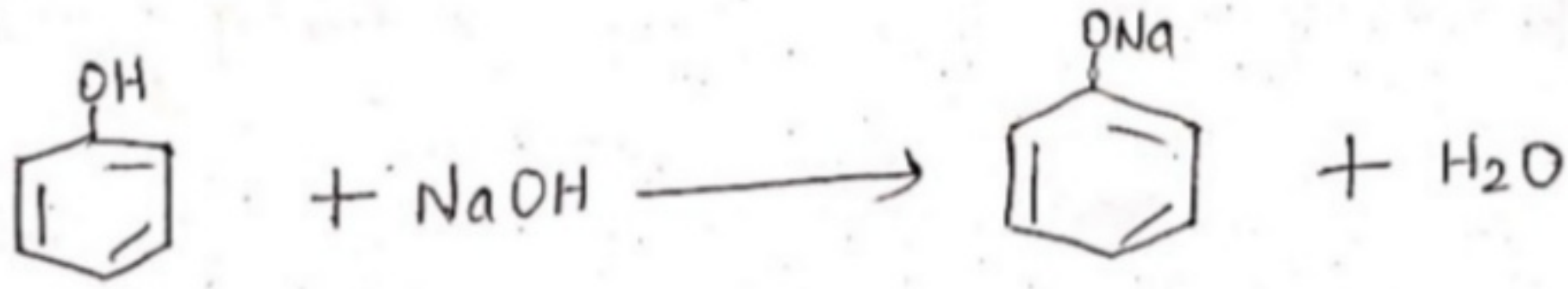
CHEMICAL PROPERTIES OF "PHENOL"

Reaction of-OH group

1. SALT FORMATION

Since, phenol is acidic. It reacts with active metal like sodium or base like sodium hydroxide to form salts.



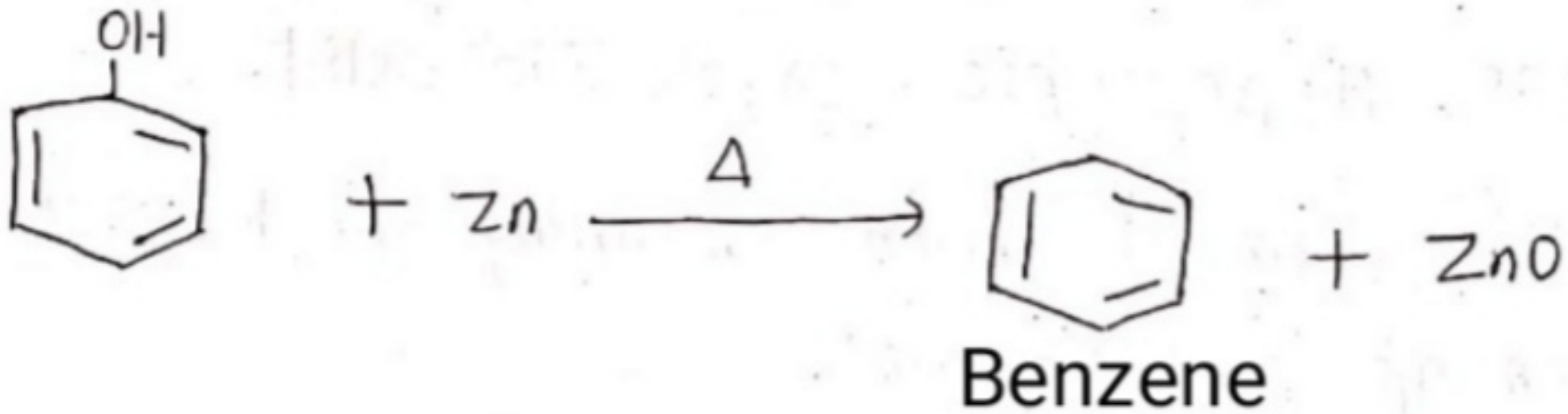


Sod. phenoxide

(Revision Notes)

2. Reaction with Zn-dust

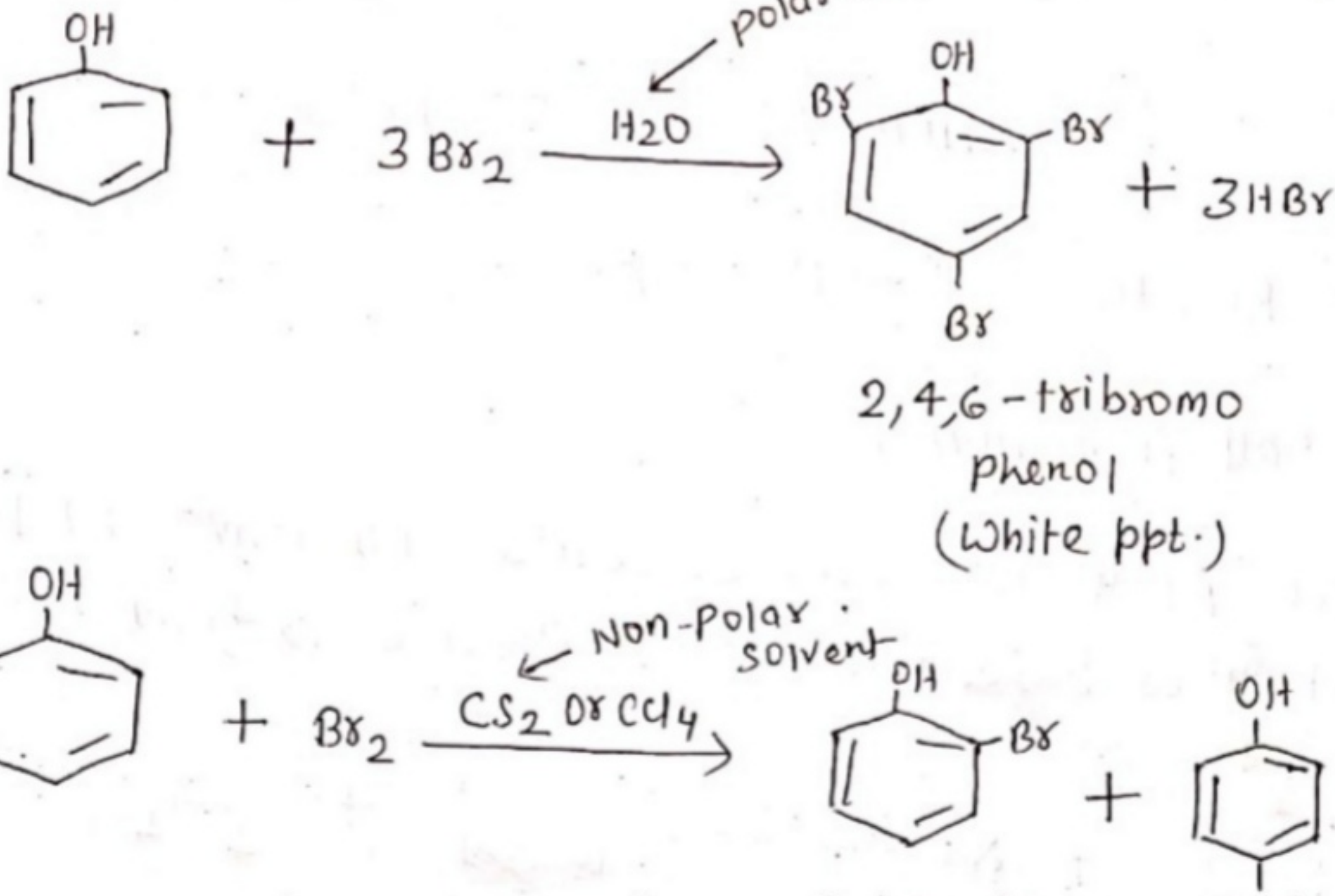
2.



Benzene

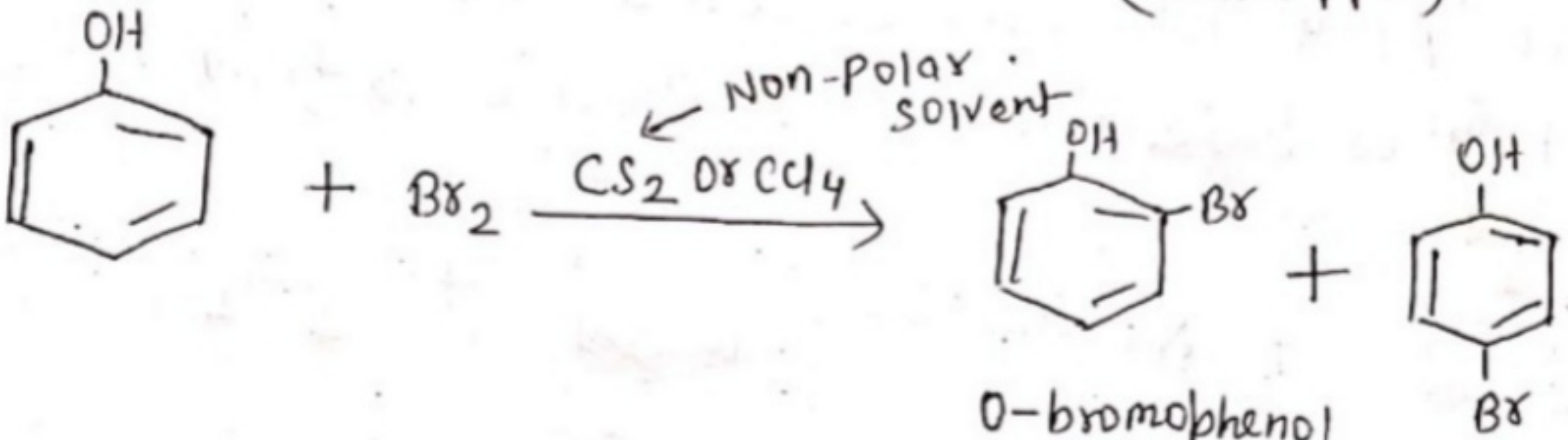
Reaction of Benzene Ring

3. Halogenation



Br

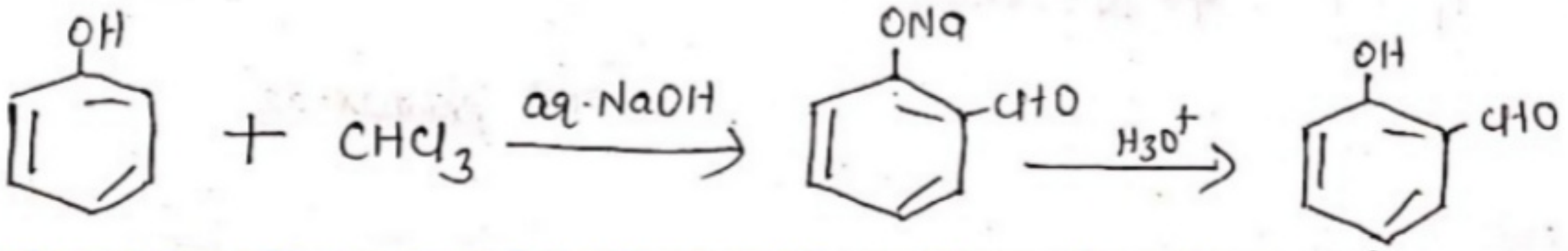
2,4,6-tribromo phenol (White ppt.)



o-bromophenol

p-bromo phenol

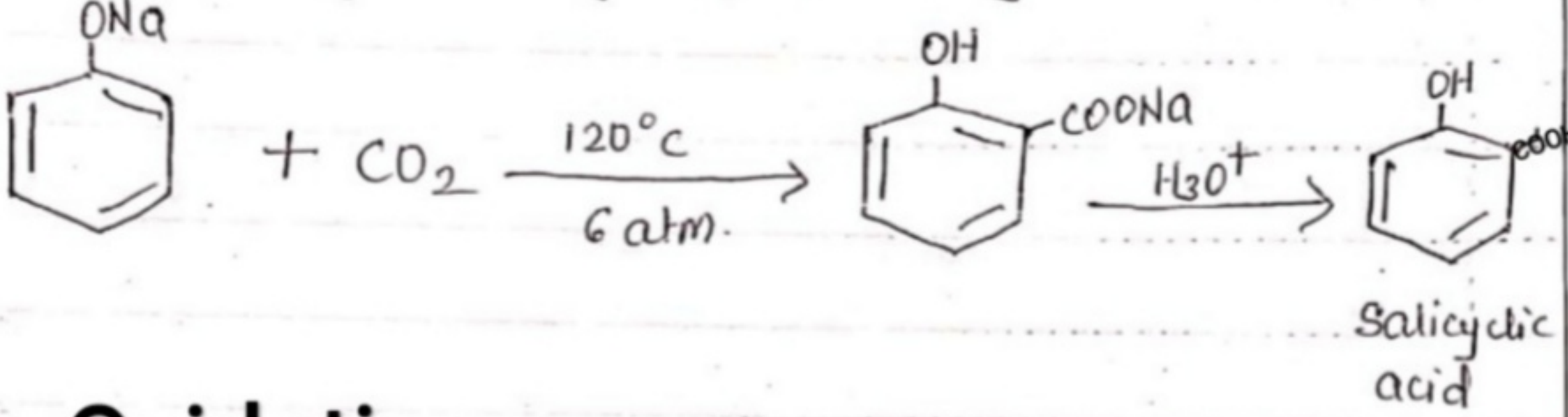
4. Reimer-Tiemann Reaction



Mechanism discussed in Name Reaction chapter.

5. Kolbe's Reaction

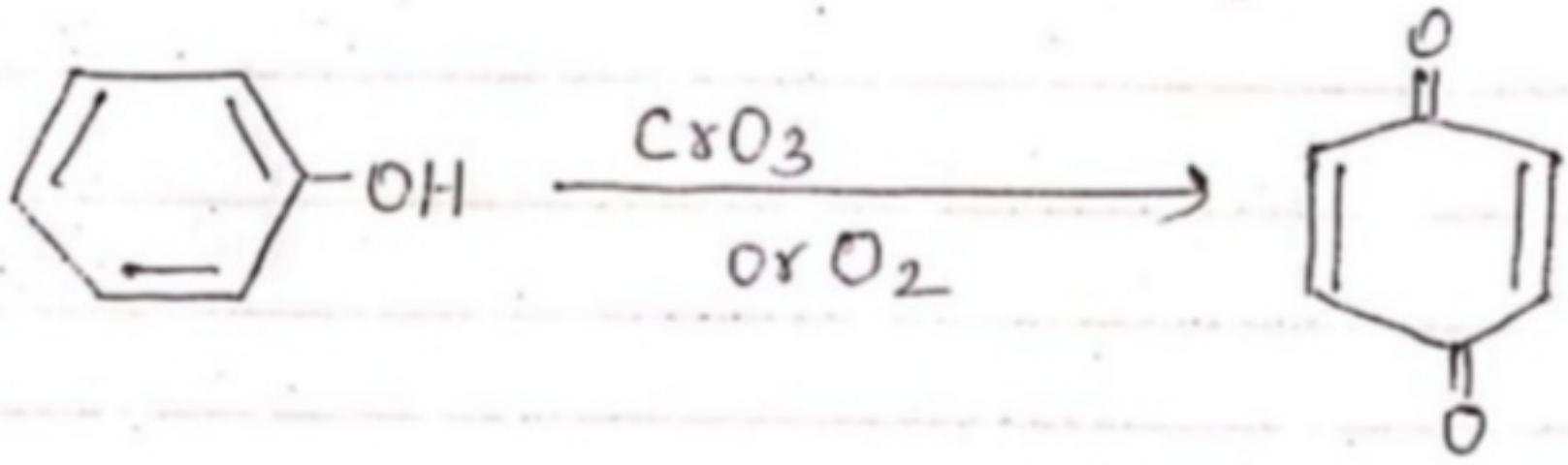
This involves, the treatment of sod. phenoxide with carbon dioxide at 125°C under 6 atm. of pressure, followed by acid-hydrolysis salicylic acid is formed:



Salicylic acid

6. Oxidation

Phenol undergoes oxidation with air or chromic acid to form p-benzoquinone.



p-benzoquinone

USES OF PHENOL

* About 50% of total production of phenol is used for making phenol – formaldehyde resins. ex - Bakelite

* Used as starting material for drug ex Aspirin, and some explosive.