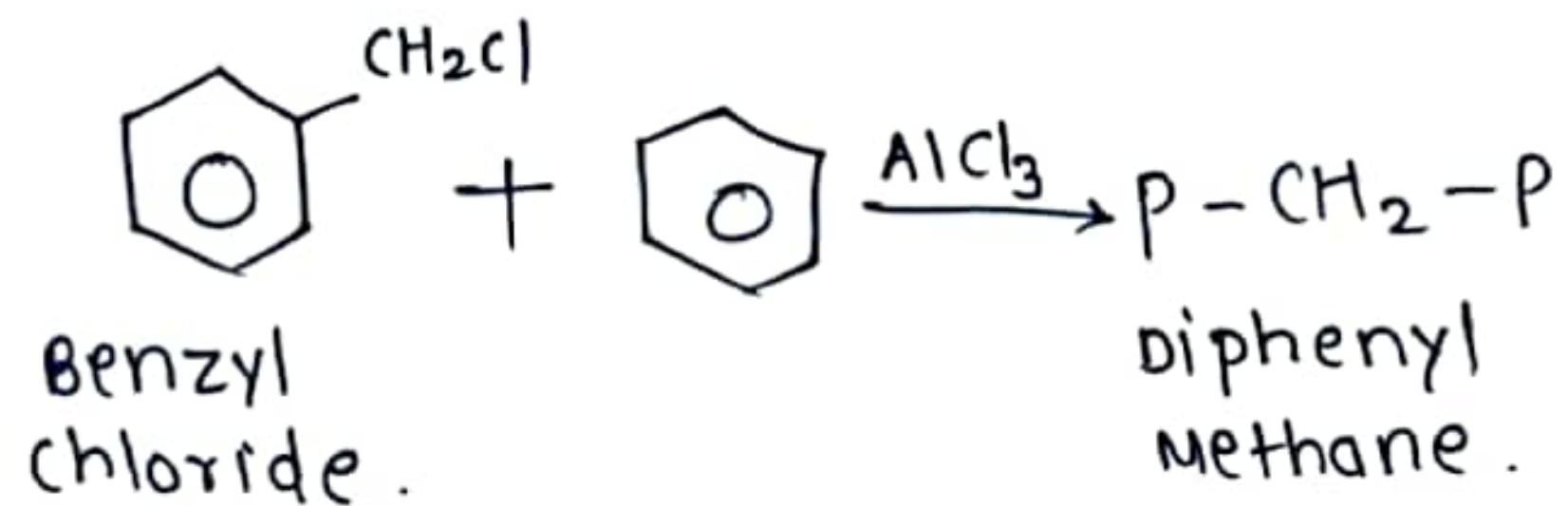


[DEPTH OF BIOLOGY]

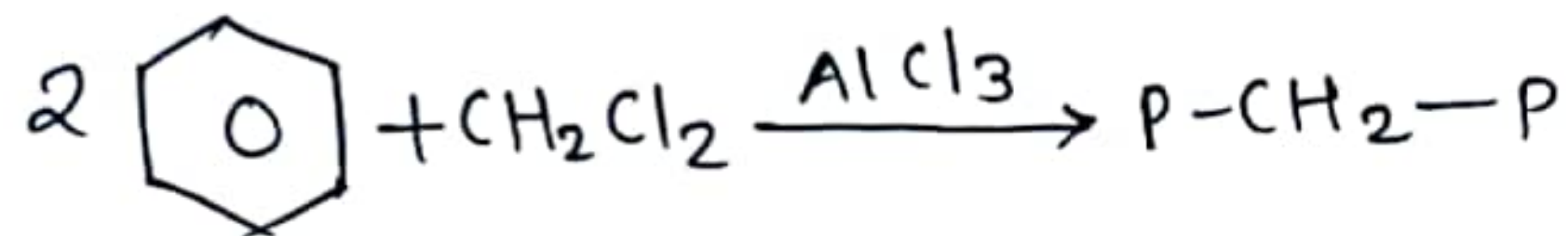
① Diphenyl Methane:

(i) Friedal Craft Reaction:

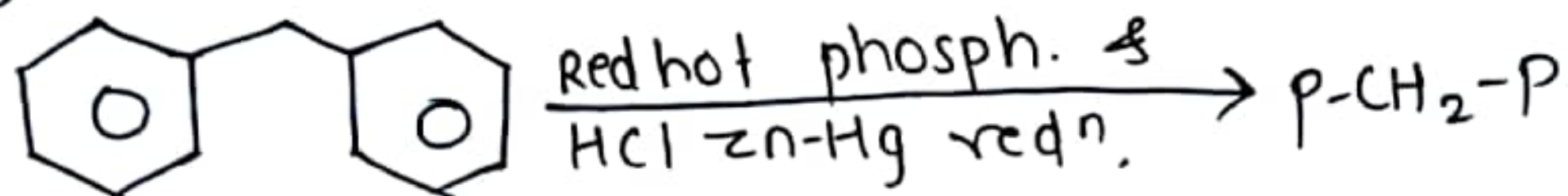


(ii) From Benzene:

[DEPTH OF BIOLOGY]



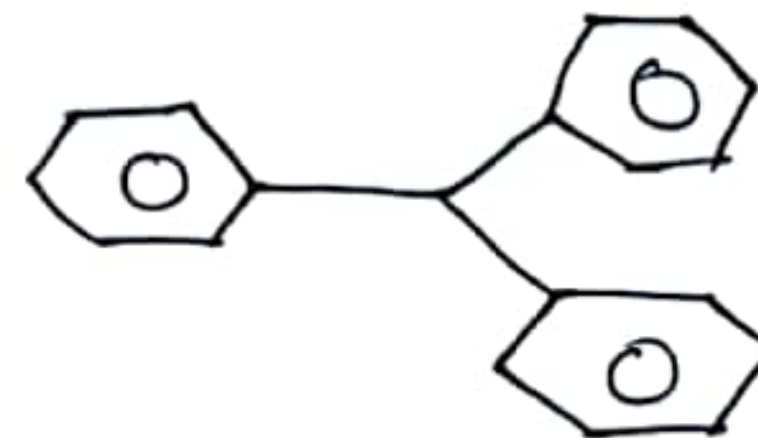
(iii)



[DEPTH OF BIOLOGY]

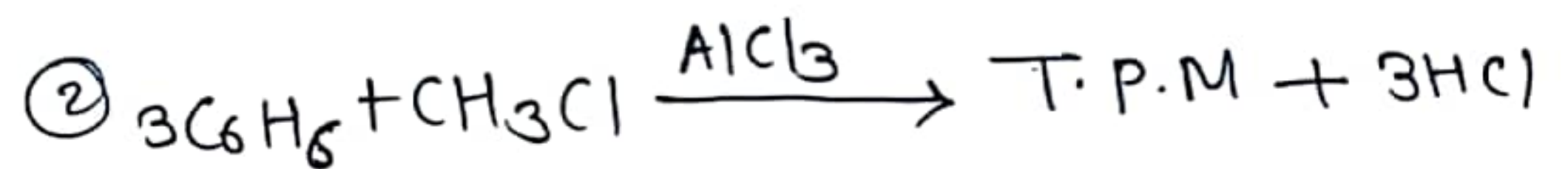
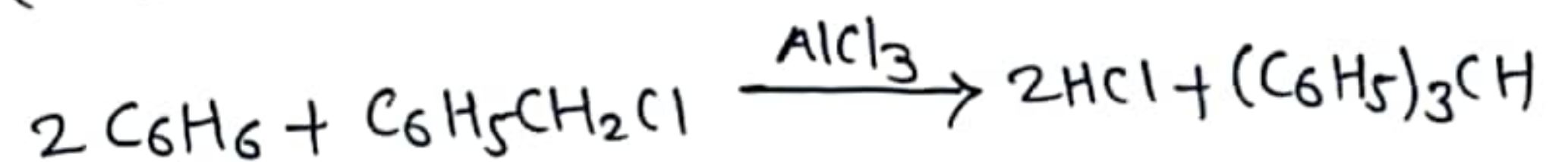
[DEPTH OF BIOLOGY]

② Triphenyl Methane:



• preparation:

(i) Friedal Craft Reaction:

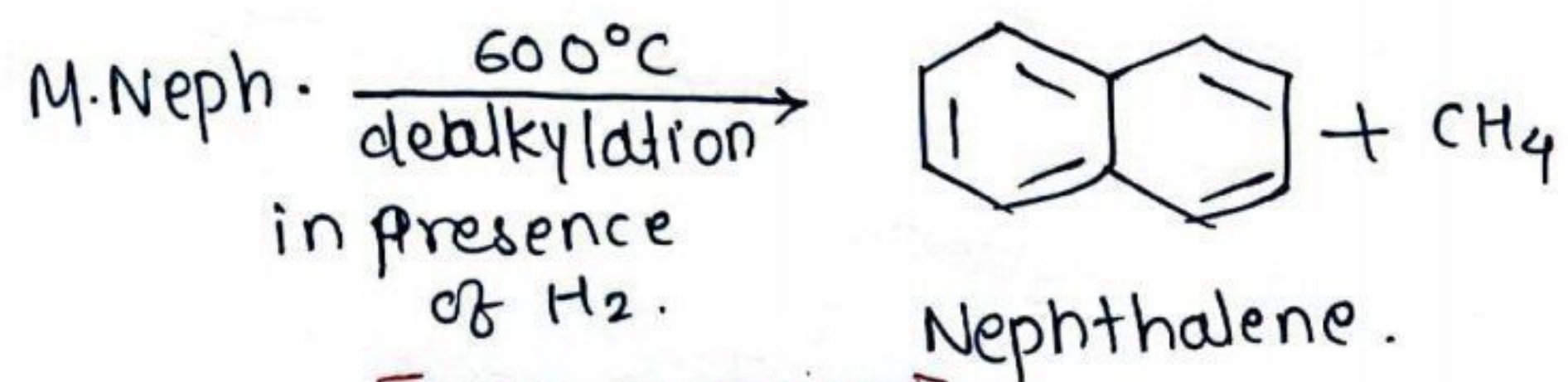
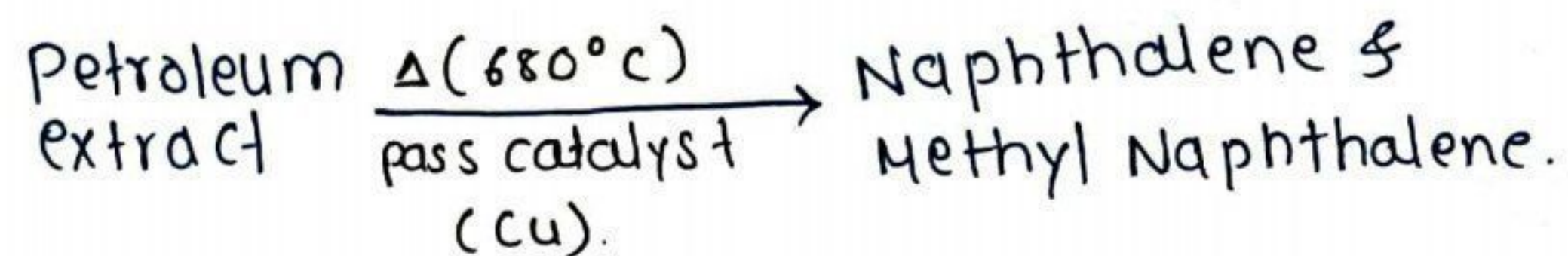


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★ Naphthalene:

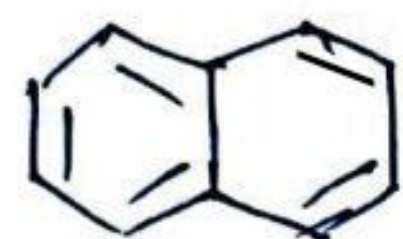
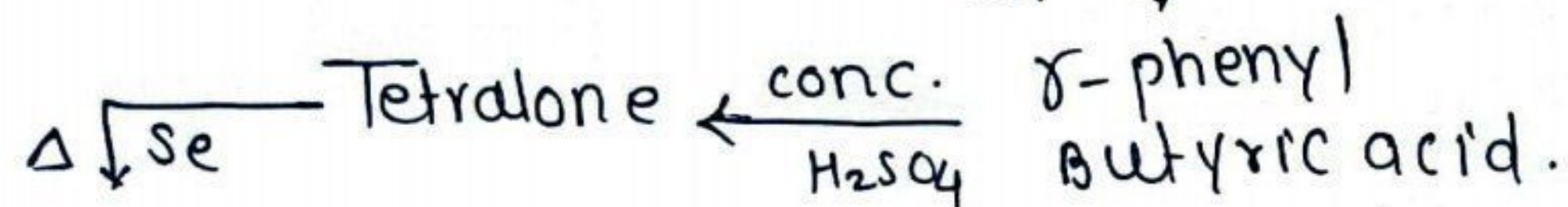
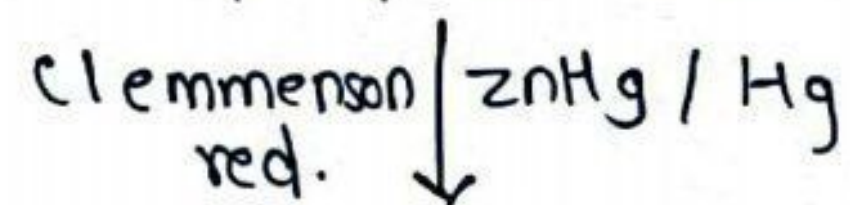
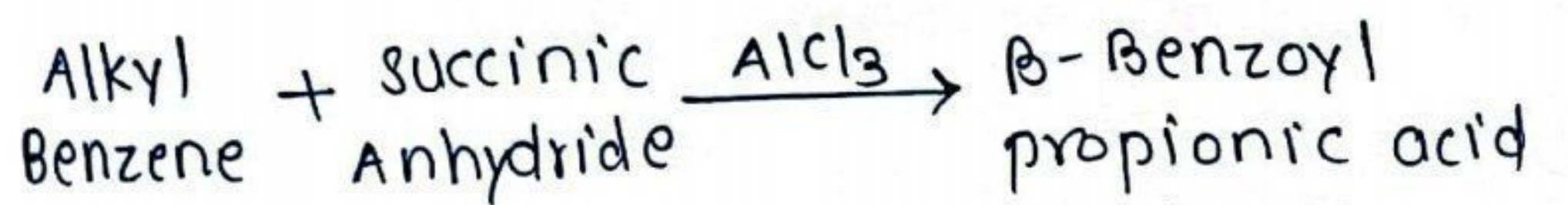
• Method of preparation:

① At Industry Level:



[DEPTH OF BIOLOGY]

② Howarth Synthesis:



Naphthalene.

[DEPTH OF BIOLOGY]

USES:

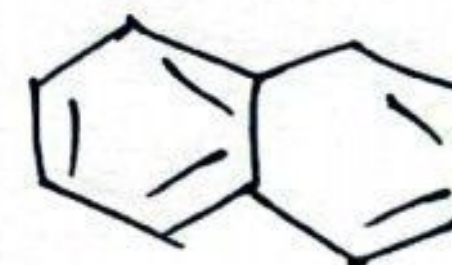
- used in manufacturing of Mothrepellant .
- Dyes & Synthesis of Resin .
- α -Naphthols (insecticides)
- β -Naphthols

★ Methods of preparation & Reaction:

① NAPHTHOLS:

- Simplest polycyclic Aromatic Hydrocarbor
- Organic Compound with formula: C₁₀H₈.
- It's odour is detectable at conc. 0.08 ppm by mass.
- white crystalline solid.

★ Structure:



- Naphthaline exhibits resonance in its 3 conical forms.
- Here, delocalisation of πe^- takes place which $\downarrow$ the electronic energy (or) resonance energy.

[DEPTH OF BIOLOGY]

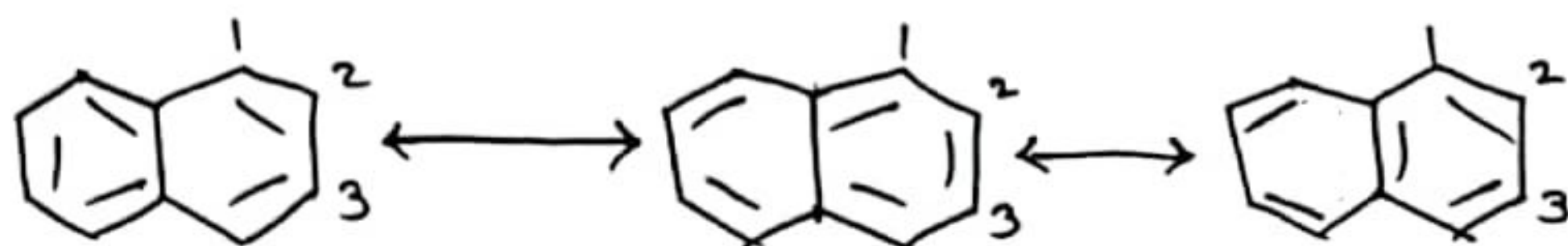
[DEPTH OF BIOLOGY]

- Resonance of Naphthalene is 61 kcal/mole.



which is less than twice of Benzene
36 kcal/mole.

- ★ Naphthalene is more reactive than Benzene.



[DEPTH OF BIOLOGY]

- # Method of preparation of Naphthalene:

① From petroleum:

At industrial Level:

- when we pass petroleum extract in the presence of Δ (680°C) & Cu catalyst.



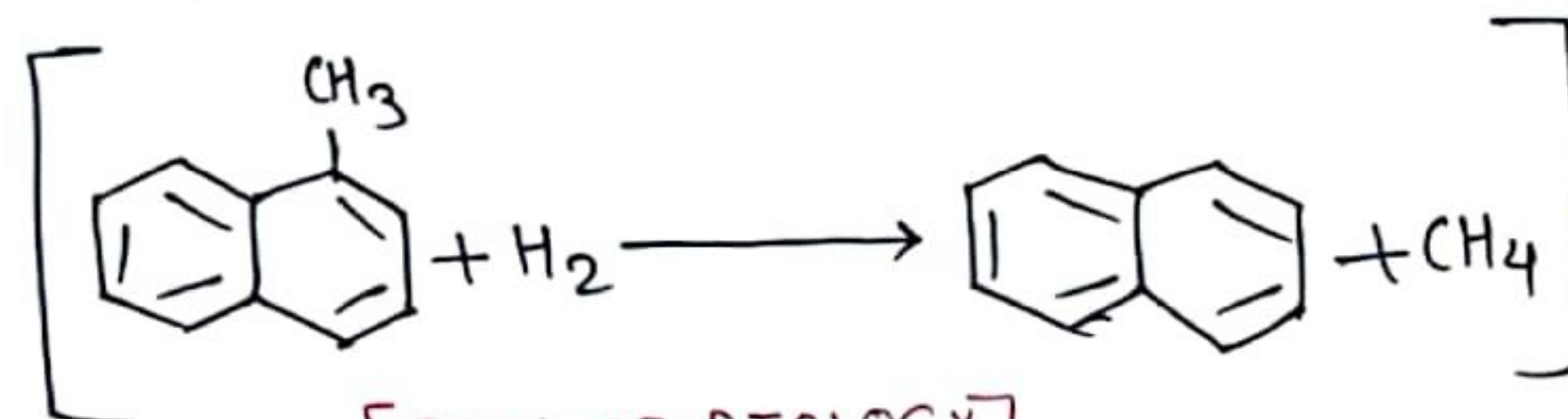
It gives Naphthalene and methyl Naphthalenes.

[DEPTH OF BIOLOGY]

[DEPTH OF BIOLOGY]

Now,

Methyl Naphthalenes are undergo dealkylation by heating at about 600°C in the presence of H_2 to give Naphthalene.



[DEPTH OF BIOLOGY]

② Howarth Synthesis:

here, Alkyl Benzene is treated with succinic Anhydride in the presence of $AlCl_3$ to form β -benzoylpropionic acid

Now this $\rightarrow$ β -Benzoyl propionic undergo clemmenson reduction.

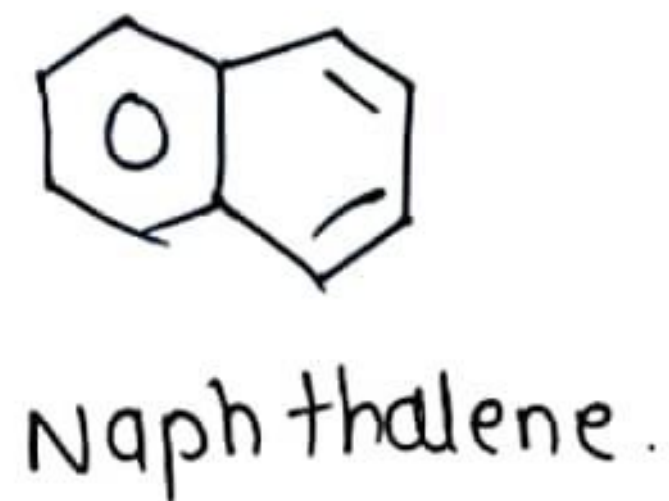
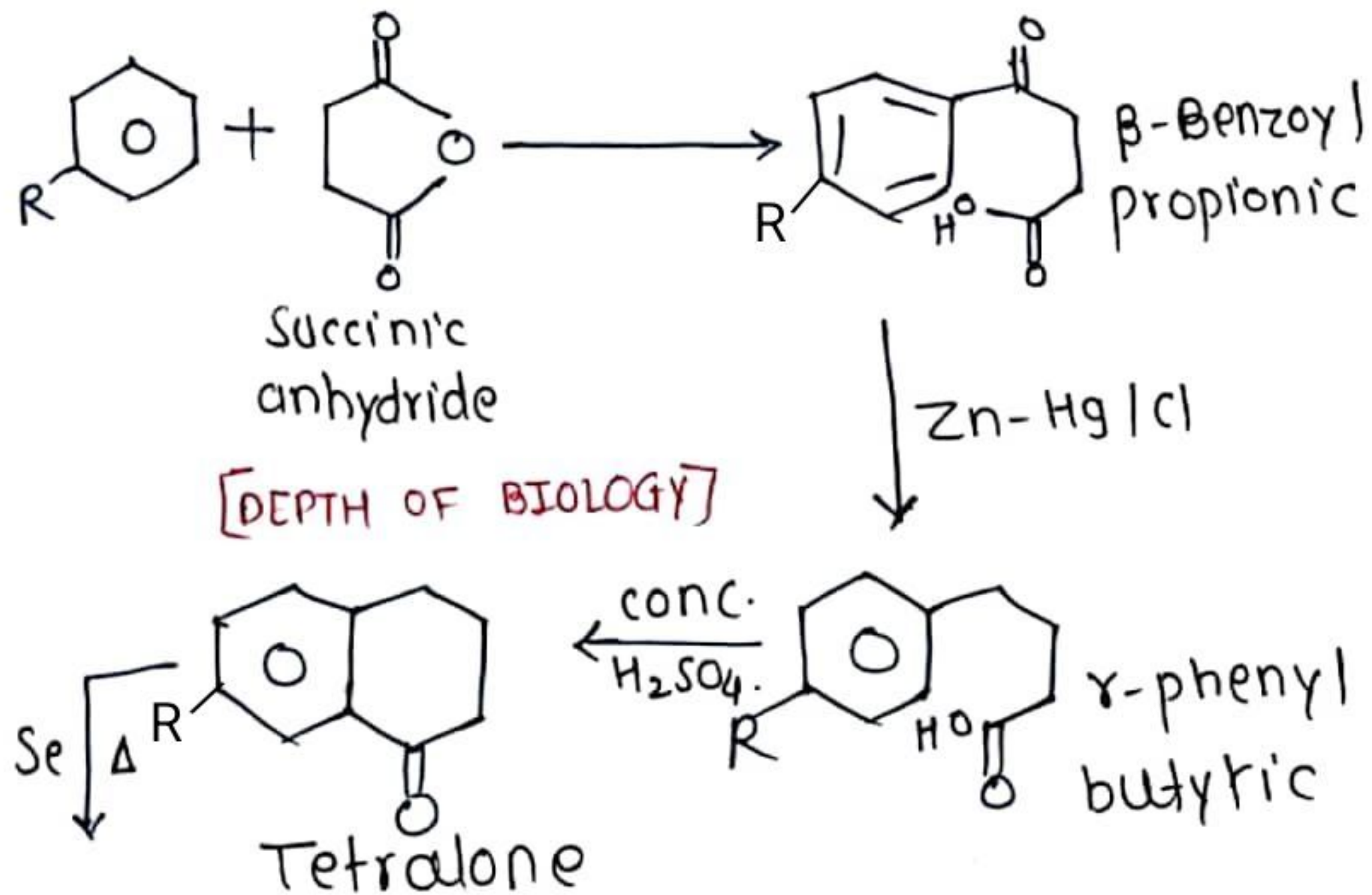
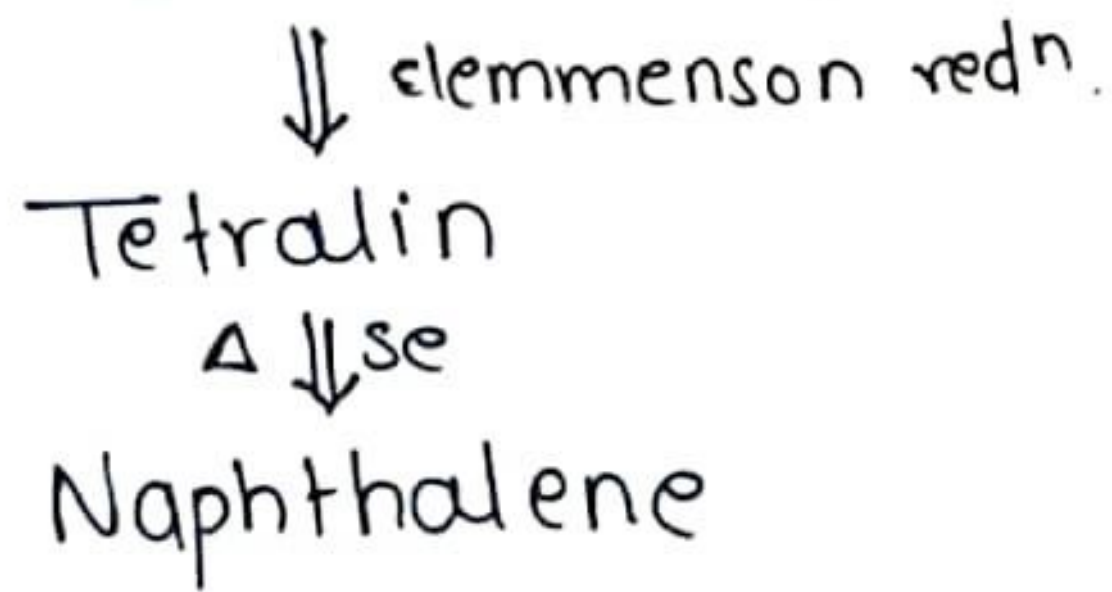
gives, γ -phenyl butyric acid.

↓ on Δ with conc. H_2SO_4 .

α -tetralone (closed ring stru).

[DEPTH OF BIOLOGY]

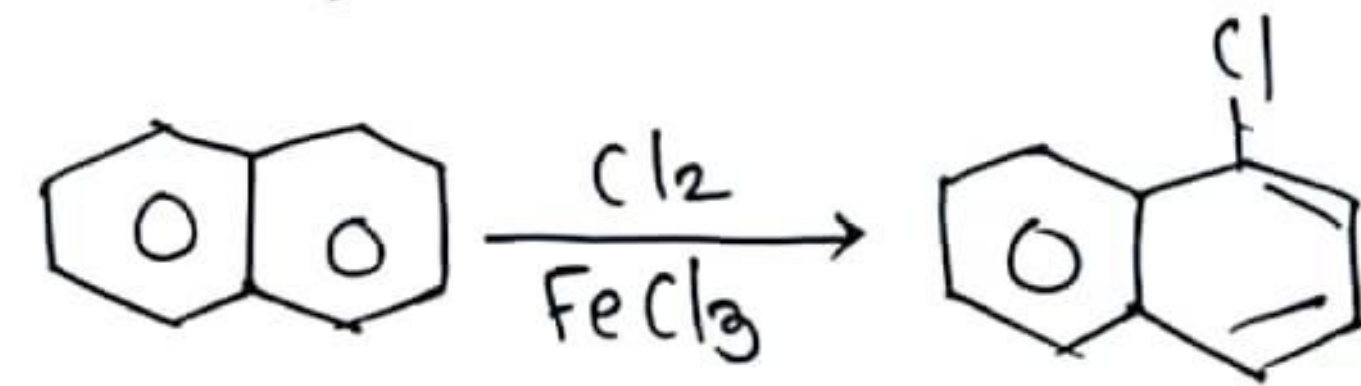
[DEPTH OF BIOLOGY]



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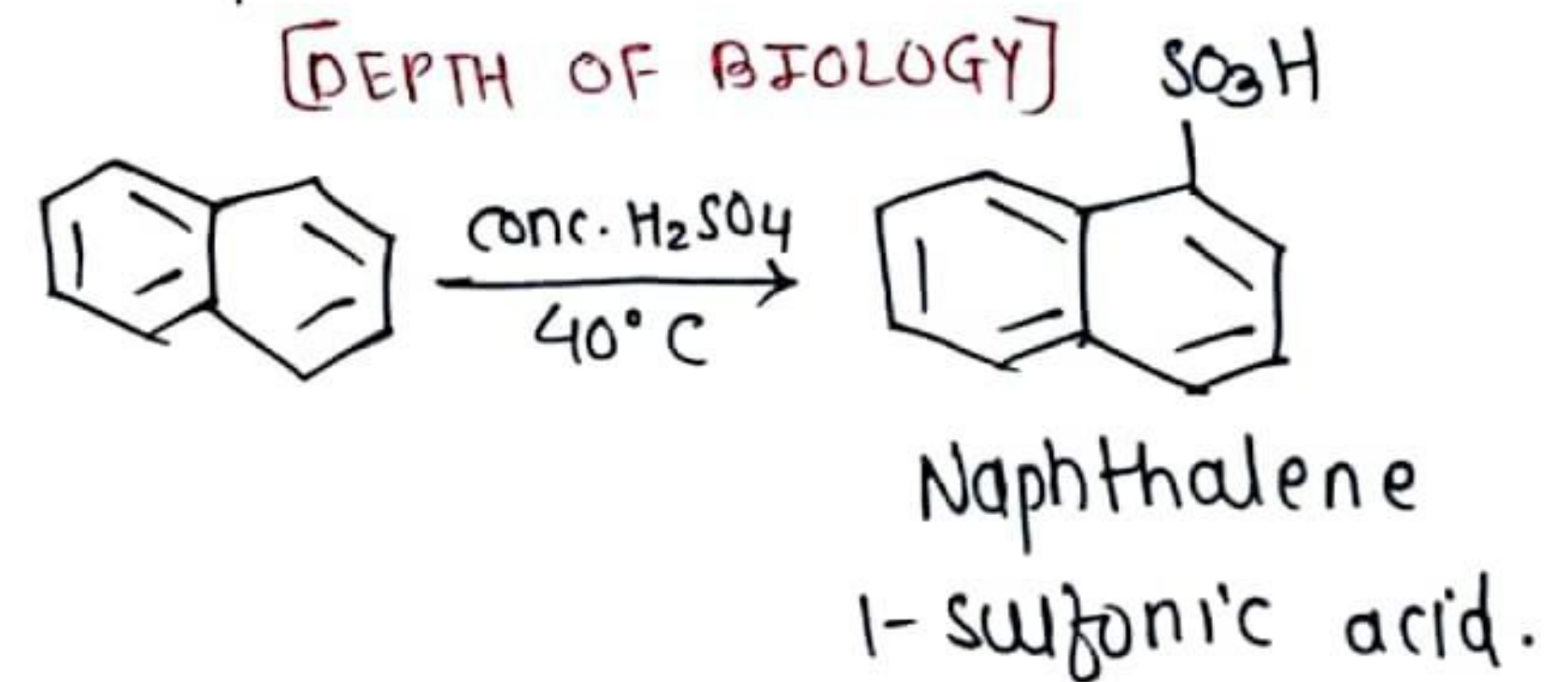
[DEPTH OF BIOLOGY]

★ Chemical Reaction of Naphthalene:
 (a) Halogenation:

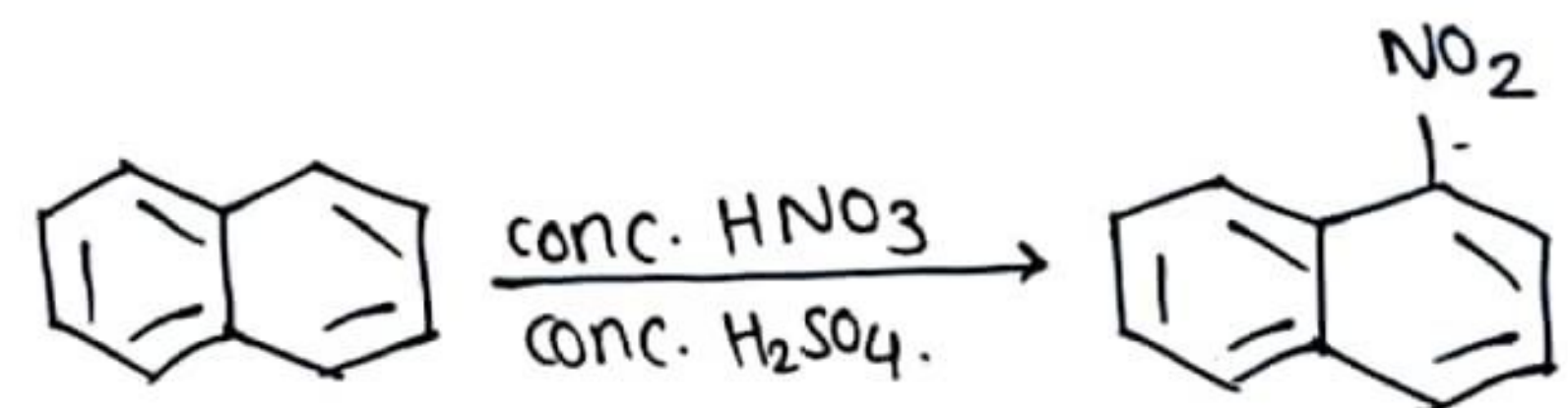


electrophilic Aromatic Reaction.

(b) Sulphonation:

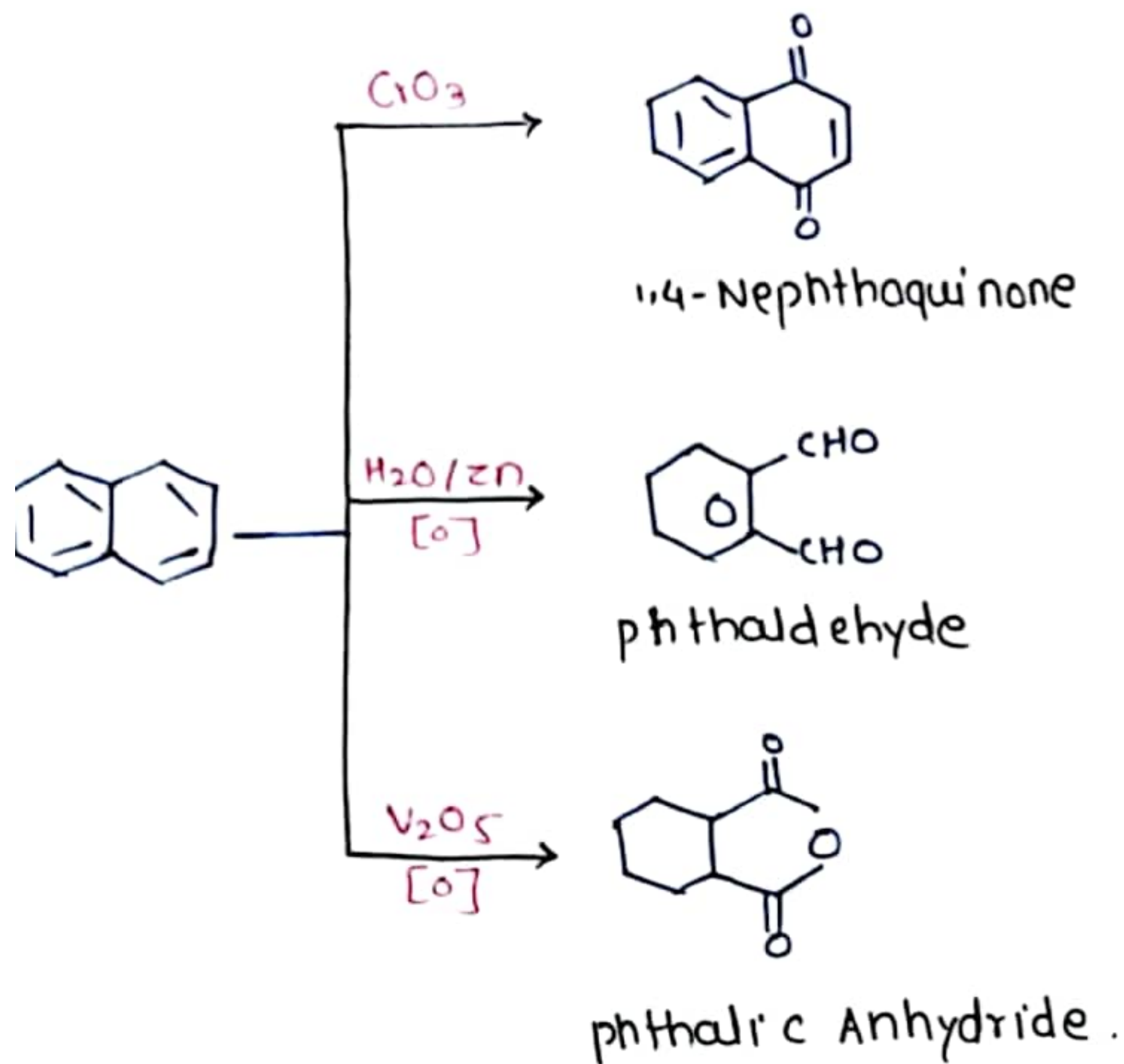


(c) Nitration:

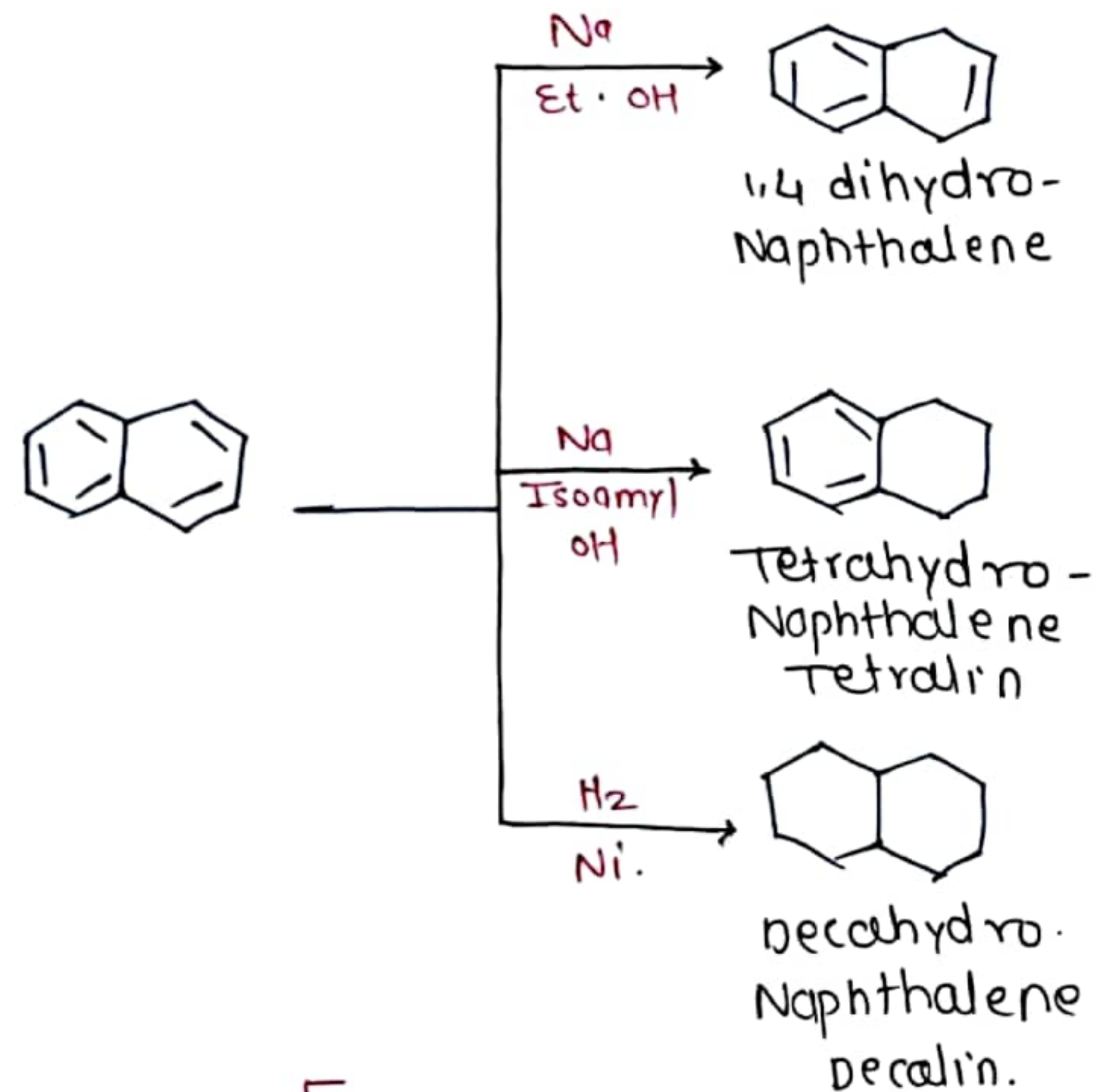


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★ Oxidation Reaction of Naphthalene :



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[DEPTH OF BIOLOGY]

★ uses of Naphthalene:

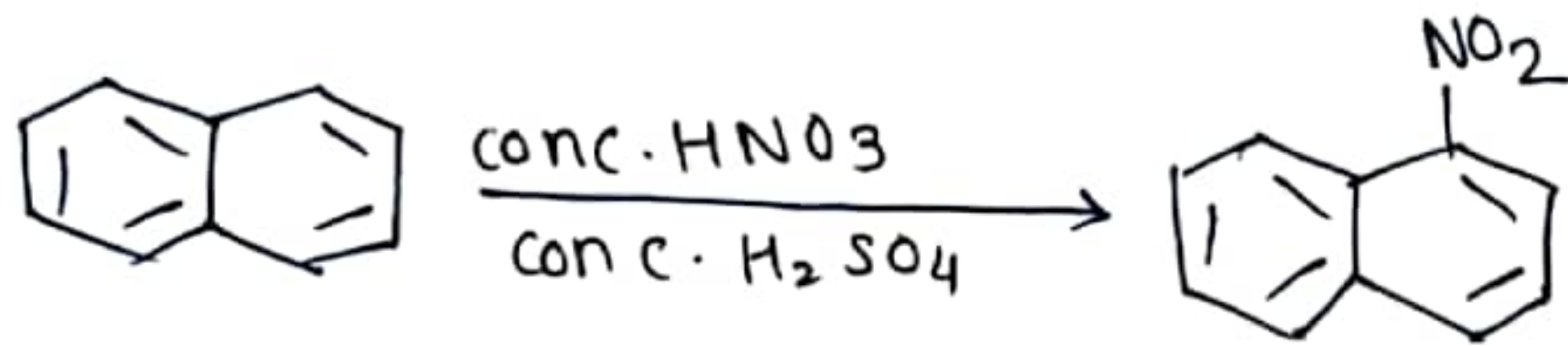
- 1) Moth repellent, dyes & synthetic resin.
- 2) Used in manufacturing of β -Naphthols & α -Naphthols (Insecticide).

[DEPTH OF BIOLOGY]

★ derivatives of Naphthalene:

① Nitro Naphthalene:

- formed from Nitration of Naphthalene.

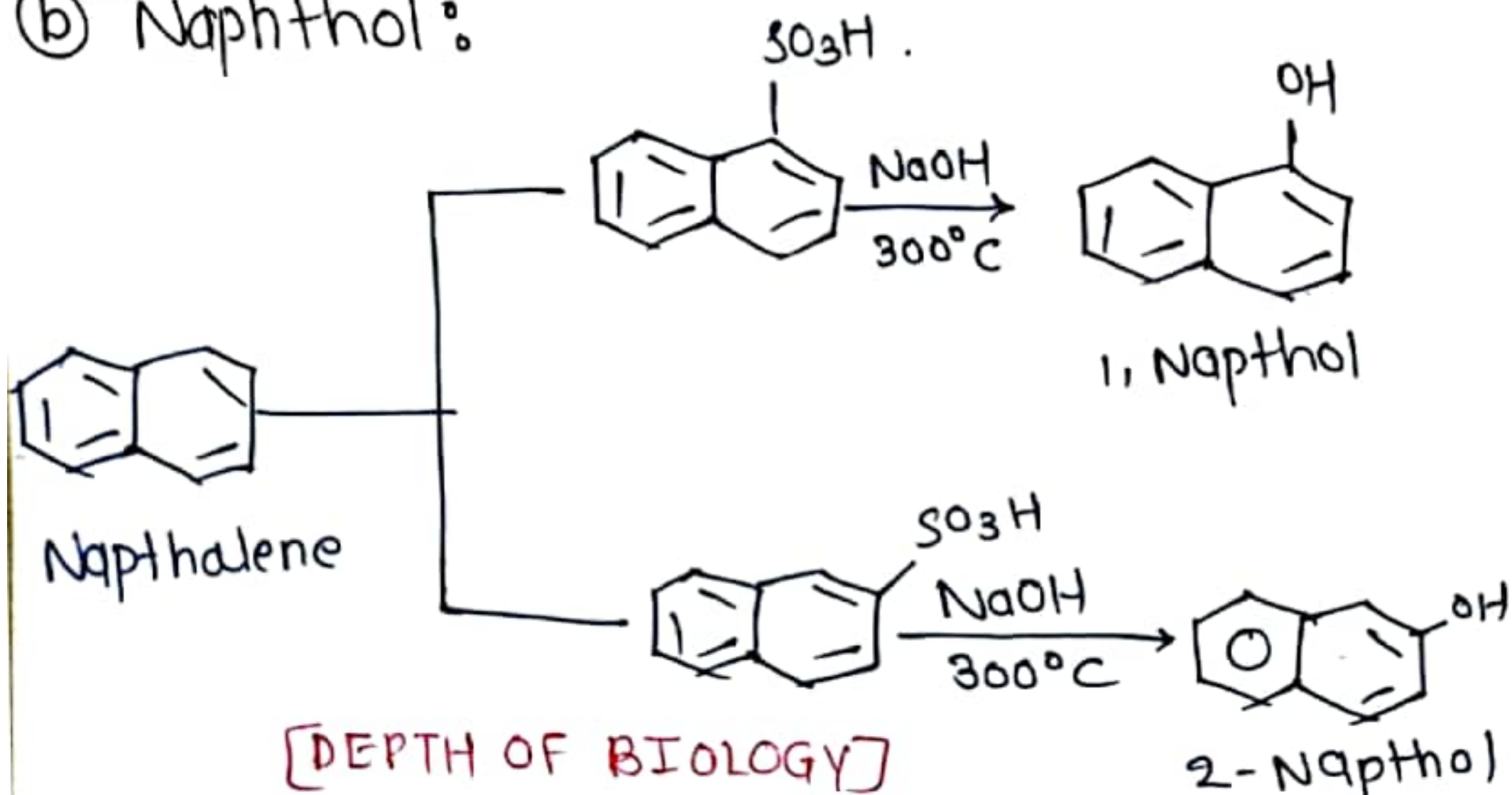


USES:

[DEPTH OF BIOLOGY]

- Used in production of dyes.
- also used as Industrial intermediate.

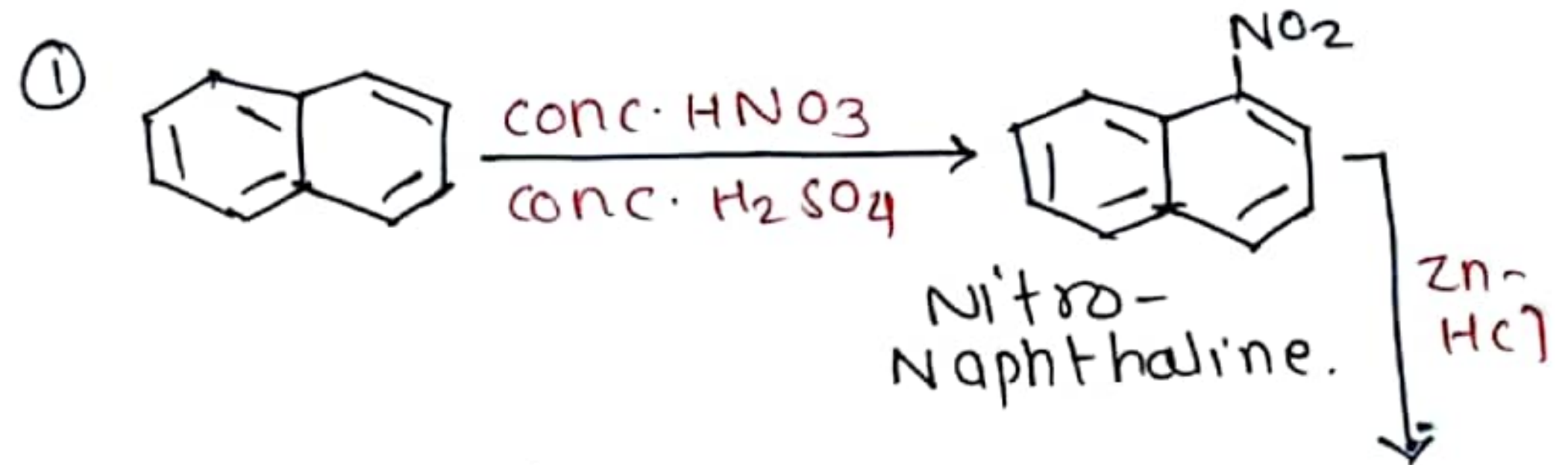
② Naphthol:



[DEPTH OF BIOLOGY]

uses: Insecticide.
- used in dyes.

③ Naphthalamine:

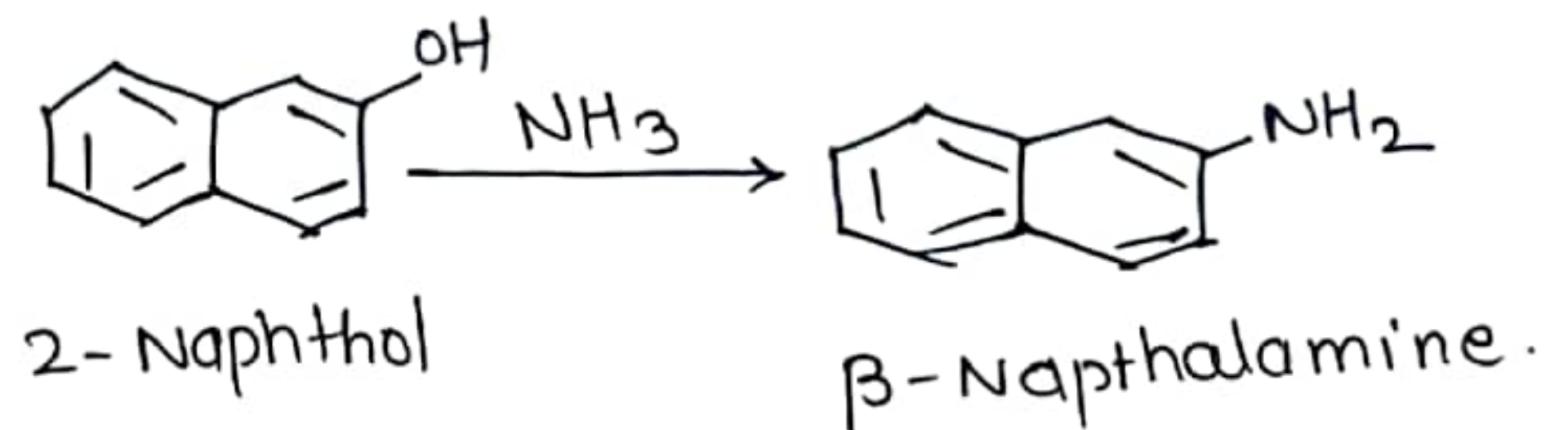


USES: Manufacturing of dyes.

[DEPTH OF BIOLOGY]

Naphthalamine

④ Bucherer Reaction:



[DEPTH OF BIOLOGY]