

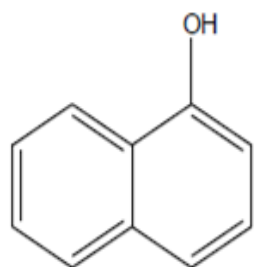
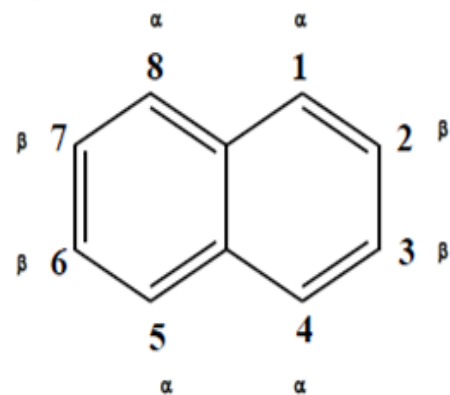
Shri Govind Guru University, Godhra
Shree C. N. P. F. Arts and D. N. Science College,
Dabhoi
Chemistry Dept.
B. Sc. Sem –III
Unit – 2/B, Polynuclear Aromatic Hydrocarbons
“Naphthalene”
Dr. Kamlesh B. Gauli



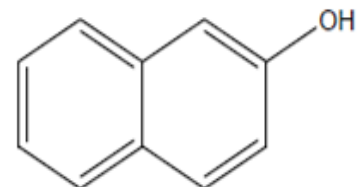
POLYNUCLEAR AROMATIC HYDROCARBONS

“NAPHTHALENE”

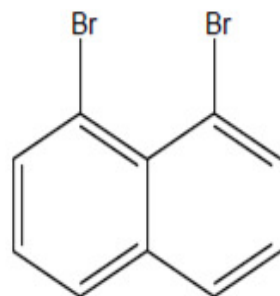
a) Naphthalene



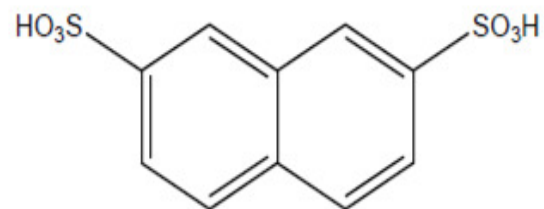
1-Naphthol or α -Naphthol



2-Naphthol or β -Naphthol



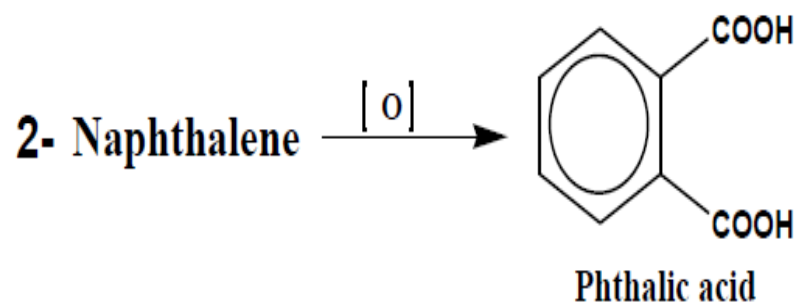
1,8- Dibromo-naphthalene



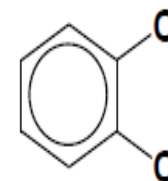
Naphthalene-2,7- disulfonic acid

Structure elucidation of naphthalene

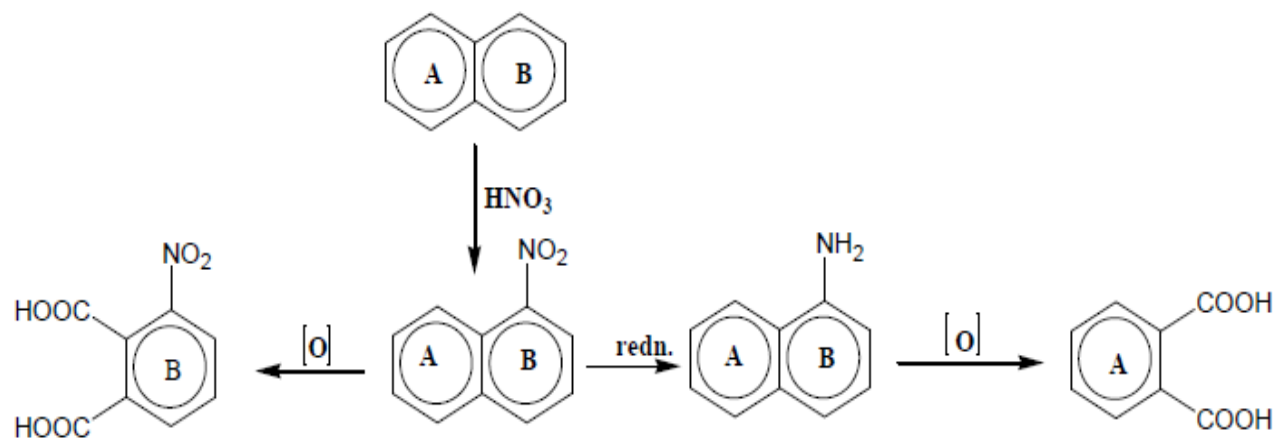
1- Molecular Formula: C_6H_8



So naphthalene contain the skeleton

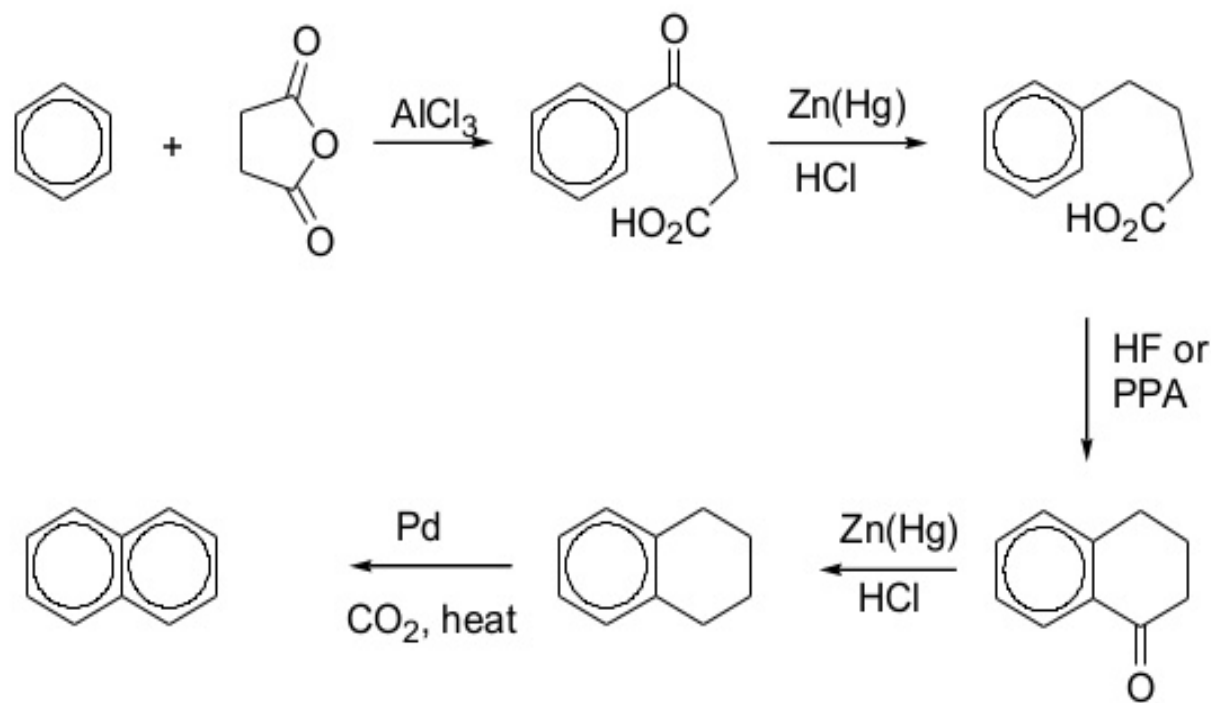


i.e. Naphthalene contains two benzene rings and we can explain this by this equation



Howarth-Synthesis of Naphthalene

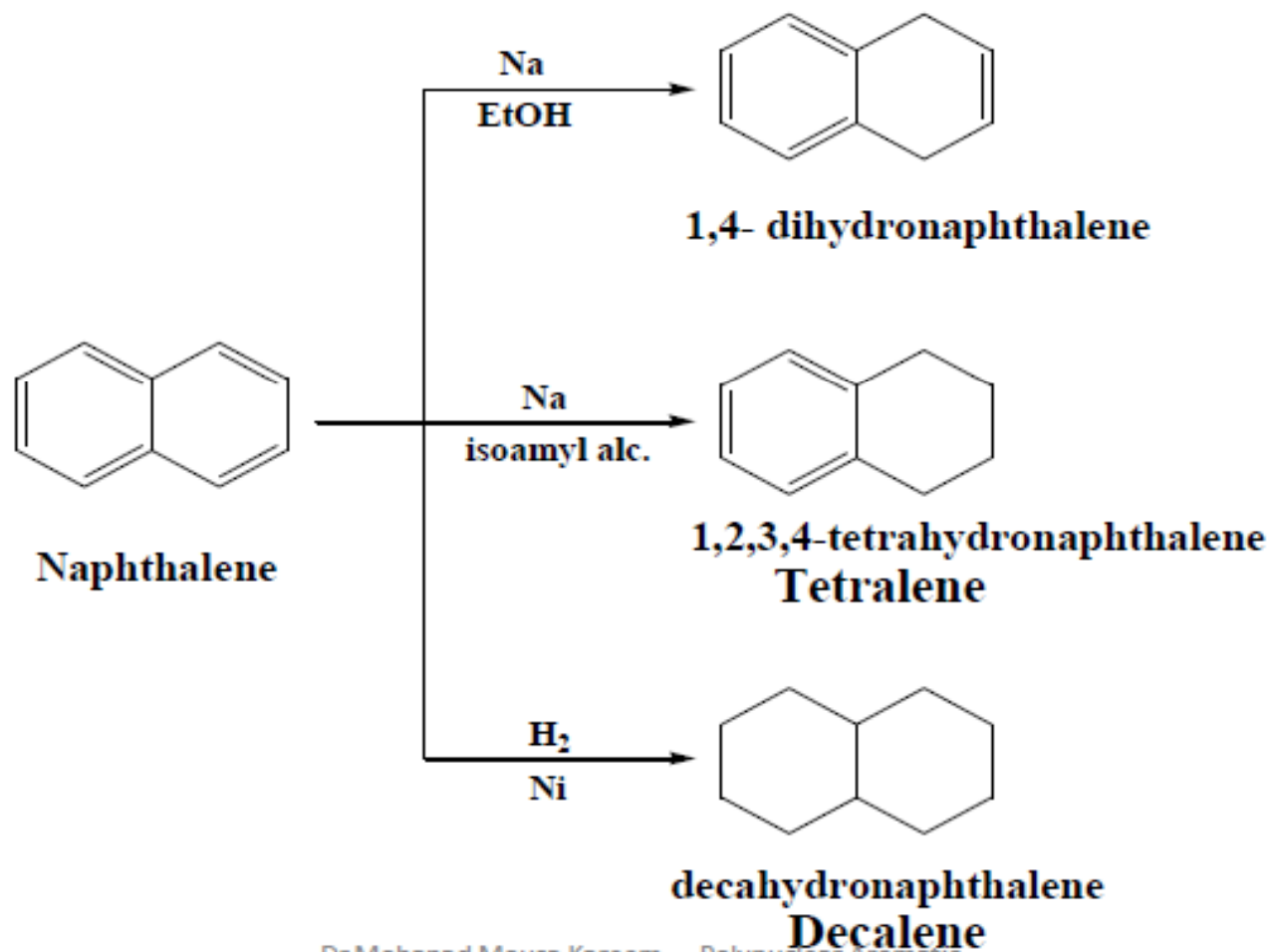
4. Haworth Synthesis of naphthalene



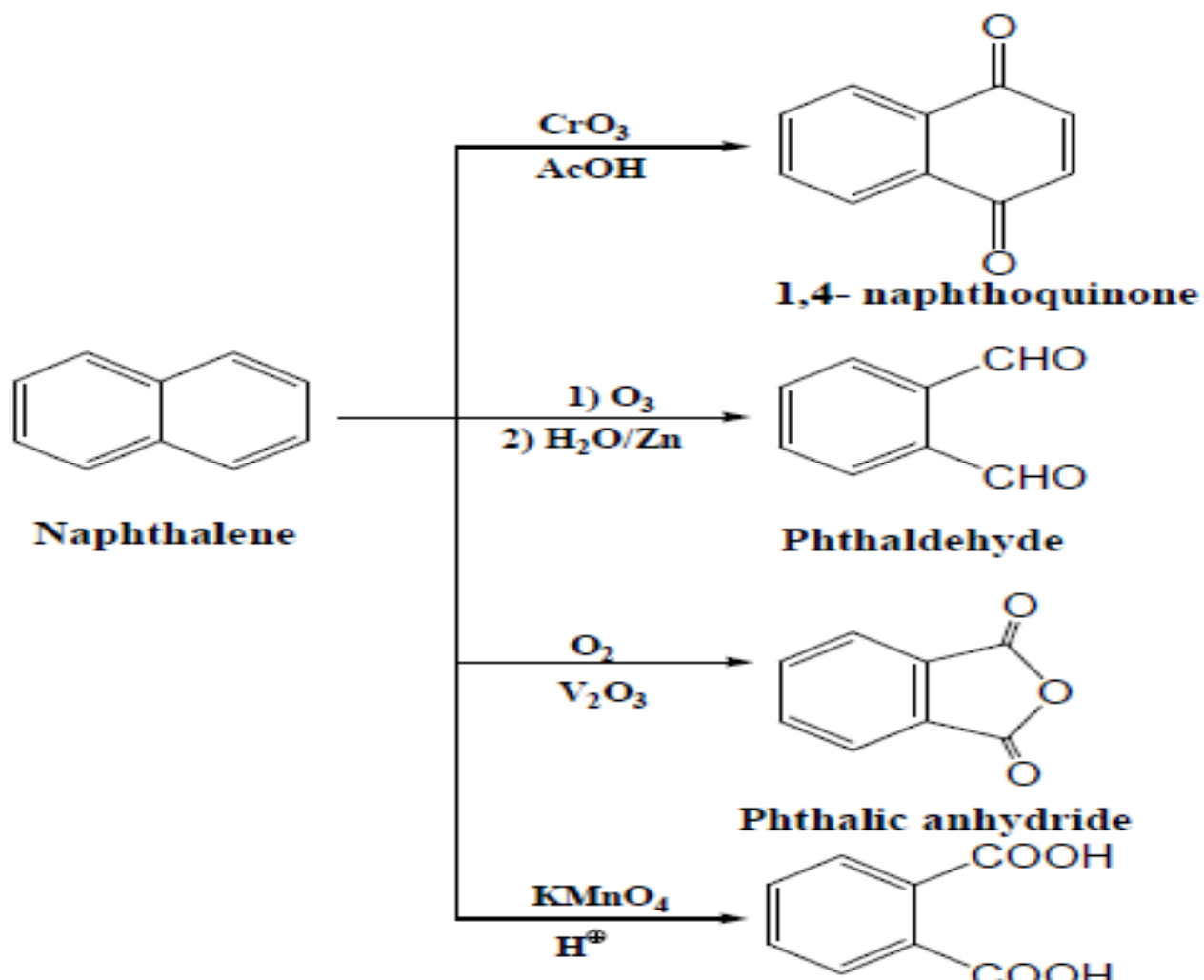


REACTIONS OF NAPHTHALENE

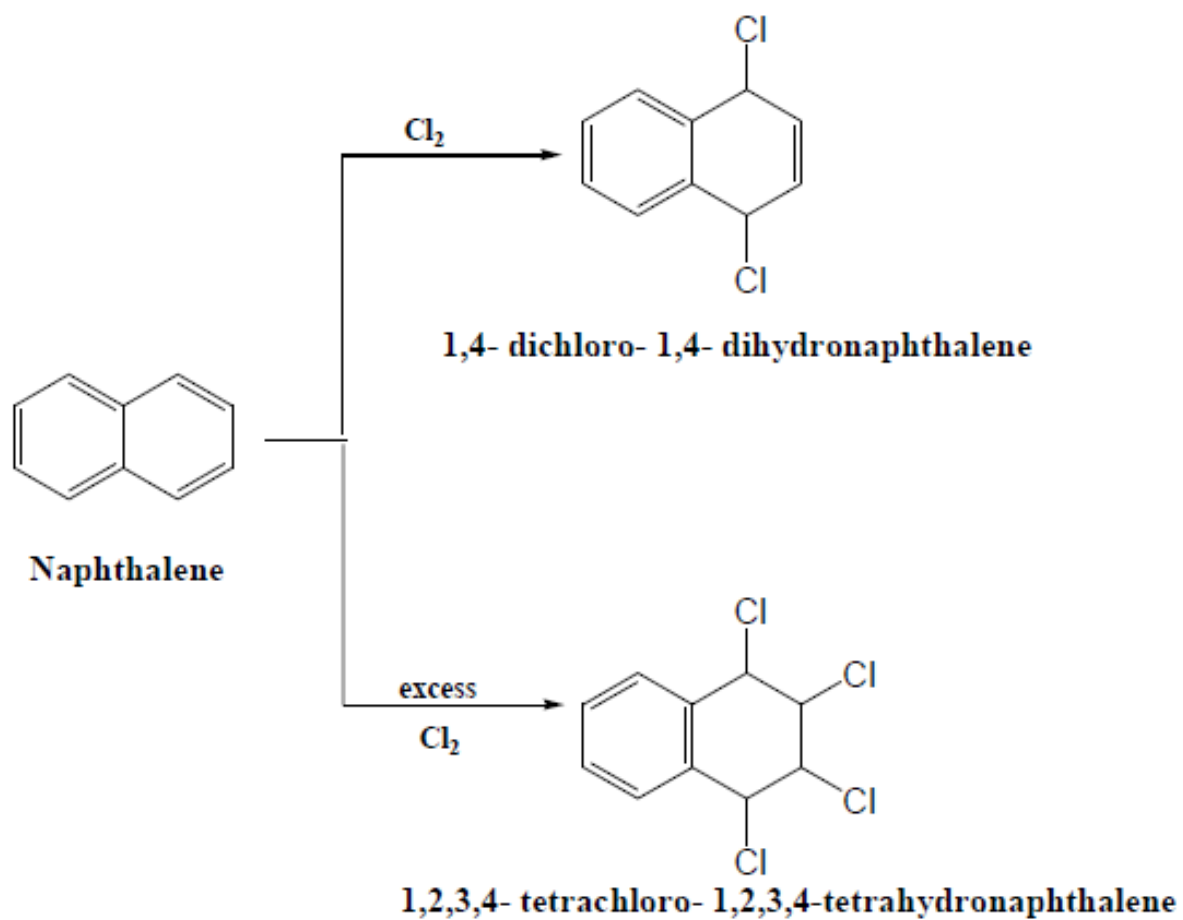
1. Reduction



2. Oxidation



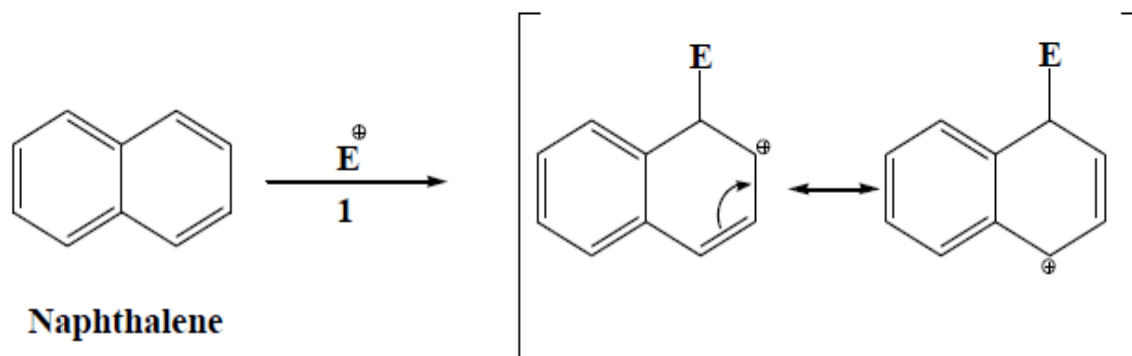
3. Addition of Cl₂



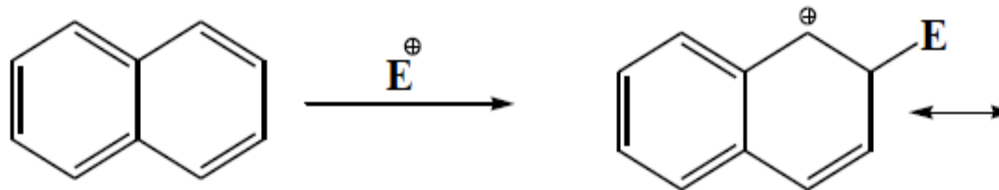
4. Electrophilic substitution reaction

Q: Naphthalene undergoes electrophilic substitution at position 1 not 2. Explain

At position 1; carbocation intermediate stabilize by two resonance



Naphthalene



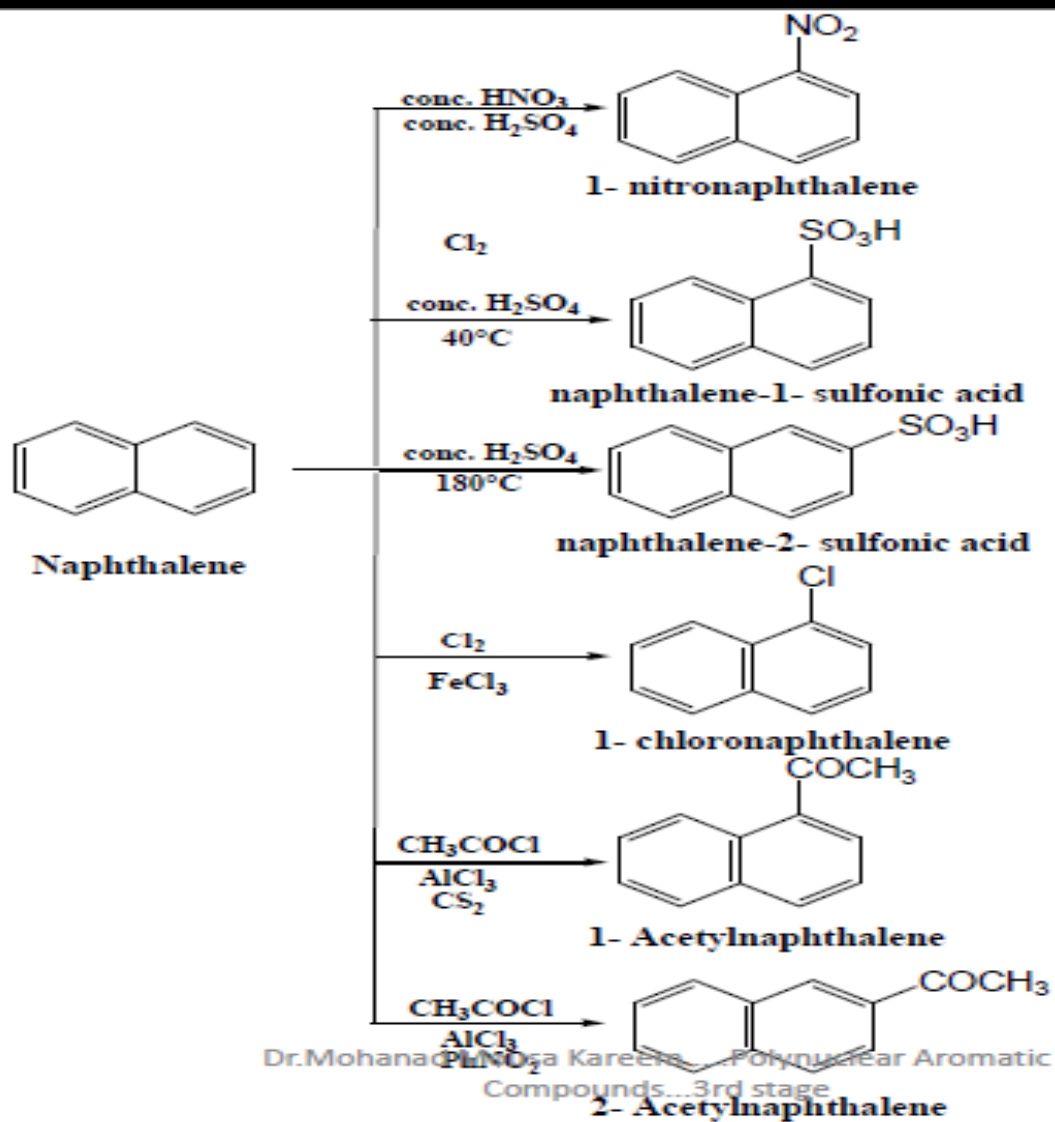
Naphthalene

one resonance structure

Dr. Mohanad Mousa Kareem, Polynuclear Aromatic

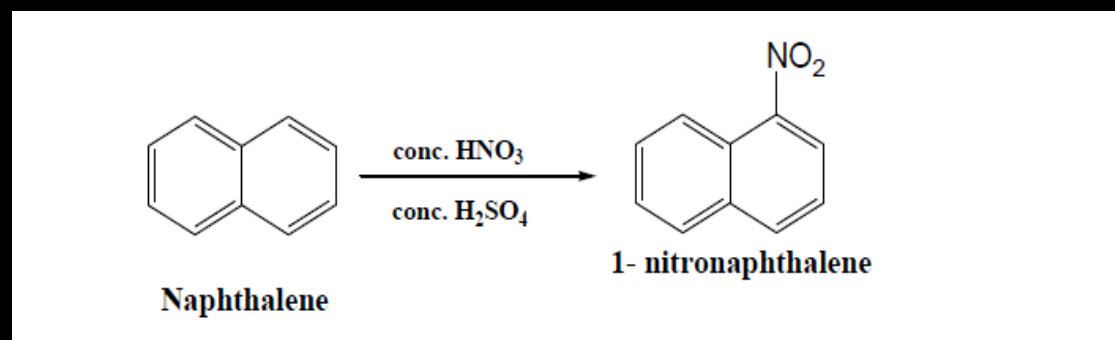
So carbocation is more stable at position 1 than position 2

**Some Electrophilic
substitution Reaction of
Naphthalene**

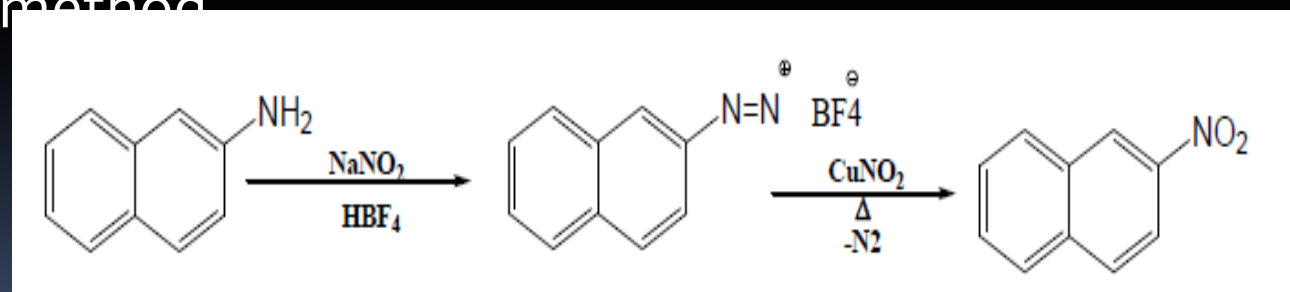


1. Nitro Naphthalene

1- nitro naphthalene is prepared by direct nitration.

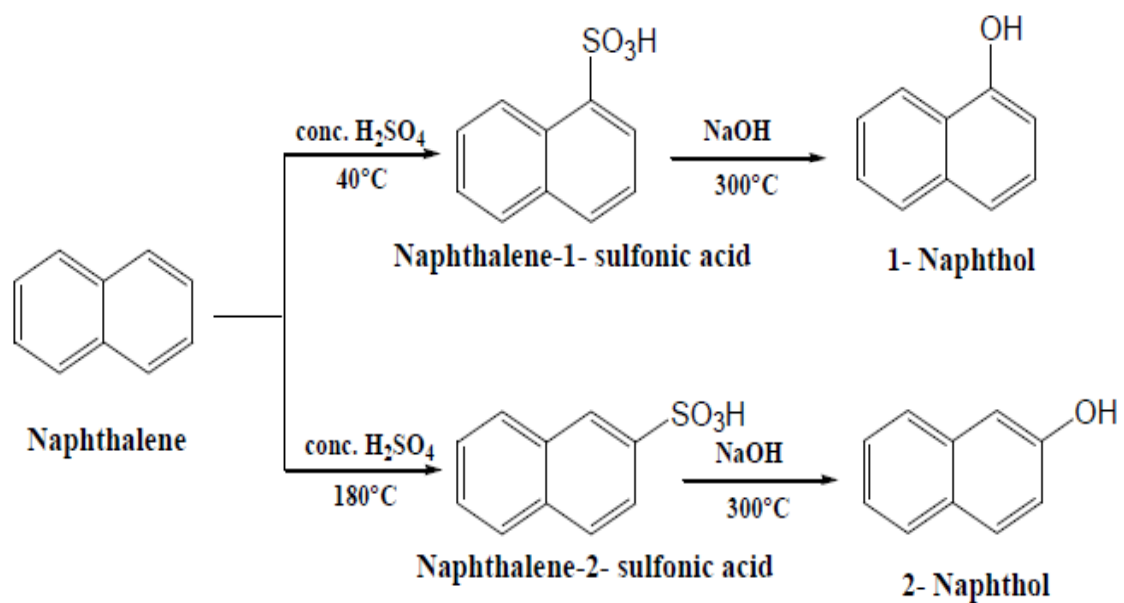


2- nitro naphthalene is prepared by indirect method



2. Naphthols

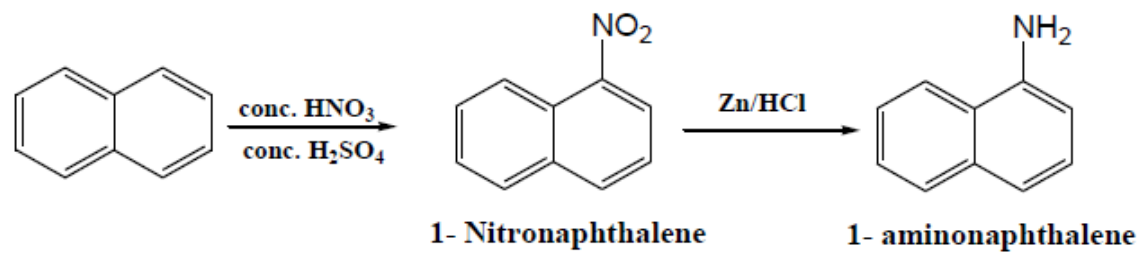
• Preparation:



3. Naphthylamine

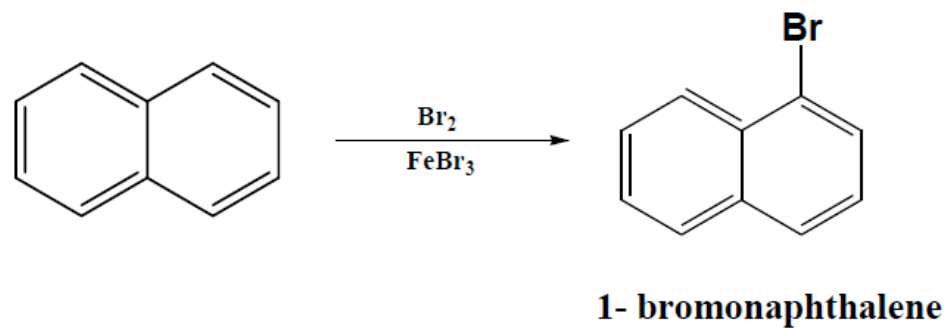
- **Preparation:**

1- Naphthylamine

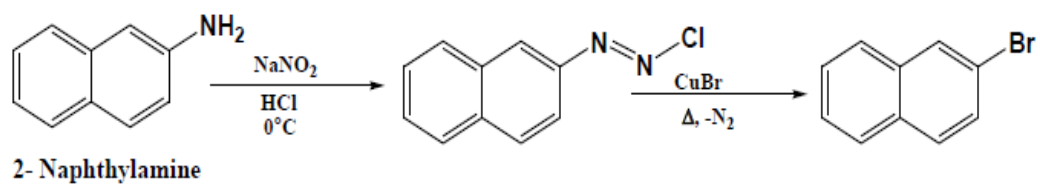


4. Halogenated naphthalene

- A) Preparation of 1- halogented naphthalene



- B) Preparation of 2- halogenated naphthalene via Sandemeyer



Thank You