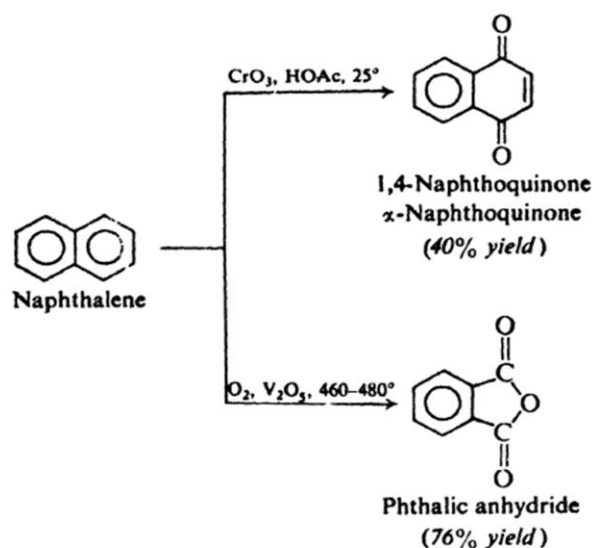
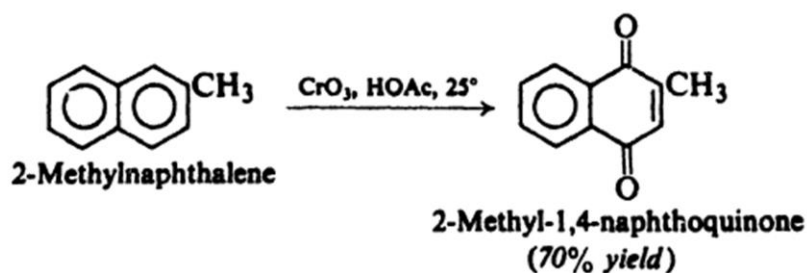


## REACTIONS OF NAPHTHALENE

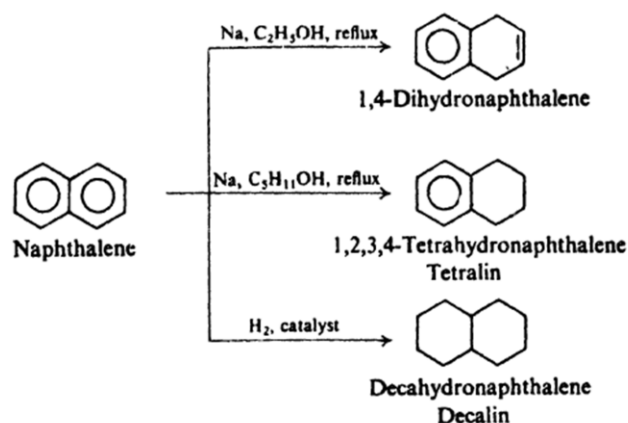
### 1. Oxidation.



Oxidation of naphthalene by oxygen in the presence of Vanadium Pentoxide destroys one ring and yields phthalic anhydride. Oxidation of certain naphthalene derivatives destroys the aromatic character of one ring in a somewhat different way, and yields diketo compounds known as quinones.

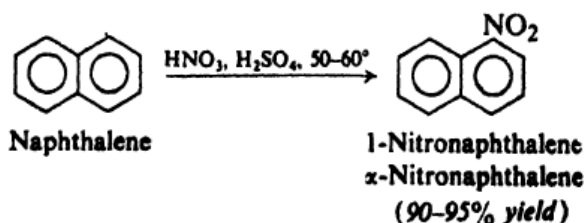
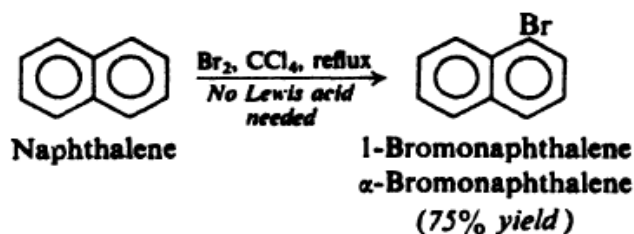


Because of this tendency to form quinones, it is not always feasible to prepare naphthalene carboxylic acids as we do benzene acids, by oxidation of methyl side chains.

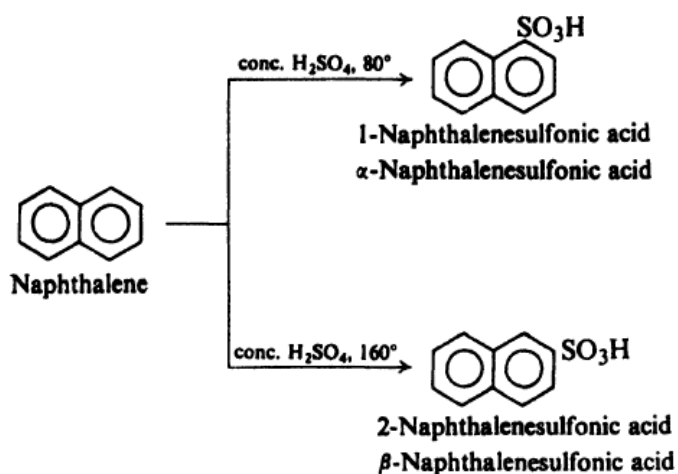
**2. Reduction.**

In contrast to benzene, naphthalene can be reduced by chemical reducing agents. It is converted by sodium and ethanol into 1,4-dihydronaphthalene, and by sodium and isopentyl alcohol into 1,2,3,4-tetrahydronaphthalene (tetralin).

The temperature at which each of these sodium reductions is carried out is the boiling point of the alcohol used; at the higher temperature permitted by isopentyl alcohol (b.p. 132), reduction proceeds further than with the lower boiling ethyl alcohol (b.p. 78).

**3. Electrophilic substitution.****(a) Nitration.****(b) Halogenation. Discussed in Sec. 30.8.**

(c) Sulfonation.



(d) Friedel-Crafts acylation.

