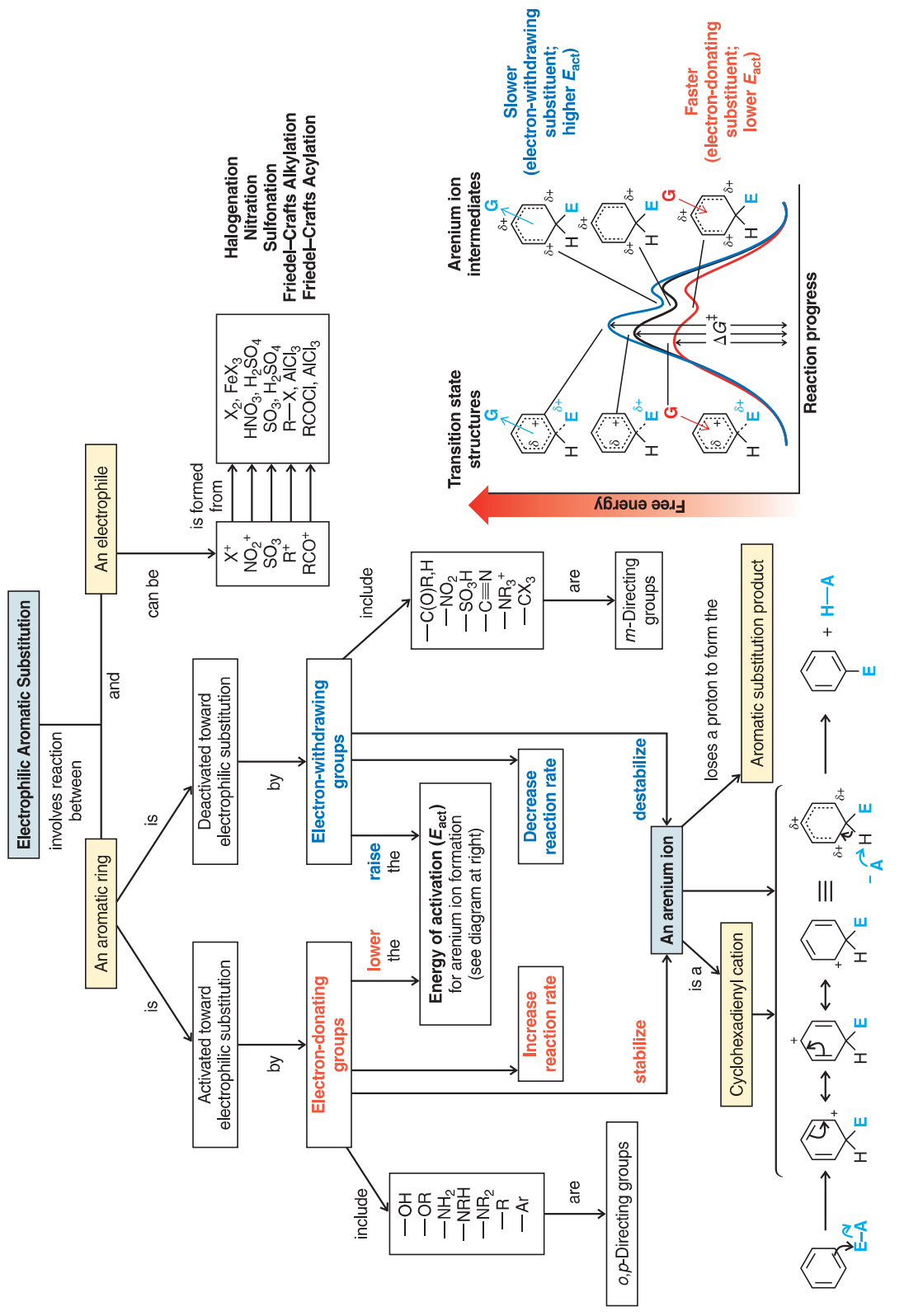


[CONCEPT MAP]

Summary of Mechanisms

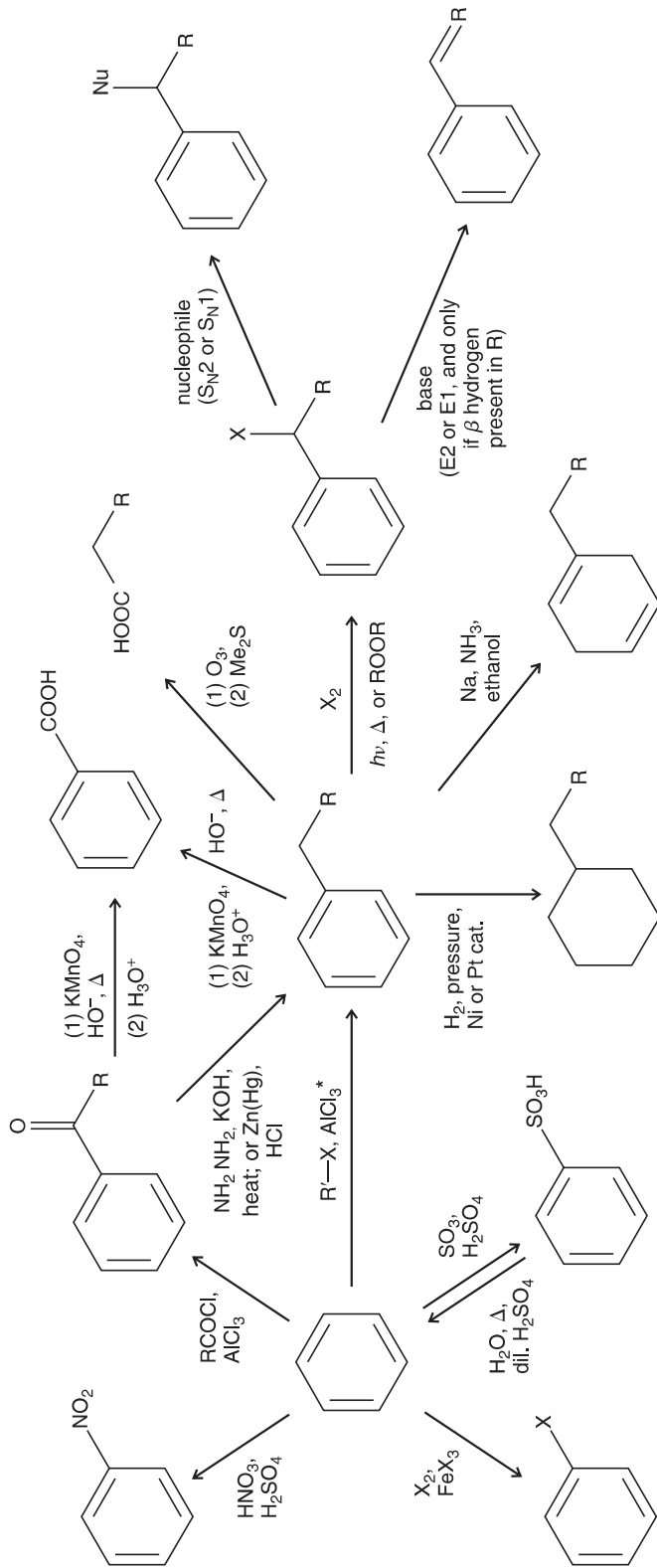




[CONCEPT MAP]

Some Synthetic Connections of Benzene and Aryl Derivatives

- Nitration
- Halogenation
- Sulfonation/desulfonation
- Friedel-Crafts alkylation
- Friedel-Crafts acylation
- Wolff-Kishner or Clemmensen reduction
- Side-chain oxidation
- Ring oxidation
- Catalytic hydrogenation of ring
- Birch reduction
- Benzylic radical halogenation
- Benzylic substitution/elimination



*In the Friedel-Crafts alkylation example shown here, R' is a primary alkyl halide. If carbocation rearrangements are likely, then Friedel-Crafts acylation followed by Wolff-Kishner or Clemmensen reduction should be used to incorporate a primary alkyl group.