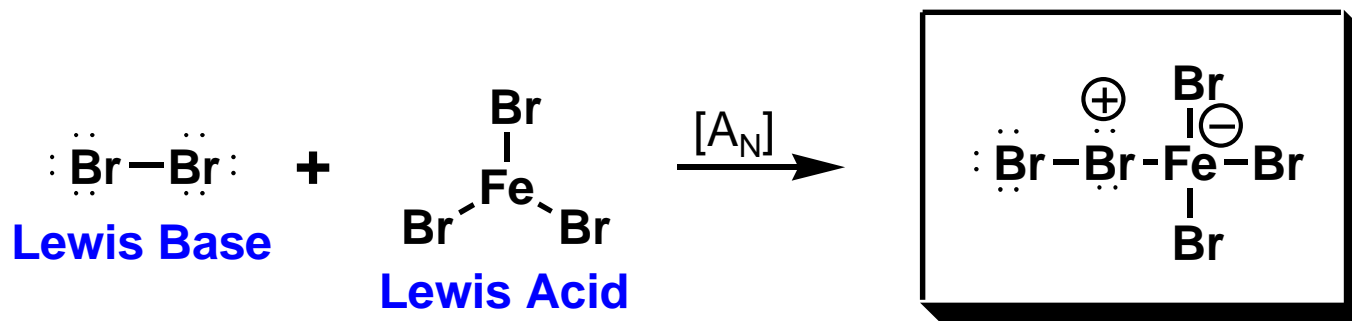
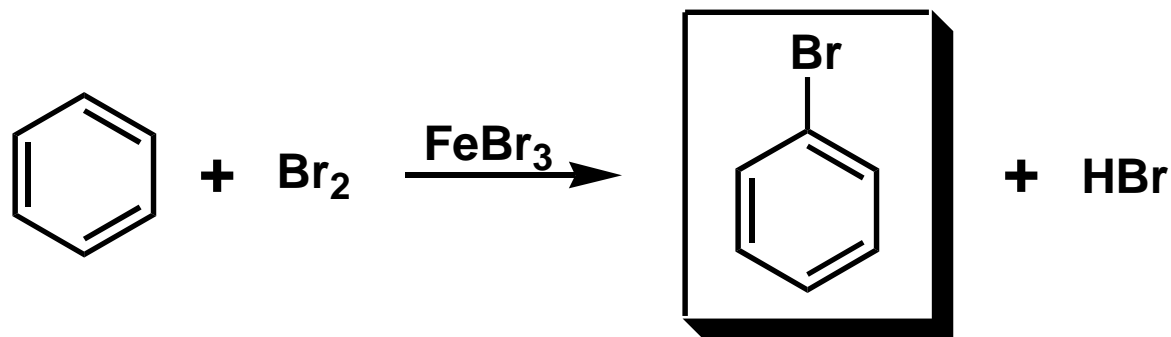


Electrophiles for Electrophilic Aromatic Substitution

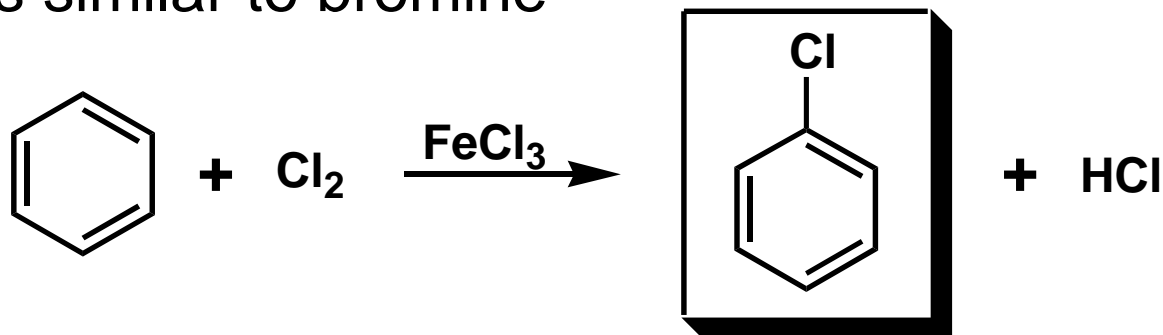
Bromination



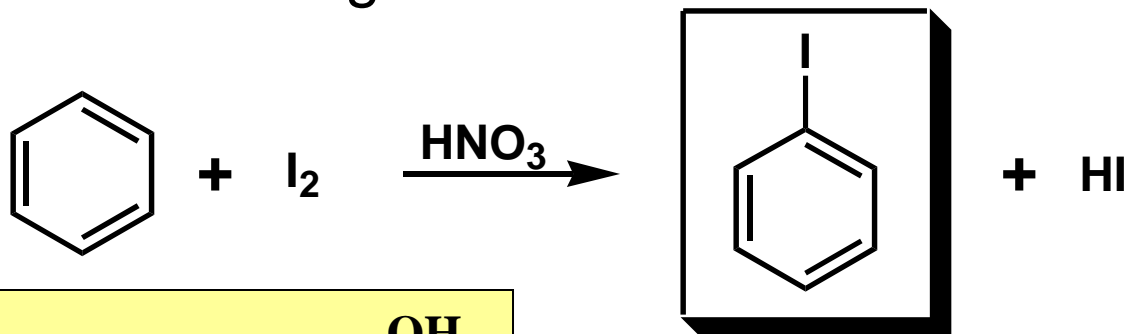
Electrophiles for Electrophilic Aromatic Substitution

Other Halogenations

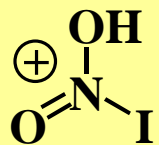
Chlorine is similar to bromine



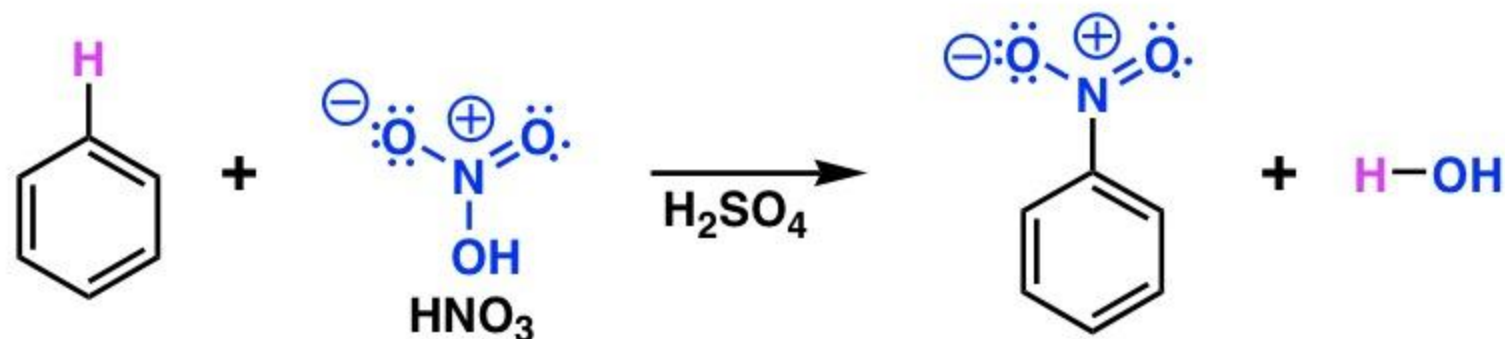
For iodine, the following conditions are used



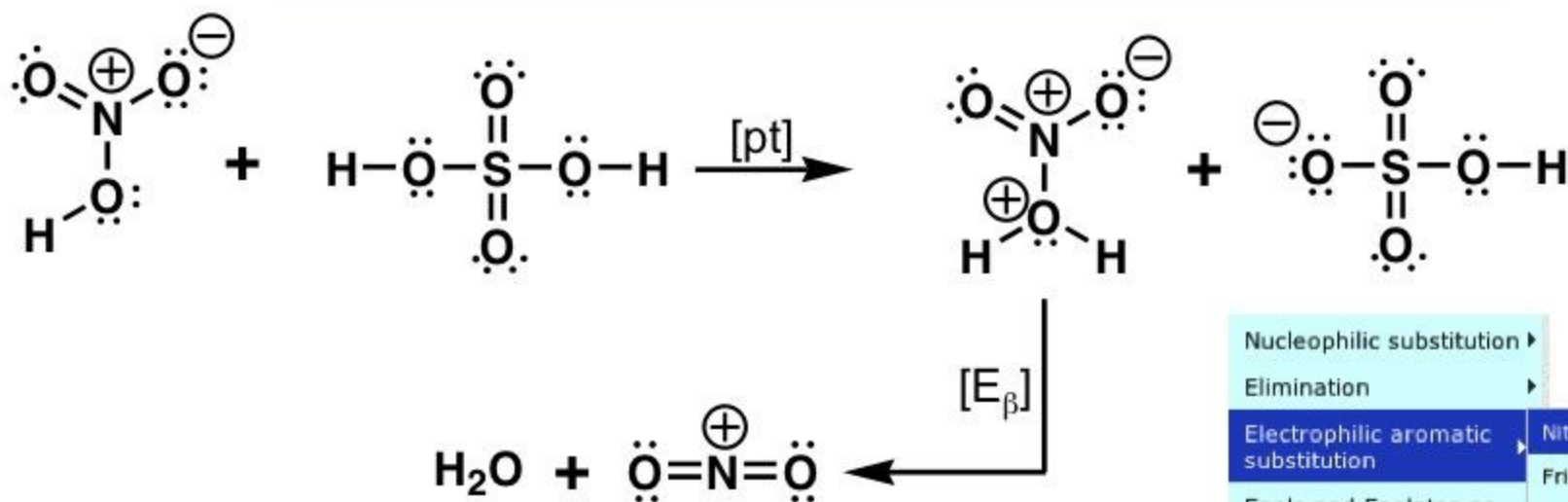
Here the active electrophilic species is presumed to be[†]



Nitration by Electrophilic Aromatic Substitution



The active electrophilic species is $\text{O}=\text{N}=\text{O}^+$ (NO_2^+)
nitronium ion
How does it form?



<http://www.chemtube3d.com/>

Nucleophilic substitution ▶

Elimination ▶

Electrophilic aromatic substitution

Nitration of benzene

Friedel-Crafts alkylation

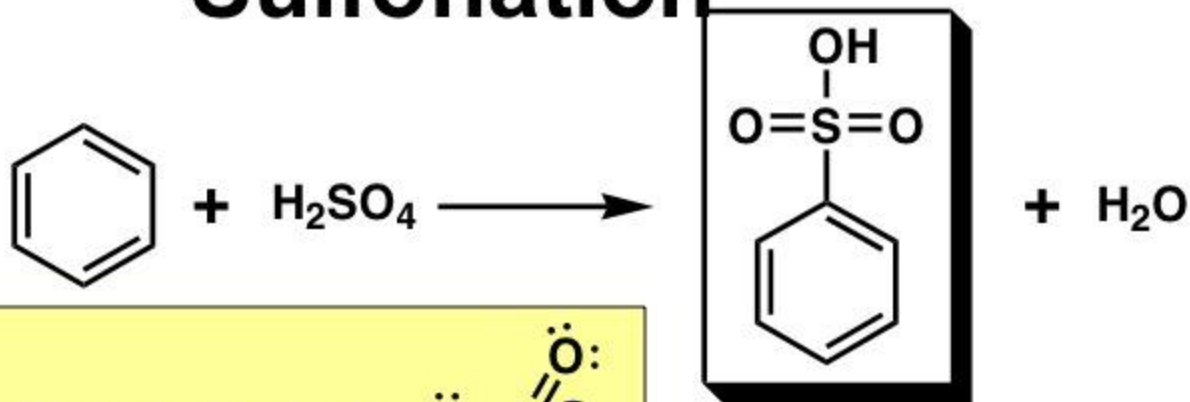
Friedel-Crafts acylation

Sulfonation of benzene

Pericyclic reactions

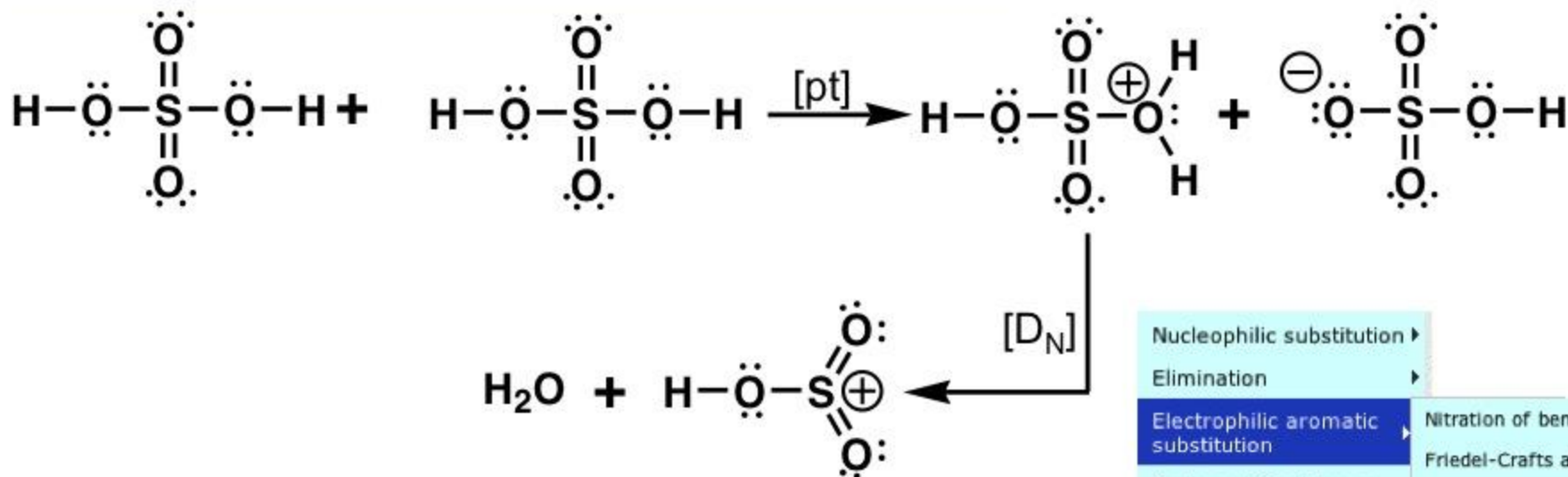
Electrophiles for Electrophilic Aromatic Substitution

Sulfonation



The active electrophilic species is $\text{H}-\ddot{\text{O}}-\overset{\oplus}{\text{S}}(\text{O})_2$

How does it form?



<http://www.chemtube3d.com/>

Nucleophilic substitution ▶

Elimination ▶

Electrophilic aromatic substitution ▶

Enols and Enolates as nucleophiles

Pericyclic reactions

Nitration of benzene

Friedel-Crafts alkylation

Friedel-Crafts acylation

Sulfonation of benzene