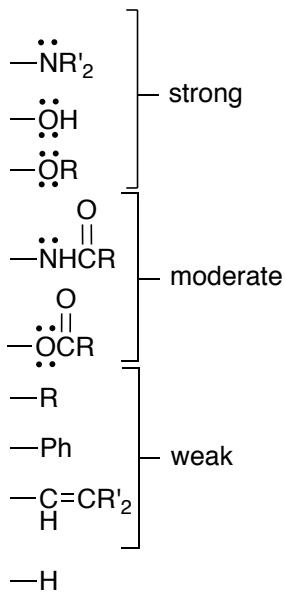


Substituent effects

Electron Donating Groups

These substituents **release** electron density into the ring and thereby activate aromatic rings for electrophilic aromatic substitution

Most Electron Donating

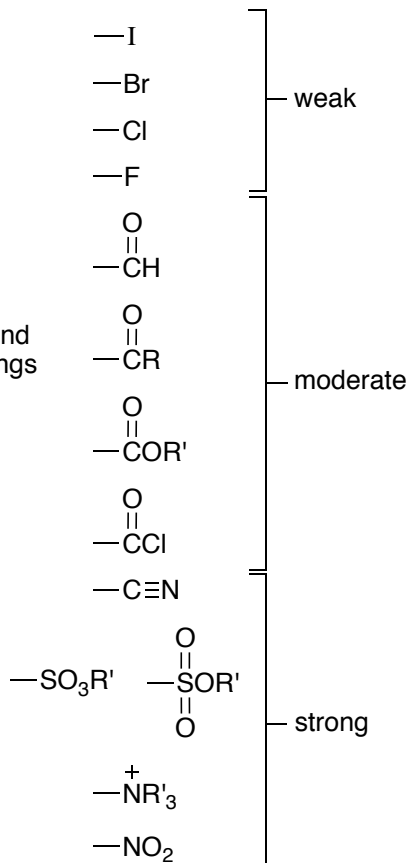


Standard for Comparison \longrightarrow

ortho/para directing

Electron Withdrawing Groups

These substituents **withdraw** electron density into the ring and thereby deactivate aromatic rings toward electrophilic aromatic substitution



meta directing

Most Electron Withdrawing