

Ch 17

Note Title

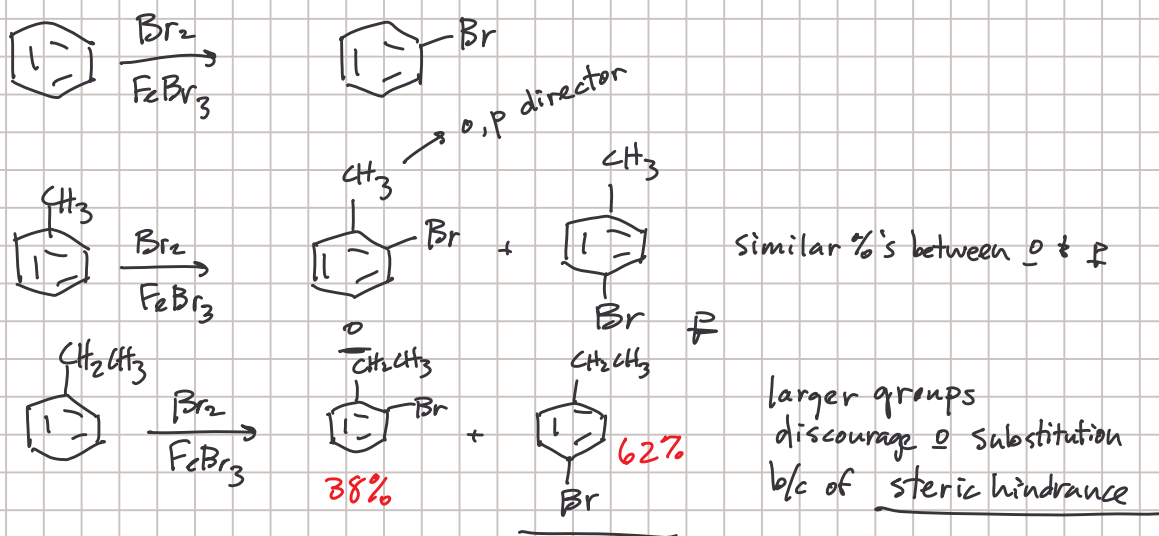
2/27/2006

HW due Wed 5pm

Exam Fri (thru Wed lecture)

Lab (Friedel Crafts) due Fri after Spring Break

Nitration lab tomorrow



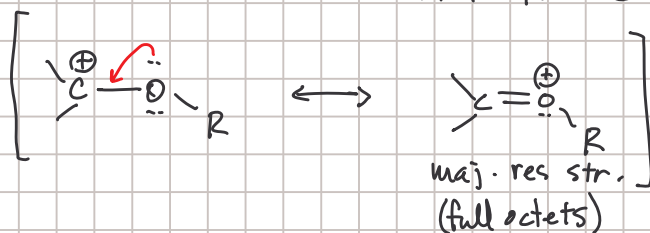
Nonbonding electrons

Alkoxy groups



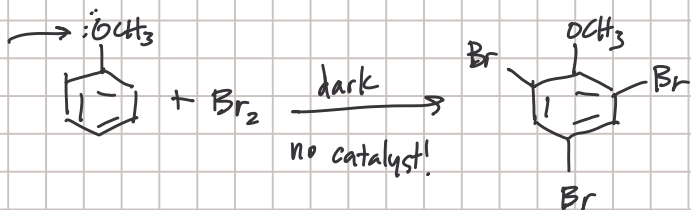
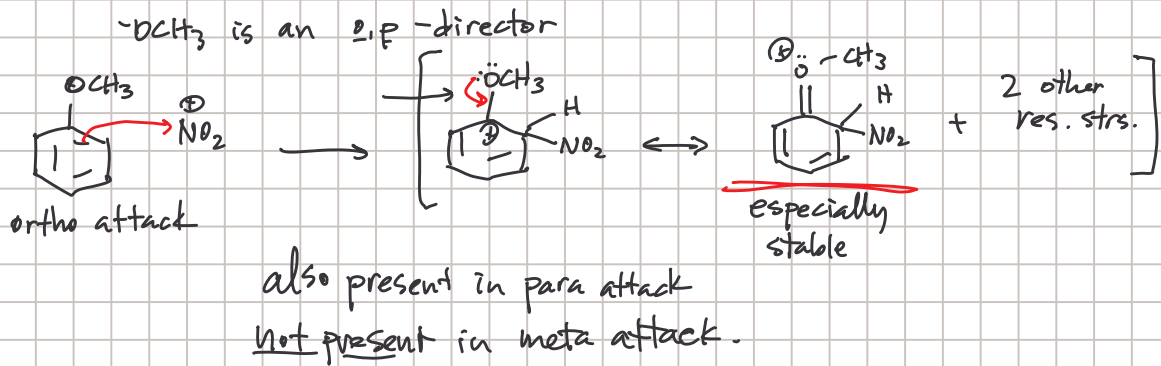
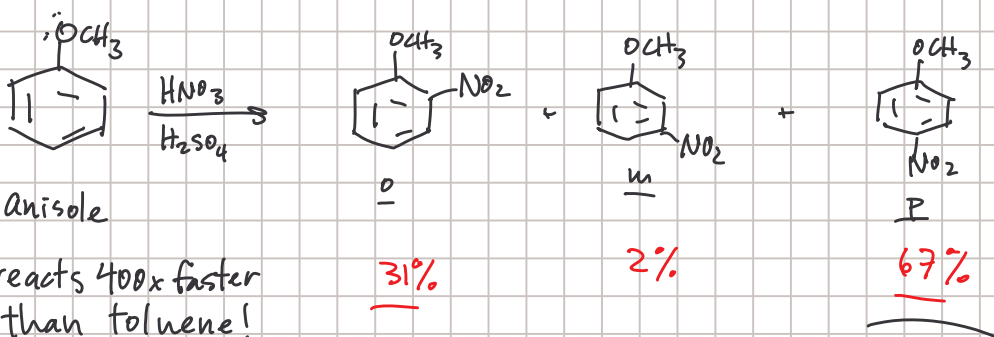
even though O is electronegative

it will still stabilize an adjacent C^+



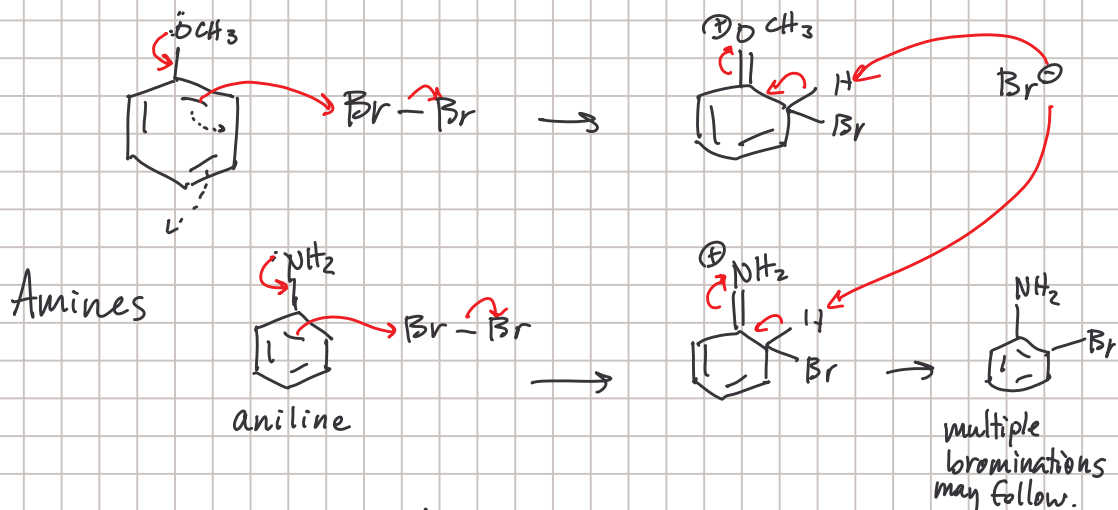
Pi donation

nonbonded e^- donated to form π bond

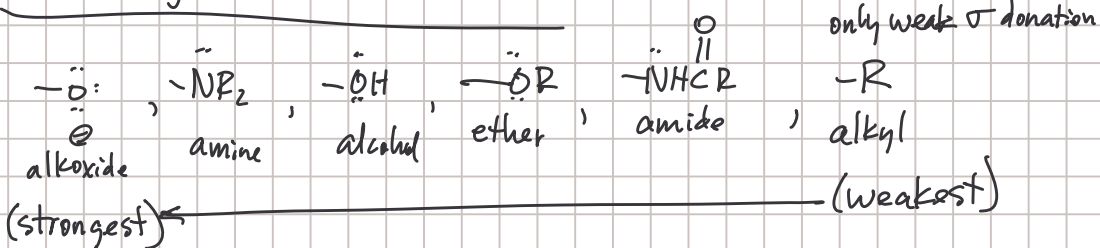


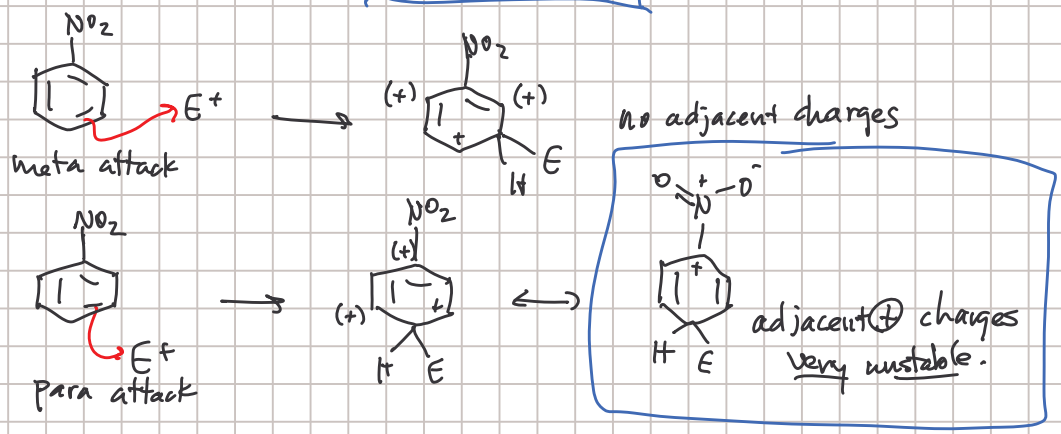
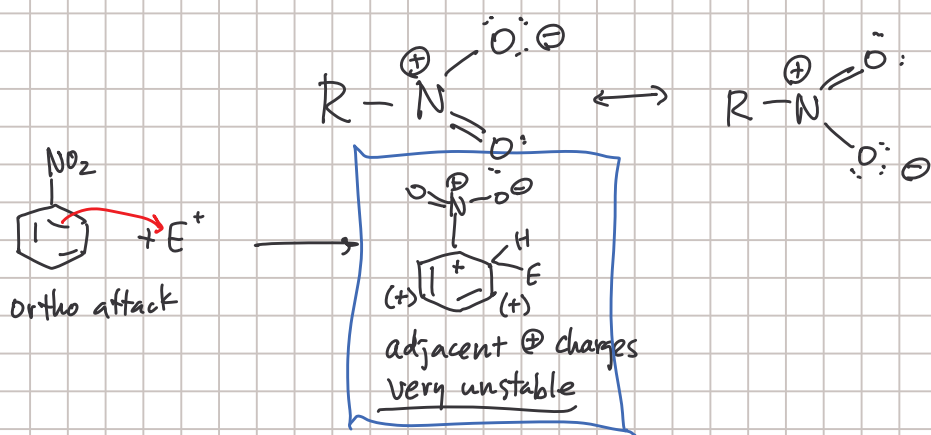
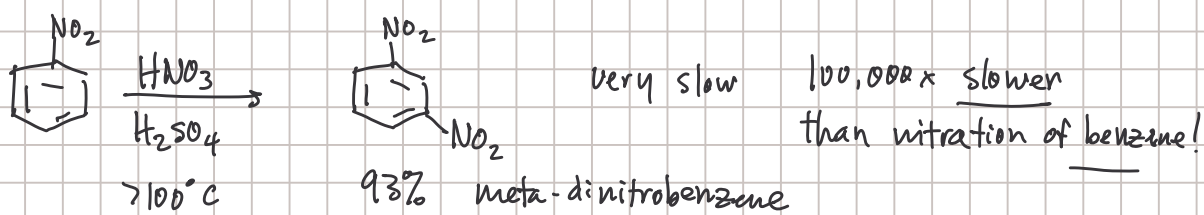
If e^- 's "pump" e^- density into the ring, making it more nucleophilic

"activating" groups promote these reactions



Activating, ortho, para-directors

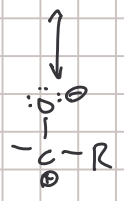
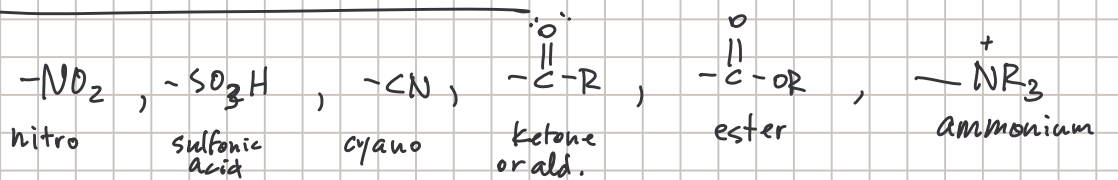




-NO₂ group is a meta-director (meta-allower)
(because attack at ortho or para is destabilized)

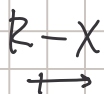
-NO₂ group is deactivating (e⁻ withdrawing groups remove e⁻ dens from ring, make it less nucleophilic)

deactivating meta-directors



all have full or partial \oplus charge on atom connected to ring

Halogens



σ withdrawing from electronegativity



can stabilize adjacent \oplus charges by π donation

σ withdrawing deactivates the ring

π donation makes ortho-para directing (stabilizing + charge in o, & p σ complexes)