

1.

a.

H_a removed:



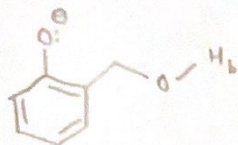
H_b removed:



✓ - hybridization

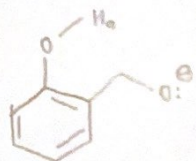
b.

H_a removed:



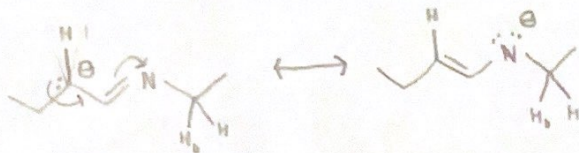
✓ - inductive effects

H_b removed:



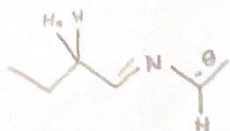
c.

H_a removed:



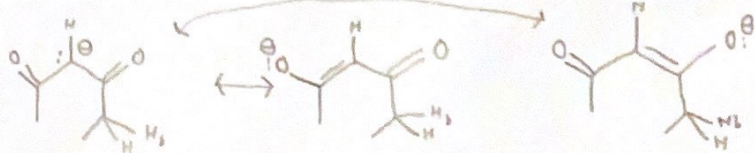
✓ - resonance

H_b removed:



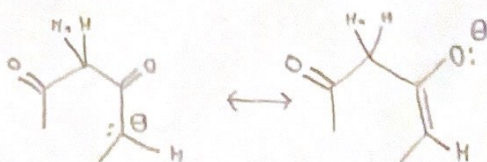
d.

H_a removed:



✓ - meso resonance

H_b removed:



Q-H BDE > C-H BDE

other carboxylic acid

carboxylic acid

Cl is more electronegative than Br

2.



Low EN Br
or EWG.

Higher EN Cl
or EWG.

3.



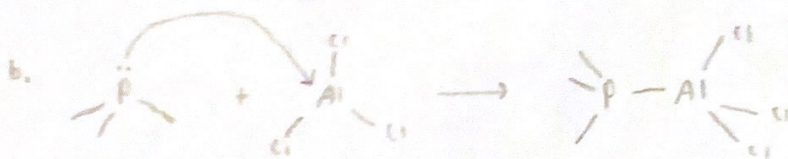
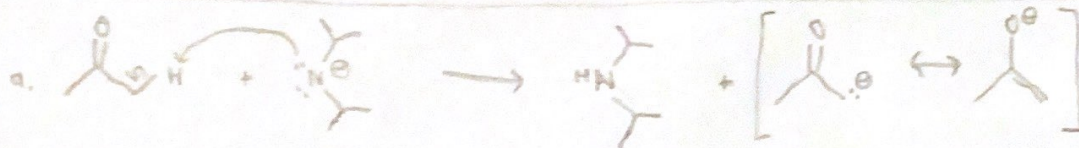
nitro groups are
strong EWG

good
EWG

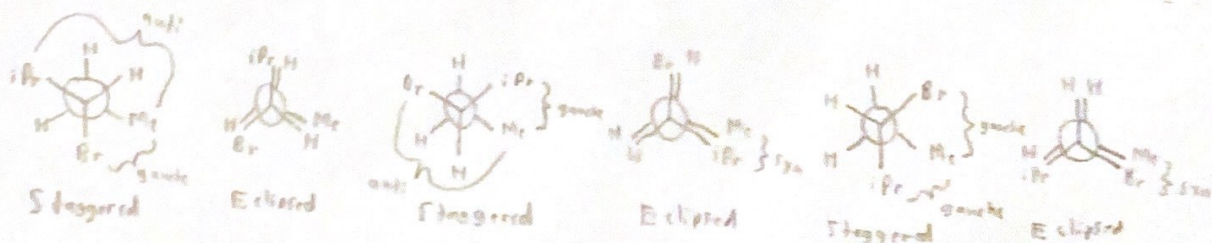
neutral

Electron-donating group

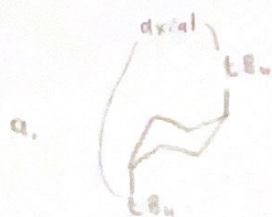
4.



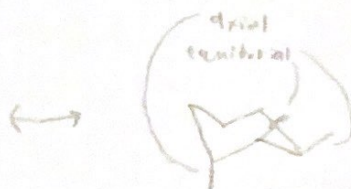
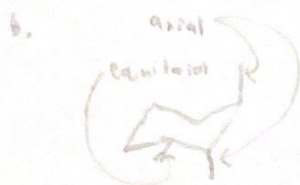
5.



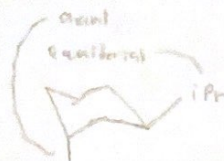
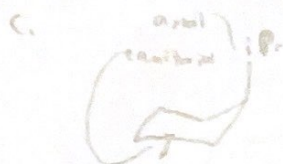
6.



More stable - no 1,3-diaxial interactions



More stable - fewer 1,3-diaxial interactions



More stable - smaller axial group