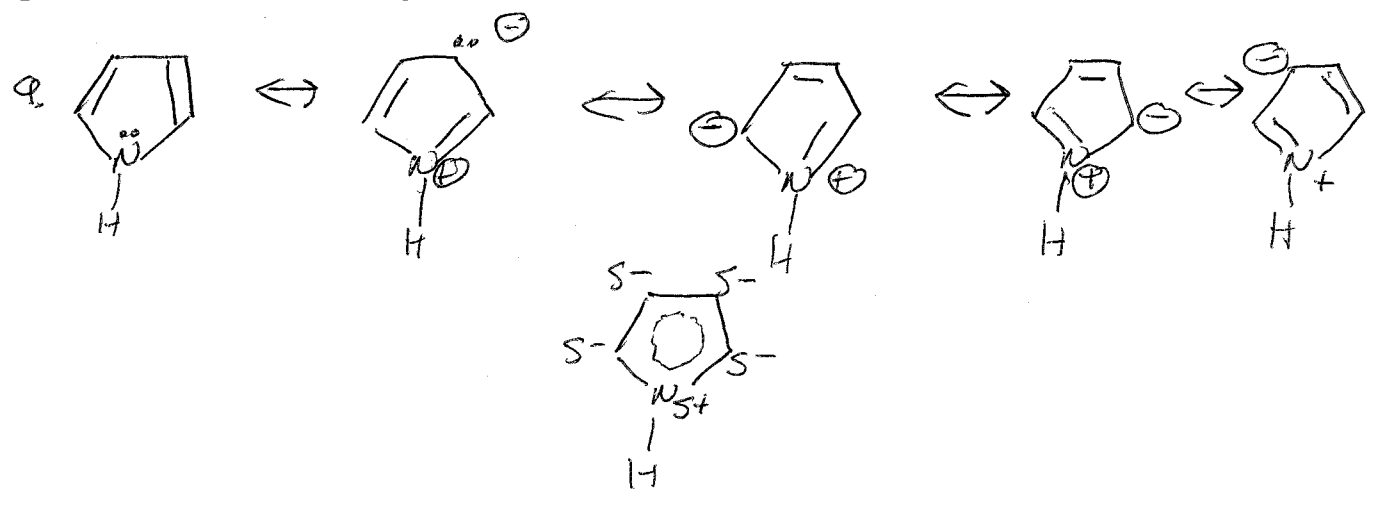
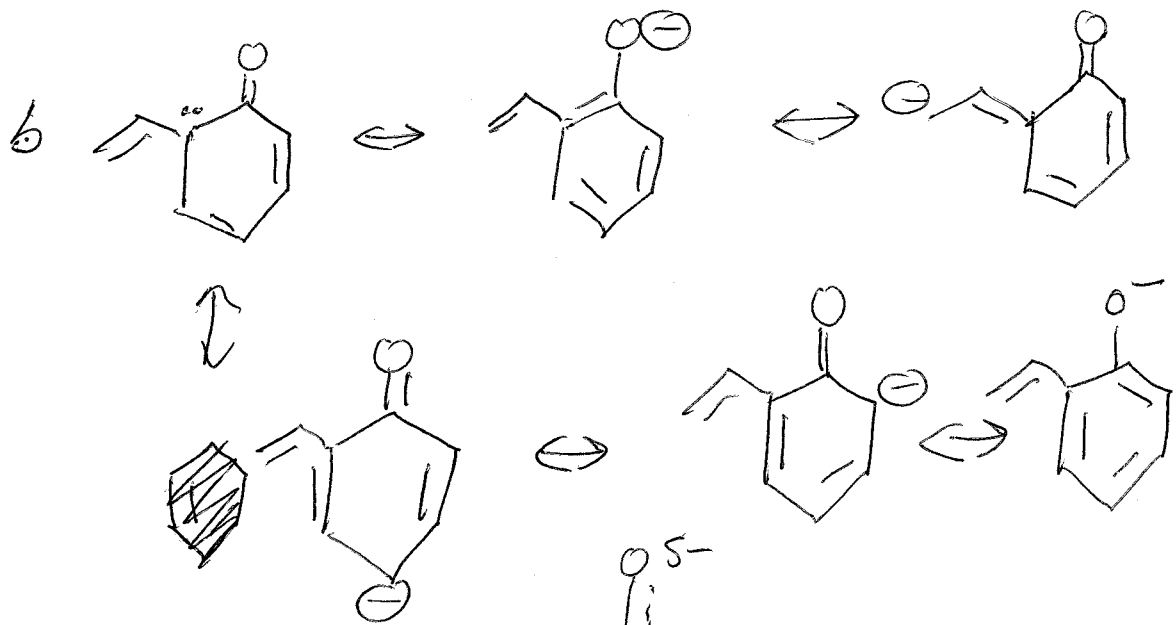


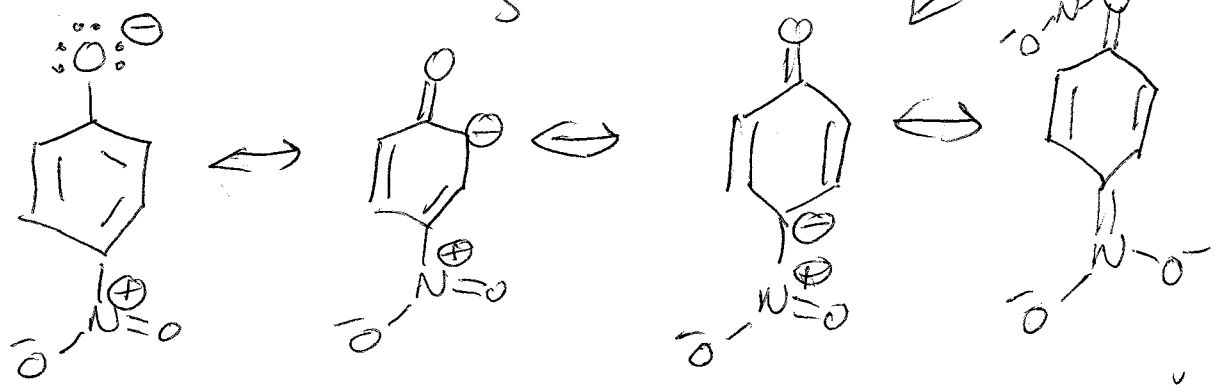
① Draw resonance forms Hybrid

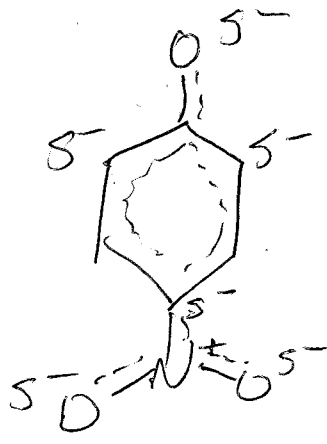


(b)

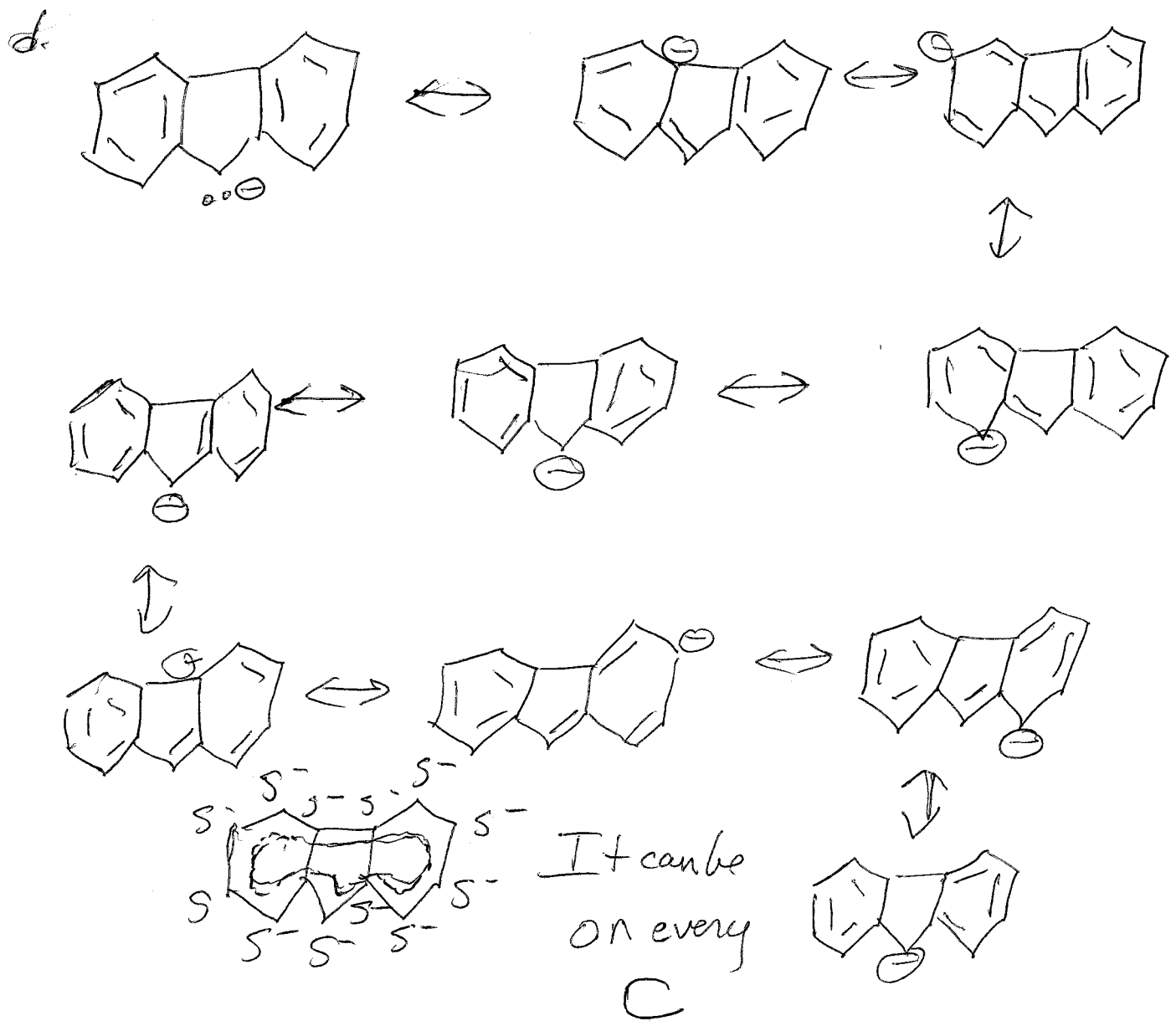


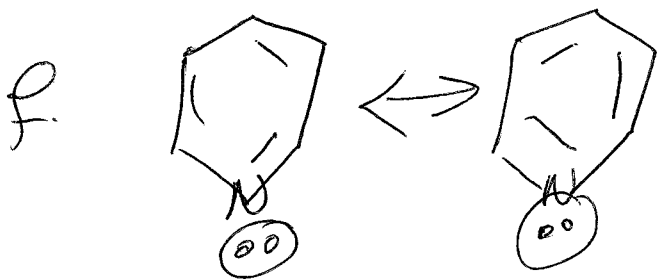
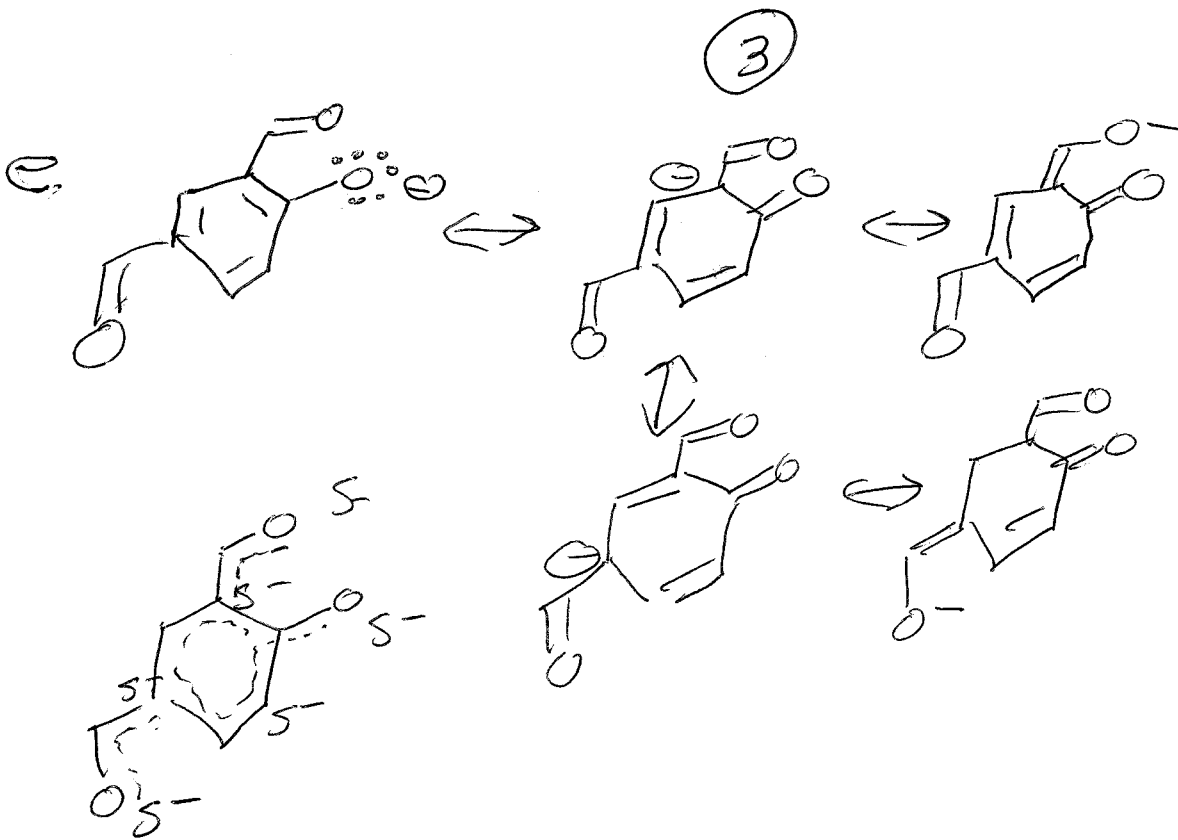
c.





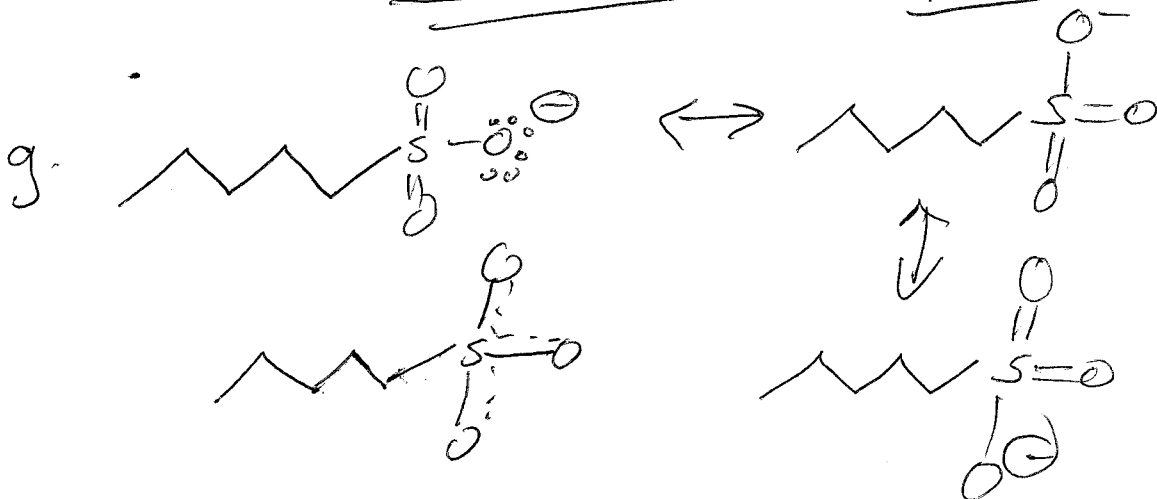
(2)

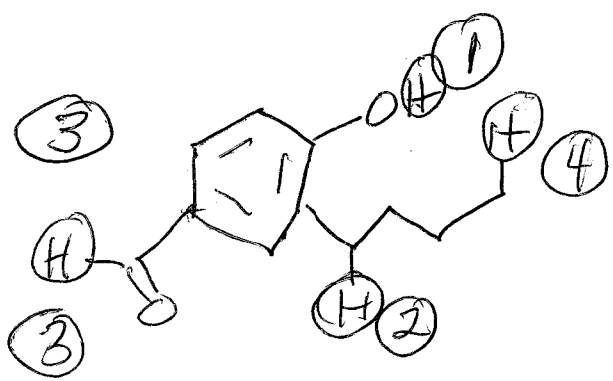




↪ Vinylic

No resonance w lone pair



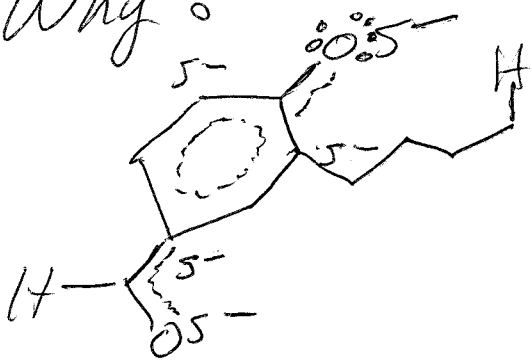


1 > 2 > 3 > 4

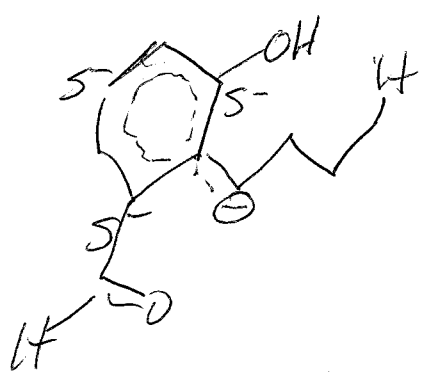
← increasing Acidity

Why? Consider

Conj bases

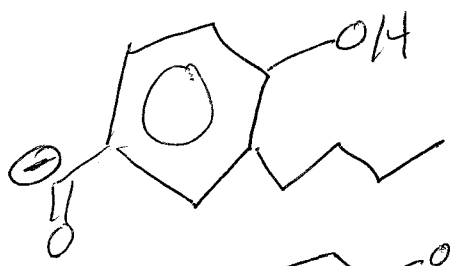


extensive resonance stabilization including oxygen  
weakest base > Conjugate acid more acidic

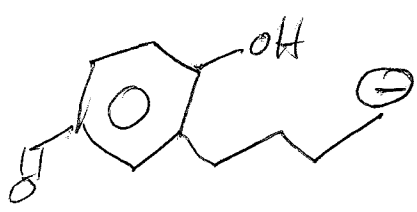


resonance stabilization

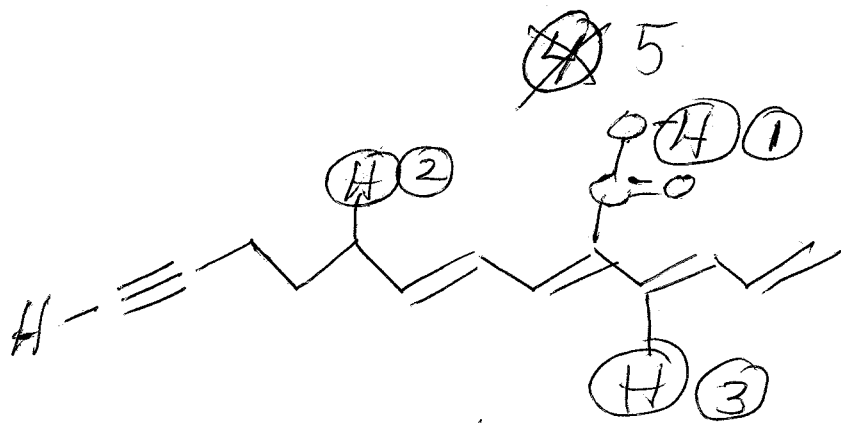
S- on 4 carbons  
Second weakest base  
Second strongest conj. acid



vinyllic sp<sup>2</sup> anion  
No resonance

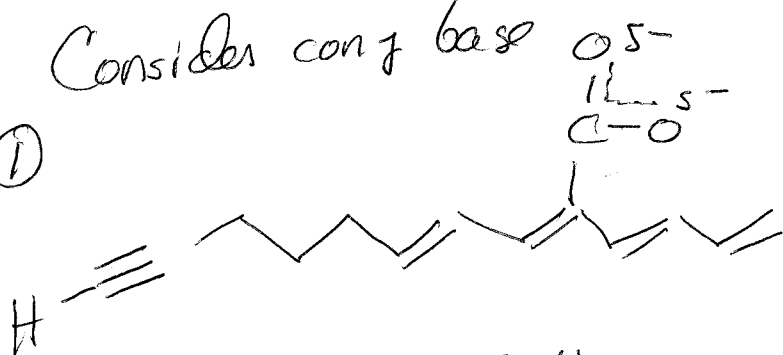


sp<sup>3</sup> anion No resonance



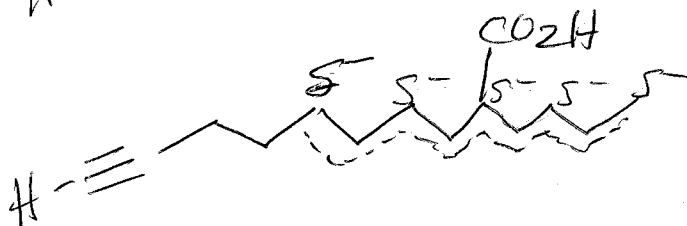
Consider conj base

①



resonance stabilization

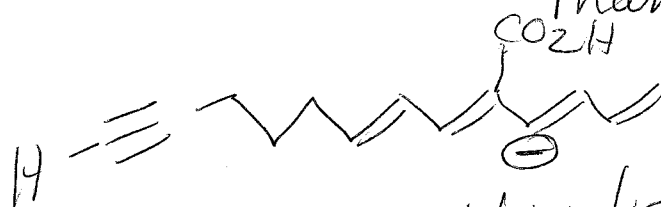
on two oxygens  
equal distribution  
on two oxygens



resonance of stabilization  
of 5 carbons

oxygen much better at stabilizing  $\ominus$  charge than oxygen

③

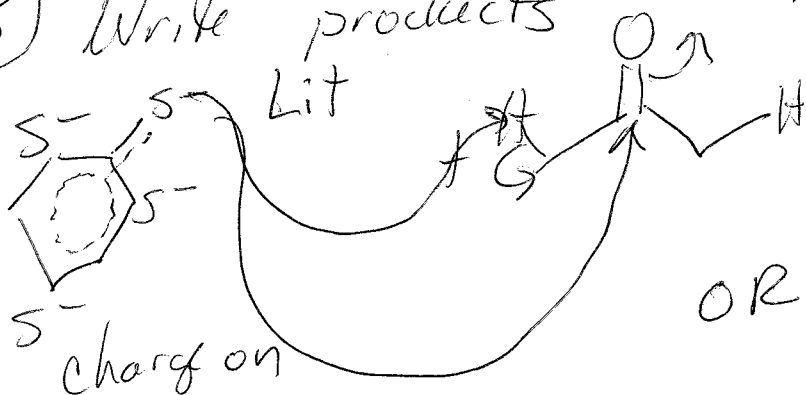


Vinylic

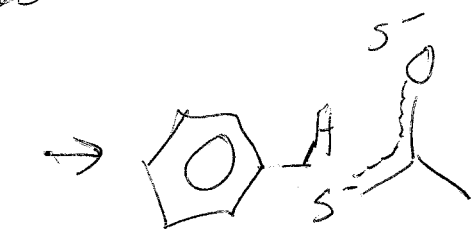
no

resonance

③ Write products

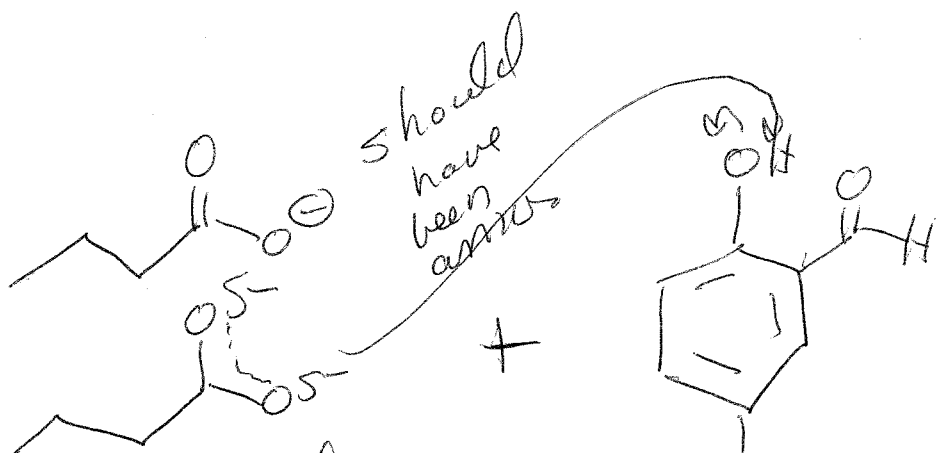


charge on 4 carbons  
disruption of benzene

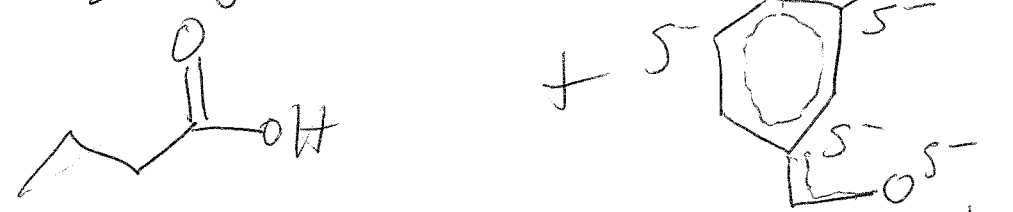


OR  
weaker base  
resonance & charge on oxygen

~~5~~ 6



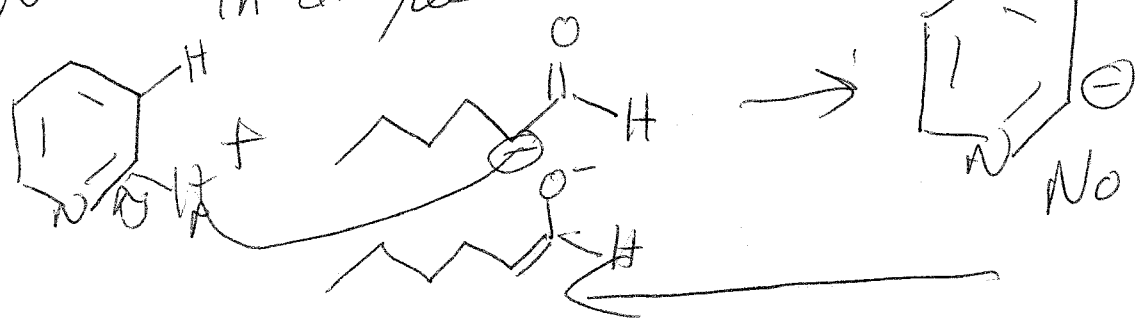
balanced charge on 2 oxygens 17  
2 oxygens ↓



Weaker base?  
more resonance  
charge on 3 carbons  
3 oxygen

Close call

Won't work in direction written resonance



Vinyllic  
No resonance