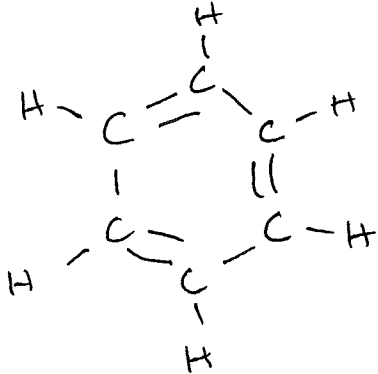
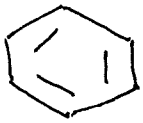
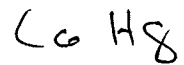
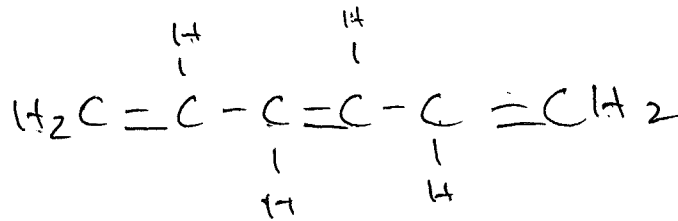
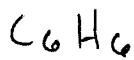


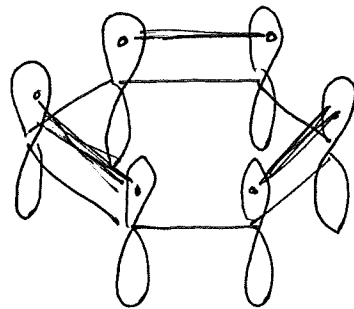
Bonds + Resonance

Benzene

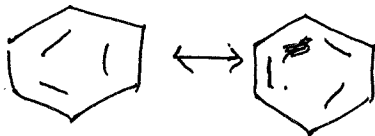
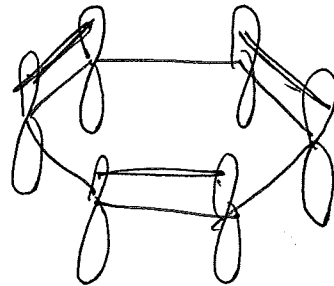
MO



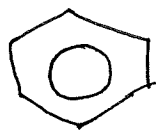
$sp^2$   $120^\circ$



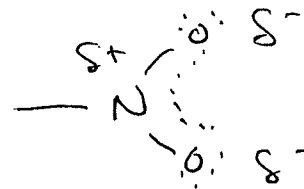
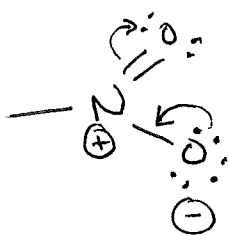
6p



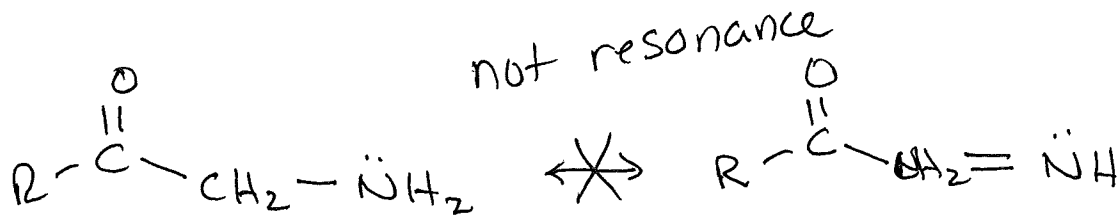
Resonance Contributors  
- 'fictional'



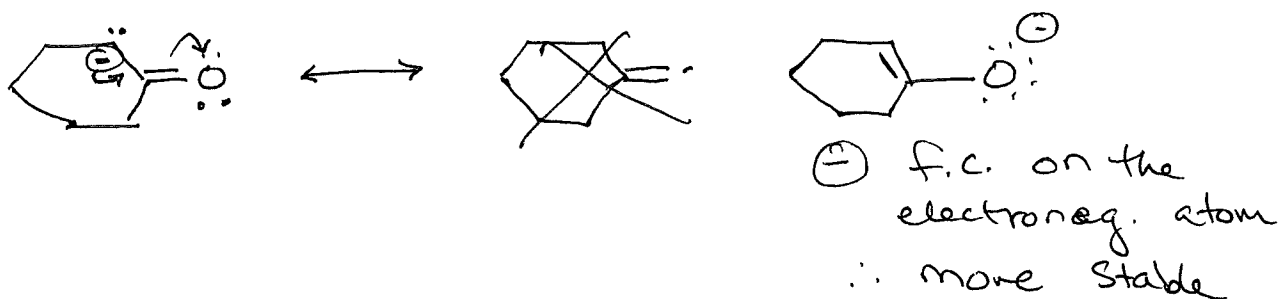
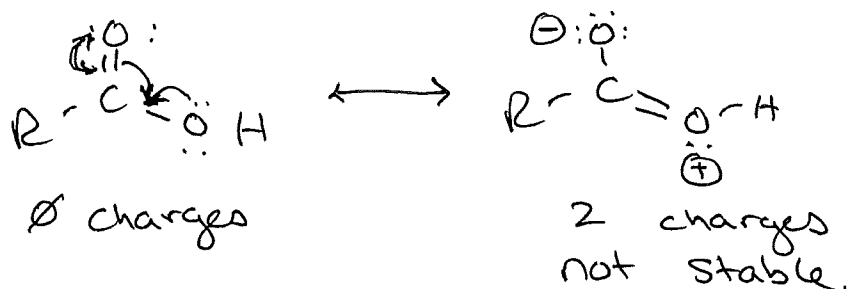
delocalized over all 'p' orbitals.



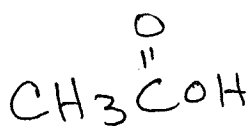
- ① only  $e^-$  move
- ② only  $\pi$   $e^-$  move
- ③ # of  $e^-$  does not change



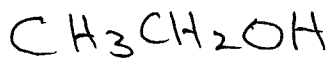
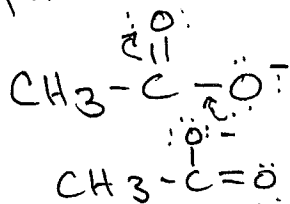
The more stable a resonance contributor is the more it resembles the resonance hybrid.



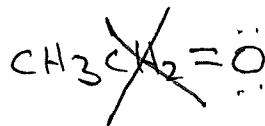
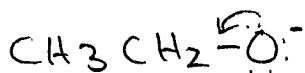
Delocalization of  $e^-$  stabilizes a molecule.



$pK_a = 4.76$



$pK_a = 15.9$



Dienes molecules with multiple



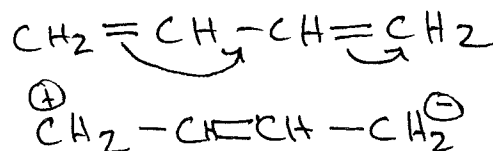
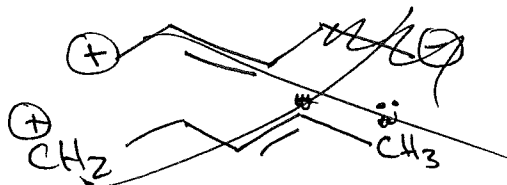
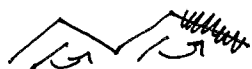
Cyclohexatriene

# Isolated dienes

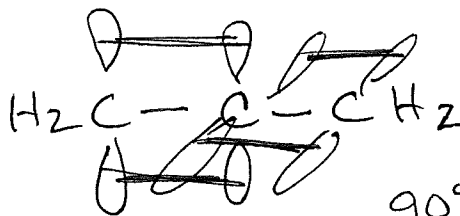
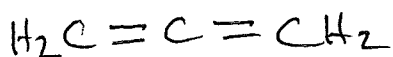


no resonance contributor

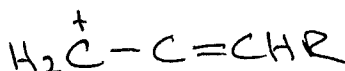
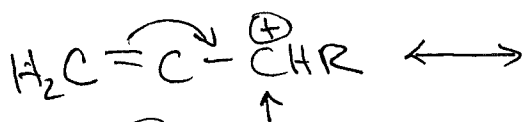
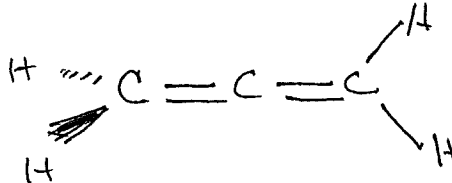
# Conjugated diene



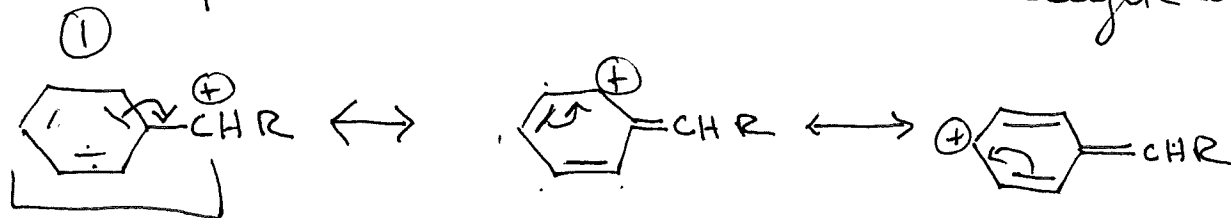
# allenes



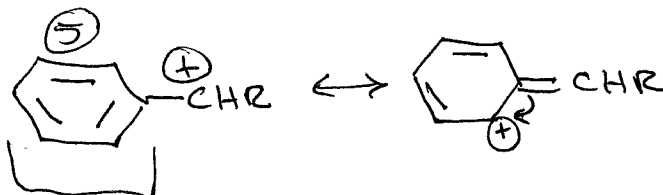
90° between each double bond.

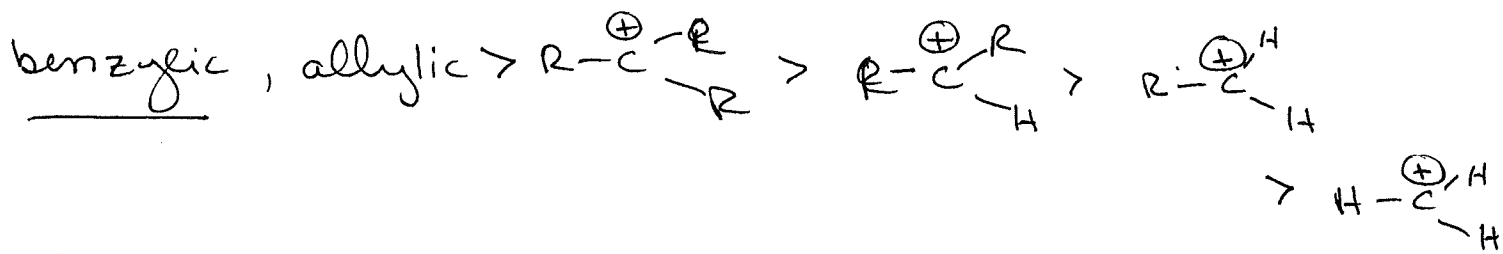


Resonance allylic cation

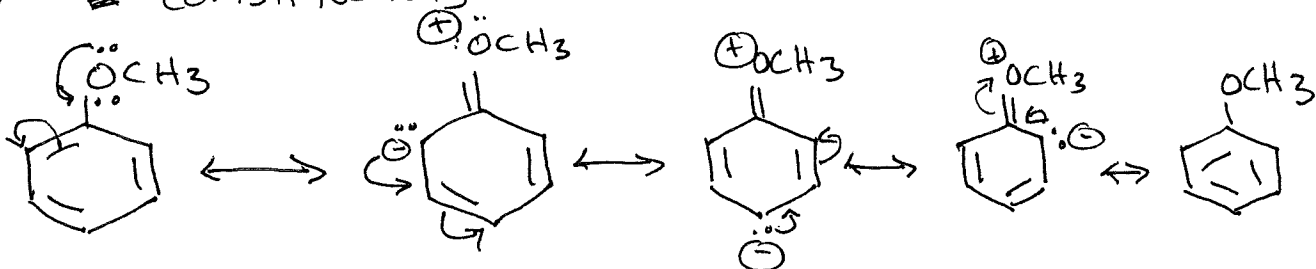


5 Resonance  
Benzylic

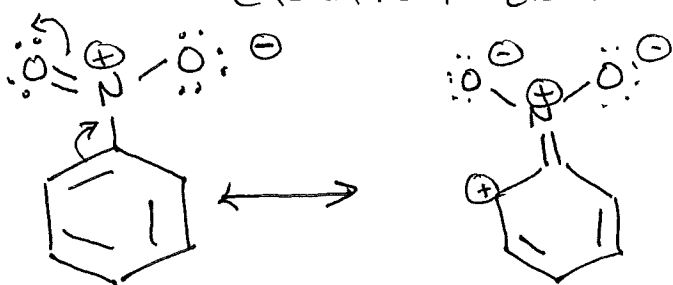




Benzyl constituents

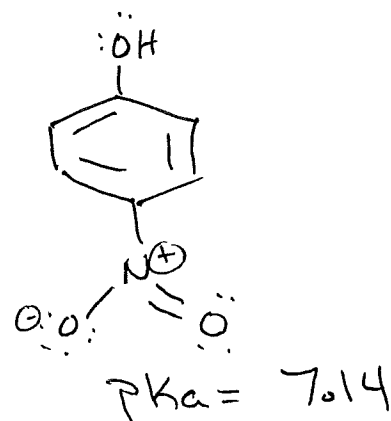
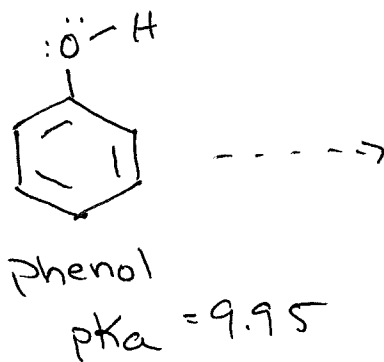
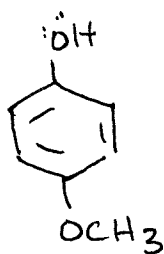


electron donation via resonance

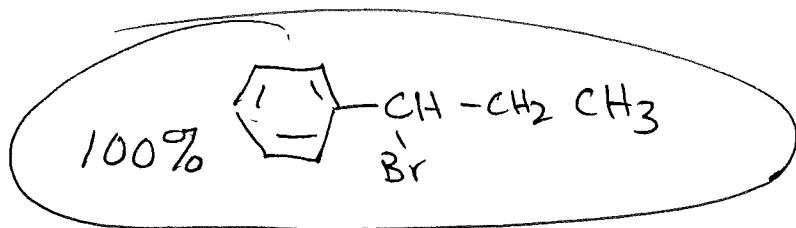
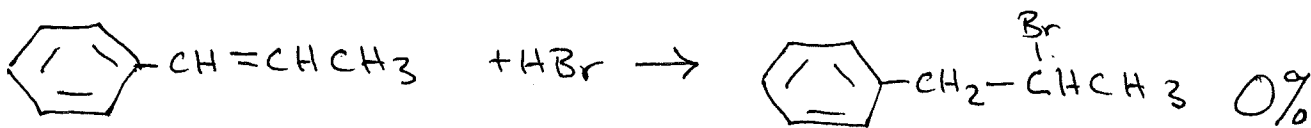


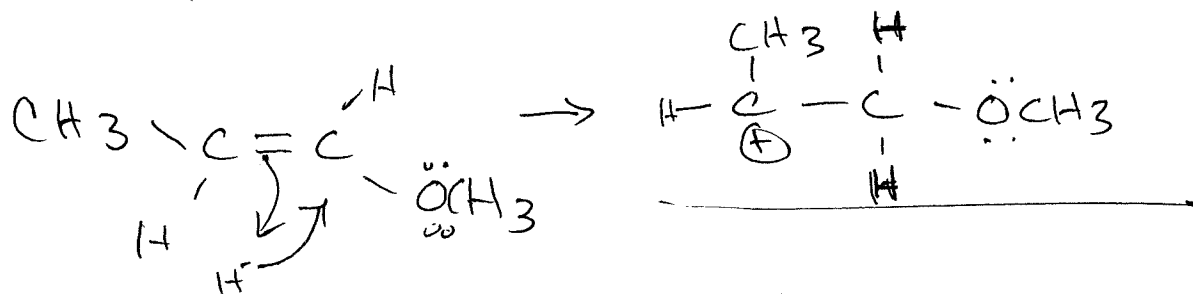
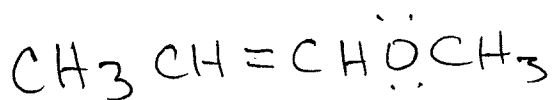
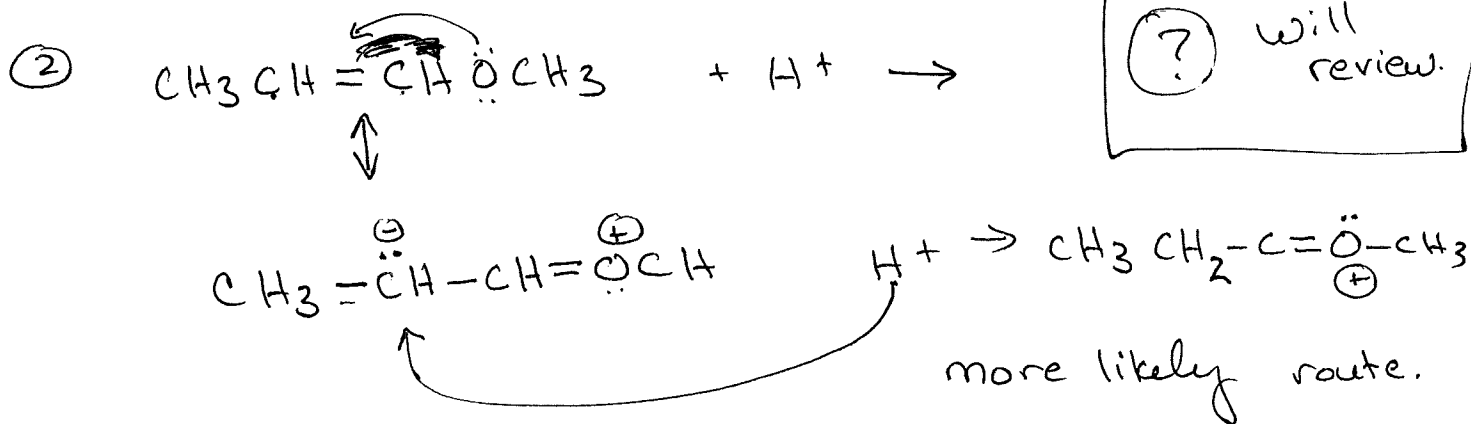
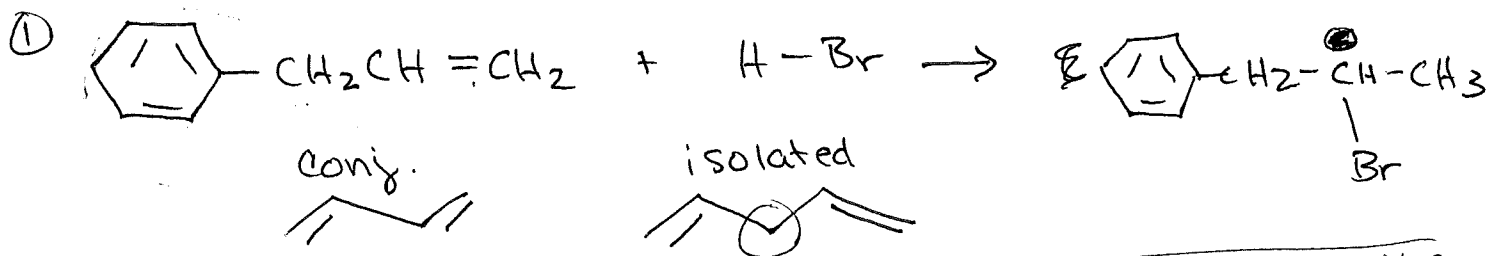
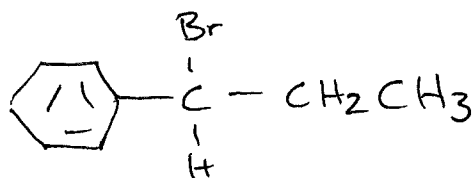
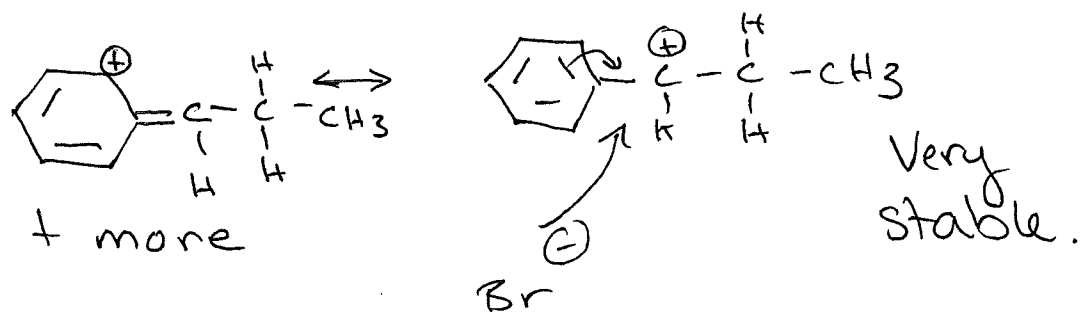
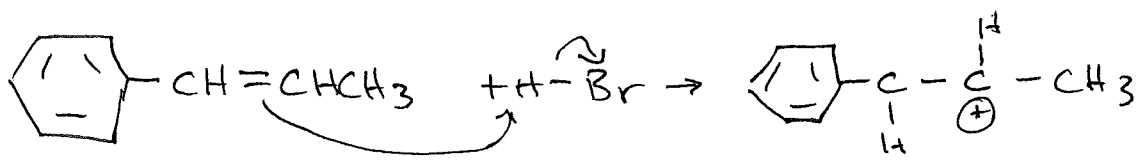
x5

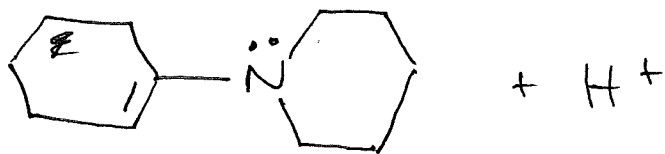
acidity



Reactions







most likely product?

Read 8.8 before class Wed.