

Course CHEM 343 Lecturer Gellman
 Day Mon 1:20 PM Date 12/12/11
 Notes Taken By Pattish Total # of Pages 3

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Final Exam 7:45AM Sunday

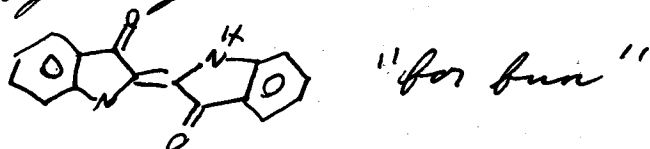
A-E $\Rightarrow$ Psych 121 F-Z $\Rightarrow$ Psych 105

Office hours

Today 5-6 PM, Wed as usual, Fri 1-3 PM

Review (as usual) Tues & Thurs 5 PM B3 71

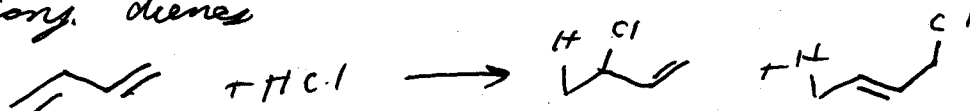
crigo dye



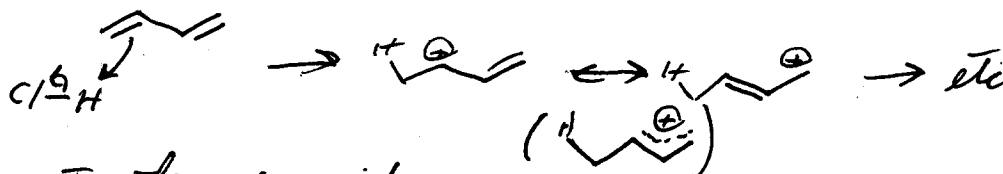
blue dye

Recall HX addition

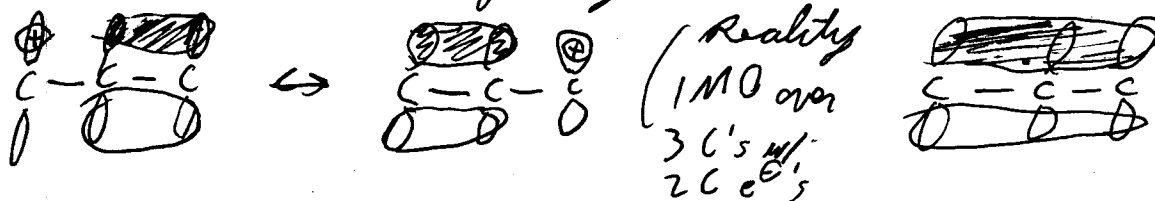
Conj. dienes



Mech involves a delocalized carbocation

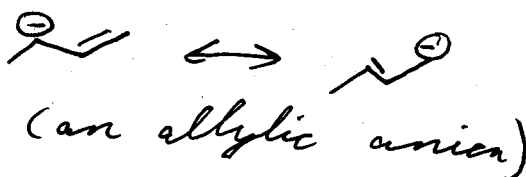
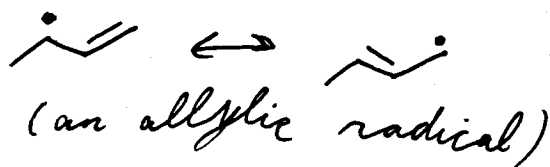


Further consideration of allylic carbocation

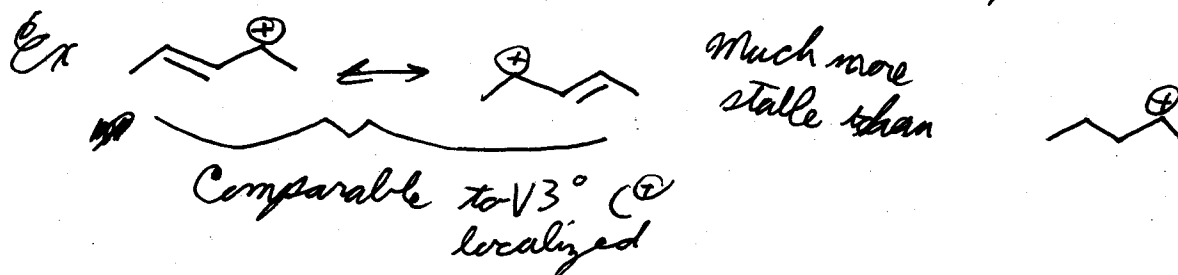


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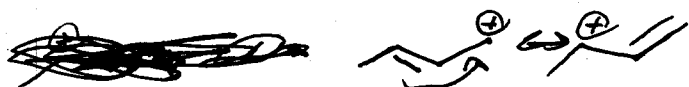
Concept of resonance delocalization applies to anions & radicals



Resonance delocalization of $\oplus$, $\ominus$, or $\cdot$ provides stabilization

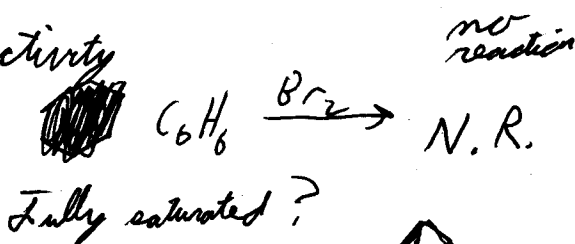
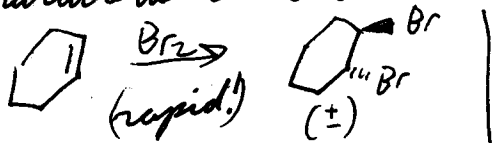


Read § 15.6 carefully - res. delocalization & resonance structure
 Book recommends:



Aromatic compounds - dramatic example of π delocalization
 Benzene = $C_6H_6 \Rightarrow$ 4 ~~that~~ Degrees of Unsaturation is alkene?

Characteristic alkene reactivity

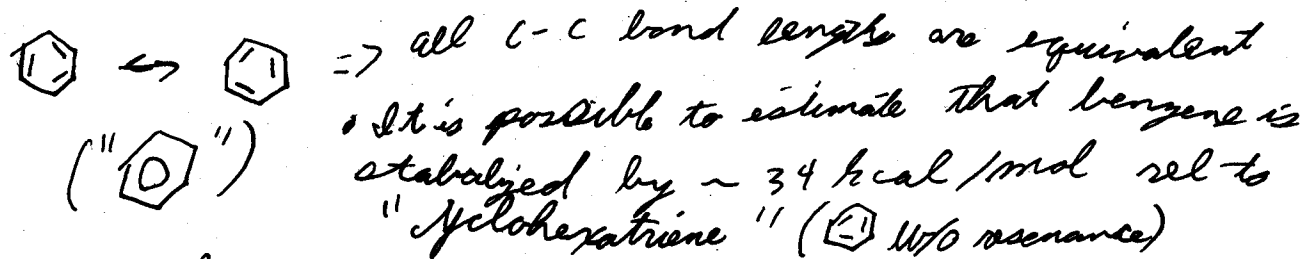


• Kekulé -  $\Rightarrow$ aromaticity

But cyclic rearrangement
 of double bonds leads to altered reactivity

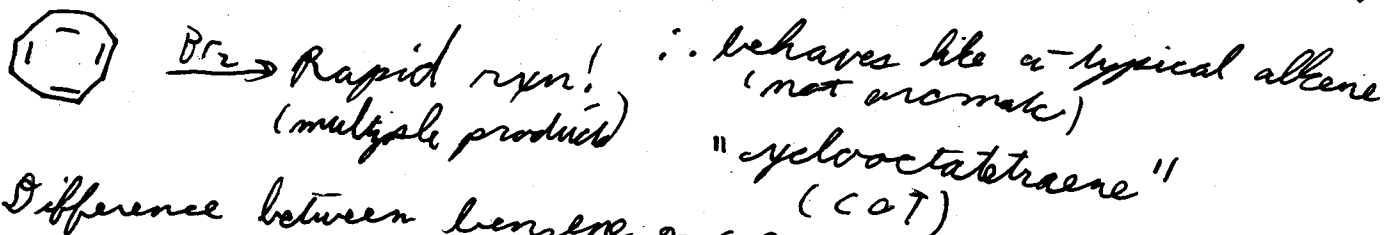
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- Aromaticity now defined as the special stability relative to alkenes of benzene & related compounds
- Aromaticity arises from cyclic delocalization of πe^- 's



Defining characteristics of aromatic systems?

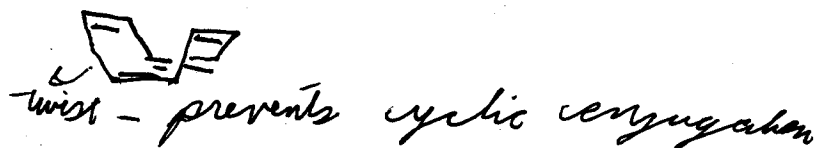
- cyclic array of π bonds is necessary, but not sufficient



- Difference between benzene & COT manifest in structure
- Contrast - COT is not planar (p 719)



Benzene is planar (for cyclic conj.)



- Hückel's rule - only #'s of π bonds support aromaticity
- 2, 6, 10, ... $(4n+2) \rightarrow$ aromatic; $(4n) \rightarrow$ anti-aromatic
- $(4n+2)$ & then
 - closed loop of πe^- 's (cyclic deloc)
 - planarity (for π overlap)