

Test 3 Postponed until May 3

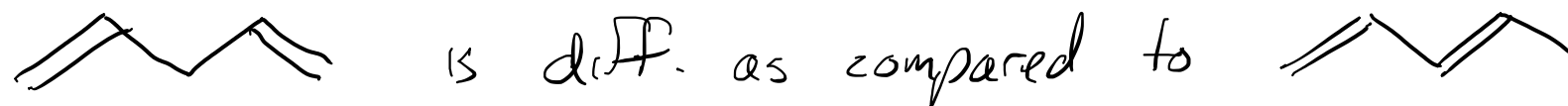
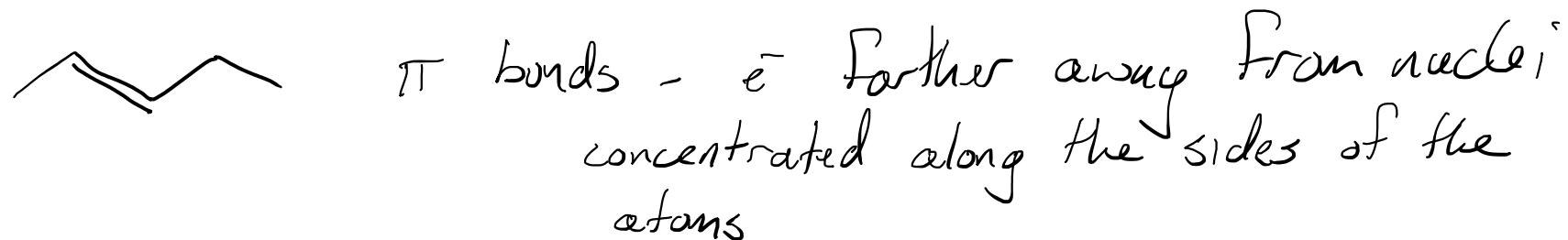
Please hand in Review Sheet 4 on Monday

Rework Test 2 by Wednesday, April 24

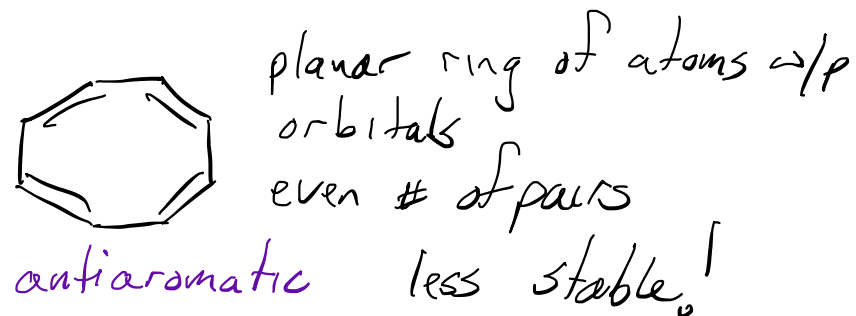
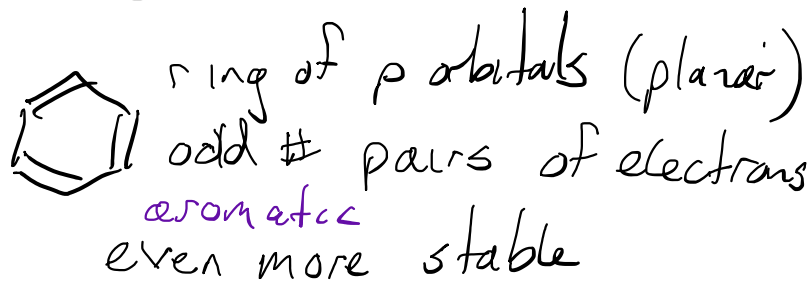
Please get me any review sheets that you haven't handed in so I can give you the points for the review

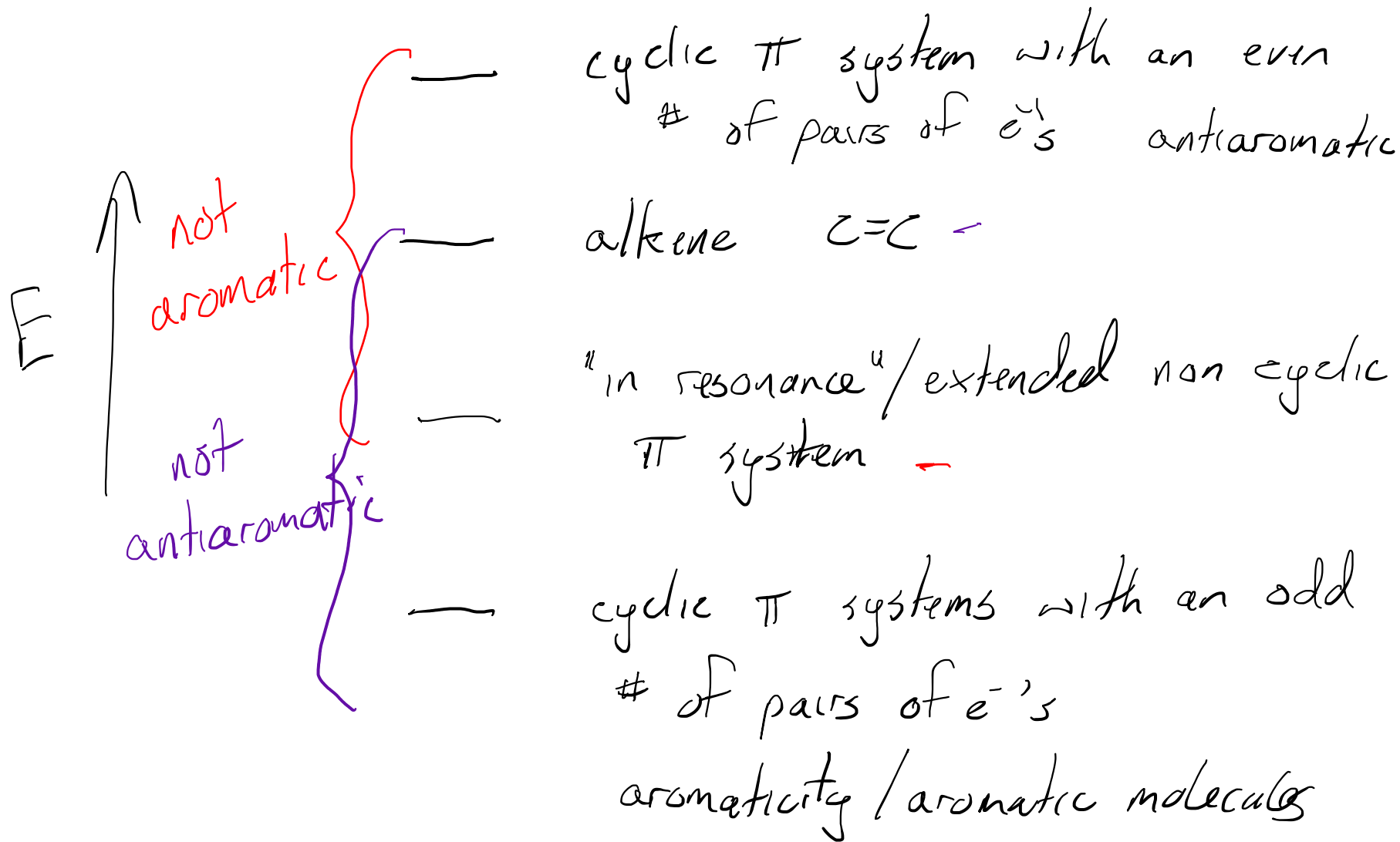
Starting Chapter 18 on Monday (jumping to section 18.3)

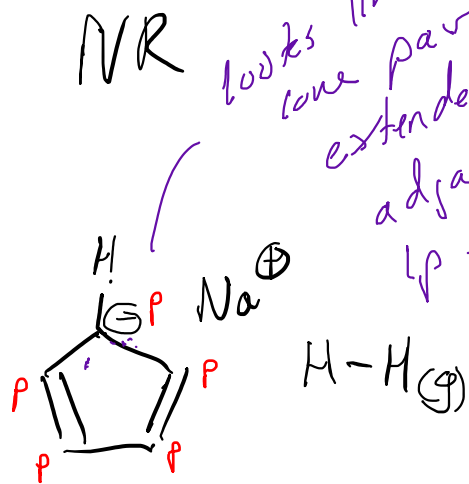
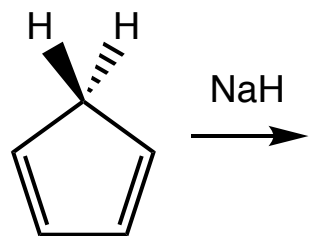
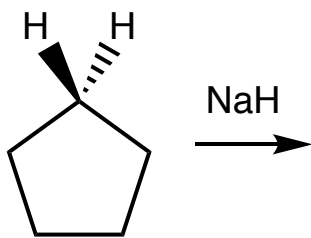
π bonds, extended π systems, aromaticity, and antiaromaticity



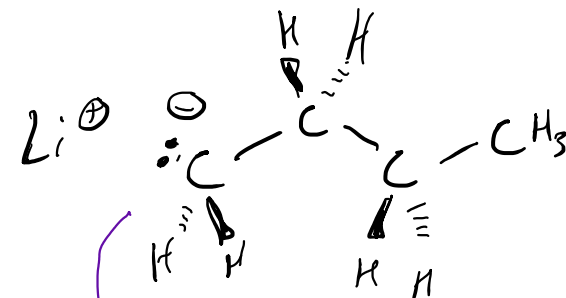
extended π system makes adjacent π bonds more stable than nonadjacent π bonds (in most cases)
extended π systems can be aromatic, antiaromatic, or neither







NR looks like sp³ hybridized lone pair e⁻'s but since extended π system is adjacent to lp e⁻'s, lp e⁻'s are more stable if they are in a p orbital



No p orbital nearby so it is lower in E to be in an sp³ hybrid

extended π system but not aromatic

extended π system

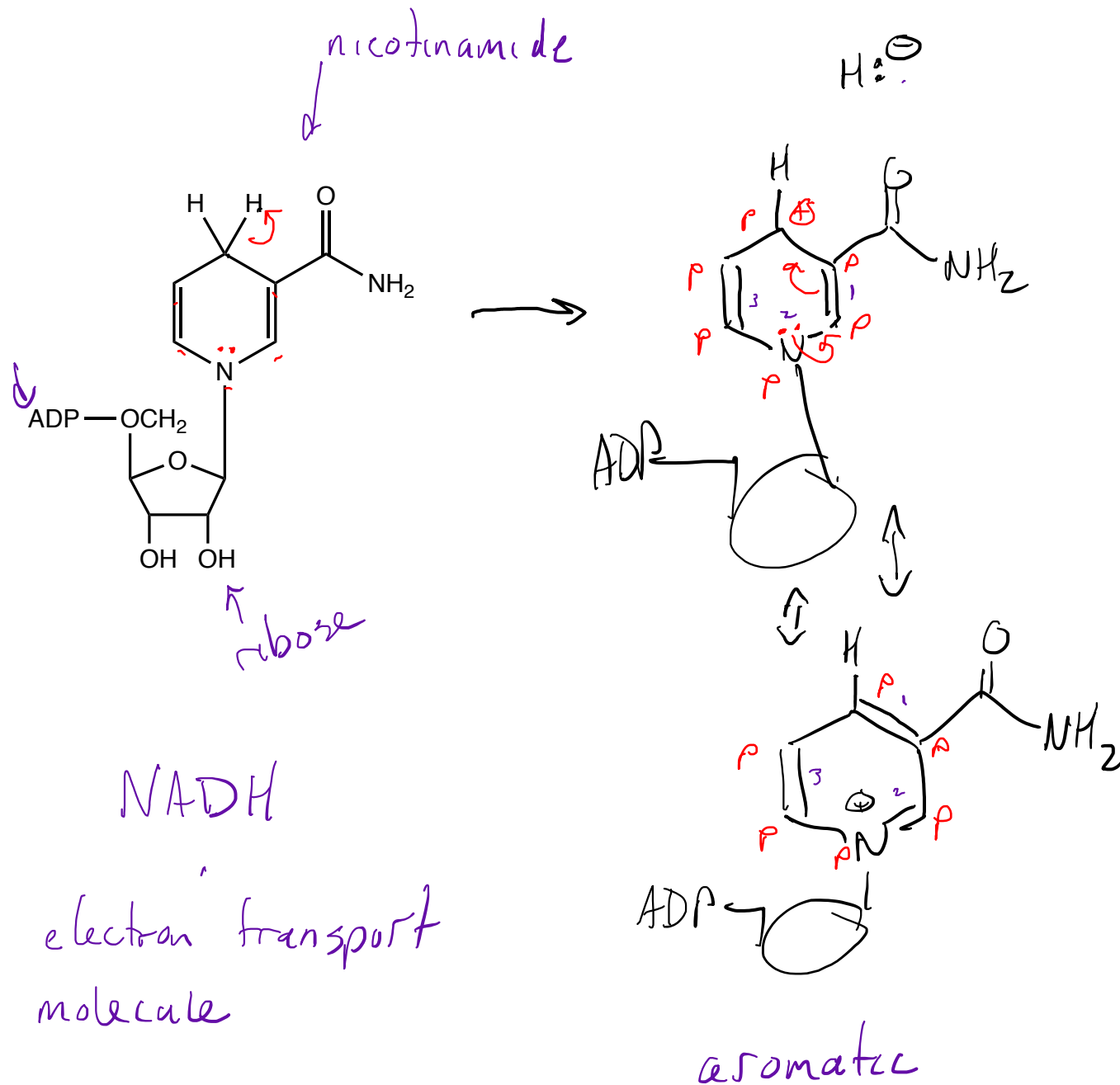
3 pairs of e⁻

in π system

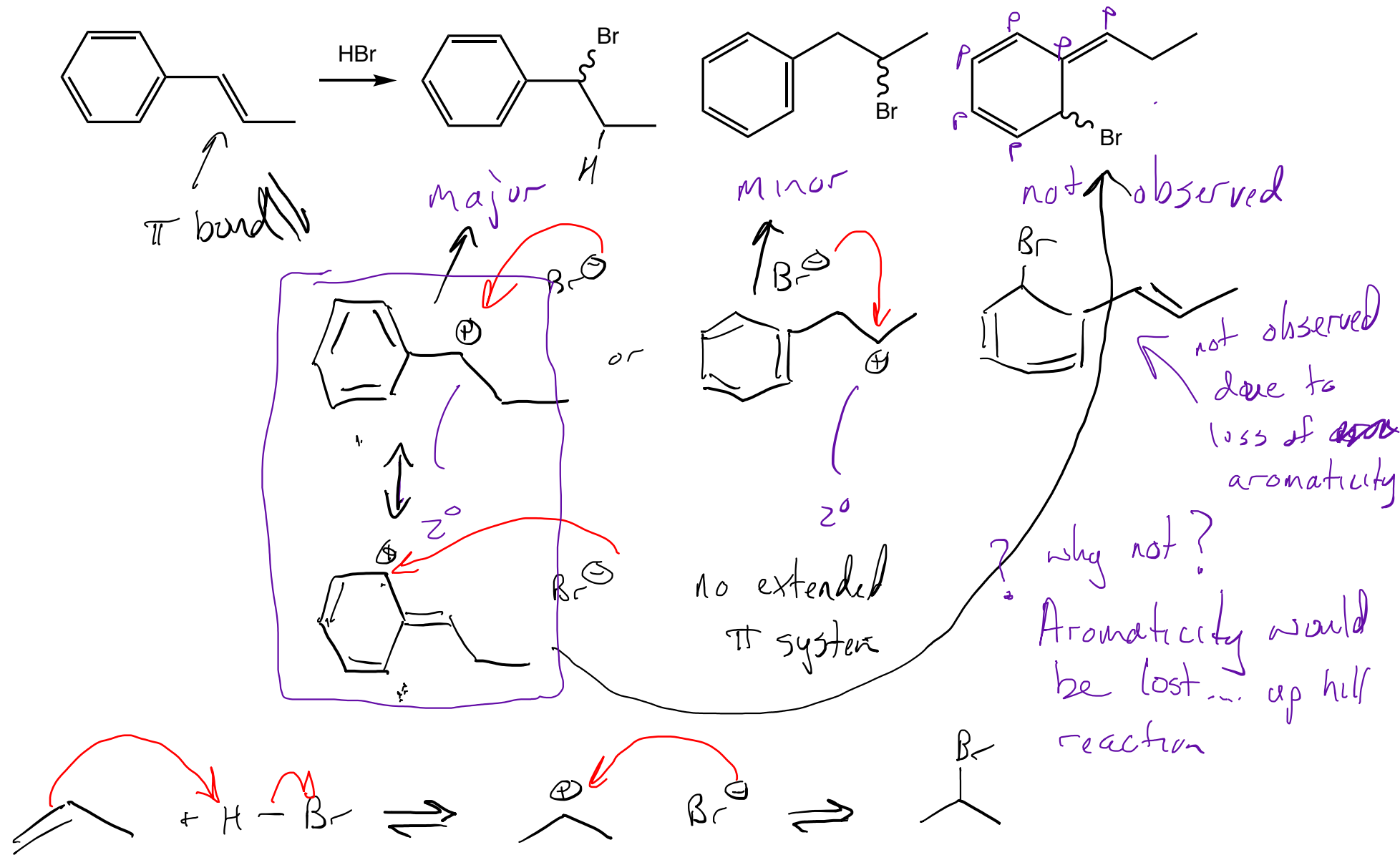
non aromatic

aromatic

change from nonaromatic to aromatic makes it easier for the reaction to proceed

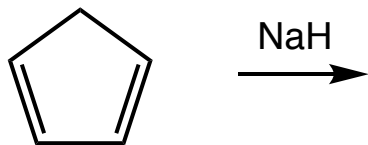
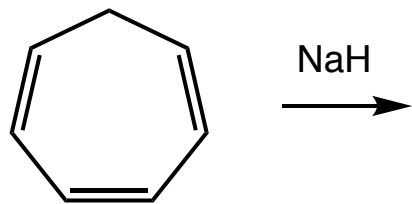


Aromaticity: encouraging and discouraging reactions

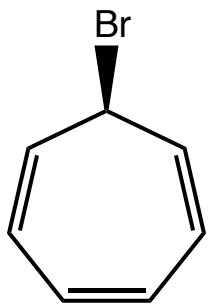


C-C π + electrophile \Rightarrow electrophilic addition

Sample question: Explain why NaH can deprotonate 1,3-cyclopentadiene but it cannot deprotonate 1,3,5-cycloheptatriene.



Sample question: Explain why solutions of 7-bromo-1,3,5-cycloheptatriene can conduct electricity when dissolved in polar solvents.

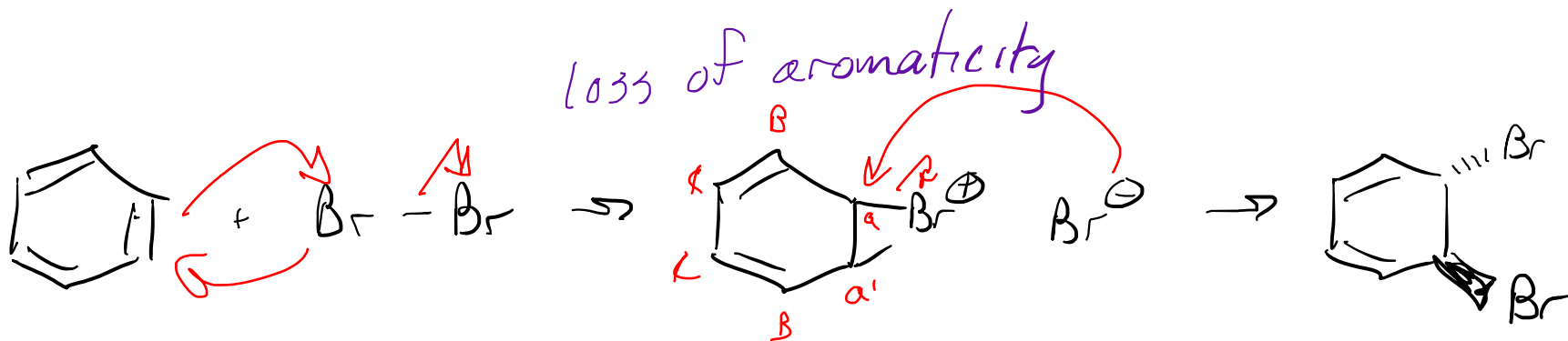


Aromaticity: How Benzene Reacts

Section 8.21

Hypothesis: π to π^* bonds are nucleophilic

I should be able to do an electrophilic addition



product is a liquid

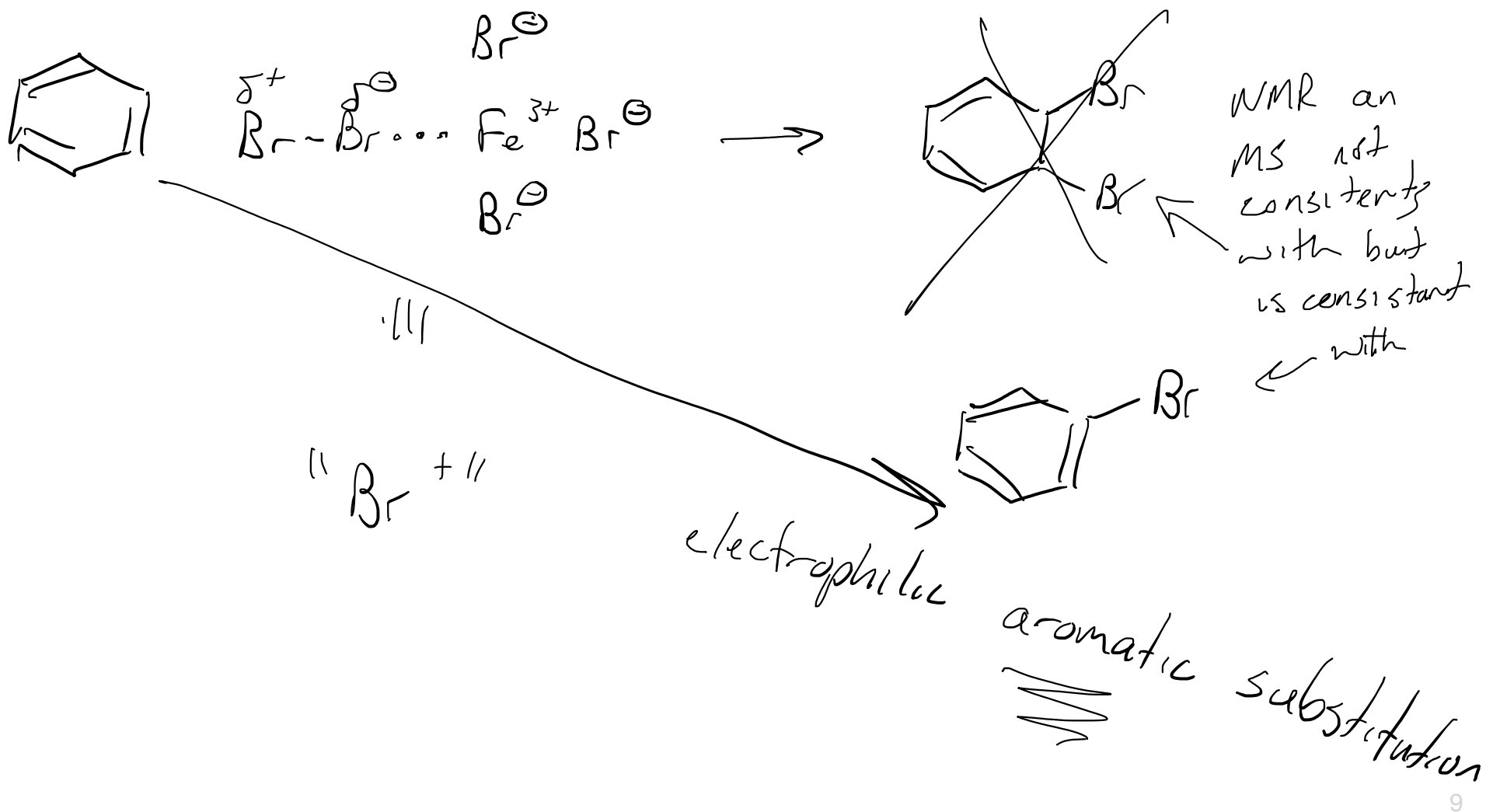
Run product through mass spectrometer.
Collect NMR data of product... 78 g/mol

1 signal at 7.15 ppm

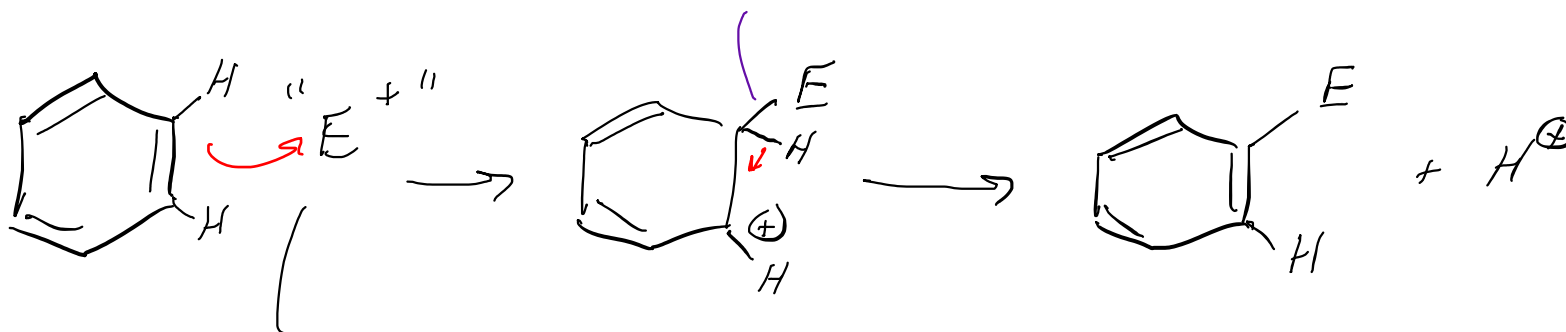


"product" is benzene

Hypothesis: electrophile is not electrophilic enough
 increase electrophilicity with a Lewis
 acid to get reaction to go.



1. benzene does not do electrophilic addition reactions.
2. benzene does electrophilic aromatic substitution.
used to be π e⁻'s



a very
strong
electrophile