

Submit a Single-sided Copy to the Office

DO NOT STAPLE

Final Exam Sunday 7:45 AM A-E $\Rightarrow$ Psych 121
 Cumulative (Ch 14-15 emphasized) F-Z $\Rightarrow$ Psych 105
 Review Tomorrow 5 PM B371
 O.H. - Today 01-3 PM Friday

Aromaticity . . .



aromatic

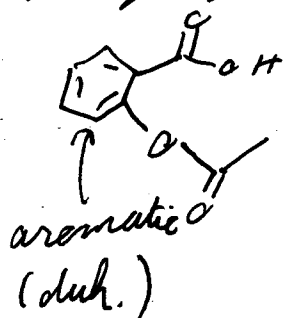


not aromatic

Defining characteristics

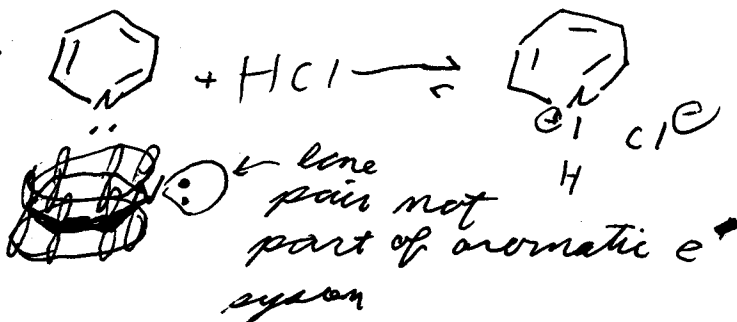
- $4n+2$ π e's: 2, 6, 10, ... [4n+2]
- cyclic • π conjugation (closed loop)
- Planarity (necessary for π conjugation)

Recognizing aromatic molecular fragments

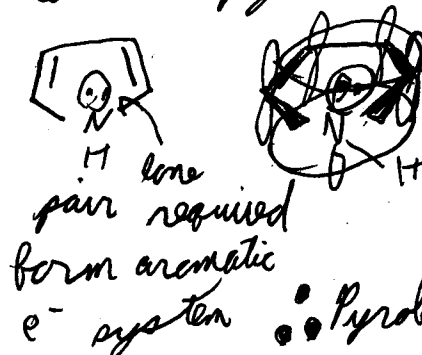


• Heterocycles - aromatic?

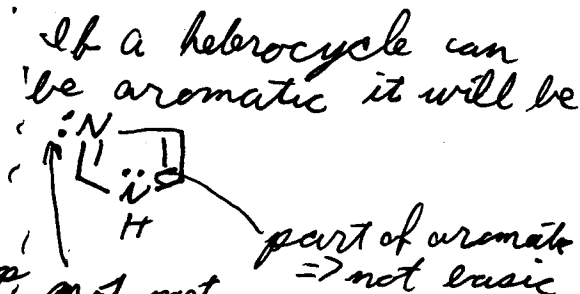
Ex: pyridine



• Consider pyrrole



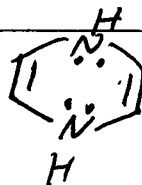
$sp^3 \rightarrow$ break π loop



• Pyrrole is a very weak base of aromatic basic

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A non-aromatic heterocycle

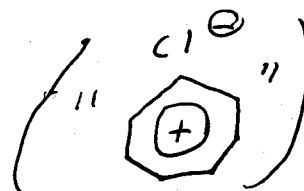
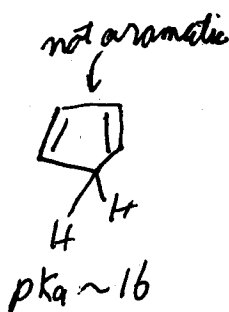
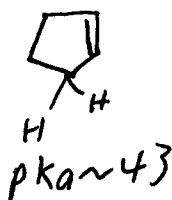
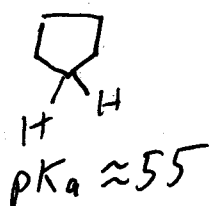


Aromatic organic ions



2 x π -bond + 1 x L.P. $\Rightarrow$ 6 π e⁻'s aromatic!
 ("cyclopentadienyl")

Expect conj. acid to have unusual pKa



~~END~~ CLASS
 MATERIAL

like research $\rightarrow$ P.h.D. program $\rightarrow$ academic $\rightarrow$ undergrad $\rightarrow$ grad
 $\downarrow$
 industry