

Course Chem 343 11 AM Lecturer Gellman

Day Wednesday Date 12/14/11

Notes Taken By Herndon

Total # of Pages 3

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Final Exam Monday 10⁰⁵ AM

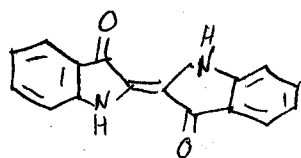
Ingraham B10

(Chaps 14 + 15 emphasized, cumulative)

Review - Tomorrow 5 pm B 371

Office Hours - today as usual, Friday 1-3 PM

Indigo dye



Defining Characteristics...

1) π e^- s (2, 6, 10... $[4n+2]$)

2) Closed loop of π e^- s

3) Planarity (necessary for π conjugation)

Aromaticity...



vs.



aromatic

not aromatic

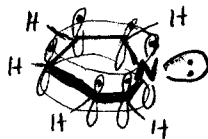
Heterocycles - rings containing atoms other than C.

Aromatic heterocycles



pyridine

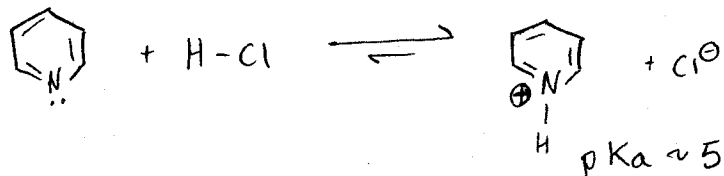
Why is pyridine basic? What is the relationship between N lone pair + aromatic π system?



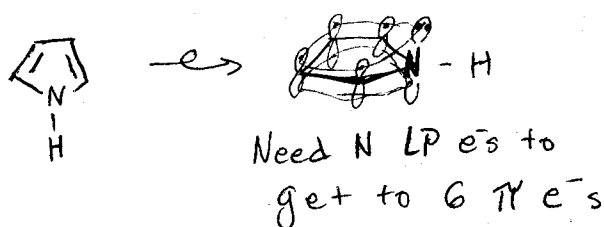
← L.P. NOT part of π aromatic system

$\therefore$ L.P. available to lead to Brønsted basicity:

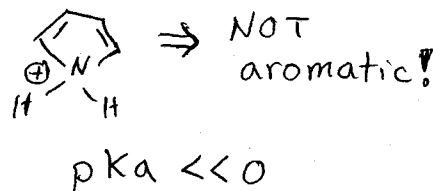
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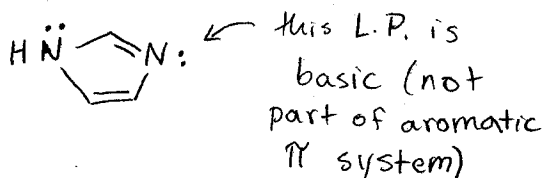
Contrast: pyrrole



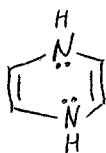
$\therefore$ pyrrole is a very weak base



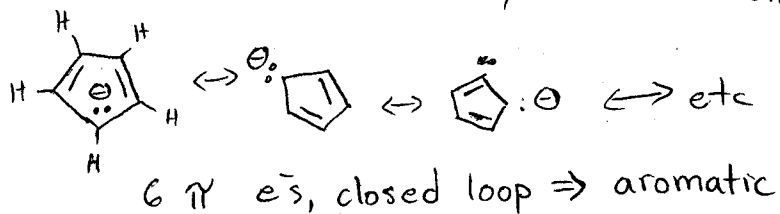
If a heterocyclic system can be aromatic, it will be.



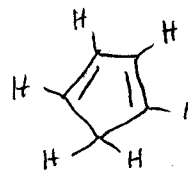
Non-aromatic heterocycle



Aromatic ions - aromaticity manifested only in ionic form.



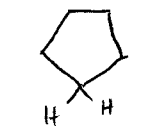
Conjugate acid is NOT aromatic



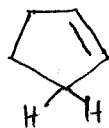
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Consider:



pKa ~ 55

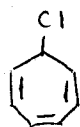


pKa ~ 43

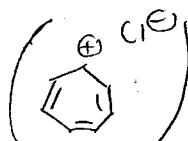
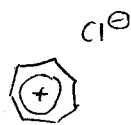


pKa ~ 16

Another example

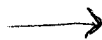


is really



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