

(12) Today

Chap 3: Amino Acids, Peptides, and Proteins

Chap 4: Proteins

Next Class (13)

Chap 3: Amino Acids, Peptides, and Proteins

Chap 4: Proteins

(14) Second Class from Today

Test Chap 1 (skipping 1.4) Chap 2, and Chap
3.1 - 3.1.8, 3.2.1

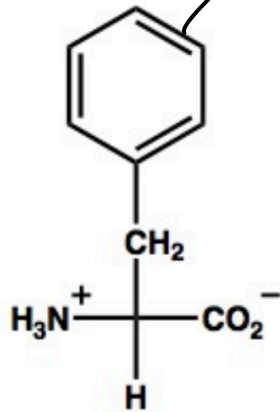
Third Class from Today (15)

Chap 4

**Biochem Test 1 on Wed. Feb 26, one week from today
Chap 1 (skipping 1.4) Chap 2, and Chap 3.1 - 3.2.1**

phenylalanine

Phe F

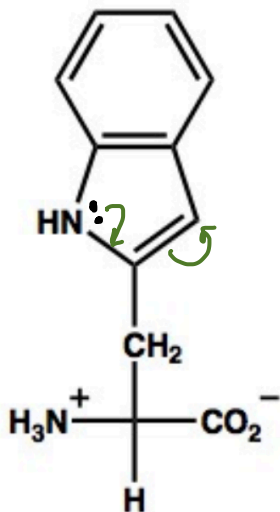


aromatic π systems are unreactive under mild conditions but e^- rich.

π stacking ... π interactions with metal ion

tryptophan

Trp W

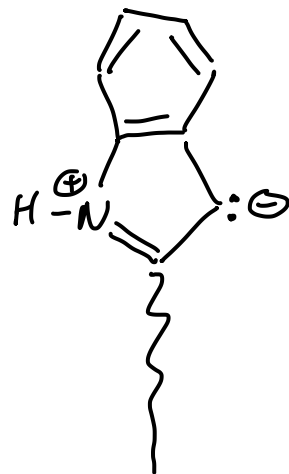


both rings are part of the aromatic π system

Since the lp e^- 's on the N

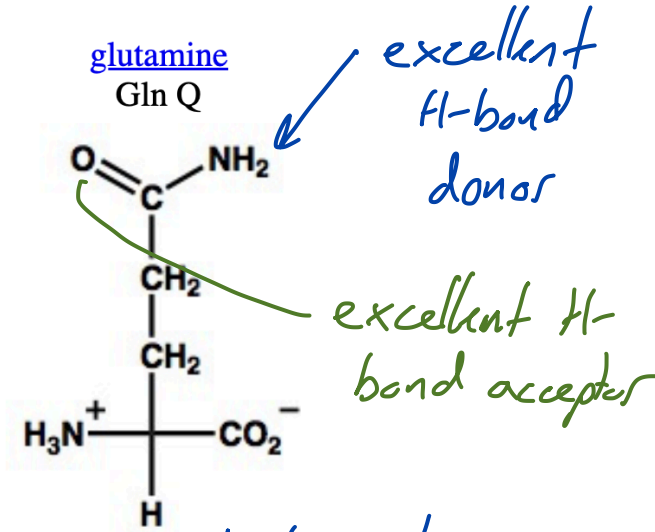
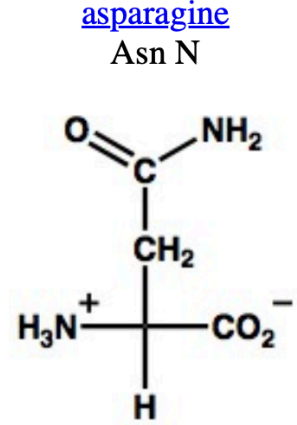
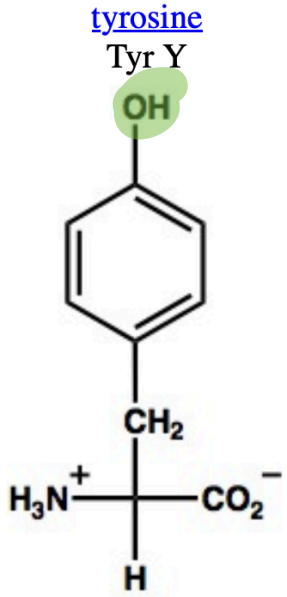
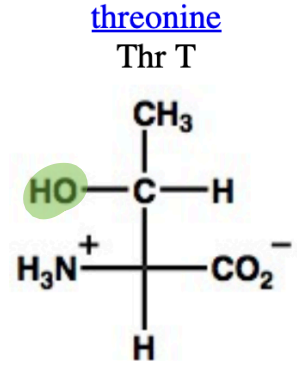
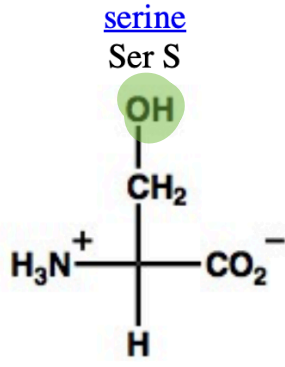
are part of the aromatic π system they are not

basic ... tryptophan is not a base



Amino Acid: A Closer Look at Some Polar Side Chains

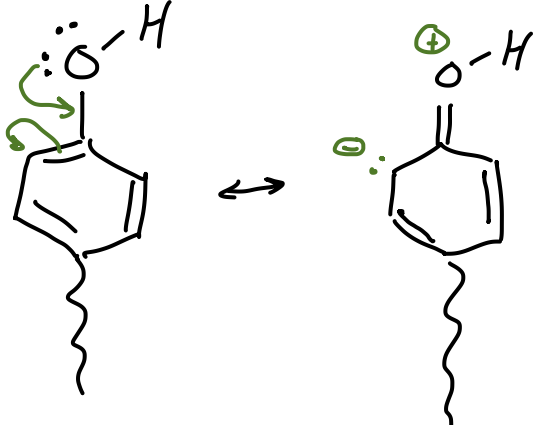
Section 3.1.3 - 3.1.5



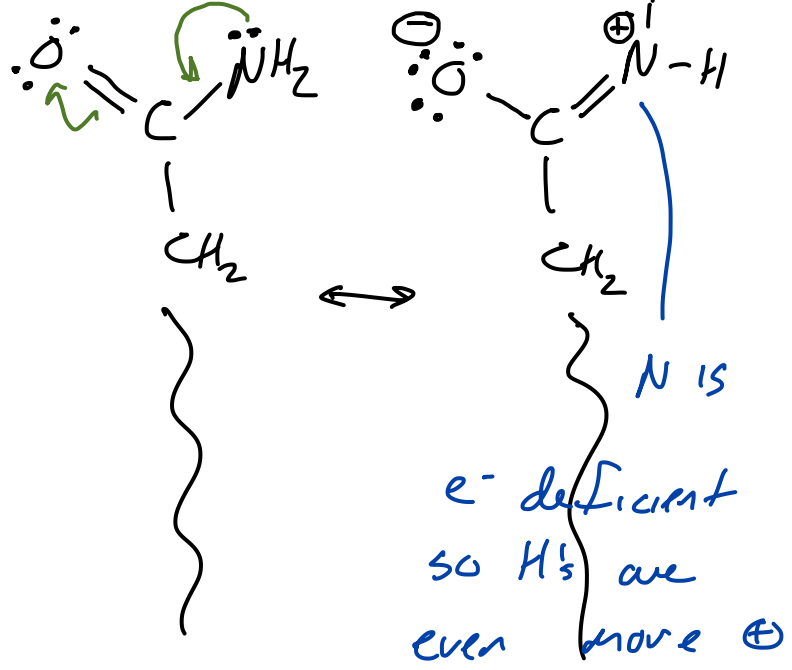
all of them can interact with H_2O

alcohols are nucleophilic so they can react with electrophiles

tyrosine's OH is weakly acidic

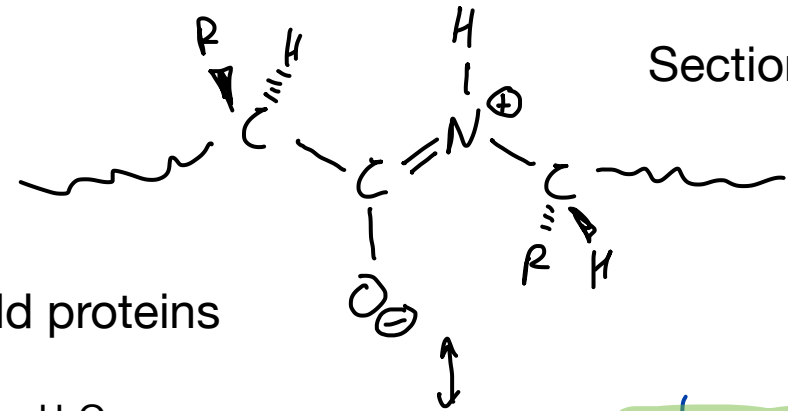


resonance contributor shows us that O is extra e^- rich

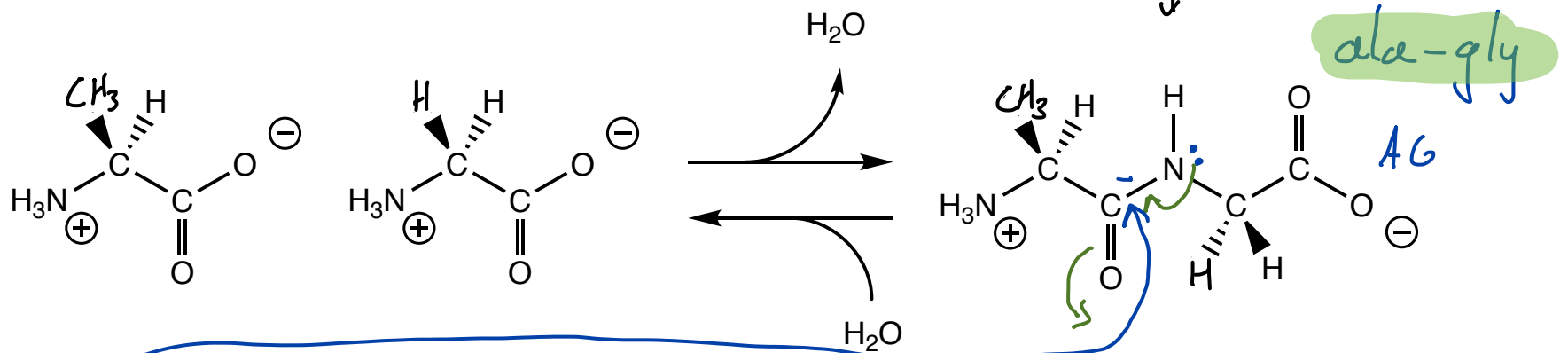


Peptide Bonds

Section 3.2.1



DNA → mRNA on Ribosome mRNA and tRNA build proteins



this is not really a single bond, partial π bond hinders rotation

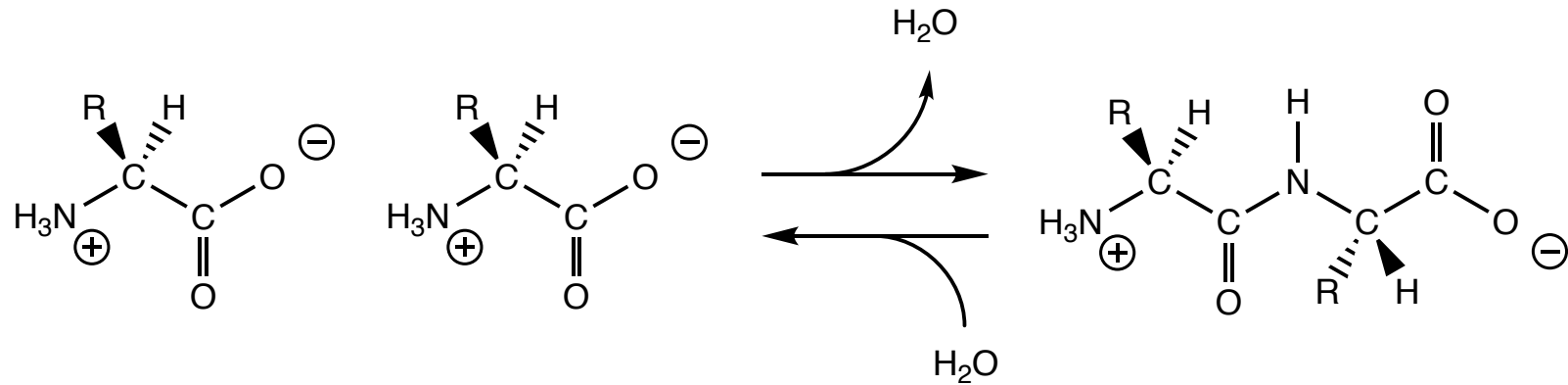
the $C=O$ is a very good H-bond acceptor because of the extra e^- density

the $N-H$ is a very good H-bond donor because of the "loss" of e^- density

DNA sequence determines RNA sequence which determines the 1° structure

amino acids listed from **N terminus** to **CO_2^- terminus**

DNA → mRNA on Ribosome mRNA and tRNA build proteins



DNA sequence determines RNA sequence which determines the 1° structure
list of amino acids from the N terminus to the C terminus

Chap 4

2° Structure -repetitive Motifs

3° Structure - overall folding

4° Structure - subunit organization *two or more pieces synthesised separately come together to make the whole*