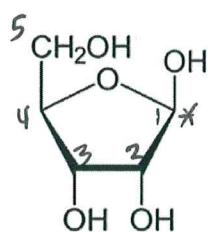


Suggestion: Review the old practice sheets also.

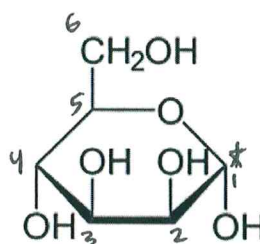
We haven't covered much new material since the last exam.

1. Two sugars are shown below. Mark the anomeric carbon of each with an asterisk (\*) and number the carbons correctly. Then decide if each is in its  $\alpha$  or  $\beta$  form.

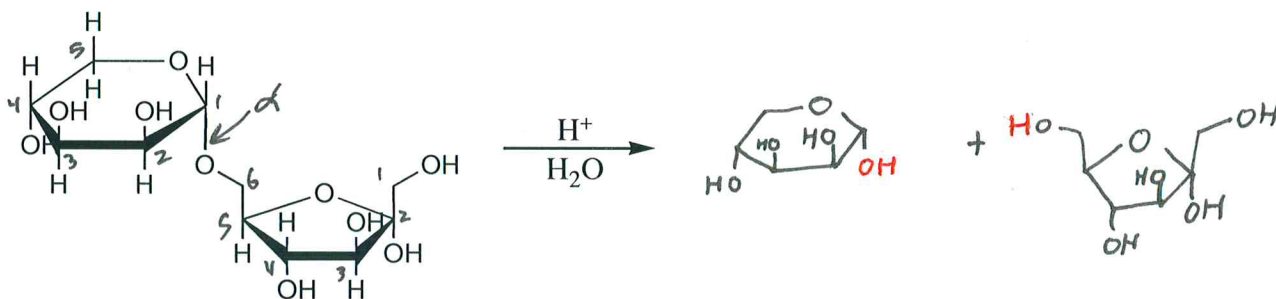
Ribose

 $\beta$ 

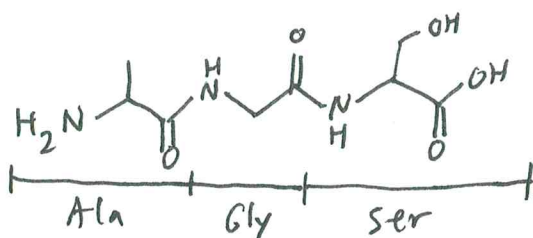
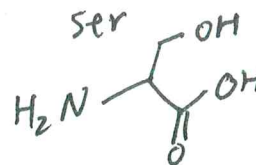
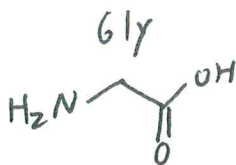
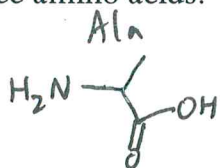
Mannose

 $\alpha$ 

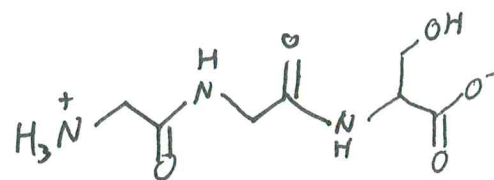
2. a. Name the glycosidic bond in the disaccharide below  $\alpha$ -1,6  
 b. Predict the products of the reaction with  $H^+/H_2O$  (hydrolysis).



3. Refer to the structures of the amino acids (handout), and draw the structure of the tripeptide Ala-Gly-Ser. Hint: this molecule is made by the condensation of these three amino acids.



At pH 7:



[just FYI]

4. Draw the molecules named below:



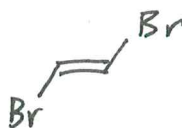
*cis*-2-heptene



*trans*-2-heptene

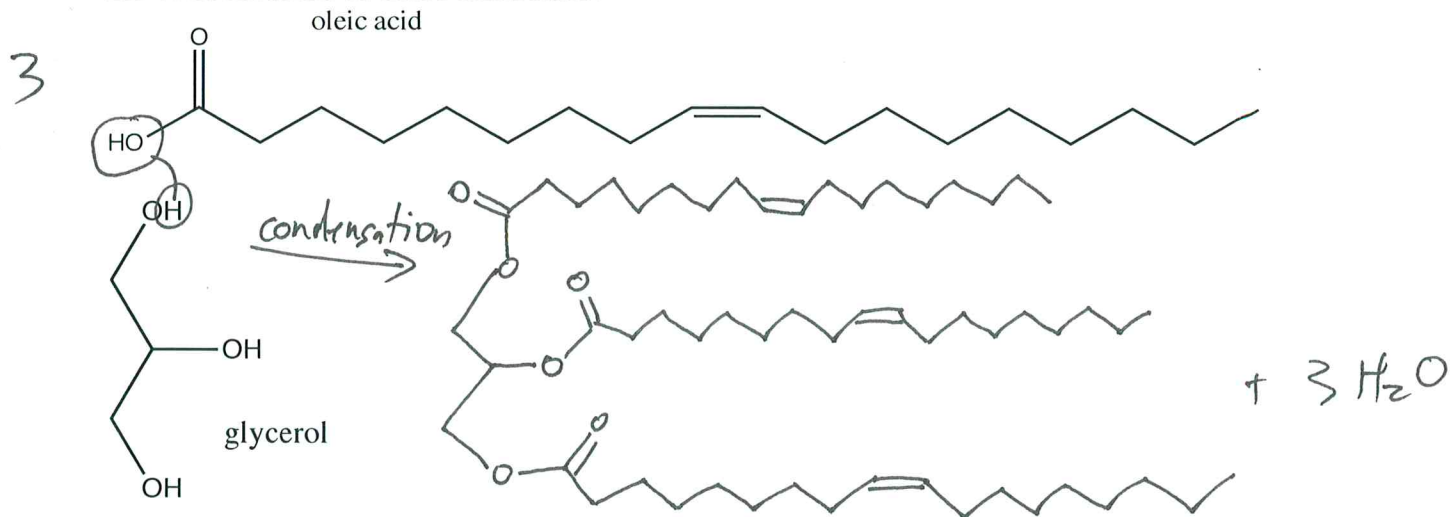


*cis*-1,2-dibromoethene



*trans*-1,2-dibromoethene

5. Use the structures of glycerol and oleic acid below to draw a triglyceride made by the condensation of these molecules.



6. Draw the product of complete hydrogenation (H<sub>2</sub> / Pt cat.) of the molecule you drew in question 5.

