Problem Set 10 BB 450 / 550

1. Categorize the following sugars as epimers, anomers, enantiomers, diastereomers, or none of the above.
   a. α-D-glucose and β-D-glucose
   b. D-glucose and L-glucose
   c. Glucose & Fructose
   d. α-D-Glucose and α-D-Galactose
   e. α-D-glucose and α-D-gulose
   f. α-D-glucose and α-D-ribose

2. If you oxidize carbon #1 of glucose, you make gluconic acid. If you oxidize carbon #6 of glucose, you make glucuronic acid. Both ionize. Both are polar. Both are water soluble. Glucuronic acid, though, can do one thing that gluconic acid cannot. What is it?

3. When a reducing sugar reacts, what happens to it?

4. Why does the Fischer form of a sugar not have an anomer?