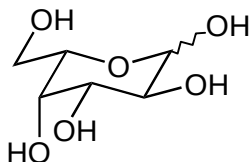


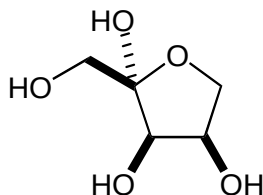
Organic Chemistry c3444y
Problem Set 9 - Carbohydrates
Due in class Friday, April 16

1. Provide a classification (*e.g.* D-aldopentose) and the Fischer Projection representation for the following carbohydrates:

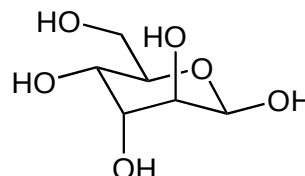
a.



b.

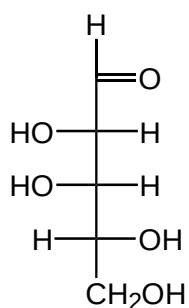


c.



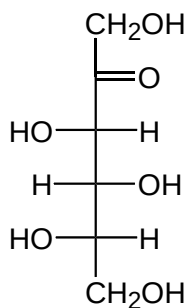
2. Provide a "normal" (chair or wedges and dashes) representation of the following carbohydrates in the indicated form:

a.



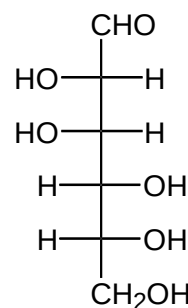
as a β -pyranose

b.



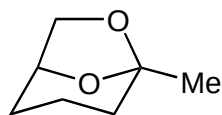
as a furanose
(either anomer)

c.

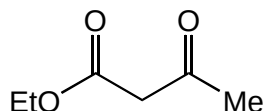


as an α -pyranose

3. Propose a synthesis of the following compound:



from



and whatever else you need.

(Look at your target carefully. What is it? How is that sort of thing made?)

4. The interconversion of the α and β anomers of D-glucopyranose is called mutarotation. Write two possible mechanisms for the acid catalyzed mutarotation of D-glucopyranose:

