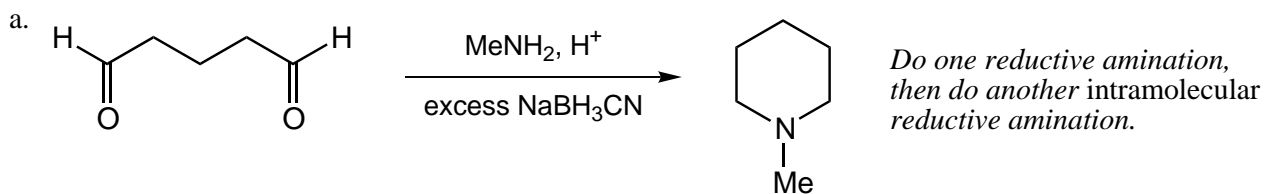


# Organic Chemistry c3444y

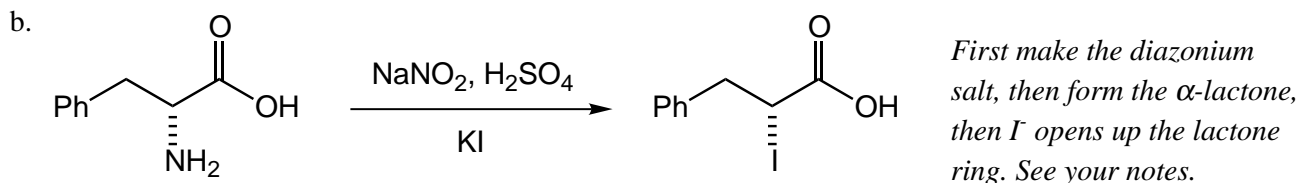
## Problem Set 7 - Amines and Carbohydrates

### Answer Key

1. Predict the major product of the following reactions:

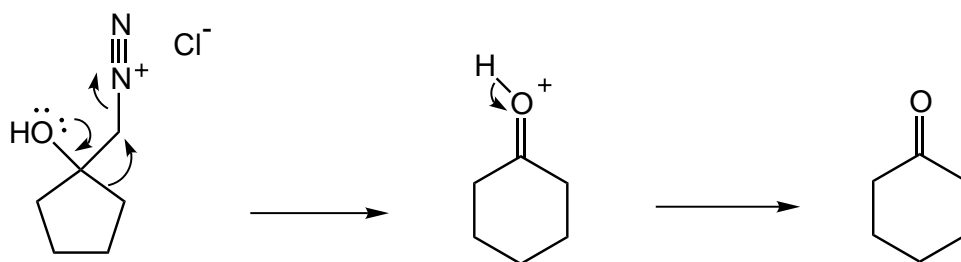


*Do one reductive amination, then do another intramolecular reductive amination.*

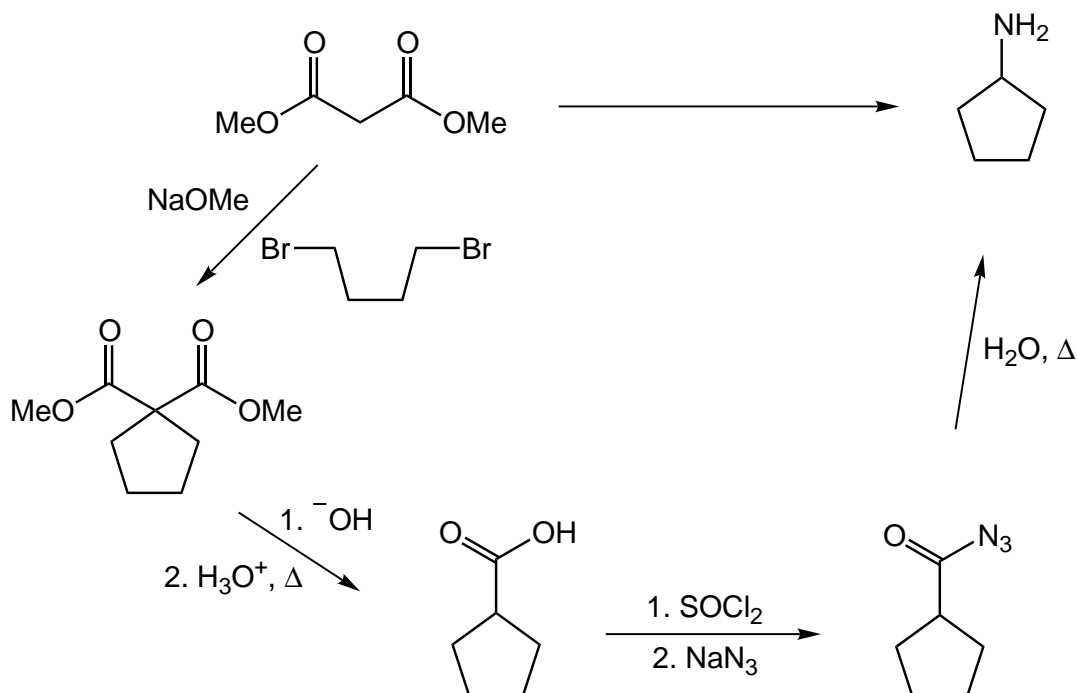


*First make the diazonium salt, then form the  $\alpha$ -lactone, then I opens up the lactone ring. See your notes.*

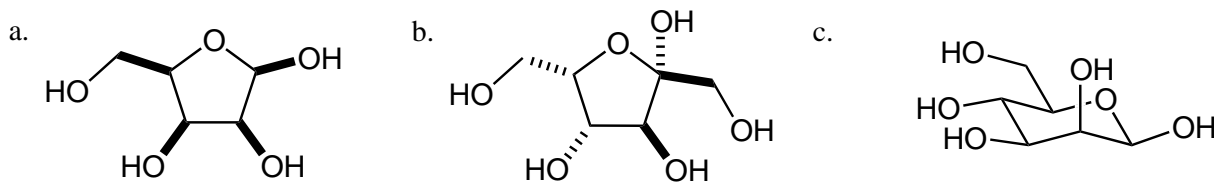
2. Consult your notes for the mechanism of diazonium salt formation.



3. Propose a synthesis to achieve the following transformation.

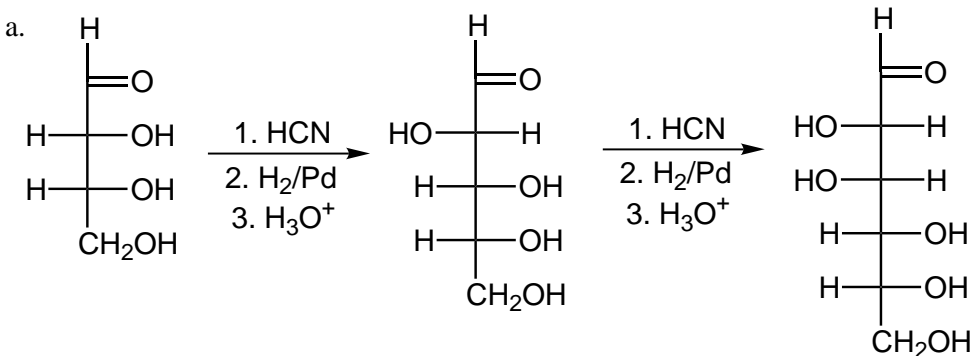


4. Provide a "normal" (chair or wedges and dashes) representation of the following carbohydrates in the indicated form:



*Note: We didn't specifically talk about  $\alpha$  and  $\beta$  with regard to furanoses, so don't worry about it. What's important here is that you know what furanose means and that you can get all the other stereocenters correct.*

5. Propose syntheses to achieve the following transformations:



*This is just two rounds of the Killiani-Fischer Synthesis. Both times the HCN addition will give two products (stereoisomers), and a separation of products will be required.*

