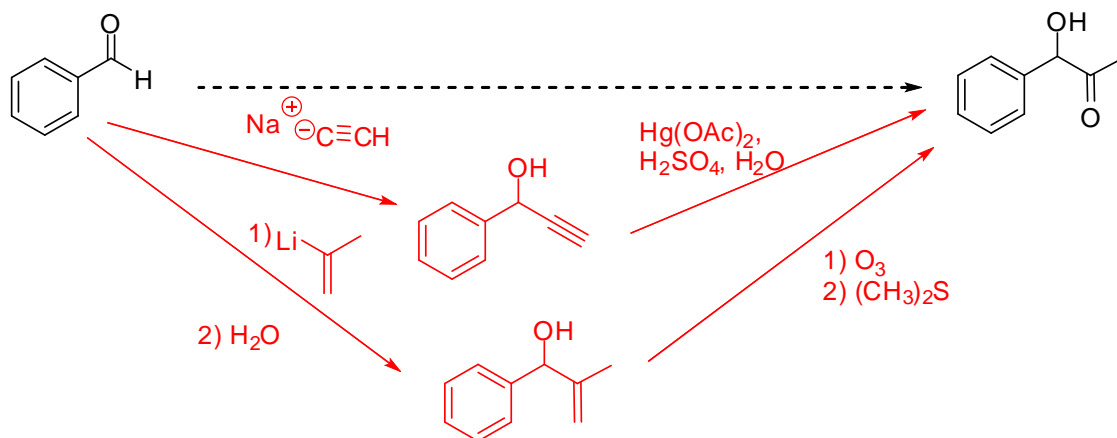
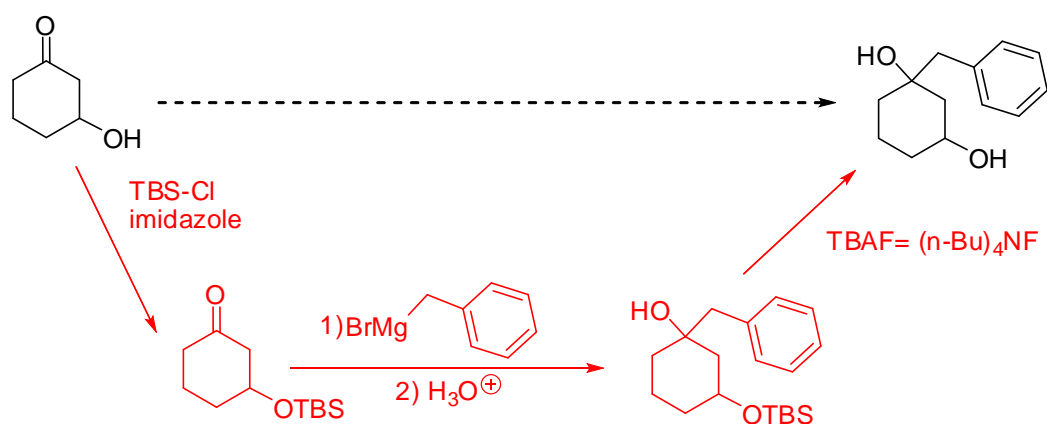


1. Suggest a synthesis to take the starting material on the left to the product on the right. This will require more than one step. You may use any inorganic reagent and any organic reagent of seven carbons or less.

a)



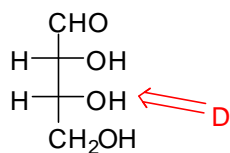
b)



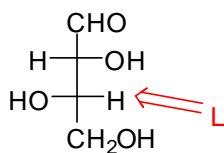
2. The Fischer projection of three simple sugars is shown below.

a) Determine the stereochemistry of the sugars using the D/L designation.

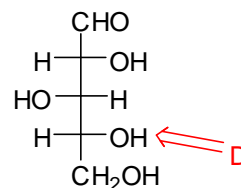
b) If these sugars cyclized, what do you think would be the cyclized form of these sugars? Don't worry about stereochemistry of the groups on the ring, just draw the ring and add all the substituents.



erythrose

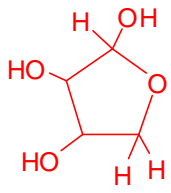


threose

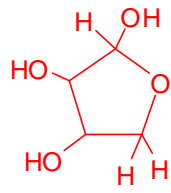


xylose

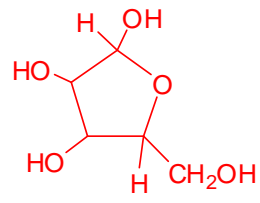
b) Cyclized forms:



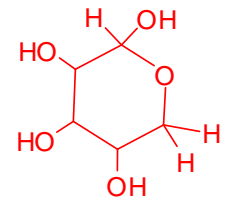
erythrose



threose



5 member ring xylose



6 member ring xylose