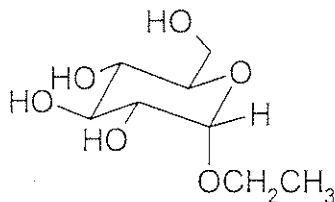


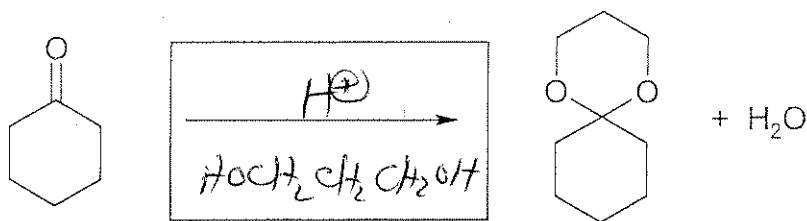
1. (3 pts) Give the name of the following compound.



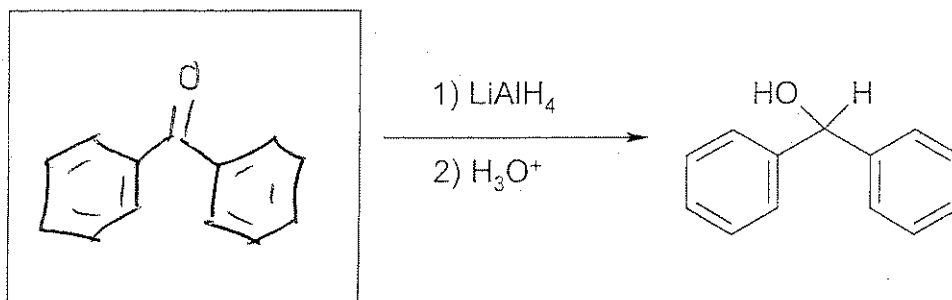
ethyl α -D-glucopyranoside

2. (9 pts, 3 each) Give the structure of the **major product(s)**, **starting material** or the **reagents needed** for the following transformations.

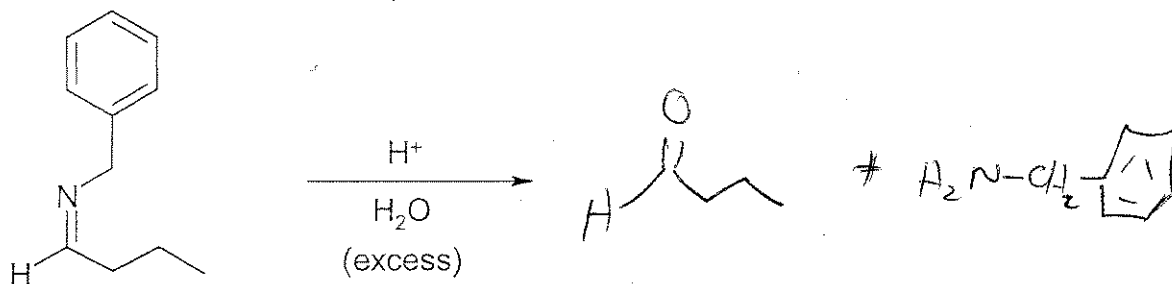
a)



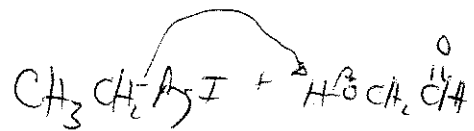
b)



c)



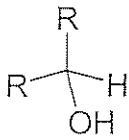
Schiff base
hydrolysis



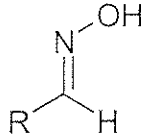
3. (2 pts) What is the product (if any) when 1 equivalent of $\text{CH}_3\text{CH}_2\text{MgI}$ is treated with 1 equivalent of 2-hydroxyethanal?



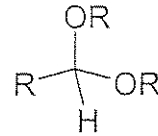
4. (3 pts) Match the name with the general formula for the following compounds.
Possible names are: epimer, anomer, alcohol, hemiacetal, acetal, hemiketal, ketal, oxime, imine, hydrazone.



alcohol



oxime



acetal

5. (8 pts) Please write the **complete mechanism** for the following Wolff-Kishner reduction, starting at the intermediate hydrazone.

Write mechanism for this part

