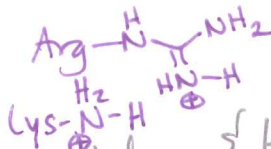
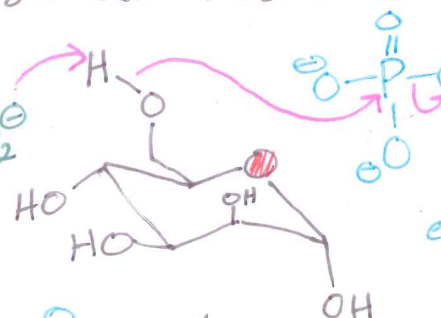


Lecture 9 HW Key

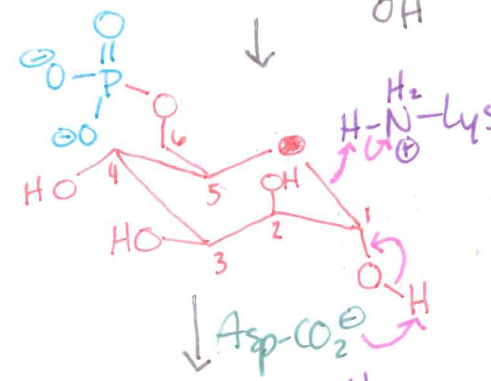
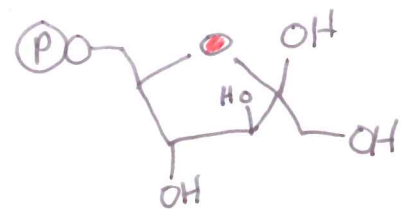
* Use aa residues as acids & bases



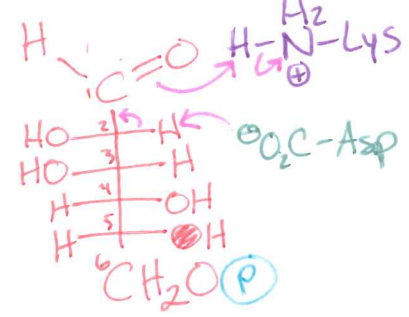
4.6



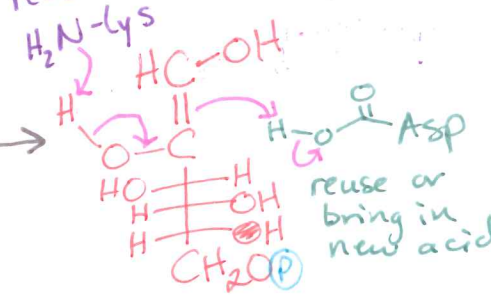
not specified in problem, educated guess!



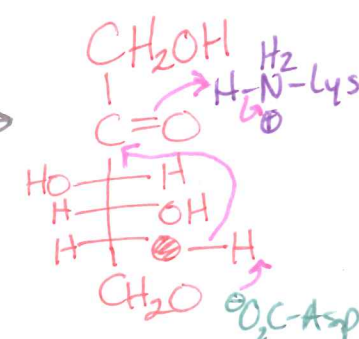
- ① Phosphorylation
- ② Ring-opening
- ③ Isomerization (aldose → ketose)
- ④ Ring closing



reuse or bring in new base (ex Asp-CO₂⁻)



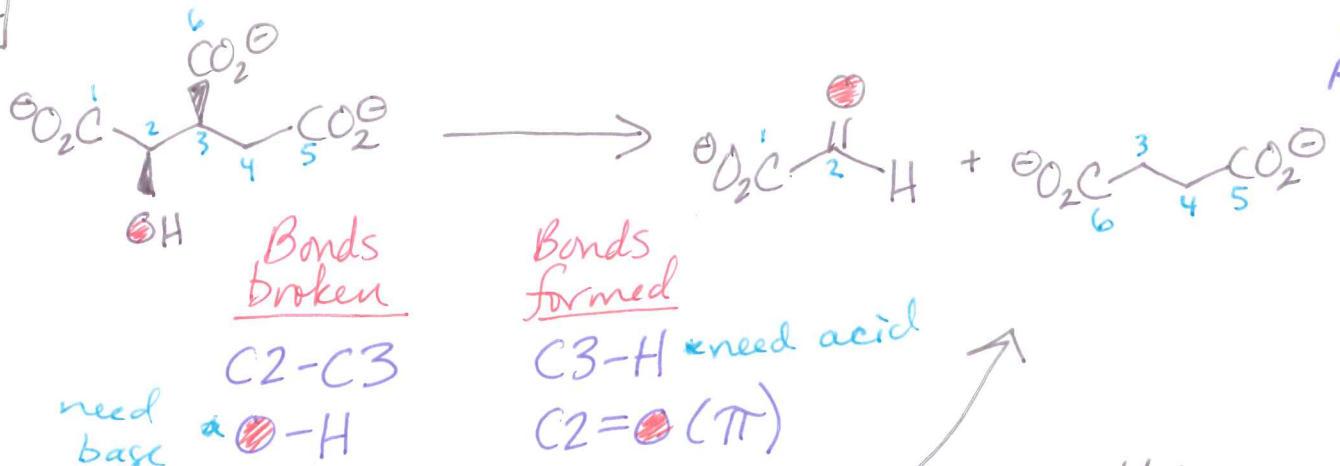
reuse or bring in new acid



* This problem incorporates

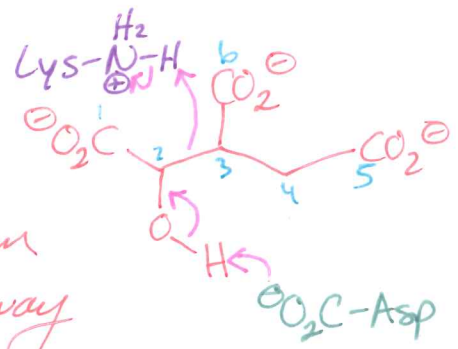
- NAS on P (Glycolysis steps 1, 8)
- Tautomerization (Glycolysis 5 & 9)
- Hemiacetal formation (forward & reverse)

4.7

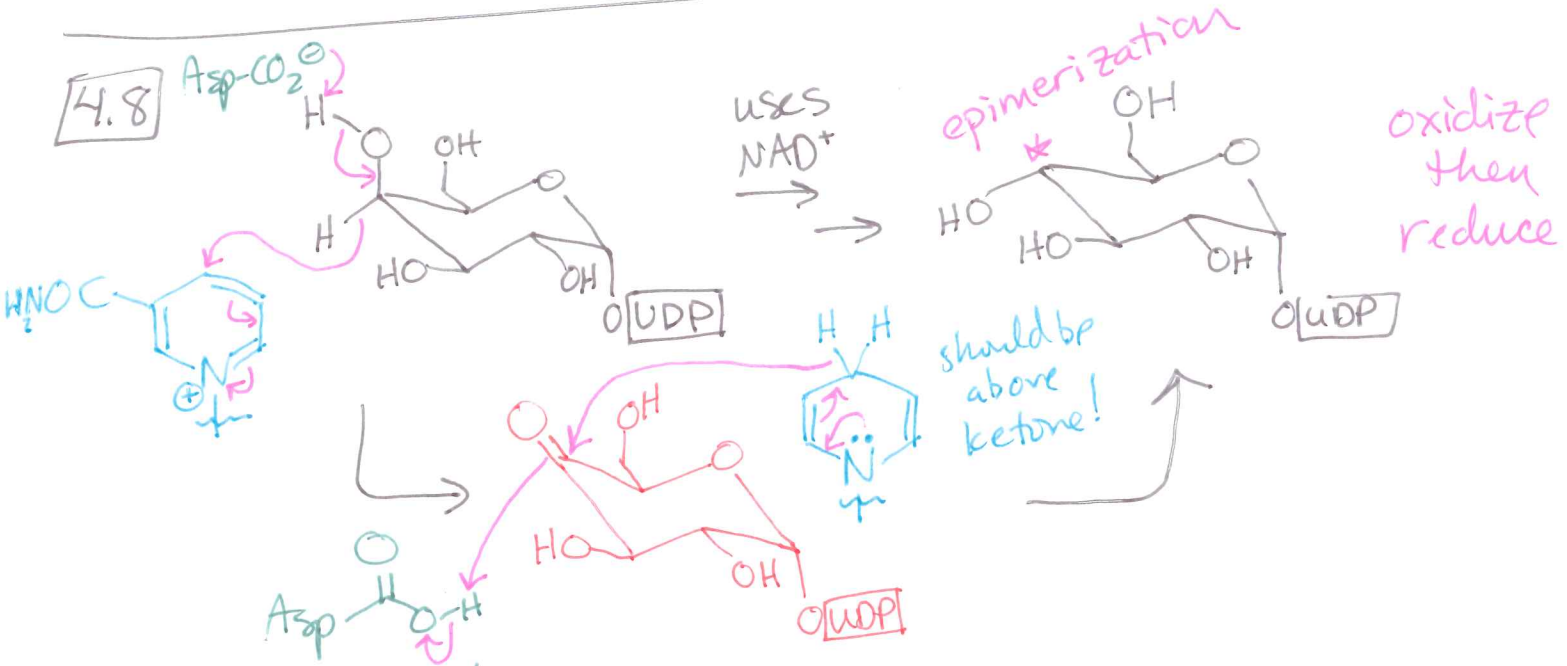


Can do this in one step

stereochem lost anyway

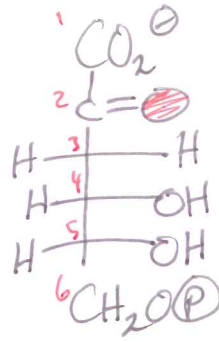
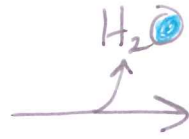
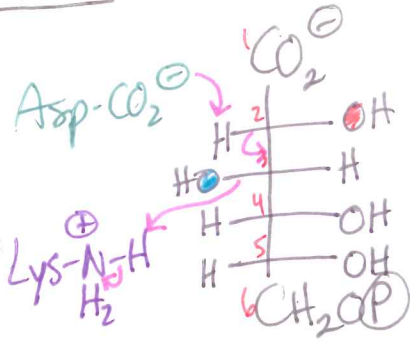


4.8



Can reuse Asp or bring in different acid (ex. Lys-NH₂⁺-H)

4.9



L9 HW
Key
P3

bonds broken

C2-H * need base

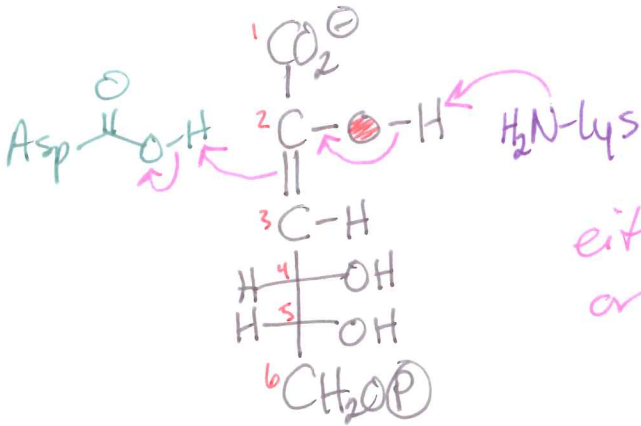
●-H * need base

bonds formed

●-H (H₂O) * need acid

C=● (π)

C3-H * need acid



either re-use same aa's
or bring in new ones