

# Ch 23

Note Title

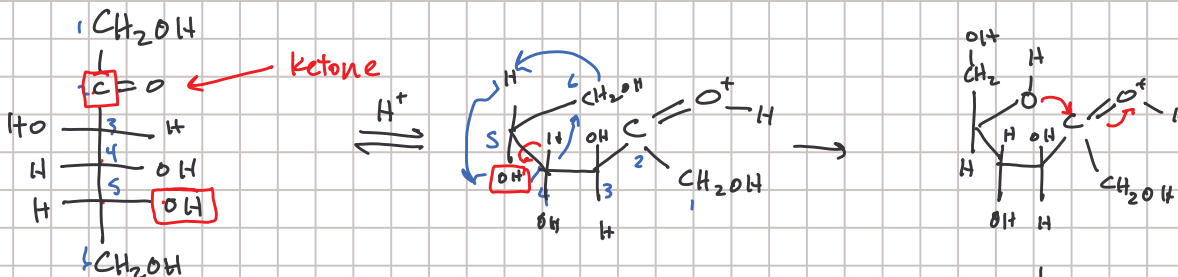
5/3/2006

- 1 ex cr pt for each significant omission/error on reactions list

- Mechanisms: no oxidations,  $\text{SOCl}_2$ , nitrile, Sandmeyer  
(ch 19)  
† diazonium formation

Yes (not exclusive): FC, addn/elim (acid or base)  
 $\alpha$  carbon rxns

- nomenclature, Spectroscopy, acid-base



a ketose D-fructose makes 5-membered hemiacetal

C2 = hemiacetal C  
 Config determines  $\alpha$  or  $\beta$  anomers

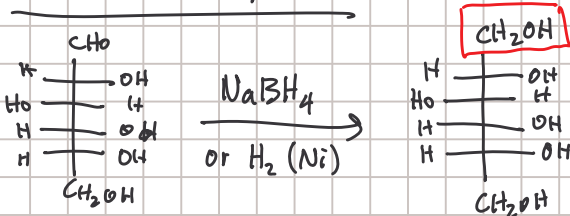
$\alpha$  = down  
 $\beta$  = up

$\beta$ -D-fructopyranose



pyran

## Reduction of sugars



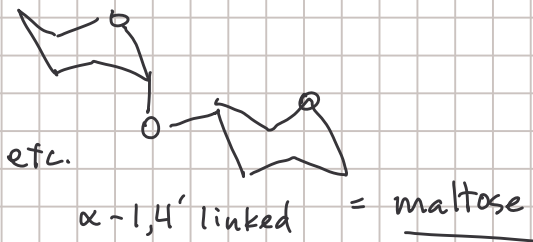
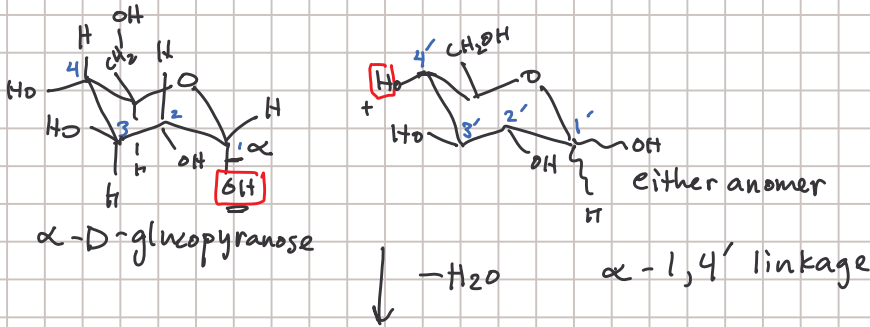
D-glucose

D-glucitol (D-sorbitol)

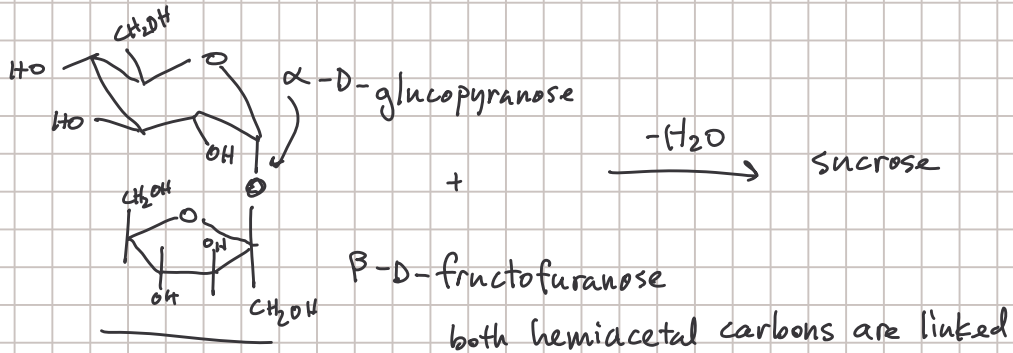
non-carbohydrate sweetener  
 (a sugar alcohol)

# Disaccharides

2 sugars joined



## Sucrose (table sugar)

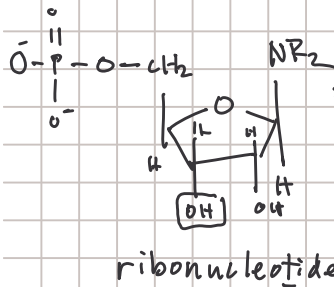
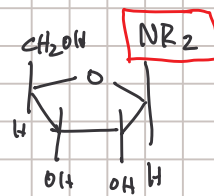
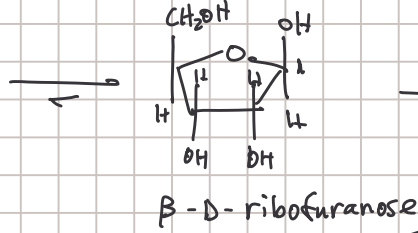
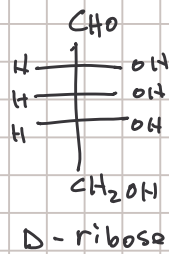


## Polysaccharides polymers of sugars

cellulose:  $\beta$ -1,4' polymer of glucose

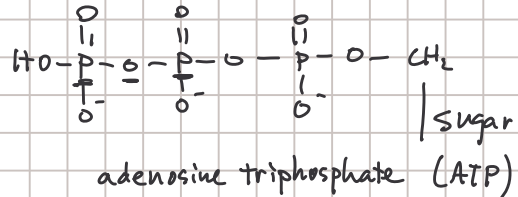
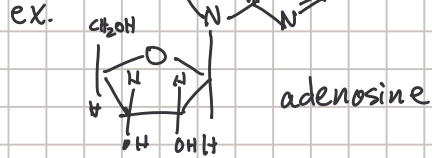
starches: amylose, amylopectin, glycogen:  $\alpha$ -1,4' polymers of glucose

# Nucleic acids



ex. adenosine monophosphate (AMP)

phosphorylated



↓ H<sub>2</sub>O  
ADP + energy

