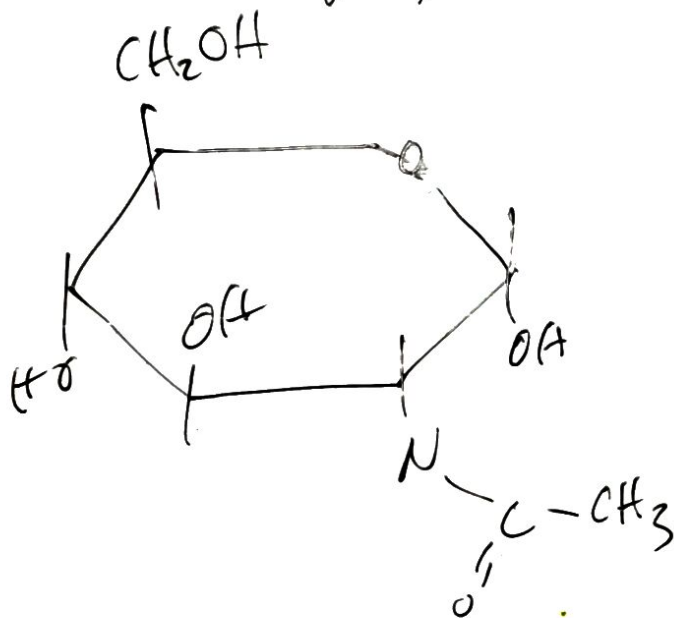


11 November 2019

Amino derivatization

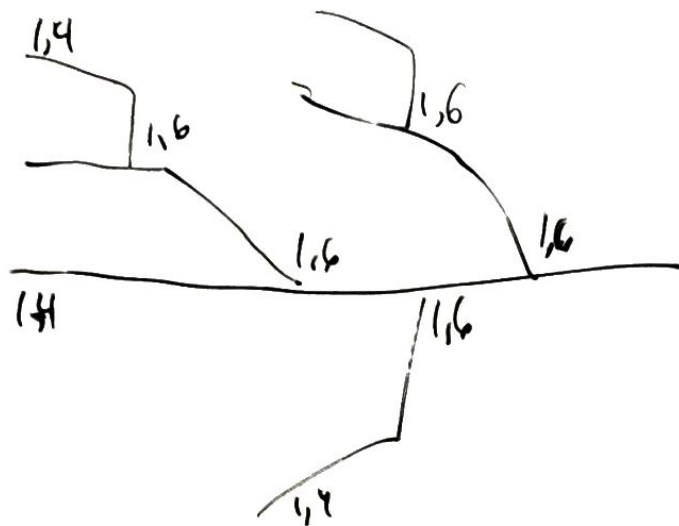
Always @ Carbon 2 of aldoses

α -D-N-acetyl-glucosamine



GlcNAc

amylopectin = Every 30 α 1,4 monomers
gets an α 1,6 branch



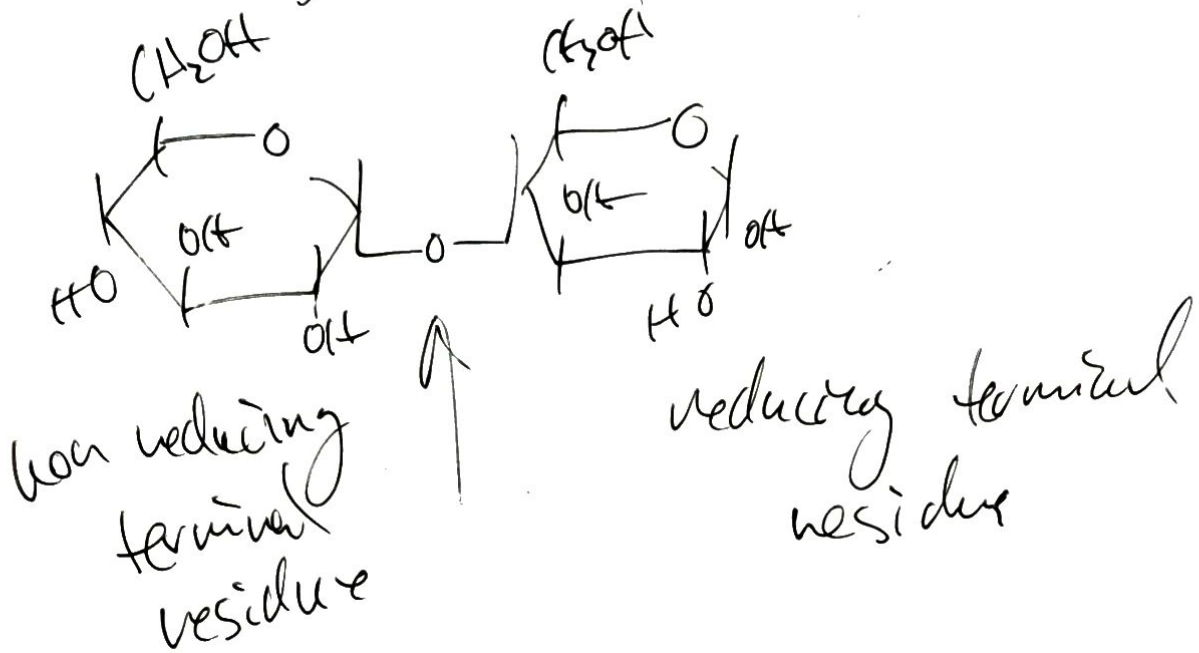
glycogen : α 1 \rightarrow 6 branches every
 8 α 1 \rightarrow 4 residues

Reducing sugars have free
 anomeric carbons

Nonreducing sugars have anomeric
 carbons involved in a glycosidic

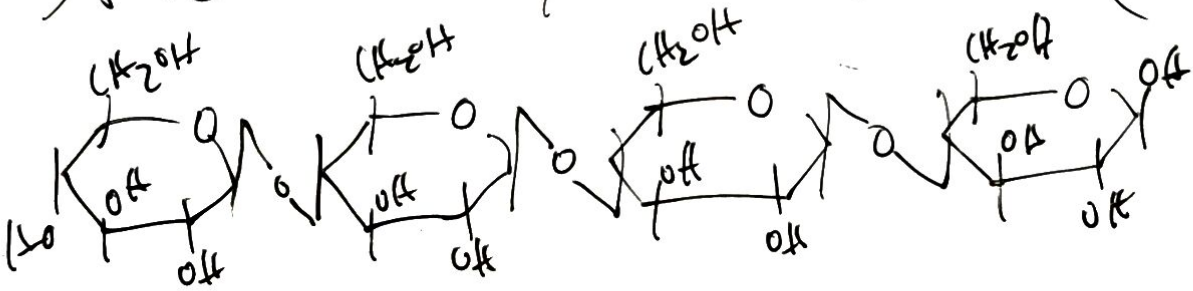
Maltose

α -D-glucose (1 \rightarrow 4) - α -D-glucose



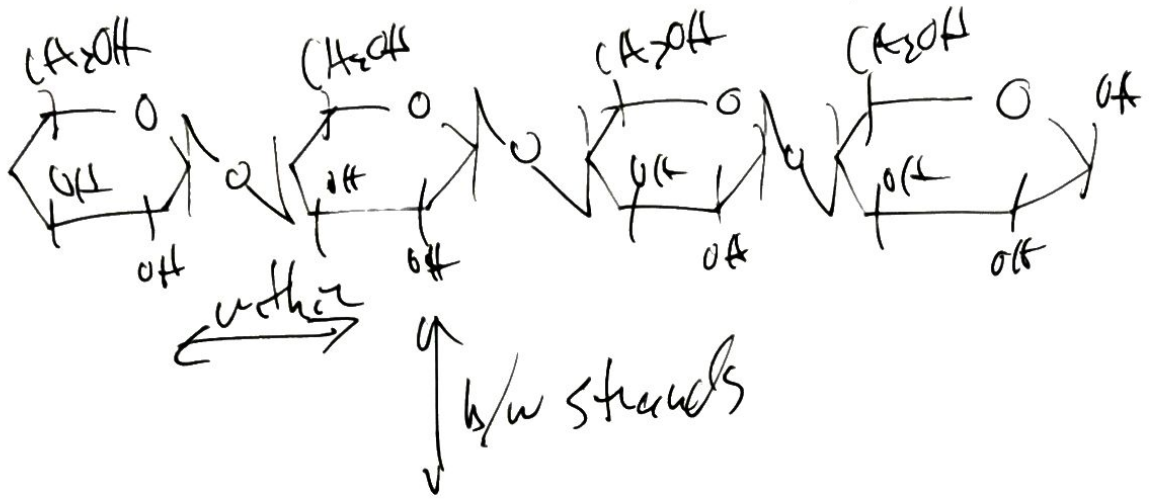
Energy Polysaccharides = α linked

Structural Polysaccharides = β -linked
Cellulose (β 1 \rightarrow 4)



β -linked polysaccharides have:

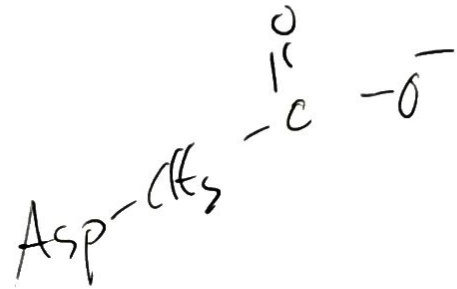
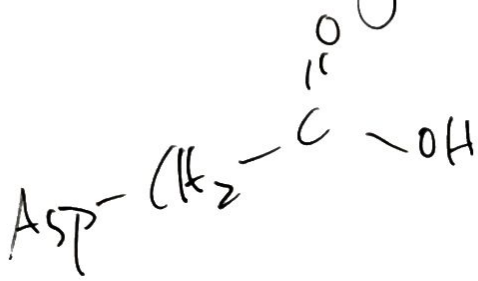
Inter
molecular hydrogen bonds



modify cellulose @
positions 2 and 3 to get
different properties

N-acetyl group, arabinose

The more exposed to solvent you are
the more likely you are to behave
normally.



Predominant in H₂O
@ pKa 7.2

Putting an ionizable amino acid
side chain inside an enzyme
can shift its pKa up or
down.

KEY TO ENZYME FUNCTION