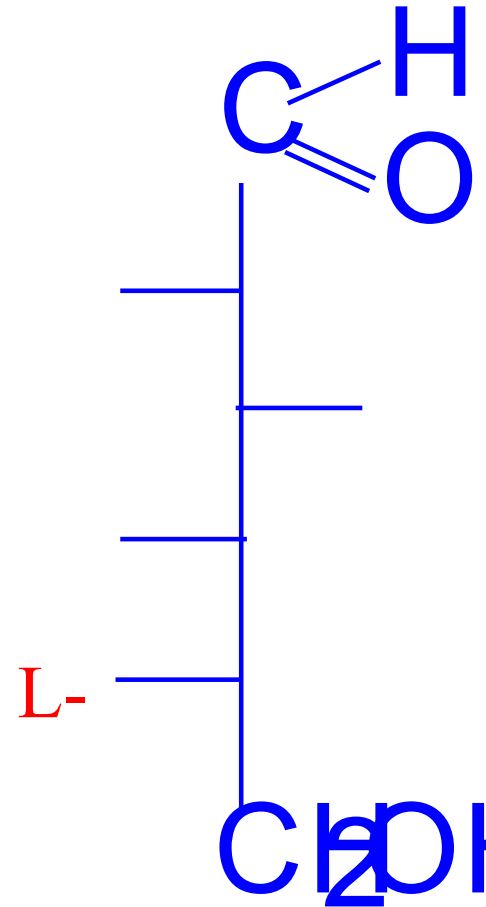
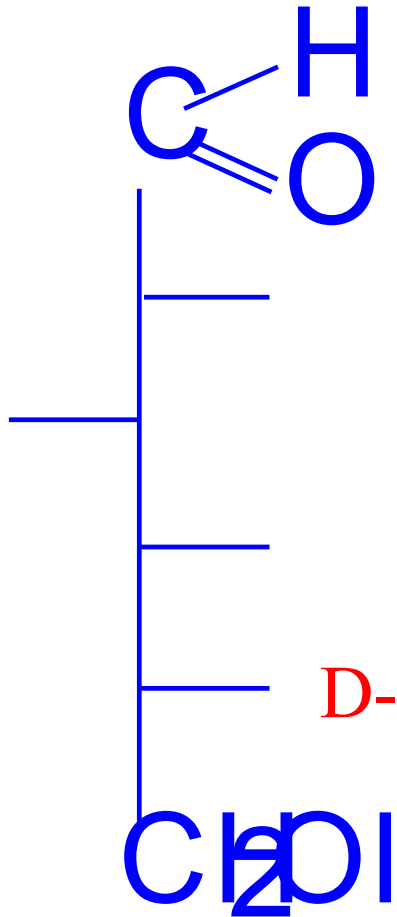


11.

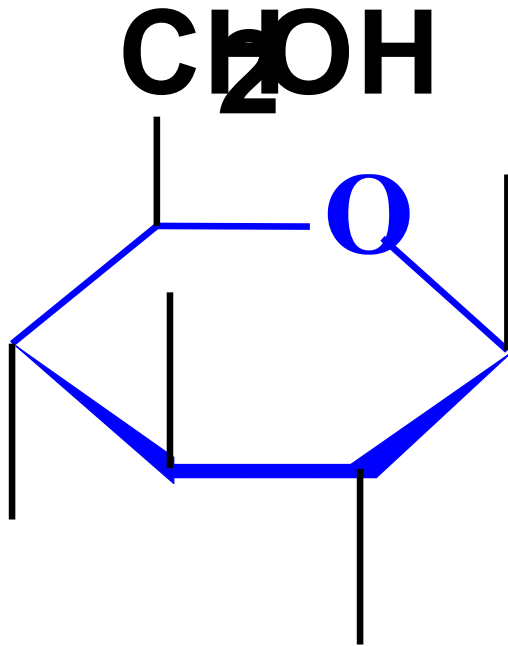
seminář LC

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Glukosa (Fischer) :



Glukosa (Haworth) :

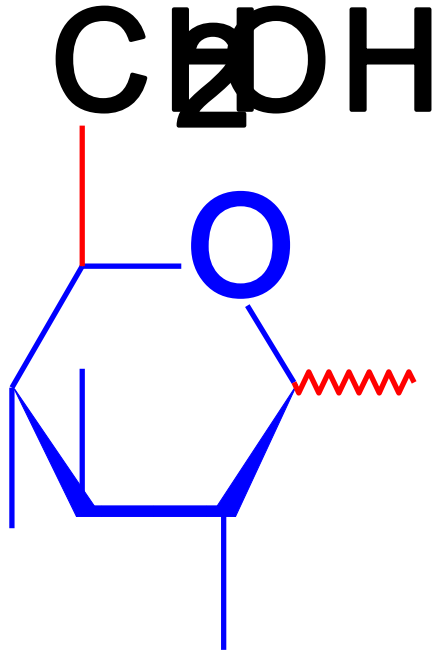


β -D-Glc

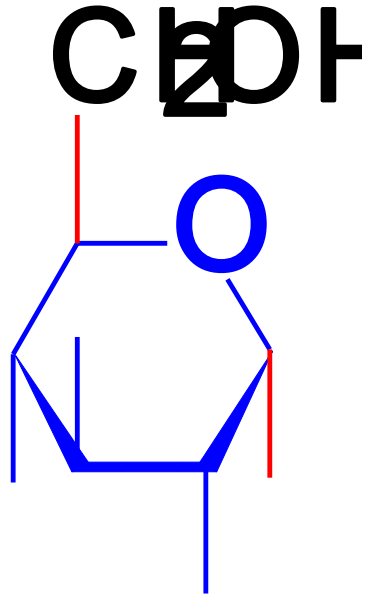
pyranosa

”~“

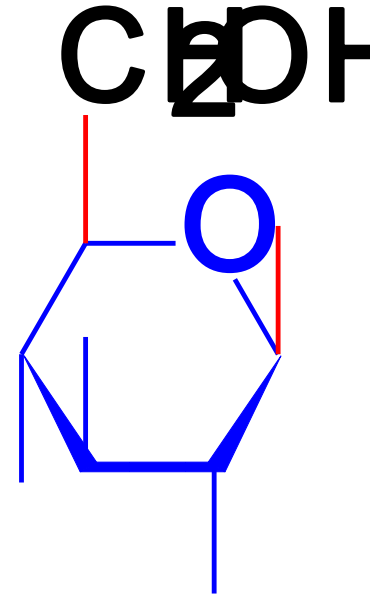
Glukosa :



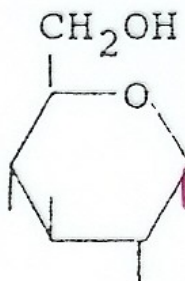
Glukosa :



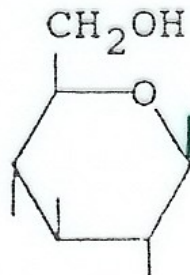
α -D-Glc



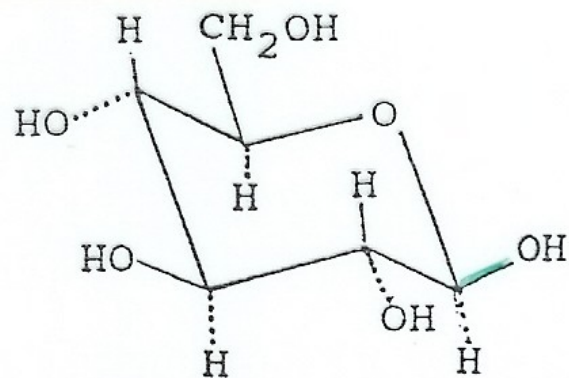
β -D-Glc



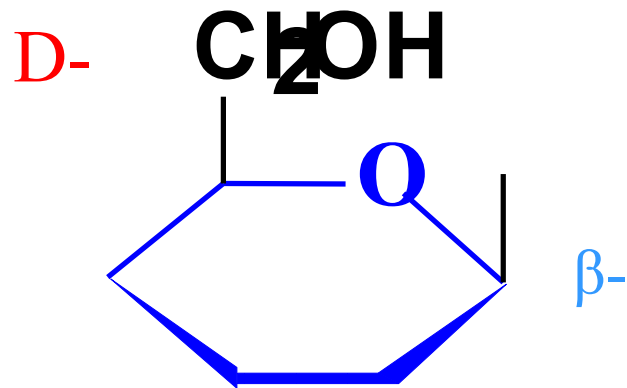
α -glucopyranose



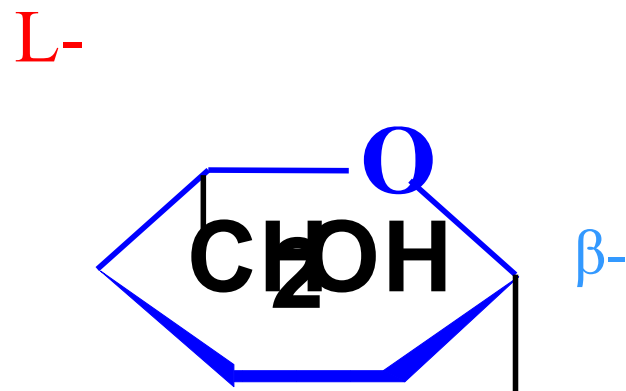
β -glucopyranose



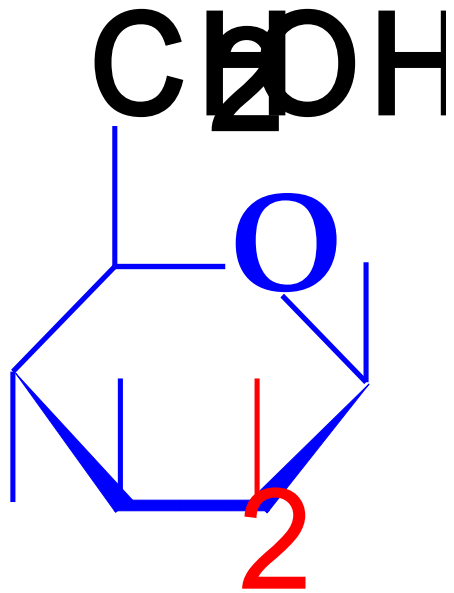
chair conformation
of β -glucopyranose



(„shoda“: β -D-
oba nad rovinou)



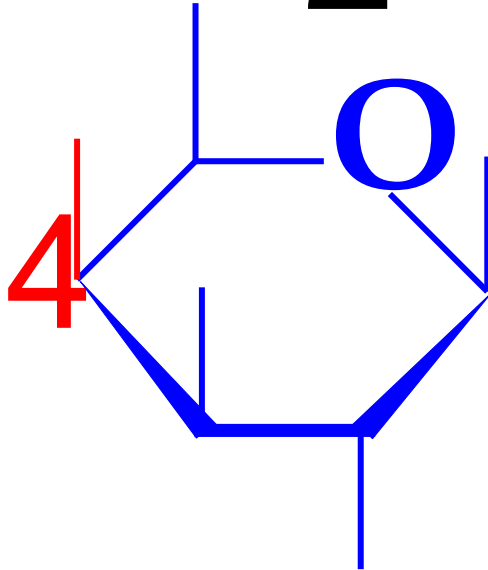
(„shoda“: β -L-
oba pod rovinou)



β -D-Man

(2-epimer Glc)

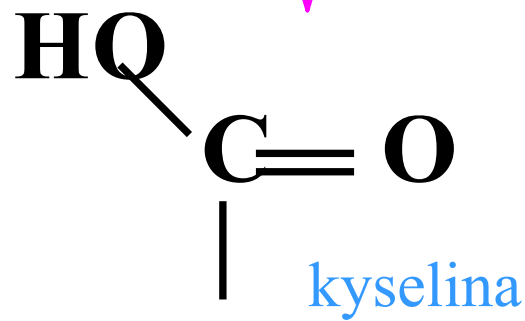
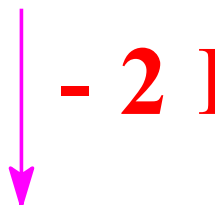
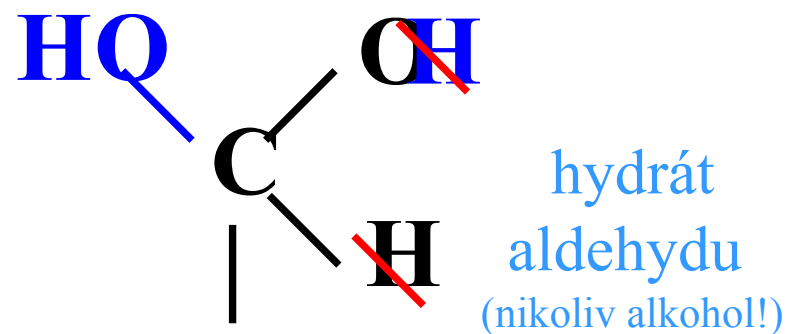
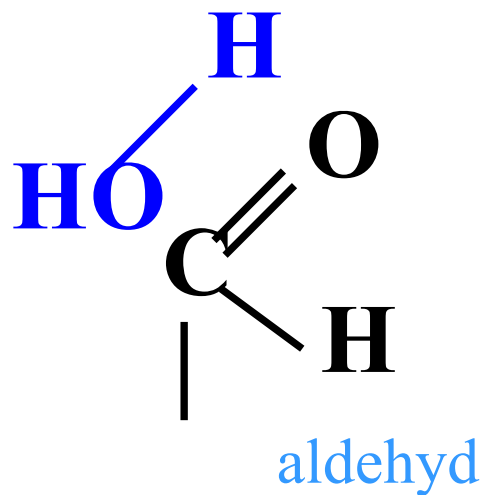
~~C₂D₁~~



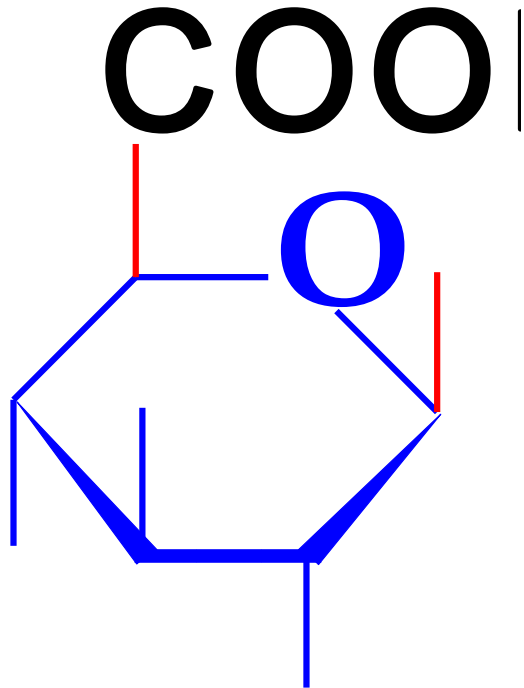
β -D-Gal

(4-epimer Glc)

Oxidace aldehydu na kyselinu :



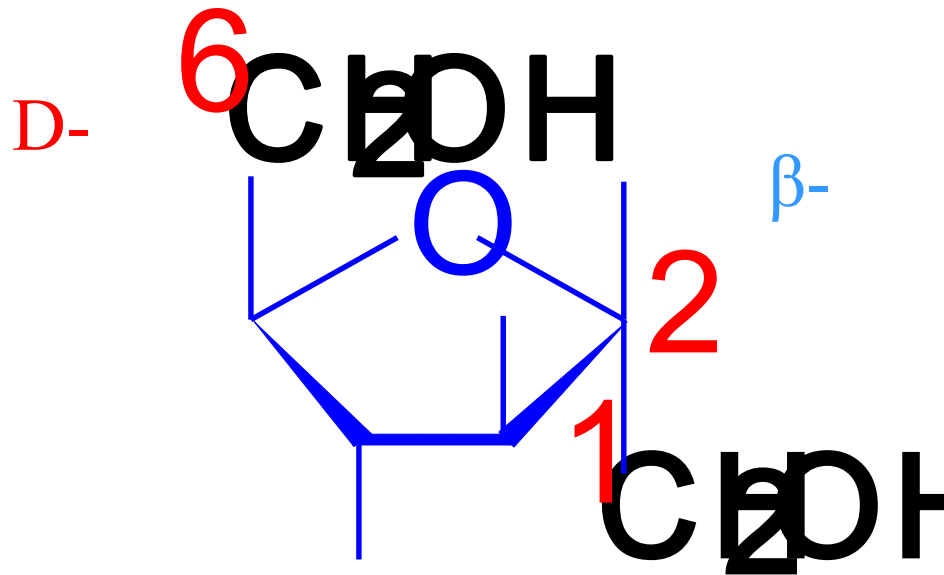
β -D-glukuronová kys. :



„ β -D-GlcUA“

(\rightarrow glukosid.uronáty)

Fruktosa :



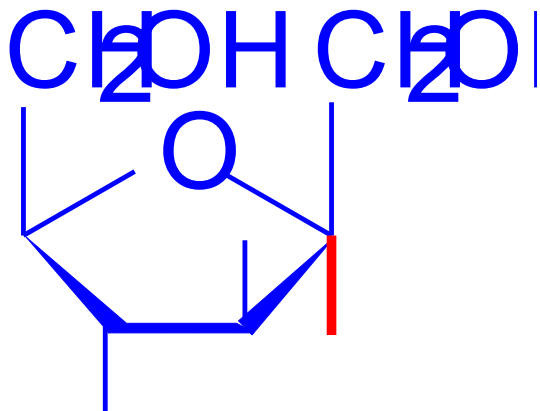
β -

β -D-Fru

„-ulosa“ = 2-keto-
(Fru \rightarrow „levulosa“)

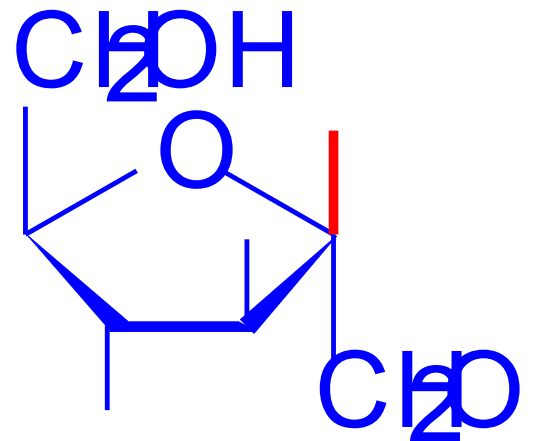
furanosa

Fruktosa :

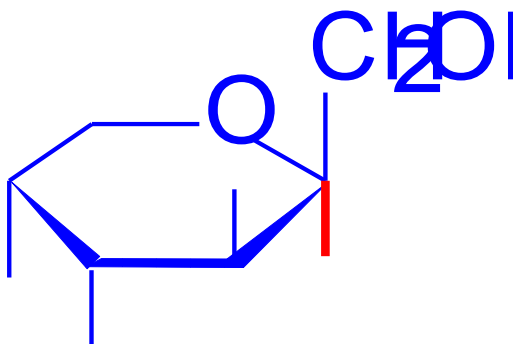


α -D-Fru

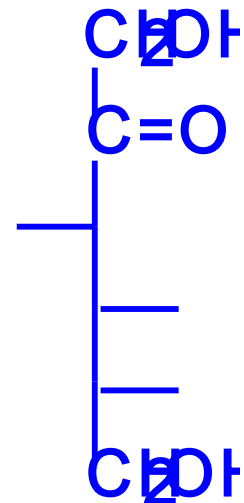
(furanose)



β -D-Fru



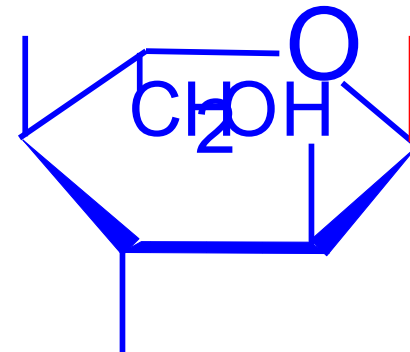
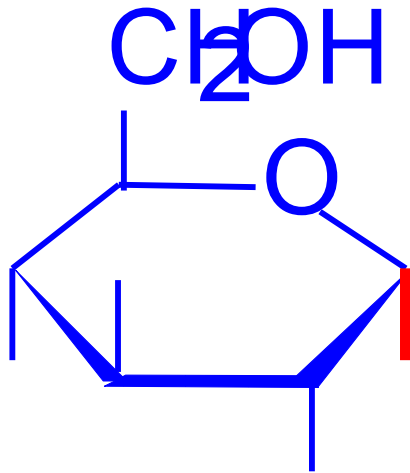
α -D-Fru (pyranose)



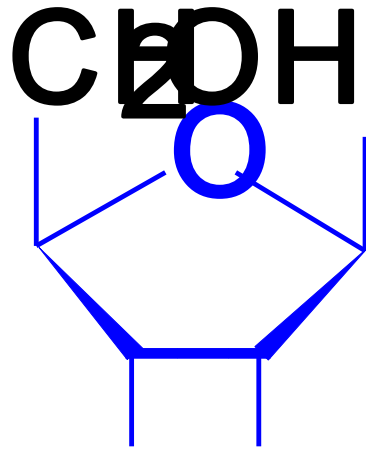
D-Fru

Enantiomer α -D-glukopyranosy

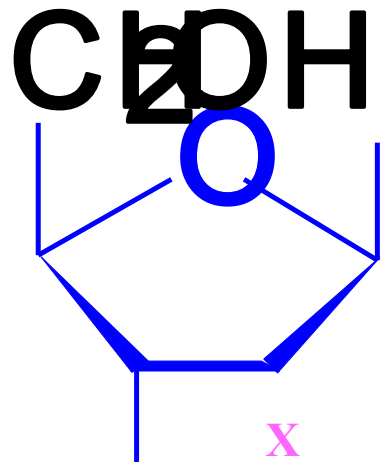
→ α -L-glukopyranosa



Ribosa :

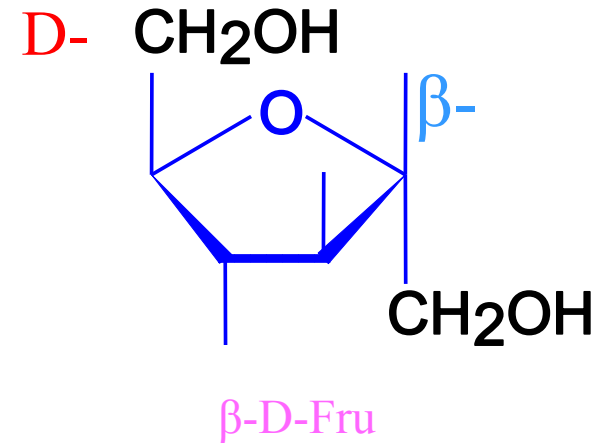
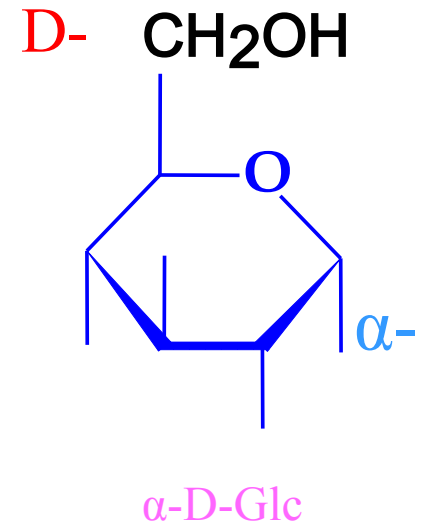
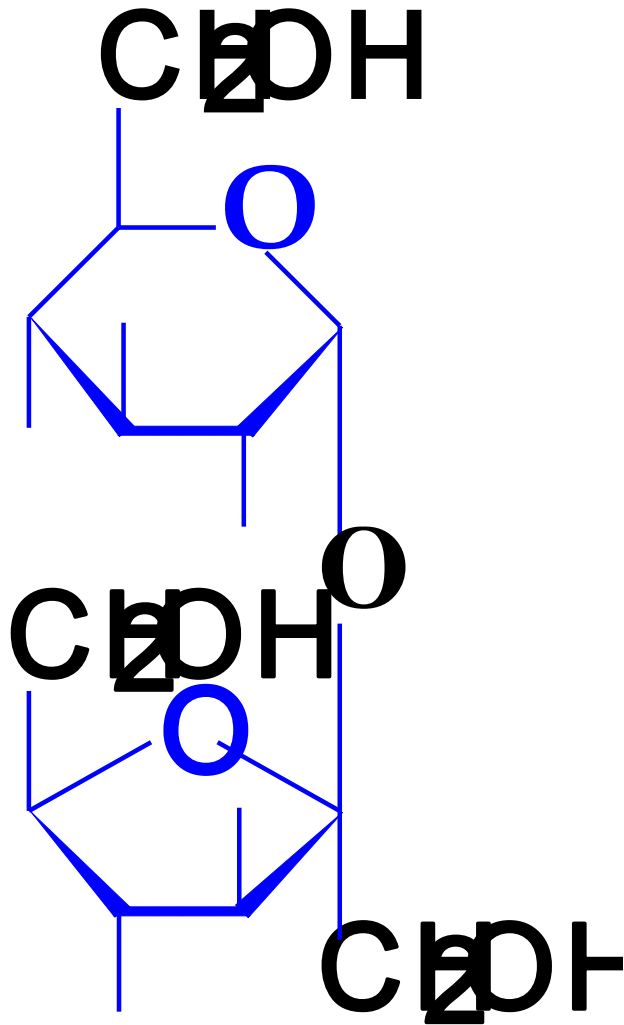


β -D-Rib

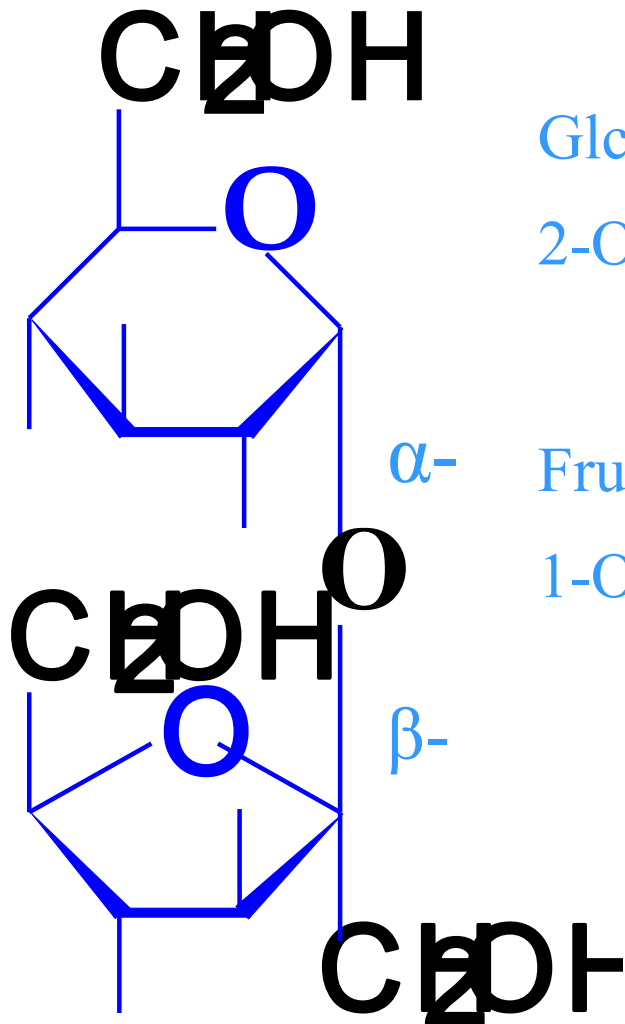


β -D-2-deoxy-Rib

Sacharosa :



Sacharosa :



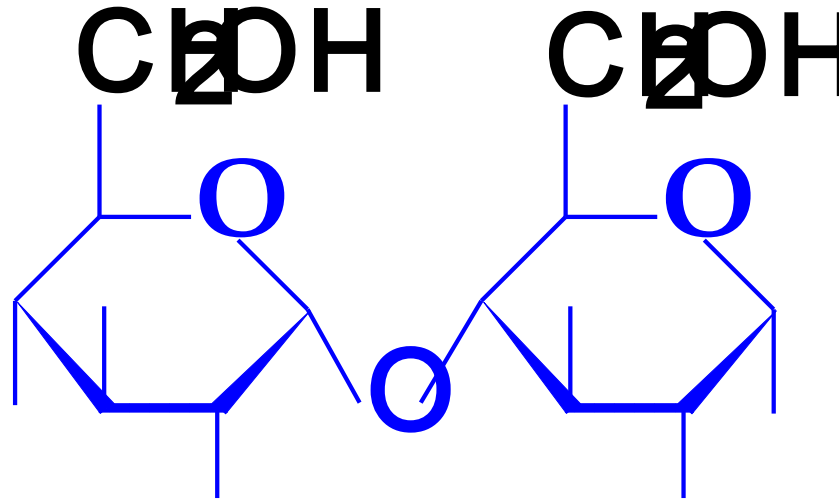
Glc- $\alpha(1 \rightarrow 2)$ - β -Fru

2-O-(α -D-glukopyranosyl)- β -D-fruktofuranosid

α - Fru- $\beta(2 \rightarrow 1)$ - α -Glc

1-O-(β -D-fruktofuranosyl)- α -D-glukopyranosid

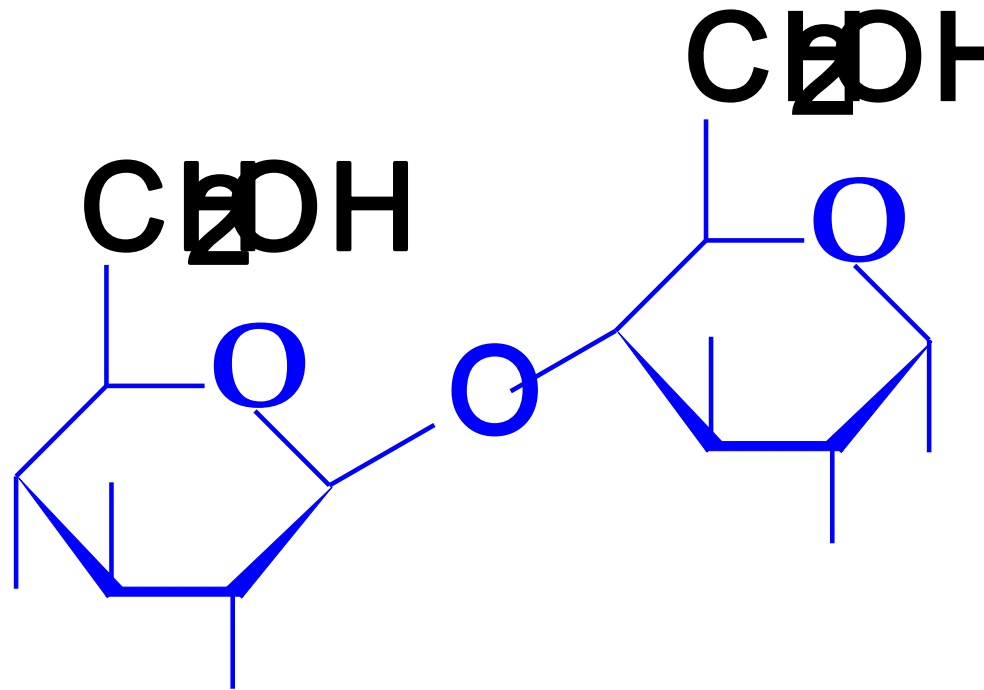
Maltosa :



Glc- α (1 \rightarrow 4)-Glc

4-O-(α -D-glukopyranosyl)- α -D-glukopyranosa

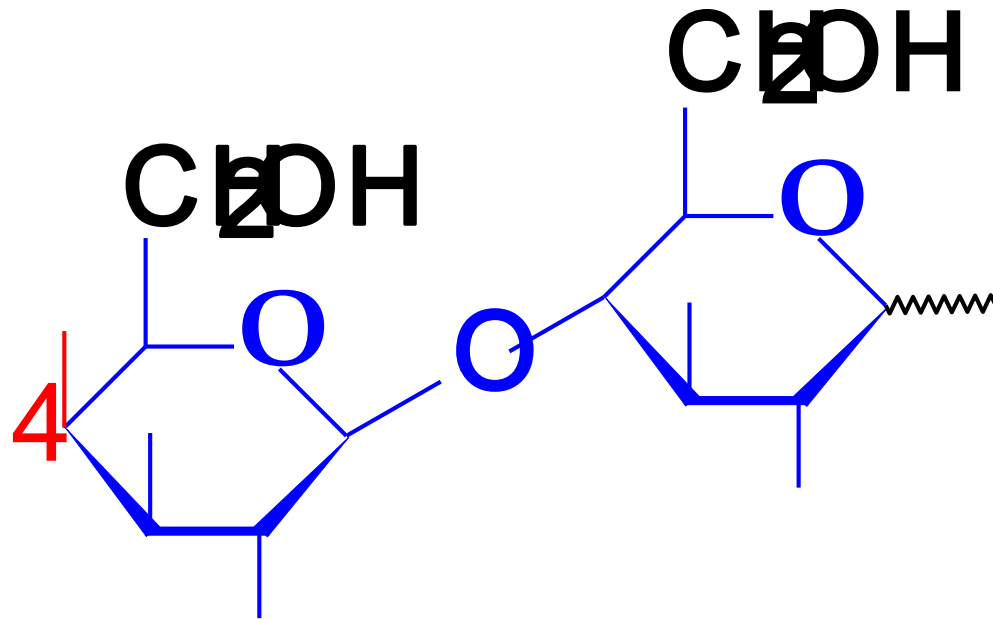
Cellobiosa :



Glc- β (1 \rightarrow 4)-Glc

4-O-(β -D-glukopyranosyl)- α -D-glukopyranosa

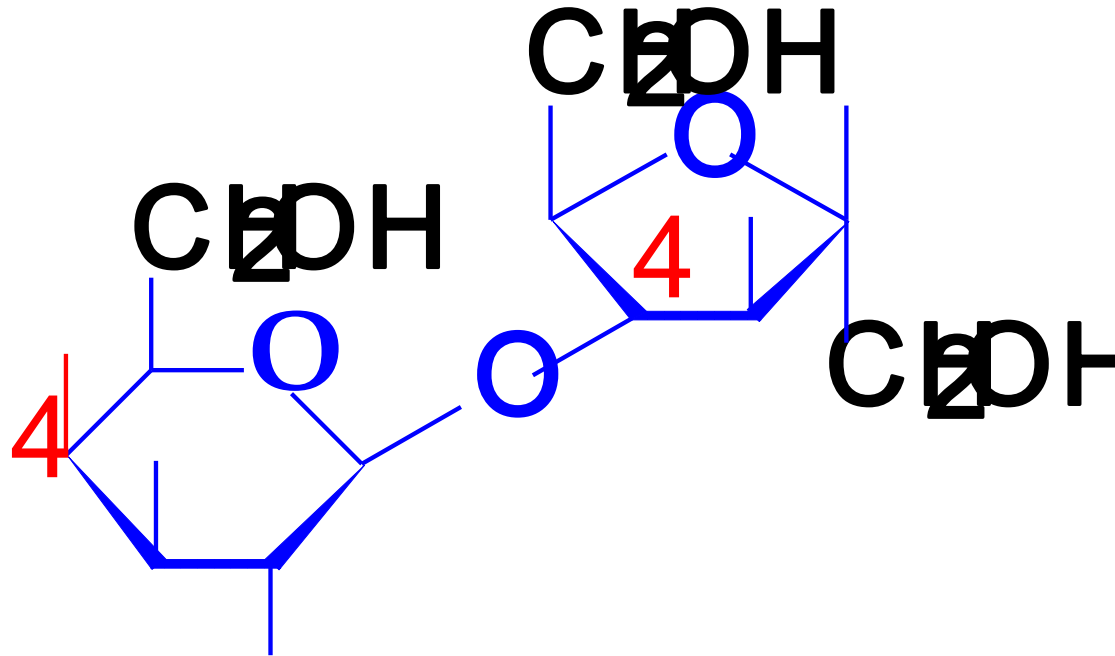
Laktosa :



Gal-β(1→4)-Glc

4-O-(β-D-galaktopyranosyl)-D-glukopyranosa

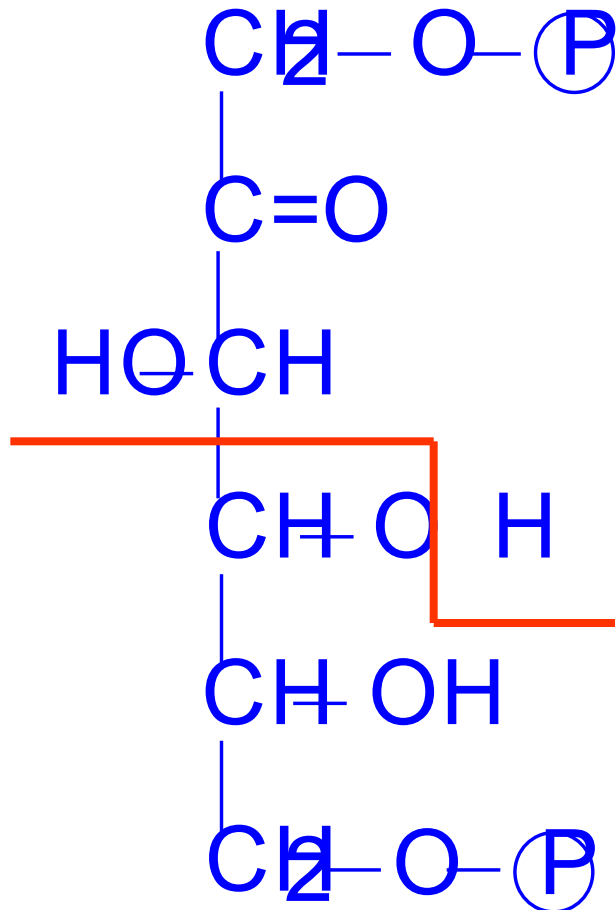
Laktulosa :



Gal-β(1→4)-Fru

4-O-(β-D-galaktopyranosyl)-D-fruktofuranosa

Aldolasa :



dihydroxy.aceton.fosfát



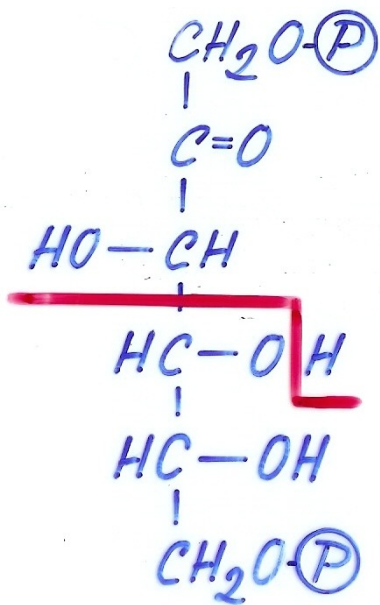
glyceraldehyd-3-fosfát

Fru-1,6-bisP

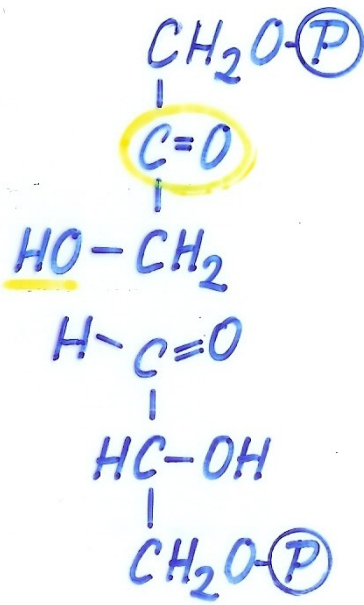
Fru-1,6-bisP-aldolasa

EC 4.1.2.3

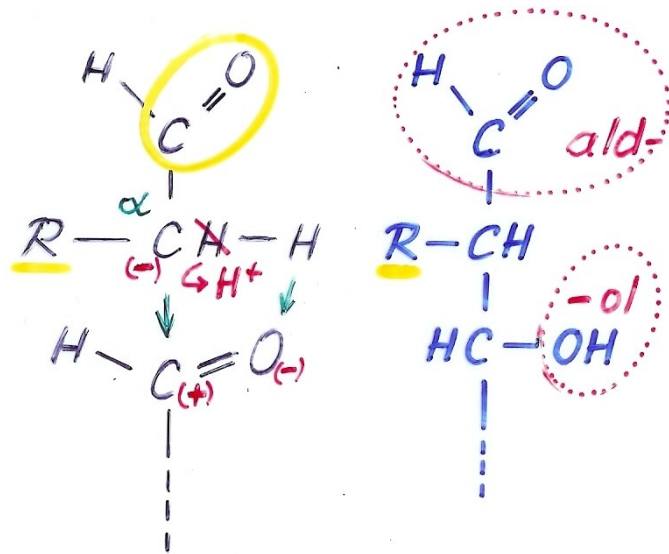
aldolasa B (játra a ledviny) také štěpí Fru-1-P



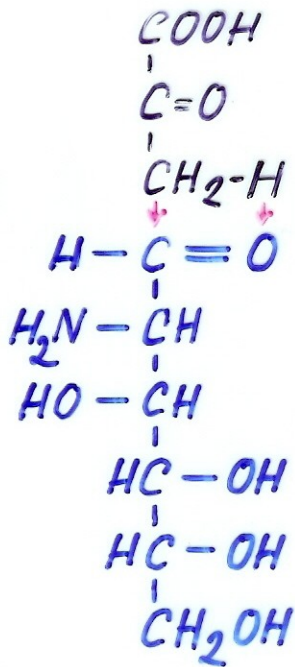
Fru-1,6-bisP



„ald-ol-áza“
 „ald-ol-ase“

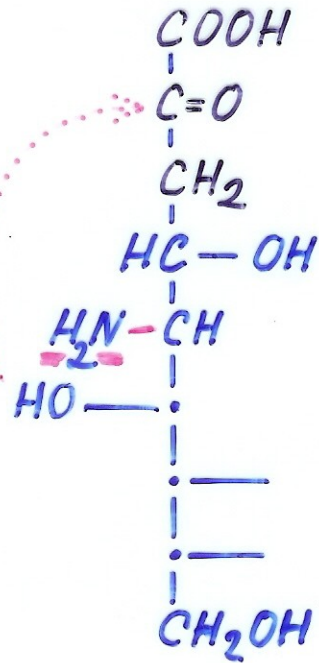


aldolová kondenzace
 aldol condensation



pyrohroznová kys.
pyruvic acid
Man. aminle

sialové kyseliny
sialic acids



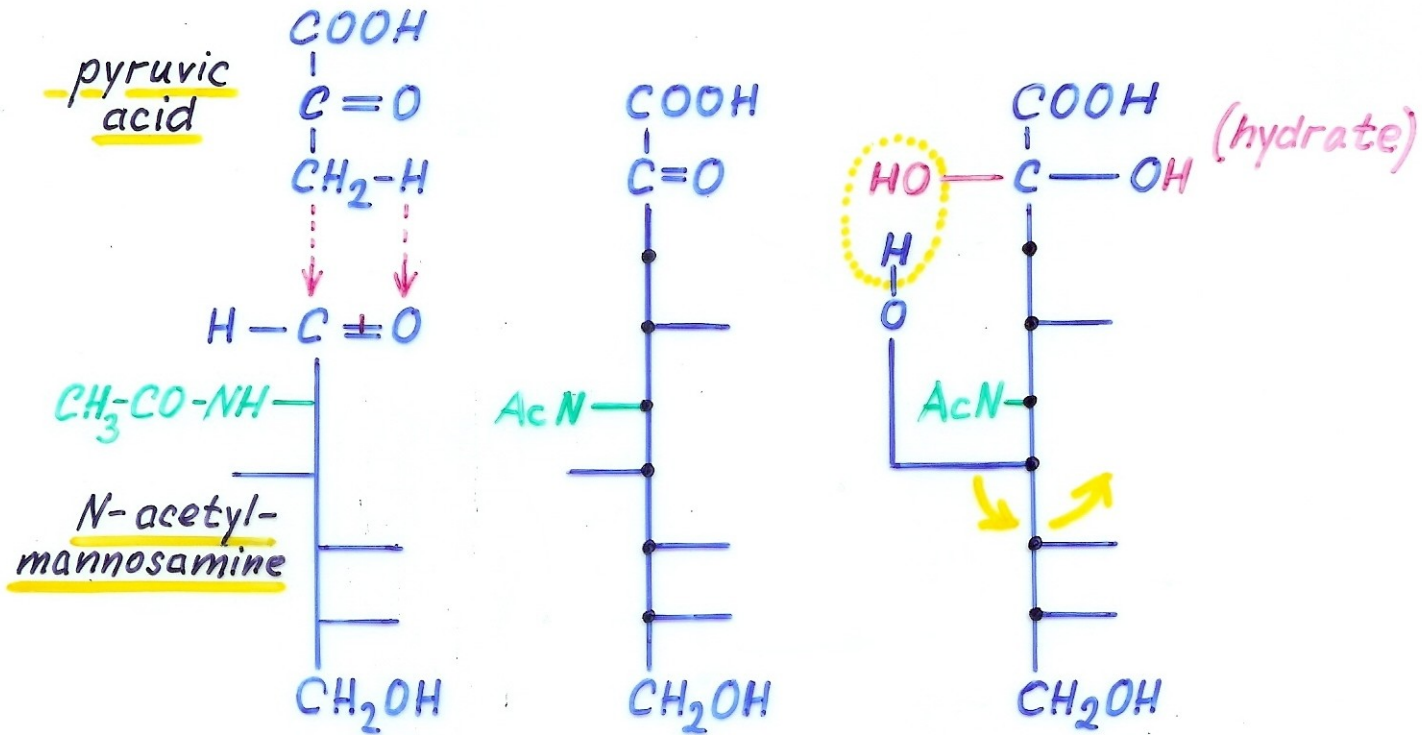
neuraminová kys. Neu
neuraminic acid



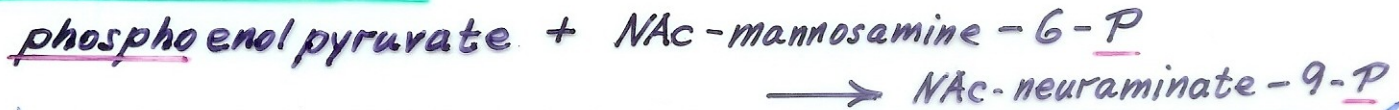
N-acetyl- NAc-



N-glykolyl-
N-glycolyl-



BIOSYNTHESIS :



all compounds as phosphate esters

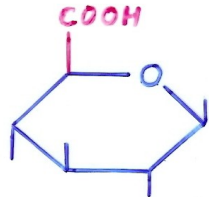
Glycosaminoglycans



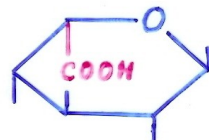
glucuronic
iduronic

glucosamine
galactosamine

- N-acetylated
- O-sulphated

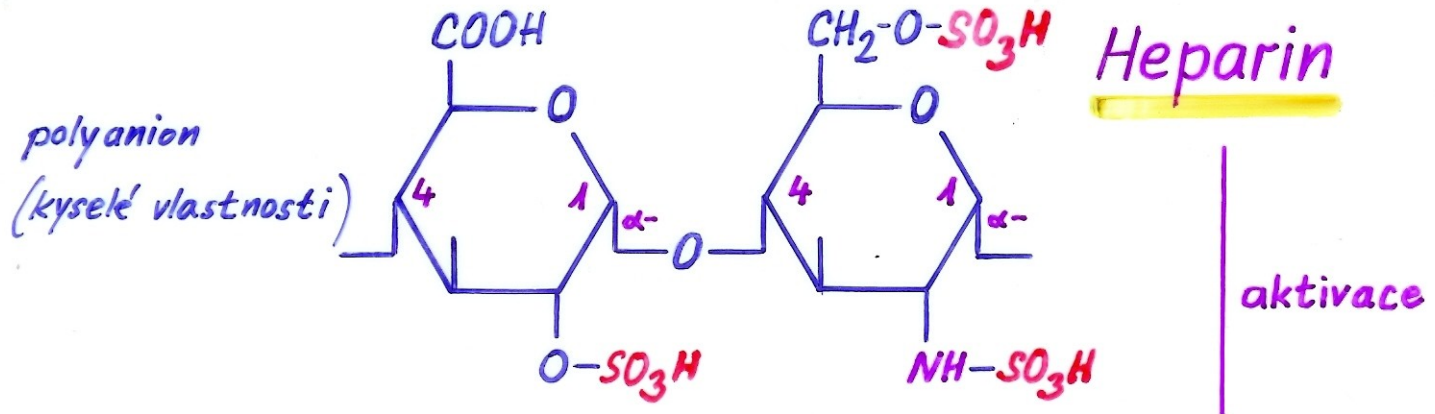
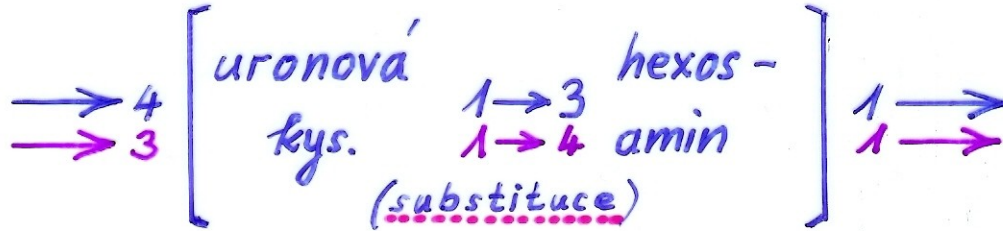


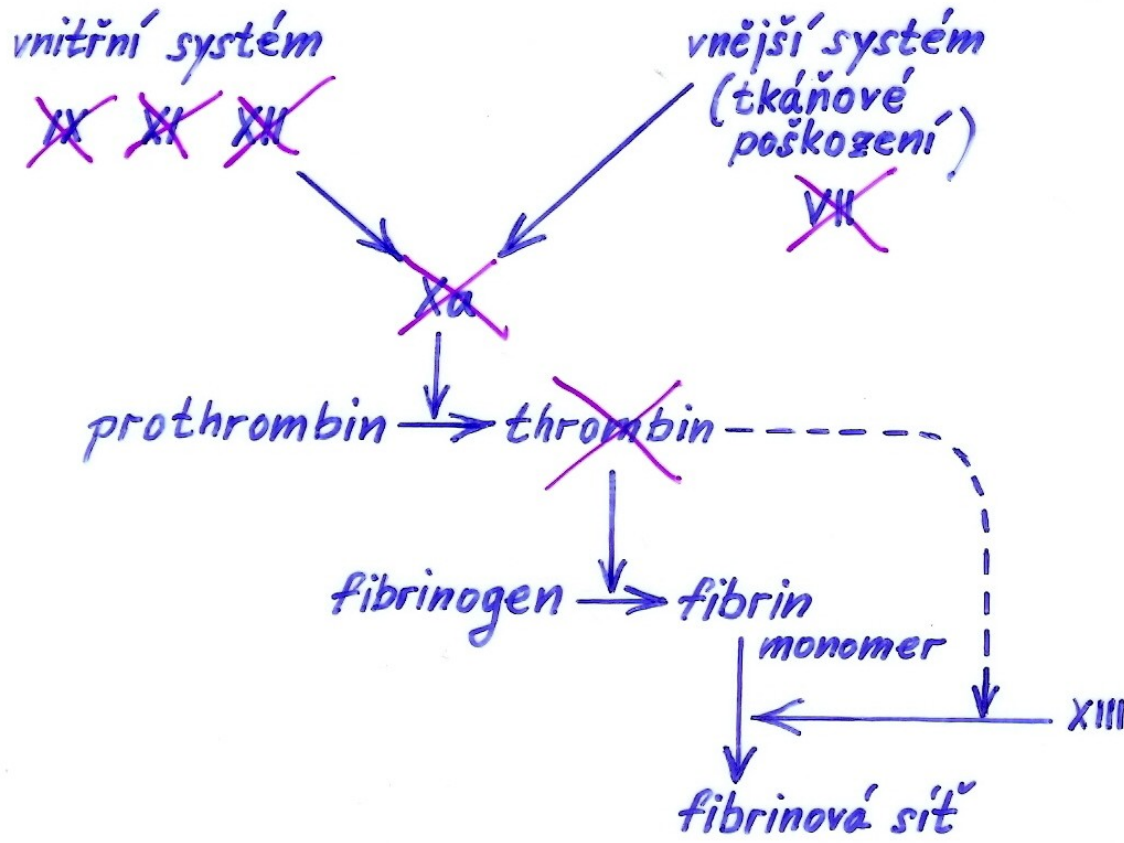
D-glucuronic acid



L-iduronic acid

Glykosaminoglykany





antithrombin III
 hlavní inhibitor hemokoagulace
 (inhibitor proteínas)

~~X~~ místa účinku

protamini sulfas / antidotum

protamin ze spermatu lososa, bílkovina

zásadité vlastnosti → polykation

váže heparin (= polyanion)
→ (iontová) tvorba soli

