

# Sacharidy

Vizuální podpora pro výuku



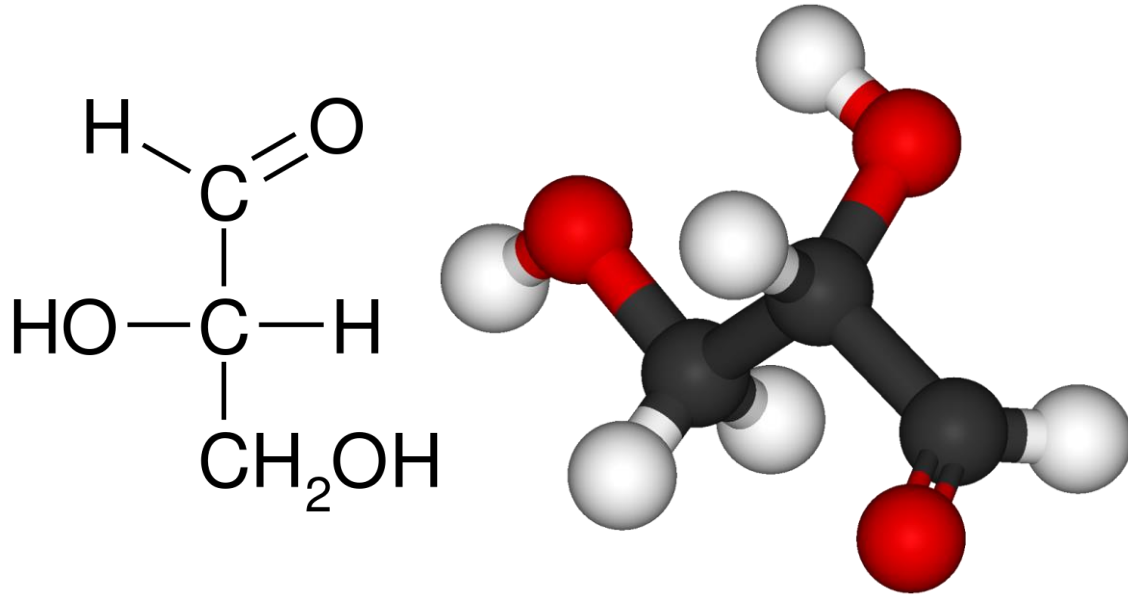
[https://upload.wikimedia.org/wikipedia/commons/a/a1/Raw\\_cane\\_sugar\\_light.JPG](https://upload.wikimedia.org/wikipedia/commons/a/a1/Raw_cane_sugar_light.JPG)



[https://res.cloudinary.com/dods/image/upload/c\\_fill,g\\_center,h\\_500,w\\_1120/sugar\\_1\\_0\\_yndqss\\_0\\_yjz3qn.jpg](https://res.cloudinary.com/dods/image/upload/c_fill,g_center,h_500,w_1120/sugar_1_0_yndqss_0_yjz3qn.jpg)

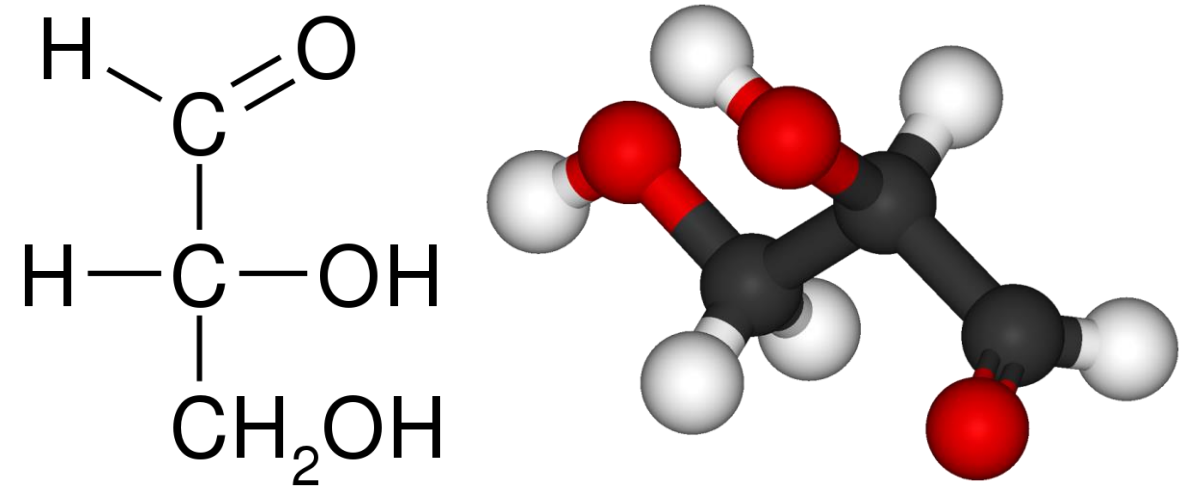
aneb „Cukry se dělí na  
kostkový a práškový...”

# Glyceraldehyd



[https://upload.wikimedia.org/wikipedia/commons/thumb/0/05/L-Glyceraldehyde\\_2D\\_Fischer.svg/614px-L-Glyceraldehyde\\_2D\\_Fischer.svg.png](https://upload.wikimedia.org/wikipedia/commons/thumb/0/05/L-Glyceraldehyde_2D_Fischer.svg/614px-L-Glyceraldehyde_2D_Fischer.svg.png)

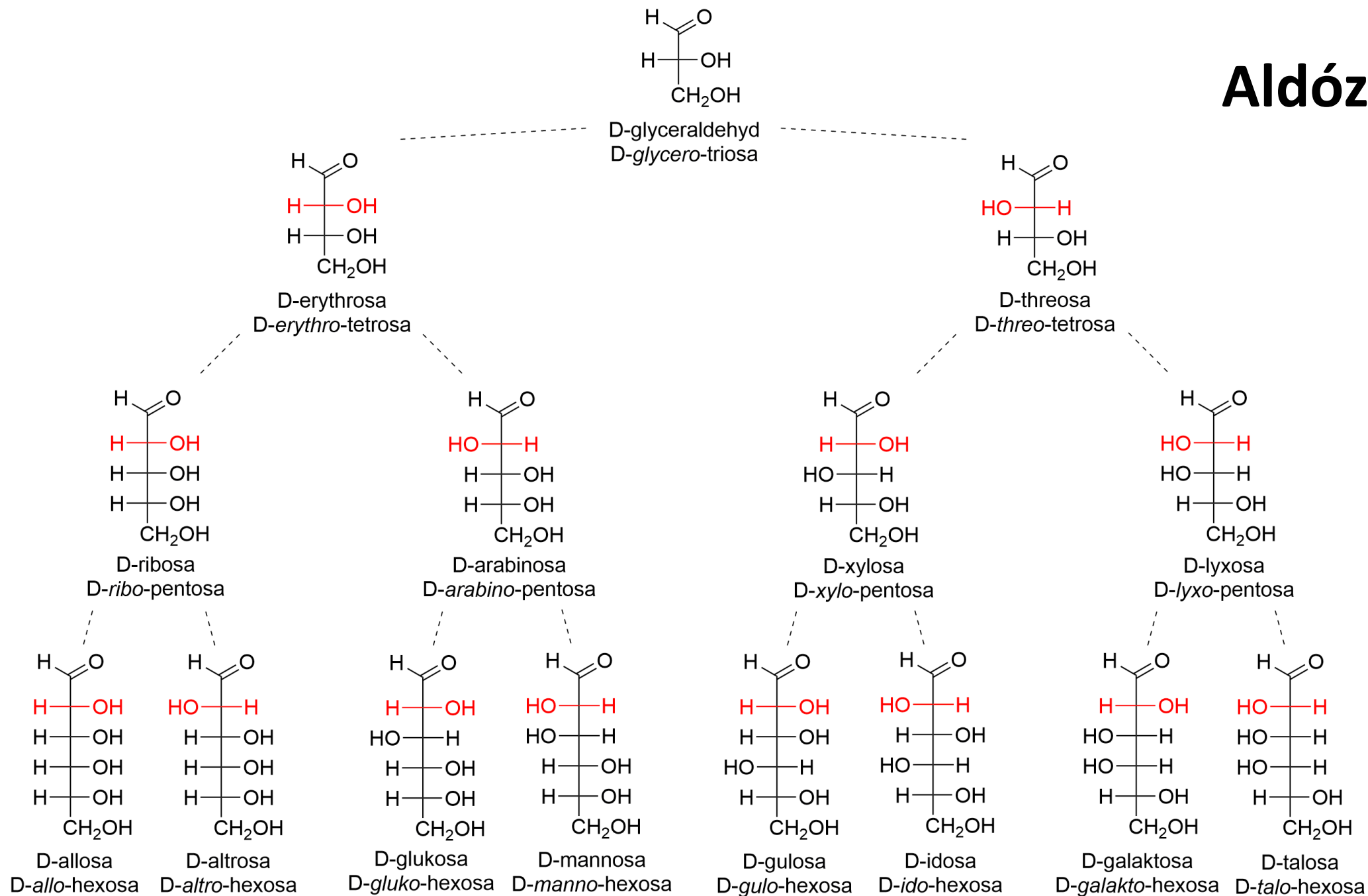
<https://upload.wikimedia.org/wikipedia/commons/0/0e/L-glyceraldehyde-3D-balls.png>



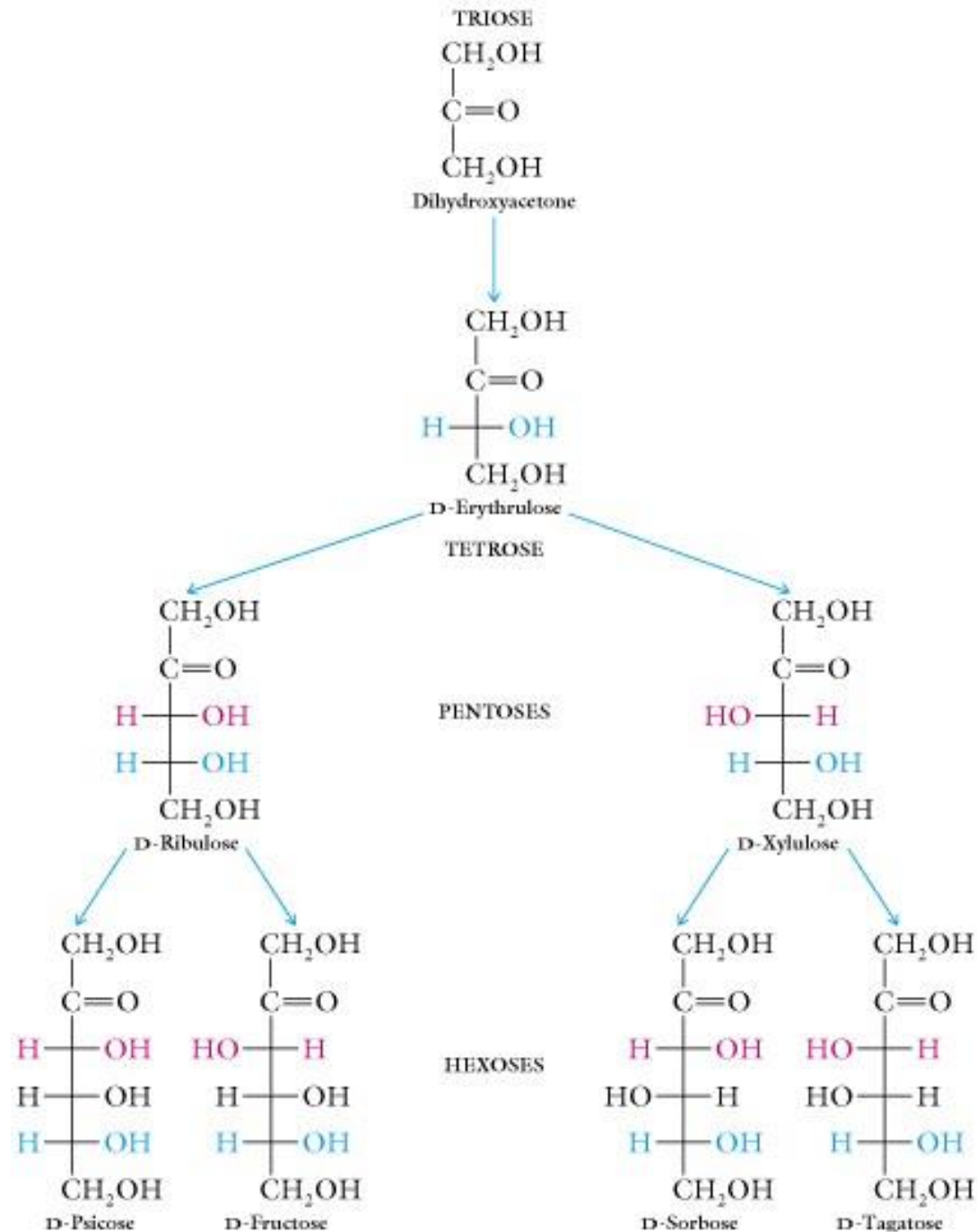
[https://upload.wikimedia.org/wikipedia/commons/thumb/e/ed/D-Glyceraldehyde\\_2D\\_Fischer.svg/535px-D-Glyceraldehyde\\_2D\\_Fischer.svg.png](https://upload.wikimedia.org/wikipedia/commons/thumb/e/ed/D-Glyceraldehyde_2D_Fischer.svg/535px-D-Glyceraldehyde_2D_Fischer.svg.png)

<https://upload.wikimedia.org/wikipedia/commons/e/e2/D-glyceraldehyde-3D-balls.png>

# Aldózy

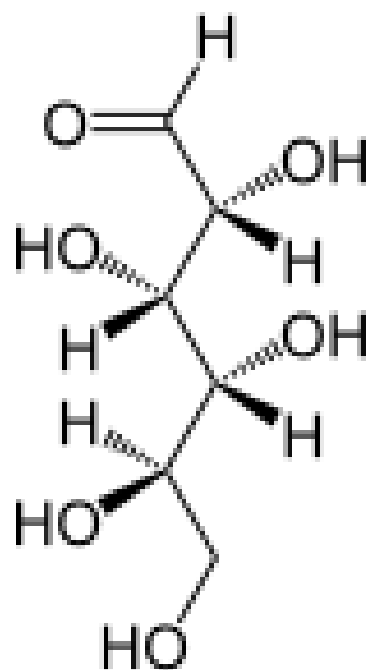


# Ketózy



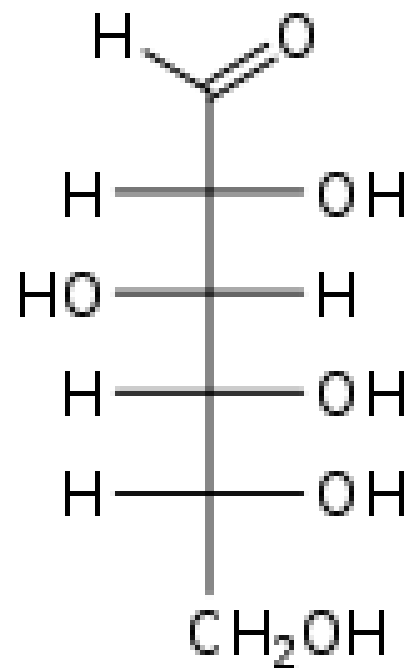
# D-glukóza ( $\text{C}_6\text{H}_{12}\text{O}_6$ )

Nattova projekce



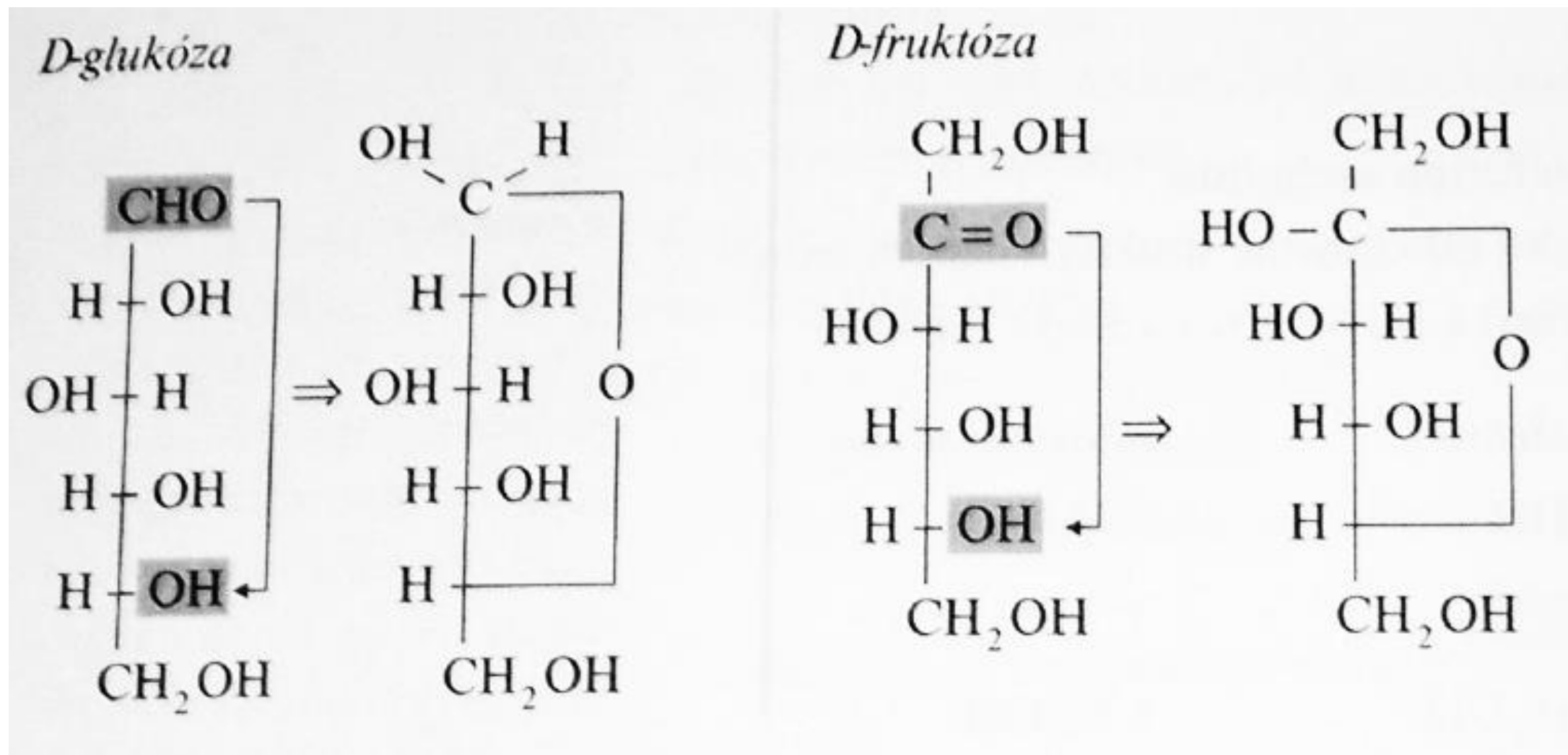
[https://commons.wikimedia.org/wiki/File:D-Glucose\\_Keilstrich.svg](https://commons.wikimedia.org/wiki/File:D-Glucose_Keilstrich.svg)

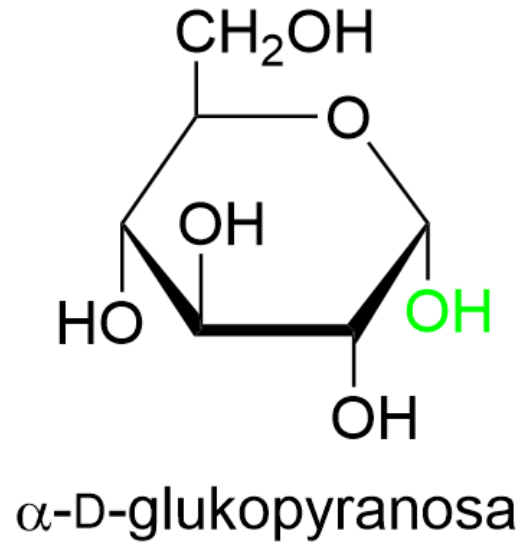
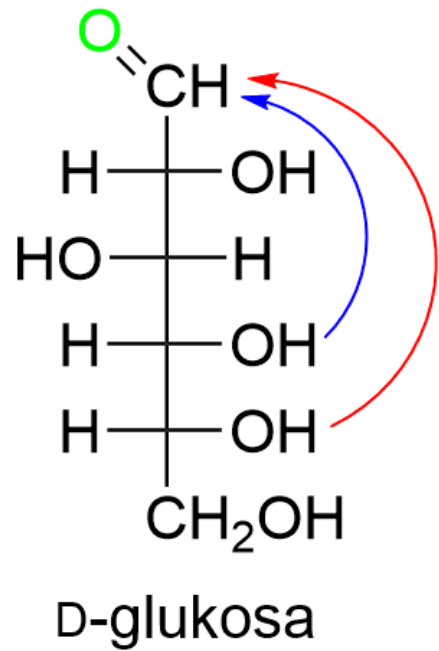
Fisherova



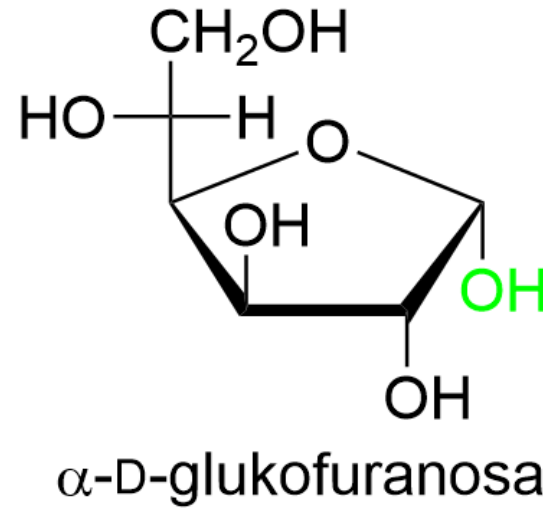
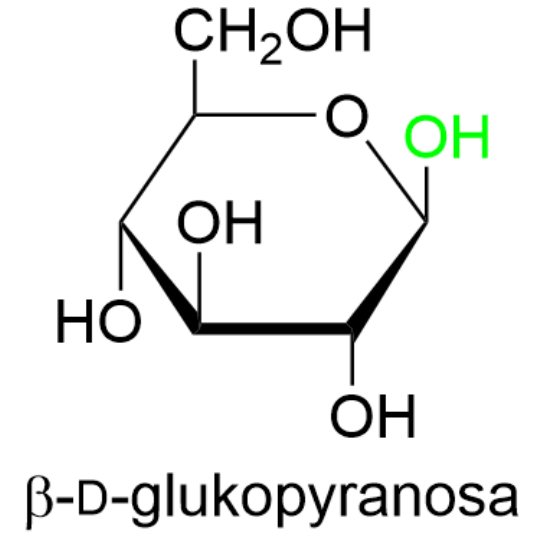
[https://upload.wikimedia.org/wikipedia/commons/thumb/1/14/DGlucose\\_Fischer.svg/120px-DGlucose\\_Fischer.svg.png](https://upload.wikimedia.org/wikipedia/commons/thumb/1/14/DGlucose_Fischer.svg/120px-DGlucose_Fischer.svg.png)

# Fisherovy a Tollensovy vzorce

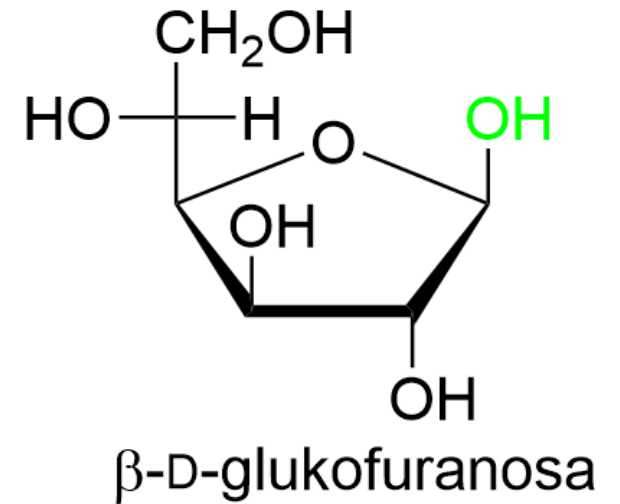




+



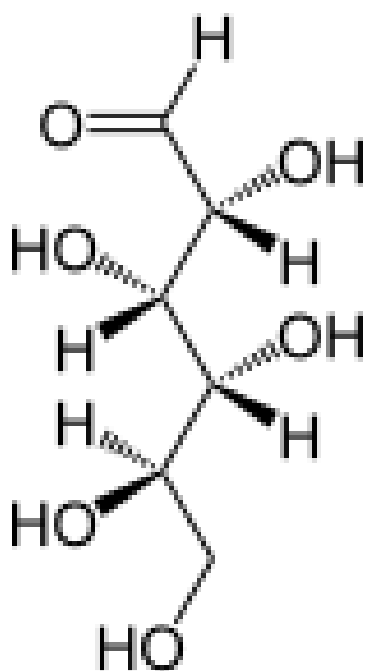
+



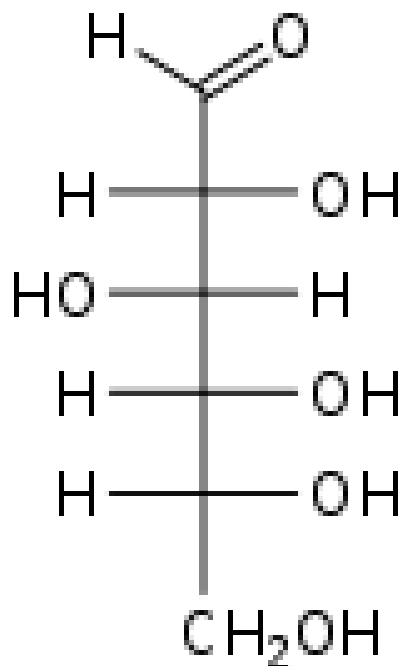
# D-glukóza ( $C_6H_{12}O_6$ )

$\alpha$ -D-glukopyranosy

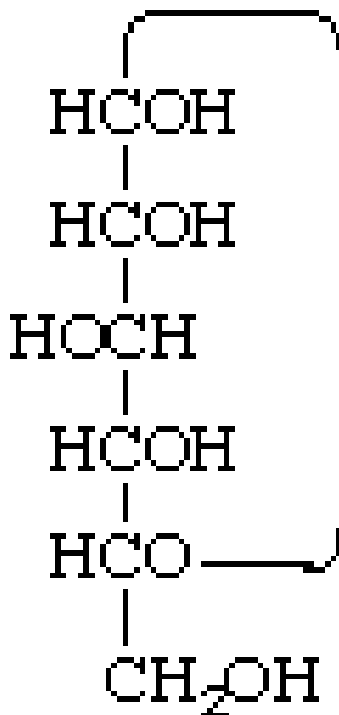
Nattova projekce



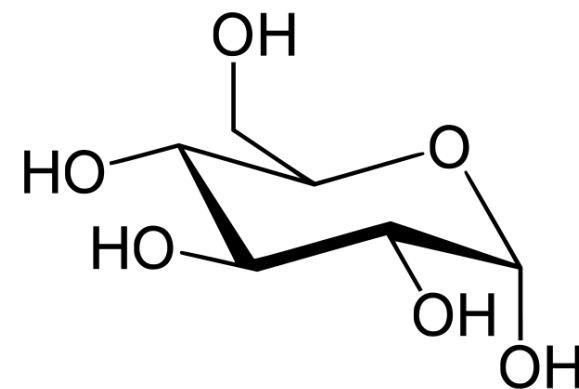
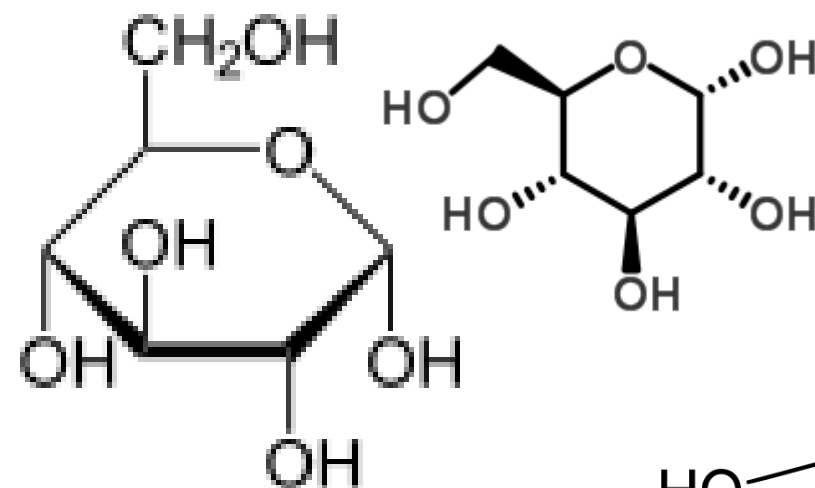
Fisherova



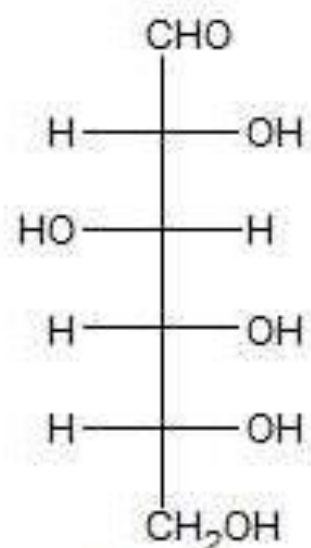
Tollensova



Haworthova

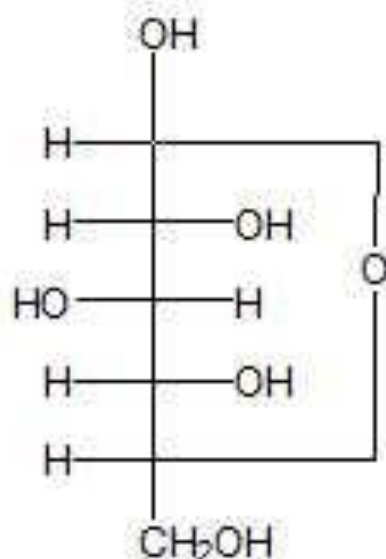


**Fischerova projekce:**

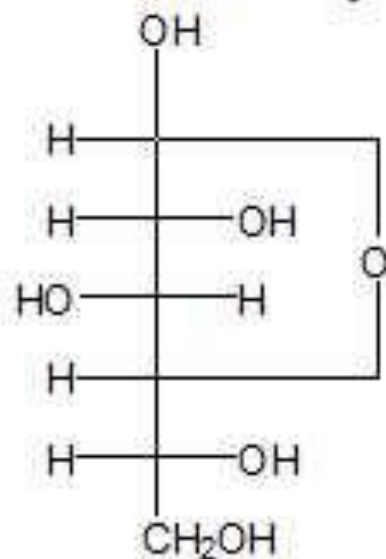


**D-glukosa**

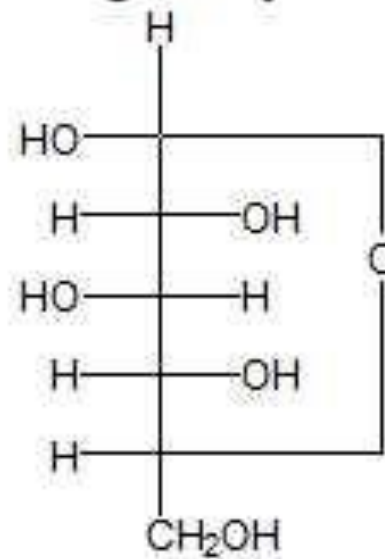
**Tollensovy vzorce D-glukosy:**



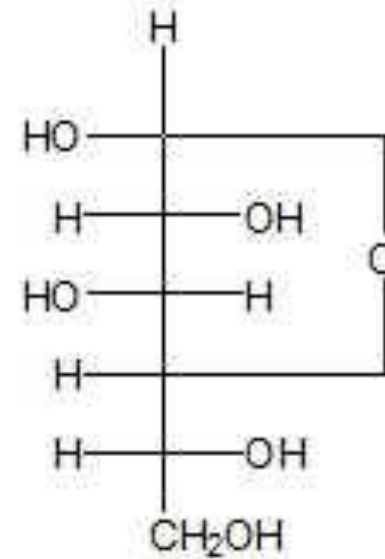
$\alpha$ -D-glukopyranosa



$\alpha$ -D-glukofuranosa

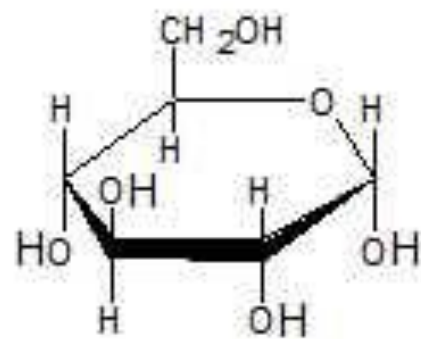


$\beta$ -D-glukopyranosa

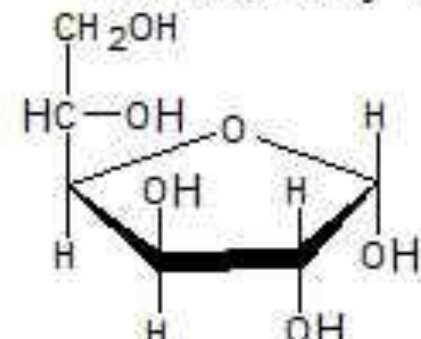


$\beta$ -D-glukofuranosa

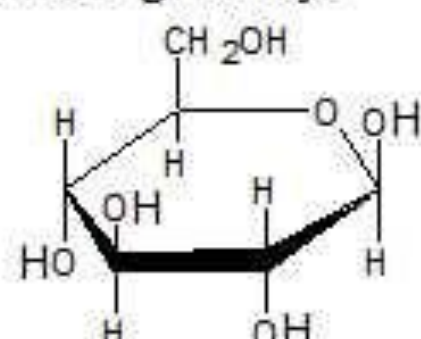
**Haworthovy vzorce D-glukosy:**



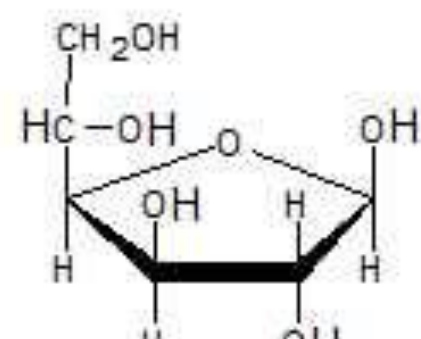
$\alpha$ -D-glukopyranosa



$\alpha$ -D-glukofuranosa

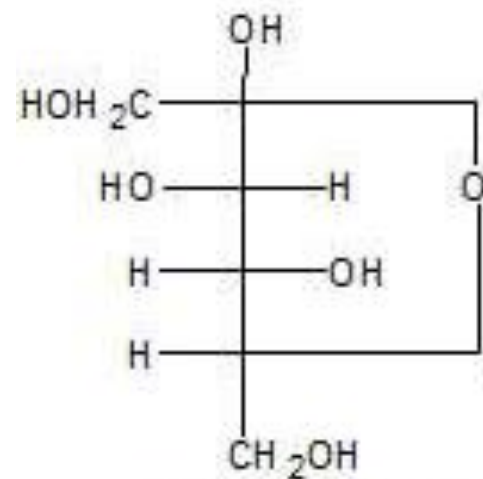


$\beta$ -D-glukopyranosa

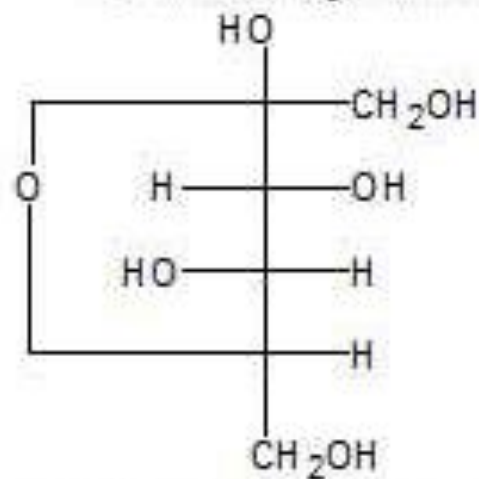


$\beta$ -D-glukofuranosa

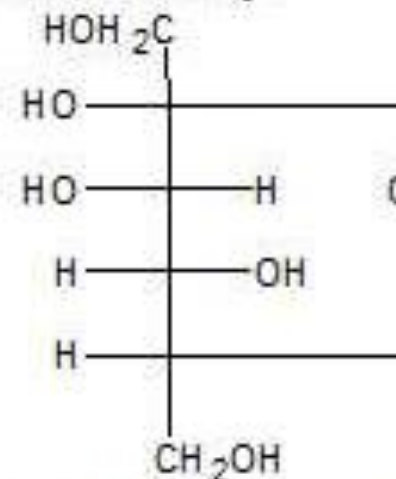
### Tollensovy vzorce fruktofuranosy:



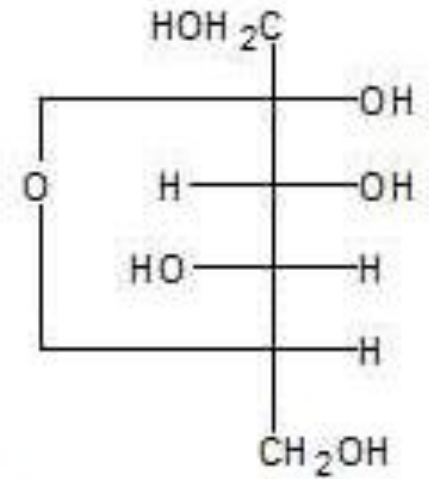
$\alpha$ -D-fruktofuranosa



$\alpha$ -L-fruktofuranosa

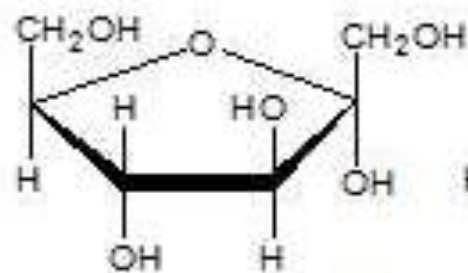


$\beta$ -D-fruktofuranosa

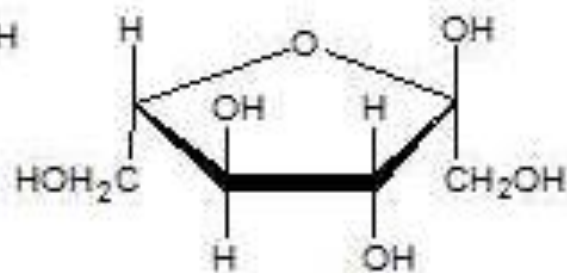


$\beta$ -L-fruktofuranosa

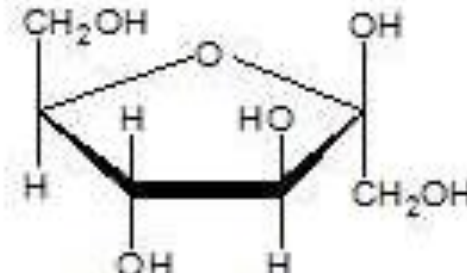
### Haworthovy vzorce fruktofuranosy:



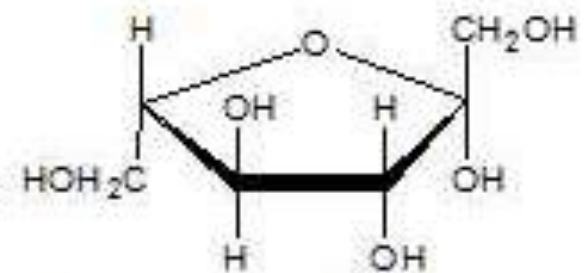
$\alpha$ -D-fruktofuranosa



$\alpha$ -L-fruktofuranosa

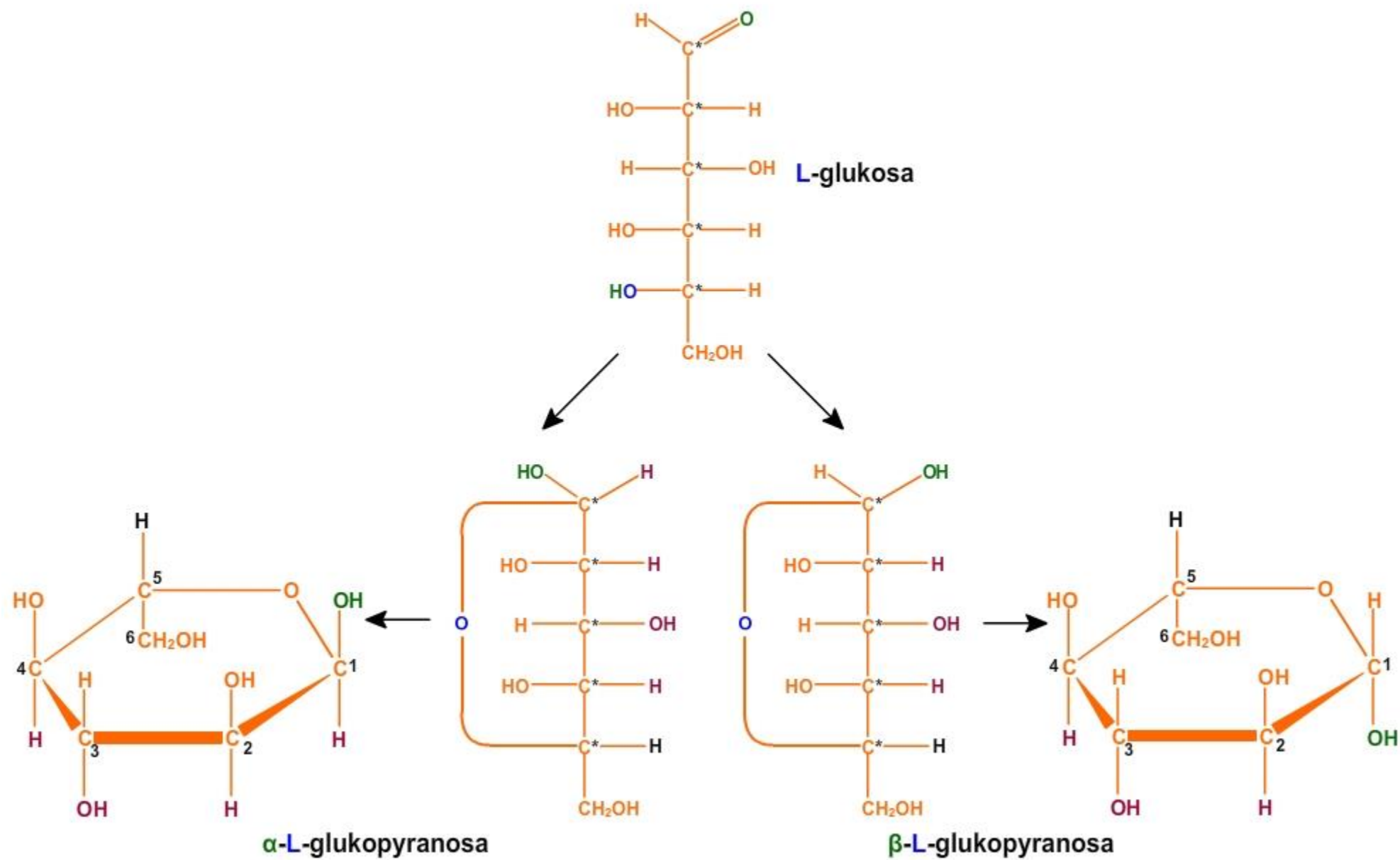


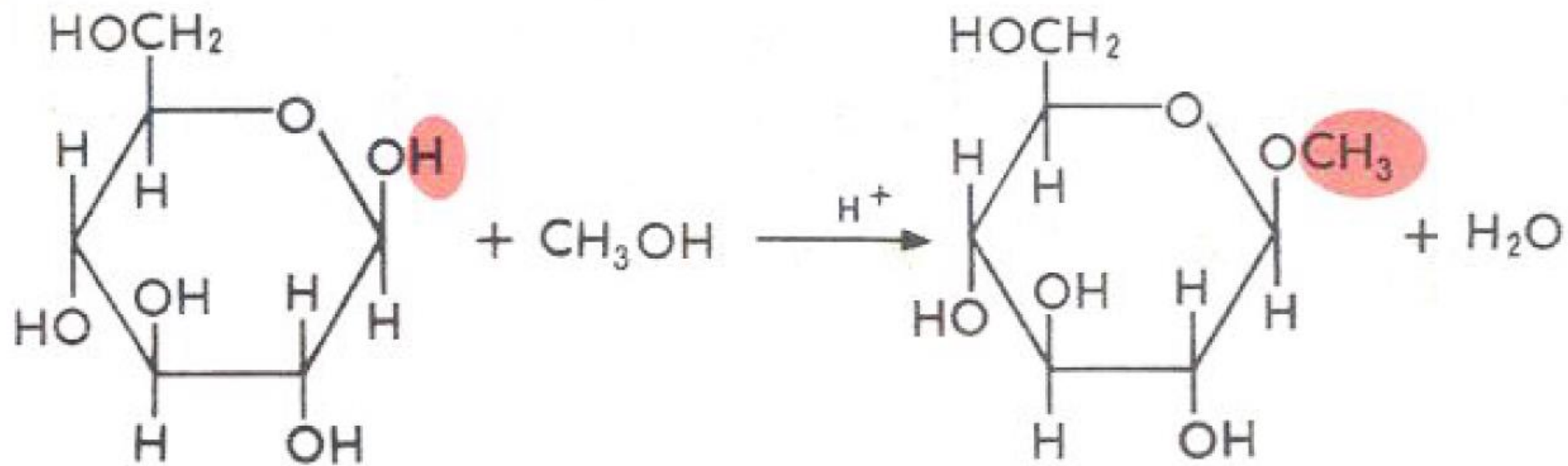
$\beta$ -D-fruktofuranosa



$\beta$ -L-fruktofuranosa

## L-glukosa - odvození cyklické formy

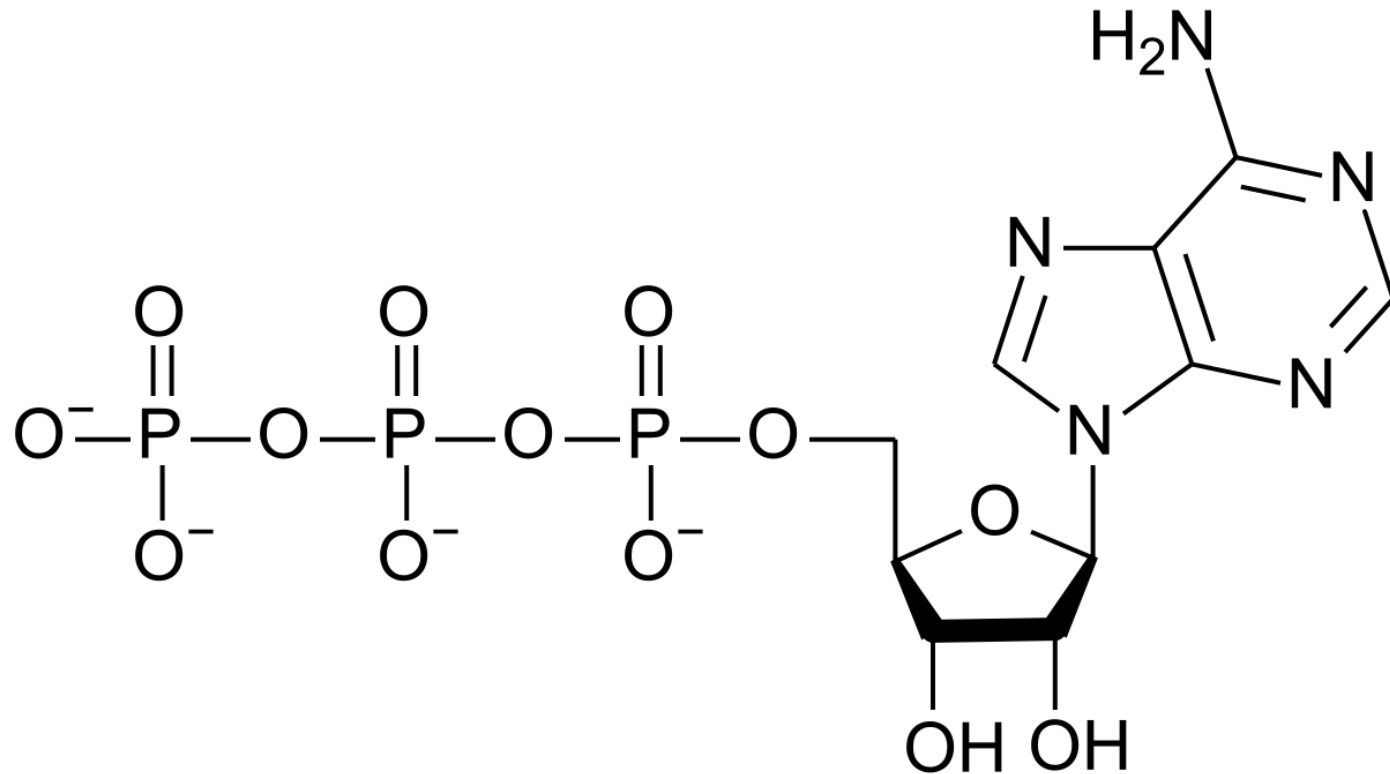
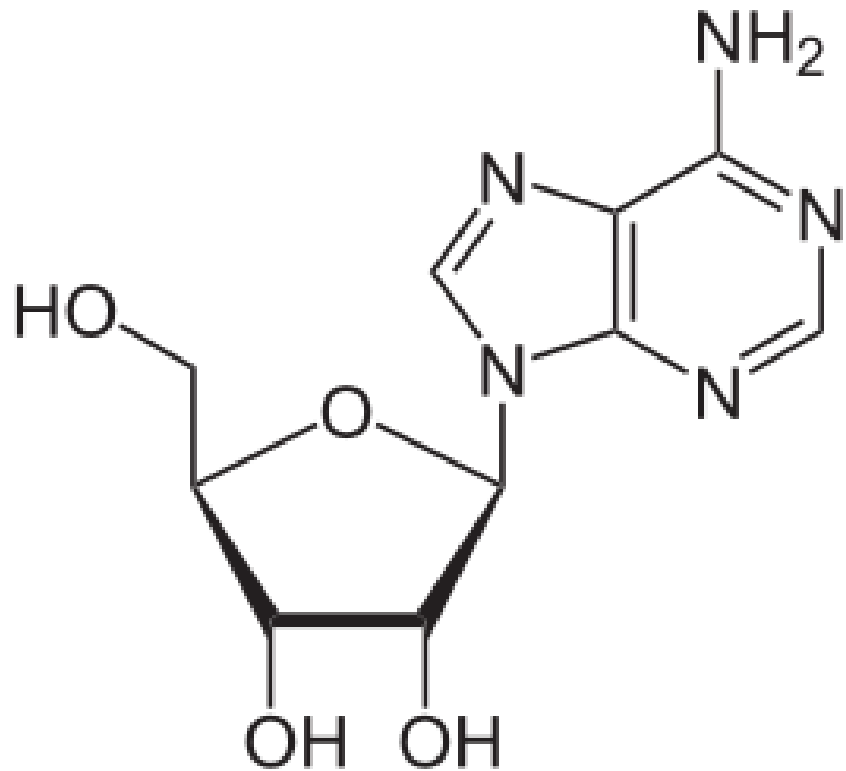




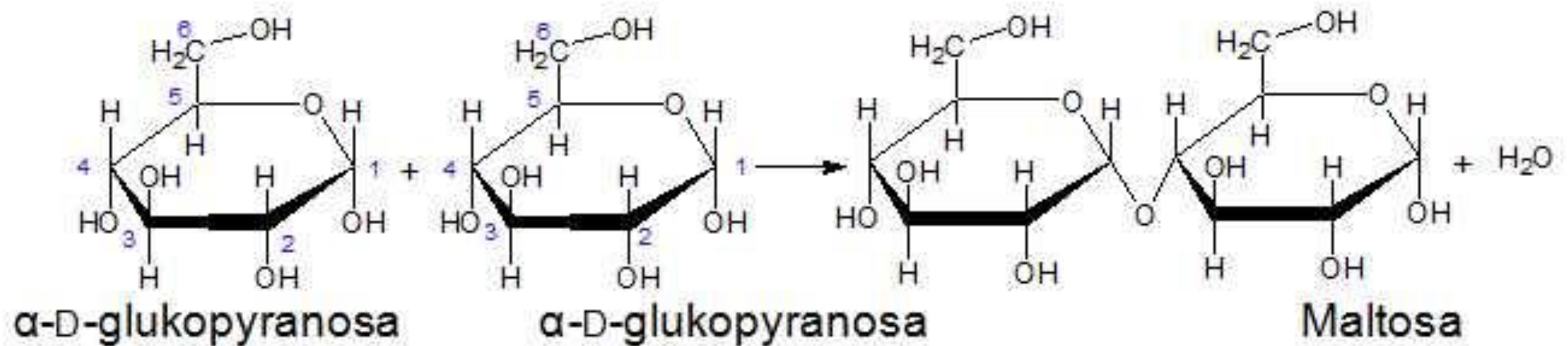
$\beta$ -D-glukopyranosa  
(volný cukr)

methyl- $\beta$ -D-glukopyranosid  
(glykosid)

# Adenosin, adenosintrifosfát (ATP)

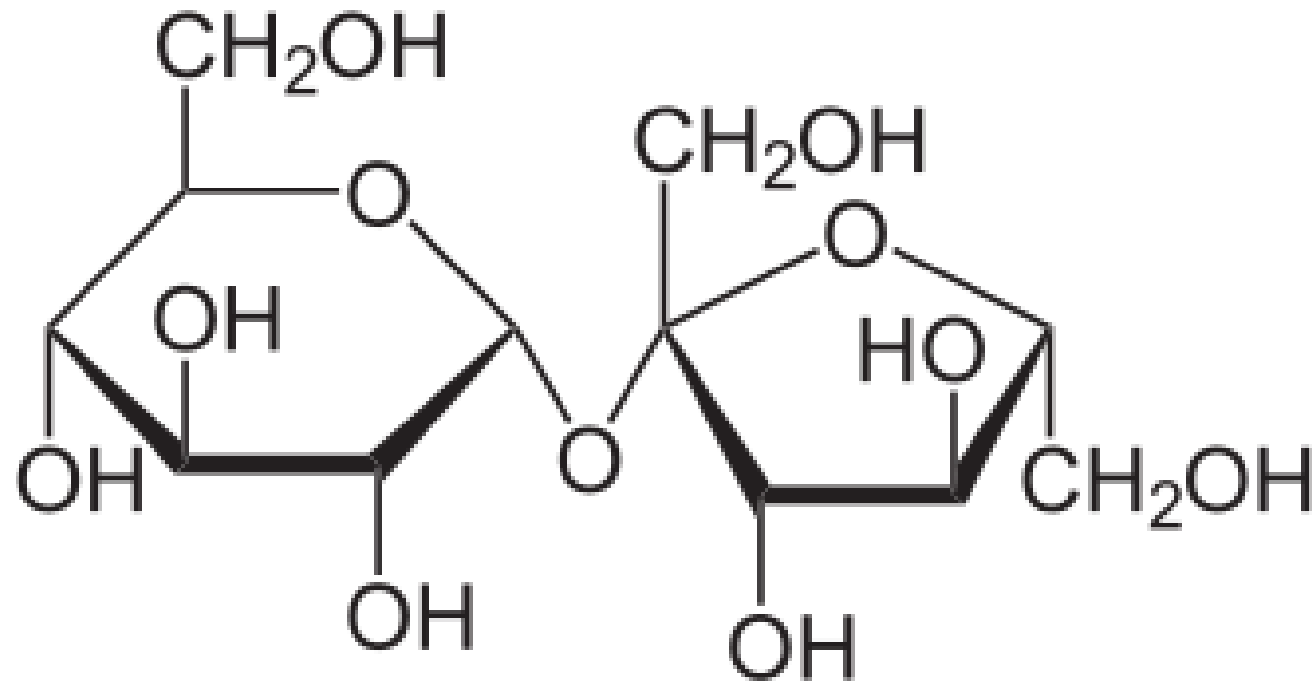


# Oligosacharidy - maltosa



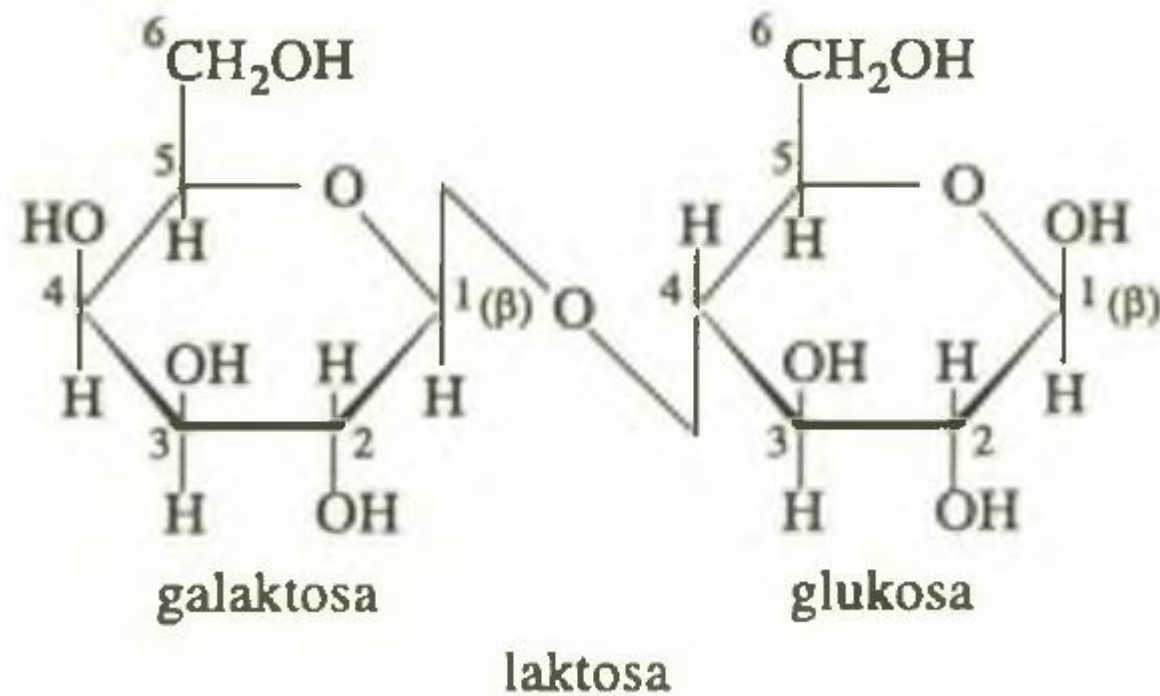
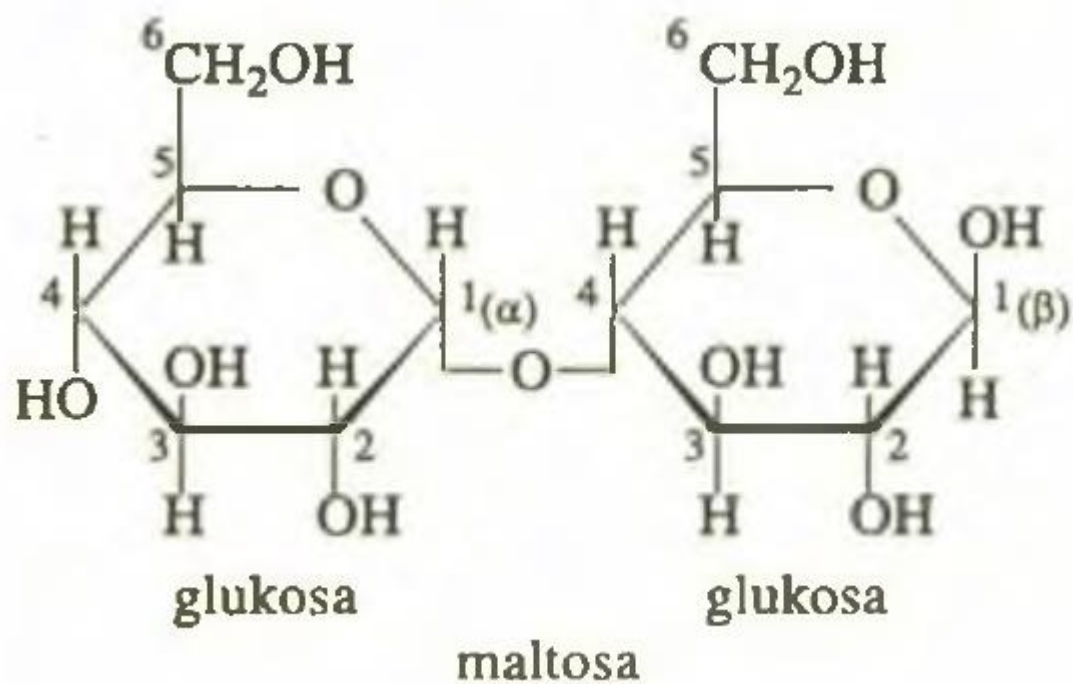
A(1 $\rightarrow$ 4) vazba

# Oligosacharidy - sacharosa

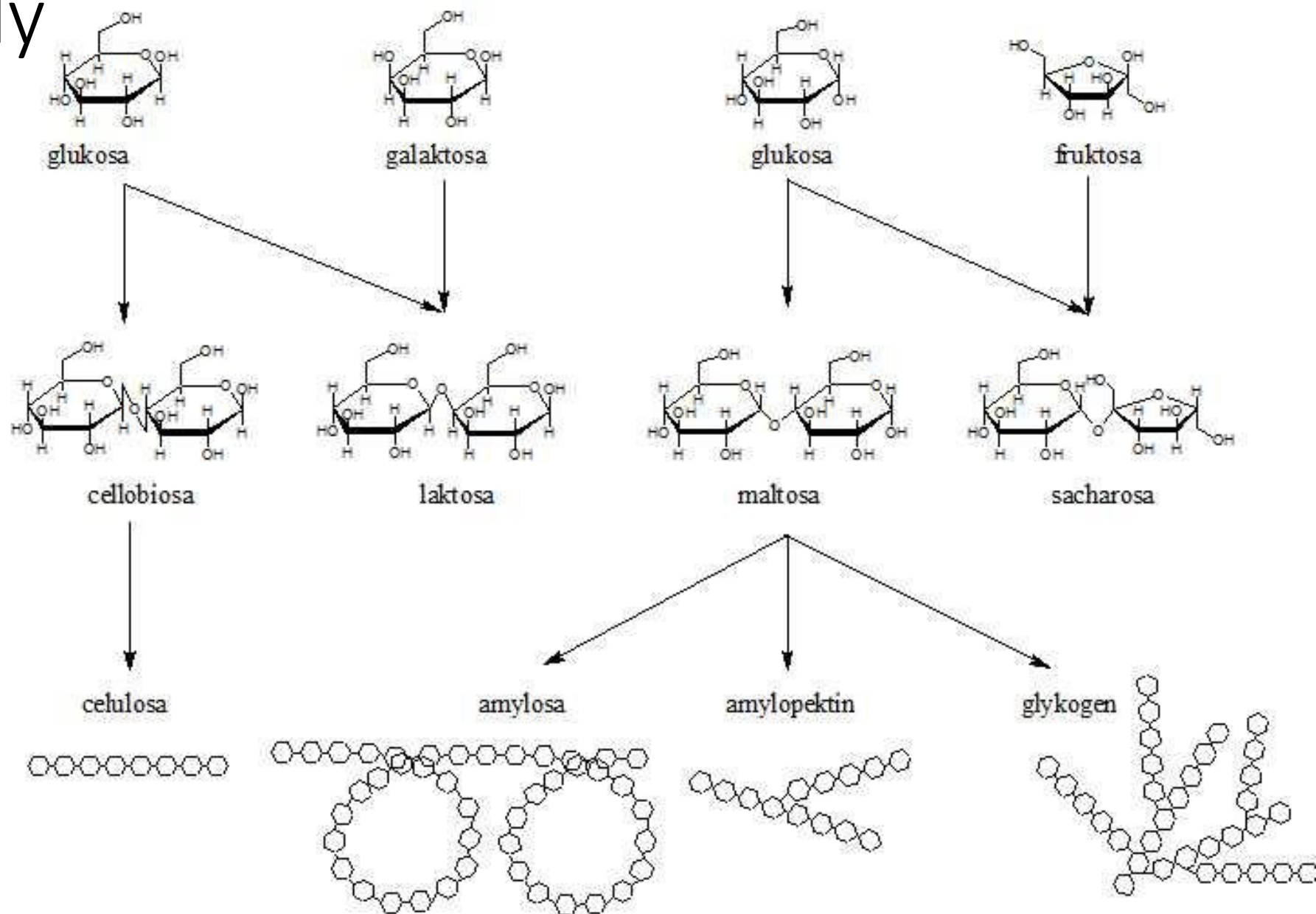


*$\alpha$ -D-glukopyranosyl- $\beta$ -D-fruktofuranosid*

# Oligosacharidy



# Polysacharidy



# Polysacharidy

