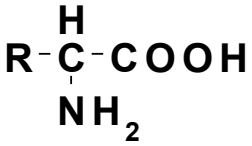
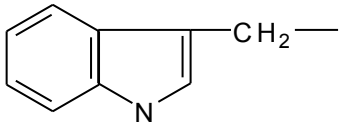
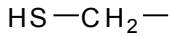


PŘEHLED AMINOKYSELIN

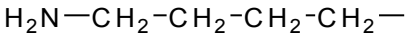
Gly



Trp

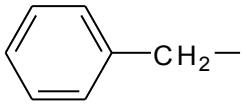


Cys

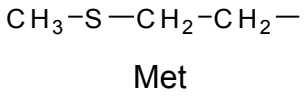


Lys

Ala



Phe



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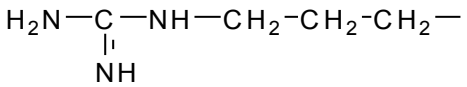

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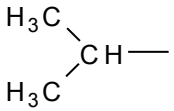
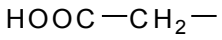
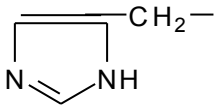


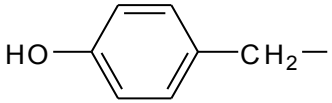
Val



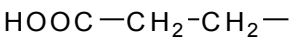
Asp



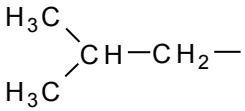
His



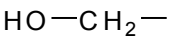
Tyr



Glu



Leu



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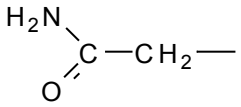
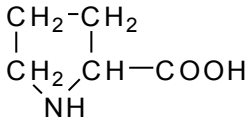
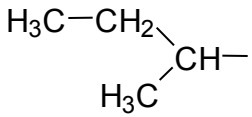


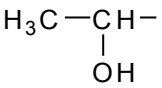
Asn



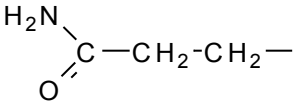
Pro



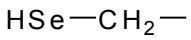
Ile



Thr



Gln



SeCys

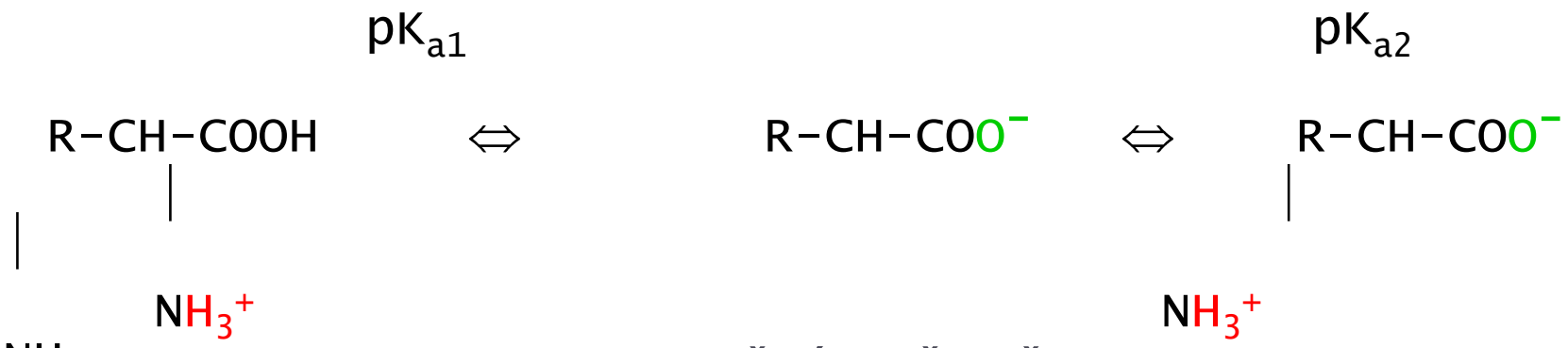
JEDNO- A TŘÍPÍSMENNÉ ZKRATY AMINOKYSELIN

Aminokyselina	Třípísmenná zkratka	Jednopísmenná zkratka[a]	Aminokyselina	Třípísmenná zkratka	Jednopísmenná zkratka[a]
Alanin	Ala	A	Histidin	His	H
Arginin	Arg	R	Isoleucin	Ile	I
Asparagin	Asn	N	Leucin	Leu	L
Asparagová kys.	Asp	D	Lysin	Lys	K
Asparagin nebo asparagová kys.	Asx	B	Methionin	Met	M
Cystein	Cys	C	Prolin	Pro	P
Fenylalanin	Phe	F	Serin	Ser	S
Glutamin	Gln	Q	Threonin	Thr	T
Glutamová kys.	Glu	E	Tryptofan	Trp	W
Glutamin nebo glutamová kys.	Glx	Z	Tyrosin	Tyr	Y
Glycin	Gly	G	Valin	Val	V

[a] Písmenem X se značí jednak neurčené aminokyseliny, jednak aminokyseliny nepatřící mezi základní.

DISOCIACE AMINOKYSELIN

I. DISOCIACE KARBOXYLOVÉ SKUPINY A AMINOSKUPINY



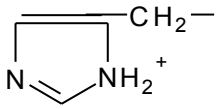
II. DISOCIACE BOČNÍHO ŘETĚZCE

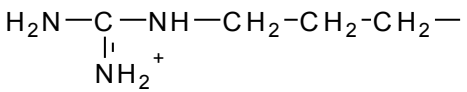
1. -R nedisociuje
2. -RH $\Leftrightarrow$ -R$^-$ KYSELÉ AK: protonovaná forma je nenabitá
3. -RH$^+$ $\Leftrightarrow$ -R BAZICKÉ AK: protonovaná forma je kladně nabitá

Typ disociace bočního řetězce a jeho náboj při daném pH lze rozlišit pouze na základě znalosti jeho chemické struktury!!!

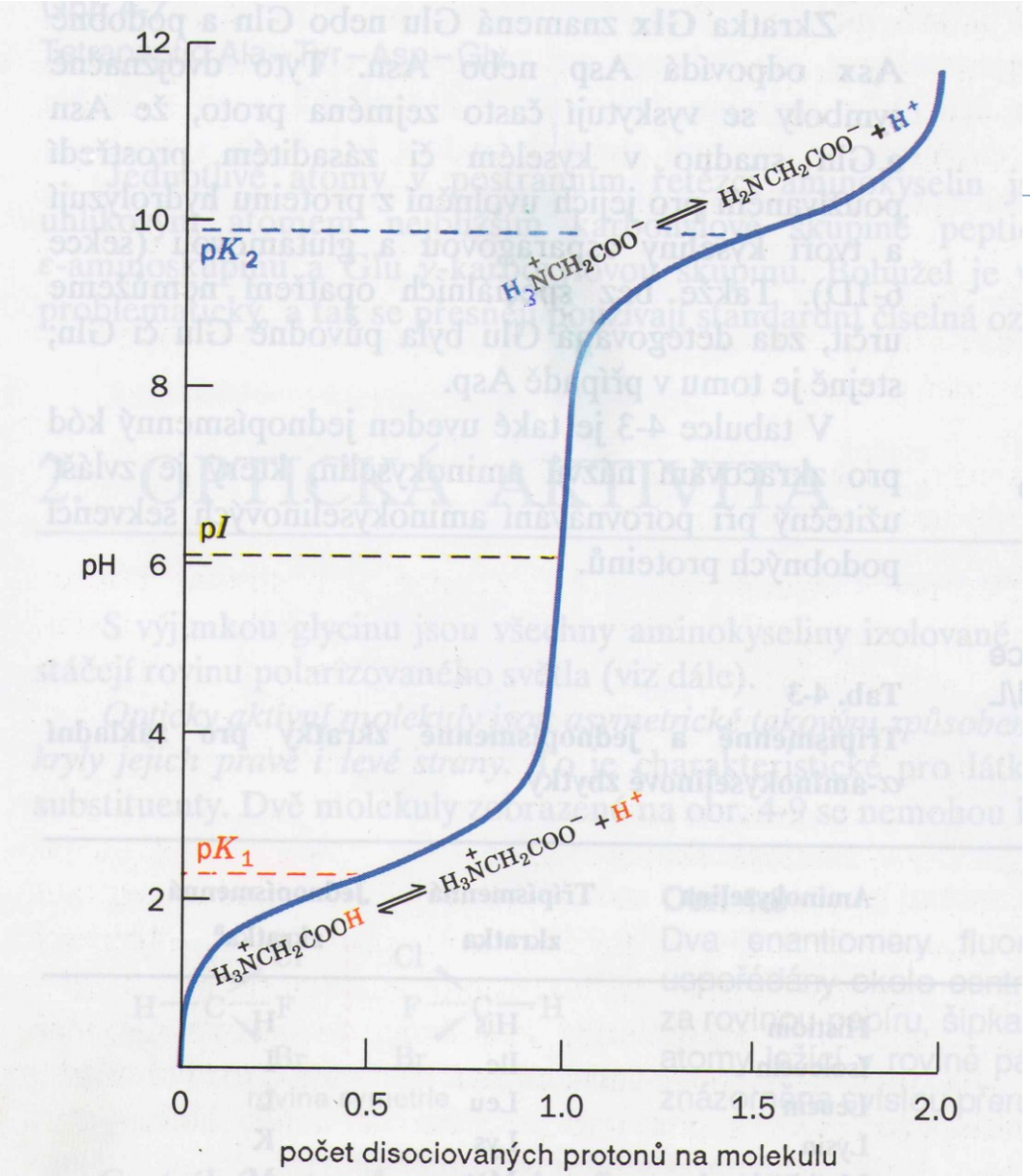
DISOCIAČNÍ KONSTANTY AMINOKYSELIN

AK	pK_{a1}	pK_{a2}	$pK_{a3}=pK_a$ bočního řetězce
Ala	2.3	9.9	
Gly		2.4	9.8
Phe		1.8	9.1
Ser		2.1	9.2
Val		2.3	9.6
Asp		2.0	10.0 3.9 -COOH
Glu	4.3	2.2 -COOH	9.7
His	6.0	1.8 -imidazolium	9.2
Cys	8.3	1.8 -SH	10.8
Tyr	10.9	2.2 -fenol	9.1
Lys	10.8	2.2 $-NH_3+$	9.2
Arg	12.5	1.8 -guanidinium	9.0
Asn	2.0	8.8	
Gln	2.2	9.1	
Trp	2.4	9.4	
Leu	2.4	9.6	
Ile	2.3	9.6	
Met	2.3	9.2	
Thr	2.2	9.1	
Pro	2.0	10.6	



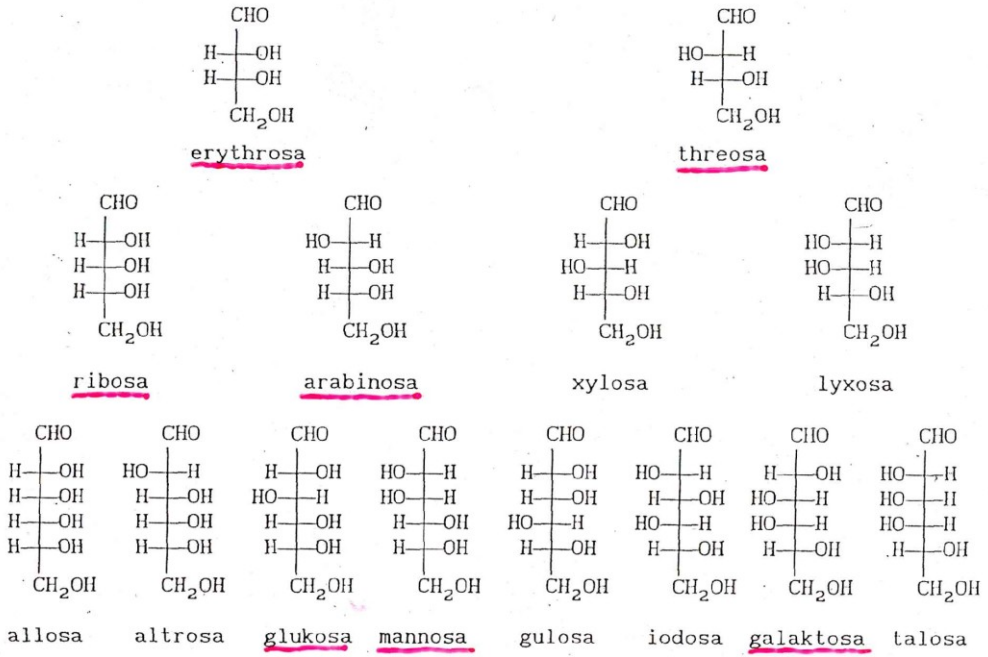


TITRAČNÍ KŘIVKA GLYCINU

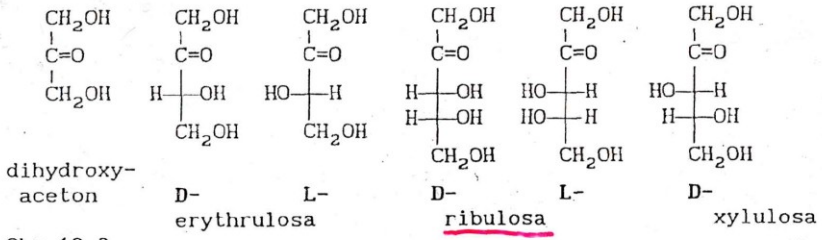


Obr. 4-5
Titrační křivka glycinu. Podobně jsou ionizovány také ostatní monoaminomonokarboxylové kyseliny.

PŘEHLED MONOSACHARIDŮ

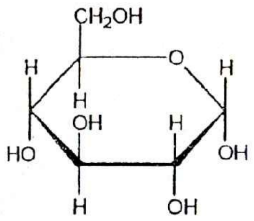


Obr. 19.2.

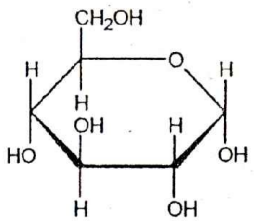


Obr. 19.3.

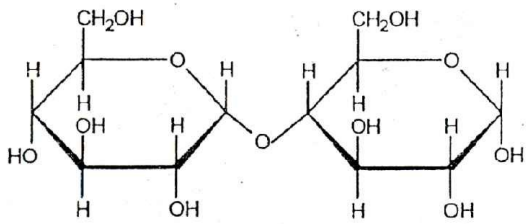
VYBRANÉ DISACHARIDY



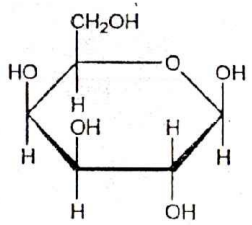
α - D - glukopyranosa



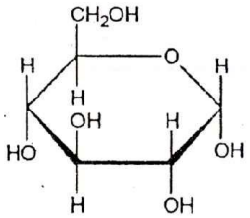
α - D - glukopyranosa



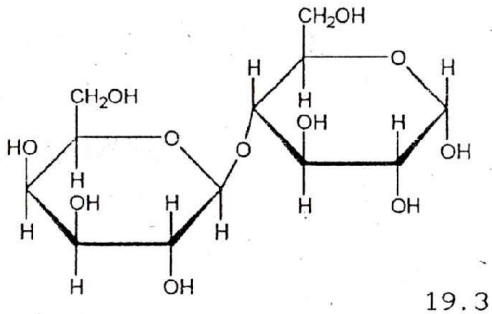
4-O-α-D-glukopyranosyl-D-glukopyranosa
(maltosa)



β - D - galaktopyranosa

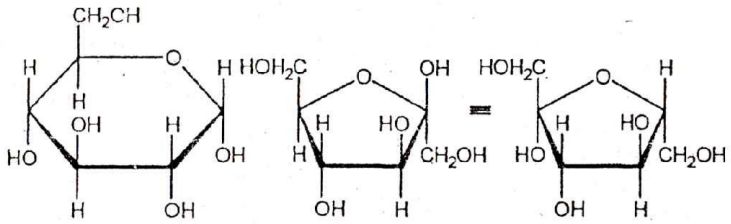


α - D - glukopyranosa



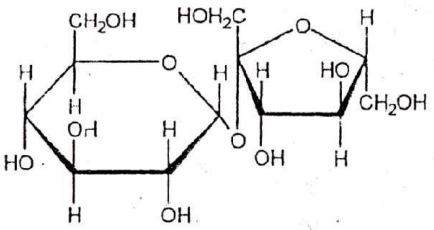
19.3.1.

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



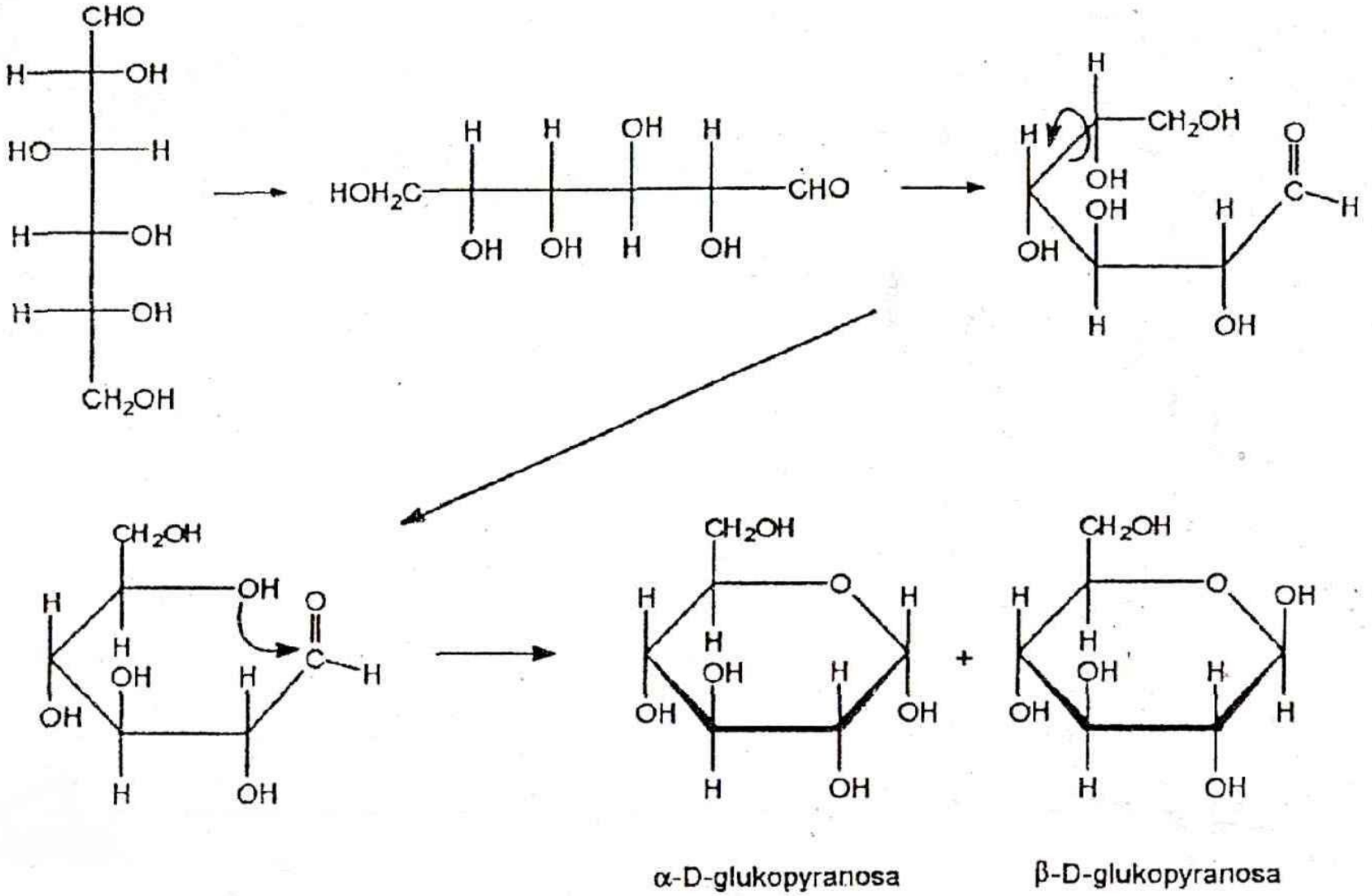
α - D - glukopyranosa

β - D - fruktofuranosa

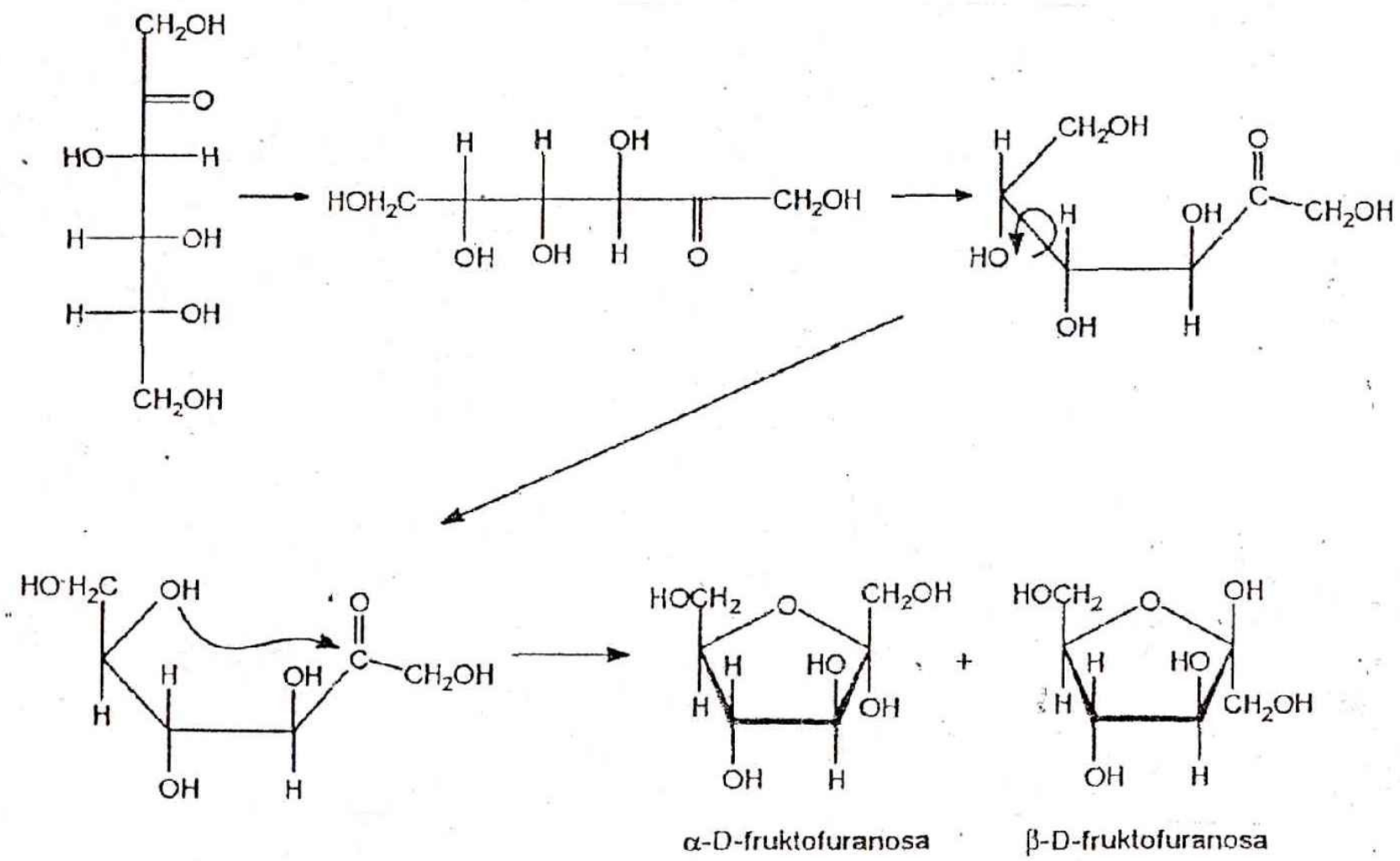


β–D-fruktofuranosyl- α-D-glukopyranosid
(sacharosa)

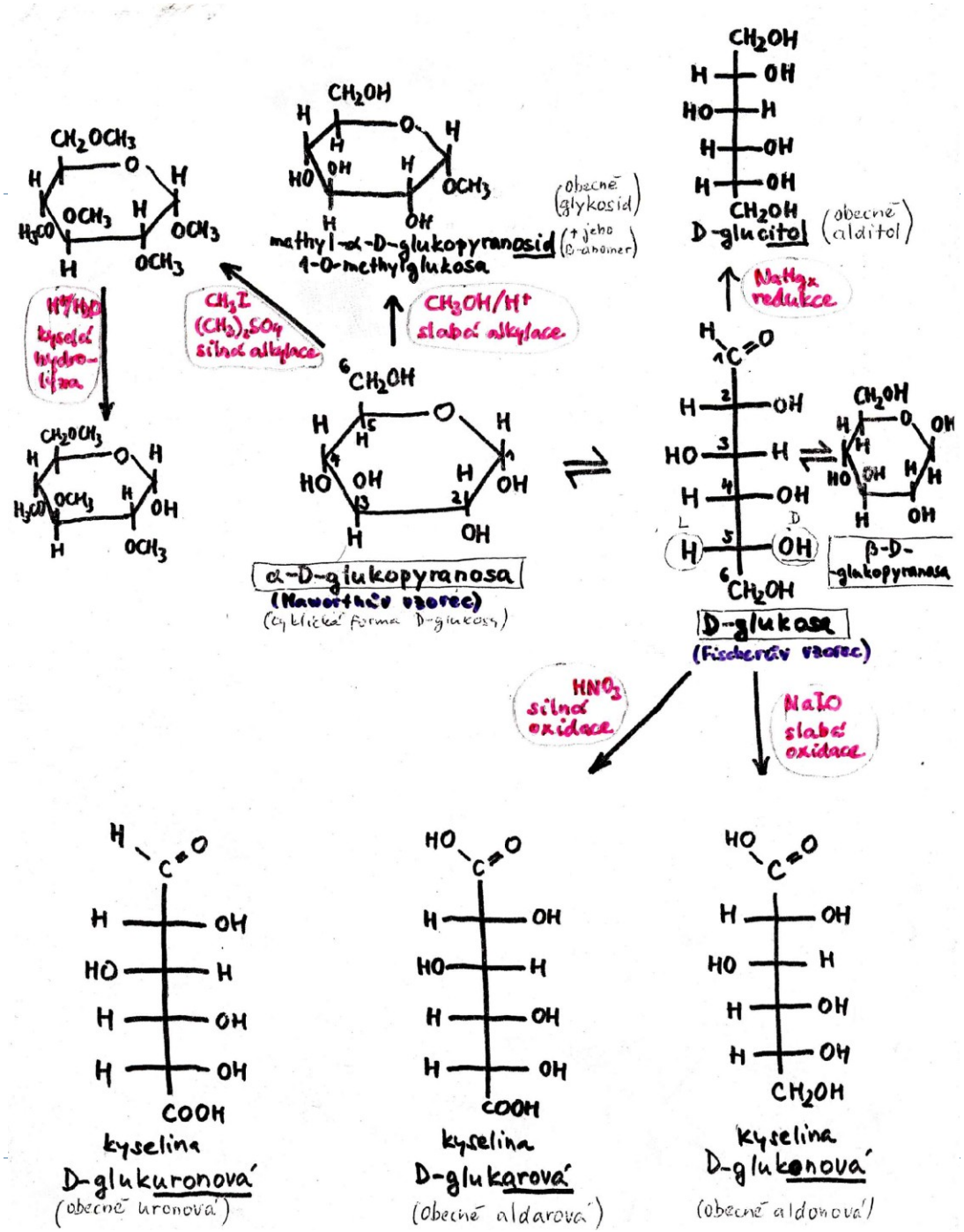
UZAVÍRÁNÍ CYKLU: ALDOSY



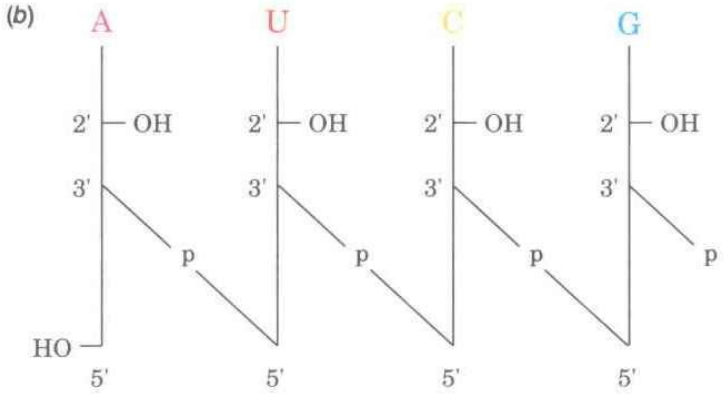
UZAVÍRÁNÍ CYKLU: KETOSY

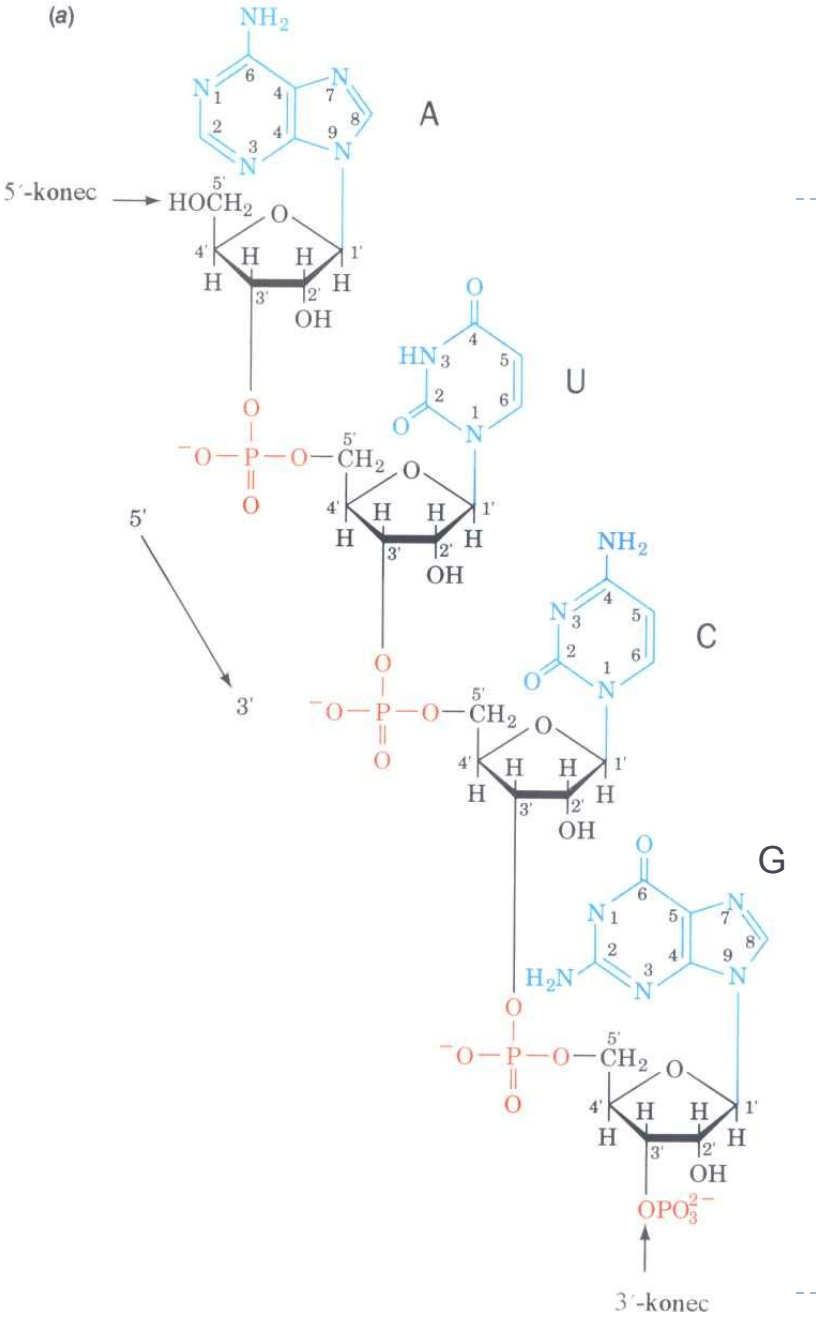


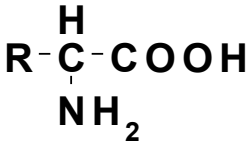
VYBRANÉ CHEMICKÉ VLASTNOSTI MONOSACHARIDŮ



PRIMÁRNÍ STRUKTURA NUKLEOVÝCH KYSELIN

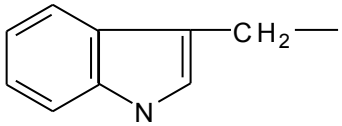




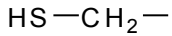


PŘEHLED AMINOKYSELIN

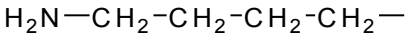
Gly



Trp

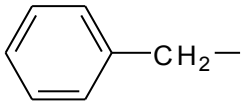


Cys

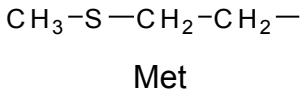


Lys

Ala



Phe



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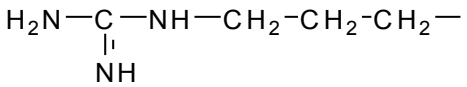
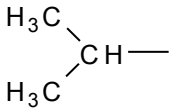
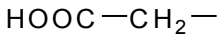


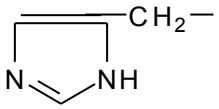
Arg



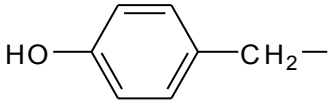
Val



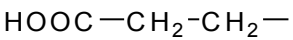
Asp



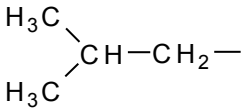
His



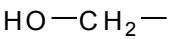
Tyr



Glu



Leu



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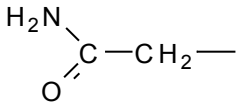

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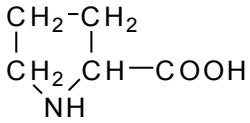

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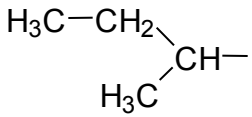

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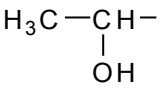
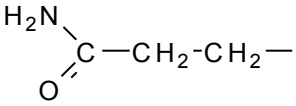
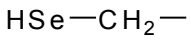


Thr



Gln



SeCys

MAXAM-GILBERTOVA METODA SEKVENOVÁNÍ NUKLEOVÝCH KYSELIN

Provede se štěpení před:

G (DMS/ΔT)

G+A (H^+/ΔT)

C (hydrazin, 5M NaCl)

C+T (hydrazin)

Příklad:

5´ 3´

^{32}P-TGTAGGAGCT

Štěpení před G (DMS/ΔT) vede ke vzniku fragmentů:

^{32}P-TGTAGGAGCT

^{32}P-TGTAGGAGCT

^{32}P-TGTAGGAGCT

^{32}P-TGTAGGAGCT

K jiným souborům fragmentů povedou štěpení před G+A, před C a před C+T.

MAXAM-GILBERTOVA METODA SEKVENOVÁNÍ NUKLEOVÝCH KYSELIN

DETEKCE FRAGMENTŮ SEPAROVANÝCH ELEKTROFORÉZOU NA FOSFOIMAGERU

(detekce radioaktivity - vizualizovány jsou pouze ^{32}P značené fragmenty)