



12.

seminář LC

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LIPID Y

Klasifikace lipidů :

1/ TUKY a OLEJE

acylglyceroly

monoacylglycerol
diacylglycerol
triacylglycerol

2/ GLYCEROLIPIDY

- glycerofosfolipidy

fosfatidylcholin (lecithin)

-“- ethanolamin (kefalin)

-“- serin

-“- inositol

- plasmalogeny
- kardiolipin

3/ SFINGOLIPIDY

- sfingofosfolipidy sfingomyelin
- glykolipidy cerebrosidy
globosidy
gangliosidy

4/ ISOPRENOIDY

- terpeny vit. A (retinoidy)
skvalen,
dolichol
ubichinon
.....
- steroidy cholesterol, ...
žlučové kyseliny
pohlavní hormony (androgeny,
estrogeny, gestageny)
kortikoidy (gluko- a mineralo-)
vit. D, kalcidiol, kalcitriol

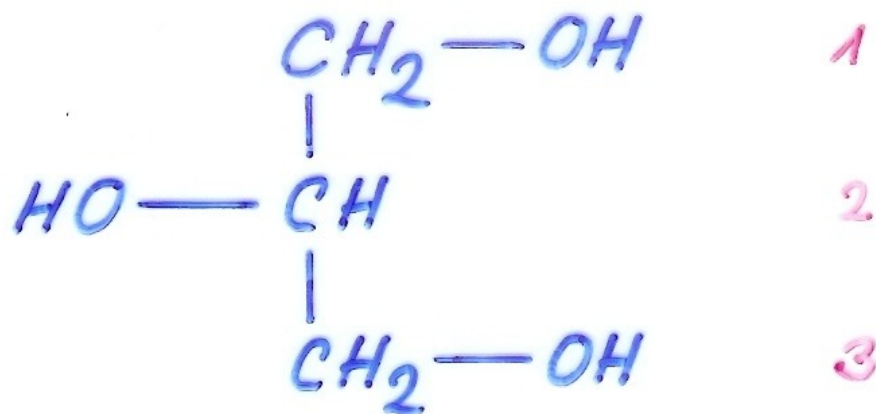
5/ V TUCÍCH ROZPUSTNÉ VITAMINY

A, D, E, K (A + D již uvedeny)

6/ DERIVÁTY MASTNÝCH KYSELIN

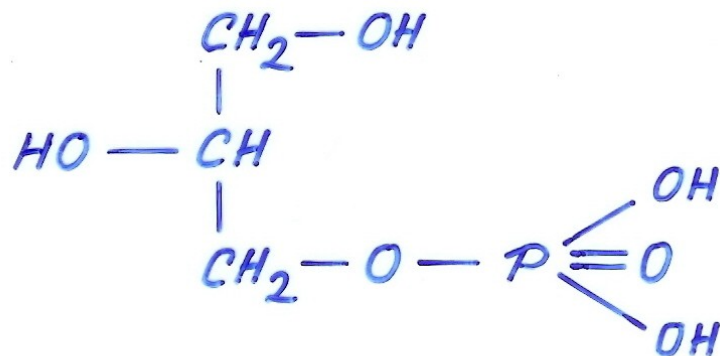
- ikosanoidy prostaglandiny
prostacykliny
thromboxany
leukotrieny

.....

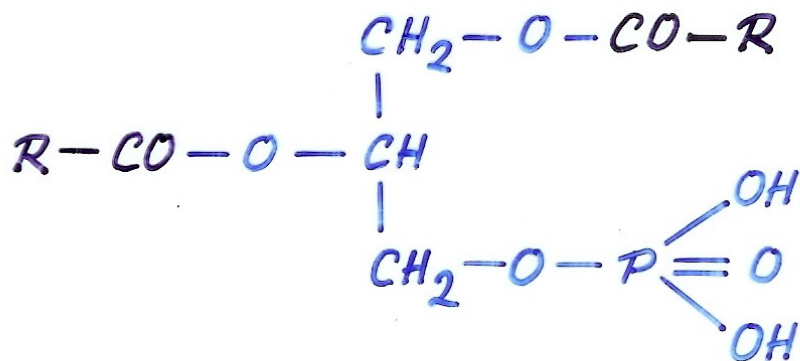


sn-glycerol

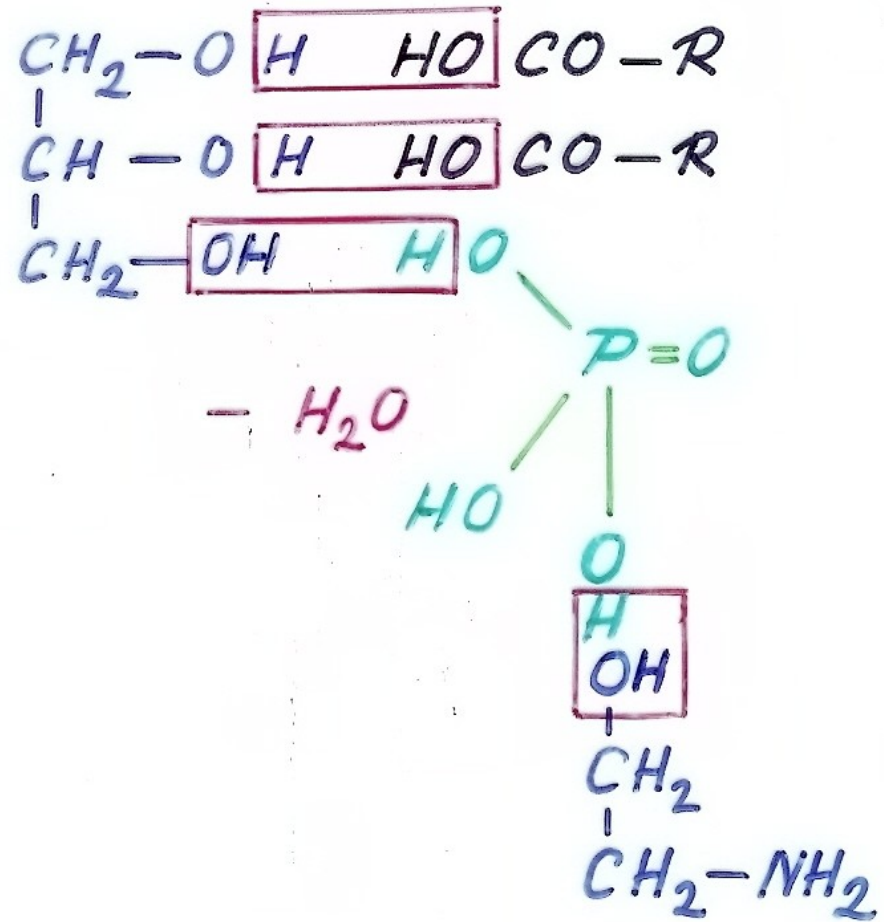
sn = stereospecific notation

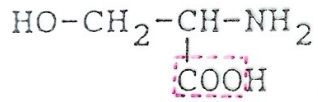


sn-3-glycero-
phosphate



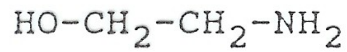
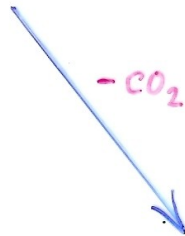
phosphatidic
acid
fosfatidová kys.





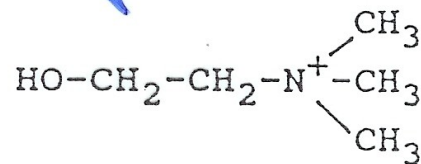
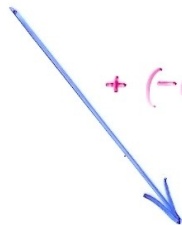
serine

$-\text{CO}_2$

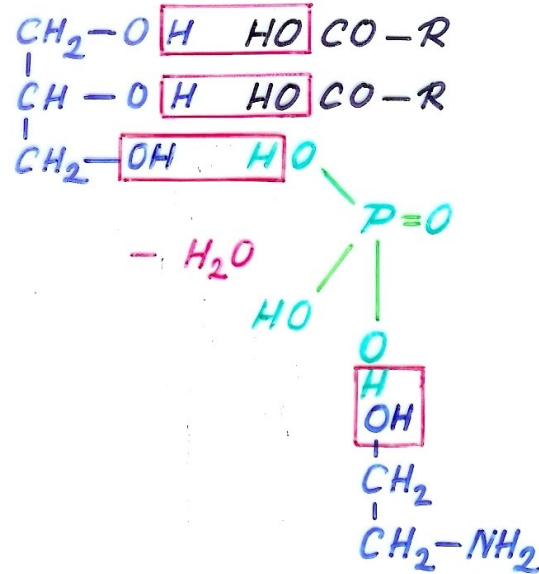


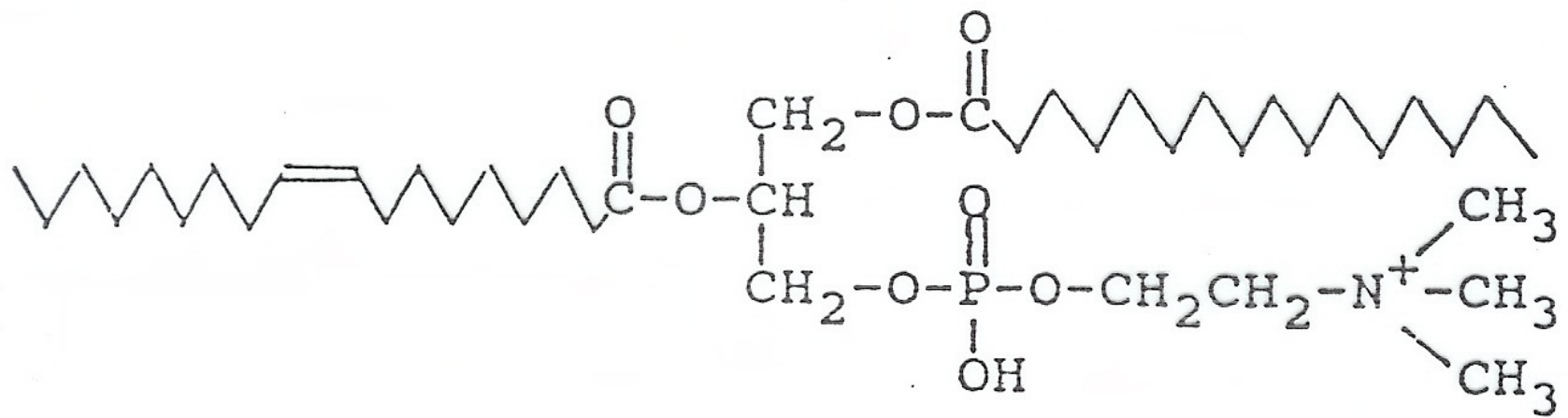
ethanolamine

$+\text{(-CH}_3)$

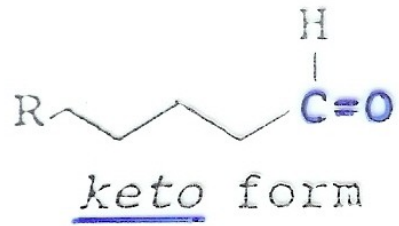


choline

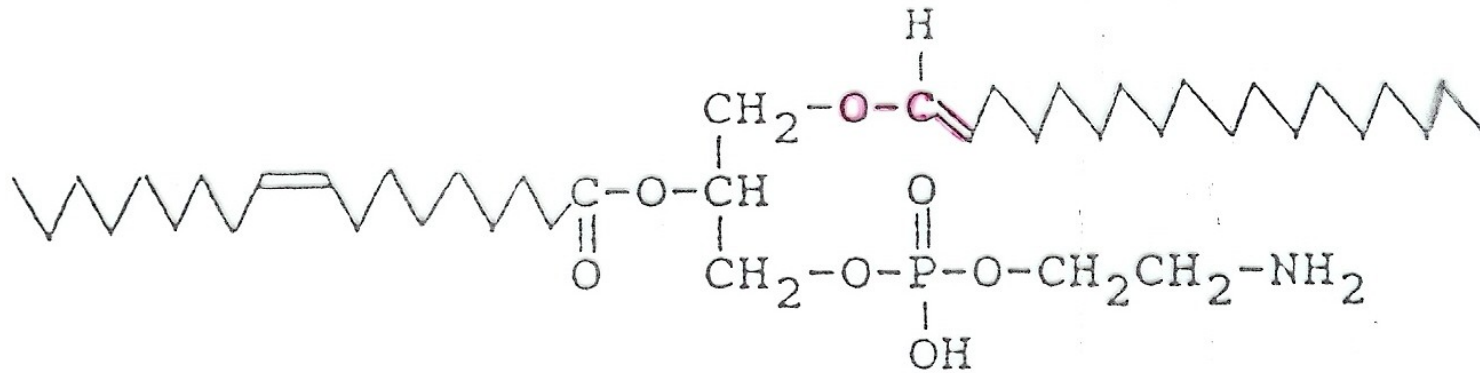
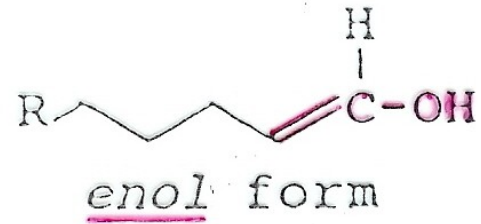




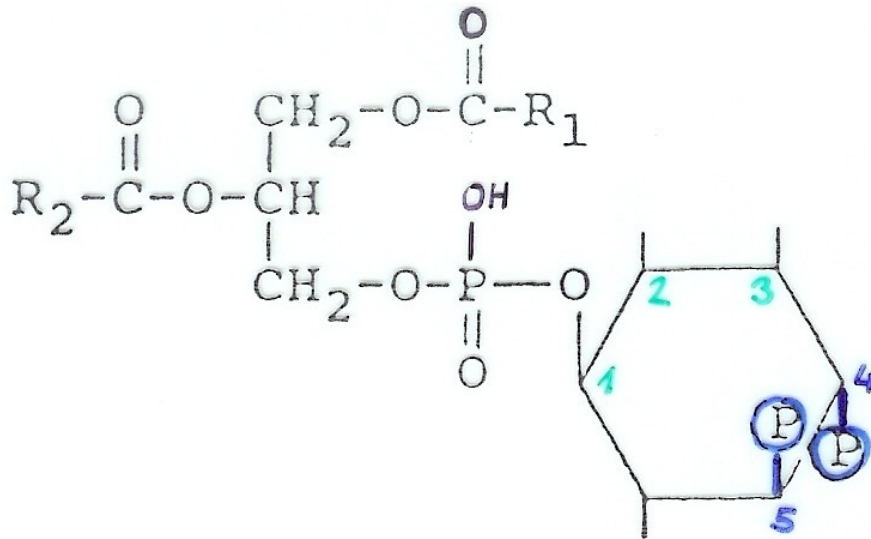
phosphatidylcholine (lecithin)



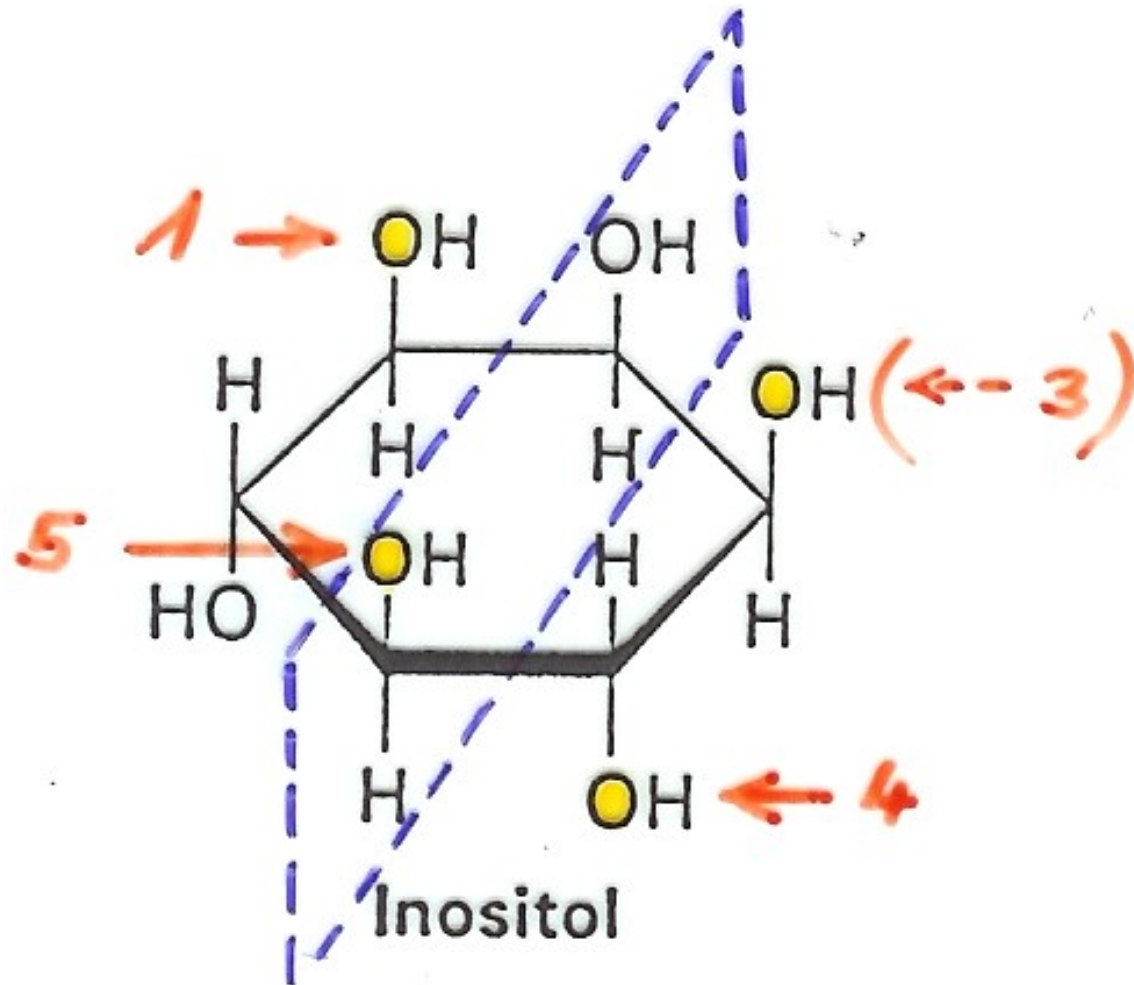
aldehyde

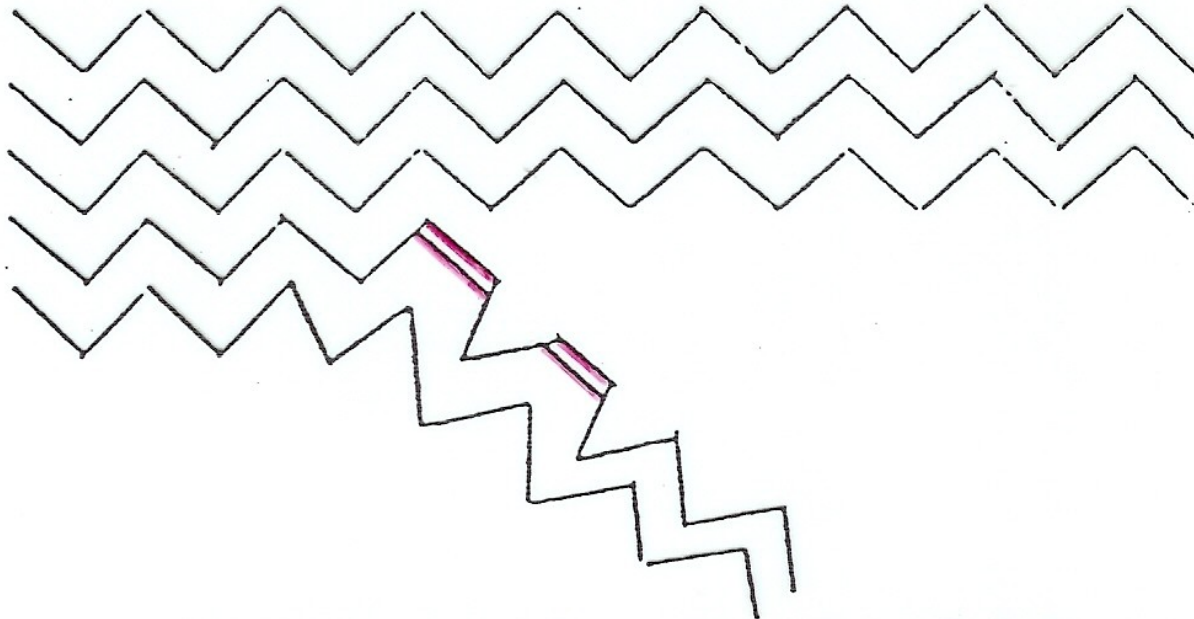


plasmalogen

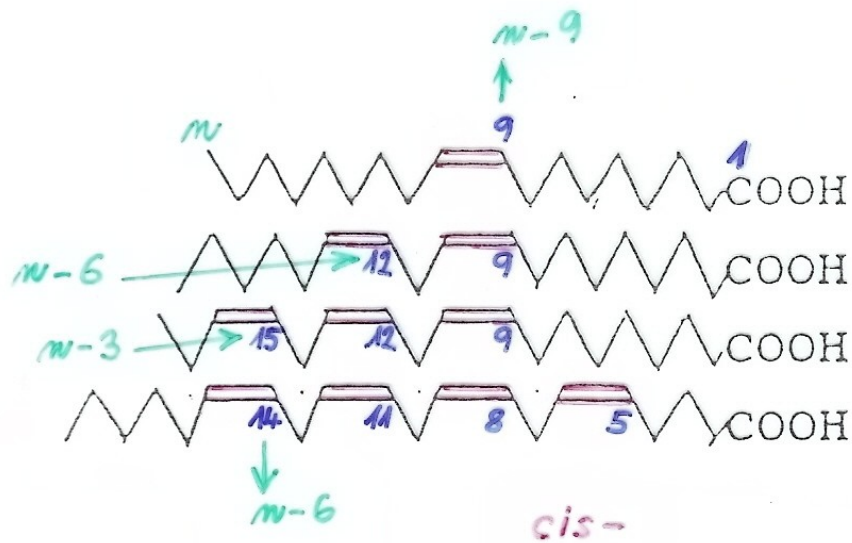


phosphatidylinositol-4,5,-bisphosphate





impaired molecular packing



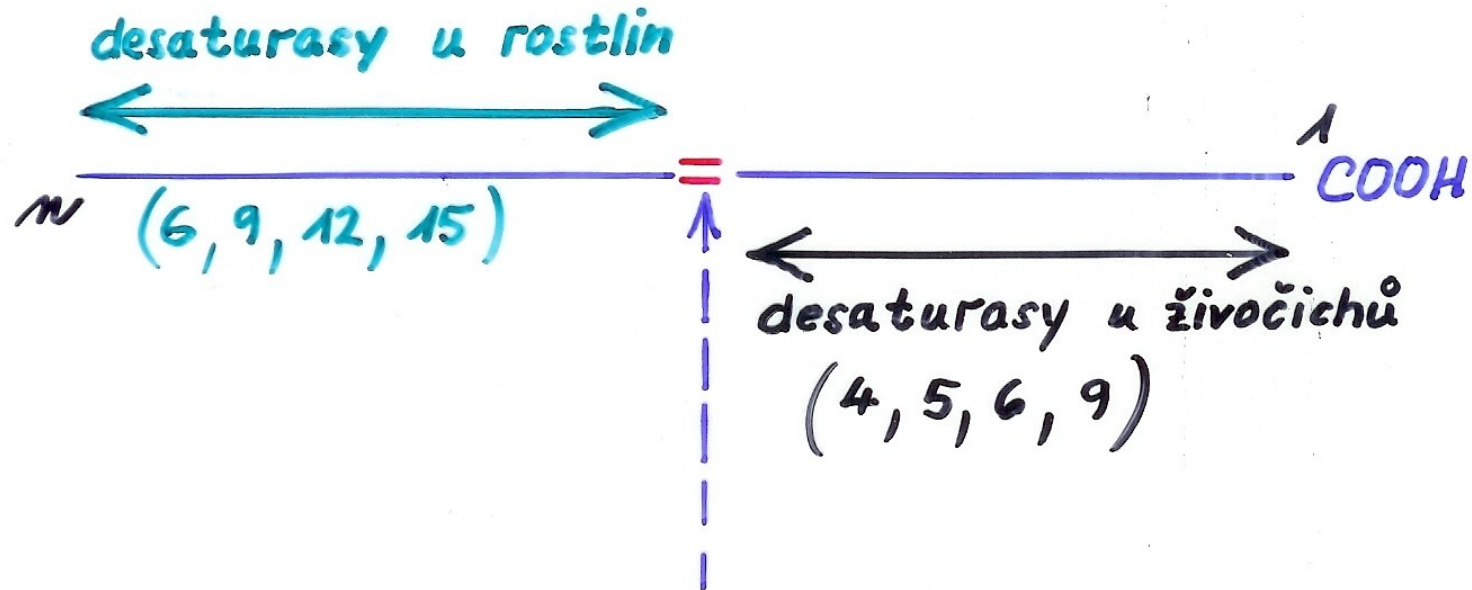
oleic acid ($\omega 9, C18:1$)

linoleic acid

linolenic acid

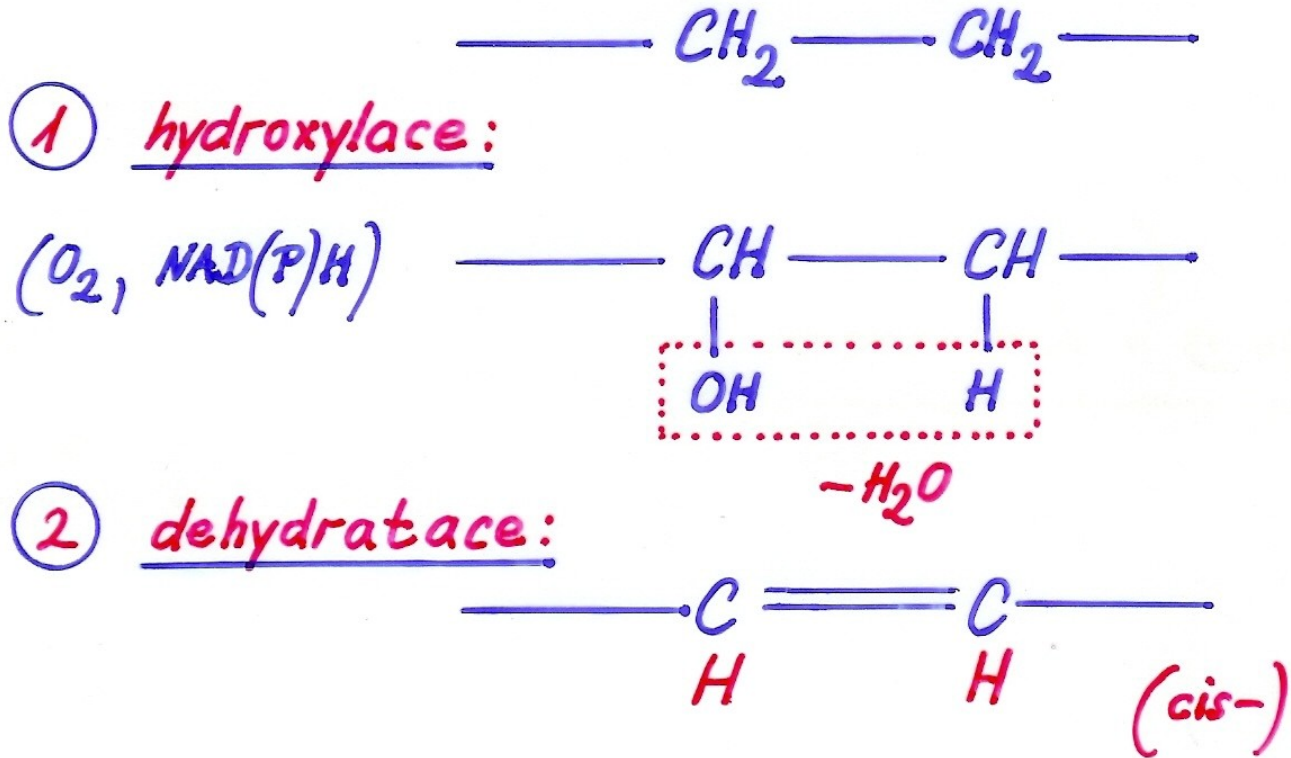
arachidonic acid

Desaturace mastných kyselin:

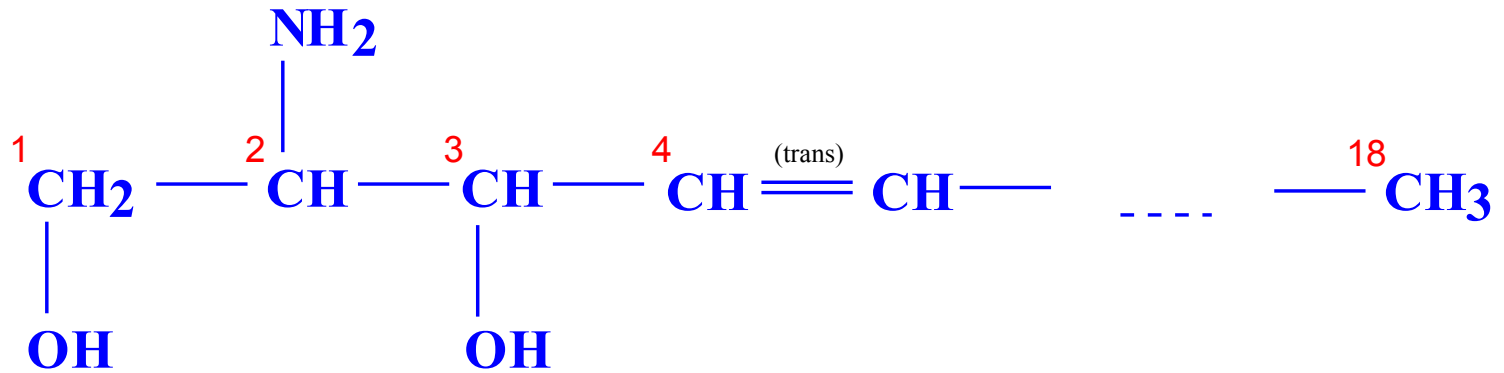


již existující
dvojná vazba
(zpravidla $\Delta 9$)

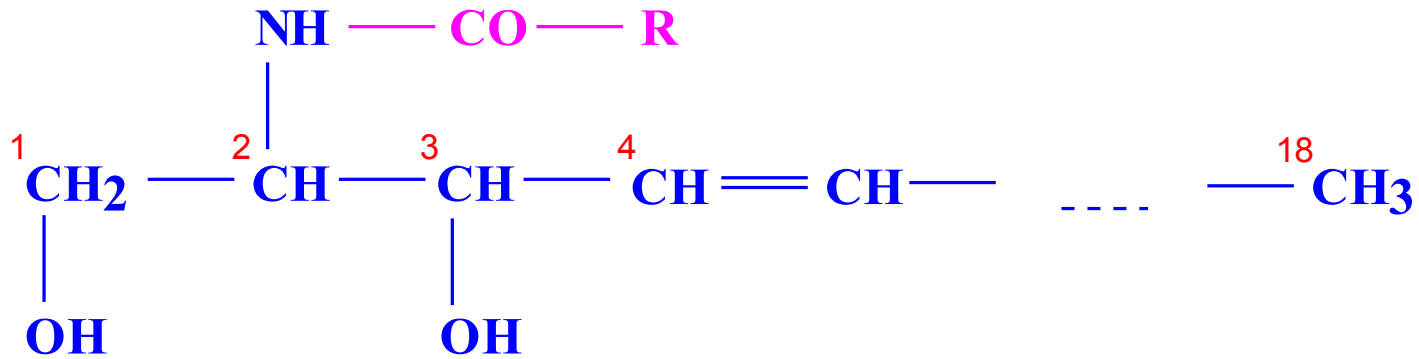
Vlastní desaturace:



Sfingosin :



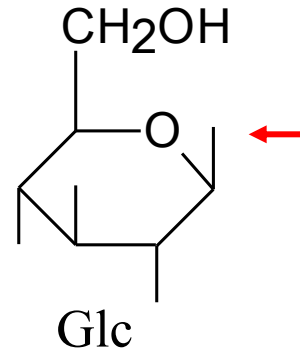
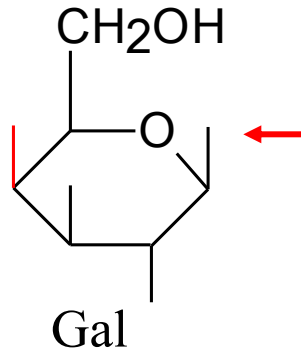
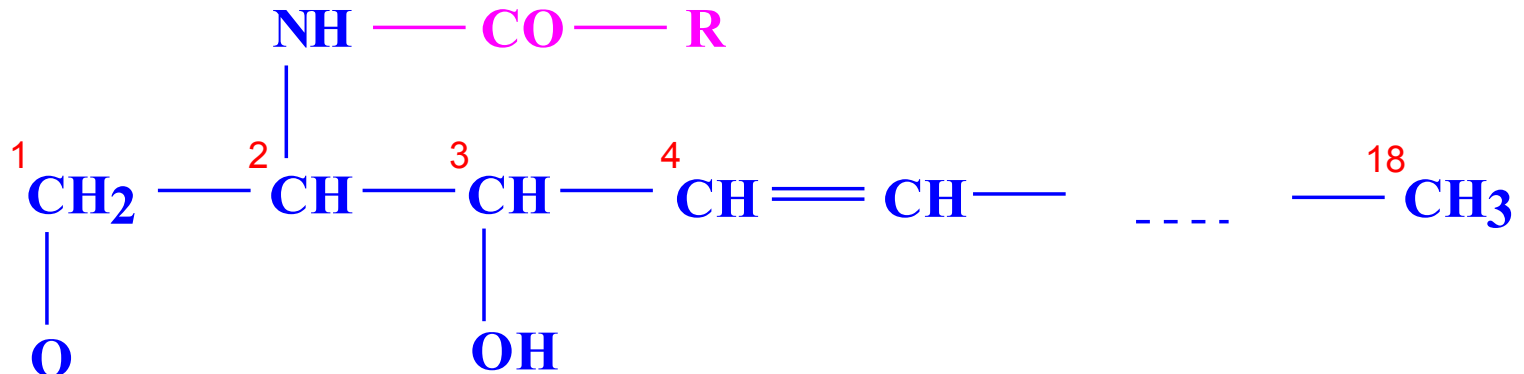
Ceramid :



„-amid“

R-COOH → 24 : 0 lignocerová → α-hydroxylignocerová = cerebronová
24 : 1 (15) nervonová → α-hydroxynervonová

Deriváty ceramidu (1) :

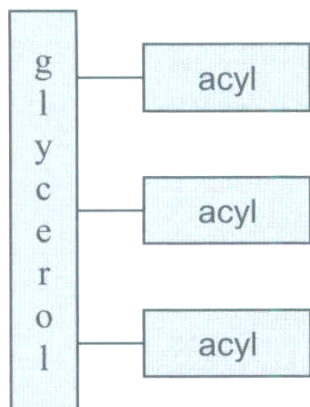


cerebrosidy
mono.glykosyl-ceramidy

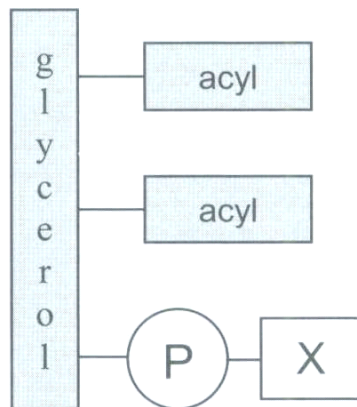
GalNAc ,

globosidy
oligo.glykosyl-ceramidy

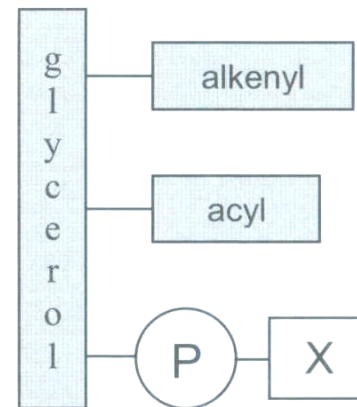
Triacylglyceroly



Glycerofosfolipidy

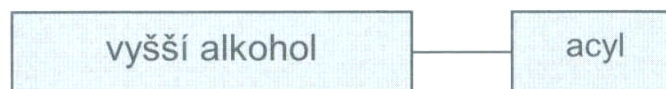


Fosfatidylcholiny apod.

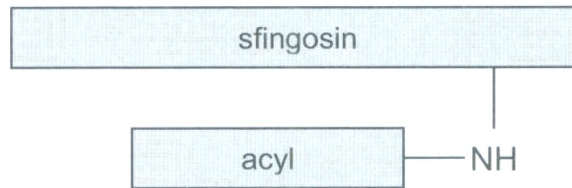


Plasmalogeny

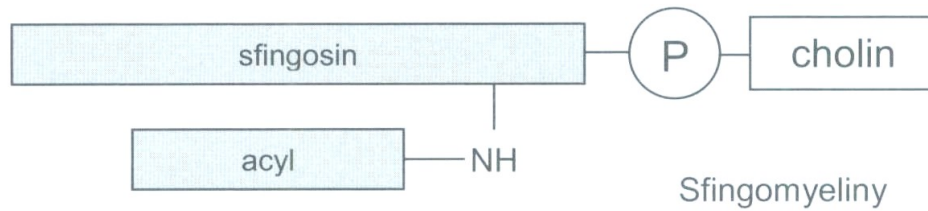
Vosky



Ceramidy



Sfingofosfolipidy



Sfingoglykolipidy

