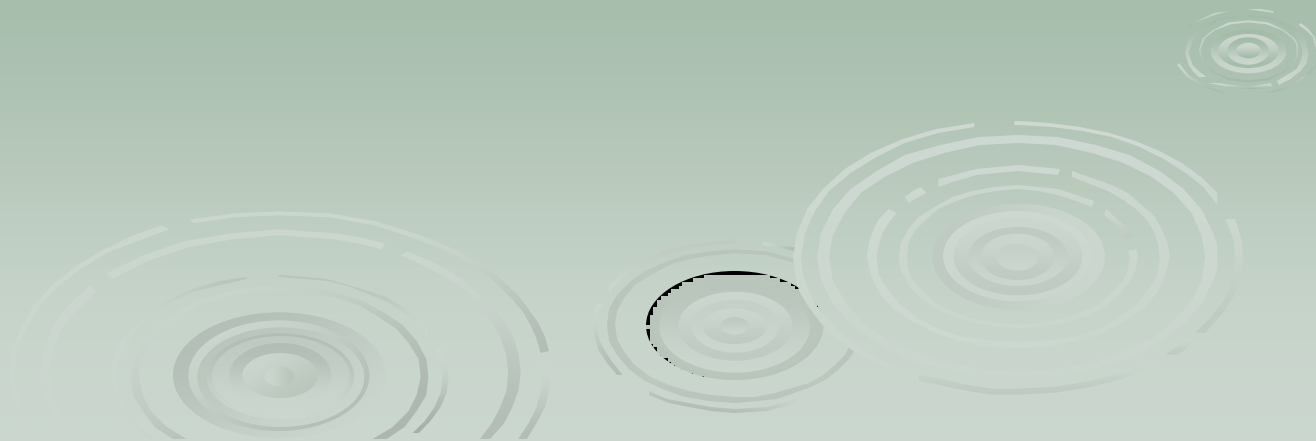


Izoprenoidy



Izoprenoidy

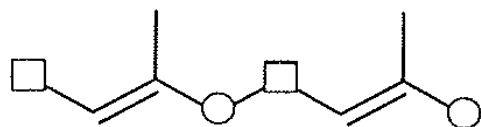
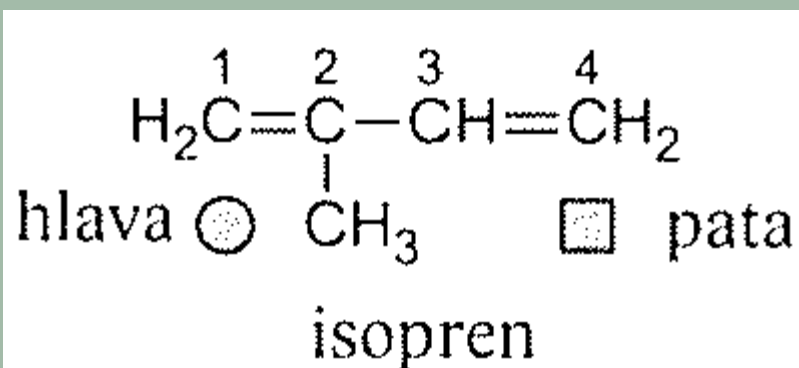
➤ Terpenoidy (terpeny)

- obsahují celistvý počet spolu pospojovaných izoprenových jednotek
- monoterpeny, seskvi-, diterpeny, tri-, tetra-, tetra... polyterpeny

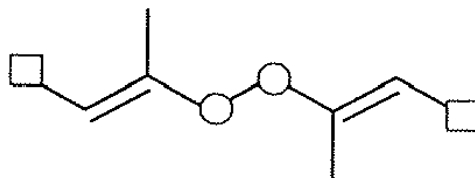
➤ Steroidy

- Jsou vytvářeny chemickými změnami z terpenoidů
- steroly, žlučové kyseliny, steroidní hormony (pohlavní, kortikoidní) – sekundární metabolity

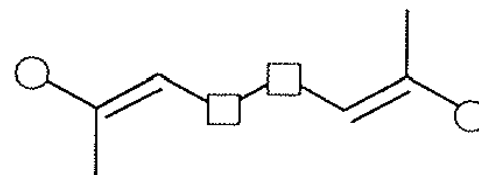
2-methylbuta-1,3-dien



spojení "hlava - pata"



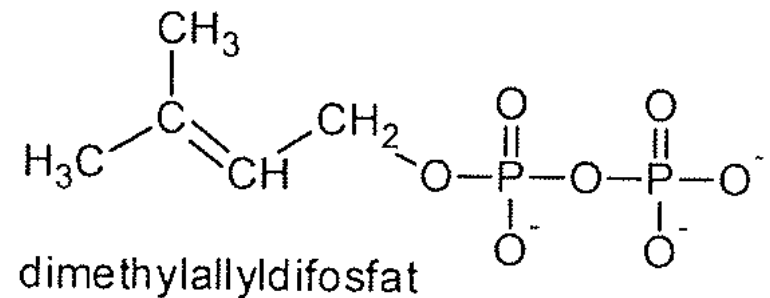
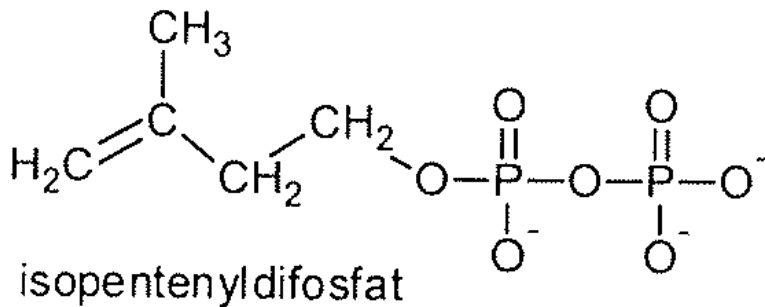
spojení "hlava - hlava"



spojení "pata - pata"

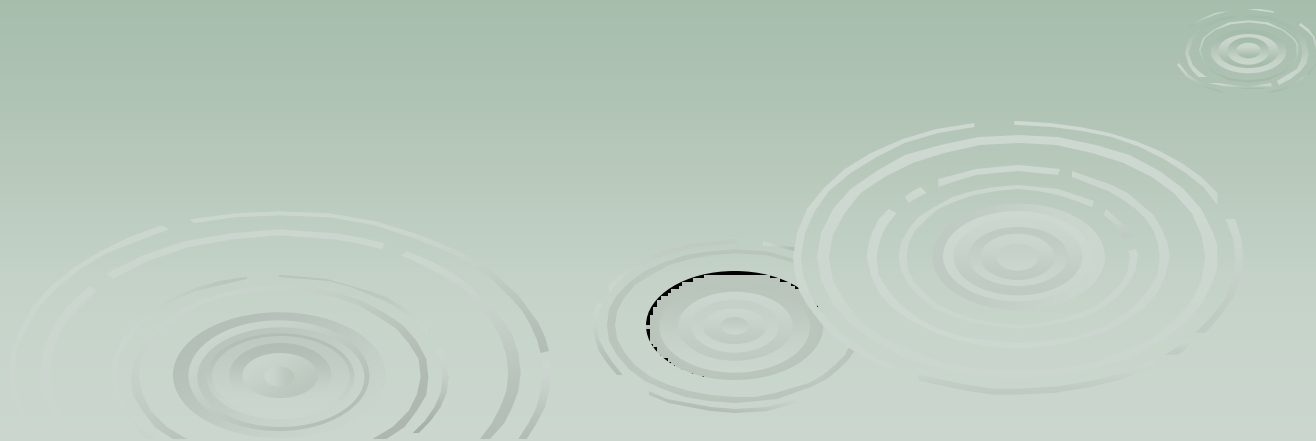
Hledání struktury

- biosyntéza terpenů nastává z isopentenyl difosfátu a dimethylallyl difosfátu, vznikajících ze 3 jednotek acetylCoA

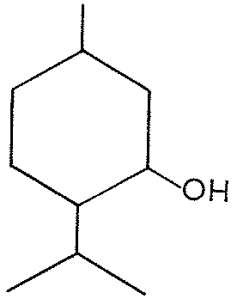


Terpeny

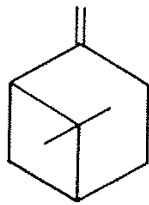
terpenoidy



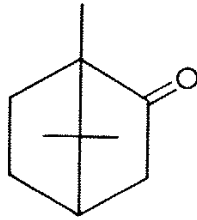
Monoterpeny



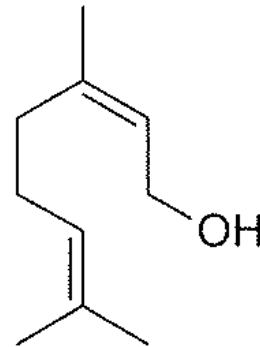
menthol



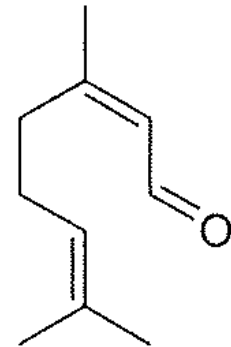
β -pinen



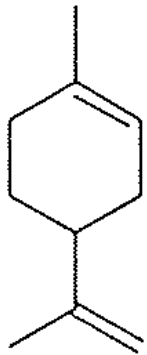
kafr



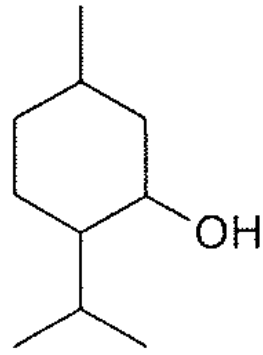
geraniol



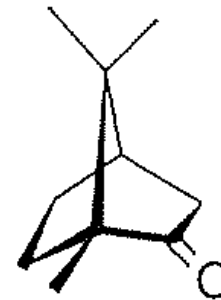
citral



limonen

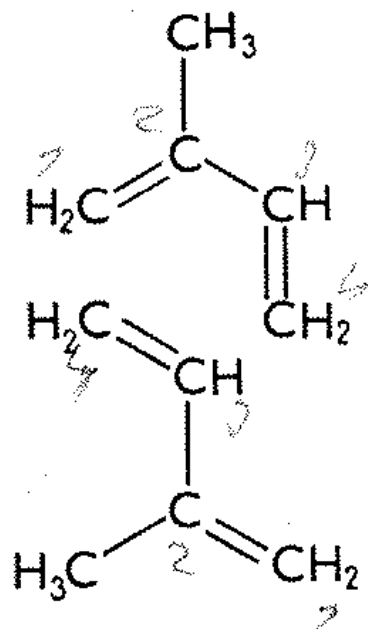


menthol

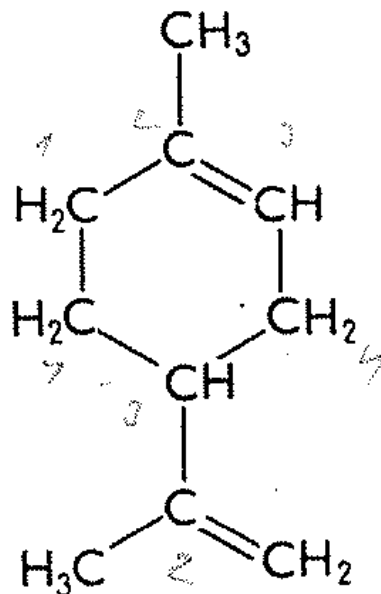


kafr

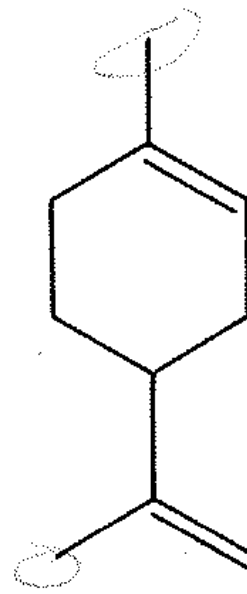
Monoterpeny



dvě molekuly
isoprenu

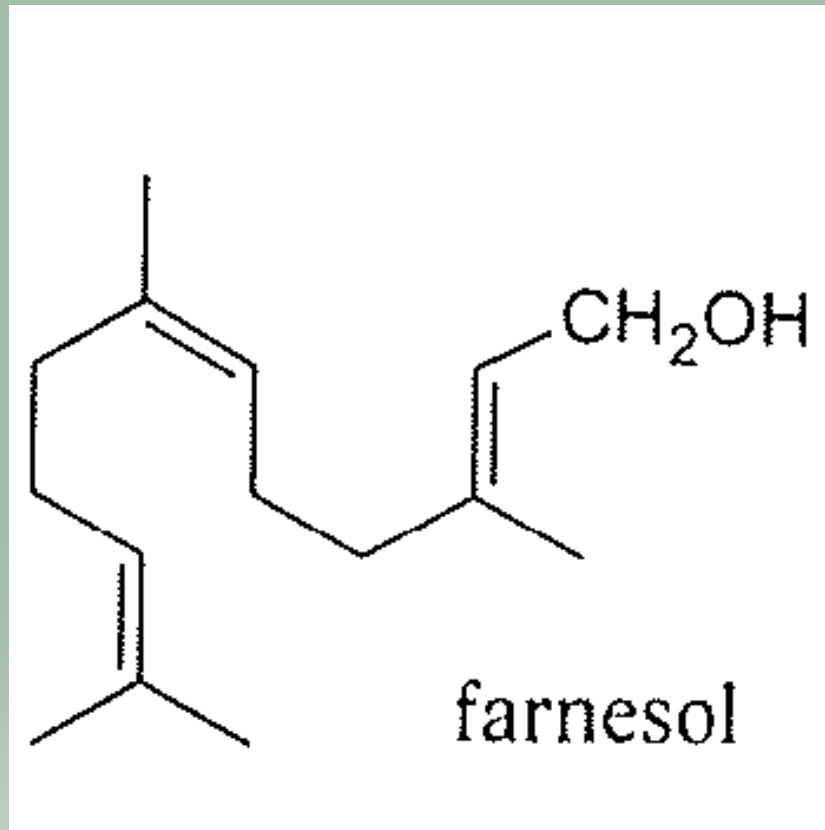


limonen

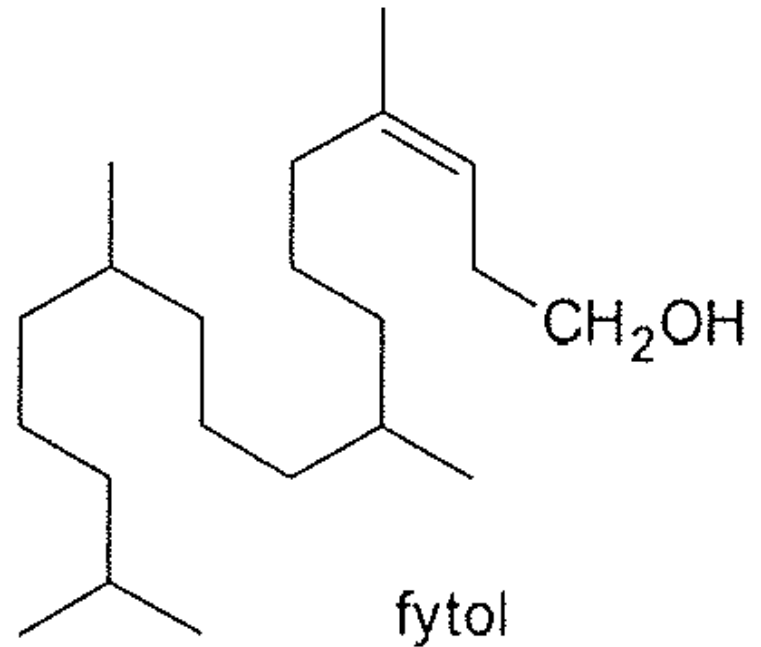
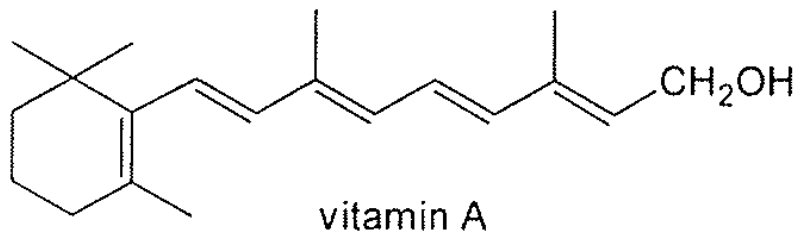


zjednodušený vzorec
limonenu

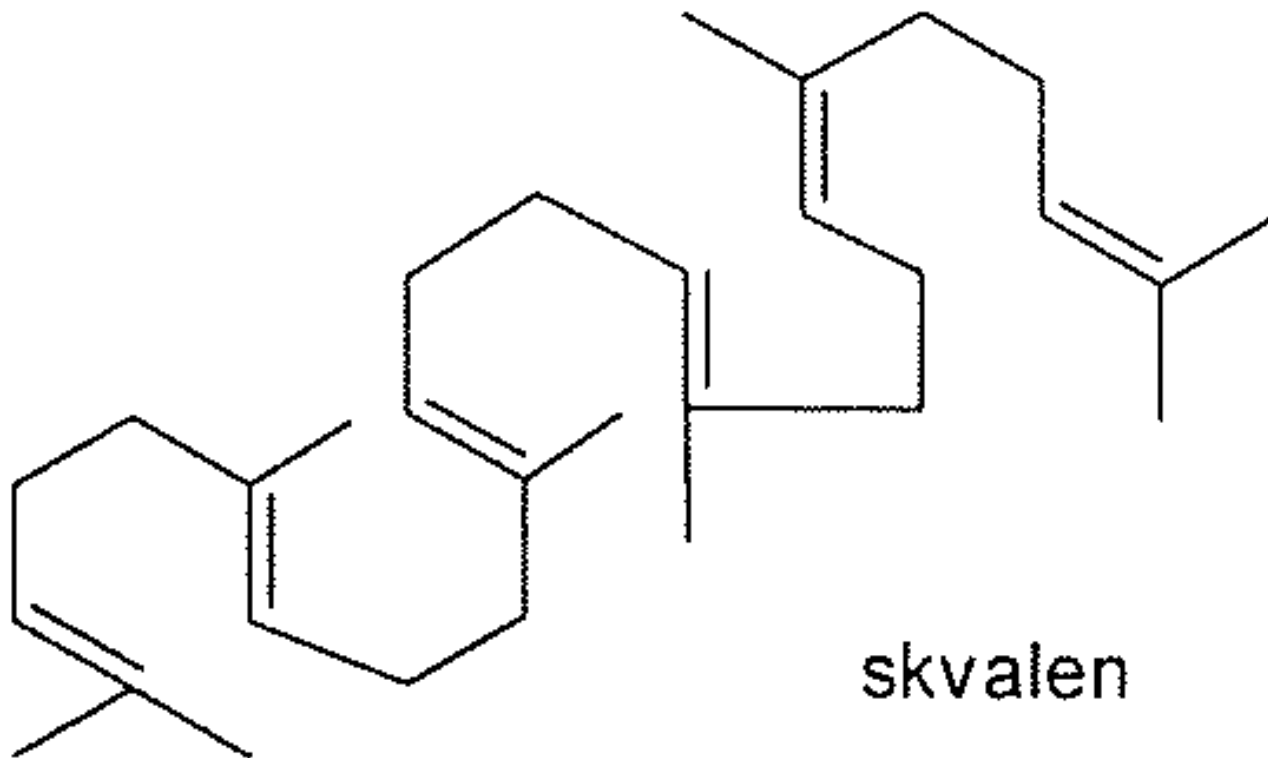
Seskviterpeny



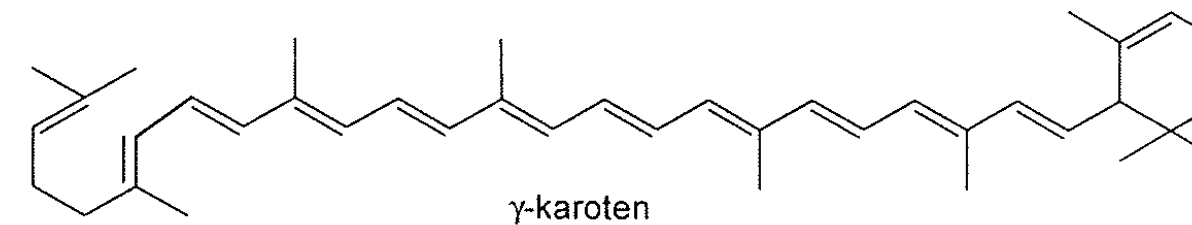
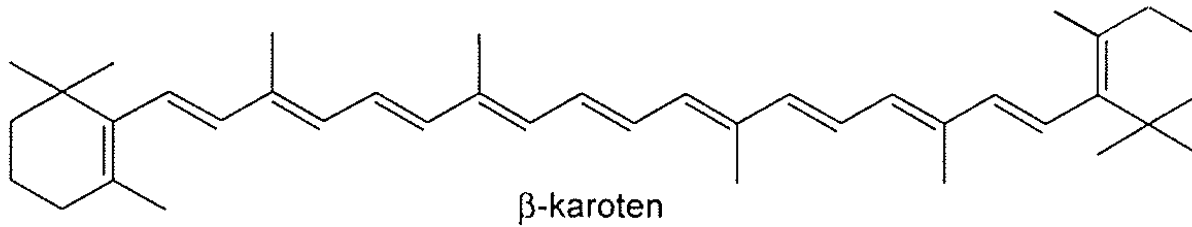
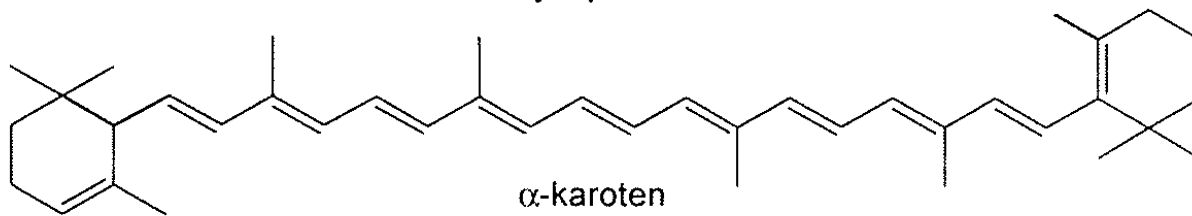
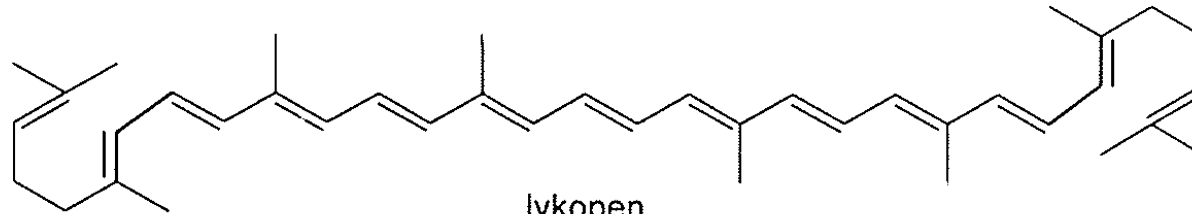
Diterpeny



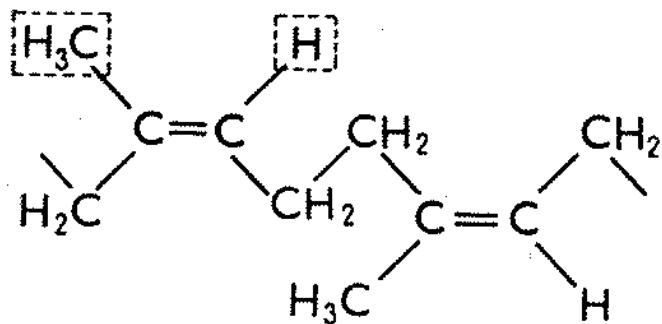
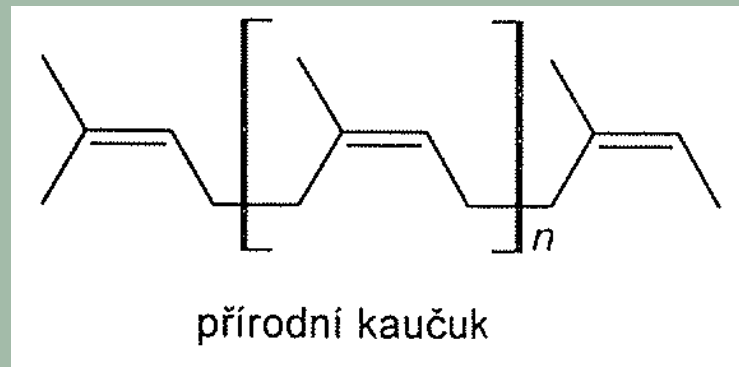
Triterpeny



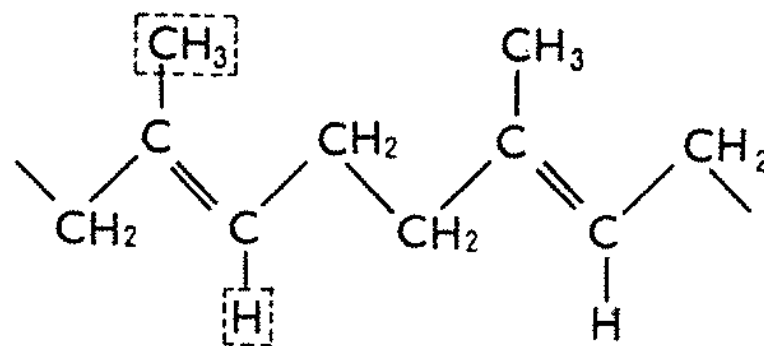
Tetraterpeny



Polyterpeny

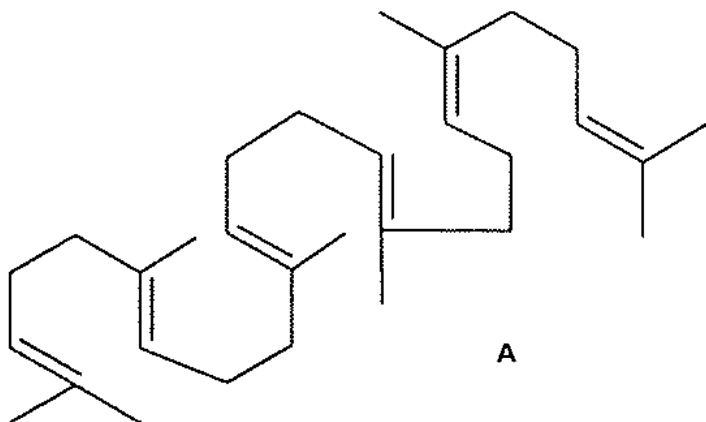


cis uspořádání substituentů na dvojně vazbě přírodního kaučuku



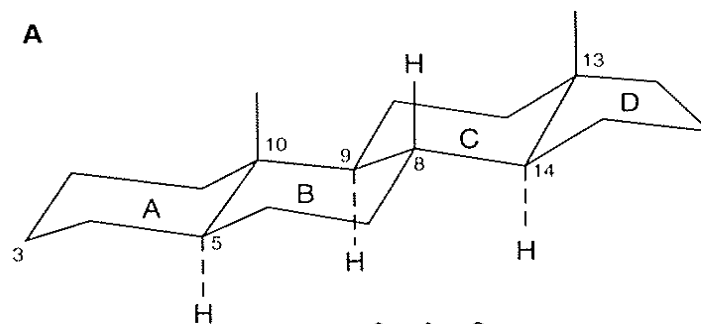
trans uspořádání substituentů na dvojně vazbě gutaperči

skvalen → steran

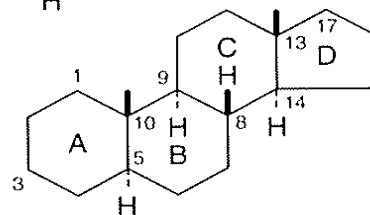


cyklopentanoperhydrofenanthren

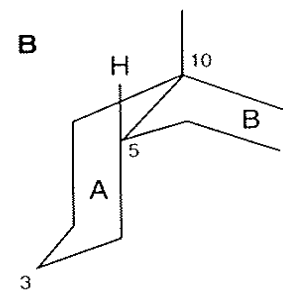
A



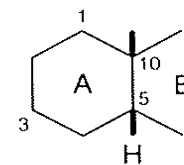
nebo



B

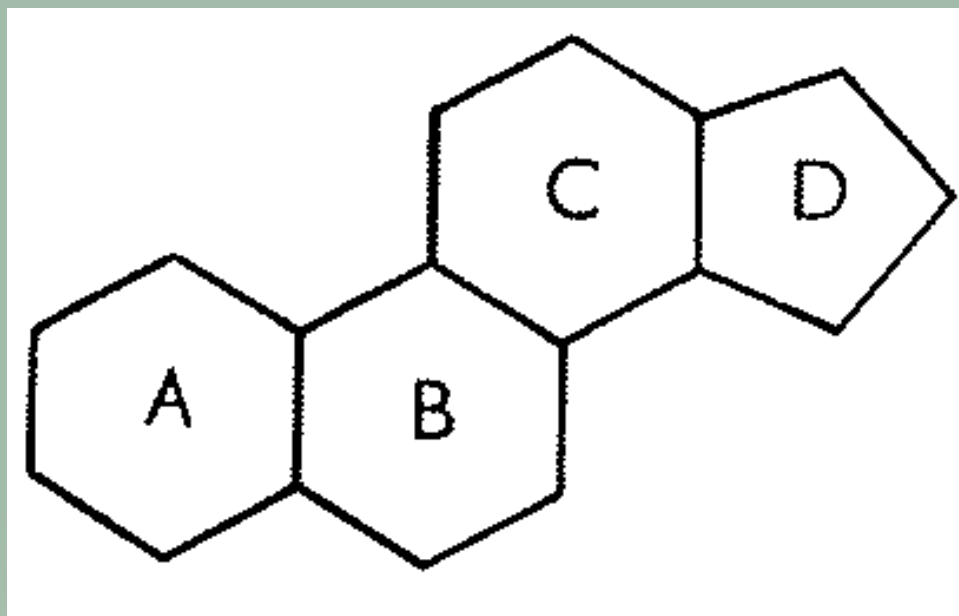


nebo



OBR. 15-16. Steroidní jádro obecně. **A** – all-*trans*-konfigurace mezi sousedními kruhy; **B** – *cis*-konfigurace mezi kruhy A a B

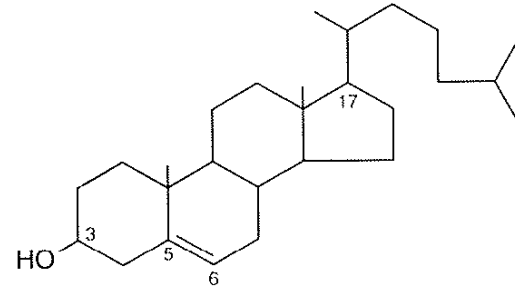
Cyklopentanoperhydrofenanthren



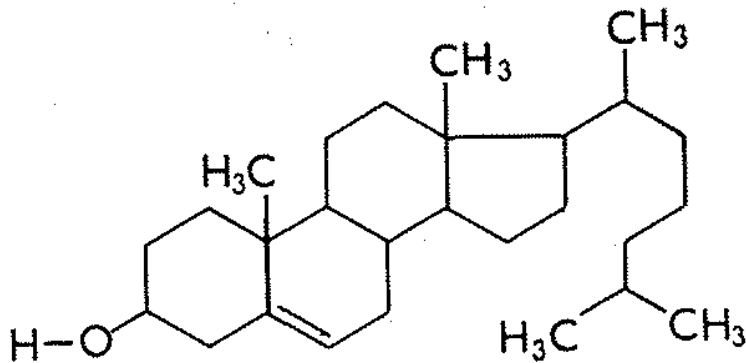
Steran

Steriody - steroly

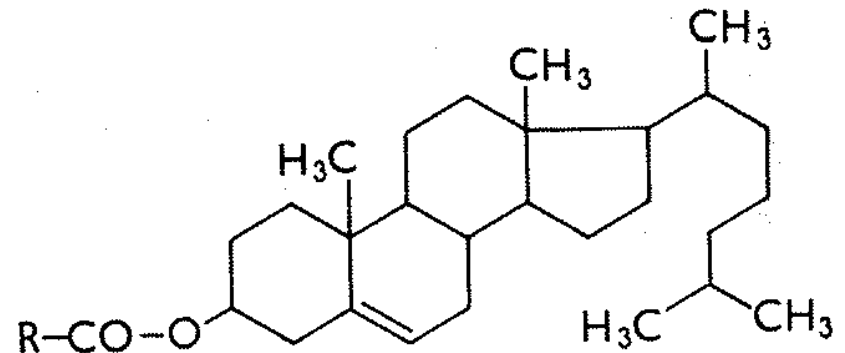
- steroidní alkoholy
- fytosteroly x zoosteroly
 - cholesterol
 - ergosterol



OBR. 15-17. Cholesterol, 3-hydroxy-5,6-cholesten



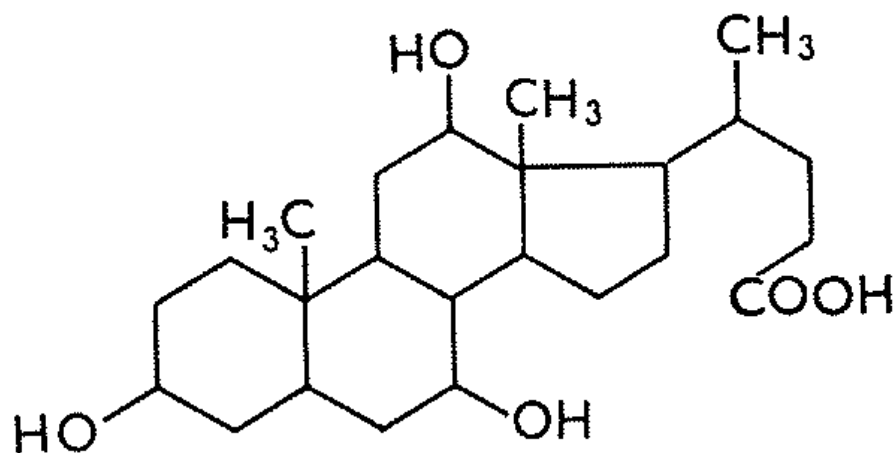
cholesterol volný



cholesterol esterifikovaný
(acylcholesterol)

Steriody – žlučové kyseliny

➤ kys.cholová

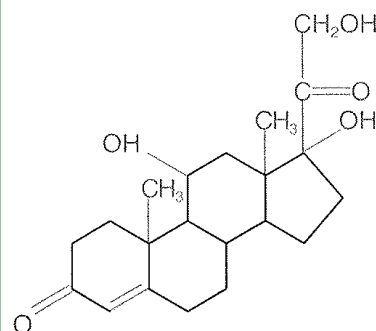


kyselina cholová

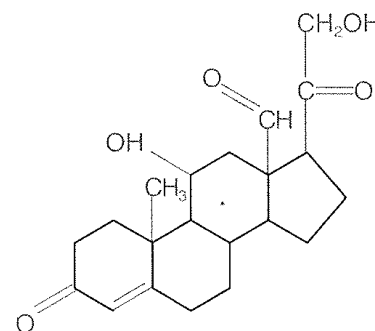
Steriody – steroidní hormony

- pohlavní x kortikoidní
- testosteron
- progesteron
- kardiotonické steroidy

KORTIKOIDY

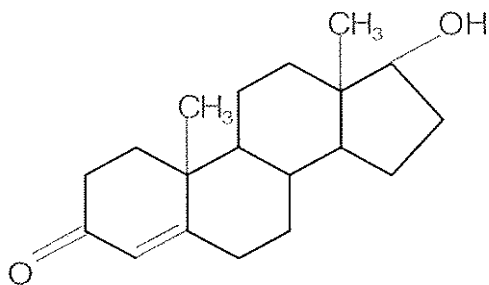


kortisol

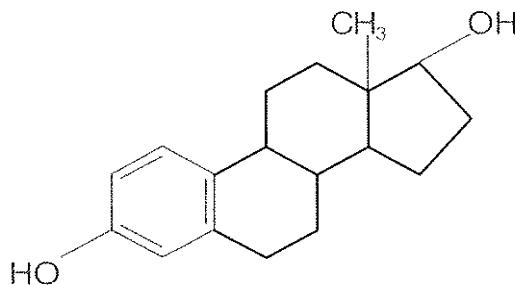


aldosteron

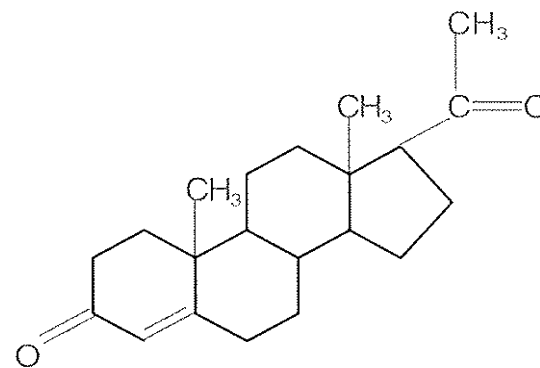
POHLAVNÍ HORMONY



testosteron



estradiol



progesteron

najdi dvě stejné jednotky

