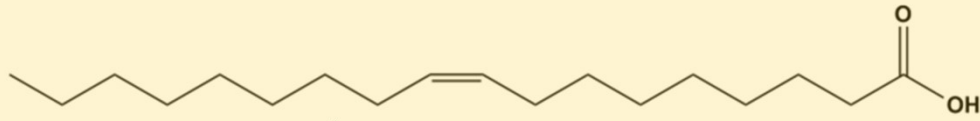


Lipídeos



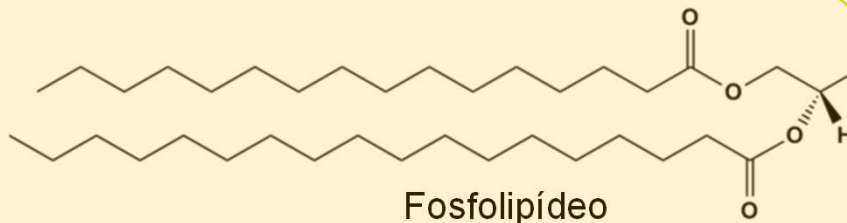
Propriedades gerais

Carlos Hotta

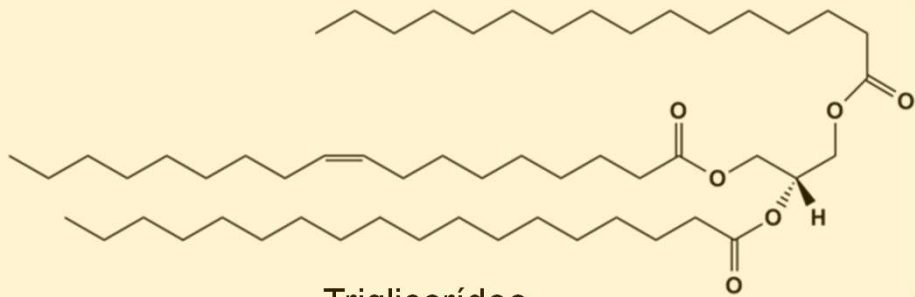
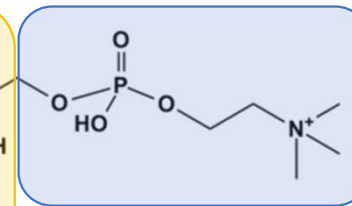


Ácido graxo livre

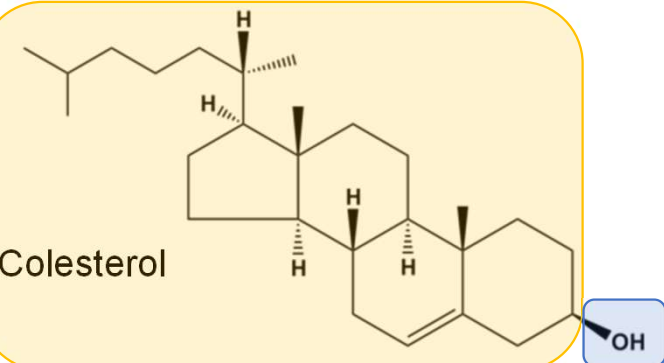
Lipídeos são biomoléculas
hidrofóbicas ou anfipáticas



Fosfolípido



Triglicerídeo



Colesterol



Alguns tipos de lipídeos

I. Ácidos graxos

II. Triacilgliceróis

III. Fosfolipídios

IV. Esteroides

V. Vitaminas lipossolúveis

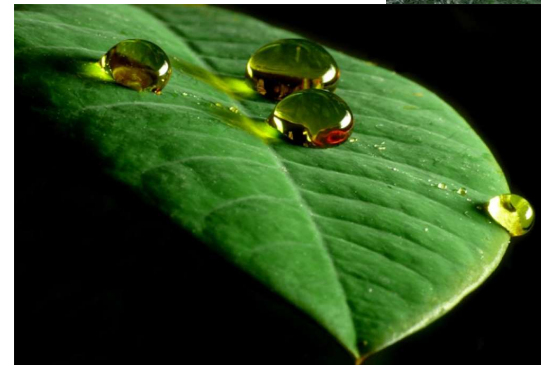
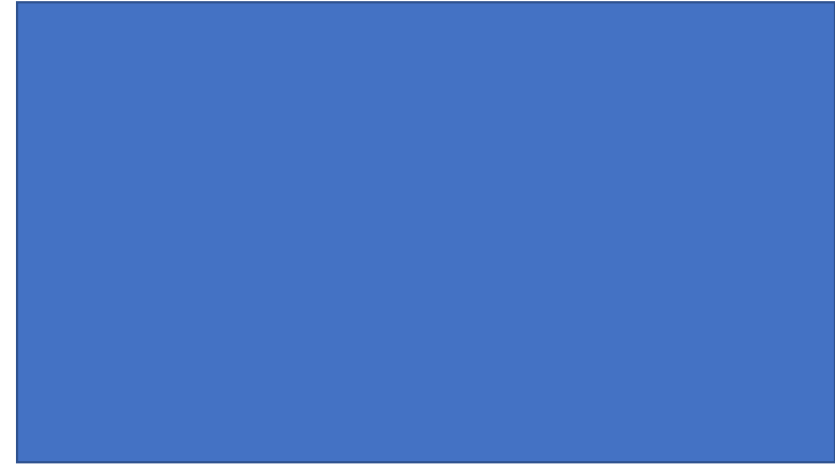
VII. Ceras

VIII. Terpenos



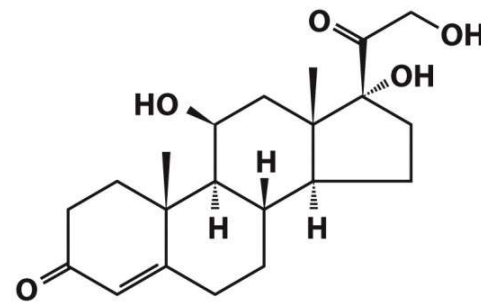
Lipídeos têm múltiplas funções

- Membranas
- Armazenamento de energia
- Sinalização
- Conservação de calor
- Proteção contra água
- Proteção contra microorganismos

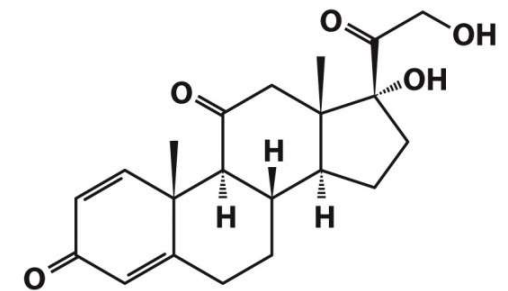


Tipos de lipídeos: IV. esteroides

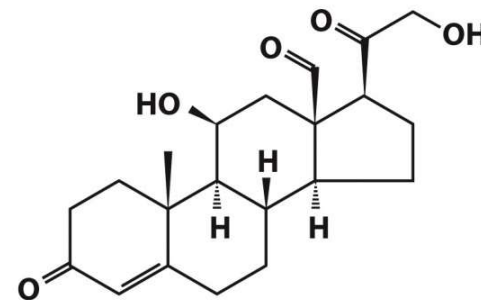
- Esteroides são **compostos orgânicos cíclicos**
- Possuem quatro anéis de C fusionados
- Os principais esteroides são o colesterol e os hormônios esteroidais



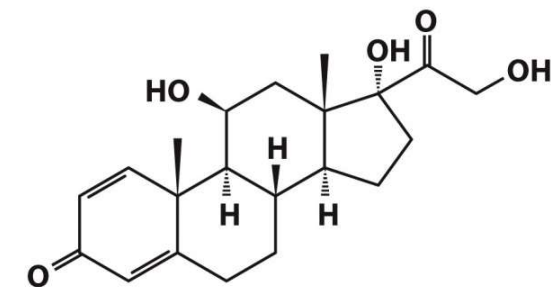
Cortisol



Prednisone



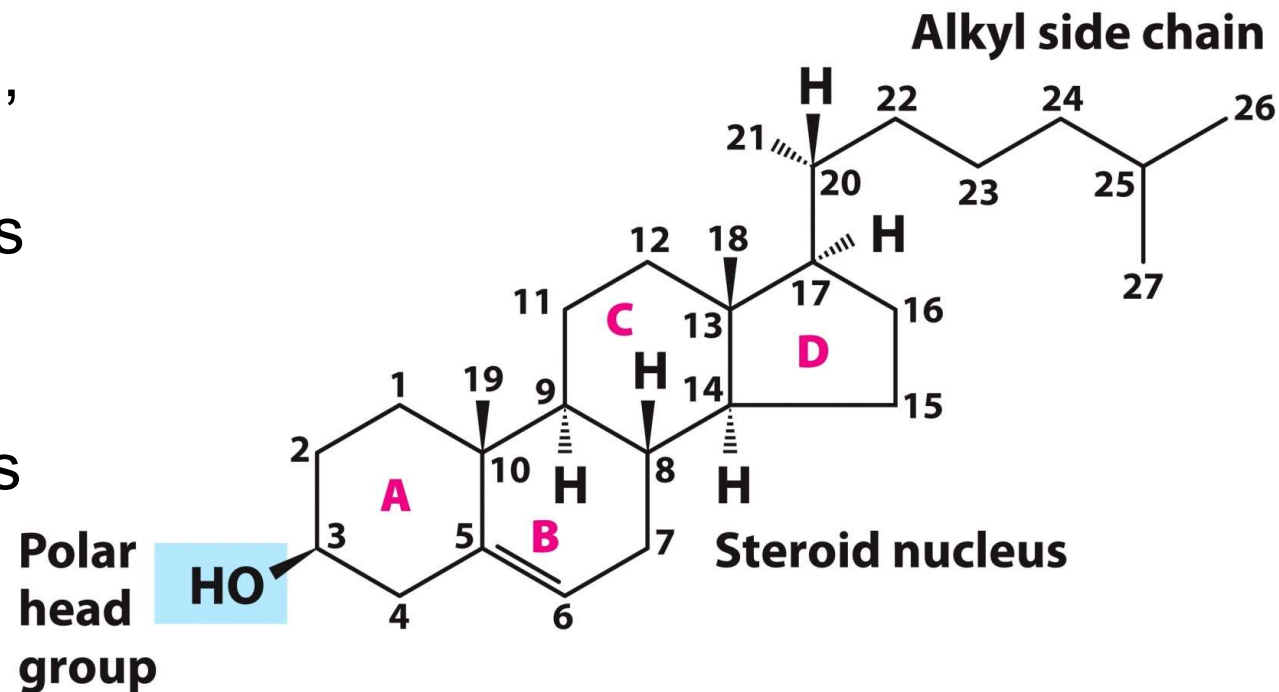
Aldosterone



Prednisolone

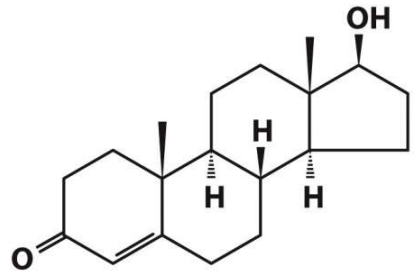
IV. Esteroides: colesteróis

- Principal esteroide em células de mamíferos
- Anfipático
- Muda a fluidez da membrana, **mantendo a integridade da membrana** de células animais
- Serve como **precursor** de hormônios esteroidais, ácidos biliares, vitamina D

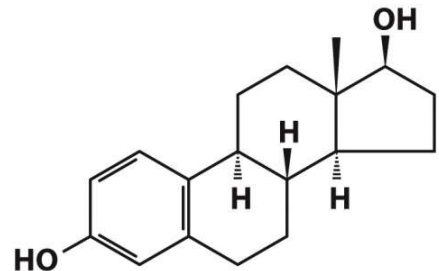


IV. Esteróides: hormônios

- Hormônios sinalizadores – testosterona, progesterona, estradiol, corticoesteróides
- Anabolizantes têm efeito similar à testosterona no corpo



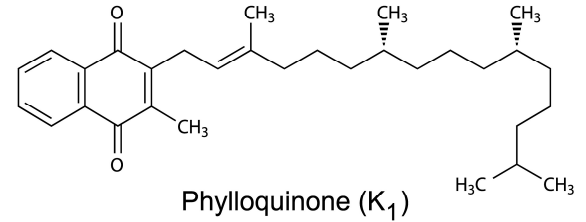
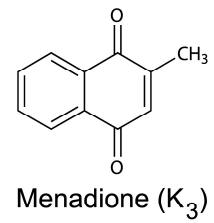
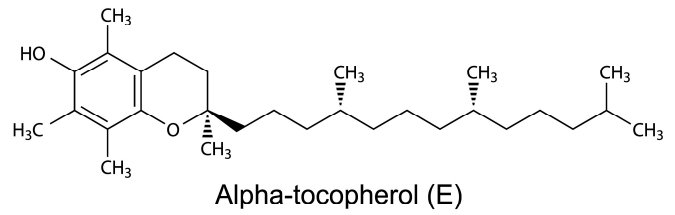
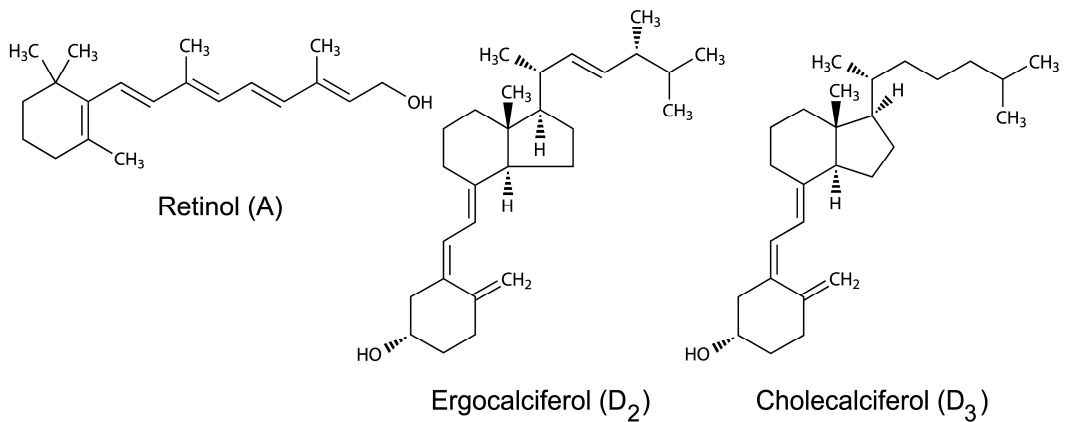
Testosterone



β -Estradiol

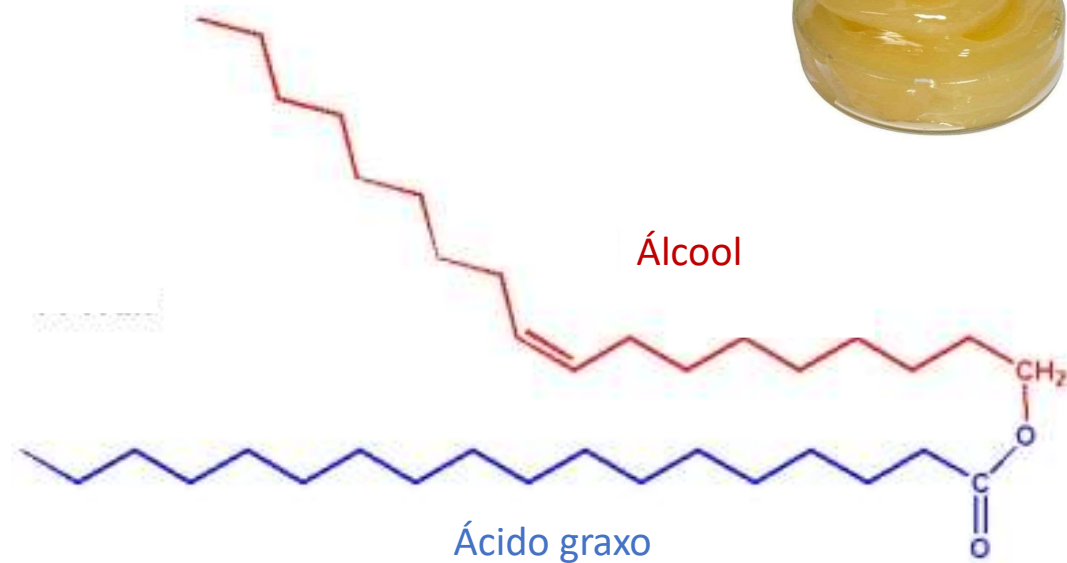
Tipos de lipídeos: V. vitaminas liposolúveis

- Vit. A é importante para a visão e sistema imune
- Vit. D atua na manutenção dos ossos e do sistema imune
- Vit. E é um antioxidante
- Vit. K evita a formação de coágulos



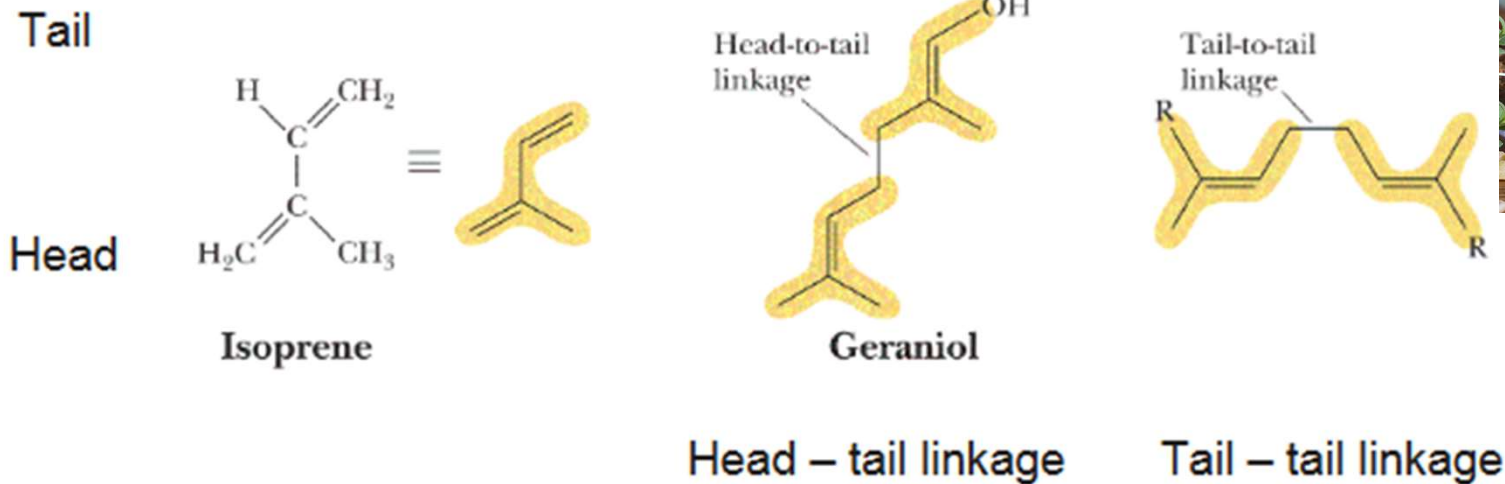
Tipos de lipídeos: VI. ceras

- Ésteres de um álcool com um ácido graxo
- Repelem água
- Sólidas em temperatura ambiente (alta temperatura de fusão)



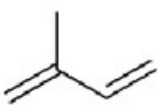
Tipos de lipídeos: VIII. terpenos

- Moléculas construídas a partir de **isoprenos** de 5C
- Muitos são **voláteis**, com odores fortes
- Terpenóides são moléculas derivadas de terpenos
- Podem ser precursores de esteroides



Terpenos são classificados pelo número de isoprenos

Hemiterpenoids



Isoprene

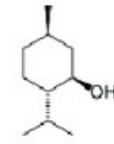
Monoterpenoids



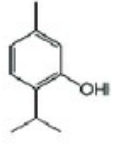
Myrcene



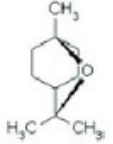
Linalool



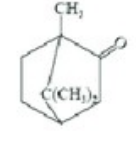
Menthol



Thymol

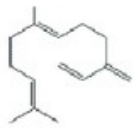


Eucalyptol

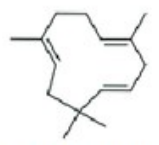


Camphor

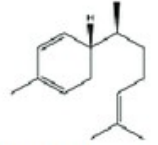
Sesquiterpenoids



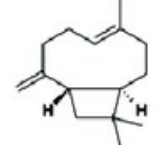
β -fransesene



α -humulene

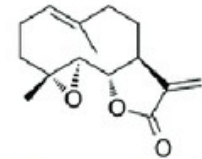


Zingiberene

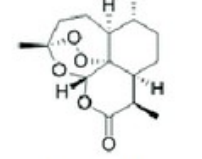


Caryophyllene

Sesquiterpenoid lactones

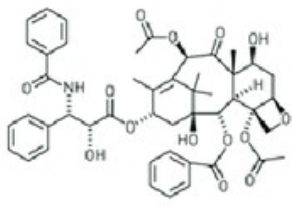


Parthenolide



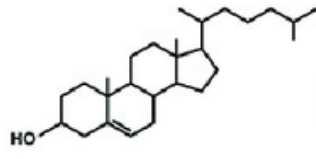
Artemisinin

Diterpenoids

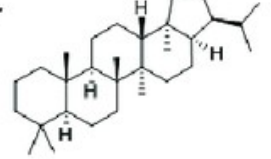


Taxol

Triterpenoids

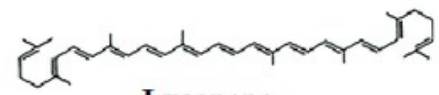


Cholesterol

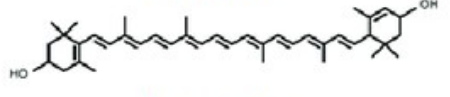


Hopane

Tetraterpenoids



Lycopene




Zeaxanthin




LINALOOL
lavender, rosewood



LIMONENE
citrus, peppermint



MYRCENE
mango, hops



TERPINOLENE
sage, nutmeg

A glass of olive oil with olives and leaves on a wooden surface. The background is a solid blue color.

RESUMO DA AULA

- Lipídeos são biomoléculas **hidrofóbicas** ou **anfipáticas**
- Lipídeos são uma classe de **diversa** estruturas e funções
- Colesterol é o **principal esteróide** em células de mamíferos
- Lipídeos podem atuar como moléculas **sinalizadoras**