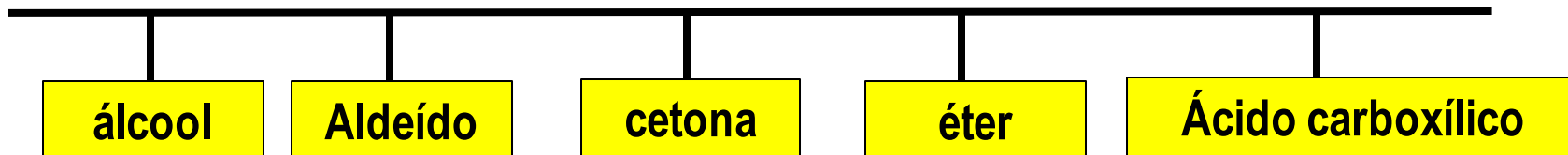


Funções oxigenadas

São funções orgânicas em que o grupo funcional apresenta o átomo oxigênio



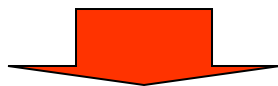
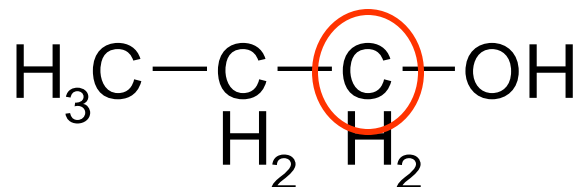
Vamos aprender

- 1) Identificar o grupo funcional
- 2) Nomear a função
- 3) Compreender as propriedades físicas

Álcoois

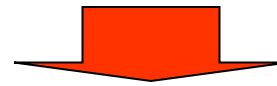
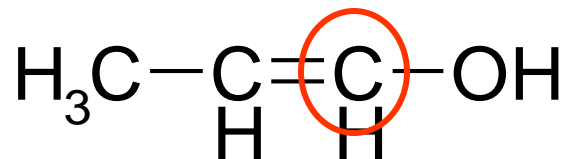
Os compostos orgânicos que apresentam um ou mais radicais oxidrilas (OH) ligados a átomos de carbono saturados

Carbono saturado



Álcool

Carbono insaturado

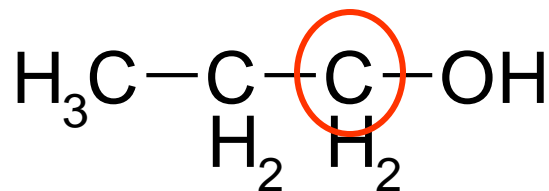


Enol

Classificando os álcoois

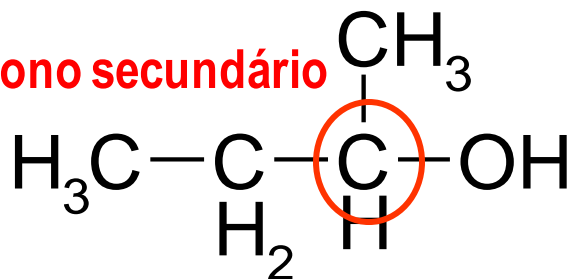
Posição do grupo funcional

Carbono primário



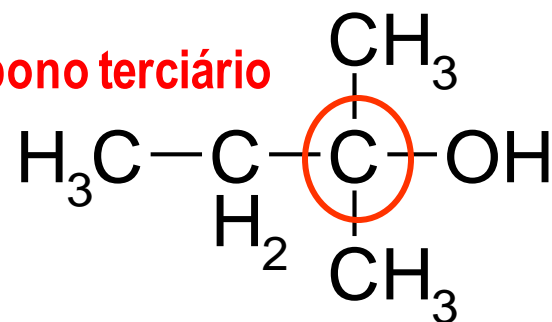
Álcool primário

Carbono secundário



Álcool secundário

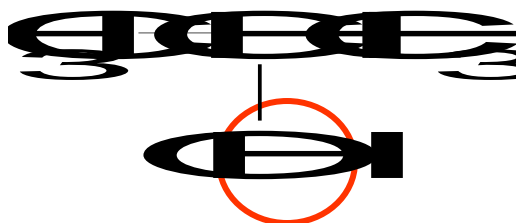
Carbono terciário



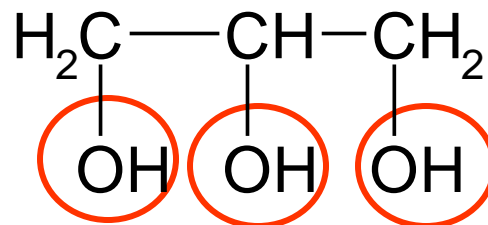
Álcool terciário

Classificando os álcoois

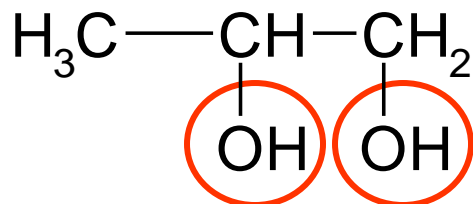
Quantidade de grupos funcionais



Monol



triol

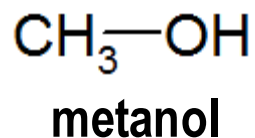


diol

Nomenclatura

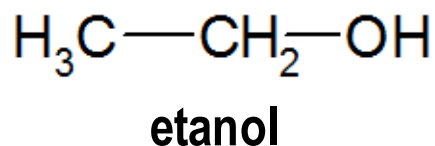
Prefixo

Número de carbonos



Infixo

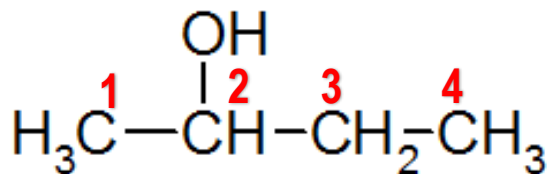
Tipo de ligação



Sufixo

Função orgânica

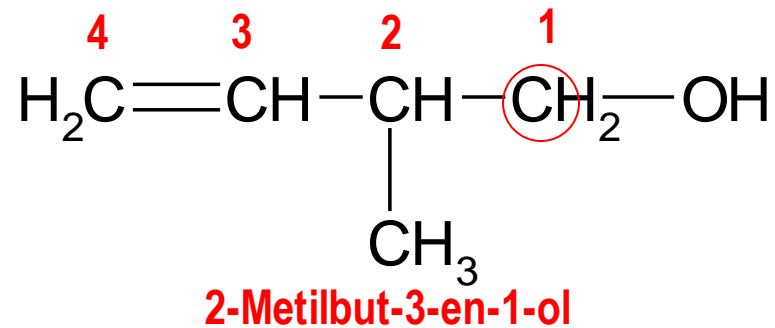
ol



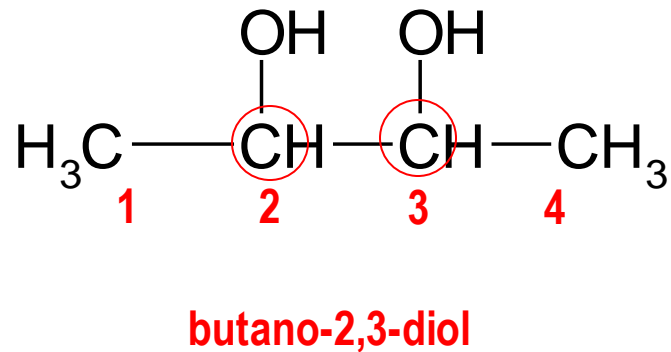
Butan-2-ol

A numeração ocorre na extremidade mais próxima do grupo funcional

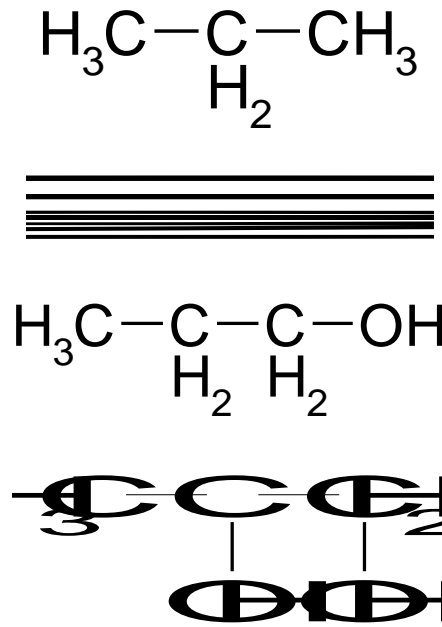
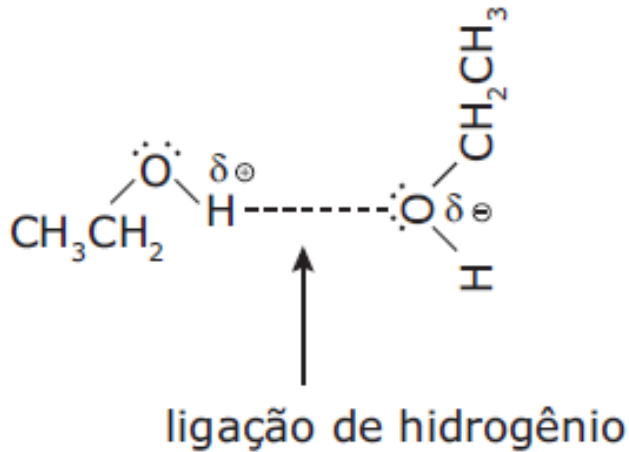
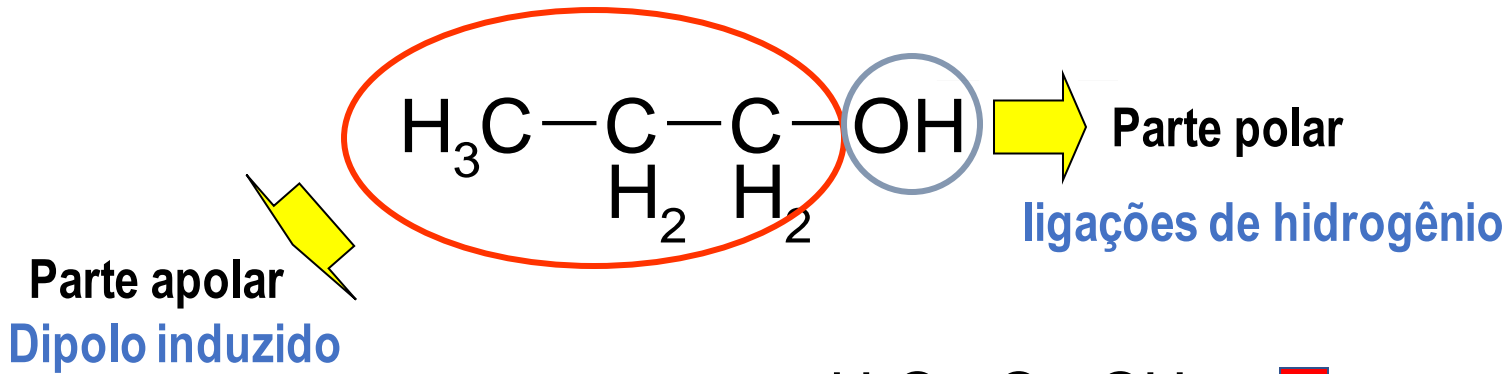
Nomenclatura IUPAC para monoálcoois Insaturados



Nomenclatura IUPAC para poliálcoois

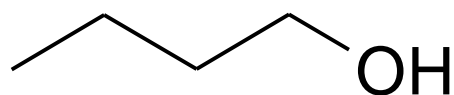


Propriedades físicas



Aumento da
temperatura
de ebulição

Análise da solubilidade



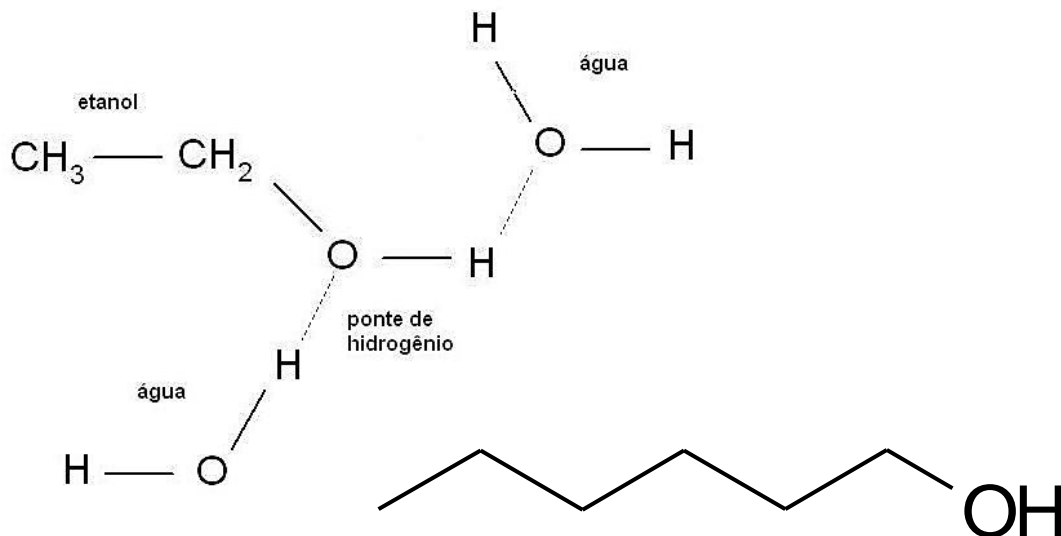
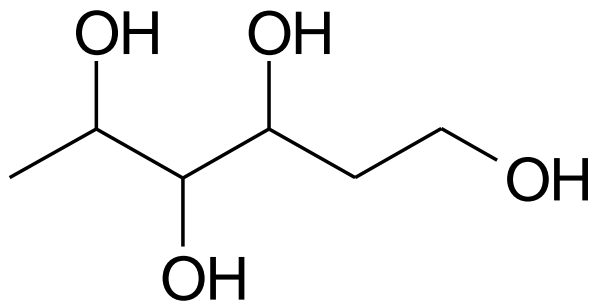
Mais solúvel em água



cadeia



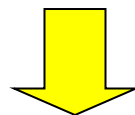
Parte apolar



Menos solúvel em água



Solubilidade solventes apolares

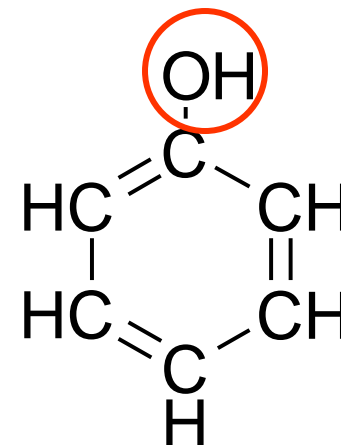


Solubilidade solventes polares

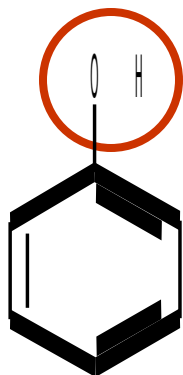
Substância muito solúvel em água, devido ao **grande número de ligações de hidrogênio** que esse álcool pode realizar com a água.

Fenóis

Os compostos orgânicos que apresentam uma ou mais oxidrilas (OH) ligadas diretamente a um átomo de carbono do anel aromático

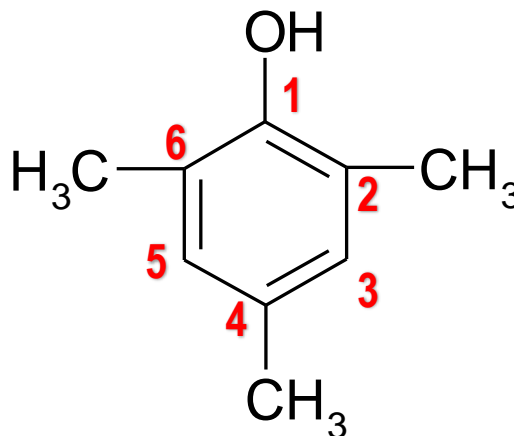


Nomenclatura para fenóis



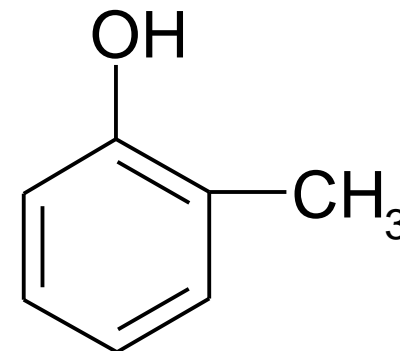
Benzenol (IUPAC)

Fenol (IUPAC)



2,4,6 -trimetilbenzenol

2,4,6 -trimetilfenol

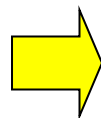
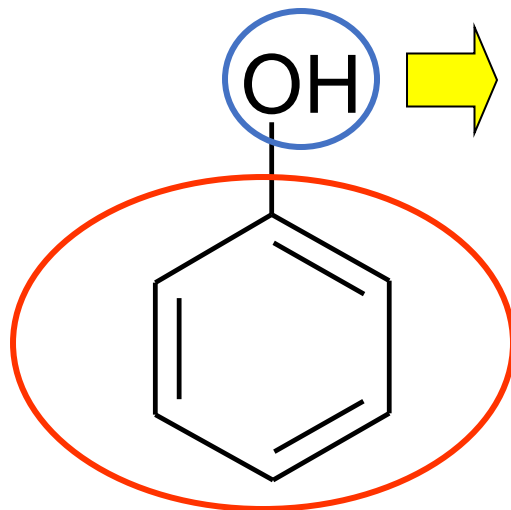
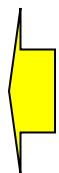


orto-metilfenol

orto-cresol

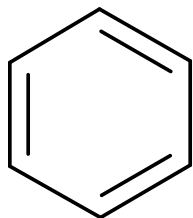
Propriedades físicas

Parte apolar
Dipolo induzido

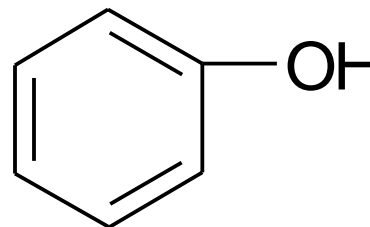


Parte polar
ligações de hidrogênio

Análise da temperatura de ebulição



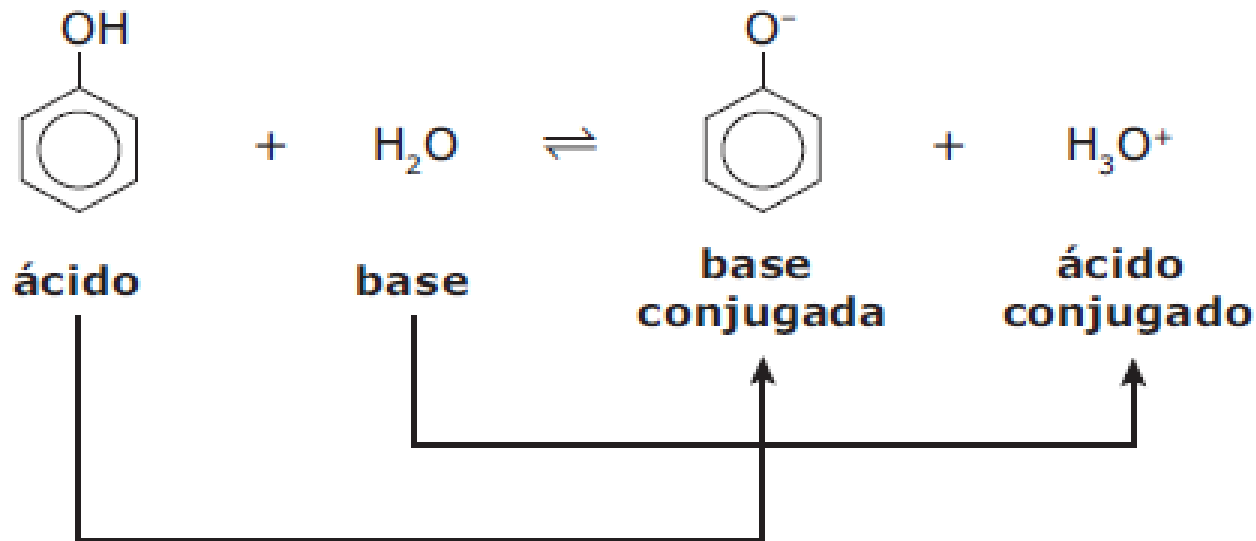
menor



maior

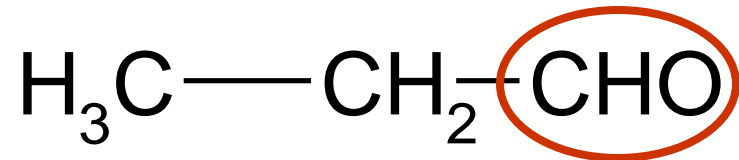
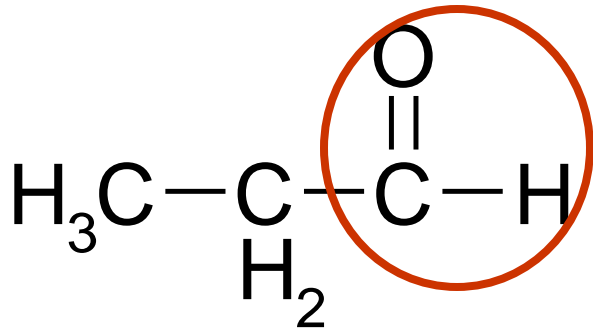
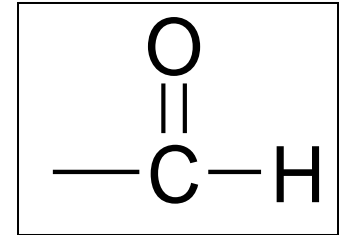
Acidez

Os fenóis são **ácidos de Brønsted-Lowry** e se ionizam em solução aquosa, originando soluções ligeiramente ácidas, já que são ácidos fracos.



Aldeídos

São compostos orgânicos que apresentam o grupo funcional **carbonila** ligado a átomo de hidrogênio.



Nomenclatura

Prefixo

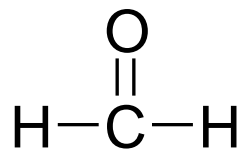
Número de carbonos

Infixo

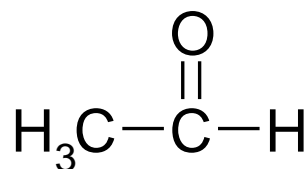
Tipo de ligação

Sufixo

Função orgânica

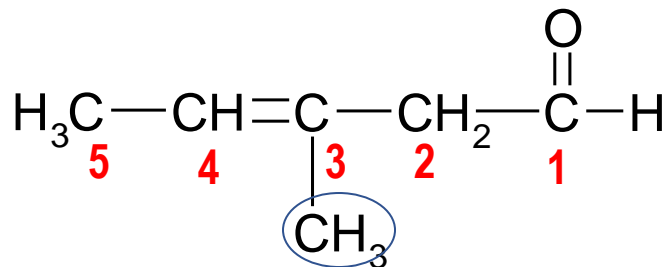


Metanal

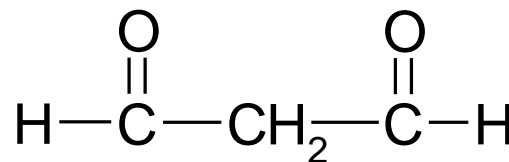


Etanal

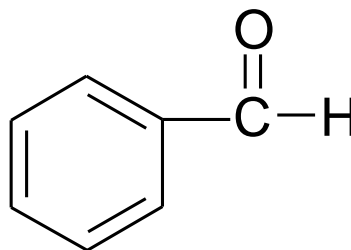
al



3-Metilpent-3-enal



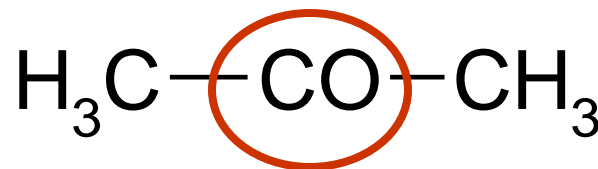
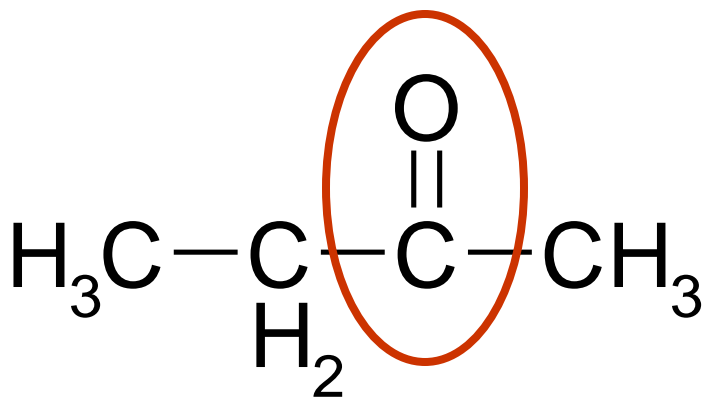
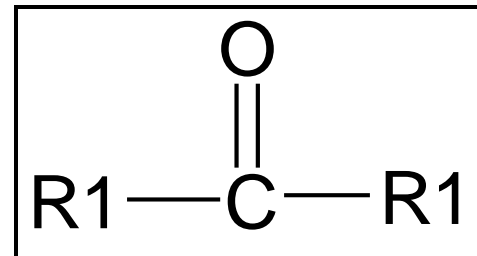
Propanodial



Benzaldeído

Cetonas

As cetonas são compostos que apresentam o seguinte grupo funcional:

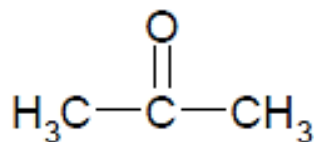


Nomenclatura

Prefixo



Número de carbonos

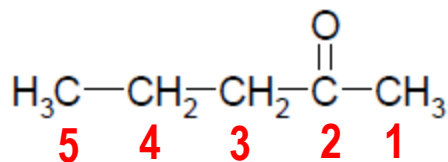


Propanona

Infixo



Tipo de ligação



pentan-2-ona

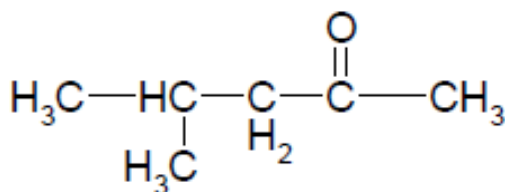
Sufixo



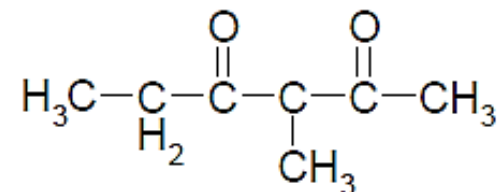
Função orgânica



ona

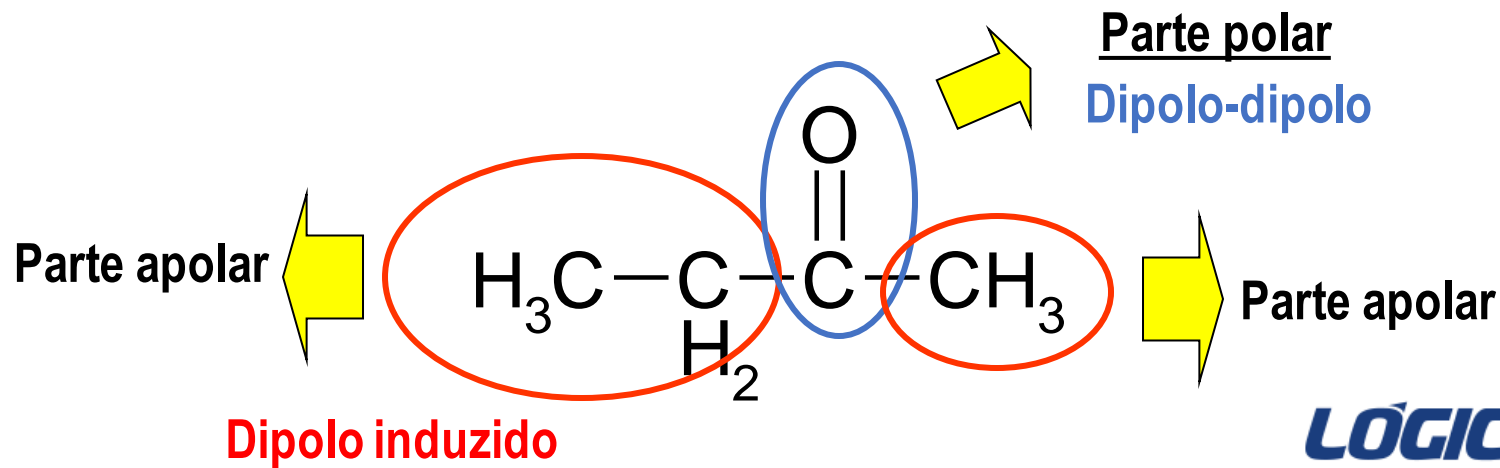
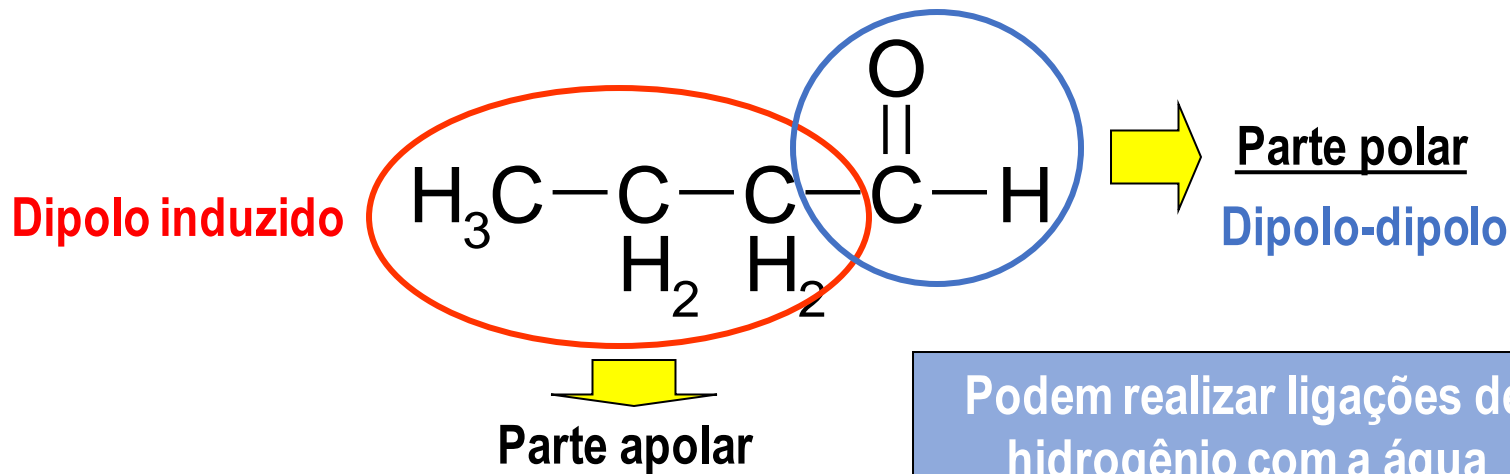


4-metilpentan-2-ona



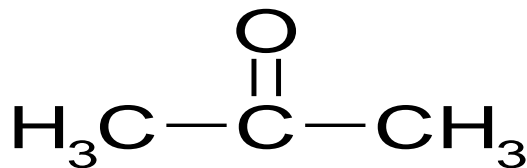
3- metil-hexano-2,4-diona

Propriedades físicas

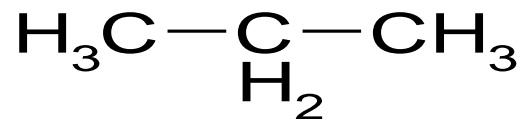


Fixando

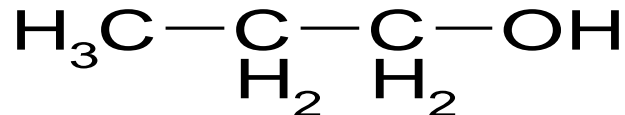
Coloque os compostos em ordem crescente do ponto de ebulição



propanona



propano

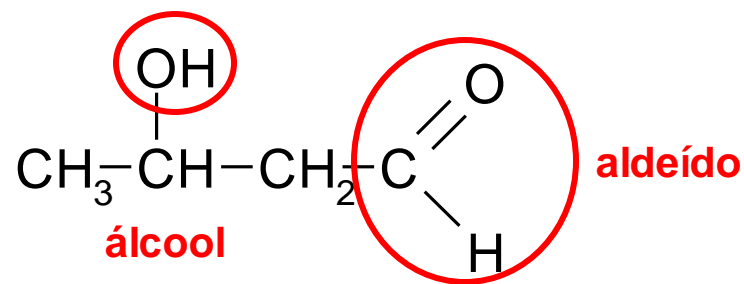
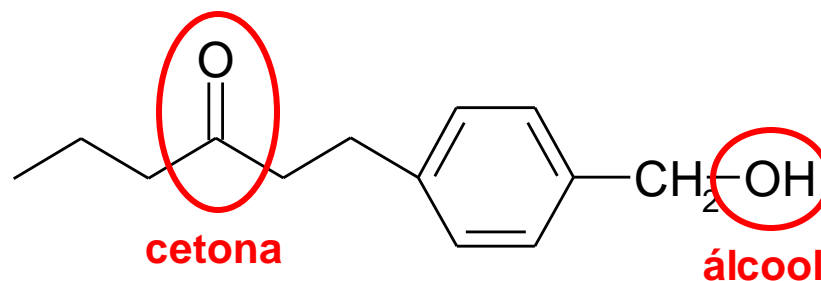
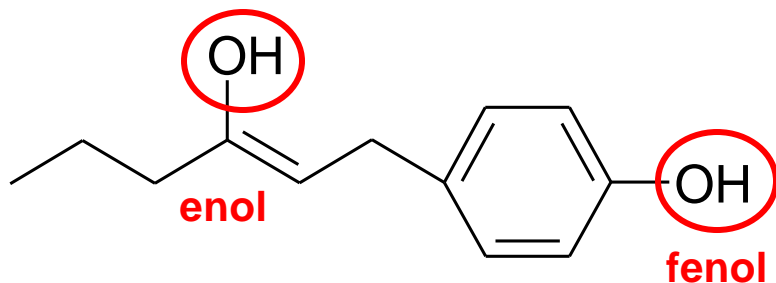


Propan-1-ol

propano < propanona < propan-1-ol



Vamos avaliar o que aprendemos?

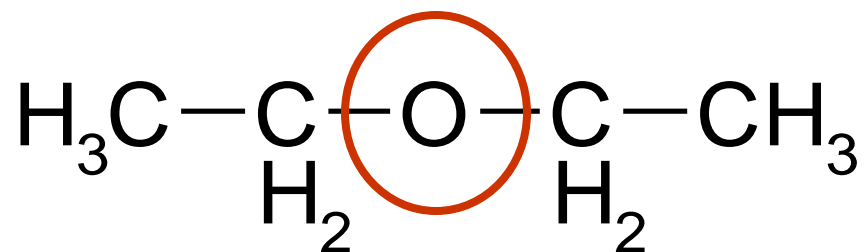


LÓGICO 10
CURSOS ALIADOS
REALIZANDO O SONHO DA APROVAÇÃO ANOS

REALIZAR SONHOS LEVA TEMPO. E ISSO É O LÓGICO.

Éteres

São compostos caracterizados pela presença de um átomo de oxigênio (O), ligado a dois radicais orgânicos



Nomenclatura oficial dos éteres

Radical menor

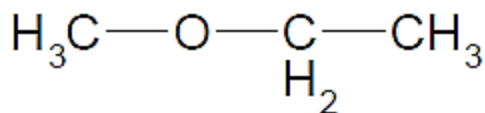
OXI

radical maior +ano

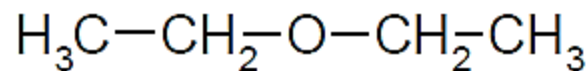
Radical

Radical Ilíco

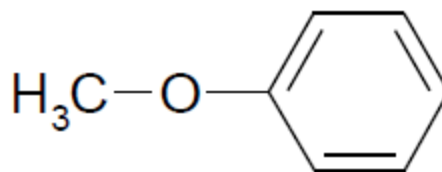
Ordem
alfabética



metoxietano
Éter etilmetílico

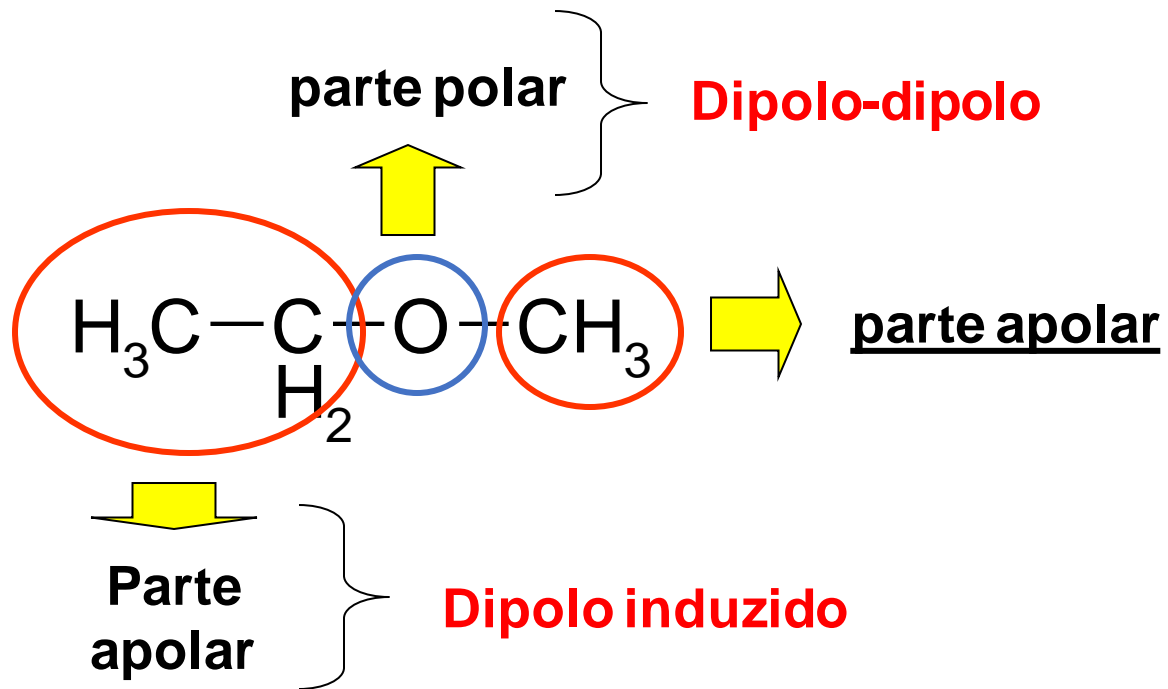


etoxietano
Éter dietílico



metoxibenzeno
Éter fenilmetílico

Propriedades físicas

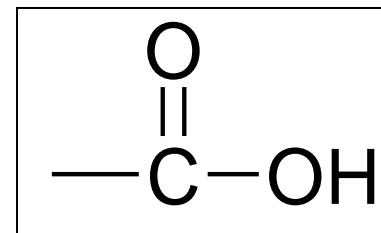


pouco solúveis em água

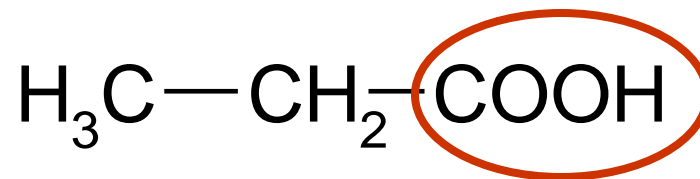
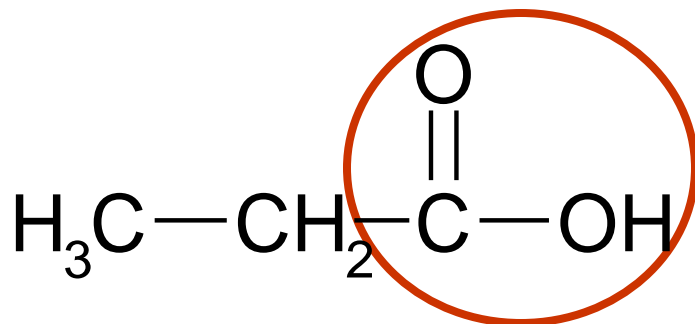
Podem realizar ligações de hidrogênio com a água

Ácidos carboxílicos

São compostos caracterizados pela presença do grupo carboxila, formado pela união dos grupos carbonila e hidroxila.



carboxila



Nomenclatura

Prefixo



Número de carbonos

Infixo



Tipo de ligação

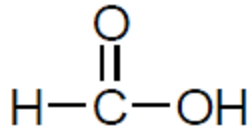
Sufixo



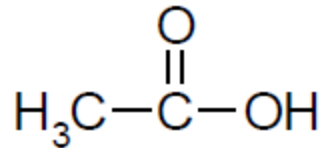
Função orgânica



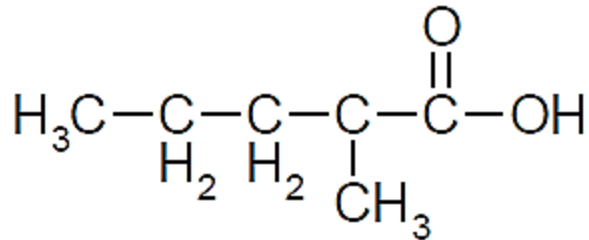
oico



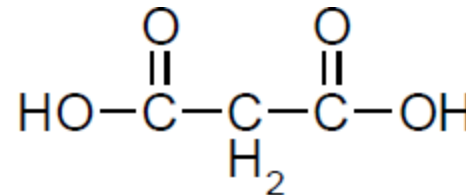
Ácido metanoico



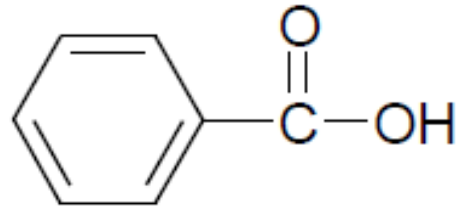
Ácido etanoico



ácido 2-metilpentanoico

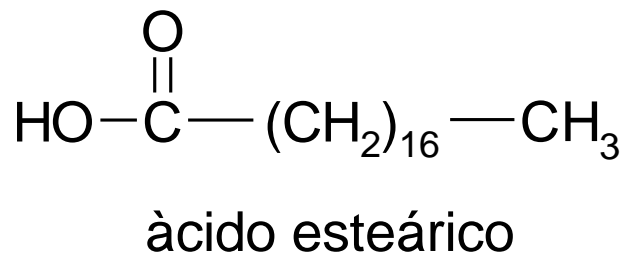


ácido propanodioico

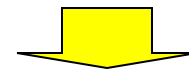


ácido benzóico

Obs:

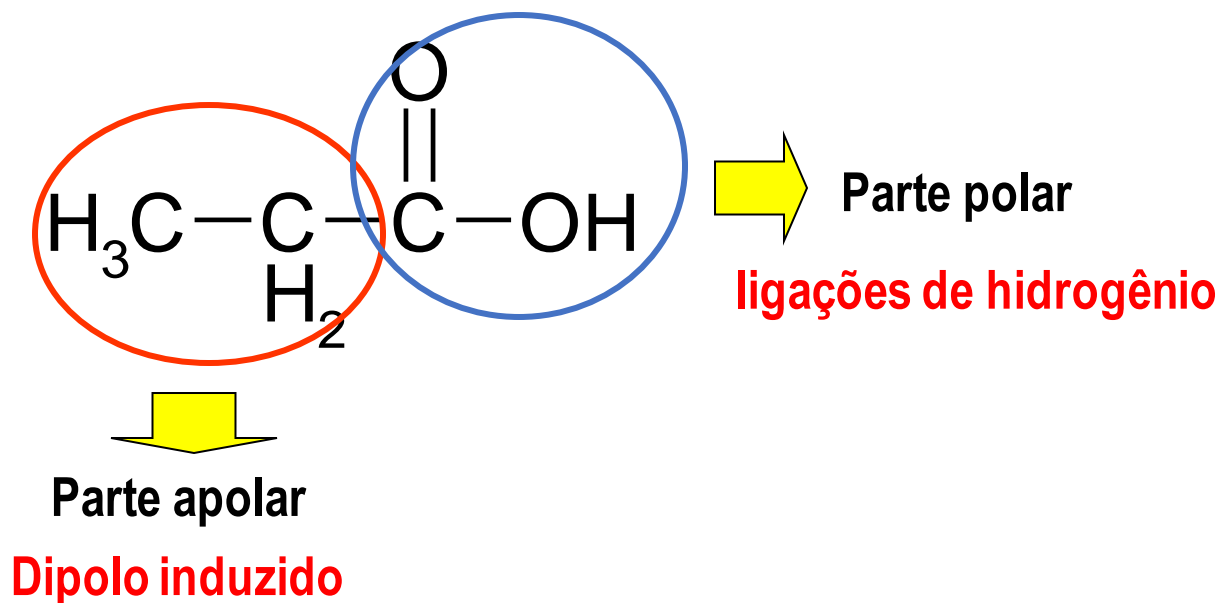


Ácidos carboxílicos de cadeia longa com número par de carbonos



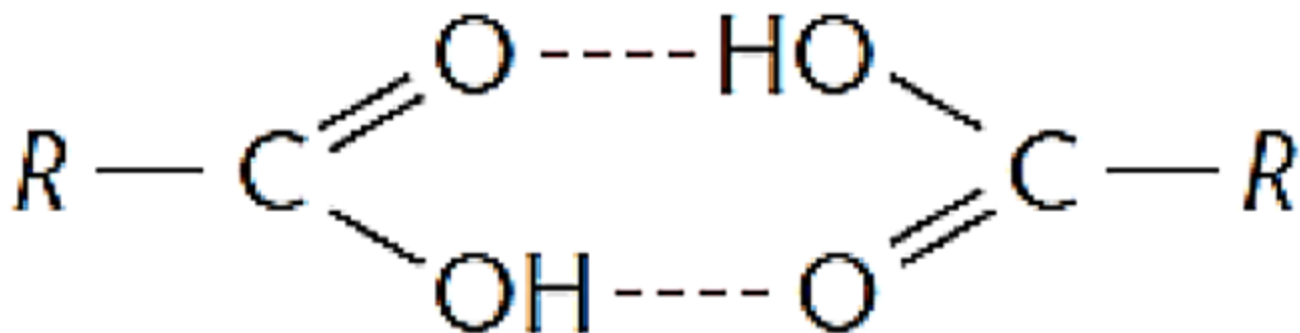
Ácidos graxos

Propriedades físicas



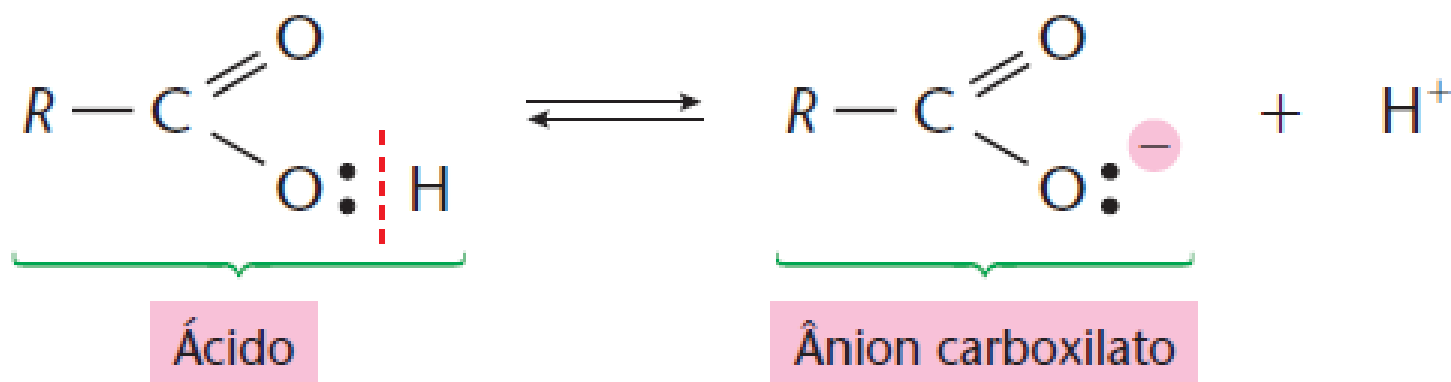
Podem realizar ligações de hidrogênio com a água

Por apresentarem o grupo **carboxila**, esses compostos são **muito polares** e podem fazer o **dobro de ligações de hidrogênio** que as moléculas de álcoois, dando origem a um dímero, como esquematizamos abaixo.



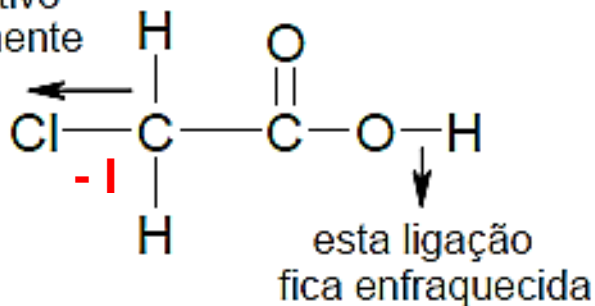
Acidez do ácido carboxílicos

Ionização



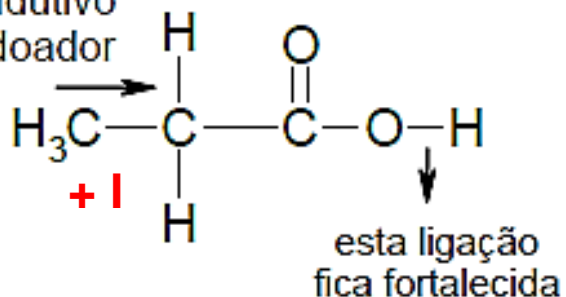
O caráter ácido dos ácidos carboxílicos é, no entanto, fraco

efeito indutivo
elétrônatraente



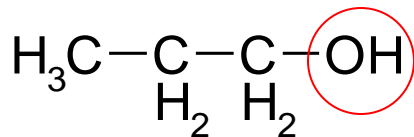
Ácido mais forte

efeito indutivo
elétrondoador

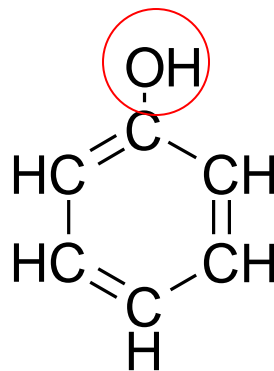


Ácido mais fraco

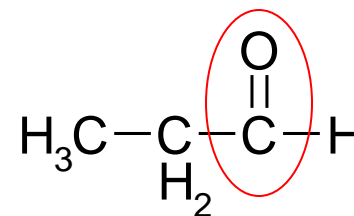
Funções orgânicas



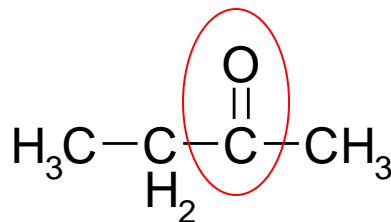
álcool



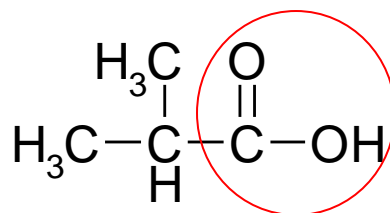
fenol



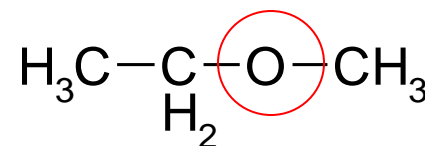
aldeído



cetona



Ácido carboxílico



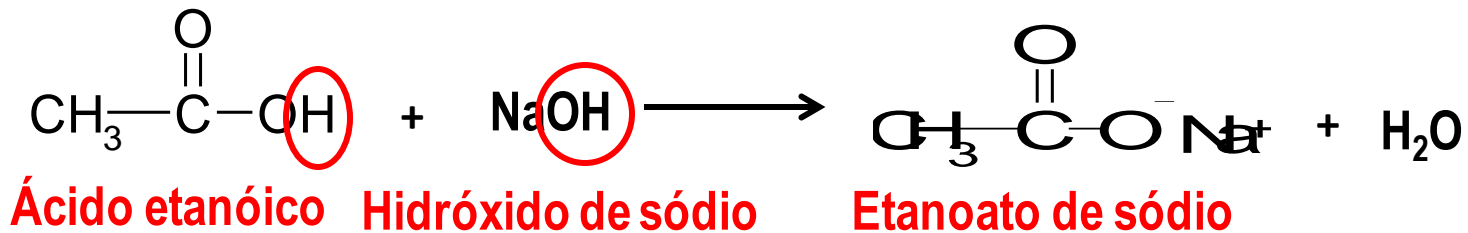
éter

Derivados de ácidos carboxílicos

Sais orgânicos



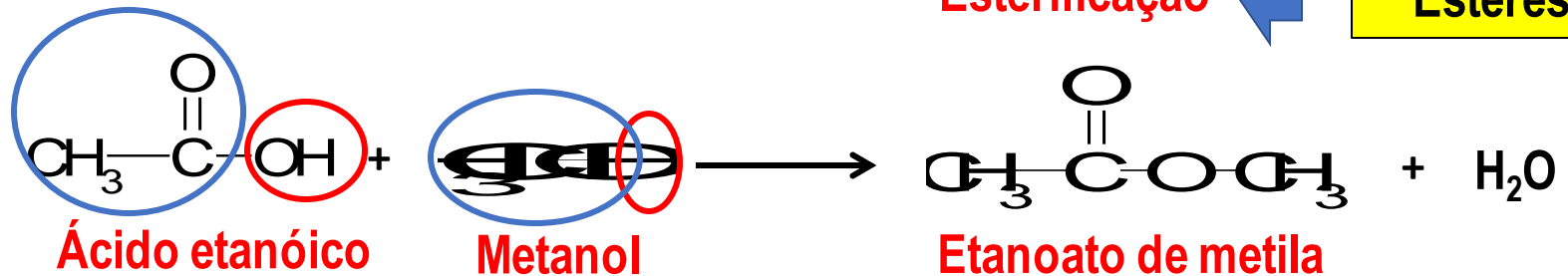
Neutralização

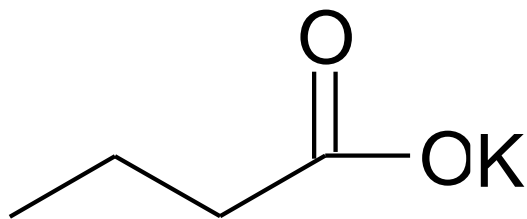


Esterificação

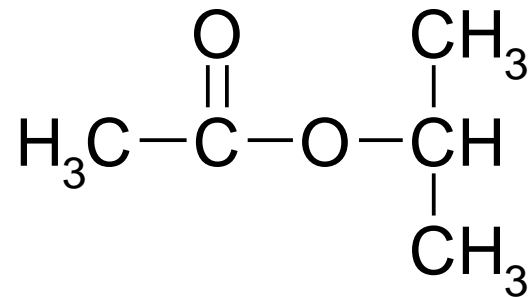


Ésteres





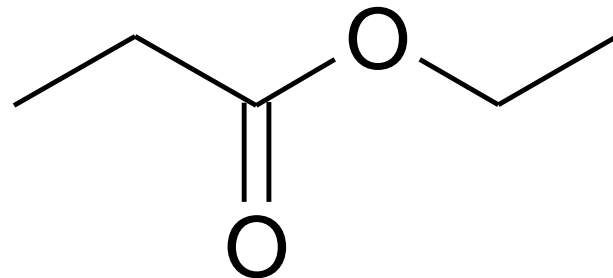
Butanoato de potássio



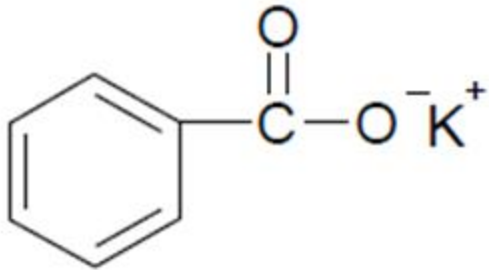
Etanoato de isopropila



Propanoato de etila



Propriedades físicas



benzoato de potássio

Os sais orgânicos são compostos iônicos. Portanto, apresentam todas as características de compostos iônicos.

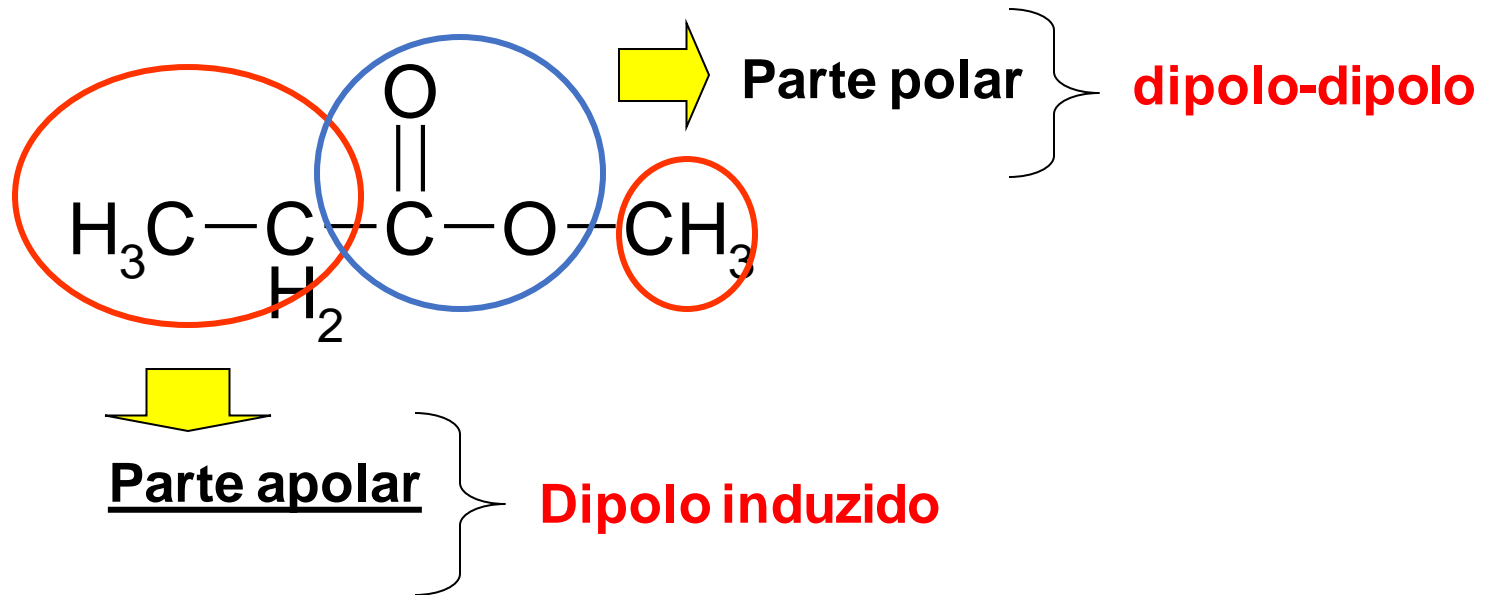
Pontos de fusão e ebulição

Muito elevados devido à ligação iônica.

Solubilidade

Os sais orgânicos de metais alcalinos e de amônio são solúveis em água; os de metais pesados são praticamente insolúveis.

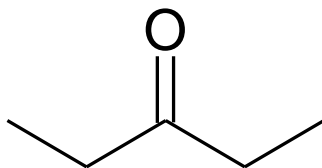
Propriedades físicas



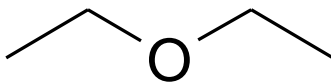
muito pouco solúveis em água

Podem realizar ligações de hidrogênio com a água

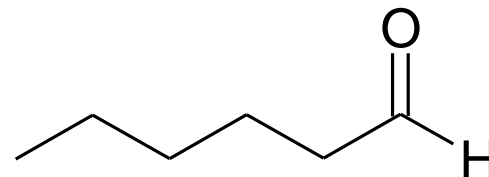
Revisando



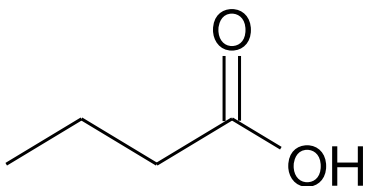
cetona



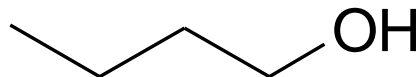
éter



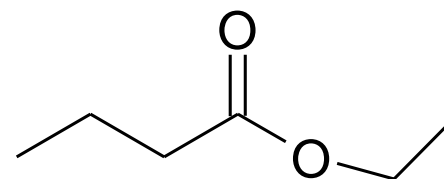
aldeído



Ácido carboxílico



álcool



éster



REALIZAR SONHOS LEVA TEMPO. E ISSO É O LÓGICO.