QOG – Anotações Slide 2

Felipe B. Pinto 61387 – MIEQB

7 de novembro de 2022

Conteúdo

1 Prefixo 2
2 Intermediários 2
3 Sufixos 1 3
Exemplo 1 3
4 Radicais Substituintes . . 5
Exemplo 2 7

Nomenclatura: Alcanos

1 Prefixo

Relacionado ao numero de carbonos

1. met
2. et
3. prop
4. but
5. pen
6. hex
7. hep
8. oct
9. non
10. dec
11. undec
12. dodec
13. tridec
14. tetradec
15. pentadec
16. hexadec
17. heptadec
18. octadec
19. nonadec
20. icos

30. tria

2 Intermediários

referencia as ligações (suprime o “an”, ex: etano→etino)

an Somente ligações simples

en 1 ligação dupla

dien 2 ligações duplas

in 1 ligação tripla

diin 2 ligações triplas

enin 1 dupla e 1 tripla

3 Sufixos 1

o: Hidrocarboneto — CH2

ol: Álcool e enol — OH

al: Aldeído — C(=O)H

ona: Cetona = O

óico: Ácido Carboxilo — C(=O)OH

amina: — NH2

amida: R–C(H)(=O)–N(R)(R′)

sulfônico: Ácido Sulfônico R–S(=O)(=O)–OH

óxi: Éter R_1-O-R_2

ato ... ila: Éster $R_1-C(=O)-O-R_2$

ato de ...: Sal Orgânico $R_1-C(=O)-O-$Metal

Exemplo 1

Hidrocarbonetos

E1.1)

CH_4
metano

E1.2)

CH_3-CH_3
etano

E1.3)

$CH_3-(CH_2)_{10}-CH_3$
dodecano

Álcools e Enols

E1.4)

CH_3-OH
metanol

E1.5)

CH_3-CH_2-OH
etanol

E1.6)

$CH_3-CH_2-CH=CH-OH$
butenol

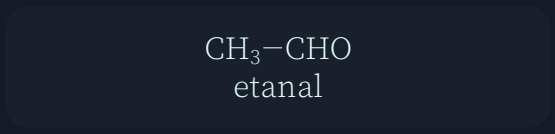
E1.7)

$CH_3-(CH_2)_2-CH=CH-OH$
hexenol

Aldeídos

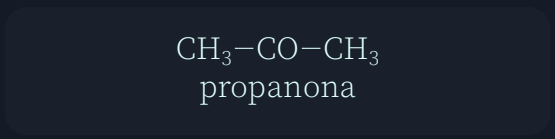
E1.8)

E1.9)

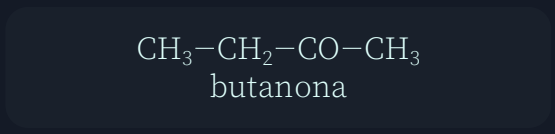


Cetona

E1.10)

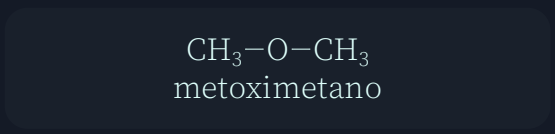


E1.11)

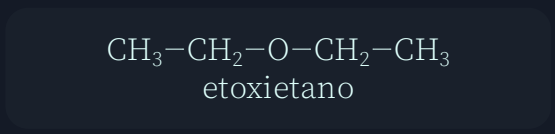


Eter

E1.12)

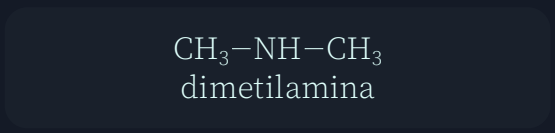


E1.13)

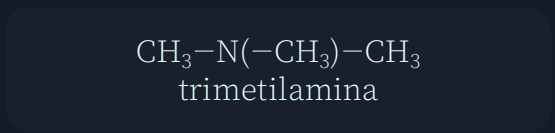


Amina

E1.14)

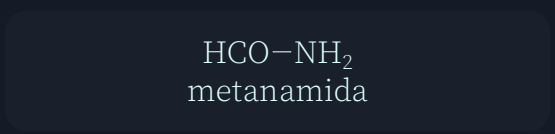


E1.15)

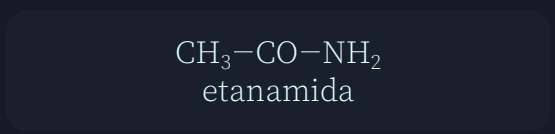


Amida

E1.16)

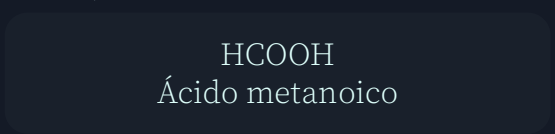


E1.17)

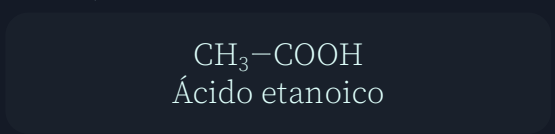


Ácido Carboxilico

E1.18)



E1.19)



Éster

E1.20)

$HCOO-CH_3$
metanoato de metila

E1.21)

$CH_3-HCOOCH-CH_3$
etanoato de etila

Sal Orgânico

E1.22)

$CH_3-COO-Na^+$
etanoato de sódio

E1.23)

$HCOO-K^+$
metanoato de potássio

Anidrido de Ácido

E1.24)

$CH_3-COO-CO-CH_3$
etanoato de sódio

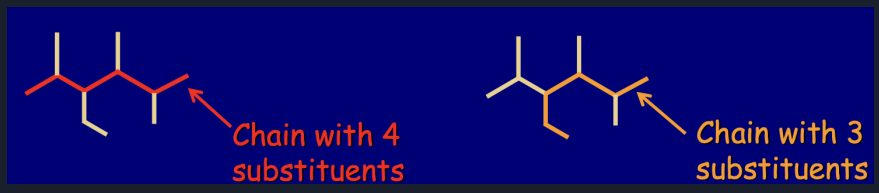
E1.25)

$HCOO-K^+$
metanoato de potássio

4 Radicais Substituintes

Quando há ramificações, para poder nomear precisa seguir o passo a passo

4.1 Identificar a cadeia mais longa



em empate escolhe a que tem mais substituintes

4.2 Nomear os substituintes

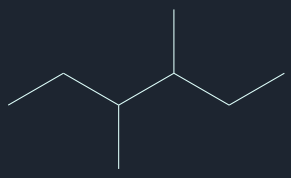
halogenio recebe o nome do halogenio Br,F,Cl,I

Cadeia org simples recebe prefixo “il”

Canonicos: Estruturas canonicas que devemos conhecer

Multiplos substituintes identicos se juntam recebendo um prefixo numérico

Exemplo

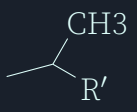


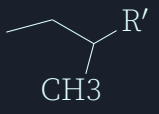
dimetilhexano

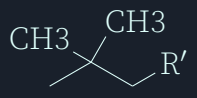
Complexidade da cadeia simples usa o prefixo numérico comum, complexa (multiplas bifurcações) usa os prefixos:

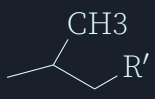
2. bis
3. tris
4. tetrakis

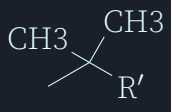
Estruturas Canonicas

isopropil 

sec-butil 

neopentil 

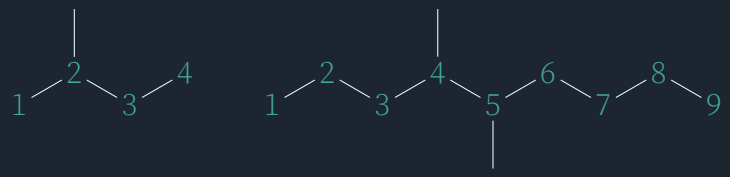
isobutano 

tert-butil 

4.3 Numerar a cadeia

Se nomeia da extremidade mais próxima aos substituintes

Exemplo

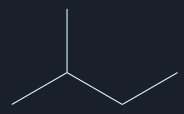


4.4 Nomear em ordem alfabética

Não leva em conta o prefixo numérico de multiplas ramificações exceto quado as ramificações são complexas

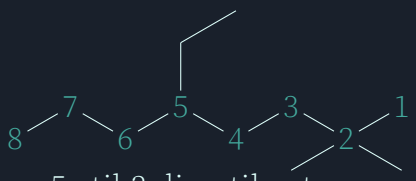
Exemplo 2

E2.1)



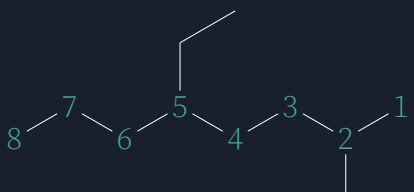
2-metilbutano

E2.3)



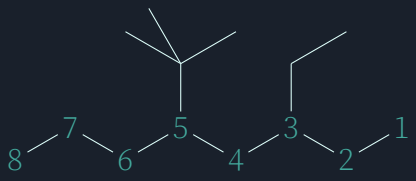
5-etil-2-dimetil-octano

E2.2)



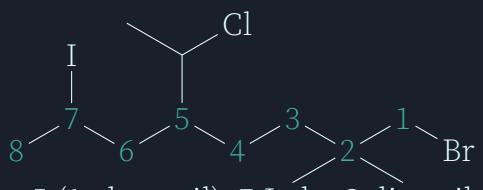
5-etil-2-metil-octano

E2.4)



5-(1,1-dimetiletil)-3-etilocano

E2.5)



1-bromo -5-(1-cloroetil) -7-Iodo -2-dimetil octano