Gabarito de Química

3º E.M, Volume 8

1.

a) I) butan-2-ol

II) 2-metilpropan-2-ol

III) butan-1-ol

b) A fórmula molecular de todos eles é $C_4H_{10}O$. A combustão disso é:

$$C_4H_{10}O + 6\ O_2 \rightarrow 4\ CO_2 + 5\ H_2O$$

Logo, para qualquer um deles, são formados 4 mols de CO_2.

c) butan-1-ol

d) butan-1-ol

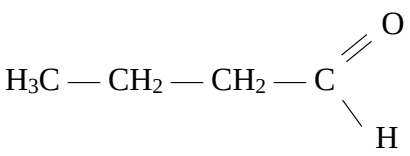
e) 2-metilpropan-2-ol

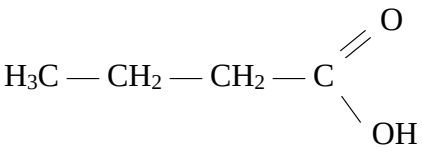
f) butan-2-ol

g) butan-2-ol (pode formar o but-1-eno ou o but-2-eno).

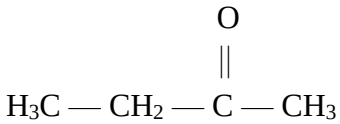
2.

a)

C: 

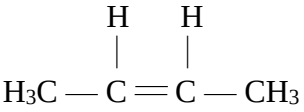
D: 

b)

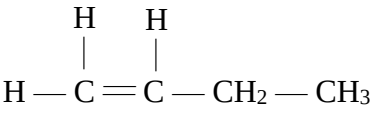
E: 

c) Não ocorre reação

3.



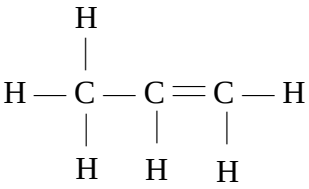
But-2-eno (produto principal)



But-1-eno (produto secundário)

4.

a)

A : 

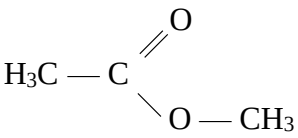
propeno

b)

B : $H_3C - O - CH_3$ **éter metílico ou dimetil-éter**

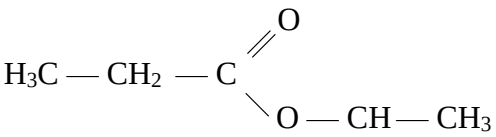
5.

a)

C: 

Etanoato de metila

b)

D: 

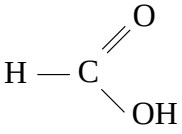
Propanoato de etila

6.

a) Éster

b) Metanoato de etila

7.

Ácido: 

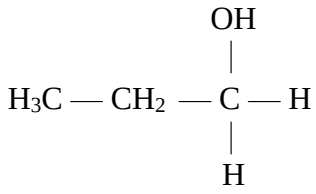
Ácido metanoico

Álcool: $H_3C - CH_2 - OH$

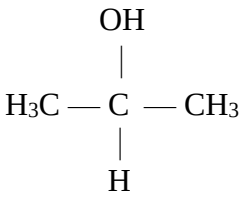
etanol

8.

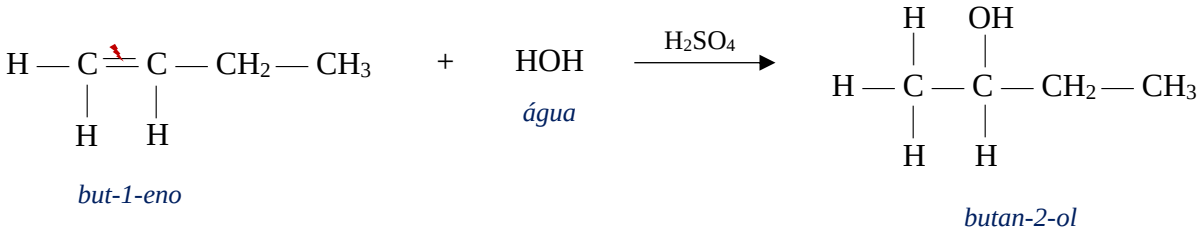
a)

A:  **propan-1-ol**

b)

B:  **propan-2-ol**

9.



but-1-eno

butan-2-ol

10.

metanol

11. **A =** butan-2-ol

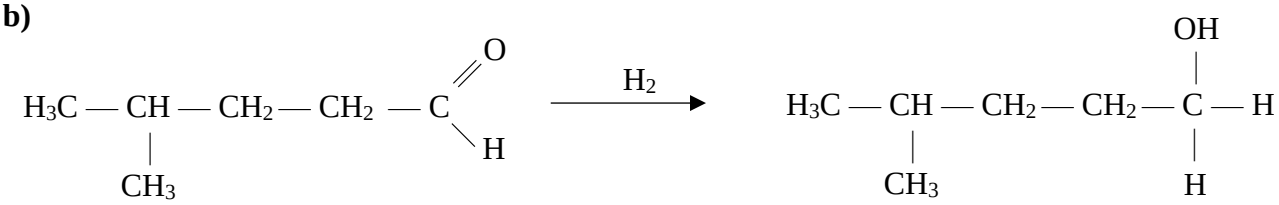
B = butanona

12.

a) I) 4-metilpentanal

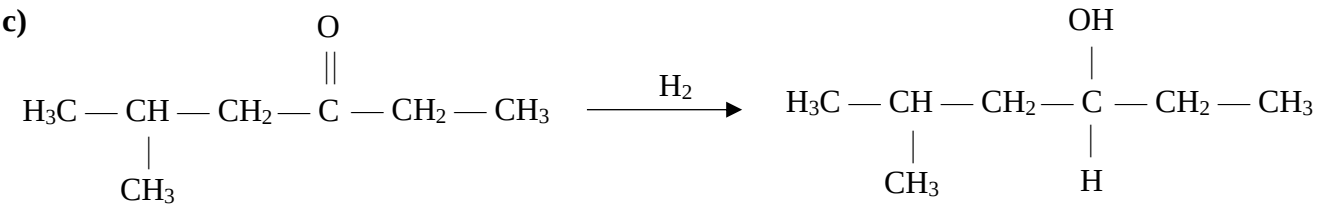
II) 5-metil-hexan-3-ona

b)



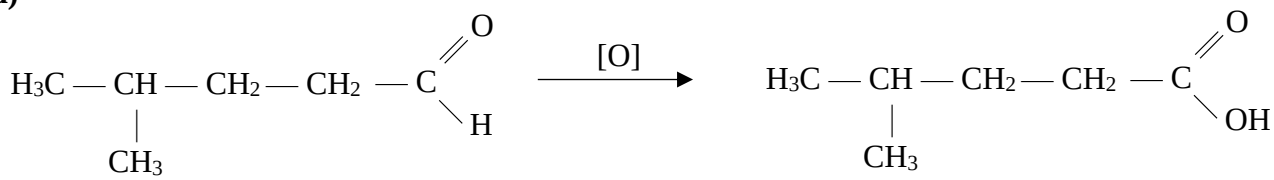
Álcool primário

c)



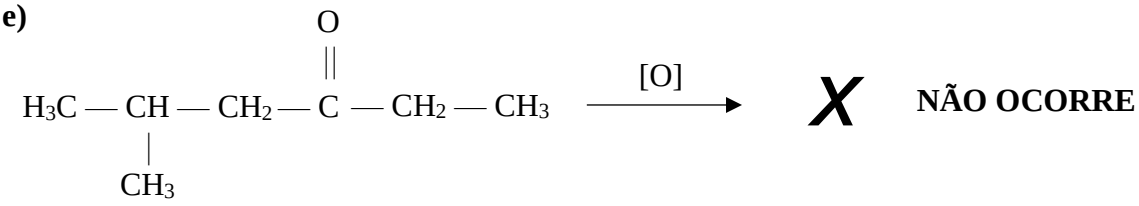
Álcool secundário

d)



Ácido carboxílico

e)



NÃO OCORRE

13. 4-metilpentan-1-ol

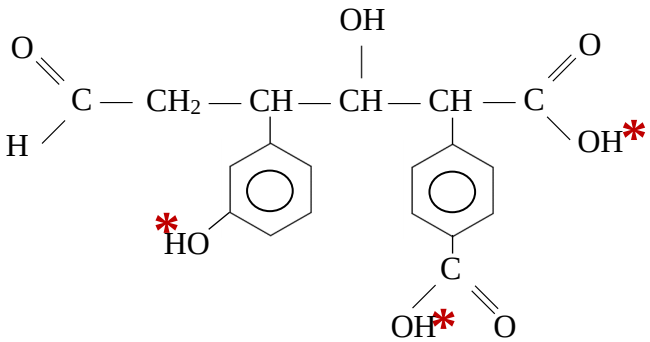
14. 5-metil-hexan-3-ol

15. Ácido 4-metilpentanoico

16. Não, porque não possuem a mesma fórmula molecular.

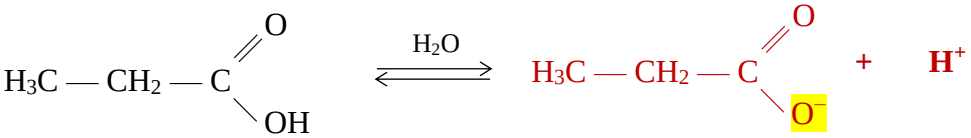
17. Apenas o I (que é um aldeído).

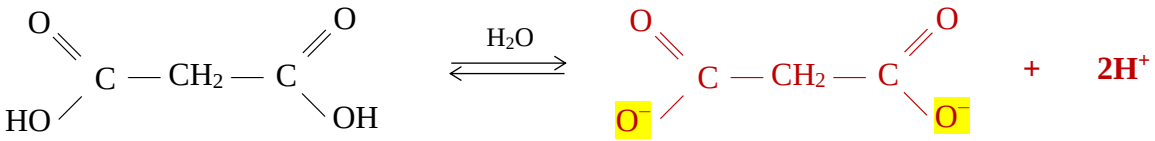
18. 3 hidrogênios ionizáveis.

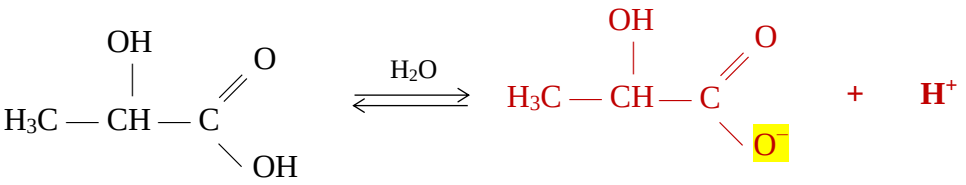


19.

I)

II) 

III) 

IV) 

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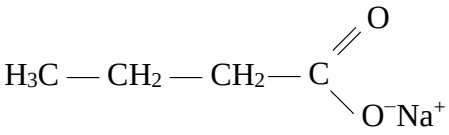
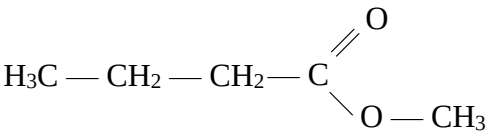
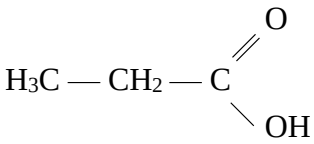
X: 

Butanoato de sódio

Y: 

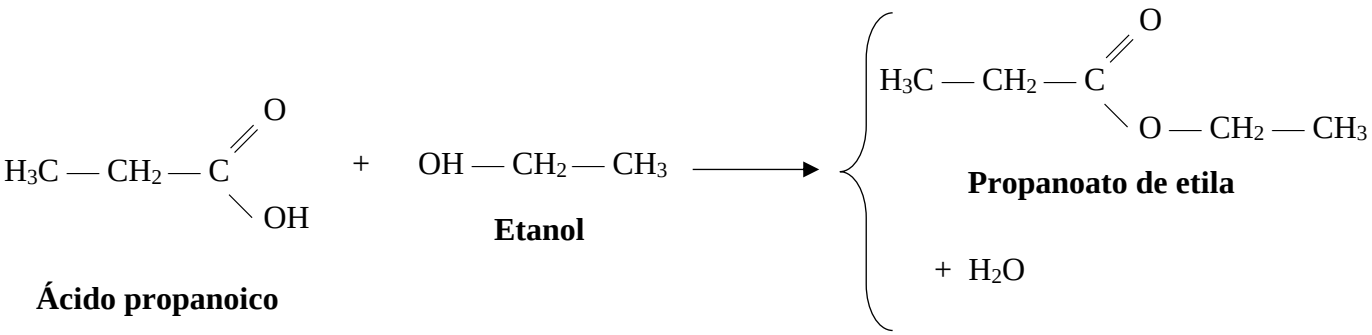
Butanoato de metila

21.



Ácido propanoico

22.



Ácido propanoico

Etanol

Propanoato de etila

23.

a) uma gordura (3 radicais saturados).

b) um óleo (3 radicais insaturados).

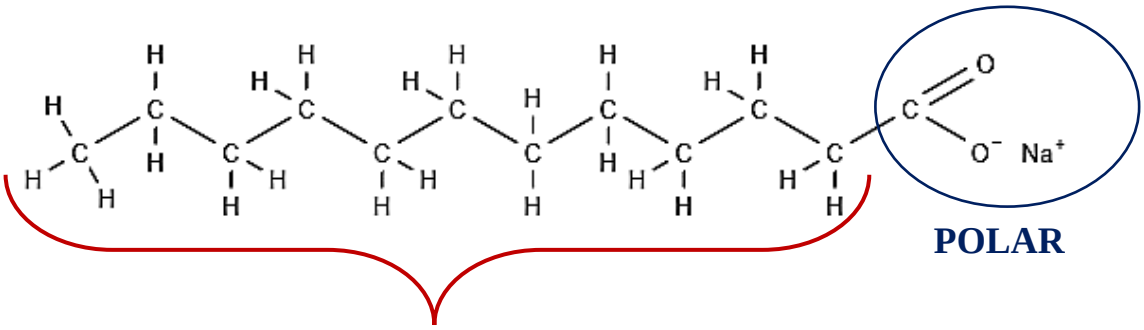
c) uma gordura (2 radicais saturados e 1 insaturado).

24. É sólido à temperatura ambiente porque possui dois radicais saturados ($C_{14}H_{29}$ e $C_{15}H_{31}$) e um radical insaturado ($C_{18}H_{33}$), ou seja, é uma GORDURA.

25.

X: $C_{15}H_{31} - C(=O) - O^-Na^+$

26.



27.

$$H_3C - CH_2 - C(=O) - O - CH_3 + HOH \rightleftharpoons[H^+] H_3C - CH_2 - C(=O) - OH + CH_3 - OH$$

Ácido propanoico — **Álcool**

28.

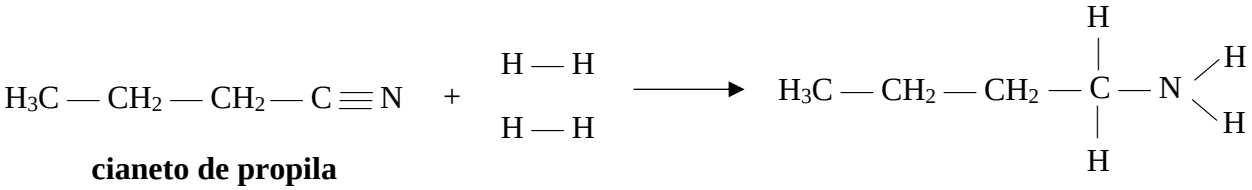
I) **A** : $H_3C - CH_2 - NH_3^+$ e **B** : OH^-

II) **C** : $H_3C - CH_2 - NH_3^+$ e **D** : $C\ell^-$

III) **E** : $H_3C - CH_2 - \underset{\displaystyle CH_3}{\underset{|}{NH_2^+}}$ e **F** : OH^-

IV) G : $H_3C - CH_2 - \underset{\displaystyle CH_3}{\underset{|}{NH_2^+}}$ e H: $C\ell^-$

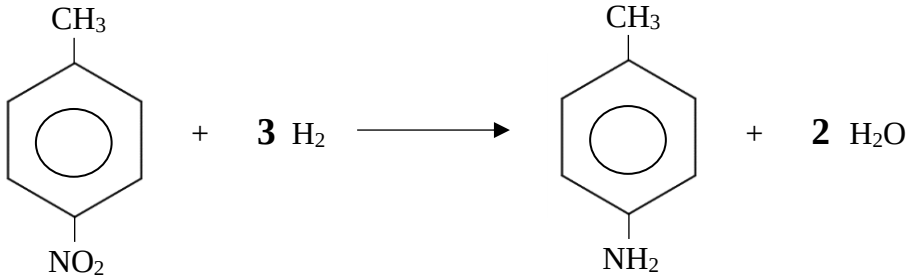
29.



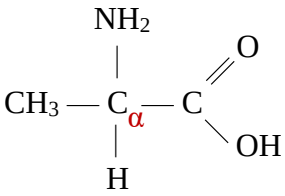
cianeto de propila

butilamina

30.



31.



Fórmula molecular: $C_3H_7NO_2$

Fórmula estrutura da alanina

32. A alanina tem duas funções em sua estrutura: amina (—NH2) e ácido carboxílico (— COOH). As moléculas que contém a função amina têm caráter básico. Mas também, as moléculas que contém a função ácido carboxílico têm caráter ácido. Assim, a alanina, como todos os aminoácidos apresenta ao mesmo tempo caráter básico e ácido.