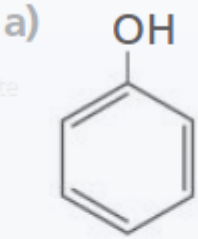
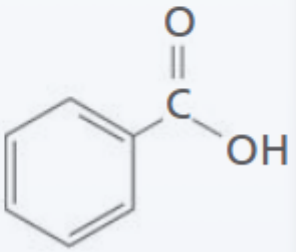
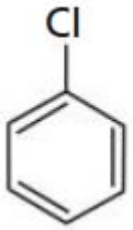
17 Completa as seguintes reaccions:

a) 

$+ ClCH_2 - CH_3 \rightarrow$

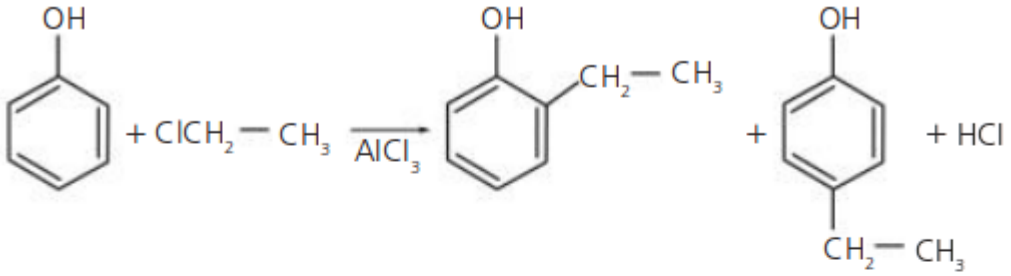
b) 

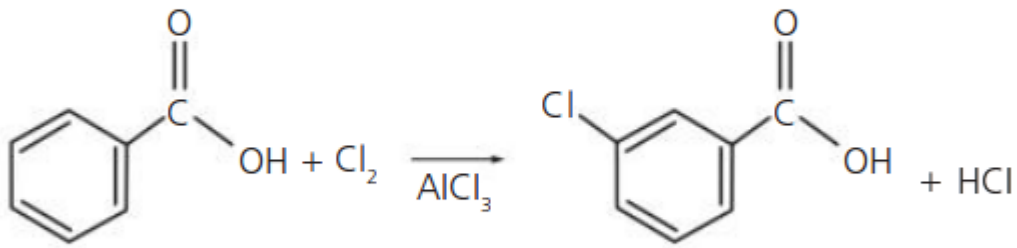
$+ Cl_2 \rightarrow$

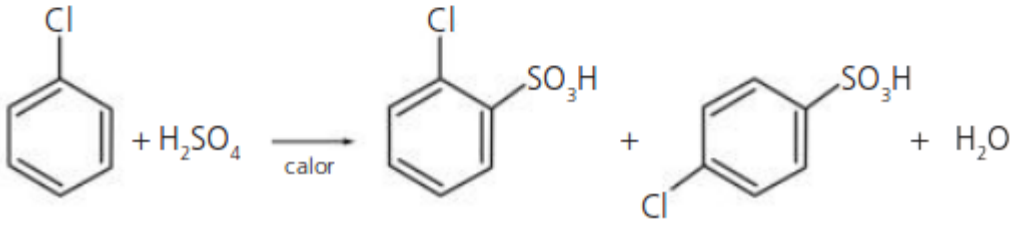
c) 

$+ H_2SO_4 \rightarrow$

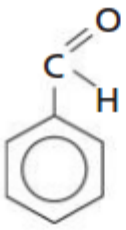
Hai que ter en conta a que posicións orientan (*orto, meta ou para*) os substituíntes que xa temos no anel aromático.

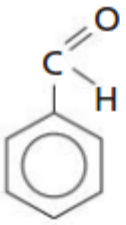
a) 

b) 

c) 

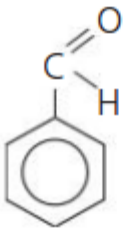
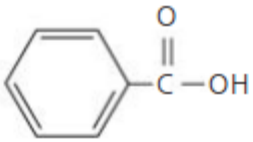
18 Completa as seguintes reaccions:

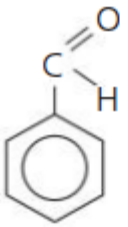
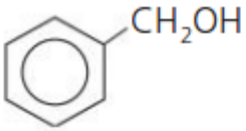
a)  + oxidante →

b)  + reductor →

c) butan-1-ol + oxidante → A A + oxidante →

d) butan-2-ol + oxidante → B B + oxidante →

a)  + oxidante → 

b)  + reductor → 

c) $CH_3-CH_2-CH_2-CH_2OH$ + oxidante → $CH_3-CH_2-CH_2-CHO$

$CH_3-CH_2-CH_2-CHO$ + oxidante ⟶ $CH_3-CH_2-CH_2-COOH$

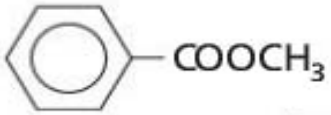
d) $CH_3-CH_2-CHOH-CH_3$ + oxidante → $CH_3-CH_2-CO-CH_3$

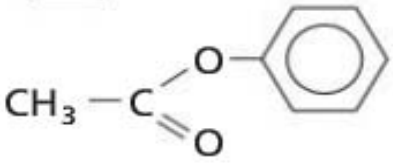
$CH_3-CH_2-CO-CH_3$ + oxidante → no da oxidación controlada

19 Completa as seguintes reaccions:

a) $CH_3-OCO-CH_2CH_3 \xrightarrow{\text{hidrólisis}}$

b) $CH_3-O-CH_2-CH_3 \xrightarrow{\text{hidrólisis}}$

c)  $\xrightarrow{\text{hidrólisis}}$

d)  $\xrightarrow{\text{hidrólisis}}$

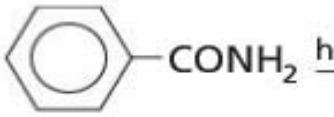
e) $CH_3-CHOH-CH_3 + CH_3-CH_2OH \rightarrow$

f) $HCOOH + CH_3-NH_2 \rightarrow$

g) $C_6H_5-COOH + Ca(OH)_2 \rightarrow$

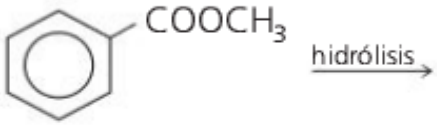
h) $CH_3-CHOH-CH_3 \xrightarrow{H_2SO_4,\ \text{calor}}$

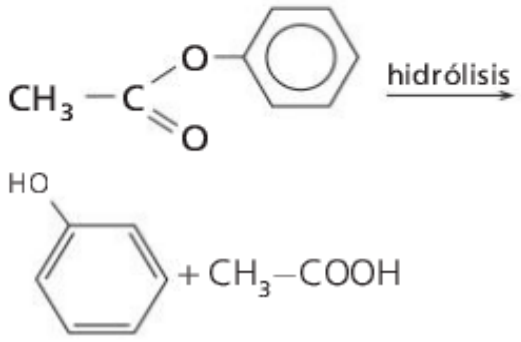
i) $C_6H_5-CH_2OH \xrightarrow{H_2SO_4,\ \text{calor}}$

j)  $\xrightarrow{\text{hidrólisis}}$

a) $CH_3-OCO-CH_2-CH_3 + H_2O \rightarrow$
$\rightarrow CH_3-OH + HOOC-CH_2-CH_3$

b) $CH_3-O-CH_2-CH_3 + H_2O \rightarrow CH_3OH + CH_3-CH_2OH$

c) 

d) 

e) $CH_3-CHOH-CH_3 + CH_3-CH_2OH \rightarrow$
$\rightarrow CH_3-CH(CH_3)-O-CH_2-CH_3 + H_2O$

f) $HCOOH + CH_3-NH_2 \rightarrow HCONHCH_3 + H_2O$

g) $2\ C_6H_5-COOH + Ca(OH)_2 \rightarrow Ca(C_6H_5-COO)_2 + 2\ H_2O$

h) $CH_3-CHOH-CH_3 \xrightarrow{H_2SO_4,\ calor} CH_3-CH=CH_2 +$
$+ CH_3-CH(CH_3)-O-CH(CH_3)-CH_3 + H_2O$

i) $C_6H_5-CH_2OH \xrightarrow{H_2SO_4,\ calor} C_6H_5-CH_2-O-CH_2-C_6H_5$

j) 

26 Completa as seguintes reaccions:

a) $CH_3-CO-CH_2OH$ + oxidante $\rightarrow$

b) $CH_3-CO-CH_2OH + O_2 \rightarrow$

c) $CH_3-NH_2 + CH_3-CH_2-COOH \rightarrow$

d) $CH_3-NH-CH_3 + CH_3-CH_2-COOH \rightarrow$

e) $CH_3-N(CH_3)-CH_3 + CH_3-CH_2-COOH \rightarrow$

f) $CH_3-CHOH-CH_2-CH_3$ + deshidratante (H_2SO_4) $\rightarrow$

g) $CH_3-COO-CH_2-CH_3 + H_2O \rightarrow$

h) $CH_3-CH=CH_2 + HCl \rightarrow$

i) $CH_3-CO-NH-CH_3 + H_2O \rightarrow$

j) $CH_3-CH_2-CH_2Cl + NaOH \rightarrow$

k) CH_3-CHO + reductor (H_2) $\rightarrow$

a) $CH_3-CO-CH_2OH + \text{oxidante} \longrightarrow CH_3-CO-CHO + CH_3-CO-COOH$

b) $CH_3-CO-CH_2OH + O_2 \rightarrow CO_2 + H_2O$

c) $CH_3-NH_2 + CH_3-CH_2-COOH \longrightarrow CH_3-NH-CO-CH_2-CH_3$

d) $CH_3-NH-CH_3 + CH_3-CH_2-COOH \longrightarrow CH_3-N(CH_3)-CO-CH_2-CH_3$

e) $CH_3-N(CH_3)-CH_3 + CH_3-CH_2-COOH \longrightarrow CH_3-N^+H(CH_3)_2 + CH_3-CH_2-COO^-$

f) $CH_3-CHOH-CH_2-CH_3 + \text{deshidratante } (H_2SO_4) \longrightarrow CH_3-CH=CH-CH_3 + H_2O$

g) $CH_3-COO-CH_2-CH_3 + H_2O \longrightarrow CH_3-COOH + CH_3-CH_2OH$

h) $CH_3-CH=CH_2 + HCl \rightarrow CH_3-CHCl-CH_3$

i) $CH_3-CO-NH-CH_3 + H_2O \rightarrow CH_3-COOH + CH_3-NH_2$

j) $CH_3-CH_2-CH_2Cl + NaOH \rightarrow CH_3-CH_2-CH_2OH + NaCl$

k) $CH_3-CHO + \text{reductor } (H_2) \rightarrow CH_3-CH_2OH$