Abdelhafid BOUSSOUF University Center - Mila
Process engineering department
3rd year L.M.D – Organic Chemistry
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Series N° 02

Activity 1:

1/ Write the general equation for the complete combustion of alkanes

2/ The combustion of 7.2 g of an alkane A gives 10.2 g of water.

a/ Determine the brute formula of the alkane

b/ Write the possible semi-structural formulas of alkane A and their names

c/ Identify the exact formula of alkane A knowing that all the hydrogen atoms it carries belong to methyl groups.

Activity 2:

1/ The ratio between the mass of hydrogen and that of carbon in an alkane A is equal to 0.2

a/ determine the crude formula of the alkane A

2/ Another alkane have five carbons n=5

a/ identify the alkane A knowing that all Hydrogen atoms belong to a methyl groups.

3/The chlorination reaction of alkane A produces a compound B which has 50.35% Cl.

a/ determine the crude formula of B

b/write the equation for the reaction from A to B

c/ write the semi-developed formulas of B.

Activity 3:

A hydrocarbon "A" with an open carbon chain and formula C_xH_y contains 85.7% of carbon.

1/ Calculate the y/x ratio and then deduce to which family this compound belongs?

2/ Indicate some semi-developed formulas and the names for x=5.

3/ determine the formula and the exact name of A knowing that its hydration mainly gives 3-methylbutan-2-ol.

Activity 4:

Complete the following reactions with justification.

a/ CH_3-C(CH_3)=CH_2 + HCl →

b/ CH_3-CH=CH_2 + HBr →

c/ Propyne + Cl_2 →

d/ But-2-yne + HCl →