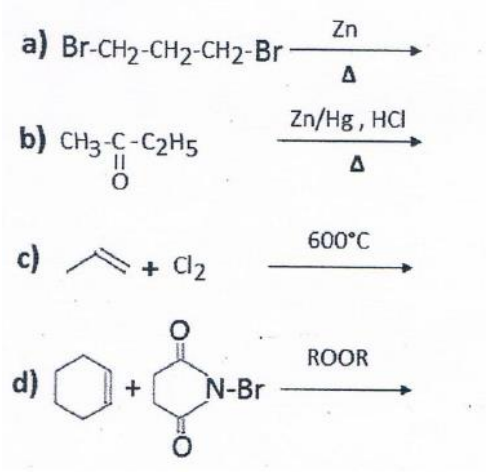
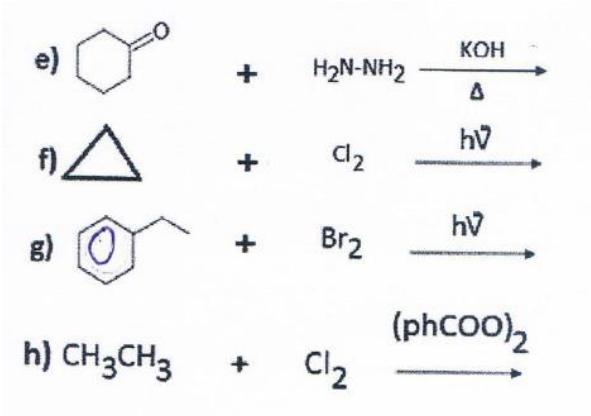
Series N° 2

Exercise 1

complete the following reactions





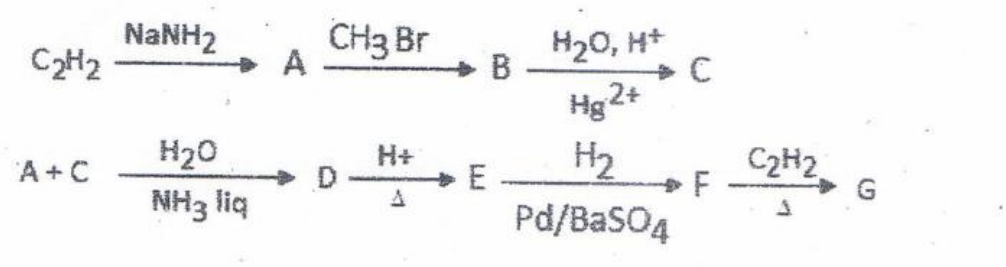
Exercise 2

Three alkanes, A, B, and C, have the same molar mass of 72 g/mol.

- Indicate the possible structures for A, B, and C.
- Assign each structure to A, B, or C, knowing that:
  - A produce three monochlorinated derivatives (D, E, F).
  - B produces four monochlorinated derivatives (G, H, I, J).
  - C produces only one monochlorinated derivative (K) when reacting with chlorine at 300°C.
- write the mechanism of $C \rightarrow K$.
- Determine the structures of D, G, and H, knowing that they possess an asymmetric carbon and that G is the least abundant.

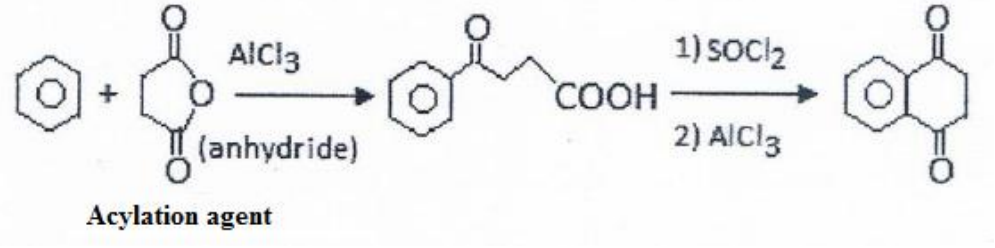
Exercise 3

Identify the compounds a, b, c…..

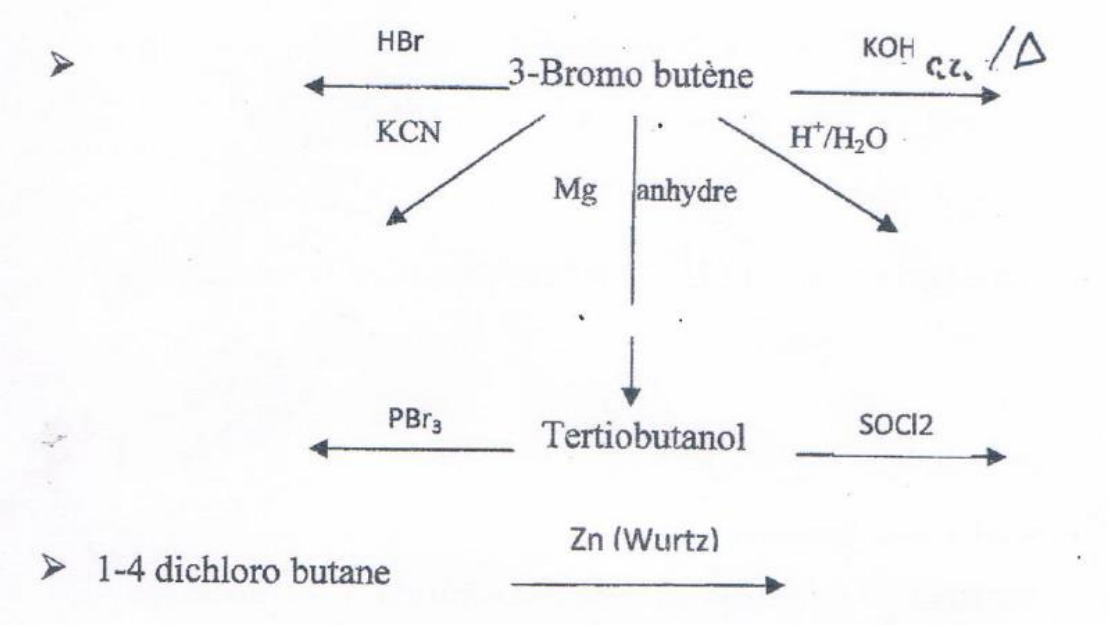


Exercise 4

Detailed the mechanism of the following reaction



Exercise 5



Exercise 6

How to prepare the compound (**A**) C_2H_5MgBr starting from acetylene.

- What precaution should be taken to preserve it?

- The compound (**A**) is reacted with ethanal. After hydrolysis, a compound (**B**) is formed, which upon dehydration gives two ethylenic hydrocarbons (**C**) and (**D**).

a) Write the different reactions, providing the name(s) of the product(s) obtained.

b) Show that the addition of **HBr** to (**C**) and (**D**) leads to the same compound.