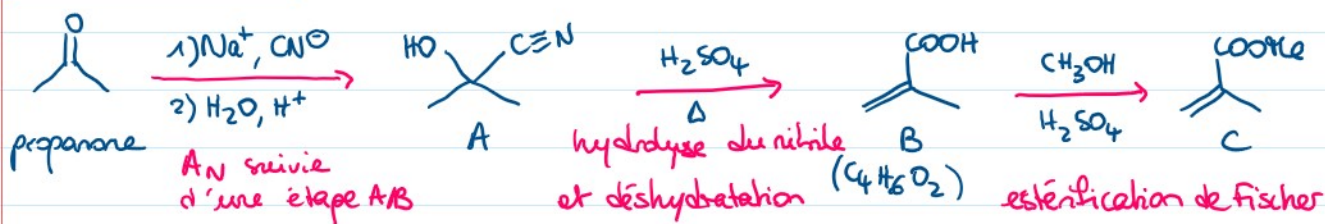
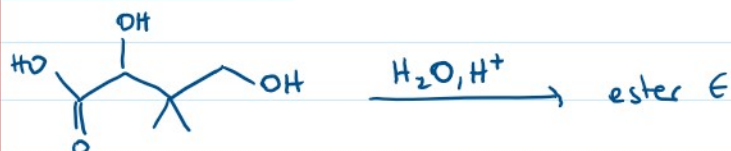


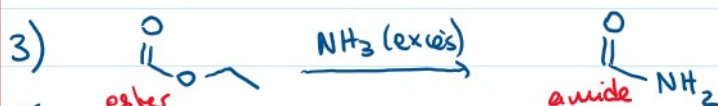
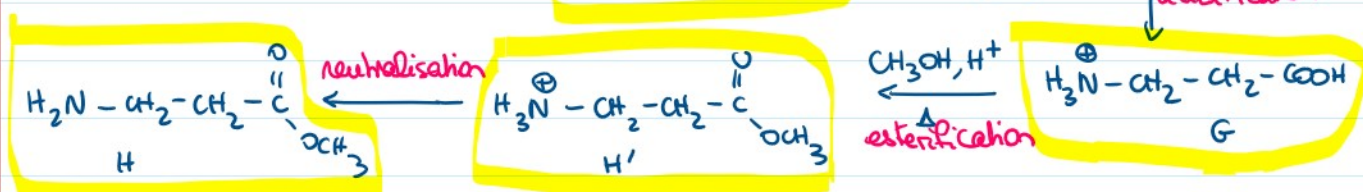
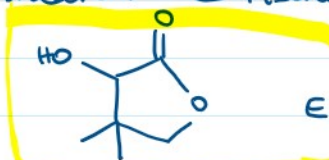
Exercice n° 1



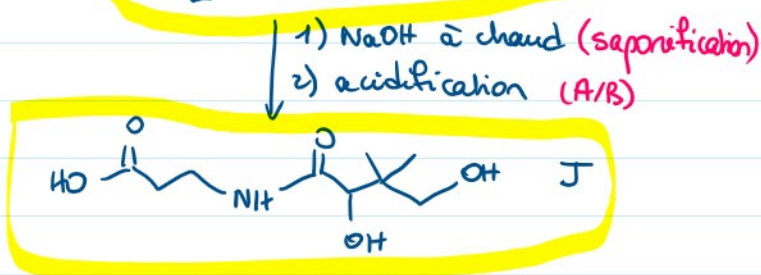
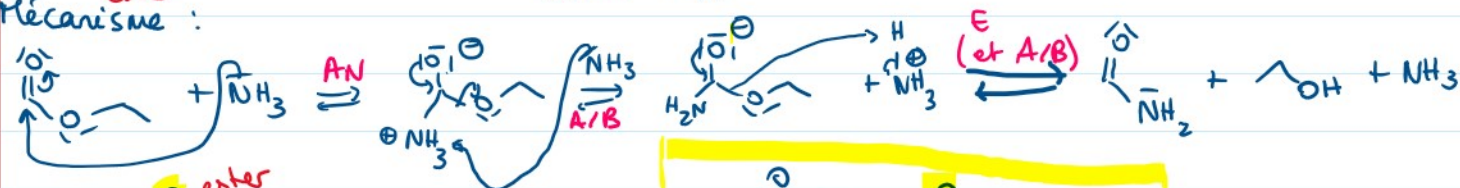
Exercice n° 2



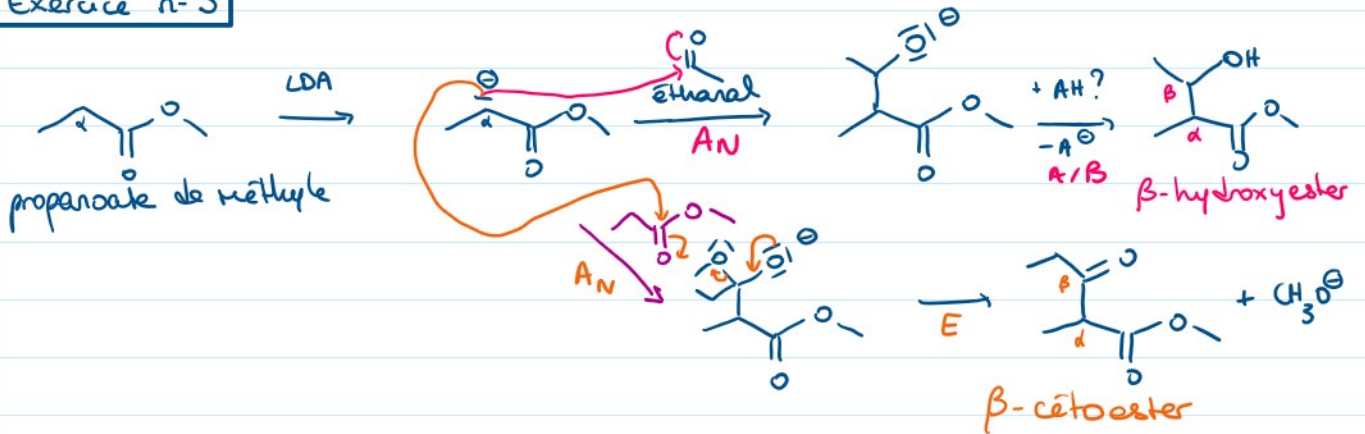
1) M\u00e9canisme de l'est\u00e9rification de Fischer (cf cours) pour conduire au produit cyclique:



M\u00e9canisme:



Exercice n°3

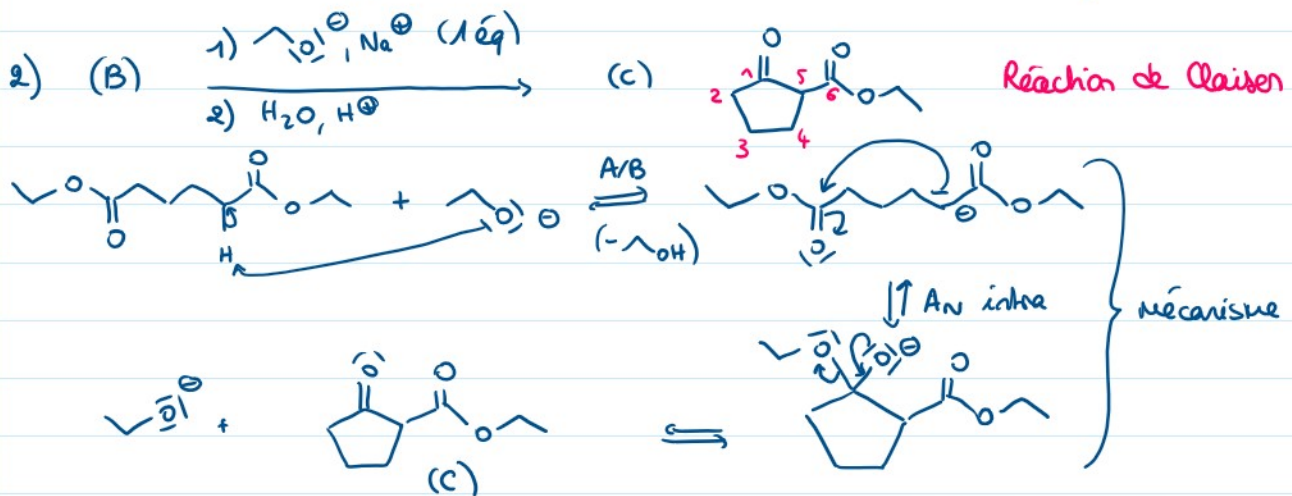


L'éthanal ne peut subir qu'une addition nucléophile alors que le propanoate de méthyle subit une A_N suivie d'une élimination.

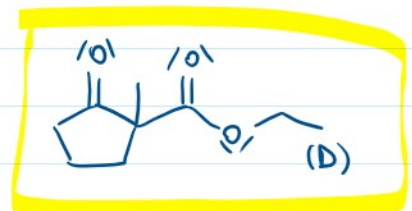
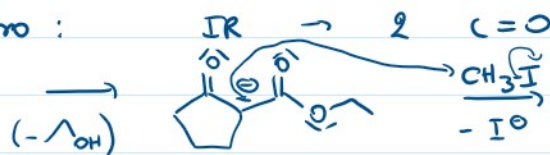
Exercice n°4



Les 2 RCOOH réagissent car l'alcool est introduit en large excès ($\gg 2$ éq)



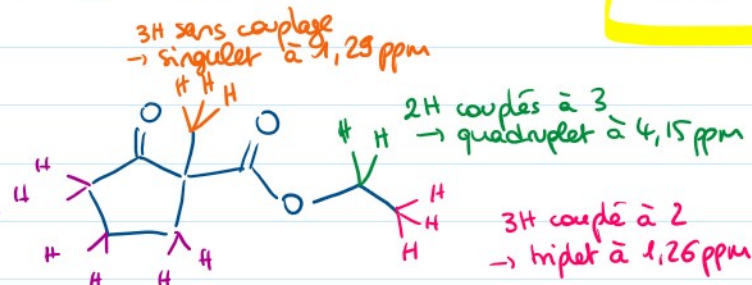
3) Analyse spectro :



Analyse RMN :

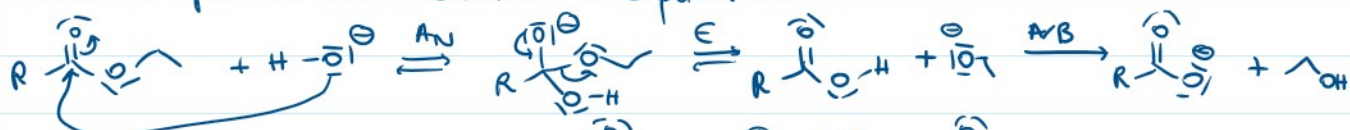
GH similaires (mais non équivalents) avec couplages

$\rightarrow$ multiplet entre 1,7 et 2,8 ppm



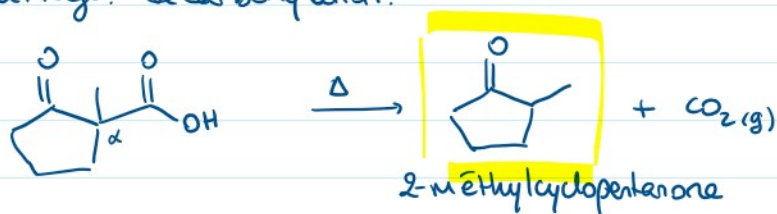
4) Seconde (D) : $R-\overset{\overset{O}{\parallel}}{C}-CH_2CH_3$

• traitement par la soude (Na^+, HO^-) : saponification



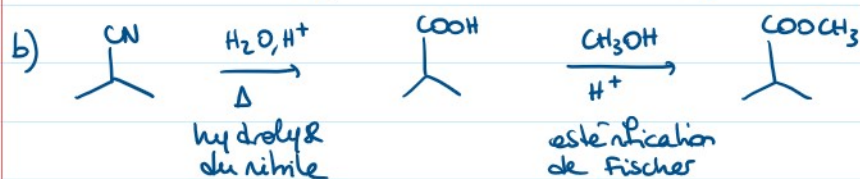
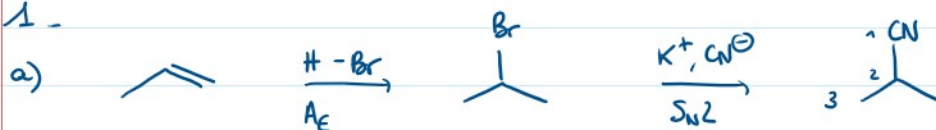
• ajout d'une solution acide : $R-\overset{\overset{O}{\parallel}}{C}-O^- + H^+ \xrightarrow{AB} R-\overset{\overset{O}{\parallel}}{C}-OH$

• chauffage : décarboxylation.

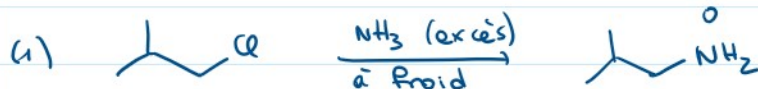
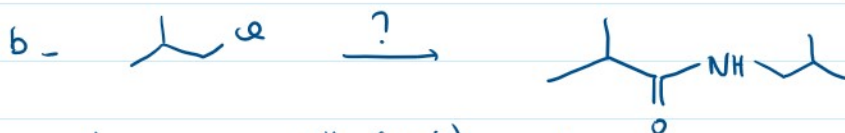
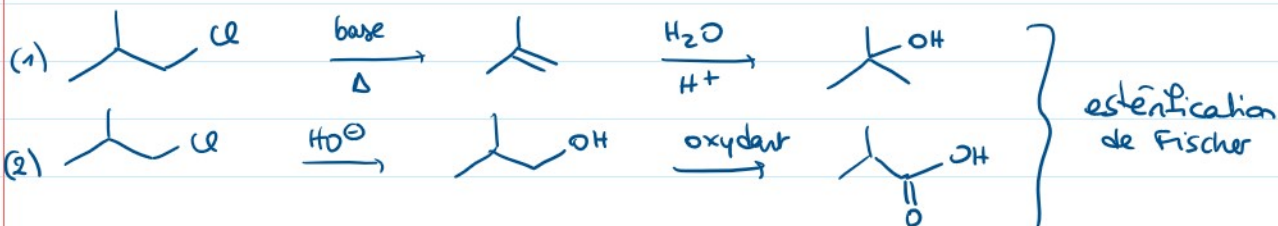


Exercice n°5

1 -



2 - a -



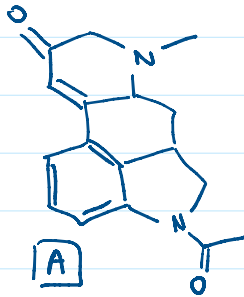
Enfin : amidification



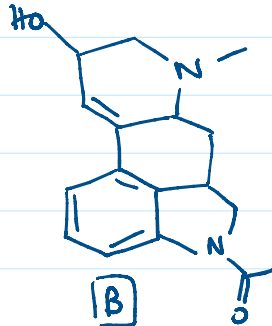
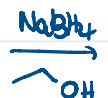
Exercice n°7

1)

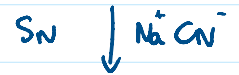
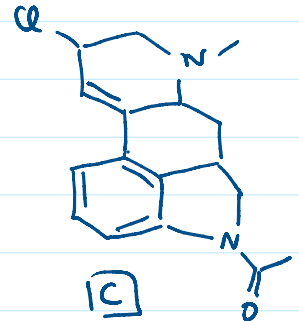
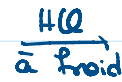
amidification



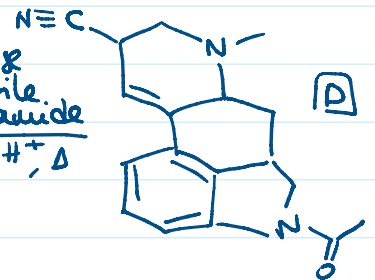
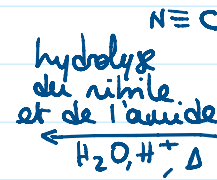
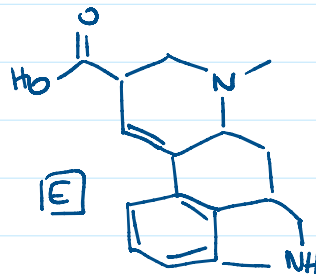
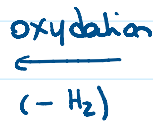
réduction



S_N



acide
lysergique



2) étape 1: protection de l'amine

E → acide lysergique + H₂ ⇒ c'est une oxydation.

3) acide lysergique



LSD.