

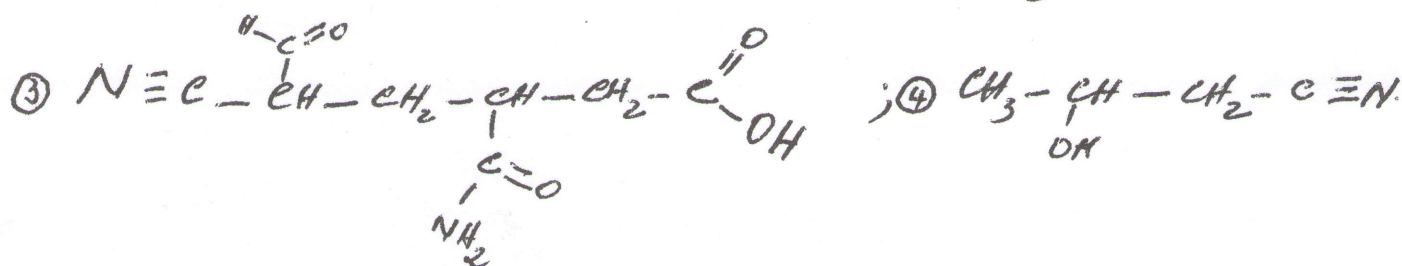
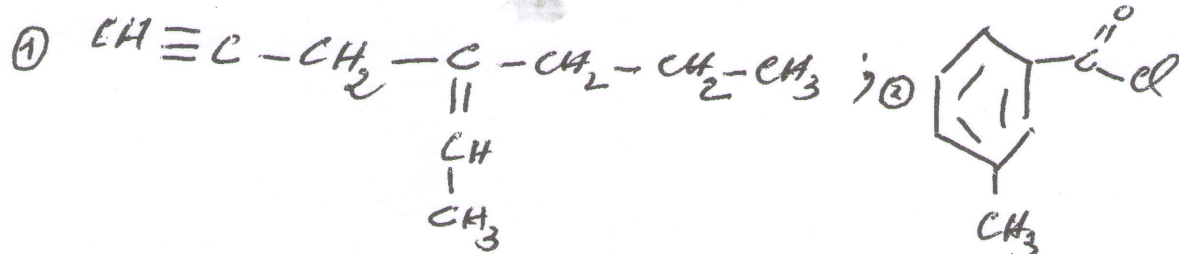
2^{ème} année LMD.

Génie des Procédés.

Le 12.06.2011.

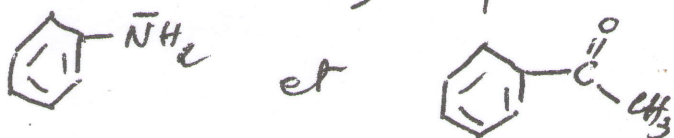
Examen de chimie organique.

Exercice 1: Nommez les composés suivants selon l'IUPAC.

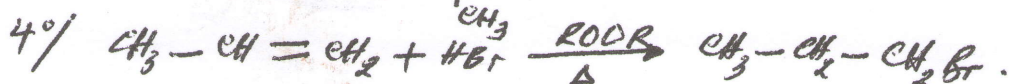
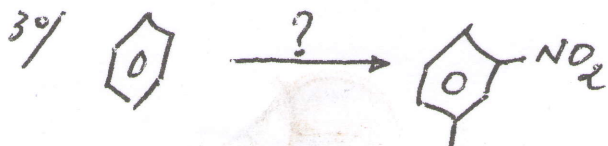
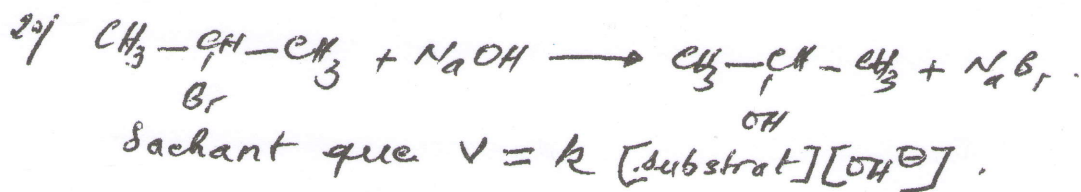
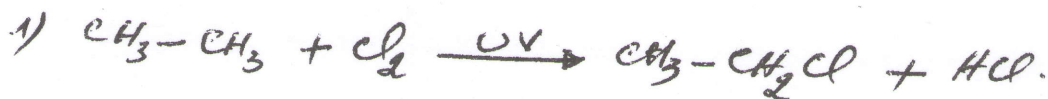


Exercice 2: Considérant les molécules ③ et ④ de l'exercice 1, représentez selon Fischer et Cram les stéréoisomères (3R, 5S) et (3R) respectivement.

Exercice 3: Écrivez les formes limites mésoomères des composés:



Exercice 4: Écrivez les mécanismes réactionnels des réactions:



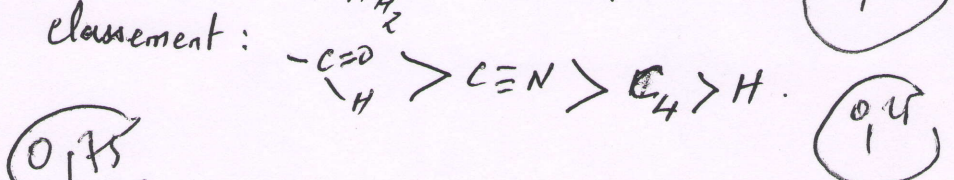
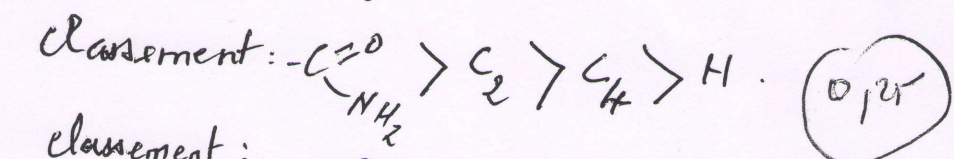
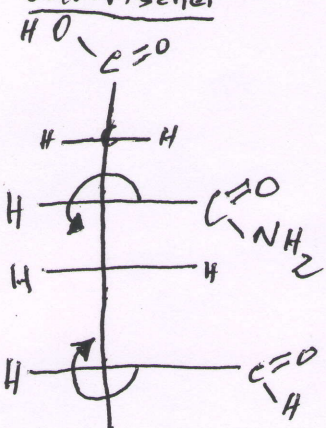
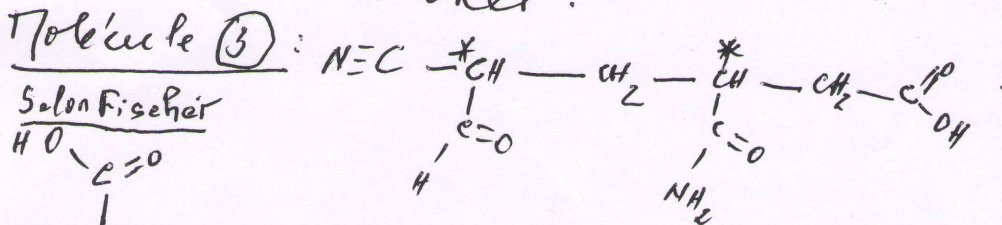
Mr. A. BOUKERREJ

Correction de l'examen
de chimie organique.

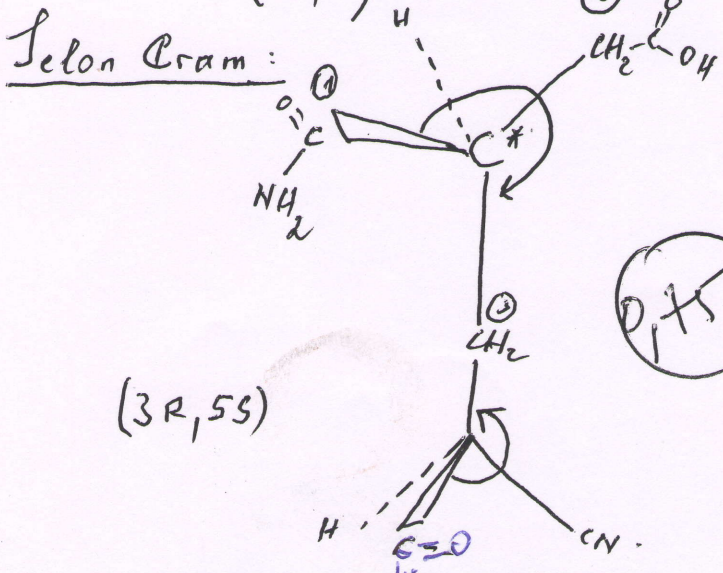
Exercice 1: Nomenclature selon IUPAC.

- ① 4-propylhex-4-en-1-yne. (1)
- ② Chlorure de m-méthylbenzoyle. (1)
- ③ Acide 3-carbamoyl-5-cyano-5-formylpentanoïque (1)
- ④ 3-hydroxybutanenitrile. (1)

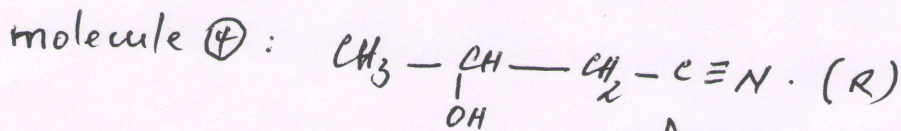
Exercice 2: Représentation des molécules selon Cram et Fischer.



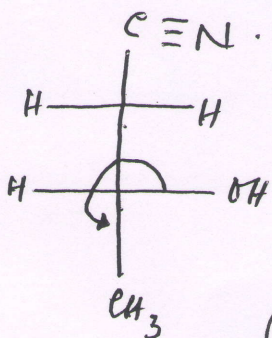
$C \equiv N$ (3R, 5S)



(3R, 5S)



Selon Fischer:



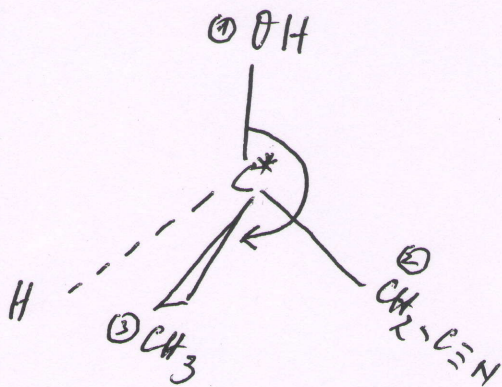
(3R)

(0,75)

classement: $\text{OH} > \text{C}_2 > \text{CH}_3 > \text{H}$

Selon Cram.

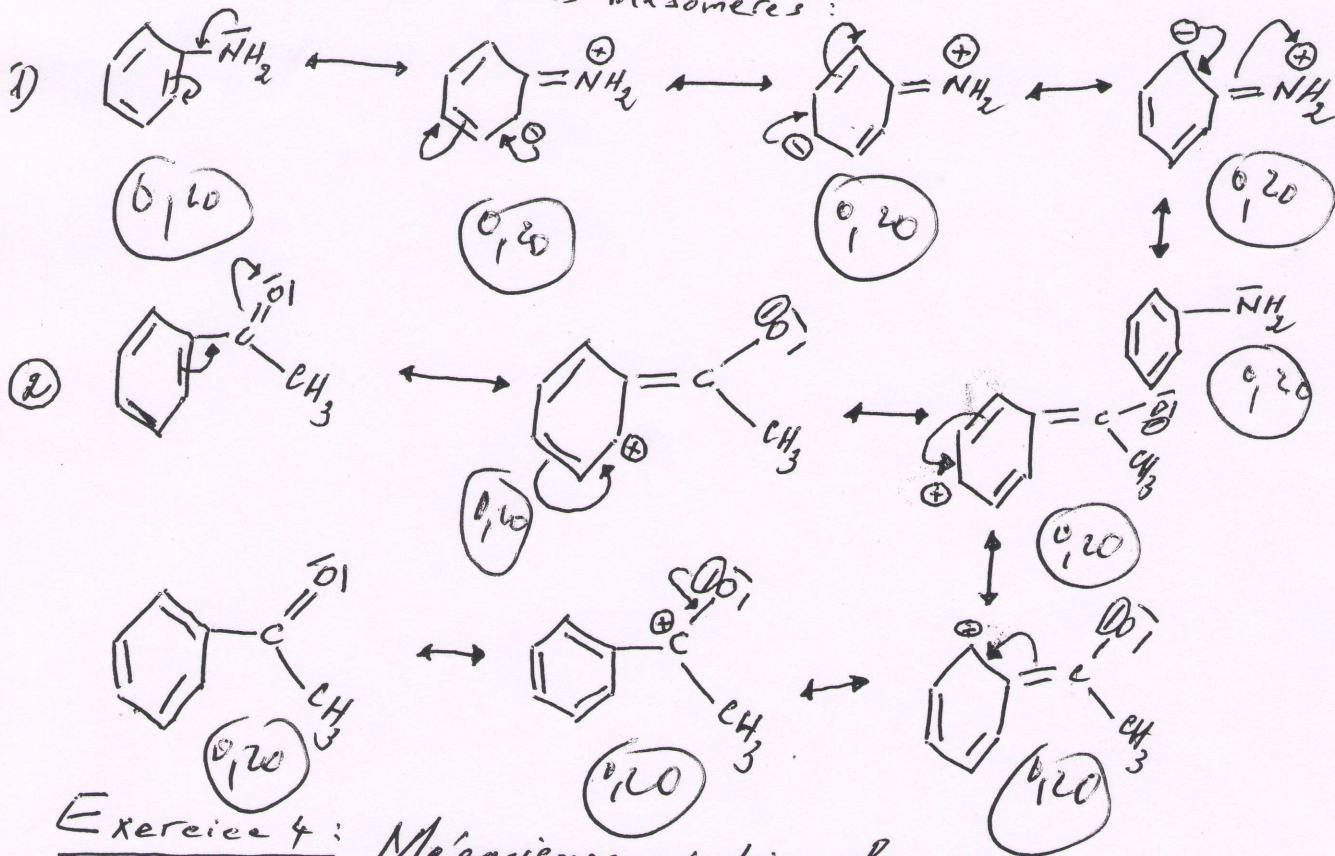
(0,5)



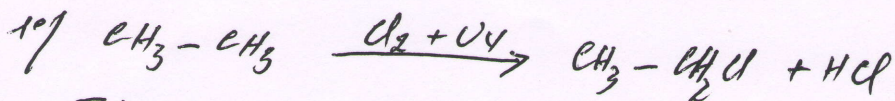
(3R)

(0,75)

Exercice 3: Formes limites mésomères:

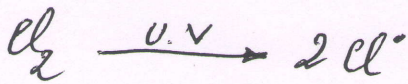


Exercice 4: Mécanismes réactionnels:



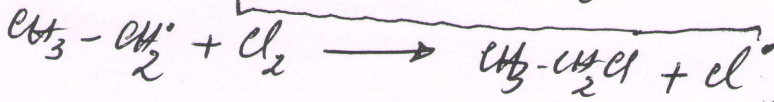
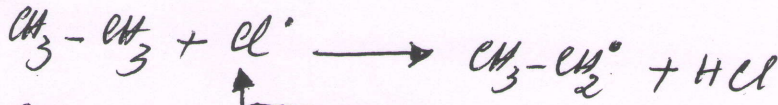
Il s'agit d'une réaction de substitution radicalaire.
Elle se déroule en 3 étapes:

Initiation:



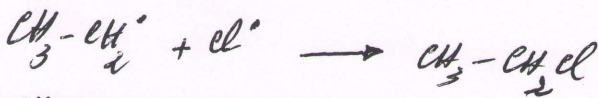
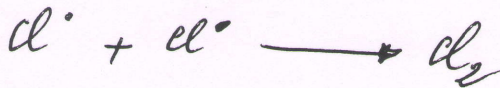
0,5

Propagation:

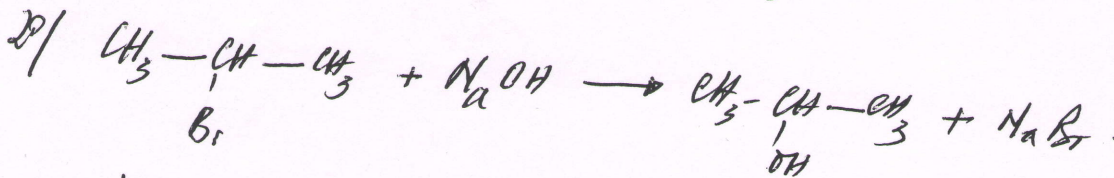
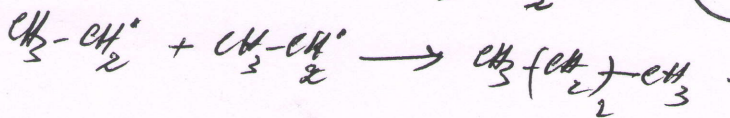


0,5

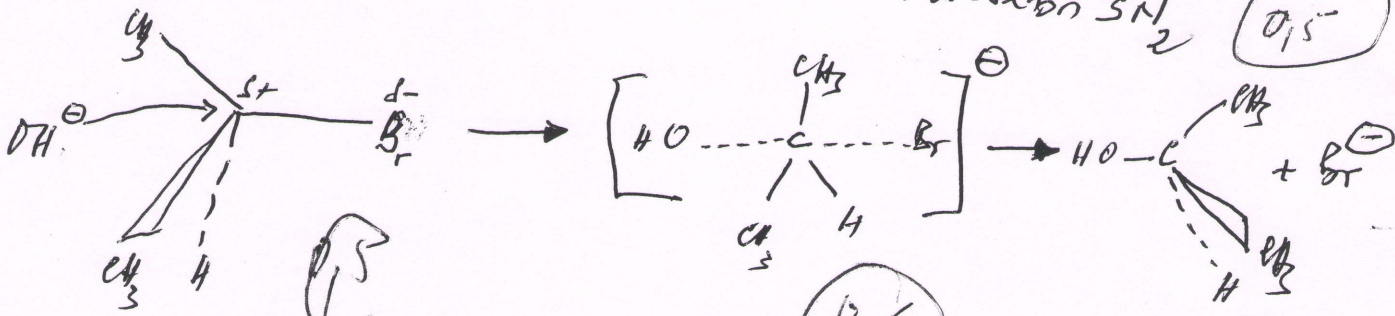
Termination:



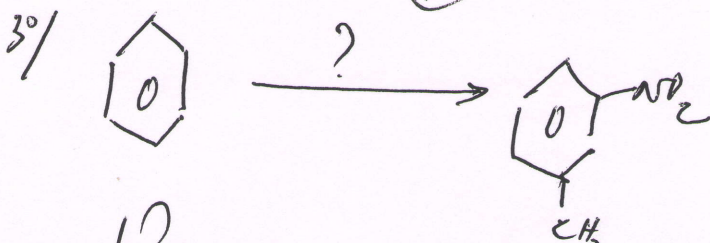
0,5



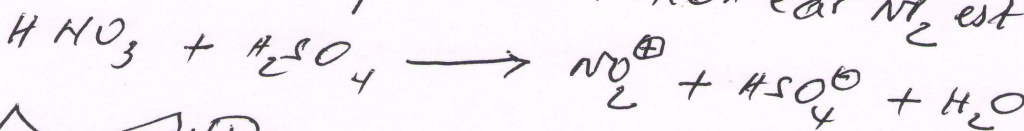
$v = k [\text{sub}] [\text{OH}^-]$ donc la réaction se déroule selon $\text{S}_\text{N}2$



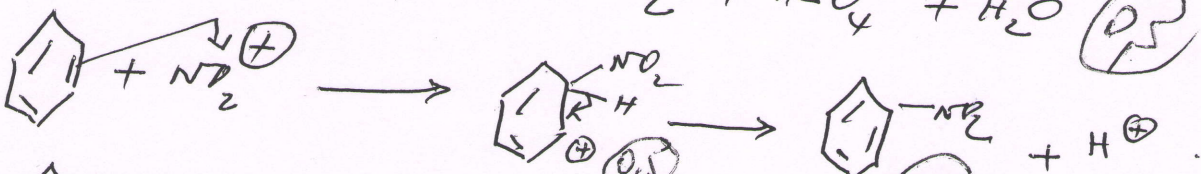
0,5



On commence par la nitration car NO_2 est un métaorienteur

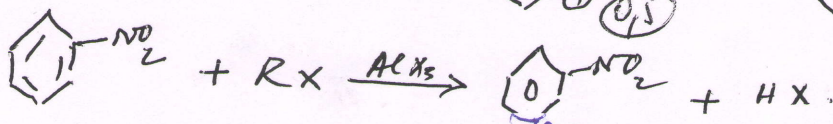


0,5

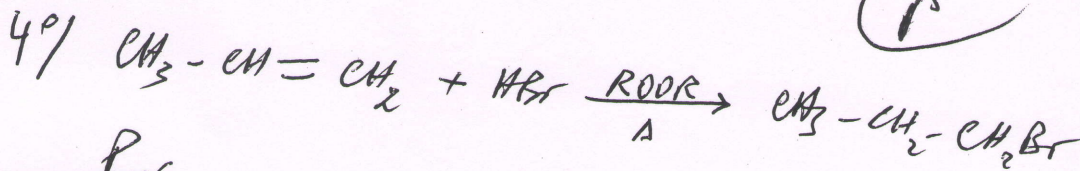
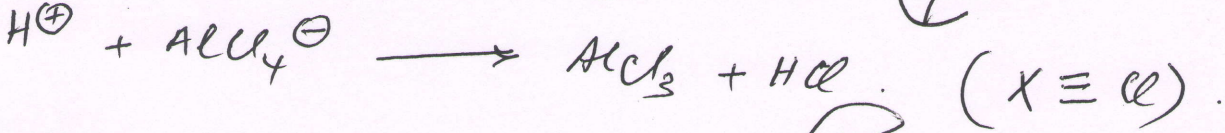
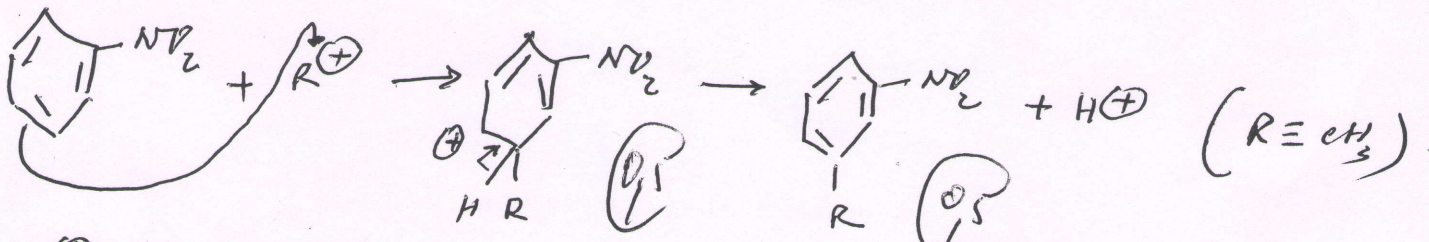
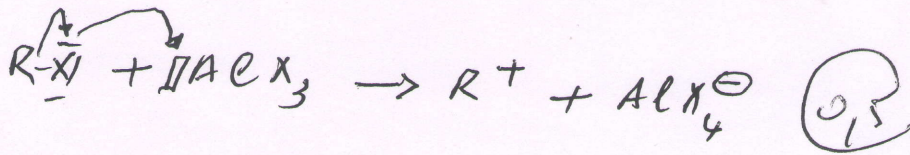


0,5

0,5

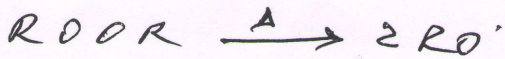


IV.

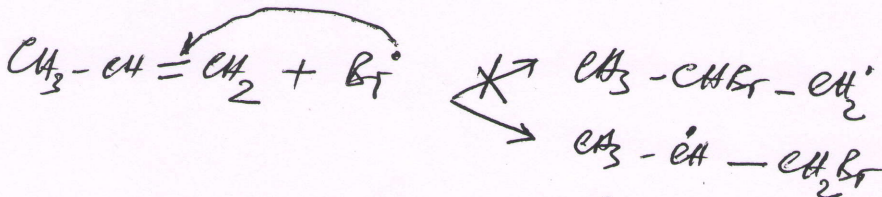


Présence des peroxydes donne A_R.

Initiation:



Propagation:



plus stable: radical secondaire.

