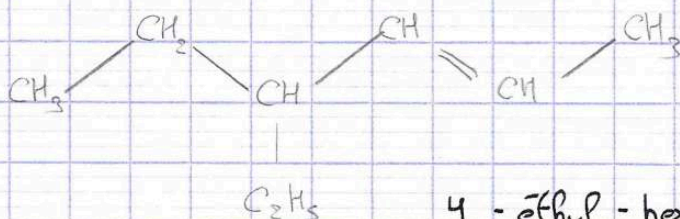
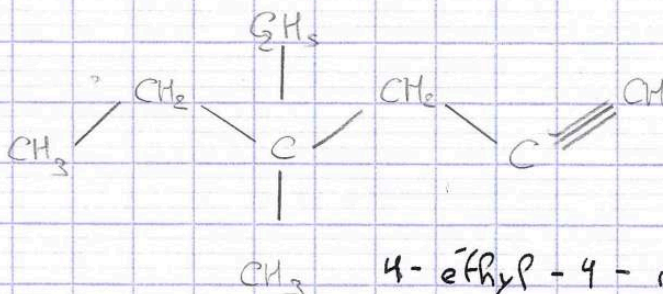
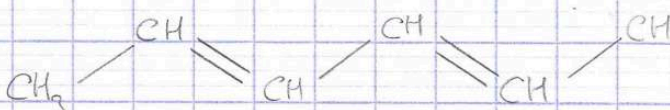


I - NomenclatureExercice 11)

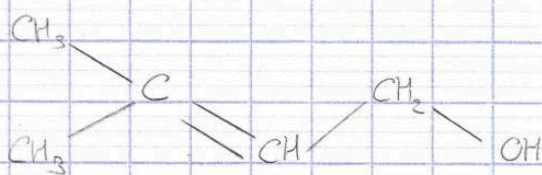
4-éthyl-hex-2-ène

2)

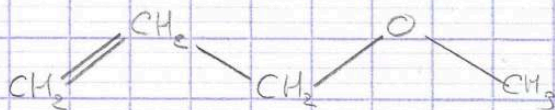
4-éthyl-4-méthyl-1-yne

3)

hexa-2,4-diène

4)

3-méthyl-but-2-énol

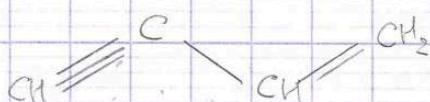
5)

4-oxapent-1-ène

~~3-méthyl-but-2-énol~~

3-méthoxyprop-1-ène

6)

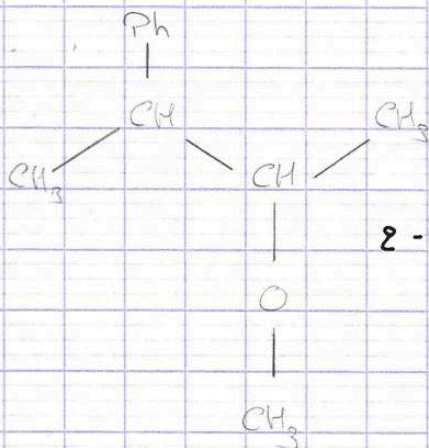


~~4-oxapentène~~

~~3-méthoxypropène~~

butène-3-yne

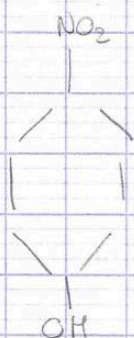
7)



~~butène-3-yne~~

2-méthoxy-3-phénylbutane

8)

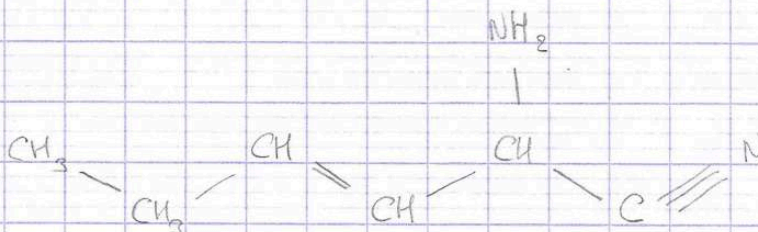


4-nitro phénol
p-nitrophénol

phénol

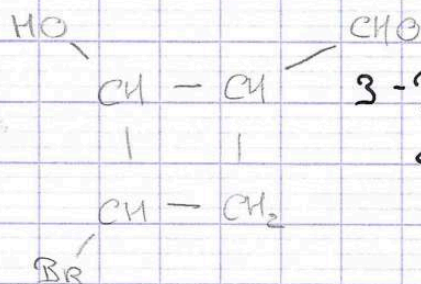


9)



2-amino hex-3-ène-1-nitrile.

10)

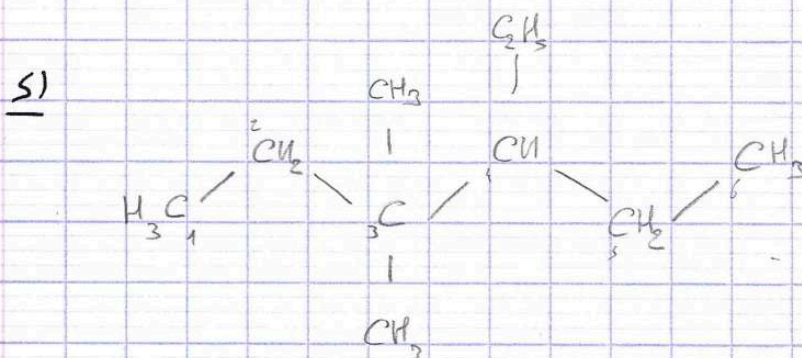
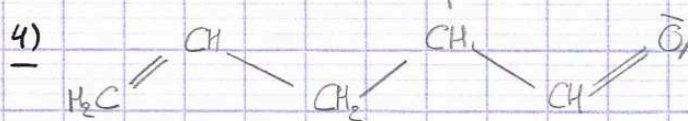
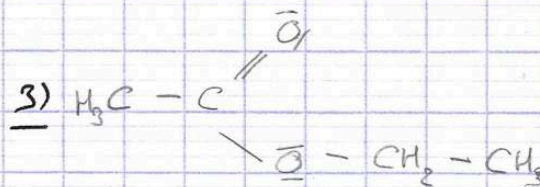
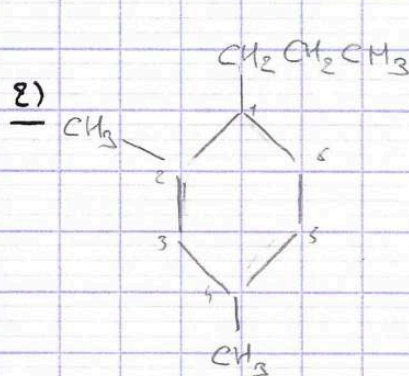
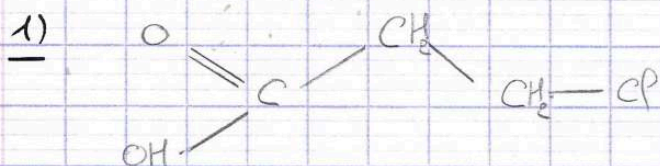


3-Bromo-2-hydroxybutane
carbaldehyde.

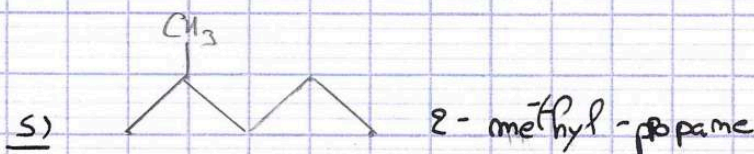
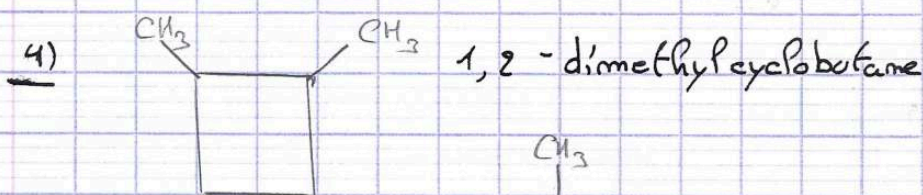
Correction Exercice 2

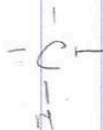
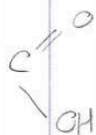
2

ORGA



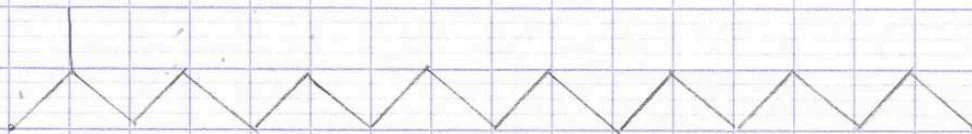
Exercice 3





C: 12
N: 14
O: 16
H: 1

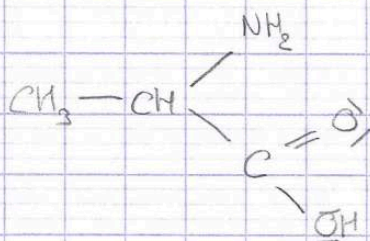
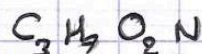
Exercice 4



II - Formule brute et degré d'insaturation

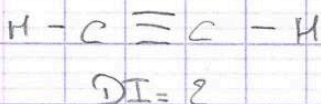
Exercice 1

C : 36 g
H : 7 g
O : 32 g
N : 14 g

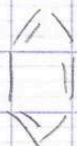


Exercice 2

Degré d'insaturation (DI) : soit un cycle soit une liaison pi.



DI = 1



DI = 4

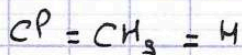
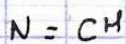
Pour C_nH_β

On prend l'alcane correspondant : C_nH_{2n+2}

$$DI = \frac{2n+2 - \beta}{2}$$

Correction
TD ORG.

Si des atomes autre que C, H :
on les remplace par leur équivalence en
hydrogène :

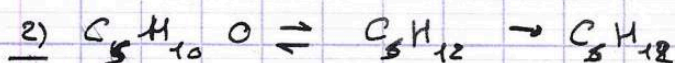


Exercice 2

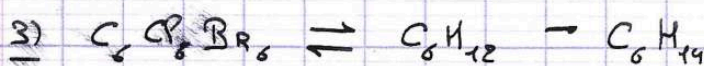
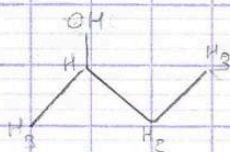
→ - passage alcane correspondant



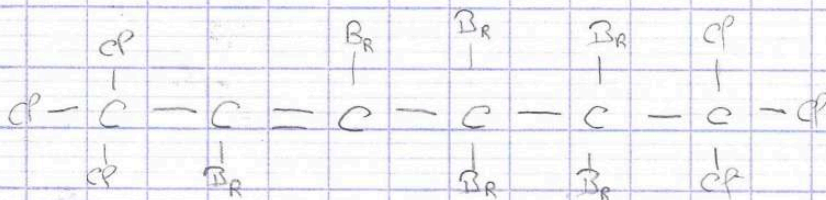
$$DI = \frac{12-6}{2} = 3$$



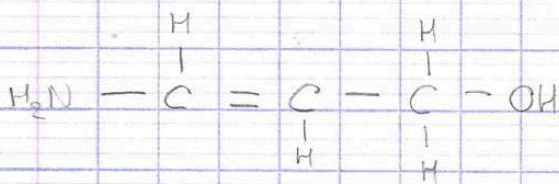
$$DI = \frac{12-12}{2} = 0$$



$$DI = \frac{14-12}{2} = 1$$

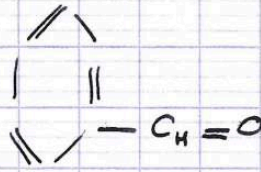
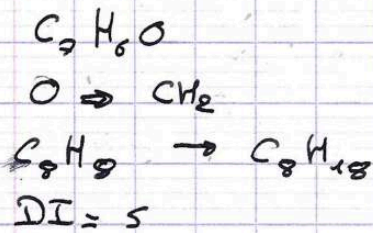


$$DI = \frac{12-10}{2} = 1$$



$$DI = \frac{10-8}{2} = 1$$

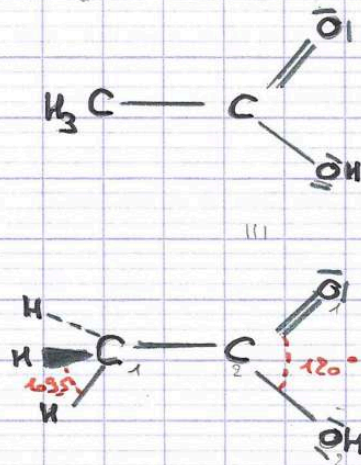
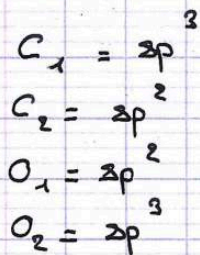
Exercice 3



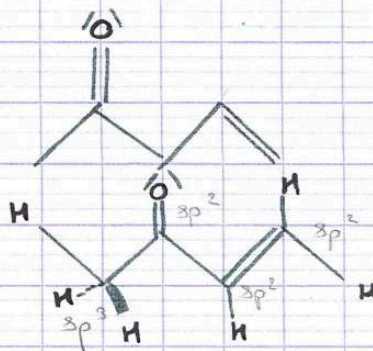
III - Stéréoisomérisme : conformation

Exercice 1

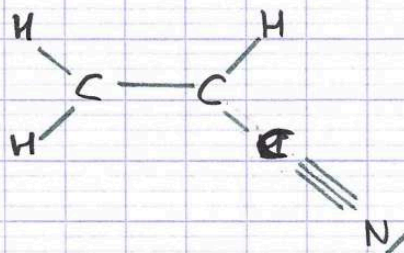
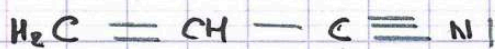
Acide Acétique :



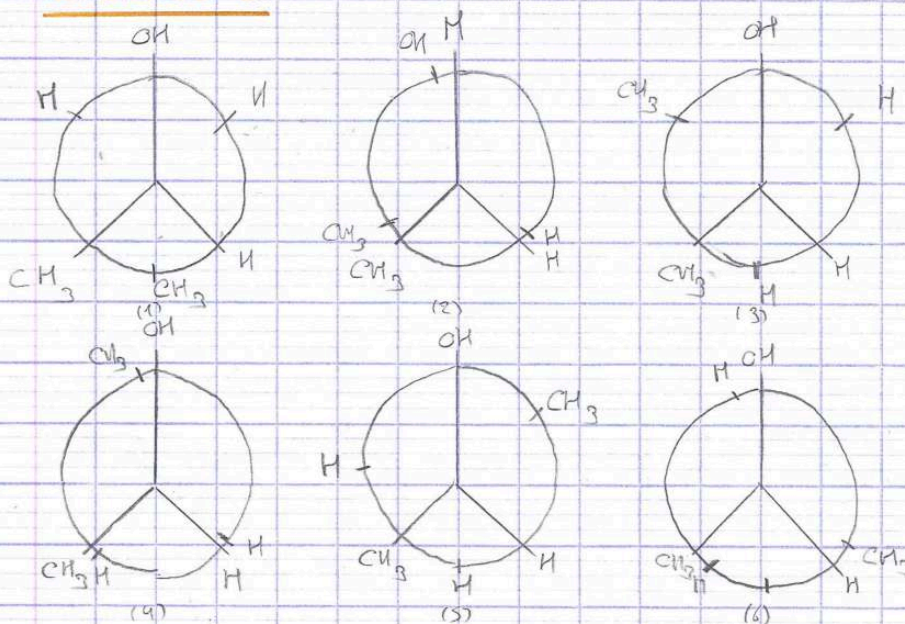
But - 3 - éne - 2 - one



Acrylonitrile



Exercice 2



Décalées

$$\text{OH} - \text{H} = 0,4$$

$$\text{H} - \text{H} = 0$$

$$\text{CH}_3 - \text{H} = 1,2$$

$$\text{CH}_3 - \text{OH} = 2,5$$

$$\text{CH}_3 - \text{CH}_3 = 4,2$$

$$(1) \quad 7,4 \text{ kJ} \cdot \text{mol}^{-1}$$

$$(2) \quad 30,1 \text{ kJ} \cdot \text{mol}^{-1}$$

$$(3) \quad 8,3 \text{ kJ} \cdot \text{mol}^{-1}$$

$$(4) \quad 25,1 \text{ kJ} \cdot \text{mol}^{-1}$$

$$(5) \quad 6,5 \text{ kJ} \cdot \text{mol}^{-1}$$

$$(6) \quad 13,6 \text{ kJ} \cdot \text{mol}^{-1}$$

Éclipsées

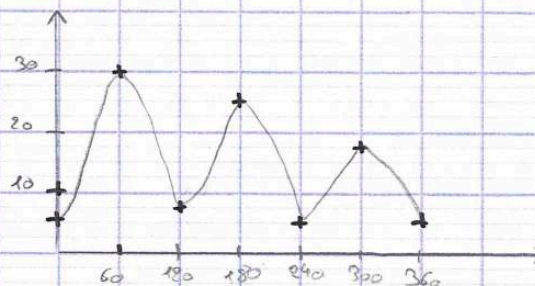
$$\text{CH}_3 - \text{CH}_3 = 20,9$$

$$\text{CH}_3 - \text{OH} = 14,6$$

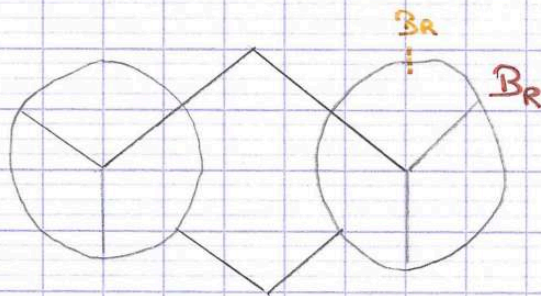
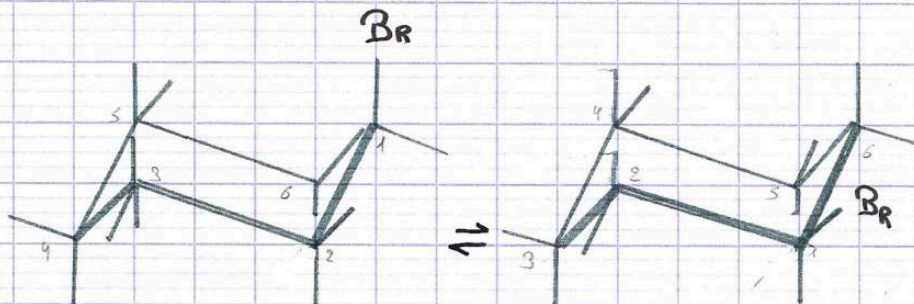
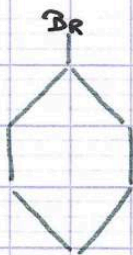
$$\text{CH}_3 - \text{H} = 6,3$$

$$\text{OH} - \text{H} = 5,0$$

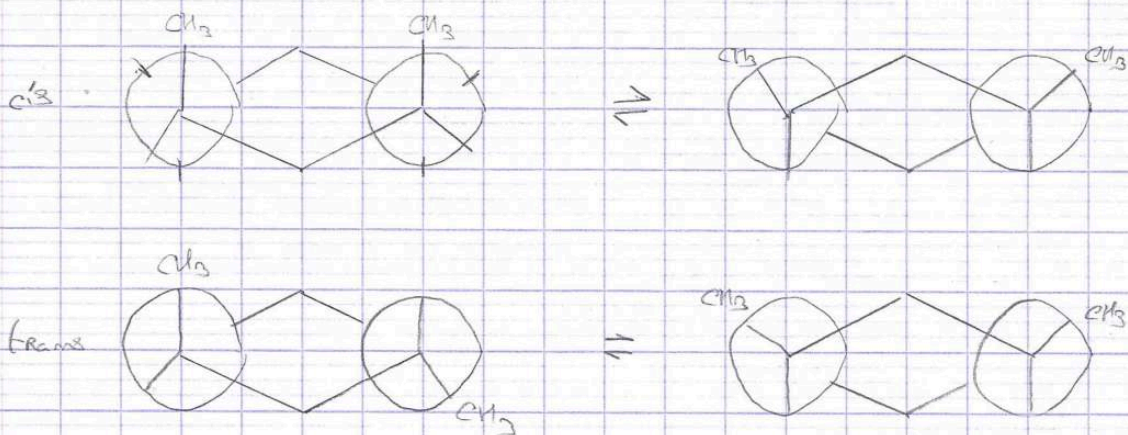
$$\text{H} - \text{H} = 4,2$$



Exercice 3

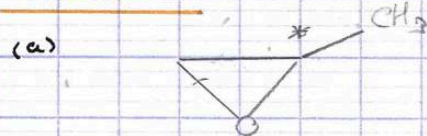


Exercice 4

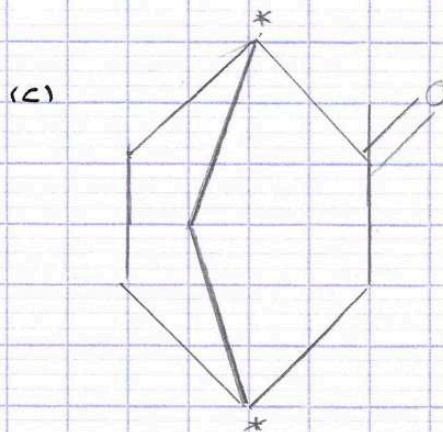
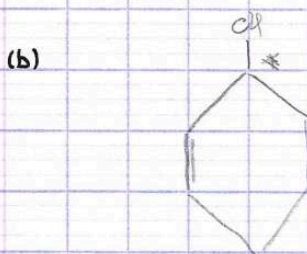


IV - Configuration Émantiomérique

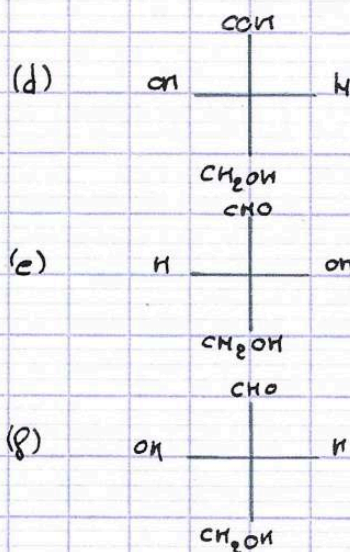
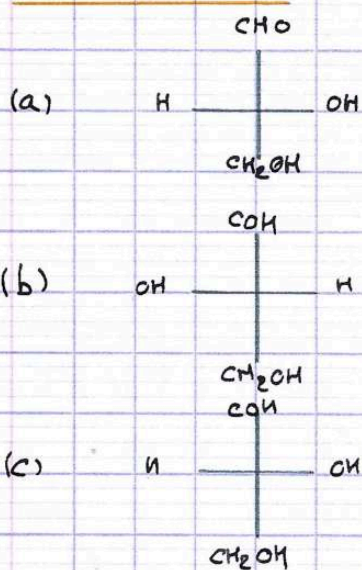
Exercice 1



(d) 1, 6a, 5a, 3a

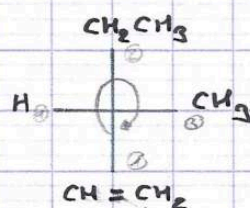
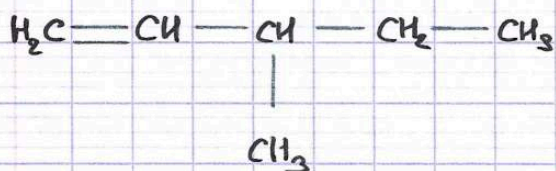
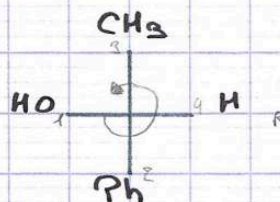
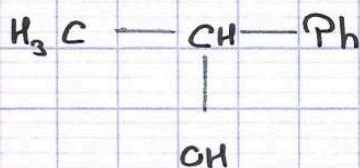
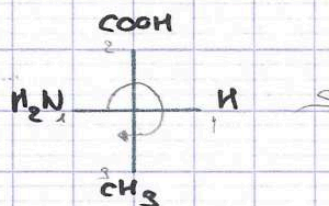
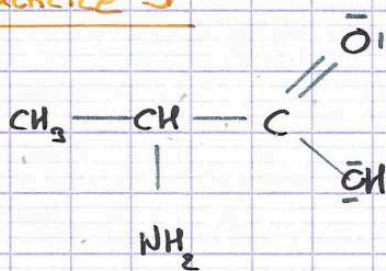


Exercice 3



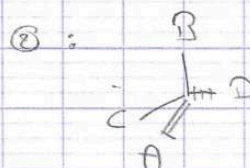
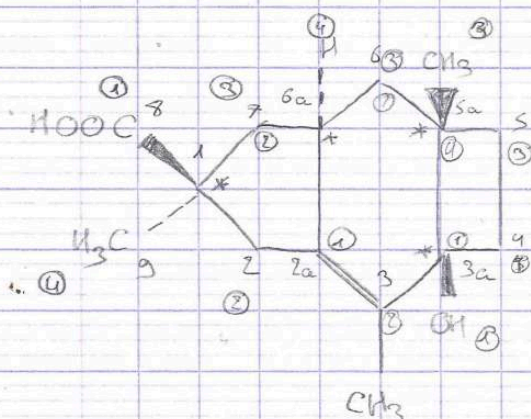
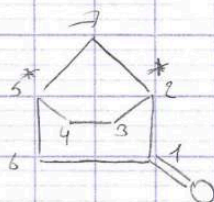
(a) $\Rightarrow$ (c) $\Rightarrow$ (e) } énantioomères
(b) $\Rightarrow$ (d) $\Rightarrow$ (f) }

Exercice 3



IV - Configuration absolue

Exercice 4

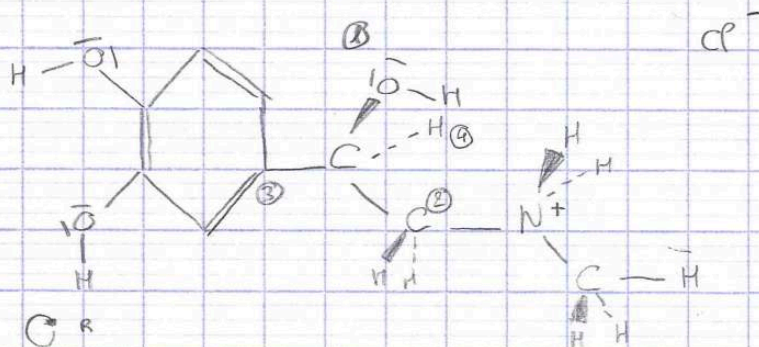


- ① : S
- ② : R
- ③ : S
- ④ : R

Exercice 5

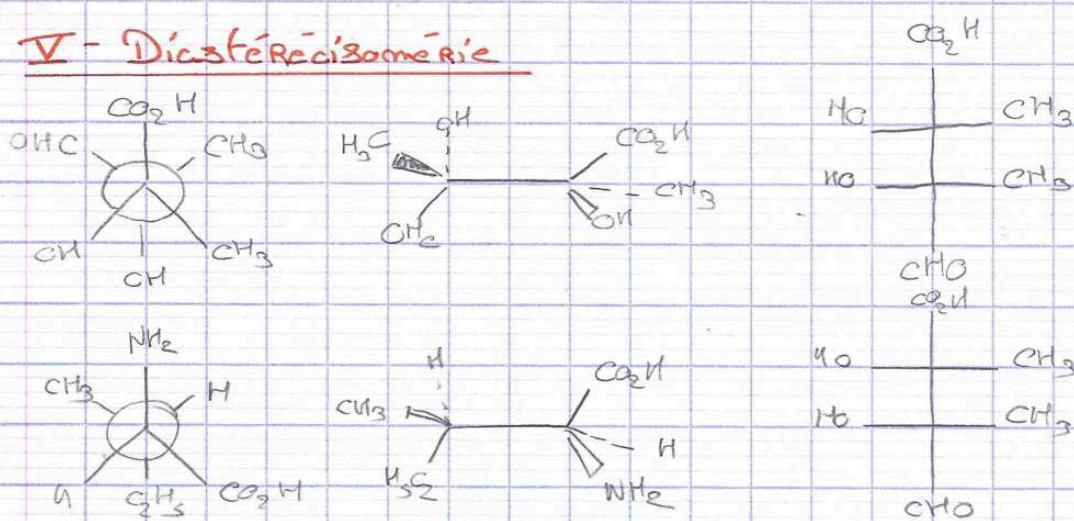
$$[\alpha]_D^{20} = \frac{\alpha}{p.c} = +62^\circ$$

Exercice 6

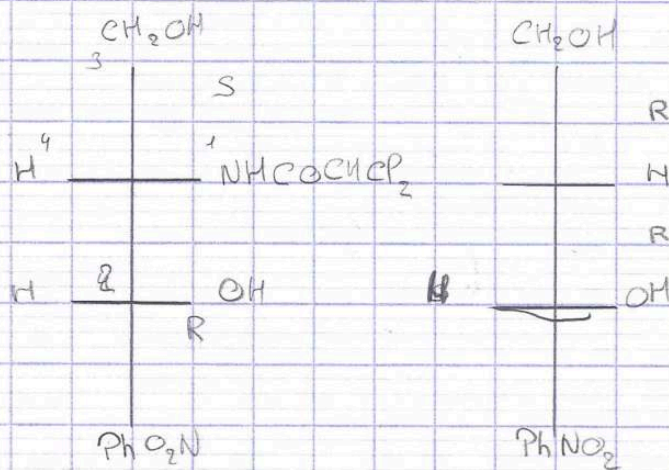


V - Diastéréoisomérisme

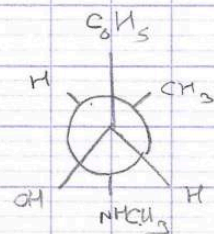
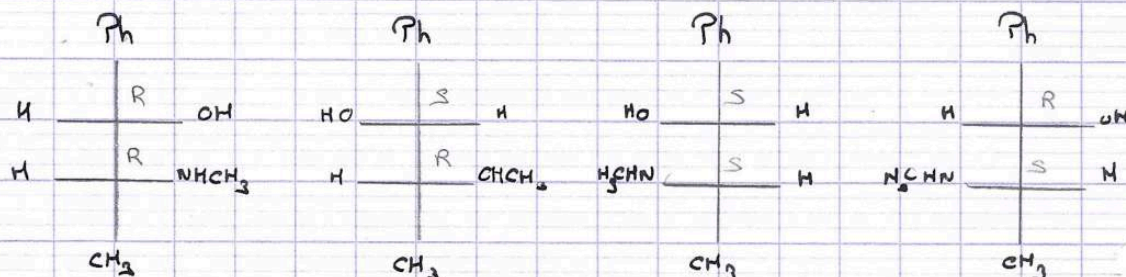
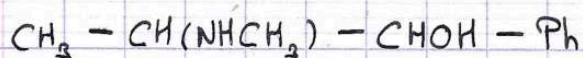
Ex1



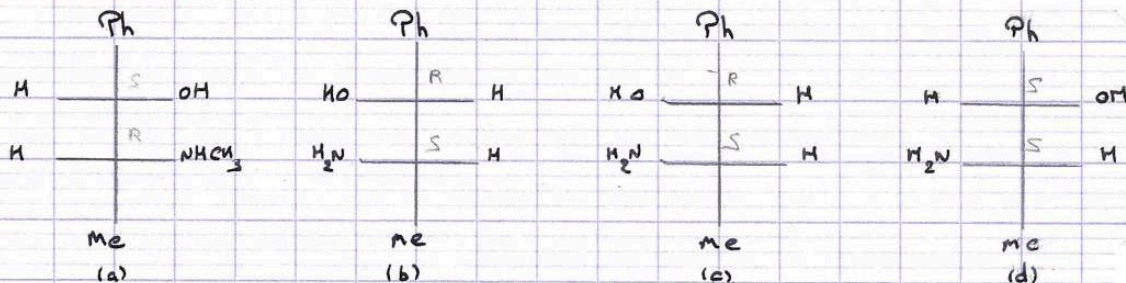
Exercice 3



Exercice 4



Exercice 5



(a) et (b) énantiomères
 (b) et (c) identiques

(a) et (c) énantiomères
 (a), (b), (c), (d) diastéréoisomères

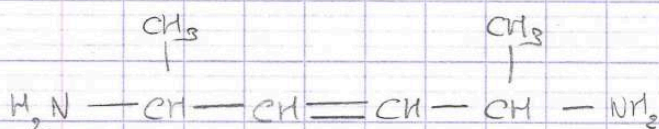
Exercice 6

(a) E

(b) Z

(c) E

(d) Z



Exercice 7

(a) 4

(b) 3 (forme méso)

(c) 4

(d) 8

R R Z
 R R E
 R S Z
 R S E

R R Z
 R R E
 S S Z
 S S E

Alcames : Substitution radicalaire

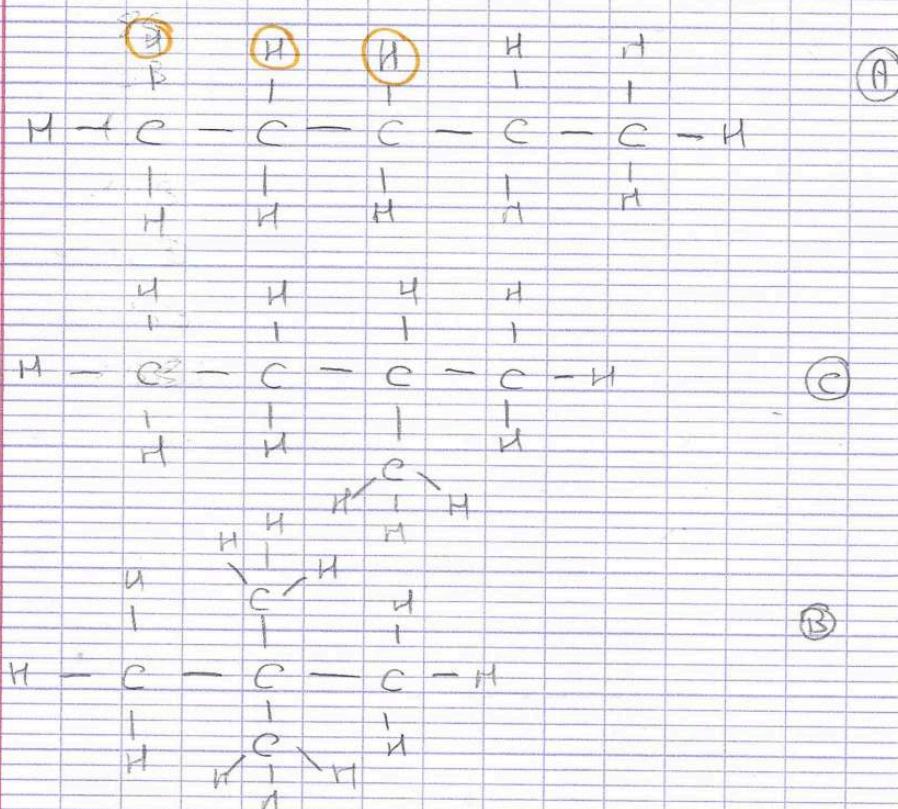
Exercice 1

- A → 3 monochloropentanes
 B → 1 monochloropentane
 C → 4 monochloropentanes

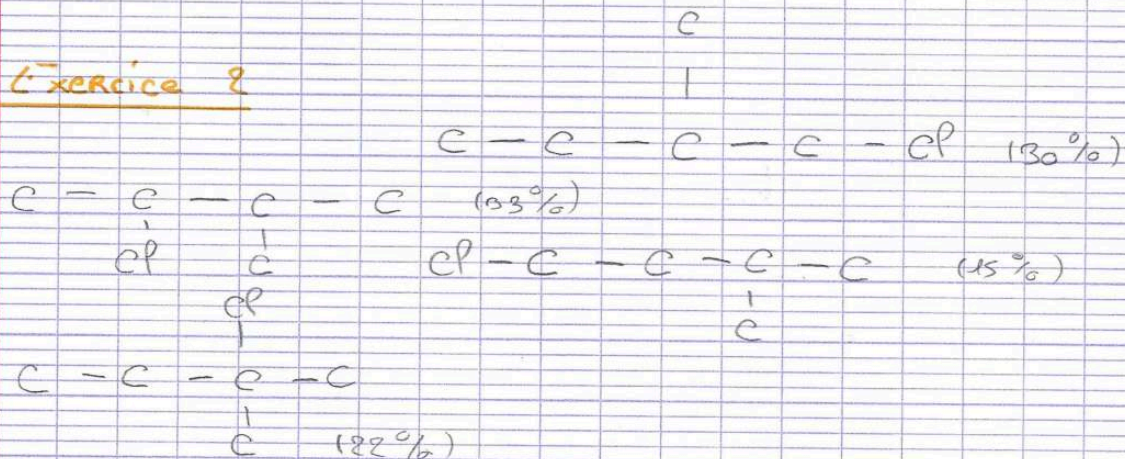
$$\frac{1}{2} + \frac{1}{3} + \frac{1}{8}$$

$$\frac{3 + 2}{6}$$

Pentane C_5H_{12}

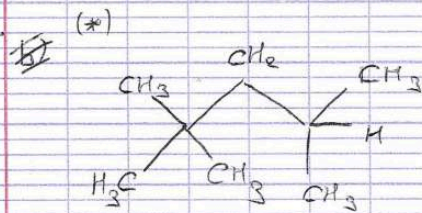
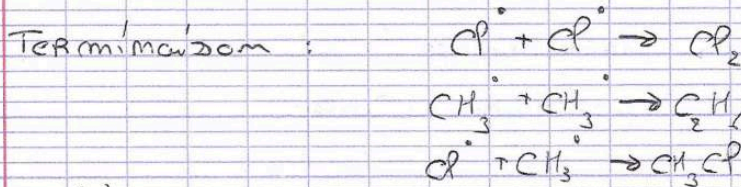
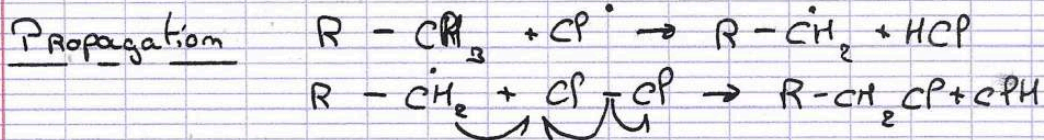
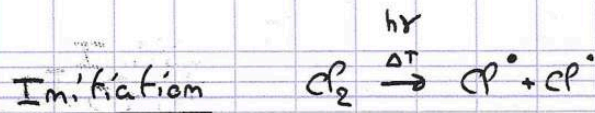


Exercice 2

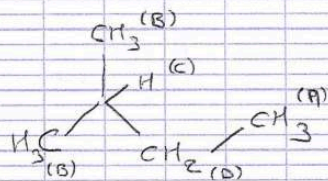


$$15 + 6,4 + 4,6$$

$$21 \quad 26$$



On regarde si les H
sont primaires - secondaires
- tertiaires



			normalisé
25% A	3/12	(85%) → 0,6 → 1	
50% B	6/12	(39%) → 0,6 → 1	
8% C	1/12	(22%) → 2,75 → 4,6	
17% D	2/12	(33%) → 0,6 → 3,2	

Pour trouver les pourcentages de (*)

Pour C:

$$\frac{4,6}{15 + 2 \times 3,2 + 4,6} = \frac{4,6}{26} = 17,7\%$$

Pour A:

$$\frac{6}{26} = 23\%$$

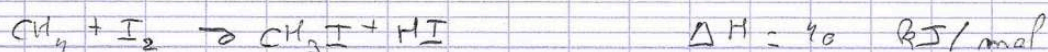
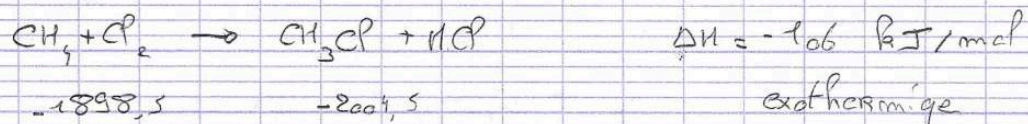
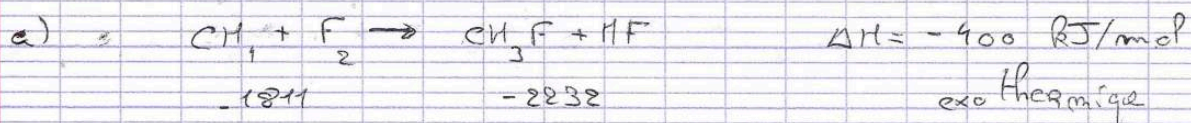
Pour B:

$$3,2 \times \frac{2}{26} = 24,6\%$$

Pour D:

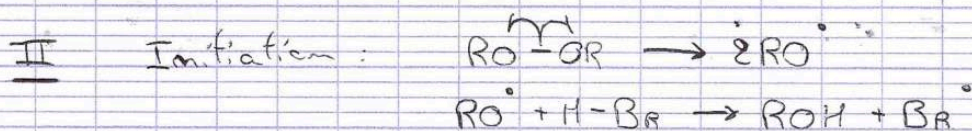
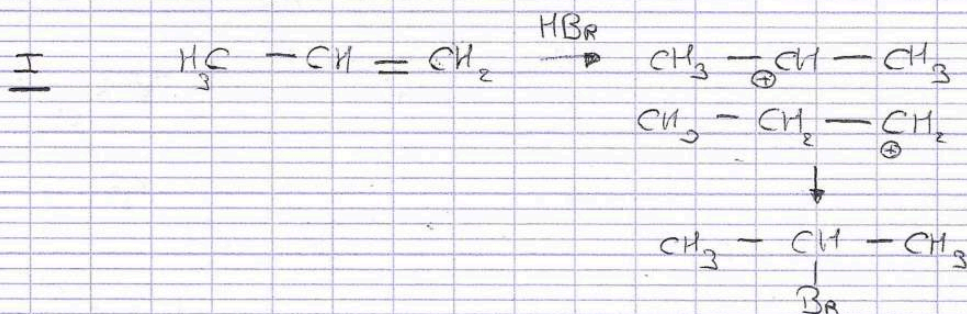
$$\frac{9}{26} = 34,6\%$$

Exercice 3



Alcène - alcynes

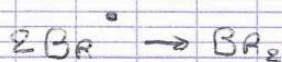
Exercice 1



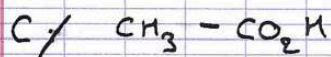
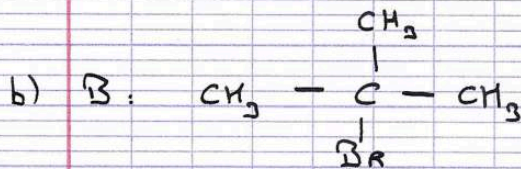
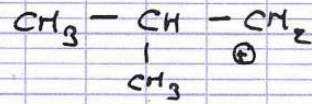
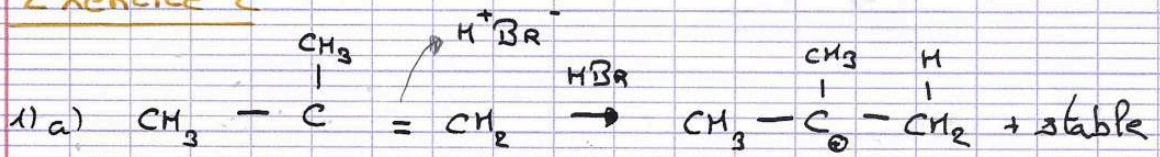
Propagation :



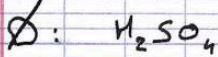
Terminaison



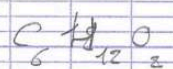
Exercice 2



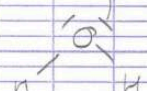
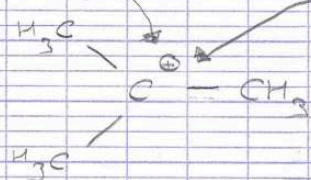
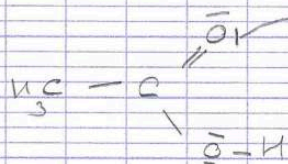
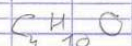
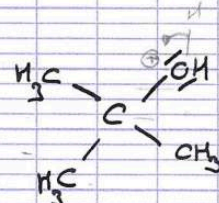
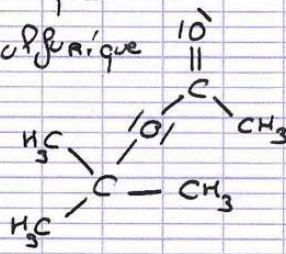
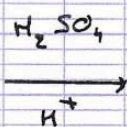
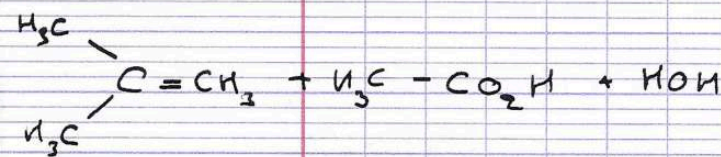
acide acétique



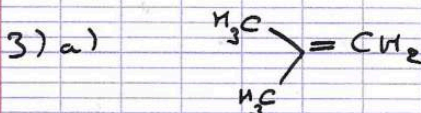
acide sulfurique



1) a) Par Hydratation



b) On joue sur les proportions d'eau et d'acide acétique



et $\text{H}^+/\text{H}_2\text{O}$ on veut H_2O

Par hydroboration

