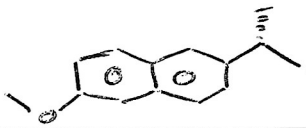
Corrigé TD n°8 : Structure des molécules organiques

Exercice 1 : $C_x H_y O_z$

$\%_C = \frac{12{,}0\,x}{230{,}3} \Rightarrow x = 14$ $\quad \%_H = \frac{1{,}0\,y}{230{,}3} \Rightarrow y = 14$

$\%_O = 1 - \%_C - \%_H = \frac{16\,z}{230{,}3} \Rightarrow z = 3$

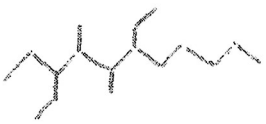
Naproxen : $C_{14}H_{14}O_3$



trouvé sur la toile !!

Ex 2 : a) 

4-éthyl-2,2,6,7-tétraméthyloctane

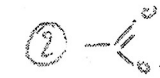
b) 

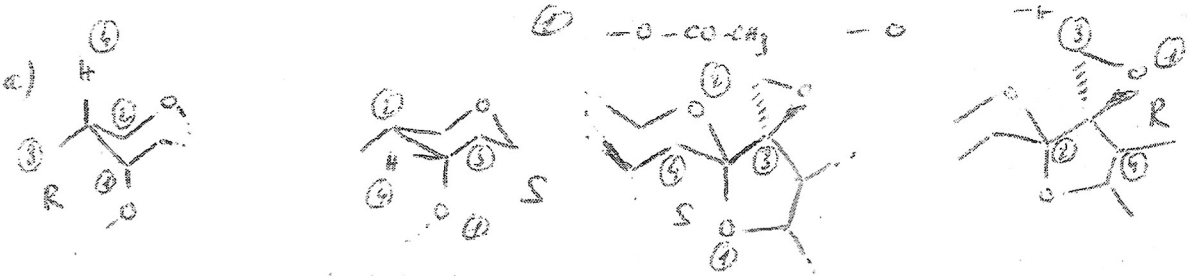
Ex 3 $DI = \frac{n+1-h}{2} = 0$ 

9 isomères de position.

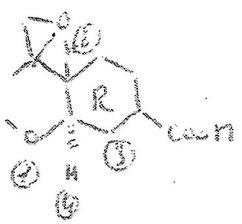
Ex 4

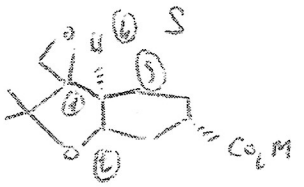
		1er rang	2e rang
①	$-OCH_3$	$-O-$	$-C$
②	$-OH$	$-O-$	$-H$
③	$-CH_2-O-CH_3$	$-C$	

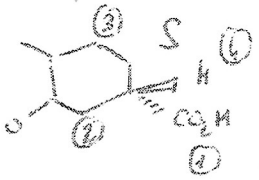
		1er rang	2e rang
②		$-C$	$-O$ $-(O)$ $-(O)$
④		$-C$	$-O-C$ $-(O)$ $-C-H$ $-H$ $-H$
③		$-C$	$-O-C$ $-O-C$ $-C-H$ $-H$ $-H$
①	$-O-CO-CH_3$	$-O$	

Ex 5 : a) 

Il y a 7 carbones asymétriques de la phyllanthocine.

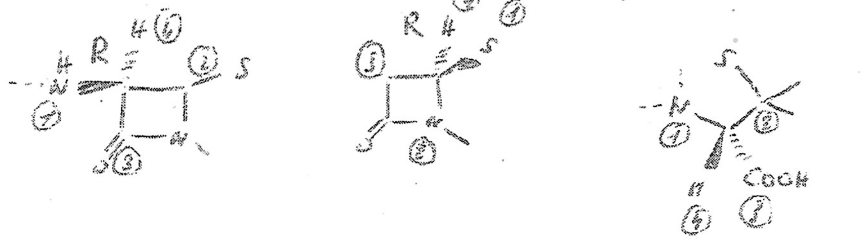




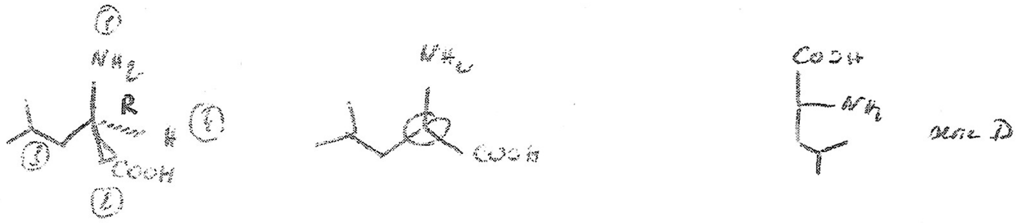


7 C* dont des contraintes particulières donc $2^7 = 128$ stéréoisomères de configuration possible

b) Il y a 3 carbones asymétriques. pas de contrainte particulière $2^3 = 8$ stéréoisomères de configuration possible



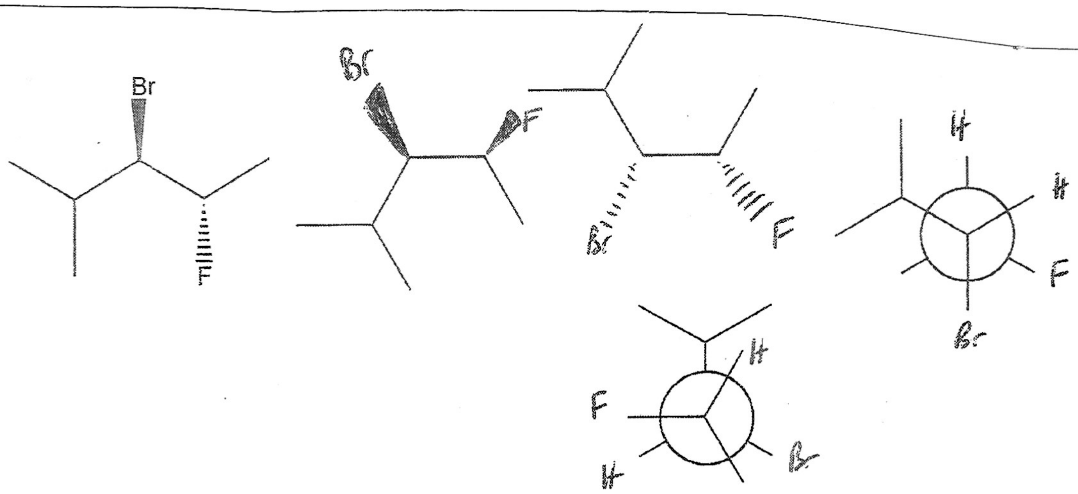
Ex 6



Ex 7

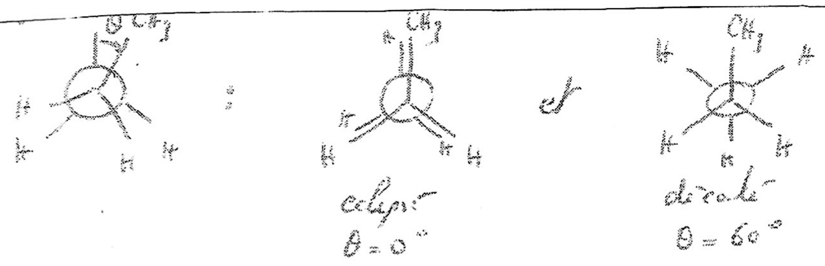
Exercice 8 :

1)

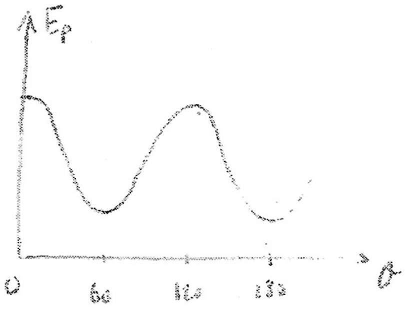


Exercice 9 :

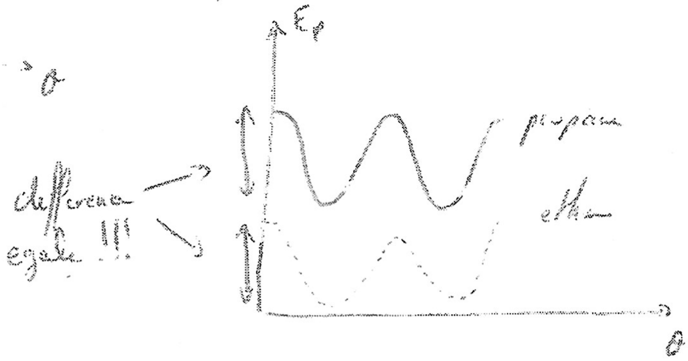
a)



b)



c) EVIDEMMENT l'interaction gauche H/CH3 est + déstabilisante que l'interaction gauche H/H mais on trouve que.



Ex 10

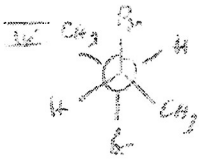
a) 

Conformeres particuliers :

I

II

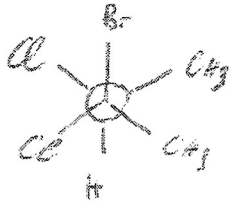
III



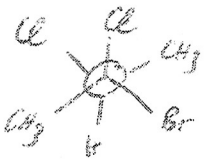
IIc

IIc est la conformère le + stable : décalée et peut favorable du moment dipolaire associé aux liaisons C–Br très polarisées

b) 

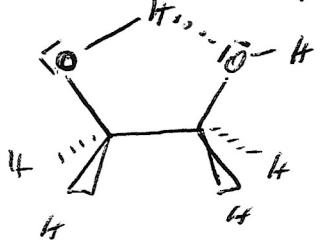


la conformère la + stable correspond à une conformère décalée où les moments dipolaires sont en partie ann.

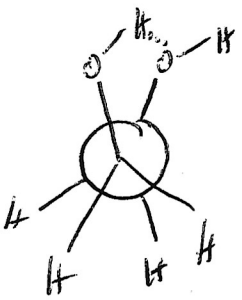
Il y a l'enantiomère 

ou 

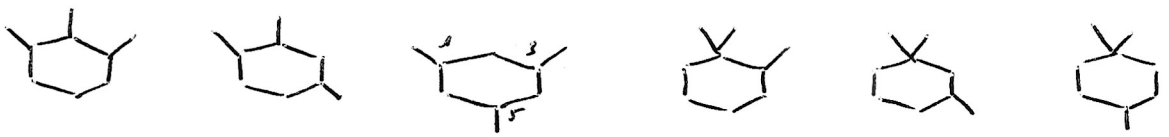
c) A cause de la liaison hydrogène intramoléculaire

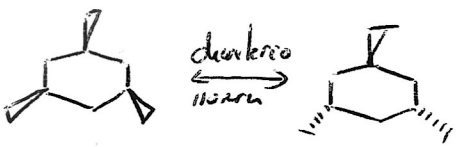


ou en Newman



Ex 11

1) 

2) a) 

Il n'y a pas de C* mais c'est de la pseudo asymétrie

b)