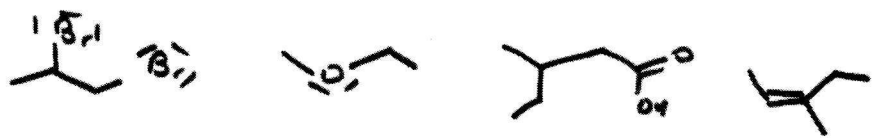
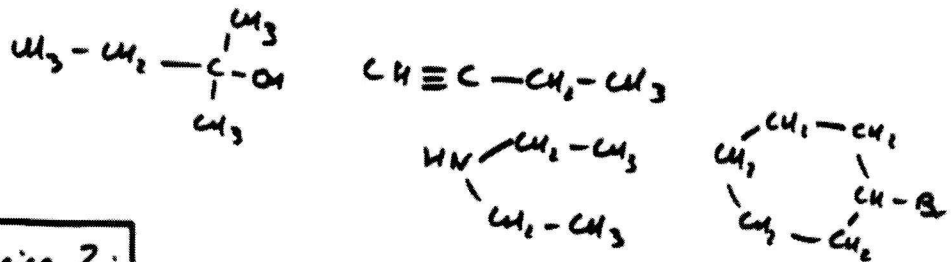
PCSi

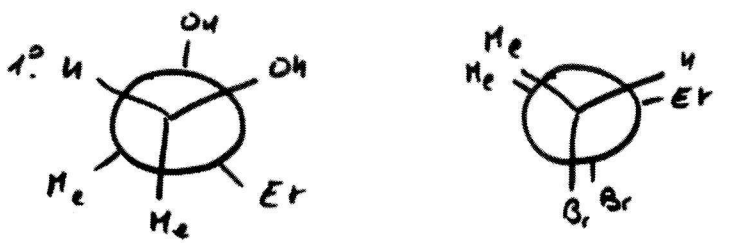
Corrigé TD Stéréochimie

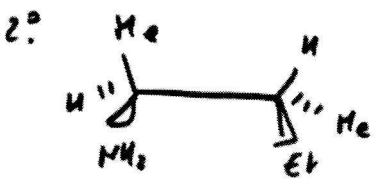
Exercice 1 :

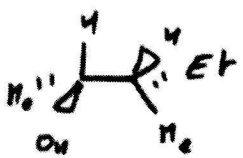
1° 

2° 

Exercice 2 :

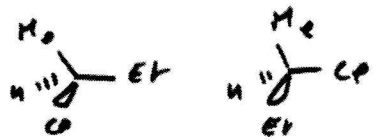
1° 

2° 



Exercice 3 :

1) Isomérie de position

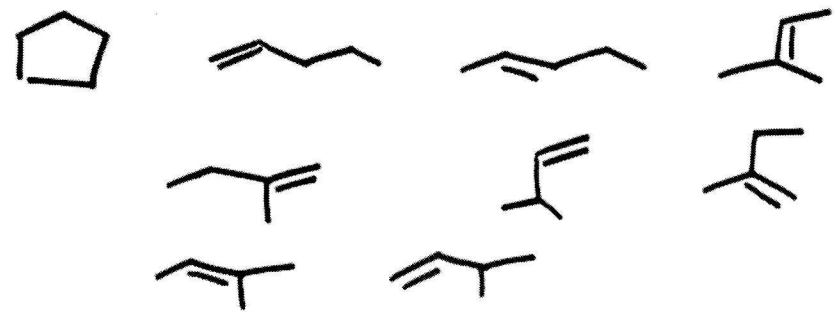
2) 

config

3) Rotation 4) Position et config

Exercice 4 :

1) C_5H_{10} $n_I = \frac{2\times5+2-10}{2} = 1$ insaturation

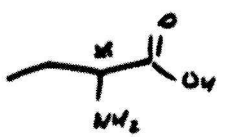


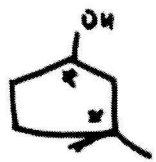
2) C_3H_8O $n_I = 0$

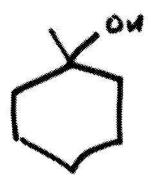
Exercice 5 :

1) 

2) 

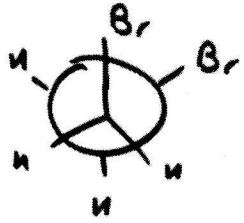
3) 

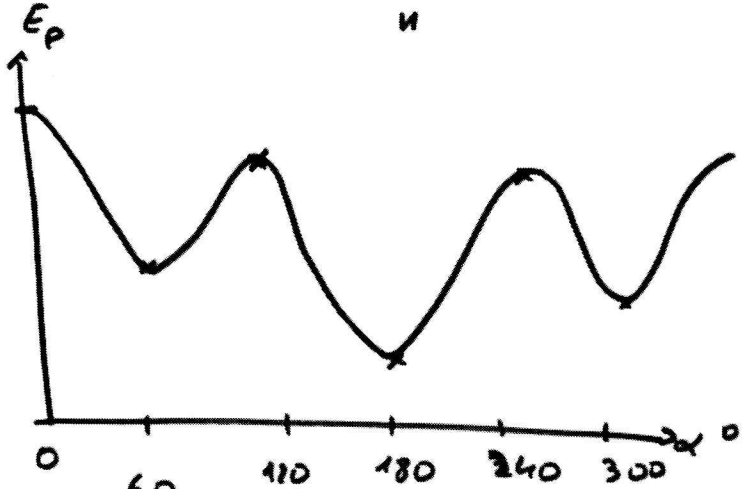
4) 

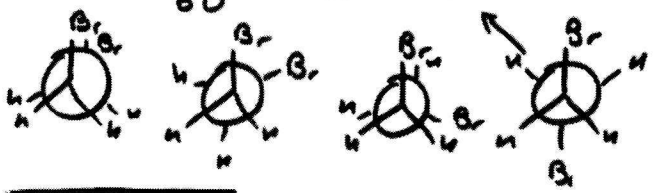
5) 

pas de C* plan de sym

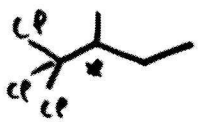
Exercice 6 :





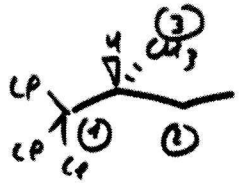


Exercice 7 :

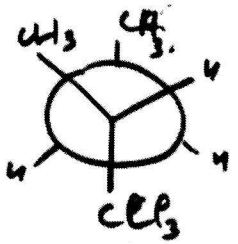


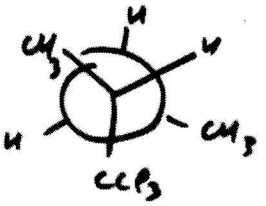
1° :

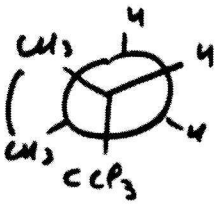
On cherche la config (R)



2° :





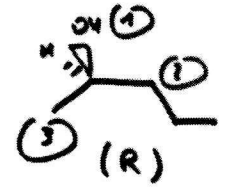


3° : + stable car gpt ⊕ volumineux ⊕ loin CCl_3 et CH_3 — n°2 car CH_3 ⊕ loin — n°3

Exercice 8 :

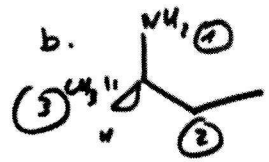
D'après les règles CIP

a.



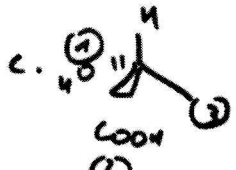
(R)

b.



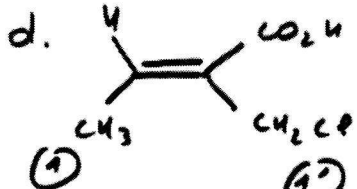
(S)

c.



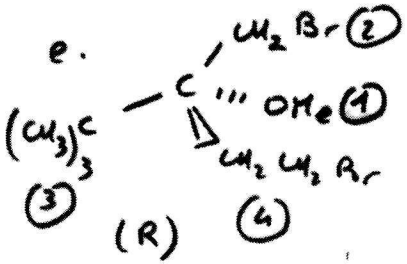
(R)

d.



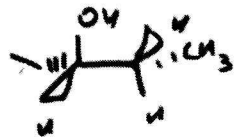
(Z)

e.



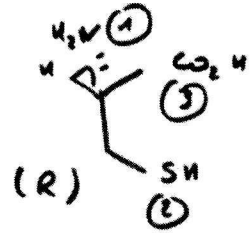
(R)

f.



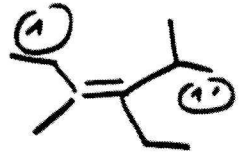
pas de C*

g.



(R)

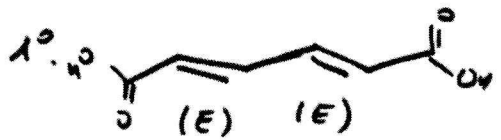
h.



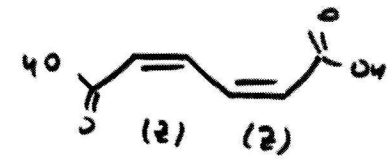
(Z)

Exercice 9 :

1°.

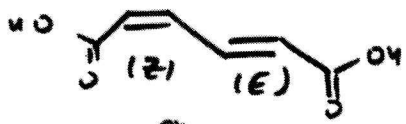


(E) (E)



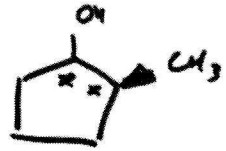
(Z) (Z)

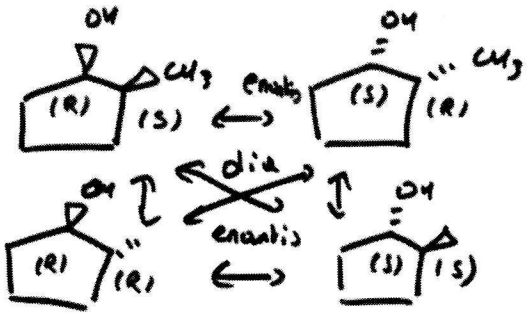
ils sont diastéréoisomères



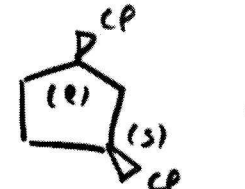
(Z) (E)

2°

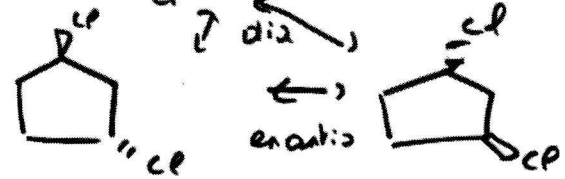




3°

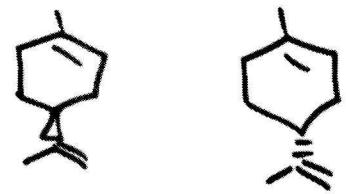


méso



Exercice 10 :

1°. $1C^*$ => 2 stéréoisomères possibles



ils sont énantiomères

2°. a. Polarimètre de Laurent

b. loi de Biot : $\alpha = \alpha_1 + \alpha_2$

$= [\alpha]_1 \ell c_1 + [\alpha]_2 \ell c_2$

c. (+) signifie dextrogyre déviation du plan de polarisation d'une lumière polarisée vers la droite

d. ils sont énantiomères => opposés

$[\alpha] = -10,6 \ ° dm^{-1} \ell g^{-1}$

e. • $\alpha_1 = 53° = 10,6 \times 1 \times 5 \times \frac{\%_{(+)}}{100} - 10,6 \times 1 \times 5 \times \frac{\%_-}{100}$

et $\%_+ + \%_- = 100$

$\frac{\%_{(+)} - \%_{(-)}}{100} = 1$ => 100% de (+)

• $\alpha_2 = 34°$ donc $\frac{\%_{(+)} - \%_{(-)}}{100} = 0,64$ $\%_{(+)} = \%_- + 64$

=> 82% de (+) et 18% de (-)

g. Non aucun lien entre (R)/(S) et (+) et (-) !!