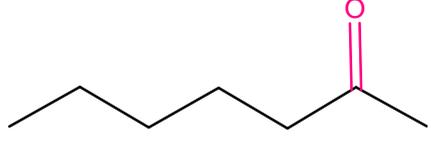
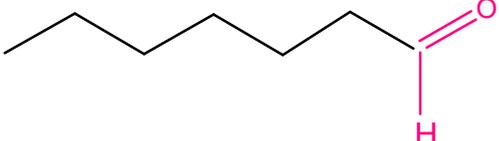
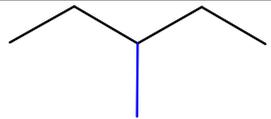
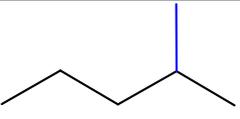
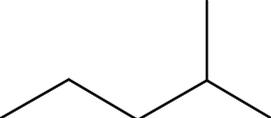
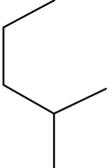
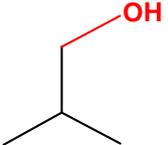
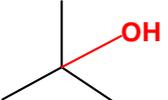


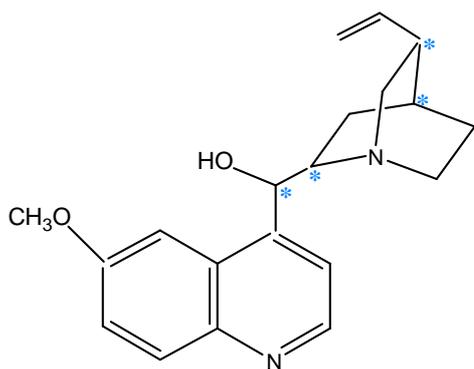
Correction des Travaux dirigés (2012-2013)

Exercice n°1

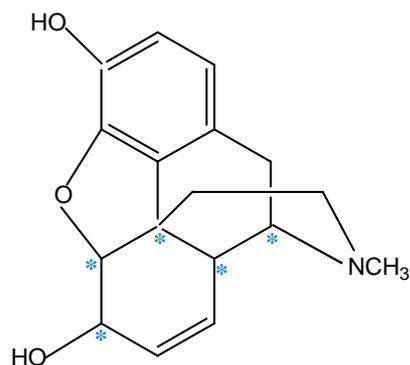
Quelle relation d'isomérie existe-t-il entre chaque paire de molécules ?

		Isomères de fonction
		Isomères de chaîne
		Identiques
		Isomères de position

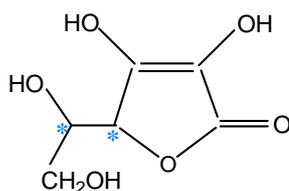
Exercice n°2



Quinine
4C*



Morphine
5C*



Acide ascorbique
2C*

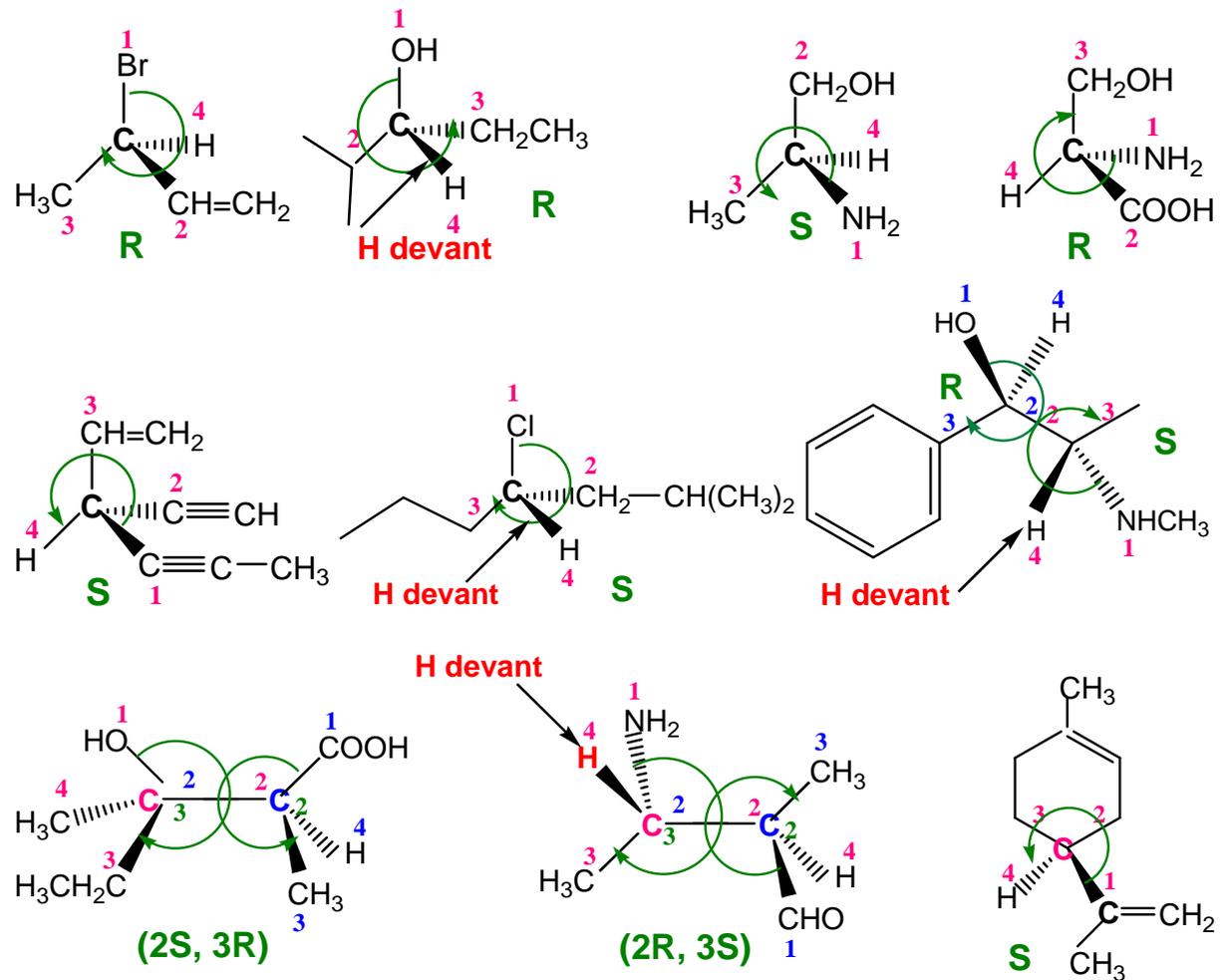
Exercice n°3

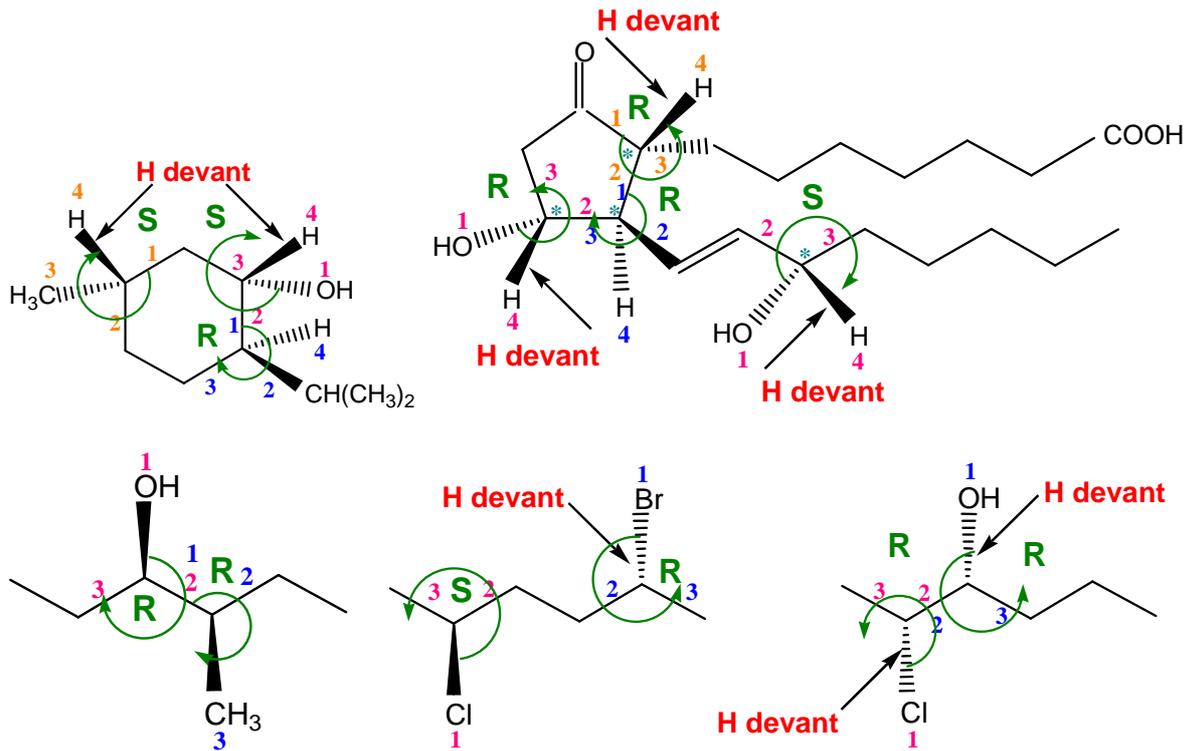
Ordre de priorité selon les règles de Cahn-Ingold-Prelog :

- 1) $-\text{OCH}_3 > -\text{NHCH}_3 > -\text{CCl}_3 > -\text{CONH}_2 > -\text{CH}_2\text{OH}$
- 2) $-\text{SCH}_3 > -\text{NO}_2 > -\text{NHOH} > -\text{COCH}_3 > -\text{CH}_2\text{OCH}_3$
- 3) $-\text{Br} > -\text{COOH} > -\text{C}_6\text{H}_5 > -\text{CH}_3 > -\text{H}$
- 4) $-\text{OCOCH}_3 > -\text{NH}_2 > -\text{CHO} > -\text{C}\equiv\text{CH} > -\text{CH}_3$
- 5) $-\text{Br} > -\text{OCH}_3 > -\text{OH} > -\text{COOCH}_3 > -\text{CN}$
- 6) $-\text{SH} > -\text{OH} > -\text{COOH} > -\text{CH}_2\text{OH} > -\text{H}$

Exercice n°4

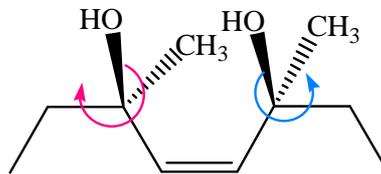
Configuration absolue des carbones asymétriques :



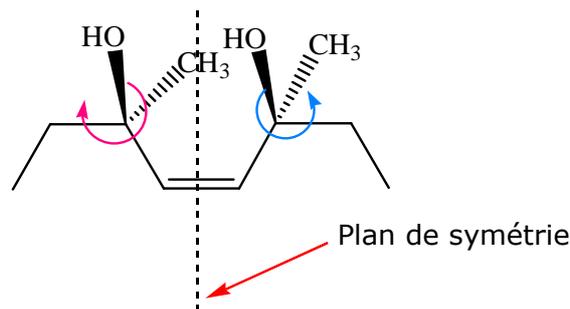


Exercice n°5

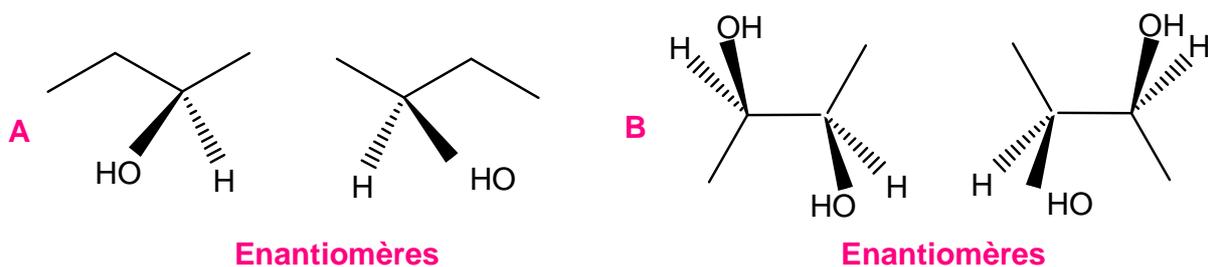
1) La molécule (3R,4Z,6S)-3,6-diméthyl-oct-4-ène-3,6-diol :

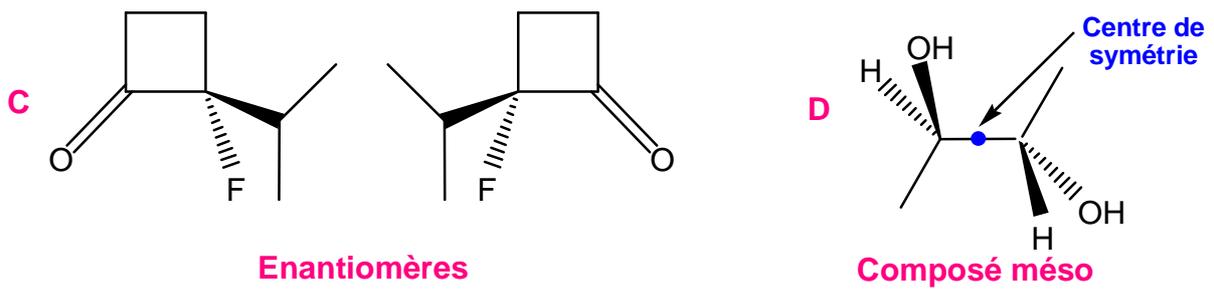


2) Cette molécule est **achirale** : existence d'un plan de symétrie :



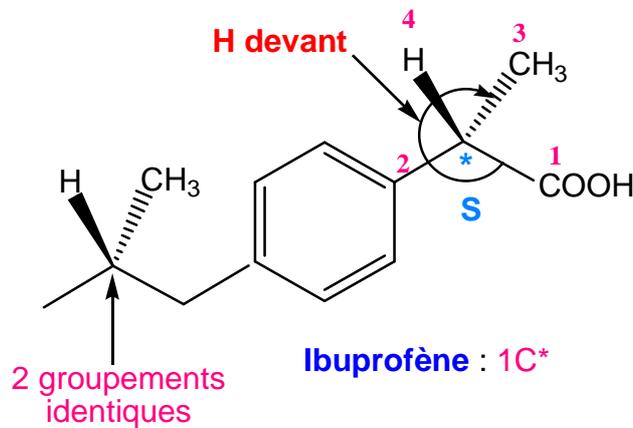
Exercice n°6



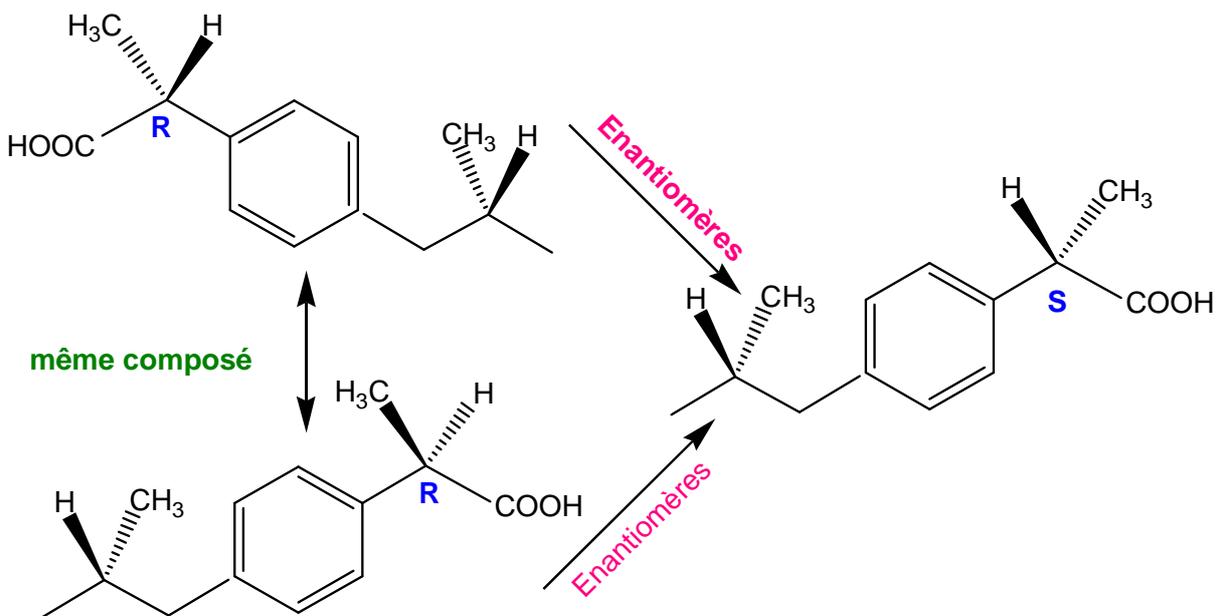


Exercice n°7

Cette molécule possède un seul carbone asymétrique : **1 C*** de configuration absolue **S**.



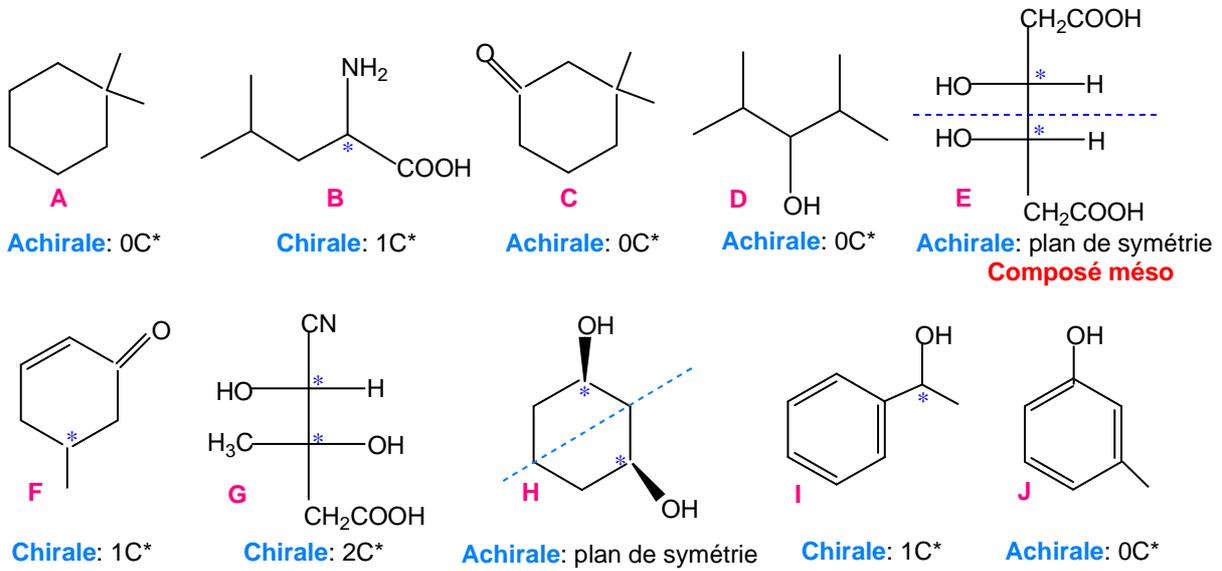
Un énantiomère de l'ibuprofène :



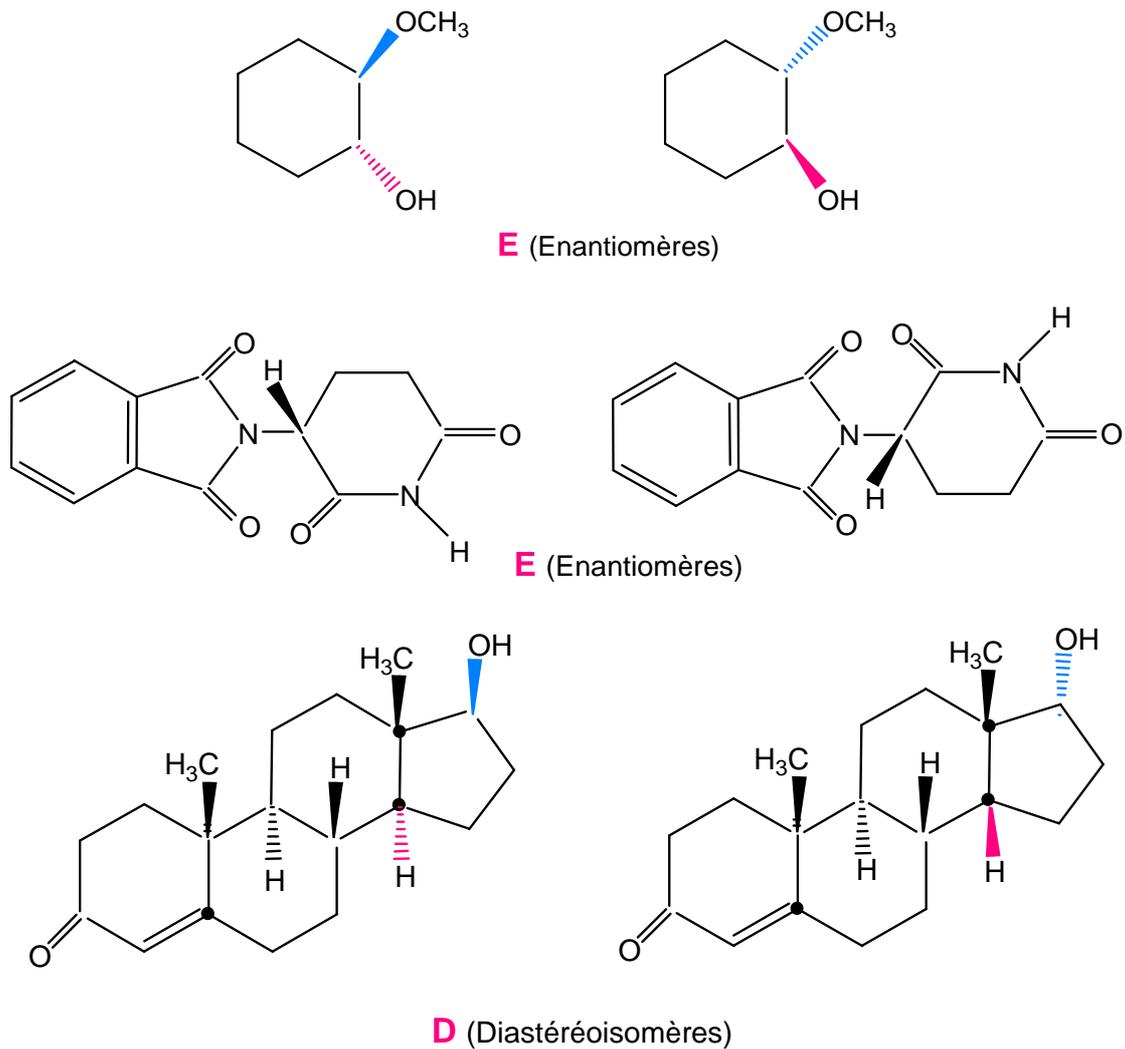
L'ibuprofène possède un seul carbone asymétrique (**1C***), cette molécule ne peut donc pas avoir de diastéréoisomères.

Exercice n°8

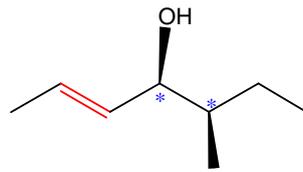
Les molécules **B**, **F**, **G** et **I** sont chirales :



Exercice n°9



Exercice n°10



Alcool allylique

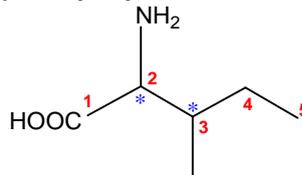
- Il y a **2 C*** ⇒ **2² = 4** stéréoisomères : de configuration **RR, SS, RS, SR**.
- Il ya **1C=C** ⇒ **2** isomères de configuration **Z, E** pour chaque stéréoisomère

Au total : **8** stéréoisomères de configuration :

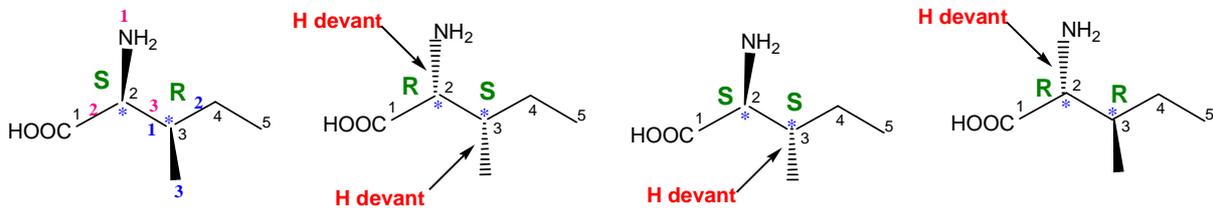


Exercice n°11

- 1) Il y a **2** carbones asymétriques (C*) dans l' isoleucine : **C₂** et **C₃**.

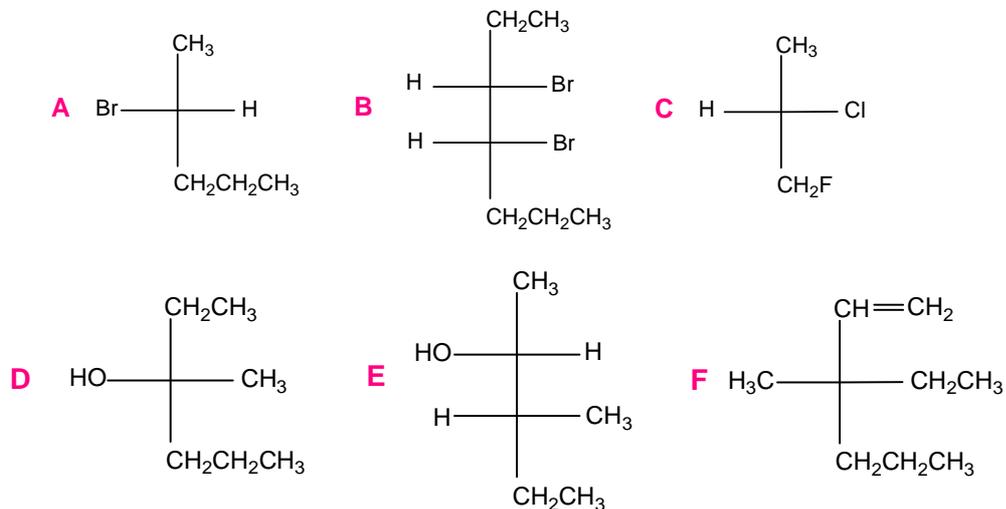


- 2) Il y a **2 C*** ⇒ **2² = 4** stéréoisomères : de configuration **RR, SS, RS, SR**



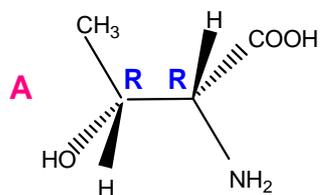
Exercice n°12

Représentation des molécules selon **la projection de Fischer** :

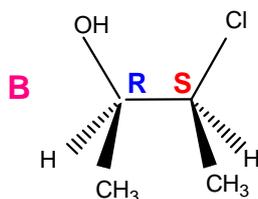


Exercice n°13

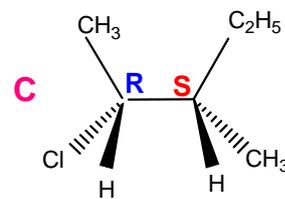
Les molécules **A** et **E** sont des énantiomères:



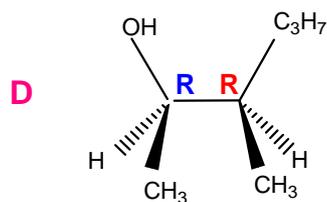
(2R, 3R) Acide 2-amino
3-hydroxybutanoïque



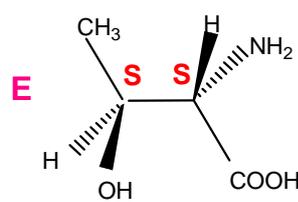
(2R, 3S)
3-chlorobutan-2-ol



(2R, 3S) 2-chloro
3-méthylpentane



(2R, 3R)
3-méthylhexan-2-ol



(2S, 3S) Acide 2-amino
3-hydroxybutanoïque

Exercice n°14

	Ni Activité optique ni Isomérisation E, Z	Activité optique et Isomérisation E, Z	Isomérisation E, Z mais pas d'activité optique	Activité optique mais pas d'isomérisation E, Z
			✓	
				✓
		✓		
	✓			