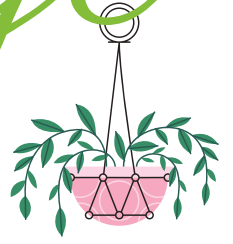


Bon courage



LIENS UTILES 🙌

Visiter :

1. <https://biologie-maroc.com>

- Télécharger des cours, TD, TP et examens résolus (PDF Gratuit)

2. <https://biologie-maroc.com/shop/>

- Acheter des cahiers personnalisés + Lexiques et notions.
- Trouver des cadeaux et accessoires pour biologistes et géologues.
- Trouver des bourses et des écoles privées

3. <https://biologie-maroc.com/emploi/>

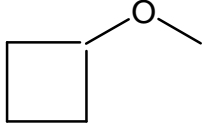
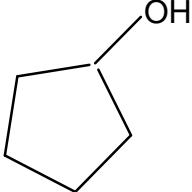
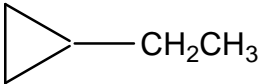
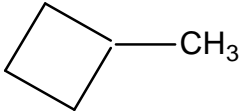
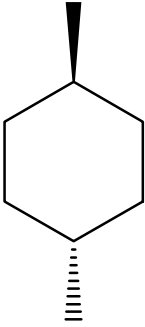
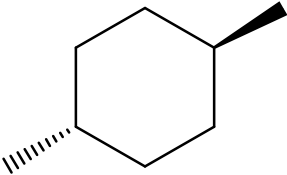
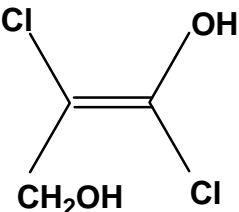
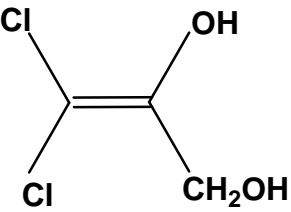
- Télécharger des exemples des CV, lettres de motivation, demandes de ...
- Trouver des offres d'emploi et de stage



Travaux dirigés (2013-2014)

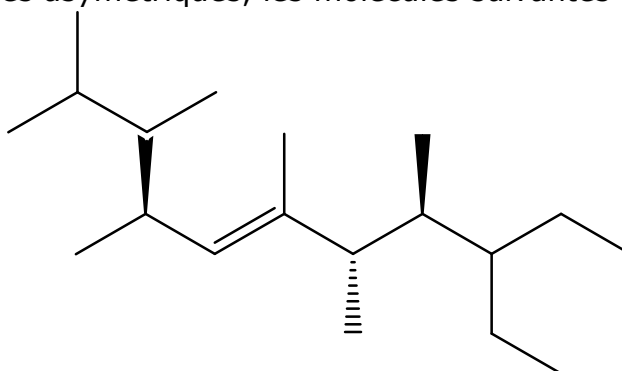
Exercice n°1

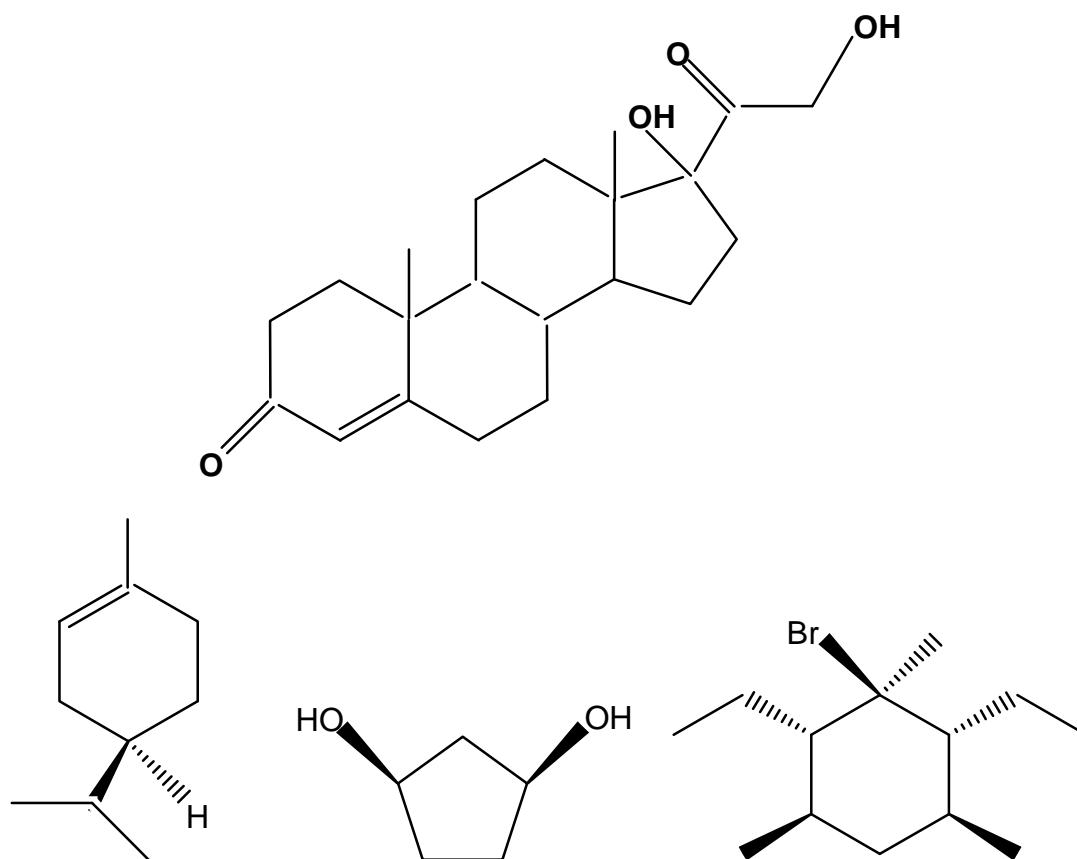
Quelle relation d'isomérie existe-t-il entre chaque paire de molécules ?

Exercice n°2

Combien de carbones asymétriques, les molécules suivantes possèdent-elles ?





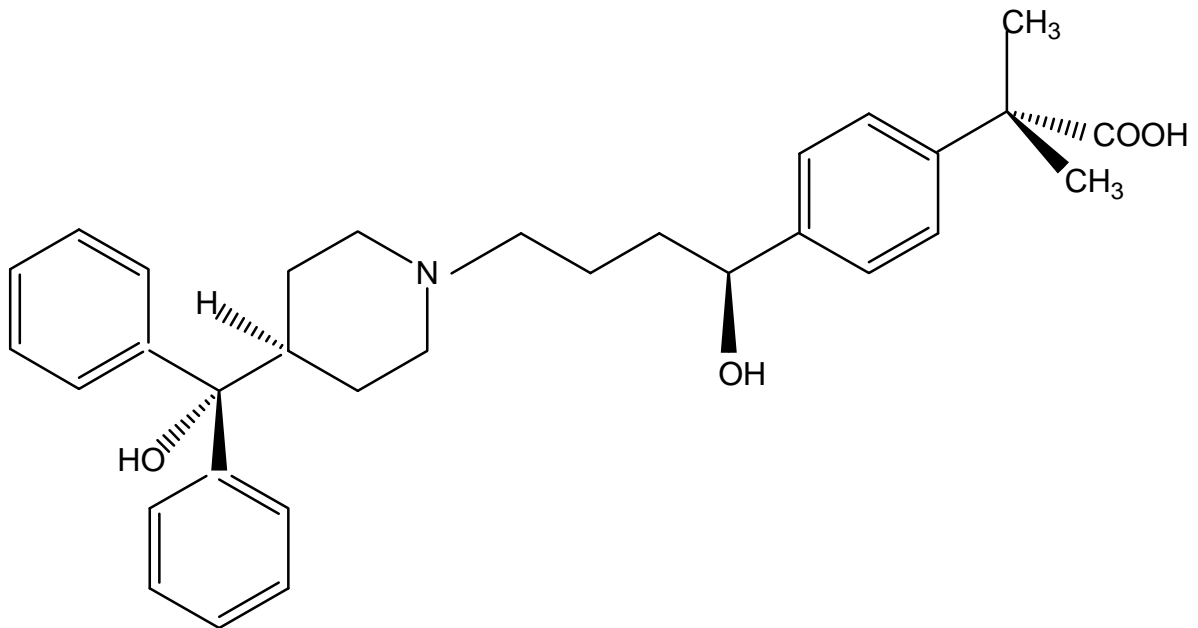
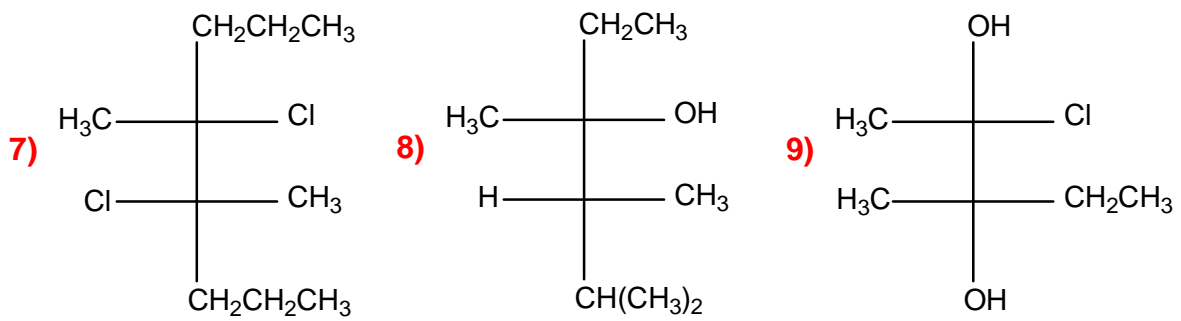
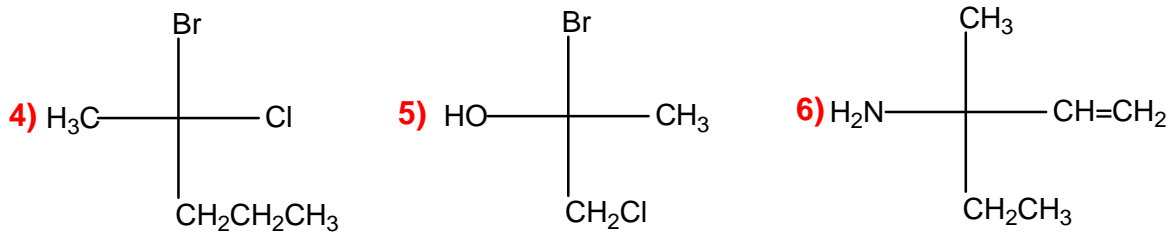
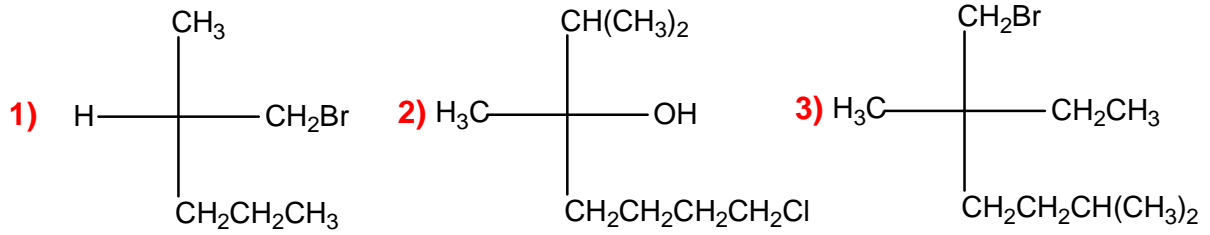
Exercice n°3

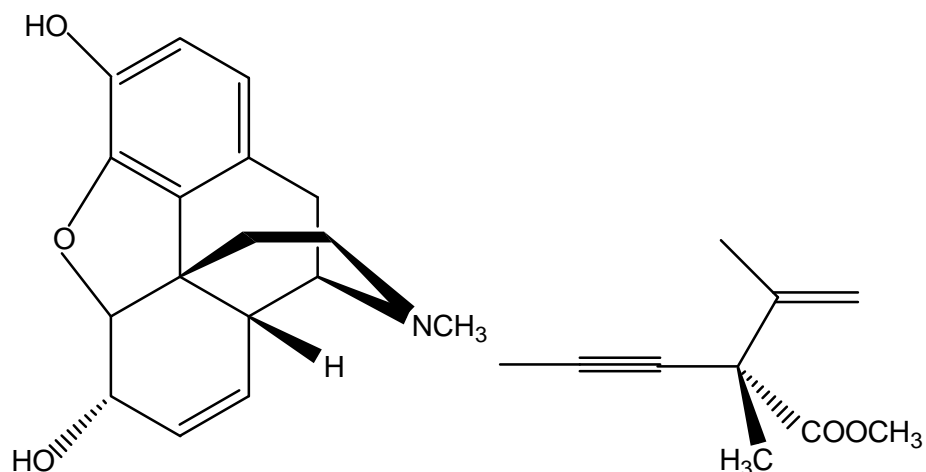
Selon la règle séquentielle de Cahn-Ingold-Prelog, quel est l'ordre de priorité des groupements suivants ?

- | | | | | | |
|-----|----------------------|------------------------------------|-------------------------------------|--------------------------------------|--------------------------------------|
| 1) | — CH=O | — CH ₂ OH | — CH ₂ CH=O | — CH ₂ OCH ₃ | — CH ₂ CH ₂ OH |
| 2) | — CH ₂ Cl | — CHBr ₂ | — CH ₂ I | — CH ₂ Br | — CHCl ₂ |
| 3) | — H | — Br | — CH ₂ CH ₃ | — CH ₂ CH ₂ OH | — CN |
| 4) | — COOH | — COOCH ₃ | — CH ₂ OH | — OH | — OCH ₃ |
| 5) | — CN | — CH ₂ NH ₂ | — CH ₂ NHCH ₃ | — NH ₂ | — CH ₃ |
| 6) | — Br | — CH ₂ Br | — Cl | — CH ₂ Cl | — CCl ₃ |
| 7) | — C≡CH | — C(CH ₃) ₃ | — C ₆ H ₅ | — CH=CH ₂ | — CH ₃ |
| 8) | — COCH ₃ | — COOCH ₃ | — CH ₂ OCH ₃ | — CH ₂ CH ₃ | — OCH ₃ |
| 9) | — Br | — CH ₂ Br | — CN | — NH ₂ | — CH ₂ CH ₂ Br |
| 10) | — SH | — C(CH ₃) ₃ | — CH ₂ CH ₃ | — CH(CH ₃) ₂ | — CH=CH ₂ |

Exercice n°4

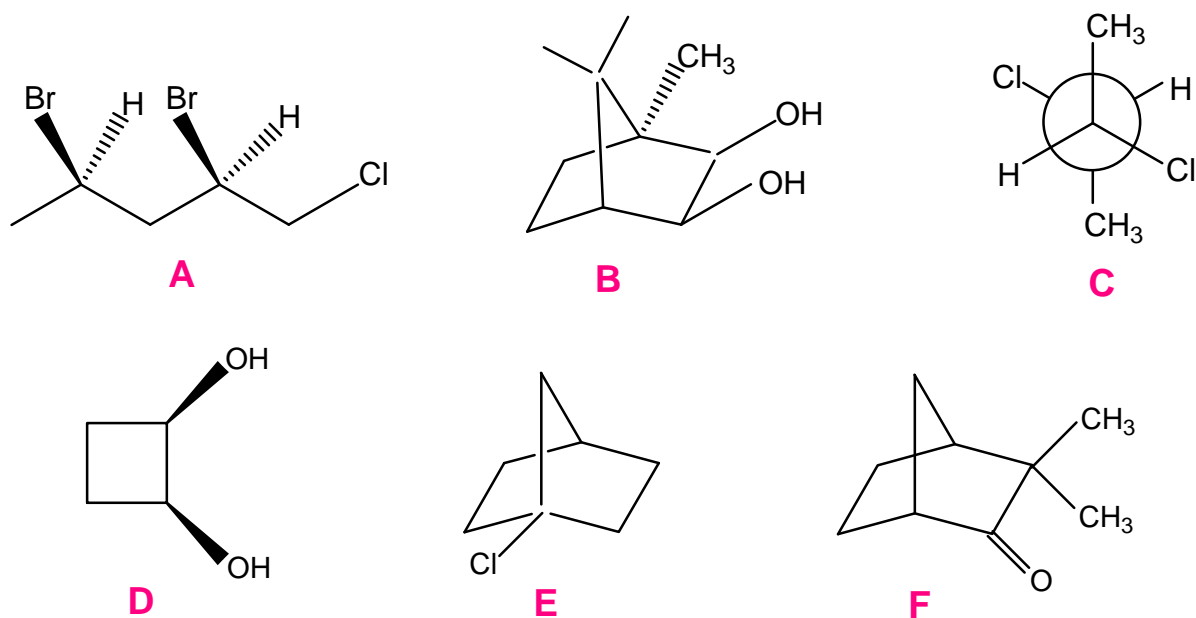
Donner la configuration absolue (R, S) des carbones asymétriques dans les molécules suivantes :





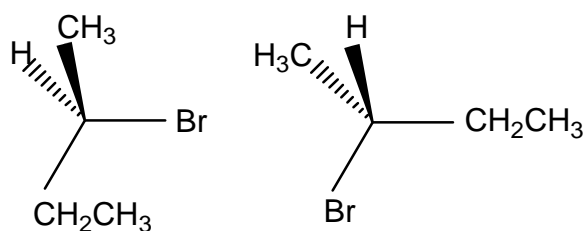
Exercice n°5

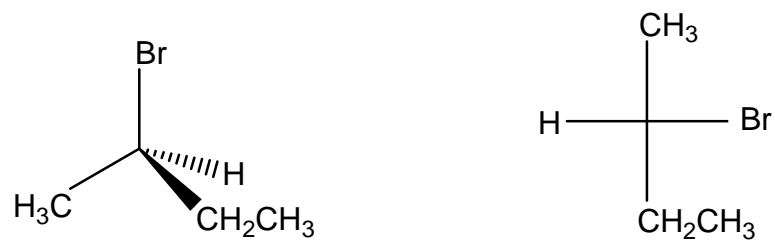
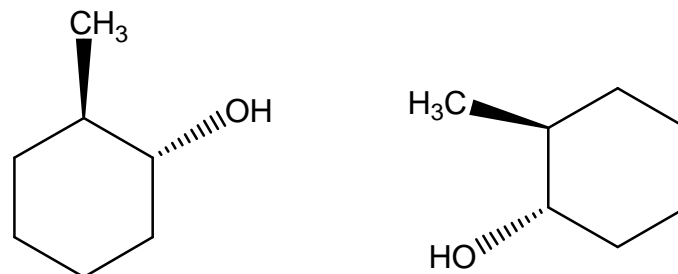
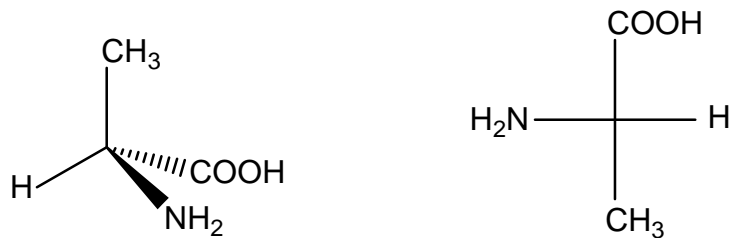
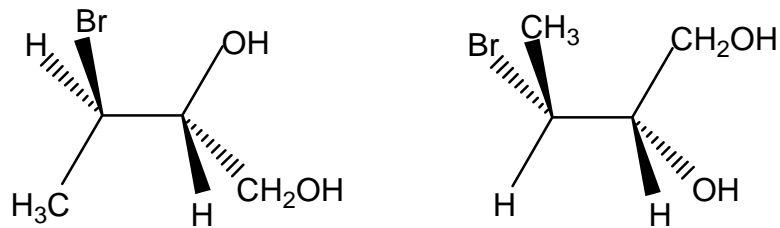
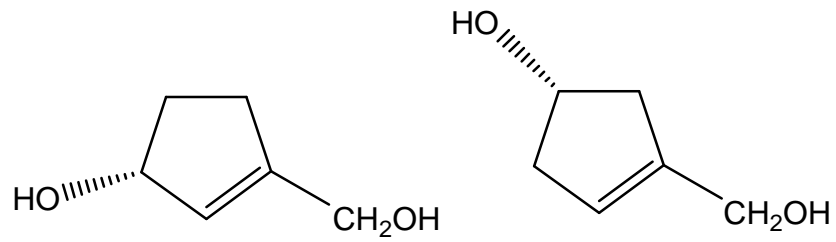
Les molécules suivantes sont-elle chirales ?



Exercice n°6

Quelle relation d'isomérisation existe-t-il pour chaque paire de molécules ? **I** (Identiques), **E** (Enantiomères), **D** (Diastéréoisomères), **C** (Isomères de Constitution)

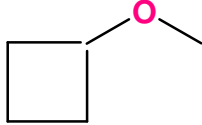
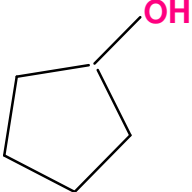
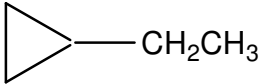
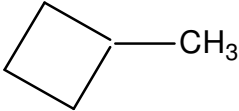
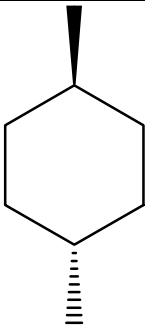
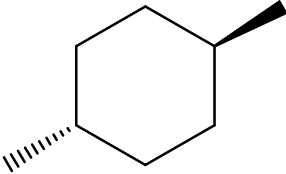
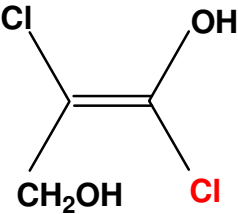
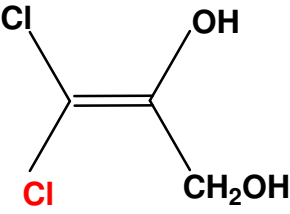




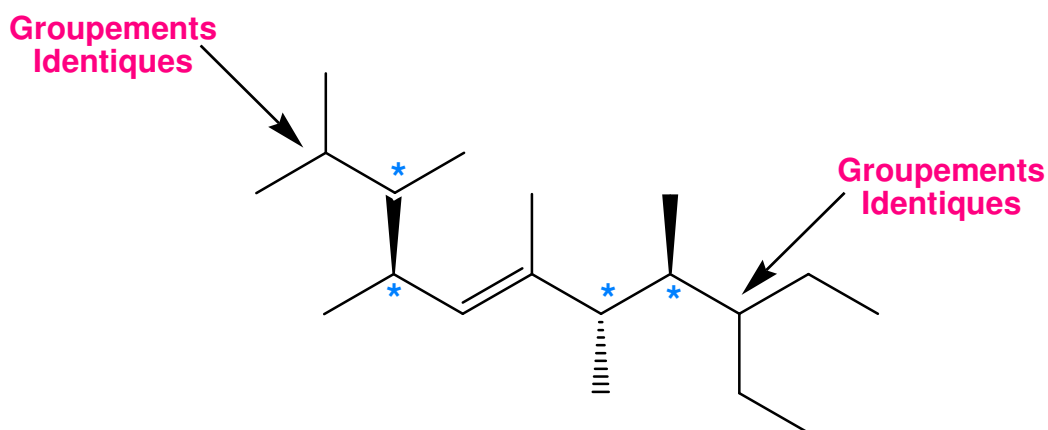
Correction des Travaux dirigés (2013-2014)

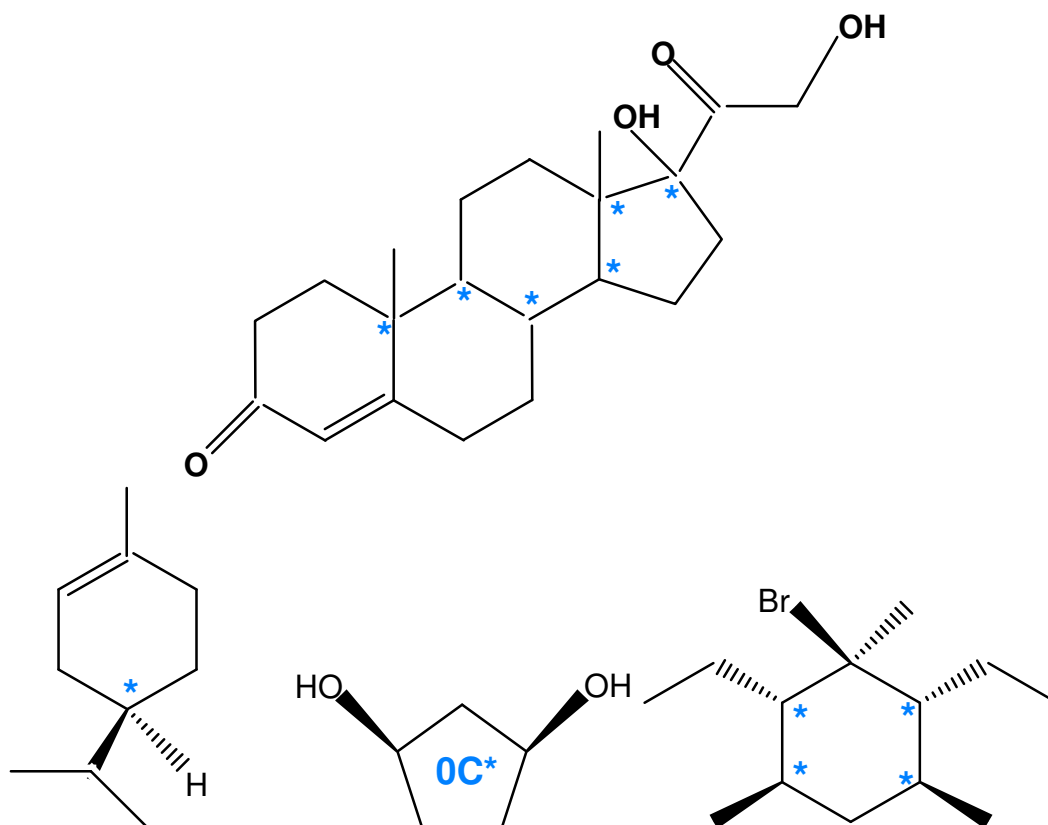
Exercice n°1

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

		<p>Isomères de fonction</p>
		<p>Isomères de chaîne</p>
		<p>Identiques</p>
		<p>Isomères de position</p>

Exercice n°2



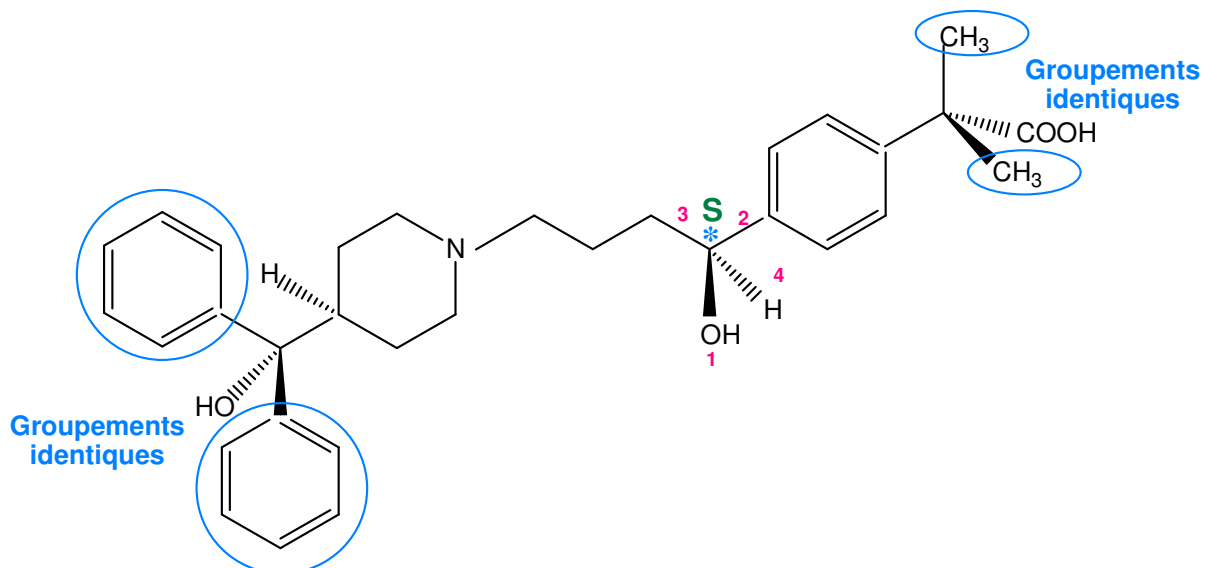
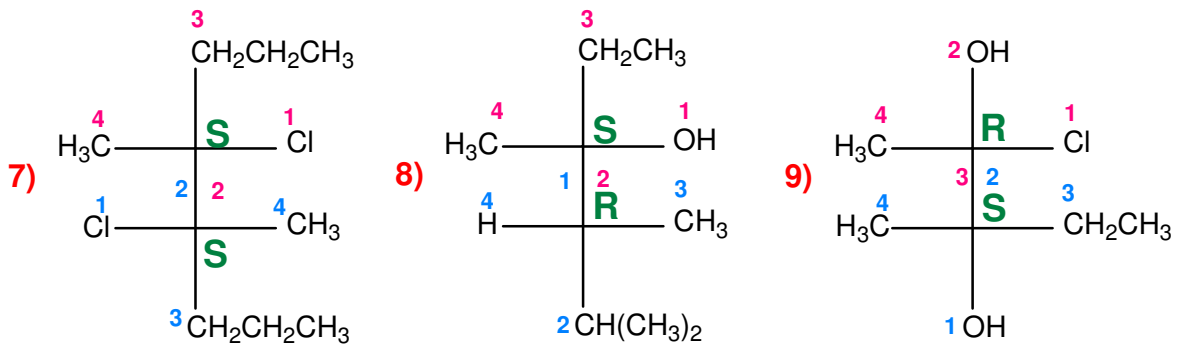
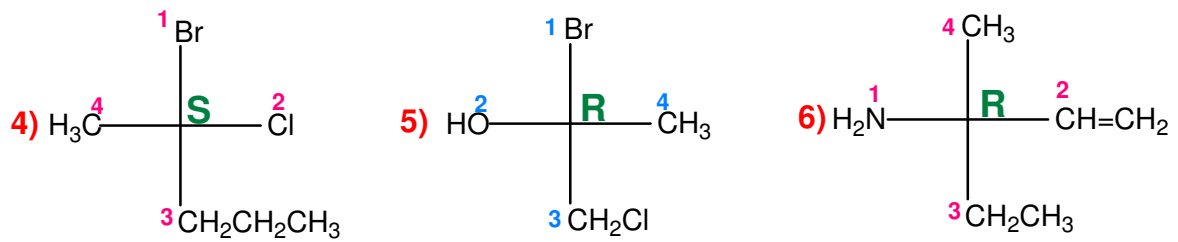
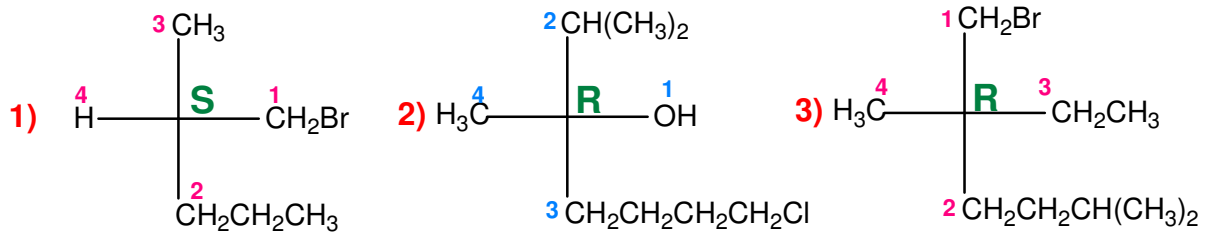
**Exercice n°3**

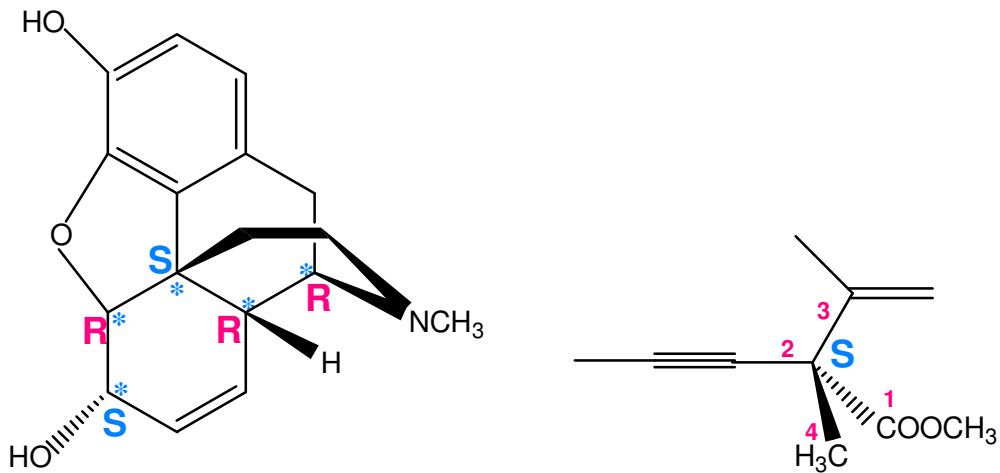
Ordre de priorité selon les règles de Cahn-Ingold-Prelog :

- 1) $-\text{CH}=\text{O} > -\text{CH}_2\text{OCH}_3 > -\text{CH}_2\text{OH} > -\text{CH}_2\text{CH}=\text{O} > -\text{CH}_2\text{CH}_2\text{OH}$
- 2) $-\text{CH}_2\text{I} > -\text{CHBr}_2 > -\text{CH}_2\text{Br} > -\text{CHCl}_2 > -\text{CH}_2\text{Cl}$
- 3) $-\text{Br} > -\text{CN} > -\text{CH}_2\text{CH}_2\text{OH} > -\text{CH}_2\text{CH}_3 > -\text{H}$
- 4) $-\text{OCH}_3 > -\text{OH} > -\text{COOCH}_3 > -\text{COOH} > -\text{CH}_2\text{OH}$
- 5) $-\text{NH}_2 > -\text{CN} > -\text{CH}_2\text{NHCH}_3 > -\text{CH}_2\text{NH}_2 > -\text{CH}_3$
- 6) $-\text{Br} > -\text{Cl} > -\text{CCl}_3 > -\text{CH}_2\text{Br} > -\text{CH}_2\text{Cl}$
- 7) $-\text{C}_6\text{H}_5 > -\text{C}\equiv\text{CH} > -\text{C}(\text{CH}_3)_3 > -\text{CH}=\text{CH}_2 > -\text{CH}_3$
- 8) $-\text{OCH}_3 > -\text{COOCH}_3 > -\text{COCH}_3 > -\text{CH}_2\text{OCH}_3 > -\text{CH}_2\text{CH}_3$
- 9) $-\text{Br} > -\text{NH}_2 > -\text{CH}_2\text{Br} > -\text{CN} > -\text{CH}_2\text{CH}_2\text{Br}$
- 10) $-\text{SH} > -\text{C}(\text{CH}_3)_3 > -\text{CH}=\text{CH}_2 > -\text{CH}(\text{CH}_3)_2 > -\text{CH}_2\text{CH}_3$

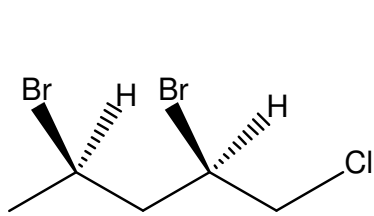
Exercice n°4

Configuration absolue des carbones asymétriques :

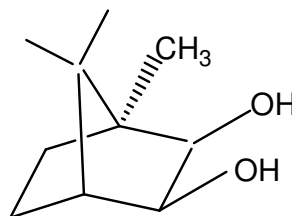




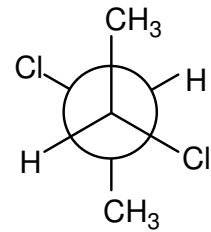
Exercice n°5



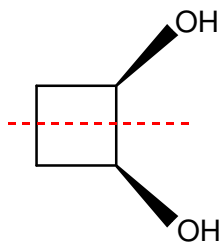
A
Chirale



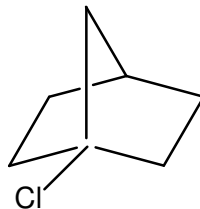
B
Chirale



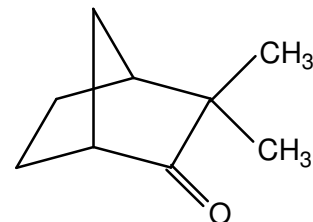
C
Achirale
Point de symétrie



D
Achirale
Plan de symétrie

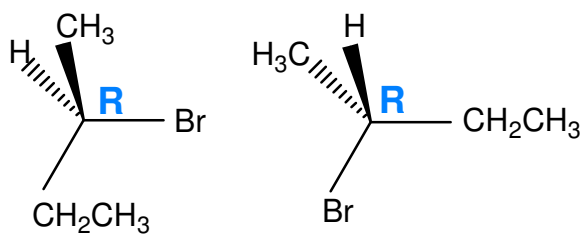


E
Achirale
Plan de symétrie

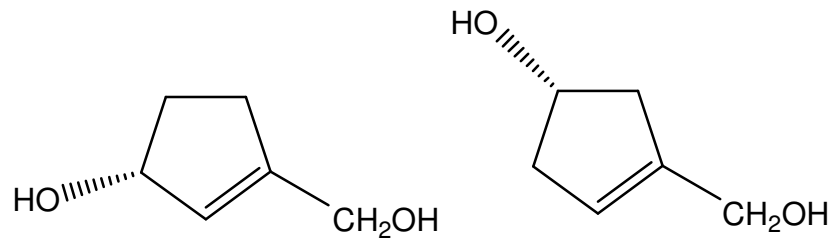


F
Chirale

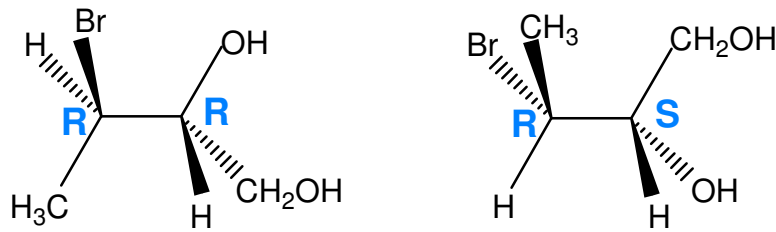
Exercice n°6



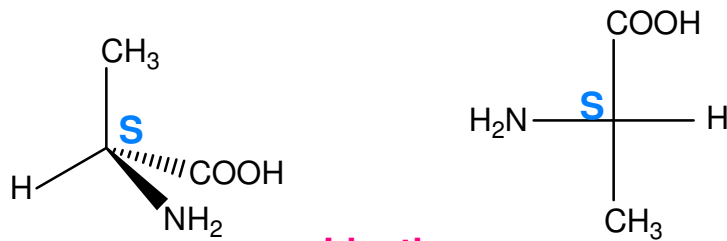
Identiques



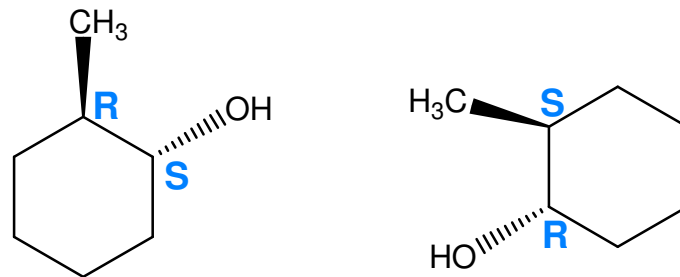
Isomères de Constitution



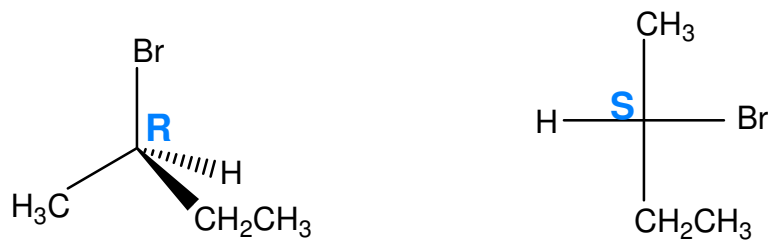
Diastéréoisomères



Identiques



Enantiomères

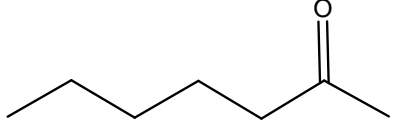
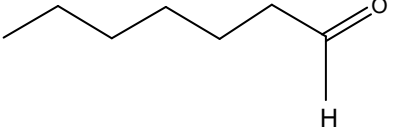
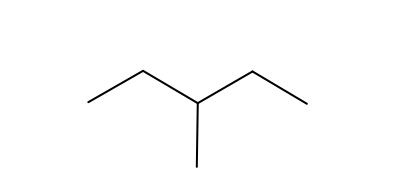
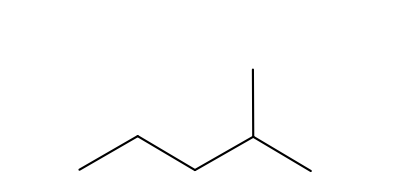
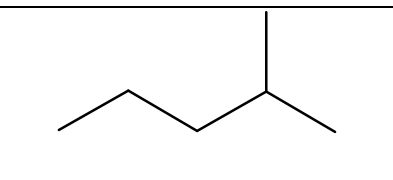
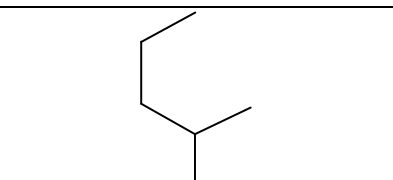
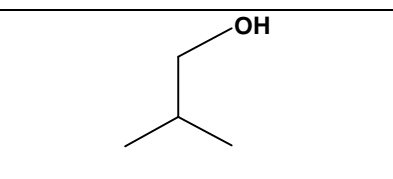
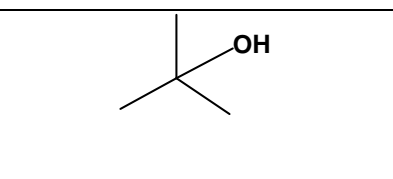


Enantiomères

Travaux dirigés (2012-2013)

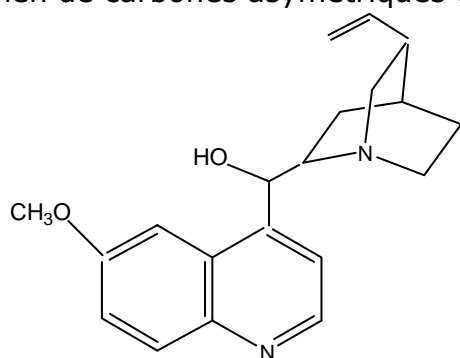
Exercice n°1

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

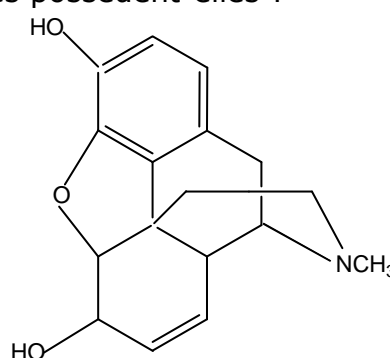
		
		
		
		

Exercice n°2

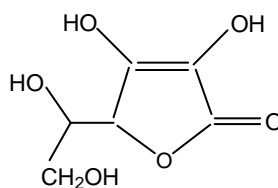
Combien de carbones asymétriques ces molécules possèdent-elles ?



Quinine



Morphine



Acide ascorbique

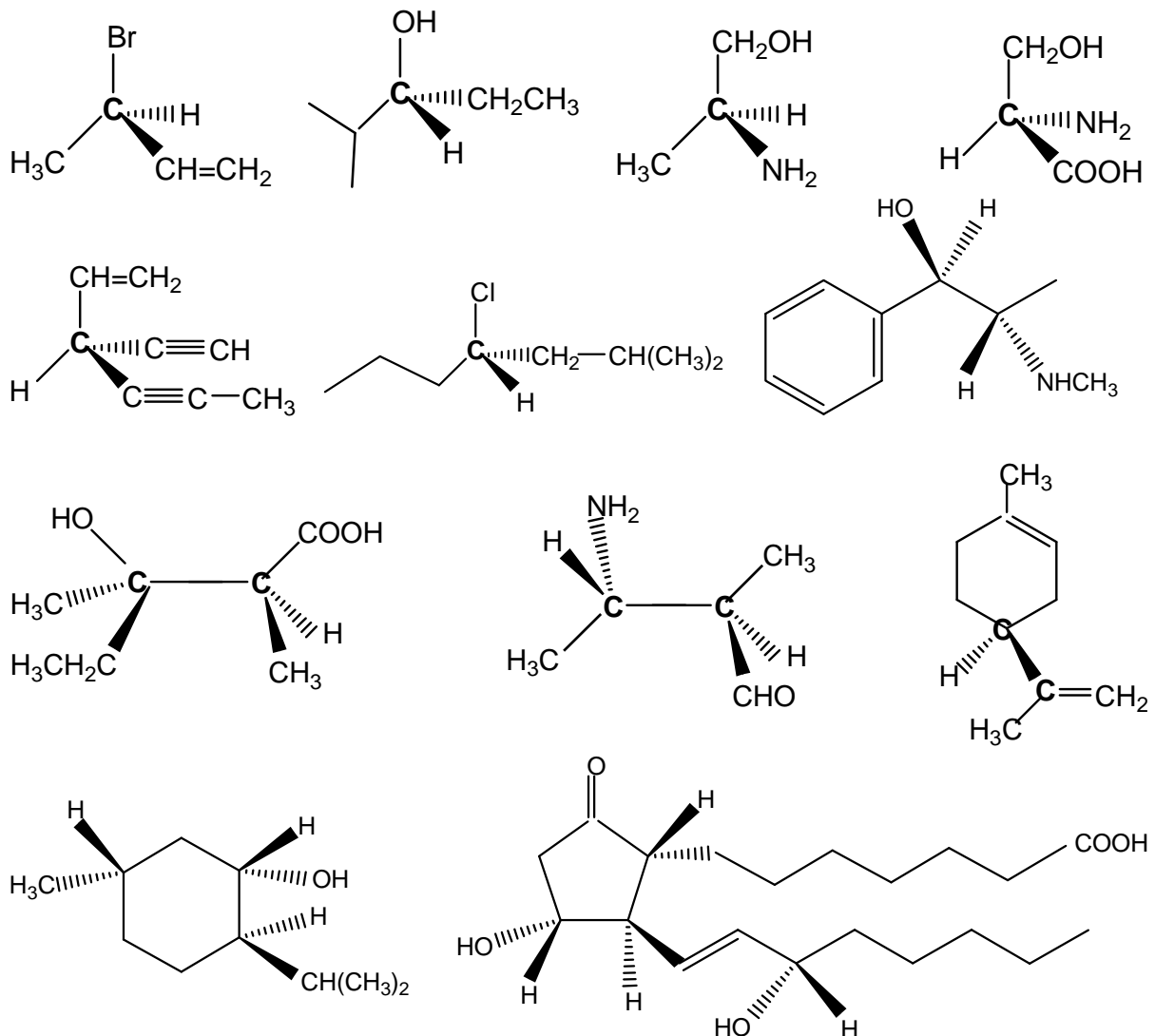
Exercice n°3

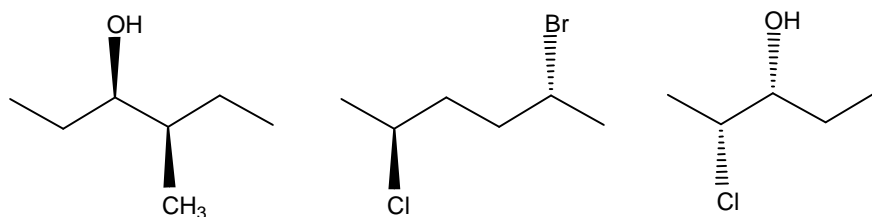
Selon la règle séquentielle de Cahn-Ingold-Prelog, quel est l'ordre de priorité des groupements suivants ?

- 1) $-OCH_3$ $-NHCH_3$ $-CCl_3$ $-CONH_2$ $-CH_2OH$
- 2) $-CH_2OCH_3$ $-SCH_3$ $-NO_2$ $-NHOH$ $-COCH_3$
- 3) $-Br$ $-H$ $-COOH$ $-C_6H_5$ $-CH_3$
- 4) $-NH_2$ $-CHO$ $-OCOCH_3$ $-C\equiv CH$ $-CH_3$
- 5) $-Br$ $-OH$ $-COOCH_3$ $-OCH_3$ $-H$
- 6) $-SH$ $-CN$ $-CH_2OH$ $-OH$ $-COOH$

Exercice n°4

Donner la configuration absolue (R, S) des carbones asymétriques dans les molécules suivantes :



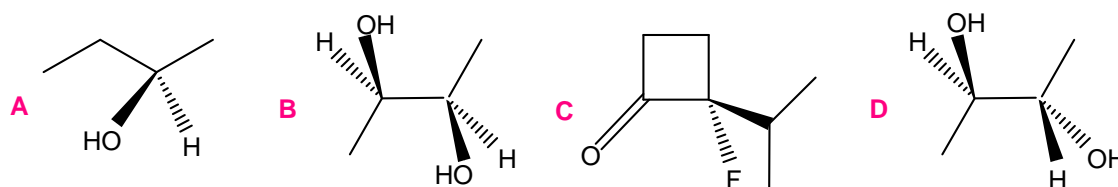


Exercice n°5

- 1) Dessiner la molécule (3R,4Z,6S)-3,6-diméthyl-oct-4-ène-3,6-diol.
- 2) Cette molécule est-elle chirale ?

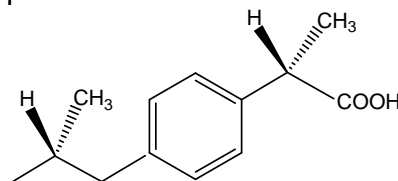
Exercice n°6

Dessiner l'énantiomère de chaque molécule :



Exercice n°7

Ibuprofène est un analgésique et un anti-inflammatoire :

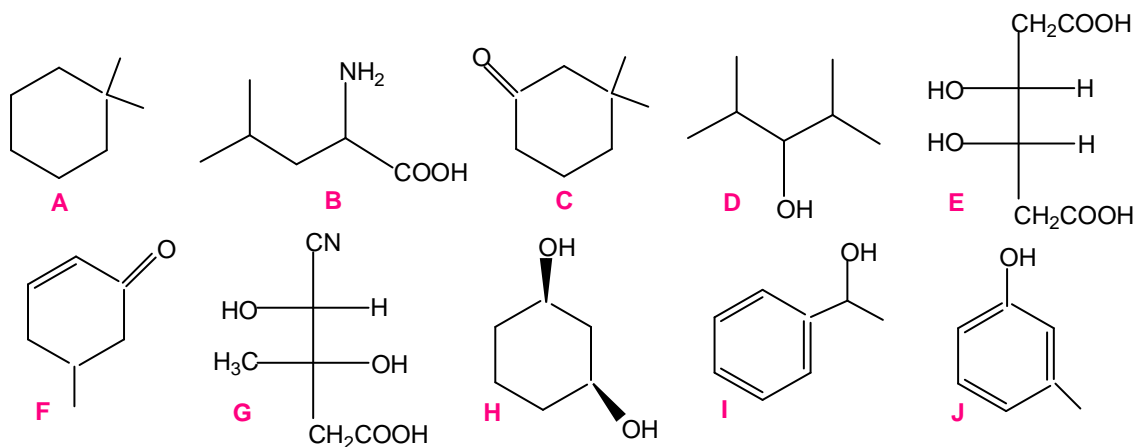


Ibuprofène

- 1) Combien de carbones asymétriques (C*), cette molécule possède-t-elle ?
- 2) Déterminer la configuration absolue (R, S) de chaque C*.
- 3) Dessiner un énantiomère de l'ibuprofène.
- 4) Dessiner un diastéréoisomère de l'ibuprofène.

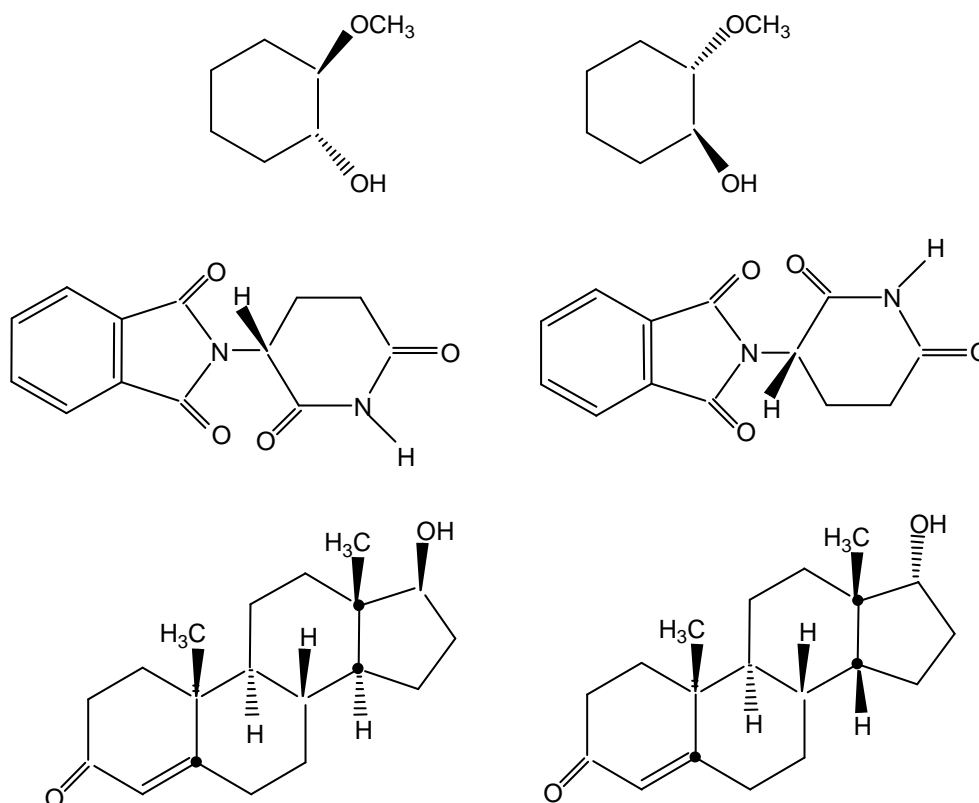
Exercice n°8

Les molécules suivantes sont-elle chirales ?



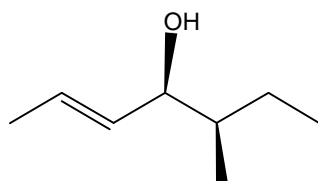
Exercice n°9

Quelle relation d'isomérie existe-t-il pour chaque paire de molécules ?
I (Identiques), **E** (Enantiomères), **D** (Diastéréoisomères)



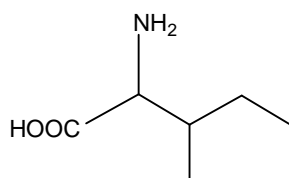
Exercice n°10

Combien de stéréoisomères, l'alcool allylique (molécule ci-dessous) possède-t-il ?



Exercice n°11

La structure de l'acide aminé (isoleucine) est donnée ci-dessous :



- 1) Combien de carbones asymétriques (C*) existe-t-il dans cette molécule ?
- 2) Donner tous les stéréoisomères possibles et déterminer la configuration absolue (R, S) de chaque carbone asymétrique (C*).

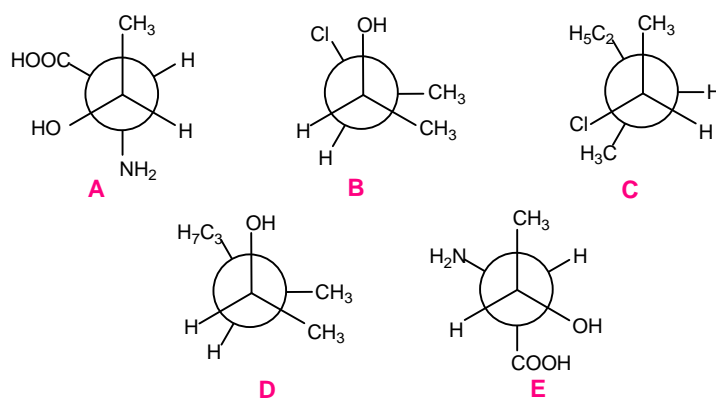
Exercice n°12

Représenter les molécules suivantes selon la projection de Fischer :

- a) (R) 2-bromopentane
- b) (3S,4R) 3,4-dibromoheptane
- c) (S) 1-fluoro-2-chloropropane
- d) (R) 3-méthylhexan-3-ol
- e) (2R,3R) 3-méthylpentan-2-ol
- f) (R) 3-éthyl 3-méthylhex-1-ène

Exercice n°13

- 1) Convertir les molécules suivantes en représentation de Cram puis les nommer en précisant leur configuration absolue (R/S).
- 2) Quelle relation existe-t-il entre les molécules A et D ?



Exercice n°14

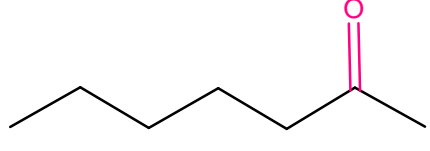
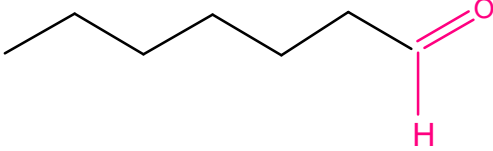
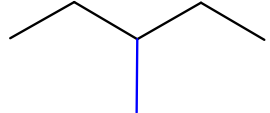
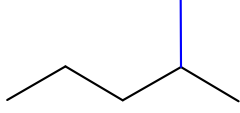
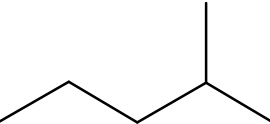
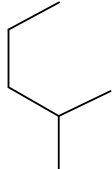
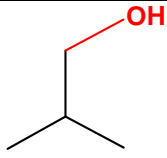
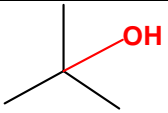
Faire correspondre chaque molécule à la définition qui lui convient :

	Ni Activité optique ni Isomérie E, Z	Activité optique et Isomérie E, Z	Isomérie E, Z mais pas d'activité optique	Activité optique mais pas d'isomérie E, Z

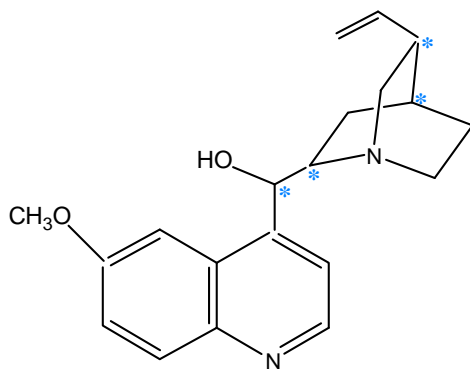
Correction des Travaux dirigés (2012-2013)

Exercice n°1

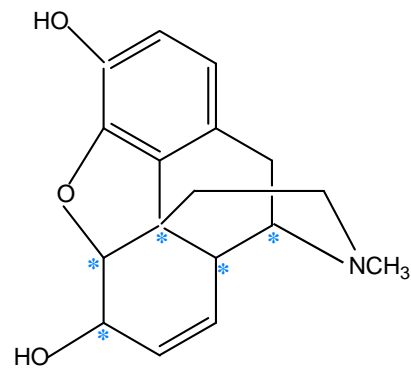
Quelle relation d'isomérie existe-t-il entre chaque paire de molécules ?

		Isomères de fonction
		Isomères de chaîne
		Identiques
		Isomères de position

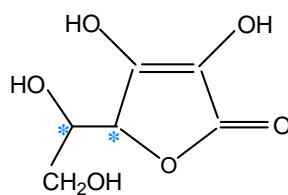
Exercice n°2



Quinine
4C*



Morphine
5C*



Acide ascorbique
2C*

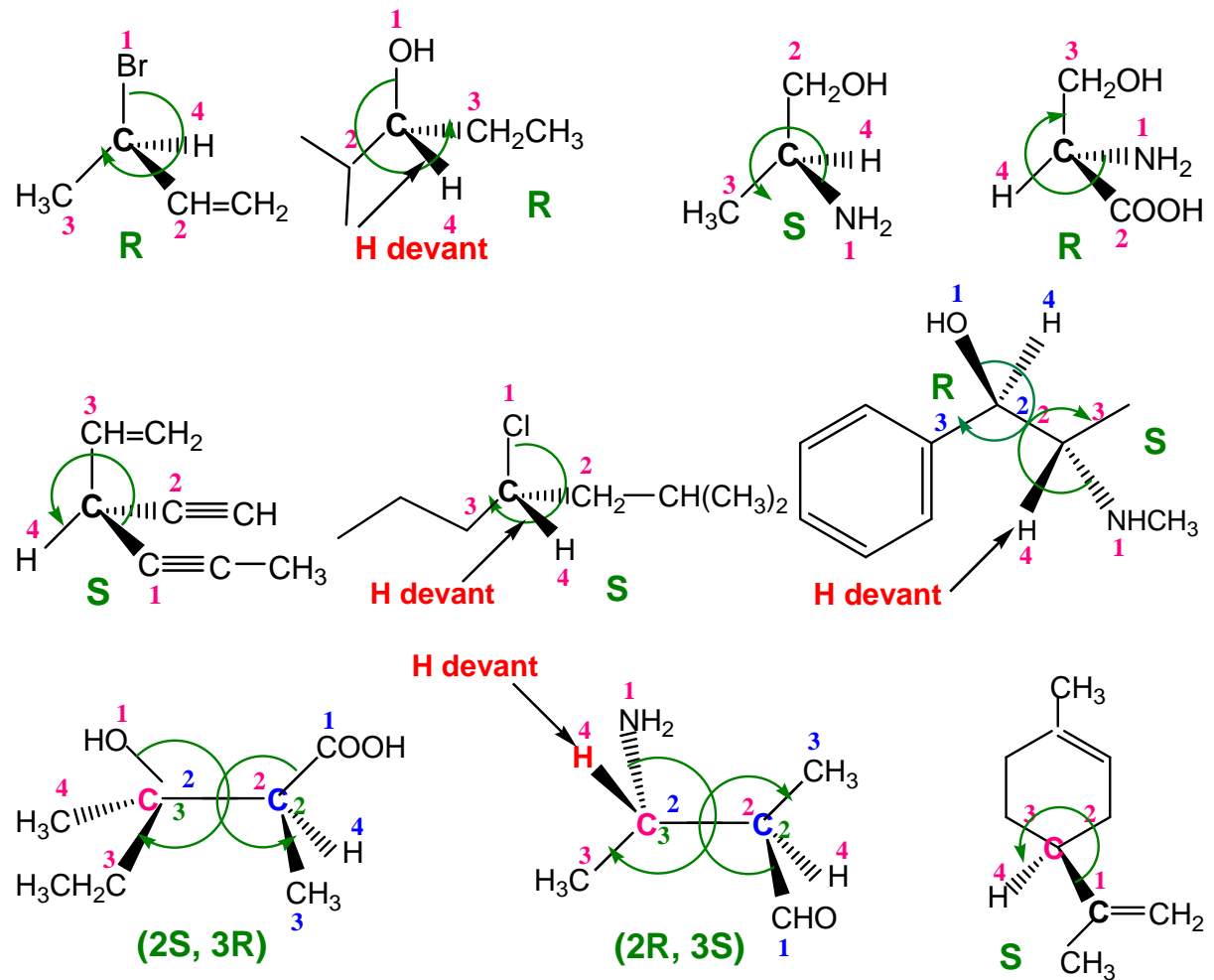
Exercice n°3

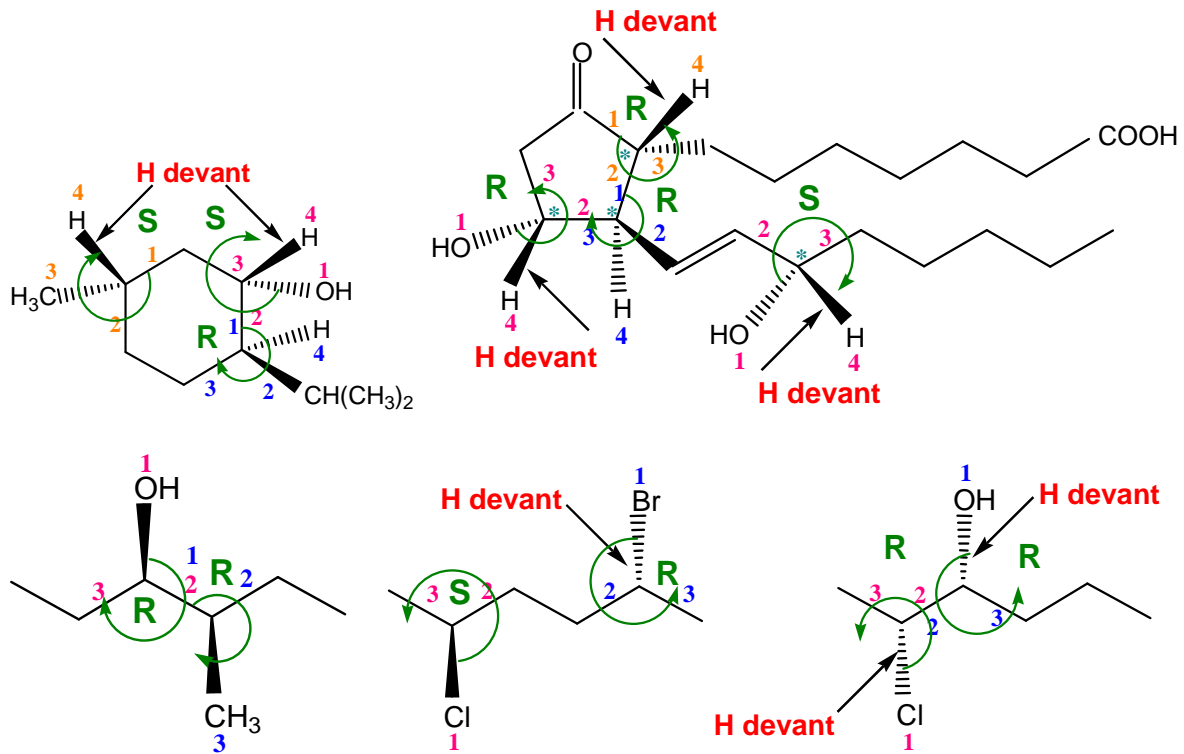
Ordre de priorité selon les règles de Cahn-Ingold-Prelog :

- 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

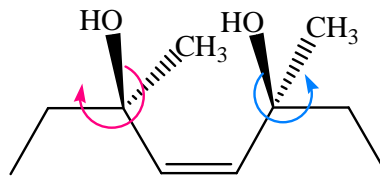
Configuration absolue des carbones asymétriques :



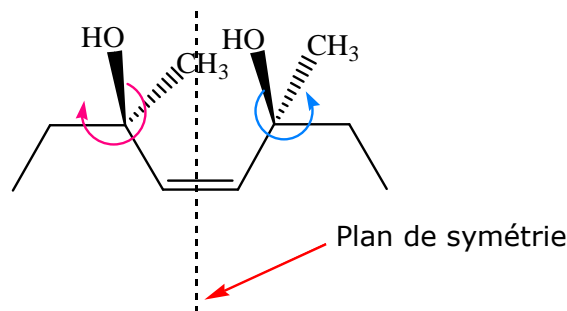


Exercice n°5

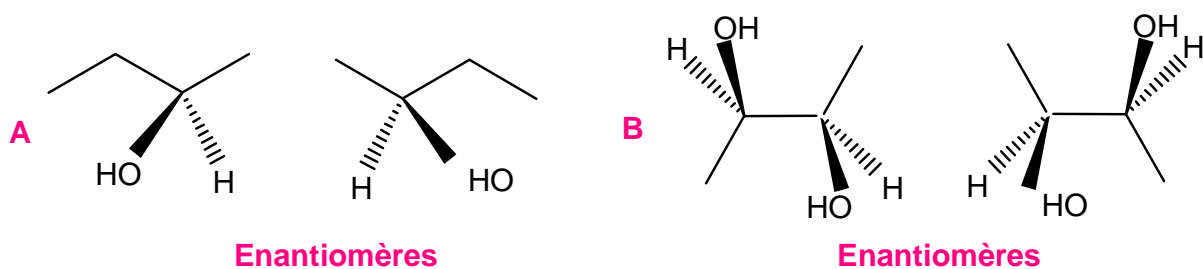
1) La molécule (3R,4Z,6S)-3,6-diméthyl-oct-4-ène-3,6-diol :

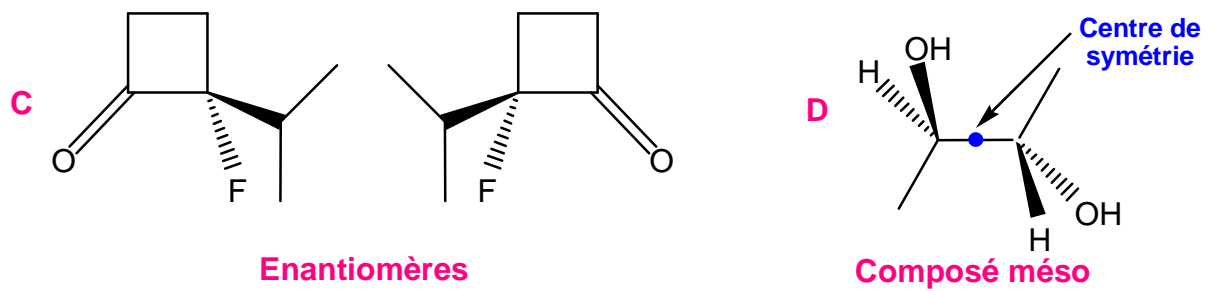


2) Cette molécule est **achirale** : existence d'un plan de symétrie :



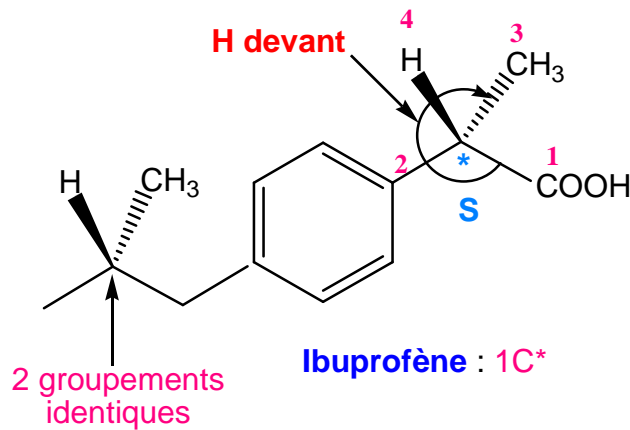
Exercice n°6



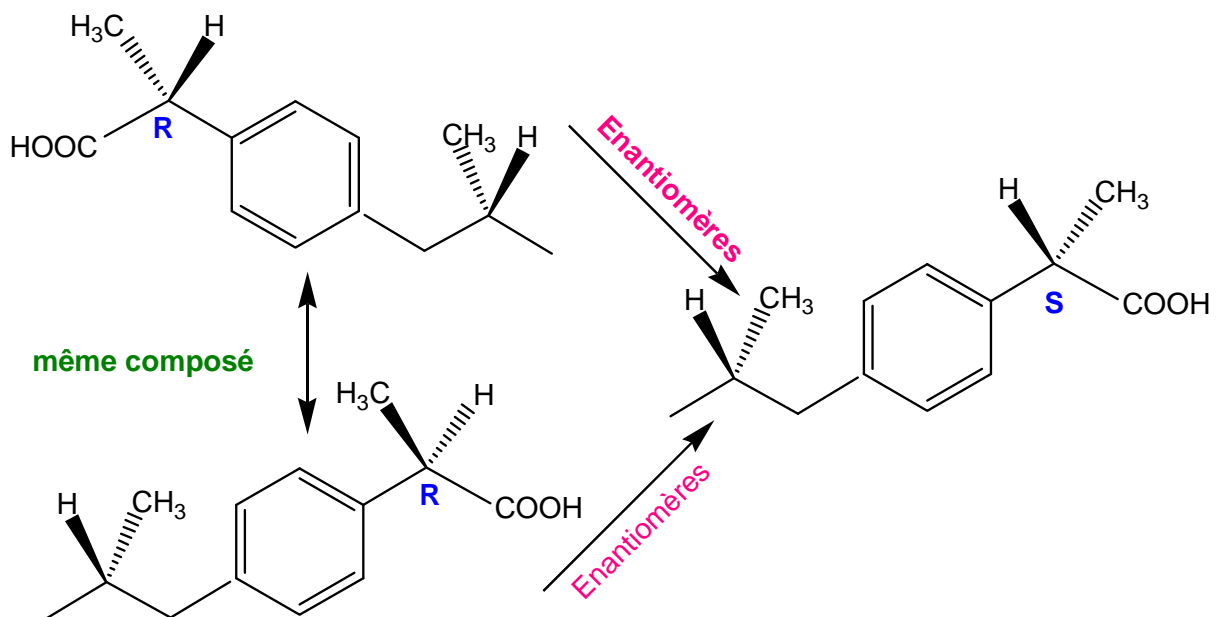


Exercice n°7

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



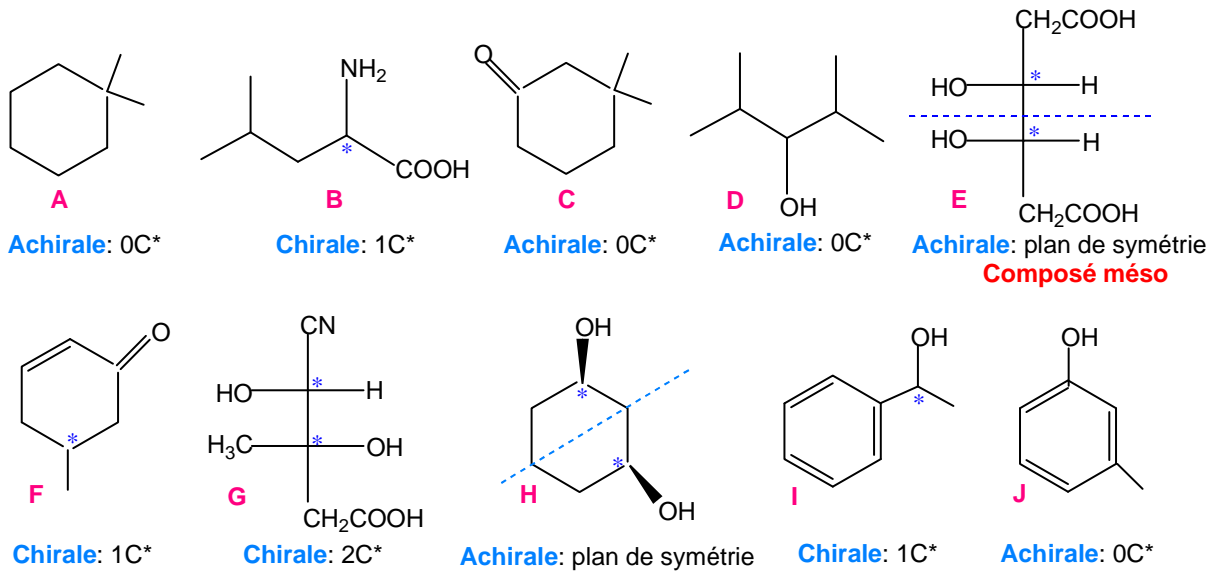
Un énantiomère de l'ibuprofène :



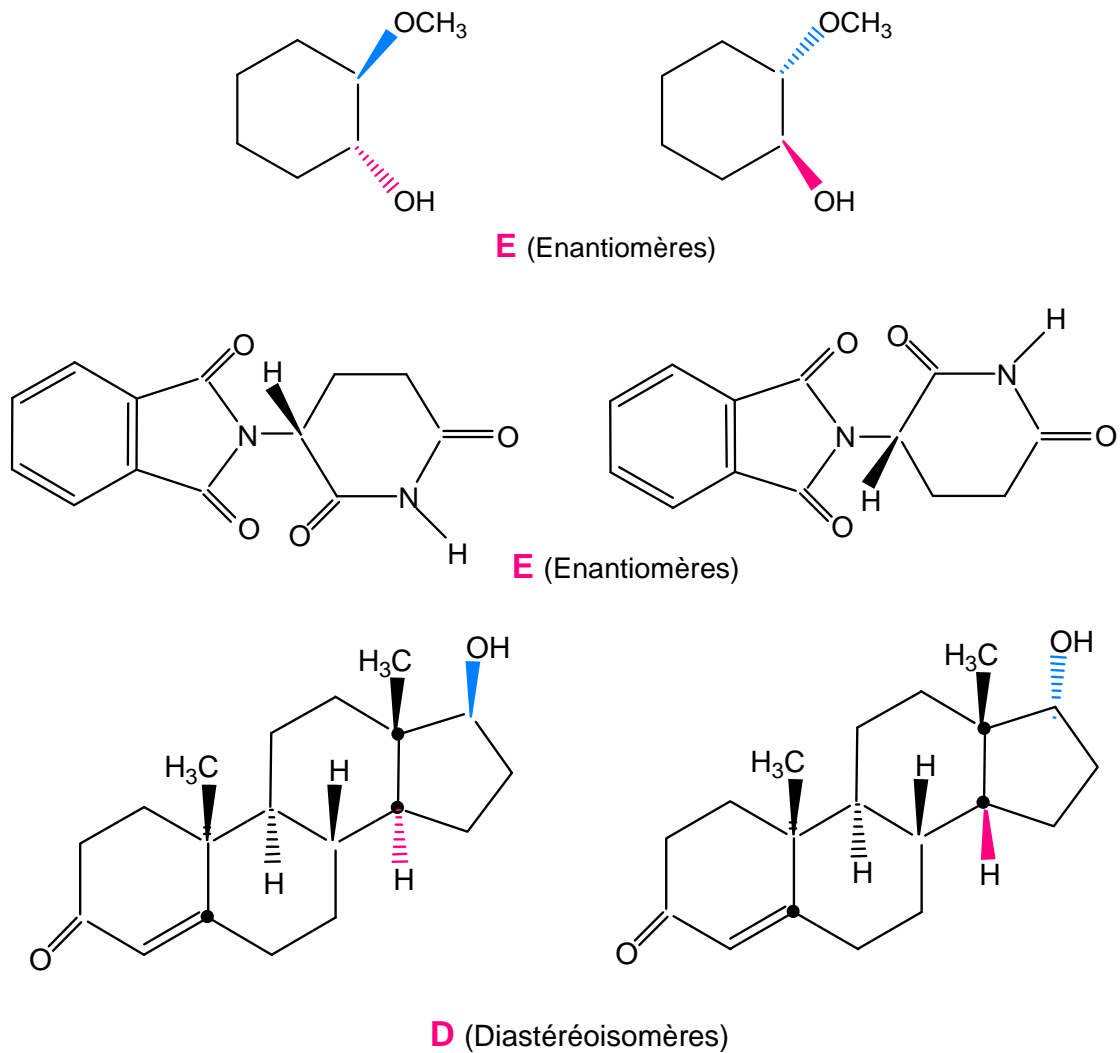
L'ibuprofène possède un seul carbone asymétrique (**1C***), cette molécule ne peut donc pas avoir de diastéréoisomères.

Exercice n°8

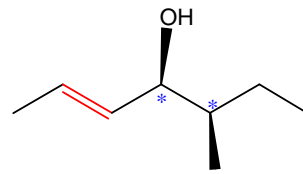
Les molécules **B**, **F**, **G** et **I** sont chirales :



Exercice n°9



Exercice n°10



Alcool allylique

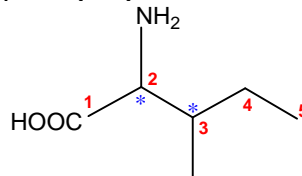
- Il y a **2 C*** ⇒ **2² = 4** stéréoisomères : de configuration **RR, SS, RS, SR**.
- Il ya **1C=C** ⇒ **2** isomères de configuration **Z, E** pour chaque stéréoisomère

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

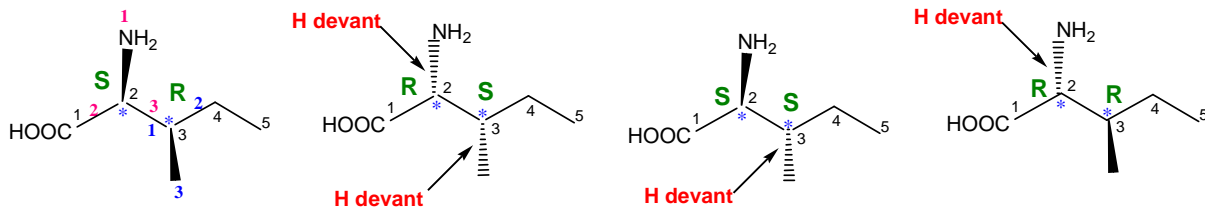
E, R, R	E, S, R
Z, R, R	Z, S, R
E, R, S	E, S, S
Z, R, S	Z, S, S

Exercice n°11

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

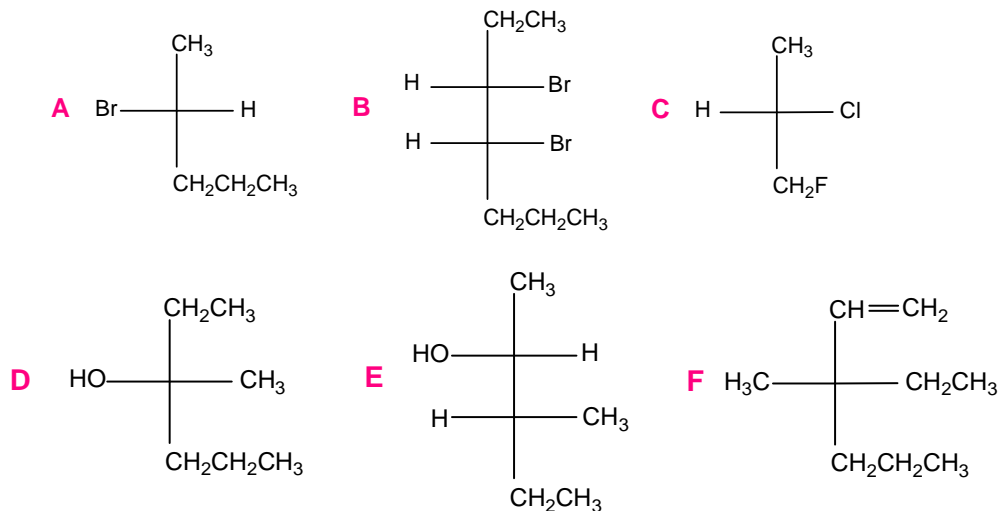


- 2) Il y a **2 C*** ⇒ **2² = 4** stéréoisomères : de configuration **RR, SS, RS, SR**



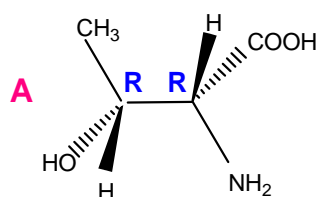
Exercice n°12

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

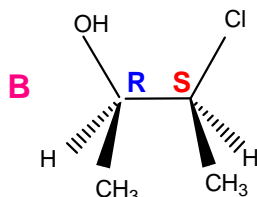


Exercice n°13

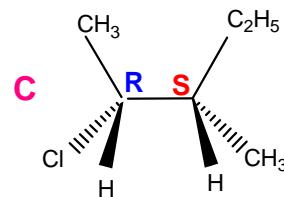
Les molécules **A** et **E** sont des énantiomères:



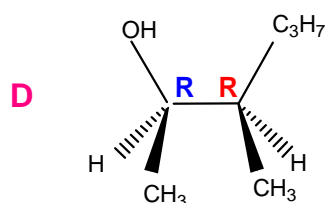
(2R, 3R) Acide 2-amino
3-hydroxybutanoïque



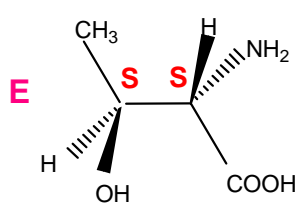
(2R, 3S)
3-chlorobutan-2-ol



(2R, 3S) 2-chloro
3-méthylpentane



(2R, 3R)
3-méthylhexan-2-ol



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

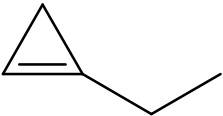
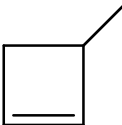
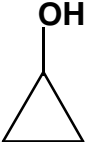
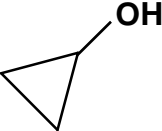
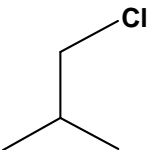
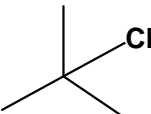
Exercice n°14

	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
			✓	
				✓
		✓		
	✓			

Travaux dirigés (2011-2012)

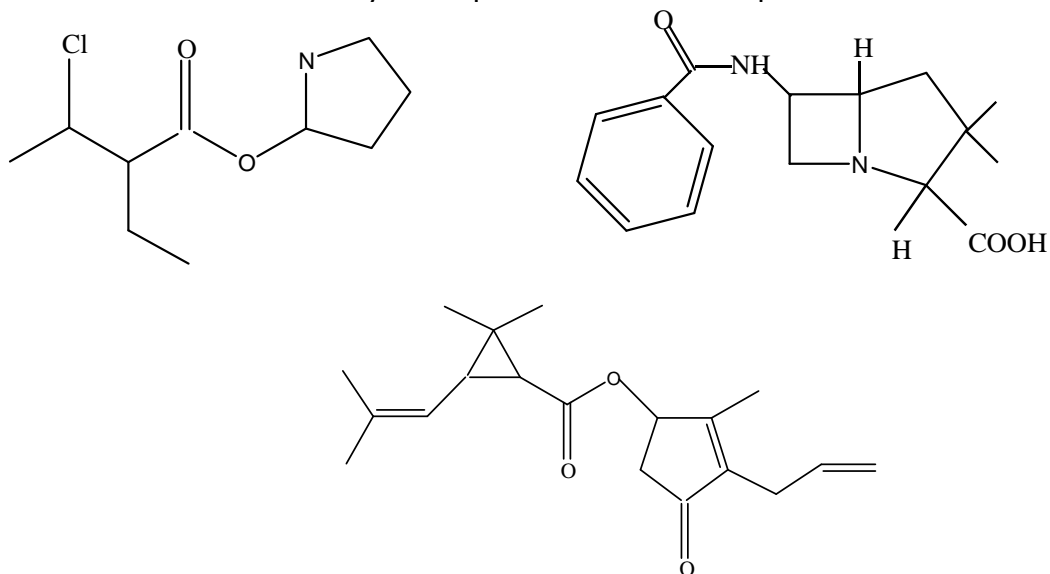
Exercice n°1

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

$\text{H}_3\text{C} - \text{CH}_2 - \text{O} - \text{CH}_2 - \text{CH}_3$	$\text{H}_3\text{C} - \underset{\text{OH}}{\text{CH}} - \text{CH}_2 - \text{CH}_3$	
		
		
		

Exercice n°2

Combien de carbones asymétriques ces molécules possèdent-elles ?



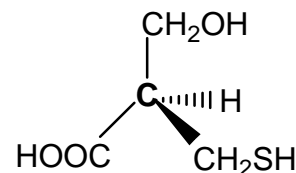
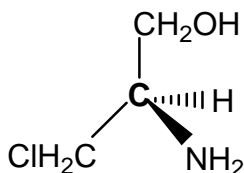
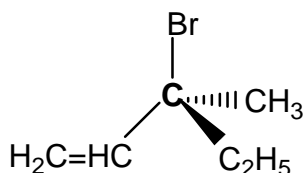
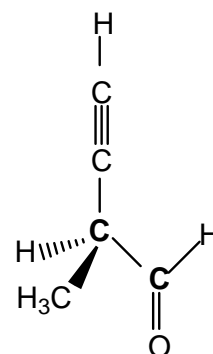
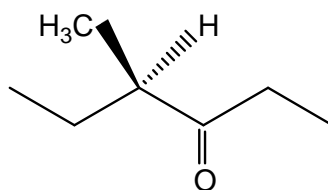
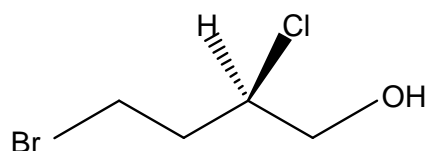
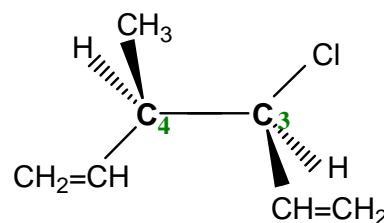
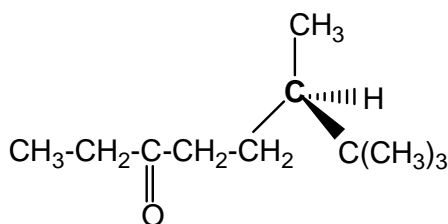
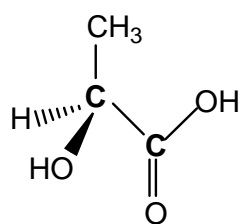
Exercice n°3

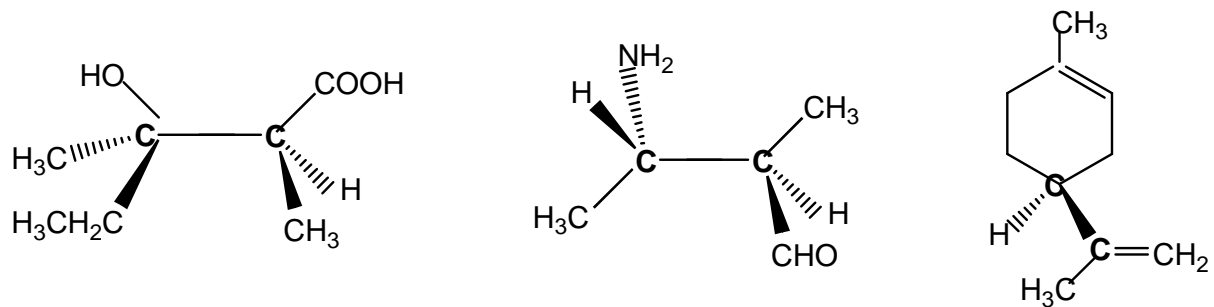
Selon la règle séquentielle de Cahn-Ingold-Prelog, quel est l'ordre de priorité des substituants suivants ?

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

Exercice n°4

Donner la configuration absolue (R, S) des carbones asymétriques dans les molécules suivantes :





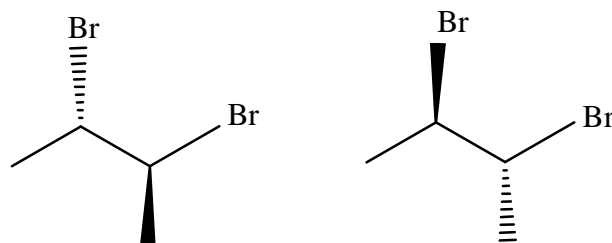
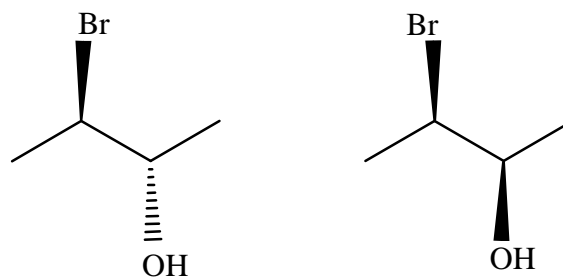
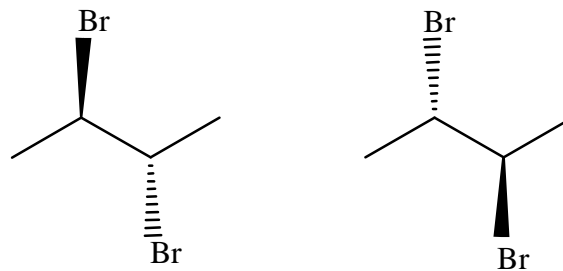
Exercice n°5

- 1) Dessiner la molécule (3R,4Z,6S)-3,6-diméthyl-oct-4-ène-3,6-diol.
- 2) Cette molécule est-elle chirale ?

Exercice n°6

Quelle relation d'isomérisme existe-t-il pour chaque paire de molécules ?

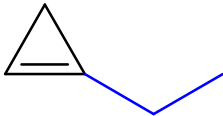
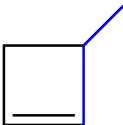
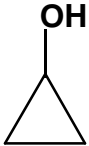
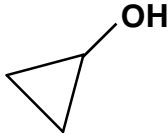
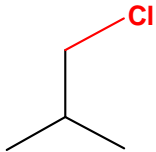
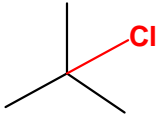
I (Identiques), **E** (Enantiomères), **D** (Diastéréoisomères)



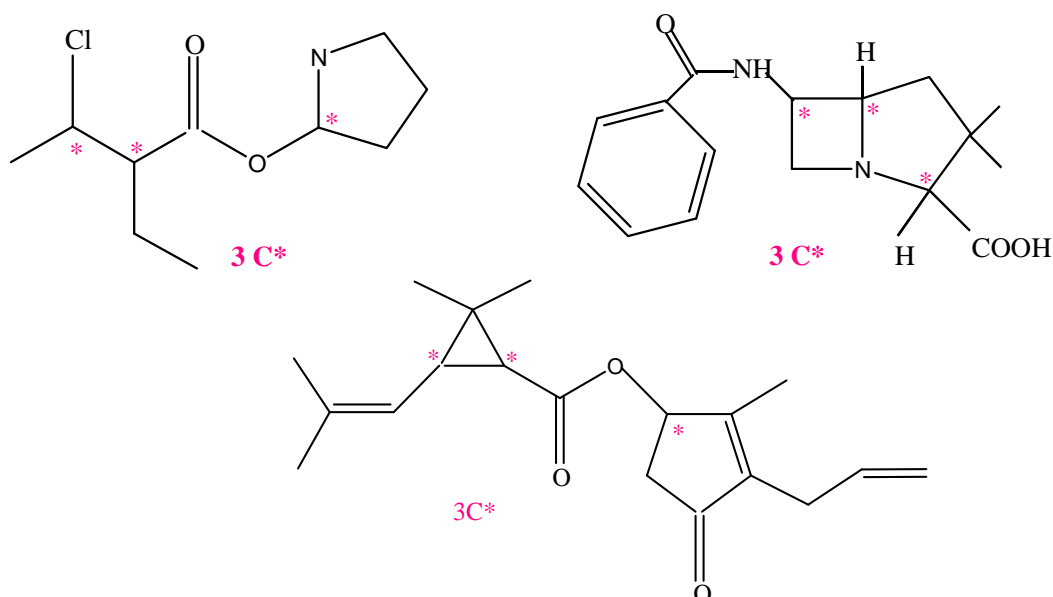
Correction des Travaux dirigés (2011-2012)

Exercice n°1

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

$\text{H}_3\text{C}-\text{CH}_2-\text{O}-\text{CH}_2-\text{CH}_3$	$\text{H}_3\text{C}-\underset{\text{OH}}{\text{CH}}-\text{CH}_2-\text{CH}_3$	Isomères de fonction
		Isomères de chaîne
		Identiques
		Isomères de position

Exercice n°2



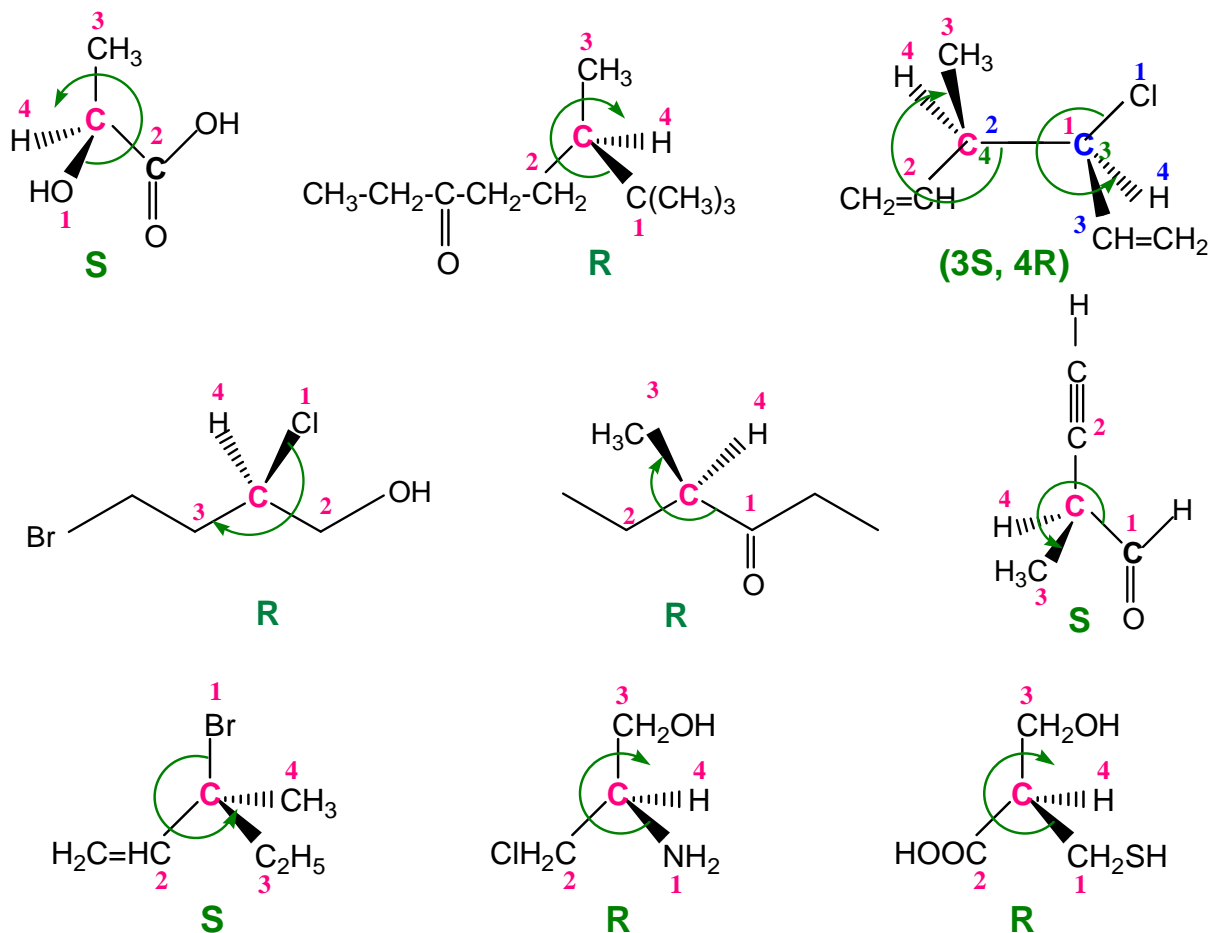
Exercice n°3

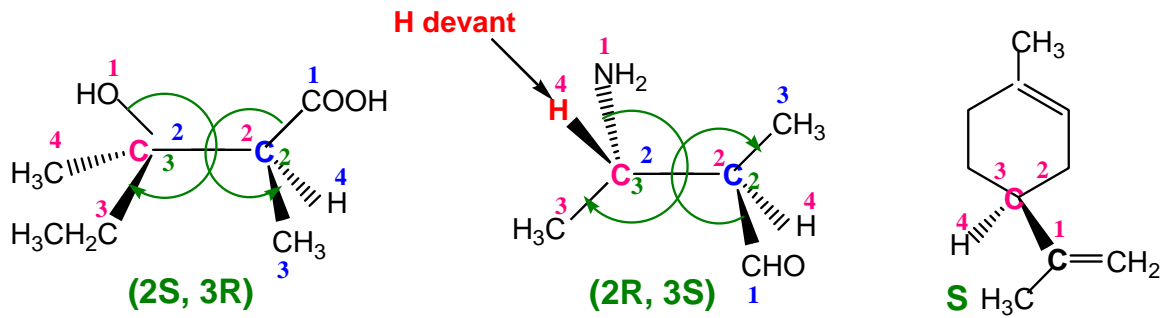
Ordre de priorité selon les règles de Cahn-Ingold-Prelog :

- 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

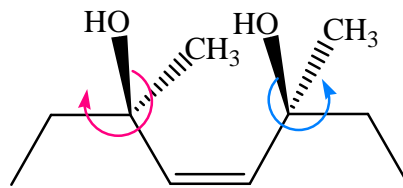
Configuration absolue des carbones asymétriques :



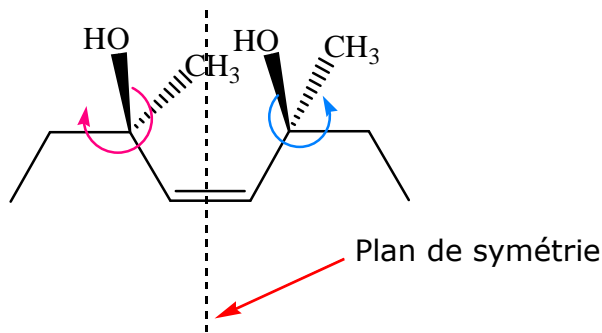


Exercice n°5

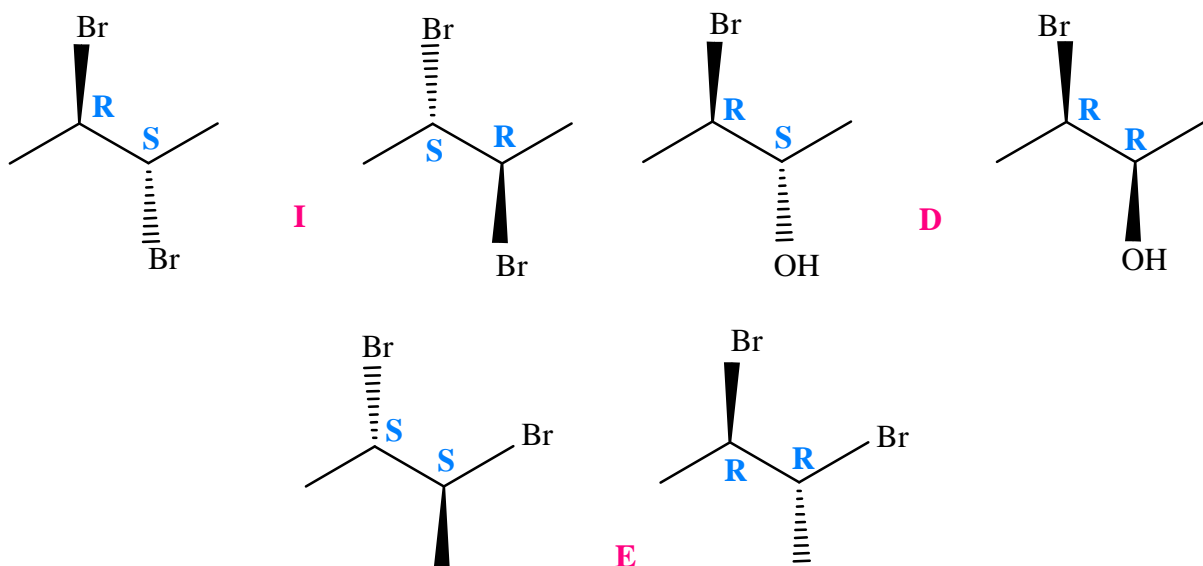
1) La molécule (3R,4Z,6S)-3,6-diméthyl-oct-4-ène-3,6-diol :



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



Exercice n°6



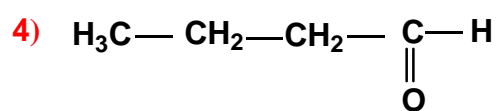
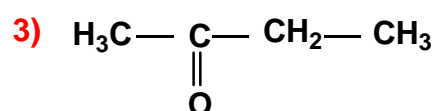
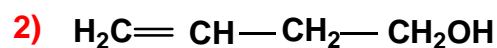
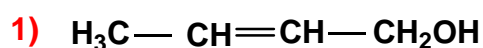
*Travaux dirigés (2010-2011)***Exercice n°1**

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

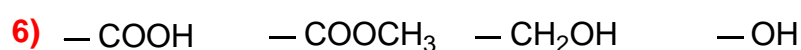
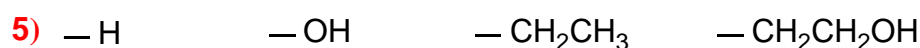
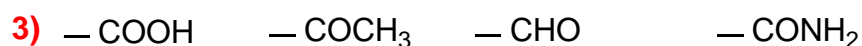
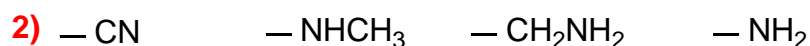
$\text{H}_3\text{C}-\text{CH}_2-\text{CH}_2-\text{C}\begin{matrix} \text{O} \\ // \\ \text{OH} \end{matrix}$	$\text{H}_3\text{C}-\underset{\text{OH}}{\text{CH}}-\text{CH}_2-\text{C}\begin{matrix} \text{O} \\ // \\ \text{H} \end{matrix}$	
$\text{H}_3\text{C}-\text{CH}_2-\text{CH}_2-\text{C}\begin{matrix} \text{O} \\ // \\ \text{OH} \end{matrix}$	$\text{H}_3\text{C}-\underset{\text{CH}_3}{\text{CH}}-\text{C}\begin{matrix} \text{O} \\ // \\ \text{OH} \end{matrix}$	
$\text{H}_3\text{C}-\underset{\text{OH}}{\text{CH}}-\text{CH}_2-\text{C}\begin{matrix} \text{O} \\ // \\ \text{H} \end{matrix}$	$\text{H}_3\text{C}-\text{CH}_2-\underset{\text{OH}}{\text{CH}}-\text{C}\begin{matrix} \text{O} \\ // \\ \text{H} \end{matrix}$	

Exercice n°2

Quelle relation d'isomérie existe-t-il entre les molécules suivantes, prises 2 à 2 ?

**Exercice n°3**

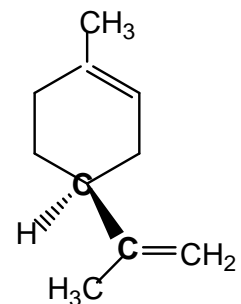
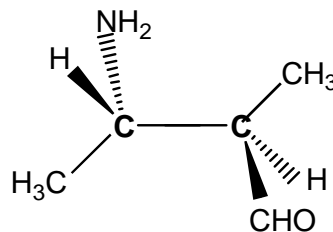
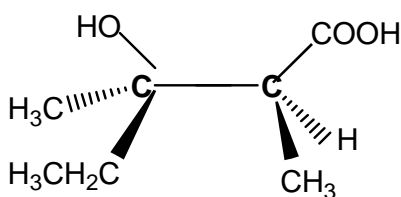
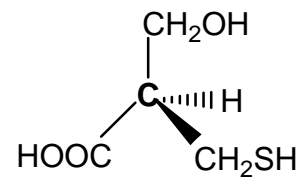
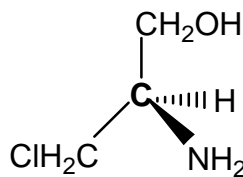
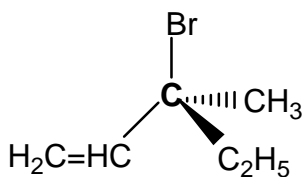
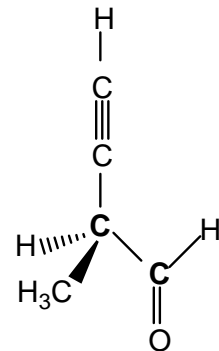
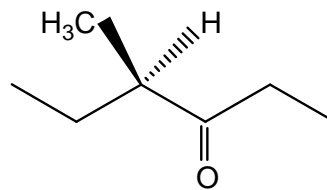
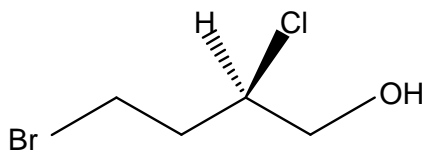
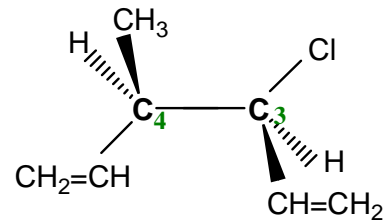
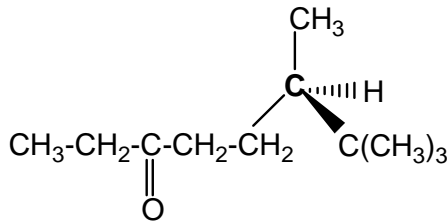
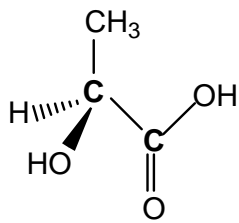
Selon la règle séquentielle de Cahn-Ingold-Prelog, quel est l'ordre de priorité des substituants suivants ?



- | | | | | |
|-----|----------------------|-------------------------------------|-------------------------------------|--------------------------------------|
| 7) | — CN | — CH ₂ NH ₂ | — CH ₂ NHCH ₃ | — NH ₂ |
| 8) | — SH | — CH ₂ SCH ₃ | — CH ₃ | — SCH ₃ |
| 9) | — H | — Br | — CH ₂ CH ₃ | — CH ₂ CH ₂ OH |
| 10) | — Br | — CH ₂ Br | — Cl | — CH ₂ Cl |
| 11) | — CH=CH ₂ | — CH(CH ₃) ₂ | — C(CH ₃) ₃ | — CH ₂ CH ₃ |
| 12) | — COOCH ₃ | — COCH ₃ | — CH ₂ OCH ₃ | — OCH ₃ |

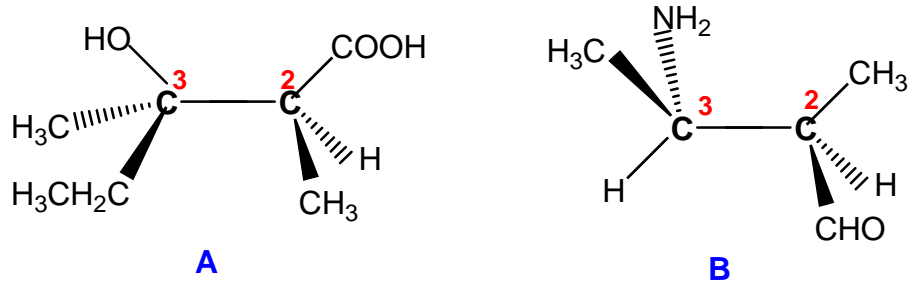
Exercice n°4

Donner la configuration absolue (R, S) des carbones asymétriques dans les molécules suivantes :



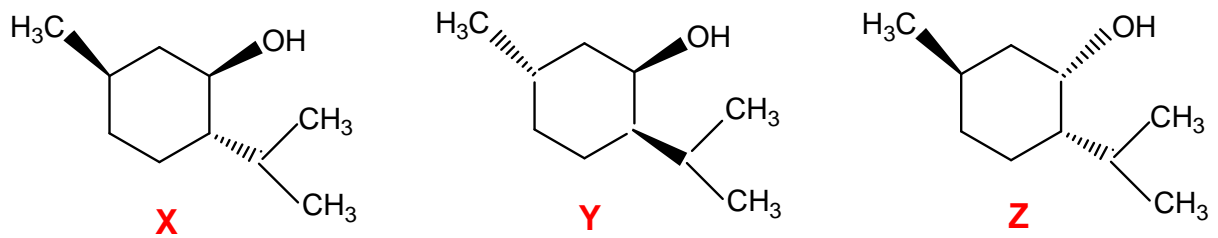
Exercice n°5

Représenter les molécules **A** et **B** selon Newman suivant l'axe **C₂-C₃** en conservant les conformations proposées :



Exercice n°6

Quelle relation d'isomérie existe-t-il entre les 3 molécules suivantes **X**, **Y** et **Z** ?



Correction des Travaux dirigés (2010-2011)

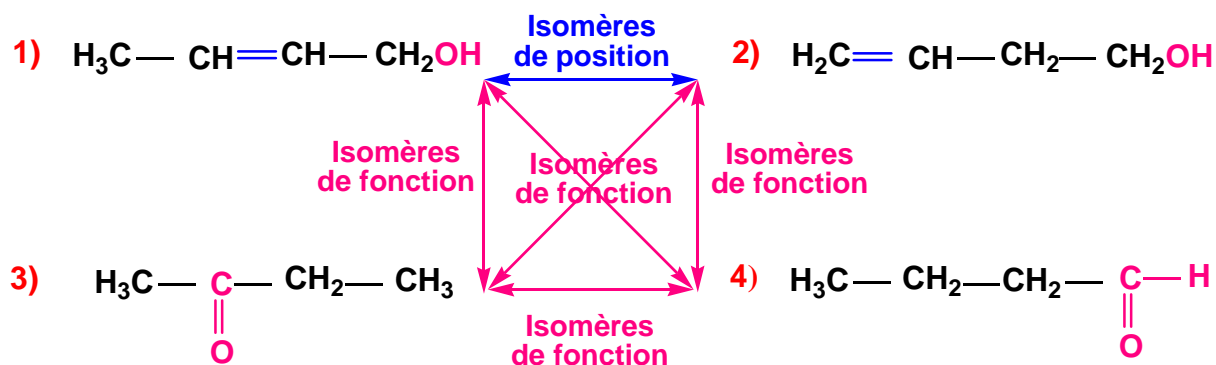
Exercice n°1

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

$\text{H}_3\text{C}-\text{CH}_2-\text{CH}_2-\text{C} \begin{matrix} \text{O} \\ // \\ \text{OH} \end{matrix}$	$\text{H}_3\text{C}-\underset{\text{OH}}{\text{CH}}-\text{CH}_2-\text{C} \begin{matrix} \text{O} \\ // \\ \text{H} \end{matrix}$	Isomères de fonction
$\text{H}_3\text{C}-\text{CH}_2-\text{CH}_2-\text{C} \begin{matrix} \text{O} \\ // \\ \text{OH} \end{matrix}$	$\text{H}_3\text{C}-\underset{\text{CH}_3}{\text{CH}}-\text{C} \begin{matrix} \text{O} \\ // \\ \text{OH} \end{matrix}$	Isomères de chaîne
$\text{H}_3\text{C}-\underset{\text{OH}}{\text{CH}}-\text{CH}_2-\text{C} \begin{matrix} \text{O} \\ // \\ \text{H} \end{matrix}$	$\text{H}_3\text{C}-\text{CH}_2-\underset{\text{OH}}{\text{CH}}-\text{C} \begin{matrix} \text{O} \\ // \\ \text{H} \end{matrix}$	Isomères de position

Exercice n°2

Quelle relation d'isomérie existe-t-il entre les molécules suivantes, prises 2 à 2 ?



Exercice n°3

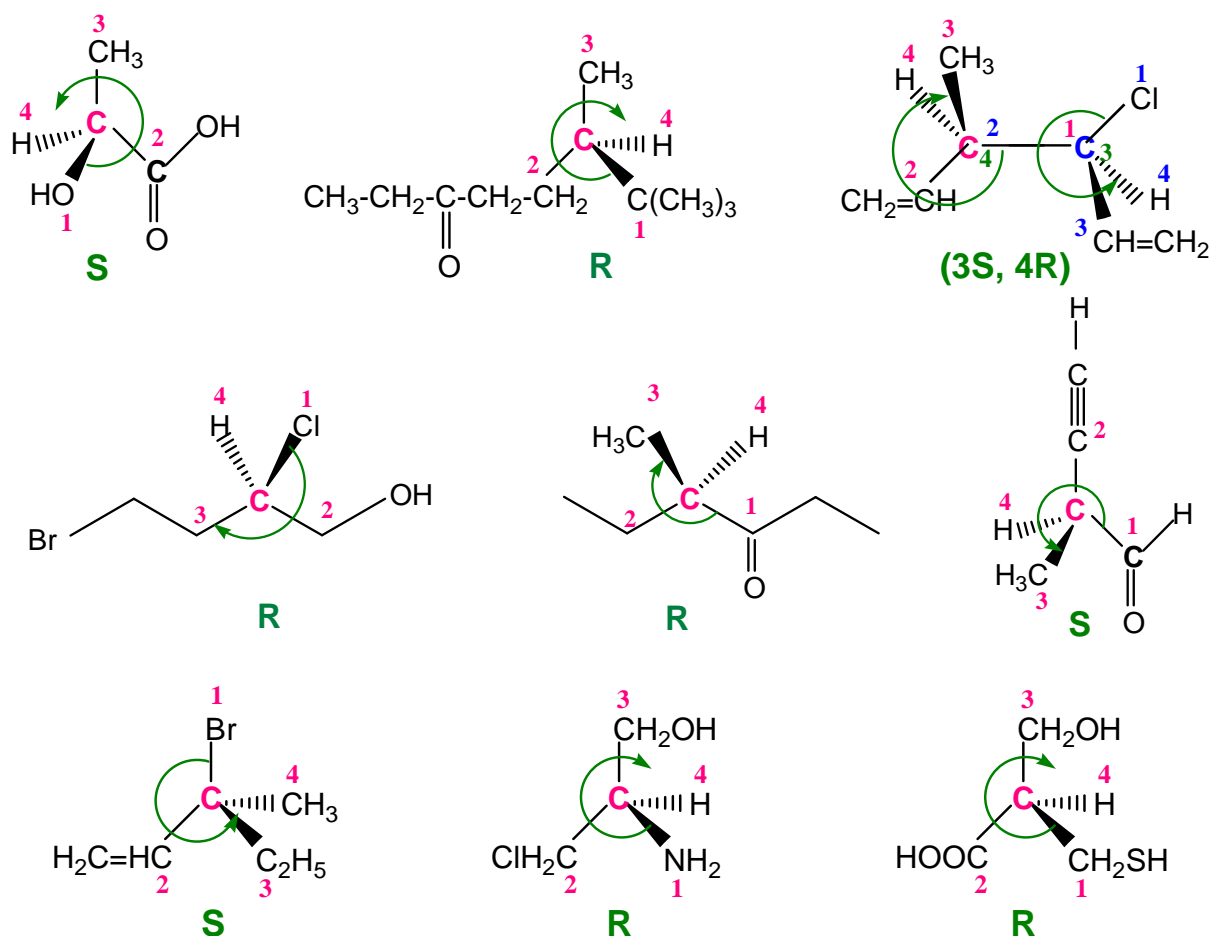
Ordre de priorité selon les règles de Cahn-Ingold-Prelog :

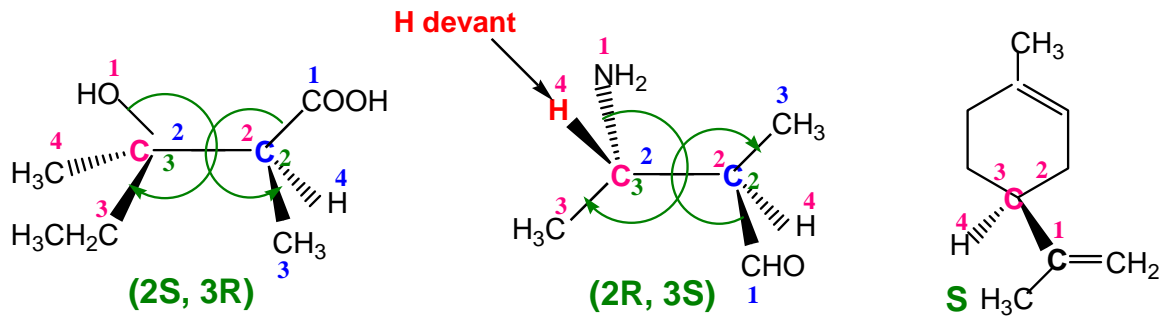
- 1) $-\text{OCH}_3 > -\text{OH} > -\text{CH}_2\text{OH} > -\text{CH}_3$
- 2) $-\text{NHCH}_3 > -\text{NH}_2 > -\text{CN} > -\text{CH}_2\text{NH}_2$
- 3) $-\text{COOH} > -\text{CONH}_2 > -\text{COCH}_3 > -\text{CHO}$

- 4) $-\text{SH} > -\text{OCOCH}_3 > -\text{NH}_2 > -\text{CCl}_3$
 5) $-\text{OH} > -\text{CH}_2\text{CH}_2\text{OH} > -\text{CH}_2\text{CH}_3 > -\text{H}$
 6) $-\text{OH} > -\text{COOCH}_3 > -\text{COOH} > -\text{CH}_2\text{OH}$
 7) $-\text{NH}_2 > -\text{CN} > -\text{CH}_2\text{NHCH}_3 > -\text{CH}_2\text{NH}_2$
 8) $-\text{SCH}_3 > -\text{SH} > -\text{CH}_2\text{SCH}_3 > -\text{CH}_3$
 9) $-\text{Br} > -\text{CH}_2\text{CH}_2\text{OH} > -\text{CH}_2\text{CH}_3 > -\text{H}$
 10) $-\text{Br} > -\text{Cl} > -\text{CH}_2\text{Br} > -\text{CH}_2\text{Cl}$
 11) $-\text{C}(\text{CH}_3)_3 > -\text{CH}=\text{CH}_2 > -\text{CH}(\text{CH}_3)_2 > -\text{CH}_2\text{CH}_3$
 12) $-\text{OCH}_3 > -\text{COOCH}_3 > -\text{COCH}_3 > -\text{CH}_2\text{OCH}_3$

Exercice n°4

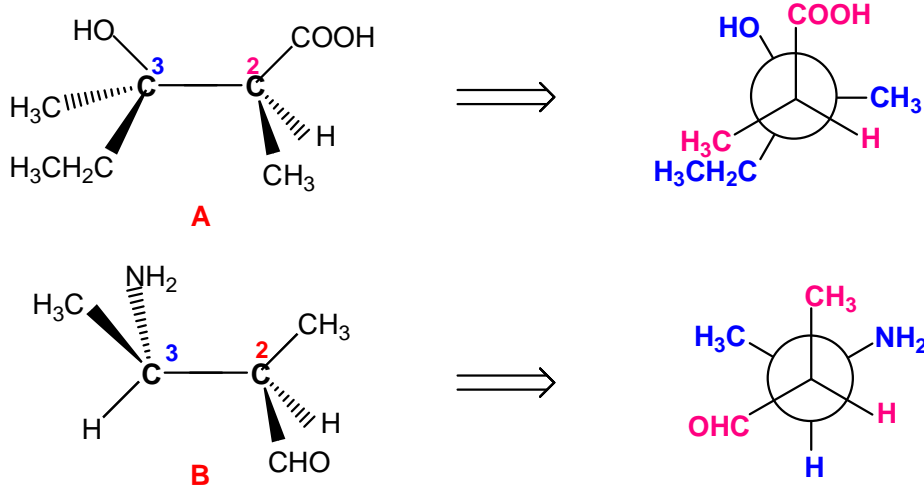
Configuration absolue des carbones asymétriques :



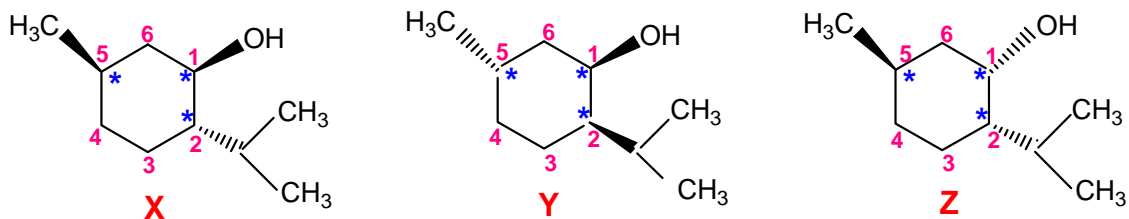


Exercice n°5

Représentation de Newman selon l'axe C_2-C_3 :

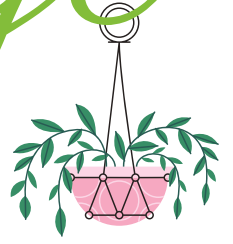


Exercice n°6



Molécule	Relation d'isomérisie	Configuration		
		C1	C2	C5
X	Diastéréoisomères	R	S	R
Y		R	R	S
Y	Enantiomères	R	R	S
Z		S	S	R
X	Diastéréoisomères	R	S	R
Z		S	S	R

Bon courage



LIENS UTILES 🙌

Visiter :

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2. <https://biologie-maroc.com/shop/>

- Acheter des cahiers personnalisés + Lexiques et notions.
- Trouver des cadeaux et accessoires pour biologistes et géologues.
- Trouver des bourses et des écoles privées

3. <https://biologie-maroc.com/emploi/>

- Télécharger des exemples des CV, lettres de motivation, demandes de ...
- Trouver des offres d'emploi et de stage

