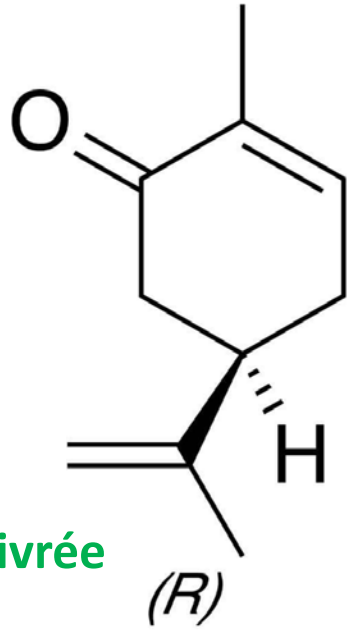
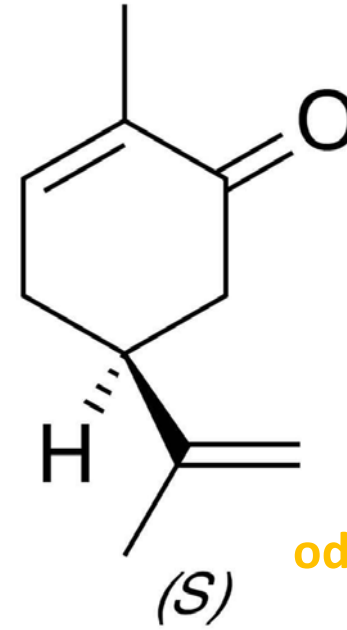


LC12 : Stéréochimie et molécules du vivant

Même représentation plane mais odeurs différentes?

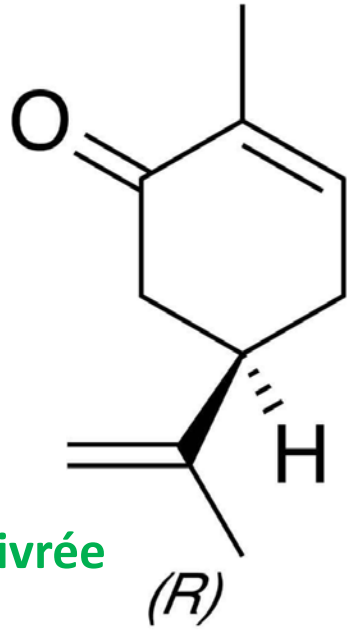


odeur de menthe poivrée



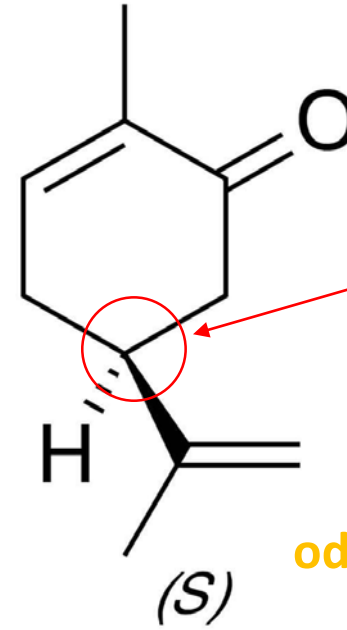
odeur de cumin

Chiralité, carbone asymétrique



odeur de menthe poivrée

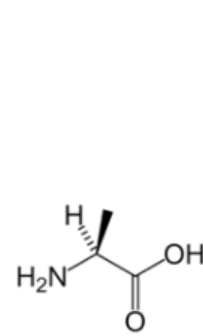
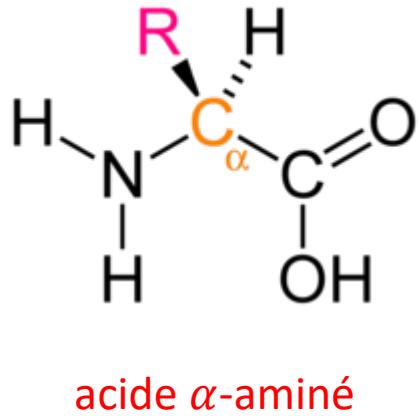
miroir plan



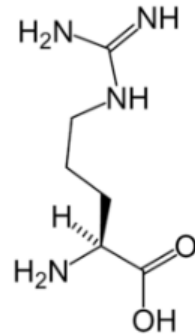
carbone asymétrique

odeur de cumin

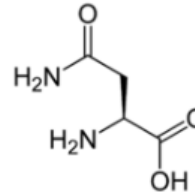
Acides aminés protéinogènes



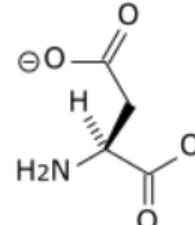
L-Alanine



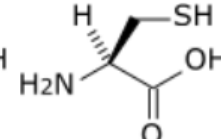
L-Arginine



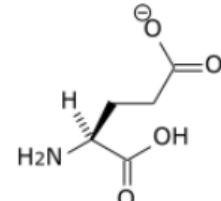
L-Asparagine



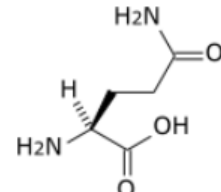
L-Aspartate



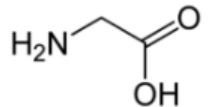
L-Cystéine



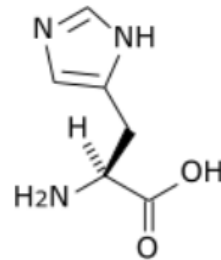
L-Glutamate



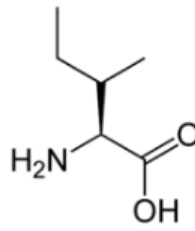
L-Glutamine



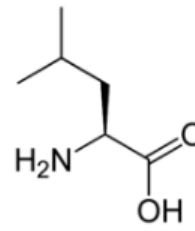
Glycine



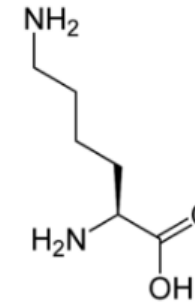
L-Histidine



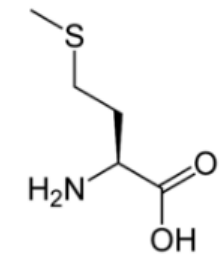
L-Isoleucine



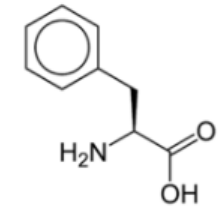
L-Leucine



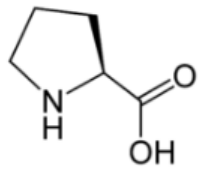
L-Lysine



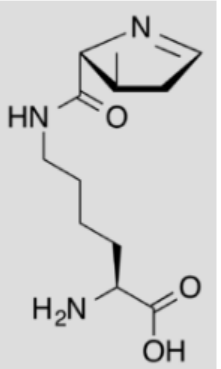
L-Méthionine



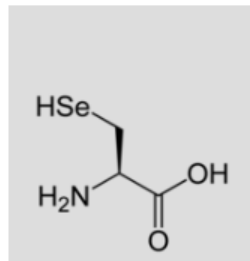
L-Phénylalanine



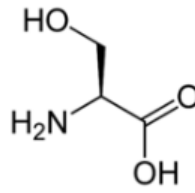
L-Proline



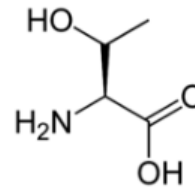
L-Pyrrolysine



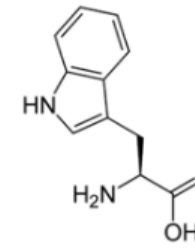
L-Sélénocystéine



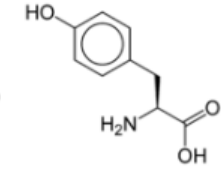
L-Sérine



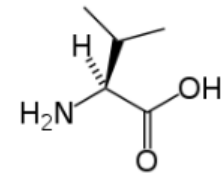
L-Thréonine



L-Tryptophane

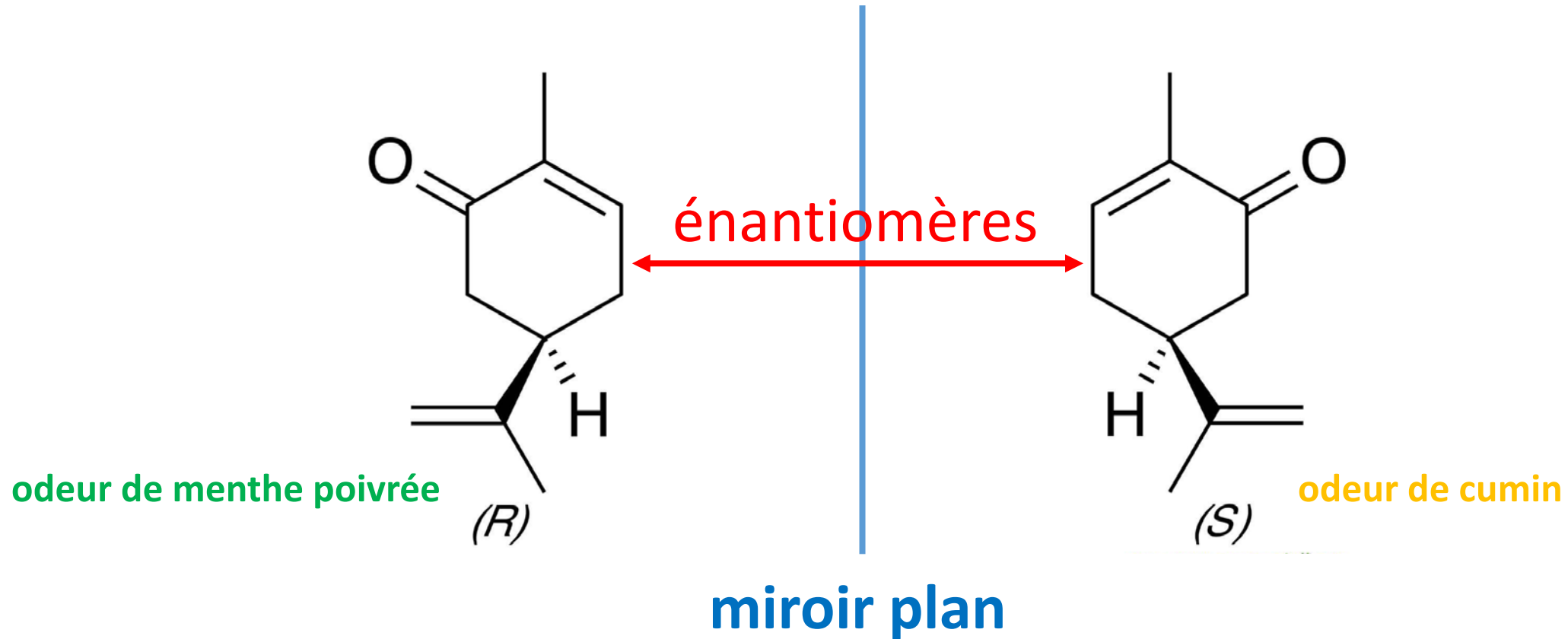


L-Tyrosine

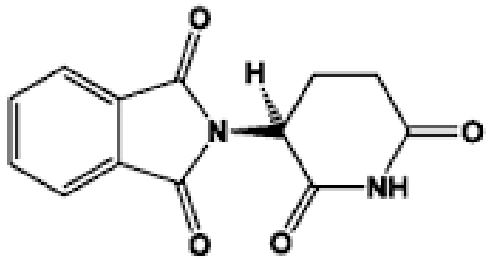


L-Valine

Les deux énantiomères de la carvone

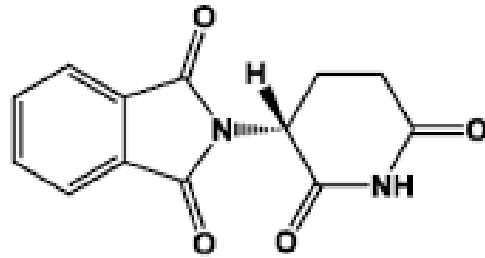


Scandale sanitaire de la thalidomide (1950s)



(S)-Thalidomide

Effets tératogènes
(malformations nouveaux-nés)



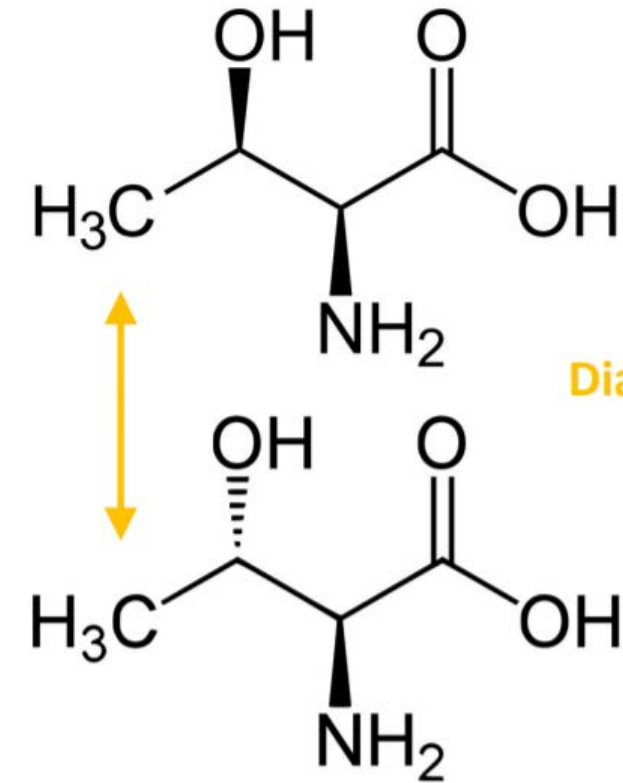
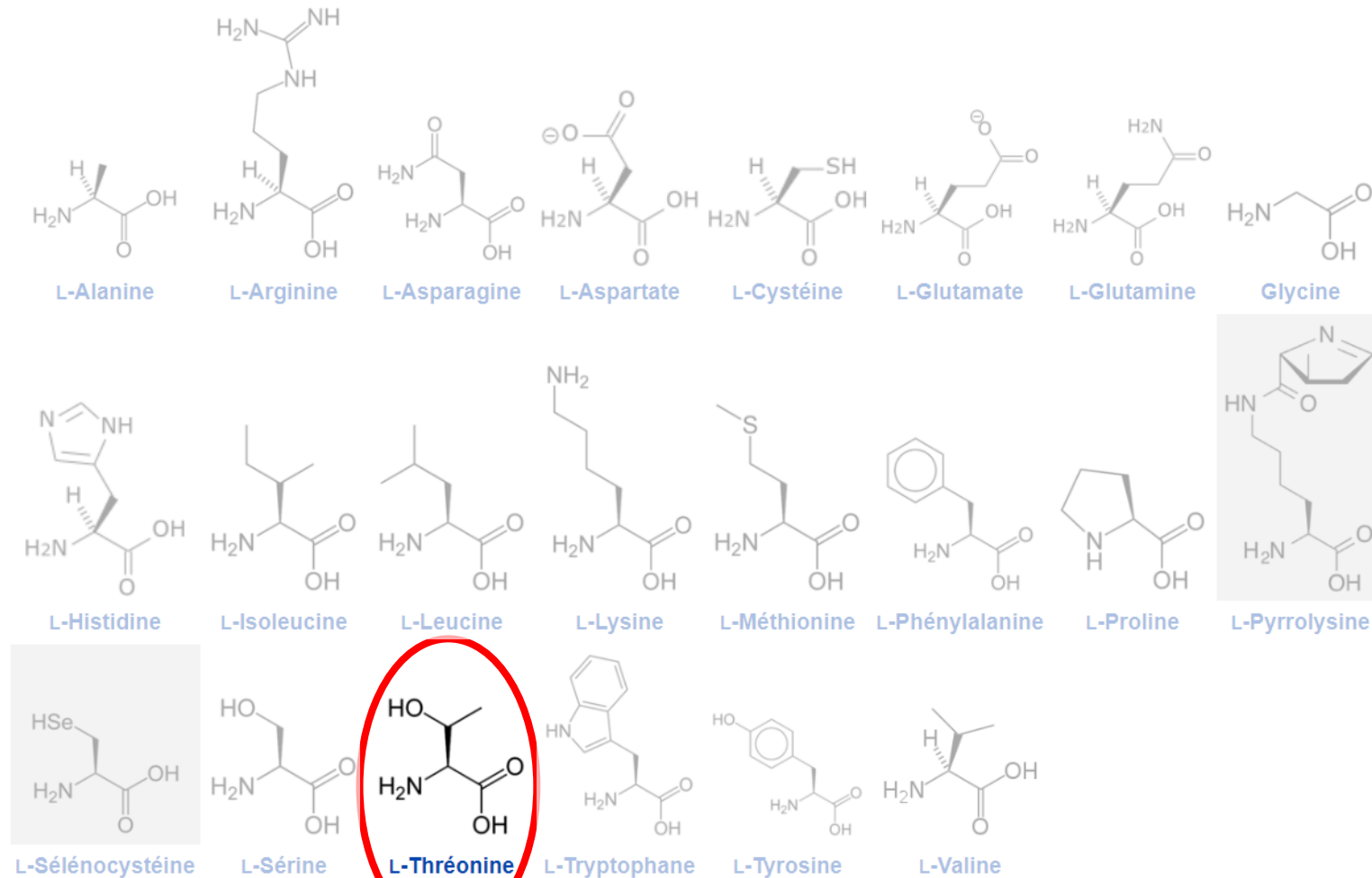
(R)-Thalidomide

Anti-nauséeux



Enfant avec malformation au niveau des bras
(bébé tronç)

Exemples de diastéréoisomères de la thréonine



Diastéréoisomères

deux carbones asymétriques

Diastéréoisomérisie Z-E

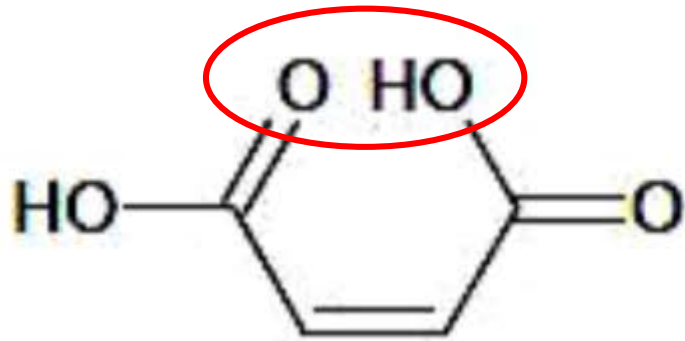


acide maléique

acide fumarique

Températures fusion acide maléique/fumarique

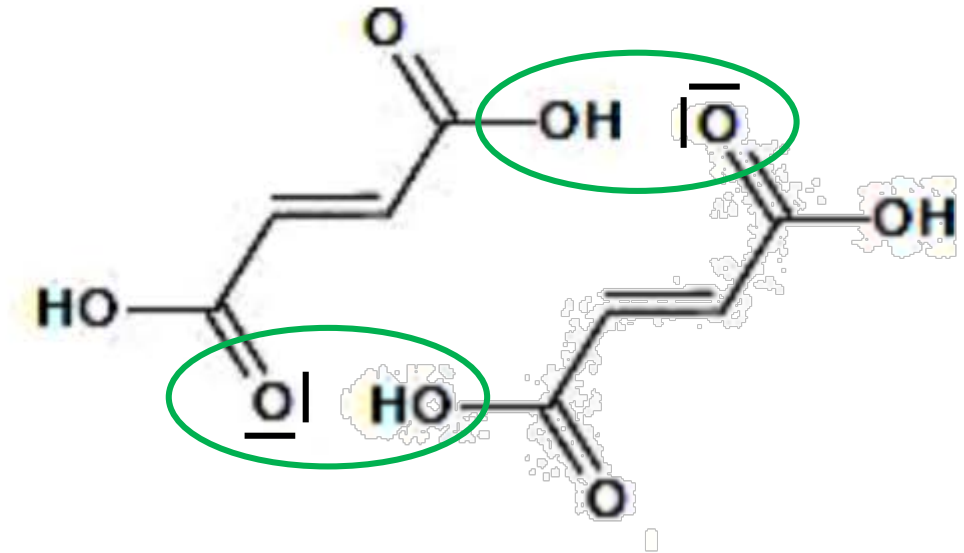
liaisons H
intramoléculaires



acide maléique

$$T_{fus,tab} = 131^{\circ}C$$

+ de liaisons H
intermoléculaires

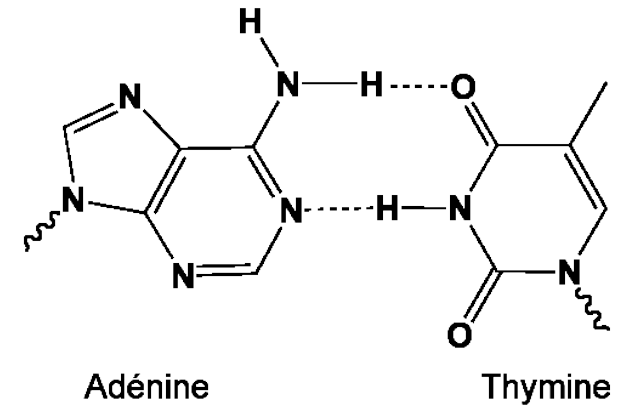
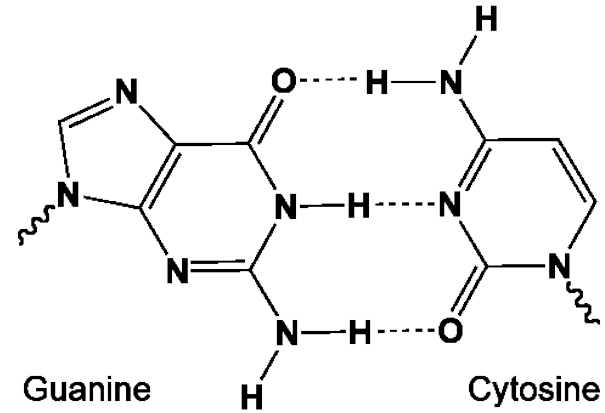
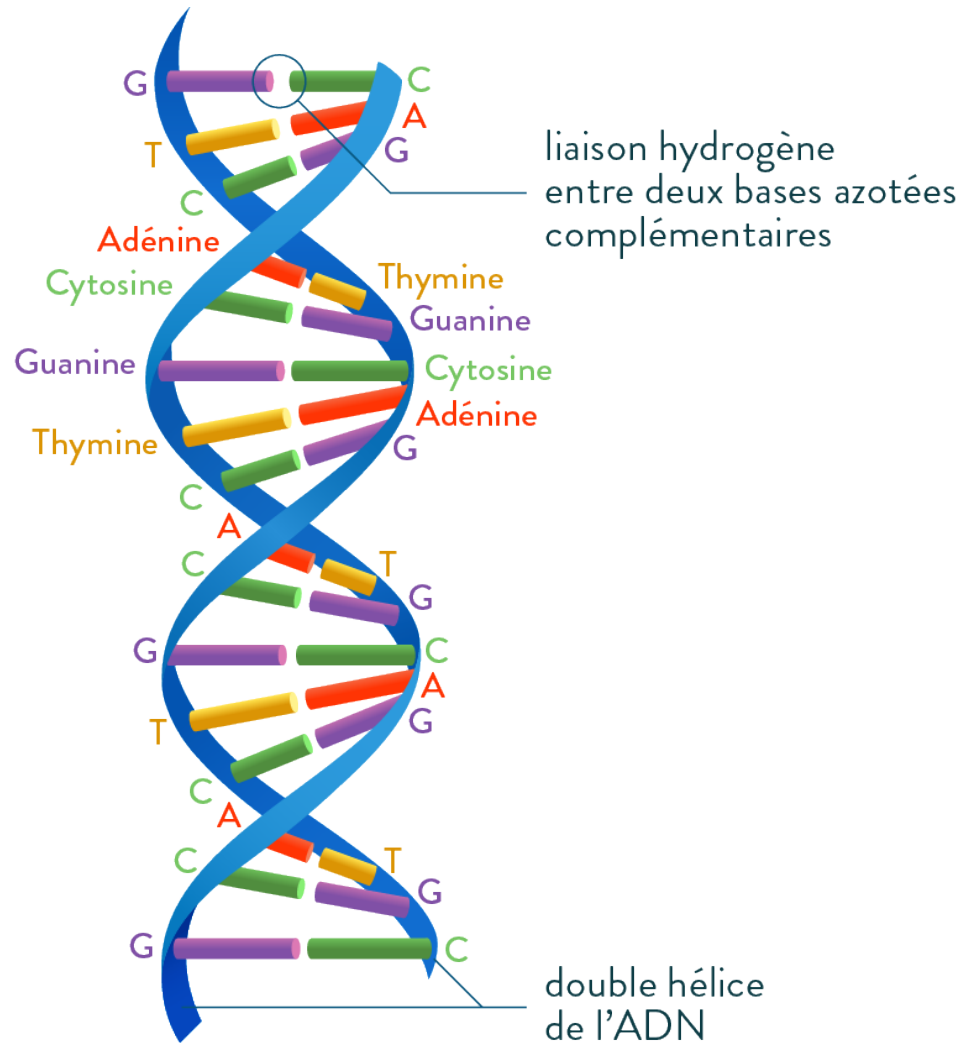


acide fumarique

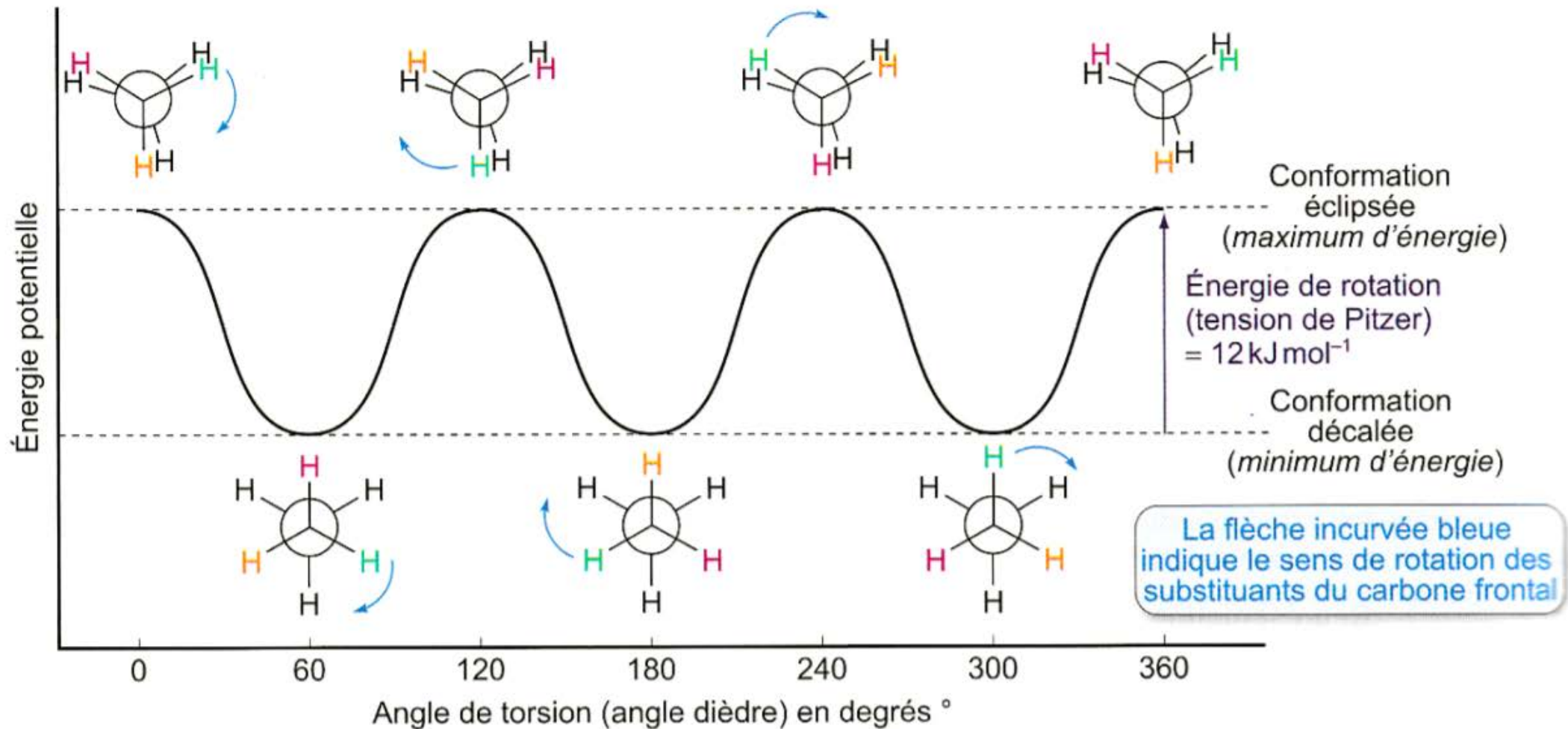
$$T_{fus,tab} = 287^{\circ}C$$

<

Structure de l'ADN



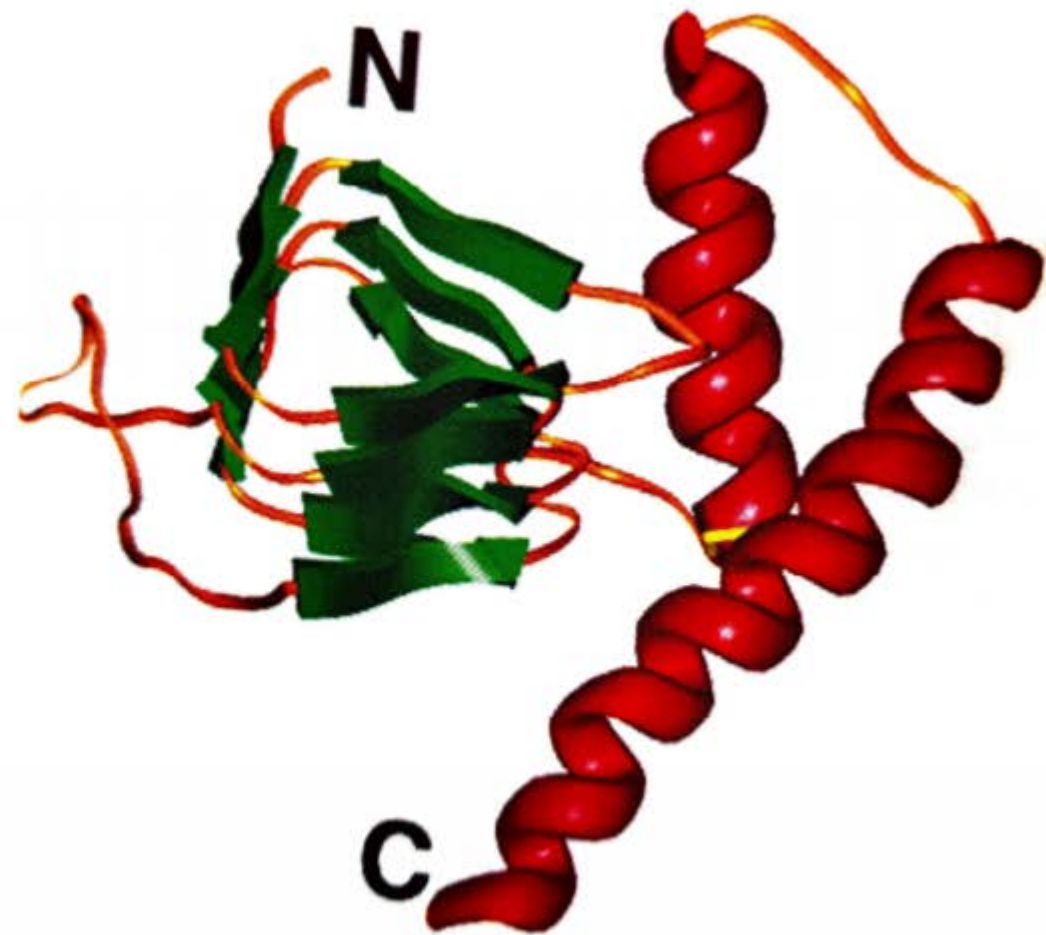
Conformations de la molécule d'éthane



Maladie de la « vache folle »



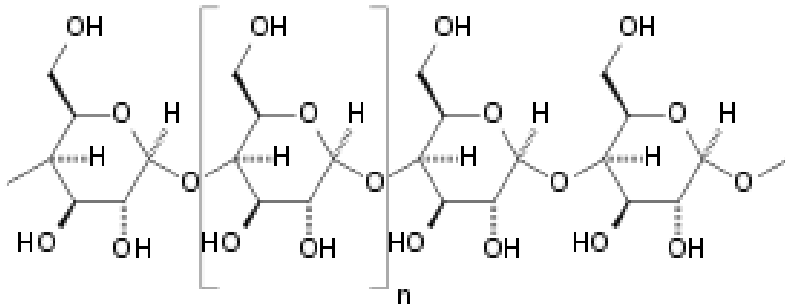
Conformation « repliée » :
cerveau sain



Conformation « allongée » :
cerveau malade

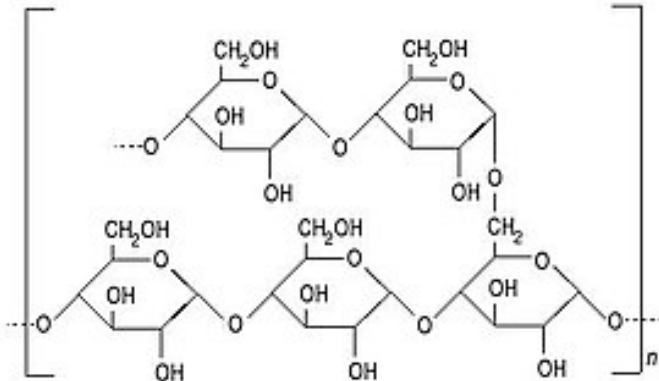
Effet de la température sur les propriétés de l'amylase

amidon =

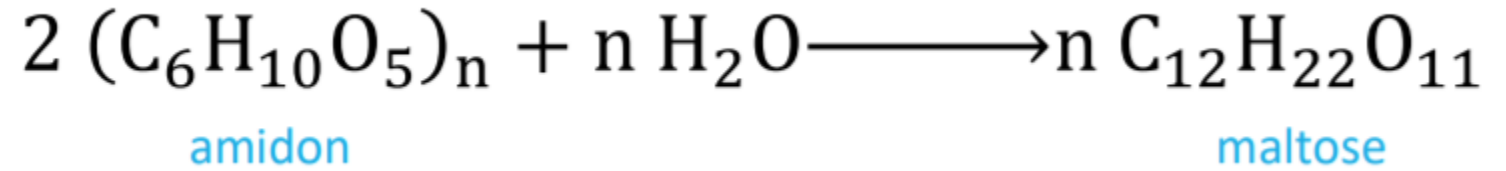


amylose

+



amylopectine



Test à l'eau iodée :



$T = 37\text{ °C}$



$T = 95\text{ °C}$