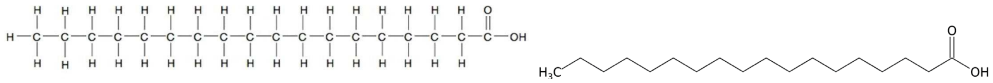
Chapitre 8

Les constituants chimiques du vivant

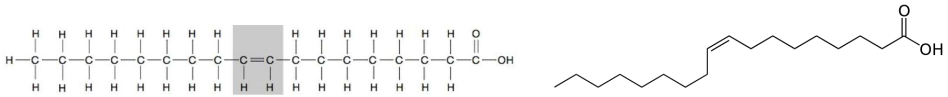
FORMULAIRE DE BIOCHIMIE STRUCTURALE AUTORISÉ À L'ORAL

Ne doit pas être annoté

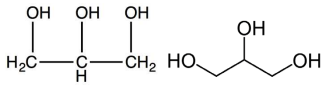
Molécules citées dans le paragraphe « lipides » du programme



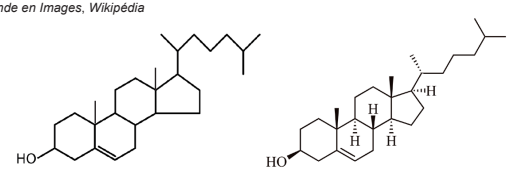
L'acide stéarique, un acide gras saturé
Le Monde en Images, Wikipédia



L'acide oléique, un acide gras insaturé
Le Monde en Images, Wikipédia

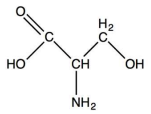


Le glycérol
SCAV, *Wikipédia*

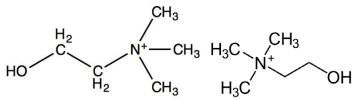


Le cholestérol
SCAV (corrigé), *Wikipédia*

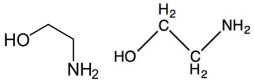
Amino-alcools



La L-sérine
SCAV, *Wikipédia*

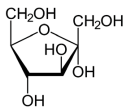


La choline
SCAV, *Wikipédia*

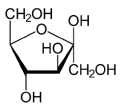


L'éthanolamine
Wikipédia, SCAV

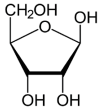
Molécules citées dans le paragraphe « oses et polyosides » du programme



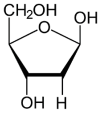
alpha
Le fructose (D-fructofuranose)



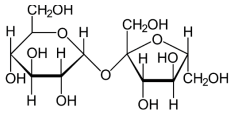
bêta

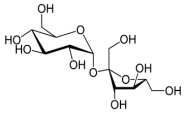


Le ribose
(β-D-ribofuranose)



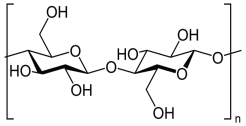
Le désoxyribose
(β-D-désoxyribofuranose)



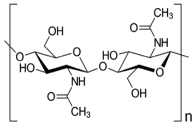


Le saccharose
(α-D-glucopyranosyl-(1↔2)-β-D-fructofuranoside)

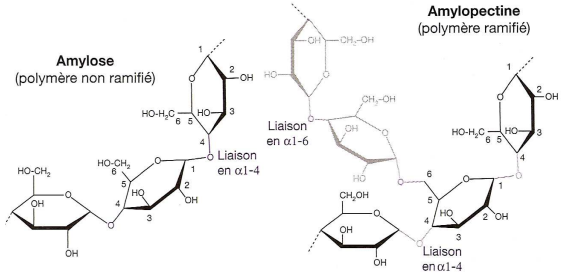
Wikipédia



Le cellobiose, motif de base de la cellulose
(β-D-glucopyranosyl(1→4)D-glucopyranose)
Wikipédia



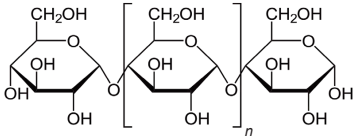
Le chitinobiose, motif de base de la chitine
(N-acétylglucosamine en β1-4)
Wikipédia



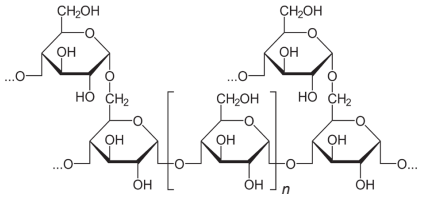
L'amidon :
- **amylose (polymère linéaire, glucoses en α1-4)**
- **amylopectine (polymère linéaire, glucoses en α1-4**
  + ramifications en β1-6 tous les 12-30 résidus)

Le glycogène :
cœur protéique (glycogénine)
+ partie glucidique comme l'amylopectine, mais avec des ramifications en β1-6 tous les 8-12 résidus

(!) Les chiffres varient selon les auteurs, données de Voet & Voet (2005)
Schémas Denoeud *et al.* (2013)

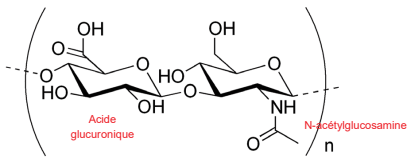


L'amylose (autre version) *Wikipédia*

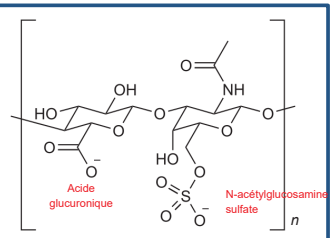


L'amylopectine (autre version) *Wikipédia*

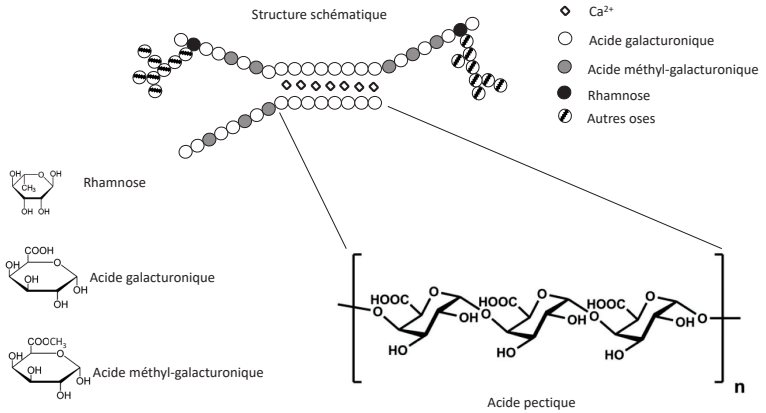
Glycosaminoglycanes (GAG)



L'acide hyaluronique (motif) *Wikipédia*



La chondroïtine sulfate (motif) *Wikipédia*

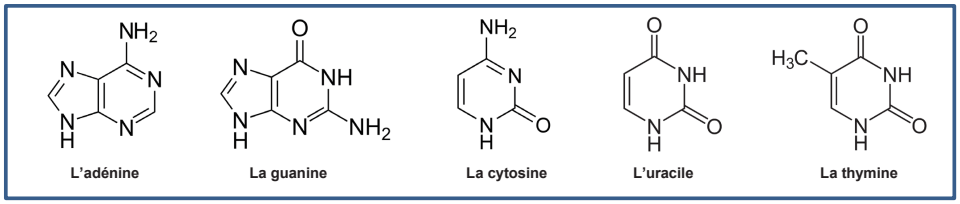


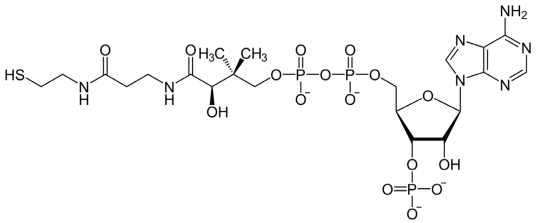
Les pectines et leurs principaux constituants *Document Y. Lesecque (BCPST1 Chaptal, Paris 8e)*

Molécules citées dans le paragraphe « nucléotides et acides nucléiques » du programme

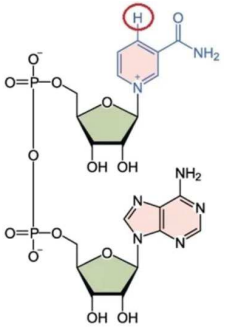
Wikipédia

Bases azotées





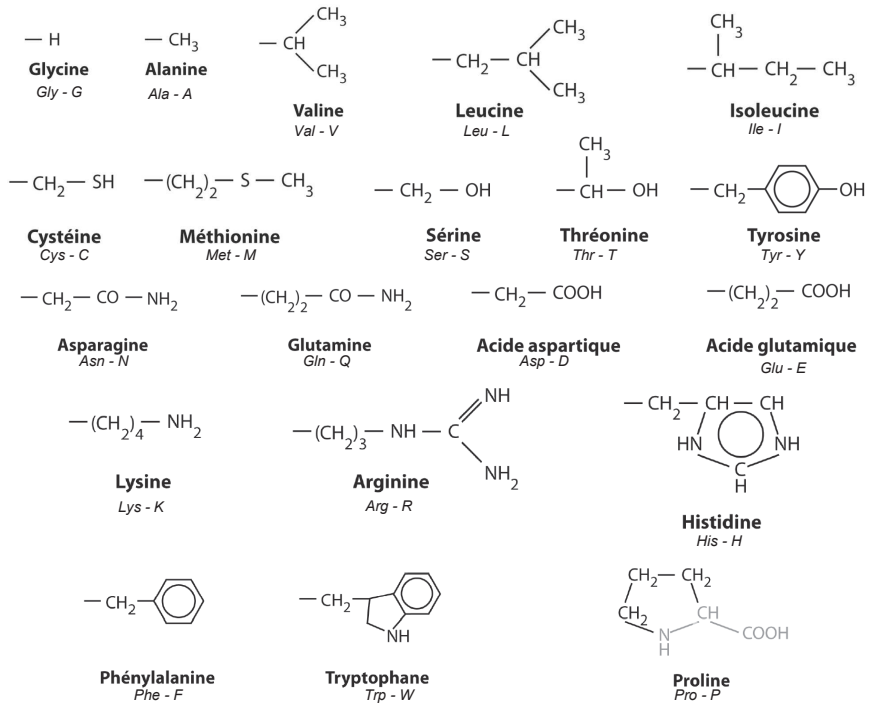
Le coenzyme A



Le Nicotinamide Adénine Dinucléotide (NAD^+)

News-medical.net

Molécules citées dans le paragraphe « acides aminés et protéines » du programme



Les radicaux des acides α-aminés protéinogènes (formules non ionisées) [SCAV]

Références citées

Denœud, J., C. Godinot, O. Guipponi, H. Moreau, M. Paulhiac-Pison & F. Tejedor (2013). *Biologie-Géologie BCPST-véto 1e année*. Tec & Doc, Lavoisier, Paris.

Voet, D. & J. G. Voet (2005). *Biochimie*. De Boeck, Bruxelles (B), 2e édition française [3e édition américaine, John Wiley and sons, New York, USA, 2004. Traduction G. Rousseau & L. Domenjoud].

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