

UNIVERSITE DE RENNES I

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**FACULTE DE MEDECINE**

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DEPARTEMENT DE BIOCHIMIE ET BIOLOGIE MOLECULAIRE

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PCEM 1

**Biochimie Structurale**

**GLUCIDES**

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Dr Michel Catheline

Année Universitaire 2007-2008

PLAN

Classification : Oses
Osides { Holosides
 { Hétérosides

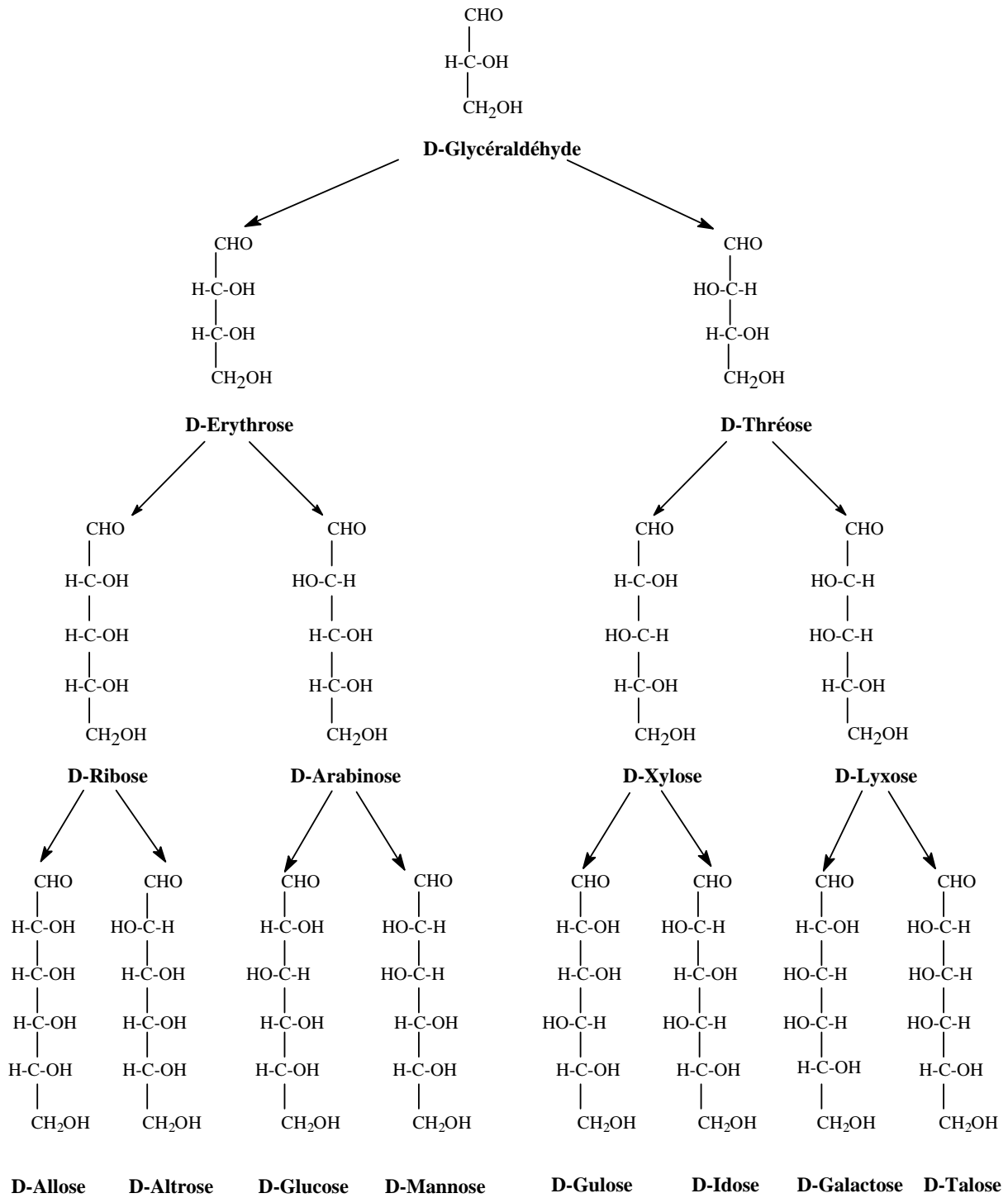
1. LES OSES

- 1.1. Définition
- 1.2. Classification
- 1.3. Structure
 - 1.3.1. Formules linéaires
 - a. Aldoses
 - b. Cétooses
 - 1.3.2. Représentation d'Haworth
 - a. Aldoses
 - b. Cétooses
- 1.4. Dérivés d'oses

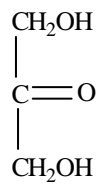
2. LES OSIDES

- 2.1. Diholosides
 - 2.1.1. Généralités
 - 2.1.2. Principaux diholosides
 - a. Maltose
 - b. Cellobiose
 - c. Lactose
 - d. Saccharose
- 2.2. Triholosides (Raffinose)
- 2.3. Polyosides
 - 2.3.1. Généralités
 - 2.3.2. Polyosides de réserve
 - a. Amidon
 - b. Glycogène
 - c. Inuline
 - 2.3.3. Polyosides de structure (Cellulose)
 - 2.3.4. Glycosamino-glycurono-glycanes
 - a. Acide Hyaluronique
 - b. Chondroïtine 6-sulfate
 - c. Héparane Sulfate
 - d. Kératane Sulfate
 - e. Dermatane Sulfate

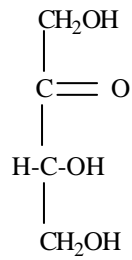
FILIIATION DES ALDOSES DE LA SERIE D



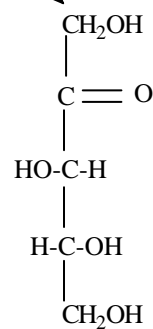
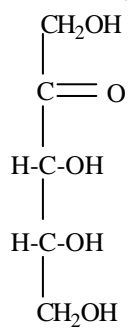
FILIIATION DES CETOSES DE LA SERIE D



Dihydroxyacetone

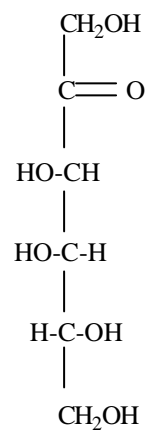
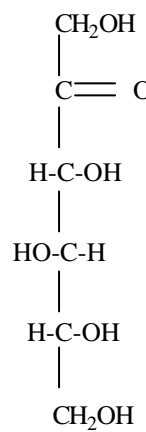
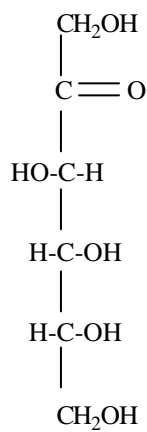
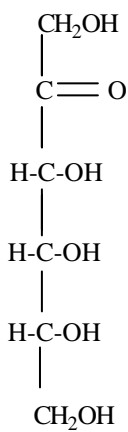


D-Erythrulose



D-Ribulose

D-Xylulose



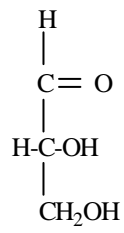
D-Psicose

D-Fructose

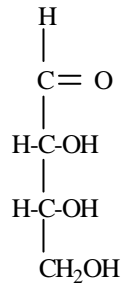
D-Sorbose

D-Tagatose

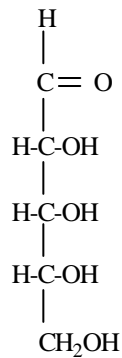
FORMULE LINEAIRE DES PRINCIPAUX ALDOSES



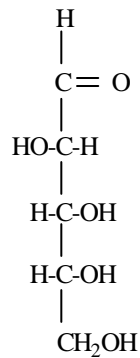
D-glycéraldéhyde



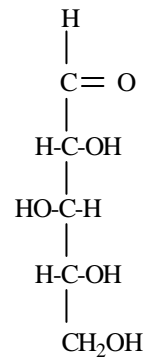
D-érythrose



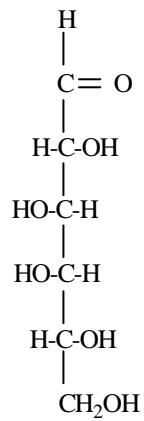
D-ribose



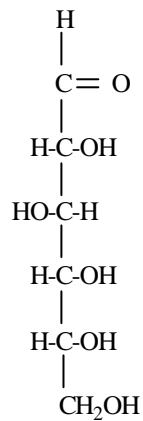
D-arabinose



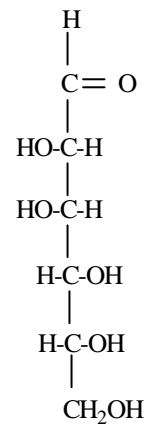
D-xylose



D-galactose

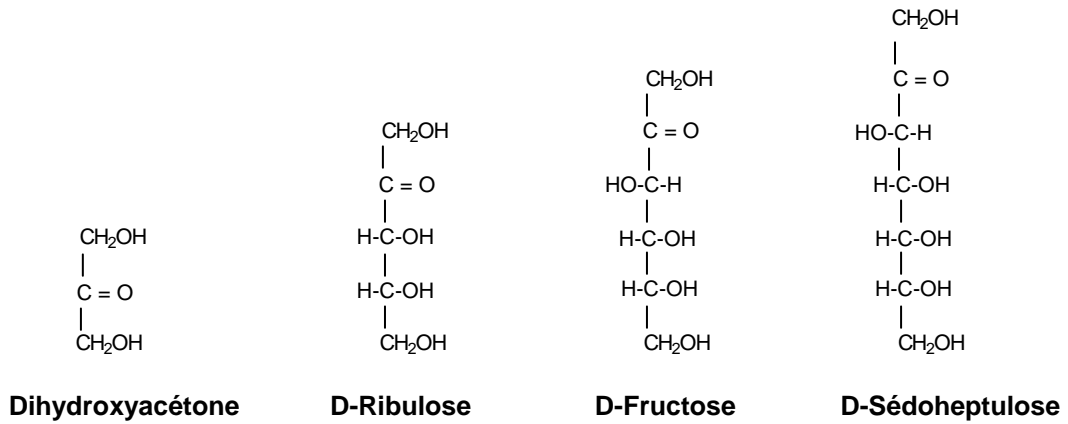


D-glucose



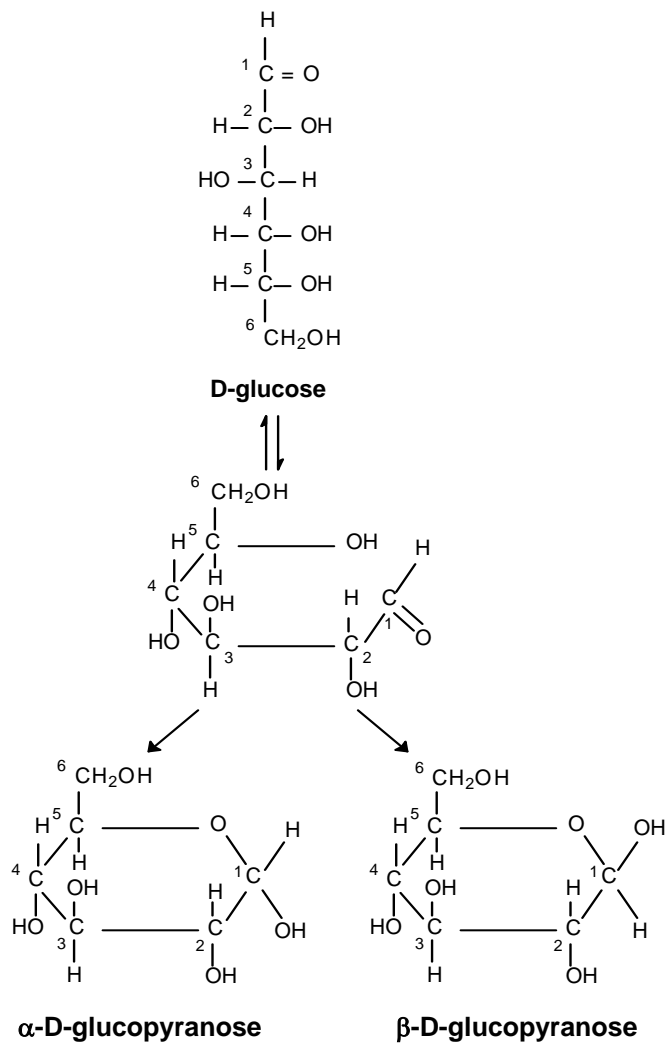
D-mannose

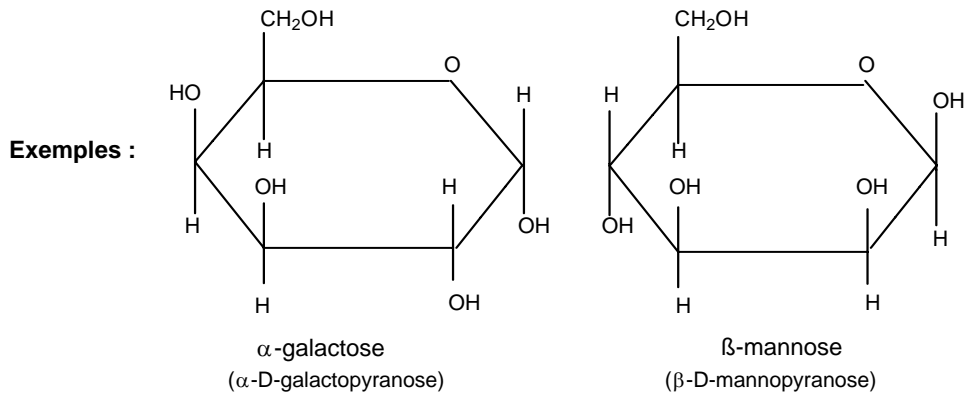
FORMULE LINEAIRE DES PRINCIPAUX CETOSES



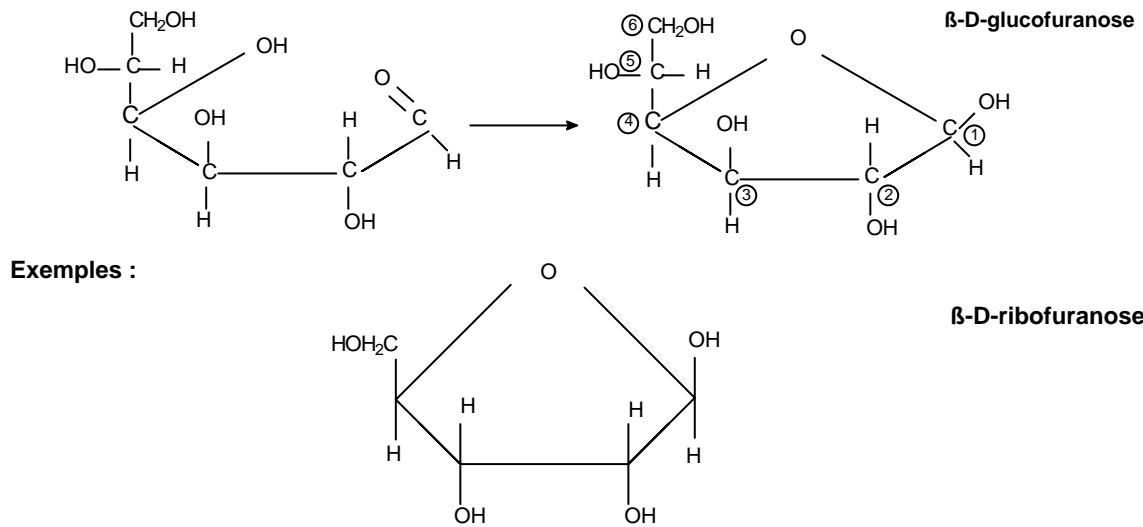
REPRESENTATION CYCLIQUE D'HAWORTH

ALDOSE : Formation d'un hémiacétal entre C1 et C5 : forme pyranique

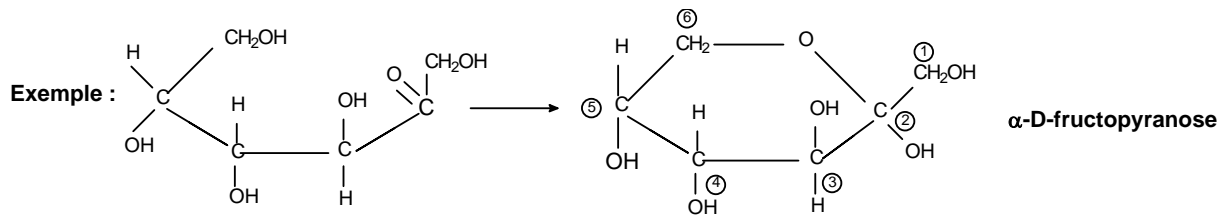




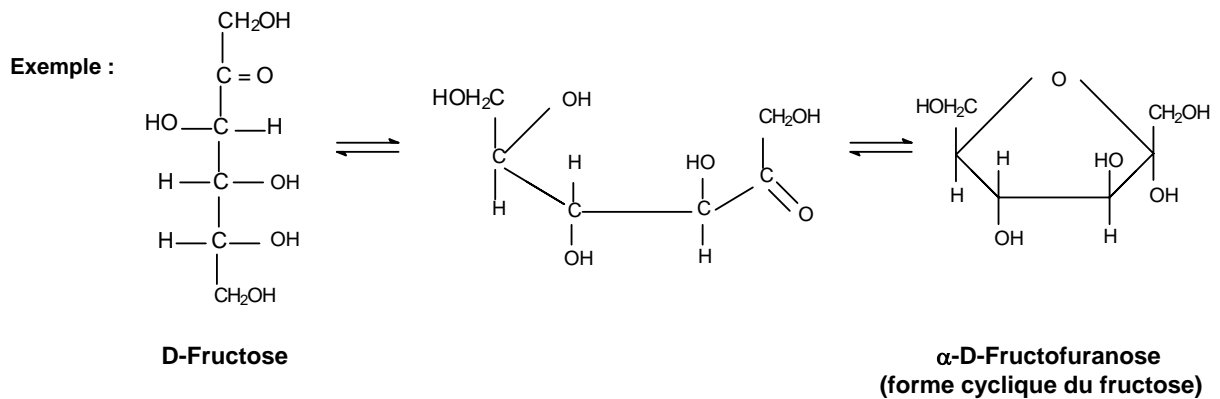
Formation d'un hémicétal entre C₁ et C₄ : forme furanique.



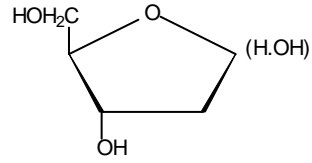
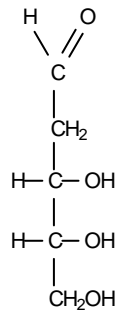
CETOSE : Formation d'un hémicétal entre C₂ et C₆ : forme pyranique



Formation d'un hémicétal entre C₂ et C₅ : forme furanique

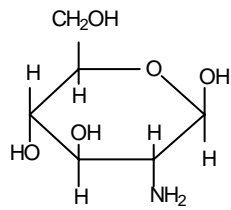
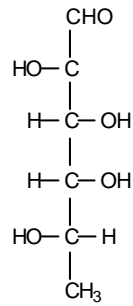


DERIVES D'OSSES

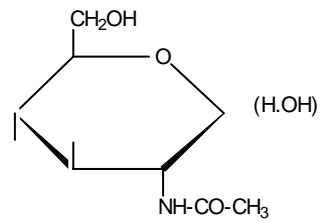


2-Désoxy-D-ribose

L-fucose

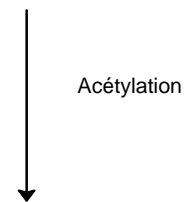
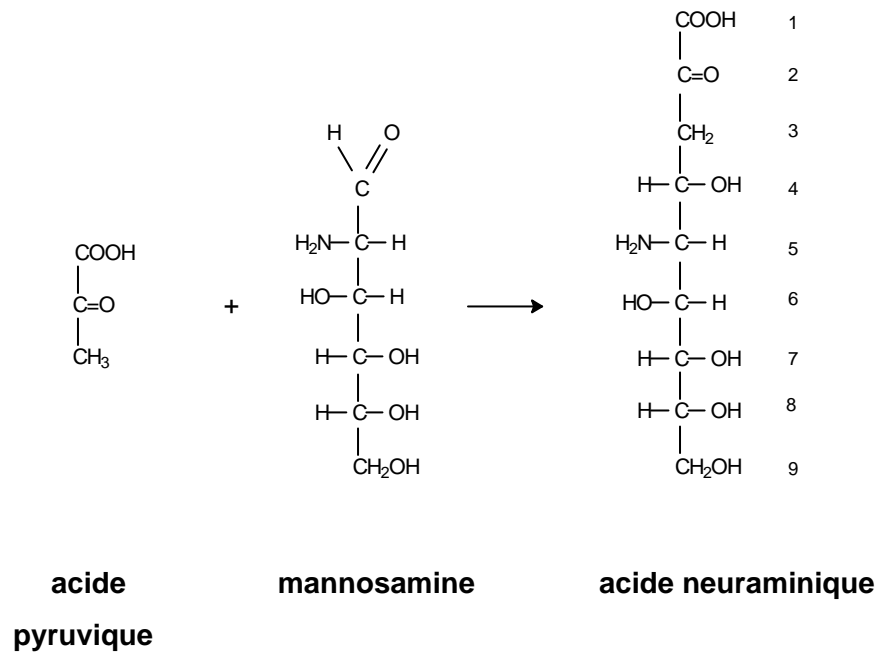


β-D-glucosamine

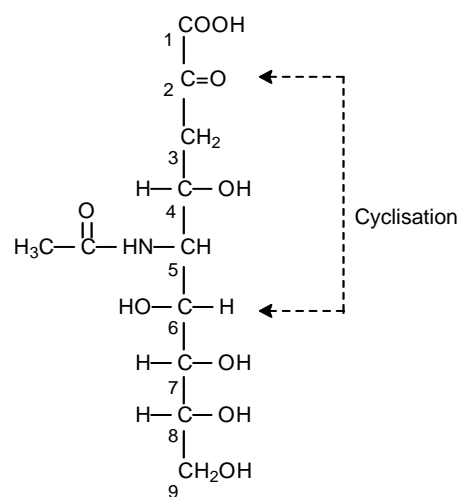


N-Acetyl-D-glucosamine

Acide neuraminique

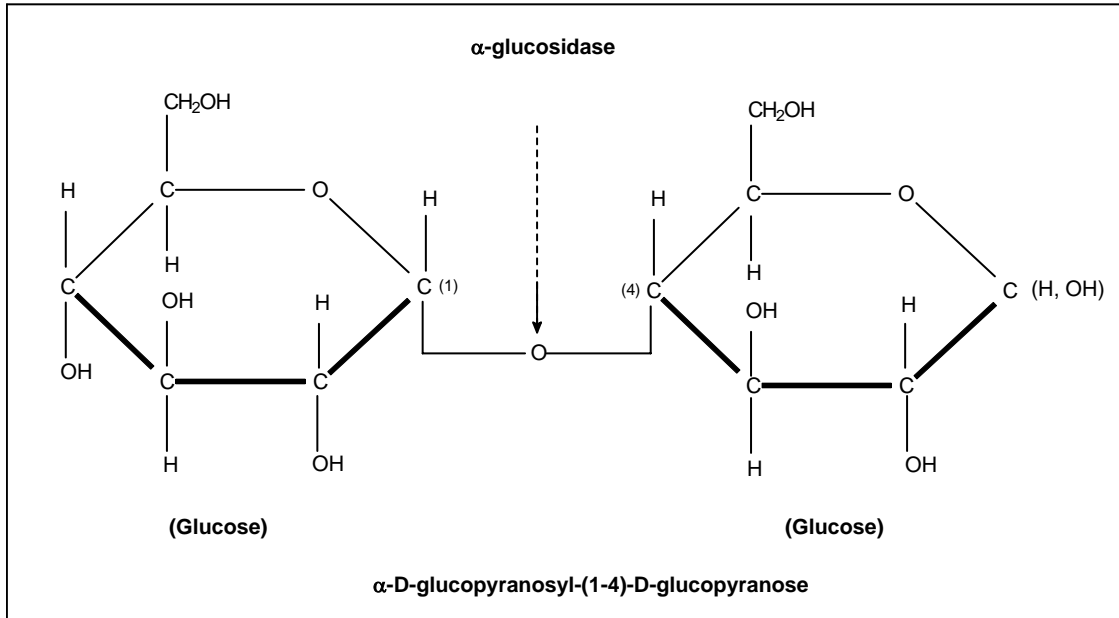


Acide N-acétylneuraminique = acide sialique

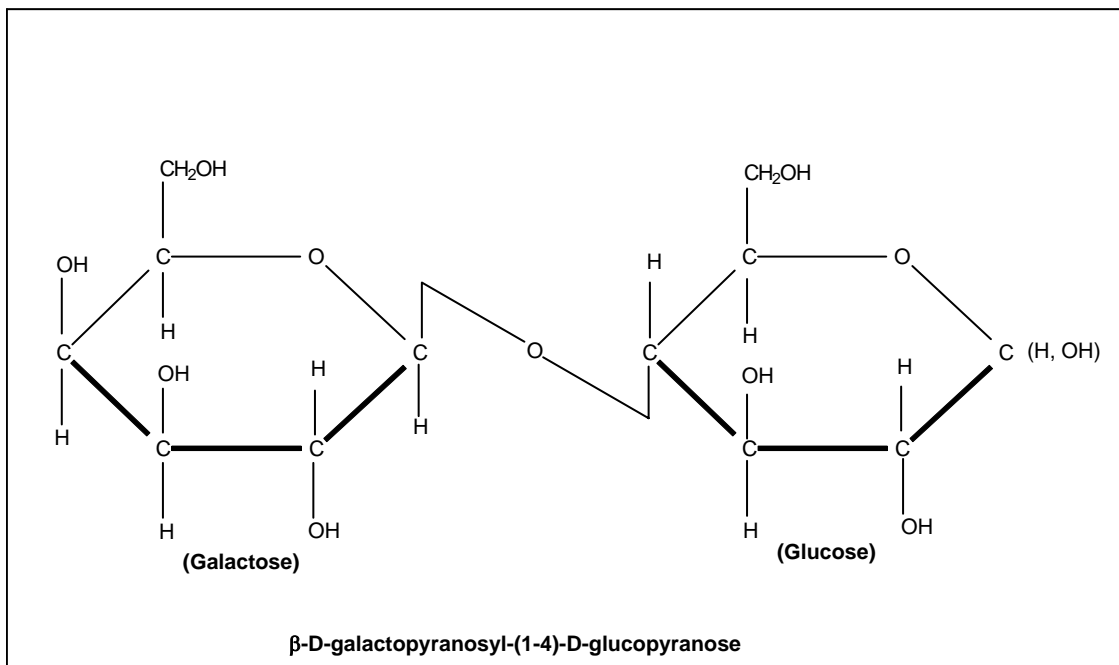


DIHOLOSIDES

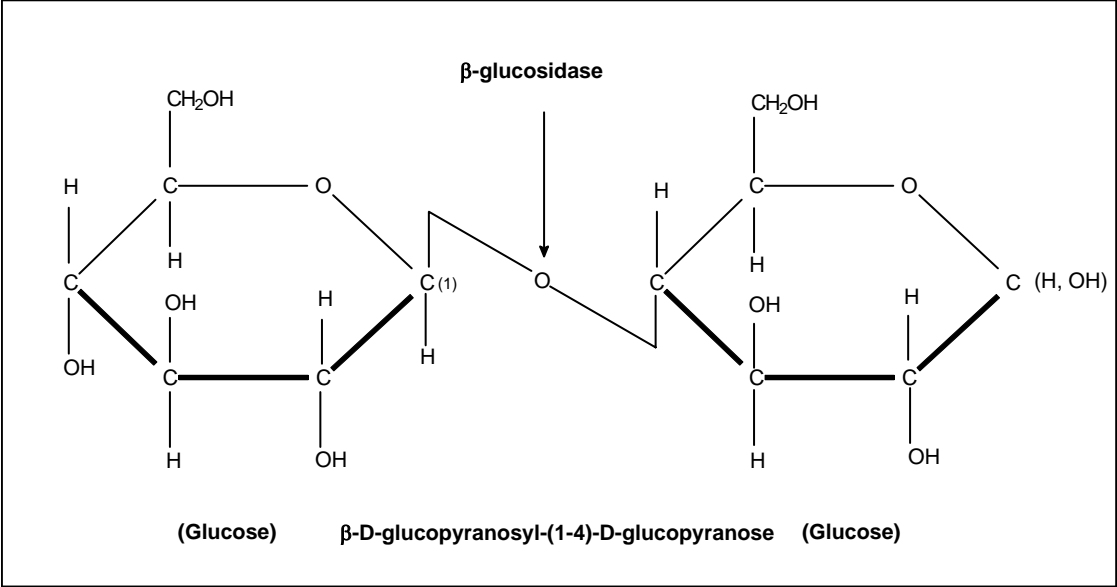
Maltose



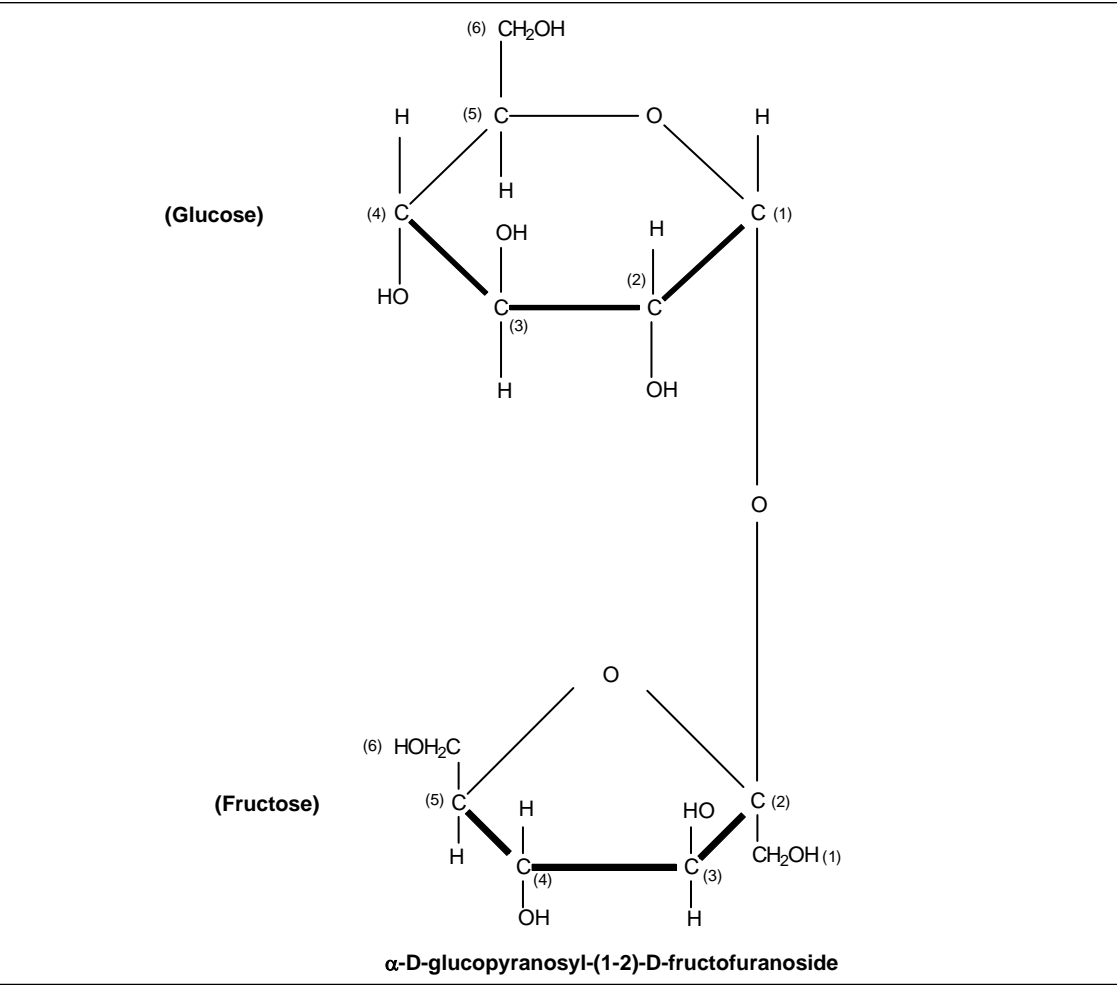
Lactose



Cellulose

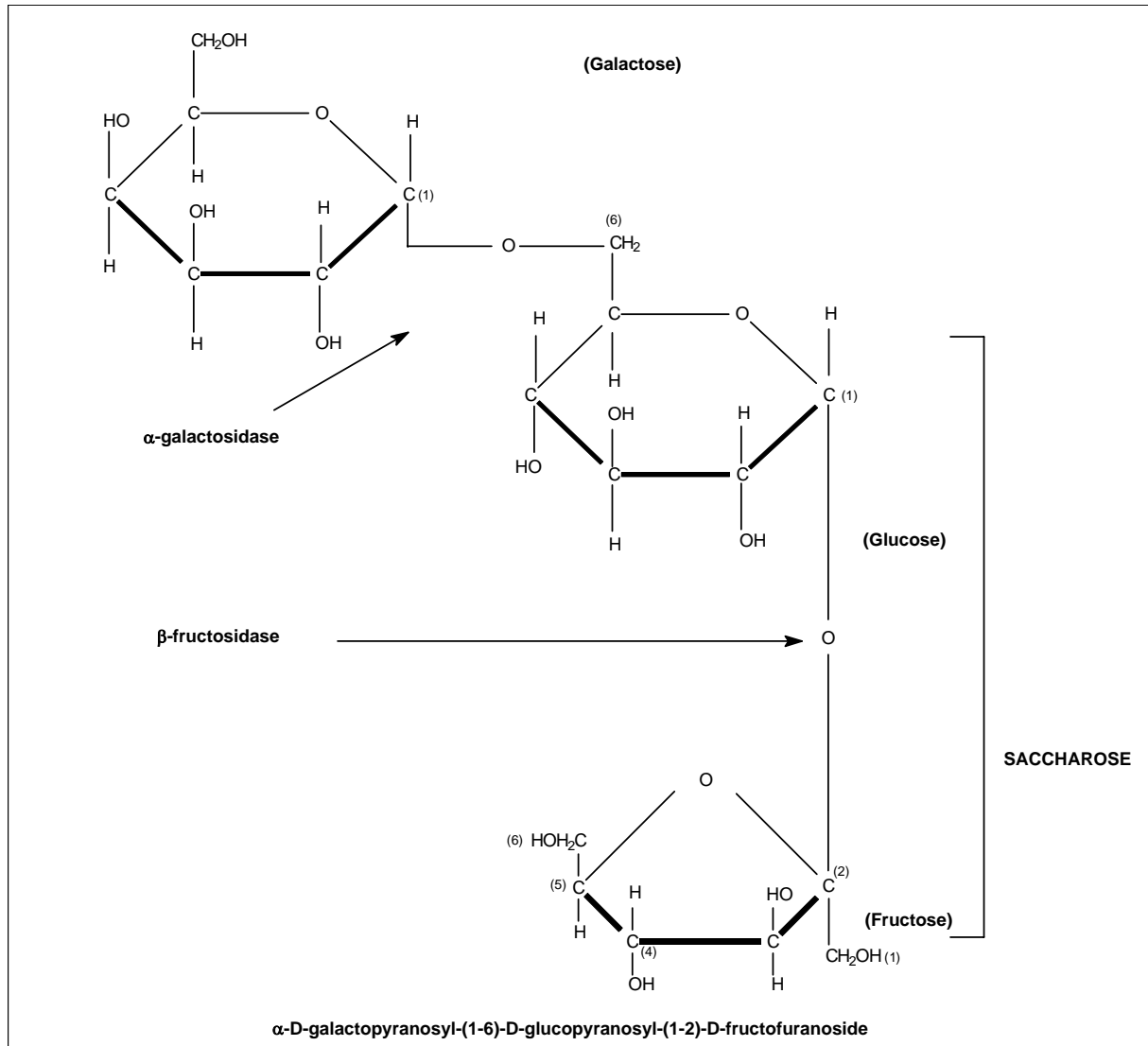


Saccharose

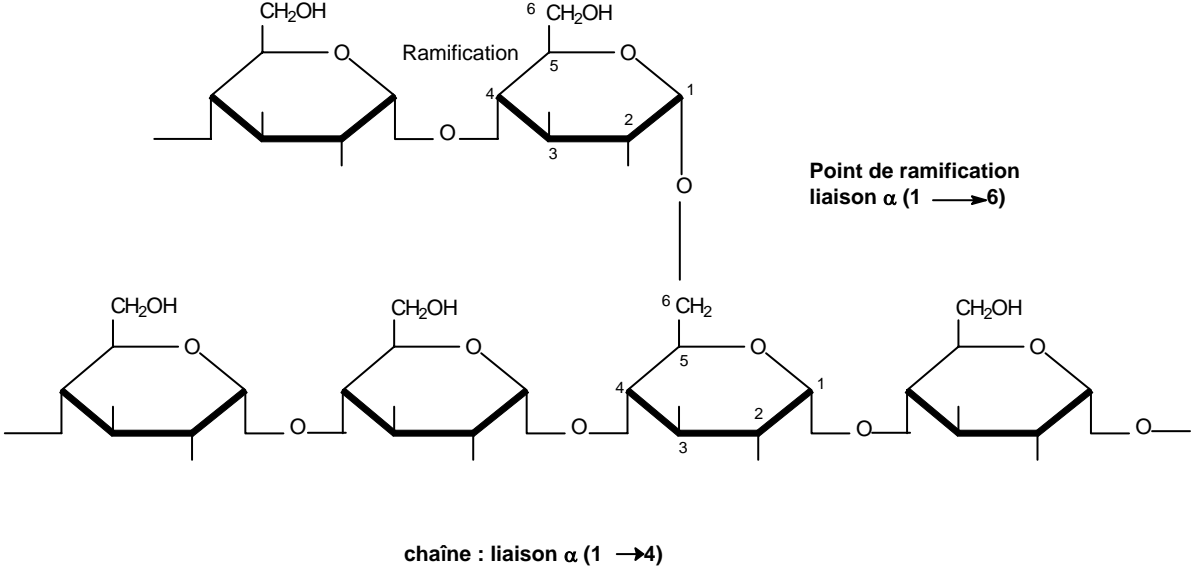


TRIOLOSIDE

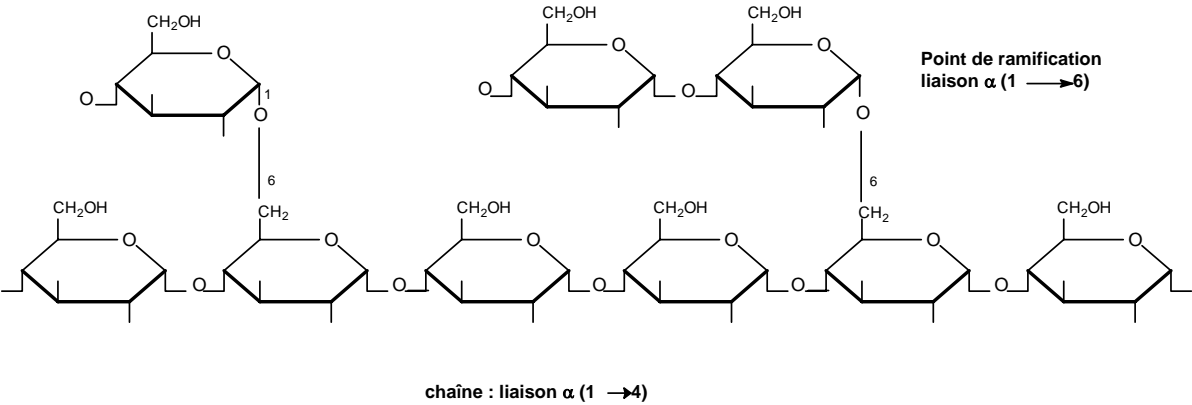
Raffinose



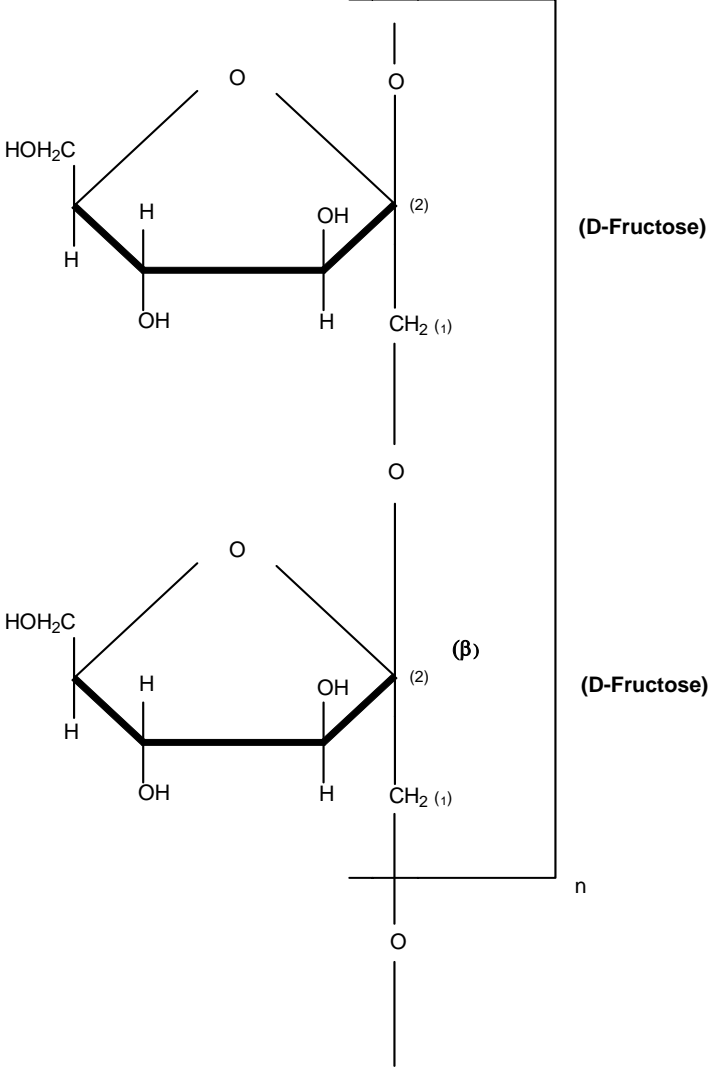
Amylopectine



Glycogène

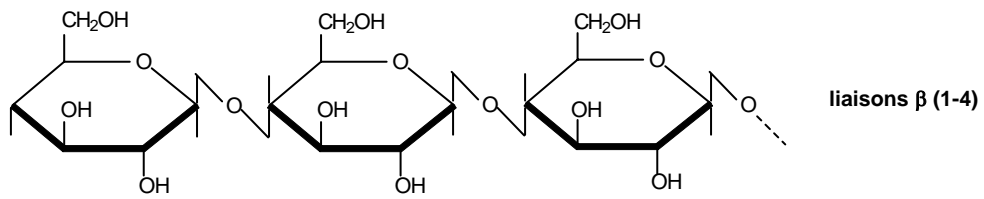


Inuline



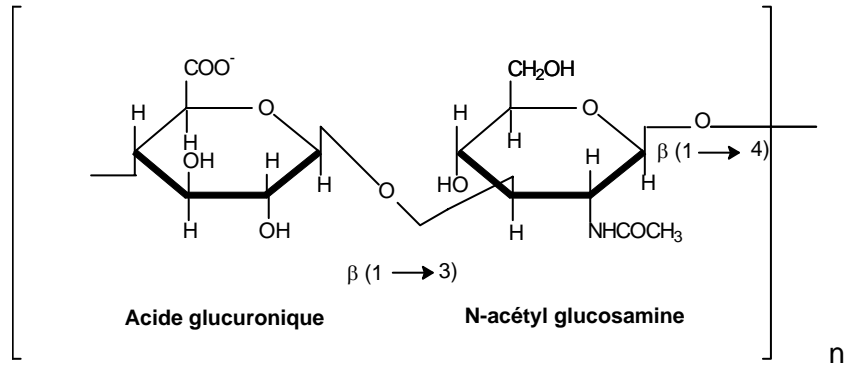
POLYOSIDES DE STRUCTURE

Cellulose

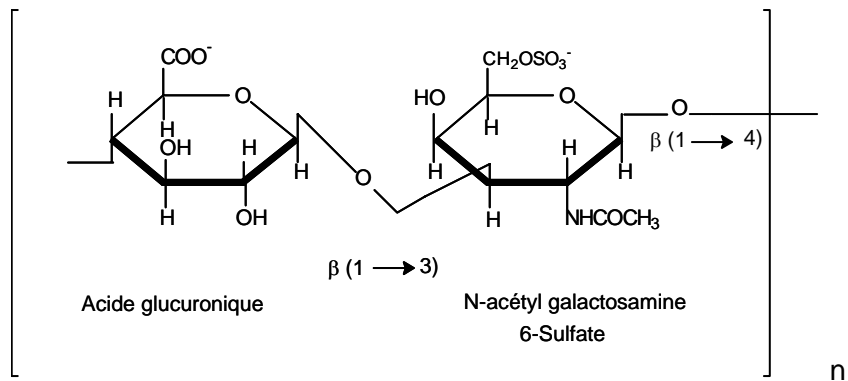


GLYCOSAMINO-GLYCURONO-GLYCANES

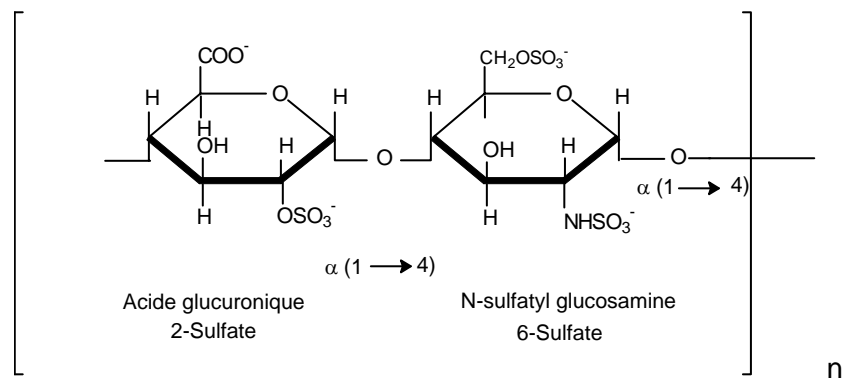
Acide hyaluronique



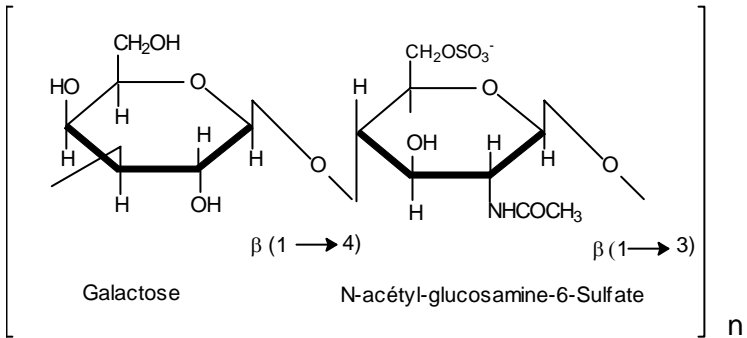
Chondroïtine 6-sulfate



Héparane Sulfate



Kératine Sulfate



Dermatane Sulfate

