

**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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**Année Universitaire 2006-2007**

## PLAN

Classification : Oses  
Osides { Holosides  
                  { Hétérosides

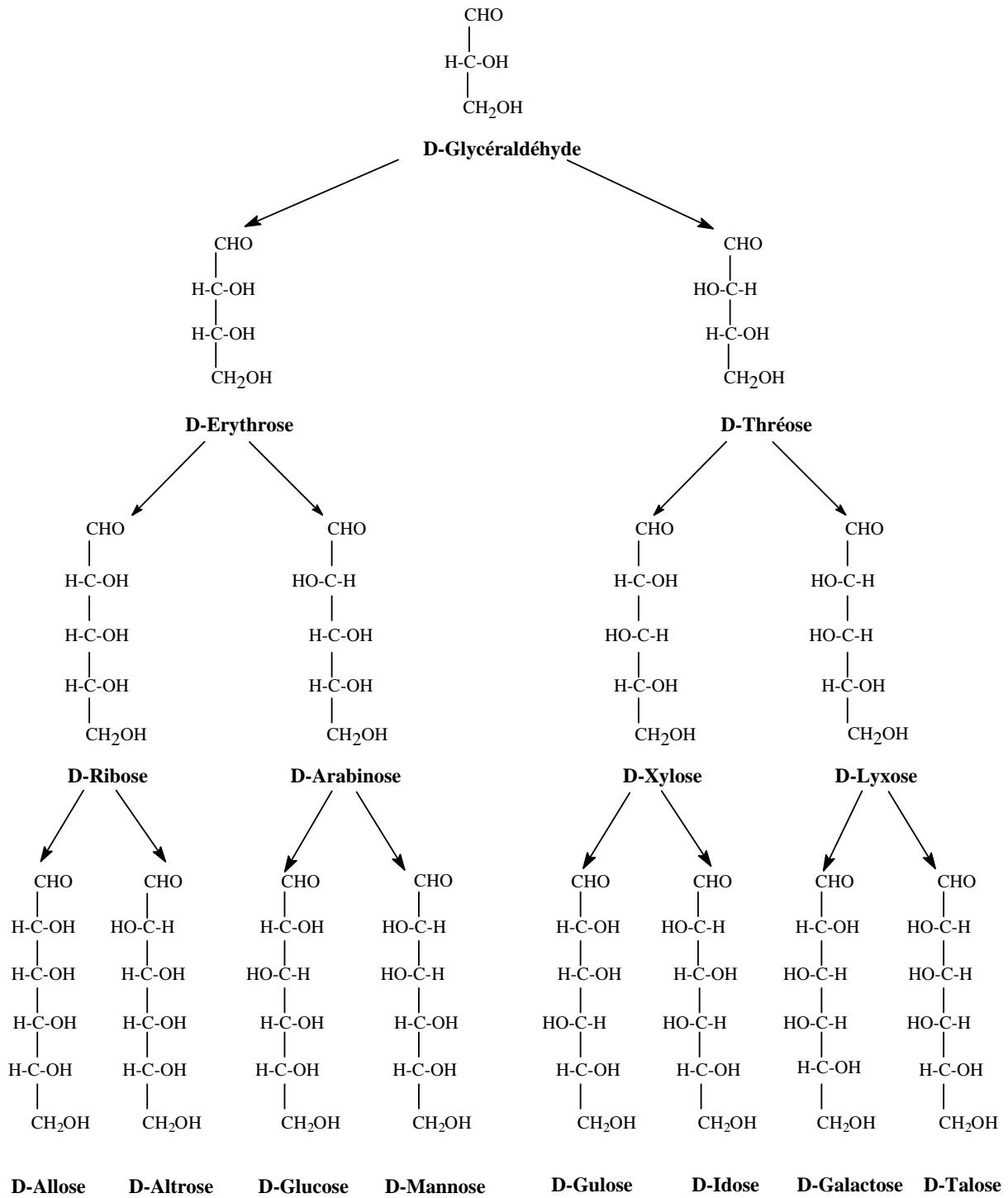
### 1. LES OSES

- 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

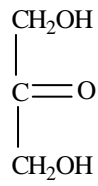
### 2. LES OSIDES

- 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

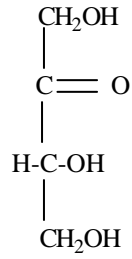
## FILIIATION DES ALDOSES DE LA SERIE D



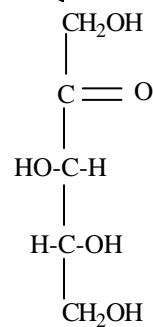
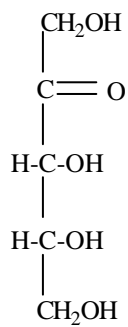
## FILIIATION DES CETOSES DE LA SERIE D



**Dihydroxyacetone**

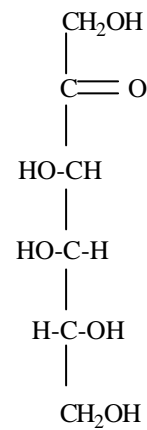
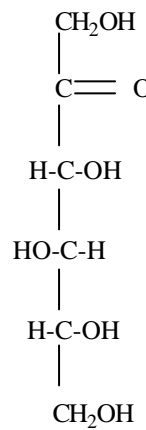
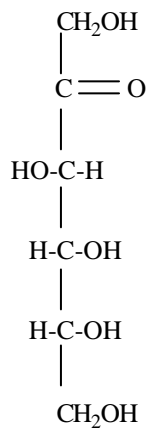
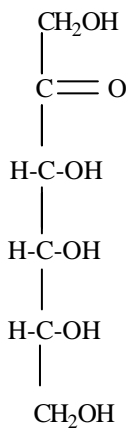


**D-Erythrulose**



**D-Ribulose**

**D-Xylulose**



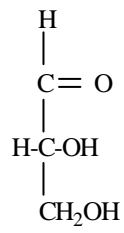
**D-Psicose**

**D-Fructose**

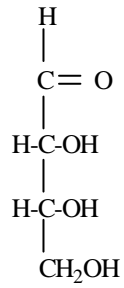
**D-Sorbose**

**D-Tagatose**

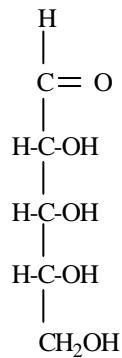
## FORMULE LINEAIRE DES PRINCIPAUX ALDOSES



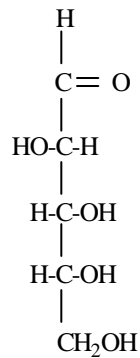
**D-glycéraldéhyde**



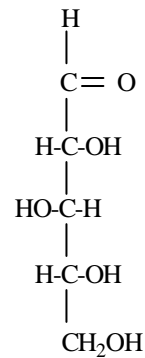
**D-érythrose**



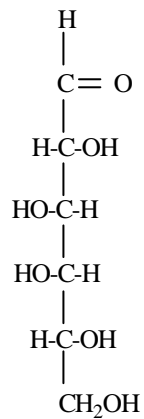
**D-ribose**



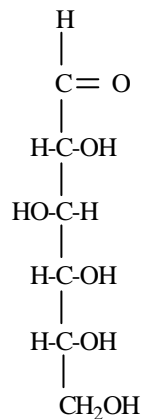
**D-arabinose**



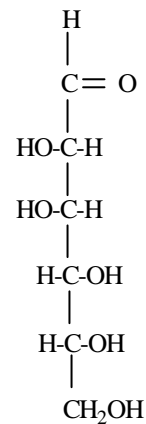
**D-xylose**



**D-galactose**

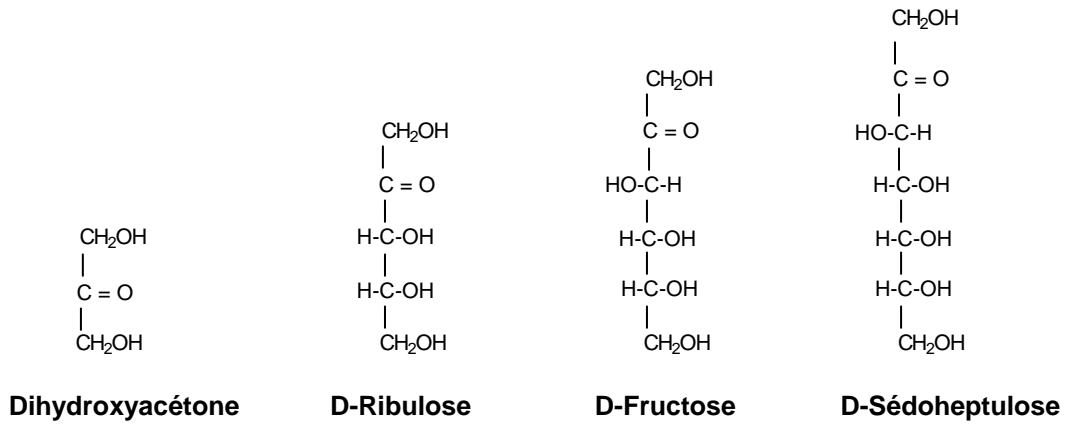


**D-glucose**



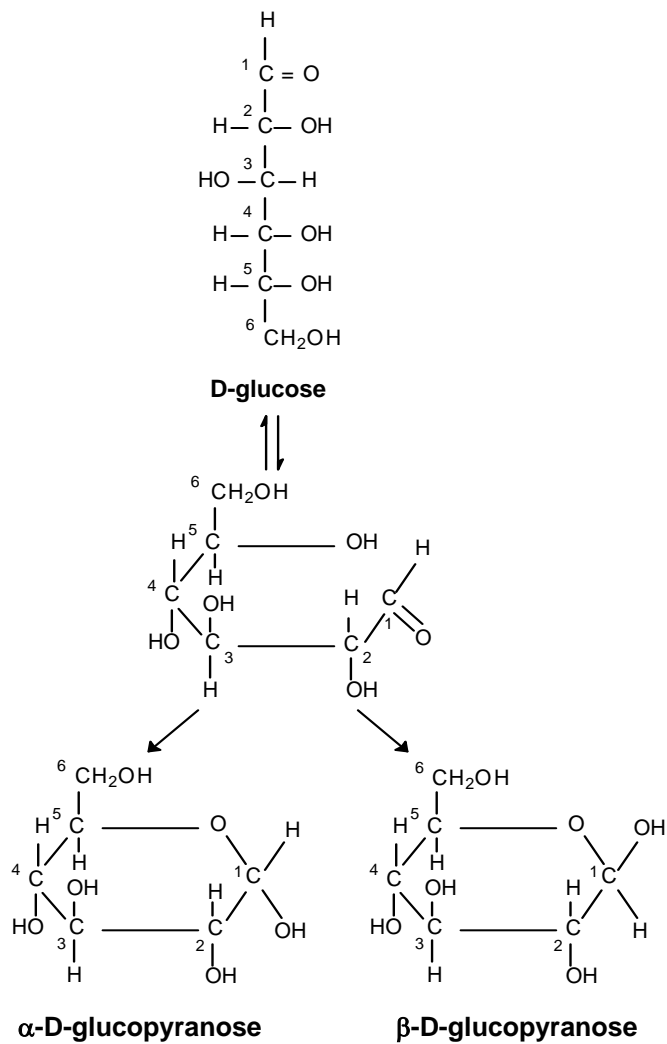
**D-mannose**

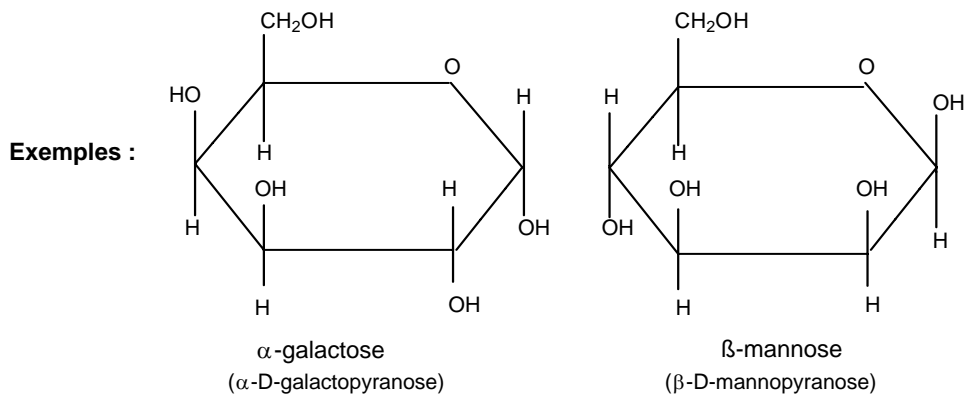
## FORMULE LINEAIRE DES PRINCIPAUX CETOSES



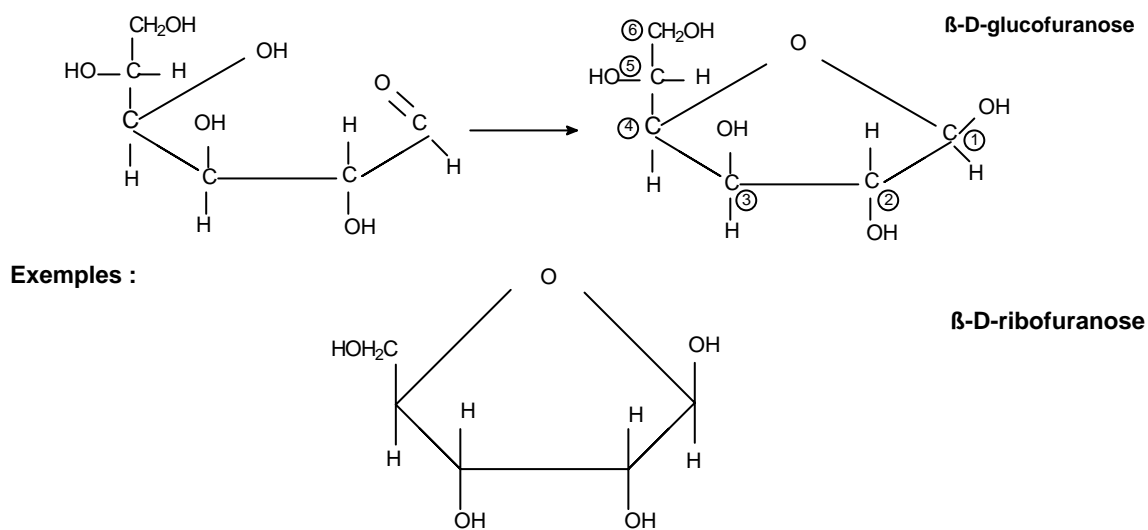
## REPRESENTATION CYCLIQUE D'HAWORTH

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

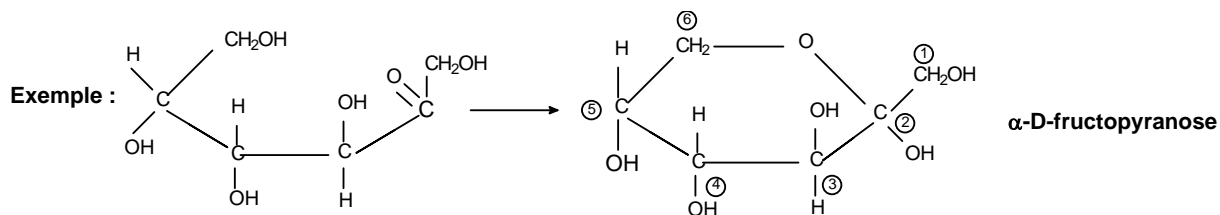




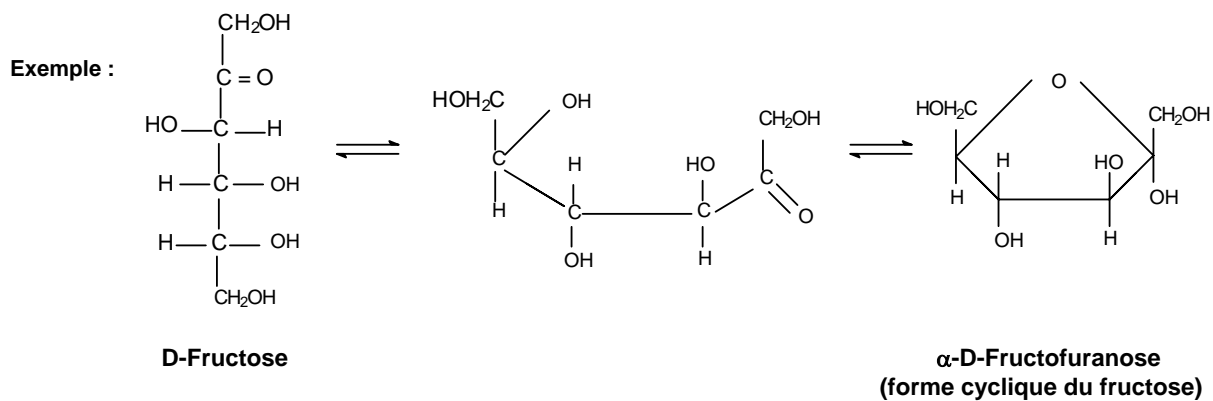
Formation d'un hémicétal entre C<sub>1</sub> et C<sub>4</sub> : forme furanique.



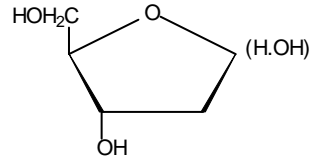
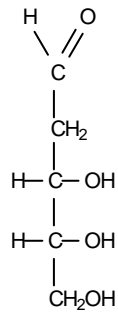
CETOSE : Formation d'un hémicétal entre C<sub>2</sub> et C<sub>6</sub> : forme pyranique



Formation d'un hémicétal entre C<sub>2</sub> et C<sub>5</sub> : forme furanique

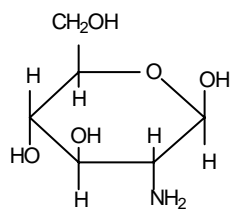
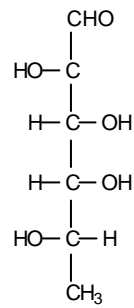


## DERIVES D'OSSES

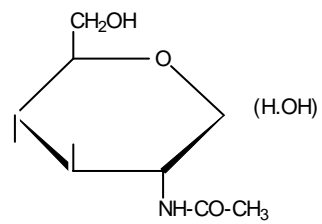


## 2-Désoxy-D-ribose

**L-fucose**

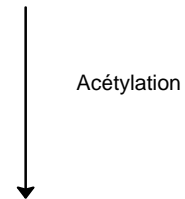
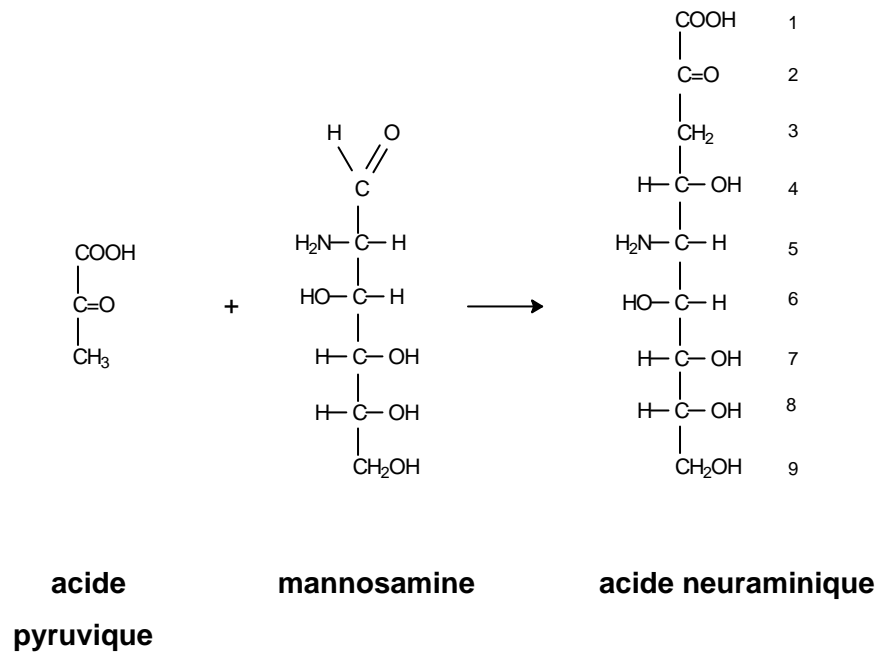


**β-D-glucosamine**

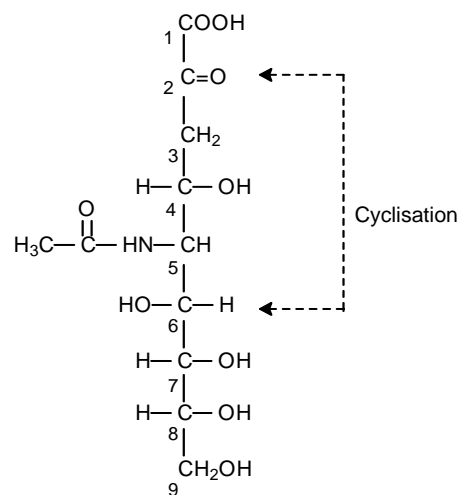


**N-Acetyl-D-glucosamine**

## Acide neuraminique

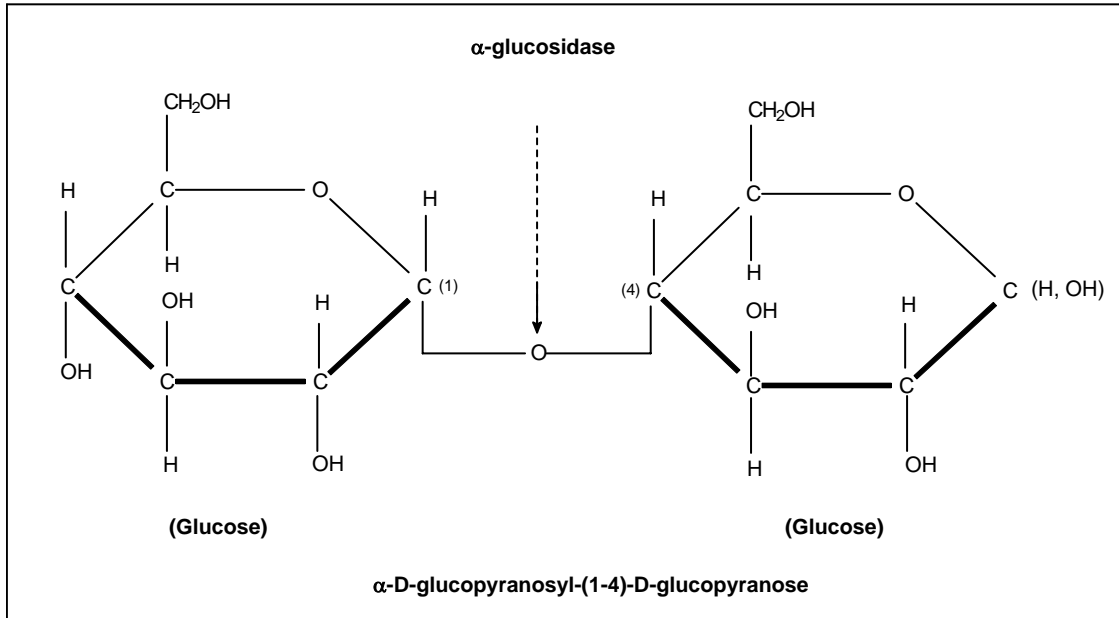


## Acide N-acétylneuraminique = acide sialique

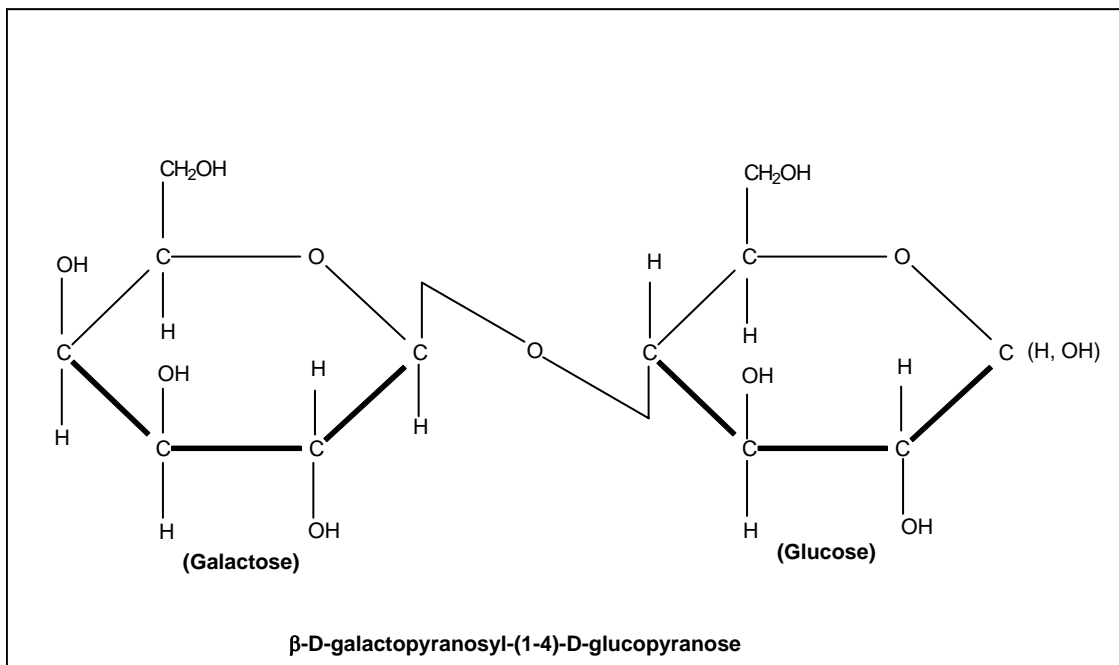


## DIHOLOSIDES

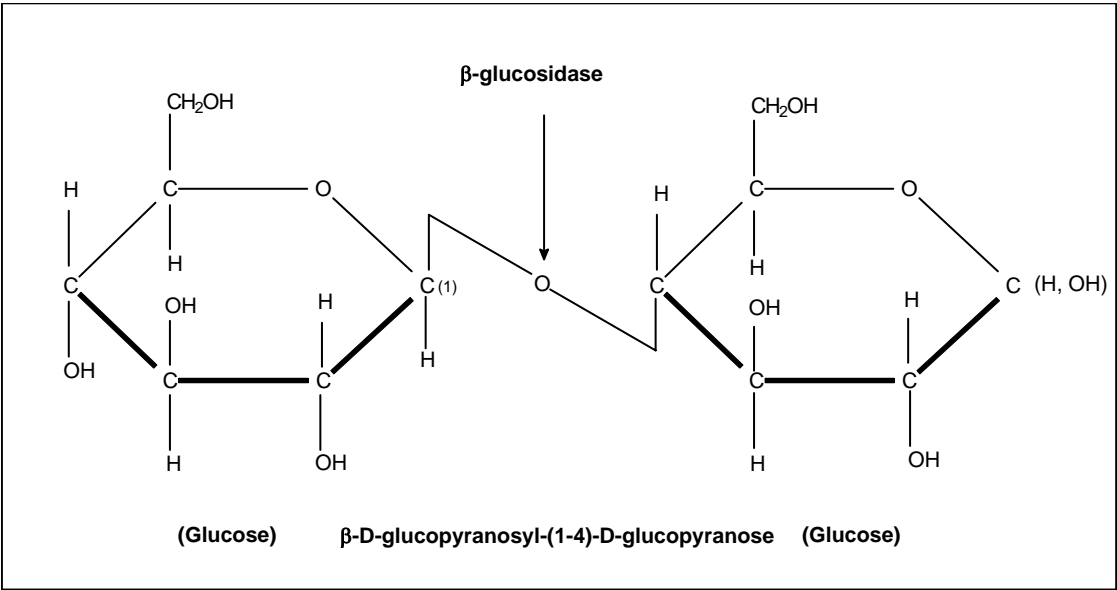
### Maltose



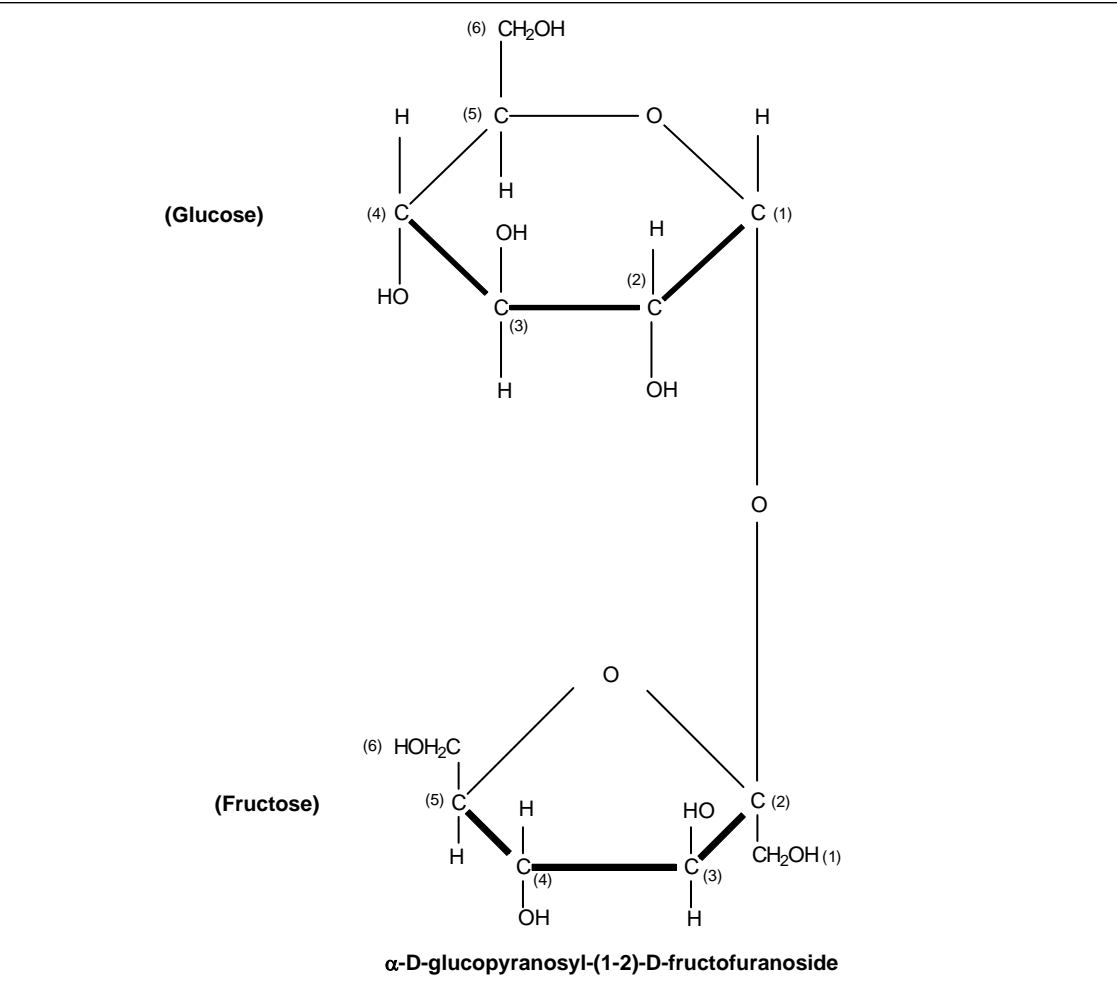
### Lactose



**Cellulose**

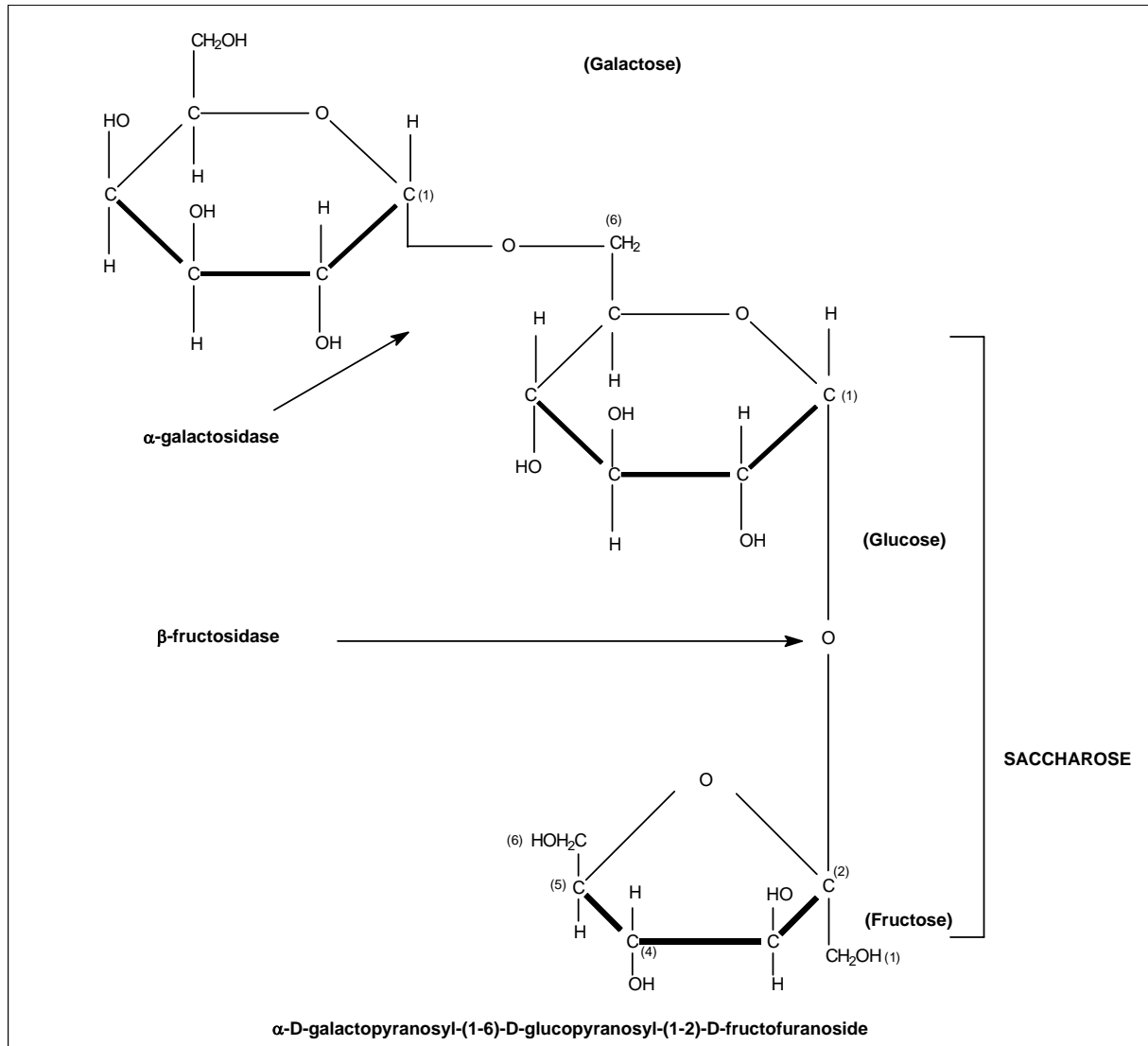


**Saccharose**

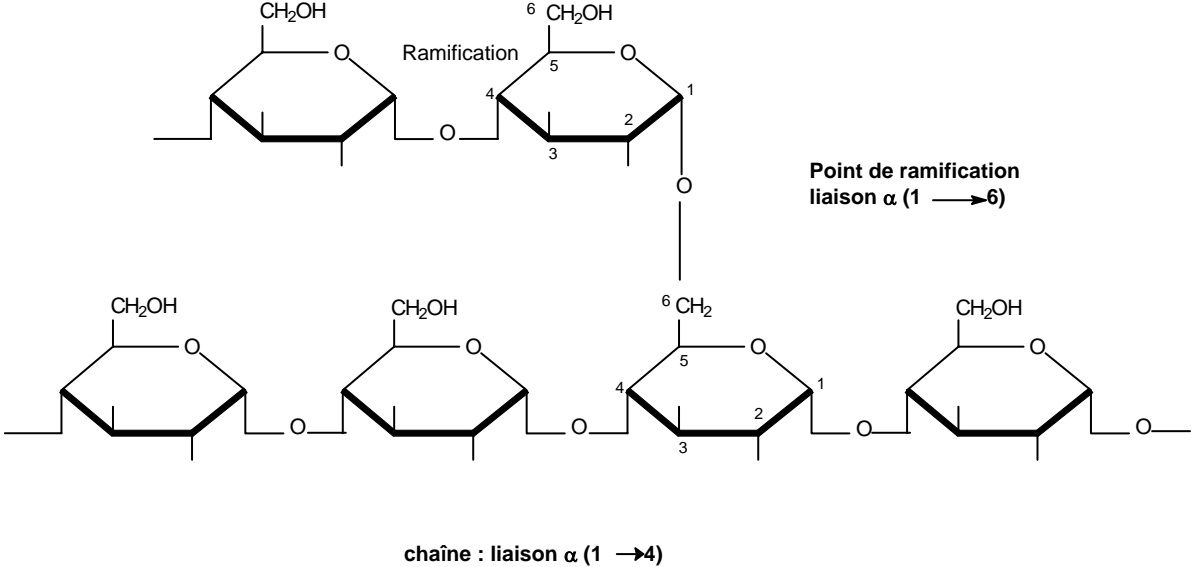


# TRIOLOSIDE

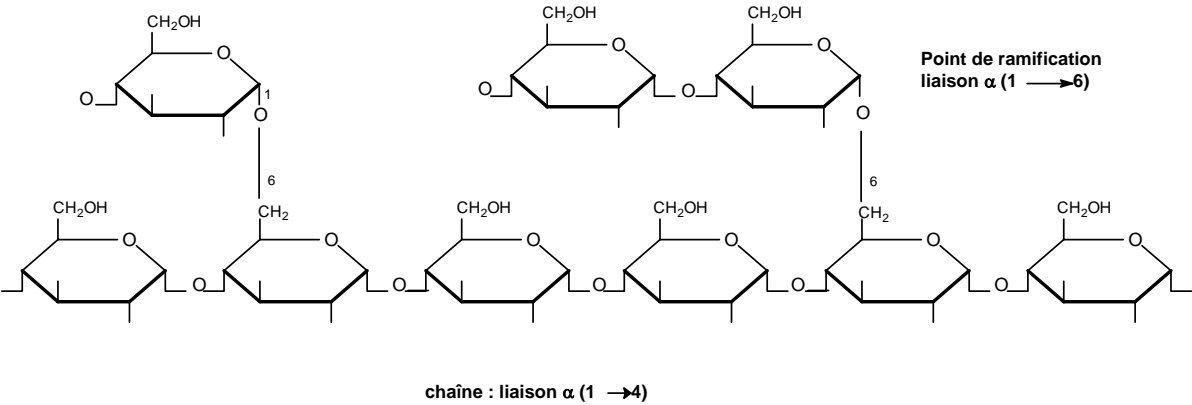
## Raffinose



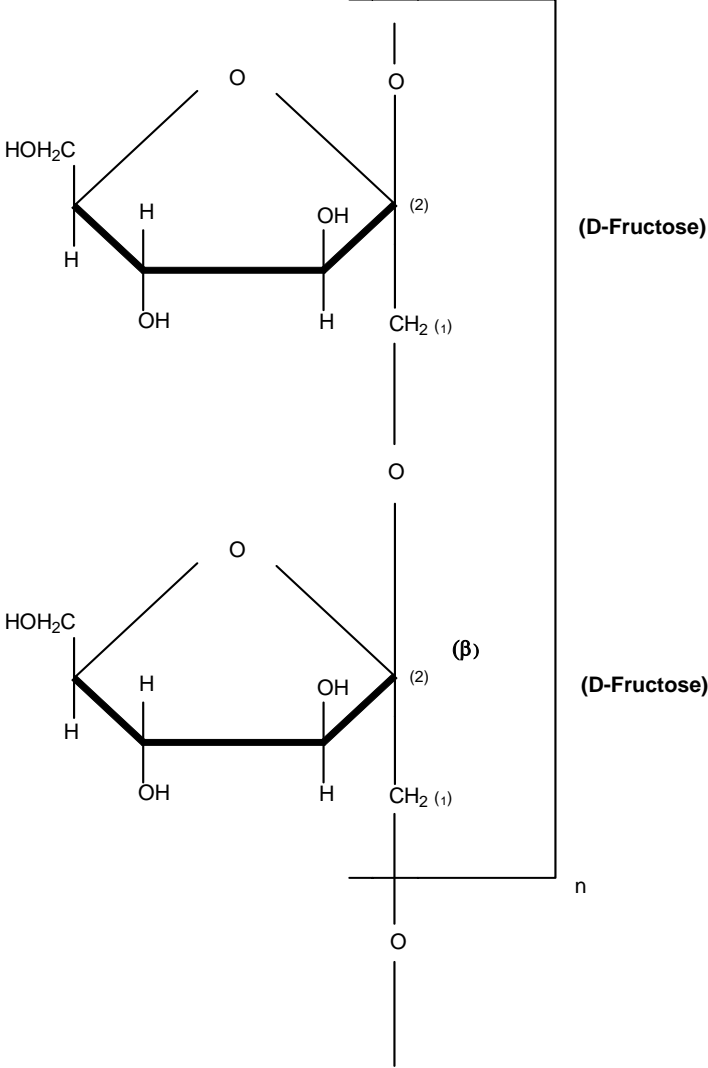
**Amylopectine**



**Glycogène**

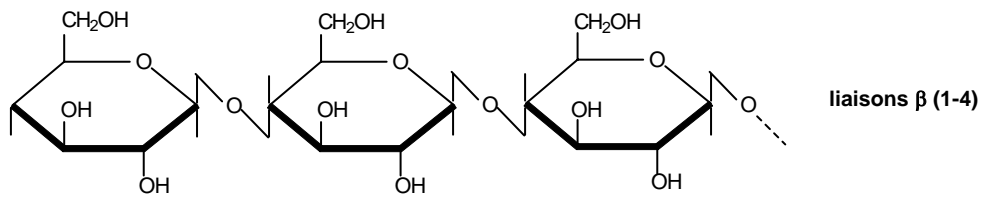


**Inuline**



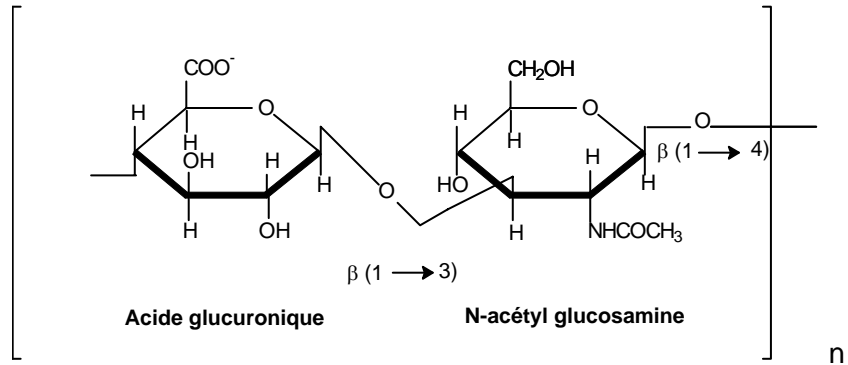
## POLYOSIDES DE STRUCTURE

### Cellulose

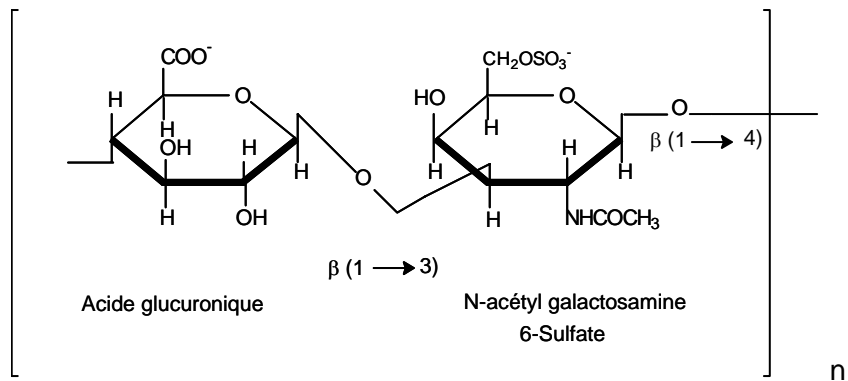


# GLYCOSAMINO-GLYCURONO-GLYCANES

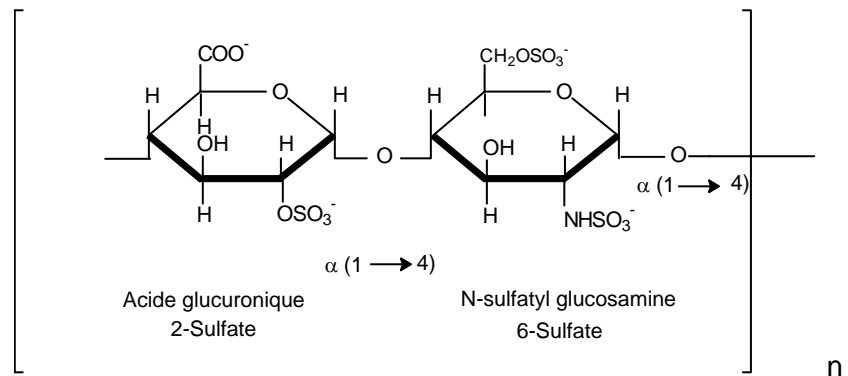
## Acide hyaluronique



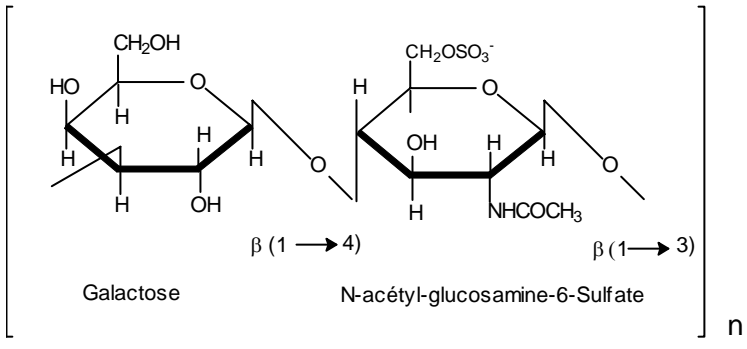
## Chondroïtine 6-sulfate



## Héparane Sulfate



**Kératine Sulfate**



**Dermatane Sulfate**

