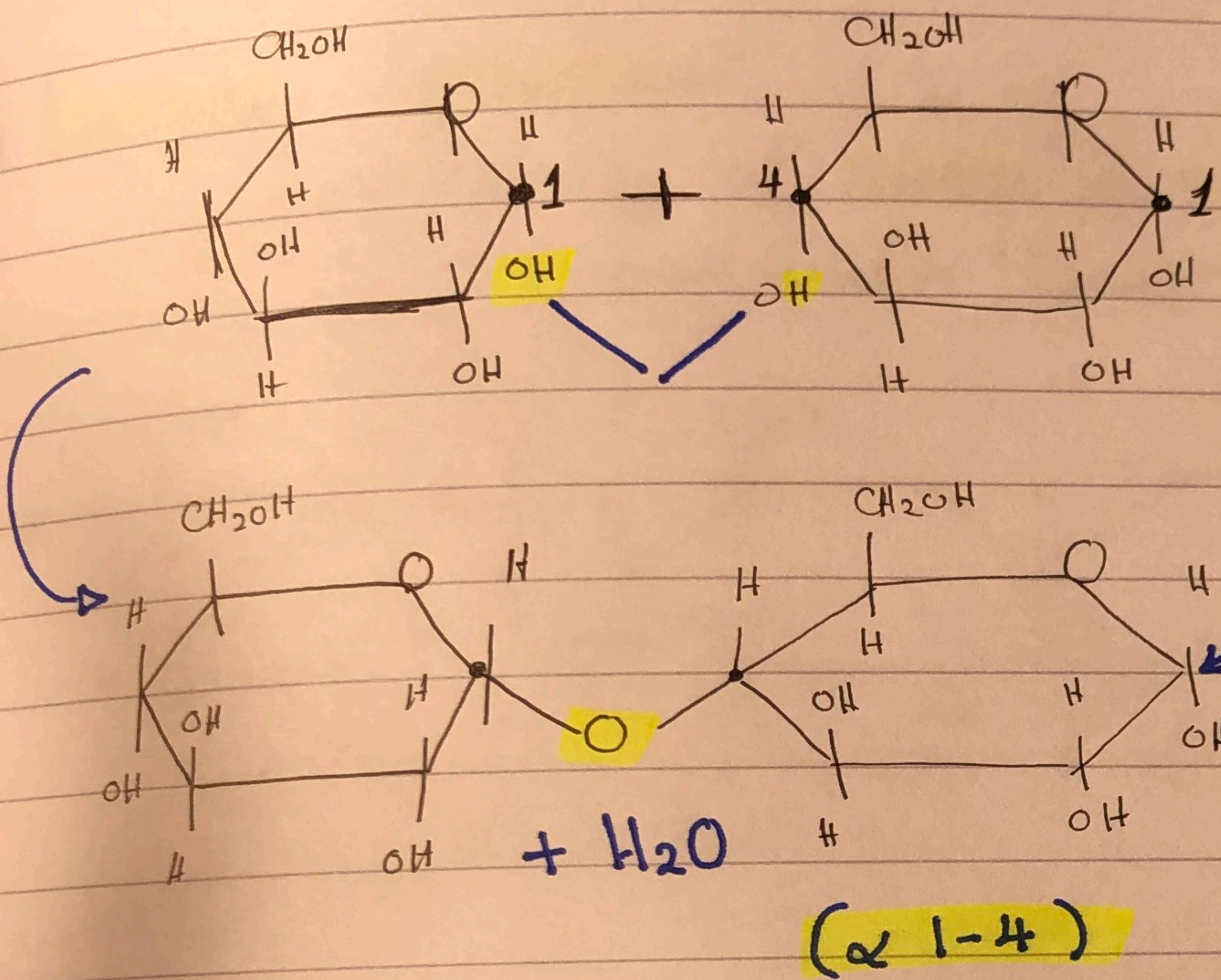


Disaccharide

Two monosaccharides linked together via the glycosidic bond. 3 Common

1. **Maltose** "Malt Sugar" \Rightarrow Consists of two α -glucose units

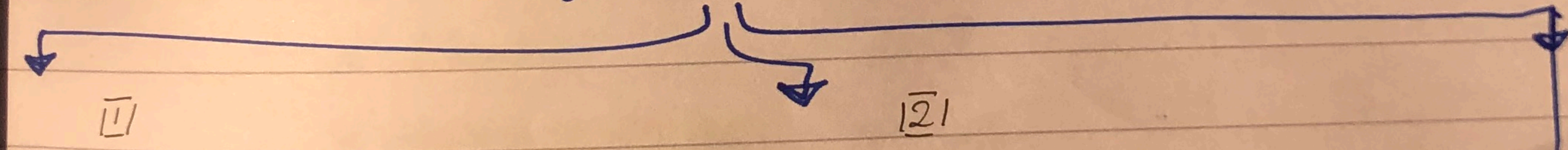


O-glycosidic bond

Maltose is a **reducing sugar** according to this end which have no bonds.

• During the degradation of starch, maltose sugar is produced.

Glycosidic bond

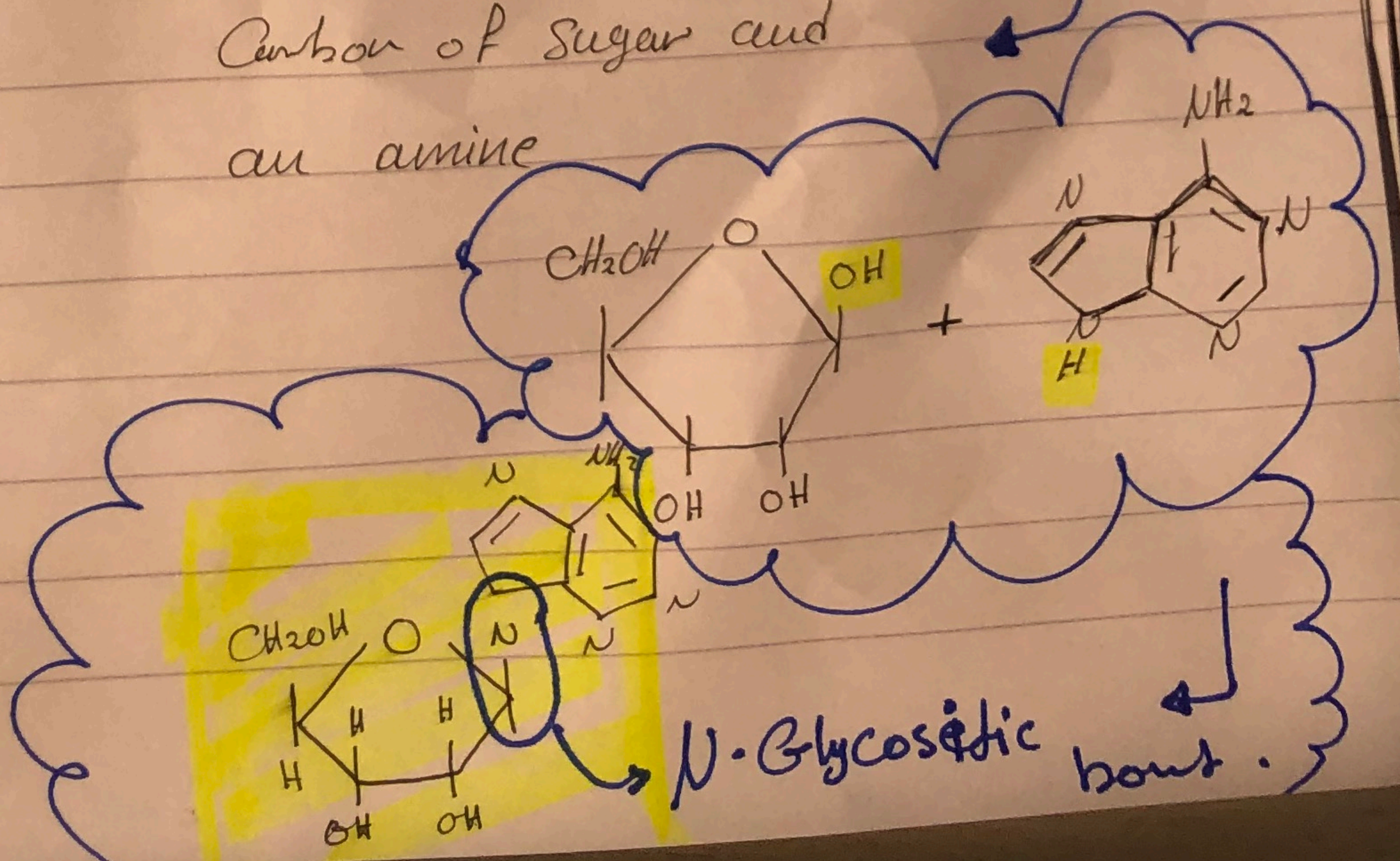
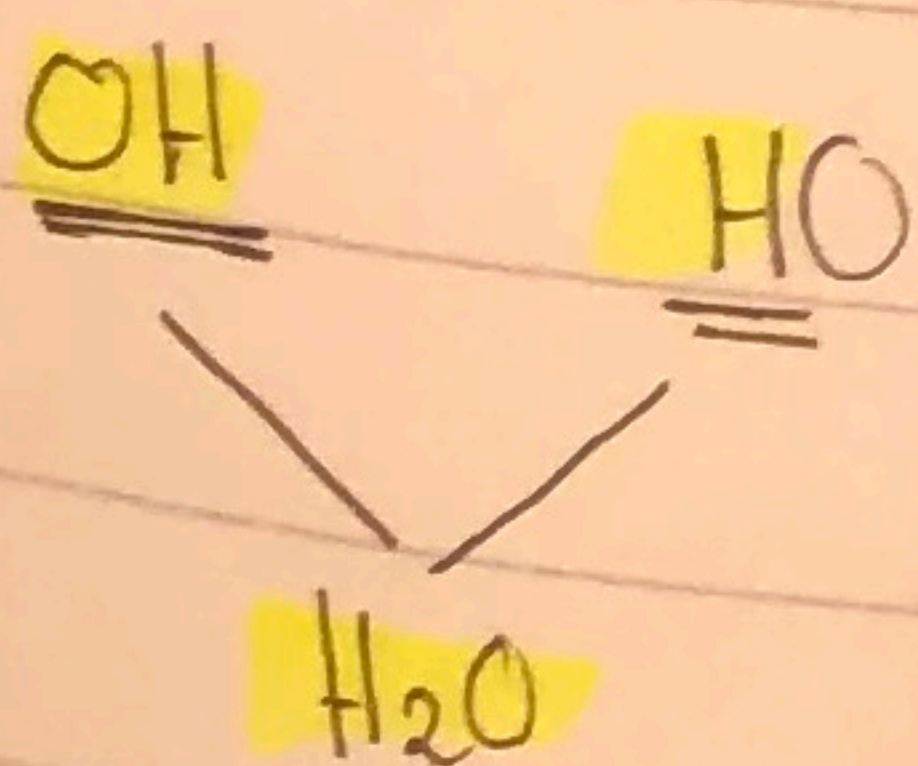


O-Glycosidic bond

N-Glycosidic bond

\Rightarrow The anomeric group of sugar can condense with alcohol

\Rightarrow Forms between anomeric carbon of sugar and an amine



N-Glycosidic bond

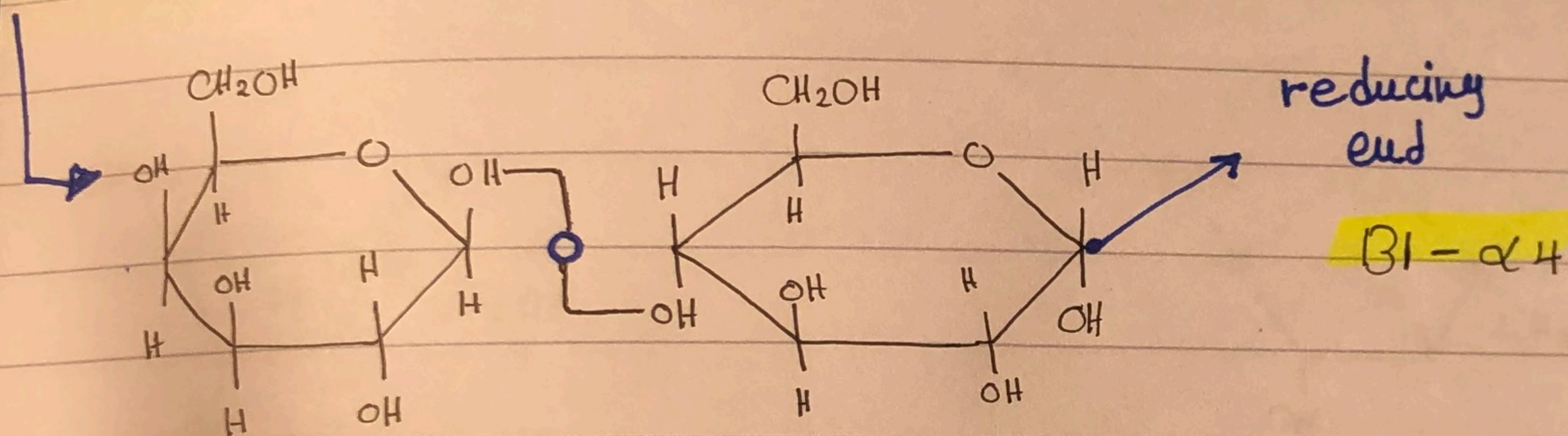
"Disaccharides"

□ The bond that links **D-ribose** & **D-deoxyribose** in the nucleic acids, RNA & DNA are **N-Glycosidic bonds**.
To Purine ←

2. **Lactose**: "Milk Sugar"

⇒ Consists of **glucose** & **galactose**

⇒ Found in Milk "Dairy Products".



α -Lactose

⇒ Lactose is a reducing Sugar.

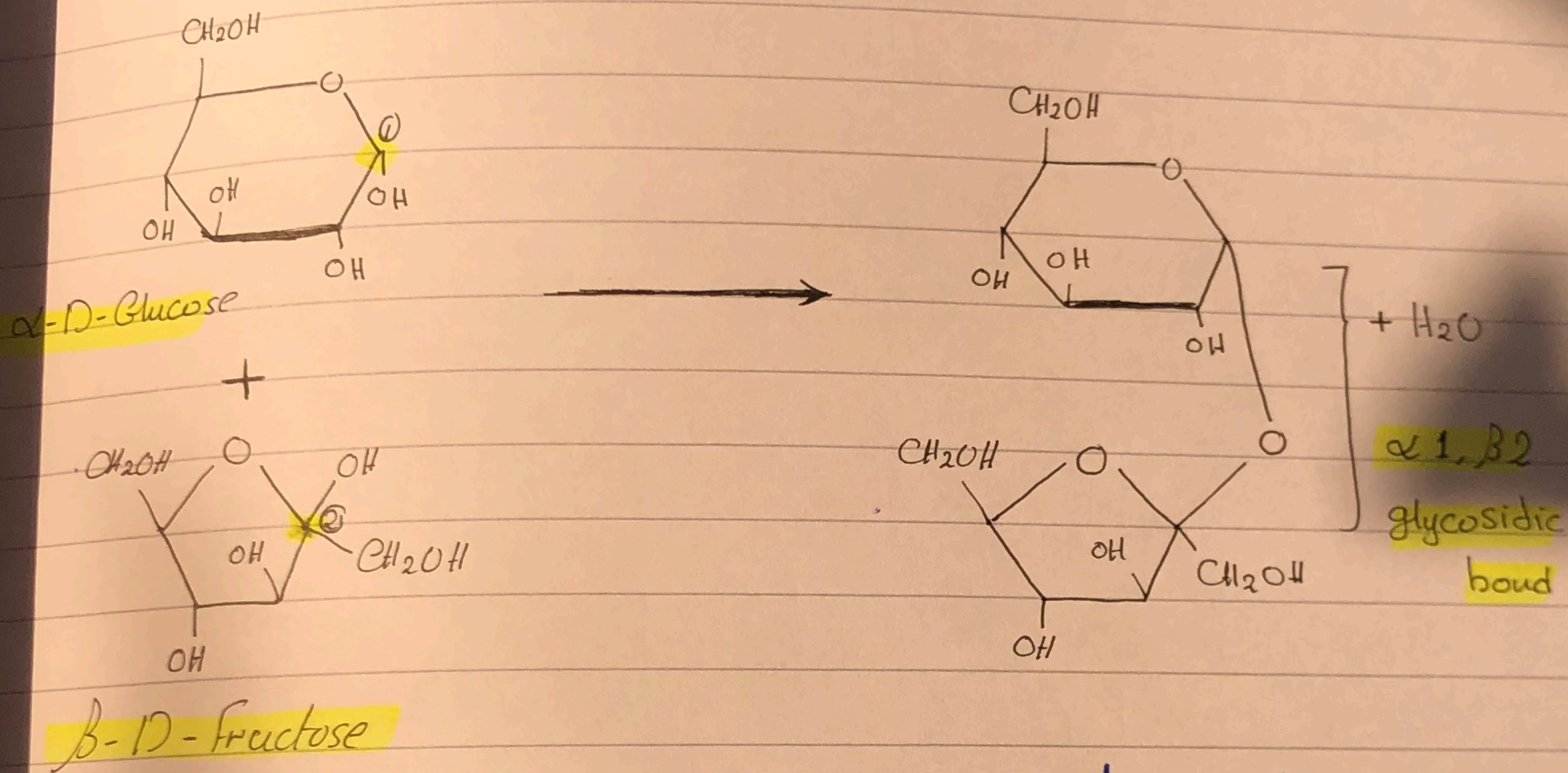
⇒ **Lactose intolerance**: lack of lactose enzyme.

⇒ Leads to **(GIT)** Such as

- nausea
- bloating
- abdominal cramps
- diarrhea ∴ due to digestion of lactose (intact) By bacteria found in Colon

Disaccharides

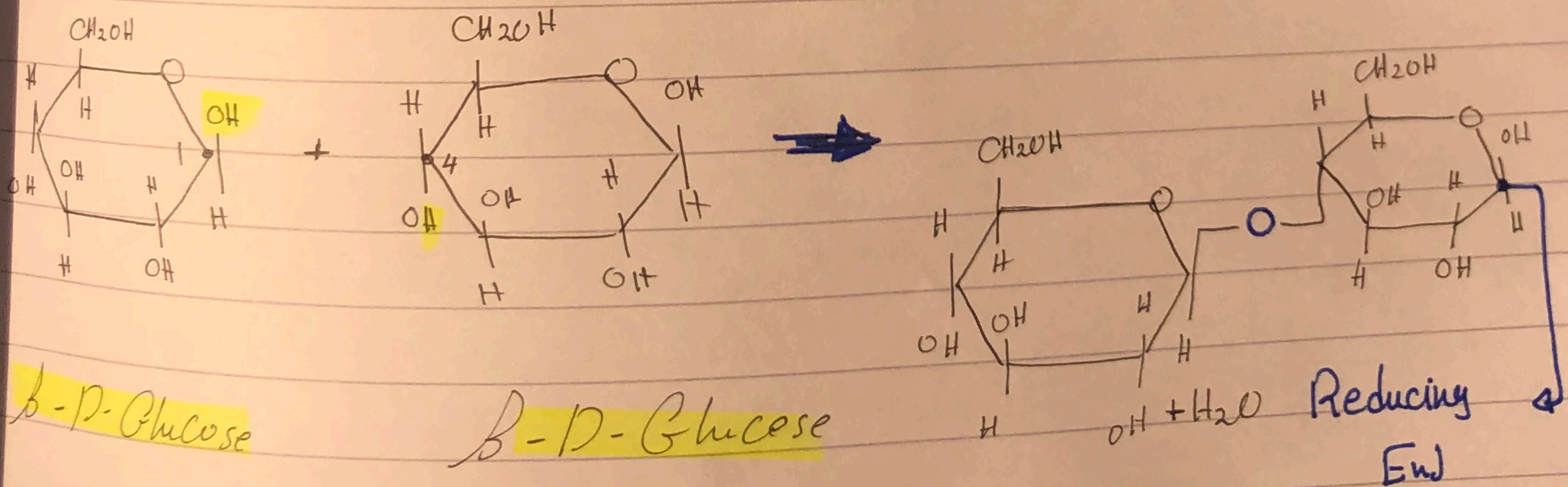
3 ■ **Sucrose**: "Table Sugar" Consists of Glucose & Fructose
 => Found in Cane & beet
 السكر القصب السكر البنجر



■ Sucrose isn't a reducing sugar
 "The anomeric Carbon "reducing end" isn't free".

4 ■ **Cellulose**: Consists of two D-Glucose linked by the β -glycosidic bond " β 1-4"

=> released during Cellulose degradation



Cellulose is an isomer of Maltose

β = Cellulose α = Maltose

لا يستبد في الجلي

CELLULOSE