

1] Molisch Test:

Concentrated sulphuric acid (H_2SO_4)

↓ dehydration

(5th) 5-Furfural derivatives Furfural derivatives
(5th)

with α -naphthal

Purple/violet ring

interface of the two layers

1] Sensitive

2] non specific

3] given positive by all type of carbohydrates.

4] oligo... + poly... \Rightarrow hydrolyzed \Rightarrow dehydrated \Rightarrow positive
monosaccharide *

2] Iodine \Rightarrow Polysaccharides (starch).

Complex between (coiled polysaccharid + Iodine
centrally within the helix)

* Iodine within the
helix because
(adsorption)

جذب اليود في الحلز

The color complex depends *length of the linear
chain.

Glycogen \Rightarrow reddish brown color.

Starch \Rightarrow deep blue color

* used to distinguish between (mono/di) and polysaccharid

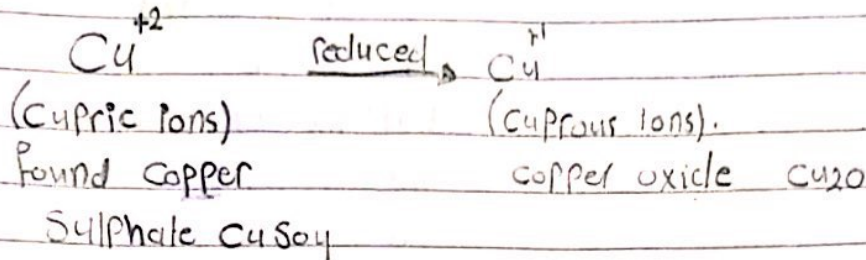
two small to trap the iodine, don't form

dark colored complex ##

2ml (solution) in test tube + (2-3) drops of the iodine + mix

[3] Benedict's Test \Rightarrow

used to differentiate reducing sugar from non reducing



رسیدی آتیمو (brick red)

8 drop of carbohydrate + 5ml Benedict's \Rightarrow boil water 2m

Diabetes urine test \Rightarrow the color depends of the amount
reducing sugar. (scanty brick red)

Blue	Green	Yellow	orange-red	brick red
0g%	0.5-1 %g	1-1.5g%	1.5-2%g	>2%g

no reducing sugar Traceable low moderate High \uparrow

[4] Bar foed's Test less than reactiv than Benedict's reagent.

* used to distinguish reducing mono. from disaccharide
by (~~concentr~~ controlling pH, controlling time of heating).

* mono-saccharides react fast / disaccharide react slowly.



+ Positive



on prolonged heating
can give (Positive).

3m

Five Apple

[5] Seliwanoff's Test.

* used to distinguish ketoses from aldoses

Keto hexoses + hydrochloric HCl

↓
* cherry red color

* Positive result with ketohexoses like (fructose and containing sugars \Rightarrow sucrose.)

* distinguish between glucose and fructose.

* Overheating of the solution should be avoided as aldoses converted to ketoses and give a false positive reaction.

shahed Aref 2