

## PURPOSE

To test the reactions of glucose with  $\text{Cu}(\text{OH})_2$  and  $\text{Ag}_2\text{O}$

## EQUIPMENT

test tubes

burner

## MATERIALS

glucose solution (10% by mass)

0.1M  $\text{AgNO}_3$  solution

dilute NaOH solution

dilute  $\text{NH}_4\text{OH}$  solution

M  $\text{Cu}(\text{OH})_2$  solution

fructose solution (10% by mass)

## PROCEDURE

### PART A: Reaction with $\text{Cu}(\text{OH})_2$ Solution

1. Put 2-3ml of glucose solution in a test tube.
2. Add 2-3ml of dilute NaOH solution to the tube.
3. Add a few drops of  $\text{Cu}(\text{OH})_2$  solution.
4. Heat the mixture.

### PART B: Reaction with $\text{Ag}_2\text{O}$

1. Take two test tubes and put 1ml of 0.1M  $\text{AgNO}_3$  solution to both tubes.
2. Add dilute  $\text{NH}_4\text{OH}$  solution to both test tubes until new formed precipitation dissolves.
3. Add 1-2ml of 10% glucose solution to the first tube.
4. Add 1-2ml of 10% fructose solution to the second tube.
5. Put both test tubes in a hot water bath.

## QUESTIONS

1. Write all equations for the reactions.
2. What is the difference between glucose and fructose? How can you differentiate them