

PURPOSE

To prepare acetylene from calcium carbide and test some of the chemical properties of acetylene

EQUIPMENT

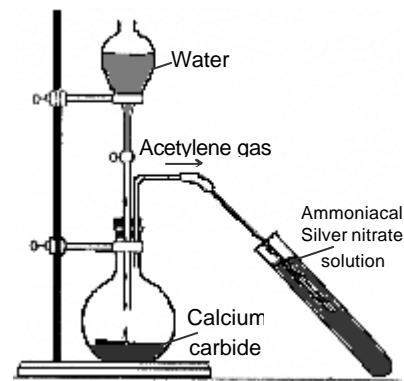
Erlenmeyer flask	one-hole stopper
test tubes	bent delivery tube
filter paper	ring stand
clamp	100mL beaker

MATERIALS

25 ml of 0.1M AgNO_3 solution
25 ml of 0.1M Cu_2Cl_2 solution
10 ml of conc. NH_3 solution
CaC_2 H_2O

PROCEDURE

1. Set up the apparatus as shown in the Figure.
2. Place some calcium carbide in the Erlenmeyer flask.
3. Put 25ml distilled water to the flask.
4. Take a test tube and put 25 ml of 0.1M AgNO_3 solution. Add 5 ml of concentrated NH_3 solution. This is simply prepared as Tollen's reagent.
5. Take a second test tube and put 25 ml of 0.1 M Cu_2Cl_2 solution. Add 5 ml of concentrated NH_3 solution. This is simply prepared Fehling's reagent.



6. Bubble the acetylene gas you obtained in Step 3 through the Tollens' reagent first. What do you observe?
7. Bubble the acetylene gas through the Fehling's reagent. What do you observe?
8. Take the precipitates from Step 6 and 7 and dry them.
9. Burn both of the precipitates.

QUESTIONS

1. Write equation for the precipitation of acetylene from calcium carbide.
2. Write equations for the reactions of acetylene with ammoniacal solutions of cuprous chloride and silver nitrate.
3. What are the general methods for the preparation of alkynes?