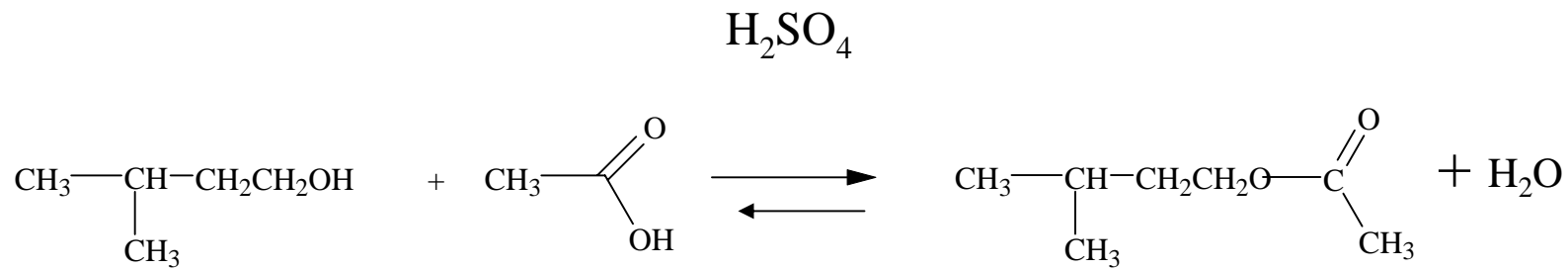
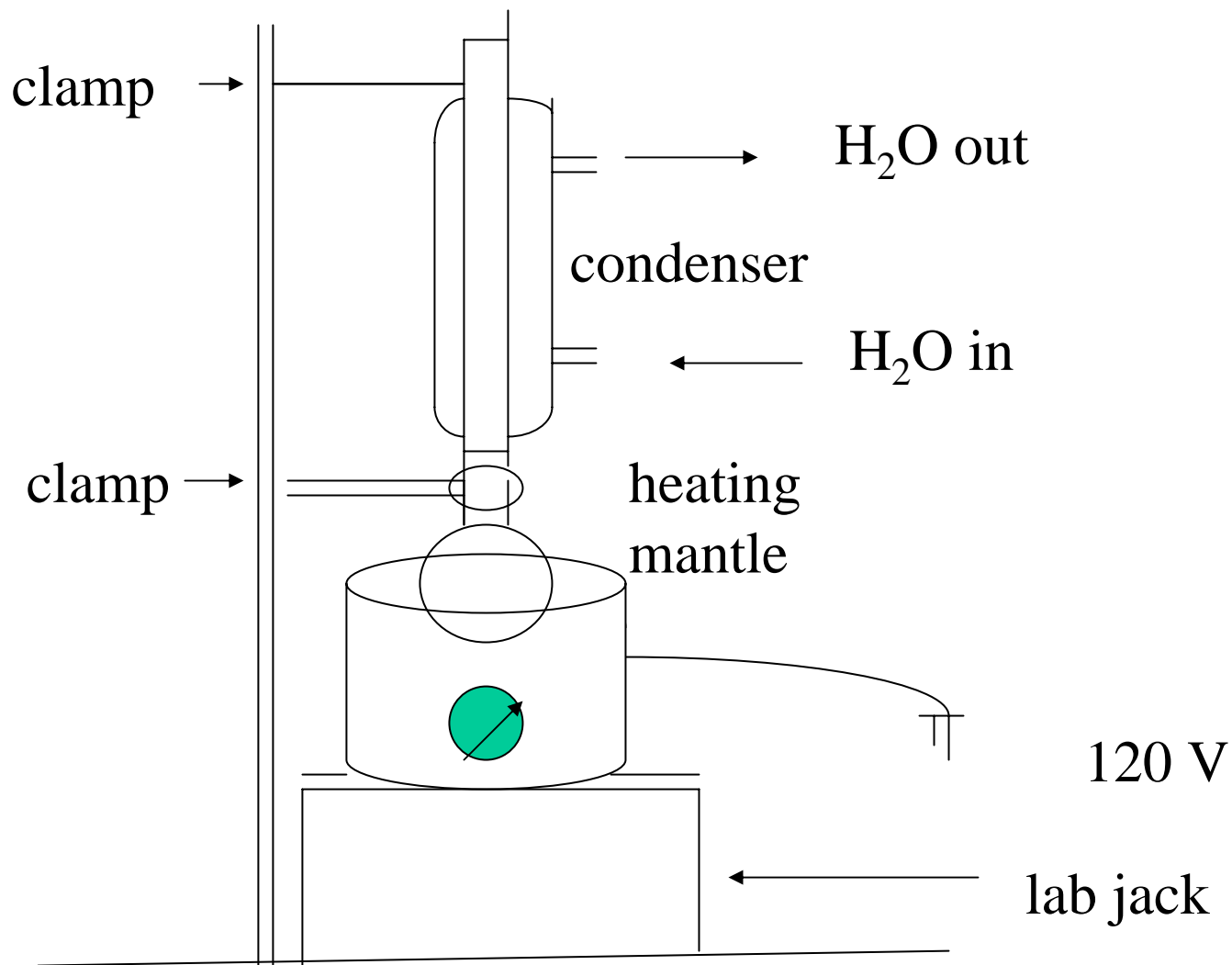


Experiment 4

Preparation of Isoamyl acetate





1. The reaction is heated to reflux
2. After 1 hour the reaction is cooled and water is added; the layers are separated and the organic layer is washed with NaHCO_3 and separated.
3. The organic layer is dried over anhydrous MgSO_4 or anhydrous Na_2SO_4 .
4. The organic layer is distilled.

1. Why do you heat the reaction?

Reaction rate doubles for an increase in 10 °C.

2. Why do you use an excess of acetic acid?

Forces the equilibrium to the right.

3. Why do you wash with NaHCO_3 ?

To neutralize the xs acetic acid and any H_2SO_4 present.

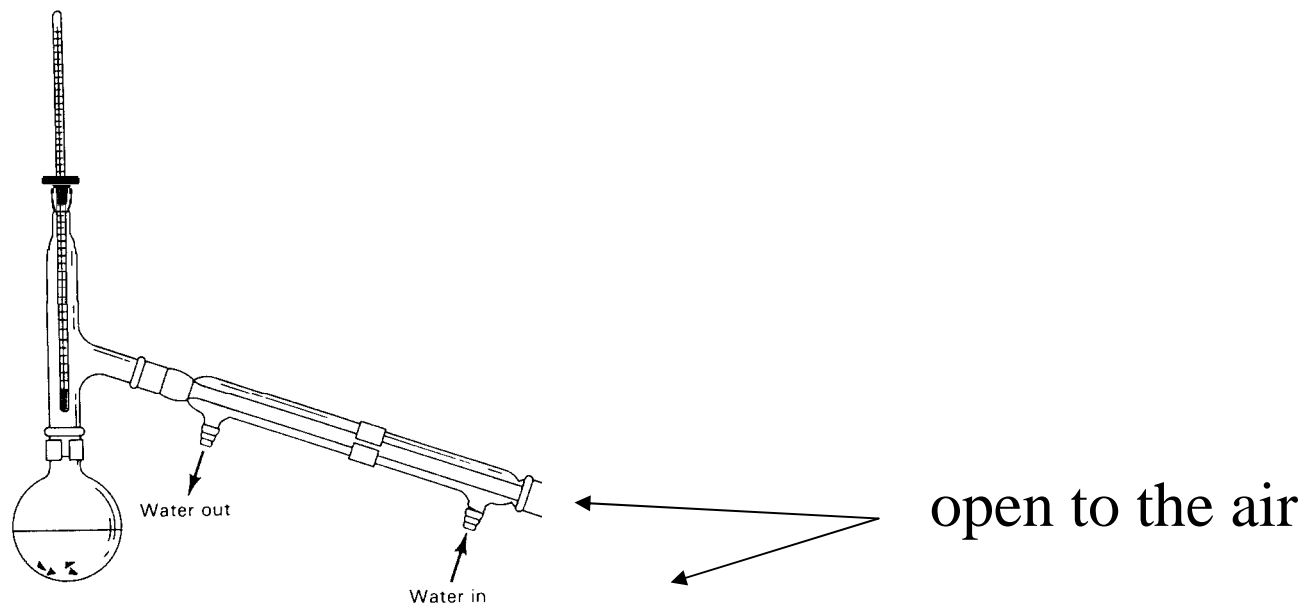
4. Why do you dry the isoamyl acetate?

The presence of water affects the distillation.

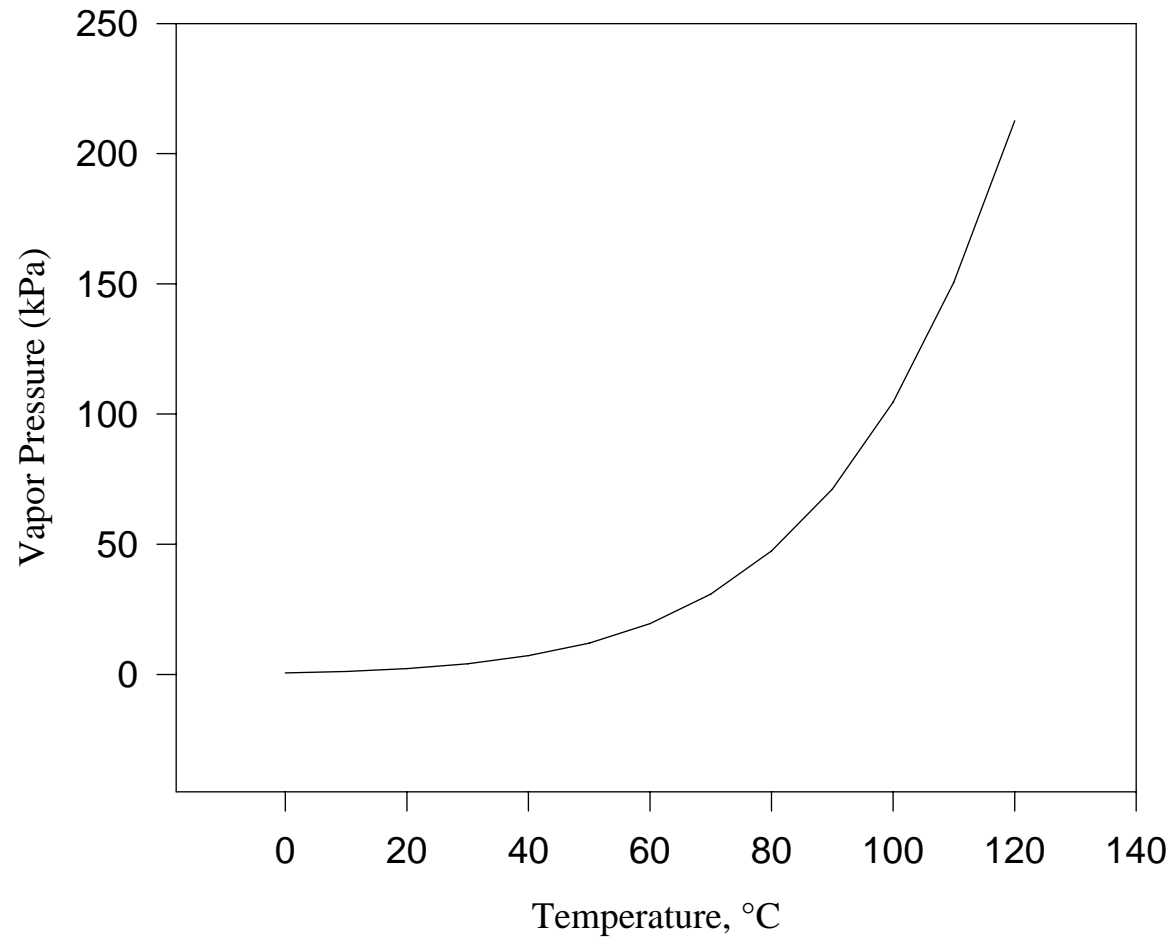
5. Why do you distill the isoamyl acetate?

Distillation is an important way in which liquids are purified.

Simple Distillation



Vapor Pressure vs Temperature of Water



What is and what do the following measure?

vapor pressure

The vapor pressure of a pure substance is the pressure exerted by the substance against the external pressure which is usually atmospheric pressure. Vapor pressure is a measure of the tendency of a condensed substance to escape the condensed phase.

boiling point:

When the vapor pressure of a liquid substance reaches the external pressure, the substance is observed to boil.

normal boiling point:

When the external pressure is atmospheric pressure, the temperature at which a pure substance boils is called the normal boiling point.