

**Experiment No.(2) Precipitation of proteins using heavy metals:**

In pH=7 protein usually have negative charge. In presence of metal having a positive charge the negative charge of the protein will be neutralized and the protein will separate from its solution. Precipitation of proteins using heavy metals is more effective in neutralized or weak base solutions, while in strong base solution there is a risk precipitation of metal in hydroxide form.

Note: precipitate usually dissolves when there is an excess in the solution of heavy metals, because the excess in heavy metals ions gives a positive charge to the dissolved particles.

**Materials:**

1. Protein (0.5%) in saline.
2. Heavy metals (0.1 mole copper sulfate , 0.1 mole copper acetate )

**Procedure:**

Add few drops of heavy metal solution to 1 mL of protein solution. Notice the precipitated formed. And what happens when excess of heavy metal solution is added?

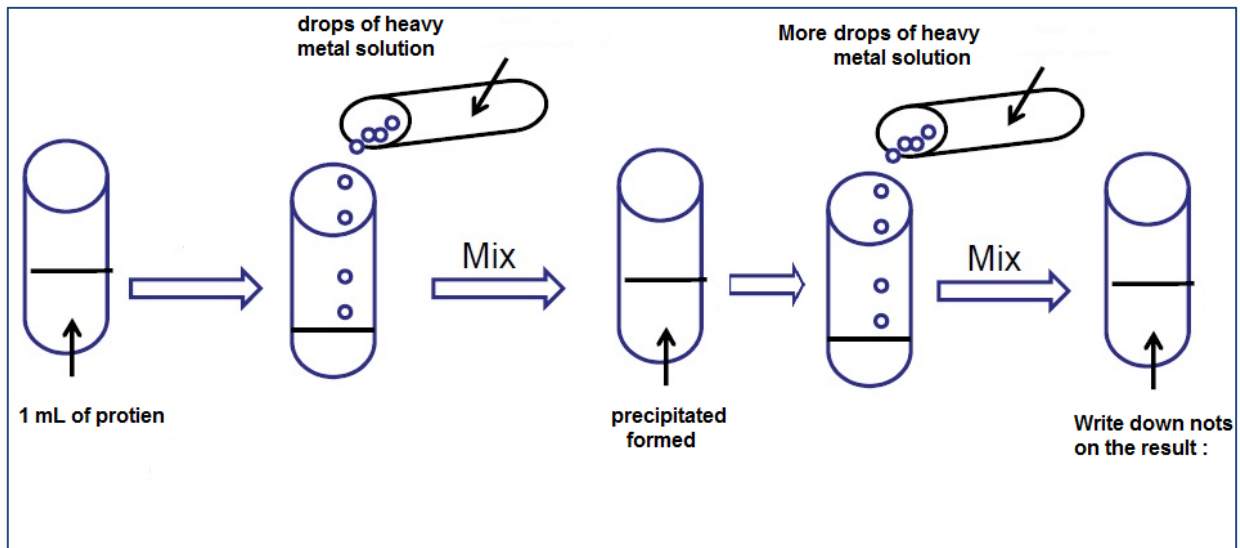


Figure 7. Precipitation of proteins using heavy metals.