## Sakaguchi's Test

Principle: Molisch reagent is α-naphthol in alcohol. Sodium hydroxide provides alkaline pH. At the alkaline pH guanidino group of arginine combines with α-naphthol to form bright red color.





## Procedure

1- Add 5 drops of 5% NaOH to 5 ml of protein solution.

2-Shake well. Add 2-4 drops of Molisch's reagent (α-naphthol in alcohol).

- 3- Add 3-4 drops of NaOCL(sodium hypochlorite)
- 4- Notice the color formed.

## Detection of unstable sulfur in basic medium (Lead Blackening Test):

- When the amino acids cysteine and cysteine are heated with a solution of sodium hydroxide, the sulfur in these amino acids combines with the sodium hydroxide to form sodium sulfide.
- Sodium sulfide reacts with lead acetate to form black lead sulfide.
- The amino acid methionine, although it contains sulfur, does not undergo this reaction. as it is stable in a basic medium.

Detection of unstable sulfur in basic medium (Lead Blackening Test):





## Procedure

1- Take two test tubes. Put 1 ml of albumin in the first and 1 ml of methionine in the second.

- 2- add 3 ml of 40% NaOH to each tubes and boil for 3 minutes.
- 2- Cool, add 1 ml of lead acetate solution.
- Observation: Solution turns dark brown