

Determination of water hardness by complexometric titration



General Aim

Determination of water hardness through estimation of content of CaCO_3 in tested sample

Method

Complexometric titration

Learning Objectives (ILOs)

- Determination of concentration of total amount of calcium and magnesium salts in water.
- Knowing about drawbacks of high water hardness in our real life.
- Understanding the complexation reactions.
- Understanding the concept of direct titration.

Theoretical Background/Context

- Complexometric reaction involves reaction of metal with ligand to form complex.
- Stability constant (k): An equilibrium constant for the formation of complex in a solution. It measures the strength of interaction between reagents that come together to form complex.
- High stability constant \rightarrow high tendency to form complex.

Principle of Work

- EDTA is a sequestering agent which can form complex with calcium present in water sample.

