Pollution lab 10

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Determination of Calcium in Water

Background information

Calcium (Ca)

- The dissolved calcium water mainly gained by leading rocks consist of CaCo3, such as limestone or any calcareous depose while water leaching graphitic and siliceous sands have a low concentration of calcium. Calcium concentration ranges are 30-100 melt calcareous regions water.

Background information

Calcium is important for bio-productivity in water, in which is considered as the main component of the higher class plants cells wall and the supporting skeletons form any animals like bones in fishes. Calcium considered as a micro-nutrient for most algae and it plays an important role in transporting ions through cell membrane.

Background information

Water which contains 10 mg/L of Calcium concentration considered as oligotrophic, while 25 m/L is considered as Autotrophic. The best calcium concentration in water is 75 mg/ Land the heights allowed concentration is 200 mg/ L.

Test procedure

1. Take 50 ml of water sample in a flask.
2. Add 10 ml of NaoH (1 N) until pH become (13-14)
3. Add 0.2 mg from (**Murexid**) powder until color become pink.
4. Titrate with **EDTA** (**Ethylenediaminetetraacetic acid**) with continuous moving and record the end point Change from **pink to violet**).
5. 5- Account the dropping volume of EDTA.

- Account from the equation:

$$\mathbf{Ca\ mg/L} = \mathbf{A} * \mathbf{3.213}$$

- While A represent the dropping volume of EDTA.