Review paper

Use of New Indicator for the Determination of Calcium and Magnesium in Water by Complexometric EDTA Titration

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In this review, I am investigating the work of Dr. D.P.S.Rathore *et al.* He used the 2-[4-phenylthioacetic acid)azo]-1,8-dihydroxynaphthalene -3,6-disulphonic acid (PTAADNDA),an azo dye, for the titrimetric determination of both calcium and total calcium plus magnesium using disodium EDTA as titrant. Water with high concentration of minerals is hard water .But water with very high degrees of hardness is harmful to health. The result of the sample of tap water show that this method is a variant of the conventional complexometric method. This method gives the sharp end-points compare to complexometric titration. Unlike Erichrome Black T [1, 2] [PTAADNDA] has an advantage that its aqueous solution is highly stable. In this titration, the azo dye, PTAADNDA, seems to possess enough advantages over other indicator .The PTAADNDA exhibits an intermediate colour change due to drop before the real end point, which is probably due to high pK2 value (pK2=12.75) and gives sharp colour and described the stability of Ca and Mg complex with PTAADNDA at different pH values . In latest research article, complexometric titration is used for the estimation of hardness of water and its potential advantages are evaluated.