

Abstract:

The effect of varying concentration of iron on black tea extract (polyphenols) has been studied in terms of difference in color and adsorption spectra. Black CTC tea is used for this purpose and a color chart is prepared for the determination of various concentration of iron in drinking water ranging from 0.5-10ppm. The method is based on the principle that iron undergoes complexation reaction with polyphenolic compounds present in the black tea which causes the change in color of the tea solution. The effect of various brand of black tea (e.g. Nameri, Masbat, Golden tips, Rama gold etc. of Assam tea) to color change & each component of color change of the extract is analyzed by Hunter lab, effect of other ion in determining the concentration of iron in drinking water, were investigated. The oxidation state iron in tea iron Complex was studied. This color change method has been successfully applied in determining unknown concentration of iron in drinking water.