

precision obtained was excellent, clearly demonstrating the usefulness of Cu-QAP complex as acid-base indicator.

Titrations with Alkali as Titrant. To investigate the clarity of the end-point for titrations to the disappearance of the colour rather than to its appearance, titrations were performed using alkali as titrant. The results obtained were in good agreement with those obtained when acid was used as titrant.

Stability of the Indicator. Freshly prepared solution of indicator (0.001 M) in dioxane was stored in colourless glass bottle for six days, exposed to artificial light. Visible spectra were taken before and after the storage. The spectra were found to be exactly similar except that the optical density of the solution after six days was slightly less than that of the fresh solution, which shows that the indicator solution is sufficiently stable and can be stored for at least six days.

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Salicylaldoxime and β -Resorcyaldoxime as Indicators for the Direct CyDTA Titration of Iron(III) Ions

Salicylaldoxim und β -Resorcyaldoxim als Indicatoren für die direkte Titration von Eisen(III)-ionen mit CyDTA

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Salicylaldoxime and β -resorcyaldoxime have been found useful as indicators in the direct titration of iron(III) ions with CyDTA. The lowest permissible concentration is 56 μ g-mol. The end-point is indicated by a sharp colour change from purple to deep yellow. Optimum pH range is 1.0–2.0, below pH 1.5, the colour being slightly lighter. The titration

can be satisfactorily carried out between 15 and 50°C. The end-point can be detected even in 1 ml titration volume of 0.001 M solution of Fe(III). The following amounts of foreign ions can be tolerated in the titration of 1.4 mg of Fe(III): 100 times excess of Na^+ , K^+ , NH_4^+ , Be^{2+} , Br^- , ClO_4^- , NO_3^- , SO_4^{2-} , 50 times excess of UO_2^{2+} , 20 times excess of Ca^{2+} , Sr^{2+} , Ba^{2+} , Mg^{2+} , Pd^{2+} , 10 times excess of Ag^+ , Pb^{2+} , Al^{3+} , Ni^{2+} , Co^{2+} , 5 times excess of Zn^{2+} , Cd^{2+} and an equal amount of Cu^{2+} . Mn^{2+} , Zr^{4+} , Th^{4+} and anions forming stable complexes with iron (as phosphate, vanadate, molybdate, tungstate) interfere at all levels. When 2.8 mg of Fe(III) were titrated in the presence of more than one foreign ion between 2.79 and 2.81 mg have been found using either of the indicators.

Working procedure. Adjust an aliquot (5 ml) of the sample solution (with 0.28 to 28 mg of Fe) to pH 1.0 to 2.0, add 2 drops of 1% indicator solution (in 95% alcohol) and titrate with 0.01 M CyDTA solution to a colour change to deep yellow.

This method has been satisfactorily applied to the analysis of an iron ore containing Al, Si, Ca, Ti, Mg, P and S after having been brought into solution by a standard method. Further, a drug was successfully analysed for its iron content with an error of only 0.4%. Both indicators tolerate Al to a considerable extent as compared to chromeazurol S and the conditions for use are not restrictive as with thiocyanate.

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Iodometric Determination of Mercapto Pyrimidines

Jodatometrische Bestimmung von Mercaptopyrimidinen

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The determination of suitable functional groups in organic compounds is always a preferred method for the quantitative analysis of those compounds. The oxidation-reduction methods have quite often been used for the determination of functional groups. The