Abstract

The present study describes a simple, selective, rapid and economical method for the determination of iron (III) in its synthetic alloys using 3-hydroxy -3- phenyl-1- (2,4,6-tribro mophenyl) triazene as metallochromic indicator in the $PH$ and temperature range of 2.5-3.0 and 20 −600$c$ respectively. The colour and shape of the synthesized indicator was light yellow shinning needles having melting point of 590$c$. It was crystallized from ethanol. The results of elemental study showed that, the values of C, H, N obtained experimentally agrees very well with those obtained theoretically. The colour at the end point changes from violet to light yellow using EDTA as a titrant. There is no interference in either determination from common metal and anion ions other than Pb(II), Cr(II), Mo(VI), Mn(II), U(vI), Cu(II), Cd(II), $F-$, $PO43-$, $C2O42-$, $HPO42-$. Reproducible and accurate results are obtained for 5.59 - 1.12mg of Iron with relative error less than ±1.79% and standard deviation not more than 0.10%. The results of the test method and reference method (Atomic absorption spectrophotometric) showed that, there is no statistical difference in the results by the two methods.