

Lekova V., Gavazov K., Dimitrov A., Racheva P., *Extraction-spectrophotometric study on the vanadium(V) – 2,3-dihydroxynaphtalene – tetrazolium violet – water – chloroform system*, **Scientific Researches of the Union of Scientists Plovdiv, Ser. C**, Vol. 6, Plovdiv 2007, pp. 171-174.

Abstract

The system vanadium(V) - 2,3-dihydroxynaphtalene (DHN) - tetrazolium violet (TV) - water - chloroform was studied. The composition of the ternary ion-associate complex was established and the optimum conditions for extractive-spectrophotometric determination of vanadium were found: pH = 5.9 ± 0.5 , $C_{\text{DHN}} = 2 \times 10^{-4} \text{ mol dm}^{-3}$, $C_{\text{TV}} = 6.0 \times 10^{-4} \text{ mol dm}^{-3}$, extraction time - 2 min, $\lambda_{\text{max}} = 342 \text{ nm}$. Beer's law was obeyed up to $1.7 \mu\text{g cm}^{-3}$ vanadium(V) with a molar absorptivity coefficient of $1.5 \times 10^4 \text{ dm}^3 \text{ mol}^{-1} \text{ cm}^{-1}$. The limit of detection and limit of quantification were calculated to be $0.17 \mu\text{g cm}^{-3}$ and $0.57 \mu\text{g cm}^{-3}$, respectively. The effect of foreign ions was examined.