AMPEROMETRIC TITRATION OF Cd (II) BY THIOUREA SOLUTION

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In our century of science-technical progress one of the important task is a protection of motor and aircraft details and construct; ions and also their synthetic covers the plasticity of which preserve the hermetition of threading combinations.

In this plane such methods allowing to determine Cd (II) in different by nature objects with high precision and low determination time are very important and they can include in their number also amperometry.

It is known a much specific reagents for the determination of Cd(II) the enumeration of which has increased owing to organic compounds. The most known reagent is potassium ferrocyanide which has a low selectivity.

It this investigation the thiourea is proposed as analytical reagent for Cd(II) determination. Amperometric titration of Cd(II) by thiourea was carried out on the installation with two indicator electrodes from platinum wire (L = 2.05 sm, d = 0.4mm.) with the rotation rate 1000 ob/ min. The current power was determined by self-registor KSP-4 and the total volume of the titrated solution was equal 10ml.

For the optimization of Cd(II) amperometric titration with thiourea solutions it the influence of tension on the indicated electrodes the nature and concentration of phone electrolyties, the presence of other cations and anions and also some other factors on the form of the obtained curves and results of titration was investigated. In all cases the classical by form curves of the amperometric titration were obtained with constant left and ascending right branches.

With the help of some experiments the following optimal conditions were determined: tension on the electrodes (+0.8~ +1.1V), phone – 0.1 potassium C₄H₄O₆Na₂ (pH = 3.56), the titrant concentration – 0.005M

The obtained experimental results were treated by rules of mathematical statistics and the relative standard deviation didn’t exceed 0.33.