iron(III) complex. The two complexes have identical absorbance coefficients at 396 mμ. A method is presented for the determination of iron(II) and total iron in the same solution by simultaneous measurements of absorbance at 396 mμ and at 512 mμ.

Aim. In the method for the simultaneous determination of iron(II) and total iron reported in the present paper, advantage is taken of the difference in the absorption spectra of the reddish orange iron(II) and the yellow iron(III) complexes which are formed instantly on the addition of 1,10-phenanthroline to a solution containing these ions.

Materials and methods. Weigh out a 300.0 mg sample and dissolve it in distilled water slightly acidified with sulfuric acid. Dilute to 250 cm^3 in volumetric flask. Each sample then should be analyzed immediately without interruption.

Withdraw three 1 cm^3 aliquots and place each in a separate 25 cm^3 volumetric flask. Add 10 cm^3 of 0.3% 1,10-phenanthroliae solution, buffer with 5 cm^3 of 0.2M potassium biphthalate solution, and dilute to the mark with distilled water. Read the absorbance of each solution at 396 mμ and 512 mμ as soon as possible and not later than 30 minutes after the complexes are formed.

Results and discussion. Determine the concentration of total iron and the approximate concentration of iron(II) from standard concentration curves at 396 and 512 mμ, respectively. Obtain the approximate concentration of iron(III) by difference. Find the absorbance value corresponding to this approximate concentration from the standard curve for iron(III) at 512 mμ to obtain the corrected concentration of iron(II) from the appropriate standard curve. For the correct concentration of iron(III), subtract the corrected concentration of iron(II) from the concentration of total iron already determined. The results are not changed appreciably by a second approximation.

Results of analyses by the 1,10-phenanthroline method are in good agreement with results obtained independently by a method involving accepted procedures of high accuracy. Comparison of results from these methods is particularly advantageous because in one case iron(II) is determined directly and iron(III) gotten by difference, whereas in the other case the determination of iron(III) is direct and that of iron(II) is by difference.

The concentrations of total iron determined with 1, 10-phenanthroline are in close agreement with values obtained with T iron. This indicates that, although the absorbance coefficient of the 1,10-phenanthroline complexes at 396 mμ is relatively small, absorbance measurements at this wave length give satisfactory results for total iron.

Conclusions. The method presented in this paper is to be recommended for its simplicity. Two simultaneous spectrophotometric measurements on the same solution are sufficient for an analysis. No preliminary steps such as reduction, oxidation, or extraction of the sample are necessary.

DEVELOPMENT OF METHODS FOR CONTROL THE QUALITY OF ARGIRELINE IN PATCHES UNDER EYES

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Introduction. Wrinkles are visible creases or folds in the skin and they are often the first sign of ageing. Changes in physical appearance due to wrinkles can have a negative effect on the quality of life. In some cases, concerns over physical appearances can affect personal interactions, occupational functioning and self-esteem. For nowadays patches under eyes have been one of the most popular and commonly administered compounds to reduce wrinkles for women of all world. And from previous studies proved, that argireline is a mimetic of Botox, but has been found to be safer than Botox and effective in reducing wrinkles. Thats why development of technology for patches with argireline has

become relevant, but for their use, it`s necessary to develop methods of quality control for study the release of the active substance and further quality control of the active pharmaceutical ingredient.

Aim. To develop a spectrophotometric method of quantitative determination based on the physico-chemical properties of argireline for further application for release studies of API and control of quality of patches under eyes.

Materials and methods. UV spectrophotometer Evolution 60S (USA), analytical balances Axis (Poland), a standard sample of argireline (series A456202), patches under eyes with argireline, dishes Class «A», reagents and solvents that meet the requirements of the State Pharmacopoeia of Ukraine (SPU).

Results and discussion. Argireline is a synthetic hexapeptide consisting of the amino acids arginine, glutamine, methionine and acetylated glutamic acid. Therefore, a general group reaction with ninhydrin was used for identification. The positive effect of the reaction led to the use of this reaction for the quantitative determination of API in patches by absorption spectrophotometry in the visible area. For develop a method for quantitative determination, 0.1% aqueous solution of Argireline was prepared, a reaction was carried out with a 0.2% alcohol solution of ninhydrin, and the nature of the absorption spectrum of the absorption of the colored solution was studied in the area from 400 nm to 700 nm.

It was found that the maximum of the colored solution of Argireline with ninhydrin is observed at a wavelength of 571 nm. To develop a spectrophotometric method, it was necessary to establish the reaction time, temperature, solution stability, the ratio of active substance and ninhydrin, and the subordination of the reaction product to the basic law of Bouguer-Lambert-Ber.

For transfer the method of quantitative determination of Argireline in patches, the features of sample preparation were studied and the following quantitative determination method was proposed: to the patches add of distilled water in a beaker, left for 30 min at room temperature and then the supernatant is transferred to a volumetric flask. Then to the solution (which contains 0.1 % of argireline) add 0.2% alcohol solution of ninhydrin in a molar proportion of active ingredient to ninhydrin (0.000011 mol: 0.00012 mol). Then the mixture is heated in a water bath for 10 minutes at a temperature of 100 °C; cool and after adjust the volume with purified water to the mark, absorbance is measured at a wavelength of 571 nm.

Conclusions. The results were showed that the release of the active ingrediente over 30 minutes is more than 80%. The proposed spectrophotometric technique can be used for identification and quantity determination of Argireline in patches under eyes.

QUANTITATIVE DETERMINATION OF FLUPHENAZINE HYDROCHLORIDE IN TABLETS BY INDIRECT SPECTROPHOTOMETRIC METHOD USING OXONE

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Introduction. Fluphenazine hydrochloride (FLZ), 2-[4-[3-(2-(trifuoromethyl) phenothiazine 10-yl)propyl]piperazine-1-yl]ethanol dihydrochloride1, is a typical antipsychotic drug used for the treatment of psychoses such as schizophrenia, manic phases of bipolar disorder, agitation, and dementia. It belongs to the piperazine class of phenothiazines (Fig. 1).

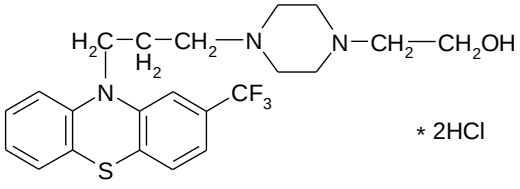

Fig. 1 The molecular structure of Fluphenazine hydrochloride