material. The preparation is used in the form of water working solutions and it's prepared straight before the usage. It is allowed to store unused working solution for 5 days after producing in a container with a tightly closed lid at room temperature. The daily necessity of working solution concentration control is evident.

Aim. The aim of the present work is to determine the feasibility of HP quantitative determination in PAA disinfectant «Delakson» by cathodic voltammetry using carbositall rotation electrode (CE) as indicating electrode.

Materials and methods. «Delakson» disinfectant is a sample preparation, which was used for the analysis. A new voltammetric method for the quantitative determination of hydrogen peroxide in peracetic acid disinfectant «Delakson» on the carbositall rotating electrode in the interval of potential +1.0…–1.0 V (the reference electrode Ag, AgCl/KCl [sat]) (E_p = –0.65 V) was proposed.

Results and discussion. It has been experimentally proved that height of HP reduction peak decreases and the reduction peak potential is shifted towards more electronegative values with the background electrolyte pH increasing from 2.15 to 4.78. The maximum peak (I_p) is observed at pH approximately 2.5-3.7 and analytical signal almost disappears at pH about 4.78. The pH effect on the peak potential (E_p) shows the following: when pH value increases in the interval from 3 to 4, E_p remains almost constant, but E_p decreases markedly to the negative value with pH increasing over 4. That is why the optimum pH for analysis is approximately 3.6. The linear relationship has been observed in the HP concentration range $(0.94–3.76)\times10^{-4}$ mol L^{-1}, the calibration curve equation was $I_p = (3.57\pm0.26)\times10^3 c + (0{,}11\pm0{,}07)$ (r = 0.998). Determining HP in the model solution with the concentrations of 1.88×10^{-4}, 2.35×10^{-4} and 2.82×10^{-4} mol L^{-1} the RSDs were 0.028, 0.018 and 0.011 respectively (δ = –0.77…+0.92 %); LOD = 2.15×10^{-5} mol L^{-1}, LOQ = 7.18×10^{-5} mol L^{-1}. Determining HP in the test solution of «Delakson» disinfectant the RSD was 0.012 (δ = +1.69 %).

Conclusions. Thus, new voltammetric method of HP determination in PAA disinfectant "Delakson" on CE has been developed and the possibility of its quantitative determination has been shown.

SYNTHESIS AND DEVELOPMENT OF THE METHOD OF QUALITY CONTROL FOR THE BIOLOGICALLY ACTIVE SUBSTANCE – 3,5-DIBROMO-N-(2'-CARBOXY-4',6'-DIBROMOPHENYL)ANTHRANILIC ACID

Difaui Al., Druhovina V. V., Yaremenko V. D., Alferova D. A.
National University of Pharmacy, Kharkiv, Ukraine
medchem@nuph.edu.ua

Introduction. Recently, preparations based on anthranilic acids have once again won the pharmaceutical market. Scientists are continuing to search for and create drugs based on them, since this chemical class of compounds has less toxicity, but at the same time high therapeutic efficacy.

Aim. Considering the above, the patented substance 3,5-dibromo-N-(2'-carboxy-4',6'-dibromophenyl)anthranilic acid was chosen as the object for our research. It resynthesis and development of quality control methods.

Materials and methods. Infrared spectra were taken on a «Specord M-80» spectrophotometer in potassium bromide tablets (1% concentration) and the «Testcan Shimadsu FTIR 8000 series» Fourier Transmitter Infrared Spectrophotometer.

UV spectra were measured on a spectrophotometer SF-46. Concentrations of compound $1*10^{-3}$ – $1*10^{-5}$ mol/l.

The PMR spectra were recorded on the «Varian Mercury VX-200» spectrometer. The solvent was dimethylsulfoxide d6.

Chromatomas spectra were recorded on Agilent 1100 LC MSO SL, chemical ionization, Zorbax C18 liquid chromatography column, eluent-acetonitrile-formate buffer (gradient).

Elemental analysis of the synthesized compounds was performed on the «Hewlett Packard» automatic analyzer M-185. Chromatography in a thin layer of sorbent was carried out on the plates «Silufol UV-254», and the manifestations were UV-light or iodine pairs.

It purity test, namely the determination of the accompanying impurities, was carried out using thin-layer chromatography. IR-, UV-, and ^{1}H NMR-spectroscopy were used for identification and qualitative reactions and performed for the corresponding functional groups according to the SPF.

For assay of the promising substance, was chosen alkalimetry method in the medium of ethanol with a potentiometric fixation of the end point of titration (s = 1).

Results and discussion. The development of quality control methodologies was carried out according to State Pharmacopoeia of Ukraine. Resynthesis of the substance was performed using reagents that were purified according to standard procedures. The developed quality control methods are acceptable for use in control and analytical laboratories.

Conclusion. The synthesized substance meets all the requirements of State Pharmacopoeia of Ukraine in quality.

AMOXYCILLIN AND METAL SALTS INTERACTION STUDY BY UV- SPECTROPHOTOMETRY METHODS

Dobrova A.O., Golovchenko O.S.
Scientific supervisor: prof. Georgiyants V.A.
National University of Pharmacy, Kharkiv, Ukraine
anna.dobrova08@gmail.com

Introduction. Amoxicillin is an antibiotic of the penicillin group, contains carboxyl and amino groups and can enter into complex formation reactions. Joint administration of amoxicillin with preparations containing transition metal salts can lead to the formation of chelate complexes of various structures, that can affect the effectiveness of therapy. Previously, we conducted a study of the amoxicillin interaction with metal salts in molar ratios. However, this method does not allow to say in what ratio these compounds can be formed. In an attempt to establish it, a Job spectrophotometric analysis was performed.

Aim. To study the complexation of amoxycillin with metal salts using Job's spectrophotometric method.

Materials and methods. As stated in the Job's method, initial solutions of amoxicillin and salts with equal molar ratios ($1*10^{-3}$m/l) were prepared. Further, primary solutions were diluted and series of solutions with ratios of antibiotic and salt 1:9, 2:8, 3:7, 4:6, 5:5, 6:4, 7:3, 8:2, 9:1 were prepared. Then the absorbance was measured at a wavelength 200-400nm on spectrophotometer Evolution 60S. Samples of calcium chloride, magnesium sulfate heptahydrate, aluminium sulfate, iron (III) chloride, iron (II) sulfate salts were taken as investigated. All solutions were prepared in 0.1 M hydrochloric acid medium which corresponds to pH of stomach.

Results and discussion. The UV-spectrum of amoxicillin in 0.1M hydrochloric acid has three maxima at wavelengths 203nm, 230nm and 272 nm. To control, we took into account changes in absorbance at all maxima. In the experiment with salts of calcium, iron(II) and aluminum, a proportional increase in the absorbance in all three maxima was observed, respectively as the concentration of the antibiotic increased. While when adding iron (III) salt, a change in the character of the spectrum was observed at a ratio of 1: 9, 2: 8, 3: 7, 4: 6, 5: 5 due to which a characteristic's maximum blur occurred at a wavelength of 272 nm.

Conclusions. Based on the results of the study, iron (III) salts are most likely able to interact with the formation of different ratios complex compounds. The obtained results confirm the importance of further research of amoxicillin's complexation properties with the antacids and other metal salts containing medications.

RESEARCH OF THE SQUALENE CONTAIN IN PUMPKIN SEEDS BY A THIN-LAYER CHROMATOGRAPHY

Kotov S. A., Kotova E. E.
Scientific supervisor: Doctor of Pharmacy Gontova T. M.
National University of Pharmacy, Kharkiv, Ukraine
drsnufff@gmail.com

Introduction. Cucurbita pepo seeds are a well-known traditional herbal drug that has been used throughout the ages in folk and formal medicine. Pumpkin seeds contain a various chemical