

## **DEVELOPMENT OF PHOTOCOLORIMETRIC METHOD OF SULPHACETAMIDE SODIUM QUANTIFICATION**

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The research related to the development of efficient and cost-effective methods of analysis of medicinal substances is carried out at the Department of Pharmaceutical Chemistry of National University of Pharmacy. This work is devoted to quantification of sodium sulphacetamide which is a representative of group of sulphonamides of antimicrobial action and is widely used nowadays as an antimicrobial agent for the treatment of eye diseases. The sodium sulfacetamide eye drops of industrial preparation contain sodium thiosulphate as an excipient.

For the assay of sulphacetamide sodium the method of nitritometry is used most often in spite of the fact that this method has certain disadvantages such as the needed reduced temperature, the low speed of titration, and the complicated determination of the end-point. The presence of excipients may prevent the proper quantification of the main substance.

The target of our investigation was to develop a new practical method for the quantification of sodium sulphacetamide that can be used both for the assay of this substance and medicinal forms containing it.

We suggested the method of photolorimetric determination of sodium sulphacetamide based on the measurement of absorbance of the coloured complex obtained as a result of interaction of sodium sulfacetamide with sodium nitroprusside alkaline solution and hydrogen peroxide solution. The obtained complex has a green coloration and absorbs in the range 590-700 nm.

The determinations were carried out by the method of standard using the photolorimeter with the orange color filter.

The validation studies of the suggested method were carried out. They showed good precision and accuracy of its results, which makes it suitable for the quality control of medicines.

The possibility of quantitative determination of sodium sulphacetamide in eye drops was checked. It was shown that the presence of the excipient does not affect the results of determination of the active ingredient.

The method of photolorimetric determination of sodium sulfacetamide based on the reaction with sodium nitroprusside alkaline solution can be recommended for the quantitative analysis of sodium sulfacetamide in the substance and in eye drops.