

DEVELOPMENT OF THE METHODS OF ANALYSIS OF N-(4-TRIFLUOROMETHYLPHENYL)-4-HYDROXY-2,2-DIOXO-1H-2λ⁶,1-BENZOTHIAZINE-3-CARBOXAMIDE

Nouredine A., Petrushova L. O., Danylova I. A.
National University of Pharmacy, Kharkiv, Ukraine
lidiyapetrushova@gmail.com

Introduction. The problem of creating of new highly effective medicines with minimal side effects is one of the main tasks of modern pharmaceutical industry. Interesting objects of study in this regard is benzothiazine derivatives, especially oxicams – derivatives of 1,2-benzothiazine-1,1-dioxide that show high analgesic action and use for pain treatment of various origin. Taking oxicams for a long time often accompanied by a large number of side effects. For the solving of this problem a group of R-4-hydroxy-2,2-dioxo-1H-2λ⁶,1-benzothiazine-3-carboxamides that are the structural isomers of oxicams were synthesized. One of them is N-(4-trifluoromethylphenyl)-4-hydroxy-2,2-dioxo-1H-2λ⁶,1-benzothiazine-3-carboxamide – substance with the highest analgesic effect and low level of toxicity.

N-(4-trifluoromethylphenyl)-4-hydroxy-2,2-dioxo-1H-2λ⁶,1-benzothiazine-3-carboxamide was obtained by the reaction between methyl ester of 4-hydroxy-2,2-dioxo-1H-2λ⁶,1-benzothiazine-3-carboxylic acid and 4-trifluoromethylaniline in the presence of xylol.

Aim. To develop the methods of identification and assay of N-(4-trifluoromethylphenyl)-4-hydroxy-2,2-dioxo-1H-2λ⁶,1-benzothiazine-3-carboxamide and procedures required.

Materials and methods. The object of researching is the substance of N-(4-trifluoromethylphenyl)-4-hydroxy-2,2-dioxo-1H-2λ⁶,1-benzothiazine-3-carboxamide. The object was checked for possibility to form colored complex with the solution of the salt of heavy metals (copper (II) sulphate, ferric (III) chloride), to give reaction for fluorides and sulphates after mineralization.

For assay method of alkalimetry was chosen. The mass for analysis was measured by analytical balance Axis ANG-200. The results of alkalimetrical determination of the object were subjected to the statistical processing.

Results and discussion. The identification of analyzed substance was successfully proven. The results of statistical processing of assay showed that the relative uncertainty did not exceed the average value of 0,81 %.

Conclusion. Methods of identification and assay of N-(4-trifluoromethylphenyl)-4-hydroxy-2,2-dioxo-1H-2λ⁶,1-benzothiazine-3-carboxamide method of UV-spectrophotometry were developed.

DEVELOPMENT OF QUALIFICATION AND QUANTIFICATION METHODS OF 4-METHYLPYRIDINE-2-AMIDE 1-PENTYL-2-OXO-4-HYDROXYQUINOLINE-3-CARBOXILIC ACID

Osei G. Y., Petrushova L. O., Alexeeva T. V.
National University of Pharmacy, Kharkiv, Ukraine
lidiyapetrushova@gmail.com

Introduction. Tuberculosis is the second major cause of death in adults as a result of infectious disease with nine million new cases and close to 1.8 million deaths every year. The treatment of TB is difficult due to the unusual structure and the chemical composition of the cell wall of the mycobacterium; this makes many antibiotics ineffective and prevents drugs entry. This problem has lead to the development of new structural classes of antitubercular agents.

A great deal of interest in this regard are quinolone derivatives. One of them is 4-methylpyridine-2-amide 1-pentyl-2-oxo-4-hydroxyquinoline-3-carboxylic acid. It shows a high level of antimycobacterial activity.

Aim. This work aims to develop new analytical methods of identification and assay for antimycobacterial agent - 4-methylpyridine-2-amide 1-pentyl-2-oxo-4-hydroxyquinoline-3-carboxylic acid which is based on their structure and chemical properties.