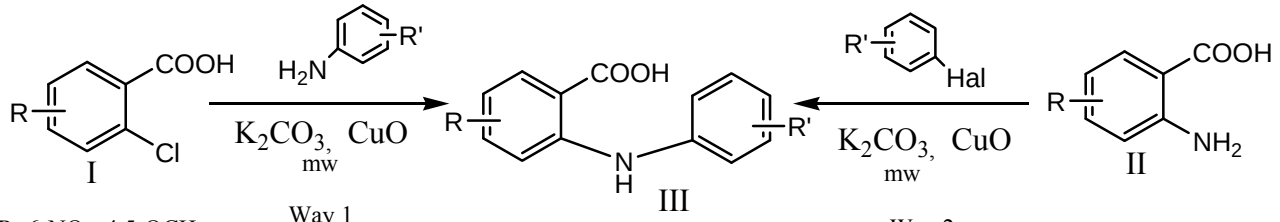
MICROWAVE SYNTHESIS AND QUANTITATIVE DETERMINATION OF PHARMACOLOGICALLY ACTIVE OF 6-NITRO, 4,5-DIMETHOXY- AND 3,5-DINITRO-N-PHENYLANTHRANILIC ACIDS BY TWO-PHASE TITRATION

Ivanova I.I., Devijatkina A.O., Yeromina H.O., Isaev S.G.
The Natinal University of Pharmacy, Kharkiv, Ukraine
annushkane@mail.ru

The aim of our work was to develop a method for the synthesis of N-phenylanthranilic acids with using microwave irradiation and also to develop an express method of their quantitative determination.

The synthesis of N-phenylanthranilic acids (III) was carried out by the interaction of o-chlorobenzoic acid (I) with arylamines (way 1) and arylation of anthranilic acid (II) by substituted of halogen benzene (way 2) among the n-amyl alcohol, in the presence of copper oxide, and potassium carbonate, in the microwave reactor at 180^0C:



R=6-NO_2, 4,5-OCH_3, 3,5-NO_2

R'=-H, -CH_3, -OCH_3, -OC_2H_5, -OC_3H_7

For the quantitative determination of synthesizing acids was developed the method by the two-phase titration. The method consists in the direct titration with 0.1M solution of NaOH of the two-phase system, consisting of the organic phase, which contains the analyzed substance (not soluble in water) and the aqueous phase, where the indicator – phenolphthalein. This extraction equilibrium is disturbed and the sodium salt of N-phenylanthranilic acid passes into the aqueous phase. The experimentally selected n-octanol, as organic phase, which had the highest solubility of the test compounds.

These data of quantify of the new compounds by two-phase titration, characterized by a high accuracy and representativeness. The relative error of this method is less than 0.5%. Given technique an express, reliable, and favorably differs from the method of potentiometric titration.