(HPTLC, silica KSKG fraction 5:20 mkm, thickness of 130±25 mkm), Sorbfil plate (silica gel CTX-IA, fraction um 5:17 mkm), glass plates firm Merck (Germany) (silica gel GF-254) solvent system movable neutral and alkaline character.

Results and discussion. Of all studied color reagents for the most sensitive for verapamil detection reagents were Mandelina and Lieberman (10 mcg in the sample). The most optimal solvent systems, which lead to reliable values of the quantity Rf (0.2-0.8) are HPTLC plates, hexane: ethyl acetate-ethanol-ammonia (30: 10: 5) (Rf = 0.40), hexane-toluene-diethylamine (20: 15: 5) (Rf = 0.58). Sorbfil plates, hexane: acetone: ammonia (20: 20: 1) (Rf = 0.45) and chloroform-cyclohexane-diethylamine (5: 4: 1) (Rf = 0.42). Heel verapamil showed reagents were Dragendorf's reagent, Lieberman and Mandelina. The most sensitive reagent proved Dragendorf's (detection limit of 0.5 micrograms of the drug in the sample).

Conclusions. The results of this analysis can be used in forensic chemical analysis of verapamil.

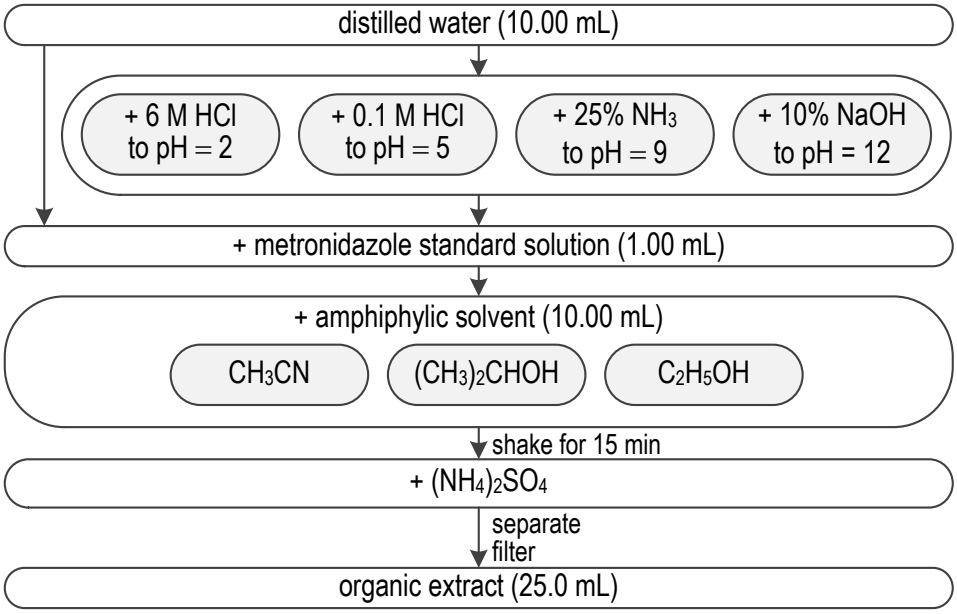
STUDY OF METRONIDAZOLE EXTRACTION FROM AQUEOUS SOLUTIONS

Jalolov M., Shkarlat G. L.
Scientific supervisors: assoc. prof. Klimenko L. Yu., assoc. prof. Shovkova Z. V.,
prof. Taran S. G.
National University of Pharmacy, Kharkiv, Ukraine
lina_klimenko@nuph.edu.ua

Introduction. Metronidazole belongs to the group of medicines that are the derivatives of 5-nitroimidazoles. As a result of reducing 5-NO_2-group and its subsequent interaction with DNA of protozoa and some anaerobes it blocks their reproduction and leads to further cells death, so the medicine is used for treatment of infectious diseases caused by Trichomonas, Lamblia, Leishmania, etc., and also for eradication of Helicobacter pylori.

Aim. To carry out the extraction of metronidazole from aqueous solutions using different approaches.

Materials and methods. Taking into account the amphoteric properties of metronidazole we proposed the procedure of extraction studies presented at Scheme.



Results and discussion. Processing the aqueous solutions with amphiphylic solvents followed by «salting out» with ammonium sulphate in all cases allows to extract sufficiently high amounts of metronidazole in all media (not less than 80%) excluding application of ethanol in the strong acid and strong alkaline medium. For application of acetonitrile we may not determine the extraction maximum, because under all conditions the recovery exceeds 95%.

Conclusions. The dependences of the extraction recovery of metronidazole from aqueous solutions on the medium pH using isopropanol, acetonitrile and ethanol followed by separation of the organic layer under the conditions of aqueous phase saturation with ammonium sulphate have been set.