SYNTHESIS AND PHYSICS-CHEMICAL PROPERTIES OF SOME DERIVATIVES OF [1,3,4] OXADIAZOLES

Parkhomenko V. Yu. Scientific supervisor: Assistant prof. Alferova D. A, prof. Gritsenko I. S. National University of Pharmacy, Kharkov, Ukraine diana-alexs@rambler.ru

Introduction. According to the literature derivatives of 1,3,4-oxadiazoles exhibit, anticonvulsant and anti-inflammatory activity.

The aim of the study. Therefore, to study the pharmacological properties, we the synthesized hydrazides of 3,5-dibromo-2-chlorobenzoic acids and 1,3,4-oxadiazoles derivatives based on them.

Materials and methods. Synthesis of 2- (3,5-dibromo-2-chlorophenyl) -5-R-phenyl [1,3,4]oxadiazoles carried out by the scheme 1:



The synthesis of hydrazides of 2-chloro-3,5-dibromobenzoic acids derivatives (2) is carried out by reacting of 3,5-dibromo-2-chlorbenzoic acid (1) with hydrazines derivatives in the presence of carboxyl group activator carbonyldiimidazole.

The action of phosphorus oxychloride with heating in a 5 hours – hydrazide of 2-chloro-3,5-dibromobenzoic acids derivatives (2) cyclized in to 1,3,4-oxadiazoles (3).

The obtained results. The obtained 2- (3,5-dibromo-2-chlorophenyl) -5-R-phenyl [1,3,4]oxadiazoles are crystalline and amorphous substances, cream, white and brown color, insoluble in water and soluble in most organic solvents.

The structure of the synthesized compounds confirmed by elemental, IR- and NMR-spectral analysis, the individuality controlled by a thin layer chromatography.

Conclusions. The synthesized 2- (3,5-diabromo-2-chlorophenyl) -5-R-phenyl [1,3,4]oxadiazoles compounds may be promising in terms of finding bioactive substances with antimicrobial and anti-convulsive activity.