

R= t-bu, Ph, 4-MePh, 4-MeOPh, 4-FPh, 4-ClPh, 4-BrPh, 4-EtOPh, 3,4-(MeO)₂Ph, α -naphthyl, β -naphthyl

Results and discussion. Presence of anti-inflammatory activities has been studied at 11 connections.

The research was conducted on rats of mass 170-230 g, of both sexes (the group included 6 animals) on the model of acute ascending edema caused by sub-plantar appendage 0,1 ml 1% aqueous solution of carrageenin into rat's hind paw. Increased foot volume is showed the development of edema, we evaluated it oncometric before the appendage and in 3 hours after it. The studied substances entered peroral in a dose 50 mg/kg in 1 hour prior to adding the phlogogenic agent. As a control were animals who weren't receiving medicine. Statistical processing was carried out by the t-test method. We determined the praking effect of inflammation as a percentage to reference level. About availability of anti-inflammatory action we judged by severity of inhibition of the reaction of inflammation. If this indicant was more than 30%, then we took into account the result as positive.

Conclusions. As a result of an experiment we established that all studied connections have shown the expressed anti-inflammatory activity, except one.

STUDY OF A THREE-COMPONENT INTERACTION OF 4-CHLORO-1-ETHYL-1*H*-2,1-BENZOTHAZINE-3-CARBALDEHYDE 2,2-DIOXIDE WITH MALONONITRILE AND CARBONYL COMPOUNDS

Kolodiazhna T. I., Lega D. O.

Scientific supervisor: prof. Shemchuk L. A.

National University of Pharmacy, Kharkiv, Ukraine

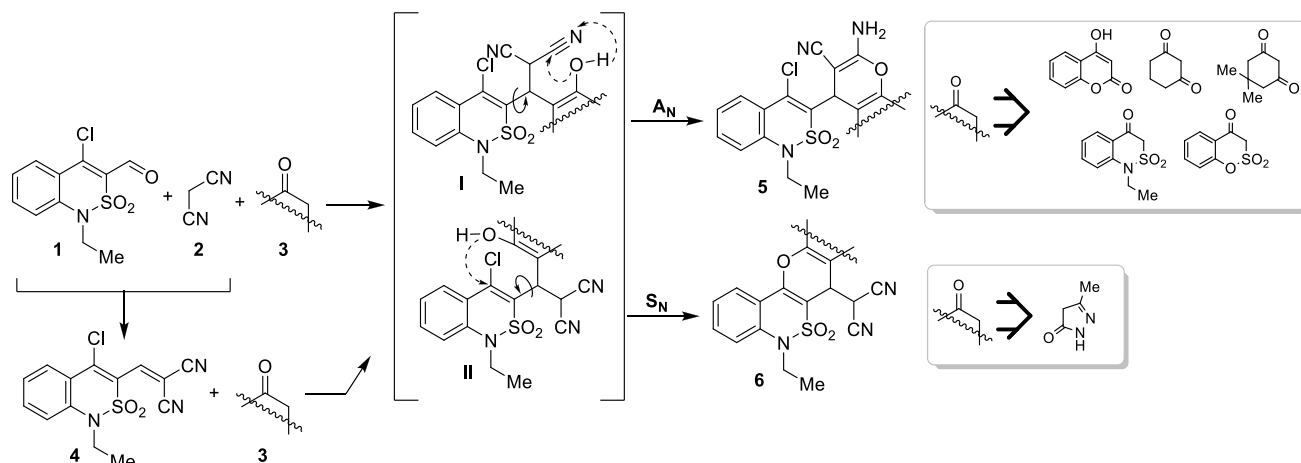
tatianaevt23@gmail.com

Introduction. Multicomponent reactions (MCR) are very effective tool for construction of molecular frames with complex structure. However, they are often associated with ambiguous reaction mechanisms which lead to different products type. One of such MCR is interaction of 3-chloroacrylaldehydes with active methylene nitriles and compounds comprising CH₂CO moiety.

Aim. The purpose of the research was to study a three-component interaction of 4-chloro-1-ethyl-1*H*-2,1-benzothiazine-3-carbaldehyde 2,2-dioxide with malononitrile and carbonyl compounds aiming to establish the direction of the interaction depending on the nature of carbonyl component.

Materials and methods. 4-Chloro-1-ethyl-1*H*-2,1-benzothiazine-3-carbaldehyde 2,2-dioxide, malononitrile and series of compounds containing CH₂CO moiety were applied as starting materials. During research standard methods of organic synthesis were used.

Results and discussion. It was established that the reaction of 4-chloro-1-ethyl-1*H*-2,1-benzothiazine-3-carbaldehyde 2,2-dioxide (1) with malononitrile (2) and carbonyl compounds 3 in most cases results into 2-amino-4*H*-pyran-3-carbonitriles 5 as the result of intramolecular A_N reaction in intermediate I. Utilization of 3-methyl-1*H*-pyrazol-5(4*H*)-one in the reaction allowed us to isolate condensed 4*H*-pyran 6 since intermediate II is involved into intramolecular S_N reaction. It was also applied two-component format towards 5 and 6 which turned out to be more convenient.



Conclusions. Nature of carbonyl component significantly influences the outcome of the studied three-component reaction.

ONE-POT SYNTHESIS OF 2-(1,3-DITHIOLAN-2-YLIDENE)-5,5-DIMETHYLCYCLOHEXANE-1,3-DIONE

Lipin K. V.

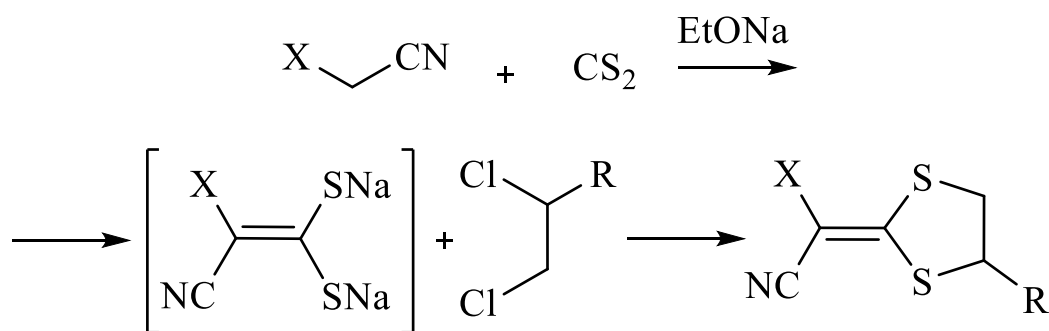
I.N. Ulianov Chuvash State University, Cheboksary, Russia

lipinkost@mail.ru

Introduction. Five-membered 1,3-dithioheterocycles are often found in the synthesis of substances with valuable electronic and optical properties. Compounds with 2-ylidene-1,3-dithiolene fragment absorbing near ultraviolet and narrow ranges of visible light are described, while having light stability and stability. Based on these substances, materials have already been created that are used for optical recording of information and the production of protective coatings from ultraviolet radiation.

Aim. Previously reported on the development of methods for the synthesis of some representatives of 2-ylidene-1,3-dithiolanes. Of greatest interest is a one-pot method of preparation, consisting of the interaction of a methylene active compound, carbon disulfide and dichloroethane (Scheme 1). With further study of this transformation, it was decided to extend the one-reactor synthesis method to more complex objects.

Scheme 1



Materials and methods. Dimedone (5,5-dimethyl-1,3-cyclohexanedione) was used as the methyleneactive compound.

Results and discussion. As a result, in a yield of 87%, 5,5-dimethyl-2-(1,3-dithiolan-2-ylidene)-cyclohexane-1,3-dione was obtained (Scheme 2).

The resulting 1,3-dithiolane is known, the spectral characteristics and the physicochemical properties coincide with those described.