V. M. Berestovitskaya, I. E. Efremova, E. V. Trukhin, A. L. Khlytin

State Pedagogical University, St. Petersburg, Russia

POLYNITROTHIOLENE-1,1-DIOXIDES. METHODS OF PREPARATION AND INTERACTIONS WITH AMINES

The interest in study of thiolene-1,1-dioxides is defined by their multiply synthetic abilities and wide range of biological activity. The nitro group introducing into thiolene cycle considerably extends its synthetic abilities and opens the interesting ways to study fundamental problems of organic chemistry, particularly the problem of chemical reaction regioselectivity.

We have worked out the methods of preparation of 2,2,4trinitro-3-thiolene-1,1-dioxides 4, which are new representatives of polynitroheterocyclopentenes.

The influence of four electronwithdrawing substituents defines the high reactivity of thiolene-1,1-dioxide cycle toward the nucleophilic reactants. In such kind of interaction there are possible three competitive pathways: 1) addition at the nitrovinylic fragment, 2) deprotonation, 3) splitting of the C-NO, bond.

The interaction between 2,2,4-trinitro-3-methyl-3-thiolene-1,1-dioxide 4b and primary and secondary aromatic amines under the mild conditions is found to proceed along the complicative way. This way is: HNO<sub>2</sub> elimination, H-NHAr addition to S-fixed nitrodiene system followed by the desulfonylation with formation of polynitrobutadienes 5 hardly obtainable by the other ways.

