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The bis-thioethers based on 3,4-dichloro-2(5*H*)-furanone and propane-1,3-dithiol

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Abstract

We studied the reactivity of 3,4-dichloro-2(5*H*)-furanone in relation to propane-1,3-dithiol in the conditions of the basic or acid catalysis. При взаимодействии mucochloric acid and its 5-alkoxy derivatives with propane-1,3-dithiol in the presence of triethylamine there were obtained new bis-thioethers, in which two molecules of the fragment 2(5*H*)-furanone are bound on its carbon atoms C^4 through $-S(CH_2)_3S-$ chains. Under acid catalysis the reaction of mucochloric acid with propane-1,3-dithiol proceeds with substitution of the hydroxyl group and the formation of the bis-thioether bound with carbon atoms by C^5 γ-lactone cycles. There have been revealed similarities and differences in the reactions of 3,4-dichloro-2(5*H*)-furanone with propane-1,3-dithiol and 1,2-ethane-dithiol in the conditions of basic and acidic catalysis. The structures of all newly synthesized bis-thioethers 2(5*H*)-furanone were proved by IR spectroscopy, ^{1}H NMR and ^{13}C {^{1}H}.