

Reaction of Monothioanthraquinone with Diazomethane

Vladimir A. Loskutov

*N.N. Vorozhtsov Novosibirsk Institute of Organic Chemistry
Siberian Branch of the Russian Academy of Science
Novosibirsk 630090, Lavrentyeva prosp. 9, Russia
e-mail: ysh@nioch.nsc.ru*

It is known that reaction of monothioanthraquinone **1** ($x = S$) with 10-diazoanthrone **2** ($x = N_2$) results in thirane **3** [1]. We have found that reaction of thioquinone **1** with diazomethane at 0 - 20°C led to dithiolane **4**. The initially formed thiodiazoline **5** was transformed to dithiolane **4**, probably *via* addition of thioquinone **1** to **5** followed by nitrogen molecule elimination.

The structure of dithiolane **4** had been confirmed by the data of elemental and spectral analysis (IR, MS, NMR). The IR spectrum of **4** showed strong C=O and C-H absorption bands (1667 and 1453 cm^{-1}). Its mass spectrum exhibited the molecular ion peak at m/z 462 corresponding to the dimeric form. The ^1H NMR spectrum of compound **4** showed the presence of three multiplets corresponding to 16 aromatic protons and the methylene protons appeared as a singlet.

