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THE REACTION OF SODIUM 4-ACETYLAMINOBENZENETHIOSULFONATE WITH 2,3-DICHLOROQUINOXALINE

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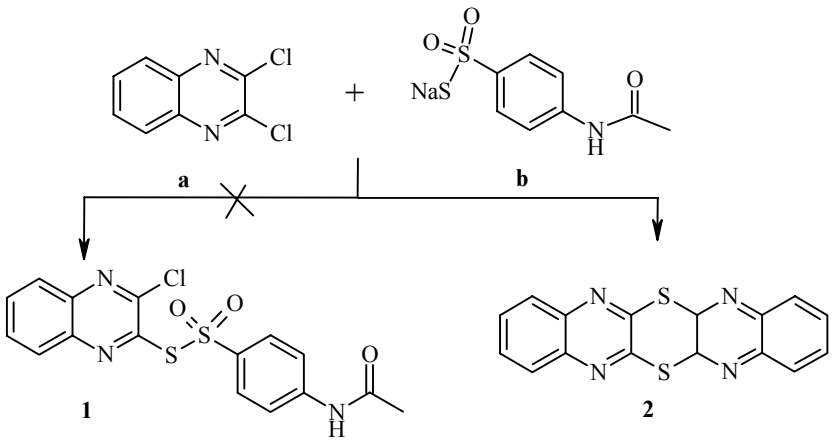
In a continuation of studies of the chemistry of heterocyclic thiosulfonic acids [1-3], which are potentially biologically active compounds and are also valuable synthons for organic synthesis [4,5], we have used 2,3-dichloroquinoxaline for the synthesis of new thiosulfates.

In an attempt to prepare S-(3-chloroquinoxalin-2-yl) ester of 4-acetylaminobenzenethiosulfonic acid (**1**) by the reaction sodium 4-acetylaminobenzenethiosulfonate with 2,3-dichloroquinoxaline in anhydrous DMF we have established that substitution of the chlorine atoms of the thiosulfonate unit does not occur at 20°C. At a temperature of 65-70°C the reaction does not occur by the expected route "a" , but by route "b" to give 5a,13a-dihydro-1,4-dithiinodi[2,3-*b*]quinoxaline (**2**).

Product **2** was also obtained by a direct synthesis - the reaction of 2,3-dichloroquinoxaline with thiourea.



Reaction of Sodium 4-Acetylaminobenzenethiosulfonate with 2,3-Dichloroquinoxaline. Sodium 4-acetylaminobenzenethiosulfonate (0.63 g, 2.5 mmol) was added to a solution of 2,3-dichloroqunoxaline (0.5 g, 2.5 mmol) in anhydrous DMF (25 ml). The reaction materials were kept for 14 days at 65-70°C with constant stirring. The precipitate was filtered off and washed with DMF. Compound **2** was obtained as golden yellow crystals which did not melt below 360°C (mp >360°C [6]). Yield 0.2 g. Found, %: C 58.76; H 2.95; N 17.28; S 20.07. $C_{16}H_{10}N_4S_2$. Calculated, %: C 59.60; H 3.13; N 17.38; S 19.89.

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