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21 December 1964

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LETTERS TO THE EDITOR

UDC 547.724.2 + 541.623

THE TAUTOMERISM OF 5-MERCAPTO-2-ACETYLFURAN

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Khimiya Geterotsiklicheskikh Soedinenii, Vol. 2, No. 1, p. 149, 1966

By acidifying the sodium salt of 5-mercapto-2-acetylfuran (I) [1] with formic acid, we obtained for the first time 5-mercapto-2-acetylfuran (II), yellow crystals, mp 121° (ex hexane). Found: C 50.78, 51.04; H 3.83, 4.27; S 22.13%. Calculated for $C_6H_6O_2S$: C 50.68; H 4.25; S 22.55%. The IV spectrum of II was determined in octane, dioxane, and methanol. For comparison purposes, the spectrum of 5-methylmercapto-2-acetylfuran (III) was observed in the same solvents.

The spectrum of III exhibits a band with λ_{max} 302 mμ, lg ε 4.09 (in octane). With the other solvents there is a bathochromic shift of 5-10 mμ. The spectrum of II has two absorption zones, an intense band with λ_{max} 270 mμ and a less intense wide band in the 300 mμ region. Both bands vanish in alcoholic alkali, and one with λ_{max} 380 mμ appears. A similar band is found in the spectrum of the sodium salt of I (obtained by crystallization from water, after evaporating an aqueous solution under reduced pressure; yellow crystals with a violet reflex, mp 180°, decomp.)

These results make it possible to assume that, in solution, II exists as two tautomers A and B

A B

with tautomer B, which absorbs in the 270 mμ region, prevailing. We assign the band in the 300 mμ region to absorption by the thiol form A. In alkali both tautomers are converted into the sodium salt I.

We are continuing our research on the subject.

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12 June 1965

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