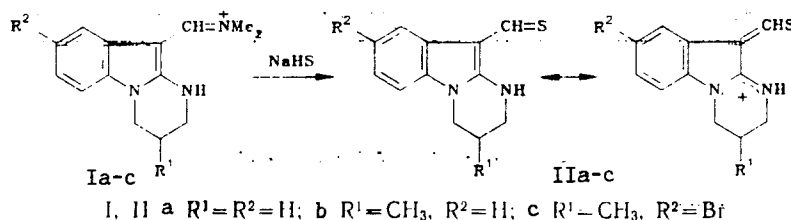


SYNTHESIS OF 2-AMINOINDOLE THIOALDEHYDES

L. A. Sviridova, G. A. Golubeva, D. M. Antonov,
and E. A. Makeeva

UDC 547.712.36'759.3'853.5

We have shown that treatment of the previously obtained pyrimidoindole iminium salts I [1] with excess sodium bisulfide in water (5 min) or in chloroform (3 h) at room temperatures gives the unknown thioaldehydes II, which are quite stable yellow substances.



The relative stability of II is explained by the large contributions of mesoionic structures [2].

Compound IIa. $C_{12}H_{12}N_2S$. Yield 57%, mp 138-141°C (from benzene). UV spectrum, λ_{max} (log ϵ): 218 (4.42), 288 (4.33), 400 (4.32), 500 nm (1.8). IR spectrum: 1595, 1640, 2600-3200 cm^{-1} . PMR spectrum ($CDCl_3$): 2.00-2.45 (2H, m, 3-H); 3.45-3.80 (4H, m, 2-H, 4-H); 6.90-7.30 (3H, m, Ar); 7.45 (m, 9-H); 10.25 (s, CHS); 10.80 ppm (s, NH). Mass spectrum, m/z (I, %): 217 (7), 216 (67, M^+), 215 (100), 187 (12), 183 (7), 172 (24), 160 (6), 155 (9), 129 (7), 128 (7).

Compound IIb. $C_{13}H_{14}N_2S$. Yield 63%, mp 162-164°C (from benzene). UV spectrum, λ_{max} (log ϵ): 218 (4.4), 288 (4.3), 400 (4.3), 460 nm (2.2). IR spectrum: 1600-1640, 2600-3200 cm^{-1} . PMR spectrum ($CDCl_3$): 1.12 (3H, d, 3- CH_3); 2.00-2.40 (2H, m, 2-H); 2.85-4.05 (3H, m, 3-H, 4-H); 6.70-7.15 (3H, m, Ar); 7.30 (m, 9-H), 10.05 (s, CHS); 10.60 ppm (s, NH). Mass spectrum, m/z (I, %): 231 (5), 230 (63, M^+), 229 (100), 204 (17), 198 (45), 197 (23), 170 (14), 144 (7), 143 (10), 129 (8).

Compound IIc. $C_{13}H_{13}BrN_2S$. Yield 42%, mp 200-202°C (from benzene). UV spectrum, λ_{max} (log ϵ): 226 (4.26), 296 (4.21), 400 nm (4.2). IR spectrum: 1595, 1640, 2600-3200 cm^{-1} . PMR spectrum ($CDCl_3$): 1.21 (3H, d, 3- CH_3); 2.00-2.70 (2H, m, 2-H); 2.80-4.00 (3H, m, 3-H, 4-H); 7.05 (2H, m, Ar); 7.60 (m, 9-H); 10.25 (s, CHS), 10.70 (s, NH). Mass spectrum, m/z (I, %): 308* (89, M^+), 307 (100), 293 (6), 277 (7), 276 (4), 264 (44), 263 (24), 232 (7), 188 (9), 187 (7).

LITERATURE CITED

1. B. I. Gorin, G. A. Golubeva, L. A. Sviridova, A. V. Dovgilevich, and Yu. G. Bundel', *Khim. Geterotsikl. Soedin.*, No. 3, 397 (1983).
2. R. Mashie, S. McKenzie, and D. H. Reid, *J. Chem. Soc., Perkin 1*, No. 2, 657 (1973).

*Peaks given for the ^{79}Br isotope.