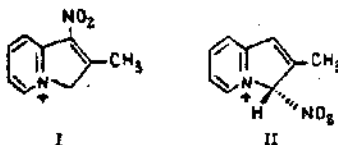


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UDC 547.759

By PMR spectroscopy we showed that 2-methyl-1-nitro- and 2-methyl-3-nitroindolizines are protonated in an acidic medium at position 3, giving the corresponding 3H-indolizinium cations.



Like the PMR spectra of alkylindoliziniums [1], the spectrum of the cation (I) in sulfuric acid contains the signal for the methylene group at δ 5.63 s (2H, CH₂) ppm, in addition to the resonance signals of the pyridine fragment. In solution in D₂SO₄, a slow decrease is observed in the integral intensity of the singlet (CHD) as a result of acid deuterioexchange. In the case of the cation (II) the C³H singlet (7.50 ppm), which appears in H₂SO₄, is absent in D₂SO₄; here the intensity of the C³H singlet (7.40 ppm) slowly decreases.* In trifluoroacetic acid 2-methyl-3-nitroindolizine is present in the neutral form, whereas the more basic 1-isomer is protonated almost completely. We note that the possibility of ipso-protonation in relation to the NO₂ group was demonstrated earlier [3] for the case of 4,6,8-trimethyl-1-nitroazulene [3].

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*Acid deuterioexchange at position 1 of 3-nitroindolizine was observed earlier [2].

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