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# ALKYLATION OF 2-PHENYLBENZOTELLURAZOLE

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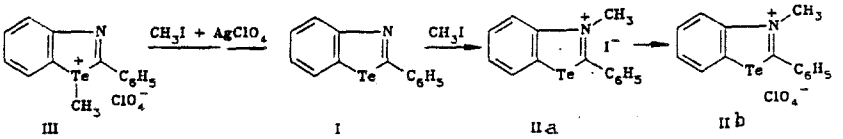
Benzotellurazoles have two potential nucleophilic centers, their nitrogen and tellurium atoms. We have found that the direction of alkylation of these compounds depends on the reaction conditions. For instance, heating 2-phenylbenzotellurazole (I) with excess methyl iodide in a sealed ampoule at 100°C results in the formation of the immonium salt IIa in 90% yield. Its PMR spectrum in $CF_3COOH$ solution contains a methyl proton signal at 3.81 ppm, which is almost superimposable with the chemical shift values of the N-methyl group in 1-methyl-2-phenylbenzoxazolium and 1-methyl-2-phenylbenzothiazolium iodides (3.95 and 3.91 ppm, respectively). In contrast, however, treatment of compound I with methyl iodide in the presence of an equivalent amount of silver perchlorate in acetonitrile gives the telluronium salt III in 95% yield. Its PMR spectrum in DMSO-$D_6$ solution shows the methyl group signal at 2.28 ppm (the methyl group signals in diarylmethyltelluronium halides generally occur in the 2.7-3.0 ppm region [1], while the chemical shift value for the Te-methyl protons in 3,5,7-trimethyl-10-ethylphenotelluroniumazine is 2.55 ppm [2]).

Reaction of iodide IIa with an equimolar amount of silver perchlorate in acetonitrile gives an almost quantitative yield of perchlorate IIb, in which the N-methyl proton signal (in $CF_3COOH$ solution) appears at 3.88 ppm.




III I IIa IIb

The results of elemental analysis and IR spectra of compounds II and III were consistent with the proposed structures.

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