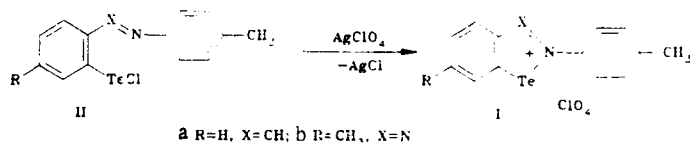


N-ARYLBENZISOTELLURAZOLIUM AND N-ARYLBENZOTELLURADIAZOLIUM  
PERCHLORATES

I. D. Sadekov, A. A. Maksimenko,  
G. M. Abakarov, A. G. Maslakov,  
and V. I. Minkin

UDC 547.789.07'538.112.4

At this time the only recorded example of benzisotellurazole salts is N-methylbenzisotellurazolium iodide which has been obtained by alkylation of benzisotellurazole with methyl iodide [1]. Benzotelluradiazole and its salts have not previously been reported. We have now shown that N-(p-tolyl)benzisotellurazolium perchlorate (Ia, R = H, X = CH) and 6-methyl-2-N-(p-tolyl)benzotelluradiazolium perchlorate (Ib, R = CH<sub>3</sub>, X = N) can be prepared in high yield by treating 2-chlorotellurenylbenzal-p-toluidine (IIa, R = H, X = CH [2]) or 4,4'-dimethyl-2-chlorotellurenylazobenzene (IIb, R = CH<sub>3</sub>, X = N) with an equimolar amount of silver perchlorate in acetone.



Thus addition of AgClO<sub>4</sub>•CH<sub>3</sub>CN complex (3 mmole) in acetone (40 ml) (2-3 min) to a solution of IIa (3 mmole) in acetone (300 ml), stirring for 1 h, filtration, partial distillation of acetone (to 100 ml), and dilution with dry ether (200 ml) gave orange crystals of N-(P-tolyl)-benzisotellurazolium perchlorate (Ia; 84%) which exploded at 125-130°C. PMR spectrum (acetone-D<sub>6</sub>): 2.17 (3H, s, CH<sub>3</sub>); 7.02-8.56 (8H, m, arom; 9.82 ppm (1H, s, CH=N).

6-Methyl-2-N-(p-tolyl)benzotelluradiazolium perchlorate (Ib, 65%) was obtained similarly as red crystals exploding at mp 139-141°C. PMR spectrum (CF<sub>3</sub>COOH): 1.95 (3H, s, CH<sub>3</sub>); 2.05 (3H, s, CH<sub>3</sub>); 6.79-8.26 ppm (7H, m, arom).

The IR spectra of Ia, b showed intense absorption at 1100 cm<sup>-1</sup> for the ClO<sub>4</sub><sup>-</sup> anion. Elemental analytical data for C and H in Ia, b agreed with that calculated.

Compound IIb was synthesized by the method used in [3] for preparing 2-chlorotellurenylazobenzene.

LITERATURE CITED

1. R. Weber, J. L. Piette, and M. Renson, *J. Heterocycl. Chem.*, **15**, 865 (1978).
2. A. A. Maksimenko, A. G. Maslakov, G. K. Mekhrotra, I. D. Sadekov, and V. I. Minkin, *Zh. Obshch. Khim.*, **58**, 1176 (1988).
3. R. E. Cobbleidick, F. W. B. Einstein, W. R. McWhinnie, and F. H. Musa, *J. Chem. Res. (M)*, No. 10, 1901 (1979).

Physical and Organic Chemistry Science Research Institute, M. A. Suslov State University, Rostov-on-Don, 344071. Translated from *Khimiya Geterotsiklicheskih Soedinenii*, No. 10, pp. 1426-1427, October, 1988. Original article submitted November 9, 1987; revision submitted April 26, 1988.