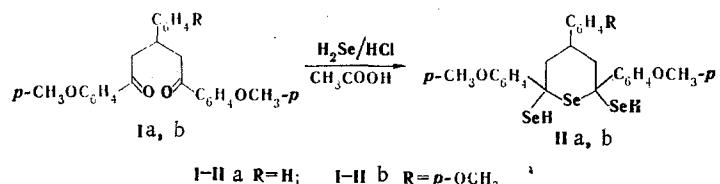


SYNTHESIS OF 2,4,6-TRIARYL-1-SELENACYCLOHEXANE-2,6-DISELENOLS

V. G. Kharchenko and B. I. Drevko

UDC 547.818.9.07:543.422.4

It is known that 1,5-diketones give the corresponding selenopyrylium salts upon reaction with hydrogen selenide and hydrogen chloride in acetic acid with subsequent treatment with perchloric acid [1]. We have established that in an argon atmosphere and in the presence of a constant excess of the reagents (H_2Se/HCl) this reaction in the case of the 1,5-diketones that we investigated (Ia, b) proceeds with the formation of the previously unknown selenacyclohexane-2,6-diselenols (IIa, b).



A solution of 1.67 g (0.004 mole) of 1,3,5-tri(p-methoxyphenyl)pentane-1,5-dione (Ib) in 25 ml of glacial acetic acid was added dropwise in the course of an hour to 30 ml of glacial acetic acid saturated with hydrogen selenide and hydrogen chloride in an argon atmosphere without interrupting the rate of feeding of the gaseous reagents, after which the reaction mixture was stirred for another 2 h without introduction of the gaseous reagents and allowed to stand for 15 h. The system was purged thoroughly with argon, and the yellow curdy precipitate of 2,4,6-tri(p-methoxyphenyl)-1-selenacyclohexane-2,6-diselenol (IIb) was removed by filtration, washed with 5 ml of glacial acetic acid, and dried at reduced pressure to give 1.55 g (62%) (the yield could have been quantitative if the reaction mixture had been allowed to stand for a longer time). $T. mp 137-138^\circ C$ (from benzene-ether). 2,6-Di(p-methoxyphenyl)-4-phenyl-1-selenacyclohexane-2,6-diselenols (IIa) were obtained analogously, with a yield of 50% of product with $mp 136-137^\circ C$ (dec., from benzene-ether). The IR spectra of IIa, b contain absorption bands of an $Se-H$ bond at 2275 cm^{-1} but do not contain absorption bands at $1620-1720\text{ cm}^{-1}$ corresponding to the double bonds of the selenopyran ring carbonyl groups. The results of elementary analysis of IIa, b were in good agreement with the calculated values.

LITERATURE CITED

1. M. A. Kudinova, S. V. Krivun, and A. I. Tolmachev, *Khim. Geterotsikl. Soedin.*, No. 6, 857 (1973).

N. G. Chernyshevskii Saratov State University, Saratov 410601. Translated from *Khimiya Geterotsiklicheskikh Soedinenii*, No. 5, p. 704, May, 1982. Original article submitted November 2, 1981.