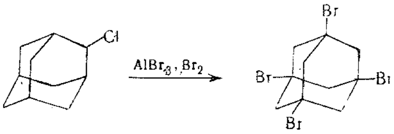
BROMINATION OF 2-CHLOROADAMANTANE

L. S. Simonenko, A. M. Kotlyarov,
and S. S. Novikov

UDC 542.944:547.59

In the bromination of 2-chloroadamantane it was found that it can be converted to 1,3,5,7-tetrabromoadamantane under much milder conditions than in the previously known method for the preparation of the latter by the bromination of 1,3,5-tribromoadamantane [1]. At the same time, whereas 1,3,5-tribromoadamantane is converted to 1,3,5,7-tetrabromoadamantane only by heating in a glass ampul at 150°C in absolute bromine, in the presence of aluminum bromide, the latter is formed from 2-chloroadamantane by refluxing in excess absolute bromine with an equimolar amount of aluminum bromide for 9 h.



According to the GLC data (5% Se-30 on chromatone) the yield of the tetrabromo derivative is 67%. In addition, the product contains three other components in equal amounts, with a retention time greater than for 1,3,5,7-tetrabromoadamantane.

The structure of the isolated 1,3,5,7-tetrabromoadamantane was confirmed by the elemental analysis data, and by the IR and NMR spectra. The compound had mp 246-247°. From the literature: mp 246-247° [1, 2].

It is interesting to mention that 2,2-dichloroadamantane under analogous conditions does not give 1,3,5,7-tetrabromoadamantane.

LITERATURE CITED

1. H. Stetter and C. Wulff, Ber., 93, 1366 (1960).
2. H. Stetter, O. E. Bänder, and W. Neumann, Ber., 89, 1922 (1956).

N. D. Zelinskii Institute of Organic Chemistry, Academy of Sciences of the USSR. Translated from Izvestiya Akademii Nauk SSSR, Seriya Khimicheskaya, No. 5, p. 1125, May, 1971. Original letter submitted February 5, 1971.