## STABLE FLUORINATED ALLYLIC CATIONS AS INTERMEDIATES IN REACTION OF ELECTROPHILIC ALKENYLATION OF FLUOROETHYLENS

G. G. Belen'kii\*, M. V. Galachov, V. A. Petrov, L. S. German and V. I. Bachmutov

A. N. Nesmeyanov's Institute of Organo-Element Compounds, Academy of sciences, Vavilov str., Moscow (U.S.S.R.)

It has been found that perfluoropropylene, perfluoroisobutylene and analogous substances react with SbF $_5$  to form stable allylic cations, which have been observed by NMR  $^{13}$ C,  $^{19}$ F spectra.

$$CF_{2} = C - CF_{3} \xrightarrow{SbF_{5}} CF_{2} = C - CF_{2}$$

$$X = H,Cl,Br,F,CF_{3}$$

The stability of these particles essentially depends on substituent in the position-2 of allylic system.

NMR studies of kinetic and thermodynamic have been carried out. Based on NMR data the relative stability of these cations has been determined.

H>Cl>Br>F>CF,

1-Substituted analogous of perfluoromethallylic cation was obtained similary. According to NMR data they exist as two geometric isomers.

The relative stability of these cations have been determined by the method of concurent reactions. It has been established, that in this case, the stability of fluoroallylic cations increases with decreasing -I effect of substituent in position-1

I>Br>C1>F