SOME REACTIONS OF PERFLUORO-2-METHYL-2-PENTYLCARBANION

Wojciech Dmowski* and Ryszard Woźniacki

Institute of Organic Chemistry, Polish Academy of Sciences, 00-961 Warsaw (Poland)

 $F-4-Methyl-2-pentene \ \underline{1}$ in highly polar solvents undergoes the fluoride ion promoted isomerisation to F-2-methyl-2- pentene $\underline{2}$, which by addition of fluoride ion forms F-2- methyl-2-pentylcarbanion 3.

$$(CF_3)_2 CFCF = CFCF_3$$
 $\xrightarrow{F^-}$ $(CF_3)_2 C = CFCF_2 CF_3$ $\xrightarrow{F^-}$ $CF_3 CF_2 CF_2 \overline{C} (CF_3)_2$ $\xrightarrow{\underline{1}}$ $\underline{2}$

Carbanion 3 was alkylated with alkyl halided 4 to give hydrofluorocarbons 5 in high yields.

$$CF_3CF_2CF_2\overline{C}(CF_3)_2 + RX \longrightarrow CF_3CF_2CF_2C(CF_3)_2R + X^-$$

 $X = I, Br$ $R = Me, Et, n-Pr, n-Bu$

In the reaction of carbanion $\underline{3}$ with 1-iodo-3,3,3-trifluoro-propane $\underline{6}$ no alkylation products but equimolar amounts of 3,3,3-trifluoropropene $\underline{7}$ and 2-H-F-2-methylpentane $\underline{8}$ were formed.

Reaction of carbanion 3 with 1,3-diiodopropane 9 resulted in formation of alkene 10 and alkane 8, while with diiododes 11, where $n \ge 4$, the expected disubstituted hydrofluoroalkanes 12 were obtained.