REACTIONS OF DIPHENYLACETALDEHYDE WITH FLUOROALKENES IN A TWO-PHASE SYSTEM

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Reactions of fluoroalkenes with an anion generated from diphenylacetaldehyde in a catalytic two-phase system were investigated.

In the reactions with terminal fluoroalkenes $\underline{1}$ products $\underline{4}$ of the addition of enolate anion $\underline{2}$ followed by protonation of intermediate carbanion 3 were formed.

CF₂=CFX + Ph₂C=CHO⁻
$$\longrightarrow$$
 Ph₂C=CH-O-CF₂CFX $\xrightarrow{\text{Ph}_2}$ C=CH-O-CF₂CHFX $\xrightarrow{\text{1}}$ $\xrightarrow{\text{2}}$ $\xrightarrow{\text{3}}$ $\xrightarrow{\text{4}}$ $\xrightarrow{\text{4}}$

In contrast, in the reactions with 1-phenylpentafluoropropenes $\underline{5}$ intermediate carbanion $\underline{6}$ eliminated fluoride ion to give vinyl ethers $\underline{7}$.

Structure of compounds $\underline{4}$ and $\underline{7}$ were confirmed by the $^{1}\text{H-}$ and $^{19}\text{F-NMR}$ and IR spectra and by elemental analysis.