

PERFLUOROORGANO TELLURIUM COMPOUNDS: NEW PREPARATIONS AND PROPERTIES OF $(R_f)_2Te$ AND CH_3TeR_f ($R_f = CF_3, C_2F_5, C_3F_7, C_6F_5$)

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The photochemical reaction of $(CH_3)_2Te$ with CF_3I yields $[(CH_3)_2TeCF_3]I$ as the main product, which can be isolated in a pure state. The salt thermally decomposes to CH_3TeCF_3 and CH_3I . The irradiation of a mixture of $(CH_3)_2Te$ and C_2F_5I gives $[(CH_3)_3Te]I$ and $CH_3TeC_2F_5$, whereas $i-C_3F_7I$ reacts without irradiation at r.t. to $[(CH_3)_3Te]I$ and $CH_3Te(i-C_3F_7)$. From the same reactions in the presence of equivalent amounts of $(C_2H_5)_3N$ CH_3TeR_f are formed in high yields as spectroscopically pure compounds. The main products from the photochemical reactions of CH_3TeR_f with an excess of R_fI are $(R_f)_2Te$ and $(R_f)_2Te_2$.

Another new method for the preparation of $(C_2F_5)_2Te$ is the thermal reaction of $(C_2F_5)_2Hg \cdot dipy$ with $TeCl_4$.

The irradiation of a mixture of $(CH_3)_2Te$, C_6F_5I and $(C_2H_5)_3N$ gives $(C_6F_5)_2Te$ and $CH_3TeC_6F_5$, which can easily be separated, whereas from the thermal reaction of the same mixture $(C_6F_5)_2Te$ is formed in high yield.

The mechanism of these reactions as well as the n.m.r. and mass spectra and some chemical properties of the partly new compounds will be discussed.