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THE ANALOGY BETWEEN CF_2- AND CO-GROUPS. THE REACTION OF POLYFLUOROMETHYLENKETONES AND PERFLUOROCYCLOOLEFINS WITH HYDRAZINS

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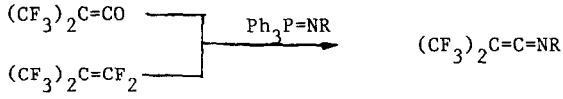
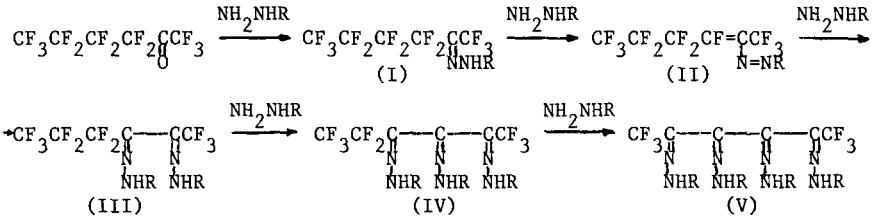
Few examples are known, when in the compounds of the same structure CF_2-group reacts as CO-group, e.g.:



Unexpectedly the same analogy in the reactions of polydifluoromethylenketones with hydrazins is discovered. In this case the polyhydrazones of polyketones are formed by initial conversion of carbonyl group and further transformation of all difluoromethylen groups into hydrazone groups



The mechanism of the reaction taking its course via steps of monohydrazone (I), azaolefin (II), bishydrazone (III), trishydrazone (IV) and tetrahydrazone (V) formation is revealed by isolation of the all intermediate products. Thus, the monocarbonyl compounds, having the chain of CF_2-groups, are (concerning the reaction with hydrazins) the formal analogous of polyketones: $CF_3CF_2CF_2CF_2COCF_3$ is the analog of the hypothetic polyketone $CF_3COCOCOCOCF_3$.

Applying the analogy of CF_2- and CO-groups in cyclic perfluoroolefins in the reaction with hydrazins tetra (VI)- and pentahydrazones (VII) of the cyclic perketones are obtained in the quantitative yields: