REGIOSELECTIVITY OF ADDITIONS OF NUCLEOPHILIC RADICALS TO FLUOROOLEFINS

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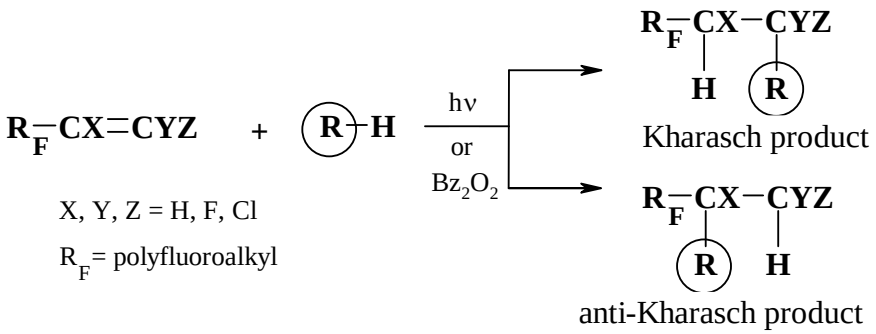
Radical additions to double bond of fluoroolefins are a powerful chemical tool for the formation of the new C-C bond in the fluorine-containing compounds. These reactions are of practical importance - the reaction products can be employed as useful synthetic intermediates, as special monomers, and as biocompatible materials for medical applications [1,2]. Therefore it is of interest to investigate the effects of the fluorine atoms on the regioselectivity of addition of nucleophilic radicals to fluoroolefins.

The regioselectivity of radical addition between fluoroolefins and nucleophilic radicals is strongly influenced by the Lewis acid-base character [3,4] and bulkiness of a carbon-centered radical additive. Nucleophilic radicals ($R^{\cdot}$) derived from alkanols and cyclic ethers (THF, 1,3-dioxolanes) were employed. It is known that they react easily with fluoroolefin using various initiators [1,2]. All reactions were carried out in liquid phase and radicals were generated using dibenzoyl peroxide or by direct photochemical initiation [5]. According to previous observations, a generalized scheme of the addition reactions presupposes the formation of two regioisomeric adducts: a classical *Kharasch* product formed by the attack of radical at the terminal position, and an *anti-Kharasch* adduct.



This work was supported by GA of Czech Republic (project 203/02/0306).

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