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PHENYL- AND DIPHENYLPOLYFLUOROOLEFIN EPOXIDES

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The epoxides of α, β, β -trifluorostirene (1), α, β -difluoro- β -chlorostirene (2), 1-phenylperfluoropropene (3) and trans- α, β -difluorostilbene (4) were prepared by oxidation of corresponding ethylenes by oxygene in presence of chlorine under UV-irradiation.

$$c_e H_e CF = CFX$$
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Investigation of electronic properties of difluorochlorovinyl and difluorochloroepoxiethyl groups has shown their electron accepting nature.

The interaction of (1) and (2) with water leads to the formation of phenylglyoxyl fluoride, and the heating of (4) with water gives benzil. The isomerization of (1) and (2) under the action of triethyl amine yields phenyldifluoro- and phenylfluorochloro-acetyl fluorides. Under the action of CsF compounds (1) and (2) are transformed into corresponding ketones. The heating of (4) with $\mathbf{c}_{\mathbf{k}}\mathbf{H}_{\mathbf{n}}^{\mathbf{k}}$ $\mathbf{e}_{\mathbf{r}}^{\mathbf{r}}$ gives α -bromo- α -fluorobenzylketone.

$$c_{s}H_{s}CF \xrightarrow{C_{s}F} c_{s}H_{s}COCF_{2}X$$

$$X = F(1), c_{s}H_{s}(4)$$