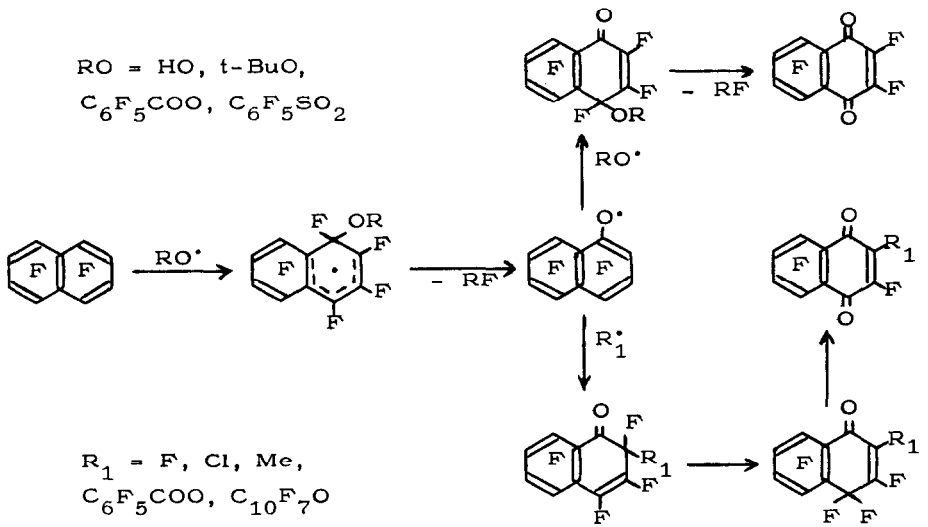
P-35

THE INTERACTION OF POLYFLUOROAROMATIC COMPOUNDS WITH OXYGEN CONTAINING RADICALS

A. A. Bogachev, L. S. Kobrina and G. G. Yakobson

Institute of Organic Chemistry, Siberian Division of the Academy of Sciences U.S.S.R., 630090, Novosibirsk (U.S.S.R.)

Addition of oxygen containing radicals (HO•, t-BuO•, C_6F_5COO•, $C_6F_5SO_2$•) to octafluoronaphthalene occurs mainly in the 1-position. The radical intermediates are stabilised by formation of heptafluoronaphthoxyl radical, further transformations of which lead mainly to polyfluorinated derivatives of 1-oxodihydronaphthalenes and 1,4-naphthoquinone. Reactions with HO• may involve aromatic ring cleavage both in octafluoronaphthalene and heptafluoronaphthols.



Hexafluorobenzene reacts with hydroxyl radical to give pentafluorophenol. In pentafluorodiphenyl, hydroxylation of the non-fluorinated nucleus takes place. Interaction of hydrogen peroxide with pentafluorophenol leads, depending on the reaction conditions, to the formation of either tetrakis-(pentafluorophenoxy)-1,4-benzoquinone or difluoromaleic acid .