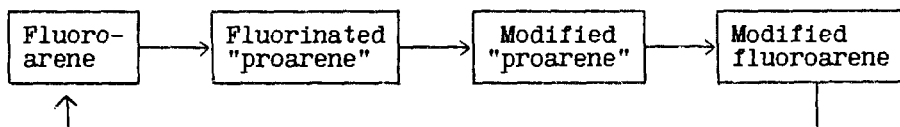


SYNTHETIC ASPECTS OF ELECTROPHILIC IPSO-
REACTIONS OF POLYFLUOROARENES

V.D.Shteingarts

Institute of Organic Chemistry, Siberian Division of
the USSR Academy of Sciences, 630090 Novosibirsk (USSR)

Interaction with electrophiles at the ipso-position with respect to fluorine is the general property of polyfluoroarenes, including perfluoroarenes. Depending on nucleophilicity and basicity of a medium, the reaction may yield polyfluorinated cyclohexadienes and -dienones or stop on the stage of formation of intermediates of these reactions - polyfluorinated arenium ions. Synthetic application of these reactions includes also further transformations of initially formed compounds that are reactive towards nucleophilic attacks, isomerization, Diels-Alder adduct formation and aromatization to yield modified fluoroarenes. The universal character of these reactions forms a basis for the general approach to fluoroarene synthesis according to the scheme:



The theoretical basis for synthetic application of this strategy is the regioselectivity of ipso-reactions of polyfluoroarenes with electrophiles, which is shown to be consistent with the regularities of substituent influence on the relative stability of polyfluorinated arenium ions.