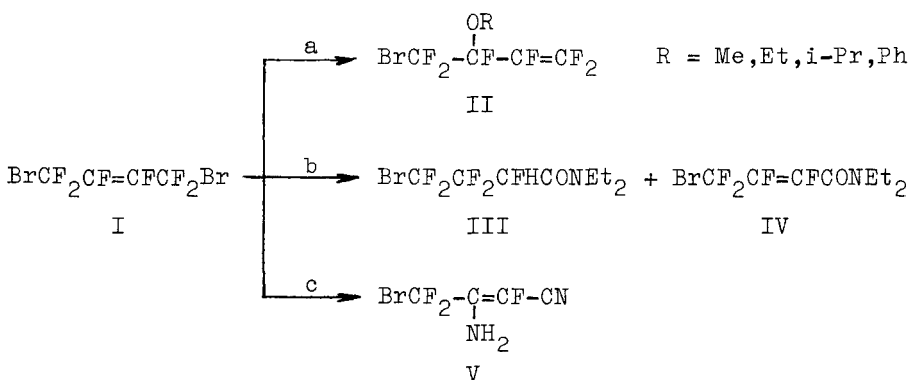


## REACTIONS OF 1,4-DIBROMO-HEXAFLURO-2-BUTENE WITH NUCLEOPHILES

Ivan Hemer\*, Antonín Pošta and Václav Dědek

Department of Organic Chemistry, Institute of Chemical Technology, 166 28 Prague 6  
(Czechoslovakia)

1,4-Dibromo-hexafluoro-2-butene (I) reacted with sodium alkoxides or phenoxides to give 3-alkoxy-4-bromo-1,1,2,3,4,4-hexafluoro-1-butenes (II). Reactions of the olefin (I) with sodium salts of simple 1,2-diols yielded fluorinated oxygen heterocycles. By the same reaction of 1,4-butanediol, only acyclic substitution product was obtained.



a. RONA;    b. 1) Et<sub>2</sub>NH, 2) H<sub>2</sub>O;    c. NH<sub>3</sub>

Reaction of 1,4-dibromo-hexafluoro-2-butene (I) with an excess of diethylamine yielded, after hydrolysis, N,N-diethyl-4-bromo-2,3,3,4,4-pentafluorobutanamide (III) along with minor amount of amide IV. Reaction of ammonia with the butene I afforded 3-amino-4-bromo-2,4,4-trifluoro-2-butenenitrile (V) as the sole product.