

PREPARATION OF OXYDIFLUORAMINES FROM FLUOROOLEFINS

Scott A. Kinkead* and Jean'ne M. Shreeve

Department of Chemistry, University of Idaho, Moscow, Idaho 83843 (U.S.A.)

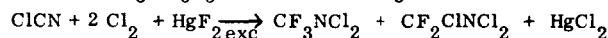
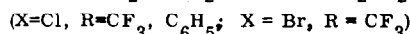
Monosubstituted fluoroolefins, including functionalized olefins such as perfluoroacryloyl fluoride and perfluoroethylvinyl ether, react under electrophilic conditions with the Lewis acid adduct of trifluorammine oxide to give novel oxydifluoramines. Additionally, nitroso and nitrito derivatives are identified as significant byproducts of the reaction. The synthesis of several new oxydifluoramines, nitroso compounds and nitrites will be described, along with spectroscopic, physical and chemical characterization supporting their structures.

HgF₂-ASSISTED ADDITIONS TO THE CN-TRIPLE BOND

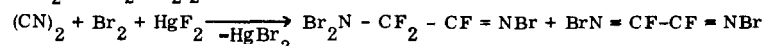
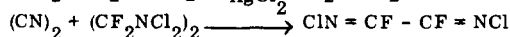
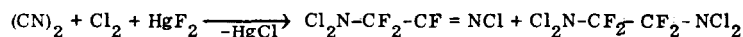
A. Waterfeld, M. Geisel and R. Mews*

Institut für Anorganische Chemie der Universität, Tammannstrasse 4, D-3400 Göttingen (F.R.G.)

α, α -Difluoro-N, N-dihaloamines R-CF₂-NX₂ are simply prepared from nitriles and halogens in the presence of stoichiometric amounts of HgF₂, e.g.



Sometimes also small amounts of the N-halo-imines (e.g. CF₃CF=NBr) are observed. These HgF₂-assisted additions avoid halogenomonofluorides, they occur under mild conditions (below r.t.) and with high yields (80-90%). Similar reactions are possible with cyanogen:



The NN'-dichloro- and NN'-dibromo-ethanedimidoyldifluorides are colorless solids. The structure of the dibromide was determined by X-ray-investigations. The spectroscopic and some of the chemical properties of these N-halogeno-derivatives will be discussed.