R_fS-SUBSTITUTED FURANES, PYRROLES AND IMIDAZOLES; THE TETRAKIS(TRIFLUOROMETHYLMERCAPTO)PYRROLE-RADICAL

D.M. Ceacareanu, M.R.C. Gerstenberger, A. Haas

Ruhr-Universität Bochum, Lehrstuhl für Anorganische Chemie II, D-4630 Bochum, FRG

Reactions of perchlorofluoromethanesulfenylchlorides $CCl_nF_{3-n}SCl$ (n = 0-2) with the heterocycles furane, pyrrole and imidazole under varying conditions yield a broad pattern of substitution products. The formation thereof as well as some by-products are briefly discussed. In case of pyrrole-nucleus and CF_3SCl up to four-fold substitution is performed yielding 2,3,4,5-tetrakis(trifluoromethylsulfenyl)pyrrole ('TTP').

This interesting compound shows reaction behaviour determined by a moderately acidic proton bound to the ring nitrogen. 'TTP' by this way is able to form metal-salts (e.g. with Hg, Ag), adducts with bases (e.g. NH_3, $(CH_3)_3N$, pyridine) and N-functional derivatives (e.g. with the $(CH_3)_3Si$-group).

Furthermore the preparation of a 'TTP'-radical is accomplished by oxidation of 'TTP' with reagents such as PbO_2 or NiO_x. ESR- and ENDOR-spectra are presented.