

TRIFLUOROMETHYL IMIDAZOLES

Miss D. Owen R.G. Plevey and J.C. Tatlow

Chemistry Department, University of Birmingham,  
P.O. Box 363 Birmingham B15 2TT

Some imidazole derivatives with trifluoromethyl substituents have been made, as part of a programme on the synthesis of fluorine-containing anti-cancer agents. This work is a joint project between ourselves and Professor A.B. Foster's group at the Institute of Cancer Research, Royal Cancer Hospital, London. Imidazole carboxylic acids have been treated with sulphur tetrafluoride to give 2-trifluoromethyl-, 2,4-bis(trifluoromethyl)-, and 2,4,5-tris(trifluoromethyl)-imidazole. Some reactions of these trifluoromethyl derivatives have been studied. Ranges of N-substituted derivatives have been synthesised using the imidazole silver salts and the appropriate alkyl halide derivative. Hydrolytic stabilities of the  $\text{CF}_3$  groups in the parent imidazoles have been studied. The 2-trifluoromethyl derivative is the least stable hydrolytically.

Part of this work is to be published in J. Fluor. Chem.