O-1

PERFLUORO AROMATIC THIOLS AND SULFONIC ACIDS

P. Sartori*, H. R. Cremer and H. Johannsen

Fachgebiet Anorganische Chemie, Universität Duisburg, Bismarckstrasse 90,
D4100 Duisburg (F.R.G.)

Electrophilic sulfonation of fluoro benzenes yielded a number of fluoro benzene mono-, di- and trisulfonic acids. Their identification and separation was possible via their trimethylsilylesters. Further substitution of fluorine in acids $C_6H_mF_n(SO_3H)_o$ ($m = o - 3$, $n = 1 - 3$, $o = 1 - 4$, $m + n + o = 6$) was done by nucleophilic substitution by SH^-, followed by oxidation of the thiols formed.

The Hammett acidity constants of a number of polyfluoro benzene sulfonic acids have been determined, showing them to be strong acid with good solubility in different solvents.

Transesterifications, hydrolysis, and subsequent substitution reactions of the trimethylsilylesters are deeply influenced by the marked tendency of forming very stable hydrates (H_3O^+-salts).

Nucleophilic displacement reactions are easily obtained by octafluoro naphthalene. Thus it is difficult to obtain mono-, di-, and trithiols and sulfonic acids, whereas perthiolation is easily afforded.