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SELECTIVE INCORPORATION OF F,CF_3 AND CF_3S GROUPS INTO AROMATIC SUBSTRATES

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The use of modern inorganic reagents such as Bu_4NF, Ph_4PHF_2, '$CuCF_3$' and alumina–$CuSCF_3$ enables the preparation of a wide range of aromatic molecules containing F,CF_3 and CF_3S groups [1–3]. Fluorodenitration and fluorodechlorination can be used for the selective fluorination of aromatic substrates. The susceptibility of the nitro groups to exchange by fluorine is influenced by both steric and electronic factors and the relative rates of fluorodenitration and fluorodechlorination can be influenced by the reaction conditions. Burton's reagent can be used to selectively replace aromatic chlorines ortho to chelating groups by CF_3. The novel reagent alumina–$CuSCF_3$ is a convenient and easily prepared source of SCF_3 for aromatic substitution. Some of the subsequent reaction chemistry of molecules containing F,CF_3 and CF_3S groups will be described.

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