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POLYPERFLUOROALKYLTHIO-, SULPHONYL- AND SELENOAROMATIC COMPOUNDS

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A new method of the preparation of the trifluoromethylthio- and pentafluorophenylthio- or selenocopper from the reaction of the corresponding disulphides or diselenides with the copper powder in dimethylformamide or N-methylpyrrolidone is reported.

$$R_fSSR_f \xrightarrow{Cu} 2R_fSCu; \quad R_fSeSeR_f \xrightarrow{Cu} 2R_fSeCu \quad R_f = CF_3,\ C_6F_5$$

Trifluoromethylthio- and pentafluoromethylthio- or selenocoppers are the convenient reactants for the preparation of the earlier unknown hexasubstituted perfluoroalkylthio- and selenobenzenes.

$$C_6I_6 \xrightarrow{R_fECu} C_6(ER_f)_6 \quad E = S,Se;\ R_f = CF_3,\ C_6F_5$$

Hexakistrifluoromethylthio- and selenobenzenes react with sodium methoxide to give products of nucleophilic substitution of trifluoromethylthio or seleno groups. These are the first examples of the anionic displacement of CF_3S or CF_3Se groups in the nucleophilic substitution reactions.

2,2',4,4',6,6'-Hexakis(trifluoromethylsulphonyl)diphenyl methane (I), -diphenylpropenylene (II) and -diphenylamine are synthesized. The deeply coloured salts of compounds (I) and (II) are a new type of anionic dyes.