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ORGANOBROMINE(III)-COMPOUNDS [1]

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Investigations of nucleophilic substitution on BrF_3 enabled us to prepare $C_6F_5BrF_2$ - the first covalent organobromine(III)compound. Its spectroscopic properties and its chemical behaviour show that the formerly published [2] compound formed by reaction of C_6F_5Br with fluorine was not $C_6F_5BrF_2$.

The ^{19}F-NMR-spectrum of $C_6F_5BrF_2$ shows four resonances with correct intensities and shifts in the expected regions. $C_6F_5BrF_2$ - compared with BrF_3 and C_6F_5Br - shows significant shifts: highfield for bromine bonded fluorine and lowfield for aromatic para-fluorine; both observations are in good agreement with results known from aryliodine fluorides [3].

Reaction of $C_6F_5BrF_2$ with $[CF_3C(O)]_2O$ yields $C_6F_5Br[O(O)CCF_3]_2$ - the first carboxylate of positive bromine stable above room temperature.

$C_6F_5BrF_2$ is a good source for the preparation of symmetric and asymmetric bromonium-salts: $[Ar_2Br]^+X^-$ or $[ArAr'Br]^+X^-$.

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