PERFLUORO- W - IODO-3-OXAALKANESULFONYL FLUORIDES AS INTERMEDIATES FOR SURFACTANTS AND VINYL COMPOUNDS

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The well known fluorosulfonyldifluoroacetyl fluoride (I),

 $FOCCF_2 - SO_2F$ (1)

quantitatively formed from sulfur trioxide and TFE through the tetrafluoroethanesultone has been converted into the octafluoro--5-iodo-3-oxapentanesulfonyl fluoride (II)

 $ICF_2 - CF_2 - 0 - CF_2 CF_2 SO_2 F$ (11)

by the well known reaction (1) involving MF, iodine, TFE in aprotic solvents.

The iodo compound (II) allowed us to obtain TFE telomers having both fluorosulfonyl and iodo as terminal groups.

The said telomers have been easily converted into surfactants (III) through fluorination and vinyl derivatives (IV) by dehalogenation.

$$CF_3CF_2(CF_2CF_2)_{\overline{n}}O-CF_2CF_2SO_3M$$
 (III)

$$CF_2 = CF - (CF_2 CF_2)_n 0 - CF_2 CF_2 - SO_2 F$$
 (IV)

 F.W. Evans, M.H. Litt, A.M. Weidler - Kubanek, F.P. Avonda, J. Org. Chem. <u>33</u>, 1839, 1968