

SOME REACTIONS OF FLUOROSULFONIC AND
TRIFLUOROMETHANESULFONIC ANHYDRIDES

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Anhydrides of fluorosulfonic and trifluoromethanesulfonic acids are well known. Comparatively little chemistry of fluorosulfonic anhydride, $S_2O_5F_2$, is known. We have successfully reacted $S_2O_5F_2$ with various substrates to obtain new fluorosulphates. The reactions of $S_2O_5F_2$ with $NaBi(CF_3COO)_4$, $Na_2Te(CF_3COO)_6$, K_2SeO_4 , $(C_6H_5)_3PO$, $(C_6H_5)_3AsO$ and $Ti(OCH_3)_4$ gave new fluorosulfates; $NaBiO(SO_3F)_2$, $Na_2TeO_2(SO_3F)_2$, $K_2SeO_3(SO_3F)_2$, $(C_6H_5)_3P^+ O^-(C_6H_5)_3 - 2SO_3F^-$, $(C_6H_5)_3As^+ O^-(C_6H_5)_3 2SO_3F^-$ and $Ti(OCH_3)_2(SO_3F)_2$, respectively. These reactions reveal $S_2O_5F_2$ as a potentially useful fluorosulfonating agent. Similar reactions of trifluoromethanesulfonic anhydride, $(CF_3SO_2)_2O$, with various substrates will also be discussed.