A-28

NOVEL CHEMISTRY OF THE EXTRAORDINARY ACID $(CF_3SO_2)_2NH$

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The synthesis of the remarkable acid, $(CF_3SO_2)_2NH$, has been refined to provide the acid in high yield and high purity. A number of new derivatives will be described, including the Ag(I) and Tl(I) salts. The latter are useful reagents for the synthesis of both organic and inorganic derivatives of the acid. The Ag(I) compound shows many similarities to silver triflate and forms complexes with many neutral ligands. A mixture of $AgN(SO_2CF_3)_2$ and RI in appropriate solvents represent a powerful alkylating medium. The N-fluoro derivative, $(CF_3SO_2)_2NF$, is a remarkable fluorination reagent which may have wide applicability in selective fluorinations.