Halocarbon

Trifluoroacetic Anhydride

CAS No. 407-25-0

Trifluoroacetic anhydride provides a convenient way to introduce a trifluoromethyl group into an organic compound. It is used in the production of agricultural and pharmaceutical molecules.

Specifications

Assay by Gas Chromatography	99.5% minimum
Fluoride	50 ppm maximum
Chloride	50 ppm maximum
Sulfate	100 ppm maximum
Trifluoroacetic acid	0.5% maximum

Physical Properties

Chemical Formula:	$(CF_3CO)_2O$
Mol. Wt.:	210.02
Boiling Pt.:	40 ^oC
Melting Pt.:	-64 ^oC
Density:	1.49 g/cm^3
Vapor Pressure:	6 psi (20 ^oC)
Appearance and Odor:	Colorless liquid with vinegar odor.
Solubility in water:	Violently reacts with water to form water soluble trifluoroacetic acid.

Packaging

60 lb. carboys, 650 lb. drums

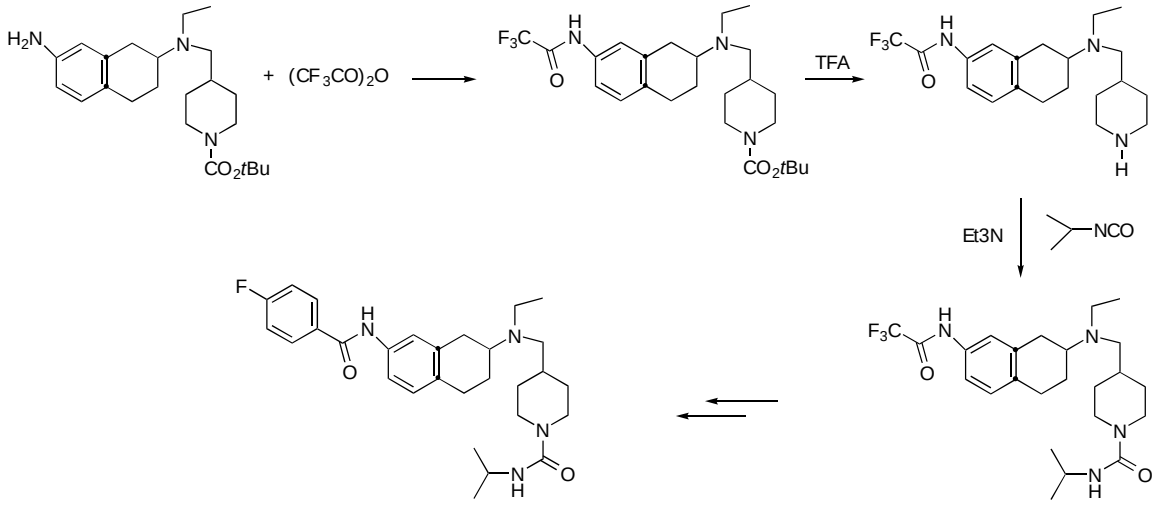
Typical chemistry and uses

Trifluoroacetic anhydride is used to introduce trifluoromethyl group into organic molecules. When reacted with a compound containing an active hydrogen it will yield a trifluoromethyl compound and trifluoroacetic acid as byproduct. It is an important agent in organic synthesis and is used in trifluoacylation reactions like *o*-acylation, *n*-acylation or *c*-trifluoro-acylation. Some examples are shown below.

Halocarbon

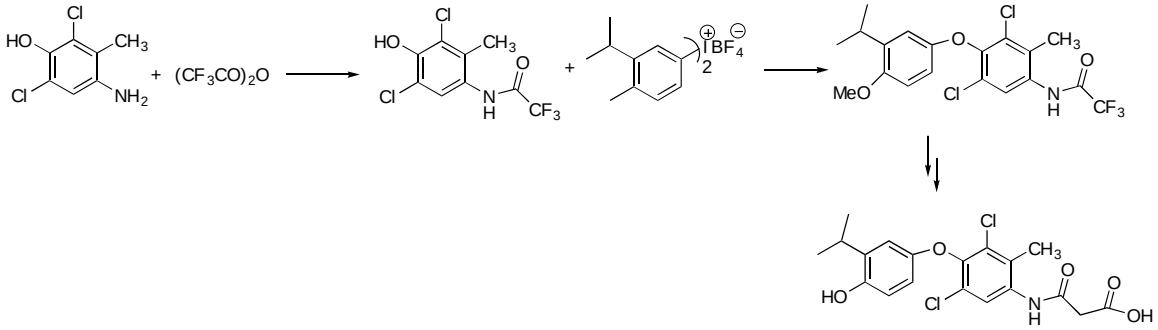
4-Piperidinyl alkyl amine derivatives as muscarinic receptor antagonist

US 6864266, 2005, Syntex (U.S.A.) LLC.



Aniline derived ligands for thyroid receptor

US 6800,605, 2004, Bristol-Myers Squibb Co.



α,β-unsaturated ketones obtained from TFAA and vinyl ether used in the synthesis of pyridone derivatives

Lang, R., Wenk, P., *Helv. Chem. Acta*, 71, 1988, 596