

Halocarbon Products Continues to Pioneer Fluorochemical Developments

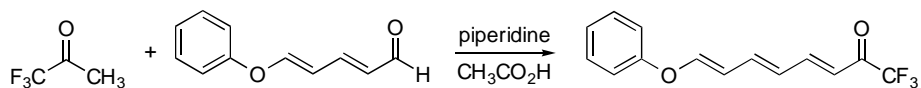
Halocarbon Products Corporation, the pioneer in fluorochemicals for more than 50 years, was recently tasked with developing economical commercial routes to 1,1,1-trifluoroacetone and several key derivatives. All of these products are important building blocks for producing fluorinated compounds that have applications in the pharmaceutical, agrochemical and photolithography fields.

In addition to 1,1,1-trifluoroacetone, Halocarbon developed the following trifluoroacetone derivatives.

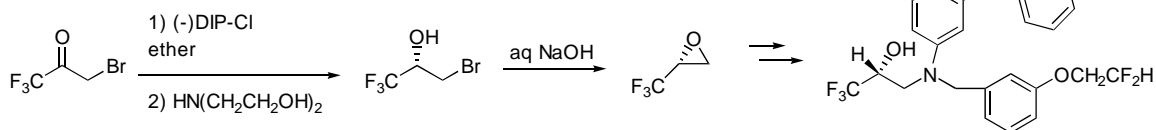
- 3-Bromo-1,1,1-trifluoroacetone
- 3,3-Dibromo-1,1,1-trifluoroacetone
- 3-Chloro-1,1,1-trifluoroacetone
- 1,1,1-Trifluoroisopropanol

The protons on 1,1,1-trifluoroacetone are more acidic compared to acetone and thus mild basic conditions are required to make the enolate of trifluoroacetone. This makes the molecule ideal for preparing molecules of interest containing a CF₃ group; for example, by using a carbon-carbon bond forming reaction like the Aldol condensation. The bromo analog was recently used to produce molecules for treatment of atherosclerosis and other coronary artery diseases. The recent patent literature also shows examples of the application of both trifluoroacetone and trifluoroisopropanol in the field of photolithography.

Histone deacetylase inhibitors based on trihalomethylcarbonyl compounds
U.S. Pat. No. 7,193,105



(R)-Chiral halogenated substituted fused heterocyclic amino compounds useful for inhibiting cholesterol ester transfer protein activity. U.S. Pat. No. 7,253,211



Halocarbon has also recently developed a series of Hexafluoroacetone (HFA) derivatives.

- Vinyl hexafluoroisopropanol
- 2-Methyl hexafluoroisopropanol
- Phenyl hexafluoroisopropanol
- 2-Methyl-4-trifluoromethyl-5,5,5-trifluoro-1-pentene-4-ol

- *Cis* and *trans*- 2,6-Bis(trifluoromethyl)1,1,1,7,7,7-hexafluoro-3-heptene-2,6-diol
- Mixture of 2,6-bis(trifluoromethyl)-1,1,1,7,7,7-hexafluoro-4-methyl-3-heptene-2,6-diol and 1,1-bis(2-trifluoromethyl-1,1,1-trifluoro-2-propanol) ethylene
- 1,1,1-Trifluoro-2-hydroxy-2-trifluoromethyl- pentan-4-one
- 1,1,1-Trifluoro-2-trifluoromethyl-2,4-pentanediol
- 2,2-Bis(3-amino-4-hydroxyphenyl) 1,1,1,3,3,3-hexafluoropropane
- 2,2-Bis(3,4-dimethylphenyl) 1,1,1,3,3,3-hexafluoropropane

These compounds are useful building blocks for the synthesis of compounds that have applications in the pharmaceutical, polymer and photo resist industry. Hexafluoroisopropanol is used as a key raw material in the production of the inhalation anesthetic Sevoflurane. The aromatic HFA derivatives, which contain the hexafluoroisopropylidene function, are used as monomers in the manufacture of specialty polymers that exhibit higher thermo-oxidative stability and electrical properties.

Another area of interest is the use of HFA derivatives as monomers for the photo resist and coatings industry industry. The diols from the above list have applications in these areas.

For more information about these and other fluorinated compounds, contact Ron Epstein at repstein@halocarbon.com or +1-201-262-8899 x36.

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