Zur Synthese fluororganischer O-(Trimethylsilyl)-cyanhydrine

Synthesis of Fluoroorganic O-(Trimethylsilyl)cyanhydrines

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O-Silylcyanohydrines, O-Trimethylsilylcyanhydrines, Cyanotrimethylsilane

Fluororganic and/or sterically hindered cyanohydrines are useful synthetic reagents, not readily available directly from *e.g.* aldehydes or ketones and hydrogen cyanide. By using trimethylsilyl cyanide (TMSCN), the obtained O-Silyl-cyanohydrines can be applied successfully for the same purpose. Selected examples of the type $R^1R^2C\text{-}CN(OSiMe_3)$ **1** - **12** are presented which prove the extensive applicability of this reaction [R = (fluoro)alkyl, (fluoro)aryl, anthryl, cyclopropyl, CCl_3, CBr_3 *etc.*]. Malodinitrile derivatives $RC(CN)_2OSiMe_3$ **14** were obtained from carboxylic acid chlorides. α-, β- and γ-Diketones react with formation of the corresponding linear or cyclic doubly substituted O-Silylcyanohydrines **16**, **17**, **21**, **22**. The enol-form of hexafluoroacetylacetone reacts with silylation to give the E-isomer of the silylenol ether **18**, the carbonyl group of which forms the O-Silylcyanohydrine **19**. With $Me_2Si(CN)_2$ both reaction steps occur intramolecular, yielding a 2,6-dioxa-1-sila-3-cyclohexene **20**.

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