SYNTHESIS OF CIS AND TRANS &FLUOROACRYLIC ACID ESTERS

H. Molines and C. Wakselman
CERCOA-CNRS 2, rue H. Dunant, 94320 Thiais (France)

Cis and trans β -fluoroacrylic acid esters $\underline{1}$ are versatile fluorinating building blocks.

Their synthesis in 5 steps (57% overall yield), starting from tribromofluoromethane and ethyl vinyl ether, is described.

This convenient method affords a mixture of cis (new compound) and trans [1] isomers in a 70:30 ratio. Their separation was performed by efficient distillation.

CFBr₃ + CH₂=CHOC₂H₅
$$\longrightarrow$$
 CFBr₂-CH₂-CH(OC₂H₅)₂ \longrightarrow CFBr₂-CH₂-COOC₂H₅ \longrightarrow CFBr=CH-COOC₂H₅ \longrightarrow CHF=CH-COOC₂H

1 H. Molines and C. Wakselman, J. Fluorine Chem., 25, 447 (1984).