P-60

FLUOROACRYLIC ACID ESTERS

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Two synthetic routes to α -fluoroacrylates are described :

Chlorofluorocarbene is generated from CHFC1₂ under phasetransfer catalysed conditions. In situ addition of this carbene to an enol ether gives a cyclopropane. Then this compound is transformed into α -fluoroacrolein. Photochemical bromination of this aldehyde gives an acid bromide. This intermediate can lead to various α -fluoroacrylic acid esters, particularly to the phenyl ester, which is of interest for aeronautic.

The enol ether can be replaced by 1-ethoxy-1-phenoxy ethylene. Thermolysis of the carbene adduct leads directly to pheny1 α -fluoroacrylate.