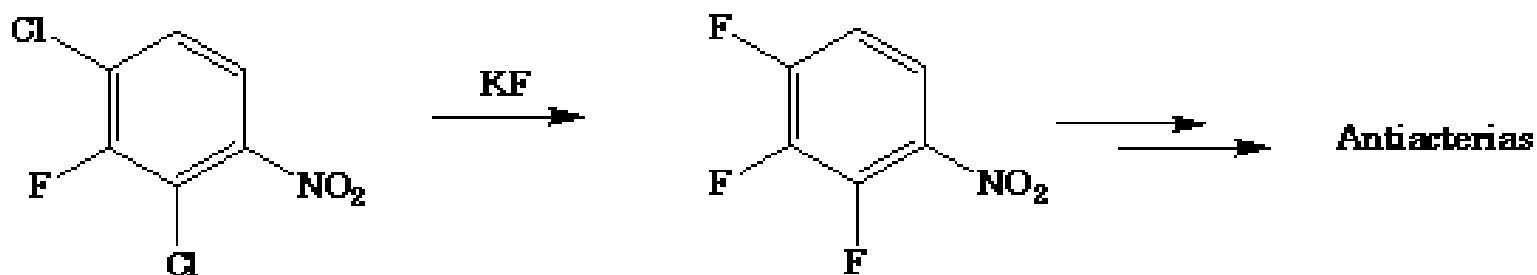


Reaction example

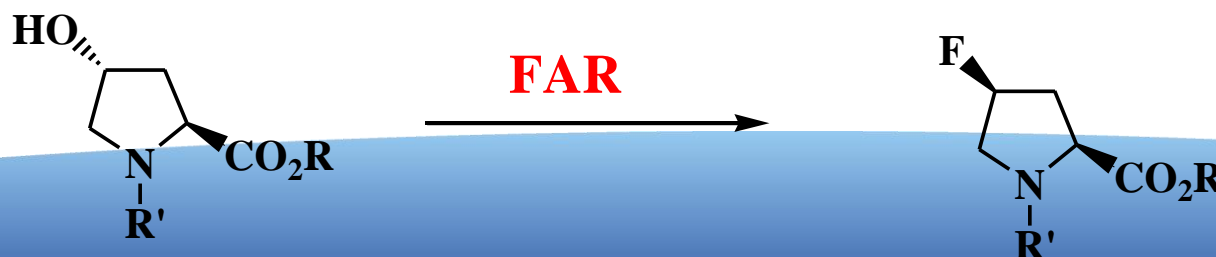
1) Halogen exchange reaction



2) Nucleophilic Fluorination

Deoxyfluorination

Alcohol \Rightarrow Monofluoride : HF, Fluoroalkyl Amino Reagent (FAR)



FAR: CF3CHF2NEt2

Other FARs

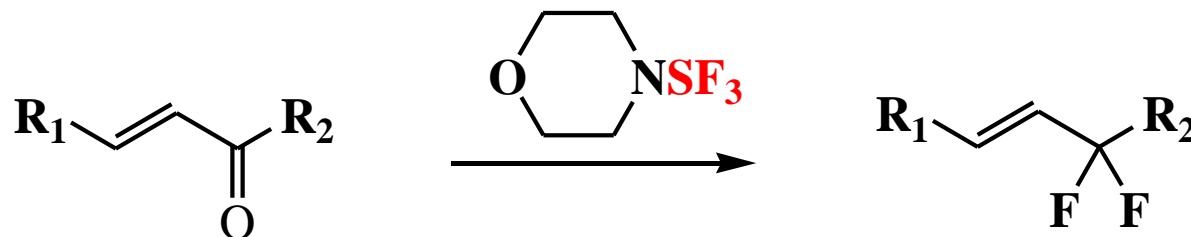
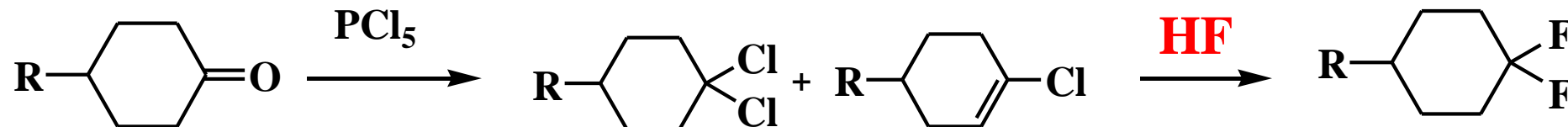
ClCHF2NEt2, CHF2CF2NMe2

Halogenation (F, Cl, Br, I)

Reaction example

Difluorination

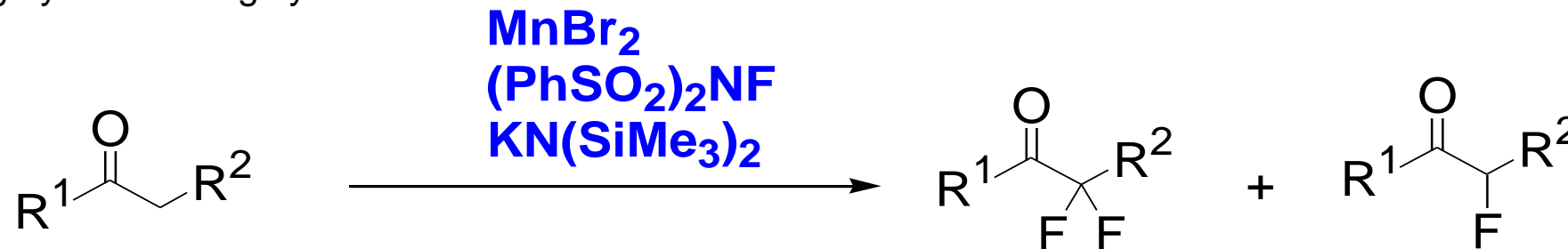
Ketone \Rightarrow Difluoride : **HF, SF₄ Derivatives**



Reaction example

3) Electrophilic fluorination

High yield and Highly selective fluorination

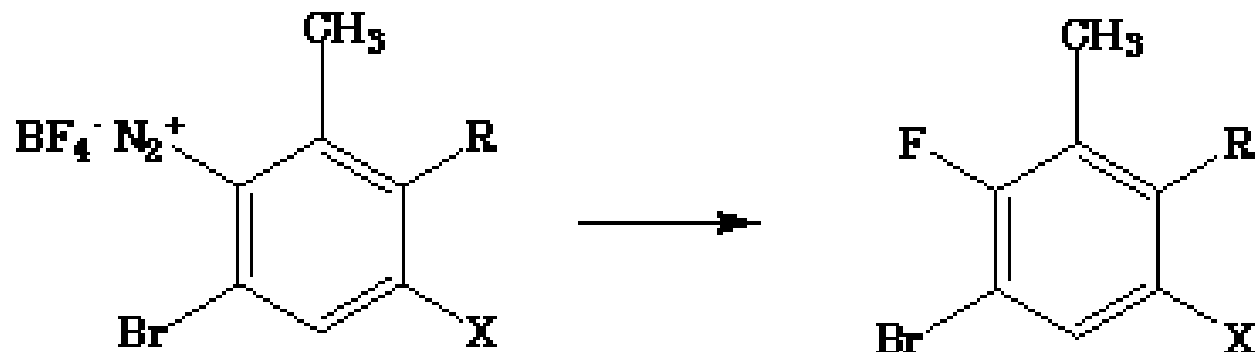


substrate	difluorinated product	yield (%)	selectivity (di : mono)
		93	>99 : 1
		80	>98 : 2

Halogenation (F, Cl, Br, I)

Reaction example

4) Diazo fluorination

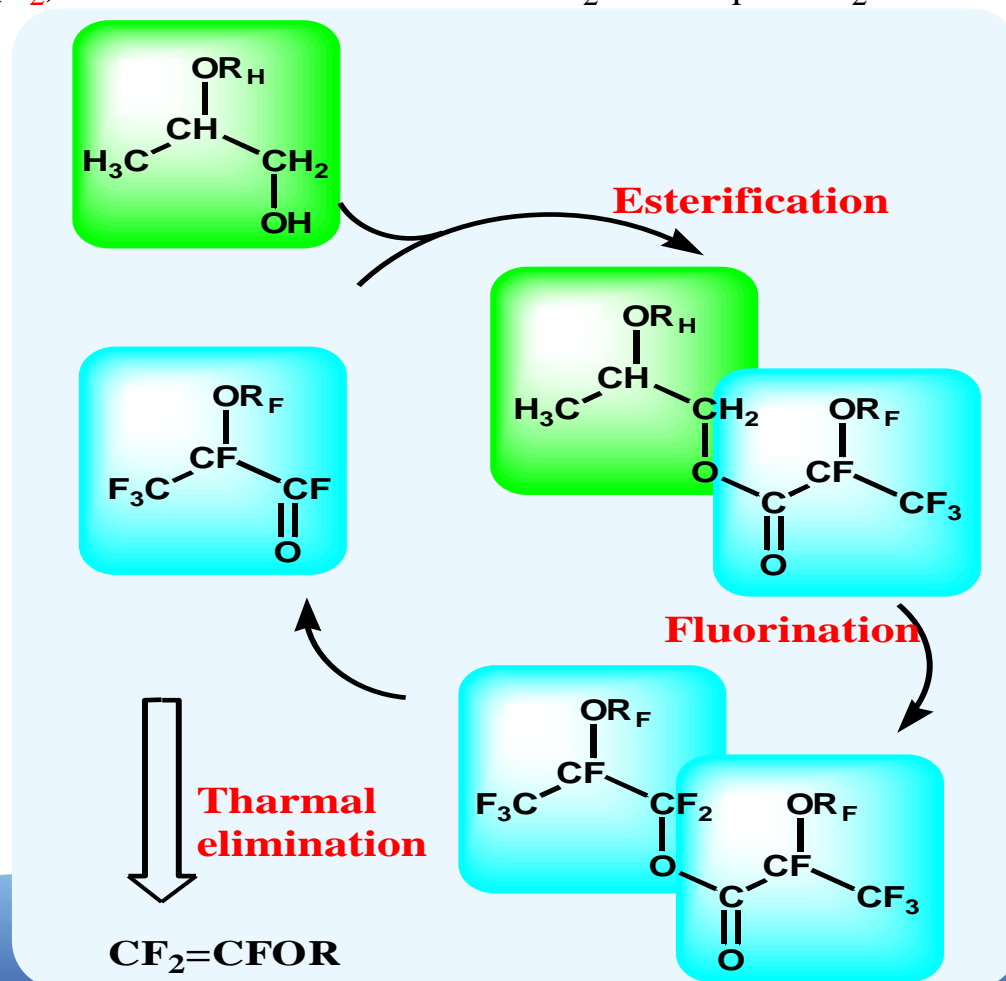


Reaction example

5) "PERFECT" (Direct fluorination)

PERFECT Process (PERFluorination of an Esterified Compound then Thermal elimination)

(F₂) Process



[PERFECT derivate list is here \(2MB\)](#)

Halogenation (F, Cl, Br, I)

Reaction example

6) Electrolytic fluorination

Selective fluorination for adamantane derivatives



Wide variety of fluoroadamantane are available in several hundreds kg scale.

