SYNTHESIS OF FLUOROAMINES, FLUOROKETONES AND DIFLUOROAMINES

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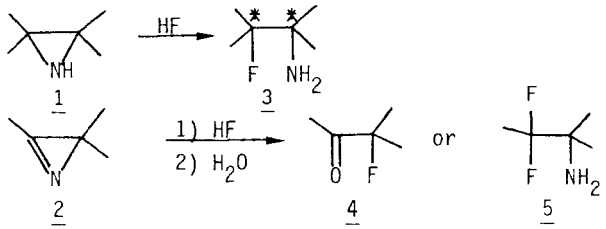
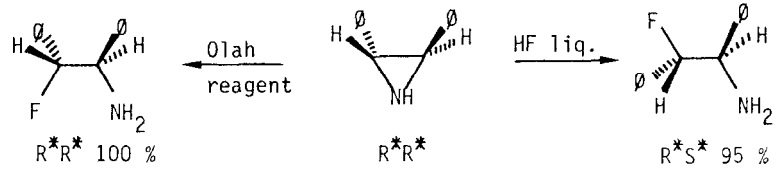
Aziridines 1 and 2H-azirines 2 are now very easy to prepare. These small rings are transformed in fluoroamine and fluoroketone by reaction with HF liquid or Olah reagent. Different compounds 3, 4 or 5 are obtained. A lot of examples will be described.



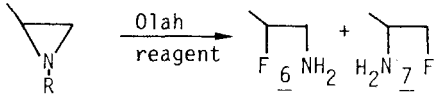
a) Configuration of 3 depends of the reagent (HF liquid or Olah reagent) :



Mechanism of this reaction will be discuss.

b) Some aziridines give a mixture of fluoroaminoisomers.

Example :

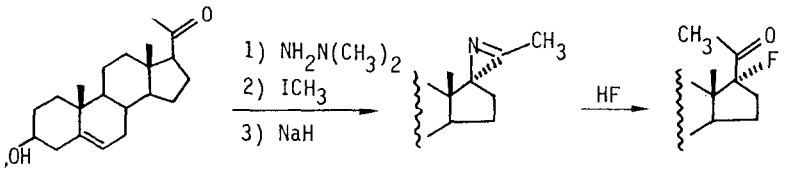


With R = H, a mixture of 6 (65 %) and 7 (35 %) is obtained. It is possible to form quantitatively one regioisomer only, by using activating group on the nitrogen (R = CO.tBu).

c) From azirine 2, formation of 4 or 5 dépends of the nature of substituents at carbon C-2. If a carbocation can be easily formed at C-2 carbon, only fluoroketone 4 is isolated.

Difluoroamine 5 are obtained if carbon C-2 is a secondary or primary one. By using a modified Olah's reagent, we improve the yield.

Application of this results on synthesis of fluorosteroïd compound will be presented :



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