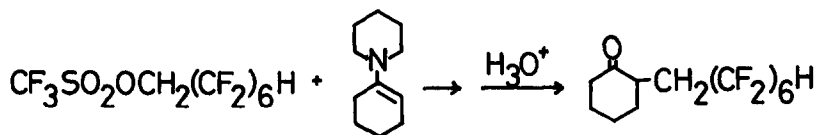
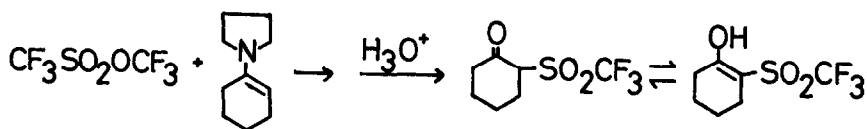




Compound 1 reacted with enamine in an interesting manner; many alkyl trifluoromethanesulfonates react with enamine by cleavage of  $\text{CF}_3\text{SO}_2\text{O}-\text{C}$  bond (Fig 1-a),<sup>7)</sup> but in this case the bond cleavage occurred between  $\text{CF}_3\text{SO}_2-$  and  $-\text{OCF}_3$ , resulting in the formation of trifluoromethanesulfonyl compound (Fig 1-b)<sup>8)</sup>.



(Fig 1-a)



(Fig 1-b)

This is the first case in the reaction of trifluoromethanesulfonates where the  $\text{CF}_3\text{SO}_2-\text{OC}$  bond was cleaved possibly due to high electronegativity of  $\text{CF}_3$  group.

#### References and Notes

- 1) Presented at the 98th Annual Meeting of the Pharmaceutical Society of Japan, Okayama, Japan, April, 1978.
- 2) R. D. Howells and J. D. McCown, *Chem. Rev.*, **77**, 70 (1978).
- 3) R. E. Nofle and G. H. Cady, *Inorg. Chem.*, **4**, 1010 (1965).
- 4) G. A. Olah and T. Ohyama, *Synthesis*, 319 (1976).
- 5)  $\text{C}_6\text{H}_5\text{CF}_3$   $\delta$  0.0; + value means a high field.
- 6) Y. Suzuki and T. Nakano, "The 3rd Symposium on Fluorine Chemistry (Japan)" abstract p. 34 (1975).
- 7) R. L. Hansen, U. S. Patent 3,419,595 (1968).
- 8) This compound is a mixture of keto-enol tautomers; keto-enol ratio is 5:7, yield 25%, bp 118-119°/40 torr. Spectral data;  $^{19}\text{F}$  nmr ( $\text{CDCl}_3$ )  $\delta^5$  = +11.4 (s, belong to keto form), -15.0 ppm (s, belong to enol form);  $^1\text{H}$  nmr ( $\text{CDCl}_3$ )  $\delta$  = 1.6-2.1 and 2.2-2.8 (8H), 4.2\* (t,  $J=6.2\text{Hz}$ , 5/12H, belong to keto form), 9.8 ppm\* (s, 7/12H, belong to enol form); ir ( $\text{CCl}_4$ )  $\nu$  = 3300, 2950, 2880, 1730, 1610, 1380, 1220, 1120  $\text{cm}^{-1}$ ; mass  $m/e=230$  ( $\text{M}^+$ ).  
\*) disappeared by treatment with  $\text{D}_2\text{O}$

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